# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1300098 |
| Client: | Sovereign Consulting<br>16 Chestnut St S-250<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02A.05 |
| Report Date: | 01/09/13 |

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
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**Lab Number:** L1300098
**Report Date:** 01/09/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1300098-01 | EFF-010213 | DEVENS, MA | 01/02/13 07:25 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1300098

**Project Number:** AC001.02A.05 **Report Date:** 01/09/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
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## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
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**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

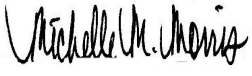
Metals

WG582687: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 01/09/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1300098
**Project Number:** AC001.02A.05
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## SAMPLE RESULTS

Lab ID: L1300098-01
Client ID: EFF-010213
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 01/02/13 07:25
Date Received: 01/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0143 | | mg/l | 0.0005 | 0.0005 | 1 | 01/04/13 08:34 | 01/04/13 12:54 | EPA 3005A | 97,6020A | AK |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02A.05
**Lab Number:** L1300098
**Report Date:** 01/09/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG582687-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 01/04/13 08:34 | 01/04/13 12:43 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02A.05

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| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG582687-2 WG582687-3 | | | | | | | | |
| Arsenic, Total | 101 | | 108 | | 80-120 | 7 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
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## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1300098-01A | Plastic 250ml HNO3 preserved | A | <2 | 2.6 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1300098 |
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## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1300098 |
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***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1300098 |
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## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# CHAIN OF CUSTODY

PAGE 1 OF 1

1/1


ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288


Serial_No:01091312:48

**Date Rec'd in Lab:** 1/3/13

**ALPHA Job #:** L1300098

## Client Information

Client: Sovereign Consulting Inc.
Address: 16 Chestnut St. Ste 520 Foxboro MA 02035
Phone: 508 339 3200
Fax: 508 339 3248
Email: THevner@sovcon.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: SHEDLEY'S HILL AYER
Project Location: Devens MA
Project #: A0001-02A-05
Project Manager: Tom Hevner
ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 1/9/13 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As 3ppb detection Limit

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total As | SAMPLE HANDLING: Filtration ☐ Done ☑ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 0098-1 | EFF-010213 | 1/2/13 | 0725 | E | JSW | X | | | 1 |

| | |
|---|---|
| Container Type | P |
| Preservative | C |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Andy Weinstein | 1/2/13 1530 | Sovereign Service Fridge | 1/2/13 1530 |
| Grover | 1/3/13 11:42 | MSW | 1/3/13 1142 |
| MSW | 1/3/13 1245 | Timothy Bailey | 1/3/13 1245 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1302207 |
| Client: | Sovereign Consulting<br>16 Chestnut St S-250<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02A.05 |
| Report Date: | 02/12/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02A.05

**Lab Number:** L1302207
**Report Date:** 02/12/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1302207-01 | EFF-020613 | FT. DEVENS, MA | 02/06/13 07:46 |

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1302207 |
| **Project Number:** | AC001.02A.05 | **Report Date:** | 02/12/13 |

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1302207 |
| **Project Number:** | AC001.02A.05 | **Report Date:** | 02/12/13 |

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1302207
**Project Number:** AC001.02A.05 **Report Date:** 02/12/13

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

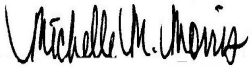
Metals

WG589278: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 02/12/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1302207
**Project Number:** AC001.02A.05
**Report Date:** 02/12/13

## SAMPLE RESULTS

Lab ID: L1302207-01
Client ID: EFF-020613
Sample Location: FT. DEVENS, MA
Matrix: Water

Date Collected: 02/06/13 07:46
Date Received: 02/06/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0157 | | mg/l | 0.0005 | 0.0005 | 1 | 02/07/13 15:15 | 02/08/13 09:15 | EPA 3005A | 97,6020A | AK |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02A.05
**Lab Number:** L1302207
**Report Date:** 02/12/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG589278-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 02/07/13 15:15 | 02/08/13 08:38 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02A.05

**Lab Number:** L1302207

**Report Date:** 02/12/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG589278-2 WG589278-3 | | | | | | | | |
| Arsenic, Total | 100 | | 101 | | 80-120 | 1 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02A.05

**Lab Number:** L1302207
**Report Date:** 02/12/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1302207-01A | Plastic 250ml HNO3 preserved | A | <2 | 6 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1302207 |
| **Project Number:** | AC001.02A.05 | **Report Date:** | 02/12/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1302207 |
| **Project Number:** | AC001.02A.05 | **Report Date:** | 02/12/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1302207 |
| **Project Number:** | AC001.02A.05 | **Report Date:** | 02/12/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Serial_No:02121311:32

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 2/6/13

ALPHA Job #: L1302207

## Client Information

Client: Sovereign Consulting, Inc

Address: 16 Chestnut St. Foxboro MA, 02035

Phone: 508 339 3200

Fax: 508 339 3248

Email: THevner@sovcon.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATP

Project Location: Ft. Devens MA

Project #: A0001.02A.05

Project Manager: Tom Hevner

ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 2/12/13 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL

☑ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

Ts: 38PB detection Limit

ANALYSIS: Total As

**SAMPLE HANDLING**

*Filtration*
☐ Done
☑ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total As | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 02207-01 | EFF-020613 | 2/6/13 | 0746 | E | ASL | X | | 1 |

| | |
|---|---|
| Container Type | P |
| Preservative | C |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 2/6/13 1557 | | 2/6/13 1557 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1303496 |
| Client: | Sovereign Consulting<br>16 Chestnut St S-250<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL - ATP |
| Project Number: | AC001.02A |
| Report Date: | 03/06/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A

**Lab Number:** L1303496
**Report Date:** 03/06/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1303496-01 | EFF-030113 | FORT DEVENS, MA | 03/01/13 09:45 |
| L1303496-02 | EW-1-030113 | FORT DEVENS, MA | 03/01/13 09:50 |
| L1303496-03 | EW-4-030113 | FORT DEVENS, MA | 03/01/13 09:52 |

**Project Name:** SHEPLEY'S HILL - ATP **Lab Number:** L1303496

**Project Number:** AC001.02A **Report Date:** 03/06/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1303496 |
| **Project Number:** | AC001.02A | **Report Date:** | 03/06/13 |

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1303496 |
| **Project Number:** | AC001.02A | **Report Date:** | 03/06/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

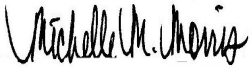
Metals

WG593065 and WG593066: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 03/06/13

# METALS

**Project Name:** SHEPLEY'S HILL - ATP
**Lab Number:** L1303496
**Project Number:** AC001.02A
**Report Date:** 03/06/13

## SAMPLE RESULTS

Lab ID: L1303496-01
Client ID: EFF-030113
Sample Location: FORT DEVENS, MA
Matrix: Water
Date Collected: 03/01/13 09:45
Date Received: 03/01/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0151 | | mg/l | 0.0005 | -- | 1 | 03/04/13 11:15 | 03/05/13 16:35 | EPA 3005A | 97,6020A | AK |
| Barium, Total | 0.023 | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:41 | EPA 3005A | 97,6010C | KL |
| Magnesium, Total | 5.6 | | mg/l | 0.10 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:41 | EPA 3005A | 97,6010C | KL |
| Manganese, Total | 1.27 | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:41 | EPA 3005A | 97,6010C | KL |

**Project Name:** SHEPLEY'S HILL - ATP
**Lab Number:** L1303496
**Project Number:** AC001.02A
**Report Date:** 03/06/13

## SAMPLE RESULTS

Lab ID: L1303496-02
Client ID: EW-1-030113
Sample Location: FORT DEVENS, MA
Matrix: Water

Date Collected: 03/01/13 09:50
Date Received: 03/01/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 2.290 | | mg/l | 0.0050 | -- | 10 | 03/04/13 11:15 | 03/05/13 16:45 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 73 | | mg/l | 0.05 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:45 | EPA 3005A | 97,6010C | KL |
| Manganese, Total | 2.04 | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:45 | EPA 3005A | 97,6010C | KL |

**Project Name:** SHEPLEY'S HILL - ATP
**Lab Number:** L1303496
**Project Number:** AC001.02A
**Report Date:** 03/06/13

## SAMPLE RESULTS

Lab ID: L1303496-03
Client ID: EW-4-030113
Sample Location: FORT DEVENS, MA
Matrix: Water

Date Collected: 03/01/13 09:52
Date Received: 03/01/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 3.850 | | mg/l | 0.0100 | -- | 20 | 03/04/13 11:15 | 03/05/13 16:41 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 45 | | mg/l | 0.05 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:49 | EPA 3005A | 97,6010C | KL |
| Manganese, Total | 2.00 | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:49 | EPA 3005A | 97,6010C | KL |

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A
**Lab Number:** L1303496
**Report Date:** 03/06/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG593065-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | -- | 1 | 03/04/13 11:15 | 03/05/13 15:55 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG593066-1 | | | | | | | | | | |
| Barium, Total | ND | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:30 | 97,6010C | KL |
| Iron, Total | ND | | mg/l | 0.05 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:30 | 97,6010C | KL |
| Magnesium, Total | ND | | mg/l | 0.10 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:30 | 97,6010C | KL |
| Manganese, Total | ND | | mg/l | 0.010 | -- | 1 | 03/04/13 11:15 | 03/04/13 18:30 | 97,6010C | KL |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL - ATP

**Project Number:** AC001.02A

**Lab Number:** L1303496

**Report Date:** 03/06/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG593065-2 WG593065-3 | | | | | | | | |
| Arsenic, Total | 116 | | 114 | | 80-120 | 2 | | 20 |
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG593066-2 WG593066-3 | | | | | | | | |
| Barium, Total | 92 | | 92 | | 80-120 | 0 | | 20 |
| Iron, Total | 100 | | 100 | | 80-120 | 0 | | 20 |
| Magnesium, Total | 100 | | 92 | | 80-120 | 8 | | 20 |
| Manganese, Total | 93 | | 92 | | 80-120 | 1 | | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A
**Lab Number:** L1303496
**Report Date:** 03/06/13

## SAMPLE RESULTS

Lab ID: L1303496-01
Client ID: EFF-030113
Sample Location: FORT DEVENS, MA
Matrix: Water

Date Collected: 03/01/13 09:45
Date Received: 03/01/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Nitrogen, Nitrate | ND | | mg/l | 0.10 | -- | 1 | - | 03/01/13 22:23 | 44,353.2 | DB |
| **Anions by Ion Chromatography - Westborough Lab** | | | | | | | | | | |
| Chloride | 41.2 | | mg/l | 0.500 | -- | 1 | - | 03/02/13 02:11 | 44,300.0 | AU |
| Sulfate | 3.35 | | mg/l | 1.00 | -- | 1 | - | 03/02/13 02:11 | 44,300.0 | AU |

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A
**Lab Number:** L1303496
**Report Date:** 03/06/13

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG592810-1 | | | | | | | | | | |
| Nitrogen, Nitrate | ND | | mg/l | 0.10 | -- | 1 | - | 03/01/13 21:25 | 44,353.2 | DB |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG592838-1 | | | | | | | | | | |
| Chloride | ND | | mg/l | 0.500 | -- | 1 | - | 03/01/13 23:59 | 44,300.0 | AU |
| Sulfate | ND | | mg/l | 1.00 | -- | 1 | - | 03/01/13 23:59 | 44,300.0 | AU |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL - ATP

**Project Number:** AC001.02A

**Lab Number:** L1303496

**Report Date:** 03/06/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG592810-2 | | | | | | | | |
| Nitrogen, Nitrate | 100 | | - | | 90-110 | - | | |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG592838-2 | | | | | | | | |
| Chloride | 108 | | - | | 90-110 | - | | |
| Sulfate | 104 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A

**Lab Number:** L1303496
**Report Date:** 03/06/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG592810-4 QC Sample: L1303420-02 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Nitrate | 2.0 | 4 | 5.6 | 88 | | - | - | | 83-113 | - | | 6 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG592838-3 QC Sample: L1303507-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chloride | 21.8 | 4 | 25.3 | 88 | | - | - | | 40-151 | - | | 18 |
| Sulfate | 8.25 | 8 | 16.5 | 103 | | - | - | | 60-140 | - | | 20 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A

**Lab Number:** L1303496
**Report Date:** 03/06/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG592810-3 QC Sample: L1303420-02 Client ID: DUP Sample | | | | | | |
| Nitrogen, Nitrate | 2.0 | 2.0 | mg/l | 0 | | 6 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG592838-4 QC Sample: L1303507-01 Client ID: DUP Sample | | | | | | |
| Chloride | 21.8 | 21.8 | mg/l | 0 | | 18 |
| Sulfate | 8.25 | 8.27 | mg/l | 0 | | 20 |

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02A

**Lab Number:** L1303496
**Report Date:** 03/06/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1303496-01A | Plastic 250ml HNO3 preserved | A | <2 | 5 | Y | Absent | MCP-MN-6010T-10(180),MCP-MG-6010T-10(180),MCP-AS-6020T-10(180),MCP-BA-6010T-10(180) |
| L1303496-01B | Plastic 500ml unpreserved | A | 7 | 5 | Y | Absent | SO4-300(28),CL-300(28),NO3-353(2) |
| L1303496-02A | Plastic 250ml HNO3 preserved | A | <2 | 5 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |
| L1303496-03A | Plastic 250ml HNO3 preserved | A | <2 | 5 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1303496 |
| **Project Number:** | AC001.02A | **Report Date:** | 03/06/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1303496 |
| **Project Number:** | AC001.02A | **Report Date:** | 03/06/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1303496 |
| **Project Number:** | AC001.02A | **Report Date:** | 03/06/13 |

## REFERENCES


44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.


The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# CHAIN OF CUSTODY

PAGE 1 OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/1/13

ALPHA Job #: L1303496

## Client Information

Client: Sovereign Consulting Inc
Address: 16 Chestnut St. Suite 520
Foxboro, MA 02035
Phone: 508-339-3200
Fax: 508-339-3248
Email: thenner@sovcon.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill - ATP
Project Location: Fort Devens, MA
Project #: A0001.02A
Project Manager: Tom Henner
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 3/8/13 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As: 3ppb detection limit

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total As, Fe, Mn | Total As, Ba, Mn, mg | Cl, NO3, SO4 | SAMPLE HANDLING | TOTAL # BOTTLES | Sample Specific Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 03496.1 | EFF-030113 | 03-01-13 | 0945 | E | MDM | | X | X | | | |
| 2 | EW-1-030113 | 03-01-13 | 0950 | I | MDM | X | | | | | |
| 3 | EW-4-030113 | 03-01-13 | 0952 | I | MDM | X | | | | | |

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| Container Type | P | P | P |
|---|---|---|---|
| Preservative | C | C | A |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Ingrid Mendez | 3/1/13 1138 | | 3/1/13 1138 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1305660 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 250<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL - ATP |
| Project Number: | AC001.02F-01 |
| Report Date: | 04/09/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02F-01

**Lab Number:** L1305660
**Report Date:** 04/09/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1305660-01 | EFF-040313 | FORT DEVENS, MA | 04/03/13 10:45 |

**Project Name:** SHEPLEY'S HILL - ATP **Lab Number:** L1305660

**Project Number:** AC001.02F-01 **Report Date:** 04/09/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1305660 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 04/09/13 |

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SHEPLEY'S HILL - ATP **Lab Number:** L1305660
**Project Number:** AC001.02F-01 **Report Date:** 04/09/13

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

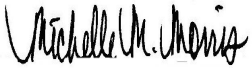
Metals

WG599483: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 04/09/13

# METALS

**Project Name:** SHEPLEY'S HILL - ATP
**Lab Number:** L1305660
**Project Number:** AC001.02F-01
**Report Date:** 04/09/13

## SAMPLE RESULTS

Lab ID: L1305660-01
Client ID: EFF-040313
Sample Location: FORT DEVENS, MA
Matrix: Water

Date Collected: 04/03/13 10:45
Date Received: 04/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0141 | | mg/l | 0.0005 | 0.0005 | 1 | 04/04/13 11:15 | 04/06/13 18:32 | EPA 3005A | 97,6020A | AK |

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02F-01
**Lab Number:** L1305660
**Report Date:** 04/09/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG599483-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 04/04/13 11:15 | 04/06/13 18:15 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL - ATP

**Project Number:** AC001.02F-01

**Lab Number:** L1305660

**Report Date:** 04/09/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG599483-2 WG599483-3 | | | | | | | | |
| Arsenic, Total | 120 | | 117 | | 80-120 | 3 | | 20 |

**Project Name:** SHEPLEY'S HILL - ATP
**Project Number:** AC001.02F-01

**Lab Number:** L1305660
**Report Date:** 04/09/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1305660-01A | Plastic 250ml HNO3 preserved | A | <2 | 2.3 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1305660 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 04/09/13 |

## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1305660 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 04/09/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL - ATP | **Lab Number:** | L1305660 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 04/09/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# CHAIN OF CUSTODY

PAGE _____ OF _____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/3/13

ALPHA Job #: L1305600

## Client Information

Client: Sovereign Consulting Inc
Address: 16 Chestnut St
Foxborough MA 02035
Phone: 508 339 3200
Fax: 508 339 3248
Email: THevner@sovcon.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepleys Hill ATP
Project Location: Ft. Devens MA
Project #: AC001.02F_01
Project Manager: Tom Hevner
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 4/10/13 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As: 3ppb detection limit

ANALYSIS: Total As

**SAMPLE HANDLING**
*Filtration*
☐ Done
☒ Not needed
☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total As | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 056002-1 | EFF-040313 | 4/3/13 | 1045 | EFF | ASV | X | | 1 |
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|---|---|
| Container Type | P |
| Preservative | C |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP or CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 4/3/13 1230 | | 4/3/13 12:30 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

New England ACCUTEST LABORATORIES

05/30/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC19637

Sampling Dates: 04/08/13 - 04/11/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **457**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC19637

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19637-1F | 04/08/13 | 14:00 | CMH | 04/08/13 | AQ | Groundwater Filtered | GP-13-04-025 |
| MC19637-1FD | 04/08/13 | 14:00 | CMH | 04/08/13 | AQ | Water Dup/MSD | GP-13-04-025 |
| MC19637-1FS | 04/08/13 | 14:00 | CMH | 04/08/13 | AQ | Water Matrix Spike | GP-13-04-025 |
| MC19637-2F | 04/08/13 | 15:00 | CMH | 04/08/13 | AQ | Groundwater Filtered | GP-13-04-035 |
| MC19637-3F | 04/08/13 | 00:00 | CMH | 04/08/13 | AQ | Groundwater Filtered | DUP-040813-F |
| MC19637-4F | 04/08/13 | 16:00 | CMH | 04/08/13 | AQ | Equip Blank Filtered | RB-040813-U |
| MC19637-5F | 04/09/13 | 11:30 | CMH | 04/09/13 | AQ | Groundwater Filtered | GP-13-04-045 |
| MC19637-6F | 04/09/13 | 15:25 | CMH | 04/09/13 | AQ | Groundwater Filtered | GP-13-05-020 |
| MC19637-7F | 04/09/13 | 16:30 | CMH | 04/09/13 | AQ | Equip Blank Filtered | RB-040913-U |
| MC19637-8F | 04/10/13 | 10:40 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-084 |
| MC19637-9F | 04/10/13 | 11:25 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-080 |
| MC19637-10F | 04/10/13 | 00:00 | CMH | 04/10/13 | AQ | Groundwater Filtered | DUP-041013-F |
| MC19637-11F | 04/10/13 | 12:25 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-070 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC19637

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19637-12F | 04/10/13 | 13:25 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-060 |
| MC19637-13F | 04/10/13 | 14:10 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-050 |
| MC19637-14F | 04/10/13 | 15:00 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-040 |
| MC19637-15F | 04/10/13 | 15:55 | CMH | 04/10/13 | AQ | Groundwater Filtered | GP-13-05-030 |
| MC19637-16F | 04/10/13 | 15:40 | CMH | 04/10/13 | AQ | Equip Blank Filtered | RB-041013-U |
| MC19637-17F | 04/11/13 | 10:15 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-087 |
| MC19637-18F | 04/11/13 | 11:22 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-077 |
| MC19637-19F | 04/11/13 | 12:25 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-067 |
| MC19637-20F | 04/11/13 | 13:25 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-057 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC19637

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 4/16/2013 2:15:57 PM

20 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 04/08/2013 and 04/11/2013 and were received at Accutest between 04/08/2013 and 04/11/2013 properly preserved, at 4.5 Deg. C and intact. These Samples received an Accutest job number of MC19637. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP20745

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19637-1FMS, MC19637-1FMSD, MC19637-1FSDL, MC19637-1FPS were used as the QC samples for metals.
- MC19637-1F for Arsenic: Matrix spike duplicate recovery outside of the control limit.
- MP20745-PS1 for Arsenic: Post-digestion spike recovery outside of the control limit.

**Matrix:** AQ **Batch ID:** MP20751

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19637-6FMS, MC19637-6FMSD, MC19637-6FPS, MC19637-6FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20751-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20760

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19637-15FMS, MC19637-15FMSD, MC19637-15FPS, MC19637-15FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20760-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20767

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-2FMS, MC19762-2FMSD, MC19762-2FPS, MC19762-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20767-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC19637).

# Summary of Hits

**Job Number:** MC19637
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/08/13 thru 04/11/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC19637-1F** | **GP-13-04-025** | | | | | |
| Arsenic [a] | | 3510 J | 50 | | ug/l | SW846 6020A |
| **MC19637-2F** | **GP-13-04-035** | | | | | |
| Arsenic | | 21.1 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-3F** | **DUP-040813-F** | | | | | |
| Arsenic | | 21.6 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-4F** | **RB-040813-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-5F** | **GP-13-04-045** | | | | | |
| Arsenic | | 3.0 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-6F** | **GP-13-05-020** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-7F** | **RB-040913-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-8F** | **GP-13-05-084** | | | | | |
| Arsenic | | 96.5 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-9F** | **GP-13-05-080** | | | | | |
| Arsenic | | 56.8 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-10F** | **DUP-041013-F** | | | | | |
| Arsenic | | 57.9 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-11F** | **GP-13-05-070** | | | | | |
| Arsenic | | 2.4 | 1.0 | | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC19637
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/08/13 thru 04/11/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC19637-12F** | **GP-13-05-060** | | | | | |
| Arsenic | | 69.4 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-13F** | **GP-13-05-050** | | | | | |
| Arsenic | | 33.5 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-14F** | **GP-13-05-040** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-15F** | **GP-13-05-030** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-16F** | **RB-041013-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-17F** | **GP-13-12-087** | | | | | |
| Arsenic | | 24.1 | 1.0 | | ug/l | SW846 6020A |
| **MC19637-18F** | **GP-13-12-077** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-19F** | **GP-13-12-067** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19637-20F** | **GP-13-12-057** | | | | | |
| Arsenic | | 1.6 | 1.0 | | ug/l | SW846 6020A |

(a) Matrix spike duplicate recovery outside of the control limit. Post-digetion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-04-025 | | |
| **Lab Sample ID:** | MC19637-1F | **Date Sampled:** | 04/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic [a] | 3510 J | 50 | ug/l | 100 | 04/09/13 | 04/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15436
(2) Prep QC Batch: MP20745

(a) Matrix spike duplicate recovery outside of the control limit. Post-digetion spike recovery outside of the control limit.

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-04-035 | | |
| **Lab Sample ID:** | MC19637-2F | **Date Sampled:** | 04/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 21.1 | 1.0 | ug/l | 2 | 04/09/13 | 04/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15436
(2) Prep QC Batch: MP20745

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-040813-F | | |
| **Lab Sample ID:** | MC19637-3F | **Date Sampled:** | 04/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 21.6 | 1.0 | ug/l | 2 | 04/09/13 | 04/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15436
(2) Prep QC Batch: MP20745

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-040813-U | | |
| **Lab Sample ID:** | MC19637-4F | **Date Sampled:** | 04/08/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/09/13 | 04/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15436
(2) Prep QC Batch: MP20745

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-04-045 | | |
| **Lab Sample ID:** | MC19637-5F | **Date Sampled:** | 04/09/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.0 | 1.0 | ug/l | 2 | 04/10/13 | 04/11/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15441
(2) Prep QC Batch: MP20751

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-020 | | |
| **Lab Sample ID:** | MC19637-6F | **Date Sampled:** | 04/09/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/10/13 | 04/11/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15441
(2) Prep QC Batch: MP20751

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-040913-U | | |
| **Lab Sample ID:** | MC19637-7F | **Date Sampled:** | 04/09/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/10/13 | 04/11/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15441
(2) Prep QC Batch: MP20751

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-084 | | |
| **Lab Sample ID:** | MC19637-8F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 96.5 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-080 | | |
| **Lab Sample ID:** | MC19637-9F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 56.8 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-041013-F | | |
| **Lab Sample ID:** | MC19637-10F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 57.9 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-070 | | |
| **Lab Sample ID:** | MC19637-11F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.4 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-060 | | |
| **Lab Sample ID:** | MC19637-12F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 69.4 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-050 | | |
| **Lab Sample ID:** | MC19637-13F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 33.5 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-040 | | |
| **Lab Sample ID:** | MC19637-14F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-05-030 | | |
| **Lab Sample ID:** | MC19637-15F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041013-U | | |
| **Lab Sample ID:** | MC19637-16F | **Date Sampled:** | 04/10/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/10/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/11/13 | 04/12/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15448
(2) Prep QC Batch: MP20760

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-087 | | |
| **Lab Sample ID:** | MC19637-17F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 24.1 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-077 | | |
| **Lab Sample ID:** | MC19637-18F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-067 | | |
| **Lab Sample ID:** | MC19637-19F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-057 | | |
| **Lab Sample ID:** | MC19637-20F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.6 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 4

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19637

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): GMH, PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State Zip
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC19637-1 | GP-13-04-025 | NA | 4-8-13 | 1400 | GMH | GW | 3 | | | X | | | | | | X | MS/MSD |
| -2A | GP-13-04-035 | NA | 4-8-13 | 1500 | GMH | GW | 1 | | | X | | | | | | X | |
| -3F | DUP-040813-F | NA | 4-8-13 | — | GMH | GW | 1 | | | X | | | | | | X | |
| -4F | RB-040813-U | NA | 4-8-13 | 1100 | GMH | AQ | 1 | | | X | | | | | | X | |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

RUSH!

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT Loc 5F
SDG HI - open
Custody Seals 040813-1 040813-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/8/13 1700 | 1 | 2 | | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # [ ] Intact [ ] Not Intact Preserved where applicable [ ] On Ice Cooler Temp. 4.3 °C

5.1 5

**MC19637: Chain of Custody**
**Page 1 of 5**

# CHAIN OF CUSTODY

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PAGE 2 OF 4

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19637

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State Zip
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | GP-13-04-045 -5F | NA | 4-9-13 | 1130 | CMH | GW | 1 | | | X | | | | | | X | |
| -2F | GP-13-05-020 -6F | NA | 4-9-13 | 1585 | CMH | GW | 1 | | | X | | | | | | X | |
| -3F | RB-040913-重U -7F | NA | 4-9-13 | 1630 | CMH | AQ | 1 | | | X | | | | | | X | |

SAMPLES RECEIVED DIRECTLY FROM FIELD SAMPLING

5F

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [x] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [x] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG#1 - open
Custody Seals 040913-1 040913-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/9/13 17:15 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # [x] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice [x] Cooler Temp. 3.6° |

**MC19637: Chain of Custody**
**Page 2 of 5**

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www.accutest.com

PAGE 3 OF 4 4/10/13

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19637

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -8F | GP-13-05-084 | NA | 4-10-13 | 1040 | CMH | GW | 1 | | | X | | | | | | X | |
| -9F | GP-13-05-080 | NA | 4-10-13 | 1125 | CMH | GW | 1 | | | X | | | | | | X | |
| -10F | DUP-041013-F | NA | 4-10-13 | — | CMH | GW | 1 | | | X | | | | | | X | |
| -11F | GP-13-05-070 | NA | 4-10-13 | 1225 | CMH | GW | 1 | | | X | | | | | | X | |
| -12F | GP-13-05-060 | NA | 4-10-13 | 1325 | CMH | GW | 1 | | | X | | | | | | X | |
| -13F | GP-13-05-050 | NA | 4-10-13 | 1410 | CMH | GW | 1 | | | X | | | | | | X | |
| -14F | GP-13-05-040 | NA | 4-10-13 | 1500 | CMH | GW | 1 | | | X | | | | | | X | |
| -15F | GP-13-05-030 | NA | 4-10-13 | 1555 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~GP-13-05~~ CH | | | | | | | | | | | | | | | | |
| -16F | BB-041013-U | NA | 4-10-13 | 1540 | CMH | AQ | 1 | | | X | | | | | | X | GA |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtink

Approved by:

**RUSH!**

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG# 1 - open
Custody Seal # 041013-1 041013-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/10/13 16:50 | | 2 | | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # [ ] Intact [ ] Not intact | Preserved where applicable [ ] | On Ice [✓] | Cooler Temp. 1.5°

**MC19637: Chain of Custody**
**Page 3 of 5**

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# CHAIN OF CUSTODY

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www.accutest.com

PAGE 4 OF 4 4/11/13 TF

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19637

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City / State / Zip: Foxborough MA 02035
Project Contact / E-mail: Steve Passafaro spassafaro@sovcon.com
Phone # / Fax #: (508) 339-3200 (508) 339-3248
Sampler(s) Name(s) / Phone #: CmH, PSV

**Project Information**

Project Name: SHL-Devens
Street:
City / State: Devens MA
Project #: AC001.02C.08
Client Purchase Order # / State / Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -17 | GP 13-12-087 | NA | 4-11-13 | 1015 | CmH | AW | 1 | | | X | | | | | | X | |
| -18 | GP 13-12-077 | NA | 4-11-13 | 1122 | CmH | AW | 1 | | | X | | | | | | X | |
| -19 | GP 13-12-067 | NA | 4-11-13 | 1225 | CmH | AW | 1 | | | X | | | | | | X | |
| -20 | GP 13-12-057 | NA | 4-11-13 | 1325 | CmH | AW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | GB |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Leblink

Approved by: RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG #1 - Closed
Custody Seals # c411131 c411132

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/11/13 1720 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [✓] Intact [ ] Not intact | Preserved where applicable [ ] | On Ice [✓] | Cooler Temp. 0.2°C |

**MC19637: Chain of Custody**
**Page 4 of 5**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC19637 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 4/10/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** DEVENS **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC19637: Chain of Custody**
**Page 5 of 5**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19637

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19637-1F | Collected: 08-APR-13 14:00 By: CMH<br>GP-13-04-025 | | | Received: 08-APR-13 | By: | |
| MC19637-1S | SW846 6020A | 09-APR-13 16:22 | PY | 09-APR-13 | SA | ASMS |
| MC19637-2F | Collected: 08-APR-13 15:00 By: CMH<br>GP-13-04-035 | | | Received: 08-APR-13 | By: | |
| MC19637-2S | SW846 6020A | 09-APR-13 16:16 | PY | 09-APR-13 | SA | ASMS |
| MC19637-3F | Collected: 08-APR-13 00:00 By: CMH<br>DUP-040813-F | | | Received: 08-APR-13 | By: | |
| MC19637-3S | SW846 6020A | 09-APR-13 15:43 | PY | 09-APR-13 | SA | ASMS |
| MC19637-4F | Collected: 08-APR-13 16:00 By: CMH<br>RB-040813-U | | | Received: 08-APR-13 | By: | |
| MC19637-4S | SW846 6020A | 09-APR-13 15:49 | PY | 09-APR-13 | SA | ASMS |
| MC19637-5F | Collected: 09-APR-13 11:30 By: CMH<br>GP-13-04-045 | | | Received: 09-APR-13 | By: | |
| MC19637-5S | SW846 6020A | 11-APR-13 13:45 | PY | 10-APR-13 | SA | ASMS |
| MC19637-6F | Collected: 09-APR-13 15:25 By: CMH<br>GP-13-05-020 | | | Received: 09-APR-13 | By: | |
| MC19637-6S | SW846 6020A | 11-APR-13 13:39 | PY | 10-APR-13 | SA | ASMS |
| MC19637-7F | Collected: 09-APR-13 16:30 By: CMH<br>RB-040913-U | | | Received: 09-APR-13 | By: | |
| MC19637-7S | SW846 6020A | 11-APR-13 13:52 | PY | 10-APR-13 | SA | ASMS |
| MC19637-8F | Collected: 10-APR-13 10:40 By: CMH<br>GP-13-05-084 | | | Received: 10-APR-13 | By: | |
| MC19637-8S | SW846 6020A | 12-APR-13 12:50 | PY | 11-APR-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19637

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19637-9E | Collected: 10-APR-13 11:25 By: CMH<br>GP-13-05-080 | | | Received: 10-APR-13 | By: | |
| MC19637-9E | SW846 6020A | 12-APR-13 12:56 | PY | 11-APR-13 | DA | ASMS |
| MC19637-10 | Collected: 10-APR-13 00:00 By: CMH<br>DUP-041013-F | | | Received: 10-APR-13 | By: | |
| MC19637-10 | SW846 6020A | 12-APR-13 13:02 | PY | 11-APR-13 | DA | ASMS |
| MC19637-11 | Collected: 10-APR-13 12:25 By: CMH<br>GP-13-05-070 | | | Received: 10-APR-13 | By: | |
| MC19637-11 | SW846 6020A | 12-APR-13 13:08 | PY | 11-APR-13 | DA | ASMS |
| MC19637-12 | Collected: 10-APR-13 13:25 By: CMH<br>GP-13-05-060 | | | Received: 10-APR-13 | By: | |
| MC19637-12 | SW846 6020A | 12-APR-13 13:27 | PY | 11-APR-13 | DA | ASMS |
| MC19637-13 | Collected: 10-APR-13 14:10 By: CMH<br>GP-13-05-050 | | | Received: 10-APR-13 | By: | |
| MC19637-13 | SW846 6020A | 12-APR-13 13:34 | PY | 11-APR-13 | DA | ASMS |
| MC19637-14 | Collected: 10-APR-13 15:00 By: CMH<br>GP-13-05-040 | | | Received: 10-APR-13 | By: | |
| MC19637-14 | SW846 6020A | 12-APR-13 13:40 | PY | 11-APR-13 | DA | ASMS |
| MC19637-15 | Collected: 10-APR-13 15:55 By: CMH<br>GP-13-05-030 | | | Received: 10-APR-13 | By: | |
| MC19637-15 | SW846 6020A | 12-APR-13 12:43 | PY | 11-APR-13 | DA | ASMS |
| MC19637-16 | Collected: 10-APR-13 15:40 By: CMH<br>RB-041013-U | | | Received: 10-APR-13 | By: | |
| MC19637-16 | SW846 6020A | 12-APR-13 13:46 | PY | 11-APR-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19637

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19637-17 | Collected: 11-APR-13 10:15 By: CMH<br>GP-13-12-087 | | | Received: 11-APR-13 By: | | |
| MC19637-17S | SW846 6020A | 15-APR-13 13:19 | PY | 12-APR-13 | DA | ASMS |
| MC19637-18 | Collected: 11-APR-13 11:22 By: CMH<br>GP-13-12-077 | | | Received: 11-APR-13 By: | | |
| MC19637-18S | SW846 6020A | 15-APR-13 13:38 | PY | 12-APR-13 | DA | ASMS |
| MC19637-19 | Collected: 11-APR-13 12:25 By: CMH<br>GP-13-12-067 | | | Received: 11-APR-13 By: | | |
| MC19637-19S | SW846 6020A | 15-APR-13 13:44 | PY | 12-APR-13 | DA | ASMS |
| MC19637-20 | Collected: 11-APR-13 13:25 By: CMH<br>GP-13-12-057 | | | Received: 11-APR-13 By: | | |
| MC19637-20S | SW846 6020A | 15-APR-13 13:51 | PY | 12-APR-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC19637
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/08/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19637-1F.1 | Walk In Ref #5 | Sarah Ayaz | 04/09/13 08:43 | Retrieve from Storage |
| MC19637-1F.1 | Sarah Ayaz | Walk In Ref #5 | 04/09/13 14:03 | Return to Storage |
| MC19637-2F.1 | Walk In Ref #5 | Sarah Ayaz | 04/09/13 08:43 | Retrieve from Storage |
| MC19637-2F.1 | Sarah Ayaz | Walk In Ref #5 | 04/09/13 14:03 | Return to Storage |
| MC19637-3F.1 | Walk In Ref #5 | Sarah Ayaz | 04/09/13 08:43 | Retrieve from Storage |
| MC19637-3F.1 | Sarah Ayaz | Walk In Ref #5 | 04/09/13 14:03 | Return to Storage |
| MC19637-4F.1 | Walk In Ref #5 | Sarah Ayaz | 04/09/13 08:43 | Retrieve from Storage |
| MC19637-4F.1 | Sarah Ayaz | Walk In Ref #5 | 04/09/13 14:03 | Return to Storage |
| MC19637-5F.1 | Walk In Ref #5 | Sarah Ayaz | 04/10/13 08:06 | Retrieve from Storage |
| MC19637-5F.1 | Sarah Ayaz | Walk In Ref #5 | 04/10/13 16:30 | Return to Storage |
| MC19637-6F.1 | Walk In Ref #5 | Sarah Ayaz | 04/10/13 08:06 | Retrieve from Storage |
| MC19637-6F.1 | Sarah Ayaz | Walk In Ref #5 | 04/10/13 16:30 | Return to Storage |
| MC19637-7F.1 | Walk In Ref #5 | Sarah Ayaz | 04/10/13 08:06 | Retrieve from Storage |
| MC19637-7F.1 | Sarah Ayaz | Walk In Ref #5 | 04/10/13 16:30 | Return to Storage |
| MC19637-8F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-8F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-9F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-9F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-10F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-10F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-11F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-11F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-12F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-12F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-13F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-13F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-14F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-14F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-15F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-15F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC19637
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/08/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19637-16F.1 | Walk In Ref #5 | Dorina Antonovici | 04/11/13 13:07 | Retrieve from Storage |
| MC19637-16F.1 | Dorina Antonovici | Walk In Ref #5 | 04/11/13 16:37 | Return to Storage |
| MC19637-17F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19637-17F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19637-18F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19637-18F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19637-19F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19637-19F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19637-20F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19637-20F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:04 | MA15436-STD1 | 1 | | STDA |
| 13:11 | MA15436-STD2 | 1 | | STDB |
| 13:17 | MA15436-STD3 | 1 | | STDC |
| 13:23 | MA15436-STD4 | 1 | | STDD |
| 13:30 | MA15436-STD5 | 1 | | STDE |
| 13:36 | MA15436-STD6 | 1 | | STDF |
| 13:42 | MA15436-STD7 | 1 | | STDG |
| 13:49 | MA15436-STD8 | 1 | | STDH |
| 14:32 | MA15436-ICV1 | 1 | | |
| 14:38 | MA15436-ICB1 | 1 | | |
| 14:44 | MA15436-CCV1 | 1 | | |
| 14:52 | MA15436-CCB1 | 1 | | |
| 14:58 | MA15436-CRI1 | 1 | | |
| 15:05 | MA15436-ICSA1 | 1 | | |
| 15:11 | MA15436-ICSAB1 | 1 | | |
| 15:18 | ZZZZZZ | 1 | | RINSECONF |
| 15:24 | MP20745-MB1 | 2 | | |
| 15:31 | MC19637-1F | 2 | | AS OVER RANGE. |
| 15:37 | MC19637-2F | 2 | | DNR: HIGH RSD, SEE RERUN. |
| 15:43 | MC19637-3F | 2 | | |
| 15:49 | MC19637-4F | 2 | | |
| 15:56 | MP20745-B1 | 20 | | |
| 16:02 | MA15436-CCV2 | 1 | | |
| 16:09 | MA15436-CCB2 | 1 | | |
| 16:16 | MC19637-2F | 2 | | |
| 16:22 | MC19637-1F | 100 | | |
| 16:28 | MP20745-SD1 | 500 | | |
| 16:35 | MP20745-S1 | 100 | | |
| 16:41 | MP20745-S2 | 100 | | |
| 16:57 | MP20745-PS1 | 100 | | |
| ----------> | Last reportable sample/prep for job MC19637 | | | |
| 17:04 | MA15436-CRI2 | 1 | | |
| 17:13 | ZZZZZZ | 1 | | DNR: HIGH RSD, SEE RERUN FOR CCV. |
| 17:23 | MA15436-CCV3 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:32 | MA15436-CCB3 | 1 | | |
| ----------> | Last reportable CCB for job MC19637 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:04 | MA15436-STD1 | 2125729 R | 2310496 R | 316439 R | 456135 R | 133846 R | 2756013 R | 3107877 R | 1253711 R |
| 13:11 | MA15436-STD2 | 2164401 | 2380180 | 332375 | 461454 | 139698 | 2818446 | 3150204 | 1316503 |
| 13:17 | MA15436-STD3 | 2155105 | 2375252 | 334572 | 458005 | 140035 | 2802800 | 3154624 | 1329558 |
| 13:23 | MA15436-STD4 | 2165431 | 2355609 | 341498 | 453497 | 141603 | 2799007 | 3124344 | 1340632 |
| 13:30 | MA15436-STD5 | 2049015 | 2163877 | 331585 | 430998 | 139016 | 2575512 | 2895786 | 1307204 |
| 13:36 | MA15436-STD6 | 2129332 | 2336031 | 328579 | 448232 | 136082 | 2762006 | 3056951 | 1290127 |
| 13:42 | MA15436-STD7 | 2148287 | 2363410 | 335735 | 463477 | 139709 | 2771559 | 3147912 | 1319892 |
| 13:49 | MA15436-STD8 | 2137413 | 2347964 | 334293 | 462794 | 138752 | 2654823 | 3003531 | 1267593 |
| 14:32 | MA15436-ICV1 | 2167586 | 2389372 | 331983 | 469057 | 136897 | 2741194 | 3114061 | 1254422 |
| 14:38 | MA15436-ICB1 | 2244454 | 2432362 | 346321 | 476165 | 141197 | 2873464 | 3203257 | 1319922 |
| 14:44 | MA15436-CCV1 | 2125743 | 2345720 | 335027 | 457701 | 138114 | 2672067 | 3005829 | 1270905 |
| 14:52 | MA15436-CCB1 | 2162724 | 2311713 | 337004 | 460696 | 139423 | 2725646 | 3064856 | 1312385 |
| 14:58 | MA15436-CRI1 | 2190176 | 2408966 | 342666 | 474630 | 140401 | 2853089 | 3229238 | 1330491 |
| 15:05 | MA15436-ICSA1 | 1906285 | 2301961 | 296758 | 470822 | 128287 | 2523244 | 2956301 | 1129724 |
| 15:11 | MA15436-ICSAB1 | 1449472 | !a2163457 | 282038 | 457972 | 124461 | 2531194 | 2996977 | 1142941 |
| 15:18 | ZZZZZZ | 1213304 | !a2141706 | 278889 | 463941 | 127446 | 2923527 | 3378195 | 1257432 |
| 15:24 | MP20745-MB1 | 1039571 | !a1961343 | 237126 | 438683 | 111352 | 2795127 | 3177150 | 1104041 |
| 15:31 | MC19637-1F | 1023512 | !a1917846 | 252997 | 429730 | 117631 | 2599420 | 3050346 | 1150653 |
| 15:37 | MC19637-2F | 1122314 | !a1864419 | 263245 | 415591 | 118634 | 2481249 | 2910993 | 1157388 |
| 15:43 | MC19637-3F | 1361965 | !a2181898 | 281900 | 459902 | 125167 | 2802010 | 3228647 | 1229822 |
| 15:49 | MC19637-4F | 1409836 | !a2194347 | 278069 | 464236 | 122828 | 2885387 | 3272651 | 1206271 |
| 15:56 | MP20745-B1 | 1712466 | 2419473 | 294315 | 492167 | 127791 | 3052446 | 3433387 | 1224598 |
| 16:02 | MA15436-CCV2 | 1734896 | 2228842 | 293487 | 461025 | 127311 | 2717777 | 3126625 | 1174368 |
| 16:09 | MA15436-CCB2 | 1876963 | 2344163 | 305227 | 475400 | 130199 | 2880280 | 3247914 | 1250204 |
| 16:16 | MC19637-2F | 1612182 | 2295201 | 302633 | 469328 | 130457 | 2811376 | 3253902 | 1280521 |
| 16:22 | MC19637-1F | 2122477 | 2482029 | 334958 | 497786 | 140205 | 2996433 | 3387110 | 1326672 |
| 16:28 | MP20745-SD1 | 2165973 | 2447891 | 337770 | 493087 | 140816 | 2926064 | 3307637 | 1324725 |
| 16:35 | MP20745-S1 | 2117562 | 2388379 | 336635 | 483646 | 140866 | 2837826 | 3190574 | 1331411 |
| 16:41 | MP20745-S2 | 2418788 | 2863720 | 329310 | 542059 | 139126 | 3353635 | 3779164 | 1294548 |
| 16:57 | MP20745-PS1 | 2220328 | 2500396 | 335836 | 497644 | 140221 | 2981358 | 3332575 | 1315574 |
| 17:04 | MA15436-CRI2 | 1883934 | 2351948 | 321170 | 472305 | 134782 | 2829459 | 3200350 | 1287286 |
| 17:13 | ZZZZZZ | 2026379 | 2602742 | 302950 | 504781 | 128115 | 3038177 | 3409117 | 1182712 |
| 17:23 | MA15436-CCV3 | 1930921 | 2340521 | 313474 | 466890 | 131159 | 2754212 | 3129204 | 1216472 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:32 | MA15436-CCB3 | 2030969 | 2400394 | 317756 | 477996 | 133177 | 2899938 | 3258350 | 1265705 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:04 | MA15436-STD1 | 4318262 R | 2390925 R |
| 13:11 | MA15436-STD2 | 4357050 | 2404751 |
| 13:17 | MA15436-STD3 | 4357376 | 2343197 |
| 13:23 | MA15436-STD4 | 4348265 | 2307104 |
| 13:30 | MA15436-STD5 | 3996840 | 2167730 |
| 13:36 | MA15436-STD6 | 4280975 | 2251802 |
| 13:42 | MA15436-STD7 | 4322755 | 2270177 |
| 13:49 | MA15436-STD8 | 4234942 | 2155081 |
| 14:32 | MA15436-ICV1 | 4440792 | 2365479 |
| 14:38 | MA15436-ICB1 | 4455052 | 2424085 |
| 14:44 | MA15436-CCV1 | 4254657 | 2300292 |
| 14:52 | MA15436-CCB1 | 4241323 | 2317544 |
| 14:58 | MA15436-CRI1 | 4414298 | 2382290 |
| 15:05 | MA15436-ICSA1 | 4303842 | 2111302 |
| 15:11 | MA15436-ICSAB1 | 4385771 | 2151709 |
| 15:18 | ZZZZZZ | 4729670 | 2630476 |
| 15:24 | MP20745-MB1 | 4563469 | 2531007 |
| 15:31 | MC19637-1F | 4434096 | 2448624 |
| 15:37 | MC19637-2F | 4171157 | 2406669 |
| 15:43 | MC19637-3F | 4616486 | 2523922 |
| 15:49 | MC19637-4F | 4663766 | 2565597 |
| 15:56 | MP20745-B1 | 4828520 | 2626061 |
| 16:02 | MA15436-CCV2 | 4334508 | 2310284 |
| 16:09 | MA15436-CCB2 | 4525735 | 2429331 |
| 16:16 | MC19637-2F | 4593374 | 2444389 |
| 16:22 | MC19637-1F | 4633301 | 2335677 |
| 16:28 | MP20745-SD1 | 4461252 | 2213626 |
| 16:35 | MP20745-S1 | 4328867 | 2201837 |
| 16:41 | MP20745-S2 | 5127518 | 2561846 |
| 16:57 | MP20745-PS1 | 4567917 | 2343050 |
| 17:04 | MA15436-CRI2 | 4398704 | 2446129 |
| 17:13 | ZZZZZZ | 4803039 | 2559718 |
| 17:23 | MA15436-CCV3 | 4369777 | 2389641 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15436
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:32 | MA15436-CCB3 | 4504059 | 2463508 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15436  Units: ug/l

| Time: | | | | 14:38 | | 14:52 | | 16:09 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.033 | <0.50 | -0.039 | <0.50 | -0.028 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15436  Units: ug/l

| Time: | | | | 17:32 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.026 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15436  Units: ug/l

| Time: | | 14:32 | | | 14:44 | | | 16:02 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.9 | 101.5 | 50 | 50.6 | 101.2 | 50 | 51.9 | 103.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15436  Units: ug/l

| Time: | | 17:23 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 50.6 | 101.2 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15436  Units: ug/l

| Time: | | | 14:58 | | 17:04 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.46 | 92.0 | 0.46 | 92.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA040913W1L.AGF  Date Analyzed: 04/09/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15436  Units: ug/l

| Time: | | | 15:05 | | 15:11 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 91000 | 91.0 | 85600 | 85.6 |
| Antimony | | | 0.28* | | 0.29* | |
| Arsenic | | 20 | 0.19 | | 20.0 | 100.0 |
| Barium | | | 0.17 | | 0.18 | |
| Beryllium | | | 0.00019 | | -0.00072 | |
| Boron | | | 0.078 | | 0.086 | |
| Cadmium | | 20 | 0.85* | | 20.4 | 102.0 |
| Calcium | 100000 | 100000 | 94700 | 94.7 | 96600 | 96.6 |
| Chromium | | 20 | 1.1* | | 20.6 | 103.0 |
| Cobalt | | 20 | 0.041 | | 19.4 | 97.0 |
| Copper | | 20 | 0.17 | | 17.2 | 86.0 |
| Iron | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Lead | | | 0.11 | | 0.11 | |
| Magnesium | 100000 | 100000 | 92500 | 92.5 | 85300 | 85.3 |
| Manganese | | 20 | -0.12 | | 19.6 | 98.0 |
| Molybdenum | 2000 | 2000 | 2090 | 104.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.71* | | 19.5 | 97.5 |
| Potassium | 100000 | 100000 | 94800 | 94.8 | 94100 | 94.1 |
| Selenium | | | 0.16 | | 0.14 | |
| Silver | | 20 | 0.054 | | 18.6 | 93.0 |
| Sodium | 100000 | 100000 | 91000 | 91.0 | 84200 | 84.2 |
| Strontium | | | 4.6* | | 4.7* | |
| Thallium | | | 0.076 | | 0.044 | |
| Tin | | | 0.11 | | 0.12 | |
| Titanium | 2000 | 2000 | 1980 | 99.0 | 2030 | 101.5 |
| Vanadium | | | -0.28 | | -0.33 | |
| Zinc | | 20 | 1.8* | | 19.5 | 97.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
Analyst: PY  Run ID: MA15441
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:51 | MA15441-STD1 | 1 | | STDA |
| 11:57 | MA15441-STD2 | 1 | | STDB |
| 12:04 | MA15441-STD3 | 1 | | STDC |
| 12:10 | MA15441-STD4 | 1 | | STDD |
| 12:16 | MA15441-STD5 | 1 | | STDE |
| 12:23 | MA15441-STD6 | 1 | | STDF |
| 12:29 | MA15441-STD7 | 1 | | STDG |
| 12:35 | MA15441-STD8 | 1 | | STDH |
| 12:42 | MA15441-ICV1 | 1 | | |
| 12:48 | MA15441-ICB1 | 1 | | |
| 12:54 | MA15441-CCV1 | 1 | | |
| 13:01 | MA15441-CCB1 | 1 | | |
| 13:07 | MA15441-CRI1 | 1 | | |
| 13:13 | MA15441-ICSA1 | 1 | | |
| 13:20 | MA15441-ICSAB1 | 1 | | |
| 13:26 | ZZZZZZ | 1 | | RINSECONF |
| 13:33 | MP20751-MB1 | 2 | | |
| 13:39 | MC19637-6F | 2 | | |
| 13:45 | MC19637-5F | 2 | | |
| 13:52 | MC19637-7F | 2 | | |
| 13:58 | MP20751-B1 | 20 | | |
| 14:04 | MP20751-S1 | 20 | | |
| 14:11 | MA15441-CCV2 | 1 | | |
| 14:17 | MA15441-CCB2 | 1 | | |
| 14:23 | MP20751-S2 | 20 | | |
| 14:30 | MP20751-SD1 | 10 | | |
| 14:46 | MP20751-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19637 | | | |
| 14:52 | MA15441-CRI2 | 1 | | |
| 15:09 | MA15441-CCV3 | 1 | | |
| 15:16 | MA15441-CCB3 | 1 | | |
| ----------> | Last reportable CCB for job MC19637 | | | |
| 15:22 | MP20741-MB1 | 1 | | |
| 15:29 | MC19572-1 | 1 | | (sample used for QC only; not part of login MC19637) |
| 15:35 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
Analyst: PY  Run ID: MA15441
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:41 | MP20741-SD1 | 5 | | |
| 15:48 | MP20741-B1 | 5 | | |
| 15:54 | MP20741-S1 | 5 | | |
| 16:00 | MP20741-S2 | 5 | | |
| 16:06 | MA15441-CRI3 | 1 | | |
| 16:16 | MA15441-CCV4 | 1 | | |
| 16:23 | MA15441-CCB4 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
Analyst: PY  Run ID: MA15441
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:51 | MA15441-STD1 | 1946740 R | 2374581 R | 293241 R | 473750 R | 123039 R | 2855288 R | 3211030 R | 1158527 R |
| 11:57 | MA15441-STD2 | 1960019 | 2410784 | 307468 | 479207 | 127332 | 2878318 | 3244608 | 1209520 |
| 12:04 | MA15441-STD3 | 1951974 | 2371510 | 295231 | 471621 | 124209 | 2858582 | 3196508 | 1157116 |
| 12:10 | MA15441-STD4 | 1989744 | 2403903 | 296952 | 470891 | 124172 | 2870447 | 3213740 | 1154170 |
| 12:16 | MA15441-STD5 | 1851080 | 2192928 | 293731 | 437414 | 122344 | 2599801 | 2907619 | 1138766 |
| 12:23 | MA15441-STD6 | 1974937 | 2360050 | 291244 | 462284 | 122012 | 2816482 | 3138363 | 1136272 |
| 12:29 | MA15441-STD7 | 1984738 | 2390002 | 301003 | 469406 | 125138 | 2810412 | 3138908 | 1169353 |
| 12:35 | MA15441-STD8 | 2020157 | 2412519 | 302013 | 470826 | 125046 | 2710134 | 3087550 | 1133291 |
| 12:42 | MA15441-ICV1 | 2043596 | 2409972 | 298735 | 468909 | 124125 | 2741508 | 3123774 | 1135655 |
| 12:48 | MA15441-ICB1 | 2107851 | 2386013 | 298643 | 471553 | 124149 | 2834684 | 3194188 | 1162579 |
| 12:54 | MA15441-CCV1 | 2073955 | 2410855 | 298743 | 467275 | 123703 | 2762806 | 3137397 | 1135839 |
| 13:01 | MA15441-CCB1 | 2103809 | 2413471 | 298570 | 472364 | 124038 | 2845051 | 3205248 | 1161631 |
| 13:07 | MA15441-CRI1 | 2069818 | 2385845 | 297820 | 469909 | 124231 | 2819521 | 3174238 | 1167393 |
| 13:13 | MA15441-ICSA1 | 1724081 | 2271308 | 273328 | 463964 | 119108 | 2501394 | 2959132 | 1050067 |
| 13:20 | MA15441-ICSAB1 | 1321951 | !a2151724 | 257526 | 454545 | 115379 | 2545080 | 3016649 | 1040451 |
| 13:26 | ZZZZZZ | 1213863 | ! 2130962 | 260405 | 461986 | 119679 | 2941911 | 3347911 | 1164249 |
| 13:33 | MP20751-MB1 | 1044894 | !a2008216 | 239727 | 444273 | 112542 | 2859530 | 3232836 | 1125605 |
| 13:39 | MC19637-6F | 980387 | !a 1909426 | 233195 | 428327 | 109943 | 2677562 | 3203504 | 1090790 |
| 13:45 | MC19637-5F | 1008374 | !a1972797 | 236504 | 437365 | 110508 | 2744449 | 3214948 | 1094109 |
| 13:52 | MC19637-7F | 1050047 | !a1977999 | 239036 | 440005 | 110815 | 2821130 | 3253299 | 1103866 |
| 13:58 | MP20751-B1 | 1330841 | !a2208228 | 271076 | 467569 | 121853 | 2958383 | 3394052 | 1175479 |
| 14:04 | MP20751-S1 | 1368262 | 2208173 | 271100 | 460616 | 120564 | 2879390 | 3273053 | 1159930 |
| 14:11 | MA15441-CCV2 | 1430614 | 2251434 | 271157 | 462892 | 118712 | 2818445 | 3227006 | 1124941 |
| 14:17 | MA15441-CCB2 | 1516005 | 2270045 | 271825 | 468560 | 119091 | 2949383 | 3322476 | 1151980 |
| 14:23 | MP20751-S2 | 1623596 | 2322714 | 285729 | 473680 | 123661 | 2919342 | 3300183 | 1177433 |
| 14:30 | MP20751-SD1 | 1580112 | 2288770 | 274769 | 469248 | 120953 | 2882393 | 3310801 | 1166579 |
| 14:46 | MP20751-PS1 | 1336728 | ! 2144684 | 248539 | 451766 | 111950 | 2783994 | 3231954 | 1080260 |
| 14:52 | MA15441-CRI2 | 1613317 | 2343311 | 279035 | 479975 | 121740 | 3004008 | 3398051 | 1174917 |
| 15:09 | MA15441-CCV3 | 1642734 | 2337774 | 278077 | 470823 | 119720 | 2843549 | 3248209 | 1113250 |
| 15:16 | MA15441-CCB3 | 1725292 | 2351082 | 280653 | 477899 | 120989 | 2983156 | 3352876 | 1156968 |
| 15:22 | MP20741-MB1 | 1798009 | 2352313 | 290489 | 476000 | 123926 | 2920391 | 3337575 | 1180529 |
| 15:29 | MC19572-1 | 1726453 | 2352929 | 286350 | 442483 | 115713 | 2518778 | 2968609 | 1060287 |
| 15:35 | ZZZZZZ | 1926217 | 2375987 | 286416 | 437846 | 115684 | 2507388 | 2920311 | 1051427 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
Analyst: PY  Run ID: MA15441
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:41 | MP20741-SD1 | 2069688 | 2331523 | 295512 | 451675 | 122248 | 2562933 | 2980694 | 1118683 |
| 15:48 | MP20741-B1 | 2269737 | 2461424 | 301497 | 474797 | 125467 | 2845614 | 3232273 | 1157595 |
| 15:54 | MP20741-S1 | 2121865 | 2476036 | 298754 | 464284 | 122569 | 2683656 | 3103874 | 1122484 |
| 16:00 | MP20741-S2 | 2156911 | 2472553 | 303247 | 468073 | 124181 | 2696647 | 3148030 | 1132343 |
| 16:06 | MA15441-CRI3 | 2172924 | 2280935 | 300659 | 444887 | 127133 | 2665912 | 2997693 | 1171729 |
| 16:16 | MA15441-CCV4 | 2157328 | 2429131 | 295351 | 467592 | 124220 | 2790529 | 3212128 | 1142864 |
| 16:23 | MA15441-CCB4 | 2182139 | 2465414 | 301526 | 479835 | 126742 | 2932582 | 3324930 | 1187371 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF Date Analyzed: 04/11/13 Methods: EPA 200.8, SW846 6020A
Analyst: PY Run ID: MA15441
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:51 | MA15441-STD1 | 4546582 R | 3027674 R |
| 11:57 | MA15441-STD2 | 4562907 | 3075050 |
| 12:04 | MA15441-STD3 | 4535172 | 3023543 |
| 12:10 | MA15441-STD4 | 4557804 | 3070962 |
| 12:16 | MA15441-STD5 | 4194940 | 2811024 |
| 12:23 | MA15441-STD6 | 4502032 | 3008226 |
| 12:29 | MA15441-STD7 | 4511780 | 2993303 |
| 12:35 | MA15441-STD8 | 4498050 | 2879391 |
| 12:42 | MA15441-ICV1 | 4474174 | 2905275 |
| 12:48 | MA15441-ICB1 | 4517493 | 3039725 |
| 12:54 | MA15441-CCV1 | 4549264 | 2945476 |
| 13:01 | MA15441-CCB1 | 4555292 | 3051738 |
| 13:07 | MA15441-CRI1 | 4570314 | 3035072 |
| 13:13 | MA15441-ICSA1 | 4417234 | 2741293 |
| 13:20 | MA15441-ICSAB1 | 4528360 | 2815892 |
| 13:26 | ZZZZZZ | 4843524 | 3289992 |
| 13:33 | MP20751-MB1 | 4777702 | 3261620 |
| 13:39 | MC19637-6F | 4610266 | 3105846 |
| 13:45 | MC19637-5F | 4845801 | 3205045 |
| 13:52 | MC19637-7F | 4812100 | 3276851 |
| 13:58 | MP20751-B1 | 4892972 | 3268649 |
| 14:04 | MP20751-S1 | 4710490 | 3156081 |
| 14:11 | MA15441-CCV2 | 4736332 | 3130417 |
| 14:17 | MA15441-CCB2 | 4788019 | 3232241 |
| 14:23 | MP20751-S2 | 4774134 | 3156342 |
| 14:30 | MP20751-SD1 | 4709647 | 3219068 |
| 14:46 | MP20751-PS1 | 4736717 | 3105571 |
| 14:52 | MA15441-CRI2 | 4885514 | 3245625 |
| 15:09 | MA15441-CCV3 | 4713439 | 3086594 |
| 15:16 | MA15441-CCB3 | 4730357 | 3211231 |
| 15:22 | MP20741-MB1 | 4695883 | 3199780 |
| 15:29 | MC19572-1 | 4404414 | 2684227 |
| 15:35 | ZZZZZZ | 4367594 | 2642622 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
Analyst: PY  Run ID: MA15441
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:41 | MP20741-SD1 | 4335016 | 2763899 |
| 15:48 | MP20741-B1 | 4623160 | 3039561 |
| 15:54 | MP20741-S1 | 4562182 | 2848915 |
| 16:00 | MP20741-S2 | 4584653 | 2887082 |
| 16:06 | MA15441-CRI3 | 4237021 | 2857928 |
| 16:16 | MA15441-CCV4 | 4605369 | 3021971 |
| 16:23 | MA15441-CCB4 | 4668407 | 3162580 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: result < LOD  Run ID: MA15441  Units: ug/l

| Time: / Sample ID: | | | | 12:48 ICB1 | | 13:01 CCB1 | | 14:17 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.016 | <1.0 | 0.00018 | <1.0 | -0.025 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: result < LOD  Run ID: MA15441  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 15:16 CCB3 raw | final |
|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0016 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15441  Units: ug/l

| Time: | | 12:42 | | | 12:54 | | | 14:11 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.5 | 100.8 | 50 | 50.5 | 101.0 | 50 | 49.7 | 99.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15441  Units: ug/l

| Time: | | 15:09 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 50.7 | 101.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | anr | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: 50 to 150 % Recovery  Run ID: MA15441  Units: ug/l

| Time: | | | 13:07 | | 14:52 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.50 | 100.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | anr | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041113W1L.AGF  Date Analyzed: 04/11/13  Methods: EPA 200.8, SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15441  Units: ug/l

| Time: | | | 13:13 | | 13:20 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 92600 | 92.6 | 86100 | 86.1 |
| Antimony | | | 0.27 | | 0.28 | |
| Arsenic | | 20 | 0.22 | | 20.2 | 101.0 |
| Barium | | | 0.17 | | 0.17 | |
| Beryllium | | | 0.0025 | | 0.0033 | |
| Boron | | | 0.058 | | 0.069 | |
| Cadmium | | 20 | 0.81* | | 20.1 | 100.5 |
| Calcium | 100000 | 100000 | 96000 | 96.0 | 96700 | 96.7 |
| Chromium | | 20 | 1.0* | | 20.5 | 102.5 |
| Cobalt | | 20 | 0.038 | | 19.3 | 96.5 |
| Copper | | 20 | 0.18 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 98700 | 98.7 | 102000 | 102.0 |
| Lead | | | 0.12 | | 0.12 | |
| Magnesium | 100000 | 100000 | 94400 | 94.4 | 86600 | 86.6 |
| Manganese | | 20 | -0.11 | | 19.7 | 98.5 |
| Molybdenum | 2000 | 2000 | 2060 | 103.0 | 2080 | 104.0 |
| Nickel | | 20 | 0.66 | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 95200 | 95.2 | 94300 | 94.3 |
| Selenium | | | 0.13 | | 0.21 | |
| Silver | | 20 | 0.053 | | 18.5 | 92.5 |
| Sodium | 100000 | 100000 | 93100 | 93.1 | 84600 | 84.6 |
| Strontium | | | 4.5 | | 4.5 | |
| Thallium | | | 0.030 | | 0.014 | |
| Tin | | | 0.10 | | 0.10 | |
| Titanium | 2000 | 2000 | 1990 | 99.5 | 2000 | 100.0 |
| Vanadium | | | -0.010 | | 0.000051 | |
| Zinc | | 20 | 1.7 | | 19.4 | 97.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:46 | MA15448-STD1 | 1 | | STDA |
| 10:52 | MA15448-STD2 | 1 | | STDB |
| 10:59 | MA15448-STD3 | 1 | | STDC |
| 11:05 | MA15448-STD4 | 1 | | STDD |
| 11:11 | MA15448-STD5 | 1 | | STDE |
| 11:18 | MA15448-STD6 | 1 | | STDF |
| 11:24 | MA15448-STD7 | 1 | | STDG |
| 11:35 | MA15448-STD8 | 1 | | STDH |
| 11:41 | MA15448-ICV1 | 1 | | |
| 11:48 | MA15448-ICB1 | 1 | | |
| 11:55 | MA15448-CCV1 | 1 | | |
| 12:01 | MA15448-CCB1 | 1 | | |
| 12:07 | MA15448-CRI1 | 1 | | |
| 12:14 | MA15448-ICSA1 | 1 | | |
| 12:21 | MA15448-ICSAB1 | 1 | | |
| 12:31 | ZZZZZZ | 1 | | RINSECONF |
| 12:37 | MP20760-MB1 | 2 | | |
| 12:43 | MC19637-15F | 2 | | |
| 12:50 | MC19637-8F | 2 | | |
| 12:56 | MC19637-9F | 2 | | |
| 13:02 | MC19637-10F | 2 | | |
| 13:08 | MC19637-11F | 2 | | |
| 13:15 | MA15448-CCV2 | 1 | | |
| 13:21 | MA15448-CCB2 | 1 | | |
| 13:27 | MC19637-12F | 2 | | |
| 13:34 | MC19637-13F | 2 | | |
| 13:40 | MC19637-14F | 2 | | |
| 13:46 | MC19637-16F | 2 | | |
| 13:52 | MP20760-B1 | 20 | | |
| 13:59 | MP20760-S1 | 20 | | |
| 14:05 | MP20760-S2 | 20 | | |
| 14:11 | MP20760-SD1 | 10 | | |
| 14:18 | MP20760-PS1 | 2 | | |

----------> Last reportable sample/prep for job MC19637

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:27 | MA15448-CRI2 | 1 | | |
| 14:34 | MA15448-CCV3 | 1 | | |
| 14:41 | MA15448-CCB3 | 1 | | |

----------> Last reportable CCB for job MC19637
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:46 | MA15448-STD1 | 1906305 R | 2252367 R | 278051 R | 455320 R | 118017 R | 2673053 R | 3013271 R | 1088164 R |
| 10:52 | MA15448-STD2 | 2025113 | 2387561 | 276852 | 475794 | 118337 | 2831694 | 3175297 | 1092411 |
| 10:59 | MA15448-STD3 | 2066511 | 2524125 | 277802 | 493080 | 118242 | 2984827 | 3327244 | 1086114 |
| 11:05 | MA15448-STD4 | 1971165 | 2317420 | 275747 | 459730 | 117451 | 2733856 | 3090638 | 1084910 |
| 11:11 | MA15448-STD5 | 1957005 | 2310440 | 276858 | 457711 | 117155 | 2741192 | 3074056 | 1078852 |
| 11:18 | MA15448-STD6 | 1954485 | 2300507 | 276103 | 456709 | 116635 | 2735168 | 3066678 | 1068783 |
| 11:24 | MA15448-STD7 | 1920452 | 2329223 | 278833 | 460678 | 118063 | 2709194 | 3082733 | 1088503 |
| 11:35 | MA15448-STD8 | 1867340 | 2326292 | 281032 | 463139 | 119041 | 2665983 | 3024718 | 1064675 |
| 11:41 | MA15448-ICV1 | 1845995 | 2244018 | 275135 | 447154 | 117720 | 2567969 | 2912107 | 1058010 |
| 11:48 | MA15448-ICB1 | 1946947 | 2328709 | 281520 | 464534 | 120029 | 2763043 | 3101189 | 1103844 |
| 11:55 | MA15448-CCV1 | 1913921 | 2346546 | 283869 | 463376 | 119727 | 2711323 | 3055838 | 1082911 |
| 12:01 | MA15448-CCB1 | 1933328 | 2321412 | 281601 | 464773 | 119928 | 2766258 | 3121603 | 1104771 |
| 12:07 | MA15448-CRI1 | 1939898 | 2312522 | 285526 | 463508 | 121106 | 2720720 | 3071595 | 1124807 |
| 12:14 | MA15448-ICSA1 | 1451009 | 2133405 | 257515 | 454699 | 114402 | 2430806 | 2857215 | 1002220 |
| 12:21 | MA15448-ICSAB1 | 1239281 | !a2104559 | 249869 | 453901 | 112616 | 2508858 | 2946348 | 1001548 |
| 12:31 | ZZZZZZ | 1204193 | !a2136175 | 254917 | 462770 | 116087 | 2868231 | 3278039 | 1109669 |
| 12:37 | MP20760-MB1 | 981007 | !a 1974289 | 230333 | 445596 | 108687 | 2804482 | 3178136 | 1065231 |
| 12:43 | MC19637-15F | 887099 | !a 2024653 | 218012 | 464907 | 106830 | 2830740 | 3312392 | 1024293 |
| 12:50 | MC19637-8F | 831923 | !a 1870523 | 215965 | 413533 | 101537 | 2505844 | 2980388 | 990327 |
| 12:56 | MC19637-9F | 878359 | !a 1904539 | 221470 | 421131 | 103022 | 2542384 | 3005841 | 995673 |
| 13:02 | MC19637-10F | 906418 | !a 1918873 | 222545 | 419439 | 102927 | 2531554 | 3012546 | 991000 |
| 13:08 | MC19637-11F | 951311 | !a 1930867 | 221481 | 418222 | 102235 | 2550040 | 2998875 | 990487 |
| 13:15 | MA15448-CCV2 | 1272217 | !a2071331 | 251846 | 438620 | 111933 | 2654450 | 3045167 | 1041904 |
| 13:21 | MA15448-CCB2 | 1411969 | 2152077 | 258813 | 451791 | 113900 | 2768578 | 3180546 | 1074859 |
| 13:27 | MC19637-12F | 1010446 | !a1911102 | 225367 | 422283 | 104191 | 2495973 | 2962778 | 989084 |
| 13:34 | MC19637-13F | 1022582 | !a1972061 | 231243 | 436187 | 107462 | 2631170 | 3074560 | 1024083 |
| 13:40 | MC19637-14F | 1014017 | !a1926177 | 227218 | 423745 | 104807 | 2593389 | 3054728 | 1011790 |
| 13:46 | MC19637-16F | 1084706 | !a1953052 | 232713 | 428554 | 105757 | 2696950 | 3082149 | 1027573 |
| 13:52 | MP20760-B1 | 1592826 | 2243407 | 269567 | 455761 | 116656 | 2739458 | 3159433 | 1088689 |
| 13:59 | MP20760-S1 | 1658896 | 2236036 | 268756 | 459102 | 116472 | 2726138 | 3140238 | 1083079 |
| 14:05 | MP20760-S2 | 1673059 | 2252937 | 268033 | 457156 | 117082 | 2737616 | 3138603 | 1076102 |
| 14:11 | MP20760-SD1 | 1444860 | 1953412 | 262832 | 417119 | 115497 | 2409529 | 2823245 | 1080849 |
| 14:18 | MP20760-PS1 | 1131159 | !a1966155 | 230645 | 430270 | 106766 | 2532596 | 2966102 | 1007519 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:27 | MA15448-CRI2 | 1564554 | 2192328 | 264502 | 452066 | 115063 | 2733767 | 3151744 | 1080187 |
| 14:34 | MA15448-CCV3 | 1520232 | 2232912 | 266602 | 453027 | 115202 | 2701983 | 3076244 | 1069769 |
| 14:41 | MA15448-CCB3 | 1562396 | 2203195 | 265621 | 454231 | 115241 | 2749530 | 3155544 | 1084609 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:46 | MA15448-STD1 | 4215820 R | 2801664 R |
| 10:52 | MA15448-STD2 | 4443999 | 2914757 |
| 10:59 | MA15448-STD3 | 4702455 | 3087323 |
| 11:05 | MA15448-STD4 | 4331641 | 2851213 |
| 11:11 | MA15448-STD5 | 4328329 | 2855381 |
| 11:18 | MA15448-STD6 | 4355680 | 2824410 |
| 11:24 | MA15448-STD7 | 4346766 | 2839533 |
| 11:35 | MA15448-STD8 | 4304310 | 2740208 |
| 11:41 | MA15448-ICV1 | 4177102 | 2656644 |
| 11:48 | MA15448-ICB1 | 4373803 | 2845809 |
| 11:55 | MA15448-CCV1 | 4362677 | 2796060 |
| 12:01 | MA15448-CCB1 | 4355303 | 2869468 |
| 12:07 | MA15448-CRI1 | 4300551 | 2839896 |
| 12:14 | MA15448-ICSA1 | 4217335 | 2566559 |
| 12:21 | MA15448-ICSAB1 | 4391107 | 2640783 |
| 12:31 | ZZZZZZ | 4643460 | 3055132 |
| 12:37 | MP20760-MB1 | 4608320 | 3057219 |
| 12:43 | MC19637-15F | 4882791 | 3124730 |
| 12:50 | MC19637-8F | 4479923 | 2782692 |
| 12:56 | MC19637-9F | 4513135 | 2792655 |
| 13:02 | MC19637-10F | 4444881 | 2801988 |
| 13:08 | MC19637-11F | 4440807 | 2792119 |
| 13:15 | MA15448-CCV2 | 4355618 | 2809775 |
| 13:21 | MA15448-CCB2 | 4464719 | 2926638 |
| 13:27 | MC19637-12F | 4343726 | 2777392 |
| 13:34 | MC19637-13F | 4480820 | 2839895 |
| 13:40 | MC19637-14F | 4408578 | 2833530 |
| 13:46 | MC19637-16F | 4459059 | 2956305 |
| 13:52 | MP20760-B1 | 4454510 | 2878271 |
| 13:59 | MP20760-S1 | 4434357 | 2871189 |
| 14:05 | MP20760-S2 | 4424503 | 2848765 |
| 14:11 | MP20760-SD1 | 3984476 | 2625917 |
| 14:18 | MP20760-PS1 | 4382221 | 2821872 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15448
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:27 | MA15448-CRI2 | 4396757 | 2901238 |
| 14:34 | MA15448-CCV3 | 4421864 | 2835128 |
| 14:41 | MA15448-CCB3 | 4415037 | 2925276 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15448  Units: ug/l

| Time: / Sample ID: | | | | 11:48 ICB1 | | 12:01 CCB1 | | 13:21 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0092 | <0.50 | -0.00048 | <0.50 | -0.011 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15448  Units: ug/l

| Time: | | | | 14:41 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0059 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15448  Units: ug/l

| Time: | | 11:41 | | | 11:55 | | | 13:15 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.9 | 101.5 | 50 | 49.9 | 99.8 | 50 | 49.1 | 98.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15448  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 14:34 | |
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.4 | 98.8 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15448  Units: ug/l

| Time: | | | 12:07 | | 14:27 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.51 | 102.0 | 0.46 | 92.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041213W1L.AGF  Date Analyzed: 04/12/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15448  Units: ug/l

| Time: | | | 12:14 | | 12:21 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 91000 | 91.0 | 86300 | 86.3 |
| Antimony | | | 0.28* | | 0.28* | |
| Arsenic | | 20 | 0.19 | | 20.1 | 100.5 |
| Barium | | | 0.16 | | 0.18 | |
| Beryllium | | | 0.00098 | | 0.0016 | |
| Boron | | | 0.014 | | -0.0049 | |
| Cadmium | | 20 | 0.83* | | 20.0 | 100.0 |
| Calcium | 100000 | 100000 | 97500 | 97.5 | 96000 | 96.0 |
| Chromium | | 20 | 1.1* | | 20.6 | 103.0 |
| Cobalt | | 20 | 0.037 | | 19.1 | 95.5 |
| Copper | | 20 | 0.21 | | 17.0 | 85.0 |
| Iron | 100000 | 100000 | 99100 | 99.1 | 99900 | 99.9 |
| Lead | | | 0.12 | | 0.12 | |
| Magnesium | 100000 | 100000 | 92900 | 92.9 | 86400 | 86.4 |
| Manganese | | 20 | -0.11 | | 19.7 | 98.5 |
| Molybdenum | 2000 | 2000 | 2120 | 106.0 | 2090 | 104.5 |
| Nickel | | 20 | 0.67* | | 19.3 | 96.5 |
| Potassium | 100000 | 100000 | 97100 | 97.1 | 94500 | 94.5 |
| Selenium | | | 0.085 | | 0.21 | |
| Silver | | 20 | 0.052 | | 18.7 | 93.5 |
| Sodium | 100000 | 100000 | 91300 | 91.3 | 84700 | 84.7 |
| Strontium | | | 4.7* | | 4.6* | |
| Thallium | | | 0.025 | | 0.017 | |
| Tin | | | 0.12 | | 0.11 | |
| Titanium | 2000 | 2000 | 2060 | 103.0 | 2040 | 102.0 |
| Vanadium | | | -0.043 | | -0.048 | |
| Zinc | | 20 | 1.7* | | 19.5 | 97.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:05 | MA15452-STD1 | 1 | | STDA |
| 11:12 | MA15452-STD2 | 1 | | STDB |
| 11:18 | MA15452-STD3 | 1 | | STDC |
| 11:24 | MA15452-STD4 | 1 | | STDD |
| 11:31 | MA15452-STD5 | 1 | | STDE |
| 11:37 | MA15452-STD6 | 1 | | STDF |
| 11:44 | MA15452-STD7 | 1 | | STDG |
| 11:50 | MA15452-STD8 | 1 | | STDH |
| 11:56 | MA15452-ICV1 | 1 | | |
| 12:02 | MA15452-ICB1 | 1 | | |
| 12:09 | MA15452-CCV1 | 1 | | |
| 12:15 | MA15452-CCB1 | 1 | | |
| 12:21 | MA15452-CRI1 | 1 | | |
| 12:28 | MA15452-ICSA1 | 1 | | |
| 12:34 | MA15452-ICSAB1 | 1 | | |
| 12:41 | ZZZZZZ | 1 | | RINSECONF |
| 12:47 | MP20767-MB1 | 2 | | |
| 12:54 | MP20768-MB1 | 2 | | |
| 13:00 | MC19762-2F | 2 | | (sample used for QC only; not part of login MC19637) |
| 13:06 | ZZZZZZ | 2 | | |
| 13:13 | ZZZZZZ | 2 | | |
| 13:19 | MC19637-17F | 2 | | |
| 13:25 | MA15452-CCV2 | 1 | | |
| 13:32 | MA15452-CCB2 | 1 | | |
| 13:38 | MC19637-18F | 2 | | |
| 13:44 | MC19637-19F | 2 | | |
| 13:51 | MC19637-20F | 2 | | |
| 13:57 | MP20767-B1 | 20 | | |
| 14:03 | MP20767-S1 | 20 | | |
| 14:10 | MP20767-S2 | 20 | | |
| 14:16 | MP20767-SD1 | 10 | | |
| 14:22 | MP20767-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19637 | | | |
| 14:29 | MC19762-4F | 2 | | (sample used for QC only; not part of login MC19637) |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:35 | ZZZZZZ | 2 | | |
| 14:41 | MA15452-CCV3 | 1 | | |
| 14:48 | MA15452-CCB3 | 1 | | |
| 14:54 | ZZZZZZ | 2 | | |
| 15:00 | ZZZZZZ | 2 | | |
| 15:07 | ZZZZZZ | 2 | | |
| 15:13 | MP20768-B1 | 20 | | |
| 15:19 | MP20768-S1 | 20 | | |
| 15:26 | MP20768-S2 | 20 | | |
| 15:32 | MP20768-SD1 | 10 | | |
| 15:39 | MP20768-PS1 | 2 | | |
| 15:52 | MA15452-CRI2 | 1 | | |
| 15:58 | MA15452-CCV4 | 1 | | |
| 16:05 | MA15452-CCB4 | 1 | | |

----------> Last reportable CCB for job MC19637
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF Date Analyzed: 04/15/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:05 | MA15452-STD1 | 1085278 R | 2030198 R | 207475 R | 445120 R | 97576 R | 2785941 R | 3215847 R | 945097 R |
| 11:12 | MA15452-STD2 | 1063341 | 2013656 | 206048 | 440387 | 97672 | 2734104 | 3134057 | 947271 |
| 11:18 | MA15452-STD3 | 1118135 | 2111095 | 211292 | 458159 | 100067 | 2872828 | 3298968 | 966218 |
| 11:24 | MA15452-STD4 | 1083813 | 2028471 | 209689 | 438943 | 96976 | 2729749 | 3147275 | 948047 |
| 11:31 | MA15452-STD5 | 1094560 | 2002759 | 201979 | 435503 | 96023 | 2701390 | 3106948 | 930997 |
| 11:37 | MA15452-STD6 | 1147803 | 2174275 | 204937 | 466404 | 96564 | 2952789 | 3379852 | 935950 |
| 11:44 | MA15452-STD7 | 1080731 | 2023799 | 208790 | 442726 | 98248 | 2718833 | 3145951 | 947496 |
| 11:50 | MA15452-STD8 | 1050417 | 2001831 | 211354 | 443150 | 98979 | 2603774 | 3051296 | 934079 |
| 11:56 | MA15452-ICV1 | 1062209 | 2030793 | 201416 | 441314 | 95510 | 2661160 | 3108376 | 894657 |
| 12:02 | MA15452-ICB1 | 1073461 | 2028373 | 208416 | 439933 | 98450 | 2743118 | 3169865 | 954859 |
| 12:09 | MA15452-CCV1 | 1072127 | 2015017 | 210124 | 438193 | 98324 | 2660175 | 3070211 | 935040 |
| 12:15 | MA15452-CCB1 | 1100387 | 2055933 | 190032 | 444788 | 91516 | 2798793 | 3203783 | 876736 |
| 12:21 | MA15452-CRI1 | 1078364 | 2042919 | 213012 | 454920 | 100120 | 2785318 | 3244639 | 979133 |
| 12:28 | MA15452-ICSA1 | 1026104 | 2032584 | 209137 | 444909 | 97596 | 2453190 | 2948770 | 885139 |
| 12:34 | MA15452-ICSAB1 | 1020623 | 1983659 | 211441 | 438791 | 98925 | 2420159 | 2899634 | 891598 |
| 12:41 | ZZZZZZ | 1034100 | 2081591 | 213529 | 459179 | 102831 | 2861425 | 3292700 | 1001584 |
| 12:47 | MP20767-MB1 | 794297 | 1890092 | 192453 | 433734 | 94709 | 2760128 | 3221520 | 949868 |
| 12:54 | MP20768-MB1 | 742733 !a | 1842447 | 188002 | 425372 | 94172 | 2761566 | 3195229 | 941068 |
| 13:00 | MC19762-2F | 721993 !a | 1764924 | 181381 | 409723 | 90013 | 2491928 | 2994186 | 886310 |
| 13:06 | ZZZZZZ | 710512 !a | 1763801 | 180741 | 411430 | 89707 | 2512205 | 3014869 | 888025 |
| 13:13 | ZZZZZZ | 783144 | 1830382 | 188457 | 426095 | 93101 | 2725233 | 3181079 | 937091 |
| 13:19 | MC19637-17F | 677157 !a | 1756924 | 178795 | 414274 | 89836 | 2537706 | 3037479 | 902937 |
| 13:25 | MA15452-CCV2 | 879199 | 1892228 | 198112 | 427256 | 95653 | 2634170 | 3129817 | 931375 |
| 13:32 | MA15452-CCB2 | 931119 | 1937376 | 199873 | 431326 | 96409 | 2738187 | 3197209 | 959260 |
| 13:38 | MC19637-18F | 699476 !a | 1747953 | 179830 | 409459 | 89387 | 2530668 | 3102298 | 900137 |
| 13:44 | MC19637-19F | 683897 !a | 1758704 | 179050 | 407497 | 88605 | 2516406 | 3015018 | 889638 |
| 13:51 | MC19637-20F | 692268 !a | 1739364 | 164253 | 407489 | 82787 | 2521347 | 3052016 | 828355 |
| 13:57 | MP20767-B1 | 1049944 | 1983406 | 209433 | 437449 | 99099 | 2723778 | 3171336 | 964078 |
| 14:03 | MP20767-S1 | 1094656 | 2023269 | 211243 | 433696 | 98164 | 2666809 | 3139036 | 945926 |
| 14:10 | MP20767-S2 | 1114196 | 2014940 | 212998 | 436656 | 99244 | 2658997 | 3108453 | 953881 |
| 14:16 | MP20767-SD1 | 1071241 | 1962911 | 208643 | 433220 | 98358 | 2602314 | 3070556 | 948910 |
| 14:22 | MP20767-PS1 | 831595 | 1804434 | 186599 | 409108 | 91184 | 2454476 | 2961304 | 884282 |
| 14:29 | MC19762-4F | 777025 | 1798623 | 184758 | 417555 | 91194 | 2553696 | 3077170 | 904309 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:35 | ZZZZZZ | 756773 !a | 1777044 | 183063 | 415666 | 90142 | 2515283 | 3006461 | 897345 |
| 14:41 | MA15452-CCV3 | 964564 | 1955691 | 204063 | 430024 | 96646 | 2680400 | 3132174 | 930451 |
| 14:48 | MA15452-CCB3 | 984914 | 1973717 | 206088 | 433639 | 97288 | 2715776 | 3150753 | 958708 |
| 14:54 | ZZZZZZ | 748562 !a | 1785877 | 181479 | 409228 | 89853 | 2473488 | 2975613 | 888719 |
| 15:00 | ZZZZZZ | 740591 !a | 1753069 | 182979 | 414234 | 90682 | 2569438 | 3059433 | 907770 |
| 15:07 | ZZZZZZ | 828830 | 1824032 | 186197 | 418622 | 91163 | 2659267 | 3120660 | 915101 |
| 15:13 | MP20768-B1 | 1102232 | 2014224 | 212626 | 435595 | 100190 | 2713290 | 3178956 | 965837 |
| 15:19 | MP20768-S1 | 1154542 | 2030786 | 216535 | 438770 | 100854 | 2706043 | 3153842 | 967003 |
| 15:26 | MP20768-S2 | 1146545 | 2070485 | 213559 | 443438 | 99688 | 2726384 | 3167865 | 942186 |
| 15:32 | MP20768-SD1 | 1086066 | 2003334 | 212085 | 437910 | 99871 | 2688047 | 3130434 | 965779 |
| 15:39 | MP20768-PS1 | 826456 | 1815481 | 190507 | 416424 | 92340 | 2549311 | 3006726 | 908746 |
| 15:52 | MA15452-CRI2 | 1043048 | 1972339 | 209458 | 431683 | 98510 | 2705799 | 3173747 | 956120 |
| 15:58 | MA15452-CCV4 | 1015237 | 1975324 | 210025 | 430260 | 97819 | 2638427 | 3095157 | 937548 |
| 16:05 | MA15452-CCB4 | 1033544 | 1985080 | 211344 | 437828 | 98792 | 2712700 | 3162416 | 966924 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:05 | MA15452-STD1 | 4520362 R | 2985373 R |
| 11:12 | MA15452-STD2 | 4403258 | 2923579 |
| 11:18 | MA15452-STD3 | 4642350 | 3080467 |
| 11:24 | MA15452-STD4 | 4453885 | 2949324 |
| 11:31 | MA15452-STD5 | 4425525 | 2955770 |
| 11:37 | MA15452-STD6 | 4802390 | 3183428 |
| 11:44 | MA15452-STD7 | 4463799 | 2945681 |
| 11:50 | MA15452-STD8 | 4385528 | 2800037 |
| 11:56 | MA15452-ICV1 | 4452097 | 2868510 |
| 12:02 | MA15452-ICB1 | 4465619 | 2975719 |
| 12:09 | MA15452-CCV1 | 4407020 | 2898105 |
| 12:15 | MA15452-CCB1 | 4555592 | 3012141 |
| 12:21 | MA15452-CRI1 | 4558418 | 3035730 |
| 12:28 | MA15452-ICSA1 | 4339504 | 2661617 |
| 12:34 | MA15452-ICSAB1 | 4252062 | 2599990 |
| 12:41 | ZZZZZZ | 4655115 | 3113267 |
| 12:47 | MP20767-MB1 | 4585512 | 3085203 |
| 12:54 | MP20768-MB1 | 4593017 | 3099402 |
| 13:00 | MC19762-2F | 4384958 | 2843881 |
| 13:06 | ZZZZZZ | 4446756 | 2888743 |
| 13:13 | ZZZZZZ | 4595008 | 3080384 |
| 13:19 | MC19637-17F | 4505428 | 2928033 |
| 13:25 | MA15452-CCV2 | 4486416 | 2946050 |
| 13:32 | MA15452-CCB2 | 4510273 | 3031494 |
| 13:38 | MC19637-18F | 4453795 | 2912377 |
| 13:44 | MC19637-19F | 4428771 | 2845482 |
| 13:51 | MC19637-20F | 4516985 | 2897289 |
| 13:57 | MP20767-B1 | 4509500 | 3004273 |
| 14:03 | MP20767-S1 | 4467268 | 2937980 |
| 14:10 | MP20767-S2 | 4428159 | 2905657 |
| 14:16 | MP20767-SD1 | 4405765 | 2911275 |
| 14:22 | MP20767-PS1 | 4358329 | 2793271 |
| 14:29 | MC19762-4F | 4467267 | 2932622 |

INTERNAL STANDARD SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:35 | ZZZZZZ | 4407448 | 2868653 |
| 14:41 | MA15452-CCV3 | 4508959 | 2893525 |
| 14:48 | MA15452-CCB3 | 4444098 | 2959612 |
| 14:54 | ZZZZZZ | 4339544 | 2871169 |
| 15:00 | ZZZZZZ | 4447327 | 2929253 |
| 15:07 | ZZZZZZ | 4538182 | 2989716 |
| 15:13 | MP20768-B1 | 4461912 | 2942646 |
| 15:19 | MP20768-S1 | 4452698 | 2898748 |
| 15:26 | MP20768-S2 | 4482528 | 2878976 |
| 15:32 | MP20768-SD1 | 4444552 | 2913666 |
| 15:39 | MP20768-PS1 | 4372158 | 2854855 |
| 15:52 | MA15452-CRI2 | 4380422 | 2906092 |
| 15:58 | MA15452-CCV4 | 4385827 | 2810601 |
| 16:05 | MA15452-CCB4 | 4457166 | 2931656 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15452  Units: ug/l

| Time: / Sample ID: | | | | 12:02 ICB1 | | 12:15 CCB1 | | 13:32 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0078 | <0.50 | 0.0074 | <0.50 | 0.017 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15452  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 14:48 CCB3 raw | final | 16:05 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.013 | <0.50 | 0.022 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | 11:56 | | | 12:09 | | | 13:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 61.7 | 102.8 | 50 | 49.5 | 99.0 | 50 | 48.9 | 97.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15452  Units: ug/l

| | | | | | | |
|---|---|---|---|---|---|---|
| Time: | | 14:41 | | | 15:58 | |
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.0 | 98.0 | 50 | 49.6 | 99.2 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | | 12:21 | | 15:52 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.50 | 100.0 | 0.55 | 110.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | | 12:28 | | 12:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94700 | 94.7 | 99700 | 99.7 |
| Antimony | | | 0.29* | | 0.31* | |
| Arsenic | | 20 | 0.21 | | 20.9 | 104.5 |
| Barium | | | 0.23 | | 0.27 | |
| Beryllium | | | 0.0038 | | 0.0045 | |
| Boron | | | 0.26 | | 0.27 | |
| Cadmium | | 20 | 0.76* | | 20.2 | 101.0 |
| Calcium | 100000 | 100000 | 94700 | 94.7 | 101000 | 101.0 |
| Chromium | | 20 | 1.0* | | 20.2 | 101.0 |
| Cobalt | | 20 | 0.036 | | 18.7 | 93.5 |
| Copper | | 20 | 0.38 | | 18.1 | 90.5 |
| Iron | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Lead | | | 0.13 | | 0.14 | |
| Magnesium | 100000 | 100000 | 96000 | 96.0 | 101000 | 101.0 |
| Manganese | | 20 | 0.35 | | 19.9 | 99.5 |
| Molybdenum | 2000 | 2000 | 2220 | 111.0 | 2330 | 116.5 |
| Nickel | | 20 | 0.67* | | 19.0 | 95.0 |
| Potassium | 100000 | 100000 | 97200 | 97.2 | 101000 | 101.0 |
| Selenium | | | 0.30* | | 0.28* | |
| Silver | | 20 | 0.061 | | 20.5 | 102.5 |
| Sodium | 100000 | 100000 | 95700 | 95.7 | 99100 | 99.1 |
| Strontium | | | 4.9* | | 5.1* | |
| Thallium | | | 0.039 | | 0.016 | |
| Tin | | | 0.15 | | 0.12 | |
| Titanium | 2000 | 2000 | 2160 | 108.0 | 2280 | 114.0 |
| Vanadium | | | 0.032 | | 0.030 | |
| Zinc | | 20 | 1.8* | | 54.5 | 272.5* |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/09/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.37 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/09/13

| Metal | MC19637-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 3510 | 4110 | 500 | 120.0 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/09/13

| Metal | MC19637-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 3510 | 4190 | 500 | 136.0(a) | 1.9 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/09/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 535 | 500 | 107.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/09/13

| Metal | MC19637-1F Original | SDL 2:500%DIF | | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 3510 | 3460 | 1.2 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20745 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/09/13

| Metal | Sample ml | Final ml | MC19637-1F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 10.1 | 3506 | 3471.287 | 3720 | .1 | 20 | 198.0198 | 125.6(a) | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20745: MC19637-1F, MC19637-2F, MC19637-3F, MC19637-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/10/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.34 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/10/13

| Metal | MC19637-6F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.60 | 521 | 500 | 104.1 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/10/13

| Metal | MC19637-6F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.60 | 515 | 500 | 102.9 | 1.2 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/10/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 501 | 500 | 100.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/10/13

| Metal | MC19637-6F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.599 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20751 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/10/13

| Metal | Sample ml | Final ml | MC19637-6F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.5986 | 0.498833 | 318.92 | 2 | .1 | 16.66667 | 110.5 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20751: MC19637-5F, MC19637-6F, MC19637-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/11/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.36 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/11/13

| Metal | MC19637-15F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.55 | 525 | 500 | 104.9 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/11/13

| Metal | MC19637-15F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.55 | 515 | 500 | 102.9 | 1.9 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/11/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 515 | 500 | 103.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/11/13

| Metal | MC19637-15F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.549 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20760
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/11/13

| Metal | Sample ml | Final ml | MC19637-15F Raw | MC19637-15F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.5493 | 0.45775 | 16.48 | 2 | 0.1 | 16.66667 | 96.1 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20760: MC19637-8F, MC19637-9F, MC19637-10F, MC19637-11F, MC19637-12F, MC19637-13F, MC19637-14F, MC19637-15F, MC19637-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.30 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.61 | 517 | 500 | 103.3 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.61 | 505 | 500 | 100.9 | 2.3 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 503 | 500 | 100.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.608 | 0.387 | 36.3 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19637
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | Sample ml | Final ml | MC19762-2F Raw | MC19762-2F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.6078 | 0.5065 | 17.11 | 2 | .1 | 16.66667 | 99.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20767: MC19637-17F, MC19637-18F, MC19637-19F, MC19637-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13D09m02.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\001CAL
Date Acquired: Apr 9 2013 12:58 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 04 2013 02:15 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2147376.00 | A | 27520.00 | 1.28 |
| 7 | (Li) | | P | | |
| 9 | Be | 26.67 | P | 15.28 | 57.30 |
| 9 | Be | 4.44 | P | 1.93 | 43.31 |
| 11 | B | 916.73 | P | 26.67 | 2.91 |
| 11 | B | 24.45 | P | 9.62 | 39.37 |
| 23 | Na | 308089.50 | P | 1213.00 | 0.39 |
| 23 | Na | 33677.89 | P | 300.50 | 0.89 |
| 24 | Mg | 6708.36 | P | 204.30 | 3.05 |
| 24 | Mg | 447.80 | P | 33.39 | 7.46 |
| 27 | Al | 38275.95 | P | 1666.00 | 4.35 |
| 27 | Al | 1222.33 | P | 45.27 | 3.70 |
| 39 | K | 3128729.00 | A | 23260.00 | 0.74 |
| 44 | Ca | 8449.26 | P | 59.01 | 0.70 |
| 45 | Sc | 2386411.00 | A | 18660.00 | 0.78 |
| 45 | Sc | 341166.59 | P | 9901.00 | 2.90 |
| 47 | Ti | 606.72 | P | 23.12 | 3.81 |
| 51 | V | 4762.57 | P | 118.20 | 2.48 |
| 52 | Cr | 2257.53 | P | 36.55 | 1.62 |
| 55 | Mn | 3760.52 | P | 60.55 | 1.61 |
| 56 | Fe | 50737.50 | P | 649.70 | 1.28 |
| 59 | Co | 100.89 | P | 12.32 | 12.21 |
| 60 | Ni | 256.45 | P | 12.02 | 4.69 |
| 63 | Cu | 1466.76 | P | 79.89 | 5.45 |
| 66 | Zn | 247.56 | P | 10.86 | 4.39 |
| 72 | Ge | 464041.81 | P | 1212.00 | 0.26 |
| 72 | Ge | 142416.50 | P | 2141.00 | 1.50 |
| 75 | As | 178.45 | P | 2.69 | 1.51 |
| 78 | Se | 124.67 | P | 21.74 | 17.44 |
| 88 | Sr | 472.25 | P | 21.69 | 4.59 |
| 98 | Mo | 111.12 | P | 16.78 | 15.10 |
| 103 | Rh | 2816998.00 | A | 17700.00 | 0.63 |
| 107 | Ag | 77.78 | P | 15.03 | 19.32 |

C:\ICPCHEM\1\DATA\13D09m02.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 4.44 | P | 1.93 | 43.31 |
| 115 | In | 3158090.00 | A | 16670.00 | 0.53 |
| 115 | In | 1340157.00 | M | 5401.00 | 0.40 |
| 118 | (In) | 182.23 | P | 23.65 | 12.98 |
| 118 | (In) | 104.45 | P | 5.09 | 4.88 |
| 120 | Sn | 287.79 | P | 44.39 | 15.42 |
| 121 | Sb | 116.67 | P | 5.77 | 4.95 |
| 137 | Ba | 806.72 | P | 57.74 | 7.16 |
| 159 | Tb | 4415520.00 | A | 34520.00 | 0.78 |
| 175 | Lu | 4400260.00 | A | 28680.00 | 0.65 |
| 205 | Tl | 817.83 | P | 55.91 | 6.84 |
| 206 | (Pb) | 193.34 | P | 30.55 | 15.80 |
| 207 | (Pb) | 126.67 | P | 18.56 | 14.65 |
| 208 | Pb | 3920.74 | P | 246.70 | 6.29 |
| 209 | Bi | 2500805.00 | A | 13640.00 | 0.55 |

C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\002CAL
Date Acquired: Apr 9 2013 01:04 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:01 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2125729.00 | A | 113100.00 | 5.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 28.89 | P | 8.39 | 29.04 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 874.50 | P | 94.78 | 10.84 |
| 11 | B | 30.00 | P | 14.53 | 48.43 |
| 23 | Na | 309092.09 | P | 1631.00 | 0.53 |
| 23 | Na | 33552.06 | P | 671.80 | 2.00 |
| 24 | Mg | 7423.40 | P | 320.90 | 4.32 |
| 24 | Mg | 500.03 | P | 87.44 | 17.49 |
| 27 | Al | 39943.24 | P | 1429.00 | 3.58 |
| 27 | Al | 1227.95 | P | 63.06 | 5.14 |
| 39 | K | 3134015.00 | A | 6330.00 | 0.20 |
| 44 | Ca | 8418.12 | P | 150.70 | 1.79 |
| 45 | Sc | 2310496.00 | A | 175800.00 | 7.61 |
| 45 | Sc | 316438.81 | P | 52460.00 | 16.58 |
| 47 | Ti | 326.68 | P | 20.28 | 6.21 |
| 51 | V | 4806.60 | P | 20.72 | 0.43 |
| 52 | Cr | 2231.75 | P | 71.18 | 3.19 |
| 55 | Mn | 3756.06 | P | 76.85 | 2.05 |
| 56 | Fe | 50598.64 | P | 185.40 | 0.37 |
| 59 | Co | 88.89 | P | 4.07 | 4.58 |
| 60 | Ni | 223.12 | P | 20.02 | 8.97 |
| 63 | Cu | 1516.10 | P | 91.78 | 6.05 |
| 66 | Zn | 270.00 | P | 31.25 | 11.57 |
| 72 | Ge | 456135.09 | P | 26470.00 | 5.80 |
| 72 | Ge | 133845.91 | P | 15250.00 | 11.39 |
| 75 | As | 178.67 | P | 19.47 | 10.90 |
| 78 | Se | 112.89 | P | 5.00 | 4.43 |
| 88 | Sr | 428.91 | P | 64.50 | 15.04 |
| 98 | Mo | 114.45 | P | 30.97 | 27.06 |
| 103 | Rh | 2756013.00 | A | 187300.00 | 6.80 |
| 107 | Ag | 80.00 | P | 5.77 | 7.22 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 6.67 | P | 3.33 | 49.99 |
| 115 | In | 3107877.00 | A | 237300.00 | 7.64 |
| 115 | In | 1253711.00 | P | 194000.00 | 15.47 |
| 118 | (In) | 153.34 | P | 29.06 | 18.95 |
| 118 | (In) | 74.45 | P | 12.62 | 16.95 |
| 120 | Sn | 287.79 | P | 40.05 | 13.92 |
| 121 | Sb | 86.67 | P | 11.55 | 13.33 |
| 137 | Ba | 778.94 | P | 55.22 | 7.09 |
| 159 | Tb | 4318262.00 | A | 280900.00 | 6.50 |
| 175 | Lu | 4266772.00 | A | 306100.00 | 7.17 |
| 205 | Tl | 687.82 | P | 71.99 | 10.47 |
| 206 | (Pb) | 183.34 | P | 8.82 | 4.81 |
| 207 | (Pb) | 124.45 | P | 8.39 | 6.74 |
| 208 | Pb | 4171.26 | P | 408.00 | 9.78 |
| 209 | Bi | 2390925.00 | A | 160600.00 | 6.72 |

C:\ICPCHEM\1\DATA\13D09m02.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\003CALS.D\003CALS.D#
Date Acquired: Apr 9 2013 01:11 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2164401.00 | A | 31010.00 | 1.43 |
| 7 | (Li) | | P | | |
| 9 | Be | 3154.87 | P | 73.75 | 2.34 |
| 9 | Be | 162.23 | P | 25.02 | 15.42 |
| 11 | B | 2273.57 | P | 109.00 | 4.79 |
| 11 | B | 56.67 | P | 20.00 | 35.29 |
| 23 | Na | 350298.59 | P | 1766.00 | 0.50 |
| 23 | Na | 36276.04 | P | 211.40 | 0.58 |
| 24 | Mg | 17295.63 | P | 146.40 | 0.85 |
| 24 | Mg | 1190.09 | P | 27.29 | 2.29 |
| 27 | Al | 50184.62 | P | 1446.00 | 2.88 |
| 27 | Al | 1662.38 | P | 57.49 | 3.46 |
| 39 | K | 3151121.00 | A | 13570.00 | 0.43 |
| 44 | Ca | 9900.13 | P | 451.80 | 4.56 |
| 45 | Sc | 2380180.00 | A | 46970.00 | 1.97 |
| 45 | Sc | 332374.69 | P | 29870.00 | 8.99 |
| 47 | Ti | 1321.22 | P | 110.80 | 8.39 |
| 51 | V | 8661.20 | P | 118.20 | 1.36 |
| 52 | Cr | 6239.12 | P | 85.72 | 1.37 |
| 55 | Mn | 7047.93 | P | 68.70 | 0.97 |
| 56 | Fe | 54950.98 | P | 1264.00 | 2.30 |
| 59 | Co | 5878.10 | P | 132.90 | 2.26 |
| 60 | Ni | 1647.67 | P | 38.68 | 2.35 |
| 63 | Cu | 5252.53 | P | 87.27 | 1.66 |
| 66 | Zn | 1034.04 | P | 11.62 | 1.12 |
| 72 | Ge | 461453.59 | P | 6402.00 | 1.39 |
| 72 | Ge | 139697.91 | P | 10210.00 | 7.31 |
| 75 | As | 674.24 | P | 15.87 | 2.35 |
| 78 | Se | 165.11 | P | 9.48 | 5.74 |
| 88 | Sr | 16777.69 | P | 304.70 | 1.82 |
| 98 | Mo | 4529.74 | P | 78.66 | 1.74 |
| 103 | Rh | 2818446.00 | A | 76790.00 | 2.72 |
| 107 | Ag | 7465.47 | P | 157.70 | 2.11 |

C:\ICPCHEM\1\DATA\13D09m02.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 983.40 | P | 39.30 | 4.00 |
| 115 | In | 3150204.00 | A | 69330.00 | 2.20 |
| 115 | In | 1316503.00 | P | 120800.00 | 9.18 |
| 118 | (In) | 5367.83 | P | 133.90 | 2.49 |
| 118 | (In) | 2378.06 | P | 44.26 | 1.86 |
| 120 | Sn | 7449.95 | P | 284.20 | 3.81 |
| 121 | Sb | 6821.86 | P | 182.40 | 2.67 |
| 137 | Ba | 3041.54 | P | 203.90 | 6.70 |
| 159 | Tb | 4357050.00 | A | 124500.00 | 2.86 |
| 175 | Lu | 4353062.00 | A | 112400.00 | 2.58 |
| 205 | Tl | 11385.28 | P | 295.70 | 2.60 |
| 206 | (Pb) | 5003.37 | P | 110.10 | 2.20 |
| 207 | (Pb) | 3811.83 | P | 143.70 | 3.77 |
| 208 | Pb | 21916.38 | P | 423.20 | 1.93 |
| 209 | Bi | 2404751.00 | A | 50270.00 | 2.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2164400.50 | 1.43 | 2125728.50 | 101.8 | 70 - 130 | |
| 45 | Sc | 2380179.80 | 1.97 | 2310495.80 | 103.0 | 70 - 130 | |
| 45 | Sc | 332374.69 | 8.99 | 316438.84 | 105.0 | 70 - 130 | |
| 72 | Ge | 461453.59 | 1.39 | 456135.16 | 101.2 | 70 - 130 | |
| 72 | Ge | 139697.92 | 7.31 | 133845.88 | 104.4 | 70 - 130 | |
| 103 | Rh | 2818445.50 | 2.72 | 2756012.80 | 102.3 | 70 - 130 | |
| 115 | In | 3150204.00 | 2.20 | 3107877.30 | 101.4 | 70 - 130 | |
| 115 | In | 1316503.40 | 9.18 | 1253711.00 | 105.0 | 70 - 130 | |
| 159 | Tb | 4357050.50 | 2.86 | 4318262.50 | 100.9 | 70 - 130 | |
| 175 | Lu | 4353062.50 | 2.58 | 4266772.50 | 102.0 | 70 - 130 | |
| 209 | Bi | 2404751.00 | 2.09 | 2390925.30 | 100.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\004CALS.D\004CALS.D#
Date Acquired: Apr 9 2013 01:17 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2155105.00 | A | 100200.00 | 4.65 |
| 7 | (Li) | | P | | |
| 9 | Be | 31183.58 | P | 350.50 | 1.12 |
| 9 | Be | 1532.35 | P | 21.44 | 1.40 |
| 11 | B | 20057.71 | P | 203.80 | 1.02 |
| 11 | B | 640.03 | P | 25.17 | 3.93 |
| 23 | Na | 445082.19 | P | 1466.00 | 0.33 |
| 23 | Na | 44475.96 | P | 355.50 | 0.80 |
| 24 | Mg | 99228.88 | P | 985.70 | 0.99 |
| 24 | Mg | 6913.99 | P | 207.00 | 2.99 |
| 27 | Al | 149861.91 | P | 568.30 | 0.38 |
| 27 | Al | 4908.75 | P | 139.30 | 2.84 |
| 39 | K | 3259100.00 | A | 9454.00 | 0.29 |
| 44 | Ca | 12789.06 | P | 202.90 | 1.59 |
| 45 | Sc | 2375252.00 | A | 175500.00 | 7.39 |
| 45 | Sc | 334571.50 | P | 9507.00 | 2.84 |
| 47 | Ti | 10002.45 | P | 180.30 | 1.80 |
| 51 | V | 40602.86 | P | 118.30 | 0.29 |
| 52 | Cr | 42550.78 | P | 223.80 | 0.53 |
| 55 | Mn | 36229.88 | P | 473.10 | 1.31 |
| 56 | Fe | 89541.72 | P | 324.40 | 0.36 |
| 59 | Co | 56839.27 | P | 354.90 | 0.62 |
| 60 | Ni | 14347.76 | P | 113.60 | 0.79 |
| 63 | Cu | 38347.16 | P | 125.60 | 0.33 |
| 66 | Zn | 7223.53 | P | 105.70 | 1.46 |
| 72 | Ge | 458004.69 | P | 22390.00 | 4.89 |
| 72 | Ge | 140035.09 | P | 2608.00 | 1.86 |
| 75 | As | 5102.22 | P | 38.13 | 0.75 |
| 78 | Se | 691.35 | P | 27.33 | 3.95 |
| 88 | Sr | 162203.91 | P | 1932.00 | 1.19 |
| 98 | Mo | 44111.77 | P | 664.50 | 1.51 |
| 103 | Rh | 2802800.00 | A | 203100.00 | 7.25 |
| 107 | Ag | 76862.40 | P | 649.90 | 0.85 |

C:\ICPCHEM\1\DATA\13D09m02.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9356.59 | P | 156.30 | 1.67 |
| 115 | In | 3154624.00 | A | 198600.00 | 6.30 |
| 115 | In | 1329558.00 | P | 35070.00 | 2.64 |
| 118 | (In) | 50533.73 | P | 687.80 | 1.36 |
| 118 | (In) | 23747.78 | P | 301.10 | 1.27 |
| 120 | Sn | 69865.64 | P | 551.10 | 0.79 |
| 121 | Sb | 65178.91 | P | 136.00 | 0.21 |
| 137 | Ba | 25079.10 | P | 241.00 | 0.96 |
| 159 | Tb | 4357376.00 | A | 274700.00 | 6.30 |
| 175 | Lu | 4342874.00 | A | 324500.00 | 7.47 |
| 205 | Tl | 108416.60 | P | 1701.00 | 1.57 |
| 206 | (Pb) | 45887.44 | P | 177.60 | 0.39 |
| 207 | (Pb) | 34898.09 | P | 341.40 | 0.98 |
| 208 | Pb | 168710.20 | P | 819.30 | 0.49 |
| 209 | Bi | 2343197.00 | A | 122900.00 | 5.25 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2155105.30 | 4.65 | 2125728.50 | 101.4 | 70 - 130 | |
| 45 | Sc | 2375252.30 | 7.39 | 2310495.80 | 102.8 | 70 - 130 | |
| 45 | Sc | 334571.53 | 2.84 | 316438.84 | 105.7 | 70 - 130 | |
| 72 | Ge | 458004.72 | 4.89 | 456135.16 | 100.4 | 70 - 130 | |
| 72 | Ge | 140035.14 | 1.86 | 133845.88 | 104.6 | 70 - 130 | |
| 103 | Rh | 2802799.80 | 7.25 | 2756012.80 | 101.7 | 70 - 130 | |
| 115 | In | 3154623.80 | 6.30 | 3107877.30 | 101.5 | 70 - 130 | |
| 115 | In | 1329557.80 | 2.64 | 1253711.00 | 106.0 | 70 - 130 | |
| 159 | Tb | 4357376.00 | 6.30 | 4318262.50 | 100.9 | 70 - 130 | |
| 175 | Lu | 4342874.50 | 7.47 | 4266772.50 | 101.8 | 70 - 130 | |
| 209 | Bi | 2343197.00 | 5.25 | 2390925.30 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\005CALS.D\005CALS.D#
Date Acquired: Apr 9 2013 01:23 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:21 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2165431.00 | A | 39150.00 | 1.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 157605.00 | P | 1087.00 | 0.69 |
| 9 | Be | 7474.22 | P | 215.70 | 2.89 |
| 11 | B | 96240.50 | P | 646.50 | 0.67 |
| 11 | B | 2969.27 | P | 71.69 | 2.41 |
| 23 | Na | 998159.88 | P | 11930.00 | 1.20 |
| 23 | Na | 88145.68 | P | 115.60 | 0.13 |
| 24 | Mg | 466732.31 | P | 2623.00 | 0.56 |
| 24 | Mg | 31269.70 | P | 447.10 | 1.43 |
| 27 | Al | 590846.19 | P | 2699.00 | 0.46 |
| 27 | Al | 19535.04 | P | 556.70 | 2.85 |
| 39 | K | 3705060.00 | A | 10350.00 | 0.28 |
| 44 | Ca | 29748.29 | P | 340.90 | 1.15 |
| 45 | Sc | 2355609.00 | A | 55680.00 | 2.36 |
| 45 | Sc | 341497.59 | P | 2688.00 | 0.79 |
| 47 | Ti | 48295.17 | P | 564.50 | 1.17 |
| 51 | V | 183147.30 | P | 571.00 | 0.31 |
| 52 | Cr | 204442.80 | P | 929.30 | 0.45 |
| 55 | Mn | 164115.09 | P | 131.90 | 0.08 |
| 56 | Fe | 241975.09 | P | 1723.00 | 0.71 |
| 59 | Co | 281276.69 | P | 1550.00 | 0.55 |
| 60 | Ni | 71063.98 | P | 152.00 | 0.21 |
| 63 | Cu | 183604.80 | P | 726.50 | 0.40 |
| 66 | Zn | 35603.13 | P | 71.14 | 0.20 |
| 72 | Ge | 453496.59 | P | 3690.00 | 0.81 |
| 72 | Ge | 141602.70 | P | 1660.00 | 1.17 |
| 75 | As | 24863.68 | P | 81.81 | 0.33 |
| 78 | Se | 2954.31 | P | 66.15 | 2.24 |
| 88 | Sr | 790627.88 | P | 5683.00 | 0.72 |
| 98 | Mo | 216417.80 | P | 1996.00 | 0.92 |
| 103 | Rh | 2799007.00 | A | 46270.00 | 1.65 |
| 107 | Ag | 384896.59 | P | 729.00 | 0.19 |

C:\ICPCHEM\1\DATA\13D09m02.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 45792.09 | P | 692.90 | 1.51 |
| 115 | In | 3124344.00 | A | 63200.00 | 2.02 |
| 115 | In | 1340632.00 | P | 16960.00 | 1.27 |
| 118 | (In) | 243032.59 | P | 946.10 | 0.39 |
| 118 | (In) | 115036.90 | P | 521.50 | 0.45 |
| 120 | Sn | 339974.09 | P | 1454.00 | 0.43 |
| 121 | Sb | 324140.41 | P | 432.90 | 0.13 |
| 137 | Ba | 121218.80 | P | 1402.00 | 1.16 |
| 159 | Tb | 4348265.00 | A | 79420.00 | 1.83 |
| 175 | Lu | 4313969.00 | A | 51620.00 | 1.20 |
| 205 | Tl | 591767.13 | P | 2348.00 | 0.40 |
| 206 | (Pb) | 222684.20 | P | 1813.00 | 0.81 |
| 207 | (Pb) | 169951.30 | P | 592.80 | 0.35 |
| 208 | Pb | 808244.38 | P | 6042.00 | 0.75 |
| 209 | Bi | 2307104.00 | A | 34560.00 | 1.50 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2165431.00 | 1.81 | 2125728.50 | 101.9 | 70 - 130 | |
| 45 | Sc | 2355608.80 | 2.36 | 2310495.80 | 102.0 | 70 - 130 | |
| 45 | Sc | 341497.63 | 0.79 | 316438.84 | 107.9 | 70 - 130 | |
| 72 | Ge | 453496.59 | 0.81 | 456135.16 | 99.4 | 70 - 130 | |
| 72 | Ge | 141602.66 | 1.17 | 133845.88 | 105.8 | 70 - 130 | |
| 103 | Rh | 2799006.50 | 1.65 | 2756012.80 | 101.6 | 70 - 130 | |
| 115 | In | 3124344.00 | 2.02 | 3107877.30 | 100.5 | 70 - 130 | |
| 115 | In | 1340632.10 | 1.27 | 1253711.00 | 106.9 | 70 - 130 | |
| 159 | Tb | 4348265.50 | 1.83 | 4318262.50 | 100.7 | 70 - 130 | |
| 175 | Lu | 4313969.00 | 1.20 | 4266772.50 | 101.1 | 70 - 130 | |
| 209 | Bi | 2307104.50 | 1.50 | 2390925.30 | 96.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\006CALS.D\006CALS.D#
Date Acquired: Apr 9 2013 01:30 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:27 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2049015.00 | A | 50130.00 | 2.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 310845.69 | P | 607.40 | 0.20 |
| 9 | Be | 15234.45 | P | 127.30 | 0.84 |
| 11 | B | 190855.70 | P | 1584.00 | 0.83 |
| 11 | B | 6133.62 | P | 83.40 | 1.36 |
| 23 | Na | 1651217.00 | A | 4028.00 | 0.24 |
| 23 | Na | 139020.50 | P | 978.70 | 0.70 |
| 24 | Mg | 912035.31 | P | 2683.00 | 0.29 |
| 24 | Mg | 61981.99 | P | 360.40 | 0.58 |
| 27 | Al | 1123155.00 | P | 8317.00 | 0.74 |
| 27 | Al | 37991.73 | P | 82.19 | 0.22 |
| 39 | K | 4235006.00 | A | 11650.00 | 0.28 |
| 44 | Ca | 50937.96 | P | 274.50 | 0.54 |
| 45 | Sc | 2163877.00 | A | 57430.00 | 2.65 |
| 45 | Sc | 331585.00 | P | 469.50 | 0.14 |
| 47 | Ti | 96675.52 | P | 401.40 | 0.42 |
| 51 | V | 359229.09 | P | 807.60 | 0.22 |
| 52 | Cr | 402095.69 | P | 1569.00 | 0.39 |
| 55 | Mn | 322256.00 | P | 1634.00 | 0.51 |
| 56 | Fe | 431335.59 | P | 1174.00 | 0.27 |
| 59 | Co | 558585.38 | P | 1394.00 | 0.25 |
| 60 | Ni | 141081.20 | P | 605.00 | 0.43 |
| 63 | Cu | 363676.69 | P | 2034.00 | 0.56 |
| 66 | Zn | 68287.47 | P | 260.30 | 0.38 |
| 72 | Ge | 430997.59 | P | 11800.00 | 2.74 |
| 72 | Ge | 139015.80 | P | 528.30 | 0.38 |
| 75 | As | 49104.98 | P | 324.60 | 0.66 |
| 78 | Se | 5732.45 | P | 9.45 | 0.16 |
| 88 | Sr | 1621065.00 | A | 18160.00 | 1.12 |
| 98 | Mo | 439959.09 | P | 4812.00 | 1.09 |
| 103 | Rh | 2575512.00 | A | 76190.00 | 2.96 |
| 107 | Ag | 759490.63 | P | 11510.00 | 1.52 |

C:\ICPCHEM\1\DATA\13D09m02.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 91453.99 | P | 614.90 | 0.67 |
| 115 | In | 2895786.00 | A | 116400.00 | 4.02 |
| 115 | In | 1307204.00 | P | 4127.00 | 0.32 |
| 118 | (In) | 492865.59 | P | 4513.00 | 0.92 |
| 118 | (In) | 235976.00 | P | 4800.00 | 2.03 |
| 120 | Sn | 683385.38 | P | 4506.00 | 0.66 |
| 121 | Sb | 628983.50 | P | 3445.00 | 0.55 |
| 137 | Ba | 239335.59 | P | 713.10 | 0.30 |
| 159 | Tb | 3996840.00 | A | 159600.00 | 3.99 |
| 175 | Lu | 3961917.00 | A | 151300.00 | 3.82 |
| 205 | Tl | 1229274.00 | P | 17780.00 | 1.45 |
| 206 | (Pb) | 439159.19 | P | 2815.00 | 0.64 |
| 207 | (Pb) | 333101.00 | P | 2590.00 | 0.78 |
| 208 | Pb | 1587550.00 | P | 8139.00 | 0.51 |
| 209 | Bi | 2167730.00 | A | 68990.00 | 3.18 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2049014.50 | 2.45 | 2125728.50 | 96.4 | 70 - 130 | |
| 45 | Sc | 2163876.80 | 2.65 | 2310495.80 | 93.7 | 70 - 130 | |
| 45 | Sc | 331584.97 | 0.14 | 316438.84 | 104.8 | 70 - 130 | |
| 72 | Ge | 430997.59 | 2.74 | 456135.16 | 94.5 | 70 - 130 | |
| 72 | Ge | 139015.77 | 0.38 | 133845.88 | 103.9 | 70 - 130 | |
| 103 | Rh | 2575512.50 | 2.96 | 2756012.80 | 93.5 | 70 - 130 | |
| 115 | In | 2895785.50 | 4.02 | 3107877.30 | 93.2 | 70 - 130 | |
| 115 | In | 1307204.40 | 0.32 | 1253711.00 | 104.3 | 70 - 130 | |
| 159 | Tb | 3996840.00 | 3.99 | 4318262.50 | 92.6 | 70 - 130 | |
| 175 | Lu | 3961917.50 | 3.82 | 4266772.50 | 92.9 | 70 - 130 | |
| 209 | Bi | 2167730.50 | 3.18 | 2390925.30 | 90.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\007CALS.D\007CALS.D#
Date Acquired: Apr 9 2013 01:36 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:33 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2129332.00 | A | 12030.00 | 0.56 |
| 7 | (Li) | | P | | |
| 9 | Be | 629559.63 | P | 2551.00 | 0.41 |
| 9 | Be | 30932.17 | P | 365.50 | 1.18 |
| 11 | B | 384571.19 | P | 2906.00 | 0.76 |
| 11 | B | 11669.13 | P | 395.30 | 3.39 |
| 23 | Na | 3014302.00 | A | 7514.00 | 0.25 |
| 23 | Na | 245416.30 | P | 249.80 | 0.10 |
| 24 | Mg | 1866894.00 | A | 11730.00 | 0.63 |
| 24 | Mg | 124172.20 | P | 1168.00 | 0.94 |
| 27 | Al | 2246342.00 | A | 19760.00 | 0.88 |
| 27 | Al | 74518.13 | P | 387.50 | 0.52 |
| 39 | K | 5363507.00 | A | 17090.00 | 0.32 |
| 44 | Ca | 92452.73 | P | 1536.00 | 1.66 |
| 45 | Sc | 2336031.00 | A | 12370.00 | 0.53 |
| 45 | Sc | 328579.00 | P | 1648.00 | 0.50 |
| 47 | Ti | 190726.20 | P | 1547.00 | 0.81 |
| 51 | V | 717238.88 | P | 536.30 | 0.07 |
| 52 | Cr | 803778.69 | P | 937.90 | 0.12 |
| 55 | Mn | 642521.19 | P | 1934.00 | 0.30 |
| 56 | Fe | 817813.31 | P | 352.10 | 0.04 |
| 59 | Co | 1122948.00 | P | 5628.00 | 0.50 |
| 60 | Ni | 281094.91 | P | 569.20 | 0.20 |
| 63 | Cu | 725977.31 | P | 3005.00 | 0.41 |
| 66 | Zn | 136870.30 | P | 296.50 | 0.22 |
| 72 | Ge | 448232.09 | P | 3746.00 | 0.84 |
| 72 | Ge | 136082.00 | P | 369.50 | 0.27 |
| 75 | As | 97963.96 | P | 443.60 | 0.45 |
| 78 | Se | 11340.08 | P | 100.30 | 0.88 |
| 88 | Sr | 3163748.00 | A | 18100.00 | 0.57 |
| 98 | Mo | 875693.63 | P | 8101.00 | 0.93 |
| 103 | Rh | 2762006.00 | A | 9814.00 | 0.36 |
| 107 | Ag | 1537665.00 | P | 2314.00 | 0.15 |

C:\ICPCHEM\1\DATA\13D09m02.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 183986.30 | P | 270.10 | 0.15 |
| 115 | In | 3056951.00 | A | 25900.00 | 0.85 |
| 115 | In | 1290127.00 | P | 2396.00 | 0.19 |
| 118 | (In) | 977776.88 | P | 1589.00 | 0.16 |
| 118 | (In) | 461865.81 | P | 4584.00 | 0.99 |
| 120 | Sn | 1363723.00 | P | 10850.00 | 0.80 |
| 121 | Sb | 1271949.00 | P | 7963.00 | 0.63 |
| 137 | Ba | 482137.50 | P | 3496.00 | 0.73 |
| 159 | Tb | 4280975.00 | A | 27940.00 | 0.65 |
| 175 | Lu | 4261657.00 | A | 17500.00 | 0.41 |
| 205 | Tl | 2598751.00 | A | 9940.00 | 0.38 |
| 206 | (Pb) | 874448.13 | P | 1735.00 | 0.20 |
| 207 | (Pb) | 661639.13 | P | 4576.00 | 0.69 |
| 208 | Pb | 3299843.00 | A | 38880.00 | 1.18 |
| 209 | Bi | 2251802.00 | A | 25520.00 | 1.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2129332.50 | 0.56 | 2125728.50 | 100.2 | 70 - 130 | |
| 45 | Sc | 2336031.30 | 0.53 | 2310495.80 | 101.1 | 70 - 130 | |
| 45 | Sc | 328579.03 | 0.50 | 316438.84 | 103.8 | 70 - 130 | |
| 72 | Ge | 448232.06 | 0.84 | 456135.16 | 98.3 | 70 - 130 | |
| 72 | Ge | 136082.02 | 0.27 | 133845.88 | 101.7 | 70 - 130 | |
| 103 | Rh | 2762006.00 | 0.36 | 2756012.80 | 100.2 | 70 - 130 | |
| 115 | In | 3056950.50 | 0.85 | 3107877.30 | 98.4 | 70 - 130 | |
| 115 | In | 1290127.10 | 0.19 | 1253711.00 | 102.9 | 70 - 130 | |
| 159 | Tb | 4280975.00 | 0.65 | 4318262.50 | 99.1 | 70 - 130 | |
| 175 | Lu | 4261657.50 | 0.41 | 4266772.50 | 99.9 | 70 - 130 | |
| 209 | Bi | 2251801.80 | 1.13 | 2390925.30 | 94.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\008CALS.D\008CALS.D#
Date Acquired: Apr 9 2013 01:42 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:40 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2148287.00 | A | 32250.00 | 1.50 |
| 7 | (Li) | | P | | |
| 9 | Be | 102.23 | P | 33.39 | 32.66 |
| 9 | Be | 7.78 | P | 1.93 | 24.75 |
| 11 | B | 1982.42 | P | 112.10 | 5.65 |
| 11 | B | 54.45 | P | 13.47 | 24.74 |
| 23 | Na | 26119490.00 | A | 349600.00 | 1.34 |
| 23 | Na | 2095805.00 | A | 8261.00 | 0.39 |
| 24 | Mg | 17419660.00 | A | 143200.00 | 0.82 |
| 24 | Mg | 1231265.00 | P | 11210.00 | 0.91 |
| 27 | Al | 21449540.00 | A | 264800.00 | 1.23 |
| 27 | Al | 756495.69 | P | 7835.00 | 1.04 |
| 39 | K | 24885170.00 | A | 158900.00 | 0.64 |
| 44 | Ca | 685085.38 | P | 4623.00 | 0.67 |
| 45 | Sc | 2363410.00 | A | 59030.00 | 2.50 |
| 45 | Sc | 335734.50 | P | 6279.00 | 1.87 |
| 47 | Ti | 185.56 | P | 26.94 | 14.52 |
| 51 | V | 3622.25 | P | 32.90 | 0.91 |
| 52 | Cr | 2245.09 | P | 97.29 | 4.33 |
| 55 | Mn | 4050.81 | P | 73.90 | 1.82 |
| 56 | Fe | 7398145.00 | A | 24690.00 | 0.33 |
| 59 | Co | 415.57 | P | 13.68 | 3.29 |
| 60 | Ni | 360.90 | P | 7.70 | 2.13 |
| 63 | Cu | 1742.79 | P | 118.30 | 6.79 |
| 66 | Zn | 498.46 | P | 35.62 | 7.15 |
| 72 | Ge | 463477.31 | P | 4398.00 | 0.95 |
| 72 | Ge | 139709.41 | P | 2912.00 | 2.08 |
| 75 | As | 171.34 | P | 9.68 | 5.65 |
| 78 | Se | 105.11 | P | 21.69 | 20.64 |
| 88 | Sr | 1297.89 | P | 85.66 | 6.60 |
| 98 | Mo | 7817.87 | P | 243.40 | 3.11 |
| 103 | Rh | 2771559.00 | A | 44350.00 | 1.60 |
| 107 | Ag | 356.68 | P | 34.64 | 9.71 |

C:\ICPCHEM\1\DATA\13D09m02.B\008CALS.D\008CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 62.22 | P | 9.62 | 15.47 | |
| 115 | In | 3147912.00 | A | 34750.00 | 1.10 | |
| 115 | In | 1319892.00 | P | 24590.00 | 1.86 | |
| 118 | (In) | 1427.90 | P | 174.60 | 12.23 | |
| 118 | (In) | 1207.87 | P | 146.60 | 12.14 | |
| 120 | Sn | 1980.21 | P | 130.20 | 6.58 | |
| 121 | Sb | 2262.49 | P | 256.30 | 11.33 | |
| 137 | Ba | 861.17 | P | 23.42 | 2.72 | |
| 159 | Tb | 4322755.00 | A | 79560.00 | 1.84 | |
| 175 | Lu | 4271465.00 | A | 19130.00 | 0.45 | |
| 205 | Tl | 5405.75 | P | 185.50 | 3.43 | |
| 206 | (Pb) | 360.02 | P | 18.56 | 5.16 | |
| 207 | (Pb) | 268.90 | P | 30.25 | 11.25 | |
| 208 | Pb | 5326.02 | P | 245.10 | 4.60 | |
| 209 | Bi | 2270177.00 | A | 37760.00 | 1.66 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2148287.50 | 1.50 | 2125728.50 | 101.1 | 70 - 130 | |
| 45 | Sc | 2363410.50 | 2.50 | 2310495.80 | 102.3 | 70 - 130 | |
| 45 | Sc | 335734.50 | 1.87 | 316438.84 | 106.1 | 70 - 130 | |
| 72 | Ge | 463477.34 | 0.95 | 456135.16 | 101.6 | 70 - 130 | |
| 72 | Ge | 139709.39 | 2.08 | 133845.88 | 104.4 | 70 - 130 | |
| 103 | Rh | 2771558.80 | 1.60 | 2756012.80 | 100.6 | 70 - 130 | |
| 115 | In | 3147912.30 | 1.10 | 3107877.30 | 101.3 | 70 - 130 | |
| 115 | In | 1319892.60 | 1.86 | 1253711.00 | 105.3 | 70 - 130 | |
| 159 | Tb | 4322754.50 | 1.84 | 4318262.50 | 100.1 | 70 - 130 | |
| 175 | Lu | 4271464.50 | 0.45 | 4266772.50 | 100.1 | 70 - 130 | |
| 209 | Bi | 2270177.00 | 1.66 | 2390925.30 | 94.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\009CALS.D\009CALS.D#
Date Acquired: Apr 9 2013 01:49 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 09 2013 01:46 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2137413.00 | A | 18370.00 | 0.86 |
| 7 | (Li) | | P | | |
| 9 | Be | 44.45 | P | 12.62 | 28.39 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 1336.77 | P | 20.82 | 1.56 |
| 11 | B | 45.56 | P | 17.11 | 37.56 |
| 23 | Na | 258268800.00 | A | 2194000.00 | 0.85 |
| 23 | Na | 19412980.00 | A | 111900.00 | 0.58 |
| 24 | Mg | 172499300.00 | A | 1254000.00 | 0.73 |
| 24 | Mg | 11231980.00 | A | 36090.00 | 0.32 |
| 27 | Al | 214075100.00 | A | 414900.00 | 0.19 |
| 27 | Al | 6949989.00 | A | 41120.00 | 0.59 |
| 39 | K | 218902300.00 | A | 958100.00 | 0.44 |
| 44 | Ca | 6486639.00 | A | 51130.00 | 0.79 |
| 45 | Sc | 2347964.00 | A | 17220.00 | 0.73 |
| 45 | Sc | 334293.09 | P | 1642.00 | 0.49 |
| 47 | Ti | 155.56 | P | 16.44 | 10.57 |
| 51 | V | 3872.98 | P | 68.55 | 1.77 |
| 52 | Cr | 2768.29 | P | 83.61 | 3.02 |
| 55 | Mn | 5059.12 | P | 110.90 | 2.19 |
| 56 | Fe | 70785776.00 | A | 978700.00 | 1.38 |
| 59 | Co | 1713.01 | P | 109.50 | 6.39 |
| 60 | Ni | 661.36 | P | 32.74 | 4.95 |
| 63 | Cu | 1647.22 | P | 29.59 | 1.80 |
| 66 | Zn | 623.35 | P | 4.00 | 0.64 |
| 72 | Ge | 462793.50 | P | 2495.00 | 0.54 |
| 72 | Ge | 138751.59 | P | 136.30 | 0.10 |
| 75 | As | 196.67 | P | 20.83 | 10.59 |
| 78 | Se | 116.67 | P | 6.57 | 5.63 |
| 88 | Sr | 5282.25 | P | 70.68 | 1.34 |
| 98 | Mo | 1904.65 | P | 109.90 | 5.77 |
| 103 | Rh | 2654823.00 | A | 3413.00 | 0.13 |
| 107 | Ag | 1151.20 | P | 67.04 | 5.82 |

C:\ICPCHEM\1\DATA\13D09m02.B\009CALS.D\009CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 230.01 | P | 20.00 | 8.70 | |
| 115 | In | 3003531.00 | A | 26270.00 | 0.87 | |
| 115 | In | 1267593.00 | P | 11060.00 | 0.87 | |
| 118 | (In) | 635.59 | P | 73.44 | 11.56 | |
| 118 | (In) | 475.58 | P | 44.01 | 9.25 | |
| 120 | Sn | 911.17 | P | 80.03 | 8.78 | |
| 121 | Sb | 1023.40 | P | 104.90 | 10.25 | |
| 137 | Ba | 1391.23 | P | 16.45 | 1.18 | |
| 159 | Tb | 4234942.00 | A | 47950.00 | 1.13 | |
| 175 | Lu | 4203829.00 | A | 45720.00 | 1.09 | |
| 205 | Tl | 2328.07 | P | 195.00 | 8.38 | |
| 206 | (Pb) | 656.71 | P | 68.07 | 10.37 | |
| 207 | (Pb) | 510.03 | P | 35.12 | 6.89 | |
| 208 | Pb | 6143.72 | P | 260.30 | 4.24 | |
| 209 | Bi | 2155081.00 | A | 24070.00 | 1.12 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2137413.30 | 0.86 | 2125728.50 | 100.5 | 70 - 130 | |
| 45 | Sc | 2347963.80 | 0.73 | 2310495.80 | 101.6 | 70 - 130 | |
| 45 | Sc | 334293.13 | 0.49 | 316438.84 | 105.6 | 70 - 130 | |
| 72 | Ge | 462793.53 | 0.54 | 456135.16 | 101.5 | 70 - 130 | |
| 72 | Ge | 138751.59 | 0.10 | 133845.88 | 103.7 | 70 - 130 | |
| 103 | Rh | 2654823.30 | 0.13 | 2756012.80 | 96.3 | 70 - 130 | |
| 115 | In | 3003531.30 | 0.87 | 3107877.30 | 96.6 | 70 - 130 | |
| 115 | In | 1267592.80 | 0.87 | 1253711.00 | 101.1 | 70 - 130 | |
| 159 | Tb | 4234942.00 | 1.13 | 4318262.50 | 98.1 | 70 - 130 | |
| 175 | Lu | 4203828.50 | 1.09 | 4266772.50 | 98.5 | 70 - 130 | |
| 209 | Bi | 2155080.80 | 1.12 | 2390925.30 | 90.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D09m02.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 9 2013 02:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 61.44 | 61.44 | ppb | 1.35 | 900.00 | |
| 9 Be | 45 | 2 | 60.92 | 60.92 | ppb | 1.55 | 900.00 | |
| 11 B | 6 | 1 | 58.40 | 58.40 | ppb | 1.67 | 900.00 | |
| 11 B | 45 | 2 | 60.29 | 60.29 | ppb | 1.82 | 900.00 | |
| 23 Na | 45 | 1 | 5561.00 | 5561.00 | ppb | 2.61 | 90000.00 | |
| 23 Na | 45 | 2 | 5739.00 | 5739.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 5685.00 | 5685.00 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 5877.00 | 5877.00 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 5582.00 | 5582.00 | ppb | 2.09 | 90000.00 | |
| 27 Al | 45 | 2 | 5838.00 | 5838.00 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 5587.00 | 5587.00 | ppb | 1.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 5712.00 | 5712.00 | ppb | 2.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.54 | 59.54 | ppb | 2.40 | 900.00 | |
| 51 V | 45 | 2 | 61.61 | 61.61 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 59.99 | 59.99 | ppb | 0.33 | 900.00 | |
| 55 Mn | 45 | 2 | 60.15 | 60.15 | ppb | 0.11 | 900.00 | |
| 56 Fe | 45 | 2 | 5702.00 | 5702.00 | ppb | 0.40 | 90000.00 | |
| 59 Co | 45 | 2 | 59.05 | 59.05 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 59.47 | 59.47 | ppb | 0.65 | 900.00 | |
| 63 Cu | 72 | 2 | 58.40 | 58.40 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 59.58 | 59.58 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 60.87 | 60.87 | ppb | 0.49 | 900.00 | |
| 78 Se | 72 | 2 | 60.69 | 60.69 | ppb | 1.36 | 900.00 | |
| 88 Sr | 103 | 1 | 61.35 | 61.35 | ppb | 2.04 | 900.00 | |
| 98 Mo | 103 | 1 | 61.67 | 61.67 | ppb | 2.72 | 900.00 | |
| 107 Ag | 115 | 1 | 57.99 | 57.99 | ppb | 1.87 | 180.00 | |
| 111 Cd | 115 | 2 | 60.94 | 60.94 | ppb | 0.91 | 900.00 | |
| 120 Sn | 115 | 1 | 58.51 | 58.51 | ppb | 1.75 | 900.00 | |
| 121 Sb | 115 | 1 | 60.88 | 60.88 | ppb | 1.44 | 900.00 | |
| 137 Ba | 159 | 1 | 58.92 | 58.92 | ppb | 1.73 | 900.00 | |
| 205 Tl | 209 | 1 | 54.54 | 54.54 | ppb | 3.05 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 58.11 | 58.11 | ppb | 2.07 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2167586 | 1.40 | 2125729 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 2389373 | 1.73 | 2310496 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 331983 | 0.39 | 316439 | 104.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469057 | 1.32 | 456135 | 102.8 | 70 | - | 130 |
| 72 Ge | 2 | 136897 | 0.50 | 133846 | 102.3 | 70 | - | 130 |
| 103 Rh | 1 | 2741194 | 1.74 | 2756013 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3114061 | 1.93 | 3107877 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 1254422 | 0.17 | 1253711 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 4440792 | 1.84 | 4318263 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 4381139 | 1.90 | 4266773 | 102.7 | 70 | - | 130 |
| 209 Bi | 1 | 2365479 | 2.54 | 2390925 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\011SMPL.D\011SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 9 2013 02:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 52.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7120.60 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 71.46 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.05 | ppb | 73.46 | 900.00 | |
| 23 Na | 45 | 1 | -0.27 | -0.27 | ppb | 31.15 | 90000.00 | |
| 23 Na | 45 | 2 | -1.56 | -1.56 | ppb | 24.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.20 | 0.20 | ppb | 27.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.17 | 0.17 | ppb | 18.51 | 90000.00 | |
| 27 Al | 45 | 1 | -0.50 | -0.50 | ppb | 11.05 | 90000.00 | |
| 27 Al | 45 | 2 | -0.54 | -0.54 | ppb | 28.05 | 90000.00 | |
| 39 K | 45 | 1 | -5.35 | -5.35 | ppb | 32.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.70 | 1.70 | ppb | 13.08 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.07 | -0.07 | ppb | 12.83 | 900.00 | |
| 51 V | 45 | 2 | -0.21 | -0.21 | ppb | 6.50 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 13.91 | 900.00 | |
| 55 Mn | 45 | 2 | -0.45 | -0.45 | ppb | 2.09 | 900.00 | |
| 56 Fe | 45 | 2 | -2.81 | -2.81 | ppb | 1.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 70.22 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 37.06 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 2.10 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 20.35 | 900.00 | |
| 75 As | 72 | 2 | -0.03 | -0.03 | ppb | 26.63 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 2354.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 116.87 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.43 | ppb | 1.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 36.99 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 62.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 7.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 22.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 2.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 37.16 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2244454 | 0.75 | 2125729 | 105.6 | 70 - 130 | |
| 45 Sc | 1 | 2432362 | 1.60 | 2310496 | 105.3 | 70 - 130 | |
| 45 Sc | 2 | 346321 | 2.27 | 316439 | 109.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 476165 | 0.60 | 456135 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 141197 | 0.80 | 133846 | 105.5 | 70 | - | 130 |
| 103 Rh | 1 | 2873464 | 0.08 | 2756013 | 104.3 | 70 | - | 130 |
| 115 In | 1 | 3203257 | 0.27 | 3107877 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1319923 | 0.41 | 1253711 | 105.3 | 70 | - | 130 |
| 159 Tb | 1 | 4455052 | 0.34 | 4318263 | 103.2 | 70 | - | 130 |
| 175 Lu | 1 | 4414902 | 1.02 | 4266773 | 103.5 | 70 | - | 130 |
| 209 Bi | 1 | 2424085 | 0.48 | 2390925 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 9 2013 02:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.28 | 52.28 | ppb | 1.06 | 900.00 | |
| 9 Be | 45 | 2 | 50.94 | 50.94 | ppb | 0.40 | 900.00 | |
| 11 B | 6 | 1 | 51.96 | 51.96 | ppb | 2.30 | 900.00 | |
| 11 B | 45 | 2 | 51.58 | 51.58 | ppb | 3.35 | 900.00 | |
| 23 Na | 45 | 1 | 5099.00 | 5099.00 | ppb | 2.65 | 90000.00 | |
| 23 Na | 45 | 2 | 5158.00 | 5158.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 5117.00 | 5117.00 | ppb | 1.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5202.00 | 5202.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 5113.00 | 5113.00 | ppb | 1.62 | 90000.00 | |
| 27 Al | 45 | 2 | 5223.00 | 5223.00 | ppb | 0.81 | 90000.00 | |
| 39 K | 45 | 1 | 5135.00 | 5135.00 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 5280.00 | 5280.00 | ppb | 0.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.08 | 51.08 | ppb | 1.52 | 900.00 | |
| 51 V | 45 | 2 | 50.53 | 50.53 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 49.85 | 49.85 | ppb | 0.64 | 900.00 | |
| 55 Mn | 45 | 2 | 49.24 | 49.24 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 5108.00 | 5108.00 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 49.08 | 49.08 | ppb | 0.43 | 900.00 | |
| 60 Ni | 45 | 2 | 49.11 | 49.11 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 48.89 | 48.89 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 49.31 | 49.31 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 50.57 | 50.57 | ppb | 0.17 | 900.00 | |
| 78 Se | 72 | 2 | 49.24 | 49.24 | ppb | 0.87 | 900.00 | |
| 88 Sr | 103 | 1 | 53.04 | 53.04 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 52.90 | 52.90 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 51.64 | 51.64 | ppb | 1.01 | 180.00 | |
| 111 Cd | 115 | 2 | 50.44 | 50.44 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 52.47 | 52.47 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 53.72 | 53.72 | ppb | 1.47 | 900.00 | |
| 137 Ba | 159 | 1 | 51.35 | 51.35 | ppb | 1.32 | 900.00 | |
| 205 Tl | 209 | 1 | 47.39 | 47.39 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.93 | 50.93 | ppb | 1.70 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2125743 | 0.82 | 2125729 | 100.0 | 70 - 130 | |
| 45 Sc | 1 | 2345720 | 0.98 | 2310496 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 335027 | 0.28 | 316439 | 105.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457701 | 1.62 | 456135 | 100.3 | 70 | - | 130 |
| 72 Ge | 2 | 138114 | 0.37 | 133846 | 103.2 | 70 | - | 130 |
| 103 Rh | 1 | 2672067 | 0.85 | 2756013 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 3005830 | 0.98 | 3107877 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1270905 | 0.39 | 1253711 | 101.4 | 70 | - | 130 |
| 159 Tb | 1 | 4254658 | 0.96 | 4318263 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4253166 | 1.04 | 4266773 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 2300292 | 1.18 | 2390925 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 9 2013 02:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 24.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 3.29 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 100.42 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 494.27 | 900.00 | |
| 23 Na | 45 | 1 | 0.33 | 0.33 | ppb | 116.35 | 90000.00 | |
| 23 Na | 45 | 2 | -1.14 | -1.14 | ppb | 22.89 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.13 | 0.13 | ppb | 41.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.08 | 0.08 | ppb | 34.29 | 90000.00 | |
| 27 Al | 45 | 1 | -0.73 | -0.73 | ppb | 9.63 | 90000.00 | |
| 27 Al | 45 | 2 | -0.63 | -0.63 | ppb | 9.09 | 90000.00 | |
| 39 K | 45 | 1 | 2.32 | 2.32 | ppb | 126.76 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.41 | -0.41 | ppb | 129.82 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.10 | -0.10 | ppb | 10.75 | 900.00 | |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 2.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 10.08 | 900.00 | |
| 55 Mn | 45 | 2 | -0.44 | -0.44 | ppb | 0.80 | 900.00 | |
| 56 Fe | 45 | 2 | -2.94 | -2.94 | ppb | 5.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 154.82 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 33.88 | 900.00 | |
| 63 Cu | 72 | 2 | -0.09 | -0.09 | ppb | 5.38 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 4.70 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.04 | ppb | 30.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 757.95 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 158.49 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.32 | ppb | 4.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 53.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 57.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 9.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 6.81 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 14.29 | 900.00 | |
| 205 Tl | 209 | 1 | 0.32 | 0.32 | ppb | 3.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 186.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2162725 | 2.51 | 2125729 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 2311713 | 2.16 | 2310496 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 337004 | 1.13 | 316439 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460696 | 1.58 | 456135 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 139423 | 1.57 | 133846 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 2725647 | 1.65 | 2756013 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 3064857 | 1.40 | 3107877 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 1312385 | 1.81 | 1253711 | 104.7 | 70 | - | 130 |
| 159 Tb | 1 | 4241323 | 1.79 | 4318263 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 4201299 | 1.13 | 4266773 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 2317544 | 1.63 | 2390925 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 9 2013 02:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 5.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.49 | 0.49 | ppb | 23.61 | 900.00 | |
| 11 B | 6 | 1 | 4.81 | 4.81 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 4.98 | 4.98 | ppb | 9.21 | 900.00 | |
| 23 Na | 45 | 1 | 251.20 | 251.20 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 269.80 | 269.80 | ppb | 0.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 260.30 | 260.30 | ppb | 1.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 271.60 | 271.60 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 25.54 | 25.54 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 25.89 | 25.89 | ppb | 1.54 | 90000.00 | |
| 39 K | 45 | 1 | 244.30 | 244.30 | ppb | 1.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 261.00 | 261.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.93 | 0.93 | ppb | 2.74 | 900.00 | |
| 51 V | 45 | 2 | 0.76 | 0.76 | ppb | 2.96 | 900.00 | |
| 52 Cr | 45 | 2 | 0.88 | 0.88 | ppb | 2.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.54 | 0.54 | ppb | 3.99 | 900.00 | |
| 56 Fe | 45 | 2 | 23.00 | 23.00 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.48 | 0.48 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 3.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.91 | 0.91 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 0.46 | 0.46 | ppb | 3.91 | 900.00 | |
| 78 Se | 72 | 2 | 0.48 | 0.48 | ppb | 24.54 | 900.00 | |
| 88 Sr | 103 | 1 | 4.81 | 4.81 | ppb | 0.44 | 900.00 | |
| 98 Mo | 103 | 1 | 1.07 | 1.07 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.47 | ppb | 0.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 10.86 | 900.00 | |
| 120 Sn | 115 | 1 | 4.70 | 4.70 | ppb | 0.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 1.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.97 | 0.97 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.50 | ppb | 6.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.47 | 0.47 | ppb | 3.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2190176 | 0.63 | 2125729 | 103.0 | 70 - 130 | |
| 45 Sc | 1 | 2408966 | 0.73 | 2310496 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 342666 | 0.16 | 316439 | 108.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 474630 | 0.46 | 456135 | 104.1 | 70 | - | 130 |
| 72 Ge | 2 | 140401 | 0.18 | 133846 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 2853089 | 0.77 | 2756013 | 103.5 | 70 | - | 130 |
| 115 In | 1 | 3229238 | 0.77 | 3107877 | 103.9 | 70 | - | 130 |
| 115 In | 2 | 1330492 | 0.40 | 1253711 | 106.1 | 70 | - | 130 |
| 159 Tb | 1 | 4414299 | 0.36 | 4318263 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4375092 | 0.54 | 4266773 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 2382291 | 1.52 | 2390925 | 99.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 9 2013 03:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1802.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 185.26 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 33.06 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 145.73 | 900.00 | |
| 23 Na | 45 | 1 | 90950.00 | 90950.00 | ppb | 3.01 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99570.00 | 99570.00 | ppb | 3.81 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92490.00 | 92490.00 | ppb | 3.35 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 100100.00 | 100100.00 | ppb | 4.19 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 90950.00 | 90950.00 | ppb | 3.06 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97320.00 | 97320.00 | ppb | 3.50 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94800.00 | 94800.00 | ppb | 2.96 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94690.00 | 94690.00 | ppb | 2.03 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1981.00 | 1981.00 | ppb | 2.45 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.28 | -0.28 | ppb | 5.82 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 5.55 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 11.98 | 900.00 | |
| 56 Fe | 45 | 2 | 100100.00 | 100100.00 | ppb | 4.17 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 6.68 | 900.00 | |
| 60 Ni | 45 | 2 | 0.71 | 0.71 | ppb | 2.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.17 | 0.17 | ppb | 5.93 | 900.00 | |
| 66 Zn | 72 | 2 | 1.75 | 1.75 | ppb | 3.55 | 900.00 | |
| 75 As | 72 | 2 | 0.19 | 0.19 | ppb | 12.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 92.78 | 900.00 | |
| 88 Sr | 103 | 1 | 4.64 | 4.64 | ppb | 2.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2089.00 | 2089.00 | ppb | 2.48 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 13.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.85 | 0.85 | ppb | 4.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 4.78 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 4.84 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.17 | ppb | 18.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 8.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.11 | ppb | 1.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1906285 | 2.54 | 2125729 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 2301962 | 3.24 | 2310496 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 296758 | 4.66 | 316439 | 93.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 470822 | 2.72 | 456135 | 103.2 | 70 | - | 130 |
| 72 Ge | 2 | 128287 | 4.11 | 133846 | 95.8 | 70 | - | 130 |
| 103 Rh | 1 | 2523244 | 3.02 | 2756013 | 91.6 | 70 | - | 130 |
| 115 In | 1 | 2956301 | 3.63 | 3107877 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 1129724 | 4.07 | 1253711 | 90.1 | 70 | - | 130 |
| 159 Tb | 1 | 4303843 | 3.06 | 4318263 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 4290121 | 3.80 | 4266773 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 2111302 | 3.12 | 2390925 | 88.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 9 2013 03:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 92.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 262.37 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 26.21 | 900.00 | |
| 11 B | 45 | 2 | -0.04 | -0.04 | ppb | 193.29 | 900.00 | |
| 23 Na | 45 | 1 | 84220.00 | 84220.00 | ppb | 1.78 | 90000.00 | |
| 23 Na | 45 | 2 | 96020.00 | 96020.00 | ppb | 1.75 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 85260.00 | 85260.00 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 96440.00 | 96440.00 | ppb | 1.84 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 85560.00 | 85560.00 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 2 | 92370.00 | 92370.00 | ppb | 1.78 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94130.00 | 94130.00 | ppb | 2.00 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96630.00 | 96630.00 | ppb | 2.06 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2033.00 | 2033.00 | ppb | 0.87 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.33 | -0.33 | ppb | 3.68 | 900.00 | |
| 52 Cr | 45 | 2 | 20.60 | 20.60 | ppb | 2.00 | 900.00 | |
| 55 Mn | 45 | 2 | 19.58 | 19.58 | ppb | 3.27 | 900.00 | |
| 56 Fe | 45 | 2 | 99950.00 | 99950.00 | ppb | 2.14 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.37 | 19.37 | ppb | 2.03 | 900.00 | |
| 60 Ni | 45 | 2 | 19.45 | 19.45 | ppb | 1.55 | 900.00 | |
| 63 Cu | 72 | 2 | 17.23 | 17.23 | ppb | 1.77 | 900.00 | |
| 66 Zn | 72 | 2 | 19.52 | 19.52 | ppb | 1.53 | 900.00 | |
| 75 As | 72 | 2 | 20.00 | 20.00 | ppb | 1.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 65.03 | 900.00 | |
| 88 Sr | 103 | 1 | 4.72 | 4.72 | ppb | 2.17 | 900.00 | |
| 98 Mo | 103 | 1 | 2151.00 | 2151.00 | ppb | 2.95 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 18.55 | 18.55 | ppb | 2.06 | 180.00 | |
| 111 Cd | 115 | 2 | 20.42 | 20.42 | ppb | 2.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 8.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 3.16 | 900.00 | |
| 137 Ba | 159 | 1 | 0.18 | 0.18 | ppb | 6.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.11 | ppb | 15.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1449472 | 3.14 | 2125729 | 68.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2163457 | 1.38 | 2310496 | 93.6 | 70 - 130 | |
| 45 Sc | 2 | 282038 | 2.46 | 316439 | 89.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457972 | 1.42 | 456135 | 100.4 | 70 | - | 130 |
| 72 Ge | 2 | 124461 | 1.57 | 133846 | 93.0 | 70 | - | 130 |
| 103 Rh | 1 | 2531194 | 1.93 | 2756013 | 91.8 | 70 | - | 130 |
| 115 In | 1 | 2996977 | 1.89 | 3107877 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 1142941 | 2.02 | 1253711 | 91.2 | 70 | - | 130 |
| 159 Tb | 1 | 4385771 | 1.35 | 4318263 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4417880 | 1.10 | 4266773 | 103.5 | 70 | - | 130 |
| 209 Bi | 1 | 2151709 | 1.83 | 2390925 | 90.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Apr 9 2013 03:18 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** RINSECONF
**Misc Info:**
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 68.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 926.02 | 900.00 | |
| 11 B | 6 | 1 | -0.09 | -0.09 | ppb | 3.61 | 900.00 | |
| 11 B | 45 | 2 | -0.18 | -0.18 | ppb | 10.87 | 900.00 | |
| 23 Na | 45 | 1 | 15.89 | 15.89 | ppb | 5.73 | 90000.00 | |
| 23 Na | 45 | 2 | 28.58 | 28.58 | ppb | 20.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.36 | 5.36 | ppb | 13.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 11.42 | 11.42 | ppb | 32.69 | 90000.00 | |
| 27 Al | 45 | 1 | 4.06 | 4.06 | ppb | 17.42 | 90000.00 | |
| 27 Al | 45 | 2 | 8.45 | 8.45 | ppb | 30.98 | 90000.00 | |
| 39 K | 45 | 1 | -12.90 | -12.90 | ppb | 2.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.43 | 3.43 | ppb | 22.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 28.30 | 900.00 | |
| 51 V | 45 | 2 | -0.32 | -0.32 | ppb | 2.09 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 34.18 | 900.00 | |
| 55 Mn | 45 | 2 | -0.44 | -0.44 | ppb | 1.49 | 900.00 | |
| 56 Fe | 45 | 2 | 11.98 | 11.98 | ppb | 29.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 57.07 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 432.92 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 6.82 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 11.37 | 900.00 | |
| 75 As | 72 | 2 | -0.08 | -0.08 | ppb | 14.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 124.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 48.30 | 900.00 | |
| 98 Mo | 103 | 1 | 12.74 | 12.74 | ppb | 5.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 35.05 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 46.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 28.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 54.28 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 17.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 50.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 51.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1213304 | 1.61 | 2125729 | 57.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2141706 | 0.32 | 2310496 | 92.7 | 70 - 130 | |
| 45 Sc | 2 | 278889 | 0.11 | 316439 | 88.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463941 | 0.65 | 456135 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 127446 | 0.03 | 133846 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 2923527 | 0.34 | 2756013 | 106.1 | 70 | - | 130 |
| 115 In | 1 | 3378195 | 0.33 | 3107877 | 108.7 | 70 | - | 130 |
| 115 In | 2 | 1257432 | 0.59 | 1253711 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 4729671 | 0.90 | 4318263 | 109.5 | 70 | - | 130 |
| 175 Lu | 1 | 4693640 | 0.05 | 4266773 | 110.0 | 70 | - | 130 |
| 209 Bi | 1 | 2630476 | 1.11 | 2390925 | 110.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 9 2013 03:24 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20745-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 942.85 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.12 | ppb | 7.48 | 900.00 | |
| 11 B | 45 | 2 | -0.10 | -0.05 | ppb | 154.16 | 900.00 | |
| 23 Na | 45 | 1 | 31.96 | 15.98 | ppb | 3.31 | 90000.00 | |
| 23 Na | 45 | 2 | 48.36 | 24.18 | ppb | 21.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.00 | 1.00 | ppb | 9.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.55 | 1.28 | ppb | 20.89 | 90000.00 | |
| 27 Al | 45 | 1 | 0.98 | 0.49 | ppb | 18.12 | 90000.00 | |
| 27 Al | 45 | 2 | 1.36 | 0.68 | ppb | 50.08 | 90000.00 | |
| 39 K | 45 | 1 | -21.02 | -10.51 | ppb | 21.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.66 | 6.83 | ppb | 15.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.38 | 0.19 | ppb | 17.92 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 20.10 | 900.00 | |
| 52 Cr | 45 | 2 | 0.22 | 0.11 | ppb | 51.88 | 900.00 | |
| 55 Mn | 45 | 2 | -0.46 | -0.23 | ppb | 26.10 | 900.00 | |
| 56 Fe | 45 | 2 | 6.41 | 3.20 | ppb | 40.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 74.65 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 25.61 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.03 | ppb | 87.39 | 900.00 | |
| 66 Zn | 72 | 2 | 0.67 | 0.33 | ppb | 17.58 | 900.00 | |
| 75 As | 72 | 2 | 0.37 | 0.19 | ppb | 32.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.06 | ppb | 229.38 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 12.97 | 900.00 | |
| 98 Mo | 103 | 1 | 8.29 | 4.14 | ppb | 1.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 36.54 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 291.38 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 5.45 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 14.24 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.01 | ppb | 170.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 21.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.02 | ppb | 34.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1039571 | 2.42 | 2125729 | 48.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1961343 | 0.99 | 2310496 | 84.9 | 70 - 130 | |
| 45 Sc | 2 | 237126 | 12.19 | 316439 | 74.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438683 | 1.65 | 456135 | 96.2 | 70 | - | 130 |
| 72 Ge | 2 | 111352 | 10.49 | 133846 | 83.2 | 70 | - | 130 |
| 103 Rh | 1 | 2795127 | 1.35 | 2756013 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 3177150 | 1.36 | 3107877 | 102.2 | 70 | - | 130 |
| 115 In | 2 | 1104041 | 12.08 | 1253711 | 88.1 | 70 | - | 130 |
| 159 Tb | 1 | 4563469 | 1.83 | 4318263 | 105.7 | 70 | - | 130 |
| 175 Lu | 1 | 4572278 | 1.86 | 4266773 | 107.2 | 70 | - | 130 |
| 209 Bi | 1 | 2531007 | 1.87 | 2390925 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 9 2013 03:31 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-1F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 195.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 197.33 | 900.00 | |
| 11 B | 6 | 1 | 25.58 | 12.79 | ppb | 8.46 | 900.00 | |
| 11 B | 45 | 2 | 19.73 | 9.87 | ppb | 14.05 | 900.00 | |
| 23 Na | 45 | 1 | 17690.00 | 8845.00 | ppb | 10.99 | 90000.00 | |
| 23 Na | 45 | 2 | 21440.00 | 10720.00 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 1310.60 | 655.30 | ppb | 10.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 1618.80 | 809.40 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 2.67 | 1.34 | ppb | 48.83 | 90000.00 | |
| 27 Al | 45 | 2 | 4.56 | 2.28 | ppb | 73.73 | 90000.00 | |
| 39 K | 45 | 1 | 2850.00 | 1425.00 | ppb | 12.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 14774.00 | 7387.00 | ppb | 12.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.59 | ppb | 30.93 | 900.00 | |
| 51 V | 45 | 2 | 1.23 | 0.62 | ppb | 5.85 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 3.44 | 900.00 | |
| 55 Mn | 45 | 2 | 1560.00 | 780.00 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 33600.00 | 16800.00 | ppb | 1.28 | 90000.00 | |
| 59 Co | 45 | 2 | 10.47 | 5.23 | ppb | 0.88 | 900.00 | |
| 60 Ni | 45 | 2 | 10.54 | 5.27 | ppb | 0.65 | 900.00 | |
| 63 Cu | 72 | 2 | 0.34 | 0.17 | ppb | 4.83 | 900.00 | |
| 66 Zn | 72 | 2 | 13.30 | 6.65 | ppb | 1.55 | 900.00 | |
| 75 As | 72 | 2 | 3514.00 | 1757.00 | ppb | 0.43 | 900.00 | >LDR |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 77.74 | 900.00 | |
| 88 Sr | 103 | 1 | 122.14 | 61.07 | ppb | 10.89 | 900.00 | |
| 98 Mo | 103 | 1 | 12.38 | 6.19 | ppb | 13.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 135.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 14.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 18.53 | 900.00 | |
| 137 Ba | 159 | 1 | 16.47 | 8.24 | ppb | 11.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 44.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.07 | -0.04 | ppb | 11.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1023512 | 7.34 | 2125729 | 48.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1917846 | 10.71 | 2310496 | 83.0 | 70 - 130 | |
| 45 Sc | 2 | 252997 | 0.70 | 316439 | 80.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 429730 | 9.01 | 456135 | 94.2 | 70 | - | 130 |
| 72 | Ge | 2 | 117631 | 0.35 | 133846 | 87.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2599421 | 10.40 | 2756013 | 94.3 | 70 | - | 130 |
| 115 | In | 1 | 3050346 | 10.20 | 3107877 | 98.1 | 70 | - | 130 |
| 115 | In | 2 | 1150653 | 0.34 | 1253711 | 91.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4434096 | 10.26 | 4318263 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4440064 | 10.70 | 4266773 | 104.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2448624 | 9.59 | 2390925 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 9 2013 03:37 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-2F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 82.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 272.69 | 900.00 | |
| 11 B | 6 | 1 | 12.54 | 6.27 | ppb | 5.55 | 900.00 | |
| 11 B | 45 | 2 | 9.63 | 4.82 | ppb | 19.35 | 900.00 | |
| 23 Na | 45 | 1 | 3190.00 | 1595.00 | ppb | 9.29 | 90000.00 | |
| 23 Na | 45 | 2 | 3780.00 | 1890.00 | ppb | 23.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 898.60 | 449.30 | ppb | 8.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 1066.80 | 533.40 | ppb | 24.62 | 90000.00 | |
| 27 Al | 45 | 1 | 9.02 | 4.51 | ppb | 17.32 | 90000.00 | |
| 27 Al | 45 | 2 | 10.32 | 5.16 | ppb | 29.35 | 90000.00 | |
| 39 K | 45 | 1 | 1338.40 | 669.20 | ppb | 11.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 9484.00 | 4742.00 | ppb | 9.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.58 | ppb | 13.48 | 900.00 | |
| 51 V | 45 | 2 | 2.19 | 1.10 | ppb | 37.01 | 900.00 | |
| 52 Cr | 45 | 2 | 0.38 | 0.19 | ppb | 53.08 | 900.00 | |
| 55 Mn | 45 | 2 | 2202.00 | 1101.00 | ppb | 24.75 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 665.80 | 332.90 | ppb | 25.12 | 90000.00 | |
| 59 Co | 45 | 2 | 0.68 | 0.34 | ppb | 27.26 | 900.00 | |
| 60 Ni | 45 | 2 | 3.55 | 1.78 | ppb | 23.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 55.47 | 900.00 | |
| 66 Zn | 72 | 2 | 10.79 | 5.40 | ppb | 19.96 | 900.00 | |
| 75 As | 72 | 2 | 23.64 | 11.82 | ppb | 18.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 389.91 | 900.00 | |
| 88 Sr | 103 | 1 | 67.92 | 33.96 | ppb | 10.21 | 900.00 | |
| 98 Mo | 103 | 1 | 3.65 | 1.83 | ppb | 9.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.81 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 36.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 7.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 3.32 | 900.00 | |
| 137 Ba | 159 | 1 | 1.78 | 0.89 | ppb | 13.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 27.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | -0.03 | ppb | 16.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1122315 | 5.94 | 2125729 | 52.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1864419 | 7.41 | 2310496 | 80.7 | 70 - 130 | |
| 45 Sc | 2 | 263245 | 21.81 | 316439 | 83.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 415591 | 6.06 | 456135 | 91.1 | 70 | - | 130 |
| 72 | Ge | 2 | 118634 | 16.33 | 133846 | 88.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2481249 | 8.85 | 2756013 | 90.0 | 70 | - | 130 |
| 115 | In | 1 | 2910993 | 8.77 | 3107877 | 93.7 | 70 | - | 130 |
| 115 | In | 2 | 1157389 | 19.05 | 1253711 | 92.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4171157 | 8.69 | 4318263 | 96.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4172272 | 8.23 | 4266773 | 97.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2406669 | 7.11 | 2390925 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 9 2013 03:43 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-3F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 18.82 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1416.30 | 900.00 | |
| 11 B | 6 | 1 | 11.80 | 5.90 | ppb | 3.84 | 900.00 | |
| 11 B | 45 | 2 | 10.30 | 5.15 | ppb | 11.21 | 900.00 | |
| 23 Na | 45 | 1 | 2904.00 | 1452.00 | ppb | 4.33 | 90000.00 | |
| 23 Na | 45 | 2 | 3554.00 | 1777.00 | ppb | 6.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 822.60 | 411.30 | ppb | 4.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 1002.20 | 501.10 | ppb | 6.76 | 90000.00 | |
| 27 Al | 45 | 1 | 5.66 | 2.83 | ppb | 10.32 | 90000.00 | |
| 27 Al | 45 | 2 | 8.17 | 4.09 | ppb | 36.26 | 90000.00 | |
| 39 K | 45 | 1 | 1159.80 | 579.90 | ppb | 2.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 8472.00 | 4236.00 | ppb | 2.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 11.70 | 900.00 | |
| 51 V | 45 | 2 | 1.86 | 0.93 | ppb | 10.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.52 | 0.26 | ppb | 14.91 | 900.00 | |
| 55 Mn | 45 | 2 | 2024.00 | 1012.00 | ppb | 6.24 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 577.20 | 288.60 | ppb | 6.70 | 90000.00 | |
| 59 Co | 45 | 2 | 0.63 | 0.31 | ppb | 3.60 | 900.00 | |
| 60 Ni | 45 | 2 | 3.51 | 1.76 | ppb | 6.28 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 0.50 | ppb | 7.91 | 900.00 | |
| 66 Zn | 72 | 2 | 13.63 | 6.81 | ppb | 5.86 | 900.00 | |
| 75 As | 72 | 2 | 21.60 | 10.80 | ppb | 4.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.04 | ppb | 266.14 | 900.00 | |
| 88 Sr | 103 | 1 | 59.60 | 29.80 | ppb | 3.17 | 900.00 | |
| 98 Mo | 103 | 1 | 2.43 | 1.22 | ppb | 2.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.33 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 16.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 3.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.11 | ppb | 6.60 | 900.00 | |
| 137 Ba | 159 | 1 | 1.80 | 0.90 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 25.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.05 | -0.02 | ppb | 14.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1361965 | 4.33 | 2125729 | 64.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2181898 | 3.19 | 2310496 | 94.4 | 70 - 130 | |
| 45 Sc | 2 | 281900 | 6.12 | 316439 | 89.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 459902 | 3.70 | 456135 | 100.8 | 70 | - | 130 |
| 72 Ge | 2 | 125167 | 5.49 | 133846 | 93.5 | 70 | - | 130 |
| 103 Rh | 1 | 2802010 | 3.91 | 2756013 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 3228647 | 3.17 | 3107877 | 103.9 | 70 | - | 130 |
| 115 In | 2 | 1229822 | 6.08 | 1253711 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 4616487 | 3.98 | 4318263 | 106.9 | 70 | - | 130 |
| 175 Lu | 1 | 4629495 | 4.02 | 4266773 | 108.5 | 70 | - | 130 |
| 209 Bi | 1 | 2523922 | 2.78 | 2390925 | 105.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\022SMPL.D\022SMPL.D#
Date Acquired: Apr 9 2013 03:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-4F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 231.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 354.99 | 900.00 | |
| 11 B | 6 | 1 | 0.41 | 0.21 | ppb | 24.12 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.17 | ppb | 92.31 | 900.00 | |
| 23 Na | 45 | 1 | 16.06 | 8.03 | ppb | 11.67 | 90000.00 | |
| 23 Na | 45 | 2 | 24.94 | 12.47 | ppb | 19.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.05 | 0.53 | ppb | 11.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 0.66 | ppb | 4.65 | 90000.00 | |
| 27 Al | 45 | 1 | -0.48 | -0.24 | ppb | 23.26 | 90000.00 | |
| 27 Al | 45 | 2 | -0.13 | -0.07 | ppb | 252.34 | 90000.00 | |
| 39 K | 45 | 1 | -30.30 | -15.15 | ppb | 38.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.06 | 8.03 | ppb | 13.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.38 | 0.19 | ppb | 17.35 | 900.00 | |
| 51 V | 45 | 2 | 1.85 | 0.92 | ppb | 12.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.11 | ppb | 34.75 | 900.00 | |
| 55 Mn | 45 | 2 | -0.56 | -0.28 | ppb | 9.32 | 900.00 | |
| 56 Fe | 45 | 2 | -1.64 | -0.82 | ppb | 76.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 1186.50 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 36.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.03 | ppb | 86.72 | 900.00 | |
| 66 Zn | 72 | 2 | 6.10 | 3.05 | ppb | 7.21 | 900.00 | |
| 75 As | 72 | 2 | 0.65 | 0.33 | ppb | 7.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 67.31 | 900.00 | |
| 88 Sr | 103 | 1 | 0.08 | 0.04 | ppb | 10.73 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.26 | ppb | 11.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.17 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 2450.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 25.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.10 | ppb | 10.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 28.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 62.34 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 168.59 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1409836 | 3.93 | 2125729 | 66.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2194347 | 4.80 | 2310496 | 95.0 | 70 - 130 | |
| 45 Sc | 2 | 278069 | 8.24 | 316439 | 87.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 464236 | 2.97 | 456135 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 122828 | 5.94 | 133846 | 91.8 | 70 | - | 130 |
| 103 Rh | 1 | 2885387 | 3.84 | 2756013 | 104.7 | 70 | - | 130 |
| 115 In | 1 | 3272651 | 3.74 | 3107877 | 105.3 | 70 | - | 130 |
| 115 In | 2 | 1206271 | 7.59 | 1253711 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 4663766 | 3.90 | 4318263 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 4622545 | 3.76 | 4266773 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 2565598 | 3.86 | 2390925 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 9 2013 03:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20745-B1
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 518.60 | 25.93 | ppb | 3.77 | 900.00 | |
| 9 Be | 45 | 2 | 506.80 | 25.34 | ppb | 5.94 | 900.00 | |
| 11 B | 6 | 1 | 2.86 | 0.14 | ppb | 6.27 | 900.00 | |
| 11 B | 45 | 2 | 3.78 | 0.19 | ppb | 35.07 | 900.00 | |
| 23 Na | 45 | 1 | 22200.00 | 1110.00 | ppb | 4.84 | 90000.00 | |
| 23 Na | 45 | 2 | 28040.00 | 1402.00 | ppb | 5.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 22780.00 | 1139.00 | ppb | 4.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 28680.00 | 1434.00 | ppb | 3.86 | 90000.00 | |
| 27 Al | 45 | 1 | 1921.60 | 96.08 | ppb | 4.60 | 90000.00 | |
| 27 Al | 45 | 2 | 2312.00 | 115.60 | ppb | 4.19 | 90000.00 | |
| 39 K | 45 | 1 | 23660.00 | 1183.00 | ppb | 5.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 25160.00 | 1258.00 | ppb | 4.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 469.60 | 23.48 | ppb | 5.29 | 900.00 | |
| 51 V | 45 | 2 | 558.60 | 27.93 | ppb | 3.65 | 900.00 | |
| 52 Cr | 45 | 2 | 547.20 | 27.36 | ppb | 4.21 | 900.00 | |
| 55 Mn | 45 | 2 | 537.80 | 26.89 | ppb | 5.20 | 900.00 | |
| 56 Fe | 45 | 2 | 2398.00 | 119.90 | ppb | 4.72 | 90000.00 | |
| 59 Co | 45 | 2 | 551.80 | 27.59 | ppb | 4.60 | 900.00 | |
| 60 Ni | 45 | 2 | 545.20 | 27.26 | ppb | 4.44 | 900.00 | |
| 63 Cu | 72 | 2 | 523.20 | 26.16 | ppb | 3.29 | 900.00 | |
| 66 Zn | 72 | 2 | 563.00 | 28.15 | ppb | 3.14 | 900.00 | |
| 75 As | 72 | 2 | 535.40 | 26.77 | ppb | 3.33 | 900.00 | |
| 78 Se | 72 | 2 | 512.80 | 25.64 | ppb | 1.90 | 900.00 | |
| 88 Sr | 103 | 1 | 478.80 | 23.94 | ppb | 4.90 | 900.00 | |
| 98 Mo | 103 | 1 | 2.85 | 0.14 | ppb | 7.53 | 900.00 | |
| 107 Ag | 115 | 1 | 195.52 | 9.78 | ppb | 4.21 | 180.00 | |
| 111 Cd | 115 | 2 | 535.40 | 26.77 | ppb | 5.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.00 | ppb | 176.71 | 900.00 | |
| 121 Sb | 115 | 1 | 501.60 | 25.08 | ppb | 4.25 | 900.00 | |
| 137 Ba | 159 | 1 | 1940.60 | 97.03 | ppb | 4.63 | 900.00 | |
| 205 Tl | 209 | 1 | 421.00 | 21.05 | ppb | 3.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 942.60 | 47.13 | ppb | 4.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1712466 | 3.72 | 2125729 | 80.6 | 70 - 130 | |
| 45 Sc | 1 | 2419473 | 4.51 | 2310496 | 104.7 | 70 - 130 | |
| 45 Sc | 2 | 294315 | 4.19 | 316439 | 93.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 492167 | 3.93 | 456135 | 107.9 | 70 | - | 130 |
| 72 Ge | 2 | 127791 | 2.94 | 133846 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 3052446 | 4.87 | 2756013 | 110.8 | 70 | - | 130 |
| 115 In | 1 | 3433387 | 4.67 | 3107877 | 110.5 | 70 | - | 130 |
| 115 In | 2 | 1224598 | 5.24 | 1253711 | 97.7 | 70 | - | 130 |
| 159 Tb | 1 | 4828521 | 4.56 | 4318263 | 111.8 | 70 | - | 130 |
| 175 Lu | 1 | 4769385 | 4.77 | 4266773 | 111.8 | 70 | - | 130 |
| 209 Bi | 1 | 2626061 | 3.89 | 2390925 | 109.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\024SMPL.D\024SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 9 2013 04:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 54.77 | 54.77 | ppb | 7.95 | 900.00 | |
| 9 Be | 45 | 2 | 51.22 | 51.22 | ppb | 3.87 | 900.00 | |
| 11 B | 6 | 1 | 54.31 | 54.31 | ppb | 8.59 | 900.00 | |
| 11 B | 45 | 2 | 52.16 | 52.16 | ppb | 6.00 | 900.00 | |
| 23 Na | 45 | 1 | 4959.00 | 4959.00 | ppb | 10.72 | 90000.00 | |
| 23 Na | 45 | 2 | 5484.00 | 5484.00 | ppb | 4.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 5031.00 | 5031.00 | ppb | 10.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 5510.00 | 5510.00 | ppb | 4.04 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 10.36 | 90000.00 | |
| 27 Al | 45 | 2 | 5511.00 | 5511.00 | ppb | 4.25 | 90000.00 | |
| 39 K | 45 | 1 | 5348.00 | 5348.00 | ppb | 10.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 5592.00 | 5592.00 | ppb | 9.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 53.36 | 53.36 | ppb | 10.81 | 900.00 | |
| 51 V | 45 | 2 | 53.94 | 53.94 | ppb | 4.37 | 900.00 | |
| 52 Cr | 45 | 2 | 53.64 | 53.64 | ppb | 4.02 | 900.00 | |
| 55 Mn | 45 | 2 | 53.04 | 53.04 | ppb | 3.62 | 900.00 | |
| 56 Fe | 45 | 2 | 5552.00 | 5552.00 | ppb | 3.81 | 90000.00 | |
| 59 Co | 45 | 2 | 53.42 | 53.42 | ppb | 4.46 | 900.00 | |
| 60 Ni | 45 | 2 | 53.77 | 53.77 | ppb | 4.28 | 900.00 | |
| 63 Cu | 72 | 2 | 50.81 | 50.81 | ppb | 2.83 | 900.00 | |
| 66 Zn | 72 | 2 | 51.70 | 51.70 | ppb | 3.00 | 900.00 | |
| 75 As | 72 | 2 | 51.89 | 51.89 | ppb | 3.00 | 900.00 | |
| 78 Se | 72 | 2 | 51.86 | 51.86 | ppb | 1.82 | 900.00 | |
| 88 Sr | 103 | 1 | 55.20 | 55.20 | ppb | 9.58 | 900.00 | |
| 98 Mo | 103 | 1 | 54.83 | 54.83 | ppb | 9.64 | 900.00 | |
| 107 Ag | 115 | 1 | 52.18 | 52.18 | ppb | 10.40 | 180.00 | |
| 111 Cd | 115 | 2 | 53.99 | 53.99 | ppb | 4.86 | 900.00 | |
| 120 Sn | 115 | 1 | 53.66 | 53.66 | ppb | 10.40 | 900.00 | |
| 121 Sb | 115 | 1 | 55.07 | 55.07 | ppb | 10.36 | 900.00 | |
| 137 Ba | 159 | 1 | 53.62 | 53.62 | ppb | 9.66 | 900.00 | |
| 205 Tl | 209 | 1 | 48.11 | 48.11 | ppb | 11.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.21 | 51.21 | ppb | 10.82 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1734896 | 7.92 | 2125729 | 81.6 | 70 - 130 | |
| 45 Sc | 1 | 2228842 | 9.88 | 2310496 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 293487 | 3.89 | 316439 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 461025 | 8.88 | 456135 | 101.1 | 70 | - | 130 |
| 72 | Ge | 2 | 127311 | 2.52 | 133846 | 95.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2717777 | 9.76 | 2756013 | 98.6 | 70 | - | 130 |
| 115 | In | 1 | 3126626 | 10.41 | 3107877 | 100.6 | 70 | - | 130 |
| 115 | In | 2 | 1174368 | 4.42 | 1253711 | 93.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4334509 | 9.53 | 4318263 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4327201 | 10.94 | 4266773 | 101.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2310284 | 10.99 | 2390925 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D09m02.B\025SMPL.D\025SMPL.D#** | | |
| **Date Acquired:** | **Apr 9 2013 04:09 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **CCB** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2204** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 09 2013 02:01 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 20.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 98.77 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 15.87 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.05 | ppb | 317.96 | 900.00 | |
| 23 Na | 45 | 1 | 1.46 | 1.46 | ppb | 34.38 | 90000.00 | |
| 23 Na | 45 | 2 | 2.51 | 2.51 | ppb | 45.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.43 | 0.43 | ppb | 9.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.54 | 0.54 | ppb | 44.22 | 90000.00 | |
| 27 Al | 45 | 1 | -0.52 | -0.52 | ppb | 15.67 | 90000.00 | |
| 27 Al | 45 | 2 | -0.44 | -0.44 | ppb | 38.19 | 90000.00 | |
| 39 K | 45 | 1 | -8.78 | -8.78 | ppb | 55.29 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.19 | -2.19 | ppb | 17.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 196.11 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.27 | ppb | 12.61 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 29.05 | 900.00 | |
| 55 Mn | 45 | 2 | -0.43 | -0.43 | ppb | 2.97 | 900.00 | |
| 56 Fe | 45 | 2 | -2.04 | -2.04 | ppb | 13.68 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 58.28 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 110.89 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 6.40 | 900.00 | |
| 66 Zn | 72 | 2 | -0.10 | -0.10 | ppb | 8.35 | 900.00 | |
| 75 As | 72 | 2 | -0.03 | -0.03 | ppb | 82.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 2066.70 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 11.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.36 | 0.36 | ppb | 6.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 101.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 12.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 8.91 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 26.17 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 4.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 97.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1876963 | 3.51 | 2125729 | 88.3 | 70 - 130 | |
| 45 Sc | 1 | 2344163 | 3.69 | 2310496 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 305227 | 4.56 | 316439 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 475400 | 3.23 | 456135 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 130199 | 3.55 | 133846 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2880280 | 4.23 | 2756013 | 104.5 | 70 | - | 130 |
| 115 | In | 1 | 3247914 | 3.25 | 3107877 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1250204 | 4.42 | 1253711 | 99.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4525736 | 4.13 | 4318263 | 104.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4508841 | 3.78 | 4266773 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2429332 | 4.27 | 2390925 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\026SMPL.D\026SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\026SMPL.D\026SMPL.D#
Date Acquired: Apr 9 2013 04:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-2F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 43.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 139.00 | 900.00 | |
| 11 B | 6 | 1 | 10.62 | 5.31 | ppb | 2.61 | 900.00 | |
| 11 B | 45 | 2 | 9.67 | 4.84 | ppb | 5.66 | 900.00 | |
| 23 Na | 45 | 1 | 3000.00 | 1500.00 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 3456.00 | 1728.00 | ppb | 4.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 842.80 | 421.40 | ppb | 1.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 980.60 | 490.30 | ppb | 4.38 | 90000.00 | |
| 27 Al | 45 | 1 | 9.54 | 4.77 | ppb | 6.48 | 90000.00 | |
| 27 Al | 45 | 2 | 9.25 | 4.63 | ppb | 14.51 | 90000.00 | |
| 39 K | 45 | 1 | 1159.00 | 579.50 | ppb | 1.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 8318.00 | 4159.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 13.60 | 900.00 | |
| 51 V | 45 | 2 | 2.36 | 1.18 | ppb | 7.44 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 16.28 | 900.00 | |
| 55 Mn | 45 | 2 | 1926.40 | 963.20 | ppb | 4.76 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 584.40 | 292.20 | ppb | 5.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.59 | 0.29 | ppb | 8.00 | 900.00 | |
| 60 Ni | 45 | 2 | 3.15 | 1.58 | ppb | 5.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.10 | 0.05 | ppb | 20.19 | 900.00 | |
| 66 Zn | 72 | 2 | 9.97 | 4.98 | ppb | 4.91 | 900.00 | |
| 75 As | 72 | 2 | 21.14 | 10.57 | ppb | 4.83 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.01 | ppb | 1458.60 | 900.00 | |
| 88 Sr | 103 | 1 | 59.94 | 29.97 | ppb | 2.33 | 900.00 | |
| 98 Mo | 103 | 1 | 1.82 | 0.91 | ppb | 2.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 19.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 16.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.30 | 0.15 | ppb | 8.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 7.43 | 900.00 | |
| 137 Ba | 159 | 1 | 1.65 | 0.83 | ppb | 2.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.30 | 0.15 | ppb | 7.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 98.77 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1612182 | 0.77 | 2125729 | 75.8 | 70 - 130 | |
| 45 Sc | 1 | 2295201 | 1.02 | 2310496 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 302633 | 4.68 | 316439 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 469328 | 0.64 | 456135 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 130457 | 4.03 | 133846 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2811377 | 2.41 | 2756013 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 3253902 | 3.04 | 3107877 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1280521 | 4.59 | 1253711 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4593374 | 1.62 | 4318263 | 106.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4606399 | 1.96 | 4266773 | 108.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2444389 | 1.85 | 2390925 | 102.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D09m02.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 9 2013 04:22 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-1F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 09 2013 02:01 pm
**Sample Type:** Sample
**Dilution Factor:** 100.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 100.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 5953.70 | 900.00 | |
| 9 Be | 45 | 2 | -0.69 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 8.92 | 0.09 | ppb | 10.20 | 900.00 | |
| 11 B | 45 | 2 | 12.41 | 0.12 | ppb | 152.62 | 900.00 | |
| 23 Na | 45 | 1 | 20720.00 | 207.20 | ppb | 2.25 | 90000.00 | |
| 23 Na | 45 | 2 | 22930.00 | 229.30 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 1611.00 | 16.11 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 1713.00 | 17.13 | ppb | 1.35 | 90000.00 | |
| 27 Al | 45 | 1 | -43.42 | -0.43 | ppb | 5.78 | 90000.00 | |
| 27 Al | 45 | 2 | -41.10 | -0.41 | ppb | 40.75 | 90000.00 | |
| 39 K | 45 | 1 | 1216.00 | 12.16 | ppb | 12.92 | 90000.00 | |
| 44 Ca | 45 | 1 | 19850.00 | 198.50 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | -6.63 | -0.07 | ppb | 35.79 | 900.00 | |
| 51 V | 45 | 2 | -58.38 | -0.58 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | -13.62 | -0.14 | ppb | 2.94 | 900.00 | |
| 55 Mn | 45 | 2 | 1477.00 | 14.77 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 29040.00 | 290.40 | ppb | 2.51 | 90000.00 | |
| 59 Co | 45 | 2 | 9.33 | 0.09 | ppb | 6.21 | 900.00 | |
| 60 Ni | 45 | 2 | 9.19 | 0.09 | ppb | 12.07 | 900.00 | |
| 63 Cu | 72 | 2 | -8.54 | -0.09 | ppb | 3.62 | 900.00 | |
| 66 Zn | 72 | 2 | 29.43 | 0.29 | ppb | 3.45 | 900.00 | |
| 75 As | 72 | 2 | 3506.00 | 35.06 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | -2.20 | -0.02 | ppb | 586.74 | 900.00 | |
| 88 Sr | 103 | 1 | 116.80 | 1.17 | ppb | 1.80 | 900.00 | |
| 98 Mo | 103 | 1 | 9.47 | 0.09 | ppb | 4.65 | 900.00 | |
| 107 Ag | 115 | 1 | -0.06 | 0.00 | ppb | 81.73 | 180.00 | |
| 111 Cd | 115 | 2 | -0.10 | 0.00 | ppb | 370.77 | 900.00 | |
| 120 Sn | 115 | 1 | -0.19 | 0.00 | ppb | 139.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.00 | ppb | 43.26 | 900.00 | |
| 137 Ba | 159 | 1 | 87.83 | 0.88 | ppb | 11.52 | 900.00 | |
| 205 Tl | 209 | 1 | 8.27 | 0.08 | ppb | 10.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -1.79 | -0.02 | ppb | 40.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122477 | 1.33 | 2125729 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2482029 | 1.10 | 2310496 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 334958 | 0.23 | 316439 | 105.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 497786 | 0.45 | 456135 | 109.1 | 70 | - | 130 |
| 72 Ge | 2 | 140205 | 0.17 | 133846 | 104.8 | 70 | - | 130 |
| 103 Rh | 1 | 2996434 | 0.49 | 2756013 | 108.7 | 70 | - | 130 |
| 115 In | 1 | 3387110 | 0.32 | 3107877 | 109.0 | 70 | - | 130 |
| 115 In | 2 | 1326672 | 0.09 | 1253711 | 105.8 | 70 | - | 130 |
| 159 Tb | 1 | 4633301 | 0.72 | 4318263 | 107.3 | 70 | - | 130 |
| 175 Lu | 1 | 4541881 | 0.47 | 4266773 | 106.4 | 70 | - | 130 |
| 209 Bi | 1 | 2335677 | 1.25 | 2390925 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\028SMPL.D\028SMPL.D#
Date Acquired: Apr 9 2013 04:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20745-SD1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 500.00
Autodil Factor: Undiluted
Final Dil Factor: 500.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1.09 | 0.00 | ppb | 55.68 | 900.00 | |
| 9 Be | 45 | 2 | -1.68 | 0.00 | ppb | 184.93 | 900.00 | |
| 11 B | 6 | 1 | -45.78 | -0.09 | ppb | 5.24 | 900.00 | |
| 11 B | 45 | 2 | -40.19 | -0.08 | ppb | 115.31 | 900.00 | |
| 23 Na | 45 | 1 | 24135.00 | 48.27 | ppb | 8.10 | 90000.00 | |
| 23 Na | 45 | 2 | 23890.00 | 47.78 | ppb | 7.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 2001.00 | 4.00 | ppb | 9.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 2030.50 | 4.06 | ppb | 5.69 | 90000.00 | |
| 27 Al | 45 | 1 | -340.05 | -0.68 | ppb | 13.03 | 90000.00 | |
| 27 Al | 45 | 2 | -311.85 | -0.62 | ppb | 31.51 | 90000.00 | |
| 39 K | 45 | 1 | -2657.00 | -5.31 | ppb | 171.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 30890.00 | 61.78 | ppb | 6.53 | 90000.00 | |
| 47 Ti | 45 | 1 | -41.05 | -0.08 | ppb | 17.51 | 900.00 | |
| 51 V | 45 | 2 | -320.75 | -0.64 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | -73.40 | -0.15 | ppb | 7.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1375.00 | 2.75 | ppb | 5.67 | 900.00 | |
| 56 Fe | 45 | 2 | 20885.00 | 41.77 | ppb | 5.28 | 90000.00 | |
| 59 Co | 45 | 2 | 7.53 | 0.02 | ppb | 14.17 | 900.00 | |
| 60 Ni | 45 | 2 | 17.04 | 0.03 | ppb | 22.22 | 900.00 | |
| 63 Cu | 72 | 2 | -48.10 | -0.10 | ppb | 0.42 | 900.00 | |
| 66 Zn | 72 | 2 | 29.53 | 0.06 | ppb | 16.84 | 900.00 | |
| 75 As | 72 | 2 | 3464.50 | 6.93 | ppb | 2.21 | 900.00 | |
| 78 Se | 72 | 2 | 38.15 | 0.08 | ppb | 73.10 | 900.00 | |
| 88 Sr | 103 | 1 | 133.70 | 0.27 | ppb | 9.48 | 900.00 | |
| 98 Mo | 103 | 1 | 17.73 | 0.04 | ppb | 19.25 | 900.00 | |
| 107 Ag | 115 | 1 | -0.58 | 0.00 | ppb | 93.44 | 180.00 | |
| 111 Cd | 115 | 2 | -1.38 | 0.00 | ppb | 37.01 | 900.00 | |
| 120 Sn | 115 | 1 | -4.83 | -0.01 | ppb | 6.70 | 900.00 | |
| 121 Sb | 115 | 1 | -0.55 | 0.00 | ppb | 127.01 | 900.00 | |
| 137 Ba | 159 | 1 | 13.18 | 0.03 | ppb | 24.50 | 900.00 | |
| 205 Tl | 209 | 1 | 28.78 | 0.06 | ppb | 8.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -9.52 | -0.02 | ppb | 31.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2165973 | 5.48 | 2125729 | 101.9 | 70 - 130 | |
| 45 Sc | 1 | 2447891 | 6.43 | 2310496 | 105.9 | 70 - 130 | |
| 45 Sc | 2 | 337770 | 5.48 | 316439 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 493087 | 4.93 | 456135 | 108.1 | 70 | - | 130 |
| 72 Ge | 2 | 140816 | 2.35 | 133846 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 2926065 | 6.19 | 2756013 | 106.2 | 70 | - | 130 |
| 115 In | 1 | 3307637 | 5.42 | 3107877 | 106.4 | 70 | - | 130 |
| 115 In | 2 | 1324725 | 2.66 | 1253711 | 105.7 | 70 | - | 130 |
| 159 Tb | 1 | 4461253 | 5.98 | 4318263 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 4376007 | 5.47 | 4266773 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 2213627 | 8.38 | 2390925 | 92.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D09m02.B\029SMPL.D\029SMPL.D# | | |
| **Date Acquired:** | Apr 9 2013 04:35 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20745-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2208 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 09 2013 02:01 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 100.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 100.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 520.10 | 5.20 | ppb | 2.69 | 900.00 | |
| 9 Be | 45 | 2 | 518.80 | 5.19 | ppb | 5.38 | 900.00 | |
| 11 B | 6 | 1 | 8.03 | 0.08 | ppb | 27.25 | 900.00 | |
| 11 B | 45 | 2 | 4.88 | 0.05 | ppb | 156.89 | 900.00 | |
| 23 Na | 45 | 1 | 48920.00 | 489.20 | ppb | 6.77 | 90000.00 | |
| 23 Na | 45 | 2 | 51250.00 | 512.50 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 29030.00 | 290.30 | ppb | 7.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 29500.00 | 295.00 | ppb | 1.84 | 90000.00 | |
| 27 Al | 45 | 1 | 2169.00 | 21.69 | ppb | 7.99 | 90000.00 | |
| 27 Al | 45 | 2 | 2191.00 | 21.91 | ppb | 3.86 | 90000.00 | |
| 39 K | 45 | 1 | 29580.00 | 295.80 | ppb | 11.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 43440.00 | 434.40 | ppb | 6.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 492.30 | 4.92 | ppb | 8.23 | 900.00 | |
| 51 V | 45 | 2 | 456.70 | 4.57 | ppb | 1.78 | 900.00 | |
| 52 Cr | 45 | 2 | 493.30 | 4.93 | ppb | 1.58 | 900.00 | |
| 55 Mn | 45 | 2 | 2483.00 | 24.83 | ppb | 1.50 | 900.00 | |
| 56 Fe | 45 | 2 | 31970.00 | 319.70 | ppb | 1.81 | 90000.00 | |
| 59 Co | 45 | 2 | 519.70 | 5.20 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 515.70 | 5.16 | ppb | 1.74 | 900.00 | |
| 63 Cu | 72 | 2 | 499.20 | 4.99 | ppb | 1.71 | 900.00 | |
| 66 Zn | 72 | 2 | 551.00 | 5.51 | ppb | 1.08 | 900.00 | |
| 75 As | 72 | 2 | 4113.00 | 41.13 | ppb | 0.84 | 900.00 | |
| 78 Se | 72 | 2 | 514.10 | 5.14 | ppb | 4.84 | 900.00 | |
| 88 Sr | 103 | 1 | 651.30 | 6.51 | ppb | 6.96 | 900.00 | |
| 98 Mo | 103 | 1 | 8.06 | 0.08 | ppb | 7.50 | 900.00 | |
| 107 Ag | 115 | 1 | 199.20 | 1.99 | ppb | 9.90 | 180.00 | |
| 111 Cd | 115 | 2 | 507.60 | 5.08 | ppb | 3.07 | 900.00 | |
| 120 Sn | 115 | 1 | -0.97 | -0.01 | ppb | 16.37 | 900.00 | |
| 121 Sb | 115 | 1 | 544.20 | 5.44 | ppb | 7.91 | 900.00 | |
| 137 Ba | 159 | 1 | 2227.00 | 22.27 | ppb | 8.21 | 900.00 | |
| 205 Tl | 209 | 1 | 478.00 | 4.78 | ppb | 5.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1083.00 | 10.83 | ppb | 4.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2117562 | 4.08 | 2125729 | 99.6 | 70 - 130 | |
| 45 Sc | 1 | 2388379 | 6.92 | 2310496 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 336635 | 1.32 | 316439 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 483646 | 5.40 | 456135 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 140866 | 0.93 | 133846 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 2837826 | 7.65 | 2756013 | 103.0 | 70 | - | 130 |
| 115 In | 1 | 3190574 | 7.32 | 3107877 | 102.7 | 70 | - | 130 |
| 115 In | 2 | 1331411 | 1.18 | 1253711 | 106.2 | 70 | - | 130 |
| 159 Tb | 1 | 4328867 | 8.60 | 4318263 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4277395 | 7.82 | 4266773 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 2201837 | 4.63 | 2390925 | 92.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 9 2013 04:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20745-S2
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 462.40 | 4.62 | ppb | 13.72 | 900.00 | |
| 9 Be | 45 | 2 | 506.30 | 5.06 | ppb | 9.95 | 900.00 | |
| 11 B | 6 | 1 | 4.36 | 0.04 | ppb | 67.07 | 900.00 | |
| 11 B | 45 | 2 | 11.07 | 0.11 | ppb | 126.83 | 900.00 | |
| 23 Na | 45 | 1 | 41670.00 | 416.70 | ppb | 19.08 | 90000.00 | |
| 23 Na | 45 | 2 | 52880.00 | 528.80 | ppb | 5.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 24730.00 | 247.30 | ppb | 18.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 30500.00 | 305.00 | ppb | 4.83 | 90000.00 | |
| 27 Al | 45 | 1 | 1847.00 | 18.47 | ppb | 20.96 | 90000.00 | |
| 27 Al | 45 | 2 | 2281.00 | 22.81 | ppb | 4.63 | 90000.00 | |
| 39 K | 45 | 1 | 23030.00 | 230.30 | ppb | 31.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 43580.00 | 435.80 | ppb | 20.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 437.30 | 4.37 | ppb | 18.97 | 900.00 | |
| 51 V | 45 | 2 | 475.10 | 4.75 | ppb | 6.17 | 900.00 | |
| 52 Cr | 45 | 2 | 508.10 | 5.08 | ppb | 5.25 | 900.00 | |
| 55 Mn | 45 | 2 | 2021.00 | 20.21 | ppb | 4.70 | 900.00 | |
| 56 Fe | 45 | 2 | 32980.00 | 329.80 | ppb | 4.82 | 90000.00 | |
| 59 Co | 45 | 2 | 534.00 | 5.34 | ppb | 4.33 | 900.00 | |
| 60 Ni | 45 | 2 | 535.30 | 5.35 | ppb | 5.07 | 900.00 | |
| 63 Cu | 72 | 2 | 505.50 | 5.06 | ppb | 2.12 | 900.00 | |
| 66 Zn | 72 | 2 | 966.20 | 9.66 | ppb | 2.99 | 900.00 | |
| 75 As | 72 | 2 | 4188.00 | 41.88 | ppb | 2.01 | 900.00 | |
| 78 Se | 72 | 2 | 547.80 | 5.48 | ppb | 4.25 | 900.00 | |
| 88 Sr | 103 | 1 | 566.40 | 5.66 | ppb | 18.42 | 900.00 | |
| 98 Mo | 103 | 1 | 6.54 | 0.07 | ppb | 26.59 | 900.00 | |
| 107 Ag | 115 | 1 | 171.20 | 1.71 | ppb | 17.59 | 180.00 | |
| 111 Cd | 115 | 2 | 531.40 | 5.31 | ppb | 1.13 | 900.00 | |
| 120 Sn | 115 | 1 | -0.34 | 0.00 | ppb | 128.64 | 900.00 | |
| 121 Sb | 115 | 1 | 460.90 | 4.61 | ppb | 20.36 | 900.00 | |
| 137 Ba | 159 | 1 | 1931.00 | 19.31 | ppb | 19.01 | 900.00 | |
| 205 Tl | 209 | 1 | 418.40 | 4.18 | ppb | 17.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 952.70 | 9.53 | ppb | 18.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2418788 | 13.86 | 2125729 | 113.8 | 70 - 130 | |
| 45 Sc | 1 | 2863720 | 19.68 | 2310496 | 123.9 | 70 - 130 | |
| 45 Sc | 2 | 329310 | 4.41 | 316439 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 542059 | 13.62 | 456135 | 118.8 | 70 | - | 130 |
| 72 | Ge | 2 | 139126 | 2.20 | 133846 | 103.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3353635 | 18.88 | 2756013 | 121.7 | 70 | - | 130 |
| 115 | In | 1 | 3779164 | 19.27 | 3107877 | 121.6 | 70 | - | 130 |
| 115 | In | 2 | 1294548 | 3.82 | 1253711 | 103.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5127518 | 19.56 | 4318263 | 118.7 | 70 | - | 130 |
| 175 | Lu | 1 | 5099250 | 20.49 | 4266773 | 119.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2561847 | 18.92 | 2390925 | 107.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\031SMPL.D\031SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 9 2013 04:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20745-PS1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 189.70 | 1.90 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 182.00 | 1.82 | ppb | 6.94 | 900.00 | |
| 11 B | 6 | 1 | 4.12 | 0.04 | ppb | 56.17 | 900.00 | |
| 11 B | 45 | 2 | 4.41 | 0.04 | ppb | 242.24 | 900.00 | |
| 23 Na | 45 | 1 | 21420.00 | 214.20 | ppb | 1.38 | 90000.00 | |
| 23 Na | 45 | 2 | 23590.00 | 235.90 | ppb | 6.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 1800.00 | 18.00 | ppb | 1.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 1908.00 | 19.08 | ppb | 4.54 | 90000.00 | |
| 27 Al | 45 | 1 | 117.50 | 1.18 | ppb | 7.83 | 90000.00 | |
| 27 Al | 45 | 2 | 154.50 | 1.55 | ppb | 26.76 | 90000.00 | |
| 39 K | 45 | 1 | 1705.00 | 17.05 | ppb | 17.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 15990.00 | 159.90 | ppb | 1.06 | 90000.00 | |
| 47 Ti | 45 | 1 | -5.75 | -0.06 | ppb | 83.76 | 900.00 | |
| 51 V | 45 | 2 | 131.60 | 1.32 | ppb | 9.98 | 900.00 | |
| 52 Cr | 45 | 2 | 177.80 | 1.78 | ppb | 9.60 | 900.00 | |
| 55 Mn | 45 | 2 | 1719.00 | 17.19 | ppb | 6.70 | 900.00 | |
| 56 Fe | 45 | 2 | 29550.00 | 295.50 | ppb | 7.23 | 90000.00 | |
| 59 Co | 45 | 2 | 200.60 | 2.01 | ppb | 6.94 | 900.00 | |
| 60 Ni | 45 | 2 | 213.90 | 2.14 | ppb | 7.03 | 900.00 | |
| 63 Cu | 72 | 2 | 185.90 | 1.86 | ppb | 4.88 | 900.00 | |
| 66 Zn | 72 | 2 | 220.70 | 2.21 | ppb | 5.60 | 900.00 | |
| 75 As | 72 | 2 | 3720.00 | 37.20 | ppb | 4.08 | 900.00 | |
| 78 Se | 72 | 2 | 198.90 | 1.99 | ppb | 14.78 | 900.00 | |
| 88 Sr | 103 | 1 | 112.60 | 1.13 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 5.65 | 0.06 | ppb | 6.99 | 900.00 | |
| 107 Ag | 115 | 1 | 177.60 | 1.78 | ppb | 4.07 | 180.00 | |
| 111 Cd | 115 | 2 | 195.10 | 1.95 | ppb | 5.97 | 900.00 | |
| 120 Sn | 115 | 1 | -1.27 | -0.01 | ppb | 6.85 | 900.00 | |
| 121 Sb | 115 | 1 | 172.10 | 1.72 | ppb | 2.30 | 900.00 | |
| 137 Ba | 159 | 1 | 211.90 | 2.12 | ppb | 2.31 | 900.00 | |
| 205 Tl | 209 | 1 | 201.90 | 2.02 | ppb | 2.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 194.30 | 1.94 | ppb | 1.25 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2220329 | 1.49 | 2125729 | 104.5 | 70 - 130 | |
| 45 Sc | 1 | 2500397 | 1.88 | 2310496 | 108.2 | 70 - 130 | |
| 45 Sc | 2 | 335836 | 6.55 | 316439 | 106.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 497644 | 1.95 | 456135 | 109.1 | 70 | - | 130 |
| 72 Ge | 2 | 140221 | 3.53 | 133846 | 104.8 | 70 | - | 130 |
| 103 Rh | 1 | 2981358 | 1.62 | 2756013 | 108.2 | 70 | - | 130 |
| 115 In | 1 | 3332576 | 1.96 | 3107877 | 107.2 | 70 | - | 130 |
| 115 In | 2 | 1315574 | 5.81 | 1253711 | 104.9 | 70 | - | 130 |
| 159 Tb | 1 | 4567918 | 2.24 | 4318263 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 4510901 | 1.61 | 4266773 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2343050 | 1.59 | 2390925 | 98.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D09m02.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Apr 9 2013 05:04 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 09 2013 02:01 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 3.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.42 | 0.42 | ppb | 9.45 | 900.00 | |
| 11 B | 6 | 1 | 4.79 | 4.79 | ppb | 0.73 | 900.00 | |
| 11 B | 45 | 2 | 4.59 | 4.59 | ppb | 6.31 | 900.00 | |
| 23 Na | 45 | 1 | 239.20 | 239.20 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 270.10 | 270.10 | ppb | 3.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 245.20 | 245.20 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 270.60 | 270.60 | ppb | 2.97 | 90000.00 | |
| 27 Al | 45 | 1 | 23.92 | 23.92 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 2 | 25.74 | 25.74 | ppb | 4.56 | 90000.00 | |
| 39 K | 45 | 1 | 237.10 | 237.10 | ppb | 1.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 256.70 | 256.70 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 3.02 | 900.00 | |
| 51 V | 45 | 2 | 0.69 | 0.69 | ppb | 8.90 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.91 | ppb | 3.76 | 900.00 | |
| 55 Mn | 45 | 2 | 0.55 | 0.55 | ppb | 7.96 | 900.00 | |
| 56 Fe | 45 | 2 | 24.12 | 24.12 | ppb | 4.94 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 2.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.95 | 0.95 | ppb | 3.33 | 900.00 | |
| 63 Cu | 72 | 2 | 0.90 | 0.90 | ppb | 5.04 | 900.00 | |
| 66 Zn | 72 | 2 | 1.94 | 1.94 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 0.46 | 0.46 | ppb | 5.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.47 | 0.47 | ppb | 21.28 | 900.00 | |
| 88 Sr | 103 | 1 | 4.93 | 4.93 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 1.04 | 1.04 | ppb | 2.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.47 | ppb | 2.91 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 6.11 | 900.00 | |
| 120 Sn | 115 | 1 | 4.79 | 4.79 | ppb | 0.46 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 1.04 | 900.00 | |
| 137 Ba | 159 | 1 | 1.00 | 1.00 | ppb | 1.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.41 | 0.41 | ppb | 3.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.46 | 0.46 | ppb | 1.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1883934 | 1.57 | 2125729 | 88.6 | 70 - 130 | |
| 45 Sc | 1 | 2351948 | 0.99 | 2310496 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 321170 | 2.63 | 316439 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 472305 | 0.43 | 456135 | 103.5 | 70 | - | 130 |
| 72 Ge | 2 | 134782 | 2.50 | 133846 | 100.7 | 70 | - | 130 |
| 103 Rh | 1 | 2829459 | 0.94 | 2756013 | 102.7 | 70 | - | 130 |
| 115 In | 1 | 3200350 | 0.61 | 3107877 | 103.0 | 70 | - | 130 |
| 115 In | 2 | 1287286 | 2.07 | 1253711 | 102.7 | 70 | - | 130 |
| 159 Tb | 1 | 4398704 | 1.41 | 4318263 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 4388322 | 0.99 | 4266773 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 2446129 | 1.54 | 2390925 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 9 2013 05:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.27 | 49.27 | ppb | 9.42 | 900.00 | |
| 9 Be | 45 | 2 | 52.35 | 52.35 | ppb | 11.72 | 900.00 | |
| 11 B | 6 | 1 | 48.77 | 48.77 | ppb | 8.78 | 900.00 | |
| 11 B | 45 | 2 | 53.99 | 53.99 | ppb | 6.79 | 900.00 | |
| 23 Na | 45 | 1 | 4377.00 | 4377.00 | ppb | 10.80 | 90000.00 | |
| 23 Na | 45 | 2 | 5521.00 | 5521.00 | ppb | 11.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 4413.00 | 4413.00 | ppb | 10.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 5547.00 | 5547.00 | ppb | 10.13 | 90000.00 | |
| 27 Al | 45 | 1 | 4433.00 | 4433.00 | ppb | 11.21 | 90000.00 | |
| 27 Al | 45 | 2 | 5561.00 | 5561.00 | ppb | 11.93 | 90000.00 | |
| 39 K | 45 | 1 | 4602.00 | 4602.00 | ppb | 10.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 4763.00 | 4763.00 | ppb | 11.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 46.20 | 46.20 | ppb | 11.79 | 900.00 | |
| 51 V | 45 | 2 | 53.76 | 53.76 | ppb | 11.20 | 900.00 | |
| 52 Cr | 45 | 2 | 53.14 | 53.14 | ppb | 10.96 | 900.00 | |
| 55 Mn | 45 | 2 | 52.31 | 52.31 | ppb | 11.08 | 900.00 | |
| 56 Fe | 45 | 2 | 5462.00 | 5462.00 | ppb | 11.96 | 90000.00 | |
| 59 Co | 45 | 2 | 52.82 | 52.82 | ppb | 11.04 | 900.00 | |
| 60 Ni | 45 | 2 | 52.73 | 52.73 | ppb | 10.88 | 900.00 | |
| 63 Cu | 72 | 2 | 51.26 | 51.26 | ppb | 8.68 | 900.00 | |
| 66 Zn | 72 | 2 | 51.78 | 51.78 | ppb | 9.02 | 900.00 | |
| 75 As | 72 | 2 | 52.75 | 52.75 | ppb | 9.01 | 900.00 | |
| 78 Se | 72 | 2 | 51.62 | 51.62 | ppb | 9.92 | 900.00 | |
| 88 Sr | 103 | 1 | 48.55 | 48.55 | ppb | 10.39 | 900.00 | |
| 98 Mo | 103 | 1 | 47.67 | 47.67 | ppb | 10.36 | 900.00 | |
| 107 Ag | 115 | 1 | 46.92 | 46.92 | ppb | 10.25 | 180.00 | |
| 111 Cd | 115 | 2 | 54.24 | 54.24 | ppb | 10.24 | 900.00 | |
| 120 Sn | 115 | 1 | 47.47 | 47.47 | ppb | 10.54 | 900.00 | |
| 121 Sb | 115 | 1 | 49.18 | 49.18 | ppb | 9.97 | 900.00 | |
| 137 Ba | 159 | 1 | 46.99 | 46.99 | ppb | 11.35 | 900.00 | |
| 205 Tl | 209 | 1 | 42.57 | 42.57 | ppb | 9.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 46.41 | 46.41 | ppb | 10.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2026379 | 8.51 | 2125729 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 2602742 | 10.59 | 2310496 | 112.6 | 70 - 130 | |
| 45 Sc | 2 | 302950 | 10.31 | 316439 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 504781 | 9.31 | 456135 | 110.7 | 70 | - | 130 |
| 72 | Ge | 2 | 128115 | 8.20 | 133846 | 95.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3038177 | 10.48 | 2756013 | 110.2 | 70 | - | 130 |
| 115 | In | 1 | 3409117 | 9.69 | 3107877 | 109.7 | 70 | - | 130 |
| 115 | In | 2 | 1182712 | 9.62 | 1253711 | 94.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4803039 | 12.07 | 4318263 | 111.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4782507 | 10.73 | 4266773 | 112.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2559719 | 9.49 | 2390925 | 107.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\034SMPL.D\034SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\034SMPL.D\034SMPL.D#
Date Acquired: Apr 9 2013 05:23 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.88 | 51.88 | ppb | 4.49 | 900.00 | |
| 9 Be | 45 | 2 | 49.76 | 49.76 | ppb | 2.28 | 900.00 | |
| 11 B | 6 | 1 | 51.91 | 51.91 | ppb | 3.92 | 900.00 | |
| 11 B | 45 | 2 | 49.11 | 49.11 | ppb | 2.74 | 900.00 | |
| 23 Na | 45 | 1 | 4912.00 | 4912.00 | ppb | 6.68 | 90000.00 | |
| 23 Na | 45 | 2 | 5175.00 | 5175.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 4899.00 | 4899.00 | ppb | 6.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5274.00 | 5274.00 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 4938.00 | 4938.00 | ppb | 6.05 | 90000.00 | |
| 27 Al | 45 | 2 | 5232.00 | 5232.00 | ppb | 1.21 | 90000.00 | |
| 39 K | 45 | 1 | 5101.00 | 5101.00 | ppb | 6.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5273.00 | 5273.00 | ppb | 5.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.29 | 51.29 | ppb | 6.20 | 900.00 | |
| 51 V | 45 | 2 | 51.08 | 51.08 | ppb | 0.72 | 900.00 | |
| 52 Cr | 45 | 2 | 50.81 | 50.81 | ppb | 0.84 | 900.00 | |
| 55 Mn | 45 | 2 | 49.86 | 49.86 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 5186.00 | 5186.00 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 50.39 | 50.39 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 50.62 | 50.62 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 49.45 | 49.45 | ppb | 0.89 | 900.00 | |
| 66 Zn | 72 | 2 | 49.96 | 49.96 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 50.57 | 50.57 | ppb | 0.56 | 900.00 | |
| 78 Se | 72 | 2 | 48.77 | 48.77 | ppb | 1.16 | 900.00 | |
| 88 Sr | 103 | 1 | 53.60 | 53.60 | ppb | 6.62 | 900.00 | |
| 98 Mo | 103 | 1 | 52.49 | 52.49 | ppb | 6.41 | 900.00 | |
| 107 Ag | 115 | 1 | 50.70 | 50.70 | ppb | 6.31 | 180.00 | |
| 111 Cd | 115 | 2 | 51.11 | 51.11 | ppb | 0.56 | 900.00 | |
| 120 Sn | 115 | 1 | 51.68 | 51.68 | ppb | 6.94 | 900.00 | |
| 121 Sb | 115 | 1 | 53.10 | 53.10 | ppb | 7.08 | 900.00 | |
| 137 Ba | 159 | 1 | 51.28 | 51.28 | ppb | 7.14 | 900.00 | |
| 205 Tl | 209 | 1 | 45.68 | 45.68 | ppb | 5.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.44 | 49.44 | ppb | 6.66 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1930921 | 5.00 | 2125729 | 90.8 | 70 - 130 | |
| 45 Sc | 1 | 2340521 | 7.02 | 2310496 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 313474 | 0.66 | 316439 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 466890 | 5.55 | 456135 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 131159 | 0.54 | 133846 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 2754212 | 8.29 | 2756013 | 99.9 | 70 | - | 130 |
| 115 In | 1 | 3129204 | 7.07 | 3107877 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1216472 | 0.49 | 1253711 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 4369777 | 7.62 | 4318263 | 101.2 | 70 | - | 130 |
| 175 Lu | 1 | 4383860 | 7.16 | 4266773 | 102.7 | 70 | - | 130 |
| 209 Bi | 1 | 2389641 | 6.62 | 2390925 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D09m02.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D09m02.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 9 2013 05:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 09 2013 02:01 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 26.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 88.77 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 52.94 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 515.75 | 900.00 | |
| 23 Na | 45 | 1 | 1.62 | 1.62 | ppb | 3.68 | 90000.00 | |
| 23 Na | 45 | 2 | 2.72 | 2.72 | ppb | 26.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.88 | 0.88 | ppb | 8.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.25 | 1.25 | ppb | 36.21 | 90000.00 | |
| 27 Al | 45 | 1 | 0.14 | 0.14 | ppb | 55.25 | 90000.00 | |
| 27 Al | 45 | 2 | 0.55 | 0.55 | ppb | 61.35 | 90000.00 | |
| 39 K | 45 | 1 | -6.92 | -6.92 | ppb | 10.07 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.86 | 0.86 | ppb | 22.53 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 272.92 | 900.00 | |
| 51 V | 45 | 2 | -0.24 | -0.24 | ppb | 7.56 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 8.74 | 900.00 | |
| 55 Mn | 45 | 2 | -0.43 | -0.43 | ppb | 0.59 | 900.00 | |
| 56 Fe | 45 | 2 | -1.75 | -1.75 | ppb | 25.35 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 77.34 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 116.94 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 11.51 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 29.31 | 900.00 | |
| 75 As | 72 | 2 | -0.03 | -0.03 | ppb | 51.00 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 337.76 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 14.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.23 | 0.23 | ppb | 5.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 21.49 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 9.81 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 17.77 | 900.00 | |
| 137 Ba | 159 | 1 | -0.04 | -0.04 | ppb | 12.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 2.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.03 | ppb | 25.26 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2030969 | 0.48 | 2125729 | 95.5 | 70 - 130 | |
| 45 Sc | 1 | 2400394 | 0.59 | 2310496 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 317756 | 0.39 | 316439 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D09m02.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 477996 | 0.81 | 456135 | 104.8 | 70 | - | 130 |
| 72 Ge | 2 | 133177 | 0.50 | 133846 | 99.5 | 70 | - | 130 |
| 103 Rh | 1 | 2899938 | 0.27 | 2756013 | 105.2 | 70 | - | 130 |
| 115 In | 1 | 3258350 | 0.47 | 3107877 | 104.8 | 70 | - | 130 |
| 115 In | 2 | 1265705 | 0.68 | 1253711 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 4504059 | 0.49 | 4318263 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4455506 | 0.52 | 4266773 | 104.4 | 70 | - | 130 |
| 209 Bi | 1 | 2463508 | 1.00 | 2390925 | 103.0 | 70 | - | 130 |

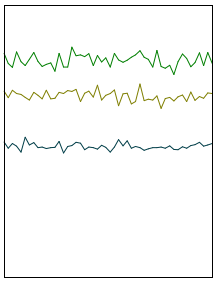
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D09m02.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

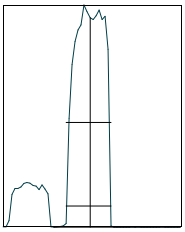
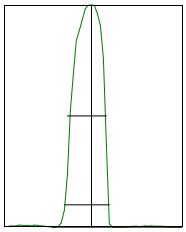
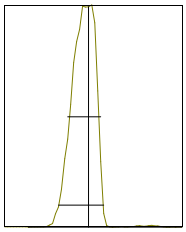
# Tune Report

Tune File : nogas.u
Comment : 040913



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2461.0 | 2409.1 | 2.42 | 1.40 |
| 89 | 5,000 | 3937.0 | 3995.6 | 2.85 | 1.50 |
| 205 | 5,000 | 3384.0 | 3339.0 | 2.70 | 3.40 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.028%
Doubly Charged: 70/140 5.298%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,390 | 4,067 | 3,347 |
| Axis: | 7.00 | 89.00 | 204.95 |
| W-50%: | 0.75 | 0.65 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -120 V | AMU Offset | : | 124 |
| Smpl Depth | : | 10 mm | Omega Bias-ce | : | -16 V | Axis Gain | : | 0.9972 |
| Torch-H | : | 1.1 mm | Omega Lens-ce | : | 2.4 V | Axis Offset | : | -0.03 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.9 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.15 L/min | Cell Exit | : | -30 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1870 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1540 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -10 V |
| Cell Exit: | -50 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 620.2 | 5.69 |
| 59 | 1187.8 | 3.34 |
| 89 | 1399.3 | 3.69 |

Integration Time: 0.1000sec



Generated : Apr 09, 2013 11:07:18
Printed : Apr 09, 2013 11:08:08




ACCUTEST LABORATORIES
MC19637

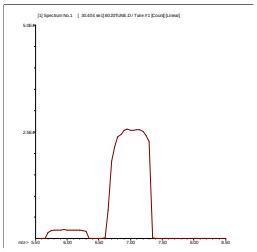
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 9 2013 11:47 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

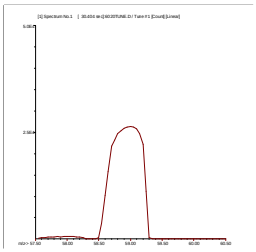
**QC Tune Summary:**
**Pass**

**RSD%**

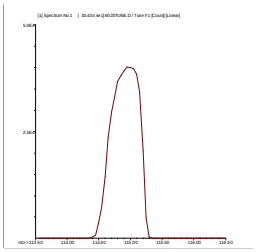
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.60 | 5.00 | 0 |
| 59 Co | 0.49 | 5.00 | |
| 115 In | 0.59 | 5.00 | |
| 205 Tl | 4.10 | 5.00 | |



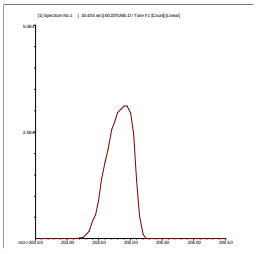
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.90
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 09, 2013 02:01 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

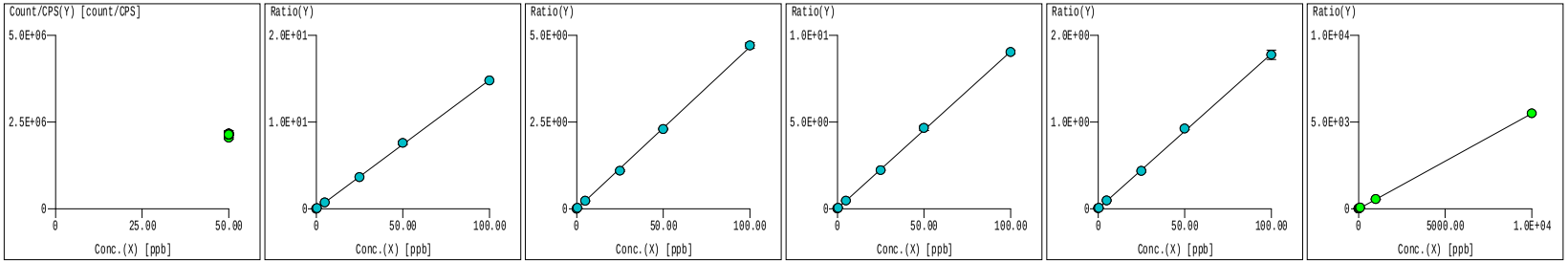
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d09m02.b\002calb.d\002calb.d# | STDA | Apr 9 2013 01:04 pm |
| 2 | c:\icpchem\1\data\13d09m02.b\003cals.d\003cals.d# | STDB | Apr 9 2013 01:11 pm |
| 3 | c:\icpchem\1\data\13d09m02.b\004cals.d\004cals.d# | STDC | Apr 9 2013 01:17 pm |
| 4 | c:\icpchem\1\data\13d09m02.b\005cals.d\005cals.d# | STDD | Apr 9 2013 01:23 pm |
| 5 | c:\icpchem\1\data\13d09m02.b\006cals.d\006cals.d# | STDE | Apr 9 2013 01:30 pm |
| 6 | c:\icpchem\1\data\13d09m02.b\007cals.d\007cals.d# | STDF | Apr 9 2013 01:36 pm |
| 7 | c:\icpchem\1\data\13d09m02.b\008cals.d\008cals.d# | STDG | Apr 9 2013 01:42 pm |
| 8 | c:\icpchem\1\data\13d09m02.b\009cals.d\009cals.d# | STDH | Apr 9 2013 01:49 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

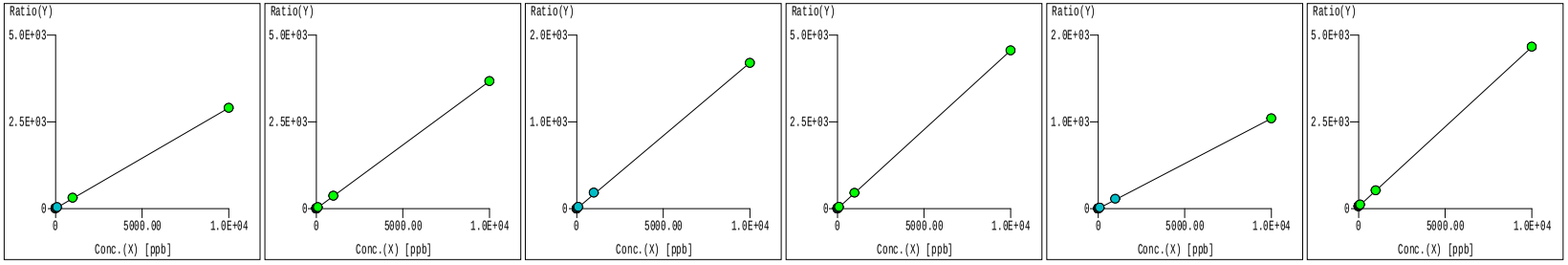
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9998 | 0.9999 | 0.9997 | 1.0000 |
| < DL > | --- ppb | 4.058E-03 ppb | 1.810E-02 ppb | 1.027E-01 ppb | 3.103E-01 ppb | 2.541 ppb |
| < BEC > | --- ppb | 4.578E-03 ppb | 6.932E-03 ppb | 2.283E-01 ppb | 2.573E-01 ppb | 12.22 ppb |



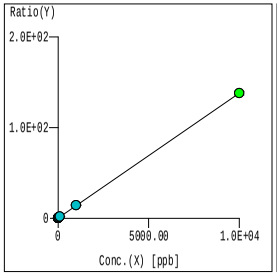

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 8.560 ppb | 1.519E-01 ppb | 1.370E-02 ppb | 6.024E-01 ppb | 8.506E-01 ppb | 32.57 ppb |
| < BEC > | 18.60 ppb | 4.398E-01 ppb | 4.694E-01 ppb | 1.907 ppb | 1.896 ppb | 148.2 ppb |

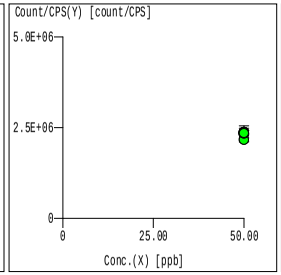


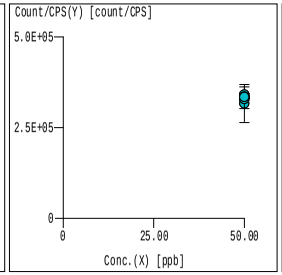
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

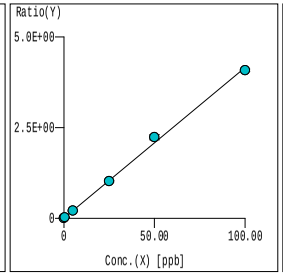
=== Graph Summary ===
Page: 2/4

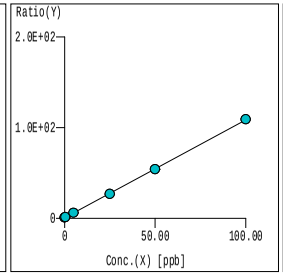
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9989 | 0.9999 | 1.0000 |
| < DL > | 2.859 ppb | --- ppb | --- ppb | 1.007E-02 ppb | 3.652E-01 ppb | 1.823E-01 ppb |
| < BEC > | 13.25 ppb | --- ppb | --- ppb | 1.706E-01 ppb | 7.175E-01 ppb | 2.969E-01 ppb |

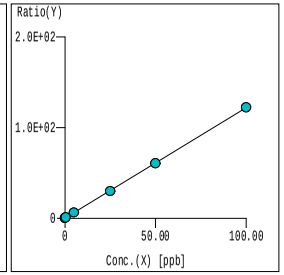


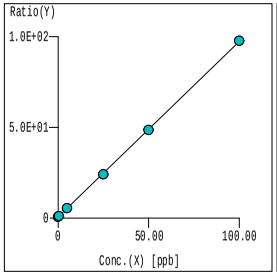



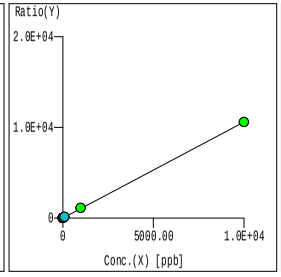



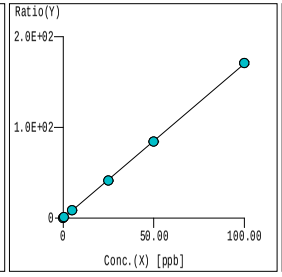



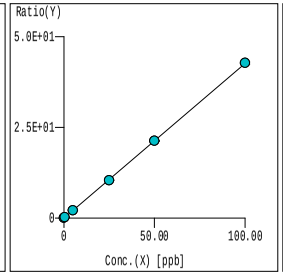



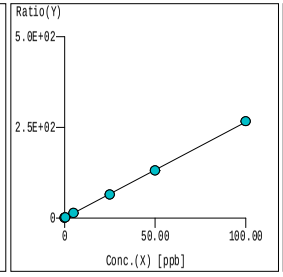

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 0.9999 |
| < DL > | 3.650E-01 ppb | 3.977 ppb | 5.487E-03 ppb | 2.211E-02 ppb | 3.788E-02 ppb | 2.355E-02 ppb |
| < BEC > | 6.267E-01 ppb | 7.701 ppb | 8.454E-03 ppb | 8.348E-02 ppb | 2.149E-01 ppb | 2.021E-01 ppb |

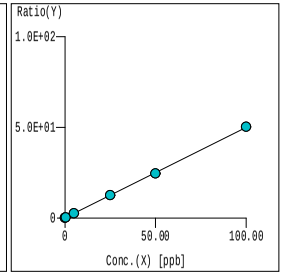


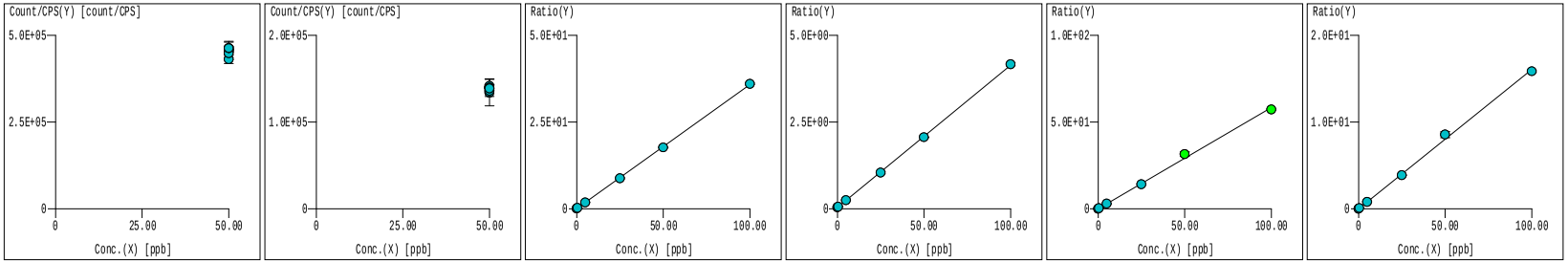



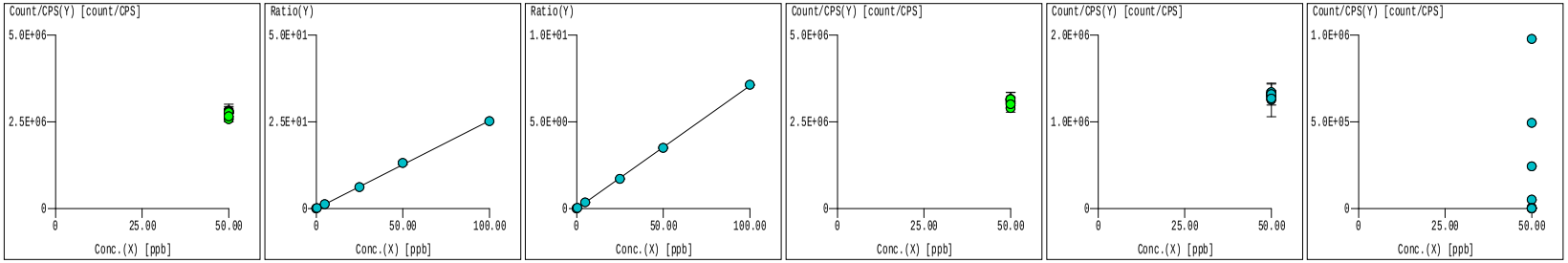
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 0.9999 | 0.9987 | 0.9992 |
| < DL > | --- ppb | --- ppb | 5.999E-02 ppb | 2.696E-01 ppb | 8.241E-03 ppb | 9.420E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.876E-01 ppb | 1.034 ppb | 1.345E-02 ppb | 1.288E-02 ppb |



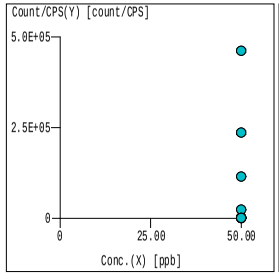

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9997 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 2.192E-03 ppb | 7.513E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.116E-03 ppb | 3.945E-03 ppb | --- ppb | --- ppb | --- ppb |

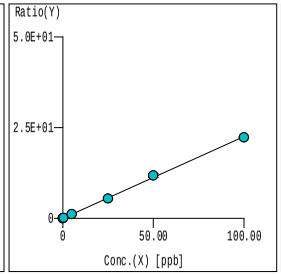


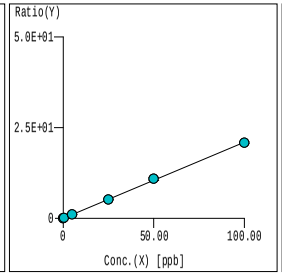
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

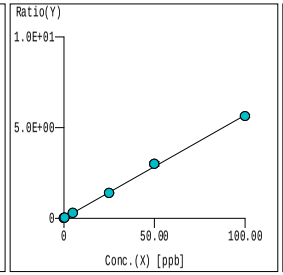
=== Graph Summary ===
Page: 4/4

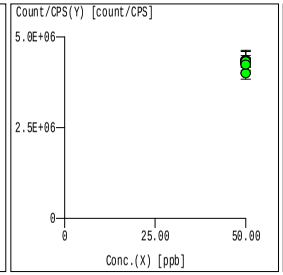
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9995 | 0.9997 | 0.9995 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.788E-03 ppb | 3.105E-03 ppb | 4.122E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.057E-02 ppb | 6.675E-03 ppb | 1.590E-01 ppb | --- ppb | --- ppb |

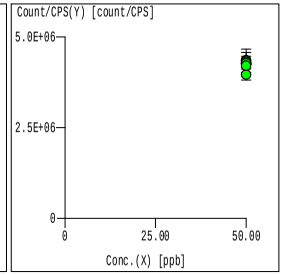


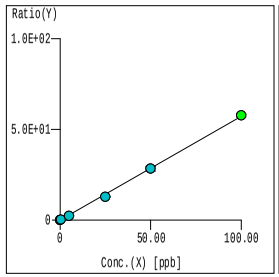



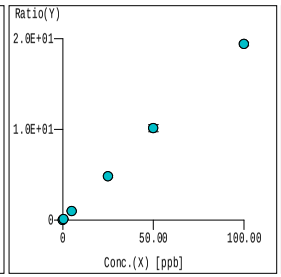



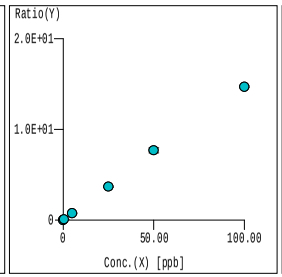



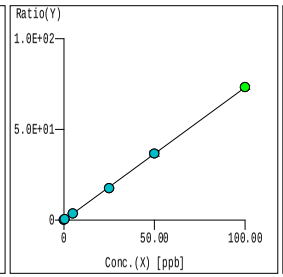



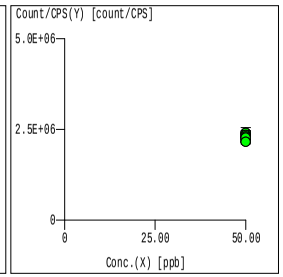

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9996 | 0.9998 | 0.9997 | 0.9999 | 0.0000 |
| < DL > | 1.111E-02 ppb | --- ppb | --- ppb | 3.163E-02 ppb | --- ppb |
| < BEC > | 2.529E-02 ppb | --- ppb | --- ppb | 1.196E-01 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D11l01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\001CAL
Date Acquired: Apr 11 2013 11:45 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 10 2013 05:10 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1980906.00 | A | 2404.00 | 0.12 |
| 7 | (Li) | | P | | |
| 9 | Be | 47.78 | P | 1.92 | 4.03 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 1274.54 | P | 56.80 | 4.46 |
| 11 | B | 31.11 | P | 8.39 | 26.96 |
| 23 | Na | 328048.50 | P | 226.50 | 0.07 |
| 23 | Na | 34446.33 | P | 174.90 | 0.51 |
| 24 | Mg | 7283.10 | P | 259.10 | 3.56 |
| 24 | Mg | 504.47 | P | 40.73 | 8.07 |
| 27 | Al | 37114.18 | P | 542.60 | 1.46 |
| 27 | Al | 1163.42 | P | 59.26 | 5.09 |
| 39 | K | 3212915.00 | A | 19820.00 | 0.62 |
| 44 | Ca | 6092.54 | P | 301.30 | 4.95 |
| 45 | Sc | 2375475.00 | A | 16200.00 | 0.68 |
| 45 | Sc | 293226.19 | P | 690.30 | 0.24 |
| 47 | Ti | 391.13 | P | 30.79 | 7.87 |
| 51 | V | 2677.61 | P | 55.45 | 2.07 |
| 52 | Cr | 2076.17 | P | 57.34 | 2.76 |
| 55 | Mn | 3550.68 | P | 3.85 | 0.11 |
| 56 | Fe | 46867.30 | P | 1121.00 | 2.39 |
| 59 | Co | 50.22 | P | 6.58 | 13.10 |
| 60 | Ni | 206.67 | P | 11.85 | 5.73 |
| 63 | Cu | 1342.30 | P | 73.14 | 5.45 |
| 66 | Zn | 342.23 | P | 26.71 | 7.80 |
| 72 | Ge | 471656.59 | P | 700.70 | 0.15 |
| 72 | Ge | 123053.20 | P | 286.60 | 0.23 |
| 75 | As | 118.67 | P | 14.89 | 12.55 |
| 78 | Se | 85.56 | P | 4.23 | 4.95 |
| 88 | Sr | 412.24 | P | 10.18 | 2.47 |
| 98 | Mo | 72.23 | P | 6.94 | 9.61 |
| 103 | Rh | 2849545.00 | A | 13570.00 | 0.48 |
| 107 | Ag | 103.34 | P | 3.33 | 3.23 |

C:\ICPCHEM\1\DATA\13D11l01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 3188276.00 | A | 35160.00 | 1.10 |
| 115 | In | 1157004.00 | P | 612.70 | 0.05 |
| 118 | (In) | 536.70 | P | 70.24 | 13.09 |
| 118 | (In) | 273.35 | P | 0.00 | 0.00 |
| 120 | Sn | 707.82 | P | 50.92 | 7.19 |
| 121 | Sb | 101.12 | P | 39.77 | 39.33 |
| 137 | Ba | 878.95 | P | 22.19 | 2.52 |
| 159 | Tb | 4513776.00 | A | 21350.00 | 0.47 |
| 175 | Lu | 4496298.00 | A | 31700.00 | 0.71 |
| 205 | Tl | 661.15 | P | 30.79 | 4.66 |
| 206 | (Pb) | 264.46 | P | 47.88 | 18.11 |
| 207 | (Pb) | 213.34 | P | 29.63 | 13.89 |
| 208 | Pb | 1785.70 | P | 68.42 | 3.83 |
| 209 | Bi | 3058738.00 | A | 17180.00 | 0.56 |

C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\002CAL
Date Acquired: Apr 11 2013 11:51 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 11:48 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1946740.00 | A | 15310.00 | 0.79 |
| 7 | (Li) | | P | | |
| 9 | Be | 33.33 | P | 5.77 | 17.32 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 1204.53 | P | 24.57 | 2.04 |
| 11 | B | 31.11 | P | 6.94 | 22.30 |
| 23 | Na | 328687.19 | P | 1956.00 | 0.60 |
| 23 | Na | 34472.91 | P | 180.10 | 0.52 |
| 24 | Mg | 7693.30 | P | 97.20 | 1.26 |
| 24 | Mg | 528.92 | P | 54.30 | 10.27 |
| 27 | Al | 39536.68 | P | 2803.00 | 7.09 |
| 27 | Al | 1172.33 | P | 103.10 | 8.79 |
| 39 | K | 3239182.00 | A | 16680.00 | 0.51 |
| 44 | Ca | 6264.81 | P | 170.50 | 2.72 |
| 45 | Sc | 2374581.00 | A | 20810.00 | 0.88 |
| 45 | Sc | 293240.81 | P | 899.50 | 0.31 |
| 47 | Ti | 466.69 | P | 24.04 | 5.15 |
| 51 | V | 2641.15 | P | 19.16 | 0.73 |
| 52 | Cr | 1957.93 | P | 57.15 | 2.92 |
| 55 | Mn | 3667.16 | P | 75.11 | 2.05 |
| 56 | Fe | 48202.87 | P | 1786.00 | 3.71 |
| 59 | Co | 52.00 | P | 11.85 | 22.79 |
| 60 | Ni | 205.78 | P | 17.71 | 8.61 |
| 63 | Cu | 1332.97 | P | 72.85 | 5.47 |
| 66 | Zn | 370.45 | P | 6.94 | 1.87 |
| 72 | Ge | 473749.50 | P | 2504.00 | 0.53 |
| 72 | Ge | 123038.60 | P | 510.80 | 0.42 |
| 75 | As | 116.00 | P | 5.21 | 4.49 |
| 78 | Se | 89.33 | P | 4.16 | 4.66 |
| 88 | Sr | 425.58 | P | 18.96 | 4.46 |
| 98 | Mo | 94.45 | P | 17.11 | 18.12 |
| 103 | Rh | 2855288.00 | A | 16230.00 | 0.57 |
| 107 | Ag | 80.00 | P | 8.82 | 11.03 |

C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 10.18 | 114.52 |
| 115 | In | 3211030.00 | A | 16660.00 | 0.52 |
| 115 | In | 1158527.00 | P | 7238.00 | 0.62 |
| 118 | (In) | 523.36 | P | 63.60 | 12.15 |
| 118 | (In) | 266.68 | P | 12.02 | 4.51 |
| 120 | Sn | 683.38 | P | 88.77 | 12.99 |
| 121 | Sb | 118.89 | P | 11.71 | 9.85 |
| 137 | Ba | 794.50 | P | 22.69 | 2.86 |
| 159 | Tb | 4546582.00 | A | 19040.00 | 0.42 |
| 175 | Lu | 4516969.00 | A | 6317.00 | 0.14 |
| 205 | Tl | 583.37 | P | 16.67 | 2.86 |
| 206 | (Pb) | 308.90 | P | 26.94 | 8.72 |
| 207 | (Pb) | 220.01 | P | 13.33 | 6.06 |
| 208 | Pb | 1941.27 | P | 202.40 | 10.43 |
| 209 | Bi | 3027674.00 | A | 25210.00 | 0.83 |

C:\ICPCHEM\1\DATA\13D11l01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 11 2013 11:57 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 11:54 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1960019.00 | A | 94920.00 | 4.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 3262.67 | P | 75.01 | 2.30 |
| 9 | Be | 142.23 | P | 33.39 | 23.48 |
| 11 | B | 2564.75 | P | 90.04 | 3.51 |
| 11 | B | 91.11 | P | 19.25 | 21.13 |
| 23 | Na | 373007.50 | P | 278.60 | 0.07 |
| 23 | Na | 37619.22 | P | 393.40 | 1.05 |
| 24 | Mg | 19187.00 | P | 157.10 | 0.82 |
| 24 | Mg | 1166.76 | P | 31.81 | 2.73 |
| 27 | Al | 57619.02 | P | 4313.00 | 7.49 |
| 27 | Al | 1774.67 | P | 35.68 | 2.01 |
| 39 | K | 3254281.00 | A | 14960.00 | 0.46 |
| 44 | Ca | 7762.25 | P | 222.00 | 2.86 |
| 45 | Sc | 2410784.00 | A | 175200.00 | 7.27 |
| 45 | Sc | 307468.19 | P | 20620.00 | 6.71 |
| 47 | Ti | 1431.23 | P | 33.56 | 2.34 |
| 51 | V | 6185.33 | P | 77.74 | 1.26 |
| 52 | Cr | 5867.86 | P | 79.54 | 1.36 |
| 55 | Mn | 6742.01 | P | 81.27 | 1.21 |
| 56 | Fe | 52043.03 | P | 1035.00 | 1.99 |
| 59 | Co | 5627.78 | P | 98.36 | 1.75 |
| 60 | Ni | 1675.23 | P | 29.50 | 1.76 |
| 63 | Cu | 5020.01 | P | 216.00 | 4.30 |
| 66 | Zn | 1034.26 | P | 40.14 | 3.88 |
| 72 | Ge | 479206.81 | P | 18580.00 | 3.88 |
| 72 | Ge | 127332.20 | P | 7548.00 | 5.93 |
| 75 | As | 571.79 | P | 27.08 | 4.74 |
| 78 | Se | 149.11 | P | 7.95 | 5.33 |
| 88 | Sr | 18820.23 | P | 213.10 | 1.13 |
| 98 | Mo | 5291.14 | P | 186.70 | 3.53 |
| 103 | Rh | 2878318.00 | A | 195500.00 | 6.79 |
| 107 | Ag | 8666.21 | P | 309.20 | 3.57 |

C:\ICPCHEM\1\DATA\13D11l01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 944.51 | P | 20.09 | 2.13 |
| 115 | In | 3244608.00 | A | 234800.00 | 7.24 |
| 115 | In | 1209520.00 | P | 89040.00 | 7.36 |
| 118 | (In) | 6053.69 | P | 116.10 | 1.92 |
| 118 | (In) | 2609.21 | P | 45.03 | 1.73 |
| 120 | Sn | 8572.82 | P | 128.70 | 1.50 |
| 121 | Sb | 7384.36 | P | 52.75 | 0.71 |
| 137 | Ba | 3442.76 | P | 44.02 | 1.28 |
| 159 | Tb | 4562907.00 | A | 312000.00 | 6.84 |
| 175 | Lu | 4568959.00 | A | 326200.00 | 7.14 |
| 205 | Tl | 15049.78 | P | 738.90 | 4.91 |
| 206 | (Pb) | 6367.27 | P | 281.00 | 4.41 |
| 207 | (Pb) | 5450.18 | P | 135.90 | 2.49 |
| 208 | Pb | 25836.14 | P | 125.30 | 0.48 |
| 209 | Bi | 3075050.00 | A | 173400.00 | 5.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1960018.80 | 4.84 | 1946740.40 | 100.7 | 70 - 130 | |
| 45 | Sc | 2410783.50 | 7.27 | 2374581.30 | 101.5 | 70 - 130 | |
| 45 | Sc | 307468.16 | 6.71 | 293240.75 | 104.9 | 70 - 130 | |
| 72 | Ge | 479206.75 | 3.88 | 473749.53 | 101.2 | 70 - 130 | |
| 72 | Ge | 127332.18 | 5.93 | 123038.60 | 103.5 | 70 - 130 | |
| 103 | Rh | 2878318.30 | 6.79 | 2855288.50 | 100.8 | 70 - 130 | |
| 115 | In | 3244608.00 | 7.24 | 3211029.50 | 101.0 | 70 - 130 | |
| 115 | In | 1209519.80 | 7.36 | 1158527.00 | 104.4 | 70 - 130 | |
| 159 | Tb | 4562907.50 | 6.84 | 4546582.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4568959.00 | 7.14 | 4516968.50 | 101.2 | 70 - 130 | |
| 209 | Bi | 3075050.00 | 5.64 | 3027674.00 | 101.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 11 2013 12:04 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1951974.00 | A | 28230.00 | 1.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 32870.32 | P | 470.70 | 1.43 |
| 9 | Be | 1551.25 | P | 113.40 | 7.31 |
| 11 | B | 21375.05 | P | 647.50 | 3.03 |
| 11 | B | 630.03 | P | 35.12 | 5.57 |
| 23 | Na | 474809.69 | P | 1522.00 | 0.32 |
| 23 | Na | 45184.66 | P | 612.20 | 1.35 |
| 24 | Mg | 106444.60 | P | 275.70 | 0.26 |
| 24 | Mg | 6721.69 | P | 161.80 | 2.41 |
| 27 | Al | 165632.70 | P | 1914.00 | 1.16 |
| 27 | Al | 5097.70 | P | 51.75 | 1.02 |
| 39 | K | 3363420.00 | A | 13400.00 | 0.40 |
| 44 | Ca | 10848.64 | P | 137.40 | 1.27 |
| 45 | Sc | 2371510.00 | A | 19510.00 | 0.82 |
| 45 | Sc | 295230.69 | P | 1052.00 | 0.36 |
| 47 | Ti | 11260.86 | P | 374.00 | 3.32 |
| 51 | V | 37197.85 | P | 197.90 | 0.53 |
| 52 | Cr | 41564.48 | P | 372.50 | 0.90 |
| 55 | Mn | 34308.66 | P | 232.30 | 0.68 |
| 56 | Fe | 86364.35 | P | 609.70 | 0.71 |
| 59 | Co | 55802.72 | P | 691.70 | 1.24 |
| 60 | Ni | 14406.07 | P | 74.46 | 0.52 |
| 63 | Cu | 38575.84 | P | 160.90 | 0.42 |
| 66 | Zn | 7190.63 | P | 111.70 | 1.55 |
| 72 | Ge | 471620.69 | P | 838.70 | 0.18 |
| 72 | Ge | 124208.70 | P | 446.10 | 0.36 |
| 75 | As | 4880.15 | P | 76.24 | 1.56 |
| 78 | Se | 634.91 | P | 44.98 | 7.08 |
| 88 | Sr | 181578.70 | P | 1311.00 | 0.72 |
| 98 | Mo | 52127.74 | P | 343.00 | 0.66 |
| 103 | Rh | 2858582.00 | A | 5422.00 | 0.19 |
| 107 | Ag | 85763.06 | P | 1361.00 | 1.59 |

C:\ICPCHEM\1\DATA\13D11l01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9312.16 | P | 155.40 | 1.67 |
| 115 | In | 3196508.00 | A | 26610.00 | 0.83 |
| 115 | In | 1157116.00 | P | 5179.00 | 0.45 |
| 118 | (In) | 55806.10 | P | 323.60 | 0.58 |
| 118 | (In) | 23009.91 | P | 613.30 | 2.67 |
| 120 | Sn | 77341.25 | P | 919.20 | 1.19 |
| 121 | Sb | 71904.56 | P | 281.20 | 0.39 |
| 137 | Ba | 27062.69 | P | 230.20 | 0.85 |
| 159 | Tb | 4535172.00 | A | 18760.00 | 0.41 |
| 175 | Lu | 4518702.00 | A | 14880.00 | 0.33 |
| 205 | Tl | 155463.70 | P | 2992.00 | 1.92 |
| 206 | (Pb) | 61040.90 | P | 425.80 | 0.70 |
| 207 | (Pb) | 52191.58 | P | 517.50 | 0.99 |
| 208 | Pb | 241324.50 | P | 592.30 | 0.25 |
| 209 | Bi | 3023543.00 | A | 19450.00 | 0.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1951973.90 | 1.45 | 1946740.40 | 100.3 | 70 - 130 | |
| 45 | Sc | 2371509.80 | 0.82 | 2374581.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 295230.72 | 0.36 | 293240.75 | 100.7 | 70 - 130 | |
| 72 | Ge | 471620.66 | 0.18 | 473749.53 | 99.6 | 70 - 130 | |
| 72 | Ge | 124208.68 | 0.36 | 123038.60 | 101.0 | 70 - 130 | |
| 103 | Rh | 2858581.80 | 0.19 | 2855288.50 | 100.1 | 70 - 130 | |
| 115 | In | 3196508.00 | 0.83 | 3211029.50 | 99.5 | 70 - 130 | |
| 115 | In | 1157115.50 | 0.45 | 1158527.00 | 99.9 | 70 - 130 | |
| 159 | Tb | 4535172.00 | 0.41 | 4546582.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 4518702.00 | 0.33 | 4516968.50 | 100.0 | 70 - 130 | |
| 209 | Bi | 3023543.50 | 0.64 | 3027674.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 11 2013 12:10 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:07 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1989744.00 | A | 9995.00 | 0.50 |
| 7 | (Li) | | P | | |
| 9 | Be | 168186.09 | P | 779.60 | 0.46 |
| 9 | Be | 8002.29 | P | 166.50 | 2.08 |
| 11 | B | 103585.80 | P | 594.80 | 0.57 |
| 11 | B | 3063.74 | P | 55.09 | 1.80 |
| 23 | Na | 1075440.00 | P | 5971.00 | 0.56 |
| 23 | Na | 90576.13 | P | 103.70 | 0.11 |
| 24 | Mg | 497044.00 | P | 3490.00 | 0.70 |
| 24 | Mg | 31491.28 | P | 406.40 | 1.29 |
| 27 | Al | 644803.19 | P | 4185.00 | 0.65 |
| 27 | Al | 19629.63 | P | 397.70 | 2.03 |
| 39 | K | 3870528.00 | A | 18320.00 | 0.47 |
| 44 | Ca | 30173.73 | P | 397.80 | 1.32 |
| 45 | Sc | 2403903.00 | A | 23580.00 | 0.98 |
| 45 | Sc | 296951.69 | P | 2726.00 | 0.92 |
| 47 | Ti | 52630.58 | P | 808.60 | 1.54 |
| 51 | V | 179542.50 | P | 995.00 | 0.55 |
| 52 | Cr | 203144.20 | P | 297.80 | 0.15 |
| 55 | Mn | 159062.50 | P | 270.90 | 0.17 |
| 56 | Fe | 238127.50 | P | 948.50 | 0.40 |
| 59 | Co | 282222.31 | P | 1018.00 | 0.36 |
| 60 | Ni | 72121.34 | P | 457.00 | 0.63 |
| 63 | Cu | 187251.09 | P | 1395.00 | 0.74 |
| 66 | Zn | 35746.85 | P | 199.30 | 0.56 |
| 72 | Ge | 470891.19 | P | 5370.00 | 1.14 |
| 72 | Ge | 124171.60 | P | 1114.00 | 0.90 |
| 75 | As | 24102.93 | P | 117.40 | 0.49 |
| 78 | Se | 2852.29 | P | 9.02 | 0.32 |
| 88 | Sr | 894315.13 | P | 4468.00 | 0.50 |
| 98 | Mo | 256089.59 | P | 306.40 | 0.12 |
| 103 | Rh | 2870447.00 | A | 2921.00 | 0.10 |
| 107 | Ag | 433983.81 | P | 3342.00 | 0.77 |

C:\ICPCHEM\1\DATA\13D11l01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 46380.56 | P | 200.30 | 0.43 |
| 115 | In | 3213740.00 | A | 6090.00 | 0.19 |
| 115 | In | 1154170.00 | P | 15930.00 | 1.38 |
| 118 | (In) | 273252.50 | P | 1200.00 | 0.44 |
| 118 | (In) | 113690.80 | P | 699.40 | 0.62 |
| 120 | Sn | 376104.41 | P | 1632.00 | 0.43 |
| 121 | Sb | 356993.91 | P | 1200.00 | 0.34 |
| 137 | Ba | 132383.50 | P | 1061.00 | 0.80 |
| 159 | Tb | 4557804.00 | A | 14060.00 | 0.31 |
| 175 | Lu | 4541628.00 | A | 22300.00 | 0.49 |
| 205 | Tl | 846761.00 | P | 7340.00 | 0.87 |
| 206 | (Pb) | 305217.91 | P | 1528.00 | 0.50 |
| 207 | (Pb) | 258135.41 | P | 1121.00 | 0.43 |
| 208 | Pb | 1202101.00 | P | 1134.00 | 0.09 |
| 209 | Bi | 3070962.00 | A | 18030.00 | 0.59 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1989743.50 | 0.50 | 1946740.40 | 102.2 | 70 - 130 | |
| 45 | Sc | 2403903.30 | 0.98 | 2374581.30 | 101.2 | 70 - 130 | |
| 45 | Sc | 296951.69 | 0.92 | 293240.75 | 101.3 | 70 - 130 | |
| 72 | Ge | 470891.19 | 1.14 | 473749.53 | 99.4 | 70 - 130 | |
| 72 | Ge | 124171.63 | 0.90 | 123038.60 | 100.9 | 70 - 130 | |
| 103 | Rh | 2870447.50 | 0.10 | 2855288.50 | 100.5 | 70 - 130 | |
| 115 | In | 3213739.50 | 0.19 | 3211029.50 | 100.1 | 70 - 130 | |
| 115 | In | 1154170.30 | 1.38 | 1158527.00 | 99.6 | 70 - 130 | |
| 159 | Tb | 4557804.00 | 0.31 | 4546582.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 4541628.50 | 0.49 | 4516968.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 3070961.50 | 0.59 | 3027674.00 | 101.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 11 2013 12:16 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1851080.00 | A | 192300.00 | 10.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 333762.59 | P | 4235.00 | 1.27 |
| 9 | Be | 15767.26 | P | 108.50 | 0.69 |
| 11 | B | 209238.80 | P | 2240.00 | 1.07 |
| 11 | B | 6272.58 | P | 364.00 | 5.80 |
| 23 | Na | 1800583.00 | A | 26100.00 | 1.45 |
| 23 | Na | 141657.09 | P | 503.70 | 0.36 |
| 24 | Mg | 993564.00 | P | 15750.00 | 1.59 |
| 24 | Mg | 62744.17 | P | 25.70 | 0.04 |
| 27 | Al | 1244347.00 | M | 38570.00 | 3.10 |
| 27 | Al | 36678.40 | P | 330.90 | 0.90 |
| 39 | K | 4459979.00 | A | 18830.00 | 0.42 |
| 44 | Ca | 53442.28 | P | 785.40 | 1.47 |
| 45 | Sc | 2192928.00 | A | 334600.00 | 15.26 |
| 45 | Sc | 293731.00 | P | 9389.00 | 3.20 |
| 47 | Ti | 106629.00 | P | 1172.00 | 1.10 |
| 51 | V | 353264.00 | P | 2133.00 | 0.60 |
| 52 | Cr | 401003.91 | P | 2252.00 | 0.56 |
| 55 | Mn | 310914.31 | P | 1450.00 | 0.47 |
| 56 | Fe | 424941.59 | P | 746.10 | 0.18 |
| 59 | Co | 558816.13 | P | 1550.00 | 0.28 |
| 60 | Ni | 141613.20 | P | 1074.00 | 0.76 |
| 63 | Cu | 367521.00 | P | 1988.00 | 0.54 |
| 66 | Zn | 68964.36 | P | 290.50 | 0.42 |
| 72 | Ge | 437413.50 | P | 48990.00 | 11.20 |
| 72 | Ge | 122343.90 | P | 2991.00 | 2.44 |
| 75 | As | 47429.29 | P | 150.30 | 0.32 |
| 78 | Se | 5430.12 | P | 166.80 | 3.07 |
| 88 | Sr | 1846440.00 | A | 12350.00 | 0.67 |
| 98 | Mo | 519188.19 | P | 4693.00 | 0.90 |
| 103 | Rh | 2599801.00 | A | 414200.00 | 15.93 |
| 107 | Ag | 855089.63 | P | 4146.00 | 0.48 |

C:\ICPCHEM\1\DATA\13D11l01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 91838.20 | P | 1501.00 | 1.63 |
| 115 | In | 2907619.00 | A | 421100.00 | 14.48 |
| 115 | In | 1138766.00 | P | 27890.00 | 2.45 |
| 118 | (In) | 552489.63 | P | 8913.00 | 1.61 |
| 118 | (In) | 227534.59 | P | 3567.00 | 1.57 |
| 120 | Sn | 767166.69 | P | 12600.00 | 1.64 |
| 121 | Sb | 712671.69 | P | 11720.00 | 1.64 |
| 137 | Ba | 266283.00 | P | 4227.00 | 1.59 |
| 159 | Tb | 4194940.00 | A | 616800.00 | 14.70 |
| 175 | Lu | 4180900.00 | A | 613200.00 | 14.67 |
| 205 | Tl | 1739790.00 | P | 41540.00 | 2.39 |
| 206 | (Pb) | 608653.50 | P | 10120.00 | 1.66 |
| 207 | (Pb) | 512274.81 | P | 7658.00 | 1.49 |
| 208 | Pb | 2390489.00 | P | 29030.00 | 1.21 |
| 209 | Bi | 2811024.00 | A | 369600.00 | 13.15 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1851080.60 | 10.39 | 1946740.40 | 95.1 | 70 - 130 | |
| 45 | Sc | 2192928.00 | 15.26 | 2374581.30 | 92.4 | 70 - 130 | |
| 45 | Sc | 293731.03 | 3.20 | 293240.75 | 100.2 | 70 - 130 | |
| 72 | Ge | 437413.53 | 11.20 | 473749.53 | 92.3 | 70 - 130 | |
| 72 | Ge | 122343.85 | 2.44 | 123038.60 | 99.4 | 70 - 130 | |
| 103 | Rh | 2599801.30 | 15.93 | 2855288.50 | 91.1 | 70 - 130 | |
| 115 | In | 2907619.30 | 14.48 | 3211029.50 | 90.6 | 70 - 130 | |
| 115 | In | 1138765.90 | 2.45 | 1158527.00 | 98.3 | 70 - 130 | |
| 159 | Tb | 4194940.00 | 14.70 | 4546582.00 | 92.3 | 70 - 130 | |
| 175 | Lu | 4180900.30 | 14.67 | 4516968.50 | 92.6 | 70 - 130 | |
| 209 | Bi | 2811024.30 | 13.15 | 3027674.00 | 92.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 11 2013 12:23 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:20 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1974937.00 | A | 17120.00 | 0.87 |
| 7 | (Li) | | P | | |
| 9 | Be | 672237.13 | P | 2147.00 | 0.32 |
| 9 | Be | 31848.44 | P | 155.40 | 0.49 |
| 11 | B | 418280.41 | P | 1819.00 | 0.43 |
| 11 | B | 12721.07 | P | 21.73 | 0.17 |
| 23 | Na | 3235933.00 | A | 28810.00 | 0.89 |
| 23 | Na | 250222.50 | P | 139.70 | 0.06 |
| 24 | Mg | 2030179.00 | A | 5655.00 | 0.28 |
| 24 | Mg | 125153.90 | P | 485.90 | 0.39 |
| 27 | Al | 2454945.00 | A | 21790.00 | 0.89 |
| 27 | Al | 73043.40 | P | 683.70 | 0.94 |
| 39 | K | 5662711.00 | A | 41760.00 | 0.74 |
| 44 | Ca | 100191.50 | P | 562.60 | 0.56 |
| 45 | Sc | 2360050.00 | A | 34400.00 | 1.46 |
| 45 | Sc | 291244.09 | P | 928.60 | 0.32 |
| 47 | Ti | 210420.80 | P | 1963.00 | 0.93 |
| 51 | V | 703688.63 | P | 2038.00 | 0.29 |
| 52 | Cr | 797426.38 | P | 3059.00 | 0.38 |
| 55 | Mn | 618993.31 | P | 3115.00 | 0.50 |
| 56 | Fe | 803356.63 | P | 2438.00 | 0.30 |
| 59 | Co | 1122409.00 | P | 1591.00 | 0.14 |
| 60 | Ni | 283398.41 | P | 1279.00 | 0.45 |
| 63 | Cu | 734361.38 | P | 3891.00 | 0.53 |
| 66 | Zn | 137660.91 | P | 572.70 | 0.42 |
| 72 | Ge | 462283.59 | P | 5145.00 | 1.11 |
| 72 | Ge | 122011.70 | P | 863.50 | 0.71 |
| 75 | As | 95148.18 | P | 601.90 | 0.63 |
| 78 | Se | 10853.06 | P | 175.40 | 1.62 |
| 88 | Sr | 3571998.00 | A | 31470.00 | 0.88 |
| 98 | Mo | 1024175.00 | P | 842.20 | 0.08 |
| 103 | Rh | 2816482.00 | A | 49790.00 | 1.77 |
| 107 | Ag | 1672309.00 | M | 33230.00 | 1.99 |

C:\ICPCHEM\1\DATA\13D11l01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 184027.91 | P | 932.90 | 0.51 |
| 115 | In | 3138363.00 | A | 10190.00 | 0.32 |
| 115 | In | 1136272.00 | P | 9161.00 | 0.81 |
| 118 | (In) | 1088274.00 | P | 4250.00 | 0.39 |
| 118 | (In) | 449969.81 | P | 2541.00 | 0.56 |
| 120 | Sn | 1509710.00 | P | 3338.00 | 0.22 |
| 121 | Sb | 1417128.00 | P | 2938.00 | 0.21 |
| 137 | Ba | 530797.69 | P | 2080.00 | 0.39 |
| 159 | Tb | 4502032.00 | A | 53780.00 | 1.19 |
| 175 | Lu | 4484975.00 | A | 19210.00 | 0.43 |
| 205 | Tl | 3557435.00 | A | 20780.00 | 0.58 |
| 206 | (Pb) | 1227076.00 | P | 4970.00 | 0.41 |
| 207 | (Pb) | 1029987.00 | P | 7818.00 | 0.76 |
| 208 | Pb | 4872770.00 | A | 16940.00 | 0.35 |
| 209 | Bi | 3008226.00 | A | 26700.00 | 0.89 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1974936.90 | 0.87 | 1946740.40 | 101.4 | 70 - 130 | |
| 45 | Sc | 2360050.50 | 1.46 | 2374581.30 | 99.4 | 70 - 130 | |
| 45 | Sc | 291244.09 | 0.32 | 293240.75 | 99.3 | 70 - 130 | |
| 72 | Ge | 462283.63 | 1.11 | 473749.53 | 97.6 | 70 - 130 | |
| 72 | Ge | 122011.74 | 0.71 | 123038.60 | 99.2 | 70 - 130 | |
| 103 | Rh | 2816482.00 | 1.77 | 2855288.50 | 98.6 | 70 - 130 | |
| 115 | In | 3138363.50 | 0.32 | 3211029.50 | 97.7 | 70 - 130 | |
| 115 | In | 1136272.10 | 0.81 | 1158527.00 | 98.1 | 70 - 130 | |
| 159 | Tb | 4502032.00 | 1.19 | 4546582.00 | 99.0 | 70 - 130 | |
| 175 | Lu | 4484975.00 | 0.43 | 4516968.50 | 99.3 | 70 - 130 | |
| 209 | Bi | 3008225.50 | 0.89 | 3027674.00 | 99.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 11 2013 12:29 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:26 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1984738.00 | A | 43330.00 | 2.18 |
| 7 | (Li) | | P | | |
| 9 | Be | 72.22 | P | 13.88 | 19.22 |
| 9 | Be | 6.67 | P | 3.33 | 49.99 |
| 11 | B | 2124.67 | P | 170.60 | 8.03 |
| 11 | B | 52.22 | P | 22.20 | 42.51 |
| 23 | Na | 27919160.00 | A | 431200.00 | 1.54 |
| 23 | Na | 2131731.00 | A | 43420.00 | 2.04 |
| 24 | Mg | 18620300.00 | A | 338600.00 | 1.82 |
| 24 | Mg | 1216045.00 | M | 18350.00 | 1.51 |
| 27 | Al | 23177520.00 | A | 364700.00 | 1.57 |
| 27 | Al | 730859.19 | P | 4109.00 | 0.56 |
| 39 | K | 26939180.00 | A | 491800.00 | 1.83 |
| 44 | Ca | 750993.19 | P | 11660.00 | 1.55 |
| 45 | Sc | 2390002.00 | A | 61800.00 | 2.59 |
| 45 | Sc | 301003.41 | P | 1254.00 | 0.42 |
| 47 | Ti | 341.13 | P | 54.20 | 15.89 |
| 51 | V | 2618.04 | P | 37.47 | 1.43 |
| 52 | Cr | 1991.27 | P | 21.40 | 1.07 |
| 55 | Mn | 3840.08 | P | 87.72 | 2.28 |
| 56 | Fe | 7284747.00 | A | 11160.00 | 0.15 |
| 59 | Co | 262.67 | P | 14.85 | 5.65 |
| 60 | Ni | 277.78 | P | 16.13 | 5.81 |
| 63 | Cu | 1484.10 | P | 29.25 | 1.97 |
| 66 | Zn | 488.01 | P | 21.05 | 4.31 |
| 72 | Ge | 469405.69 | P | 5235.00 | 1.12 |
| 72 | Ge | 125138.10 | P | 544.50 | 0.44 |
| 75 | As | 116.00 | P | 4.62 | 3.98 |
| 78 | Se | 89.56 | P | 1.02 | 1.14 |
| 88 | Sr | 1195.65 | P | 119.50 | 9.99 |
| 98 | Mo | 1252.32 | P | 226.30 | 18.07 |
| 103 | Rh | 2810412.00 | A | 48620.00 | 1.73 |
| 107 | Ag | 276.68 | P | 25.17 | 9.10 |

C:\ICPCHEM\1\DATA\13D11l01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37.78 | P | 6.94 | 18.37 |
| 115 | In | 3138908.00 | A | 26780.00 | 0.85 |
| 115 | In | 1169353.00 | P | 7215.00 | 0.62 |
| 118 | (In) | 1486.80 | P | 201.30 | 13.54 |
| 118 | (In) | 1037.85 | P | 50.92 | 4.91 |
| 120 | Sn | 2058.01 | P | 249.60 | 12.13 |
| 121 | Sb | 1525.70 | P | 223.90 | 14.68 |
| 137 | Ba | 812.28 | P | 16.78 | 2.07 |
| 159 | Tb | 4511780.00 | A | 84030.00 | 1.86 |
| 175 | Lu | 4470265.00 | A | 76700.00 | 1.72 |
| 205 | Tl | 3429.43 | P | 46.84 | 1.37 |
| 206 | (Pb) | 434.47 | P | 17.10 | 3.94 |
| 207 | (Pb) | 365.58 | P | 53.47 | 14.63 |
| 208 | Pb | 2394.65 | P | 44.28 | 1.85 |
| 209 | Bi | 2993303.00 | A | 57560.00 | 1.92 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1984737.60 | 2.18 | 1946740.40 | 102.0 | 70 - 130 | |
| 45 | Sc | 2390001.80 | 2.59 | 2374581.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 301003.34 | 0.42 | 293240.75 | 102.6 | 70 - 130 | |
| 72 | Ge | 469405.66 | 1.12 | 473749.53 | 99.1 | 70 - 130 | |
| 72 | Ge | 125138.12 | 0.44 | 123038.60 | 101.7 | 70 - 130 | |
| 103 | Rh | 2810412.30 | 1.73 | 2855288.50 | 98.4 | 70 - 130 | |
| 115 | In | 3138908.00 | 0.85 | 3211029.50 | 97.8 | 70 - 130 | |
| 115 | In | 1169353.40 | 0.62 | 1158527.00 | 100.9 | 70 - 130 | |
| 159 | Tb | 4511780.50 | 1.86 | 4546582.00 | 99.2 | 70 - 130 | |
| 175 | Lu | 4470265.50 | 1.72 | 4516968.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 2993303.00 | 1.92 | 3027674.00 | 98.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 11 2013 12:35 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:33 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2020157.00 | A | 26770.00 | 1.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 56.67 | P | 20.28 | 35.79 |
| 9 | Be | 3.33 | P | 5.77 | 173.21 |
| 11 | B | 1521.24 | P | 47.65 | 3.13 |
| 11 | B | 46.67 | P | 23.09 | 49.48 |
| 23 | Na | 277841700.00 | A | 2541000.00 | 0.91 |
| 23 | Na | 20018580.00 | A | 32960.00 | 0.16 |
| 24 | Mg | 185012990.00 | A | 800900.00 | 0.43 |
| 24 | Mg | 11414740.00 | A | 46370.00 | 0.41 |
| 27 | Al | 232880800.00 | A | 412000.00 | 0.18 |
| 27 | Al | 6871578.00 | A | 37730.00 | 0.55 |
| 39 | K | 242080100.00 | A | 1048000.00 | 0.43 |
| 44 | Ca | 7182184.00 | A | 21970.00 | 0.31 |
| 45 | Sc | 2412519.00 | A | 19910.00 | 0.83 |
| 45 | Sc | 302012.91 | P | 2465.00 | 0.82 |
| 47 | Ti | 227.79 | P | 62.93 | 27.63 |
| 51 | V | 3038.13 | P | 83.76 | 2.76 |
| 52 | Cr | 2663.83 | P | 128.00 | 4.81 |
| 55 | Mn | 4859.95 | P | 116.00 | 2.39 |
| 56 | Fe | 70117136.00 | A | 370400.00 | 0.53 |
| 59 | Co | 1682.34 | P | 42.20 | 2.51 |
| 60 | Ni | 697.36 | P | 3.53 | 0.51 |
| 63 | Cu | 1575.66 | P | 26.72 | 1.70 |
| 66 | Zn | 695.13 | P | 20.66 | 2.97 |
| 72 | Ge | 470825.69 | P | 2301.00 | 0.49 |
| 72 | Ge | 125045.70 | P | 626.60 | 0.50 |
| 75 | As | 161.11 | P | 3.67 | 2.28 |
| 78 | Se | 97.78 | P | 4.54 | 4.64 |
| 88 | Sr | 5727.98 | P | 148.50 | 2.59 |
| 98 | Mo | 637.82 | P | 100.30 | 15.73 |
| 103 | Rh | 2710134.00 | A | 30310.00 | 1.12 |
| 107 | Ag | 1341.22 | P | 22.20 | 1.66 |

C:\ICPCHEM\1\DATA\13D11l01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 266.68 | P | 27.29 | 10.23 |
| 115 | In | 3087550.00 | A | 34920.00 | 1.13 |
| 115 | In | 1133291.00 | P | 7703.00 | 0.68 |
| 118 | (In) | 911.18 | P | 149.50 | 16.41 |
| 118 | (In) | 606.70 | P | 38.44 | 6.34 |
| 120 | Sn | 1299.00 | P | 148.10 | 11.40 |
| 121 | Sb | 965.63 | P | 102.50 | 10.62 |
| 137 | Ba | 1440.13 | P | 127.40 | 8.85 |
| 159 | Tb | 4498050.00 | A | 9643.00 | 0.21 |
| 175 | Lu | 4455486.00 | A | 26580.00 | 0.60 |
| 205 | Tl | 1543.48 | P | 134.50 | 8.71 |
| 206 | (Pb) | 915.62 | P | 100.00 | 10.92 |
| 207 | (Pb) | 864.51 | P | 91.01 | 10.53 |
| 208 | Pb | 4576.08 | P | 206.10 | 4.50 |
| 209 | Bi | 2879391.00 | A | 10910.00 | 0.38 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2020156.90 | 1.33 | 1946740.40 | 103.8 | 70 - 130 | |
| 45 | Sc | 2412519.00 | 0.83 | 2374581.30 | 101.6 | 70 - 130 | |
| 45 | Sc | 302012.88 | 0.82 | 293240.75 | 103.0 | 70 - 130 | |
| 72 | Ge | 470825.72 | 0.49 | 473749.53 | 99.4 | 70 - 130 | |
| 72 | Ge | 125045.66 | 0.50 | 123038.60 | 101.6 | 70 - 130 | |
| 103 | Rh | 2710133.50 | 1.12 | 2855288.50 | 94.9 | 70 - 130 | |
| 115 | In | 3087549.50 | 1.13 | 3211029.50 | 96.2 | 70 - 130 | |
| 115 | In | 1133291.10 | 0.68 | 1158527.00 | 97.8 | 70 - 130 | |
| 159 | Tb | 4498050.50 | 0.21 | 4546582.00 | 98.9 | 70 - 130 | |
| 175 | Lu | 4455486.00 | 0.60 | 4516968.50 | 98.6 | 70 - 130 | |
| 209 | Bi | 2879391.00 | 0.38 | 3027674.00 | 95.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D11l01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 11 2013 12:42 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.56 | 59.56 | ppb | 1.83 | 900.00 | |
| 9 Be | 45 | 2 | 59.36 | 59.36 | ppb | 6.48 | 900.00 | |
| 11 B | 6 | 1 | 56.37 | 56.37 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 56.43 | 56.43 | ppb | 6.49 | 900.00 | |
| 23 Na | 45 | 1 | 5610.00 | 5610.00 | ppb | 1.33 | 90000.00 | |
| 23 Na | 45 | 2 | 5714.00 | 5714.00 | ppb | 5.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 5788.00 | 5788.00 | ppb | 1.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 5763.00 | 5763.00 | ppb | 4.87 | 90000.00 | |
| 27 Al | 45 | 1 | 5632.00 | 5632.00 | ppb | 1.54 | 90000.00 | |
| 27 Al | 45 | 2 | 5677.00 | 5677.00 | ppb | 4.60 | 90000.00 | |
| 39 K | 45 | 1 | 5663.00 | 5663.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5730.00 | 5730.00 | ppb | 1.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.03 | 58.03 | ppb | 0.28 | 900.00 | |
| 51 V | 45 | 2 | 60.53 | 60.53 | ppb | 4.59 | 900.00 | |
| 52 Cr | 45 | 2 | 59.14 | 59.14 | ppb | 4.98 | 900.00 | |
| 55 Mn | 45 | 2 | 58.95 | 58.95 | ppb | 5.00 | 900.00 | |
| 56 Fe | 45 | 2 | 5669.00 | 5669.00 | ppb | 4.49 | 90000.00 | |
| 59 Co | 45 | 2 | 58.10 | 58.10 | ppb | 4.64 | 900.00 | |
| 60 Ni | 45 | 2 | 58.19 | 58.19 | ppb | 4.85 | 900.00 | |
| 63 Cu | 72 | 2 | 57.19 | 57.19 | ppb | 3.19 | 900.00 | |
| 66 Zn | 72 | 2 | 58.63 | 58.63 | ppb | 3.60 | 900.00 | |
| 75 As | 72 | 2 | 60.51 | 60.51 | ppb | 3.28 | 900.00 | |
| 78 Se | 72 | 2 | 60.06 | 60.06 | ppb | 3.41 | 900.00 | |
| 88 Sr | 103 | 1 | 60.83 | 60.83 | ppb | 1.89 | 900.00 | |
| 98 Mo | 103 | 1 | 61.00 | 61.00 | ppb | 1.71 | 900.00 | |
| 107 Ag | 115 | 1 | 58.55 | 58.55 | ppb | 1.15 | 180.00 | |
| 111 Cd | 115 | 2 | 58.94 | 58.94 | ppb | 4.02 | 900.00 | |
| 120 Sn | 115 | 1 | 57.51 | 57.51 | ppb | 0.72 | 900.00 | |
| 121 Sb | 115 | 1 | 59.27 | 59.27 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 59.01 | 59.01 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 58.41 | 58.41 | ppb | 0.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 58.53 | 58.53 | ppb | 0.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043596 | 1.95 | 1946740 | 105.0 | 70 - 130 | |
| 45 Sc | 1 | 2409972 | 0.96 | 2374581 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 298735 | 4.37 | 293241 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 468909 | 0.17 | 473750 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 124125 | 2.98 | 123039 | 100.9 | 70 | - | 130 |
| 103 Rh | 1 | 2741508 | 1.44 | 2855289 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 3123774 | 1.49 | 3211030 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 1135655 | 4.18 | 1158527 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 4474174 | 1.21 | 4546582 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4475122 | 1.34 | 4516969 | 99.1 | 70 | - | 130 |
| 209 Bi | 1 | 2905275 | 0.81 | 3027674 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 11 2013 12:48 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 20.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 179.15 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 37.18 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 850.40 | 900.00 | |
| 23 Na | 45 | 1 | 1.03 | 1.03 | ppb | 46.31 | 90000.00 | |
| 23 Na | 45 | 2 | 2.02 | 2.02 | ppb | 20.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.29 | 0.29 | ppb | 13.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.41 | 1.41 | ppb | 45.07 | 90000.00 | |
| 27 Al | 45 | 1 | -0.37 | -0.37 | ppb | 31.59 | 90000.00 | |
| 27 Al | 45 | 2 | 0.65 | 0.65 | ppb | 80.34 | 90000.00 | |
| 39 K | 45 | 1 | 4.17 | 4.17 | ppb | 143.67 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.34 | -0.34 | ppb | 162.22 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.15 | -0.15 | ppb | 15.00 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 31.02 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 70.54 | 900.00 | |
| 55 Mn | 45 | 2 | -0.42 | -0.42 | ppb | 3.31 | 900.00 | |
| 56 Fe | 45 | 2 | -1.12 | -1.12 | ppb | 37.45 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 42.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 182.07 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 5.06 | 900.00 | |
| 66 Zn | 72 | 2 | -0.11 | -0.11 | ppb | 8.11 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 38.00 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 125.82 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 335.10 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 24.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.32 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 43.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 37.36 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 22.03 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 14.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.16 | ppb | 8.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 226.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2107851 | 3.18 | 1946740 | 108.3 | 70 - 130 | |
| 45 Sc | 1 | 2386013 | 4.56 | 2374581 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 298642 | 3.96 | 293241 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 471553 | 3.56 | 473750 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 124149 | 2.76 | 123039 | 100.9 | 70 | - | 130 |
| 103 Rh | 1 | 2834684 | 4.88 | 2855289 | 99.3 | 70 | - | 130 |
| 115 In | 1 | 3194188 | 4.33 | 3211030 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1162579 | 3.92 | 1158527 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 4517493 | 5.20 | 4546582 | 99.4 | 70 | - | 130 |
| 175 Lu | 1 | 4487518 | 4.40 | 4516969 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 3039725 | 4.33 | 3027674 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Apr 11 2013 12:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.61 | 49.61 | ppb | 0.18 | 900.00 | |
| 9 Be | 45 | 2 | 50.39 | 50.39 | ppb | 2.10 | 900.00 | |
| 11 B | 6 | 1 | 49.16 | 49.16 | ppb | 0.78 | 900.00 | |
| 11 B | 45 | 2 | 49.55 | 49.55 | ppb | 4.03 | 900.00 | |
| 23 Na | 45 | 1 | 5148.00 | 5148.00 | ppb | 0.73 | 90000.00 | |
| 23 Na | 45 | 2 | 5121.00 | 5121.00 | ppb | 0.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 5186.00 | 5186.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 5189.00 | 5189.00 | ppb | 0.11 | 90000.00 | |
| 27 Al | 45 | 1 | 5141.00 | 5141.00 | ppb | 1.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5208.00 | 5208.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 5078.00 | 5078.00 | ppb | 0.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 5227.00 | 5227.00 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.47 | 49.47 | ppb | 1.26 | 900.00 | |
| 51 V | 45 | 2 | 50.35 | 50.35 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 49.47 | 49.47 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 48.79 | 48.79 | ppb | 0.77 | 900.00 | |
| 56 Fe | 45 | 2 | 5117.00 | 5117.00 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 49.12 | 49.12 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 49.13 | 49.13 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 48.65 | 48.65 | ppb | 0.47 | 900.00 | |
| 66 Zn | 72 | 2 | 49.94 | 49.94 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 50.54 | 50.54 | ppb | 0.33 | 900.00 | |
| 78 Se | 72 | 2 | 50.05 | 50.05 | ppb | 1.16 | 900.00 | |
| 88 Sr | 103 | 1 | 51.05 | 51.05 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 50.83 | 50.83 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 49.33 | 49.33 | ppb | 0.53 | 180.00 | |
| 111 Cd | 115 | 2 | 49.55 | 49.55 | ppb | 0.25 | 900.00 | |
| 120 Sn | 115 | 1 | 49.57 | 49.57 | ppb | 1.04 | 900.00 | |
| 121 Sb | 115 | 1 | 50.40 | 50.40 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 49.31 | 49.31 | ppb | 0.88 | 900.00 | |
| 205 Tl | 209 | 1 | 48.65 | 48.65 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.35 | 49.35 | ppb | 0.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2073955 | 0.56 | 1946740 | 106.5 | 70 - 130 | |
| 45 Sc | 1 | 2410855 | 0.20 | 2374581 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 298743 | 0.22 | 293241 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 467275 | 0.06 | 473750 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 123703 | 0.27 | 123039 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 2762807 | 0.77 | 2855289 | 96.8 | 70 | - | 130 |
| 115 In | 1 | 3137397 | 0.83 | 3211030 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1135840 | 0.28 | 1158527 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 4549264 | 0.96 | 4546582 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 4513031 | 0.43 | 4516969 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2945476 | 0.53 | 3027674 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Apr 11 2013 01:01 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 55.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 480.10 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 61.06 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.16 | ppb | 81.22 | 900.00 | |
| 23 Na | 45 | 1 | 0.42 | 0.42 | ppb | 39.76 | 90000.00 | |
| 23 Na | 45 | 2 | 0.12 | 0.12 | ppb | 150.34 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.04 | -0.04 | ppb | 33.20 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.08 | -0.08 | ppb | 28.43 | 90000.00 | |
| 27 Al | 45 | 1 | -0.58 | -0.58 | ppb | 36.54 | 90000.00 | |
| 27 Al | 45 | 2 | -0.70 | -0.70 | ppb | 9.99 | 90000.00 | |
| 39 K | 45 | 1 | 1.95 | 1.95 | ppb | 63.22 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.91 | -0.91 | ppb | 24.81 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.14 | -0.14 | ppb | 10.48 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 39.98 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 8.64 | 900.00 | |
| 55 Mn | 45 | 2 | -0.42 | -0.42 | ppb | 1.37 | 900.00 | |
| 56 Fe | 45 | 2 | -2.61 | -2.61 | ppb | 4.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 208.43 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 13.40 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 1.26 | 900.00 | |
| 66 Zn | 72 | 2 | -0.14 | -0.14 | ppb | 3.40 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 2335.00 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 207.99 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 78.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 21.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 10.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 298.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 28.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 16.74 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 13.71 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 2.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 33864.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2103809 | 0.96 | 1946740 | 108.1 | 70 - 130 | |
| 45 Sc | 1 | 2413472 | 1.33 | 2374581 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 298570 | 0.78 | 293241 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 472363 | 0.76 | 473750 | 99.7 | 70 | - | 130 |
| 72 Ge | 2 | 124038 | 0.37 | 123039 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2845052 | 0.43 | 2855289 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 3205249 | 1.31 | 3211030 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 1161631 | 0.57 | 1158527 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 4555293 | 0.86 | 4546582 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4518164 | 1.61 | 4516969 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 3051738 | 1.23 | 3027674 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 11 2013 01:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 1.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 7.22 | 900.00 | |
| 11 B | 6 | 1 | 4.61 | 4.61 | ppb | 0.28 | 900.00 | |
| 11 B | 45 | 2 | 4.77 | 4.77 | ppb | 8.28 | 900.00 | |
| 23 Na | 45 | 1 | 258.00 | 258.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 272.00 | 272.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 267.20 | 267.20 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 275.70 | 275.70 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 25.95 | 25.95 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 26.59 | 26.59 | ppb | 2.76 | 90000.00 | |
| 39 K | 45 | 1 | 250.90 | 250.90 | ppb | 0.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 263.40 | 263.40 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.83 | 0.83 | ppb | 10.52 | 900.00 | |
| 51 V | 45 | 2 | 1.00 | 1.00 | ppb | 0.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 1.64 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 1.50 | 900.00 | |
| 56 Fe | 45 | 2 | 24.09 | 24.09 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.98 | ppb | 3.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 2.32 | 2.32 | ppb | 1.11 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 3.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.51 | ppb | 26.37 | 900.00 | |
| 88 Sr | 103 | 1 | 4.71 | 4.71 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 2.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.38 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 10.22 | 900.00 | |
| 120 Sn | 115 | 1 | 4.72 | 4.72 | ppb | 0.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 1.61 | 900.00 | |
| 137 Ba | 159 | 1 | 0.94 | 0.94 | ppb | 2.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 1.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.48 | ppb | 1.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2069818 | 0.69 | 1946740 | 106.3 | 70 - 130 | |
| 45 Sc | 1 | 2385845 | 0.84 | 2374581 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 297820 | 0.23 | 293241 | 101.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469909 | 0.42 | 473750 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 124231 | 0.45 | 123039 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 2819521 | 0.33 | 2855289 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 3174238 | 0.56 | 3211030 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 1167393 | 0.46 | 1158527 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 4570314 | 0.26 | 4546582 | 100.5 | 70 | - | 130 |
| 175 Lu | 1 | 4527853 | 0.49 | 4516969 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3035073 | 0.79 | 3027674 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D11l01.B\015SMPL.D\015SMPL.D# |
| Date Acquired: | Apr 11 2013 01:13 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSA |
| Misc Info: | |
| Vial Number: | 2106 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 11 2013 12:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 78.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 212.86 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 18.17 | 900.00 | |
| 11 B | 45 | 2 | 0.21 | 0.21 | ppb | 37.82 | 900.00 | |
| 23 Na | 45 | 1 | 93120.00 | 93120.00 | ppb | 0.84 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 95990.00 | 95990.00 | ppb | 0.48 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94420.00 | 94420.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96070.00 | 96070.00 | ppb | 0.74 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 92630.00 | 92630.00 | ppb | 0.34 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92950.00 | 92950.00 | ppb | 0.66 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 95200.00 | 95200.00 | ppb | 0.49 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96040.00 | 96040.00 | ppb | 0.83 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1990.00 | 1990.00 | ppb | 0.69 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 88.52 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 1.21 | 900.00 | |
| 55 Mn | 45 | 2 | -0.11 | -0.11 | ppb | 10.19 | 900.00 | |
| 56 Fe | 45 | 2 | 98710.00 | 98710.00 | ppb | 1.10 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 1.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.66 | 0.66 | ppb | 4.57 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.18 | ppb | 7.95 | 900.00 | |
| 66 Zn | 72 | 2 | 1.66 | 1.66 | ppb | 3.78 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 2.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 23.28 | 900.00 | |
| 88 Sr | 103 | 1 | 4.53 | 4.53 | ppb | 0.62 | 900.00 | |
| 98 Mo | 103 | 1 | 2057.00 | 2057.00 | ppb | 1.15 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 9.53 | 180.00 | |
| 111 Cd | 115 | 2 | 0.81 | 0.81 | ppb | 2.43 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 6.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.36 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.17 | ppb | 13.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 4.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 1.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1724081 | 2.13 | 1946740 | 88.6 | 70 - 130 | |
| 45 Sc | 1 | 2271308 | 0.27 | 2374581 | 95.7 | 70 - 130 | |
| 45 Sc | 2 | 273328 | 0.76 | 293241 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463964 | 0.61 | 473750 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 119108 | 0.21 | 123039 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 2501394 | 0.26 | 2855289 | 87.6 | 70 | - | 130 |
| 115 In | 1 | 2959132 | 0.87 | 3211030 | 92.2 | 70 | - | 130 |
| 115 In | 2 | 1050067 | 0.71 | 1158527 | 90.6 | 70 | - | 130 |
| 159 Tb | 1 | 4417234 | 0.87 | 4546582 | 97.2 | 70 | - | 130 |
| 175 Lu | 1 | 4480476 | 1.72 | 4516969 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 2741293 | 1.05 | 3027674 | 90.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 11 2013 01:20 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 54.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 73.35 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 8.39 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 40.29 | 900.00 | |
| 23 Na | 45 | 1 | 84590.00 | 84590.00 | ppb | 0.23 | 90000.00 | |
| 23 Na | 45 | 2 | 94290.00 | 94290.00 | ppb | 0.48 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 86580.00 | 86580.00 | ppb | 1.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 94690.00 | 94690.00 | ppb | 0.36 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 86100.00 | 86100.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 90940.00 | 90940.00 | ppb | 0.39 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94260.00 | 94260.00 | ppb | 1.01 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96730.00 | 96730.00 | ppb | 0.41 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1999.00 | 1999.00 | ppb | 0.16 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 19492.00 | 900.00 | |
| 52 Cr | 45 | 2 | 20.51 | 20.51 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 19.65 | 19.65 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 101600.00 | 101600.00 | ppb | 0.54 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.30 | 19.30 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 19.44 | 19.44 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 17.05 | 17.05 | ppb | 1.24 | 900.00 | |
| 66 Zn | 72 | 2 | 19.40 | 19.40 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 20.17 | 20.17 | ppb | 1.16 | 900.00 | |
| 78 Se | 72 | 2 | 0.21 | 0.21 | ppb | 60.44 | 900.00 | |
| 88 Sr | 103 | 1 | 4.54 | 4.54 | ppb | 1.60 | 900.00 | |
| 98 Mo | 103 | 1 | 2080.00 | 2080.00 | ppb | 0.47 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 18.50 | 18.50 | ppb | 0.49 | 180.00 | |
| 111 Cd | 115 | 2 | 20.12 | 20.12 | ppb | 1.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 3.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 2.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.17 | ppb | 5.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 2.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 0.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1321951 | 0.66 | 1946740 | 67.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2151724 | 0.09 | 2374581 | 90.6 | 70 - 130 | |
| 45 Sc | 2 | 257526 | 0.12 | 293241 | 87.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 454545 | 0.44 | 473750 | 95.9 | 70 | - | 130 |
| 72 | Ge | 2 | 115379 | 0.33 | 123039 | 93.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2545080 | 1.34 | 2855289 | 89.1 | 70 | - | 130 |
| 115 | In | 1 | 3016649 | 0.53 | 3211030 | 93.9 | 70 | - | 130 |
| 115 | In | 2 | 1040451 | 0.61 | 1158527 | 89.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4528360 | 0.70 | 4546582 | 99.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4600164 | 0.08 | 4516969 | 101.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2815892 | 0.93 | 3027674 | 93.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\017SMPL.D\017SMPL.D#
Date Acquired: Apr 11 2013 01:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 55.67 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 103.82 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 27.91 | 900.00 | |
| 11 B | 45 | 2 | -0.03 | -0.03 | ppb | 156.50 | 900.00 | |
| 23 Na | 45 | 1 | 23.78 | 23.78 | ppb | 5.11 | 90000.00 | |
| 23 Na | 45 | 2 | 76.80 | 76.80 | ppb | 26.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 13.19 | 13.19 | ppb | 11.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 58.73 | 58.73 | ppb | 29.00 | 90000.00 | |
| 27 Al | 45 | 1 | 12.79 | 12.79 | ppb | 11.86 | 90000.00 | |
| 27 Al | 45 | 2 | 53.61 | 53.61 | ppb | 27.29 | 90000.00 | |
| 39 K | 45 | 1 | 3.95 | 3.95 | ppb | 31.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 25.16 | 25.16 | ppb | 4.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.27 | 0.27 | ppb | 16.46 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 185.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 220.40 | 900.00 | |
| 55 Mn | 45 | 2 | -0.04 | -0.04 | ppb | 57.37 | 900.00 | |
| 56 Fe | 45 | 2 | 64.57 | 64.57 | ppb | 26.55 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 19.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 34.89 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 11.77 | 900.00 | |
| 66 Zn | 72 | 2 | 0.10 | 0.10 | ppb | 17.60 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 26.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 125.89 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 8.49 | 900.00 | |
| 98 Mo | 103 | 1 | 1.27 | 1.27 | ppb | 12.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 11.38 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 86.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 10.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 16.95 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 109.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 15.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 33.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1213863 | 0.23 | 1946740 | 62.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2130963 | 0.73 | 2374581 | 89.7 | 70 - 130 | |
| 45 Sc | 2 | 260405 | 0.44 | 293241 | 88.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461986 | 0.74 | 473750 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 119679 | 0.34 | 123039 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 2941911 | 0.69 | 2855289 | 103.0 | 70 | - | 130 |
| 115 In | 1 | 3347911 | 0.98 | 3211030 | 104.3 | 70 | - | 130 |
| 115 In | 2 | 1164249 | 0.15 | 1158527 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 4843524 | 0.61 | 4546582 | 106.5 | 70 | - | 130 |
| 175 Lu | 1 | 4844359 | 0.62 | 4516969 | 107.2 | 70 | - | 130 |
| 209 Bi | 1 | 3289992 | 0.16 | 3027674 | 108.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\018SMPL.D\018SMPL.D#
**Date Acquired:** Apr 11 2013 01:33 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20751-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 234.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 559.08 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.10 | ppb | 36.83 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.09 | ppb | 119.58 | 900.00 | |
| 23 Na | 45 | 1 | 29.22 | 14.61 | ppb | 5.04 | 90000.00 | |
| 23 Na | 45 | 2 | 36.84 | 18.42 | ppb | 3.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.32 | 1.16 | ppb | 9.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.62 | 1.31 | ppb | 7.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.93 | 0.47 | ppb | 39.34 | 90000.00 | |
| 27 Al | 45 | 2 | 0.80 | 0.40 | ppb | 11.87 | 90000.00 | |
| 39 K | 45 | 1 | -17.03 | -8.51 | ppb | 39.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 59.22 | 29.61 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.32 | 0.16 | ppb | 11.15 | 900.00 | |
| 51 V | 45 | 2 | 2.01 | 1.00 | ppb | 1.93 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.05 | ppb | 29.02 | 900.00 | |
| 55 Mn | 45 | 2 | -0.53 | -0.27 | ppb | 1.97 | 900.00 | |
| 56 Fe | 45 | 2 | 3.56 | 1.78 | ppb | 15.51 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 484.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 20.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.02 | ppb | 5.14 | 900.00 | |
| 66 Zn | 72 | 2 | 2.33 | 1.16 | ppb | 1.87 | 900.00 | |
| 75 As | 72 | 2 | 0.34 | 0.17 | ppb | 5.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.03 | ppb | 248.67 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 4.75 | 900.00 | |
| 98 Mo | 103 | 1 | 0.89 | 0.45 | ppb | 13.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 17.36 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 63.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.10 | ppb | 11.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.05 | ppb | 4.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.01 | ppb | 195.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 25.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 23.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1044894 | 0.46 | 1946740 | 53.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2008216 | 1.98 | 2374581 | 84.6 | 70 - 130 | |
| 45 Sc | 2 | 239727 | 0.64 | 293241 | 81.8 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 444273 | 0.23 | 473750 | 93.8 | 70 | - | 130 |
| 72 | Ge | 2 | 112542 | 0.40 | 123039 | 91.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2859530 | 2.32 | 2855289 | 100.1 | 70 | - | 130 |
| 115 | In | 1 | 3232837 | 0.97 | 3211030 | 100.7 | 70 | - | 130 |
| 115 | In | 2 | 1125605 | 0.47 | 1158527 | 97.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4777703 | 0.88 | 4546582 | 105.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4813116 | 0.63 | 4516969 | 106.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3261621 | 1.02 | 3027674 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 11 2013 01:39 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-6F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 62.46 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 491.57 | 900.00 | |
| 11 B | 6 | 1 | 48.54 | 24.27 | ppb | 2.07 | 900.00 | |
| 11 B | 45 | 2 | 35.00 | 17.50 | ppb | 1.99 | 900.00 | |
| 23 Na | 45 | 1 | 12402.00 | 6201.00 | ppb | 5.13 | 90000.00 | |
| 23 Na | 45 | 2 | 13976.00 | 6988.00 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 1 | 1187.00 | 593.50 | ppb | 4.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 1358.20 | 679.10 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 5.10 | 2.55 | ppb | 8.34 | 90000.00 | |
| 27 Al | 45 | 2 | 5.40 | 2.70 | ppb | 6.96 | 90000.00 | |
| 39 K | 45 | 1 | 1504.40 | 752.20 | ppb | 5.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 13566.00 | 6783.00 | ppb | 4.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.64 | 0.32 | ppb | 2.84 | 900.00 | |
| 51 V | 45 | 2 | 1.88 | 0.94 | ppb | 2.29 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 11.63 | 900.00 | |
| 55 Mn | 45 | 2 | 1428.40 | 714.20 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 71.62 | 35.81 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 1.30 | 0.65 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 4.58 | 2.29 | ppb | 1.81 | 900.00 | |
| 63 Cu | 72 | 2 | 1.07 | 0.54 | ppb | 2.03 | 900.00 | |
| 66 Zn | 72 | 2 | 10.26 | 5.13 | ppb | 0.84 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 8.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.19 | ppb | 34.73 | 900.00 | |
| 88 Sr | 103 | 1 | 75.70 | 37.85 | ppb | 5.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.26 | ppb | 7.72 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.63 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 23.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.71 | 0.36 | ppb | 4.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 5.08 | 900.00 | |
| 137 Ba | 159 | 1 | 12.22 | 6.11 | ppb | 3.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 7.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 4.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 980387 | 1.85 | 1946740 | 50.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1909426 | 4.54 | 2374581 | 80.4 | 70 - 130 | |
| 45 Sc | 2 | 233195 | 0.20 | 293241 | 79.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 428327 | 1.96 | 473750 | 90.4 | 70 | - | 130 |
| 72 Ge | 2 | 109943 | 0.32 | 123039 | 89.4 | 70 | - | 130 |
| 103 Rh | 1 | 2677562 | 4.83 | 2855289 | 93.8 | 70 | - | 130 |
| 115 In | 1 | 3203504 | 5.00 | 3211030 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 1090790 | 0.48 | 1158527 | 94.2 | 70 | - | 130 |
| 159 Tb | 1 | 4610266 | 4.26 | 4546582 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4682327 | 3.84 | 4516969 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 3105846 | 3.94 | 3027674 | 102.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 11 2013 01:45 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-5F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 47.76 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 122.54 | 900.00 | |
| 11 B | 6 | 1 | 19.32 | 9.66 | ppb | 0.81 | 900.00 | |
| 11 B | 45 | 2 | 14.63 | 7.32 | ppb | 8.94 | 900.00 | |
| 23 Na | 45 | 1 | 2842.00 | 1421.00 | ppb | 0.89 | 90000.00 | |
| 23 Na | 45 | 2 | 3406.00 | 1703.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 924.20 | 462.10 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 1076.60 | 538.30 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 3.19 | 1.60 | ppb | 4.22 | 90000.00 | |
| 27 Al | 45 | 2 | 4.03 | 2.01 | ppb | 9.09 | 90000.00 | |
| 39 K | 45 | 1 | 1765.40 | 882.70 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 10684.00 | 5342.00 | ppb | 0.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.71 | 0.36 | ppb | 15.45 | 900.00 | |
| 51 V | 45 | 2 | 1.98 | 0.99 | ppb | 1.69 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 4.38 | 900.00 | |
| 55 Mn | 45 | 2 | 2922.00 | 1461.00 | ppb | 0.64 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 2544.00 | 1272.00 | ppb | 1.14 | 90000.00 | |
| 59 Co | 45 | 2 | 7.77 | 3.89 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 35.22 | 17.61 | ppb | 0.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.93 | 0.46 | ppb | 3.80 | 900.00 | |
| 66 Zn | 72 | 2 | 171.52 | 85.76 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 2.95 | 1.48 | ppb | 1.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.07 | ppb | 77.55 | 900.00 | |
| 88 Sr | 103 | 1 | 57.62 | 28.81 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 7.00 | 3.50 | ppb | 2.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 12.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 29.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 10.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.17 | ppb | 4.15 | 900.00 | |
| 137 Ba | 159 | 1 | 2.60 | 1.30 | ppb | 2.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 27.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 45.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1008374 | 2.06 | 1946740 | 51.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1972797 | 0.49 | 2374581 | 83.1 | 70 - 130 | |
| 45 Sc | 2 | 236504 | 0.45 | 293241 | 80.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437365 | 0.43 | 473750 | 92.3 | 70 | - | 130 |
| 72 Ge | 2 | 110508 | 0.57 | 123039 | 89.8 | 70 | - | 130 |
| 103 Rh | 1 | 2744449 | 0.36 | 2855289 | 96.1 | 70 | - | 130 |
| 115 In | 1 | 3214949 | 1.19 | 3211030 | 100.1 | 70 | - | 130 |
| 115 In | 2 | 1094109 | 1.22 | 1158527 | 94.4 | 70 | - | 130 |
| 159 Tb | 1 | 4845801 | 0.76 | 4546582 | 106.6 | 70 | - | 130 |
| 175 Lu | 1 | 4872771 | 0.56 | 4516969 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3205045 | 1.26 | 3027674 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\021SMPL.D\021SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\021SMPL.D\021SMPL.D#
Date Acquired: Apr 11 2013 01:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-7F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 162.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 120.18 | 900.00 | |
| 11 B | 6 | 1 | 0.65 | 0.32 | ppb | 14.86 | 900.00 | |
| 11 B | 45 | 2 | 0.39 | 0.20 | ppb | 26.16 | 900.00 | |
| 23 Na | 45 | 1 | 23.40 | 11.70 | ppb | 1.70 | 90000.00 | |
| 23 Na | 45 | 2 | 30.64 | 15.32 | ppb | 1.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.75 | 0.88 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.92 | 0.96 | ppb | 16.09 | 90000.00 | |
| 27 Al | 45 | 1 | -0.13 | -0.07 | ppb | 108.36 | 90000.00 | |
| 27 Al | 45 | 2 | 0.18 | 0.09 | ppb | 315.50 | 90000.00 | |
| 39 K | 45 | 1 | -17.76 | -8.88 | ppb | 8.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 40.00 | 20.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.08 | 0.04 | ppb | 84.96 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.94 | ppb | 2.37 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.11 | ppb | 8.86 | 900.00 | |
| 55 Mn | 45 | 2 | -0.55 | -0.28 | ppb | 3.75 | 900.00 | |
| 56 Fe | 45 | 2 | -2.33 | -1.17 | ppb | 8.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 241.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 8.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.34 | 0.17 | ppb | 3.21 | 900.00 | |
| 66 Zn | 72 | 2 | 5.72 | 2.86 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 0.36 | 0.18 | ppb | 10.09 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 126.22 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.02 | ppb | 7.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.06 | ppb | 14.70 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 48.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 770.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 7.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 3.95 | 900.00 | |
| 137 Ba | 159 | 1 | -0.03 | -0.02 | ppb | 32.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 162.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.51 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1050047 | 0.60 | 1946740 | 53.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1977999 | 0.12 | 2374581 | 83.3 | 70 - 130 | |
| 45 Sc | 2 | 239036 | 0.45 | 293241 | 81.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 440005 | 0.80 | 473750 | 92.9 | 70 | - | 130 |
| 72 | Ge | 2 | 110815 | 0.37 | 123039 | 90.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2821130 | 0.13 | 2855289 | 98.8 | 70 | - | 130 |
| 115 | In | 1 | 3253299 | 1.24 | 3211030 | 101.3 | 70 | - | 130 |
| 115 | In | 2 | 1103866 | 0.10 | 1158527 | 95.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4812100 | 1.01 | 4546582 | 105.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4847407 | 1.05 | 4516969 | 107.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3276851 | 0.48 | 3027674 | 108.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 11 2013 01:58 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20751-B1
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 546.40 | 27.32 | ppb | 1.30 | 900.00 | |
| 9 Be | 45 | 2 | 448.20 | 22.41 | ppb | 0.99 | 900.00 | |
| 11 B | 6 | 1 | -0.46 | -0.02 | ppb | 80.22 | 900.00 | |
| 11 B | 45 | 2 | -0.73 | -0.04 | ppb | 200.47 | 900.00 | |
| 23 Na | 45 | 1 | 22280.00 | 1114.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 25460.00 | 1273.00 | ppb | 1.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 22940.00 | 1147.00 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 26000.00 | 1300.00 | ppb | 2.61 | 90000.00 | |
| 27 Al | 45 | 1 | 1919.00 | 95.95 | ppb | 1.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2068.00 | 103.40 | ppb | 2.09 | 90000.00 | |
| 39 K | 45 | 1 | 24160.00 | 1208.00 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 25600.00 | 1280.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 462.60 | 23.13 | ppb | 1.44 | 900.00 | |
| 51 V | 45 | 2 | 513.20 | 25.66 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 504.40 | 25.22 | ppb | 1.48 | 900.00 | |
| 55 Mn | 45 | 2 | 504.20 | 25.21 | ppb | 1.60 | 900.00 | |
| 56 Fe | 45 | 2 | 2164.00 | 108.20 | ppb | 2.11 | 90000.00 | |
| 59 Co | 45 | 2 | 515.80 | 25.79 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 501.40 | 25.07 | ppb | 0.74 | 900.00 | |
| 63 Cu | 72 | 2 | 472.60 | 23.63 | ppb | 1.56 | 900.00 | |
| 66 Zn | 72 | 2 | 526.80 | 26.34 | ppb | 2.31 | 900.00 | |
| 75 As | 72 | 2 | 500.60 | 25.03 | ppb | 1.93 | 900.00 | |
| 78 Se | 72 | 2 | 492.00 | 24.60 | ppb | 0.77 | 900.00 | |
| 88 Sr | 103 | 1 | 464.80 | 23.24 | ppb | 1.24 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 0.05 | ppb | 10.23 | 900.00 | |
| 107 Ag | 115 | 1 | 194.14 | 9.71 | ppb | 0.26 | 180.00 | |
| 111 Cd | 115 | 2 | 504.40 | 25.22 | ppb | 1.61 | 900.00 | |
| 120 Sn | 115 | 1 | -0.19 | -0.01 | ppb | 6.48 | 900.00 | |
| 121 Sb | 115 | 1 | 495.00 | 24.75 | ppb | 0.75 | 900.00 | |
| 137 Ba | 159 | 1 | 1906.20 | 95.31 | ppb | 0.77 | 900.00 | |
| 205 Tl | 209 | 1 | 459.80 | 22.99 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 960.60 | 48.03 | ppb | 0.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1330841 | 0.81 | 1946740 | 68.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2208228 | 0.56 | 2374581 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 271076 | 0.84 | 293241 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 467569 | 0.68 | 473750 | 98.7 | 70 | - | 130 |
| 72 Ge | 2 | 121853 | 1.41 | 123039 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 2958384 | 1.06 | 2855289 | 103.6 | 70 | - | 130 |
| 115 In | 1 | 3394052 | 0.68 | 3211030 | 105.7 | 70 | - | 130 |
| 115 In | 2 | 1175479 | 1.37 | 1158527 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 4892972 | 0.41 | 4546582 | 107.6 | 70 | - | 130 |
| 175 Lu | 1 | 4913404 | 0.57 | 4516969 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3268649 | 0.92 | 3027674 | 108.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 11 2013 02:04 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20751-S1
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 559.40 | 27.97 | ppb | 4.76 | 900.00 | |
| 9 Be | 45 | 2 | 461.80 | 23.09 | ppb | 2.56 | 900.00 | |
| 11 B | 6 | 1 | 39.34 | 1.97 | ppb | 6.60 | 900.00 | |
| 11 B | 45 | 2 | 32.72 | 1.64 | ppb | 19.54 | 900.00 | |
| 23 Na | 45 | 1 | 36780.00 | 1839.00 | ppb | 5.93 | 90000.00 | |
| 23 Na | 45 | 2 | 41440.00 | 2072.00 | ppb | 2.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 25440.00 | 1272.00 | ppb | 6.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 28360.00 | 1418.00 | ppb | 1.71 | 90000.00 | |
| 27 Al | 45 | 1 | 2020.00 | 101.00 | ppb | 6.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2142.00 | 107.10 | ppb | 2.63 | 90000.00 | |
| 39 K | 45 | 1 | 26680.00 | 1334.00 | ppb | 6.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 40540.00 | 2027.00 | ppb | 6.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 483.60 | 24.18 | ppb | 5.05 | 900.00 | |
| 51 V | 45 | 2 | 530.40 | 26.52 | ppb | 2.94 | 900.00 | |
| 52 Cr | 45 | 2 | 519.00 | 25.95 | ppb | 3.07 | 900.00 | |
| 55 Mn | 45 | 2 | 1948.20 | 97.41 | ppb | 3.35 | 900.00 | |
| 56 Fe | 45 | 2 | 2298.00 | 114.90 | ppb | 3.42 | 90000.00 | |
| 59 Co | 45 | 2 | 529.00 | 26.45 | ppb | 3.54 | 900.00 | |
| 60 Ni | 45 | 2 | 520.40 | 26.02 | ppb | 2.41 | 900.00 | |
| 63 Cu | 72 | 2 | 492.00 | 24.60 | ppb | 2.99 | 900.00 | |
| 66 Zn | 72 | 2 | 554.40 | 27.72 | ppb | 2.65 | 900.00 | |
| 75 As | 72 | 2 | 520.80 | 26.04 | ppb | 3.55 | 900.00 | |
| 78 Se | 72 | 2 | 528.00 | 26.40 | ppb | 3.52 | 900.00 | |
| 88 Sr | 103 | 1 | 561.40 | 28.07 | ppb | 6.63 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 0.05 | ppb | 11.03 | 900.00 | |
| 107 Ag | 115 | 1 | 205.00 | 10.25 | ppb | 6.06 | 180.00 | |
| 111 Cd | 115 | 2 | 511.40 | 25.57 | ppb | 2.74 | 900.00 | |
| 120 Sn | 115 | 1 | 0.43 | 0.02 | ppb | 178.02 | 900.00 | |
| 121 Sb | 115 | 1 | 521.20 | 26.06 | ppb | 6.49 | 900.00 | |
| 137 Ba | 159 | 1 | 2030.00 | 101.50 | ppb | 5.67 | 900.00 | |
| 205 Tl | 209 | 1 | 477.20 | 23.86 | ppb | 6.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1005.00 | 50.25 | ppb | 4.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1368262 | 5.69 | 1946740 | 70.3 | 70 - 130 | |
| 45 Sc | 1 | 2208173 | 5.43 | 2374581 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 271100 | 3.16 | 293241 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 460616 | 5.11 | 473750 | 97.2 | 70 | - | 130 |
| 72 | Ge | 2 | 120564 | 3.10 | 123039 | 98.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2879390 | 6.59 | 2855289 | 100.8 | 70 | - | 130 |
| 115 | In | 1 | 3273053 | 6.81 | 3211030 | 101.9 | 70 | - | 130 |
| 115 | In | 2 | 1159930 | 2.93 | 1158527 | 100.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4710491 | 5.77 | 4546582 | 103.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4753790 | 6.34 | 4516969 | 105.2 | 70 | - | 130 |
| 209 | Bi | 1 | 3156081 | 5.15 | 3027674 | 104.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 11 2013 02:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 54.35 | 54.35 | ppb | 0.94 | 900.00 | |
| 9 Be | 45 | 2 | 46.09 | 46.09 | ppb | 0.86 | 900.00 | |
| 11 B | 6 | 1 | 54.12 | 54.12 | ppb | 1.77 | 900.00 | |
| 11 B | 45 | 2 | 47.95 | 47.95 | ppb | 3.61 | 900.00 | |
| 23 Na | 45 | 1 | 4543.00 | 4543.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 5021.00 | 5021.00 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 4609.00 | 4609.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 5067.00 | 5067.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 4604.00 | 4604.00 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 2 | 5045.00 | 5045.00 | ppb | 0.28 | 90000.00 | |
| 39 K | 45 | 1 | 4891.00 | 4891.00 | ppb | 0.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 5179.00 | 5179.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.57 | 48.57 | ppb | 0.70 | 900.00 | |
| 51 V | 45 | 2 | 50.44 | 50.44 | ppb | 0.12 | 900.00 | |
| 52 Cr | 45 | 2 | 50.11 | 50.11 | ppb | 0.37 | 900.00 | |
| 55 Mn | 45 | 2 | 50.16 | 50.16 | ppb | 0.29 | 900.00 | |
| 56 Fe | 45 | 2 | 5267.00 | 5267.00 | ppb | 0.15 | 90000.00 | |
| 59 Co | 45 | 2 | 50.01 | 50.01 | ppb | 0.42 | 900.00 | |
| 60 Ni | 45 | 2 | 49.90 | 49.90 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 47.39 | 47.39 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 49.38 | 49.38 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 49.70 | 49.70 | ppb | 0.43 | 900.00 | |
| 78 Se | 72 | 2 | 49.66 | 49.66 | ppb | 2.10 | 900.00 | |
| 88 Sr | 103 | 1 | 51.49 | 51.49 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 50.12 | 50.12 | ppb | 1.60 | 900.00 | |
| 107 Ag | 115 | 1 | 49.27 | 49.27 | ppb | 0.43 | 180.00 | |
| 111 Cd | 115 | 2 | 49.93 | 49.93 | ppb | 1.13 | 900.00 | |
| 120 Sn | 115 | 1 | 49.82 | 49.82 | ppb | 0.88 | 900.00 | |
| 121 Sb | 115 | 1 | 51.15 | 51.15 | ppb | 1.43 | 900.00 | |
| 137 Ba | 159 | 1 | 48.90 | 48.90 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 47.88 | 47.88 | ppb | 2.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.86 | 48.86 | ppb | 0.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1430614 | 1.83 | 1946740 | 73.5 | 70 - 130 | |
| 45 Sc | 1 | 2251434 | 0.29 | 2374581 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 271157 | 0.13 | 293241 | 92.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 462892 | 0.37 | 473750 | 97.7 | 70 | - | 130 |
| 72 | Ge | 2 | 118712 | 0.29 | 123039 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2818445 | 1.19 | 2855289 | 98.7 | 70 | - | 130 |
| 115 | In | 1 | 3227006 | 0.98 | 3211030 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1124941 | 0.75 | 1158527 | 97.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4736332 | 0.95 | 4546582 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4764047 | 0.58 | 4516969 | 105.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3130417 | 1.21 | 3027674 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 11 2013 02:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 99.92 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 101.14 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 79.05 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 452.45 | 900.00 | |
| 23 Na | 45 | 1 | 2.07 | 2.07 | ppb | 21.29 | 90000.00 | |
| 23 Na | 45 | 2 | 3.95 | 3.95 | ppb | 16.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.14 | 0.14 | ppb | 10.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.32 | 0.32 | ppb | 23.30 | 90000.00 | |
| 27 Al | 45 | 1 | -0.76 | -0.76 | ppb | 5.49 | 90000.00 | |
| 27 Al | 45 | 2 | -0.57 | -0.57 | ppb | 16.62 | 90000.00 | |
| 39 K | 45 | 1 | -7.23 | -7.23 | ppb | 49.15 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.06 | -2.06 | ppb | 11.20 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.17 | -0.17 | ppb | 12.49 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 47.80 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 167.22 | 900.00 | |
| 55 Mn | 45 | 2 | -0.40 | -0.40 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | -2.25 | -2.25 | ppb | 2.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 162.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 218.41 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 12.56 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 11.20 | 900.00 | |
| 75 As | 72 | 2 | -0.03 | -0.03 | ppb | 20.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 214.95 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 167.18 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 9.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 5.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 69.55 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 33.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 6.60 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 9.92 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 62.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1516005 | 0.54 | 1946740 | 77.9 | 70 - 130 | |
| 45 Sc | 1 | 2270045 | 2.96 | 2374581 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 271825 | 2.72 | 293241 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 468560 | 2.07 | 473750 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 119091 | 1.66 | 123039 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 2949384 | 3.39 | 2855289 | 103.3 | 70 | - | 130 |
| 115 In | 1 | 3322476 | 2.85 | 3211030 | 103.5 | 70 | - | 130 |
| 115 In | 2 | 1151980 | 2.95 | 1158527 | 99.4 | 70 | - | 130 |
| 159 Tb | 1 | 4788019 | 2.48 | 4546582 | 105.3 | 70 | - | 130 |
| 175 Lu | 1 | 4813457 | 2.87 | 4516969 | 106.6 | 70 | - | 130 |
| 209 Bi | 1 | 3232241 | 1.45 | 3027674 | 106.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\026SMPL.D\026SMPL.D#
Date Acquired: Apr 11 2013 02:23 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20751-S2
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 537.80 | 26.89 | ppb | 2.52 | 900.00 | |
| 9 Be | 45 | 2 | 479.60 | 23.98 | ppb | 4.48 | 900.00 | |
| 11 B | 6 | 1 | 38.66 | 1.93 | ppb | 3.56 | 900.00 | |
| 11 B | 45 | 2 | 30.52 | 1.53 | ppb | 9.02 | 900.00 | |
| 23 Na | 45 | 1 | 38500.00 | 1925.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 41500.00 | 2075.00 | ppb | 1.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 26380.00 | 1319.00 | ppb | 1.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 28520.00 | 1426.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 2088.00 | 104.40 | ppb | 1.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2162.00 | 108.10 | ppb | 1.75 | 90000.00 | |
| 39 K | 45 | 1 | 27040.00 | 1352.00 | ppb | 1.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 41860.00 | 2093.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 479.00 | 23.95 | ppb | 1.60 | 900.00 | |
| 51 V | 45 | 2 | 517.00 | 25.85 | ppb | 1.19 | 900.00 | |
| 52 Cr | 45 | 2 | 505.20 | 25.26 | ppb | 1.33 | 900.00 | |
| 55 Mn | 45 | 2 | 1919.00 | 95.95 | ppb | 1.45 | 900.00 | |
| 56 Fe | 45 | 2 | 2260.00 | 113.00 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 513.20 | 25.66 | ppb | 0.95 | 900.00 | |
| 60 Ni | 45 | 2 | 508.20 | 25.41 | ppb | 1.71 | 900.00 | |
| 63 Cu | 72 | 2 | 490.20 | 24.51 | ppb | 0.86 | 900.00 | |
| 66 Zn | 72 | 2 | 547.60 | 27.38 | ppb | 1.18 | 900.00 | |
| 75 As | 72 | 2 | 514.80 | 25.74 | ppb | 1.63 | 900.00 | |
| 78 Se | 72 | 2 | 508.60 | 25.43 | ppb | 3.21 | 900.00 | |
| 88 Sr | 103 | 1 | 555.40 | 27.77 | ppb | 0.79 | 900.00 | |
| 98 Mo | 103 | 1 | 1.11 | 0.06 | ppb | 11.51 | 900.00 | |
| 107 Ag | 115 | 1 | 201.20 | 10.06 | ppb | 0.45 | 180.00 | |
| 111 Cd | 115 | 2 | 506.80 | 25.34 | ppb | 0.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.23 | 0.01 | ppb | 35.51 | 900.00 | |
| 121 Sb | 115 | 1 | 512.00 | 25.60 | ppb | 0.39 | 900.00 | |
| 137 Ba | 159 | 1 | 1987.60 | 99.38 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 469.60 | 23.48 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 992.60 | 49.63 | ppb | 0.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1623596 | 2.02 | 1946740 | 83.4 | 70 - 130 | |
| 45 Sc | 1 | 2322714 | 1.26 | 2374581 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 285729 | 1.35 | 293241 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 473680 | 0.72 | 473750 | 100.0 | 70 | - | 130 |
| 72 | Ge | 2 | 123661 | 1.14 | 123039 | 100.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2919343 | 0.39 | 2855289 | 102.2 | 70 | - | 130 |
| 115 | In | 1 | 3300183 | 0.38 | 3211030 | 102.8 | 70 | - | 130 |
| 115 | In | 2 | 1177433 | 0.71 | 1158527 | 101.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4774134 | 0.63 | 4546582 | 105.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4772290 | 0.58 | 4516969 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 3156342 | 0.50 | 3027674 | 104.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\027SMPL.D\027SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\027SMPL.D\027SMPL.D#
Date Acquired: Apr 11 2013 02:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20751-SD1
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.00 | ppb | 15.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 109.06 | 900.00 | |
| 11 B | 6 | 1 | 38.00 | 3.80 | ppb | 1.55 | 900.00 | |
| 11 B | 45 | 2 | 36.09 | 3.61 | ppb | 6.89 | 900.00 | |
| 23 Na | 45 | 1 | 13840.00 | 1384.00 | ppb | 2.65 | 90000.00 | |
| 23 Na | 45 | 2 | 15540.00 | 1554.00 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 1363.00 | 136.30 | ppb | 1.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 1485.00 | 148.50 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 1 | -0.96 | -0.10 | ppb | 60.52 | 90000.00 | |
| 27 Al | 45 | 2 | 1.57 | 0.16 | ppb | 32.12 | 90000.00 | |
| 39 K | 45 | 1 | 1484.00 | 148.40 | ppb | 4.02 | 90000.00 | |
| 44 Ca | 45 | 1 | 13810.00 | 1381.00 | ppb | 2.45 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.47 | -0.05 | ppb | 56.50 | 900.00 | |
| 51 V | 45 | 2 | 0.07 | 0.01 | ppb | 103.19 | 900.00 | |
| 52 Cr | 45 | 2 | -0.30 | -0.03 | ppb | 22.18 | 900.00 | |
| 55 Mn | 45 | 2 | 1433.00 | 143.30 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 54.68 | 5.47 | ppb | 2.51 | 90000.00 | |
| 59 Co | 45 | 2 | 1.35 | 0.13 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 4.65 | 0.46 | ppb | 5.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.06 | ppb | 7.62 | 900.00 | |
| 66 Zn | 72 | 2 | 12.04 | 1.20 | ppb | 3.24 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.02 | ppb | 52.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.04 | ppb | 178.31 | 900.00 | |
| 88 Sr | 103 | 1 | 74.38 | 7.44 | ppb | 3.32 | 900.00 | |
| 98 Mo | 103 | 1 | 0.31 | 0.03 | ppb | 15.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.07 | 0.01 | ppb | 40.07 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.01 | ppb | 64.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.56 | 0.06 | ppb | 3.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.03 | ppb | 17.98 | 900.00 | |
| 137 Ba | 159 | 1 | 12.09 | 1.21 | ppb | 2.89 | 900.00 | |
| 205 Tl | 209 | 1 | 1.23 | 0.12 | ppb | 4.57 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.00 | ppb | 10.34 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1580112 | 0.90 | 1946740 | 81.2 | 70 - 130 | |
| 45 Sc | 1 | 2288770 | 2.41 | 2374581 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 274769 | 1.52 | 293241 | 93.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469248 | 1.18 | 473750 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 120952 | 0.66 | 123039 | 98.3 | 70 | - | 130 |
| 103 Rh | 1 | 2882393 | 3.16 | 2855289 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 3310801 | 2.71 | 3211030 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1166579 | 1.25 | 1158527 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 4709647 | 2.83 | 4546582 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4721209 | 3.39 | 4516969 | 104.5 | 70 | - | 130 |
| 209 Bi | 1 | 3219068 | 2.19 | 3027674 | 106.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D11l01.B\028SMPL.D\028SMPL.D#
**Date Acquired:** Apr 11 2013 02:46 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20751-PS1
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 11 2013 12:39 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 20.04 | 10.02 | ppb | 0.65 | 900.00 | |
| 9 Be | 45 | 2 | 17.37 | 8.68 | ppb | 4.71 | 900.00 | |
| 11 B | 6 | 1 | 60.60 | 30.30 | ppb | 1.25 | 900.00 | |
| 11 B | 45 | 2 | 51.88 | 25.94 | ppb | 2.90 | 900.00 | |
| 23 Na | 45 | 1 | 11828.00 | 5914.00 | ppb | 1.94 | 90000.00 | |
| 23 Na | 45 | 2 | 13712.00 | 6856.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 1146.20 | 573.10 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 1358.40 | 679.20 | ppb | 2.46 | 90000.00 | |
| 27 Al | 45 | 1 | 20.92 | 10.46 | ppb | 2.46 | 90000.00 | |
| 27 Al | 45 | 2 | 25.16 | 12.58 | ppb | 2.41 | 90000.00 | |
| 39 K | 45 | 1 | 1371.40 | 685.70 | ppb | 1.86 | 90000.00 | |
| 44 Ca | 45 | 1 | 12030.00 | 6015.00 | ppb | 0.93 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.50 | 9.25 | ppb | 2.06 | 900.00 | |
| 51 V | 45 | 2 | 21.26 | 10.63 | ppb | 2.45 | 900.00 | |
| 52 Cr | 45 | 2 | 19.39 | 9.70 | ppb | 1.69 | 900.00 | |
| 55 Mn | 45 | 2 | 1331.20 | 665.60 | ppb | 1.54 | 900.00 | |
| 56 Fe | 45 | 2 | 87.82 | 43.91 | ppb | 2.33 | 90000.00 | |
| 59 Co | 45 | 2 | 20.34 | 10.17 | ppb | 2.34 | 900.00 | |
| 60 Ni | 45 | 2 | 23.46 | 11.73 | ppb | 3.30 | 900.00 | |
| 63 Cu | 72 | 2 | 18.73 | 9.36 | ppb | 1.30 | 900.00 | |
| 66 Zn | 72 | 2 | 27.54 | 13.77 | ppb | 2.14 | 900.00 | |
| 75 As | 72 | 2 | 18.92 | 9.46 | ppb | 1.45 | 900.00 | |
| 78 Se | 72 | 2 | 18.39 | 9.20 | ppb | 2.16 | 900.00 | |
| 88 Sr | 103 | 1 | 85.48 | 42.74 | ppb | 1.48 | 900.00 | |
| 98 Mo | 103 | 1 | 18.49 | 9.24 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 17.46 | 8.73 | ppb | 1.43 | 180.00 | |
| 111 Cd | 115 | 2 | 18.66 | 9.33 | ppb | 1.56 | 900.00 | |
| 120 Sn | 115 | 1 | 18.38 | 9.19 | ppb | 2.06 | 900.00 | |
| 121 Sb | 115 | 1 | 17.89 | 8.95 | ppb | 1.77 | 900.00 | |
| 137 Ba | 159 | 1 | 28.36 | 14.18 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 17.80 | 8.90 | ppb | 0.31 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.87 | 8.94 | ppb | 0.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1336728 | 0.89 | 1946740 | 68.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2144685 | 1.35 | 2374581 | 90.3 | 70 - 130 | |
| 45 Sc | 2 | 248539 | 2.23 | 293241 | 84.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451766 | 1.39 | 473750 | 95.4 | 70 | - | 130 |
| 72 | Ge | 2 | 111950 | 1.03 | 123039 | 91.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2783995 | 1.07 | 2855289 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3231954 | 1.56 | 3211030 | 100.7 | 70 | - | 130 |
| 115 | In | 2 | 1080260 | 1.89 | 1158527 | 93.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4736717 | 1.18 | 4546582 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4779759 | 1.32 | 4516969 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3105571 | 1.25 | 3027674 | 102.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D11l01.B\029SMPL.D\029SMPL.D# | | |
| **Date Acquired:** | Apr 11 2013 02:52 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2208 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 11 2013 12:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 4.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.45 | 0.45 | ppb | 14.18 | 900.00 | |
| 11 B | 6 | 1 | 4.89 | 4.89 | ppb | 1.55 | 900.00 | |
| 11 B | 45 | 2 | 4.38 | 4.38 | ppb | 6.88 | 900.00 | |
| 23 Na | 45 | 1 | 233.00 | 233.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 277.80 | 277.80 | ppb | 11.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 238.90 | 238.90 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 269.60 | 269.60 | ppb | 10.30 | 90000.00 | |
| 27 Al | 45 | 1 | 22.85 | 22.85 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 25.50 | 25.50 | ppb | 11.84 | 90000.00 | |
| 39 K | 45 | 1 | 226.50 | 226.50 | ppb | 0.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 256.00 | 256.00 | ppb | 0.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.87 | 0.87 | ppb | 2.24 | 900.00 | |
| 51 V | 45 | 2 | 1.09 | 1.09 | ppb | 16.15 | 900.00 | |
| 52 Cr | 45 | 2 | 1.01 | 1.01 | ppb | 13.58 | 900.00 | |
| 55 Mn | 45 | 2 | 1.22 | 1.22 | ppb | 14.40 | 900.00 | |
| 56 Fe | 45 | 2 | 25.14 | 25.14 | ppb | 15.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 10.42 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 13.40 | 900.00 | |
| 63 Cu | 72 | 2 | 0.94 | 0.94 | ppb | 9.34 | 900.00 | |
| 66 Zn | 72 | 2 | 2.17 | 2.17 | ppb | 10.63 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 8.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.62 | 0.62 | ppb | 14.37 | 900.00 | |
| 88 Sr | 103 | 1 | 4.51 | 4.51 | ppb | 0.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.97 | 0.97 | ppb | 1.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.46 | 0.46 | ppb | 3.82 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 11.49 | 900.00 | |
| 120 Sn | 115 | 1 | 4.48 | 4.48 | ppb | 0.31 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 0.93 | 0.93 | ppb | 2.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.39 | 0.39 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.48 | ppb | 0.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1613317 | 1.76 | 1946740 | 82.9 | 70 - 130 | |
| 45 Sc | 1 | 2343311 | 0.70 | 2374581 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 279035 | 11.07 | 293241 | 95.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 479975 | 0.48 | 473750 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 121740 | 8.19 | 123039 | 98.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3004009 | 0.49 | 2855289 | 105.2 | 70 | - | 130 |
| 115 | In | 1 | 3398051 | 1.23 | 3211030 | 105.8 | 70 | - | 130 |
| 115 | In | 2 | 1174917 | 11.39 | 1158527 | 101.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4885514 | 0.60 | 4546582 | 107.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4903158 | 0.71 | 4516969 | 108.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3245625 | 0.92 | 3027674 | 107.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 11 2013 03:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.54 | 52.54 | ppb | 0.53 | 900.00 | |
| 9 Be | 45 | 2 | 48.52 | 48.52 | ppb | 2.28 | 900.00 | |
| 11 B | 6 | 1 | 52.34 | 52.34 | ppb | 1.21 | 900.00 | |
| 11 B | 45 | 2 | 48.25 | 48.25 | ppb | 2.48 | 900.00 | |
| 23 Na | 45 | 1 | 4736.00 | 4736.00 | ppb | 1.59 | 90000.00 | |
| 23 Na | 45 | 2 | 5166.00 | 5166.00 | ppb | 3.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 4822.00 | 4822.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 5199.00 | 5199.00 | ppb | 3.44 | 90000.00 | |
| 27 Al | 45 | 1 | 4800.00 | 4800.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5200.00 | 5200.00 | ppb | 3.14 | 90000.00 | |
| 39 K | 45 | 1 | 4972.00 | 4972.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5230.00 | 5230.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.96 | 48.96 | ppb | 0.75 | 900.00 | |
| 51 V | 45 | 2 | 51.46 | 51.46 | ppb | 2.80 | 900.00 | |
| 52 Cr | 45 | 2 | 50.96 | 50.96 | ppb | 3.08 | 900.00 | |
| 55 Mn | 45 | 2 | 50.95 | 50.95 | ppb | 2.64 | 900.00 | |
| 56 Fe | 45 | 2 | 5336.00 | 5336.00 | ppb | 3.12 | 90000.00 | |
| 59 Co | 45 | 2 | 50.40 | 50.40 | ppb | 2.58 | 900.00 | |
| 60 Ni | 45 | 2 | 50.35 | 50.35 | ppb | 2.69 | 900.00 | |
| 63 Cu | 72 | 2 | 48.43 | 48.43 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | 50.51 | 50.51 | ppb | 2.39 | 900.00 | |
| 75 As | 72 | 2 | 50.66 | 50.66 | ppb | 2.59 | 900.00 | |
| 78 Se | 72 | 2 | 50.09 | 50.09 | ppb | 2.96 | 900.00 | |
| 88 Sr | 103 | 1 | 51.30 | 51.30 | ppb | 1.10 | 900.00 | |
| 98 Mo | 103 | 1 | 50.45 | 50.45 | ppb | 0.65 | 900.00 | |
| 107 Ag | 115 | 1 | 49.22 | 49.22 | ppb | 0.25 | 180.00 | |
| 111 Cd | 115 | 2 | 50.94 | 50.94 | ppb | 2.94 | 900.00 | |
| 120 Sn | 115 | 1 | 49.89 | 49.89 | ppb | 0.05 | 900.00 | |
| 121 Sb | 115 | 1 | 50.70 | 50.70 | ppb | 0.10 | 900.00 | |
| 137 Ba | 159 | 1 | 49.17 | 49.17 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 47.48 | 47.48 | ppb | 1.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.87 | 48.87 | ppb | 0.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1642734 | 0.22 | 1946740 | 84.4 | 70 - 130 | |
| 45 Sc | 1 | 2337774 | 0.53 | 2374581 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 278077 | 2.78 | 293241 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 470823 | 0.64 | 473750 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 119720 | 2.55 | 123039 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 2843549 | 0.98 | 2855289 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 3248209 | 0.16 | 3211030 | 101.2 | 70 | - | 130 |
| 115 In | 2 | 1113250 | 3.21 | 1158527 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 4713439 | 0.55 | 4546582 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 4722197 | 0.62 | 4516969 | 104.5 | 70 | - | 130 |
| 209 Bi | 1 | 3086594 | 0.16 | 3027674 | 101.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D11l01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D11l01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 11 2013 03:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 11 2013 12:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 36.03 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 89.31 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 22.23 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 22.43 | 900.00 | |
| 23 Na | 45 | 1 | 1.78 | 1.78 | ppb | 25.36 | 90000.00 | |
| 23 Na | 45 | 2 | 4.06 | 4.06 | ppb | 3.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.43 | 0.43 | ppb | 6.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.06 | 1.06 | ppb | 21.55 | 90000.00 | |
| 27 Al | 45 | 1 | -0.36 | -0.36 | ppb | 15.06 | 90000.00 | |
| 27 Al | 45 | 2 | 0.15 | 0.15 | ppb | 108.97 | 90000.00 | |
| 39 K | 45 | 1 | -6.10 | -6.10 | ppb | 85.58 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.03 | -1.03 | ppb | 26.49 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.16 | -0.16 | ppb | 2.52 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 21.44 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 973.25 | 900.00 | |
| 55 Mn | 45 | 2 | -0.39 | -0.39 | ppb | 3.80 | 900.00 | |
| 56 Fe | 45 | 2 | -1.39 | -1.39 | ppb | 18.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 29.80 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 166.12 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 7.97 | 900.00 | |
| 66 Zn | 72 | 2 | -0.13 | -0.13 | ppb | 10.73 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 424.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 59.15 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 21.50 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 10.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 10.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 10.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 4.86 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 22.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 4.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 30.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1725292 | 3.87 | 1946740 | 88.6 | 70 - 130 | |
| 45 Sc | 1 | 2351082 | 3.56 | 2374581 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 280653 | 1.73 | 293241 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D11l01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 477899 | 3.50 | 473750 | 100.9 | 70 | - | 130 |
| 72 | Ge | 2 | 120989 | 1.11 | 123039 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2983156 | 4.42 | 2855289 | 104.5 | 70 | - | 130 |
| 115 | In | 1 | 3352876 | 4.15 | 3211030 | 104.4 | 70 | - | 130 |
| 115 | In | 2 | 1156968 | 1.93 | 1158527 | 99.9 | 70 | - | 130 |
| 159 | Tb | 1 | 4730357 | 3.80 | 4546582 | 104.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4765550 | 4.32 | 4516969 | 105.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3211232 | 2.29 | 3027674 | 106.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D11l01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

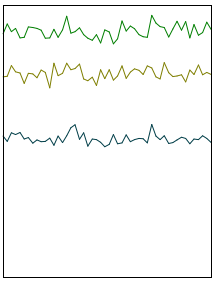




NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

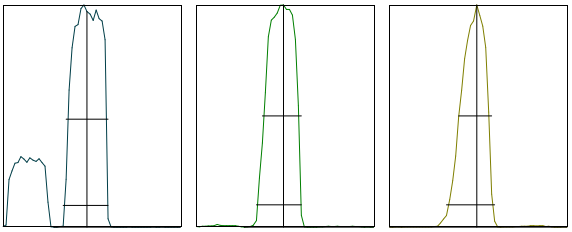
# Tune Report

Tune File : nogas.u
Comment : 041113



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2476.0 | 2550.0 | 3.50 | 2.20 |
| 89 | 5,000 | 4560.0 | 4532.4 | 2.65 | 1.30 |
| 205 | 5,000 | 3731.0 | 3751.5 | 2.85 | 3.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.119%
Doubly Charged: 70/140 2.717%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,535 | 4,551 | 3,896 |
| Axis: | 6.95 | 89.00 | 205.00 |
| W-50%: | 0.70 | 0.65 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -120 V | AMU Offset | : | 124 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -16 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 2.4 V | Axis Offset | : | -0.07 |
| Torch-V | : | 1 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.85 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.2 L/min | Cell Exit | : | -30 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1870 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1540 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -10 V |
| Cell Exit: | -50 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 297.0 | 7.96 |
| 59 | 1162.7 | 4.70 |
| 89 | 1325.3 | 4.13 |

Integration Time: 0.1000sec



Generated : Apr 11, 2013 10:33:44
Printed : Apr 11, 2013 10:34:34

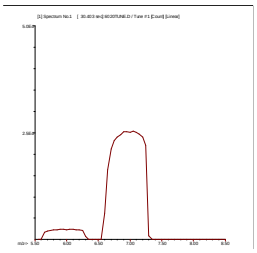
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 11 2013 11:15 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

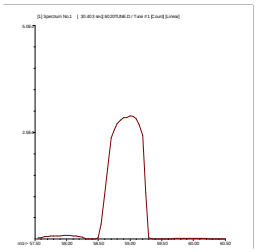
**QC Tune Summary:**
**Pass**

**RSD%**

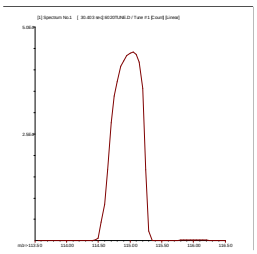
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.74 | 5.00 | 0 |
| 59 Co | 0.85 | 5.00 | |
| 115 In | 0.61 | 5.00 | |
| 205 Tl | 2.99 | 5.00 | |



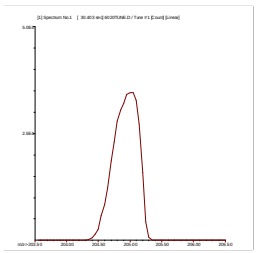
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

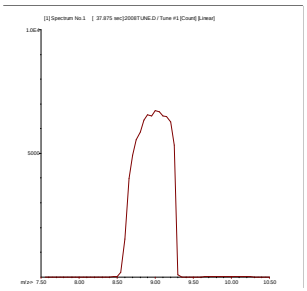
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13D11l00.B\2008TUNE.D
**Date Acquired:** Apr 11 2013 11:20 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

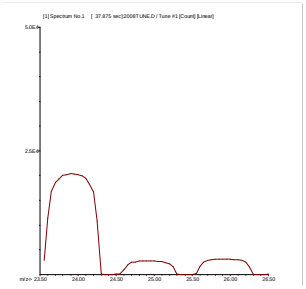


**RSD (%)**

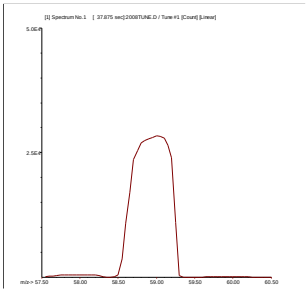
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 39743 | 39231 | 39729 | 39806 | 40077 | 39870 | **1.45** | 5.00 | |
| 24 Mg | 127492 | 127285 | 128087 | 126774 | 127266 | 128048 | **0.96** | 5.00 | |
| 59 Co | 168432 | 169151 | 169603 | 168456 | 166606 | 168344 | **1.19** | 5.00 | |
| 115 In | 240706 | 240853 | 240620 | 241528 | 239270 | 241258 | **0.57** | 5.00 | |
| 208 Pb | 128106 | 127292 | 127982 | 127634 | 128767 | 128853 | **0.82** | 5.00 | |



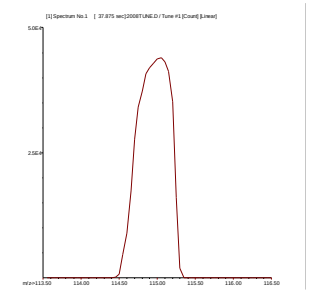
**9 Be**
**Mass Calib.**
Actual: 9.00
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



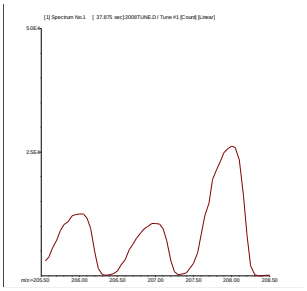
**24 Mg**
**Mass Calib.**
Actual: 23.90
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Apr 11, 2013 02:44 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

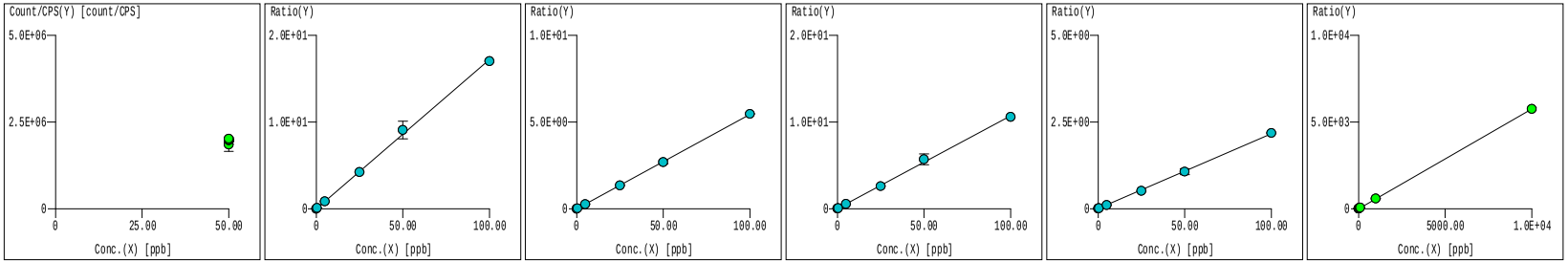
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d11l01.b\002calb.d\002calb.d# | STDA | Apr 11 2013 11:51 am |
| 2 | c:\icpchem\1\data\13d11l01.b\003cals.d\003cals.d# | STDB | Apr 11 2013 11:57 am |
| 3 | c:\icpchem\1\data\13d11l01.b\004cals.d\004cals.d# | STDC | Apr 11 2013 12:04 pm |
| 4 | c:\icpchem\1\data\13d11l01.b\005cals.d\005cals.d# | STDD | Apr 11 2013 12:10 pm |
| 5 | c:\icpchem\1\data\13d11l01.b\006cals.d\006cals.d# | STDE | Apr 11 2013 12:16 pm |
| 6 | c:\icpchem\1\data\13d11l01.b\007cals.d\007cals.d# | STDF | Apr 11 2013 12:23 pm |
| 7 | c:\icpchem\1\data\13d11l01.b\008cals.d\008cals.d# | STDG | Apr 11 2013 12:29 pm |
| 8 | c:\icpchem\1\data\13d11l01.b\009cals.d\009cals.d# | STDH | Apr 11 2013 12:35 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

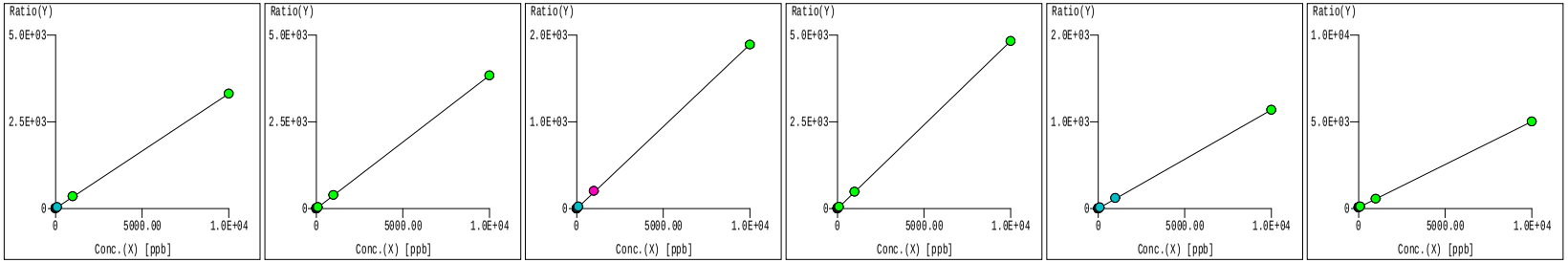
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9994 | 1.0000 | 0.9993 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 2.685E-03 ppb | 3.142E-02 ppb | 2.401E-02 ppb | 1.650E-01 ppb | 2.454E-01 ppb |
| < BEC > | --- ppb | 4.973E-03 ppb | 1.046E-02 ppb | 2.894E-01 ppb | 2.454E-01 ppb | 12.03 ppb |



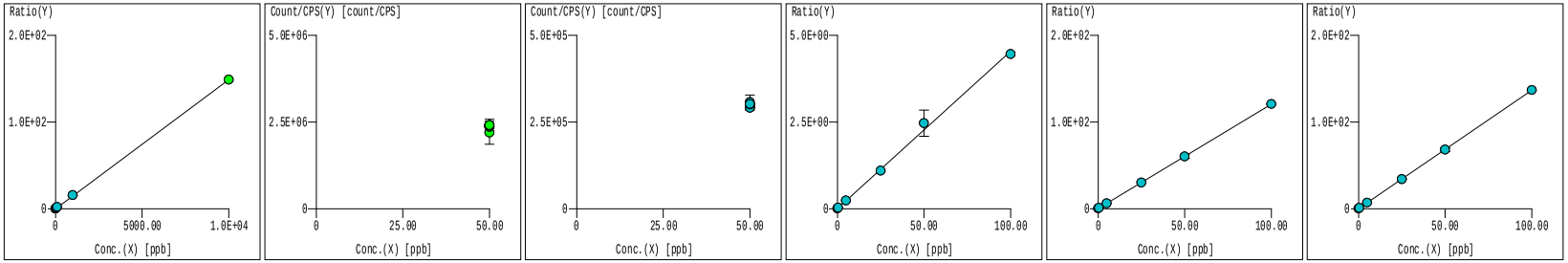

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 3.604E-01 ppb | 1.442E-02 ppb | 1.507E-01 ppb | 3.684E-01 ppb | 4.668E-01 ppb | 2.497 ppb |
| < BEC > | 17.76 ppb | 4.224E-01 ppb | 4.770E-01 ppb | 1.725 ppb | 1.756 ppb | 137.8 ppb |



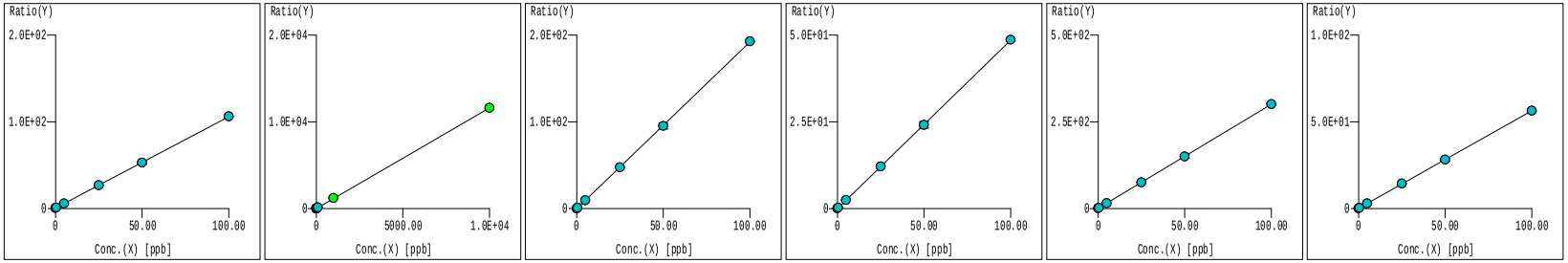
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9985 | 1.0000 | 1.0000 |
| < DL > | 5.999E-01 ppb | --- ppb | --- ppb | 3.883E-02 ppb | 5.143E-03 ppb | 2.201E-02 ppb |
| < BEC > | 8.864 ppb | --- ppb | --- ppb | 2.168E-01 ppb | 3.749E-01 ppb | 2.448E-01 ppb |



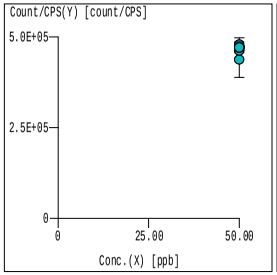

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 3.751E-02 ppb | 7.420E-01 ppb | 3.113E-03 ppb | 1.810E-02 ppb | 3.094E-02 ppb | 1.198E-02 ppb |
| < BEC > | 5.932E-01 ppb | 7.082 ppb | 4.613E-03 ppb | 7.230E-02 ppb | 1.805E-01 ppb | 2.676E-01 ppb |

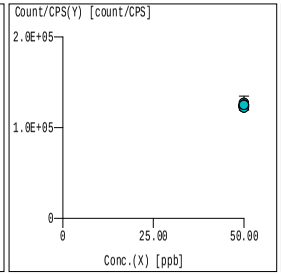


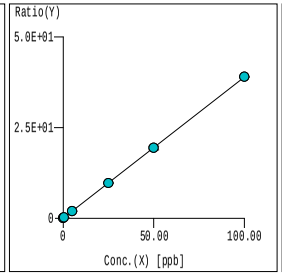
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

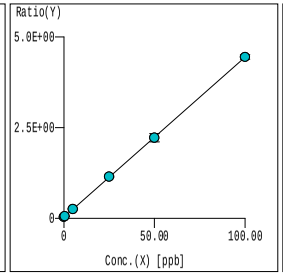
=== Graph Summary ===
Page: 3/4

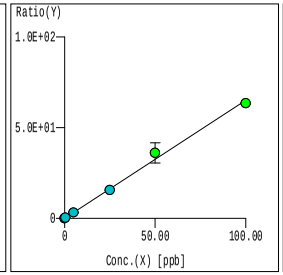
| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9976 | 0.9983 |
| < DL > | --- ppb | --- ppb | 1.491E-02 ppb | 1.058E-01 ppb | 1.337E-03 ppb | 4.957E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.212E-01 ppb | 8.240E-01 ppb | 1.146E-02 ppb | 8.911E-03 ppb |

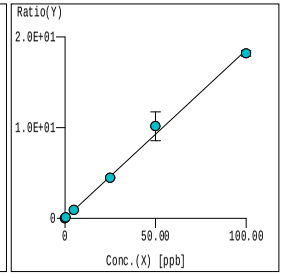


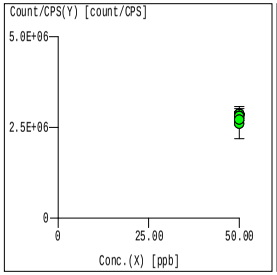



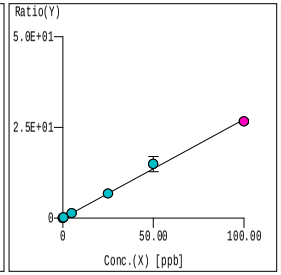



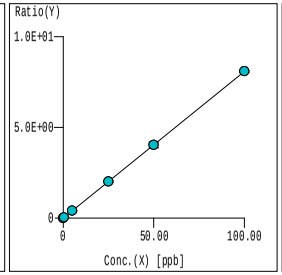



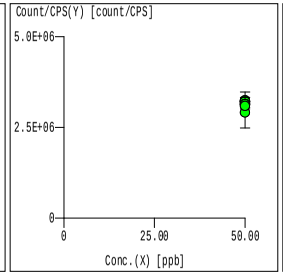



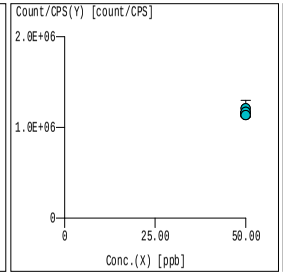

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9983 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.438E-03 ppb | 1.624E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.568E-03 ppb | 4.726E-03 ppb | --- ppb | --- ppb | --- ppb |

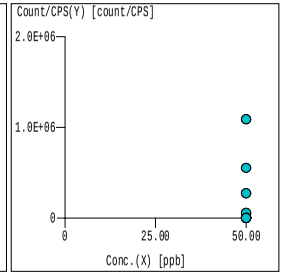


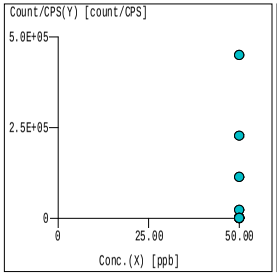



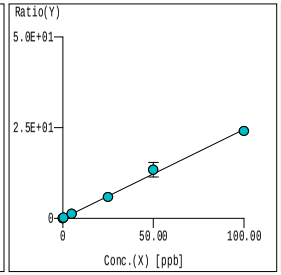



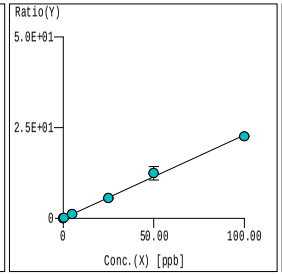
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

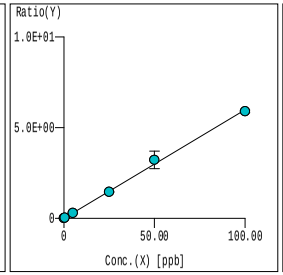
=== Graph Summary ===
Page: 4/4

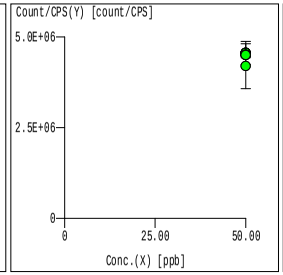
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9983 | 0.9987 | 0.9989 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.681E-02 ppb | 2.302E-03 ppb | 1.437E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.339E-02 ppb | 8.050E-03 ppb | 1.460E-01 ppb | --- ppb | --- ppb |

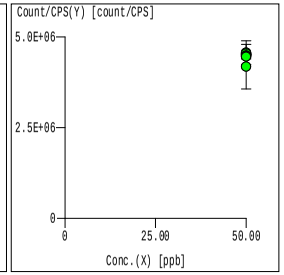


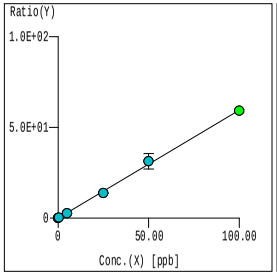



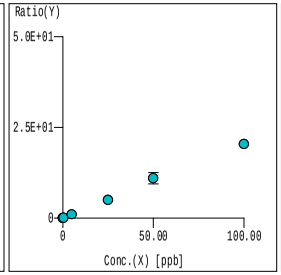



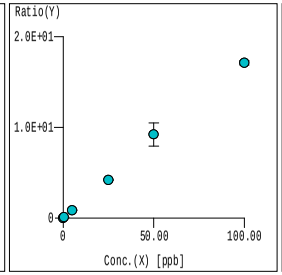



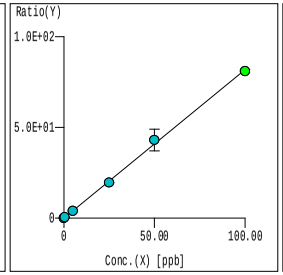



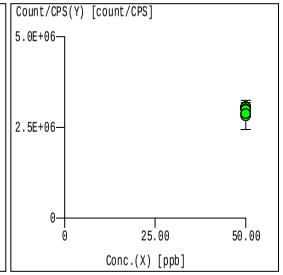

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9993 | 0.9992 | 0.9992 | 0.9994 | 0.0000 |
| < DL > | 1.789E-03 ppb | --- ppb | --- ppb | 1.209E-02 ppb | --- ppb |
| < BEC > | 1.617E-02 ppb | --- ppb | --- ppb | 3.919E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D12k01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\001CAL
Date Acquired: Apr 12 2013 10:40 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 11 2013 12:39 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1941560.00 | A | 14770.00 | 0.76 |
| 7 | (Li) | | P | | |
| 9 | Be | 27.78 | P | 11.71 | 42.16 |
| 9 | Be | 4.44 | P | 7.70 | 173.20 |
| 11 | B | 1434.56 | P | 48.81 | 3.40 |
| 11 | B | 40.00 | P | 15.28 | 38.20 |
| 23 | Na | 423998.59 | P | 880.90 | 0.21 |
| 23 | Na | 41056.71 | P | 608.40 | 1.48 |
| 24 | Mg | 7507.65 | P | 187.40 | 2.50 |
| 24 | Mg | 482.25 | P | 29.13 | 6.04 |
| 27 | Al | 35276.90 | P | 1945.00 | 5.51 |
| 27 | Al | 960.07 | P | 63.60 | 6.62 |
| 39 | K | 3412200.00 | A | 18570.00 | 0.54 |
| 44 | Ca | 6294.87 | P | 119.20 | 1.89 |
| 45 | Sc | 2340560.00 | A | 13370.00 | 0.57 |
| 45 | Sc | 275404.09 | P | 1127.00 | 0.41 |
| 47 | Ti | 194.45 | P | 34.21 | 17.59 |
| 51 | V | 2705.17 | P | 24.82 | 0.92 |
| 52 | Cr | 1832.58 | P | 56.03 | 3.06 |
| 55 | Mn | 3235.05 | P | 58.99 | 1.82 |
| 56 | Fe | 43705.18 | P | 968.90 | 2.22 |
| 59 | Co | 35.56 | P | 3.36 | 9.44 |
| 60 | Ni | 194.23 | P | 10.69 | 5.50 |
| 63 | Cu | 1228.96 | P | 42.93 | 3.49 |
| 66 | Zn | 242.67 | P | 14.42 | 5.94 |
| 72 | Ge | 466357.81 | P | 847.30 | 0.18 |
| 72 | Ge | 117401.20 | P | 416.40 | 0.35 |
| 75 | As | 115.78 | P | 5.00 | 4.32 |
| 78 | Se | 90.22 | P | 6.68 | 7.40 |
| 88 | Sr | 441.14 | P | 23.42 | 5.31 |
| 98 | Mo | 46.67 | P | 6.67 | 14.29 |
| 103 | Rh | 2781810.00 | A | 32720.00 | 1.18 |
| 107 | Ag | 74.45 | P | 10.71 | 14.39 |

C:\ICPCHEM\1\DATA\13D12k01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 4.44 | P | 5.09 | 114.57 |
| 115 | In | 3115303.00 | A | 12850.00 | 0.41 |
| 115 | In | 1083423.00 | P | 9211.00 | 0.85 |
| 118 | (In) | 305.57 | P | 66.70 | 21.83 |
| 118 | (In) | 118.89 | P | 13.88 | 11.67 |
| 120 | Sn | 403.36 | P | 57.84 | 14.34 |
| 121 | Sb | 92.23 | P | 18.36 | 19.91 |
| 137 | Ba | 841.17 | P | 40.05 | 4.76 |
| 159 | Tb | 4336383.00 | A | 12390.00 | 0.29 |
| 175 | Lu | 4298512.00 | A | 3568.00 | 0.08 |
| 205 | Tl | 431.13 | P | 71.21 | 16.52 |
| 206 | (Pb) | 207.79 | P | 15.40 | 7.41 |
| 207 | (Pb) | 182.23 | P | 33.72 | 18.50 |
| 208 | Pb | 1345.65 | P | 40.19 | 2.99 |
| 209 | Bi | 2858902.00 | A | 11490.00 | 0.40 |

C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\002CAL
Date Acquired: Apr 12 2013 10:46 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 10:43 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1906305.00 | A | 53190.00 | 2.79 |
| 7 | (Li) | | P | | |
| 9 | Be | 38.89 | P | 8.39 | 21.57 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 1440.12 | P | 81.73 | 5.68 |
| 11 | B | 36.67 | P | 8.82 | 24.05 |
| 23 | Na | 418256.31 | P | 2711.00 | 0.65 |
| 23 | Na | 40919.67 | P | 395.70 | 0.97 |
| 24 | Mg | 7449.81 | P | 229.20 | 3.08 |
| 24 | Mg | 457.80 | P | 31.51 | 6.88 |
| 27 | Al | 41863.56 | P | 11110.00 | 26.54 |
| 27 | Al | 1030.08 | P | 116.80 | 11.34 |
| 39 | K | 3407005.00 | A | 15320.00 | 0.45 |
| 44 | Ca | 6318.21 | P | 36.69 | 0.58 |
| 45 | Sc | 2252367.00 | A | 153200.00 | 6.80 |
| 45 | Sc | 278050.59 | P | 1788.00 | 0.64 |
| 47 | Ti | 150.01 | P | 15.28 | 10.19 |
| 51 | V | 2845.20 | P | 104.90 | 3.69 |
| 52 | Cr | 1819.69 | P | 49.27 | 2.71 |
| 55 | Mn | 3334.18 | P | 28.11 | 0.84 |
| 56 | Fe | 43771.41 | P | 253.90 | 0.58 |
| 59 | Co | 35.11 | P | 4.29 | 12.21 |
| 60 | Ni | 200.00 | P | 10.07 | 5.03 |
| 63 | Cu | 1203.62 | P | 55.08 | 4.58 |
| 66 | Zn | 251.12 | P | 13.35 | 5.32 |
| 72 | Ge | 455320.19 | P | 17720.00 | 3.89 |
| 72 | Ge | 118016.80 | P | 506.80 | 0.43 |
| 75 | As | 124.22 | P | 5.35 | 4.30 |
| 78 | Se | 89.56 | P | 8.88 | 9.91 |
| 88 | Sr | 450.02 | P | 40.42 | 8.98 |
| 98 | Mo | 30.00 | P | 14.53 | 48.43 |
| 103 | Rh | 2673053.00 | A | 179600.00 | 6.72 |
| 107 | Ag | 82.23 | P | 15.75 | 19.16 |






ACCUTEST LABORATORIES MC19637

C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 0.00 | 0.00 |
| 115 | In | 3013271.00 | A | 172000.00 | 5.71 |
| 115 | In | 1088164.00 | P | 7811.00 | 0.72 |
| 118 | (In) | 297.79 | P | 18.36 | 6.17 |
| 118 | (In) | 123.34 | P | 8.82 | 7.15 |
| 120 | Sn | 405.58 | P | 32.03 | 7.90 |
| 121 | Sb | 68.89 | P | 13.88 | 20.15 |
| 137 | Ba | 823.39 | P | 11.55 | 1.40 |
| 159 | Tb | 4215820.00 | A | 277400.00 | 6.58 |
| 175 | Lu | 4123377.00 | A | 264100.00 | 6.40 |
| 205 | Tl | 394.47 | P | 22.20 | 5.63 |
| 206 | (Pb) | 215.57 | P | 39.06 | 18.12 |
| 207 | (Pb) | 190.01 | P | 16.67 | 8.77 |
| 208 | Pb | 1362.32 | P | 68.35 | 5.02 |
| 209 | Bi | 2801664.00 | A | 133100.00 | 4.75 |

C:\ICPCHEM\1\DATA\13D12k01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 12 2013 10:52 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 10:49 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2025113.00 | A | 77460.00 | 3.83 |
| 7 | (Li) | | P | | |
| 9 | Be | 3306.02 | P | 104.20 | 3.15 |
| 9 | Be | 147.78 | P | 44.76 | 30.29 |
| 11 | B | 2620.32 | P | 63.52 | 2.42 |
| 11 | B | 81.11 | P | 6.94 | 8.55 |
| 23 | Na | 461130.31 | P | 2118.00 | 0.46 |
| 23 | Na | 44341.12 | P | 264.70 | 0.60 |
| 24 | Mg | 18591.68 | P | 205.40 | 1.10 |
| 24 | Mg | 1132.30 | P | 28.74 | 2.54 |
| 27 | Al | 52814.57 | P | 864.00 | 1.64 |
| 27 | Al | 1530.15 | P | 101.20 | 6.61 |
| 39 | K | 3405831.00 | A | 42440.00 | 1.25 |
| 44 | Ca | 7867.85 | P | 188.10 | 2.39 |
| 45 | Sc | 2387561.00 | A | 97720.00 | 4.09 |
| 45 | Sc | 276852.00 | P | 8337.00 | 3.01 |
| 47 | Ti | 1260.10 | P | 83.87 | 6.66 |
| 51 | V | 6158.65 | P | 87.38 | 1.42 |
| 52 | Cr | 5484.61 | P | 82.46 | 1.50 |
| 55 | Mn | 6113.74 | P | 83.39 | 1.36 |
| 56 | Fe | 49567.92 | P | 712.20 | 1.44 |
| 59 | Co | 5293.43 | P | 36.80 | 0.70 |
| 60 | Ni | 1573.88 | P | 54.70 | 3.48 |
| 63 | Cu | 4809.72 | P | 68.12 | 1.42 |
| 66 | Zn | 926.26 | P | 19.05 | 2.06 |
| 72 | Ge | 475793.69 | P | 22190.00 | 4.66 |
| 72 | Ge | 118337.30 | P | 1636.00 | 1.38 |
| 75 | As | 556.68 | P | 14.35 | 2.58 |
| 78 | Se | 134.45 | P | 14.34 | 10.67 |
| 88 | Sr | 17766.72 | P | 46.04 | 0.26 |
| 98 | Mo | 4953.24 | P | 181.70 | 3.67 |
| 103 | Rh | 2831694.00 | A | 134900.00 | 4.76 |
| 107 | Ag | 8144.76 | P | 127.40 | 1.56 |

C:\ICPCHEM\1\DATA\13D12k01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 887.84 | P | 113.50 | 12.78 |
| 115 | In | 3175297.00 | A | 166500.00 | 5.24 |
| 115 | In | 1092411.00 | P | 34460.00 | 3.15 |
| 118 | (In) | 5741.35 | P | 14.53 | 0.25 |
| 118 | (In) | 2214.70 | P | 129.30 | 5.84 |
| 120 | Sn | 7891.31 | P | 221.60 | 2.81 |
| 121 | Sb | 6970.82 | P | 259.90 | 3.73 |
| 137 | Ba | 3179.36 | P | 51.79 | 1.63 |
| 159 | Tb | 4443999.00 | A | 222400.00 | 5.00 |
| 175 | Lu | 4379630.00 | A | 259500.00 | 5.93 |
| 205 | Tl | 13077.75 | P | 158.40 | 1.21 |
| 206 | (Pb) | 6046.00 | P | 224.00 | 3.70 |
| 207 | (Pb) | 5135.61 | P | 199.20 | 3.88 |
| 208 | Pb | 24256.00 | P | 621.20 | 2.56 |
| 209 | Bi | 2914757.00 | A | 154100.00 | 5.29 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2025113.10 | 3.83 | 1906305.10 | 106.2 | 70 - 130 | |
| 45 | Sc | 2387561.00 | 4.09 | 2252367.00 | 106.0 | 70 - 130 | |
| 45 | Sc | 276852.03 | 3.01 | 278050.59 | 99.6 | 70 - 130 | |
| 72 | Ge | 475793.69 | 4.66 | 455320.19 | 104.5 | 70 - 130 | |
| 72 | Ge | 118337.32 | 1.38 | 118016.75 | 100.3 | 70 - 130 | |
| 103 | Rh | 2831693.80 | 4.76 | 2673053.00 | 105.9 | 70 - 130 | |
| 115 | In | 3175296.80 | 5.24 | 3013270.50 | 105.4 | 70 - 130 | |
| 115 | In | 1092410.90 | 3.15 | 1088163.80 | 100.4 | 70 - 130 | |
| 159 | Tb | 4443998.50 | 5.00 | 4215819.50 | 105.4 | 70 - 130 | |
| 175 | Lu | 4379630.50 | 5.93 | 4123377.50 | 106.2 | 70 - 130 | |
| 209 | Bi | 2914756.50 | 5.29 | 2801664.00 | 104.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 12 2013 10:59 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 10:56 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2066511.00 | A | 147700.00 | 7.15 |
| 7 | (Li) | | P | | |
| 9 | Be | 32398.35 | P | 412.60 | 1.27 |
| 9 | Be | 1464.57 | P | 39.07 | 2.67 |
| 11 | B | 20558.41 | P | 373.00 | 1.81 |
| 11 | B | 632.26 | P | 77.49 | 12.26 |
| 23 | Na | 562015.50 | P | 500.50 | 0.09 |
| 23 | Na | 50699.47 | P | 654.70 | 1.29 |
| 24 | Mg | 103198.80 | P | 1297.00 | 1.26 |
| 24 | Mg | 6217.00 | P | 156.00 | 2.51 |
| 27 | Al | 156946.50 | P | 1734.00 | 1.10 |
| 27 | Al | 4573.09 | P | 75.76 | 1.66 |
| 39 | K | 3507785.00 | A | 14910.00 | 0.43 |
| 44 | Ca | 10994.30 | P | 485.60 | 4.42 |
| 45 | Sc | 2524125.00 | A | 233300.00 | 9.24 |
| 45 | Sc | 277801.50 | P | 3561.00 | 1.28 |
| 47 | Ti | 10525.07 | P | 462.00 | 4.39 |
| 51 | V | 35787.88 | P | 151.00 | 0.42 |
| 52 | Cr | 39185.10 | P | 245.40 | 0.63 |
| 55 | Mn | 31797.89 | P | 256.10 | 0.81 |
| 56 | Fe | 81549.31 | P | 597.70 | 0.73 |
| 59 | Co | 52576.76 | P | 129.80 | 0.25 |
| 60 | Ni | 13663.59 | P | 158.70 | 1.16 |
| 63 | Cu | 36475.58 | P | 503.90 | 1.38 |
| 66 | Zn | 6753.31 | P | 26.68 | 0.40 |
| 72 | Ge | 493079.69 | P | 38640.00 | 7.84 |
| 72 | Ge | 118242.40 | P | 1147.00 | 0.97 |
| 75 | As | 4709.65 | P | 43.39 | 0.92 |
| 78 | Se | 573.57 | P | 11.95 | 2.08 |
| 88 | Sr | 175140.59 | P | 1169.00 | 0.67 |
| 98 | Mo | 49972.63 | P | 375.10 | 0.75 |
| 103 | Rh | 2984827.00 | A | 285800.00 | 9.58 |
| 107 | Ag | 82097.11 | P | 1630.00 | 1.99 |

C:\ICPCHEM\1\DATA\13D12k01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8580.58 | P | 150.90 | 1.76 |
| 115 | In | 3327244.00 | A | 312200.00 | 9.38 |
| 115 | In | 1086114.00 | P | 17500.00 | 1.61 |
| 118 | (In) | 53572.12 | P | 785.30 | 1.47 |
| 118 | (In) | 21517.57 | P | 499.40 | 2.32 |
| 120 | Sn | 73279.24 | P | 370.80 | 0.51 |
| 121 | Sb | 69688.45 | P | 431.60 | 0.62 |
| 137 | Ba | 26006.33 | P | 204.20 | 0.79 |
| 159 | Tb | 4702455.00 | A | 435000.00 | 9.25 |
| 175 | Lu | 4650016.00 | A | 403600.00 | 8.68 |
| 205 | Tl | 142037.59 | P | 5059.00 | 3.56 |
| 206 | (Pb) | 57476.48 | P | 927.80 | 1.61 |
| 207 | (Pb) | 48658.75 | P | 342.50 | 0.70 |
| 208 | Pb | 226537.50 | P | 2041.00 | 0.90 |
| 209 | Bi | 3087323.00 | A | 247200.00 | 8.01 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2066510.80 | 7.15 | 1906305.10 | 108.4 | 70 - 130 | |
| 45 | Sc | 2524125.50 | 9.24 | 2252367.00 | 112.1 | 70 - 130 | |
| 45 | Sc | 277801.47 | 1.28 | 278050.59 | 99.9 | 70 - 130 | |
| 72 | Ge | 493079.69 | 7.84 | 455320.19 | 108.3 | 70 - 130 | |
| 72 | Ge | 118242.37 | 0.97 | 118016.75 | 100.2 | 70 - 130 | |
| 103 | Rh | 2984826.80 | 9.58 | 2673053.00 | 111.7 | 70 - 130 | |
| 115 | In | 3327244.30 | 9.38 | 3013270.50 | 110.4 | 70 - 130 | |
| 115 | In | 1086113.80 | 1.61 | 1088163.80 | 99.8 | 70 - 130 | |
| 159 | Tb | 4702455.50 | 9.25 | 4215819.50 | 111.5 | 70 - 130 | |
| 175 | Lu | 4650016.00 | 8.68 | 4123377.50 | 112.8 | 70 - 130 | |
| 209 | Bi | 3087323.30 | 8.01 | 2801664.00 | 110.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 12 2013 11:05 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 11:02 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1971165.00 | A | 27850.00 | 1.41 |
| 7 | (Li) | | P | | |
| 9 | Be | 161614.09 | P | 1458.00 | 0.90 |
| 9 | Be | 7299.74 | P | 198.60 | 2.72 |
| 11 | B | 99040.04 | P | 1316.00 | 1.33 |
| 11 | B | 2867.03 | P | 218.70 | 7.63 |
| 23 | Na | 1139453.00 | P | 5841.00 | 0.51 |
| 23 | Na | 92994.59 | P | 362.40 | 0.39 |
| 24 | Mg | 483744.31 | P | 4388.00 | 0.91 |
| 24 | Mg | 29916.09 | P | 400.20 | 1.34 |
| 27 | Al | 618184.50 | P | 2814.00 | 0.46 |
| 27 | Al | 17985.38 | P | 365.20 | 2.03 |
| 39 | K | 3987615.00 | A | 19610.00 | 0.49 |
| 44 | Ca | 29623.74 | P | 500.30 | 1.69 |
| 45 | Sc | 2317420.00 | A | 10100.00 | 0.44 |
| 45 | Sc | 275746.50 | P | 1064.00 | 0.39 |
| 47 | Ti | 50700.88 | P | 269.30 | 0.53 |
| 51 | V | 168790.41 | P | 591.70 | 0.35 |
| 52 | Cr | 189963.30 | P | 1947.00 | 1.02 |
| 55 | Mn | 145887.09 | P | 440.30 | 0.30 |
| 56 | Fe | 220887.59 | P | 1467.00 | 0.66 |
| 59 | Co | 264287.41 | P | 1111.00 | 0.42 |
| 60 | Ni | 67501.46 | P | 200.30 | 0.30 |
| 63 | Cu | 175601.41 | P | 844.60 | 0.48 |
| 66 | Zn | 33297.55 | P | 147.60 | 0.44 |
| 72 | Ge | 459730.19 | P | 591.50 | 0.13 |
| 72 | Ge | 117450.70 | P | 753.00 | 0.64 |
| 75 | As | 22835.43 | P | 191.00 | 0.84 |
| 78 | Se | 2557.12 | P | 52.31 | 2.05 |
| 88 | Sr | 861808.63 | P | 7880.00 | 0.91 |
| 98 | Mo | 246133.09 | P | 3080.00 | 1.25 |
| 103 | Rh | 2733856.00 | A | 4256.00 | 0.16 |
| 107 | Ag | 414356.09 | P | 2260.00 | 0.55 |

C:\ICPCHEM\1\DATA\13D12k01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 43133.87 | P | 319.50 | 0.74 |
| 115 | In | 3090638.00 | A | 28360.00 | 0.92 |
| 115 | In | 1084910.00 | P | 5350.00 | 0.49 |
| 118 | (In) | 261750.41 | P | 530.10 | 0.20 |
| 118 | (In) | 105441.30 | P | 1681.00 | 1.59 |
| 120 | Sn | 362126.81 | P | 1909.00 | 0.53 |
| 121 | Sb | 347650.81 | P | 2475.00 | 0.71 |
| 137 | Ba | 128129.50 | P | 1036.00 | 0.81 |
| 159 | Tb | 4331641.00 | A | 15480.00 | 0.36 |
| 175 | Lu | 4258610.00 | A | 15810.00 | 0.37 |
| 205 | Tl | 786605.13 | P | 12080.00 | 1.54 |
| 206 | (Pb) | 284430.50 | P | 1335.00 | 0.47 |
| 207 | (Pb) | 243509.30 | P | 1960.00 | 0.80 |
| 208 | Pb | 1127178.00 | P | 5077.00 | 0.45 |
| 209 | Bi | 2851213.00 | A | 18240.00 | 0.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1971165.00 | 1.41 | 1906305.10 | 103.4 | 70 - 130 | |
| 45 | Sc | 2317420.00 | 0.44 | 2252367.00 | 102.9 | 70 - 130 | |
| 45 | Sc | 275746.53 | 0.39 | 278050.59 | 99.2 | 70 - 130 | |
| 72 | Ge | 459730.25 | 0.13 | 455320.19 | 101.0 | 70 - 130 | |
| 72 | Ge | 117450.70 | 0.64 | 118016.75 | 99.5 | 70 - 130 | |
| 103 | Rh | 2733856.30 | 0.16 | 2673053.00 | 102.3 | 70 - 130 | |
| 115 | In | 3090638.00 | 0.92 | 3013270.50 | 102.6 | 70 - 130 | |
| 115 | In | 1084910.30 | 0.49 | 1088163.80 | 99.7 | 70 - 130 | |
| 159 | Tb | 4331641.00 | 0.36 | 4215819.50 | 102.7 | 70 - 130 | |
| 175 | Lu | 4258610.00 | 0.37 | 4123377.50 | 103.3 | 70 - 130 | |
| 209 | Bi | 2851213.30 | 0.64 | 2801664.00 | 101.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 12 2013 11:11 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 11:09 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1957005.00 | A | 41830.00 | 2.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 321612.50 | P | 2519.00 | 0.78 |
| 9 | Be | 14680.57 | P | 193.90 | 1.32 |
| 11 | B | 200222.30 | P | 1867.00 | 0.93 |
| 11 | B | 5900.19 | P | 155.40 | 2.63 |
| 23 | Na | 1847276.00 | A | 10880.00 | 0.59 |
| 23 | Na | 141751.41 | P | 989.40 | 0.70 |
| 24 | Mg | 956592.69 | P | 4785.00 | 0.50 |
| 24 | Mg | 58154.52 | P | 441.60 | 0.76 |
| 27 | Al | 1184422.00 | P | 2842.00 | 0.24 |
| 27 | Al | 33576.85 | P | 241.50 | 0.72 |
| 39 | K | 4544121.00 | A | 15830.00 | 0.35 |
| 44 | Ca | 52230.41 | P | 249.40 | 0.48 |
| 45 | Sc | 2310440.00 | A | 6512.00 | 0.28 |
| 45 | Sc | 276858.00 | P | 1301.00 | 0.47 |
| 47 | Ti | 102661.20 | P | 692.40 | 0.67 |
| 51 | V | 330886.91 | P | 782.80 | 0.24 |
| 52 | Cr | 372877.81 | P | 1722.00 | 0.46 |
| 55 | Mn | 288414.59 | P | 1206.00 | 0.42 |
| 56 | Fe | 396410.91 | P | 1902.00 | 0.48 |
| 59 | Co | 526026.00 | P | 1813.00 | 0.34 |
| 60 | Ni | 133344.09 | P | 1160.00 | 0.87 |
| 63 | Cu | 345851.50 | P | 2377.00 | 0.69 |
| 66 | Zn | 64871.05 | P | 799.90 | 1.23 |
| 72 | Ge | 457711.31 | P | 2785.00 | 0.61 |
| 72 | Ge | 117155.00 | P | 830.90 | 0.71 |
| 75 | As | 44963.17 | P | 154.60 | 0.34 |
| 78 | Se | 4942.39 | P | 93.60 | 1.89 |
| 88 | Sr | 1777058.00 | A | 4468.00 | 0.25 |
| 98 | Mo | 497088.19 | P | 2991.00 | 0.60 |
| 103 | Rh | 2741192.00 | A | 16660.00 | 0.61 |
| 107 | Ag | 815898.31 | P | 3033.00 | 0.37 |

C:\ICPCHEM\1\DATA\13D12k01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 85244.01 | P | 955.30 | 1.12 |
| 115 | In | 3074056.00 | A | 27710.00 | 0.90 |
| 115 | In | 1078852.00 | P | 15170.00 | 1.41 |
| 118 | (In) | 527734.19 | P | 2414.00 | 0.46 |
| 118 | (In) | 212176.09 | P | 2707.00 | 1.28 |
| 120 | Sn | 727641.38 | P | 3025.00 | 0.42 |
| 121 | Sb | 683526.00 | P | 2199.00 | 0.32 |
| 137 | Ba | 253444.80 | P | 1154.00 | 0.46 |
| 159 | Tb | 4328329.00 | A | 15390.00 | 0.36 |
| 175 | Lu | 4286392.00 | A | 3192.00 | 0.07 |
| 205 | Tl | 1611290.00 | P | 14170.00 | 0.88 |
| 206 | (Pb) | 565447.88 | P | 2410.00 | 0.43 |
| 207 | (Pb) | 480099.31 | P | 2290.00 | 0.48 |
| 208 | Pb | 2241267.00 | P | 12110.00 | 0.54 |
| 209 | Bi | 2855381.00 | A | 45480.00 | 1.59 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1957005.40 | 2.14 | 1906305.10 | 102.7 | 70 - 130 | |
| 45 | Sc | 2310440.00 | 0.28 | 2252367.00 | 102.6 | 70 - 130 | |
| 45 | Sc | 276857.97 | 0.47 | 278050.59 | 99.6 | 70 - 130 | |
| 72 | Ge | 457711.34 | 0.61 | 455320.19 | 100.5 | 70 - 130 | |
| 72 | Ge | 117155.03 | 0.71 | 118016.75 | 99.3 | 70 - 130 | |
| 103 | Rh | 2741191.80 | 0.61 | 2673053.00 | 102.5 | 70 - 130 | |
| 115 | In | 3074056.30 | 0.90 | 3013270.50 | 102.0 | 70 - 130 | |
| 115 | In | 1078851.80 | 1.41 | 1088163.80 | 99.1 | 70 - 130 | |
| 159 | Tb | 4328329.50 | 0.36 | 4215819.50 | 102.7 | 70 - 130 | |
| 175 | Lu | 4286391.50 | 0.07 | 4123377.50 | 104.0 | 70 - 130 | |
| 209 | Bi | 2855380.80 | 1.59 | 2801664.00 | 101.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 12 2013 11:18 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 11:15 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1954485.00 | A | 24580.00 | 1.26 |
| 7 | (Li) | | P | | |
| 9 | Be | 655995.88 | P | 3388.00 | 0.52 |
| 9 | Be | 29688.73 | P | 95.48 | 0.32 |
| 11 | B | 401096.81 | P | 2992.00 | 0.75 |
| 11 | B | 11714.72 | P | 68.43 | 0.58 |
| 23 | Na | 3220763.00 | A | 19350.00 | 0.60 |
| 23 | Na | 242624.41 | P | 1334.00 | 0.55 |
| 24 | Mg | 1974196.00 | A | 10580.00 | 0.54 |
| 24 | Mg | 116935.80 | P | 377.90 | 0.32 |
| 27 | Al | 2396013.00 | A | 14860.00 | 0.62 |
| 27 | Al | 67564.71 | P | 385.50 | 0.57 |
| 39 | K | 5700728.00 | A | 21400.00 | 0.38 |
| 44 | Ca | 96935.28 | P | 722.50 | 0.75 |
| 45 | Sc | 2300507.00 | A | 17520.00 | 0.76 |
| 45 | Sc | 276103.09 | P | 1183.00 | 0.43 |
| 47 | Ti | 204710.70 | P | 1270.00 | 0.62 |
| 51 | V | 668491.19 | P | 1707.00 | 0.26 |
| 52 | Cr | 756708.19 | P | 2507.00 | 0.33 |
| 55 | Mn | 576917.63 | P | 2239.00 | 0.39 |
| 56 | Fe | 751027.31 | P | 4439.00 | 0.59 |
| 59 | Co | 1061958.00 | P | 2941.00 | 0.28 |
| 60 | Ni | 268553.41 | P | 882.00 | 0.33 |
| 63 | Cu | 702360.00 | P | 917.30 | 0.13 |
| 66 | Zn | 130539.90 | P | 595.50 | 0.46 |
| 72 | Ge | 456708.91 | P | 2535.00 | 0.56 |
| 72 | Ge | 116635.00 | P | 569.10 | 0.49 |
| 75 | As | 91001.72 | P | 341.20 | 0.37 |
| 78 | Se | 10086.31 | P | 44.72 | 0.44 |
| 88 | Sr | 3504465.00 | A | 44220.00 | 1.26 |
| 98 | Mo | 998103.69 | P | 3582.00 | 0.36 |
| 103 | Rh | 2735168.00 | A | 15260.00 | 0.56 |
| 107 | Ag | 1672264.00 | P | 15660.00 | 0.94 |

C:\ICPCHEM\1\DATA\13D12k01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 172470.30 | P | 1385.00 | 0.80 |
| 115 | In | 3066678.00 | A | 22830.00 | 0.74 |
| 115 | In | 1068783.00 | P | 4143.00 | 0.39 |
| 118 | (In) | 1058569.00 | P | 4755.00 | 0.45 |
| 118 | (In) | 424591.50 | P | 3004.00 | 0.71 |
| 120 | Sn | 1459465.00 | P | 13940.00 | 0.96 |
| 121 | Sb | 1393839.00 | P | 2914.00 | 0.21 |
| 137 | Ba | 516807.09 | P | 2087.00 | 0.40 |
| 159 | Tb | 4355680.00 | A | 15870.00 | 0.36 |
| 175 | Lu | 4293277.00 | A | 37420.00 | 0.87 |
| 205 | Tl | 3383305.00 | A | 25060.00 | 0.74 |
| 206 | (Pb) | 1154340.00 | P | 1308.00 | 0.11 |
| 207 | (Pb) | 984545.88 | P | 9553.00 | 0.97 |
| 208 | Pb | 4609742.00 | A | 12290.00 | 0.27 |
| 209 | Bi | 2824410.00 | A | 31780.00 | 1.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1954484.50 | 1.26 | 1906305.10 | 102.5 | 70 - 130 | |
| 45 | Sc | 2300507.00 | 0.76 | 2252367.00 | 102.1 | 70 - 130 | |
| 45 | Sc | 276103.13 | 0.43 | 278050.59 | 99.3 | 70 - 130 | |
| 72 | Ge | 456708.94 | 0.56 | 455320.19 | 100.3 | 70 - 130 | |
| 72 | Ge | 116635.01 | 0.49 | 118016.75 | 98.8 | 70 - 130 | |
| 103 | Rh | 2735168.00 | 0.56 | 2673053.00 | 102.3 | 70 - 130 | |
| 115 | In | 3066678.50 | 0.74 | 3013270.50 | 101.8 | 70 - 130 | |
| 115 | In | 1068783.30 | 0.39 | 1088163.80 | 98.2 | 70 - 130 | |
| 159 | Tb | 4355680.00 | 0.36 | 4215819.50 | 103.3 | 70 - 130 | |
| 175 | Lu | 4293277.50 | 0.87 | 4123377.50 | 104.1 | 70 - 130 | |
| 209 | Bi | 2824410.30 | 1.13 | 2801664.00 | 100.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 12 2013 11:24 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 11:21 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1920452.00 | A | 6126.00 | 0.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 112.23 | P | 17.11 | 15.25 |
| 9 | Be | 6.67 | P | 5.77 | 86.61 |
| 11 | B | 2849.24 | P | 149.30 | 5.24 |
| 11 | B | 62.22 | P | 22.20 | 35.68 |
| 23 | Na | 27501810.00 | A | 290000.00 | 1.05 |
| 23 | Na | 1986712.00 | A | 29690.00 | 1.49 |
| 24 | Mg | 18176730.00 | A | 143900.00 | 0.79 |
| 24 | Mg | 1135325.00 | P | 3199.00 | 0.28 |
| 27 | Al | 22636270.00 | A | 176100.00 | 0.78 |
| 27 | Al | 664755.63 | P | 5010.00 | 0.75 |
| 39 | K | 26576770.00 | A | 255700.00 | 0.96 |
| 44 | Ca | 735400.50 | P | 6199.00 | 0.84 |
| 45 | Sc | 2329223.00 | A | 18130.00 | 0.78 |
| 45 | Sc | 278833.09 | P | 509.30 | 0.18 |
| 47 | Ti | 228.90 | P | 44.39 | 19.39 |
| 51 | V | 2729.18 | P | 32.51 | 1.19 |
| 52 | Cr | 1802.36 | P | 4.68 | 0.26 |
| 55 | Mn | 3551.57 | P | 74.21 | 2.09 |
| 56 | Fe | 6751659.00 | A | 20990.00 | 0.31 |
| 59 | Co | 292.45 | P | 10.01 | 3.42 |
| 60 | Ni | 300.90 | P | 20.37 | 6.77 |
| 63 | Cu | 1376.97 | P | 75.45 | 5.48 |
| 66 | Zn | 440.23 | P | 16.88 | 3.83 |
| 72 | Ge | 460677.59 | P | 2111.00 | 0.46 |
| 72 | Ge | 118063.10 | P | 172.20 | 0.15 |
| 75 | As | 126.67 | P | 9.17 | 7.24 |
| 78 | Se | 101.33 | P | 1.16 | 1.14 |
| 88 | Sr | 1228.99 | P | 68.67 | 5.59 |
| 98 | Mo | 1210.09 | P | 175.70 | 14.52 |
| 103 | Rh | 2709194.00 | A | 4846.00 | 0.18 |
| 107 | Ag | 373.35 | P | 18.56 | 4.97 |

C:\ICPCHEM\1\DATA\13D12k01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 36.67 | P | 12.02 | 32.78 |
| 115 | In | 3082733.00 | A | 13920.00 | 0.45 |
| 115 | In | 1088503.00 | P | 6646.00 | 0.61 |
| 118 | (In) | 1579.04 | P | 244.50 | 15.48 |
| 118 | (In) | 1025.63 | P | 62.57 | 6.10 |
| 120 | Sn | 2019.11 | P | 266.90 | 13.22 |
| 121 | Sb | 1616.82 | P | 262.50 | 16.24 |
| 137 | Ba | 924.53 | P | 102.20 | 11.05 |
| 159 | Tb | 4346766.00 | A | 55340.00 | 1.27 |
| 175 | Lu | 4288024.00 | A | 37880.00 | 0.88 |
| 205 | Tl | 4679.84 | P | 116.70 | 2.49 |
| 206 | (Pb) | 427.80 | P | 44.39 | 10.38 |
| 207 | (Pb) | 361.13 | P | 48.57 | 13.45 |
| 208 | Pb | 2189.05 | P | 102.20 | 4.67 |
| 209 | Bi | 2839533.00 | A | 10730.00 | 0.38 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1920452.00 | 0.32 | 1906305.10 | 100.7 | 70 - 130 | |
| 45 | Sc | 2329223.00 | 0.78 | 2252367.00 | 103.4 | 70 - 130 | |
| 45 | Sc | 278833.16 | 0.18 | 278050.59 | 100.3 | 70 - 130 | |
| 72 | Ge | 460677.59 | 0.46 | 455320.19 | 101.2 | 70 - 130 | |
| 72 | Ge | 118063.13 | 0.15 | 118016.75 | 100.0 | 70 - 130 | |
| 103 | Rh | 2709193.80 | 0.18 | 2673053.00 | 101.4 | 70 - 130 | |
| 115 | In | 3082733.50 | 0.45 | 3013270.50 | 102.3 | 70 - 130 | |
| 115 | In | 1088502.80 | 0.61 | 1088163.80 | 100.0 | 70 - 130 | |
| 159 | Tb | 4346766.00 | 1.27 | 4215819.50 | 103.1 | 70 - 130 | |
| 175 | Lu | 4288023.50 | 0.88 | 4123377.50 | 104.0 | 70 - 130 | |
| 209 | Bi | 2839533.50 | 0.38 | 2801664.00 | 101.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 12 2013 11:35 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 12 2013 11:28 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1867340.00 | A | 3450.00 | 0.18 |
| 7 | (Li) | | P | | |
| 9 | Be | 44.45 | P | 15.75 | 35.44 |
| 9 | Be | 4.44 | P | 5.09 | 114.56 |
| 11 | B | 1351.22 | P | 47.30 | 3.50 |
| 11 | B | 32.22 | P | 11.71 | 36.34 |
| 23 | Na | 262577200.00 | A | 1320000.00 | 0.50 |
| 23 | Na | 18422220.00 | A | 153800.00 | 0.83 |
| 24 | Mg | 176382400.00 | A | 1333000.00 | 0.76 |
| 24 | Mg | 10498360.00 | A | 55880.00 | 0.53 |
| 27 | Al | 222081100.00 | A | 1330000.00 | 0.60 |
| 27 | Al | 6254893.00 | A | 84570.00 | 1.35 |
| 39 | K | 232417410.00 | A | 1687000.00 | 0.73 |
| 44 | Ca | 6907840.00 | A | 29200.00 | 0.42 |
| 45 | Sc | 2326292.00 | A | 16660.00 | 0.72 |
| 45 | Sc | 281031.91 | P | 982.00 | 0.35 |
| 47 | Ti | 160.01 | P | 16.67 | 10.42 |
| 51 | V | 2591.81 | P | 88.93 | 3.43 |
| 52 | Cr | 2470.46 | P | 20.93 | 0.85 |
| 55 | Mn | 4536.73 | P | 141.30 | 3.11 |
| 56 | Fe | 65156248.00 | A | 457000.00 | 0.70 |
| 59 | Co | 1556.10 | P | 114.00 | 7.33 |
| 60 | Ni | 660.91 | P | 12.39 | 1.87 |
| 63 | Cu | 1461.43 | P | 41.64 | 2.85 |
| 66 | Zn | 2134.83 | P | 108.30 | 5.07 |
| 72 | Ge | 463139.19 | P | 1413.00 | 0.31 |
| 72 | Ge | 119040.60 | P | 388.10 | 0.33 |
| 75 | As | 144.00 | P | 9.33 | 6.48 |
| 78 | Se | 104.67 | P | 7.21 | 6.89 |
| 88 | Sr | 5696.86 | P | 100.90 | 1.77 |
| 98 | Mo | 426.69 | P | 53.65 | 12.57 |
| 103 | Rh | 2665983.00 | A | 9262.00 | 0.35 |
| 107 | Ag | 1356.78 | P | 125.30 | 9.24 |

C:\ICPCHEM\1\DATA\13D12k01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 230.01 | P | 40.00 | 17.39 |
| 115 | In | 3024718.00 | A | 31840.00 | 1.05 |
| 115 | In | 1064675.00 | P | 1585.00 | 0.15 |
| 118 | (In) | 767.83 | P | 24.12 | 3.14 |
| 118 | (In) | 431.14 | P | 72.76 | 16.88 |
| 120 | Sn | 944.51 | P | 70.74 | 7.49 |
| 121 | Sb | 748.94 | P | 61.95 | 8.27 |
| 137 | Ba | 1467.91 | P | 43.38 | 2.96 |
| 159 | Tb | 4304310.00 | A | 17790.00 | 0.41 |
| 175 | Lu | 4284700.00 | A | 21160.00 | 0.49 |
| 205 | Tl | 1431.25 | P | 151.30 | 10.57 |
| 206 | (Pb) | 898.96 | P | 34.22 | 3.81 |
| 207 | (Pb) | 786.72 | P | 51.32 | 6.52 |
| 208 | Pb | 4097.09 | P | 78.61 | 1.92 |
| 209 | Bi | 2740208.00 | A | 22780.00 | 0.83 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1867340.10 | 0.18 | 1906305.10 | 98.0 | 70 - 130 | |
| 45 | Sc | 2326291.80 | 0.72 | 2252367.00 | 103.3 | 70 - 130 | |
| 45 | Sc | 281031.88 | 0.35 | 278050.59 | 101.1 | 70 - 130 | |
| 72 | Ge | 463139.16 | 0.31 | 455320.19 | 101.7 | 70 - 130 | |
| 72 | Ge | 119040.63 | 0.33 | 118016.75 | 100.9 | 70 - 130 | |
| 103 | Rh | 2665982.80 | 0.35 | 2673053.00 | 99.7 | 70 - 130 | |
| 115 | In | 3024718.00 | 1.05 | 3013270.50 | 100.4 | 70 - 130 | |
| 115 | In | 1064674.60 | 0.15 | 1088163.80 | 97.8 | 70 - 130 | |
| 159 | Tb | 4304310.00 | 0.41 | 4215819.50 | 102.1 | 70 - 130 | |
| 175 | Lu | 4284699.50 | 0.49 | 4123377.50 | 103.9 | 70 - 130 | |
| 209 | Bi | 2740208.30 | 0.83 | 2801664.00 | 97.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D12k01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 12 2013 11:41 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 63.81 | 63.81 | ppb | 2.99 | 900.00 | |
| 9 Be | 45 | 2 | 61.03 | 61.03 | ppb | 3.81 | 900.00 | |
| 11 B | 6 | 1 | 60.80 | 60.80 | ppb | 2.84 | 900.00 | |
| 11 B | 45 | 2 | 57.57 | 57.57 | ppb | 3.06 | 900.00 | |
| 23 Na | 45 | 1 | 5839.00 | 5839.00 | ppb | 4.52 | 90000.00 | |
| 23 Na | 45 | 2 | 5742.00 | 5742.00 | ppb | 4.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 5952.00 | 5952.00 | ppb | 4.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 5859.00 | 5859.00 | ppb | 4.08 | 90000.00 | |
| 27 Al | 45 | 1 | 5814.00 | 5814.00 | ppb | 3.93 | 90000.00 | |
| 27 Al | 45 | 2 | 5854.00 | 5854.00 | ppb | 4.16 | 90000.00 | |
| 39 K | 45 | 1 | 5889.00 | 5889.00 | ppb | 3.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 5965.00 | 5965.00 | ppb | 4.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 61.91 | 61.91 | ppb | 3.36 | 900.00 | |
| 51 V | 45 | 2 | 61.82 | 61.82 | ppb | 4.11 | 900.00 | |
| 52 Cr | 45 | 2 | 60.52 | 60.52 | ppb | 4.21 | 900.00 | |
| 55 Mn | 45 | 2 | 60.77 | 60.77 | ppb | 4.03 | 900.00 | |
| 56 Fe | 45 | 2 | 5774.00 | 5774.00 | ppb | 3.93 | 90000.00 | |
| 59 Co | 45 | 2 | 59.66 | 59.66 | ppb | 3.90 | 900.00 | |
| 60 Ni | 45 | 2 | 59.72 | 59.72 | ppb | 3.77 | 900.00 | |
| 63 Cu | 72 | 2 | 57.79 | 57.79 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | 59.25 | 59.25 | ppb | 2.45 | 900.00 | |
| 75 As | 72 | 2 | 60.88 | 60.88 | ppb | 2.08 | 900.00 | |
| 78 Se | 72 | 2 | 60.54 | 60.54 | ppb | 3.60 | 900.00 | |
| 88 Sr | 103 | 1 | 64.26 | 64.26 | ppb | 3.50 | 900.00 | |
| 98 Mo | 103 | 1 | 64.70 | 64.70 | ppb | 3.97 | 900.00 | |
| 107 Ag | 115 | 1 | 61.58 | 61.58 | ppb | 3.46 | 180.00 | |
| 111 Cd | 115 | 2 | 60.08 | 60.08 | ppb | 3.74 | 900.00 | |
| 120 Sn | 115 | 1 | 61.93 | 61.93 | ppb | 4.06 | 900.00 | |
| 121 Sb | 115 | 1 | 63.74 | 63.74 | ppb | 4.35 | 900.00 | |
| 137 Ba | 159 | 1 | 62.74 | 62.74 | ppb | 3.55 | 900.00 | |
| 205 Tl | 209 | 1 | 59.87 | 59.87 | ppb | 1.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 61.79 | 61.79 | ppb | 2.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1845995 | 2.72 | 1906305 | 96.8 | 70 - 130 | |
| 45 Sc | 1 | 2244018 | 4.08 | 2252367 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 275135 | 4.10 | 278051 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 447154 | 3.24 | 455320 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 117719 | 2.53 | 118017 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 2567970 | 3.84 | 2673053 | 96.1 | 70 | - | 130 |
| 115 In | 1 | 2912107 | 3.91 | 3013271 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1058010 | 3.80 | 1088164 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 4177102 | 3.49 | 4215820 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 4095071 | 3.23 | 4123378 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2656644 | 2.59 | 2801664 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\011SMPL.D\011SMPL.D#
**Date Acquired:** Apr 12 2013 11:48 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICB
**Misc Info:**
**Vial Number:** 2102
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 27.64 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 304.32 | 900.00 | |
| 11 B | 6 | 1 | 0.00 | 0.00 | ppb | 288.93 | 900.00 | |
| 11 B | 45 | 2 | 0.01 | 0.01 | ppb | 614.17 | 900.00 | |
| 23 Na | 45 | 1 | -0.01 | -0.01 | ppb | 946.88 | 90000.00 | |
| 23 Na | 45 | 2 | 0.65 | 0.65 | ppb | 38.24 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.11 | -0.11 | ppb | 15.91 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.06 | -0.06 | ppb | 115.78 | 90000.00 | |
| 27 Al | 45 | 1 | -0.96 | -0.96 | ppb | 12.56 | 90000.00 | |
| 27 Al | 45 | 2 | -0.57 | -0.57 | ppb | 20.32 | 90000.00 | |
| 39 K | 45 | 1 | -8.39 | -8.39 | ppb | 10.53 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.12 | -1.12 | ppb | 17.34 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 38.46 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 65.31 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 18.89 | 900.00 | |
| 55 Mn | 45 | 2 | -0.37 | -0.37 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | -2.08 | -2.08 | ppb | 3.29 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 447.33 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 46.88 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 16.77 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 15.35 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 128.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 70.04 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 16.70 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 7.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 49.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 480.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 27.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 15.48 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 24.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.13 | ppb | 2.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 42.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1946947 | 0.54 | 1906305 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 2328709 | 0.35 | 2252367 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 281520 | 0.30 | 278051 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 464534 | 0.29 | 455320 | 102.0 | 70 | - | 130 |
| 72 Ge | 2 | 120029 | 0.69 | 118017 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 2763043 | 0.17 | 2673053 | 103.4 | 70 | - | 130 |
| 115 In | 1 | 3101189 | 0.91 | 3013271 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1103844 | 0.10 | 1088164 | 101.4 | 70 | - | 130 |
| 159 Tb | 1 | 4373803 | 0.16 | 4215820 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 4289784 | 0.34 | 4123378 | 104.0 | 70 | - | 130 |
| 209 Bi | 1 | 2845809 | 1.06 | 2801664 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 12 2013 11:55 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.52 | 51.52 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 49.08 | 49.08 | ppb | 2.33 | 900.00 | |
| 11 B | 6 | 1 | 51.20 | 51.20 | ppb | 1.67 | 900.00 | |
| 11 B | 45 | 2 | 47.93 | 47.93 | ppb | 2.97 | 900.00 | |
| 23 Na | 45 | 1 | 5067.00 | 5067.00 | ppb | 0.19 | 90000.00 | |
| 23 Na | 45 | 2 | 4976.00 | 4976.00 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 5057.00 | 5057.00 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 5036.00 | 5036.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 5010.00 | 5010.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 2 | 5085.00 | 5085.00 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 4997.00 | 4997.00 | ppb | 1.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 5122.00 | 5122.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.48 | 49.48 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 49.14 | 49.14 | ppb | 2.02 | 900.00 | |
| 52 Cr | 45 | 2 | 48.55 | 48.55 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 48.52 | 48.52 | ppb | 2.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5014.00 | 5014.00 | ppb | 2.48 | 90000.00 | |
| 59 Co | 45 | 2 | 48.28 | 48.28 | ppb | 2.05 | 900.00 | |
| 60 Ni | 45 | 2 | 48.21 | 48.21 | ppb | 2.37 | 900.00 | |
| 63 Cu | 72 | 2 | 47.52 | 47.52 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 48.55 | 48.55 | ppb | 0.81 | 900.00 | |
| 75 As | 72 | 2 | 49.92 | 49.92 | ppb | 0.87 | 900.00 | |
| 78 Se | 72 | 2 | 49.49 | 49.49 | ppb | 1.18 | 900.00 | |
| 88 Sr | 103 | 1 | 51.04 | 51.04 | ppb | 0.33 | 900.00 | |
| 98 Mo | 103 | 1 | 50.96 | 50.96 | ppb | 0.62 | 900.00 | |
| 107 Ag | 115 | 1 | 49.14 | 49.14 | ppb | 0.16 | 180.00 | |
| 111 Cd | 115 | 2 | 48.87 | 48.87 | ppb | 1.62 | 900.00 | |
| 120 Sn | 115 | 1 | 50.70 | 50.70 | ppb | 0.23 | 900.00 | |
| 121 Sb | 115 | 1 | 51.11 | 51.11 | ppb | 0.22 | 900.00 | |
| 137 Ba | 159 | 1 | 49.93 | 49.93 | ppb | 0.24 | 900.00 | |
| 205 Tl | 209 | 1 | 47.72 | 47.72 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.17 | 49.17 | ppb | 0.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1913921 | 0.94 | 1906305 | 100.4 | 70 - 130 | |
| 45 Sc | 1 | 2346546 | 0.47 | 2252367 | 104.2 | 70 - 130 | |
| 45 Sc | 2 | 283869 | 1.68 | 278051 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463376 | 0.46 | 455320 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 119727 | 0.33 | 118017 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 2711323 | 1.03 | 2673053 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 3055838 | 0.23 | 3013271 | 101.4 | 70 | - | 130 |
| 115 In | 2 | 1082911 | 0.92 | 1088164 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 4362678 | 0.37 | 4215820 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 4295636 | 0.56 | 4123378 | 104.2 | 70 | - | 130 |
| 209 Bi | 1 | 2796060 | 0.66 | 2801664 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 12 2013 12:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 114.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 208.95 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 21.10 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 113.11 | 900.00 | |
| 23 Na | 45 | 1 | 0.61 | 0.61 | ppb | 19.99 | 90000.00 | |
| 23 Na | 45 | 2 | 1.25 | 1.25 | ppb | 33.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.03 | 0.03 | ppb | 24.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.14 | 0.14 | ppb | 7.41 | 90000.00 | |
| 27 Al | 45 | 1 | -1.00 | -1.00 | ppb | 2.37 | 90000.00 | |
| 27 Al | 45 | 2 | -0.66 | -0.66 | ppb | 18.57 | 90000.00 | |
| 39 K | 45 | 1 | -8.11 | -8.11 | ppb | 13.47 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.59 | -0.59 | ppb | 61.22 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 52.61 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 25.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 9.97 | 900.00 | |
| 55 Mn | 45 | 2 | -0.41 | -0.41 | ppb | 1.60 | 900.00 | |
| 56 Fe | 45 | 2 | -2.20 | -2.20 | ppb | 2.36 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 112.34 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 35.79 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 13.87 | 900.00 | |
| 66 Zn | 72 | 2 | -0.06 | -0.06 | ppb | 6.70 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 2959.10 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.12 | ppb | 23.01 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 41.18 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 14.99 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 56.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 18.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 24.22 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 11.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.15 | ppb | 2.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 30.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1933328 | 0.18 | 1906305 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2321413 | 0.85 | 2252367 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 281601 | 0.71 | 278051 | 101.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 464773 | 1.10 | 455320 | 102.1 | 70 | - | 130 |
| 72 Ge | 2 | 119928 | 0.35 | 118017 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 2766258 | 0.42 | 2673053 | 103.5 | 70 | - | 130 |
| 115 In | 1 | 3121603 | 1.62 | 3013271 | 103.6 | 70 | - | 130 |
| 115 In | 2 | 1104771 | 0.80 | 1088164 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 4355304 | 0.79 | 4215820 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 4311379 | 0.84 | 4123378 | 104.6 | 70 | - | 130 |
| 209 Bi | 1 | 2869469 | 0.48 | 2801664 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 12 2013 12:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 5.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.53 | ppb | 21.62 | 900.00 | |
| 11 B | 6 | 1 | 4.78 | 4.78 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 4.90 | 4.90 | ppb | 12.40 | 900.00 | |
| 23 Na | 45 | 1 | 254.70 | 254.70 | ppb | 1.82 | 90000.00 | |
| 23 Na | 45 | 2 | 267.00 | 267.00 | ppb | 1.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 263.10 | 263.10 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 269.10 | 269.10 | ppb | 2.11 | 90000.00 | |
| 27 Al | 45 | 1 | 24.89 | 24.89 | ppb | 1.68 | 90000.00 | |
| 27 Al | 45 | 2 | 25.57 | 25.57 | ppb | 1.43 | 90000.00 | |
| 39 K | 45 | 1 | 242.90 | 242.90 | ppb | 1.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 260.10 | 260.10 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 1.01 | ppb | 8.47 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 1.26 | 900.00 | |
| 52 Cr | 45 | 2 | 0.92 | 0.92 | ppb | 2.90 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 3.13 | 900.00 | |
| 56 Fe | 45 | 2 | 23.68 | 23.68 | ppb | 1.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.93 | 0.93 | ppb | 4.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.91 | 0.91 | ppb | 2.71 | 900.00 | |
| 66 Zn | 72 | 2 | 1.92 | 1.92 | ppb | 1.89 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 1.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.67 | 0.67 | ppb | 12.34 | 900.00 | |
| 88 Sr | 103 | 1 | 4.82 | 4.82 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 2.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 2.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 6.48 | 900.00 | |
| 120 Sn | 115 | 1 | 4.79 | 4.79 | ppb | 2.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 3.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.95 | 0.95 | ppb | 2.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 3.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1939898 | 1.00 | 1906305 | 101.8 | 70 - 130 | |
| 45 Sc | 1 | 2312522 | 0.93 | 2252367 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 285526 | 1.42 | 278051 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463508 | 1.11 | 455320 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 121106 | 1.68 | 118017 | 102.6 | 70 | - | 130 |
| 103 Rh | 1 | 2720720 | 1.05 | 2673053 | 101.8 | 70 | - | 130 |
| 115 In | 1 | 3071595 | 1.56 | 3013271 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 1124807 | 1.83 | 1088164 | 103.4 | 70 | - | 130 |
| 159 Tb | 1 | 4300551 | 1.25 | 4215820 | 102.0 | 70 | - | 130 |
| 175 Lu | 1 | 4246421 | 1.01 | 4123378 | 103.0 | 70 | - | 130 |
| 209 Bi | 1 | 2839896 | 1.27 | 2801664 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D12k01.B\015SMPL.D\015SMPL.D#** | | |
| **Date Acquired:** | **Apr 12 2013 12:14 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSA** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2106** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 12 2013 11:39 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 206.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 259.08 | 900.00 | |
| 11 B | 6 | 1 | 0.01 | 0.01 | ppb | 262.69 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 92.13 | 900.00 | |
| 23 Na | 45 | 1 | 91310.00 | 91310.00 | ppb | 2.42 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 94650.00 | 94650.00 | ppb | 0.50 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92900.00 | 92900.00 | ppb | 3.82 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 95300.00 | 95300.00 | ppb | 0.93 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 90970.00 | 90970.00 | ppb | 3.48 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92120.00 | 92120.00 | ppb | 0.98 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97090.00 | 97090.00 | ppb | 2.32 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97480.00 | 97480.00 | ppb | 2.30 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2058.00 | 2058.00 | ppb | 1.37 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.04 | -0.04 | ppb | 24.46 | 900.00 | |
| 52 Cr | 45 | 2 | 1.06 | 1.06 | ppb | 2.87 | 900.00 | |
| 55 Mn | 45 | 2 | -0.11 | -0.11 | ppb | 7.46 | 900.00 | |
| 56 Fe | 45 | 2 | 99110.00 | 99110.00 | ppb | 0.25 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 9.57 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 1.69 | 900.00 | |
| 63 Cu | 72 | 2 | 0.21 | 0.21 | ppb | 1.58 | 900.00 | |
| 66 Zn | 72 | 2 | 1.70 | 1.70 | ppb | 2.26 | 900.00 | |
| 75 As | 72 | 2 | 0.19 | 0.19 | ppb | 3.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 205.37 | 900.00 | |
| 88 Sr | 103 | 1 | 4.69 | 4.69 | ppb | 2.90 | 900.00 | |
| 98 Mo | 103 | 1 | 2116.00 | 2116.00 | ppb | 1.18 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 6.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.83 | 0.83 | ppb | 2.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 10.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 2.00 | 900.00 | |
| 137 Ba | 159 | 1 | 0.16 | 0.16 | ppb | 6.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 11.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 2.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1451009 | 0.63 | 1906305 | 76.1 | 70 - 130 | |
| 45 Sc | 1 | 2133405 | 2.24 | 2252367 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 257515 | 0.46 | 278051 | 92.6 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 454699 | 1.07 | 455320 | 99.9 | 70 | - | 130 |
| 72 | Ge | 2 | 114402 | 0.57 | 118017 | 96.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2430806 | 2.48 | 2673053 | 90.9 | 70 | - | 130 |
| 115 | In | 1 | 2857215 | 2.12 | 3013271 | 94.8 | 70 | - | 130 |
| 115 | In | 2 | 1002220 | 0.69 | 1088164 | 92.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4217335 | 3.12 | 4215820 | 100.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4215177 | 3.18 | 4123378 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2566559 | 2.01 | 2801664 | 91.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 12 2013 12:21 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 100.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 207.60 | 900.00 | |
| 11 B | 6 | 1 | 0.00 | 0.00 | ppb | 515.22 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 0.71 | 900.00 | |
| 23 Na | 45 | 1 | 84700.00 | 84700.00 | ppb | 1.67 | 90000.00 | |
| 23 Na | 45 | 2 | 93720.00 | 93720.00 | ppb | 0.97 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 86430.00 | 86430.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 93640.00 | 93640.00 | ppb | 0.76 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 86310.00 | 86310.00 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 2 | 91420.00 | 91420.00 | ppb | 0.36 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94460.00 | 94460.00 | ppb | 1.48 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96040.00 | 96040.00 | ppb | 0.16 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2036.00 | 2036.00 | ppb | 0.51 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 5.35 | 900.00 | |
| 52 Cr | 45 | 2 | 20.55 | 20.55 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 19.73 | 19.73 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 99920.00 | 99920.00 | ppb | 0.42 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.11 | 19.11 | ppb | 0.43 | 900.00 | |
| 60 Ni | 45 | 2 | 19.34 | 19.34 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 16.98 | 16.98 | ppb | 0.42 | 900.00 | |
| 66 Zn | 72 | 2 | 19.50 | 19.50 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 20.07 | 20.07 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.21 | 0.21 | ppb | 19.92 | 900.00 | |
| 88 Sr | 103 | 1 | 4.59 | 4.59 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 2089.00 | 2089.00 | ppb | 0.45 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 18.66 | 18.66 | ppb | 1.64 | 180.00 | |
| 111 Cd | 115 | 2 | 20.02 | 20.02 | ppb | 0.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 5.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 2.27 | 900.00 | |
| 137 Ba | 159 | 1 | 0.18 | 0.18 | ppb | 13.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 13.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 3.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1239281 | 1.85 | 1906305 | 65.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2104559 | 1.16 | 2252367 | 93.4 | 70 - 130 | |
| 45 Sc | 2 | 249869 | 0.21 | 278051 | 89.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 453901 | 0.26 | 455320 | 99.7 | 70 | - | 130 |
| 72 Ge | 2 | 112616 | 0.40 | 118017 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 2508858 | 0.59 | 2673053 | 93.9 | 70 | - | 130 |
| 115 In | 1 | 2946348 | 1.19 | 3013271 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 1001548 | 0.66 | 1088164 | 92.0 | 70 | - | 130 |
| 159 Tb | 1 | 4391107 | 0.92 | 4215820 | 104.2 | 70 | - | 130 |
| 175 Lu | 1 | 4371204 | 0.99 | 4123378 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 2640783 | 1.22 | 2801664 | 94.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Apr 12 2013 12:31 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** RINSECONF
**Misc Info:**
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 72.68 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2010.00 | 900.00 | |
| 11 B | 6 | 1 | -0.13 | -0.13 | ppb | 18.28 | 900.00 | |
| 11 B | 45 | 2 | -0.16 | -0.16 | ppb | 51.93 | 900.00 | |
| 23 Na | 45 | 1 | 7.68 | 7.68 | ppb | 3.21 | 90000.00 | |
| 23 Na | 45 | 2 | 13.71 | 13.71 | ppb | 16.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.65 | 2.65 | ppb | 13.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.62 | 4.62 | ppb | 41.04 | 90000.00 | |
| 27 Al | 45 | 1 | 1.36 | 1.36 | ppb | 22.72 | 90000.00 | |
| 27 Al | 45 | 2 | 3.14 | 3.14 | ppb | 42.63 | 90000.00 | |
| 39 K | 45 | 1 | -20.64 | -20.64 | ppb | 7.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.66 | 0.66 | ppb | 37.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.08 | 0.08 | ppb | 35.04 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 13.16 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 9.53 | 900.00 | |
| 55 Mn | 45 | 2 | -0.40 | -0.40 | ppb | 2.17 | 900.00 | |
| 56 Fe | 45 | 2 | 2.72 | 2.72 | ppb | 59.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 147.51 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 97.15 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 2.92 | 900.00 | |
| 66 Zn | 72 | 2 | -0.03 | -0.03 | ppb | 7.23 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.04 | ppb | 37.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 46.52 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | -0.01 | ppb | 4.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.41 | 0.41 | ppb | 12.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 16.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 490.36 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 26.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 30.61 | 900.00 | |
| 137 Ba | 159 | 1 | -0.07 | -0.07 | ppb | 10.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 45.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 95.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1204193 | 1.45 | 1906305 | 63.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2136176 | 1.21 | 2252367 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 254917 | 0.30 | 278051 | 91.7 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 462770 | 0.32 | 455320 | 101.6 | 70 | - | 130 |
| 72 | Ge | 2 | 116087 | 0.30 | 118017 | 98.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2868231 | 0.60 | 2673053 | 107.3 | 70 | - | 130 |
| 115 | In | 1 | 3278039 | 0.93 | 3013271 | 108.8 | 70 | - | 130 |
| 115 | In | 2 | 1109669 | 0.30 | 1088164 | 102.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4643461 | 1.99 | 4215820 | 110.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4558312 | 0.84 | 4123378 | 110.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3055133 | 0.61 | 2801664 | 109.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | |
|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D12k01.B\018SMPL.D\018SMPL.D#** |
| **Date Acquired:** | **Apr 12 2013 12:37 pm** |
| **Acq. Method:** | **EPA6020V.M** |
| **Operator:** | **METALS** |
| **Sample Name:** | **MP20760-MB1** |
| **Misc Info:** | |
| **Vial Number:** | **2109** |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** |
| **Last Cal. Update:** | **Apr 12 2013 11:39 am** |
| **Sample Type:** | **Sample** |
| **Dilution Factor:** | **2.00** |
| **Autodil Factor:** | **Undiluted** |
| **Final Dil Factor:** | **2.00** |

**Data Results:**
**Analytes: Pass**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 151.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 493.92 | 900.00 | |
| 11 B | 6 | 1 | -0.03 | -0.02 | ppb | 63.93 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.04 | ppb | 46.44 | 900.00 | |
| 23 Na | 45 | 1 | 26.40 | 13.20 | ppb | 2.04 | 90000.00 | |
| 23 Na | 45 | 2 | 37.72 | 18.86 | ppb | 1.82 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.71 | 0.86 | ppb | 8.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.84 | 0.92 | ppb | 17.65 | 90000.00 | |
| 27 Al | 45 | 1 | 0.49 | 0.25 | ppb | 29.26 | 90000.00 | |
| 27 Al | 45 | 2 | 1.05 | 0.53 | ppb | 12.75 | 90000.00 | |
| 39 K | 45 | 1 | -37.08 | -18.54 | ppb | 5.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 34.28 | 17.14 | ppb | 1.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.23 | ppb | 6.65 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 2.65 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.05 | ppb | 23.39 | 900.00 | |
| 55 Mn | 45 | 2 | -0.44 | -0.22 | ppb | 8.66 | 900.00 | |
| 56 Fe | 45 | 2 | 3.99 | 2.00 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 139.01 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 37.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.12 | 0.06 | ppb | 15.25 | 900.00 | |
| 66 Zn | 72 | 2 | 0.89 | 0.44 | ppb | 6.32 | 900.00 | |
| 75 As | 72 | 2 | 0.36 | 0.18 | ppb | 14.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 86.21 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 12.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.54 | 0.27 | ppb | 15.64 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 3.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 24.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 4.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 7.67 | 900.00 | |
| 137 Ba | 159 | 1 | -0.03 | -0.02 | ppb | 89.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 25.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 89.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 981007 | 0.58 | 1906305 | 51.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1974289 | 0.27 | 2252367 | 87.7 | 70 - 130 | |
| 45 Sc | 2 | 230333 | 0.26 | 278051 | 82.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 445596 | 0.35 | 455320 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 108687 | 0.49 | 118017 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 2804483 | 0.23 | 2673053 | 104.9 | 70 | - | 130 |
| 115 In | 1 | 3178137 | 1.34 | 3013271 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1065231 | 0.94 | 1088164 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 4608320 | 0.35 | 4215820 | 109.3 | 70 | - | 130 |
| 175 Lu | 1 | 4574414 | 0.63 | 4123378 | 110.9 | 70 | - | 130 |
| 209 Bi | 1 | 3057219 | 0.62 | 2801664 | 109.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\019SMPL.D\019SMPL.D#
Date Acquired: Apr 12 2013 12:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-15F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 52.54 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 311.14 | 900.00 | |
| 11 B | 6 | 1 | 263.40 | 131.70 | ppb | 7.54 | 900.00 | |
| 11 B | 45 | 2 | 179.90 | 89.95 | ppb | 2.45 | 900.00 | |
| 23 Na | 45 | 1 | 10950.00 | 5475.00 | ppb | 11.29 | 90000.00 | |
| 23 Na | 45 | 2 | 13780.00 | 6890.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 2614.00 | 1307.00 | ppb | 12.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 3368.00 | 1684.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 11.68 | 5.84 | ppb | 14.54 | 900.00 | |
| 27 Al | 45 | 2 | 15.27 | 7.63 | ppb | 5.63 | 90000.00 | |
| 39 K | 45 | 1 | 2710.00 | 1355.00 | ppb | 13.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 21060.00 | 10530.00 | ppb | 12.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.12 | 0.56 | ppb | 17.14 | 900.00 | |
| 51 V | 45 | 2 | 1.29 | 0.65 | ppb | 4.34 | 900.00 | |
| 52 Cr | 45 | 2 | 2.70 | 1.35 | ppb | 3.01 | 900.00 | |
| 55 Mn | 45 | 2 | 3258.00 | 1629.00 | ppb | 0.68 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 33440.00 | 16720.00 | ppb | 1.72 | 90000.00 | |
| 59 Co | 45 | 2 | 5.44 | 2.72 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 52.74 | 26.37 | ppb | 0.90 | 900.00 | |
| 63 Cu | 72 | 2 | 0.46 | 0.23 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 9.57 | 4.79 | ppb | 1.79 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.27 | ppb | 7.09 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.03 | ppb | 304.69 | 900.00 | |
| 88 Sr | 103 | 1 | 162.40 | 81.20 | ppb | 13.62 | 900.00 | |
| 98 Mo | 103 | 1 | 2.58 | 1.29 | ppb | 10.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 27.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 31.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.10 | ppb | 14.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.49 | 0.24 | ppb | 12.00 | 900.00 | |
| 137 Ba | 159 | 1 | 22.12 | 11.06 | ppb | 11.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 37.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 13.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 887099 | 6.16 | 1906305 | 46.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2024653 | 11.29 | 2252367 | 89.9 | 70 - 130 | |
| 45 Sc | 2 | 218012 | 0.58 | 278051 | 78.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464907 | 8.04 | 455320 | 102.1 | 70 | - | 130 |
| 72 | Ge | 2 | 106830 | 0.52 | 118017 | 90.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2830740 | 11.77 | 2673053 | 105.9 | 70 | - | 130 |
| 115 | In | 1 | 3312392 | 11.78 | 3013271 | 109.9 | 70 | - | 130 |
| 115 | In | 2 | 1024293 | 0.45 | 1088164 | 94.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4882791 | 11.06 | 4215820 | 115.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4902226 | 10.36 | 4123378 | 118.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3124730 | 8.78 | 2801664 | 111.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 12 2013 12:50 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-8F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 51.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 205.74 | 900.00 | |
| 11 B | 6 | 1 | 156.70 | 78.35 | ppb | 4.66 | 900.00 | |
| 11 B | 45 | 2 | 103.88 | 51.94 | ppb | 3.31 | 900.00 | |
| 23 Na | 45 | 1 | 24220.00 | 12110.00 | ppb | 2.12 | 90000.00 | |
| 23 Na | 45 | 2 | 28880.00 | 14440.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 27180.00 | 13590.00 | ppb | 1.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 31860.00 | 15930.00 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 1 | 2.34 | 1.17 | ppb | 5.58 | 90000.00 | |
| 27 Al | 45 | 2 | 3.97 | 1.99 | ppb | 8.92 | 90000.00 | |
| 39 K | 45 | 1 | 7238.00 | 3619.00 | ppb | 1.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 161100.00 | 80550.00 | ppb | 0.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.68 | 0.84 | ppb | 2.69 | 900.00 | |
| 51 V | 45 | 2 | 2.12 | 1.06 | ppb | 4.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.59 | 0.30 | ppb | 3.82 | 900.00 | |
| 55 Mn | 45 | 2 | 881.40 | 440.70 | ppb | 1.64 | 900.00 | |
| 56 Fe | 45 | 2 | 5424.00 | 2712.00 | ppb | 1.25 | 90000.00 | |
| 59 Co | 45 | 2 | 0.27 | 0.14 | ppb | 5.61 | 900.00 | |
| 60 Ni | 45 | 2 | 3.00 | 1.50 | ppb | 2.26 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.23 | ppb | 0.94 | 900.00 | |
| 66 Zn | 72 | 2 | 12.66 | 6.33 | ppb | 0.27 | 900.00 | |
| 75 As | 72 | 2 | 96.50 | 48.25 | ppb | 0.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.18 | ppb | 118.47 | 900.00 | |
| 88 Sr | 103 | 1 | 759.60 | 379.80 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 0.99 | 0.49 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 27.85 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 118.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 2.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 5.41 | 900.00 | |
| 137 Ba | 159 | 1 | 85.96 | 42.98 | ppb | 0.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 41.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 46.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 831923 | 4.66 | 1906305 | 43.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1870523 | 2.53 | 2252367 | 83.0 | 70 - 130 | |
| 45 Sc | 2 | 215965 | 0.67 | 278051 | 77.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 413533 | 1.10 | 455320 | 90.8 | 70 | - | 130 |
| 72 Ge | 2 | 101537 | 0.47 | 118017 | 86.0 | 70 | - | 130 |
| 103 Rh | 1 | 2505845 | 0.78 | 2673053 | 93.7 | 70 | - | 130 |
| 115 In | 1 | 2980388 | 1.37 | 3013271 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 990327 | 0.42 | 1088164 | 91.0 | 70 | - | 130 |
| 159 Tb | 1 | 4479924 | 1.40 | 4215820 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 4489978 | 1.92 | 4123378 | 108.9 | 70 | - | 130 |
| 209 Bi | 1 | 2782692 | 1.26 | 2801664 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 12 2013 12:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-9F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 78.72 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 296.35 | 900.00 | |
| 11 B | 6 | 1 | 273.80 | 136.90 | ppb | 1.24 | 900.00 | |
| 11 B | 45 | 2 | 181.90 | 90.95 | ppb | 1.74 | 900.00 | |
| 23 Na | 45 | 1 | 31020.00 | 15510.00 | ppb | 1.62 | 90000.00 | |
| 23 Na | 45 | 2 | 36400.00 | 18200.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 25220.00 | 12610.00 | ppb | 1.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 29120.00 | 14560.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 1.82 | 0.91 | ppb | 6.54 | 90000.00 | |
| 27 Al | 45 | 2 | 2.97 | 1.49 | ppb | 7.14 | 90000.00 | |
| 39 K | 45 | 1 | 8038.00 | 4019.00 | ppb | 0.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 159700.00 | 79850.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.91 | 0.95 | ppb | 5.16 | 900.00 | |
| 51 V | 45 | 2 | 1.60 | 0.80 | ppb | 1.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.85 | 0.42 | ppb | 3.57 | 900.00 | |
| 55 Mn | 45 | 2 | 1217.00 | 608.50 | ppb | 1.35 | 900.00 | |
| 56 Fe | 45 | 2 | 12582.00 | 6291.00 | ppb | 1.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.39 | 0.20 | ppb | 2.58 | 900.00 | |
| 60 Ni | 45 | 2 | 4.68 | 2.34 | ppb | 2.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.09 | ppb | 3.70 | 900.00 | |
| 66 Zn | 72 | 2 | 13.26 | 6.63 | ppb | 1.35 | 900.00 | |
| 75 As | 72 | 2 | 56.80 | 28.40 | ppb | 0.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.05 | ppb | 72.03 | 900.00 | |
| 88 Sr | 103 | 1 | 761.40 | 380.70 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 1.46 | 0.73 | ppb | 3.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 61.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 6.81 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 4.20 | 900.00 | |
| 137 Ba | 159 | 1 | 57.80 | 28.90 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 46.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 16.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 878359 | 1.86 | 1906305 | 46.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1904539 | 0.74 | 2252367 | 84.6 | 70 - 130 | |
| 45 Sc | 2 | 221470 | 0.15 | 278051 | 79.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 421131 | 0.53 | 455320 | 92.5 | 70 | - | 130 |
| 72 Ge | 2 | 103022 | 0.45 | 118017 | 87.3 | 70 | - | 130 |
| 103 Rh | 1 | 2542384 | 0.49 | 2673053 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 3005841 | 1.20 | 3013271 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 995673 | 0.53 | 1088164 | 91.5 | 70 | - | 130 |
| 159 Tb | 1 | 4513135 | 1.32 | 4215820 | 107.1 | 70 | - | 130 |
| 175 Lu | 1 | 4541183 | 1.69 | 4123378 | 110.1 | 70 | - | 130 |
| 209 Bi | 1 | 2792655 | 0.56 | 2801664 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 12 2013 01:02 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-10F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.02 | ppb | 9.01 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 294.15 | 900.00 | |
| 11 B | 6 | 1 | 274.80 | 137.40 | ppb | 0.76 | 900.00 | |
| 11 B | 45 | 2 | 183.82 | 91.91 | ppb | 3.76 | 900.00 | |
| 23 Na | 45 | 1 | 31300.00 | 15650.00 | ppb | 1.51 | 90000.00 | |
| 23 Na | 45 | 2 | 36780.00 | 18390.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 25260.00 | 12630.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 29140.00 | 14570.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 23.04 | 11.52 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 2 | 28.16 | 14.08 | ppb | 2.91 | 90000.00 | |
| 39 K | 45 | 1 | 8046.00 | 4023.00 | ppb | 0.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 159400.00 | 79700.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.95 | 0.98 | ppb | 3.00 | 900.00 | |
| 51 V | 45 | 2 | 1.58 | 0.79 | ppb | 1.75 | 900.00 | |
| 52 Cr | 45 | 2 | 1.60 | 0.80 | ppb | 2.74 | 900.00 | |
| 55 Mn | 45 | 2 | 1210.60 | 605.30 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 12658.00 | 6329.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.36 | 0.18 | ppb | 3.04 | 900.00 | |
| 60 Ni | 45 | 2 | 4.41 | 2.21 | ppb | 2.18 | 900.00 | |
| 63 Cu | 72 | 2 | 0.78 | 0.39 | ppb | 2.02 | 900.00 | |
| 66 Zn | 72 | 2 | 23.28 | 11.64 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 57.88 | 28.94 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 67.23 | 900.00 | |
| 88 Sr | 103 | 1 | 764.40 | 382.20 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 1.32 | 0.66 | ppb | 3.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 6.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 64.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.25 | 0.13 | ppb | 6.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 7.94 | 900.00 | |
| 137 Ba | 159 | 1 | 58.72 | 29.36 | ppb | 0.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 114.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.22 | 0.11 | ppb | 2.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 906418 | 0.51 | 1906305 | 47.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1918873 | 0.69 | 2252367 | 85.2 | 70 - 130 | |
| 45 Sc | 2 | 222544 | 0.33 | 278051 | 80.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 419439 | 0.15 | 455320 | 92.1 | 70 | - | 130 |
| 72 Ge | 2 | 102927 | 0.47 | 118017 | 87.2 | 70 | - | 130 |
| 103 Rh | 1 | 2531554 | 0.44 | 2673053 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 3012547 | 0.58 | 3013271 | 100.0 | 70 | - | 130 |
| 115 In | 2 | 990999 | 0.99 | 1088164 | 91.1 | 70 | - | 130 |
| 159 Tb | 1 | 4444881 | 0.37 | 4215820 | 105.4 | 70 | - | 130 |
| 175 Lu | 1 | 4468041 | 0.47 | 4123378 | 108.4 | 70 | - | 130 |
| 209 Bi | 1 | 2801988 | 0.72 | 2801664 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 12 2013 01:08 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-11F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 45.72 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 851.42 | 900.00 | |
| 11 B | 6 | 1 | 354.00 | 177.00 | ppb | 0.76 | 900.00 | |
| 11 B | 45 | 2 | 248.00 | 124.00 | ppb | 1.05 | 900.00 | |
| 23 Na | 45 | 1 | 24420.00 | 12210.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 28480.00 | 14240.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 10230.00 | 5115.00 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 11938.00 | 5969.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 1.75 | 0.87 | ppb | 7.68 | 90000.00 | |
| 27 Al | 45 | 2 | 3.30 | 1.65 | ppb | 24.35 | 90000.00 | |
| 39 K | 45 | 1 | 8126.00 | 4063.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 85140.00 | 42570.00 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.90 | 0.95 | ppb | 2.80 | 900.00 | |
| 51 V | 45 | 2 | 1.46 | 0.73 | ppb | 2.17 | 900.00 | |
| 52 Cr | 45 | 2 | 1.09 | 0.54 | ppb | 2.63 | 900.00 | |
| 55 Mn | 45 | 2 | 8036.00 | 4018.00 | ppb | 0.07 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 6454.00 | 3227.00 | ppb | 1.24 | 90000.00 | |
| 59 Co | 45 | 2 | 7.19 | 3.60 | ppb | 1.44 | 900.00 | |
| 60 Ni | 45 | 2 | 12.80 | 6.40 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 2.88 | 900.00 | |
| 66 Zn | 72 | 2 | 16.66 | 8.33 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 2.36 | 1.18 | ppb | 1.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.36 | 0.18 | ppb | 127.68 | 900.00 | |
| 88 Sr | 103 | 1 | 657.80 | 328.90 | ppb | 0.97 | 900.00 | |
| 98 Mo | 103 | 1 | 1.15 | 0.58 | ppb | 3.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 33.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.22 | 0.11 | ppb | 17.06 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 9.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 6.33 | 900.00 | |
| 137 Ba | 159 | 1 | 24.98 | 12.49 | ppb | 0.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 50.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 3.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 951311 | 1.95 | 1906305 | 49.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1930867 | 0.19 | 2252367 | 85.7 | 70 - 130 | |
| 45 Sc | 2 | 221481 | 0.52 | 278051 | 79.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 418222 | 0.50 | 455320 | 91.9 | 70 | - | 130 |
| 72 | Ge | 2 | 102234 | 0.49 | 118017 | 86.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2550040 | 0.65 | 2673053 | 95.4 | 70 | - | 130 |
| 115 | In | 1 | 2998875 | 0.84 | 3013271 | 99.5 | 70 | - | 130 |
| 115 | In | 2 | 990487 | 0.64 | 1088164 | 91.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4440807 | 0.62 | 4215820 | 105.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4430664 | 0.85 | 4123378 | 107.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2792119 | 0.48 | 2801664 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\024SMPL.D\024SMPL.D#
**Date Acquired:** Apr 12 2013 01:15 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2203
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.66 | 57.66 | ppb | 1.92 | 900.00 | |
| 9 Be | 45 | 2 | 47.11 | 47.11 | ppb | 5.43 | 900.00 | |
| 11 B | 6 | 1 | 58.47 | 58.47 | ppb | 1.38 | 900.00 | |
| 11 B | 45 | 2 | 46.47 | 46.47 | ppb | 5.26 | 900.00 | |
| 23 Na | 45 | 1 | 4633.00 | 4633.00 | ppb | 2.94 | 90000.00 | |
| 23 Na | 45 | 2 | 4973.00 | 4973.00 | ppb | 3.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 4675.00 | 4675.00 | ppb | 2.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 5023.00 | 5023.00 | ppb | 5.07 | 90000.00 | |
| 27 Al | 45 | 1 | 4697.00 | 4697.00 | ppb | 2.73 | 90000.00 | |
| 27 Al | 45 | 2 | 4991.00 | 4991.00 | ppb | 4.04 | 90000.00 | |
| 39 K | 45 | 1 | 4988.00 | 4988.00 | ppb | 2.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 5222.00 | 5222.00 | ppb | 3.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.42 | 50.42 | ppb | 3.72 | 900.00 | |
| 51 V | 45 | 2 | 49.78 | 49.78 | ppb | 4.29 | 900.00 | |
| 52 Cr | 45 | 2 | 49.60 | 49.60 | ppb | 4.17 | 900.00 | |
| 55 Mn | 45 | 2 | 50.13 | 50.13 | ppb | 4.49 | 900.00 | |
| 56 Fe | 45 | 2 | 5213.00 | 5213.00 | ppb | 4.45 | 90000.00 | |
| 59 Co | 45 | 2 | 49.48 | 49.48 | ppb | 4.52 | 900.00 | |
| 60 Ni | 45 | 2 | 49.43 | 49.43 | ppb | 4.38 | 900.00 | |
| 63 Cu | 72 | 2 | 46.13 | 46.13 | ppb | 1.58 | 900.00 | |
| 66 Zn | 72 | 2 | 48.68 | 48.68 | ppb | 1.87 | 900.00 | |
| 75 As | 72 | 2 | 49.09 | 49.09 | ppb | 2.36 | 900.00 | |
| 78 Se | 72 | 2 | 49.47 | 49.47 | ppb | 3.04 | 900.00 | |
| 88 Sr | 103 | 1 | 52.10 | 52.10 | ppb | 2.37 | 900.00 | |
| 98 Mo | 103 | 1 | 51.32 | 51.32 | ppb | 2.57 | 900.00 | |
| 107 Ag | 115 | 1 | 49.14 | 49.14 | ppb | 1.13 | 180.00 | |
| 111 Cd | 115 | 2 | 49.85 | 49.85 | ppb | 3.48 | 900.00 | |
| 120 Sn | 115 | 1 | 51.37 | 51.37 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 52.16 | 52.16 | ppb | 1.78 | 900.00 | |
| 137 Ba | 159 | 1 | 50.33 | 50.33 | ppb | 3.13 | 900.00 | |
| 205 Tl | 209 | 1 | 48.19 | 48.19 | ppb | 2.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.20 | 50.20 | ppb | 2.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1272217 | 1.85 | 1906305 | 66.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2071331 | 2.72 | 2252367 | 92.0 | 70 - 130 | |
| 45 Sc | 2 | 251846 | 3.91 | 278051 | 90.6 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438620 | 1.73 | 455320 | 96.3 | 70 | - | 130 |
| 72 Ge | 2 | 111933 | 1.57 | 118017 | 94.8 | 70 | - | 130 |
| 103 Rh | 1 | 2654450 | 2.60 | 2673053 | 99.3 | 70 | - | 130 |
| 115 In | 1 | 3045167 | 1.70 | 3013271 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1041904 | 3.24 | 1088164 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 4355618 | 3.29 | 4215820 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 4350284 | 3.41 | 4123378 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 2809775 | 2.48 | 2801664 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 12 2013 01:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 2.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1212.10 | 900.00 | |
| 11 B | 6 | 1 | 0.38 | 0.38 | ppb | 5.32 | 900.00 | |
| 11 B | 45 | 2 | 0.32 | 0.32 | ppb | 96.68 | 900.00 | |
| 23 Na | 45 | 1 | 3.18 | 3.18 | ppb | 2.20 | 90000.00 | |
| 23 Na | 45 | 2 | 6.02 | 6.02 | ppb | 2.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.50 | 0.50 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.89 | 0.89 | ppb | 30.13 | 90000.00 | |
| 27 Al | 45 | 1 | -0.79 | -0.79 | ppb | 6.53 | 90000.00 | |
| 27 Al | 45 | 2 | -0.25 | -0.25 | ppb | 113.16 | 90000.00 | |
| 39 K | 45 | 1 | -7.59 | -7.59 | ppb | 10.74 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.97 | -0.97 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.03 | -0.03 | ppb | 34.90 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 14.62 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 16.36 | 900.00 | |
| 55 Mn | 45 | 2 | -0.32 | -0.32 | ppb | 9.82 | 900.00 | |
| 56 Fe | 45 | 2 | -1.33 | -1.33 | ppb | 13.04 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 28.65 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 60.18 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 9.93 | 900.00 | |
| 66 Zn | 72 | 2 | -0.04 | -0.04 | ppb | 22.67 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 91.67 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 162.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 46.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 3.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.59 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 94.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 23.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 21.48 | 900.00 | |
| 137 Ba | 159 | 1 | -0.07 | -0.07 | ppb | 5.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.14 | ppb | 2.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 9.78 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1411969 | 1.17 | 1906305 | 74.1 | 70 - 130 | |
| 45 Sc | 1 | 2152078 | 0.57 | 2252367 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 258813 | 0.56 | 278051 | 93.1 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 451791 | 0.45 | 455320 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 113900 | 0.08 | 118017 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 2768578 | 0.51 | 2673053 | 103.6 | 70 | - | 130 |
| 115 In | 1 | 3180546 | 1.02 | 3013271 | 105.6 | 70 | - | 130 |
| 115 In | 2 | 1074859 | 0.73 | 1088164 | 98.8 | 70 | - | 130 |
| 159 Tb | 1 | 4464719 | 1.20 | 4215820 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 4417371 | 0.65 | 4123378 | 107.1 | 70 | - | 130 |
| 209 Bi | 1 | 2926638 | 0.75 | 2801664 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 12 2013 01:27 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-12F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 29.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 215.94 | 900.00 | |
| 11 B | 6 | 1 | 308.80 | 154.40 | ppb | 1.98 | 900.00 | |
| 11 B | 45 | 2 | 227.00 | 113.50 | ppb | 0.68 | 900.00 | |
| 23 Na | 45 | 1 | 18616.00 | 9308.00 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 21320.00 | 10660.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 1 | 5522.00 | 2761.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 6358.00 | 3179.00 | ppb | 0.96 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 1.53 | ppb | 6.69 | 90000.00 | |
| 27 Al | 45 | 2 | 4.38 | 2.19 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 8840.00 | 4420.00 | ppb | 1.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 44760.00 | 22380.00 | ppb | 0.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 4.50 | 900.00 | |
| 51 V | 45 | 2 | 1.29 | 0.64 | ppb | 3.51 | 900.00 | |
| 52 Cr | 45 | 2 | 0.55 | 0.28 | ppb | 3.05 | 900.00 | |
| 55 Mn | 45 | 2 | 2348.00 | 1174.00 | ppb | 0.94 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 73600.00 | 36800.00 | ppb | 1.03 | 90000.00 | |
| 59 Co | 45 | 2 | 28.36 | 14.18 | ppb | 1.82 | 900.00 | |
| 60 Ni | 45 | 2 | 6.83 | 3.42 | ppb | 2.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.25 | 0.13 | ppb | 4.83 | 900.00 | |
| 66 Zn | 72 | 2 | 15.79 | 7.90 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 69.40 | 34.70 | ppb | 0.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.27 | ppb | 23.50 | 900.00 | |
| 88 Sr | 103 | 1 | 334.00 | 167.00 | ppb | 0.20 | 900.00 | |
| 98 Mo | 103 | 1 | 4.47 | 2.24 | ppb | 2.23 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 53.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 47.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.23 | 0.11 | ppb | 13.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 4.39 | 900.00 | |
| 137 Ba | 159 | 1 | 51.46 | 25.73 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.10 | ppb | 7.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 6.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1010446 | 2.17 | 1906305 | 53.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1911102 | 1.00 | 2252367 | 84.8 | 70 - 130 | |
| 45 Sc | 2 | 225367 | 0.57 | 278051 | 81.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 422283 | 0.51 | 455320 | 92.7 | 70 | - | 130 |
| 72 Ge | 2 | 104191 | 0.34 | 118017 | 88.3 | 70 | - | 130 |
| 103 Rh | 1 | 2495973 | 0.62 | 2673053 | 93.4 | 70 | - | 130 |
| 115 In | 1 | 2962778 | 0.54 | 3013271 | 98.3 | 70 | - | 130 |
| 115 In | 2 | 989084 | 0.27 | 1088164 | 90.9 | 70 | - | 130 |
| 159 Tb | 1 | 4343726 | 0.55 | 4215820 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 4357230 | 0.85 | 4123378 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2777392 | 0.74 | 2801664 | 99.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D12k01.B\027SMPL.D\027SMPL.D# | | |
| **Date Acquired:** | Apr 12 2013 01:34 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19637-13F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2206 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 12 2013 11:39 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 53.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 387.42 | 900.00 | |
| 11 B | 6 | 1 | 192.14 | 96.07 | ppb | 0.83 | 900.00 | |
| 11 B | 45 | 2 | 139.50 | 69.75 | ppb | 1.16 | 900.00 | |
| 23 Na | 45 | 1 | 9590.00 | 4795.00 | ppb | 2.00 | 90000.00 | |
| 23 Na | 45 | 2 | 11000.00 | 5500.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 3168.00 | 1584.00 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 3730.00 | 1865.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 4.42 | 2.21 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 6.69 | 3.35 | ppb | 13.84 | 90000.00 | |
| 39 K | 45 | 1 | 5314.00 | 2657.00 | ppb | 0.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 29940.00 | 14970.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 0.53 | ppb | 6.16 | 900.00 | |
| 51 V | 45 | 2 | 1.91 | 0.96 | ppb | 1.47 | 900.00 | |
| 52 Cr | 45 | 2 | 0.76 | 0.38 | ppb | 3.66 | 900.00 | |
| 55 Mn | 45 | 2 | 814.00 | 407.00 | ppb | 1.10 | 900.00 | |
| 56 Fe | 45 | 2 | 16354.00 | 8177.00 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 9.50 | 4.75 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 4.12 | 2.06 | ppb | 1.15 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 3.56 | 900.00 | |
| 66 Zn | 72 | 2 | 24.82 | 12.41 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 33.50 | 16.75 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 23.80 | 900.00 | |
| 88 Sr | 103 | 1 | 177.82 | 88.91 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 1.76 | 0.88 | ppb | 2.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 295.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 5.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.10 | ppb | 5.69 | 900.00 | |
| 137 Ba | 159 | 1 | 24.40 | 12.20 | ppb | 0.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 4.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 2.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1022582 | 0.72 | 1906305 | 53.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1972061 | 1.30 | 2252367 | 87.6 | 70 - 130 | |
| 45 Sc | 2 | 231243 | 0.21 | 278051 | 83.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 436187 | 0.43 | 455320 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 107462 | 0.45 | 118017 | 91.1 | 70 | - | 130 |
| 103 Rh | 1 | 2631170 | 1.24 | 2673053 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 3074560 | 0.60 | 3013271 | 102.0 | 70 | - | 130 |
| 115 In | 2 | 1024084 | 0.78 | 1088164 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 4480820 | 0.93 | 4215820 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 4432651 | 0.82 | 4123378 | 107.5 | 70 | - | 130 |
| 209 Bi | 1 | 2839895 | 0.76 | 2801664 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\028SMPL.D\028SMPL.D#
**Date Acquired:** Apr 12 2013 01:40 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-14F
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 7.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 145.98 | 900.00 | |
| 11 B | 6 | 1 | 174.42 | 87.21 | ppb | 1.80 | 900.00 | |
| 11 B | 45 | 2 | 124.94 | 62.47 | ppb | 2.65 | 900.00 | |
| 23 Na | 45 | 1 | 10862.00 | 5431.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 12310.00 | 6155.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 3074.00 | 1537.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 3610.00 | 1805.00 | ppb | 0.11 | 90000.00 | |
| 27 Al | 45 | 1 | 4.07 | 2.04 | ppb | 2.31 | 90000.00 | |
| 27 Al | 45 | 2 | 5.81 | 2.90 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 1923.80 | 961.90 | ppb | 0.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 23860.00 | 11930.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.64 | ppb | 5.71 | 900.00 | |
| 51 V | 45 | 2 | 1.51 | 0.76 | ppb | 2.44 | 900.00 | |
| 52 Cr | 45 | 2 | 1.92 | 0.96 | ppb | 2.03 | 900.00 | |
| 55 Mn | 45 | 2 | 2082.00 | 1041.00 | ppb | 0.58 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 5176.00 | 2588.00 | ppb | 0.70 | 90000.00 | |
| 59 Co | 45 | 2 | 1.15 | 0.57 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 9.95 | 4.98 | ppb | 1.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 5.29 | 900.00 | |
| 66 Zn | 72 | 2 | 10.49 | 5.25 | ppb | 1.44 | 900.00 | |
| 75 As | 72 | 2 | 0.67 | 0.33 | ppb | 8.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.12 | ppb | 86.77 | 900.00 | |
| 88 Sr | 103 | 1 | 139.88 | 69.94 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 4.42 | 2.21 | ppb | 1.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 32.07 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 26.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 11.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.25 | ppb | 3.33 | 900.00 | |
| 137 Ba | 159 | 1 | 11.93 | 5.97 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 9.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 11.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1014017 | 2.01 | 1906305 | 53.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1926177 | 0.64 | 2252367 | 85.5 | 70 - 130 | |
| 45 Sc | 2 | 227218 | 0.25 | 278051 | 81.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 423745 | 0.44 | 455320 | 93.1 | 70 | - | 130 |
| 72 Ge | 2 | 104807 | 0.28 | 118017 | 88.8 | 70 | - | 130 |
| 103 Rh | 1 | 2593389 | 0.93 | 2673053 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 3054728 | 0.71 | 3013271 | 101.4 | 70 | - | 130 |
| 115 In | 2 | 1011790 | 0.57 | 1088164 | 93.0 | 70 | - | 130 |
| 159 Tb | 1 | 4408579 | 0.73 | 4215820 | 104.6 | 70 | - | 130 |
| 175 Lu | 1 | 4423149 | 0.95 | 4123378 | 107.3 | 70 | - | 130 |
| 209 Bi | 1 | 2833530 | 0.73 | 2801664 | 101.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 12 2013 01:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-16F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 51.98 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 32.12 | 900.00 | |
| 11 B | 6 | 1 | 0.94 | 0.47 | ppb | 9.19 | 900.00 | |
| 11 B | 45 | 2 | 0.73 | 0.37 | ppb | 55.90 | 900.00 | |
| 23 Na | 45 | 1 | 22.06 | 11.03 | ppb | 2.20 | 90000.00 | |
| 23 Na | 45 | 2 | 31.86 | 15.93 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.92 | 0.96 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.30 | 1.15 | ppb | 8.60 | 90000.00 | |
| 27 Al | 45 | 1 | -0.47 | -0.24 | ppb | 18.74 | 90000.00 | |
| 27 Al | 45 | 2 | 0.61 | 0.31 | ppb | 55.54 | 90000.00 | |
| 39 K | 45 | 1 | -3.69 | -1.84 | ppb | 25.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 53.12 | 26.56 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.50 | 0.25 | ppb | 9.52 | 900.00 | |
| 51 V | 45 | 2 | 1.67 | 0.84 | ppb | 0.66 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 0.50 | ppb | 2.14 | 900.00 | |
| 55 Mn | 45 | 2 | -0.48 | -0.24 | ppb | 5.11 | 900.00 | |
| 56 Fe | 45 | 2 | 6.51 | 3.25 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 37.80 | 900.00 | |
| 60 Ni | 45 | 2 | 0.14 | 0.07 | ppb | 11.29 | 900.00 | |
| 63 Cu | 72 | 2 | 1.01 | 0.51 | ppb | 0.88 | 900.00 | |
| 66 Zn | 72 | 2 | 9.42 | 4.71 | ppb | 1.27 | 900.00 | |
| 75 As | 72 | 2 | 0.35 | 0.18 | ppb | 16.94 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.10 | ppb | 80.61 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 7.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.22 | 0.11 | ppb | 9.67 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 25.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 21.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 7.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 13.86 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.01 | ppb | 196.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 29.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 10.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1084706 | 0.87 | 1906305 | 56.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1953052 | 0.62 | 2252367 | 86.7 | 70 - 130 | |
| 45 Sc | 2 | 232713 | 0.32 | 278051 | 83.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 428554 | 0.08 | 455320 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 105757 | 0.45 | 118017 | 89.6 | 70 | - | 130 |
| 103 Rh | 1 | 2696950 | 0.20 | 2673053 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 3082150 | 0.61 | 3013271 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 1027573 | 0.46 | 1088164 | 94.4 | 70 | - | 130 |
| 159 Tb | 1 | 4459059 | 0.54 | 4215820 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 4445173 | 0.37 | 4123378 | 107.8 | 70 | - | 130 |
| 209 Bi | 1 | 2956305 | 0.79 | 2801664 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 12 2013 01:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20760-B1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 542.40 | 27.12 | ppb | 2.41 | 900.00 | |
| 9 Be | 45 | 2 | 491.80 | 24.59 | ppb | 1.54 | 900.00 | |
| 11 B | 6 | 1 | -1.08 | -0.05 | ppb | 28.90 | 900.00 | |
| 11 B | 45 | 2 | -3.13 | -0.16 | ppb | 38.61 | 900.00 | |
| 23 Na | 45 | 1 | 24840.00 | 1242.00 | ppb | 3.82 | 90000.00 | |
| 23 Na | 45 | 2 | 26740.00 | 1337.00 | ppb | 0.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 25200.00 | 1260.00 | ppb | 4.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 27740.00 | 1387.00 | ppb | 1.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2064.00 | 103.20 | ppb | 2.77 | 90000.00 | |
| 27 Al | 45 | 2 | 2174.00 | 108.70 | ppb | 1.09 | 90000.00 | |
| 39 K | 45 | 1 | 25520.00 | 1276.00 | ppb | 2.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 26440.00 | 1322.00 | ppb | 1.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 496.00 | 24.80 | ppb | 0.28 | 900.00 | |
| 51 V | 45 | 2 | 510.00 | 25.50 | ppb | 0.88 | 900.00 | |
| 52 Cr | 45 | 2 | 500.20 | 25.01 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 525.40 | 26.27 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 2158.00 | 107.90 | ppb | 0.35 | 90000.00 | |
| 59 Co | 45 | 2 | 507.20 | 25.36 | ppb | 0.62 | 900.00 | |
| 60 Ni | 45 | 2 | 500.80 | 25.04 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 484.40 | 24.22 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 532.80 | 26.64 | ppb | 0.05 | 900.00 | |
| 75 As | 72 | 2 | 514.80 | 25.74 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | 517.40 | 25.87 | ppb | 3.19 | 900.00 | |
| 88 Sr | 103 | 1 | 491.60 | 24.58 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.53 | 0.03 | ppb | 8.18 | 900.00 | |
| 107 Ag | 115 | 1 | 197.42 | 9.87 | ppb | 0.09 | 180.00 | |
| 111 Cd | 115 | 2 | 509.60 | 25.48 | ppb | 1.57 | 900.00 | |
| 120 Sn | 115 | 1 | -0.07 | 0.00 | ppb | 74.55 | 900.00 | |
| 121 Sb | 115 | 1 | 514.00 | 25.70 | ppb | 1.58 | 900.00 | |
| 137 Ba | 159 | 1 | 2006.00 | 100.30 | ppb | 0.75 | 900.00 | |
| 205 Tl | 209 | 1 | 467.20 | 23.36 | ppb | 3.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 996.20 | 49.81 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1592826 | 3.82 | 1906305 | 83.6 | 70 - 130 | |
| 45 Sc | 1 | 2243408 | 2.21 | 2252367 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 269567 | 0.57 | 278051 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455761 | 2.48 | 455320 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 116656 | 0.57 | 118017 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 2739458 | 1.15 | 2673053 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 3159434 | 0.91 | 3013271 | 104.9 | 70 | - | 130 |
| 115 In | 2 | 1088689 | 0.33 | 1088164 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 4454510 | 1.84 | 4215820 | 105.7 | 70 | - | 130 |
| 175 Lu | 1 | 4406830 | 2.85 | 4123378 | 106.9 | 70 | - | 130 |
| 209 Bi | 1 | 2878271 | 2.29 | 2801664 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 12 2013 01:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20760-S1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 545.80 | 27.29 | ppb | 0.21 | 900.00 | |
| 9 Be | 45 | 2 | 499.60 | 24.98 | ppb | 1.87 | 900.00 | |
| 11 B | 6 | 1 | 208.40 | 10.42 | ppb | 0.29 | 900.00 | |
| 11 B | 45 | 2 | 182.20 | 9.11 | ppb | 3.26 | 900.00 | |
| 23 Na | 45 | 1 | 40220.00 | 2011.00 | ppb | 1.09 | 90000.00 | |
| 23 Na | 45 | 2 | 42380.00 | 2119.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 29520.00 | 1476.00 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 31820.00 | 1591.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 2132.00 | 106.60 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 2236.00 | 111.80 | ppb | 0.93 | 90000.00 | |
| 39 K | 45 | 1 | 29260.00 | 1463.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 51640.00 | 2582.00 | ppb | 0.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.20 | 24.91 | ppb | 0.15 | 900.00 | |
| 51 V | 45 | 2 | 524.20 | 26.21 | ppb | 0.69 | 900.00 | |
| 52 Cr | 45 | 2 | 515.00 | 25.75 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 3852.00 | 192.60 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 34520.00 | 1726.00 | ppb | 0.79 | 90000.00 | |
| 59 Co | 45 | 2 | 520.80 | 26.04 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 560.20 | 28.01 | ppb | 0.10 | 900.00 | |
| 63 Cu | 72 | 2 | 497.20 | 24.86 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 549.20 | 27.46 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 524.60 | 26.23 | ppb | 1.00 | 900.00 | |
| 78 Se | 72 | 2 | 525.00 | 26.25 | ppb | 0.64 | 900.00 | |
| 88 Sr | 103 | 1 | 676.80 | 33.84 | ppb | 0.78 | 900.00 | |
| 98 Mo | 103 | 1 | 2.86 | 0.14 | ppb | 1.53 | 900.00 | |
| 107 Ag | 115 | 1 | 200.20 | 10.01 | ppb | 0.43 | 180.00 | |
| 111 Cd | 115 | 2 | 516.40 | 25.82 | ppb | 0.58 | 900.00 | |
| 120 Sn | 115 | 1 | -0.09 | 0.00 | ppb | 66.77 | 900.00 | |
| 121 Sb | 115 | 1 | 521.00 | 26.05 | ppb | 0.38 | 900.00 | |
| 137 Ba | 159 | 1 | 2078.00 | 103.90 | ppb | 0.47 | 900.00 | |
| 205 Tl | 209 | 1 | 473.80 | 23.69 | ppb | 1.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1013.80 | 50.69 | ppb | 0.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1658896 | 0.21 | 1906305 | 87.0 | 70 - 130 | |
| 45 Sc | 1 | 2236036 | 0.44 | 2252367 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 268756 | 0.65 | 278051 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 459102 | 0.57 | 455320 | 100.8 | 70 | - | 130 |
| 72 Ge | 2 | 116472 | 0.82 | 118017 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 2726138 | 0.69 | 2673053 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 3140238 | 0.36 | 3013271 | 104.2 | 70 | - | 130 |
| 115 In | 2 | 1083079 | 0.68 | 1088164 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 4434357 | 0.47 | 4215820 | 105.2 | 70 | - | 130 |
| 175 Lu | 1 | 4396774 | 1.06 | 4123378 | 106.6 | 70 | - | 130 |
| 209 Bi | 1 | 2871189 | 1.27 | 2801664 | 102.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 12 2013 02:05 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20760-S2
**Misc Info:**
**Vial Number:** 2211
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 533.60 | 26.68 | ppb | 0.90 | 900.00 | |
| 9 Be | 45 | 2 | 486.40 | 24.32 | ppb | 2.72 | 900.00 | |
| 11 B | 6 | 1 | 200.20 | 10.01 | ppb | 0.77 | 900.00 | |
| 11 B | 45 | 2 | 186.82 | 9.34 | ppb | 9.67 | 900.00 | |
| 23 Na | 45 | 1 | 39100.00 | 1955.00 | ppb | 2.03 | 90000.00 | |
| 23 Na | 45 | 2 | 42600.00 | 2130.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 28880.00 | 1444.00 | ppb | 1.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 31800.00 | 1590.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2098.00 | 104.90 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 2 | 2236.00 | 111.80 | ppb | 1.04 | 90000.00 | |
| 39 K | 45 | 1 | 28640.00 | 1432.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 49900.00 | 2495.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 489.20 | 24.46 | ppb | 1.46 | 900.00 | |
| 51 V | 45 | 2 | 523.00 | 26.15 | ppb | 0.91 | 900.00 | |
| 52 Cr | 45 | 2 | 512.60 | 25.63 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 3798.00 | 189.90 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 34160.00 | 1708.00 | ppb | 0.55 | 90000.00 | |
| 59 Co | 45 | 2 | 517.40 | 25.87 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 554.20 | 27.71 | ppb | 0.76 | 900.00 | |
| 63 Cu | 72 | 2 | 487.40 | 24.37 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 544.80 | 27.24 | ppb | 0.96 | 900.00 | |
| 75 As | 72 | 2 | 514.40 | 25.72 | ppb | 0.66 | 900.00 | |
| 78 Se | 72 | 2 | 521.00 | 26.05 | ppb | 1.34 | 900.00 | |
| 88 Sr | 103 | 1 | 664.60 | 33.23 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 2.76 | 0.14 | ppb | 3.22 | 900.00 | |
| 107 Ag | 115 | 1 | 200.40 | 10.02 | ppb | 1.19 | 180.00 | |
| 111 Cd | 115 | 2 | 512.00 | 25.60 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.01 | ppb | 18.48 | 900.00 | |
| 121 Sb | 115 | 1 | 513.20 | 25.66 | ppb | 1.43 | 900.00 | |
| 137 Ba | 159 | 1 | 2038.00 | 101.90 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | 472.40 | 23.62 | ppb | 1.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1004.20 | 50.21 | ppb | 0.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1673059 | 0.30 | 1906305 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 2252937 | 0.98 | 2252367 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 268032 | 0.63 | 278051 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457156 | 0.18 | 455320 | 100.4 | 70 | - | 130 |
| 72 Ge | 2 | 117082 | 0.39 | 118017 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 2737616 | 0.42 | 2673053 | 102.4 | 70 | - | 130 |
| 115 In | 1 | 3138603 | 0.54 | 3013271 | 104.2 | 70 | - | 130 |
| 115 In | 2 | 1076102 | 0.64 | 1088164 | 98.9 | 70 | - | 130 |
| 159 Tb | 1 | 4424504 | 0.84 | 4215820 | 105.0 | 70 | - | 130 |
| 175 Lu | 1 | 4375388 | 0.29 | 4123378 | 106.1 | 70 | - | 130 |
| 209 Bi | 1 | 2848765 | 0.53 | 2801664 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Apr 12 2013 02:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20760-SD1
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.07 | 0.01 | ppb | 63.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.12 | 0.01 | ppb | 147.03 | 900.00 | |
| 11 B | 6 | 1 | 233.00 | 23.30 | ppb | 15.64 | 900.00 | |
| 11 B | 45 | 2 | 191.20 | 19.12 | ppb | 6.13 | 900.00 | |
| 23 Na | 45 | 1 | 16690.00 | 1669.00 | ppb | 25.23 | 90000.00 | |
| 23 Na | 45 | 2 | 15410.00 | 1541.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 3972.00 | 397.20 | ppb | 23.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 3689.00 | 368.90 | ppb | 0.21 | 90000.00 | |
| 27 Al | 45 | 1 | 22.51 | 2.25 | ppb | 43.02 | 90000.00 | |
| 27 Al | 45 | 2 | 22.86 | 2.29 | ppb | 4.10 | 90000.00 | |
| 39 K | 45 | 1 | 3785.00 | 378.50 | ppb | 33.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 27890.00 | 2789.00 | ppb | 22.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.14 | ppb | 37.84 | 900.00 | |
| 51 V | 45 | 2 | -1.54 | -0.15 | ppb | 3.07 | 900.00 | |
| 52 Cr | 45 | 2 | 1.87 | 0.19 | ppb | 1.83 | 900.00 | |
| 55 Mn | 45 | 2 | 3307.00 | 330.70 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 32630.00 | 3263.00 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 5.36 | 0.54 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 51.25 | 5.13 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.03 | ppb | 45.81 | 900.00 | |
| 66 Zn | 72 | 2 | 17.40 | 1.74 | ppb | 2.36 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | 0.00 | ppb | 1899.30 | 900.00 | |
| 78 Se | 72 | 2 | 2.62 | 0.26 | ppb | 44.57 | 900.00 | |
| 88 Sr | 103 | 1 | 200.20 | 20.02 | ppb | 22.99 | 900.00 | |
| 98 Mo | 103 | 1 | 2.96 | 0.30 | ppb | 22.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.00 | ppb | 54.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.19 | 0.02 | ppb | 48.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.00 | ppb | 222.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.73 | 0.07 | ppb | 25.69 | 900.00 | |
| 137 Ba | 159 | 1 | 28.01 | 2.80 | ppb | 26.00 | 900.00 | |
| 205 Tl | 209 | 1 | 1.10 | 0.11 | ppb | 18.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.03 | ppb | 27.62 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1444860 | 14.14 | 1906305 | 75.8 | 70 - 130 | |
| 45 Sc | 1 | 1953412 | 21.01 | 2252367 | 86.7 | 70 - 130 | |
| 45 Sc | 2 | 262832 | 0.06 | 278051 | 94.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 417119 | 15.60 | 455320 | 91.6 | 70 | - | 130 |
| 72 | Ge | 2 | 115497 | 0.39 | 118017 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2409529 | 19.42 | 2673053 | 90.1 | 70 | - | 130 |
| 115 | In | 1 | 2823245 | 18.49 | 3013271 | 93.7 | 70 | - | 130 |
| 115 | In | 2 | 1080849 | 0.45 | 1088164 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 3984476 | 20.40 | 4215820 | 94.5 | 70 | - | 130 |
| 175 | Lu | 1 | 3933670 | 20.63 | 4123378 | 95.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2625917 | 16.77 | 2801664 | 93.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D12k01.B\034SMPL.D\034SMPL.D#
**Date Acquired:** Apr 12 2013 02:18 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20760-PS1
**Misc Info:**
**Vial Number:** 2301
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 12 2013 11:39 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 19.45 | 9.72 | ppb | 1.57 | 900.00 | |
| 9 Be | 45 | 2 | 15.32 | 7.66 | ppb | 1.77 | 900.00 | |
| 11 B | 6 | 1 | 222.20 | 111.10 | ppb | 1.14 | 900.00 | |
| 11 B | 45 | 2 | 176.46 | 88.23 | ppb | 3.23 | 900.00 | |
| 23 Na | 45 | 1 | 10526.00 | 5263.00 | ppb | 1.37 | 90000.00 | |
| 23 Na | 45 | 2 | 11938.00 | 5969.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 2538.00 | 1269.00 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 2920.00 | 1460.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 26.10 | 13.05 | ppb | 2.22 | 90000.00 | |
| 27 Al | 45 | 2 | 30.78 | 15.39 | ppb | 2.26 | 90000.00 | |
| 39 K | 45 | 1 | 2500.00 | 1250.00 | ppb | 1.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 18816.00 | 9408.00 | ppb | 1.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.62 | 8.81 | ppb | 1.11 | 900.00 | |
| 51 V | 45 | 2 | 17.77 | 8.88 | ppb | 1.36 | 900.00 | |
| 52 Cr | 45 | 2 | 18.90 | 9.45 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 2662.00 | 1331.00 | ppb | 1.01 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 27160.00 | 13580.00 | ppb | 0.97 | 90000.00 | |
| 59 Co | 45 | 2 | 21.06 | 10.53 | ppb | 1.00 | 900.00 | |
| 60 Ni | 45 | 2 | 58.68 | 29.34 | ppb | 1.34 | 900.00 | |
| 63 Cu | 72 | 2 | 15.47 | 7.73 | ppb | 0.62 | 900.00 | |
| 66 Zn | 72 | 2 | 27.50 | 13.75 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 16.48 | 8.24 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 15.89 | 7.95 | ppb | 3.13 | 900.00 | |
| 88 Sr | 103 | 1 | 162.20 | 81.10 | ppb | 1.76 | 900.00 | |
| 98 Mo | 103 | 1 | 19.65 | 9.82 | ppb | 1.29 | 900.00 | |
| 107 Ag | 115 | 1 | 16.15 | 8.08 | ppb | 0.35 | 180.00 | |
| 111 Cd | 115 | 2 | 16.44 | 8.22 | ppb | 3.39 | 900.00 | |
| 120 Sn | 115 | 1 | 17.15 | 8.57 | ppb | 0.81 | 900.00 | |
| 121 Sb | 115 | 1 | 17.56 | 8.78 | ppb | 0.29 | 900.00 | |
| 137 Ba | 159 | 1 | 35.64 | 17.82 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 14.79 | 7.40 | ppb | 1.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 16.43 | 8.21 | ppb | 0.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1131160 | 1.53 | 1906305 | 59.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1966155 | 1.20 | 2252367 | 87.3 | 70 - 130 | |
| 45 Sc | 2 | 230645 | 0.45 | 278051 | 83.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 430270 | 0.32 | 455320 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 106766 | 0.36 | 118017 | 90.5 | 70 | - | 130 |
| 103 Rh | 1 | 2532596 | 0.86 | 2673053 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 2966102 | 0.33 | 3013271 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1007519 | 0.49 | 1088164 | 92.6 | 70 | - | 130 |
| 159 Tb | 1 | 4382221 | 1.25 | 4215820 | 103.9 | 70 | - | 130 |
| 175 Lu | 1 | 4360472 | 0.75 | 4123378 | 105.8 | 70 | - | 130 |
| 209 Bi | 1 | 2821872 | 1.33 | 2801664 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 12 2013 02:27 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 4.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 13.41 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 0.40 | 900.00 | |
| 11 B | 45 | 2 | 4.50 | 4.50 | ppb | 7.42 | 900.00 | |
| 23 Na | 45 | 1 | 242.70 | 242.70 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 271.50 | 271.50 | ppb | 0.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 248.20 | 248.20 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 270.30 | 270.30 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 23.46 | 23.46 | ppb | 1.50 | 90000.00 | |
| 27 Al | 45 | 2 | 25.96 | 25.96 | ppb | 3.15 | 90000.00 | |
| 39 K | 45 | 1 | 236.50 | 236.50 | ppb | 2.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 255.20 | 255.20 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.94 | 0.94 | ppb | 2.35 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 1.11 | 1.11 | ppb | 7.33 | 900.00 | |
| 56 Fe | 45 | 2 | 28.99 | 28.99 | ppb | 3.40 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 1.15 | 900.00 | |
| 63 Cu | 72 | 2 | 0.88 | 0.88 | ppb | 1.14 | 900.00 | |
| 66 Zn | 72 | 2 | 2.00 | 2.00 | ppb | 3.91 | 900.00 | |
| 75 As | 72 | 2 | 0.46 | 0.46 | ppb | 5.05 | 900.00 | |
| 78 Se | 72 | 2 | 0.63 | 0.63 | ppb | 25.10 | 900.00 | |
| 88 Sr | 103 | 1 | 4.78 | 4.78 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.47 | ppb | 2.25 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 6.10 | 900.00 | |
| 120 Sn | 115 | 1 | 4.69 | 4.69 | ppb | 2.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 1.69 | 900.00 | |
| 137 Ba | 159 | 1 | 0.93 | 0.93 | ppb | 3.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.42 | ppb | 2.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.65 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1564554 | 1.14 | 1906305 | 82.1 | 70 - 130 | |
| 45 Sc | 1 | 2192328 | 0.76 | 2252367 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 264502 | 0.38 | 278051 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 452066 | 0.37 | 455320 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 115063 | 0.53 | 118017 | 97.5 | 70 | - | 130 |
| 103 Rh | 1 | 2733768 | 0.23 | 2673053 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 3151744 | 0.17 | 3013271 | 104.6 | 70 | - | 130 |
| 115 In | 2 | 1080187 | 0.58 | 1088164 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 4396757 | 0.80 | 4215820 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4358566 | 0.31 | 4123378 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2901239 | 0.39 | 2801664 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D12k01.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 12 2013 02:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 12 2013 11:39 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.99 | 53.99 | ppb | 1.04 | 900.00 | |
| 9 Be | 45 | 2 | 47.09 | 47.09 | ppb | 1.08 | 900.00 | |
| 11 B | 6 | 1 | 54.11 | 54.11 | ppb | 0.37 | 900.00 | |
| 11 B | 45 | 2 | 47.13 | 47.13 | ppb | 0.74 | 900.00 | |
| 23 Na | 45 | 1 | 4663.00 | 4663.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 5012.00 | 5012.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 4666.00 | 4666.00 | ppb | 0.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 5073.00 | 5073.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 4697.00 | 4697.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 5094.00 | 5094.00 | ppb | 0.88 | 90000.00 | |
| 39 K | 45 | 1 | 4871.00 | 4871.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 5090.00 | 5090.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.98 | 48.98 | ppb | 1.01 | 900.00 | |
| 51 V | 45 | 2 | 49.62 | 49.62 | ppb | 1.23 | 900.00 | |
| 52 Cr | 45 | 2 | 48.85 | 48.85 | ppb | 1.24 | 900.00 | |
| 55 Mn | 45 | 2 | 49.64 | 49.64 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 5111.00 | 5111.00 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 48.54 | 48.54 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 48.38 | 48.38 | ppb | 0.87 | 900.00 | |
| 63 Cu | 72 | 2 | 46.52 | 46.52 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 48.42 | 48.42 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 49.40 | 49.40 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 49.36 | 49.36 | ppb | 1.04 | 900.00 | |
| 88 Sr | 103 | 1 | 51.30 | 51.30 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 50.57 | 50.57 | ppb | 0.51 | 900.00 | |
| 107 Ag | 115 | 1 | 48.46 | 48.46 | ppb | 1.04 | 180.00 | |
| 111 Cd | 115 | 2 | 49.34 | 49.34 | ppb | 0.83 | 900.00 | |
| 120 Sn | 115 | 1 | 50.67 | 50.67 | ppb | 0.98 | 900.00 | |
| 121 Sb | 115 | 1 | 51.40 | 51.40 | ppb | 0.54 | 900.00 | |
| 137 Ba | 159 | 1 | 49.44 | 49.44 | ppb | 0.53 | 900.00 | |
| 205 Tl | 209 | 1 | 47.56 | 47.56 | ppb | 1.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.95 | 48.95 | ppb | 0.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1520232 | 0.43 | 1906305 | 79.7 | 70 - 130 | |
| 45 Sc | 1 | 2232912 | 0.29 | 2252367 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 266602 | 0.61 | 278051 | 95.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 453027 | 0.64 | 455320 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 115202 | 0.39 | 118017 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2701983 | 0.50 | 2673053 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 3076244 | 0.56 | 3013271 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1069769 | 0.13 | 1088164 | 98.3 | 70 | - | 130 |
| 159 Tb | 1 | 4421864 | 0.67 | 4215820 | 104.9 | 70 | - | 130 |
| 175 Lu | 1 | 4404672 | 0.55 | 4123378 | 106.8 | 70 | - | 130 |
| 209 Bi | 1 | 2835128 | 0.42 | 2801664 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D12k01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D12k01.B\037SMPL.D\037SMPL.D# | | |
| **Date Acquired:** | Apr 12 2013 02:41 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2304 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 12 2013 11:39 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 18.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 72.65 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.13 | ppb | 27.61 | 900.00 | |
| 11 B | 45 | 2 | 0.03 | 0.03 | ppb | 361.49 | 900.00 | |
| 23 Na | 45 | 1 | 2.69 | 2.69 | ppb | 6.62 | 90000.00 | |
| 23 Na | 45 | 2 | 6.15 | 6.15 | ppb | 11.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.06 | 1.06 | ppb | 4.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.83 | 1.83 | ppb | 17.31 | 90000.00 | |
| 27 Al | 45 | 1 | -0.16 | -0.16 | ppb | 79.44 | 90000.00 | |
| 27 Al | 45 | 2 | 0.83 | 0.83 | ppb | 56.53 | 90000.00 | |
| 39 K | 45 | 1 | -8.35 | -8.35 | ppb | 17.50 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.21 | -0.21 | ppb | 22.34 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 29.62 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 24.06 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 90.34 | 900.00 | |
| 55 Mn | 45 | 2 | -0.30 | -0.30 | ppb | 6.64 | 900.00 | |
| 56 Fe | 45 | 2 | -0.34 | -0.34 | ppb | 132.91 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 13.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 71.34 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 9.57 | 900.00 | |
| 66 Zn | 72 | 2 | -0.03 | -0.03 | ppb | 65.34 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 139.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.26 | ppb | 38.27 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 14.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.51 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 19.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 11.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 2.90 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 21.25 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.12 | ppb | 1.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 7.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1562396 | 0.05 | 1906305 | 82.0 | 70 - 130 | |
| 45 Sc | 1 | 2203196 | 0.88 | 2252367 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 265621 | 0.85 | 278051 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D12k01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 454231 | 0.48 | 455320 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 115241 | 0.28 | 118017 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2749530 | 0.12 | 2673053 | 102.9 | 70 | - | 130 |
| 115 In | 1 | 3155544 | 0.30 | 3013271 | 104.7 | 70 | - | 130 |
| 115 In | 2 | 1084609 | 0.33 | 1088164 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 4415037 | 1.13 | 4215820 | 104.7 | 70 | - | 130 |
| 175 Lu | 1 | 4415344 | 0.17 | 4123378 | 107.1 | 70 | - | 130 |
| 209 Bi | 1 | 2925276 | 1.01 | 2801664 | 104.4 | 70 | - | 130 |

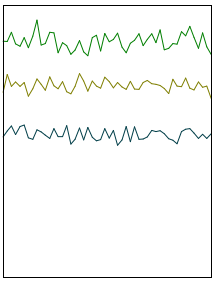
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D12k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

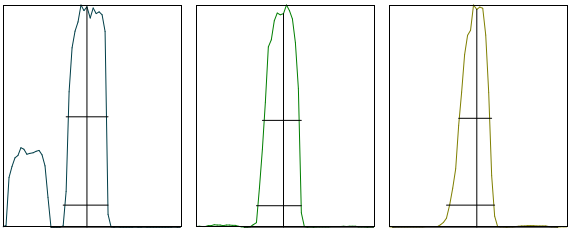
# Tune Report

Tune File : nogas.u
Comment : 041213



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2640.0 | 2626.7 | 3.84 | 1.90 |
| 89 | 5,000 | 4099.0 | 4340.3 | 3.36 | 1.30 |
| 205 | 5,000 | 3288.0 | 3530.2 | 2.79 | 3.90 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.178%
Doubly Charged: 70/140 3.603%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,672 | 4,274 | 3,494 |
| Axis: | 6.95 | 89.00 | 205.00 |
| W-50%: | 0.70 | 0.65 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -120 V | AMU Offset | : | 124 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -16 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 2.4 V | Axis Offset | : | -0.07 |
| Torch-V | : | 1 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.85 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.2 L/min | Cell Exit | : | -30 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1870 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1540 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 265.6 | 8.67 | |
| QP Focus: | -10 V | 59 | 1083.9 | 4.44 | |
| Cell Exit: | -50 V | 89 | 1203.5 | 4.58 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 12, 2013 09:37:58
Printed : Apr 12, 2013 09:38:49

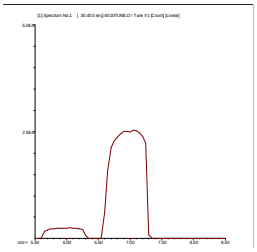
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 12 2013 10:02 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

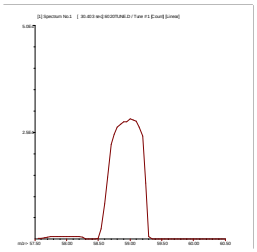
**QC Tune Summary:**
**Pass**

**RSD%**

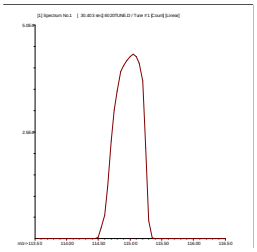
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.05 | 5.00 | 0 |
| 59 Co | 0.55 | 5.00 | |
| 115 In | 0.62 | 5.00 | |
| 205 Tl | 3.14 | 5.00 | |



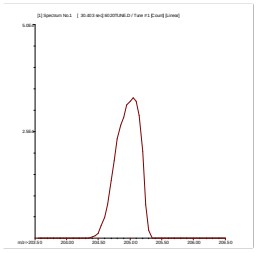
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

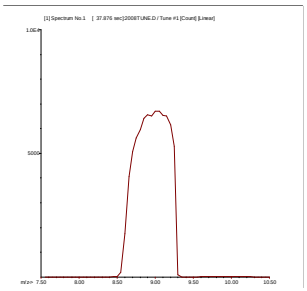
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13D12k00.B\2008TUNE.D
**Date Acquired:** Apr 12 2013 10:07 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

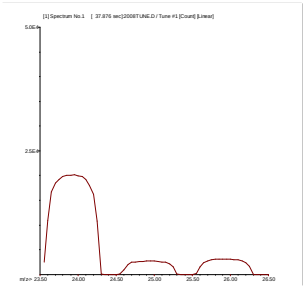


**RSD (%)**

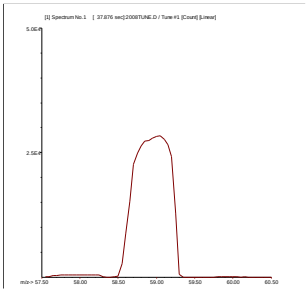
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 40039 | 39777 | 39942 | 40051 | 39888 | 40537 | **0.55** | 5.00 | |
| 24 Mg | 125923 | 125716 | 125783 | 125659 | 126601 | 125857 | **0.36** | 5.00 | |
| 59 Co | 165848 | 165732 | 164925 | 165358 | 166568 | 166655 | **0.61** | 5.00 | |
| 115 In | 233905 | 232182 | 232129 | 235477 | 233240 | 236496 | **0.93** | 5.00 | |
| 208 Pb | 121362 | 119126 | 121588 | 121845 | 121922 | 122328 | **0.60** | 5.00 | |



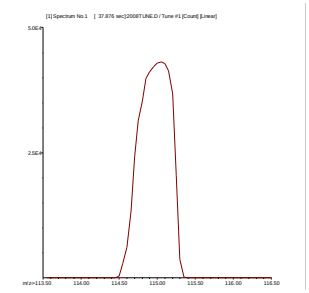
**9 Be**
**Mass Calib.**
Actual: 9.00
Required: 8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



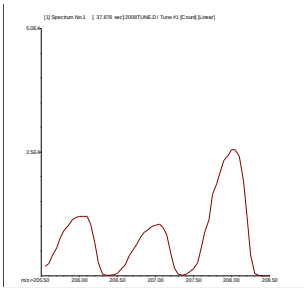
**24 Mg**
**Mass Calib.**
Actual: 23.95
Required: 23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Apr 12, 2013 02:49 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

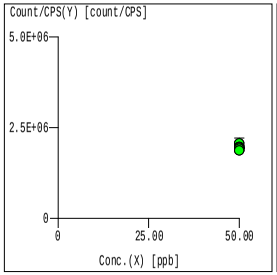
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

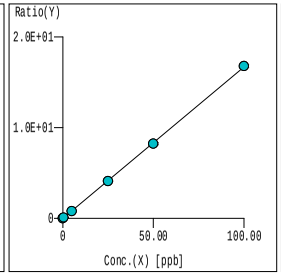
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d12k01.b\002calb.d\002calb.d# | STDA | Apr 12 2013 10:46 am |
| 2 | c:\icpchem\1\data\13d12k01.b\003cals.d\003cals.d# | STDB | Apr 12 2013 10:52 am |
| 3 | c:\icpchem\1\data\13d12k01.b\004cals.d\004cals.d# | STDC | Apr 12 2013 10:59 am |
| 4 | c:\icpchem\1\data\13d12k01.b\005cals.d\005cals.d# | STDD | Apr 12 2013 11:05 am |
| 5 | c:\icpchem\1\data\13d12k01.b\006cals.d\006cals.d# | STDE | Apr 12 2013 11:11 am |
| 6 | c:\icpchem\1\data\13d12k01.b\007cals.d\007cals.d# | STDF | Apr 12 2013 11:18 am |
| 7 | c:\icpchem\1\data\13d12k01.b\008cals.d\008cals.d# | STDG | Apr 12 2013 11:24 am |
| 8 | c:\icpchem\1\data\13d12k01.b\009cals.d\009cals.d# | STDH | Apr 12 2013 11:35 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

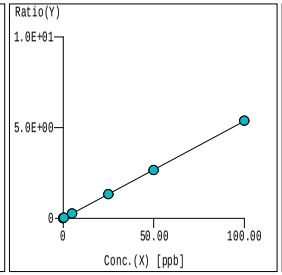
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

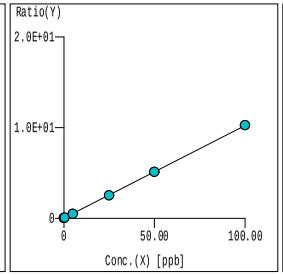
=== Graph Summary ===
Page: 1/4

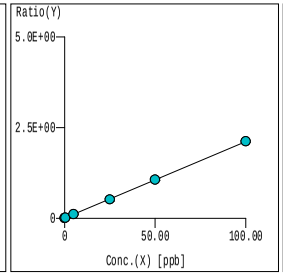
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 4.453E-03 ppb | 1.931E-02 ppb | 5.791E-02 ppb | 2.271E-01 ppb | 3.297 ppb |
| < BEC > | --- ppb | 6.137E-03 ppb | 7.431E-03 ppb | 3.706E-01 ppb | 3.123E-01 ppb | 16.52 ppb |

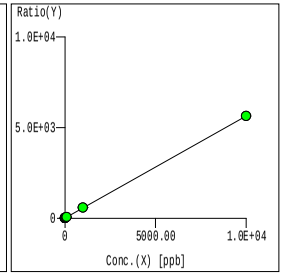


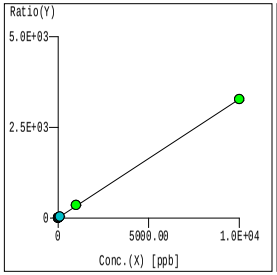



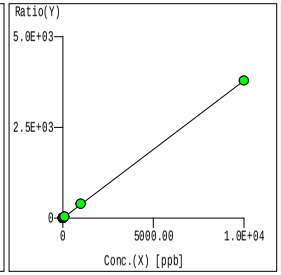



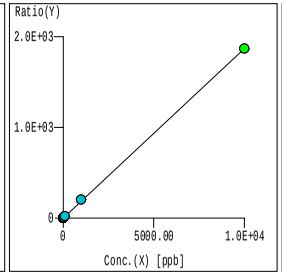



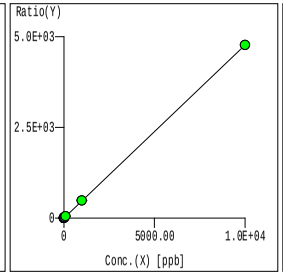



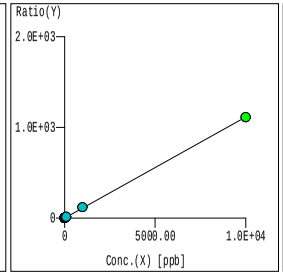

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.486E-01 ppb | 1.181E-01 ppb | 8.914E-02 ppb | 2.033 ppb | 5.399E-01 ppb | 34.89 ppb |
| < BEC > | 22.49 ppb | 4.378E-01 ppb | 4.403E-01 ppb | 1.978 ppb | 1.663 ppb | 154.2 ppb |

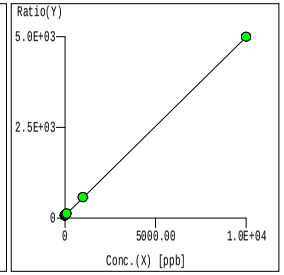


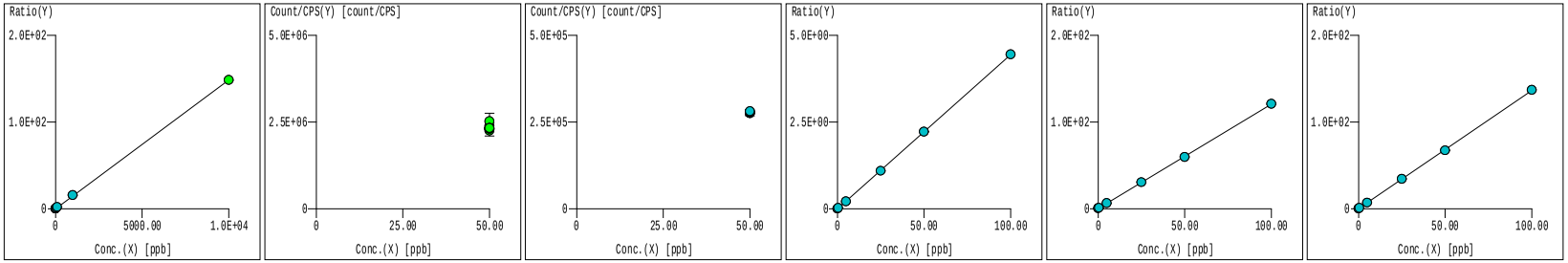



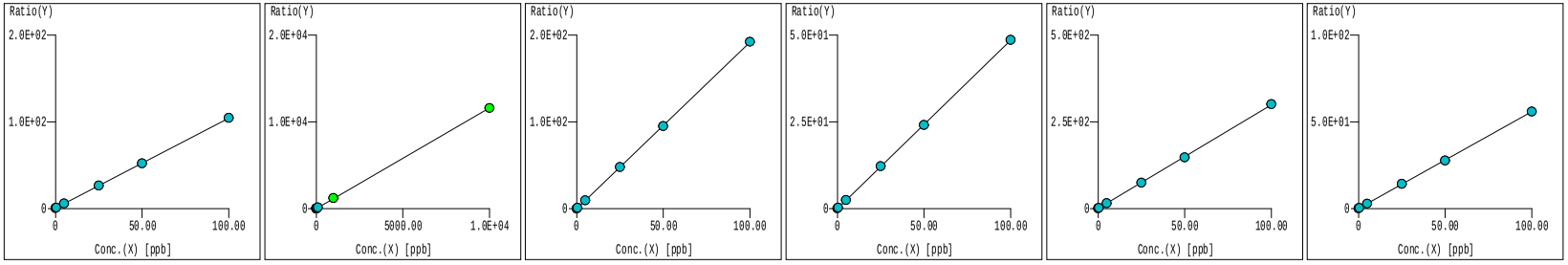
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 2.163 ppb | --- ppb | --- ppb | 3.928E-02 ppb | 4.990E-02 ppb | 1.496E-02 ppb |
| < BEC > | 9.483 ppb | --- ppb | --- ppb | 7.559E-02 ppb | 4.259E-01 ppb | 2.403E-01 ppb |



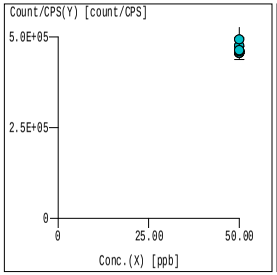

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | 2.442E-02 ppb | 1.756E-01 ppb | 1.161E-03 ppb | 1.233E-02 ppb | 2.541E-02 ppb | 3.286E-02 ppb |
| < BEC > | 5.783E-01 ppb | 6.792 ppb | 3.290E-03 ppb | 7.415E-02 ppb | 1.705E-01 ppb | 1.909E-01 ppb |

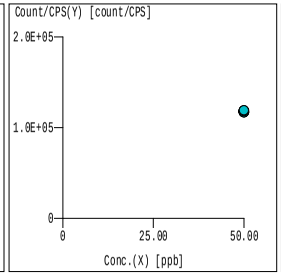


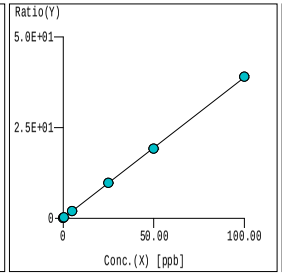
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

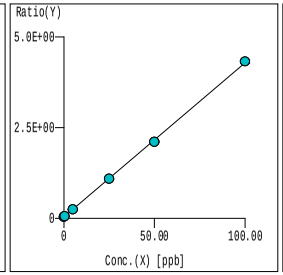
=== Graph Summary ===
Page: 3/4

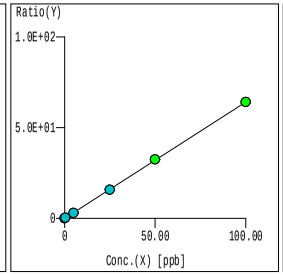
| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 1.649E-02 ppb | 2.534E-01 ppb | 2.082E-03 ppb | 4.872E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.356E-01 ppb | 8.916E-01 ppb | 1.312E-02 ppb | 3.132E-03 ppb |

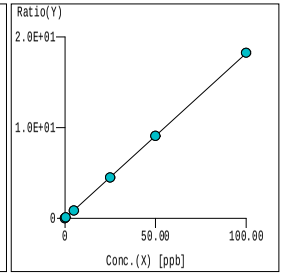


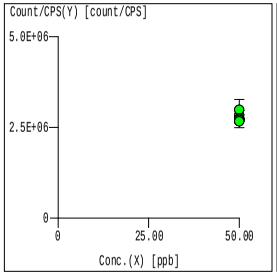



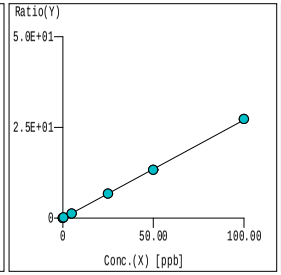



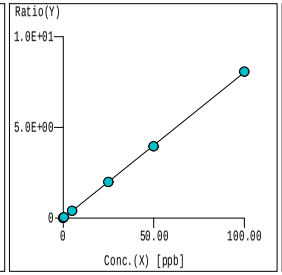



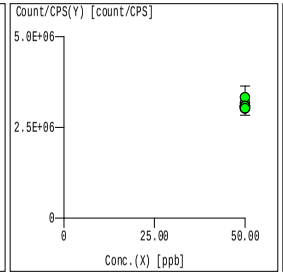



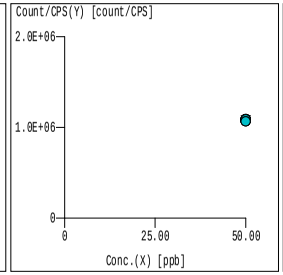

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.873E-03 ppb | 4.121E-05 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.084E-03 ppb | 1.907E-03 ppb | --- ppb | --- ppb | --- ppb |

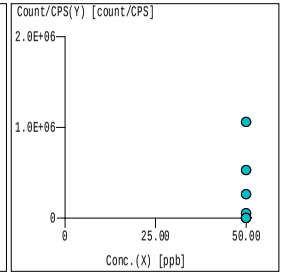






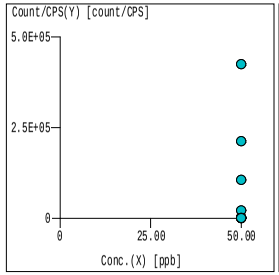


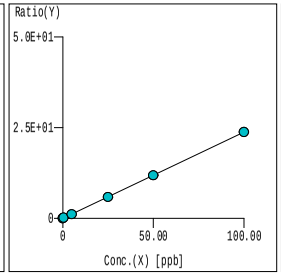

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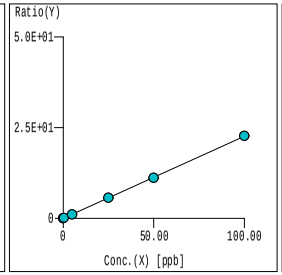
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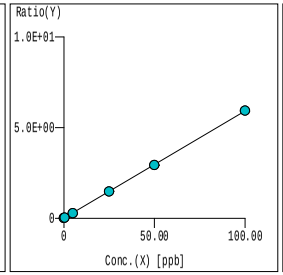
=== Graph Summary ===
Page: 4/4

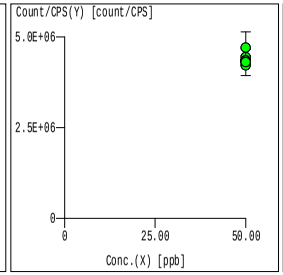
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.891E-03 ppb | 3.770E-03 ppb | 3.817E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.834E-02 ppb | 5.094E-03 ppb | 1.660E-01 ppb | --- ppb | --- ppb |

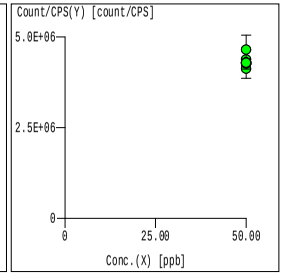


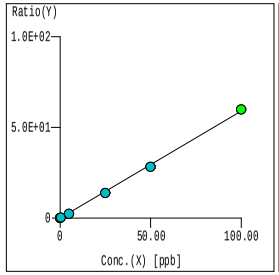



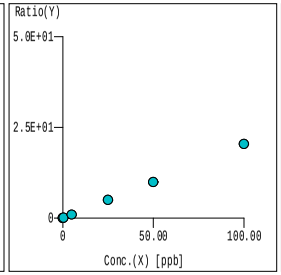



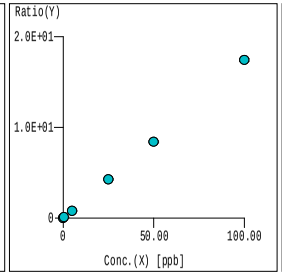



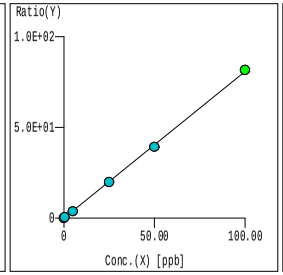



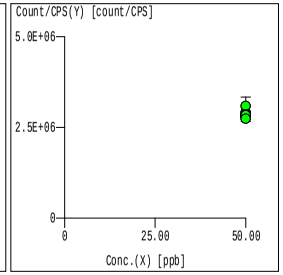

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9995 | 0.9999 | 0.9999 | 0.9998 | 0.0000 |
| < DL > | 6.861E-04 ppb | --- ppb | --- ppb | 2.034E-03 ppb | --- ppb |
| < BEC > | 1.193E-02 ppb | --- ppb | --- ppb | 3.007E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D15k01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\001CAL
Date Acquired: Apr 15 2013 10:59 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1103804.00 | A | 12620.00 | 1.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 6.67 | 22.22 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 293.35 | P | 35.12 | 11.97 |
| 11 | B | 5.56 | P | 5.09 | 91.65 |
| 23 | Na | 480518.09 | P | 1049.00 | 0.22 |
| 23 | Na | 43144.63 | P | 389.20 | 0.90 |
| 24 | Mg | 4151.83 | P | 265.00 | 6.38 |
| 24 | Mg | 221.12 | P | 30.06 | 13.59 |
| 27 | Al | 10071.44 | P | 572.50 | 5.68 |
| 27 | Al | 316.71 | P | 37.59 | 11.87 |
| 39 | K | 2834107.00 | A | 17730.00 | 0.63 |
| 44 | Ca | 4108.48 | P | 126.10 | 3.07 |
| 45 | Sc | 2069560.00 | A | 4013.00 | 0.19 |
| 45 | Sc | 203979.80 | P | 6062.00 | 2.97 |
| 47 | Ti | 54.45 | P | 21.17 | 38.88 |
| 51 | V | 2003.28 | P | 70.90 | 3.54 |
| 52 | Cr | 1415.20 | P | 39.65 | 2.80 |
| 55 | Mn | 518.24 | P | 30.24 | 5.84 |
| 56 | Fe | 13987.05 | P | 194.20 | 1.39 |
| 59 | Co | 28.00 | P | 3.53 | 12.60 |
| 60 | Ni | 135.11 | P | 10.01 | 7.41 |
| 63 | Cu | 562.69 | P | 17.02 | 3.02 |
| 66 | Zn | 81.33 | P | 6.96 | 8.56 |
| 72 | Ge | 451866.91 | P | 2903.00 | 0.64 |
| 72 | Ge | 96192.40 | P | 1992.00 | 2.07 |
| 75 | As | 58.89 | P | 4.07 | 6.92 |
| 78 | Se | 66.67 | P | 9.33 | 14.00 |
| 88 | Sr | 265.57 | P | 57.48 | 21.64 |
| 98 | Mo | 93.34 | P | 23.09 | 24.74 |
| 103 | Rh | 2809047.00 | A | 2237.00 | 0.08 |
| 107 | Ag | 98.89 | P | 19.25 | 19.47 |







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C:\ICPCHEM\1\DATA\13D15k01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 5.09 | 65.47 |
| 115 | In | 3235801.00 | A | 7249.00 | 0.22 |
| 115 | In | 931124.69 | P | 23240.00 | 2.50 |
| 118 | (In) | 238.90 | P | 32.04 | 13.41 |
| 118 | (In) | 90.00 | P | 29.06 | 32.29 |
| 120 | Sn | 305.57 | P | 36.57 | 11.97 |
| 121 | Sb | 66.67 | P | 3.33 | 5.00 |
| 137 | Ba | 505.59 | P | 46.71 | 9.24 |
| 159 | Tb | 4565283.00 | A | 37070.00 | 0.81 |
| 175 | Lu | 4487166.00 | A | 46270.00 | 1.03 |
| 205 | Tl | 1230.11 | P | 68.89 | 5.60 |
| 206 | (Pb) | 138.90 | P | 28.35 | 20.41 |
| 207 | (Pb) | 107.78 | P | 15.75 | 14.61 |
| 208 | Pb | 871.16 | P | 56.21 | 6.45 |
| 209 | Bi | 3007870.00 | A | 17580.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\002CAL
Date Acquired: Apr 15 2013 11:05 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1085278.00 | A | 17970.00 | 1.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 11.55 | 38.50 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 323.35 | P | 26.04 | 8.05 |
| 11 | B | 2.22 | P | 3.85 | 173.20 |
| 23 | Na | 472797.31 | P | 475.20 | 0.10 |
| 23 | Na | 43017.42 | P | 371.50 | 0.86 |
| 24 | Mg | 4044.00 | P | 77.97 | 1.93 |
| 24 | Mg | 261.13 | P | 15.40 | 5.90 |
| 27 | Al | 9770.97 | P | 127.50 | 1.30 |
| 27 | Al | 270.01 | P | 17.32 | 6.41 |
| 39 | K | 2849864.00 | A | 10660.00 | 0.37 |
| 44 | Ca | 3950.65 | P | 163.80 | 4.15 |
| 45 | Sc | 2030198.00 | A | 10610.00 | 0.52 |
| 45 | Sc | 207474.59 | P | 713.80 | 0.34 |
| 47 | Ti | 71.11 | P | 10.71 | 15.06 |
| 51 | V | 1902.37 | P | 24.67 | 1.30 |
| 52 | Cr | 1445.42 | P | 35.35 | 2.45 |
| 55 | Mn | 503.57 | P | 11.65 | 2.31 |
| 56 | Fe | 14036.95 | P | 107.50 | 0.77 |
| 59 | Co | 19.11 | P | 5.05 | 26.41 |
| 60 | Ni | 113.34 | P | 6.11 | 5.39 |
| 63 | Cu | 520.02 | P | 6.11 | 1.18 |
| 66 | Zn | 78.45 | P | 7.67 | 9.78 |
| 72 | Ge | 445119.59 | P | 4208.00 | 0.95 |
| 72 | Ge | 97575.89 | P | 894.90 | 0.92 |
| 75 | As | 67.11 | P | 6.68 | 9.95 |
| 78 | Se | 62.22 | P | 5.18 | 8.32 |
| 88 | Sr | 285.57 | P | 38.64 | 13.53 |
| 98 | Mo | 60.00 | P | 15.28 | 25.47 |
| 103 | Rh | 2785941.00 | A | 19890.00 | 0.71 |
| 107 | Ag | 96.67 | P | 27.28 | 28.22 |

C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 3.85 | 49.49 |
| 115 | In | 3215847.00 | A | 28670.00 | 0.89 |
| 115 | In | 945097.19 | P | 5063.00 | 0.54 |
| 118 | (In) | 227.79 | P | 36.72 | 16.12 |
| 118 | (In) | 92.23 | P | 5.09 | 5.52 |
| 120 | Sn | 316.68 | P | 46.67 | 14.74 |
| 121 | Sb | 82.23 | P | 24.12 | 29.33 |
| 137 | Ba | 500.03 | P | 70.24 | 14.05 |
| 159 | Tb | 4520362.00 | A | 18520.00 | 0.41 |
| 175 | Lu | 4476326.00 | A | 42850.00 | 0.96 |
| 205 | Tl | 880.06 | P | 46.19 | 5.25 |
| 206 | (Pb) | 122.23 | P | 8.39 | 6.86 |
| 207 | (Pb) | 130.01 | P | 23.33 | 17.95 |
| 208 | Pb | 923.39 | P | 53.34 | 5.78 |
| 209 | Bi | 2985373.00 | A | 17410.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 15 2013 11:12 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1063341.00 | A | 16350.00 | 1.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 2119.11 | P | 65.78 | 3.10 |
| 9 | Be | 104.45 | P | 10.18 | 9.75 |
| 11 | B | 1561.24 | P | 10.19 | 0.65 |
| 11 | B | 50.00 | P | 6.67 | 13.33 |
| 23 | Na | 484603.59 | P | 975.30 | 0.20 |
| 23 | Na | 43878.64 | P | 630.10 | 1.44 |
| 24 | Mg | 11374.57 | P | 309.30 | 2.72 |
| 24 | Mg | 678.93 | P | 76.77 | 11.31 |
| 27 | Al | 18590.43 | P | 535.30 | 2.88 |
| 27 | Al | 493.36 | P | 41.77 | 8.47 |
| 39 | K | 2844084.00 | A | 8728.00 | 0.31 |
| 44 | Ca | 4807.59 | P | 56.88 | 1.18 |
| 45 | Sc | 2013656.00 | A | 27050.00 | 1.34 |
| 45 | Sc | 206048.41 | P | 871.60 | 0.42 |
| 47 | Ti | 956.74 | P | 98.39 | 10.28 |
| 51 | V | 4509.16 | P | 54.58 | 1.21 |
| 52 | Cr | 4374.46 | P | 93.37 | 2.13 |
| 55 | Mn | 2725.17 | P | 83.60 | 3.07 |
| 56 | Fe | 17280.80 | P | 503.30 | 2.91 |
| 59 | Co | 4398.92 | P | 85.72 | 1.95 |
| 60 | Ni | 1228.51 | P | 34.01 | 2.77 |
| 63 | Cu | 3524.01 | P | 149.20 | 4.23 |
| 66 | Zn | 672.02 | P | 16.83 | 2.50 |
| 72 | Ge | 440386.69 | P | 3128.00 | 0.71 |
| 72 | Ge | 97672.43 | P | 154.20 | 0.16 |
| 75 | As | 449.79 | P | 6.05 | 1.34 |
| 78 | Se | 114.45 | P | 6.01 | 5.25 |
| 88 | Sr | 17506.36 | P | 323.10 | 1.85 |
| 98 | Mo | 4734.26 | P | 296.80 | 6.27 |
| 103 | Rh | 2734104.00 | A | 19990.00 | 0.73 |
| 107 | Ag | 8285.97 | P | 221.80 | 2.68 |

C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 772.27 | P | 22.20 | 2.87 |
| 115 | In | 3134057.00 | A | 12520.00 | 0.40 |
| 115 | In | 947271.31 | P | 3534.00 | 0.37 |
| 118 | (In) | 5733.57 | P | 84.98 | 1.48 |
| 118 | (In) | 2009.10 | P | 99.25 | 4.94 |
| 120 | Sn | 7780.15 | P | 91.97 | 1.18 |
| 121 | Sb | 7386.59 | P | 201.10 | 2.72 |
| 137 | Ba | 3137.13 | P | 56.87 | 1.81 |
| 159 | Tb | 4403258.00 | A | 83440.00 | 1.90 |
| 175 | Lu | 4333320.00 | A | 13860.00 | 0.32 |
| 205 | Tl | 14663.83 | P | 338.80 | 2.31 |
| 206 | (Pb) | 6043.79 | P | 221.90 | 3.67 |
| 207 | (Pb) | 5301.22 | P | 213.90 | 4.03 |
| 208 | Pb | 24681.92 | P | 282.20 | 1.14 |
| 209 | Bi | 2923579.00 | A | 18180.00 | 0.62 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1063340.80 | 1.54 | 1085278.40 | 98.0 | 70 - 130 | |
| 45 | Sc | 2013655.60 | 1.34 | 2030198.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 206048.36 | 0.42 | 207474.58 | 99.3 | 70 - 130 | |
| 72 | Ge | 440386.66 | 0.71 | 445119.63 | 98.9 | 70 - 130 | |
| 72 | Ge | 97672.43 | 0.16 | 97575.88 | 100.1 | 70 - 130 | |
| 103 | Rh | 2734103.80 | 0.73 | 2785940.50 | 98.1 | 70 - 130 | |
| 115 | In | 3134057.00 | 0.40 | 3215846.50 | 97.5 | 70 - 130 | |
| 115 | In | 947271.31 | 0.37 | 945097.19 | 100.2 | 70 - 130 | |
| 159 | Tb | 4403258.00 | 1.90 | 4520362.50 | 97.4 | 70 - 130 | |
| 175 | Lu | 4333319.50 | 0.32 | 4476326.50 | 96.8 | 70 - 130 | |
| 209 | Bi | 2923578.80 | 0.62 | 2985373.30 | 97.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 15 2013 11:18 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1118135.00 | A | 19040.00 | 1.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 21926.96 | P | 262.80 | 1.20 |
| 9 | Be | 1074.52 | P | 19.25 | 1.79 |
| 11 | B | 13648.57 | P | 430.20 | 3.15 |
| 11 | B | 433.35 | P | 27.29 | 6.30 |
| 23 | Na | 577820.31 | P | 1407.00 | 0.24 |
| 23 | Na | 50282.45 | P | 641.10 | 1.28 |
| 24 | Mg | 76163.49 | P | 369.90 | 0.49 |
| 24 | Mg | 4357.45 | P | 178.20 | 4.09 |
| 27 | Al | 100007.10 | P | 914.50 | 0.91 |
| 27 | Al | 2610.32 | P | 28.50 | 1.09 |
| 39 | K | 2909555.00 | A | 9438.00 | 0.32 |
| 44 | Ca | 11129.96 | P | 357.90 | 3.22 |
| 45 | Sc | 2111095.00 | A | 23740.00 | 1.12 |
| 45 | Sc | 211292.30 | P | 1462.00 | 0.69 |
| 47 | Ti | 8876.21 | P | 303.50 | 3.42 |
| 51 | V | 27964.73 | P | 236.00 | 0.84 |
| 52 | Cr | 31738.64 | P | 99.69 | 0.31 |
| 55 | Mn | 23150.53 | P | 234.70 | 1.01 |
| 56 | Fe | 42406.66 | P | 296.00 | 0.70 |
| 59 | Co | 43924.31 | P | 503.80 | 1.15 |
| 60 | Ni | 11295.86 | P | 247.70 | 2.19 |
| 63 | Cu | 30255.89 | P | 369.20 | 1.22 |
| 66 | Zn | 6101.03 | P | 81.77 | 1.34 |
| 72 | Ge | 458158.59 | P | 5076.00 | 1.11 |
| 72 | Ge | 100067.20 | P | 488.20 | 0.49 |
| 75 | As | 3759.60 | P | 40.86 | 1.09 |
| 78 | Se | 455.12 | P | 38.38 | 8.43 |
| 88 | Sr | 173533.30 | P | 965.20 | 0.56 |
| 98 | Mo | 48689.35 | P | 157.40 | 0.32 |
| 103 | Rh | 2872828.00 | A | 31830.00 | 1.11 |
| 107 | Ag | 81896.19 | P | 531.90 | 0.65 |

C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7962.41 | P | 187.40 | 2.35 |
| 115 | In | 3298968.00 | A | 27580.00 | 0.84 |
| 115 | In | 966217.63 | P | 6681.00 | 0.69 |
| 118 | (In) | 54688.32 | P | 184.60 | 0.34 |
| 118 | (In) | 19064.13 | P | 460.00 | 2.41 |
| 120 | Sn | 75196.65 | P | 342.50 | 0.46 |
| 121 | Sb | 72799.40 | P | 826.10 | 1.13 |
| 137 | Ba | 26816.77 | P | 272.90 | 1.02 |
| 159 | Tb | 4642350.00 | A | 23590.00 | 0.51 |
| 175 | Lu | 4605249.00 | A | 44490.00 | 0.97 |
| 205 | Tl | 152334.41 | P | 2778.00 | 1.82 |
| 206 | (Pb) | 59863.62 | P | 680.10 | 1.14 |
| 207 | (Pb) | 50582.49 | P | 126.00 | 0.25 |
| 208 | Pb | 235770.70 | P | 923.10 | 0.39 |
| 209 | Bi | 3080467.00 | A | 44900.00 | 1.46 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1118135.00 | 1.70 | 1085278.40 | 103.0 | 70 - 130 | |
| 45 | Sc | 2111094.80 | 1.12 | 2030198.30 | 104.0 | 70 - 130 | |
| 45 | Sc | 211292.31 | 0.69 | 207474.58 | 101.8 | 70 - 130 | |
| 72 | Ge | 458158.63 | 1.11 | 445119.63 | 102.9 | 70 - 130 | |
| 72 | Ge | 100067.18 | 0.49 | 97575.88 | 102.6 | 70 - 130 | |
| 103 | Rh | 2872828.50 | 1.11 | 2785940.50 | 103.1 | 70 - 130 | |
| 115 | In | 3298968.50 | 0.84 | 3215846.50 | 102.6 | 70 - 130 | |
| 115 | In | 966217.56 | 0.69 | 945097.19 | 102.2 | 70 - 130 | |
| 159 | Tb | 4642350.00 | 0.51 | 4520362.50 | 102.7 | 70 - 130 | |
| 175 | Lu | 4605249.00 | 0.97 | 4476326.50 | 102.9 | 70 - 130 | |
| 209 | Bi | 3080467.30 | 1.46 | 2985373.30 | 103.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 15 2013 11:24 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1083813.00 | A | 2727.00 | 0.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 106705.00 | P | 929.50 | 0.87 |
| 9 | Be | 5168.80 | P | 51.03 | 0.99 |
| 11 | B | 65711.82 | P | 413.70 | 0.63 |
| 11 | B | 2057.99 | P | 103.10 | 5.01 |
| 23 | Na | 979248.00 | P | 4953.00 | 0.51 |
| 23 | Na | 78838.94 | P | 745.70 | 0.95 |
| 24 | Mg | 355216.81 | P | 4739.00 | 1.33 |
| 24 | Mg | 20713.34 | P | 234.60 | 1.13 |
| 27 | Al | 443021.91 | P | 2317.00 | 0.52 |
| 27 | Al | 11136.59 | P | 31.00 | 0.28 |
| 39 | K | 3319939.00 | A | 5880.00 | 0.18 |
| 44 | Ca | 22356.97 | P | 185.10 | 0.83 |
| 45 | Sc | 2028471.00 | A | 1409.00 | 0.07 |
| 45 | Sc | 209689.09 | P | 2880.00 | 1.37 |
| 47 | Ti | 43379.77 | P | 809.10 | 1.87 |
| 51 | V | 129990.60 | P | 797.70 | 0.61 |
| 52 | Cr | 148949.50 | P | 325.10 | 0.22 |
| 55 | Mn | 110076.90 | P | 935.90 | 0.85 |
| 56 | Fe | 151858.70 | P | 1073.00 | 0.71 |
| 59 | Co | 214714.30 | P | 1697.00 | 0.79 |
| 60 | Ni | 54947.76 | P | 540.60 | 0.98 |
| 63 | Cu | 144810.30 | P | 1532.00 | 1.06 |
| 66 | Zn | 26823.56 | P | 417.00 | 1.55 |
| 72 | Ge | 438943.31 | P | 1332.00 | 0.30 |
| 72 | Ge | 96975.53 | P | 726.80 | 0.75 |
| 75 | As | 18235.67 | P | 35.63 | 0.20 |
| 78 | Se | 1976.14 | P | 17.90 | 0.91 |
| 88 | Sr | 849878.31 | P | 9677.00 | 1.14 |
| 98 | Mo | 238568.50 | P | 2601.00 | 1.09 |
| 103 | Rh | 2729749.00 | A | 16130.00 | 0.59 |
| 107 | Ag | 405553.19 | P | 1912.00 | 0.47 |

C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37887.42 | P | 359.60 | 0.95 |
| 115 | In | 3147275.00 | A | 40900.00 | 1.30 |
| 115 | In | 948047.38 | P | 11770.00 | 1.24 |
| 118 | (In) | 266399.19 | P | 1845.00 | 0.69 |
| 118 | (In) | 92850.28 | P | 1089.00 | 1.17 |
| 120 | Sn | 366422.91 | P | 1808.00 | 0.49 |
| 121 | Sb | 347772.00 | P | 844.70 | 0.24 |
| 137 | Ba | 129503.50 | P | 1111.00 | 0.86 |
| 159 | Tb | 4453885.00 | A | 22090.00 | 0.50 |
| 175 | Lu | 4409680.00 | A | 28910.00 | 0.66 |
| 205 | Tl | 826834.13 | P | 2986.00 | 0.36 |
| 206 | (Pb) | 291785.91 | P | 610.10 | 0.21 |
| 207 | (Pb) | 248722.09 | P | 1185.00 | 0.48 |
| 208 | Pb | 1153779.00 | P | 2813.00 | 0.24 |
| 209 | Bi | 2949324.00 | A | 22790.00 | 0.77 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1083813.40 | 0.25 | 1085278.40 | 99.9 | 70 - 130 | |
| 45 | Sc | 2028471.30 | 0.07 | 2030198.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 209689.14 | 1.37 | 207474.58 | 101.1 | 70 - 130 | |
| 72 | Ge | 438943.28 | 0.30 | 445119.63 | 98.6 | 70 - 130 | |
| 72 | Ge | 96975.53 | 0.75 | 97575.88 | 99.4 | 70 - 130 | |
| 103 | Rh | 2729749.30 | 0.59 | 2785940.50 | 98.0 | 70 - 130 | |
| 115 | In | 3147274.50 | 1.30 | 3215846.50 | 97.9 | 70 - 130 | |
| 115 | In | 948047.38 | 1.24 | 945097.19 | 100.3 | 70 - 130 | |
| 159 | Tb | 4453884.50 | 0.50 | 4520362.50 | 98.5 | 70 - 130 | |
| 175 | Lu | 4409679.50 | 0.66 | 4476326.50 | 98.5 | 70 - 130 | |
| 209 | Bi | 2949324.00 | 0.77 | 2985373.30 | 98.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 15 2013 11:31 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1094560.00 | A | 12450.00 | 1.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 216880.30 | P | 1242.00 | 0.57 |
| 9 | Be | 10456.03 | P | 186.40 | 1.78 |
| 11 | B | 131655.20 | P | 1363.00 | 1.04 |
| 11 | B | 4048.43 | P | 38.35 | 0.95 |
| 23 | Na | 1535657.00 | A | 20920.00 | 1.36 |
| 23 | Na | 114671.90 | P | 489.80 | 0.43 |
| 24 | Mg | 709713.38 | P | 3749.00 | 0.53 |
| 24 | Mg | 41120.45 | P | 459.60 | 1.12 |
| 27 | Al | 887291.38 | P | 2750.00 | 0.31 |
| 27 | Al | 22095.24 | P | 96.50 | 0.44 |
| 39 | K | 3806915.00 | A | 21900.00 | 0.58 |
| 44 | Ca | 41849.83 | P | 162.90 | 0.39 |
| 45 | Sc | 2002759.00 | A | 15360.00 | 0.77 |
| 45 | Sc | 201978.70 | P | 5888.00 | 2.92 |
| 47 | Ti | 87982.22 | P | 537.90 | 0.61 |
| 51 | V | 262510.50 | P | 4001.00 | 1.52 |
| 52 | Cr | 300026.59 | P | 2478.00 | 0.83 |
| 55 | Mn | 222880.20 | P | 1805.00 | 0.81 |
| 56 | Fe | 292594.41 | P | 3108.00 | 1.06 |
| 59 | Co | 433377.19 | P | 3056.00 | 0.71 |
| 60 | Ni | 110485.30 | P | 826.00 | 0.75 |
| 63 | Cu | 292065.31 | P | 2547.00 | 0.87 |
| 66 | Zn | 54948.58 | P | 589.50 | 1.07 |
| 72 | Ge | 435503.00 | P | 1378.00 | 0.32 |
| 72 | Ge | 96022.56 | P | 1047.00 | 1.09 |
| 75 | As | 37203.04 | P | 485.70 | 1.31 |
| 78 | Se | 3862.52 | P | 30.01 | 0.78 |
| 88 | Sr | 1749695.00 | A | 14460.00 | 0.83 |
| 98 | Mo | 483610.09 | P | 2857.00 | 0.59 |
| 103 | Rh | 2701390.00 | A | 2502.00 | 0.09 |
| 107 | Ag | 814009.69 | P | 5703.00 | 0.70 |

C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 77605.05 | P | 487.20 | 0.63 |
| 115 | In | 3106948.00 | A | 11750.00 | 0.38 |
| 115 | In | 930996.81 | M | 28730.00 | 3.09 |
| 118 | (In) | 533202.19 | P | 2693.00 | 0.51 |
| 118 | (In) | 189108.59 | P | 2289.00 | 1.21 |
| 120 | Sn | 740117.50 | P | 6228.00 | 0.84 |
| 121 | Sb | 702742.13 | P | 2148.00 | 0.31 |
| 137 | Ba | 261162.09 | P | 2346.00 | 0.90 |
| 159 | Tb | 4425525.00 | A | 36100.00 | 0.82 |
| 175 | Lu | 4363498.00 | A | 24070.00 | 0.55 |
| 205 | Tl | 1699799.00 | P | 6897.00 | 0.41 |
| 206 | (Pb) | 590913.31 | P | 1707.00 | 0.29 |
| 207 | (Pb) | 502000.31 | P | 2289.00 | 0.46 |
| 208 | Pb | 2340817.00 | P | 4214.00 | 0.18 |
| 209 | Bi | 2955770.00 | A | 24270.00 | 0.82 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1094559.90 | 1.14 | 1085278.40 | 100.9 | 70 - 130 | |
| 45 | Sc | 2002759.40 | 0.77 | 2030198.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 201978.70 | 2.92 | 207474.58 | 97.4 | 70 - 130 | |
| 72 | Ge | 435502.97 | 0.32 | 445119.63 | 97.8 | 70 - 130 | |
| 72 | Ge | 96022.56 | 1.09 | 97575.88 | 98.4 | 70 - 130 | |
| 103 | Rh | 2701389.80 | 0.09 | 2785940.50 | 97.0 | 70 - 130 | |
| 115 | In | 3106948.30 | 0.38 | 3215846.50 | 96.6 | 70 - 130 | |
| 115 | In | 930996.75 | 3.09 | 945097.19 | 98.5 | 70 - 130 | |
| 159 | Tb | 4425525.00 | 0.82 | 4520362.50 | 97.9 | 70 - 130 | |
| 175 | Lu | 4363498.50 | 0.55 | 4476326.50 | 97.5 | 70 - 130 | |
| 209 | Bi | 2955769.50 | 0.82 | 2985373.30 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 15 2013 11:37 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1147803.00 | A | 103000.00 | 8.97 |
| 7 | (Li) | | P | | |
| 9 | Be | 428400.19 | P | 6076.00 | 1.42 |
| 9 | Be | 20631.85 | P | 393.90 | 1.91 |
| 11 | B | 262200.91 | P | 1342.00 | 0.51 |
| 11 | B | 7946.69 | P | 336.30 | 4.23 |
| 23 | Na | 2551442.00 | A | 20660.00 | 0.81 |
| 23 | Na | 186774.09 | P | 1192.00 | 0.64 |
| 24 | Mg | 1446658.00 | A | 12960.00 | 0.90 |
| 24 | Mg | 82414.84 | P | 898.00 | 1.09 |
| 27 | Al | 1768659.00 | A | 36610.00 | 2.07 |
| 27 | Al | 44390.63 | P | 416.90 | 0.94 |
| 39 | K | 4735822.00 | A | 35860.00 | 0.76 |
| 44 | Ca | 76136.35 | P | 314.70 | 0.41 |
| 45 | Sc | 2174275.00 | A | 271900.00 | 12.51 |
| 45 | Sc | 204936.59 | P | 613.30 | 0.30 |
| 47 | Ti | 173004.20 | P | 2116.00 | 1.22 |
| 51 | V | 522535.09 | P | 1101.00 | 0.21 |
| 52 | Cr | 603320.00 | P | 936.90 | 0.16 |
| 55 | Mn | 445186.31 | P | 295.80 | 0.07 |
| 56 | Fe | 571365.69 | P | 3705.00 | 0.65 |
| 59 | Co | 869319.38 | P | 2898.00 | 0.33 |
| 60 | Ni | 221453.91 | P | 523.60 | 0.24 |
| 63 | Cu | 580131.00 | P | 1120.00 | 0.19 |
| 66 | Zn | 108541.60 | P | 514.90 | 0.47 |
| 72 | Ge | 466403.91 | P | 50540.00 | 10.84 |
| 72 | Ge | 96564.43 | P | 311.30 | 0.32 |
| 75 | As | 74241.89 | P | 296.80 | 0.40 |
| 78 | Se | 7749.81 | P | 70.41 | 0.91 |
| 88 | Sr | 3427026.00 | A | 21820.00 | 0.64 |
| 98 | Mo | 962299.13 | P | 7187.00 | 0.75 |
| 103 | Rh | 2952789.00 | A | 375000.00 | 12.70 |
| 107 | Ag | 1641595.00 | P | 12470.00 | 0.76 |

C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 155722.20 | P | 1226.00 | 0.79 |
| 115 | In | 3379852.00 | A | 409500.00 | 12.12 |
| 115 | In | 935949.63 | P | 5299.00 | 0.57 |
| 118 | (In) | 1064110.00 | P | 10670.00 | 1.00 |
| 118 | (In) | 379137.69 | P | 1907.00 | 0.50 |
| 120 | Sn | 1466463.00 | P | 20510.00 | 1.40 |
| 121 | Sb | 1401559.00 | P | 12700.00 | 0.91 |
| 137 | Ba | 519530.59 | P | 5447.00 | 1.05 |
| 159 | Tb | 4802390.00 | A | 586700.00 | 12.22 |
| 175 | Lu | 4762533.00 | A | 640000.00 | 13.44 |
| 205 | Tl | 3436199.00 | A | 40310.00 | 1.17 |
| 206 | (Pb) | 1175489.00 | P | 8759.00 | 0.75 |
| 207 | (Pb) | 1005738.00 | P | 5327.00 | 0.53 |
| 208 | Pb | 4705726.00 | A | 21980.00 | 0.47 |
| 209 | Bi | 3183428.00 | A | 361000.00 | 11.34 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1147803.30 | 8.97 | 1085278.40 | 105.8 | 70 - 130 | |
| 45 | Sc | 2174275.30 | 12.51 | 2030198.30 | 107.1 | 70 - 130 | |
| 45 | Sc | 204936.63 | 0.30 | 207474.58 | 98.8 | 70 - 130 | |
| 72 | Ge | 466403.91 | 10.84 | 445119.63 | 104.8 | 70 - 130 | |
| 72 | Ge | 96564.43 | 0.32 | 97575.88 | 99.0 | 70 - 130 | |
| 103 | Rh | 2952789.30 | 12.70 | 2785940.50 | 106.0 | 70 - 130 | |
| 115 | In | 3379852.50 | 12.12 | 3215846.50 | 105.1 | 70 - 130 | |
| 115 | In | 935949.56 | 0.57 | 945097.19 | 99.0 | 70 - 130 | |
| 159 | Tb | 4802390.50 | 12.22 | 4520362.50 | 106.2 | 70 - 130 | |
| 175 | Lu | 4762533.00 | 13.44 | 4476326.50 | 106.4 | 70 - 130 | |
| 209 | Bi | 3183427.80 | 11.34 | 2985373.30 | 106.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 15 2013 11:44 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1080731.00 | A | 6995.00 | 0.65 |
| 7 | (Li) | | P | | |
| 9 | Be | 116.67 | P | 8.82 | 7.56 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1941.30 | P | 25.03 | 1.29 |
| 11 | B | 58.89 | P | 26.94 | 45.75 |
| 23 | Na | 19715590.00 | A | 247000.00 | 1.25 |
| 23 | Na | 1405236.00 | A | 12480.00 | 0.89 |
| 24 | Mg | 13247660.00 | A | 263900.00 | 1.99 |
| 24 | Mg | 798620.19 | P | 4212.00 | 0.53 |
| 27 | Al | 16732620.00 | A | 116700.00 | 0.70 |
| 27 | Al | 442510.91 | P | 2757.00 | 0.62 |
| 39 | K | 21862940.00 | A | 239200.00 | 1.09 |
| 44 | Ca | 620056.50 | P | 9303.00 | 1.50 |
| 45 | Sc | 2023799.00 | A | 7321.00 | 0.36 |
| 45 | Sc | 208789.80 | P | 893.40 | 0.43 |
| 47 | Ti | 92.23 | P | 30.97 | 33.58 |
| 51 | V | 1765.91 | P | 56.30 | 3.19 |
| 52 | Cr | 1496.99 | P | 22.88 | 1.53 |
| 55 | Mn | 690.25 | P | 43.54 | 6.31 |
| 56 | Fe | 5230081.00 | A | 22370.00 | 0.43 |
| 59 | Co | 260.45 | P | 25.38 | 9.74 |
| 60 | Ni | 199.56 | P | 22.68 | 11.37 |
| 63 | Cu | 687.58 | P | 40.50 | 5.89 |
| 66 | Zn | 252.23 | P | 11.08 | 4.39 |
| 72 | Ge | 442726.19 | P | 3415.00 | 0.77 |
| 72 | Ge | 98248.10 | P | 119.00 | 0.12 |
| 75 | As | 77.33 | P | 14.25 | 18.43 |
| 78 | Se | 76.45 | P | 6.81 | 8.91 |
| 88 | Sr | 1963.54 | P | 127.20 | 6.48 |
| 98 | Mo | 1476.80 | P | 92.62 | 6.27 |
| 103 | Rh | 2718833.00 | A | 5288.00 | 0.19 |
| 107 | Ag | 364.46 | P | 52.11 | 14.30 |

C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 21.11 | P | 15.03 | 71.19 |
| 115 | In | 3145951.00 | A | 22030.00 | 0.70 |
| 115 | In | 947496.00 | P | 5967.00 | 0.63 |
| 118 | (In) | 1494.59 | P | 274.00 | 18.33 |
| 118 | (In) | 958.96 | P | 41.94 | 4.37 |
| 120 | Sn | 2051.33 | P | 270.10 | 13.17 |
| 121 | Sb | 2475.87 | P | 405.80 | 16.39 |
| 137 | Ba | 572.26 | P | 92.52 | 16.17 |
| 159 | Tb | 4463799.00 | A | 27770.00 | 0.62 |
| 175 | Lu | 4395884.00 | A | 51390.00 | 1.17 |
| 205 | Tl | 3592.82 | P | 280.90 | 7.82 |
| 206 | (Pb) | 383.36 | P | 35.28 | 9.20 |
| 207 | (Pb) | 303.35 | P | 48.42 | 15.96 |
| 208 | Pb | 1901.25 | P | 151.30 | 7.96 |
| 209 | Bi | 2945681.00 | A | 20310.00 | 0.69 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1080731.10 | 0.65 | 1085278.40 | 99.6 | 70 - 130 | |
| 45 | Sc | 2023798.90 | 0.36 | 2030198.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 208789.80 | 0.43 | 207474.58 | 100.6 | 70 - 130 | |
| 72 | Ge | 442726.25 | 0.77 | 445119.63 | 99.5 | 70 - 130 | |
| 72 | Ge | 98248.10 | 0.12 | 97575.88 | 100.7 | 70 - 130 | |
| 103 | Rh | 2718833.00 | 0.19 | 2785940.50 | 97.6 | 70 - 130 | |
| 115 | In | 3145951.50 | 0.70 | 3215846.50 | 97.8 | 70 - 130 | |
| 115 | In | 947496.00 | 0.63 | 945097.19 | 100.3 | 70 - 130 | |
| 159 | Tb | 4463798.50 | 0.62 | 4520362.50 | 98.7 | 70 - 130 | |
| 175 | Lu | 4395883.50 | 1.17 | 4476326.50 | 98.2 | 70 - 130 | |
| 209 | Bi | 2945681.50 | 0.69 | 2985373.30 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 15 2013 11:50 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1050417.00 | A | 12710.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 54.45 | P | 13.88 | 25.49 |
| 9 | Be | 5.56 | P | 3.85 | 69.28 |
| 11 | B | 1067.85 | P | 25.24 | 2.36 |
| 11 | B | 21.11 | P | 8.39 | 39.74 |
| 23 | Na | 189889100.00 | A | 770700.00 | 0.41 |
| 23 | Na | 13243910.00 | A | 120600.00 | 0.91 |
| 24 | Mg | 128283900.00 | A | 512100.00 | 0.40 |
| 24 | Mg | 7414924.00 | A | 16650.00 | 0.22 |
| 27 | Al | 164217300.00 | A | 840800.00 | 0.51 |
| 27 | Al | 4168501.00 | A | 28320.00 | 0.68 |
| 39 | K | 190800900.00 | A | 672600.00 | 0.35 |
| 44 | Ca | 5897399.00 | A | 36460.00 | 0.62 |
| 45 | Sc | 2001831.00 | A | 22080.00 | 1.10 |
| 45 | Sc | 211353.50 | P | 298.70 | 0.14 |
| 47 | Ti | 94.45 | P | 11.71 | 12.40 |
| 51 | V | 1843.25 | P | 71.02 | 3.85 |
| 52 | Cr | 1940.15 | P | 73.44 | 3.79 |
| 55 | Mn | 1352.08 | P | 68.61 | 5.07 |
| 56 | Fe | 51050088.00 | A | 16900.00 | 0.03 |
| 59 | Co | 1284.96 | P | 46.08 | 3.59 |
| 60 | Ni | 465.79 | P | 19.97 | 4.29 |
| 63 | Cu | 665.80 | P | 58.22 | 8.74 |
| 66 | Zn | 420.01 | P | 13.32 | 3.17 |
| 72 | Ge | 443150.00 | P | 2639.00 | 0.60 |
| 72 | Ge | 98978.95 | P | 312.20 | 0.32 |
| 75 | As | 82.89 | P | 6.05 | 7.30 |
| 78 | Se | 70.22 | P | 7.90 | 11.25 |
| 88 | Sr | 12575.75 | P | 97.73 | 0.78 |
| 98 | Mo | 542.25 | P | 50.04 | 9.23 |
| 103 | Rh | 2603774.00 | A | 2107.00 | 0.08 |
| 107 | Ag | 812.28 | P | 55.41 | 6.82 |

C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 5.09 | 41.66 |
| 115 | In | 3051296.00 | A | 18520.00 | 0.61 |
| 115 | In | 934079.00 | P | 7727.00 | 0.83 |
| 118 | (In) | 661.15 | P | 80.10 | 12.12 |
| 118 | (In) | 378.91 | P | 54.20 | 14.30 |
| 120 | Sn | 944.52 | P | 141.50 | 14.98 |
| 121 | Sb | 1314.56 | P | 140.10 | 10.66 |
| 137 | Ba | 604.48 | P | 57.39 | 9.49 |
| 159 | Tb | 4385528.00 | A | 31630.00 | 0.72 |
| 175 | Lu | 4354290.00 | A | 34280.00 | 0.79 |
| 205 | Tl | 1455.69 | P | 103.30 | 7.10 |
| 206 | (Pb) | 254.46 | P | 11.71 | 4.60 |
| 207 | (Pb) | 252.23 | P | 39.06 | 15.49 |
| 208 | Pb | 1485.66 | P | 35.01 | 2.36 |
| 209 | Bi | 2800037.00 | A | 15490.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1050417.10 | 1.21 | 1085278.40 | 96.8 | 70 - 130 | |
| 45 | Sc | 2001831.00 | 1.10 | 2030198.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 211353.50 | 0.14 | 207474.58 | 101.9 | 70 - 130 | |
| 72 | Ge | 443150.03 | 0.60 | 445119.63 | 99.6 | 70 - 130 | |
| 72 | Ge | 98978.95 | 0.32 | 97575.88 | 101.4 | 70 - 130 | |
| 103 | Rh | 2603774.30 | 0.08 | 2785940.50 | 93.5 | 70 - 130 | |
| 115 | In | 3051296.00 | 0.61 | 3215846.50 | 94.9 | 70 - 130 | |
| 115 | In | 934079.06 | 0.83 | 945097.19 | 98.8 | 70 - 130 | |
| 159 | Tb | 4385528.00 | 0.72 | 4520362.50 | 97.0 | 70 - 130 | |
| 175 | Lu | 4354290.50 | 0.79 | 4476326.50 | 97.3 | 70 - 130 | |
| 209 | Bi | 2800036.50 | 0.55 | 2985373.30 | 93.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D# |
| Date Acquired: | Apr 15 2013 11:56 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICV |
| Misc Info: | |
| Vial Number: | 2101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 63.97 | 63.97 | ppb | 2.14 | 900.00 | |
| 9 Be | 45 | 2 | 60.60 | 60.60 | ppb | 8.07 | 900.00 | |
| 11 B | 6 | 1 | 61.43 | 61.43 | ppb | 2.23 | 900.00 | |
| 11 B | 45 | 2 | 61.17 | 61.17 | ppb | 4.43 | 900.00 | |
| 23 Na | 45 | 1 | 5559.00 | 5559.00 | ppb | 0.97 | 90000.00 | |
| 23 Na | 45 | 2 | 5905.00 | 5905.00 | ppb | 8.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 5678.00 | 5678.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 6064.00 | 6064.00 | ppb | 8.29 | 90000.00 | |
| 27 Al | 45 | 1 | 5589.00 | 5589.00 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 6024.00 | 6024.00 | ppb | 8.68 | 90000.00 | |
| 39 K | 45 | 1 | 5624.00 | 5624.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 5660.00 | 5660.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 63.25 | 63.25 | ppb | 1.01 | 900.00 | |
| 51 V | 45 | 2 | 62.50 | 62.50 | ppb | 8.35 | 900.00 | |
| 52 Cr | 45 | 2 | 60.94 | 60.94 | ppb | 8.81 | 900.00 | |
| 55 Mn | 45 | 2 | 62.02 | 62.02 | ppb | 9.02 | 900.00 | |
| 56 Fe | 45 | 2 | 5986.00 | 5986.00 | ppb | 9.13 | 90000.00 | |
| 59 Co | 45 | 2 | 60.14 | 60.14 | ppb | 8.38 | 900.00 | |
| 60 Ni | 45 | 2 | 60.06 | 60.06 | ppb | 7.83 | 900.00 | |
| 63 Cu | 72 | 2 | 58.96 | 58.96 | ppb | 7.09 | 900.00 | |
| 66 Zn | 72 | 2 | 60.30 | 60.30 | ppb | 6.64 | 900.00 | |
| 75 As | 72 | 2 | 61.68 | 61.68 | ppb | 6.72 | 900.00 | |
| 78 Se | 72 | 2 | 62.01 | 62.01 | ppb | 6.07 | 900.00 | |
| 88 Sr | 103 | 1 | 65.37 | 65.37 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 65.67 | 65.67 | ppb | 1.31 | 900.00 | |
| 107 Ag | 115 | 1 | 61.90 | 61.90 | ppb | 0.06 | 180.00 | |
| 111 Cd | 115 | 2 | 61.50 | 61.50 | ppb | 8.20 | 900.00 | |
| 120 Sn | 115 | 1 | 62.29 | 62.29 | ppb | 0.78 | 900.00 | |
| 121 Sb | 115 | 1 | 63.86 | 63.86 | ppb | 0.49 | 900.00 | |
| 137 Ba | 159 | 1 | 62.97 | 62.97 | ppb | 0.75 | 900.00 | |
| 205 Tl | 209 | 1 | 60.35 | 60.35 | ppb | 0.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 62.47 | 62.47 | ppb | 0.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1062209 | 2.09 | 1085278 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 2030793 | 0.82 | 2030198 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 201416 | 8.55 | 207475 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 441314 | 0.60 | 445120 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 95510 | 7.20 | 97576 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 2661160 | 0.76 | 2785941 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3108376 | 0.55 | 3215847 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 894657 | 7.94 | 945097 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 4452097 | 0.52 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4410100 | 0.38 | 4476327 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 2868510 | 0.39 | 2985373 | 96.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 12:02 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 20.89 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.33 | ppb | 27.48 | 900.00 | |
| 11 B | 45 | 2 | 0.48 | 0.48 | ppb | 12.78 | 900.00 | |
| 23 Na | 45 | 1 | 2.85 | 2.85 | ppb | 165.66 | 90000.00 | |
| 23 Na | 45 | 2 | 2.80 | 2.80 | ppb | 5.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.49 | 0.49 | ppb | 24.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.67 | 0.67 | ppb | 30.71 | 90000.00 | |
| 27 Al | 45 | 1 | 0.41 | 0.41 | ppb | 42.57 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 33.61 | 90000.00 | |
| 39 K | 45 | 1 | -0.04 | -0.04 | ppb | 63327.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.35 | 3.35 | ppb | 46.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 1213.60 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 55.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 48.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 44.75 | 900.00 | |
| 56 Fe | 45 | 2 | 1.18 | 1.18 | ppb | 26.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 56.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 131.48 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 44.40 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 24.31 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 158.00 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 83.29 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 27.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 27.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 40.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 410.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 38.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 43.17 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 179.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 20.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 31.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1073461 | 16.98 | 1085278 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2028373 | 17.62 | 2030198 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 208416 | 0.45 | 207475 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 439933 | 17.56 | 445120 | 98.8 | 70 | - | 130 |
| 72 | Ge | 2 | 98450 | 0.54 | 97576 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2743118 | 19.00 | 2785941 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 3169865 | 19.03 | 3215847 | 98.6 | 70 | - | 130 |
| 115 | In | 2 | 954859 | 0.39 | 945097 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4465620 | 18.62 | 4520363 | 98.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4427273 | 19.38 | 4476327 | 98.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2975720 | 17.29 | 2985373 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 15 2013 12:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.90 | 53.90 | ppb | 1.54 | 900.00 | |
| 9 Be | 45 | 2 | 49.10 | 49.10 | ppb | 2.79 | 900.00 | |
| 11 B | 6 | 1 | 53.37 | 53.37 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 48.03 | 48.03 | ppb | 3.60 | 900.00 | |
| 23 Na | 45 | 1 | 5148.00 | 5148.00 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 5130.00 | 5130.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 5189.00 | 5189.00 | ppb | 1.32 | 90000.00 | |
| 27 Al | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 2 | 5221.00 | 5221.00 | ppb | 1.55 | 90000.00 | |
| 39 K | 45 | 1 | 5103.00 | 5103.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5239.00 | 5239.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 53.21 | 53.21 | ppb | 0.46 | 900.00 | |
| 51 V | 45 | 2 | 49.12 | 49.12 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | 48.40 | 48.40 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 49.10 | 49.10 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5115.00 | 5115.00 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 47.98 | 47.98 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 48.04 | 48.04 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 47.75 | 47.75 | ppb | 0.69 | 900.00 | |
| 66 Zn | 72 | 2 | 48.59 | 48.59 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 49.47 | 49.47 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 50.51 | 50.51 | ppb | 1.15 | 900.00 | |
| 88 Sr | 103 | 1 | 54.36 | 54.36 | ppb | 2.01 | 900.00 | |
| 98 Mo | 103 | 1 | 54.46 | 54.46 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 52.63 | 52.63 | ppb | 0.28 | 180.00 | |
| 111 Cd | 115 | 2 | 49.08 | 49.08 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 53.70 | 53.70 | ppb | 0.76 | 900.00 | |
| 121 Sb | 115 | 1 | 54.71 | 54.71 | ppb | 0.34 | 900.00 | |
| 137 Ba | 159 | 1 | 52.83 | 52.83 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 50.14 | 50.14 | ppb | 1.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.08 | 52.08 | ppb | 0.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1072127 | 1.05 | 1085278 | 98.8 | 70 - 130 | |
| 45 Sc | 1 | 2015017 | 0.47 | 2030198 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 210124 | 0.31 | 207475 | 101.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438193 | 0.07 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 98324 | 0.59 | 97576 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2660175 | 1.08 | 2785941 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3070211 | 0.37 | 3215847 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 935040 | 0.54 | 945097 | 98.9 | 70 | - | 130 |
| 159 Tb | 1 | 4407020 | 0.12 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4405201 | 1.07 | 4476327 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 2898105 | 0.12 | 2985373 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Apr 15 2013 12:15 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 56.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.19 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 10.95 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.35 | ppb | 36.47 | 900.00 | |
| 23 Na | 45 | 1 | 0.16 | 0.16 | ppb | 274.03 | 90000.00 | |
| 23 Na | 45 | 2 | 4.39 | 4.39 | ppb | 115.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.31 | 0.31 | ppb | 8.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.41 | 0.41 | ppb | 37.31 | 90000.00 | |
| 27 Al | 45 | 1 | 0.29 | 0.29 | ppb | 12.78 | 90000.00 | |
| 27 Al | 45 | 2 | 0.38 | 0.38 | ppb | 61.33 | 90000.00 | |
| 39 K | 45 | 1 | -3.46 | -3.46 | ppb | 85.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.65 | 13.65 | ppb | 3.11 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 161.88 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 180.50 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 403.97 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 54.13 | 900.00 | |
| 56 Fe | 45 | 2 | 1.37 | 1.37 | ppb | 50.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 47.43 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 80.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 53.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 34.51 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 85.21 | 900.00 | |
| 78 Se | 72 | 2 | 0.21 | 0.21 | ppb | 55.23 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 8.17 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 15.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.07 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 273.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 14.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 25.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 86.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 5.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1100387 | 0.95 | 1085278 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2055933 | 1.81 | 2030198 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 190032 | 13.27 | 207475 | 91.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444788 | 1.01 | 445120 | 99.9 | 70 | - | 130 |
| 72 Ge | 2 | 91516 | 9.67 | 97576 | 93.8 | 70 | - | 130 |
| 103 Rh | 1 | 2798794 | 2.04 | 2785941 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 3203783 | 1.52 | 3215847 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 876736 | 12.40 | 945097 | 92.8 | 70 | - | 130 |
| 159 Tb | 1 | 4555592 | 1.26 | 4520363 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 4486692 | 1.50 | 4476327 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3012141 | 1.42 | 2985373 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 15 2013 12:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.67 | 0.67 | ppb | 32.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.41 | 0.41 | ppb | 16.42 | 900.00 | |
| 11 B | 6 | 1 | 5.41 | 5.41 | ppb | 6.40 | 900.00 | |
| 11 B | 45 | 2 | 4.89 | 4.89 | ppb | 9.64 | 900.00 | |
| 23 Na | 45 | 1 | 289.40 | 289.40 | ppb | 21.33 | 90000.00 | |
| 23 Na | 45 | 2 | 269.20 | 269.20 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 282.50 | 282.50 | ppb | 12.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 271.00 | 271.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 47.17 | 47.17 | ppb | 77.10 | 90000.00 | |
| 27 Al | 45 | 2 | 26.67 | 26.67 | ppb | 1.03 | 90000.00 | |
| 39 K | 45 | 1 | 258.70 | 258.70 | ppb | 8.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 291.50 | 291.50 | ppb | 17.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 1.42 | ppb | 38.47 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 2.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.89 | ppb | 2.94 | 900.00 | |
| 55 Mn | 45 | 2 | 1.04 | 1.04 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | 27.81 | 27.81 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 2.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 2.60 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 8.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 11.94 | 900.00 | |
| 88 Sr | 103 | 1 | 5.11 | 5.11 | ppb | 3.11 | 900.00 | |
| 98 Mo | 103 | 1 | 1.42 | 1.42 | ppb | 38.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.60 | 0.60 | ppb | 31.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 1.81 | 900.00 | |
| 120 Sn | 115 | 1 | 5.00 | 5.00 | ppb | 1.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.65 | 0.65 | ppb | 30.07 | 900.00 | |
| 137 Ba | 159 | 1 | 1.15 | 1.15 | ppb | 12.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.58 | 0.58 | ppb | 26.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.64 | 0.64 | ppb | 31.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1078364 | 2.62 | 1085278 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 2042919 | 0.75 | 2030198 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 213012 | 0.52 | 207475 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 454919 | 2.32 | 445120 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 100120 | 0.70 | 97576 | 102.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2785318 | 1.75 | 2785941 | 100.0 | 70 | - | 130 |
| 115 | In | 1 | 3244639 | 1.65 | 3215847 | 100.9 | 70 | - | 130 |
| 115 | In | 2 | 979133 | 0.81 | 945097 | 103.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4558418 | 2.94 | 4520363 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4532275 | 3.32 | 4476327 | 101.2 | 70 | - | 130 |
| 209 | Bi | 1 | 3035730 | 2.05 | 2985373 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 15 2013 12:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 121.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 7.98 | 900.00 | |
| 11 B | 45 | 2 | 0.42 | 0.42 | ppb | 57.39 | 900.00 | |
| 23 Na | 45 | 1 | 95680.00 | 95680.00 | ppb | 0.62 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99470.00 | 99470.00 | ppb | 14.23 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96040.00 | 96040.00 | ppb | 0.60 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 100100.00 | 100100.00 | ppb | 14.01 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94710.00 | 94710.00 | ppb | 0.80 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 99220.00 | 99220.00 | ppb | 15.20 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97160.00 | 97160.00 | ppb | 0.85 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94700.00 | 94700.00 | ppb | 0.55 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2161.00 | 2161.00 | ppb | 0.77 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 183.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 1.02 | ppb | 17.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.35 | 0.35 | ppb | 17.91 | 900.00 | |
| 56 Fe | 45 | 2 | 99970.00 | 99970.00 | ppb | 14.32 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 8.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 20.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.38 | 0.38 | ppb | 14.42 | 900.00 | |
| 66 Zn | 72 | 2 | 1.77 | 1.77 | ppb | 11.16 | 900.00 | |
| 75 As | 72 | 2 | 0.21 | 0.21 | ppb | 21.64 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.30 | ppb | 68.07 | 900.00 | |
| 88 Sr | 103 | 1 | 4.94 | 4.94 | ppb | 2.09 | 900.00 | |
| 98 Mo | 103 | 1 | 2223.00 | 2223.00 | ppb | 1.72 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 2.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.76 | 0.76 | ppb | 11.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.15 | ppb | 12.36 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 5.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 4.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 11.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1026104 | 2.31 | 1085278 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 2032584 | 1.05 | 2030198 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 209137 | 12.89 | 207475 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444909 | 0.85 | 445120 | 100.0 | 70 | - | 130 |
| 72 Ge | 2 | 97596 | 9.83 | 97576 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 2453191 | 1.92 | 2785941 | 88.1 | 70 | - | 130 |
| 115 In | 1 | 2948770 | 0.98 | 3215847 | 91.7 | 70 | - | 130 |
| 115 In | 2 | 885139 | 11.57 | 945097 | 93.7 | 70 | - | 130 |
| 159 Tb | 1 | 4339504 | 1.12 | 4520363 | 96.0 | 70 | - | 130 |
| 175 Lu | 1 | 4340217 | 1.76 | 4476327 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 2661617 | 1.96 | 2985373 | 89.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 15 2013 12:34 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes: Fail**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 27.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 68.99 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 15.23 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.35 | ppb | 19.56 | 900.00 | |
| 23 Na | 45 | 1 | 99110.00 | 99110.00 | ppb | 0.99 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100200.00 | 100200.00 | ppb | 2.47 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101100.00 | 101100.00 | ppb | 2.18 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 101000.00 | 101000.00 | ppb | 2.72 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 99660.00 | 99660.00 | ppb | 1.58 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 99880.00 | 99880.00 | ppb | 1.78 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 101300.00 | 101300.00 | ppb | 1.64 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 100800.00 | 100800.00 | ppb | 1.44 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2278.00 | 2278.00 | ppb | 1.43 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 67.30 | 900.00 | |
| 52 Cr | 45 | 2 | 20.17 | 20.17 | ppb | 1.39 | 900.00 | |
| 55 Mn | 45 | 2 | 19.92 | 19.92 | ppb | 2.04 | 900.00 | |
| 56 Fe | 45 | 2 | 100200.00 | 100200.00 | ppb | 2.35 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.67 | 18.67 | ppb | 2.37 | 900.00 | |
| 60 Ni | 45 | 2 | 18.96 | 18.96 | ppb | 3.40 | 900.00 | |
| 63 Cu | 72 | 2 | 18.06 | 18.06 | ppb | 2.05 | 900.00 | |
| 66 Zn | 72 | 2 | 54.51 | 54.51 | ppb | 1.96 | 900.00 | |
| 75 As | 72 | 2 | 20.85 | 20.85 | ppb | 2.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.28 | 0.28 | ppb | 41.44 | 900.00 | |
| 88 Sr | 103 | 1 | 5.12 | 5.12 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 2330.00 | 2330.00 | ppb | 0.48 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 20.49 | 20.49 | ppb | 2.25 | 180.00 | |
| 111 Cd | 115 | 2 | 20.18 | 20.18 | ppb | 3.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 6.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 3.10 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 8.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 26.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 6.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1020623 | 1.88 | 1085278 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 1983659 | 1.86 | 2030198 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 211441 | 2.07 | 207475 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438791 | 0.68 | 445120 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 98925 | 1.56 | 97576 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 2420159 | 1.31 | 2785941 | 86.9 | 70 | - | 130 |
| 115 In | 1 | 2899635 | 1.64 | 3215847 | 90.2 | 70 | - | 130 |
| 115 In | 2 | 891598 | 2.15 | 945097 | 94.3 | 70 | - | 130 |
| 159 Tb | 1 | 4252062 | 1.19 | 4520363 | 94.1 | 70 | - | 130 |
| 175 Lu | 1 | 4253219 | 1.03 | 4476327 | 95.0 | 70 | - | 130 |
| 209 Bi | 1 | 2599990 | 1.80 | 2985373 | 87.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Apr 15 2013 12:41 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** RINSECONF
**Misc Info:**
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 101.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.63 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 14.44 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 7.96 | 900.00 | |
| 23 Na | 45 | 1 | 12.26 | 12.26 | ppb | 4.90 | 90000.00 | |
| 23 Na | 45 | 2 | 39.23 | 39.23 | ppb | 44.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.97 | 5.97 | ppb | 7.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 29.95 | 29.95 | ppb | 47.88 | 90000.00 | |
| 27 Al | 45 | 1 | 5.46 | 5.46 | ppb | 6.40 | 90000.00 | |
| 27 Al | 45 | 2 | 27.96 | 27.96 | ppb | 45.42 | 90000.00 | |
| 39 K | 45 | 1 | -3.45 | -3.45 | ppb | 62.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.20 | 12.20 | ppb | 5.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.18 | 0.18 | ppb | 17.30 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 102.27 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 22.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.07 | 0.07 | ppb | 9.44 | 900.00 | |
| 56 Fe | 45 | 2 | 31.58 | 31.58 | ppb | 41.07 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 45.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 92.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 9.87 | 900.00 | |
| 66 Zn | 72 | 2 | 0.11 | 0.11 | ppb | 16.57 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 57.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.27 | ppb | 11.94 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 19.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.22 | 1.22 | ppb | 8.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 127.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 26.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 22.72 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 41.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 434.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 20.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1034100 | 1.91 | 1085278 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 2081591 | 1.42 | 2030198 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 213529 | 0.32 | 207475 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 459179 | 0.41 | 445120 | 103.2 | 70 - | 130 |
| 72 | Ge | 2 | 102831 | 0.14 | 97576 | 105.4 | 70 - | 130 |
| 103 | Rh | 1 | 2861425 | 0.76 | 2785941 | 102.7 | 70 - | 130 |
| 115 | In | 1 | 3292700 | 0.65 | 3215847 | 102.4 | 70 - | 130 |
| 115 | In | 2 | 1001584 | 0.50 | 945097 | 106.0 | 70 - | 130 |
| 159 | Tb | 1 | 4655115 | 0.45 | 4520363 | 103.0 | 70 - | 130 |
| 175 | Lu | 1 | 4587260 | 0.54 | 4476327 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 3113268 | 0.41 | 2985373 | 104.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 12:47 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20767-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2109 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 398.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.15 | ppb | 1.89 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.18 | ppb | 14.18 | 900.00 | |
| 23 Na | 45 | 1 | 27.30 | 13.65 | ppb | 7.20 | 90000.00 | |
| 23 Na | 45 | 2 | 29.78 | 14.89 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.65 | 1.82 | ppb | 7.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.51 | 1.75 | ppb | 11.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.28 | 1.14 | ppb | 11.21 | 90000.00 | |
| 27 Al | 45 | 2 | 2.02 | 1.01 | ppb | 6.72 | 90000.00 | |
| 39 K | 45 | 1 | -9.36 | -4.68 | ppb | 102.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 86.44 | 43.22 | ppb | 4.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.52 | 0.26 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 1.47 | 0.73 | ppb | 2.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 195.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.11 | ppb | 5.81 | 900.00 | |
| 56 Fe | 45 | 2 | 7.05 | 3.52 | ppb | 4.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 69.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.03 | ppb | 23.07 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 5.68 | 900.00 | |
| 66 Zn | 72 | 2 | 2.11 | 1.05 | ppb | 4.02 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 6.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.12 | ppb | 26.93 | 900.00 | |
| 88 Sr | 103 | 1 | 0.36 | 0.18 | ppb | 2.13 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 0.50 | ppb | 8.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 25.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 505.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 2.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.78 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 16.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 35.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 3.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 794297 | 0.96 | 1085278 | 73.2 | 70 - 130 | |
| 45 Sc | 1 | 1890092 | 1.89 | 2030198 | 93.1 | 70 - 130 | |
| 45 Sc | 2 | 192453 | 0.12 | 207475 | 92.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433734 | 0.31 | 445120 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 94709 | 0.31 | 97576 | 97.1 | 70 | - | 130 |
| 103 Rh | 1 | 2760128 | 0.61 | 2785941 | 99.1 | 70 | - | 130 |
| 115 In | 1 | 3221520 | 1.61 | 3215847 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 949868 | 0.13 | 945097 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 4585512 | 1.36 | 4520363 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4606415 | 1.40 | 4476327 | 102.9 | 70 | - | 130 |
| 209 Bi | 1 | 3085203 | 0.98 | 2985373 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 15 2013 12:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20768-MB1
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 22.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 42.83 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.12 | ppb | 24.29 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.17 | ppb | 41.28 | 900.00 | |
| 23 Na | 45 | 1 | 20.08 | 10.04 | ppb | 4.86 | 90000.00 | |
| 23 Na | 45 | 2 | 23.62 | 11.81 | ppb | 4.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.10 | 1.05 | ppb | 1.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.39 | 1.20 | ppb | 15.63 | 90000.00 | |
| 27 Al | 45 | 1 | 2.93 | 1.47 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 3.23 | 1.61 | ppb | 5.35 | 90000.00 | |
| 39 K | 45 | 1 | -6.41 | -3.21 | ppb | 44.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.99 | 8.50 | ppb | 3.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.57 | 0.28 | ppb | 16.27 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 0.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.20 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 0.33 | 0.17 | ppb | 4.77 | 900.00 | |
| 56 Fe | 45 | 2 | 10.54 | 5.27 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 53.59 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.05 | ppb | 11.95 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 0.52 | ppb | 2.21 | 900.00 | |
| 66 Zn | 72 | 2 | 0.82 | 0.41 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 0.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 175.02 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 13.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.40 | 0.20 | ppb | 12.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 22.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 87.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 14.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 7.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.05 | ppb | 28.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 35.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 742733 | 1.61 | 1085278 | 68.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1842447 | 0.93 | 2030198 | 90.8 | 70 - 130 | |
| 45 Sc | 2 | 188002 | 0.43 | 207475 | 90.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 425372 | 0.53 | 445120 | 95.6 | 70 | - | 130 |
| 72 Ge | 2 | 94172 | 0.19 | 97576 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 2761566 | 0.82 | 2785941 | 99.1 | 70 | - | 130 |
| 115 In | 1 | 3195229 | 0.32 | 3215847 | 99.4 | 70 | - | 130 |
| 115 In | 2 | 941068 | 0.39 | 945097 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 4593017 | 0.67 | 4520363 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4584749 | 0.62 | 4476327 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3099403 | 0.67 | 2985373 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 15 2013 01:00 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-2F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 50.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.10 | 0.05 | ppb | 22.68 | 900.00 | |
| 11 B | 6 | 1 | 26.52 | 13.26 | ppb | 1.07 | 900.00 | |
| 11 B | 45 | 2 | 19.67 | 9.83 | ppb | 6.28 | 900.00 | |
| 23 Na | 45 | 1 | 143120.00 | 71560.00 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 149460.00 | 74730.00 | ppb | 2.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 2358.00 | 1179.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2578.00 | 1289.00 | ppb | 1.96 | 90000.00 | |
| 27 Al | 45 | 1 | 3.37 | 1.68 | ppb | 1.29 | 90000.00 | |
| 27 Al | 45 | 2 | 3.47 | 1.73 | ppb | 7.92 | 90000.00 | |
| 39 K | 45 | 1 | 3684.00 | 1842.00 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 23760.00 | 11880.00 | ppb | 1.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.93 | 0.47 | ppb | 7.72 | 900.00 | |
| 51 V | 45 | 2 | 1.53 | 0.77 | ppb | 5.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.09 | ppb | 8.87 | 900.00 | |
| 55 Mn | 45 | 2 | 1069.20 | 534.60 | ppb | 1.73 | 900.00 | |
| 56 Fe | 45 | 2 | 372.00 | 186.00 | ppb | 2.52 | 90000.00 | |
| 59 Co | 45 | 2 | 6.60 | 3.30 | ppb | 1.81 | 900.00 | |
| 60 Ni | 45 | 2 | 11.23 | 5.62 | ppb | 3.55 | 900.00 | |
| 63 Cu | 72 | 2 | 1.59 | 0.79 | ppb | 3.91 | 900.00 | |
| 66 Zn | 72 | 2 | 16.04 | 8.02 | ppb | 2.18 | 900.00 | |
| 75 As | 72 | 2 | 0.61 | 0.30 | ppb | 6.56 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.27 | ppb | 39.89 | 900.00 | |
| 88 Sr | 103 | 1 | 267.60 | 133.80 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.53 | 1.26 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 26.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.21 | 0.11 | ppb | 4.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 13.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 6.38 | 900.00 | |
| 137 Ba | 159 | 1 | 14.78 | 7.39 | ppb | 1.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 15.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 721993 | 0.95 | 1085278 | 66.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1764924 | 0.58 | 2030198 | 86.9 | 70 - 130 | |
| 45 Sc | 2 | 181381 | 2.79 | 207475 | 87.4 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 409723 | 0.21 | 445120 | 92.0 | 70 | - | 130 |
| 72 Ge | 2 | 90013 | 2.65 | 97576 | 92.2 | 70 | - | 130 |
| 103 Rh | 1 | 2491928 | 0.78 | 2785941 | 89.4 | 70 | - | 130 |
| 115 In | 1 | 2994186 | 0.50 | 3215847 | 93.1 | 70 | - | 130 |
| 115 In | 2 | 886310 | 3.09 | 945097 | 93.8 | 70 | - | 130 |
| 159 Tb | 1 | 4384959 | 0.31 | 4520363 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 4438617 | 0.85 | 4476327 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 2843881 | 0.19 | 2985373 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 15 2013 01:06 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-1F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 14.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 99.73 | 900.00 | |
| 11 B | 6 | 1 | 26.94 | 13.47 | ppb | 2.63 | 900.00 | |
| 11 B | 45 | 2 | 20.94 | 10.47 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 127220.00 | 63610.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 135100.00 | 67550.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 2722.00 | 1361.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 3026.00 | 1513.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 5.50 | 2.75 | ppb | 1.35 | 90000.00 | |
| 27 Al | 45 | 2 | 6.17 | 3.08 | ppb | 4.66 | 90000.00 | |
| 39 K | 45 | 1 | 4262.00 | 2131.00 | ppb | 1.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 26360.00 | 13180.00 | ppb | 1.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 9.12 | 900.00 | |
| 51 V | 45 | 2 | 1.86 | 0.93 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 0.34 | 900.00 | |
| 55 Mn | 45 | 2 | 557.00 | 278.50 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 1924.60 | 962.30 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 10.34 | 5.17 | ppb | 1.06 | 900.00 | |
| 60 Ni | 45 | 2 | 11.38 | 5.69 | ppb | 1.59 | 900.00 | |
| 63 Cu | 72 | 2 | 3.78 | 1.89 | ppb | 2.41 | 900.00 | |
| 66 Zn | 72 | 2 | 15.32 | 7.66 | ppb | 0.67 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 6.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.17 | ppb | 23.60 | 900.00 | |
| 88 Sr | 103 | 1 | 356.20 | 178.10 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 6.70 | 3.35 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 49.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.06 | ppb | 9.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 2.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 1.32 | 900.00 | |
| 137 Ba | 159 | 1 | 17.82 | 8.91 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 7.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 8.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 710512 | 1.52 | 1085278 | 65.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1763801 | 1.27 | 2030198 | 86.9 | 70 - 130 | |
| 45 Sc | 2 | 180741 | 0.91 | 207475 | 87.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 411430 | 0.27 | 445120 | 92.4 | 70 | - | 130 |
| 72 Ge | 2 | 89707 | 0.29 | 97576 | 91.9 | 70 | - | 130 |
| 103 Rh | 1 | 2512205 | 0.06 | 2785941 | 90.2 | 70 | - | 130 |
| 115 In | 1 | 3014869 | 1.00 | 3215847 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 888025 | 0.34 | 945097 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 4446756 | 0.29 | 4520363 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4459284 | 0.40 | 4476327 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 2888743 | 0.55 | 2985373 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#
Date Acquired: Apr 15 2013 01:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-3F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 29.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 0.31 | 900.00 | |
| 11 B | 6 | 1 | 0.90 | 0.45 | ppb | 7.95 | 900.00 | |
| 11 B | 45 | 2 | 1.39 | 0.70 | ppb | 34.35 | 900.00 | |
| 23 Na | 45 | 1 | 33.34 | 16.67 | ppb | 2.12 | 90000.00 | |
| 23 Na | 45 | 2 | 34.22 | 17.11 | ppb | 2.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.64 | 1.32 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.89 | 1.44 | ppb | 16.40 | 90000.00 | |
| 27 Al | 45 | 1 | 1.87 | 0.93 | ppb | 15.60 | 90000.00 | |
| 27 Al | 45 | 2 | 1.57 | 0.78 | ppb | 3.09 | 90000.00 | |
| 39 K | 45 | 1 | 5.41 | 2.71 | ppb | 20.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 56.50 | 28.25 | ppb | 2.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.24 | ppb | 9.52 | 900.00 | |
| 51 V | 45 | 2 | 1.57 | 0.79 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.10 | ppb | 11.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 0.95 | 900.00 | |
| 56 Fe | 45 | 2 | 4.24 | 2.12 | ppb | 3.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 4.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 5.69 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 6.40 | 900.00 | |
| 66 Zn | 72 | 2 | 9.05 | 4.53 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.12 | ppb | 5.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.21 | ppb | 81.16 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 4.31 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.04 | ppb | 6.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 45.31 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 29.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 12.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 7.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.02 | ppb | 14.48 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 35.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.69 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 783144 | 1.16 | 1085278 | 72.2 | 70 - 130 | |
| 45 Sc | 1 | 1830382 | 0.62 | 2030198 | 90.2 | 70 - 130 | |
| 45 Sc | 2 | 188457 | 0.31 | 207475 | 90.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 426095 | 0.37 | 445120 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 93101 | 0.34 | 97576 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 2725233 | 0.39 | 2785941 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 3181079 | 0.55 | 3215847 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 937091 | 0.47 | 945097 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4595008 | 0.85 | 4520363 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 4582243 | 1.28 | 4476327 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3080384 | 1.65 | 2985373 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D# |
| Date Acquired: | Apr 15 2013 01:19 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19637-17F |
| Misc Info: | |
| Vial Number: | 2202 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 57.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 10.99 | 5.49 | ppb | 1.29 | 900.00 | |
| 11 B | 45 | 2 | 7.46 | 3.73 | ppb | 10.48 | 900.00 | |
| 23 Na | 45 | 1 | 8666.00 | 4333.00 | ppb | 2.69 | 90000.00 | |
| 23 Na | 45 | 2 | 9368.00 | 4684.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 12736.00 | 6368.00 | ppb | 2.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 13906.00 | 6953.00 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 1 | 6.53 | 3.27 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 6.98 | 3.49 | ppb | 8.08 | 90000.00 | |
| 39 K | 45 | 1 | 5384.00 | 2692.00 | ppb | 2.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 63960.00 | 31980.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 0.51 | ppb | 8.01 | 900.00 | |
| 51 V | 45 | 2 | 2.43 | 1.22 | ppb | 4.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.24 | 0.12 | ppb | 11.48 | 900.00 | |
| 55 Mn | 45 | 2 | 224.00 | 112.00 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 359.40 | 179.70 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.13 | 0.06 | ppb | 7.01 | 900.00 | |
| 60 Ni | 45 | 2 | 1.02 | 0.51 | ppb | 3.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 6.11 | 900.00 | |
| 66 Zn | 72 | 2 | 7.95 | 3.97 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 24.12 | 12.06 | ppb | 0.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 56.72 | 900.00 | |
| 88 Sr | 103 | 1 | 289.80 | 144.90 | ppb | 1.47 | 900.00 | |
| 98 Mo | 103 | 1 | 2.99 | 1.49 | ppb | 3.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 98.60 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 129.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 8.86 | 900.00 | |
| 137 Ba | 159 | 1 | 13.66 | 6.83 | ppb | 2.08 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 23.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 7.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 677157 | 1.40 | 1085278 | 62.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1756924 | 1.15 | 2030198 | 86.5 | 70 - 130 | |
| 45 Sc | 2 | 178795 | 0.38 | 207475 | 86.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 414274 | 0.38 | 445120 | 93.1 | 70 | - | 130 |
| 72 Ge | 2 | 89836 | 0.92 | 97576 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 2537706 | 1.32 | 2785941 | 91.1 | 70 | - | 130 |
| 115 In | 1 | 3037479 | 1.39 | 3215847 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 902937 | 0.33 | 945097 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 4505429 | 0.59 | 4520363 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 4495854 | 0.11 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2928034 | 0.27 | 2985373 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D# |
| Date Acquired: | Apr 15 2013 01:25 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.85 | 55.85 | ppb | 1.80 | 900.00 | |
| 9 Be | 45 | 2 | 46.55 | 46.55 | ppb | 2.47 | 900.00 | |
| 11 B | 6 | 1 | 55.82 | 55.82 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 44.41 | 44.41 | ppb | 0.94 | 900.00 | |
| 23 Na | 45 | 1 | 4902.00 | 4902.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 5020.00 | 5020.00 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 1 | 4936.00 | 4936.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 4892.00 | 4892.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 5146.00 | 5146.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 5035.00 | 5035.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 5235.00 | 5235.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.94 | 52.94 | ppb | 0.38 | 900.00 | |
| 51 V | 45 | 2 | 48.96 | 48.96 | ppb | 0.68 | 900.00 | |
| 52 Cr | 45 | 2 | 48.23 | 48.23 | ppb | 0.84 | 900.00 | |
| 55 Mn | 45 | 2 | 48.99 | 48.99 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 5186.00 | 5186.00 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 48.06 | 48.06 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 47.97 | 47.97 | ppb | 1.83 | 900.00 | |
| 63 Cu | 72 | 2 | 46.23 | 46.23 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 47.86 | 47.86 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 48.89 | 48.89 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 49.28 | 49.28 | ppb | 1.32 | 900.00 | |
| 88 Sr | 103 | 1 | 54.98 | 54.98 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 53.75 | 53.75 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 50.97 | 50.97 | ppb | 0.69 | 180.00 | |
| 111 Cd | 115 | 2 | 48.43 | 48.43 | ppb | 0.44 | 900.00 | |
| 120 Sn | 115 | 1 | 52.50 | 52.50 | ppb | 1.37 | 900.00 | |
| 121 Sb | 115 | 1 | 53.84 | 53.84 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 52.29 | 52.29 | ppb | 1.69 | 900.00 | |
| 205 Tl | 209 | 1 | 50.12 | 50.12 | ppb | 1.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.10 | 52.10 | ppb | 1.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 879199 | 1.97 | 1085278 | 81.0 | 70 - 130 | |
| 45 Sc | 1 | 1892228 | 0.46 | 2030198 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 198112 | 0.72 | 207475 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 427256 | 0.84 | 445120 | 96.0 | 70 | - | 130 |
| 72 Ge | 2 | 95653 | 0.29 | 97576 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 2634170 | 0.83 | 2785941 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 3129817 | 0.71 | 3215847 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 931375 | 0.54 | 945097 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 4486416 | 0.53 | 4520363 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 4495705 | 0.61 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2946050 | 1.19 | 2985373 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D# |
| Date Acquired: | Apr 15 2013 01:32 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2204 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 59.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 43.49 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 9.21 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.34 | ppb | 36.09 | 900.00 | |
| 23 Na | 45 | 1 | 5.53 | 5.53 | ppb | 4.56 | 90000.00 | |
| 23 Na | 45 | 2 | 6.92 | 6.92 | ppb | 5.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.84 | 0.84 | ppb | 5.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.09 | 1.09 | ppb | 7.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.60 | 0.60 | ppb | 17.95 | 90000.00 | |
| 27 Al | 45 | 2 | 0.76 | 0.76 | ppb | 10.53 | 90000.00 | |
| 39 K | 45 | 1 | 1.67 | 1.67 | ppb | 21.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.89 | 13.89 | ppb | 5.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 88.97 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 116.53 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 4.52 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 20.50 | 900.00 | |
| 56 Fe | 45 | 2 | 1.81 | 1.81 | ppb | 10.04 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 39.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 32.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 26.39 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 35.10 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 75.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 39.55 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 9.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 11.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 4.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 59.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 8.39 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 21.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 115.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 1.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 6.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 931119 | 1.22 | 1085278 | 85.8 | 70 - 130 | |
| 45 Sc | 1 | 1937376 | 0.58 | 2030198 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 199873 | 0.26 | 207475 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 431326 | 0.74 | 445120 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 96409 | 0.34 | 97576 | 98.8 | 70 - | 130 |
| 103 | Rh | 1 | 2738188 | 0.29 | 2785941 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 3197209 | 0.18 | 3215847 | 99.4 | 70 - | 130 |
| 115 | In | 2 | 959260 | 0.37 | 945097 | 101.5 | 70 - | 130 |
| 159 | Tb | 1 | 4510273 | 0.40 | 4520363 | 99.8 | 70 - | 130 |
| 175 | Lu | 1 | 4467963 | 1.26 | 4476327 | 99.8 | 70 - | 130 |
| 209 | Bi | 1 | 3031494 | 0.67 | 2985373 | 101.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Apr 15 2013 01:38 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19637-18F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 32.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.04 | ppb | 49.65 | 900.00 | |
| 11 B | 6 | 1 | 22.68 | 11.34 | ppb | 0.72 | 900.00 | |
| 11 B | 45 | 2 | 18.52 | 9.26 | ppb | 10.61 | 900.00 | |
| 23 Na | 45 | 1 | 26400.00 | 13200.00 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 27900.00 | 13950.00 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 4606.00 | 2303.00 | ppb | 1.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 5118.00 | 2559.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 2.84 | 1.42 | ppb | 3.21 | 90000.00 | |
| 27 Al | 45 | 2 | 2.94 | 1.47 | ppb | 18.53 | 90000.00 | |
| 39 K | 45 | 1 | 2634.00 | 1317.00 | ppb | 1.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 47140.00 | 23570.00 | ppb | 1.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 0.67 | ppb | 10.96 | 900.00 | |
| 51 V | 45 | 2 | 2.12 | 1.06 | ppb | 5.95 | 900.00 | |
| 52 Cr | 45 | 2 | 1.03 | 0.51 | ppb | 6.07 | 900.00 | |
| 55 Mn | 45 | 2 | 257.80 | 128.90 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 388.80 | 194.40 | ppb | 0.50 | 90000.00 | |
| 59 Co | 45 | 2 | 3.85 | 1.92 | ppb | 1.23 | 900.00 | |
| 60 Ni | 45 | 2 | 4.84 | 2.42 | ppb | 2.50 | 900.00 | |
| 63 Cu | 72 | 2 | 1.59 | 0.80 | ppb | 1.72 | 900.00 | |
| 66 Zn | 72 | 2 | 10.63 | 5.32 | ppb | 0.92 | 900.00 | |
| 75 As | 72 | 2 | 0.85 | 0.42 | ppb | 2.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.26 | ppb | 39.25 | 900.00 | |
| 88 Sr | 103 | 1 | 272.20 | 136.10 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 1.53 | 0.77 | ppb | 7.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 39.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 34.95 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.16 | ppb | 10.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 1.27 | 900.00 | |
| 137 Ba | 159 | 1 | 15.11 | 7.55 | ppb | 1.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 6.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 23.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 699476 | 3.28 | 1085278 | 64.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1747953 | 0.38 | 2030198 | 86.1 | 70 - 130 | |
| 45 Sc | 2 | 179830 | 0.44 | 207475 | 86.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 409459 | 0.70 | 445120 | 92.0 | 70 | - | 130 |
| 72 Ge | 2 | 89387 | 0.17 | 97576 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 2530668 | 1.02 | 2785941 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3102298 | 1.75 | 3215847 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 900137 | 0.97 | 945097 | 95.2 | 70 | - | 130 |
| 159 Tb | 1 | 4453796 | 1.43 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4474732 | 0.60 | 4476327 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 2912377 | 1.08 | 2985373 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 15 2013 01:44 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-19F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 44.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 114.73 | 900.00 | |
| 11 B | 6 | 1 | 13.86 | 6.93 | ppb | 4.05 | 900.00 | |
| 11 B | 45 | 2 | 10.15 | 5.07 | ppb | 2.77 | 900.00 | |
| 23 Na | 45 | 1 | 56720.00 | 28360.00 | ppb | 0.94 | 90000.00 | |
| 23 Na | 45 | 2 | 61340.00 | 30670.00 | ppb | 2.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 2674.00 | 1337.00 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 2992.00 | 1496.00 | ppb | 2.27 | 90000.00 | |
| 27 Al | 45 | 1 | 4.98 | 2.49 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 2 | 5.12 | 2.56 | ppb | 6.73 | 90000.00 | |
| 39 K | 45 | 1 | 2928.00 | 1464.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 29500.00 | 14750.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.20 | 0.60 | ppb | 7.20 | 900.00 | |
| 51 V | 45 | 2 | 2.18 | 1.09 | ppb | 2.07 | 900.00 | |
| 52 Cr | 45 | 2 | 0.77 | 0.39 | ppb | 1.25 | 900.00 | |
| 55 Mn | 45 | 2 | 186.36 | 93.18 | ppb | 1.19 | 900.00 | |
| 56 Fe | 45 | 2 | 567.20 | 283.60 | ppb | 1.59 | 90000.00 | |
| 59 Co | 45 | 2 | 2.94 | 1.47 | ppb | 1.20 | 900.00 | |
| 60 Ni | 45 | 2 | 3.99 | 2.00 | ppb | 2.67 | 900.00 | |
| 63 Cu | 72 | 2 | 1.86 | 0.93 | ppb | 4.85 | 900.00 | |
| 66 Zn | 72 | 2 | 11.66 | 5.83 | ppb | 2.06 | 900.00 | |
| 75 As | 72 | 2 | 0.71 | 0.36 | ppb | 3.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.22 | ppb | 11.52 | 900.00 | |
| 88 Sr | 103 | 1 | 276.40 | 138.20 | ppb | 0.98 | 900.00 | |
| 98 Mo | 103 | 1 | 1.47 | 0.73 | ppb | 2.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 74.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 74.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 11.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 5.32 | 900.00 | |
| 137 Ba | 159 | 1 | 11.96 | 5.98 | ppb | 2.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 25.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 25.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 683897 | 1.03 | 1085278 | 63.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1758704 | 1.09 | 2030198 | 86.6 | 70 - 130 | |
| 45 Sc | 2 | 179050 | 1.43 | 207475 | 86.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 407497 | 0.30 | 445120 | 91.5 | 70 | - | 130 |
| 72 Ge | 2 | 88605 | 2.06 | 97576 | 90.8 | 70 | - | 130 |
| 103 Rh | 1 | 2516407 | 1.21 | 2785941 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3015018 | 0.51 | 3215847 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 889638 | 2.10 | 945097 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 4428771 | 0.71 | 4520363 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 4469521 | 0.87 | 4476327 | 99.8 | 70 | - | 130 |
| 209 Bi | 1 | 2845482 | 1.46 | 2985373 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#
**Date Acquired:** Apr 15 2013 01:51 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-20F
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 594.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 105.33 | 900.00 | |
| 11 B | 6 | 1 | 21.32 | 10.66 | ppb | 1.57 | 900.00 | |
| 11 B | 45 | 2 | 19.95 | 9.97 | ppb | 9.28 | 900.00 | |
| 23 Na | 45 | 1 | 45240.00 | 22620.00 | ppb | 0.77 | 90000.00 | |
| 23 Na | 45 | 2 | 52360.00 | 26180.00 | ppb | 7.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3328.00 | 1664.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 4032.00 | 2016.00 | ppb | 8.34 | 90000.00 | |
| 27 Al | 45 | 1 | 4.28 | 2.14 | ppb | 3.06 | 90000.00 | |
| 27 Al | 45 | 2 | 5.09 | 2.55 | ppb | 15.91 | 90000.00 | |
| 39 K | 45 | 1 | 3648.00 | 1824.00 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 29220.00 | 14610.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.69 | ppb | 7.02 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 10.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 19.01 | 900.00 | |
| 55 Mn | 45 | 2 | 578.60 | 289.30 | ppb | 8.04 | 900.00 | |
| 56 Fe | 45 | 2 | 3128.00 | 1564.00 | ppb | 8.31 | 90000.00 | |
| 59 Co | 45 | 2 | 8.97 | 4.49 | ppb | 8.14 | 900.00 | |
| 60 Ni | 45 | 2 | 16.47 | 8.24 | ppb | 7.59 | 900.00 | |
| 63 Cu | 72 | 2 | 2.44 | 1.22 | ppb | 9.96 | 900.00 | |
| 66 Zn | 72 | 2 | 18.00 | 9.00 | ppb | 6.47 | 900.00 | |
| 75 As | 72 | 2 | 1.55 | 0.78 | ppb | 7.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.33 | 0.16 | ppb | 99.76 | 900.00 | |
| 88 Sr | 103 | 1 | 272.80 | 136.40 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 9.89 | 4.95 | ppb | 0.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 31.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 46.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 10.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.18 | ppb | 4.90 | 900.00 | |
| 137 Ba | 159 | 1 | 12.43 | 6.22 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 5.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 692268 | 0.83 | 1085278 | 63.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1739364 | 1.18 | 2030198 | 85.7 | 70 - 130 | |
| 45 Sc | 2 | 164253 | 7.71 | 207475 | 79.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 407489 | 0.24 | 445120 | 91.5 | 70 | - | 130 |
| 72 Ge | 2 | 82787 | 6.57 | 97576 | 84.8 | 70 | - | 130 |
| 103 Rh | 1 | 2521347 | 0.31 | 2785941 | 90.5 | 70 | - | 130 |
| 115 In | 1 | 3052017 | 0.64 | 3215847 | 94.9 | 70 | - | 130 |
| 115 In | 2 | 828355 | 7.22 | 945097 | 87.6 | 70 | - | 130 |
| 159 Tb | 1 | 4516986 | 0.69 | 4520363 | 99.9 | 70 | - | 130 |
| 175 Lu | 1 | 4544800 | 0.18 | 4476327 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 2897289 | 0.84 | 2985373 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 15 2013 01:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-B1
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 524.60 | 26.23 | ppb | 1.11 | 900.00 | |
| 9 Be | 45 | 2 | 487.60 | 24.38 | ppb | 2.97 | 900.00 | |
| 11 B | 6 | 1 | 2.32 | 0.12 | ppb | 15.60 | 900.00 | |
| 11 B | 45 | 2 | 3.53 | 0.18 | ppb | 23.59 | 900.00 | |
| 23 Na | 45 | 1 | 25720.00 | 1286.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 27320.00 | 1366.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 26020.00 | 1301.00 | ppb | 0.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 27820.00 | 1391.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2176.00 | 108.80 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 2 | 2234.00 | 111.70 | ppb | 0.47 | 90000.00 | |
| 39 K | 45 | 1 | 25680.00 | 1284.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 26080.00 | 1304.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 517.00 | 25.85 | ppb | 0.56 | 900.00 | |
| 51 V | 45 | 2 | 497.20 | 24.86 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 486.80 | 24.34 | ppb | 0.17 | 900.00 | |
| 55 Mn | 45 | 2 | 489.80 | 24.49 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 2170.00 | 108.50 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 491.80 | 24.59 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 481.00 | 24.05 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 482.60 | 24.13 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 531.60 | 26.58 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 503.00 | 25.15 | ppb | 1.04 | 900.00 | |
| 78 Se | 72 | 2 | 505.40 | 25.27 | ppb | 2.56 | 900.00 | |
| 88 Sr | 103 | 1 | 517.00 | 25.85 | ppb | 1.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.04 | ppb | 10.67 | 900.00 | |
| 107 Ag | 115 | 1 | 209.40 | 10.47 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 493.00 | 24.65 | ppb | 1.16 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 309.85 | 900.00 | |
| 121 Sb | 115 | 1 | 539.40 | 26.97 | ppb | 1.64 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 1.21 | 900.00 | |
| 205 Tl | 209 | 1 | 481.20 | 24.06 | ppb | 1.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1042.60 | 52.13 | ppb | 0.74 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1049945 | 1.78 | 1085278 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 1983406 | 0.15 | 2030198 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 209433 | 0.43 | 207475 | 100.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437449 | 0.56 | 445120 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 99099 | 0.71 | 97576 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 2723778 | 1.49 | 2785941 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 3171336 | 1.24 | 3215847 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 964078 | 0.14 | 945097 | 102.0 | 70 | - | 130 |
| 159 Tb | 1 | 4509500 | 0.67 | 4520363 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 4498664 | 0.27 | 4476327 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 3004274 | 1.33 | 2985373 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 15 2013 02:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-S1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 530.00 | 26.50 | ppb | 1.34 | 900.00 | |
| 9 Be | 45 | 2 | 504.80 | 25.24 | ppb | 2.80 | 900.00 | |
| 11 B | 6 | 1 | 21.74 | 1.09 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 30.72 | 1.54 | ppb | 21.64 | 900.00 | |
| 23 Na | 45 | 1 | 191280.00 | 9564.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 191860.00 | 9593.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 29420.00 | 1471.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 31160.00 | 1558.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 2220.00 | 111.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 2272.00 | 113.60 | ppb | 0.81 | 90000.00 | |
| 39 K | 45 | 1 | 29840.00 | 1492.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 51840.00 | 2592.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 515.20 | 25.76 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 507.20 | 25.36 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 489.60 | 24.48 | ppb | 1.14 | 900.00 | |
| 55 Mn | 45 | 2 | 1566.20 | 78.31 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 2508.00 | 125.40 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 495.80 | 24.79 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 488.40 | 24.42 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 490.60 | 24.53 | ppb | 0.06 | 900.00 | |
| 66 Zn | 72 | 2 | 539.00 | 26.95 | ppb | 0.94 | 900.00 | |
| 75 As | 72 | 2 | 516.40 | 25.82 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 517.80 | 25.89 | ppb | 3.09 | 900.00 | |
| 88 Sr | 103 | 1 | 798.00 | 39.90 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 2.65 | 0.13 | ppb | 3.66 | 900.00 | |
| 107 Ag | 115 | 1 | 209.60 | 10.48 | ppb | 0.91 | 180.00 | |
| 111 Cd | 115 | 2 | 493.20 | 24.66 | ppb | 1.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.00 | ppb | 83.39 | 900.00 | |
| 121 Sb | 115 | 1 | 546.80 | 27.34 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 2138.00 | 106.90 | ppb | 0.47 | 900.00 | |
| 205 Tl | 209 | 1 | 497.20 | 24.86 | ppb | 0.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1049.80 | 52.49 | ppb | 0.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1094656 | 0.99 | 1085278 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 2023269 | 0.46 | 2030198 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 211243 | 0.52 | 207475 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433696 | 0.33 | 445120 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 98164 | 0.41 | 97576 | 100.6 | 70 | - | 130 |
| 103 Rh | 1 | 2666809 | 1.20 | 2785941 | 95.7 | 70 | - | 130 |
| 115 In | 1 | 3139036 | 0.66 | 3215847 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 945926 | 1.29 | 945097 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 4467268 | 0.34 | 4520363 | 98.8 | 70 | - | 130 |
| 175 Lu | 1 | 4429383 | 0.42 | 4476327 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 2937980 | 0.99 | 2985373 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 15 2013 02:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-S2
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 517.80 | 25.89 | ppb | 2.16 | 900.00 | |
| 9 Be | 45 | 2 | 485.40 | 24.27 | ppb | 1.86 | 900.00 | |
| 11 B | 6 | 1 | 22.18 | 1.11 | ppb | 4.73 | 900.00 | |
| 11 B | 45 | 2 | 24.04 | 1.20 | ppb | 4.56 | 900.00 | |
| 23 Na | 45 | 1 | 194040.00 | 9702.00 | ppb | 1.81 | 90000.00 | |
| 23 Na | 45 | 2 | 192660.00 | 9633.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 29580.00 | 1479.00 | ppb | 1.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 30740.00 | 1537.00 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 1 | 2238.00 | 111.90 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2262.00 | 113.10 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 29740.00 | 1487.00 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 51640.00 | 2582.00 | ppb | 0.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 512.00 | 25.60 | ppb | 0.11 | 900.00 | |
| 51 V | 45 | 2 | 497.20 | 24.86 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 480.00 | 24.00 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 1555.20 | 77.76 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2528.00 | 126.40 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 491.80 | 24.59 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 484.00 | 24.20 | ppb | 0.92 | 900.00 | |
| 63 Cu | 72 | 2 | 484.80 | 24.24 | ppb | 0.77 | 900.00 | |
| 66 Zn | 72 | 2 | 537.20 | 26.86 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 505.40 | 25.27 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 505.20 | 25.26 | ppb | 0.82 | 900.00 | |
| 88 Sr | 103 | 1 | 793.80 | 39.69 | ppb | 0.78 | 900.00 | |
| 98 Mo | 103 | 1 | 2.77 | 0.14 | ppb | 6.54 | 900.00 | |
| 107 Ag | 115 | 1 | 208.00 | 10.40 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 487.80 | 24.39 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.01 | ppb | 37.15 | 900.00 | |
| 121 Sb | 115 | 1 | 537.60 | 26.88 | ppb | 0.36 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 0.28 | 900.00 | |
| 205 Tl | 209 | 1 | 488.60 | 24.43 | ppb | 1.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1041.20 | 52.06 | ppb | 1.22 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1114196 | 2.23 | 1085278 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 2014940 | 0.72 | 2030198 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 212998 | 0.78 | 207475 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 436656 | 0.17 | 445120 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 99244 | 0.31 | 97576 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 2658997 | 0.51 | 2785941 | 95.4 | 70 | - | 130 |
| 115 In | 1 | 3108453 | 0.62 | 3215847 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 953881 | 0.39 | 945097 | 100.9 | 70 | - | 130 |
| 159 Tb | 1 | 4428159 | 0.71 | 4520363 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 4394021 | 0.54 | 4476327 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2905657 | 1.25 | 2985373 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#
Date Acquired: Apr 15 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-SD1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.00 | ppb | 170.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.32 | 0.03 | ppb | 86.95 | 900.00 | |
| 11 B | 6 | 1 | 21.29 | 2.13 | ppb | 2.29 | 900.00 | |
| 11 B | 45 | 2 | 21.82 | 2.18 | ppb | 16.38 | 900.00 | |
| 23 Na | 45 | 1 | 164300.00 | 16430.00 | ppb | 2.70 | 90000.00 | |
| 23 Na | 45 | 2 | 161600.00 | 16160.00 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 2788.00 | 278.80 | ppb | 2.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 2755.00 | 275.50 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 0.30 | ppb | 8.26 | 90000.00 | |
| 27 Al | 45 | 2 | 3.28 | 0.33 | ppb | 11.36 | 90000.00 | |
| 39 K | 45 | 1 | 3917.00 | 391.70 | ppb | 1.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 25490.00 | 2549.00 | ppb | 2.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.95 | 0.10 | ppb | 13.73 | 900.00 | |
| 51 V | 45 | 2 | 0.21 | 0.02 | ppb | 44.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.72 | -0.07 | ppb | 2.04 | 900.00 | |
| 55 Mn | 45 | 2 | 1057.00 | 105.70 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 361.10 | 36.11 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 6.62 | 0.66 | ppb | 1.88 | 900.00 | |
| 60 Ni | 45 | 2 | 11.35 | 1.14 | ppb | 0.92 | 900.00 | |
| 63 Cu | 72 | 2 | 1.65 | 0.17 | ppb | 2.65 | 900.00 | |
| 66 Zn | 72 | 2 | 18.59 | 1.86 | ppb | 2.48 | 900.00 | |
| 75 As | 72 | 2 | 0.39 | 0.04 | ppb | 10.67 | 900.00 | |
| 78 Se | 72 | 2 | 1.85 | 0.18 | ppb | 59.47 | 900.00 | |
| 88 Sr | 103 | 1 | 270.70 | 27.07 | ppb | 2.03 | 900.00 | |
| 98 Mo | 103 | 1 | 2.39 | 0.24 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 117.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.02 | ppb | 29.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.00 | ppb | 837.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.03 | ppb | 15.33 | 900.00 | |
| 137 Ba | 159 | 1 | 15.08 | 1.51 | ppb | 0.18 | 900.00 | |
| 205 Tl | 209 | 1 | 1.17 | 0.12 | ppb | 6.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.01 | ppb | 19.26 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1071241 | 1.84 | 1085278 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 1962911 | 0.80 | 2030198 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 208643 | 0.34 | 207475 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433220 | 0.80 | 445120 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 98358 | 0.66 | 97576 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2602314 | 1.97 | 2785941 | 93.4 | 70 | - | 130 |
| 115 In | 1 | 3070556 | 1.20 | 3215847 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 948910 | 1.00 | 945097 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 4405765 | 1.60 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4376614 | 1.46 | 4476327 | 97.8 | 70 | - | 130 |
| 209 Bi | 1 | 2911275 | 1.06 | 2985373 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 02:22 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20767-PS1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2212 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 19.18 | 9.59 | ppb | 1.08 | 900.00 | |
| 9 Be | 45 | 2 | 15.53 | 7.77 | ppb | 1.77 | 900.00 | |
| 11 B | 6 | 1 | 40.18 | 20.09 | ppb | 0.57 | 900.00 | |
| 11 B | 45 | 2 | 34.80 | 17.40 | ppb | 7.94 | 900.00 | |
| 23 Na | 45 | 1 | 125080.00 | 62540.00 | ppb | 0.20 | 90000.00 | |
| 23 Na | 45 | 2 | 128660.00 | 64330.00 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 2056.00 | 1028.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 2250.00 | 1125.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 20.36 | 10.18 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 2 | 21.28 | 10.64 | ppb | 1.34 | 90000.00 | |
| 39 K | 45 | 1 | 3124.00 | 1562.00 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 20180.00 | 10090.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.91 | 9.45 | ppb | 1.36 | 900.00 | |
| 51 V | 45 | 2 | 18.35 | 9.18 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 16.59 | 8.30 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 902.60 | 451.30 | ppb | 0.04 | 900.00 | |
| 56 Fe | 45 | 2 | 328.80 | 164.40 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 21.72 | 10.86 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 25.24 | 12.62 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 16.93 | 8.47 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 29.92 | 14.96 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 17.11 | 8.56 | ppb | 1.19 | 900.00 | |
| 78 Se | 72 | 2 | 16.63 | 8.32 | ppb | 3.65 | 900.00 | |
| 88 Sr | 103 | 1 | 245.00 | 122.50 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 21.24 | 10.62 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 17.04 | 8.52 | ppb | 0.38 | 180.00 | |
| 111 Cd | 115 | 2 | 16.40 | 8.20 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 19.00 | 9.50 | ppb | 0.48 | 900.00 | |
| 121 Sb | 115 | 1 | 18.21 | 9.10 | ppb | 1.07 | 900.00 | |
| 137 Ba | 159 | 1 | 30.40 | 15.20 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 17.35 | 8.68 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.72 | 8.86 | ppb | 0.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 831595 | 1.23 | 1085278 | 76.6 | 70 - 130 | |
| 45 Sc | 1 | 1804434 | 0.31 | 2030198 | 88.9 | 70 - 130 | |
| 45 Sc | 2 | 186599 | 0.42 | 207475 | 89.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 409108 | 0.38 | 445120 | 91.9 | 70 | - | 130 |
| 72 | Ge | 2 | 91184 | 0.32 | 97576 | 93.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2454477 | 1.39 | 2785941 | 88.1 | 70 | - | 130 |
| 115 | In | 1 | 2961304 | 0.24 | 3215847 | 92.1 | 70 | - | 130 |
| 115 | In | 2 | 884282 | 0.60 | 945097 | 93.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4358329 | 0.24 | 4520363 | 96.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4341454 | 0.20 | 4476327 | 97.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2793271 | 0.24 | 2985373 | 93.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D#
Date Acquired: Apr 15 2013 02:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-4F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 67.82 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 92.03 | 900.00 | |
| 11 B | 6 | 1 | 28.66 | 14.33 | ppb | 0.76 | 900.00 | |
| 11 B | 45 | 2 | 22.22 | 11.11 | ppb | 7.78 | 900.00 | |
| 23 Na | 45 | 1 | 42920.00 | 21460.00 | ppb | 1.90 | 90000.00 | |
| 23 Na | 45 | 2 | 45300.00 | 22650.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 821.00 | 410.50 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 890.80 | 445.40 | ppb | 1.92 | 90000.00 | |
| 27 Al | 45 | 1 | 7.93 | 3.97 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 8.97 | 4.49 | ppb | 2.80 | 90000.00 | |
| 39 K | 45 | 1 | 2858.00 | 1429.00 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 8040.00 | 4020.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 2.70 | 900.00 | |
| 51 V | 45 | 2 | 2.67 | 1.33 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.14 | ppb | 10.69 | 900.00 | |
| 55 Mn | 45 | 2 | 480.00 | 240.00 | ppb | 0.97 | 900.00 | |
| 56 Fe | 45 | 2 | 235.60 | 117.80 | ppb | 1.46 | 90000.00 | |
| 59 Co | 45 | 2 | 3.69 | 1.85 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 5.26 | 2.63 | ppb | 0.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 2.31 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.36 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 0.76 | 0.38 | ppb | 11.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.12 | ppb | 83.78 | 900.00 | |
| 88 Sr | 103 | 1 | 61.20 | 30.60 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 1.81 | 0.91 | ppb | 2.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.12 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 34.62 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.10 | ppb | 4.59 | 900.00 | |
| 137 Ba | 159 | 1 | 12.04 | 6.02 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 6.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 2.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 777025 | 2.31 | 1085278 | 71.6 | 70 - 130 | |
| 45 Sc | 1 | 1798624 | 0.71 | 2030198 | 88.6 | 70 - 130 | |
| 45 Sc | 2 | 184758 | 0.82 | 207475 | 89.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 417555 | 0.83 | 445120 | 93.8 | 70 | - | 130 |
| 72 Ge | 2 | 91194 | 0.90 | 97576 | 93.5 | 70 | - | 130 |
| 103 Rh | 1 | 2553697 | 1.10 | 2785941 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 3077170 | 0.20 | 3215847 | 95.7 | 70 | - | 130 |
| 115 In | 2 | 904309 | 1.20 | 945097 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 4467267 | 1.17 | 4520363 | 98.8 | 70 | - | 130 |
| 175 Lu | 1 | 4473390 | 0.46 | 4476327 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2932622 | 0.83 | 2985373 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#
**Date Acquired:** Apr 15 2013 02:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-5F
**Misc Info:**
**Vial Number:** 2302
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 59.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 99.56 | 900.00 | |
| 11 B | 6 | 1 | 29.50 | 14.75 | ppb | 1.26 | 900.00 | |
| 11 B | 45 | 2 | 22.52 | 11.26 | ppb | 6.86 | 900.00 | |
| 23 Na | 45 | 1 | 42540.00 | 21270.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 45240.00 | 22620.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 821.80 | 410.90 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 888.80 | 444.40 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 3.73 | 1.87 | ppb | 3.33 | 90000.00 | |
| 27 Al | 45 | 2 | 4.05 | 2.03 | ppb | 0.75 | 90000.00 | |
| 39 K | 45 | 1 | 2866.00 | 1433.00 | ppb | 1.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 8052.00 | 4026.00 | ppb | 0.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.12 | 0.56 | ppb | 7.17 | 900.00 | |
| 51 V | 45 | 2 | 3.18 | 1.59 | ppb | 2.26 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.14 | ppb | 5.48 | 900.00 | |
| 55 Mn | 45 | 2 | 494.00 | 247.00 | ppb | 1.35 | 900.00 | |
| 56 Fe | 45 | 2 | 240.00 | 120.00 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 3.77 | 1.89 | ppb | 2.28 | 900.00 | |
| 60 Ni | 45 | 2 | 5.36 | 2.68 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 0.74 | 0.37 | ppb | 6.13 | 900.00 | |
| 66 Zn | 72 | 2 | 6.48 | 3.24 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 0.86 | 0.43 | ppb | 7.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.27 | ppb | 13.63 | 900.00 | |
| 88 Sr | 103 | 1 | 61.90 | 30.95 | ppb | 0.47 | 900.00 | |
| 98 Mo | 103 | 1 | 1.83 | 0.91 | ppb | 2.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 58.48 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 63.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 4.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 8.60 | 900.00 | |
| 137 Ba | 159 | 1 | 12.41 | 6.21 | ppb | 1.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 11.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 31.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 756773 | 1.06 | 1085278 | 69.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1777044 | 0.40 | 2030198 | 87.5 | 70 - 130 | |
| 45 Sc | 2 | 183063 | 0.66 | 207475 | 88.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 415666 | 0.75 | 445120 | 93.4 | 70 | - | 130 |
| 72 Ge | 2 | 90142 | 0.36 | 97576 | 92.4 | 70 | - | 130 |
| 103 Rh | 1 | 2515283 | 0.54 | 2785941 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3006461 | 1.10 | 3215847 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 897345 | 0.22 | 945097 | 94.9 | 70 | - | 130 |
| 159 Tb | 1 | 4407449 | 0.34 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4410018 | 0.96 | 4476327 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 2868654 | 0.59 | 2985373 | 96.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 15 2013 02:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.80 | 53.80 | ppb | 0.56 | 900.00 | |
| 9 Be | 45 | 2 | 47.48 | 47.48 | ppb | 1.83 | 900.00 | |
| 11 B | 6 | 1 | 53.75 | 53.75 | ppb | 2.09 | 900.00 | |
| 11 B | 45 | 2 | 48.15 | 48.15 | ppb | 0.99 | 900.00 | |
| 23 Na | 45 | 1 | 4937.00 | 4937.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5124.00 | 5124.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 4955.00 | 4955.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 5226.00 | 5226.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 4933.00 | 4933.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 5209.00 | 5209.00 | ppb | 0.86 | 90000.00 | |
| 39 K | 45 | 1 | 5016.00 | 5016.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5201.00 | 5201.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.23 | 52.23 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 48.66 | 48.66 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 48.07 | 48.07 | ppb | 0.60 | 900.00 | |
| 55 Mn | 45 | 2 | 49.20 | 49.20 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 5151.00 | 5151.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 47.72 | 47.72 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 47.55 | 47.55 | ppb | 0.26 | 900.00 | |
| 63 Cu | 72 | 2 | 46.67 | 46.67 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 47.91 | 47.91 | ppb | 0.21 | 900.00 | |
| 75 As | 72 | 2 | 49.03 | 49.03 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 0.91 | 900.00 | |
| 88 Sr | 103 | 1 | 54.47 | 54.47 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 53.13 | 53.13 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 51.12 | 51.12 | ppb | 1.52 | 180.00 | |
| 111 Cd | 115 | 2 | 48.53 | 48.53 | ppb | 0.79 | 900.00 | |
| 120 Sn | 115 | 1 | 52.77 | 52.77 | ppb | 0.65 | 900.00 | |
| 121 Sb | 115 | 1 | 53.86 | 53.86 | ppb | 1.21 | 900.00 | |
| 137 Ba | 159 | 1 | 51.83 | 51.83 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 50.29 | 50.29 | ppb | 1.87 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.24 | 52.24 | ppb | 1.22 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 964564 | 0.62 | 1085278 | 88.9 | 70 - 130 | |
| 45 Sc | 1 | 1955691 | 0.22 | 2030198 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 204063 | 0.27 | 207475 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 430024 | 0.31 | 445120 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 96646 | 0.27 | 97576 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 2680400 | 0.90 | 2785941 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 3132174 | 1.00 | 3215847 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 930451 | 0.80 | 945097 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 4508959 | 0.54 | 4520363 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 4492579 | 0.95 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2893525 | 0.90 | 2985373 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D#
**Date Acquired:** Apr 15 2013 02:48 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2304
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 32.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.62 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 5.12 | 900.00 | |
| 11 B | 45 | 2 | 0.32 | 0.32 | ppb | 66.76 | 900.00 | |
| 23 Na | 45 | 1 | 12.25 | 12.25 | ppb | 3.16 | 90000.00 | |
| 23 Na | 45 | 2 | 13.97 | 13.97 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.01 | 1.01 | ppb | 4.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.21 | 1.21 | ppb | 14.91 | 90000.00 | |
| 27 Al | 45 | 1 | 0.81 | 0.81 | ppb | 8.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.93 | 0.93 | ppb | 7.71 | 90000.00 | |
| 39 K | 45 | 1 | 2.80 | 2.80 | ppb | 35.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.67 | 3.67 | ppb | 1.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 70.29 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 28.32 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 47.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 28.72 | 900.00 | |
| 56 Fe | 45 | 2 | 1.74 | 1.74 | ppb | 3.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 47.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 29.03 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 23.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 15.05 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 67.52 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 29.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 13.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 3.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 60.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 3.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 19.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 57.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 4.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 18.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 984914 | 2.42 | 1085278 | 90.8 | 70 - 130 | |
| 45 Sc | 1 | 1973717 | 0.57 | 2030198 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 206088 | 0.29 | 207475 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433639 | 0.63 | 445120 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 97288 | 0.62 | 97576 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 2715777 | 0.80 | 2785941 | 97.5 | 70 | - | 130 |
| 115 In | 1 | 3150753 | 0.83 | 3215847 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 958708 | 0.56 | 945097 | 101.4 | 70 | - | 130 |
| 159 Tb | 1 | 4444098 | 0.39 | 4520363 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4423868 | 0.43 | 4476327 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 2959612 | 0.50 | 2985373 | 99.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 15 2013 02:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-6F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 70.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 173.24 | 900.00 | |
| 11 B | 6 | 1 | 61.40 | 30.70 | ppb | 2.98 | 900.00 | |
| 11 B | 45 | 2 | 49.72 | 24.86 | ppb | 2.39 | 900.00 | |
| 23 Na | 45 | 1 | 53880.00 | 26940.00 | ppb | 1.57 | 90000.00 | |
| 23 Na | 45 | 2 | 57760.00 | 28880.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1612.00 | 806.00 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 1807.20 | 903.60 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 1 | 5.53 | 2.76 | ppb | 3.09 | 90000.00 | |
| 27 Al | 45 | 2 | 5.70 | 2.85 | ppb | 4.14 | 90000.00 | |
| 39 K | 45 | 1 | 3474.00 | 1737.00 | ppb | 1.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 18406.00 | 9203.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.97 | 0.49 | ppb | 16.41 | 900.00 | |
| 51 V | 45 | 2 | 1.74 | 0.87 | ppb | 0.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.48 | ppb | 3.18 | 900.00 | |
| 55 Mn | 45 | 2 | 860.20 | 430.10 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 3006.00 | 1503.00 | ppb | 1.59 | 90000.00 | |
| 59 Co | 45 | 2 | 10.95 | 5.48 | ppb | 0.52 | 900.00 | |
| 60 Ni | 45 | 2 | 11.88 | 5.94 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1.19 | 0.60 | ppb | 2.86 | 900.00 | |
| 66 Zn | 72 | 2 | 6.86 | 3.43 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 0.82 | 0.41 | ppb | 2.49 | 900.00 | |
| 78 Se | 72 | 2 | 0.50 | 0.25 | ppb | 26.63 | 900.00 | |
| 88 Sr | 103 | 1 | 135.60 | 67.80 | ppb | 0.37 | 900.00 | |
| 98 Mo | 103 | 1 | 3.02 | 1.51 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 45.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 33.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 8.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 1.18 | 900.00 | |
| 137 Ba | 159 | 1 | 25.72 | 12.86 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 7.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 1.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 748562 | 1.11 | 1085278 | 69.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1785877 | 1.98 | 2030198 | 88.0 | 70 - 130 | |
| 45 Sc | 2 | 181479 | 0.40 | 207475 | 87.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 409228 | 0.56 | 445120 | 91.9 | 70 | - | 130 |
| 72 Ge | 2 | 89853 | 0.53 | 97576 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 2473488 | 0.62 | 2785941 | 88.8 | 70 | - | 130 |
| 115 In | 1 | 2975613 | 0.52 | 3215847 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 888719 | 0.73 | 945097 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 4339544 | 0.70 | 4520363 | 96.0 | 70 | - | 130 |
| 175 Lu | 1 | 4343386 | 0.91 | 4476327 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 2871169 | 0.14 | 2985373 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D# |
| Date Acquired: | Apr 15 2013 03:00 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-7F |
| Misc Info: | |
| Vial Number: | 2306 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 26.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 38.38 | 19.19 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 31.02 | 15.51 | ppb | 2.74 | 900.00 | |
| 23 Na | 45 | 1 | 14422.00 | 7211.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 15112.00 | 7556.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 828.60 | 414.30 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 895.00 | 447.50 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 10.64 | 5.32 | ppb | 1.00 | 90000.00 | |
| 27 Al | 45 | 2 | 11.41 | 5.71 | ppb | 2.11 | 90000.00 | |
| 39 K | 45 | 1 | 1255.20 | 627.60 | ppb | 2.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 6876.00 | 3438.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.88 | 0.44 | ppb | 6.42 | 900.00 | |
| 51 V | 45 | 2 | 2.14 | 1.07 | ppb | 3.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.17 | ppb | 6.44 | 900.00 | |
| 55 Mn | 45 | 2 | 507.80 | 253.90 | ppb | 0.62 | 900.00 | |
| 56 Fe | 45 | 2 | 1772.40 | 886.20 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 4.78 | 2.39 | ppb | 0.21 | 900.00 | |
| 60 Ni | 45 | 2 | 8.28 | 4.14 | ppb | 2.02 | 900.00 | |
| 63 Cu | 72 | 2 | 3.22 | 1.61 | ppb | 2.01 | 900.00 | |
| 66 Zn | 72 | 2 | 8.71 | 4.36 | ppb | 1.65 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.45 | ppb | 4.08 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.28 | ppb | 24.84 | 900.00 | |
| 88 Sr | 103 | 1 | 30.86 | 15.43 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 3.39 | 1.69 | ppb | 0.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 7.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 95.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 8.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.12 | ppb | 4.53 | 900.00 | |
| 137 Ba | 159 | 1 | 6.58 | 3.29 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 4.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 2.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 740591 | 0.57 | 1085278 | 68.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1753069 | 1.37 | 2030198 | 86.3 | 70 - 130 | |
| 45 Sc | 2 | 182979 | 0.52 | 207475 | 88.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 414234 | 0.56 | 445120 | 93.1 | 70 | - | 130 |
| 72 Ge | 2 | 90682 | 0.37 | 97576 | 92.9 | 70 | - | 130 |
| 103 Rh | 1 | 2569438 | 1.03 | 2785941 | 92.2 | 70 | - | 130 |
| 115 In | 1 | 3059434 | 0.41 | 3215847 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 907770 | 0.70 | 945097 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 4447327 | 0.52 | 4520363 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4471377 | 0.65 | 4476327 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2929253 | 0.54 | 2985373 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D#
Date Acquired: Apr 15 2013 03:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-8F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 75.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.17 | 900.00 | |
| 11 B | 6 | 1 | 1.28 | 0.64 | ppb | 3.79 | 900.00 | |
| 11 B | 45 | 2 | 1.66 | 0.83 | ppb | 9.77 | 900.00 | |
| 23 Na | 45 | 1 | 37.76 | 18.88 | ppb | 3.84 | 90000.00 | |
| 23 Na | 45 | 2 | 45.82 | 22.91 | ppb | 40.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.57 | 1.78 | ppb | 2.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.75 | 1.87 | ppb | 18.96 | 90000.00 | |
| 27 Al | 45 | 1 | 2.88 | 1.44 | ppb | 8.31 | 90000.00 | |
| 27 Al | 45 | 2 | 3.16 | 1.58 | ppb | 16.89 | 90000.00 | |
| 39 K | 45 | 1 | 10.61 | 5.31 | ppb | 53.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 110.06 | 55.03 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.56 | 0.28 | ppb | 4.22 | 900.00 | |
| 51 V | 45 | 2 | 1.88 | 0.94 | ppb | 21.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.12 | 0.06 | ppb | 87.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.11 | ppb | 20.47 | 900.00 | |
| 56 Fe | 45 | 2 | 6.09 | 3.05 | ppb | 28.31 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 69.72 | 900.00 | |
| 60 Ni | 45 | 2 | 0.12 | 0.06 | ppb | 40.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 16.04 | 900.00 | |
| 66 Zn | 72 | 2 | 13.42 | 6.71 | ppb | 13.04 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 21.67 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 45.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.10 | 0.05 | ppb | 6.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 21.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 68.04 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 92.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 7.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.05 | ppb | 6.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.09 | ppb | 4.45 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 31.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 6.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 828830 | 2.18 | 1085278 | 76.4 | 70 - 130 | |
| 45 Sc | 1 | 1824032 | 1.10 | 2030198 | 89.8 | 70 - 130 | |
| 45 Sc | 2 | 186197 | 15.02 | 207475 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 418622 | 0.60 | 445120 | 94.0 | 70 | - | 130 |
| 72 | Ge | 2 | 91163 | 12.57 | 97576 | 93.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2659267 | 0.60 | 2785941 | 95.5 | 70 | - | 130 |
| 115 | In | 1 | 3120660 | 0.91 | 3215847 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 915101 | 14.73 | 945097 | 96.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4538183 | 0.79 | 4520363 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4487017 | 0.20 | 4476327 | 100.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2989716 | 0.78 | 2985373 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D#
Date Acquired: Apr 15 2013 03:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20768-B1
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 521.00 | 26.05 | ppb | 0.35 | 900.00 | |
| 9 Be | 45 | 2 | 478.40 | 23.92 | ppb | 2.90 | 900.00 | |
| 11 B | 6 | 1 | 2.15 | 0.11 | ppb | 9.65 | 900.00 | |
| 11 B | 45 | 2 | 5.05 | 0.25 | ppb | 82.84 | 900.00 | |
| 23 Na | 45 | 1 | 26100.00 | 1305.00 | ppb | 1.81 | 90000.00 | |
| 23 Na | 45 | 2 | 27060.00 | 1353.00 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 26280.00 | 1314.00 | ppb | 1.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 27860.00 | 1393.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 2172.00 | 108.60 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.81 | 90000.00 | |
| 39 K | 45 | 1 | 25920.00 | 1296.00 | ppb | 0.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 25940.00 | 1297.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.20 | 25.41 | ppb | 1.12 | 900.00 | |
| 51 V | 45 | 2 | 497.60 | 24.88 | ppb | 0.79 | 900.00 | |
| 52 Cr | 45 | 2 | 485.00 | 24.25 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 486.40 | 24.32 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 2128.00 | 106.40 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 485.20 | 24.26 | ppb | 1.20 | 900.00 | |
| 60 Ni | 45 | 2 | 475.40 | 23.77 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 477.40 | 23.87 | ppb | 0.22 | 900.00 | |
| 66 Zn | 72 | 2 | 525.00 | 26.25 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 503.60 | 25.18 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | 511.20 | 25.56 | ppb | 1.55 | 900.00 | |
| 88 Sr | 103 | 1 | 514.80 | 25.74 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.55 | 0.03 | ppb | 15.14 | 900.00 | |
| 107 Ag | 115 | 1 | 208.40 | 10.42 | ppb | 0.80 | 180.00 | |
| 111 Cd | 115 | 2 | 489.20 | 24.46 | ppb | 0.58 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 443.08 | 900.00 | |
| 121 Sb | 115 | 1 | 530.00 | 26.50 | ppb | 0.79 | 900.00 | |
| 137 Ba | 159 | 1 | 2092.00 | 104.60 | ppb | 0.27 | 900.00 | |
| 205 Tl | 209 | 1 | 483.00 | 24.15 | ppb | 1.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1035.20 | 51.76 | ppb | 1.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1102232 | 2.52 | 1085278 | 101.6 | 70 - 130 | |
| 45 Sc | 1 | 2014224 | 0.91 | 2030198 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 212626 | 0.90 | 207475 | 102.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 435595 | 0.42 | 445120 | 97.9 | 70 - | 130 |
| 72 | Ge | 2 | 100190 | 0.33 | 97576 | 102.7 | 70 - | 130 |
| 103 | Rh | 1 | 2713291 | 0.41 | 2785941 | 97.4 | 70 - | 130 |
| 115 | In | 1 | 3178956 | 1.33 | 3215847 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 965837 | 0.59 | 945097 | 102.2 | 70 - | 130 |
| 159 | Tb | 1 | 4461912 | 0.08 | 4520363 | 98.7 | 70 - | 130 |
| 175 | Lu | 1 | 4479709 | 0.83 | 4476327 | 100.1 | 70 - | 130 |
| 209 | Bi | 1 | 2942646 | 1.36 | 2985373 | 98.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D#
Date Acquired: Apr 15 2013 03:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20768-S1
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 521.20 | 26.06 | ppb | 1.50 | 900.00 | |
| 9 Be | 45 | 2 | 485.80 | 24.29 | ppb | 2.42 | 900.00 | |
| 11 B | 6 | 1 | 23.68 | 1.18 | ppb | 6.36 | 900.00 | |
| 11 B | 45 | 2 | 22.84 | 1.14 | ppb | 22.71 | 900.00 | |
| 23 Na | 45 | 1 | 75700.00 | 3785.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 75260.00 | 3763.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 28280.00 | 1414.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 29260.00 | 1463.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2270.00 | 113.50 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2274.00 | 113.70 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 29500.00 | 1475.00 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 34760.00 | 1738.00 | ppb | 1.02 | 90000.00 | |
| 47 Ti | 45 | 1 | 528.80 | 26.44 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 506.80 | 25.34 | ppb | 0.40 | 900.00 | |
| 52 Cr | 45 | 2 | 489.80 | 24.49 | ppb | 0.83 | 900.00 | |
| 55 Mn | 45 | 2 | 964.20 | 48.21 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 2366.00 | 118.30 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 495.00 | 24.75 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 487.80 | 24.39 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 490.20 | 24.51 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 539.20 | 26.96 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 516.00 | 25.80 | ppb | 0.33 | 900.00 | |
| 78 Se | 72 | 2 | 527.40 | 26.37 | ppb | 2.85 | 900.00 | |
| 88 Sr | 103 | 1 | 586.00 | 29.30 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 2.01 | 0.10 | ppb | 8.22 | 900.00 | |
| 107 Ag | 115 | 1 | 209.80 | 10.49 | ppb | 1.41 | 180.00 | |
| 111 Cd | 115 | 2 | 502.60 | 25.13 | ppb | 1.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 431.73 | 900.00 | |
| 121 Sb | 115 | 1 | 543.40 | 27.17 | ppb | 1.47 | 900.00 | |
| 137 Ba | 159 | 1 | 2144.00 | 107.20 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 497.60 | 24.88 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1060.20 | 53.01 | ppb | 0.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1154542 | 2.57 | 1085278 | 106.4 | 70 - 130 | |
| 45 Sc | 1 | 2030786 | 0.61 | 2030198 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 216535 | 0.62 | 207475 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438770 | 0.39 | 445120 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 100854 | 0.41 | 97576 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 2706043 | 0.67 | 2785941 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3153842 | 1.61 | 3215847 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 967003 | 0.55 | 945097 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4452698 | 0.19 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4415219 | 0.47 | 4476327 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 2898748 | 0.62 | 2985373 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D# |
| Date Acquired: | Apr 15 2013 03:26 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20768-S2 |
| Misc Info: | |
| Vial Number: | 2310 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 525.40 | 26.27 | ppb | 2.42 | 900.00 | |
| 9 Be | 45 | 2 | 506.80 | 25.34 | ppb | 15.61 | 900.00 | |
| 11 B | 6 | 1 | 22.58 | 1.13 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 28.92 | 1.45 | ppb | 31.85 | 900.00 | |
| 23 Na | 45 | 1 | 74520.00 | 3726.00 | ppb | 1.68 | 90000.00 | |
| 23 Na | 45 | 2 | 78240.00 | 3912.00 | ppb | 15.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 27860.00 | 1393.00 | ppb | 2.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 30320.00 | 1516.00 | ppb | 15.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2248.00 | 112.40 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 2404.00 | 120.20 | ppb | 18.07 | 90000.00 | |
| 39 K | 45 | 1 | 29260.00 | 1463.00 | ppb | 1.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 34600.00 | 1730.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 526.40 | 26.32 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 15.80 | 900.00 | |
| 52 Cr | 45 | 2 | 508.80 | 25.44 | ppb | 15.46 | 900.00 | |
| 55 Mn | 45 | 2 | 1003.00 | 50.15 | ppb | 15.08 | 900.00 | |
| 56 Fe | 45 | 2 | 2480.00 | 124.00 | ppb | 16.11 | 90000.00 | |
| 59 Co | 45 | 2 | 515.60 | 25.78 | ppb | 15.35 | 900.00 | |
| 60 Ni | 45 | 2 | 504.80 | 25.24 | ppb | 15.08 | 900.00 | |
| 63 Cu | 72 | 2 | 508.60 | 25.43 | ppb | 10.55 | 900.00 | |
| 66 Zn | 72 | 2 | 556.00 | 27.80 | ppb | 11.31 | 900.00 | |
| 75 As | 72 | 2 | 530.00 | 26.50 | ppb | 10.69 | 900.00 | |
| 78 Se | 72 | 2 | 527.40 | 26.37 | ppb | 10.36 | 900.00 | |
| 88 Sr | 103 | 1 | 588.20 | 29.41 | ppb | 1.16 | 900.00 | |
| 98 Mo | 103 | 1 | 2.07 | 0.10 | ppb | 5.86 | 900.00 | |
| 107 Ag | 115 | 1 | 210.40 | 10.52 | ppb | 1.42 | 180.00 | |
| 111 Cd | 115 | 2 | 523.40 | 26.17 | ppb | 13.73 | 900.00 | |
| 120 Sn | 115 | 1 | 1.78 | 0.09 | ppb | 5.15 | 900.00 | |
| 121 Sb | 115 | 1 | 541.60 | 27.08 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 2132.00 | 106.60 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 499.00 | 24.95 | ppb | 3.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1060.20 | 53.01 | ppb | 1.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1146545 | 1.66 | 1085278 | 105.6 | 70 - 130 | |
| 45 Sc | 1 | 2070485 | 0.77 | 2030198 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 213559 | 14.46 | 207475 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 443438 | 0.97 | 445120 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 99688 | 9.44 | 97576 | 102.2 | 70 | - | 130 |
| 103 Rh | 1 | 2726384 | 1.18 | 2785941 | 97.9 | 70 | - | 130 |
| 115 In | 1 | 3167865 | 0.64 | 3215847 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 942186 | 12.97 | 945097 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 4482529 | 1.25 | 4520363 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 4415416 | 0.83 | 4476327 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 2878976 | 1.74 | 2985373 | 96.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D# |
| Date Acquired: | Apr 15 2013 03:32 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20768-SD1 |
| Misc Info: | |
| Vial Number: | 2311 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.01 | ppb | 10.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.57 | 0.06 | ppb | 31.73 | 900.00 | |
| 11 B | 6 | 1 | 23.28 | 2.33 | ppb | 3.10 | 900.00 | |
| 11 B | 45 | 2 | 20.79 | 2.08 | ppb | 2.97 | 900.00 | |
| 23 Na | 45 | 1 | 47620.00 | 4762.00 | ppb | 0.84 | 90000.00 | |
| 23 Na | 45 | 2 | 47630.00 | 4763.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 948.20 | 94.82 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 959.10 | 95.91 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 9.58 | 0.96 | ppb | 4.10 | 90000.00 | |
| 27 Al | 45 | 2 | 11.99 | 1.20 | ppb | 10.94 | 90000.00 | |
| 39 K | 45 | 1 | 3024.00 | 302.40 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 8496.00 | 849.60 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.16 | 0.12 | ppb | 6.81 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.09 | ppb | 7.77 | 900.00 | |
| 52 Cr | 45 | 2 | -0.44 | -0.04 | ppb | 8.11 | 900.00 | |
| 55 Mn | 45 | 2 | 472.10 | 47.21 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 225.30 | 22.53 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 3.74 | 0.37 | ppb | 3.89 | 900.00 | |
| 60 Ni | 45 | 2 | 5.35 | 0.53 | ppb | 3.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.10 | ppb | 4.54 | 900.00 | |
| 66 Zn | 72 | 2 | 8.23 | 0.82 | ppb | 3.00 | 900.00 | |
| 75 As | 72 | 2 | 0.62 | 0.06 | ppb | 28.17 | 900.00 | |
| 78 Se | 72 | 2 | 2.87 | 0.29 | ppb | 37.73 | 900.00 | |
| 88 Sr | 103 | 1 | 61.78 | 6.18 | ppb | 0.91 | 900.00 | |
| 98 Mo | 103 | 1 | 1.58 | 0.16 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.01 | ppb | 14.90 | 180.00 | |
| 111 Cd | 115 | 2 | 0.28 | 0.03 | ppb | 25.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.98 | 0.10 | ppb | 0.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.03 | ppb | 11.86 | 900.00 | |
| 137 Ba | 159 | 1 | 12.80 | 1.28 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 1.16 | 0.12 | ppb | 9.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.02 | ppb | 7.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1086066 | 0.78 | 1085278 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 2003334 | 1.13 | 2030198 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 212085 | 0.21 | 207475 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437910 | 0.38 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 99871 | 0.34 | 97576 | 102.4 | 70 | - | 130 |
| 103 Rh | 1 | 2688047 | 1.10 | 2785941 | 96.5 | 70 | - | 130 |
| 115 In | 1 | 3130434 | 1.42 | 3215847 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 965779 | 0.54 | 945097 | 102.2 | 70 | - | 130 |
| 159 Tb | 1 | 4444553 | 0.20 | 4520363 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4375800 | 0.61 | 4476327 | 97.8 | 70 | - | 130 |
| 209 Bi | 1 | 2913666 | 0.53 | 2985373 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 03:39 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20768-PS1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2312 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 19.31 | 9.66 | ppb | 2.24 | 900.00 | |
| 9 Be | 45 | 2 | 15.87 | 7.94 | ppb | 0.72 | 900.00 | |
| 11 B | 6 | 1 | 42.48 | 21.24 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 35.68 | 17.84 | ppb | 4.00 | 900.00 | |
| 23 Na | 45 | 1 | 36800.00 | 18400.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 38300.00 | 19150.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 722.20 | 361.10 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 770.40 | 385.20 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 25.52 | 12.76 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 27.88 | 13.94 | ppb | 3.01 | 90000.00 | |
| 39 K | 45 | 1 | 2438.00 | 1219.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.95 | 9.47 | ppb | 1.53 | 900.00 | |
| 51 V | 45 | 2 | 19.13 | 9.57 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 16.61 | 8.31 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 413.00 | 206.50 | ppb | 0.96 | 900.00 | |
| 56 Fe | 45 | 2 | 213.00 | 106.50 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 19.34 | 9.67 | ppb | 0.21 | 900.00 | |
| 60 Ni | 45 | 2 | 20.48 | 10.24 | ppb | 0.29 | 900.00 | |
| 63 Cu | 72 | 2 | 16.52 | 8.26 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 24.48 | 12.24 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 17.28 | 8.64 | ppb | 0.74 | 900.00 | |
| 78 Se | 72 | 2 | 16.62 | 8.31 | ppb | 3.39 | 900.00 | |
| 88 Sr | 103 | 1 | 69.52 | 34.76 | ppb | 0.25 | 900.00 | |
| 98 Mo | 103 | 1 | 20.18 | 10.09 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 17.30 | 8.65 | ppb | 1.06 | 180.00 | |
| 111 Cd | 115 | 2 | 16.27 | 8.14 | ppb | 0.81 | 900.00 | |
| 120 Sn | 115 | 1 | 18.53 | 9.26 | ppb | 0.25 | 900.00 | |
| 121 Sb | 115 | 1 | 18.30 | 9.15 | ppb | 0.28 | 900.00 | |
| 137 Ba | 159 | 1 | 27.80 | 13.90 | ppb | 0.85 | 900.00 | |
| 205 Tl | 209 | 1 | 16.81 | 8.40 | ppb | 0.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.72 | 8.86 | ppb | 0.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 826456 | 0.88 | 1085278 | 76.2 | 70 - 130 | |
| 45 Sc | 1 | 1815481 | 0.33 | 2030198 | 89.4 | 70 - 130 | |
| 45 Sc | 2 | 190507 | 0.39 | 207475 | 91.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 416424 | 0.16 | 445120 | 93.6 | 70 | - | 130 |
| 72 Ge | 2 | 92340 | 0.43 | 97576 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 2549311 | 0.52 | 2785941 | 91.5 | 70 | - | 130 |
| 115 In | 1 | 3006726 | 0.47 | 3215847 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 908746 | 0.80 | 945097 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 4372158 | 0.39 | 4520363 | 96.7 | 70 | - | 130 |
| 175 Lu | 1 | 4311726 | 0.56 | 4476327 | 96.3 | 70 | - | 130 |
| 209 Bi | 1 | 2854855 | 1.94 | 2985373 | 95.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D#
Date Acquired: Apr 15 2013 03:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 2.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 27.64 | 900.00 | |
| 11 B | 6 | 1 | 5.06 | 5.06 | ppb | 2.78 | 900.00 | |
| 11 B | 45 | 2 | 4.62 | 4.62 | ppb | 9.41 | 900.00 | |
| 23 Na | 45 | 1 | 269.70 | 269.70 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 289.60 | 289.60 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 264.50 | 264.50 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.30 | 276.30 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 26.60 | 26.60 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 27.72 | 27.72 | ppb | 0.91 | 90000.00 | |
| 39 K | 45 | 1 | 249.40 | 249.40 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.90 | 264.90 | ppb | 0.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.09 | 1.09 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 1.29 | 1.29 | ppb | 2.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.91 | ppb | 1.65 | 900.00 | |
| 55 Mn | 45 | 2 | 1.15 | 1.15 | ppb | 3.30 | 900.00 | |
| 56 Fe | 45 | 2 | 28.83 | 28.83 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.48 | 0.48 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.95 | 0.95 | ppb | 1.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 1.69 | 900.00 | |
| 66 Zn | 72 | 2 | 2.12 | 2.12 | ppb | 3.54 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 5.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.52 | 0.52 | ppb | 10.73 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 1.25 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 3.69 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 0.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 1.39 | 900.00 | |
| 137 Ba | 159 | 1 | 1.10 | 1.10 | ppb | 3.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 1.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 1.21 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1043048 | 1.15 | 1085278 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 1972339 | 0.69 | 2030198 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 209458 | 0.24 | 207475 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 431683 | 0.61 | 445120 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 98510 | 0.27 | 97576 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 2705799 | 0.57 | 2785941 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3173747 | 0.18 | 3215847 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 956120 | 0.74 | 945097 | 101.2 | 70 | - | 130 |
| 159 Tb | 1 | 4380422 | 1.08 | 4520363 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 4330861 | 1.03 | 4476327 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 2906092 | 0.60 | 2985373 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#
Date Acquired: Apr 15 2013 03:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.33 | 53.33 | ppb | 0.80 | 900.00 | |
| 9 Be | 45 | 2 | 46.52 | 46.52 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 52.33 | 52.33 | ppb | 0.91 | 900.00 | |
| 11 B | 45 | 2 | 47.89 | 47.89 | ppb | 6.24 | 900.00 | |
| 23 Na | 45 | 1 | 5003.00 | 5003.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 5133.00 | 5133.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 5030.00 | 5030.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 5247.00 | 5247.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 4989.00 | 4989.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 2 | 5333.00 | 5333.00 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 5051.00 | 5051.00 | ppb | 2.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 5209.00 | 5209.00 | ppb | 1.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.29 | 52.29 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 48.67 | 48.67 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 47.53 | 47.53 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 48.78 | 48.78 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 5118.00 | 5118.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 47.08 | 47.08 | ppb | 0.85 | 900.00 | |
| 60 Ni | 45 | 2 | 46.66 | 46.66 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 46.53 | 46.53 | ppb | 0.24 | 900.00 | |
| 66 Zn | 72 | 2 | 48.26 | 48.26 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 49.59 | 49.59 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 51.03 | 51.03 | ppb | 1.35 | 900.00 | |
| 88 Sr | 103 | 1 | 54.63 | 54.63 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 53.50 | 53.50 | ppb | 0.39 | 900.00 | |
| 107 Ag | 115 | 1 | 51.27 | 51.27 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 48.93 | 48.93 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | 52.77 | 52.77 | ppb | 0.70 | 900.00 | |
| 121 Sb | 115 | 1 | 54.06 | 54.06 | ppb | 0.07 | 900.00 | |
| 137 Ba | 159 | 1 | 52.62 | 52.62 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 50.31 | 50.31 | ppb | 1.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.37 | 52.37 | ppb | 0.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1015237 | 0.53 | 1085278 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 1975324 | 0.38 | 2030198 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 210025 | 0.55 | 207475 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 430260 | 0.53 | 445120 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 97819 | 0.16 | 97576 | 100.2 | 70 | - | 130 |
| 103 Rh | 1 | 2638427 | 0.80 | 2785941 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 3095157 | 0.32 | 3215847 | 96.2 | 70 | - | 130 |
| 115 In | 2 | 937548 | 0.30 | 945097 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4385827 | 1.23 | 4520363 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 4356441 | 0.68 | 4476327 | 97.3 | 70 | - | 130 |
| 209 Bi | 1 | 2810601 | 0.26 | 2985373 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Apr 15 2013 04:05 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2403 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 97.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.20 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 13.85 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 50.02 | 900.00 | |
| 23 Na | 45 | 1 | 6.10 | 6.10 | ppb | 4.66 | 90000.00 | |
| 23 Na | 45 | 2 | 7.08 | 7.08 | ppb | 5.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.08 | 1.08 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.48 | 1.48 | ppb | 16.27 | 90000.00 | |
| 27 Al | 45 | 1 | 1.02 | 1.02 | ppb | 4.71 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 1.35 | ppb | 15.00 | 90000.00 | |
| 39 K | 45 | 1 | 2.96 | 2.96 | ppb | 29.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 14.66 | 14.66 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 168.15 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 24.24 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 31.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 7.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2.18 | 2.18 | ppb | 3.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.22 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 82.19 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 5.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 13.65 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 26.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 64.38 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 3.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 14.70 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 38.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 53.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 11.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 16.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 94.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 4.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1033544 | 1.86 | 1085278 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 1985080 | 0.61 | 2030198 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 211344 | 0.29 | 207475 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437828 | 0.72 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 98792 | 0.45 | 97576 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 2712700 | 1.31 | 2785941 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 3162416 | 1.25 | 3215847 | 98.3 | 70 | - | 130 |
| 115 In | 2 | 966924 | 0.31 | 945097 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4457166 | 0.70 | 4520363 | 98.6 | 70 | - | 130 |
| 175 Lu | 1 | 4383383 | 0.55 | 4476327 | 97.9 | 70 | - | 130 |
| 209 Bi | 1 | 2931657 | 0.26 | 2985373 | 98.2 | 70 | - | 130 |

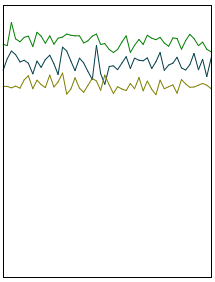
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

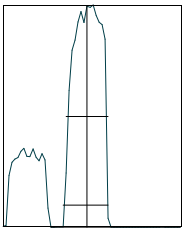
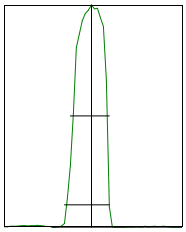
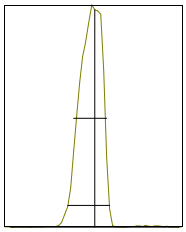
# Tune Report

Tune File : nogas.u
Comment : 041513



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 2,000 | 1617.0 | 1575.3 | 3.78 | 1.00 |
| 89 | 5,000 | 4146.0 | 4352.1 | 2.53 | 1.60 |
| 205 | 5,000 | 3468.0 | 3533.3 | 2.75 | 3.90 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.237%
Doubly Charged: 70/140 4.473%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 1,619 | 4,385 | 3,570 |
| Axis: | 6.95 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.65 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -120 V | AMU Offset | : | 124 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -16 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 2.4 V | Axis Offset | : | -0.07 |
| Torch-V | : | 1 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.85 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.2 L/min | Cell Exit | : | -30 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1870 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1540 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -10 V |
| Cell Exit: | -50 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 218.4 | 9.74 |
| 59 | 900.0 | 4.01 |
| 89 | 1040.9 | 3.99 |

Integration Time: 0.1000sec



Generated : Apr 15, 2013 10:03:59
Printed : Apr 15, 2013 10:04:49

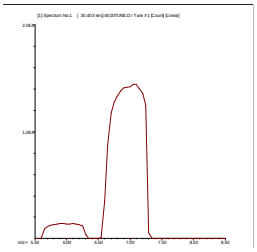
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 15 2013 10:35 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

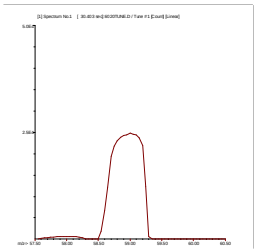
**QC Tune Summary:**
**Pass**

**RSD%**

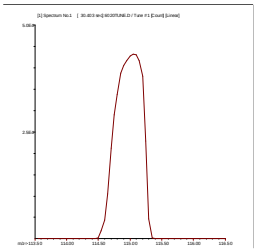
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.07 | 5.00 | 0 |
| 59 Co | 0.44 | 5.00 | |
| 115 In | 0.93 | 5.00 | |
| 205 Tl | 3.26 | 5.00 | |



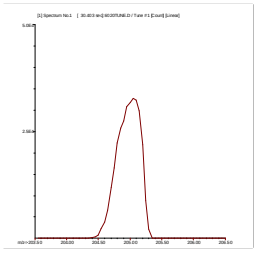
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 15, 2013 11:53 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

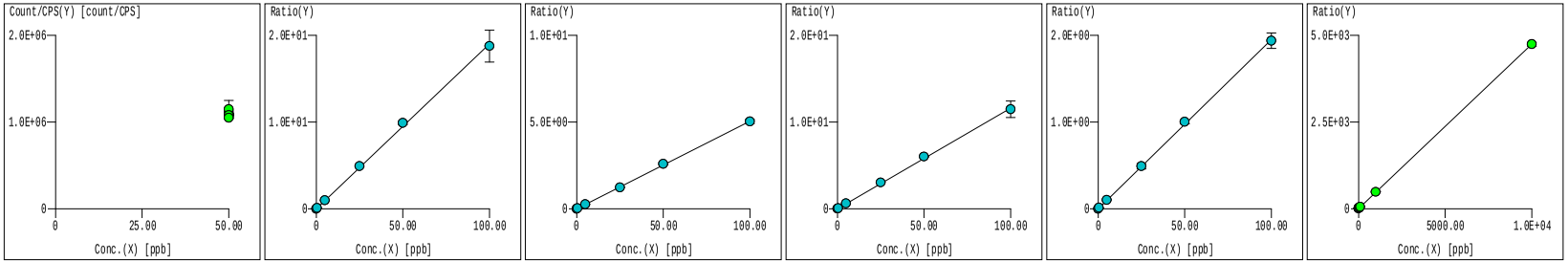
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d15k01.b\002calb.d\002calb.d# | STDA | Apr 15 2013 11:05 am |
| 2 | c:\icpchem\1\data\13d15k01.b\003cals.d\003cals.d# | STDB | Apr 15 2013 11:12 am |
| 3 | c:\icpchem\1\data\13d15k01.b\004cals.d\004cals.d# | STDC | Apr 15 2013 11:18 am |
| 4 | c:\icpchem\1\data\13d15k01.b\005cals.d\005cals.d# | STDD | Apr 15 2013 11:24 am |
| 5 | c:\icpchem\1\data\13d15k01.b\006cals.d\006cals.d# | STDE | Apr 15 2013 11:31 am |
| 6 | c:\icpchem\1\data\13d15k01.b\007cals.d\007cals.d# | STDF | Apr 15 2013 11:37 am |
| 7 | c:\icpchem\1\data\13d15k01.b\008cals.d\008cals.d# | STDG | Apr 15 2013 11:44 am |
| 8 | c:\icpchem\1\data\13d15k01.b\009cals.d\009cals.d# | STDH | Apr 15 2013 11:50 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

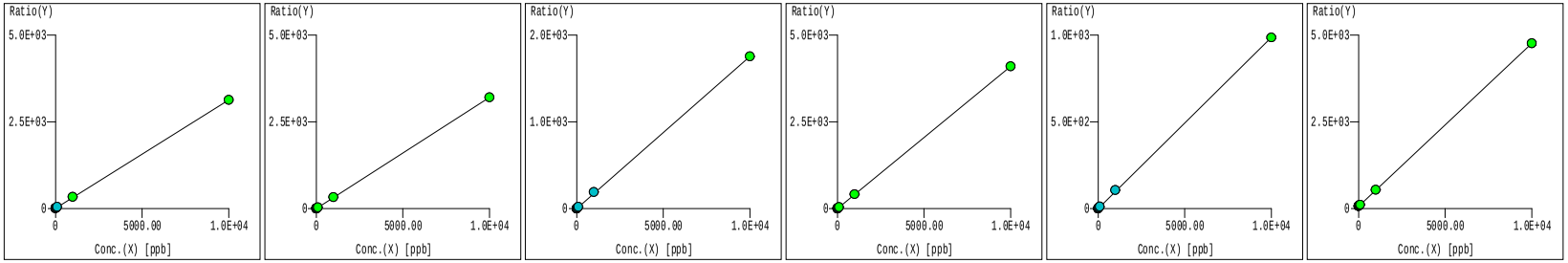
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9996 | 0.9999 | 0.9997 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 8.645E-03 ppb | --- ppb | 3.701E-02 ppb | 1.428E-01 ppb | 4.068E-01 ppb |
| < BEC > | --- ppb | 7.298E-03 ppb | 0.000 ppb | 1.286E-01 ppb | 2.749E-02 ppb | 24.61 ppb |



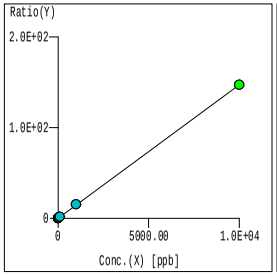

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.330E-01 ppb | 1.807E-02 ppb | 6.159E-02 ppb | 1.379E-02 ppb | 1.235E-01 ppb | 3.008 ppb |
| < BEC > | 33.18 ppb | 3.108E-01 ppb | 3.584E-01 ppb | 5.866E-01 ppb | 6.594E-01 ppb | 149.5 ppb |

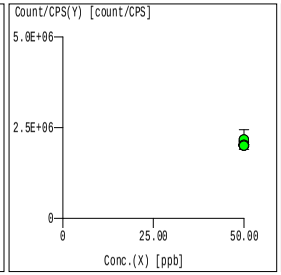


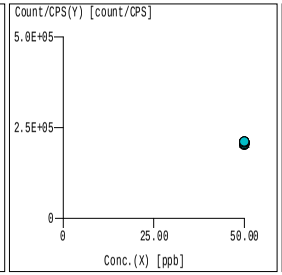
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

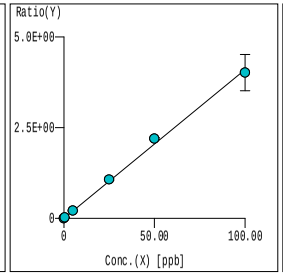
=== Graph Summary ===
Page: 2/4

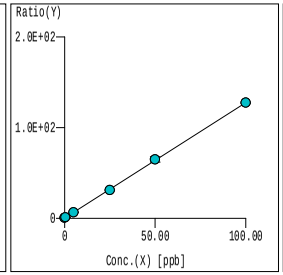
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9990 | 0.9999 | 0.9999 |
| < DL > | 7.192E-01 ppb | --- ppb | --- ppb | 1.913E-02 ppb | 1.433E-02 ppb | 1.760E-02 ppb |
| < BEC > | 6.606 ppb | --- ppb | --- ppb | 4.270E-02 ppb | 3.604E-01 ppb | 2.374E-01 ppb |

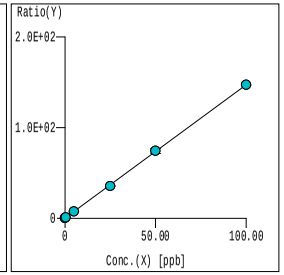




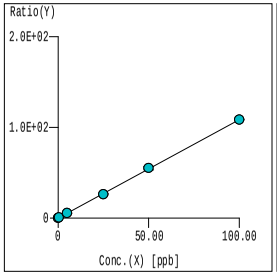


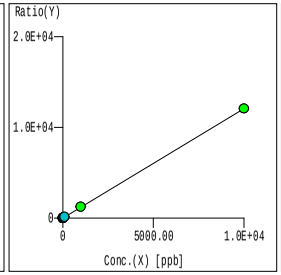


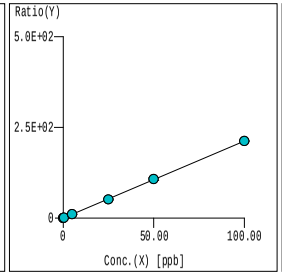


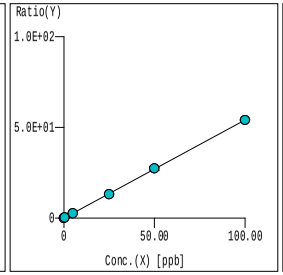


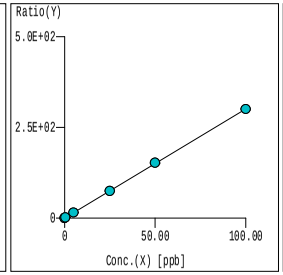

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 0.9999 | 1.0000 | 0.9999 |
| < DL > | 8.861E-03 ppb | 9.306E-02 ppb | 1.713E-03 ppb | 8.661E-03 ppb | 1.301E-03 ppb | 2.122E-02 ppb |
| < BEC > | 1.117E-01 ppb | 2.801 ppb | 2.170E-03 ppb | 5.054E-02 ppb | 8.862E-02 ppb | 7.139E-02 ppb |

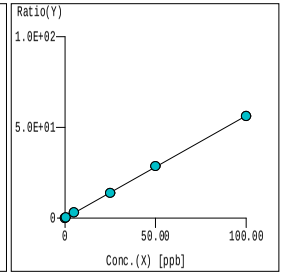








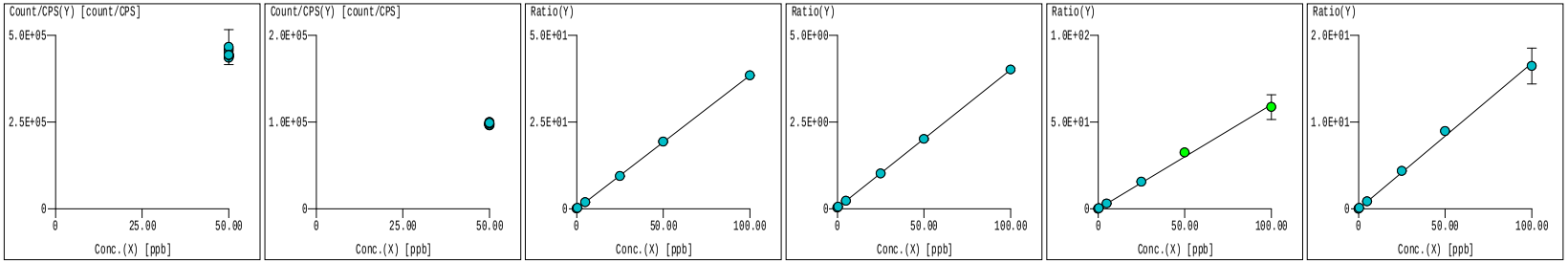




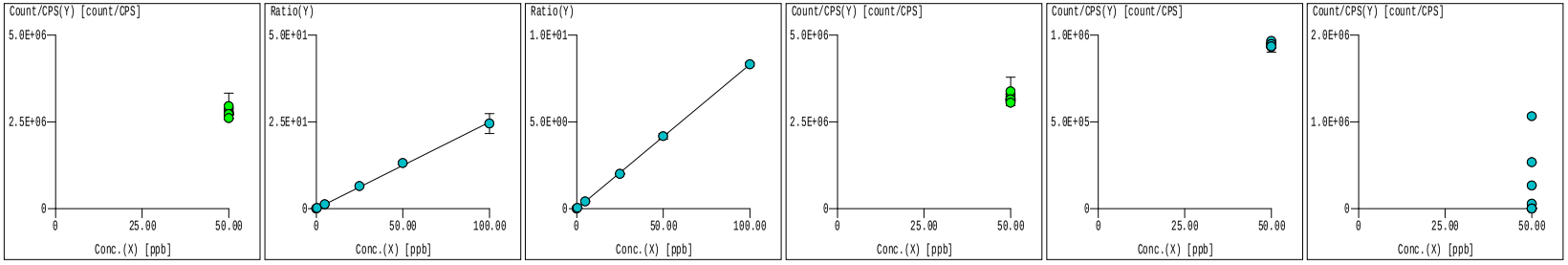
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9987 | 0.9991 |
| < DL > | --- ppb | --- ppb | 2.424E-02 ppb | 1.779E-01 ppb | 3.470E-03 ppb | 4.838E-03 ppb |
| < BEC > | --- ppb | --- ppb | 8.948E-02 ppb | 8.018E-01 ppb | 8.546E-03 ppb | 6.412E-03 ppb |



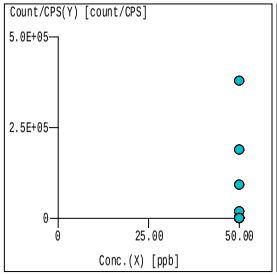

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9994 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.982E-03 ppb | 7.349E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.029E-03 ppb | 4.953E-03 ppb | --- ppb | --- ppb | --- ppb |

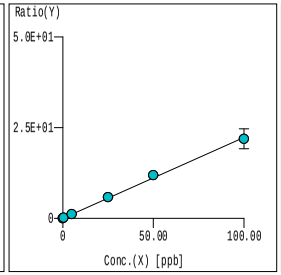


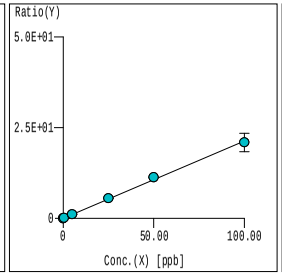
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

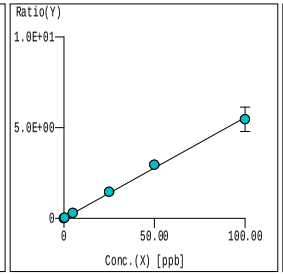
=== Graph Summary ===
Page: 4/4

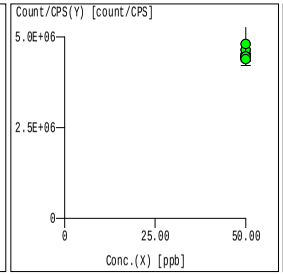
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9991 | 0.9992 | 0.9992 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.026E-02 ppb | 5.465E-03 ppb | 4.131E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.206E-02 ppb | 6.009E-03 ppb | 9.952E-02 ppb | --- ppb | --- ppb |

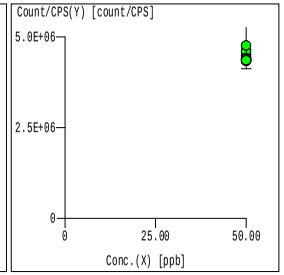


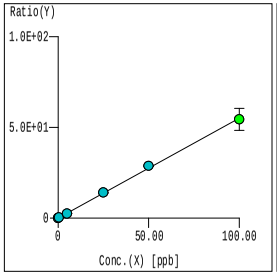



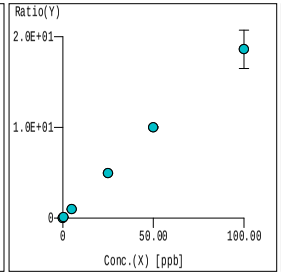



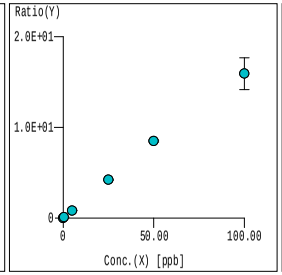



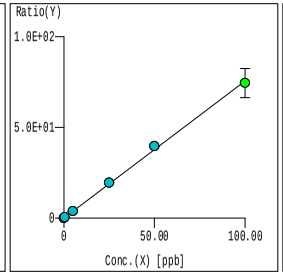



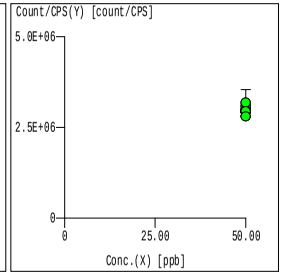

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9996 | 0.9993 | 0.9995 | 0.9995 | 0.0000 |
| < DL > | 4.630E-03 ppb | --- ppb | --- ppb | 3.360E-03 ppb | --- ppb |
| < BEC > | 2.677E-02 ppb | --- ppb | --- ppb | 2.046E-02 ppb | --- ppb |



ACCUTEST

| Date: | 04/09/13 |
|---|---|
| Time | 9:13 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20745 |
| QC Sample ID: | MC19637-1F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35013-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 92 | Factor | 0 | Corrected Temp C | 92 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20745-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20745-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20745-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20745-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20745-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-4F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review Date:

(Format edits must be done by dept. Manager)

7.5.1 7

ACCUTEST

| Date: | 04/10/13 |
|---|---|
| Time | 16:41 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20751 |
| QC Sample ID: | MC19637-6F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 92 | Factor | 0 | Corrected Temp C | 92 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20751-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20751-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20751-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20751-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20751-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-5F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-7F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/11/13

**(Format edits must be done by dept. Manager)**

7.5.2

7

Prep QC: MP20760

ACCUTEST

| Date: | 04/11/13 |
|---|---|
| Time | 15:50 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20760 |
| QC Sample ID: | MC19637-15F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 92 | Factor | 0 | Corrected Temp C | 92 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20760-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20760-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20760-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20760-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20760-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-10F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-12F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-14F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-15F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-16F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-8F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-9F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/12/13

**(Format edits must be done by dept. Manager)**

7.5.3

7

ACCUTEST

| Date: | 04/12/13 |
|---|---|
| Time | 16:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20767 |
| QC Sample ID: | MC19762-2F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 93 | Factor | 0 | Corrected Temp C | 93 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20767-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20767-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-3F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 04/15/13

(Format edits must be done by dept. Manager)

New England ACCUTEST LABORATORIES

04/24/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC19762

Sampling Dates: 04/11/13 - 04/16/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **436**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC19762

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19762-1F | 04/11/13 | 14:25 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-047 |
| MC19762-2F | 04/11/13 | 15:25 | CMH | 04/11/13 | AQ | Groundwater Filtered | GP-13-12-037 |
| MC19762-2FD | 04/11/13 | 15:25 | CMH | 04/11/13 | AQ | Water Dup/MSD | GP-13-12-037 |
| MC19762-2FS | 04/11/13 | 15:25 | CMH | 04/11/13 | AQ | Water Matrix Spike | GP-13-12-037 |
| MC19762-3F | 04/11/13 | 16:15 | CMH | 04/11/13 | AQ | Equip Blank Filtered | RB-041113-U |
| MC19762-4F | 04/12/13 | 09:40 | CMH | 04/12/13 | AQ | Groundwater Filtered | GP-13-12-027 |
| MC19762-5F | 04/12/13 | 00:00 | CMH | 04/12/13 | AQ | Groundwater Filtered | DUP-041213-F |
| MC19762-6F | 04/12/13 | 10:40 | CMH | 04/12/13 | AQ | Groundwater Filtered | GP-13-12-017 |
| MC19762-7F | 04/12/13 | 12:00 | CMH | 04/12/13 | AQ | Groundwater Filtered | GP-13-12-008 |
| MC19762-8F | 04/12/13 | 13:25 | CMH | 04/12/13 | AQ | Equip Blank Filtered | RB-041213-U |
| MC19762-9F | 04/15/13 | 10:20 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-015 |
| MC19762-10F | 04/15/13 | 11:20 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-025 |
| MC19762-11F | 04/15/13 | 12:30 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-035 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC19762

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19762-12F | 04/15/13 | 00:00 | CMH | 04/15/13 | AQ | Groundwater Filtered | DUP-041513-F |
| MC19762-13F | 04/15/13 | 13:45 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-045 |
| MC19762-14F | 04/15/13 | 14:45 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-055 |
| MC19762-15F | 04/15/13 | 16:15 | CMH | 04/15/13 | AQ | Groundwater Filtered | GP-13-02-065 |
| MC19762-16F | 04/15/13 | 16:45 | CMH | 04/15/13 | AQ | Equip Blank Filtered | RB-041513-U |
| MC19762-17F | 04/16/13 | 10:05 | CMH | 04/16/13 | AQ | Groundwater Filtered | GP-13-02-071 |
| MC19762-18F | 04/16/13 | 12:45 | CMH | 04/16/13 | AQ | Groundwater Filtered | GP-13-03-010 |
| MC19762-19F | 04/16/13 | 13:50 | CMH | 04/16/13 | AQ | Groundwater Filtered | GP-13-03-020 |
| MC19762-20F | 04/16/13 | 15:55 | CMH | 04/16/13 | AQ | Groundwater Filtered | GP-13-03-030 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC19762

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 4/24/2013 8:59:12 AM

20 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 04/11/2013 and 04/16/2013 and were received at Accutest between 04/11/2013 and 04/16/2013 properly preserved, at 0.2 Deg. C and intact. These Samples received an Accutest job number of MC19762. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP20767

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-2FMS, MC19762-2FMSD, MC19762-2FPS, MC19762-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20767-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20768

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-4FMS, MC19762-4FMSD, MC19762-4FPS, MC19762-4FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20768-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20781

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-9FMS, MC19762-9FMSD, MC19762-9FPS, MC19762-9FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20781-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20790

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-17FMS, MC19762-17FMSD, MC19762-17FPS, MC19762-17FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20790-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC19762).

# Summary of Hits



**Job Number:** MC19762
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/11/13 thru 04/16/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|

**MC19762-1F** **GP-13-12-047**

No hits reported in this sample.

**MC19762-2F** **GP-13-12-037**

No hits reported in this sample.

**MC19762-3F** **RB-041113-U**

No hits reported in this sample.

**MC19762-4F** **GP-13-12-027**

No hits reported in this sample.

**MC19762-5F** **DUP-041213-F**

No hits reported in this sample.

**MC19762-6F** **GP-13-12-017**

No hits reported in this sample.

**MC19762-7F** **GP-13-12-008**

No hits reported in this sample.

**MC19762-8F** **RB-041213-U**

No hits reported in this sample.

**MC19762-9F** **GP-13-02-015**

No hits reported in this sample.

**MC19762-10F** **GP-13-02-025**

No hits reported in this sample.

**MC19762-11F** **GP-13-02-035**

No hits reported in this sample.

# Summary of Hits

**Job Number:** MC19762
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/11/13 thru 04/16/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC19762-12F** | **DUP-041513-F** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-13F** | **GP-13-02-045** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-14F** | **GP-13-02-055** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-15F** | **GP-13-02-065** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-16F** | **RB-041513-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-17F** | **GP-13-02-071** | | | | | |
| Arsenic | | 1.2 | 1.0 | | ug/l | SW846 6020A |
| **MC19762-18F** | **GP-13-03-010** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19762-19F** | **GP-13-03-020** | | | | | |
| Arsenic | | 1.7 | 1.0 | | ug/l | SW846 6020A |
| **MC19762-20F** | **GP-13-03-030** | | | | | |
| Arsenic | | 17.6 | 1.0 | | ug/l | SW846 6020A |

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-047 | | |
| **Lab Sample ID:** | MC19762-1F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-037 | | |
| **Lab Sample ID:** | MC19762-2F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041113-U | | |
| **Lab Sample ID:** | MC19762-3F | **Date Sampled:** | 04/11/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/11/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/12/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20767

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-027 | | |
| **Lab Sample ID:** | MC19762-4F | **Date Sampled:** | 04/12/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/12/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/13/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20768

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-041213-F | | |
| **Lab Sample ID:** | MC19762-5F | **Date Sampled:** | 04/12/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/12/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/13/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20768

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-017 | | |
| **Lab Sample ID:** | MC19762-6F | **Date Sampled:** | 04/12/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/12/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/13/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20768

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-12-008 | | |
| **Lab Sample ID:** | MC19762-7F | **Date Sampled:** | 04/12/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/12/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/13/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20768

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041213-U | | |
| **Lab Sample ID:** | MC19762-8F | **Date Sampled:** | 04/12/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/12/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/13/13 | 04/15/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15452
(2) Prep QC Batch: MP20768

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-015 | | |
| **Lab Sample ID:** | MC19762-9F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-025 | | |
| **Lab Sample ID:** | MC19762-10F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-035 | | |
| **Lab Sample ID:** | MC19762-11F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-041513-F | | |
| **Lab Sample ID:** | MC19762-12F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-045 | | |
| **Lab Sample ID:** | MC19762-13F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-055 | | |
| **Lab Sample ID:** | MC19762-14F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-065 | | |
| **Lab Sample ID:** | MC19762-15F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041513-U | | |
| **Lab Sample ID:** | MC19762-16F | **Date Sampled:** | 04/15/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/15/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/16/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20781

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-02-071 | | |
| **Lab Sample ID:** | MC19762-17F | **Date Sampled:** | 04/16/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/16/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.2 | 1.0 | ug/l | 2 | 04/17/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20790

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-03-010 | | |
| **Lab Sample ID:** | MC19762-18F | **Date Sampled:** | 04/16/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/16/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/17/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20790

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-03-020 | | |
| **Lab Sample ID:** | MC19762-19F | **Date Sampled:** | 04/16/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/16/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.7 | 1.0 | ug/l | 2 | 04/17/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20790

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-03-030 | | |
| **Lab Sample ID:** | MC19762-20F | **Date Sampled:** | 04/16/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/16/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 17.6 | 1.0 | ug/l | 2 | 04/17/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20790

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 45 #F41617

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19762

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1 | GP-13-12-047 | NA | 4-11-13 | 1425 | CMH | GW | 1 | | | X | | | | | | X | |
| -2 | GP-13-12-037 | NA | 4-11-13 | 1525 | CMH | GW | 3 | | | X | | | | | | X | MS/MSD |
| -3 | FB-041113-1 | NA | 4-11-13 | 1615 | CMH | AQ | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 6B |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG #2 - open
Custody Seal # 041113-1 041113-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/11/13 1730 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [X] Intact [ ] Not intact | Preserved where applicable [ ] On Ice [X] Cooler Temp. 0.2 C |

5.1 5

**MC19762: Chain of Custody**
**Page 1 of 6**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 4 5 TE 4/16/13

FED-EX Tracking # | Bottle Order Control # MC19762
Accutest Quote # | Accutest Job # MC19811

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CmH, PSW Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4 | GP-13-12-027 | NA | 4-12-13 | 940 | CmH | GW | 1 | | | | X | | | | | X | |
| -5 | DUP-041213-F | NA | 4-12-13 | — | CmH | GW | 1 | | | | X | | | | | X | |
| -6 | GP 13-12-017 | NA | 4-12-13 | 1040 | CmH | GW | 1 | | | | X | | | | | X | |
| | ~~GP 13-12-007~~ | | | | | | | | | | | | | | | | -4 |
| -7 | GP-13-12-008 | NA | 4-12-13 | 1200 | CmH | GW | 1 | | | | X | | | | | X | |
| -8 | RB-041213-U | NA | 4-12-13 | 1325 | CmH | AQ | 1 | | | | X | | | | | X | |

SAMPLES RECEIVED DIRECTLY FROM FIELD SAMPLING

GB

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG#2- open
Custody Seal # 041213-1 041213-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/12/13 14:45 | 1 | 2 | | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | Custody Seal # | Intact / Not Intact | Preserved where applicable / On Ice / Cooler Temp. 1.7° |

**MC19762: Chain of Custody**
**Page 2 of 6**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

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FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19762

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SP Phone #

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4F | GP-13-02-015 -9F | NA | 4-15-13 | 1100 | CMH | GW | 1 | | | X | | | | | | X | |
| -5F | GP-13-02-025 -10F | NA | 4-15-13 | 1120 | CMH | GW | 1 | | | X | | | | | | X | |
| -6F | GP-13-02-035 -11F | NA | 4-15-13 | 1250 | CMH | GW | 1 | | | X | | | | | | X | |
| -7F | DUP-041513-F -12F | NA | 4-15-13 | — | CMH | GW | 1 | | | X | | | | | | X | |
| -8F | GP-13-02-045 -13F | NA | 4-15-13 | 1345 | CMH | GW | 1 | | | X | | | | | | X | |
| -9F | GP-13-02-055 -14F | NA | 4-15-13 | 1445 | CMH | GW | 1 | | | X | | | | | | X | |
| -10F | GP-13-02-065 -15F | NA | 4-15-13 | 1615 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~GP-13-02-075~~ | | | | | | | | | | | | | | | | |
| -11F | FB-041513-U -16F | NA | 4-15-13 | 1645 | CMH | AQ | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | GC |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**RUSH!**

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG#2-open
Custody Seals # 041313-1 # 041513-2

Sample Custody must be documented below each time samples change possession, including courier delivery.

| Relinquished by Sampler | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 4-15-13 1700 | 1 | 2 | | 2 |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | Custody Seal # 041513-2 041513-1 | Intact / Not Intact | Preserved where applicable: On Ice ✓ Cooler Temp. 0.8 |

5.1 5

**MC19762: Chain of Custody**
**Page 3 of 6**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 4 OF 5 4/16/13

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19762

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CmH, GR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -17 | GP-13-02-071 | DA | 4-16-13 | 1005 | CmH | GW | 1 | | | X | | | | | | X | |

SAMPLES RECEIVED DIRECTLY FROM FIELD SAMPLING

6C

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**RUSH!**

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
EDD #2- open
Custody Seal # 04116013-1 # 04116013-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/16/13 1107 | 1 | 2 | 4/16/13 1145 | 2 |
| 2 | | 4/16/13 1150 | 2 | 3 | 4/16/13 1:45 | 3 |
| 3 | | | 3 | 4 | | 4 |
| 4 | | | 4 | 5 | | 5 |
| 5 | | | 5 | | | |

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 3.1°C

## MC19762: Chain of Custody
## Page 4 of 6

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 5 OF 5 — 4/16/13 TF

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19762

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CmH, SB Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED- Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -18F | GP-13-03-010 | NA | 4/16/13 | 1245 | CmH | GW | 1 | | | X | | | | | | X | |
| -19F | GP-13-03-020 | NA | 4/16/13 | 1350 | CmH | GW | 1 | | | X | | | | | | X | |
| -20F | GP-13-03-030 | NA | 4/16/13 | 1555 | CmH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 6C |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG #2- Closed
Custody Seal #04/16/13-3 #04/16/13-4

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-16-13 1630 | | 2 | 4/16/13 1715 | |
| 3 | | | | 4 | | 4 |
| 5 | | | | Custody Seal # 04/16-3 | Intact / Not intact | Preserved where applicable: On Ice / Cooler Temp. 1.2C |

**MC19762: Chain of Custody**
**Page 5 of 6**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC19762 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 4/16/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS/ SDG#2 **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control -Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC19762: Chain of Custody**
**Page 6 of 6**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19762

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19762-1F | Collected: 11-APR-13 14:25 By: CMH GP-13-12-047 | | | Received: 11-APR-13 | By: | |
| MC19762-1S | SW846 6020A | 15-APR-13 13:06 | PY | 12-APR-13 | DA | ASMS |
| MC19762-2F | Collected: 11-APR-13 15:25 By: CMH GP-13-12-037 | | | Received: 11-APR-13 | By: | |
| MC19762-2S | SW846 6020A | 15-APR-13 13:00 | PY | 12-APR-13 | DA | ASMS |
| MC19762-3F | Collected: 11-APR-13 16:15 By: CMH RB-041113-U | | | Received: 11-APR-13 | By: | |
| MC19762-3S | SW846 6020A | 15-APR-13 13:13 | PY | 12-APR-13 | DA | ASMS |
| MC19762-4F | Collected: 12-APR-13 09:40 By: CMH GP-13-12-027 | | | Received: 12-APR-13 | By: | |
| MC19762-4S | SW846 6020A | 15-APR-13 14:29 | PY | 13-APR-13 | SA | ASMS |
| MC19762-5F | Collected: 12-APR-13 00:00 By: CMH DUP-041213-F | | | Received: 12-APR-13 | By: | |
| MC19762-5S | SW846 6020A | 15-APR-13 14:35 | PY | 13-APR-13 | SA | ASMS |
| MC19762-6F | Collected: 12-APR-13 10:40 By: CMH GP-13-12-017 | | | Received: 12-APR-13 | By: | |
| MC19762-6S | SW846 6020A | 15-APR-13 14:54 | PY | 13-APR-13 | SA | ASMS |
| MC19762-7F | Collected: 12-APR-13 12:00 By: CMH GP-13-12-008 | | | Received: 12-APR-13 | By: | |
| MC19762-7S | SW846 6020A | 15-APR-13 15:00 | PY | 13-APR-13 | SA | ASMS |
| MC19762-8F | Collected: 12-APR-13 13:25 By: CMH RB-041213-U | | | Received: 12-APR-13 | By: | |
| MC19762-8S | SW846 6020A | 15-APR-13 15:07 | PY | 13-APR-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19762

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19762-9F | Collected: 15-APR-13 10:20 By: CMH<br>GP-13-02-015 | | | Received: 15-APR-13 By: BA | | |
| MC19762-9F | SW846 6020A | 19-APR-13 19:50 | PY | 16-APR-13 | SA | ASMS |
| MC19762-10 | Collected: 15-APR-13 11:20 By: CMH<br>GP-13-02-025 | | | Received: 15-APR-13 By: BA | | |
| MC19762-10 | SW846 6020A | 19-APR-13 19:57 | PY | 16-APR-13 | SA | ASMS |
| MC19762-11 | Collected: 15-APR-13 12:30 By: CMH<br>GP-13-02-035 | | | Received: 15-APR-13 By: BA | | |
| MC19762-11 | SW846 6020A | 19-APR-13 20:04 | PY | 16-APR-13 | SA | ASMS |
| MC19762-12 | Collected: 15-APR-13 00:00 By: CMH<br>DUP-041513-F | | | Received: 15-APR-13 By: BA | | |
| MC19762-12 | SW846 6020A | 19-APR-13 20:11 | PY | 16-APR-13 | SA | ASMS |
| MC19762-13 | Collected: 15-APR-13 13:45 By: CMH<br>GP-13-02-045 | | | Received: 15-APR-13 By: BA | | |
| MC19762-13 | SW846 6020A | 19-APR-13 20:18 | PY | 16-APR-13 | SA | ASMS |
| MC19762-14 | Collected: 15-APR-13 14:45 By: CMH<br>GP-13-02-055 | | | Received: 15-APR-13 By: BA | | |
| MC19762-14 | SW846 6020A | 19-APR-13 20:25 | PY | 16-APR-13 | SA | ASMS |
| MC19762-15 | Collected: 15-APR-13 16:15 By: CMH<br>GP-13-02-065 | | | Received: 15-APR-13 By: BA | | |
| MC19762-15 | SW846 6020A | 19-APR-13 20:47 | PY | 16-APR-13 | SA | ASMS |
| MC19762-16 | Collected: 15-APR-13 16:45 By: CMH<br>RB-041513-U | | | Received: 15-APR-13 By: BA | | |
| MC19762-16 | SW846 6020A | 19-APR-13 20:54 | PY | 16-APR-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19762

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19762-17 | Collected: 16-APR-13 10:05 By: CMH<br>GP-13-02-071 | | | Received: 16-APR-13 By: | | |
| MC19762-17S | SW846 6020A | 19-APR-13 21:01 | PY | 17-APR-13 | DA | ASMS |
| MC19762-18 | Collected: 16-APR-13 12:45 By: CMH<br>GP-13-03-010 | | | Received: 16-APR-13 By: | | |
| MC19762-18S | SW846 6020A | 19-APR-13 21:08 | PY | 17-APR-13 | DA | ASMS |
| MC19762-19 | Collected: 16-APR-13 13:50 By: CMH<br>GP-13-03-020 | | | Received: 16-APR-13 By: | | |
| MC19762-19S | SW846 6020A | 19-APR-13 21:15 | PY | 17-APR-13 | DA | ASMS |
| MC19762-20 | Collected: 16-APR-13 15:55 By: CMH<br>GP-13-03-030 | | | Received: 16-APR-13 By: | | |
| MC19762-20S | SW846 6020A | 19-APR-13 21:22 | PY | 17-APR-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC19762
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/11/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19762-1F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19762-1F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19762-2F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19762-2F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19762-3F.1 | Walk In Ref #5 | Dorina Antonovici | 04/12/13 13:52 | Retrieve from Storage |
| MC19762-3F.1 | Dorina Antonovici | Walk In Ref #5 | 04/15/13 07:31 | Return to Storage |
| MC19762-4F.1 | Walk In Ref #5 | Sarah Ayaz | 04/13/13 08:52 | Retrieve from Storage |
| MC19762-4F.1 | Sarah Ayaz | Walk In Ref #5 | 04/13/13 12:29 | Return to Storage |
| MC19762-5F.1 | Walk In Ref #5 | Sarah Ayaz | 04/13/13 08:52 | Retrieve from Storage |
| MC19762-5F.1 | Sarah Ayaz | Walk In Ref #5 | 04/13/13 12:29 | Return to Storage |
| MC19762-6F.1 | Walk In Ref #5 | Sarah Ayaz | 04/13/13 08:52 | Retrieve from Storage |
| MC19762-6F.1 | Sarah Ayaz | Walk In Ref #5 | 04/13/13 12:29 | Return to Storage |
| MC19762-7F.1 | Walk In Ref #5 | Sarah Ayaz | 04/13/13 08:52 | Retrieve from Storage |
| MC19762-7F.1 | Sarah Ayaz | Walk In Ref #5 | 04/13/13 12:29 | Return to Storage |
| MC19762-8F.1 | Walk In Ref #5 | Sarah Ayaz | 04/13/13 08:52 | Retrieve from Storage |
| MC19762-8F.1 | Sarah Ayaz | Walk In Ref #5 | 04/13/13 12:29 | Return to Storage |
| MC19762-9F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-9F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-10F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-10F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-11F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-11F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-12F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-12F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-13F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-13F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-14F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-14F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-15F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-15F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC19762
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/11/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19762-16F.1 | Walk In Ref #5 | Sarah Ayaz | 04/16/13 12:23 | Retrieve from Storage |
| MC19762-16F.1 | Sarah Ayaz | Walk In Ref #5 | 04/16/13 17:41 | Return to Storage |
| MC19762-17F.1 | Walk In Ref #5 | Sarah Ayaz | 04/17/13 13:14 | Retrieve from Storage |
| MC19762-17F.1 | Sarah Ayaz | Walk In Ref #5 | 04/17/13 16:24 | Return to Storage |
| MC19762-18F.1 | Walk In Ref #5 | Sarah Ayaz | 04/17/13 13:14 | Retrieve from Storage |
| MC19762-18F.1 | Sarah Ayaz | Walk In Ref #5 | 04/17/13 16:24 | Return to Storage |
| MC19762-19F.1 | Walk In Ref #5 | Sarah Ayaz | 04/17/13 13:14 | Retrieve from Storage |
| MC19762-19F.1 | Sarah Ayaz | Walk In Ref #5 | 04/17/13 16:24 | Return to Storage |
| MC19762-20F.1 | Walk In Ref #5 | Sarah Ayaz | 04/17/13 13:14 | Retrieve from Storage |
| MC19762-20F.1 | Sarah Ayaz | Walk In Ref #5 | 04/17/13 16:24 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:05 | MA15452-STD1 | 1 | | STDA |
| 11:12 | MA15452-STD2 | 1 | | STDB |
| 11:18 | MA15452-STD3 | 1 | | STDC |
| 11:24 | MA15452-STD4 | 1 | | STDD |
| 11:31 | MA15452-STD5 | 1 | | STDE |
| 11:37 | MA15452-STD6 | 1 | | STDF |
| 11:44 | MA15452-STD7 | 1 | | STDG |
| 11:50 | MA15452-STD8 | 1 | | STDH |
| 11:56 | MA15452-ICV1 | 1 | | |
| 12:02 | MA15452-ICB1 | 1 | | |
| 12:09 | MA15452-CCV1 | 1 | | |
| 12:15 | MA15452-CCB1 | 1 | | |
| 12:21 | MA15452-CRI1 | 1 | | |
| 12:28 | MA15452-ICSA1 | 1 | | |
| 12:34 | MA15452-ICSAB1 | 1 | | |
| 12:41 | ZZZZZZ | 1 | | RINSECONF |
| 12:47 | MP20767-MB1 | 2 | | |
| 12:54 | MP20768-MB1 | 2 | | |
| 13:00 | MC19762-2F | 2 | | |
| 13:06 | MC19762-1F | 2 | | |
| 13:13 | MC19762-3F | 2 | | |
| 13:19 | ZZZZZZ | 2 | | |
| 13:25 | MA15452-CCV2 | 1 | | |
| 13:32 | MA15452-CCB2 | 1 | | |
| 13:38 | ZZZZZZ | 2 | | |
| 13:44 | ZZZZZZ | 2 | | |
| 13:51 | ZZZZZZ | 2 | | |
| 13:57 | MP20767-B1 | 20 | | |
| 14:03 | MP20767-S1 | 20 | | |
| 14:10 | MP20767-S2 | 20 | | |
| 14:16 | MP20767-SD1 | 10 | | |
| 14:22 | MP20767-PS1 | 2 | | |
| 14:29 | MC19762-4F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:35 | MC19762-5F | 2 | | |
| 14:41 | MA15452-CCV3 | 1 | | |
| 14:48 | MA15452-CCB3 | 1 | | |
| 14:54 | MC19762-6F | 2 | | |
| 15:00 | MC19762-7F | 2 | | |
| 15:07 | MC19762-8F | 2 | | |
| 15:13 | MP20768-B1 | 20 | | |
| 15:19 | MP20768-S1 | 20 | | |
| 15:26 | MP20768-S2 | 20 | | |
| 15:32 | MP20768-SD1 | 10 | | |
| 15:39 | MP20768-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19762 | | | |
| 15:52 | MA15452-CRI2 | 1 | | |
| 15:58 | MA15452-CCV4 | 1 | | |
| 16:05 | MA15452-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC19762 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:05 | MA15452-STD1 | 1085278 R | 2030198 R | 207475 R | 445120 R | 97576 R | 2785941 R | 3215847 R | 945097 R |
| 11:12 | MA15452-STD2 | 1063341 | 2013656 | 206048 | 440387 | 97672 | 2734104 | 3134057 | 947271 |
| 11:18 | MA15452-STD3 | 1118135 | 2111095 | 211292 | 458159 | 100067 | 2872828 | 3298968 | 966218 |
| 11:24 | MA15452-STD4 | 1083813 | 2028471 | 209689 | 438943 | 96976 | 2729749 | 3147275 | 948047 |
| 11:31 | MA15452-STD5 | 1094560 | 2002759 | 201979 | 435503 | 96023 | 2701390 | 3106948 | 930997 |
| 11:37 | MA15452-STD6 | 1147803 | 2174275 | 204937 | 466404 | 96564 | 2952789 | 3379852 | 935950 |
| 11:44 | MA15452-STD7 | 1080731 | 2023799 | 208790 | 442726 | 98248 | 2718833 | 3145951 | 947496 |
| 11:50 | MA15452-STD8 | 1050417 | 2001831 | 211354 | 443150 | 98979 | 2603774 | 3051296 | 934079 |
| 11:56 | MA15452-ICV1 | 1062209 | 2030793 | 201416 | 441314 | 95510 | 2661160 | 3108376 | 894657 |
| 12:02 | MA15452-ICB1 | 1073461 | 2028373 | 208416 | 439933 | 98450 | 2743118 | 3169865 | 954859 |
| 12:09 | MA15452-CCV1 | 1072127 | 2015017 | 210124 | 438193 | 98324 | 2660175 | 3070211 | 935040 |
| 12:15 | MA15452-CCB1 | 1100387 | 2055933 | 190032 | 444788 | 91516 | 2798793 | 3203783 | 876736 |
| 12:21 | MA15452-CRI1 | 1078364 | 2042919 | 213012 | 454920 | 100120 | 2785318 | 3244639 | 979133 |
| 12:28 | MA15452-ICSA1 | 1026104 | 2032584 | 209137 | 444909 | 97596 | 2453190 | 2948770 | 885139 |
| 12:34 | MA15452-ICSAB1 | 1020623 | 1983659 | 211441 | 438791 | 98925 | 2420159 | 2899634 | 891598 |
| 12:41 | ZZZZZZ | 1034100 | 2081591 | 213529 | 459179 | 102831 | 2861425 | 3292700 | 1001584 |
| 12:47 | MP20767-MB1 | 794297 | 1890092 | 192453 | 433734 | 94709 | 2760128 | 3221520 | 949868 |
| 12:54 | MP20768-MB1 | 742733 !a | 1842447 | 188002 | 425372 | 94172 | 2761566 | 3195229 | 941068 |
| 13:00 | MC19762-2F | 721993 !a | 1764924 | 181381 | 409723 | 90013 | 2491928 | 2994186 | 886310 |
| 13:06 | MC19762-1F | 710512 !a | 1763801 | 180741 | 411430 | 89707 | 2512205 | 3014869 | 888025 |
| 13:13 | MC19762-3F | 783144 | 1830382 | 188457 | 426095 | 93101 | 2725233 | 3181079 | 937091 |
| 13:19 | ZZZZZZ | 677157 !a | 1756924 | 178795 | 414274 | 89836 | 2537706 | 3037479 | 902937 |
| 13:25 | MA15452-CCV2 | 879199 | 1892228 | 198112 | 427256 | 95653 | 2634170 | 3129817 | 931375 |
| 13:32 | MA15452-CCB2 | 931119 | 1937376 | 199873 | 431326 | 96409 | 2738187 | 3197209 | 959260 |
| 13:38 | ZZZZZZ | 699476 !a | 1747953 | 179830 | 409459 | 89387 | 2530668 | 3102298 | 900137 |
| 13:44 | ZZZZZZ | 683897 !a | 1758704 | 179050 | 407497 | 88605 | 2516406 | 3015018 | 889638 |
| 13:51 | ZZZZZZ | 692268 !a | 1739364 | 164253 | 407489 | 82787 | 2521347 | 3052016 | 828355 |
| 13:57 | MP20767-B1 | 1049944 | 1983406 | 209433 | 437449 | 99099 | 2723778 | 3171336 | 964078 |
| 14:03 | MP20767-S1 | 1094656 | 2023269 | 211243 | 433696 | 98164 | 2666809 | 3139036 | 945926 |
| 14:10 | MP20767-S2 | 1114196 | 2014940 | 212998 | 436656 | 99244 | 2658997 | 3108453 | 953881 |
| 14:16 | MP20767-SD1 | 1071241 | 1962911 | 208643 | 433220 | 98358 | 2602314 | 3070556 | 948910 |
| 14:22 | MP20767-PS1 | 831595 | 1804434 | 186599 | 409108 | 91184 | 2454476 | 2961304 | 884282 |
| 14:29 | MC19762-4F | 777025 | 1798623 | 184758 | 417555 | 91194 | 2553696 | 3077170 | 904309 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:35 | MC19762-5F | 756773 !a | 1777044 | 183063 | 415666 | 90142 | 2515283 | 3006461 | 897345 |
| 14:41 | MA15452-CCV3 | 964564 | 1955691 | 204063 | 430024 | 96646 | 2680400 | 3132174 | 930451 |
| 14:48 | MA15452-CCB3 | 984914 | 1973717 | 206088 | 433639 | 97288 | 2715776 | 3150753 | 958708 |
| 14:54 | MC19762-6F | 748562 !a | 1785877 | 181479 | 409228 | 89853 | 2473488 | 2975613 | 888719 |
| 15:00 | MC19762-7F | 740591 !a | 1753069 | 182979 | 414234 | 90682 | 2569438 | 3059433 | 907770 |
| 15:07 | MC19762-8F | 828830 | 1824032 | 186197 | 418622 | 91163 | 2659267 | 3120660 | 915101 |
| 15:13 | MP20768-B1 | 1102232 | 2014224 | 212626 | 435595 | 100190 | 2713290 | 3178956 | 965837 |
| 15:19 | MP20768-S1 | 1154542 | 2030786 | 216535 | 438770 | 100854 | 2706043 | 3153842 | 967003 |
| 15:26 | MP20768-S2 | 1146545 | 2070485 | 213559 | 443438 | 99688 | 2726384 | 3167865 | 942186 |
| 15:32 | MP20768-SD1 | 1086066 | 2003334 | 212085 | 437910 | 99871 | 2688047 | 3130434 | 965779 |
| 15:39 | MP20768-PS1 | 826456 | 1815481 | 190507 | 416424 | 92340 | 2549311 | 3006726 | 908746 |
| 15:52 | MA15452-CRI2 | 1043048 | 1972339 | 209458 | 431683 | 98510 | 2705799 | 3173747 | 956120 |
| 15:58 | MA15452-CCV4 | 1015237 | 1975324 | 210025 | 430260 | 97819 | 2638427 | 3095157 | 937548 |
| 16:05 | MA15452-CCB4 | 1033544 | 1985080 | 211344 | 437828 | 98792 | 2712700 | 3162416 | 966924 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:05 | MA15452-STD1 | 4520362 R | 2985373 R |
| 11:12 | MA15452-STD2 | 4403258 | 2923579 |
| 11:18 | MA15452-STD3 | 4642350 | 3080467 |
| 11:24 | MA15452-STD4 | 4453885 | 2949324 |
| 11:31 | MA15452-STD5 | 4425525 | 2955770 |
| 11:37 | MA15452-STD6 | 4802390 | 3183428 |
| 11:44 | MA15452-STD7 | 4463799 | 2945681 |
| 11:50 | MA15452-STD8 | 4385528 | 2800037 |
| 11:56 | MA15452-ICV1 | 4452097 | 2868510 |
| 12:02 | MA15452-ICB1 | 4465619 | 2975719 |
| 12:09 | MA15452-CCV1 | 4407020 | 2898105 |
| 12:15 | MA15452-CCB1 | 4555592 | 3012141 |
| 12:21 | MA15452-CRI1 | 4558418 | 3035730 |
| 12:28 | MA15452-ICSA1 | 4339504 | 2661617 |
| 12:34 | MA15452-ICSAB1 | 4252062 | 2599990 |
| 12:41 | ZZZZZZ | 4655115 | 3113267 |
| 12:47 | MP20767-MB1 | 4585512 | 3085203 |
| 12:54 | MP20768-MB1 | 4593017 | 3099402 |
| 13:00 | MC19762-2F | 4384958 | 2843881 |
| 13:06 | MC19762-1F | 4446756 | 2888743 |
| 13:13 | MC19762-3F | 4595008 | 3080384 |
| 13:19 | ZZZZZZ | 4505428 | 2928033 |
| 13:25 | MA15452-CCV2 | 4486416 | 2946050 |
| 13:32 | MA15452-CCB2 | 4510273 | 3031494 |
| 13:38 | ZZZZZZ | 4453795 | 2912377 |
| 13:44 | ZZZZZZ | 4428771 | 2845482 |
| 13:51 | ZZZZZZ | 4516985 | 2897289 |
| 13:57 | MP20767-B1 | 4509500 | 3004273 |
| 14:03 | MP20767-S1 | 4467268 | 2937980 |
| 14:10 | MP20767-S2 | 4428159 | 2905657 |
| 14:16 | MP20767-SD1 | 4405765 | 2911275 |
| 14:22 | MP20767-PS1 | 4358329 | 2793271 |
| 14:29 | MC19762-4F | 4467267 | 2932622 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15452
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:35 | MC19762-5F | 4407448 | 2868653 |
| 14:41 | MA15452-CCV3 | 4508959 | 2893525 |
| 14:48 | MA15452-CCB3 | 4444098 | 2959612 |
| 14:54 | MC19762-6F | 4339544 | 2871169 |
| 15:00 | MC19762-7F | 4447327 | 2929253 |
| 15:07 | MC19762-8F | 4538182 | 2989716 |
| 15:13 | MP20768-B1 | 4461912 | 2942646 |
| 15:19 | MP20768-S1 | 4452698 | 2898748 |
| 15:26 | MP20768-S2 | 4482528 | 2878976 |
| 15:32 | MP20768-SD1 | 4444552 | 2913666 |
| 15:39 | MP20768-PS1 | 4372158 | 2854855 |
| 15:52 | MA15452-CRI2 | 4380422 | 2906092 |
| 15:58 | MA15452-CCV4 | 4385827 | 2810601 |
| 16:05 | MA15452-CCB4 | 4457166 | 2931656 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15452  Units: ug/l

| Time: / Sample ID: | | | | 12:02 ICB1 | | 12:15 CCB1 | | 13:32 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0078 | <0.50 | 0.0074 | <0.50 | 0.017 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15452  Units: ug/l

| Time: / Sample ID: | | | | 14:48 CCB3 | | 16:05 CCB4 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.013 | <0.50 | 0.022 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | 11:56 | | | 12:09 | | | 13:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 61.7 | 102.8 | 50 | 49.5 | 99.0 | 50 | 48.9 | 97.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | 14:41 | | | 15:58 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.0 | 98.0 | 50 | 49.6 | 99.2 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | | 12:21 | | 15:52 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.50 | 100.0 | 0.55 | 110.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041513W1L.AGF  Date Analyzed: 04/15/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15452  Units: ug/l

| Time: | | | 12:28 | | 12:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94700 | 94.7 | 99700 | 99.7 |
| Antimony | | | 0.29* | | 0.31* | |
| Arsenic | | 20 | 0.21 | | 20.9 | 104.5 |
| Barium | | | 0.23 | | 0.27 | |
| Beryllium | | | 0.0038 | | 0.0045 | |
| Boron | | | 0.26 | | 0.27 | |
| Cadmium | | 20 | 0.76* | | 20.2 | 101.0 |
| Calcium | 100000 | 100000 | 94700 | 94.7 | 101000 | 101.0 |
| Chromium | | 20 | 1.0* | | 20.2 | 101.0 |
| Cobalt | | 20 | 0.036 | | 18.7 | 93.5 |
| Copper | | 20 | 0.38 | | 18.1 | 90.5 |
| Iron | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Lead | | | 0.13 | | 0.14 | |
| Magnesium | 100000 | 100000 | 96000 | 96.0 | 101000 | 101.0 |
| Manganese | | 20 | 0.35 | | 19.9 | 99.5 |
| Molybdenum | 2000 | 2000 | 2220 | 111.0 | 2330 | 116.5 |
| Nickel | | 20 | 0.67* | | 19.0 | 95.0 |
| Potassium | 100000 | 100000 | 97200 | 97.2 | 101000 | 101.0 |
| Selenium | | | 0.30* | | 0.28* | |
| Silver | | 20 | 0.061 | | 20.5 | 102.5 |
| Sodium | 100000 | 100000 | 95700 | 95.7 | 99100 | 99.1 |
| Strontium | | | 4.9* | | 5.1* | |
| Thallium | | | 0.039 | | 0.016 | |
| Tin | | | 0.15 | | 0.12 | |
| Titanium | 2000 | 2000 | 2160 | 108.0 | 2280 | 114.0 |
| Vanadium | | | 0.032 | | 0.030 | |
| Zinc | | 20 | 1.8* | | 54.5 | 272.5* |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:57 | MA15477-STD1 | 1 | | STDA |
| 18:04 | MA15477-STD2 | 1 | | STDB |
| 18:11 | MA15477-STD3 | 1 | | STDC |
| 18:19 | MA15477-STD4 | 1 | | STDD |
| 18:26 | MA15477-STD5 | 1 | | STDE |
| 18:33 | MA15477-STD6 | 1 | | STDF |
| 18:39 | MA15477-STD7 | 1 | | STDG |
| 18:46 | MA15477-STD8 | 1 | | STDH |
| 18:53 | MA15477-ICV1 | 1 | | |
| 19:00 | MA15477-ICB1 | 1 | | |
| 19:07 | MA15477-CCV1 | 1 | | |
| 19:14 | MA15477-CCB1 | 1 | | |
| 19:21 | MA15477-CRI1 | 1 | | |
| 19:28 | MA15477-ICSA1 | 1 | | |
| 19:36 | MA15477-ICSAB1 | 1 | | |
| 19:43 | ZZZZZZ | 1 | | RINSECONF |
| 19:50 | MC19762-9F | 2 | | |
| 19:57 | MC19762-10F | 2 | | |
| 20:04 | MC19762-11F | 2 | | |
| 20:11 | MC19762-12F | 2 | | |
| 20:18 | MC19762-13F | 2 | | |
| 20:25 | MC19762-14F | 2 | | |
| 20:32 | MA15477-CCV2 | 1 | | |
| 20:39 | MA15477-CCB2 | 1 | | |
| 20:47 | MC19762-15F | 2 | | |
| 20:54 | MC19762-16F | 2 | | |
| 21:01 | MC19762-17F | 2 | | |
| 21:08 | MC19762-18F | 2 | | |
| 21:15 | MC19762-19F | 2 | | |
| 21:22 | MC19762-20F | 2 | | |
| 21:29 | ZZZZZZ | 2 | | |
| 21:36 | MC19884-2F | 2 | | (sample used for QC only; not part of login MC19762) |
| 21:43 | ZZZZZZ | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:50 | MA15477-CRI2 | 1 | | |
| 21:57 | MA15477-CCV3 | 1 | | |
| 22:04 | MA15477-CCB3 | 1 | | |
| 22:11 | MP20781-MB1 | 2 | | |
| 22:18 | MP20790-MB1 | 2 | | |
| 22:25 | MP20797-MB1 | 2 | | |
| 22:32 | MP20781-B1 | 20 | | |
| 22:39 | MP20781-S1 | 20 | | |
| 22:46 | MP20781-S2 | 20 | | |
| 22:53 | MP20781-SD1 | 10 | | |
| 23:00 | MP20781-PS1 | 2 | | |
| 23:07 | MP20790-B1 | 20 | | |
| 23:15 | MP20790-S1 | 20 | | |
| 23:21 | MA15477-CCV4 | 1 | | |
| 23:28 | MA15477-CCB4 | 1 | | |
| 23:36 | MP20790-S2 | 20 | | |
| 23:43 | MP20790-SD1 | 10 | | |
| 23:50 | MP20790-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19762 | | | |
| 23:57 | MP20797-B1 | 20 | | |
| 00:04 | MP20797-S1 | 20 | | |
| 00:11 | MP20797-S2 | 20 | | |
| 00:18 | MP20797-SD1 | 10 | | |
| 00:25 | MP20797-PS1 | 2 | | |
| 00:32 | ZZZZZZ | 1 | | RINSECONF |
| 00:39 | MA15477-CRI3 | 1 | | |
| 00:46 | MA15477-CCV5 | 1 | | |
| 00:53 | MA15477-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC19762 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF Date Analyzed: 04/19/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:57 | MA15477-STD1 | 3146678 R | 5213161 R | 741872 R | 1062354 R | 273900 R | 6003827 R | 6375567 R | 2096793 R |
| 18:04 | MA15477-STD2 | 3199653 | 5231544 | 742392 | 1064270 | 274146 | 6041791 | 6422749 | 2086730 |
| 18:11 | MA15477-STD3 | 3213593 | 5215379 | 737624 | 1056752 | 272759 | 6057861 | 6391096 | 2092201 |
| 18:19 | MA15477-STD4 | 3266387 | 5162269 | 728649 | 1053967 | 269361 | 6037972 | 6316760 | 2068218 |
| 18:26 | MA15477-STD5 | 3206112 | 5194530 | 726956 | 1045620 | 267194 | 5950331 | 6262976 | 2044705 |
| 18:33 | MA15477-STD6 | 3285193 | 5205408 | 725579 | 1052909 | 267385 | 5966754 | 6317437 | 2061927 |
| 18:39 | MA15477-STD7 | 3327883 | 5290739 | 733636 | 1077258 | 271937 | 6016431 | 6331525 | 2084929 |
| 18:46 | MA15477-STD8 | 3320833 | 5231988 | 724405 | 1065275 | 267494 | 5737877 | 6081972 | 1990799 |
| 18:53 | MA15477-ICV1 | 3445542 | 5264044 | 711729 | 1057749 | 261884 | 5887232 | 6232259 | 2007578 |
| 19:00 | MA15477-ICB1 | 3521132 | 5315206 | 734086 | 1087940 | 272348 | 6156239 | 6485324 | 2107285 |
| 19:07 | MA15477-CCV1 | 3512158 | 5263109 | 708634 | 1060315 | 261348 | 5918450 | 6247935 | 2021536 |
| 19:14 | MA15477-CCB1 | 3634146 | 5359922 | 700463 | 1091895 | 261598 | 6207894 | 6521486 | 2014989 |
| 19:21 | MA15477-CRI1 | 3630628 | 5325582 | 717966 | 1081472 | 268153 | 6172874 | 6410697 | 2066962 |
| 19:28 | MA15477-ICSA1 | 3214306 | 4769927 | 640955 | 980910 | 240588 | 5012395 | 5492030 | 1728630 |
| 19:36 | MA15477-ICSAB1 | 2984631 | 4857423 | 638643 | 985991 | 240210 | 5081428 | 5575267 | 1718863 |
| 19:43 | ZZZZZZ | 3122430 | 5035842 | 674468 | 1027457 | 258207 | 5916385 | 6237443 | 2018275 |
| 19:50 | MC19762-9F | 2833325 | 4877379 | 656263 | 999389 | 250192 | 5556344 | 6030645 | 1930154 |
| 19:57 | MC19762-10F | 2741037 | 4856751 | 664685 | 1003947 | 252199 | 5506238 | 5996900 | 1921576 |
| 20:04 | MC19762-11F | 2759797 | 4906663 | 665476 | 996054 | 250958 | 5461838 | 5940591 | 1918073 |
| 20:11 | MC19762-12F | 2658155 | 4849857 | 665537 | 994807 | 250425 | 5416377 | 5926395 | 1901469 |
| 20:18 | MC19762-13F | 2667267 | 4913174 | 670896 | 1006632 | 254369 | 5442105 | 5958030 | 1896878 |
| 20:25 | MC19762-14F | 2629700 | 4955641 | 681105 | 1017741 | 255162 | 5530600 | 6024037 | 1941818 |
| 20:32 | MA15477-CCV2 | 2819711 | 5162029 | 699356 | 1036691 | 261837 | 5771233 | 6198317 | 1963577 |
| 20:39 | MA15477-CCB2 | 2895623 | 5181426 | 721516 | 1055438 | 272265 | 5956166 | 6363924 | 2056234 |
| 20:47 | MC19762-15F | 2660192 | 5032095 | 704948 | 1013305 | 261403 | 5606318 | 6181613 | 1985848 |
| 20:54 | MC19762-16F | 2686514 | 5029911 | 717107 | 1034293 | 267555 | 5896508 | 6236140 | 2019352 |
| 21:01 | MC19762-17F | 2567088 | 5071135 | 714544 | 1028883 | 263415 | 5627051 | 6260229 | 1981572 |
| 21:08 | MC19762-18F | 2609600 | 4940875 | 696758 | 1016209 | 257879 | 5466183 | 6017609 | 1934114 |
| 21:15 | MC19762-19F | 2523524 | 4935801 | 704330 | 1002825 | 259459 | 5485447 | 6032555 | 1960438 |
| 21:22 | MC19762-20F | 2495364 | 5001990 | 701478 | 1005761 | 261206 | 5576289 | 6142427 | 1987988 |
| 21:29 | ZZZZZZ | 2610654 | 4992580 | 725797 | 1030442 | 270352 | 5861570 | 6277789 | 2067272 |
| 21:36 | MC19884-2F | 2463236 | 5081363 | 703049 | 1004476 | 262302 | 5509923 | 6160705 | 1939530 |
| 21:43 | ZZZZZZ | 2829457 | 5247610 | 739837 | 1082209 | 276725 | 5970378 | 6473499 | 2069247 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 21:50 | MA15477-CRI2 | 2861276 | 5276085 | 742273 | 1076177 | 278520 | 6054229 | 6478236 | 2117076 |
| 21:57 | MA15477-CCV3 | 2907001 | 5272254 | 723788 | 1054562 | 269439 | 5897844 | 6370834 | 2046298 |
| 22:04 | MA15477-CCB3 | 3000365 | 5266373 | 734766 | 1076273 | 275835 | 6115479 | 6559837 | 2111292 |
| 22:11 | MP20781-MB1 | 2809550 | 5054812 | 720393 | 1039475 | 268395 | 5982826 | 6444133 | 2067716 |
| 22:18 | MP20790-MB1 | 2689820 | 5036434 | 719017 | 1031861 | 267306 | 5873267 | 6279288 | 2045151 |
| 22:25 | MP20797-MB1 | 2680711 | 5044531 | 723829 | 1027028 | 267212 | 5895502 | 6283536 | 2052402 |
| 22:32 | MP20781-B1 | 3208955 | 5277936 | 727345 | 1080633 | 272475 | 6096613 | 6494537 | 2094428 |
| 22:39 | MP20781-S1 | 2904712 | 4607778 | 722324 | 957564 | 269665 | 5234232 | 5566374 | 2085418 |
| 22:46 | MP20781-S2 | 3312905 | 5295627 | 721452 | 1072459 | 270603 | 6070538 | 6424278 | 2096949 |
| 22:53 | MP20781-SD1 | 3242171 | 5222267 | 723098 | 1068890 | 272121 | 6079922 | 6498379 | 2112760 |
| 23:00 | MP20781-PS1 | 2924281 | 5136690 | 713083 | 1047416 | 265950 | 5843531 | 6342927 | 2062957 |
| 23:07 | MP20790-B1 | 3463446 | 5354635 | 718434 | 1079265 | 270059 | 6124372 | 6501499 | 2131943 |
| 23:15 | MP20790-S1 | 3509449 | 5311320 | 717842 | 1070512 | 266166 | 6098841 | 6466063 | 2099501 |
| 23:21 | MA15477-CCV4 | 3370596 | 5233518 | 705753 | 1053571 | 263547 | 5906749 | 6285784 | 2046946 |
| 23:28 | MA15477-CCB4 | 3498608 | 5274534 | 714618 | 1077797 | 268649 | 6153937 | 6520751 | 2124765 |
| 23:36 | MP20790-S2 | 3586567 | 5298965 | 704497 | 1068788 | 266759 | 6056426 | 6455953 | 2112328 |
| 23:43 | MP20790-SD1 | 3435792 | 5196545 | 700795 | 1069849 | 266473 | 6017803 | 6482584 | 2122900 |
| 23:50 | MP20790-PS1 | 3104770 | 5106915 | 691340 | 1023532 | 258788 | 5756959 | 6276981 | 2052341 |
| 23:57 | MP20797-B1 | 3665858 | 5185423 | 684670 | 1057366 | 260669 | 6086092 | 6429162 | 2103363 |
| 00:04 | MP20797-S1 | 3626427 | 5142173 | 684944 | 1045466 | 260174 | 5987216 | 6358105 | 2091947 |
| 00:11 | MP20797-S2 | 3640892 | 5168487 | 687143 | 1053861 | 259060 | 6007285 | 6343500 | 2085893 |
| 00:18 | MP20797-SD1 | 3516562 | 5130415 | 687846 | 1050702 | 259702 | 5881314 | 6316606 | 2061136 |
| 00:25 | MP20797-PS1 | 3172629 | 5113638 | 678508 | 1006026 | 252390 | 5618906 | 6088671 | 1988672 |
| 00:32 | ZZZZZZ | 3602527 | 5160279 | 683562 | 1053073 | 259320 | 6080240 | 6420374 | 2099188 |
| 00:39 | MA15477-CRI3 | 3616627 | 5122231 | 682978 | 1038440 | 258169 | 6037028 | 6360309 | 2091861 |
| 00:46 | MA15477-CCV5 | 3534259 | 5148210 | 681790 | 1033012 | 255825 | 5852754 | 6223757 | 2037189 |
| 00:53 | MA15477-CCB5 | 3673980 | 5105124 | 682530 | 1043989 | 257709 | 6021135 | 6301928 | 2091472 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:57 | MA15477-STD1 | 7647907 R | 3950799 R |
| 18:04 | MA15477-STD2 | 7735967 | 3951980 |
| 18:11 | MA15477-STD3 | 7748838 | 3949575 |
| 18:19 | MA15477-STD4 | 7551318 | 3994173 |
| 18:26 | MA15477-STD5 | 7637600 | 3939967 |
| 18:33 | MA15477-STD6 | 7705512 | 3966535 |
| 18:39 | MA15477-STD7 | 7726989 | 3997342 |
| 18:46 | MA15477-STD8 | 7578506 | 3735559 |
| 18:53 | MA15477-ICV1 | 7690609 | 3844975 |
| 19:00 | MA15477-ICB1 | 7853041 | 4081645 |
| 19:07 | MA15477-CCV1 | 7781866 | 3891846 |
| 19:14 | MA15477-CCB1 | 7867902 | 4104965 |
| 19:21 | MA15477-CRI1 | 7756196 | 4076090 |
| 19:28 | MA15477-ICSA1 | 7160070 | 3369295 |
| 19:36 | MA15477-ICSAB1 | 7188756 | 3359714 |
| 19:43 | ZZZZZZ | 7573620 | 4001200 |
| 19:50 | MC19762-9F | 7425066 | 3770607 |
| 19:57 | MC19762-10F | 7402007 | 3745738 |
| 20:04 | MC19762-11F | 7299400 | 3684239 |
| 20:11 | MC19762-12F | 7339548 | 3660023 |
| 20:18 | MC19762-13F | 7422817 | 3682370 |
| 20:25 | MC19762-14F | 7476527 | 3744312 |
| 20:32 | MA15477-CCV2 | 7567258 | 3790752 |
| 20:39 | MA15477-CCB2 | 7723227 | 3957787 |
| 20:47 | MC19762-15F | 7607527 | 3834232 |
| 20:54 | MC19762-16F | 7722096 | 3995456 |
| 21:01 | MC19762-17F | 7793024 | 3882017 |
| 21:08 | MC19762-18F | 7481145 | 3686352 |
| 21:15 | MC19762-19F | 7561425 | 3720797 |
| 21:22 | MC19762-20F | 7704868 | 3863962 |
| 21:29 | ZZZZZZ | 7830573 | 4053330 |
| 21:36 | MC19884-2F | 7783016 | 3817181 |
| 21:43 | ZZZZZZ | 7879529 | 4040321 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 21:50 | MA15477-CRI2 | 7997281 | 4092945 |
| 21:57 | MA15477-CCV3 | 7896253 | 4009175 |
| 22:04 | MA15477-CCB3 | 7980766 | 4129692 |
| 22:11 | MP20781-MB1 | 7924075 | 4088717 |
| 22:18 | MP20790-MB1 | 7806918 | 4007485 |
| 22:25 | MP20797-MB1 | 7703430 | 3962298 |
| 22:32 | MP20781-B1 | 7750256 | 3939073 |
| 22:39 | MP20781-S1 | 6667639 | 3472730 |
| 22:46 | MP20781-S2 | 7745356 | 3969060 |
| 22:53 | MP20781-SD1 | 7813221 | 4070000 |
| 23:00 | MP20781-PS1 | 7773903 | 3984321 |
| 23:07 | MP20790-B1 | 7944675 | 4075383 |
| 23:15 | MP20790-S1 | 7922946 | 4076069 |
| 23:21 | MA15477-CCV4 | 7865829 | 3983138 |
| 23:28 | MA15477-CCB4 | 7943753 | 4138927 |
| 23:36 | MP20790-S2 | 7855681 | 4082585 |
| 23:43 | MP20790-SD1 | 7887748 | 4102596 |
| 23:50 | MP20790-PS1 | 7834506 | 4031180 |
| 23:57 | MP20797-B1 | 7934617 | 4150440 |
| 00:04 | MP20797-S1 | 7879572 | 4104635 |
| 00:11 | MP20797-S2 | 7862263 | 4090889 |
| 00:18 | MP20797-SD1 | 7797847 | 4090053 |
| 00:25 | MP20797-PS1 | 7668506 | 3875824 |
| 00:32 | ZZZZZZ | 7831906 | 4148135 |
| 00:39 | MA15477-CRI3 | 7877867 | 4136088 |
| 00:46 | MA15477-CCV5 | 7824737 | 4046839 |
| 00:53 | MA15477-CCB5 | 7792187 | 4124944 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15477  Units: ug/l

| Time: / Sample ID: | | | | 19:00 ICB1 | | 19:14 CCB1 | | 20:39 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.011 | <0.50 | 0.022 | <0.50 | 0.028 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15477  Units: ug/l

| Time: / Sample ID: | | | | 22:04 CCB3 | | 23:28 CCB4 | | 00:53 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0052 | <0.50 | 0.0071 | <0.50 | 0.017 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | 18:53 | | | 19:07 | | | 20:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.6 | 99.3 | 50 | 49.4 | 98.8 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | 21:57 | | | 23:21 | | | 00:46 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.1 | 98.2 | 50 | 49.2 | 98.4 | 50 | 49.9 | 99.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | | 19:21 | | 21:50 | | 00:39 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | | | |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.53 | 106.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Magnesium | 250 | 250 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | | 19:28 | | 19:36 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 98000 | 98.0 | 96000 | 96.0 |
| Antimony | | | 0.31* | | 0.32* | |
| Arsenic | | 20 | 0.24 | | 19.6 | 98.0 |
| Barium | | | 0.24 | | 0.28 | |
| Beryllium | | | 0.0023 | | 0.020 | |
| Boron | | | 0.13 | | 0.14 | |
| Cadmium | | 20 | 1.1* | | 19.7 | 98.5 |
| Calcium | 100000 | 100000 | 96900 | 96.9 | 96200 | 96.2 |
| Chromium | | 20 | 1.1* | | 20.1 | 100.5 |
| Cobalt | | 20 | 0.047 | | 18.9 | 94.5 |
| Copper | | 20 | 0.26 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 96500 | 96.5 | 97000 | 97.0 |
| Lead | | | 0.20 | | 0.54* | |
| Magnesium | 100000 | 100000 | 98300 | 98.3 | 96300 | 96.3 |
| Manganese | | 20 | 0.34 | | 19.7 | 98.5 |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2070 | 103.5 |
| Nickel | | 20 | 0.67* | | 18.7 | 93.5 |
| Potassium | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Selenium | | | 0.17 | | 0.22 | |
| Silver | | 20 | 0.063 | | 19.5 | 97.5 |
| Strontium | | | 4.9* | | 5.0* | |
| Thallium | | | 0.050 | | 0.040 | |
| Tin | | | 0.15 | | 0.26 | |
| Titanium | 2000 | 2000 | 2010 | 100.5 | 1990 | 99.5 |
| Vanadium | | | 0.020 | | 0.044 | |
| Zinc | | 20 | 2.5* | | 20.2 | 101.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:17 | MA15480-STD1 | 1 | | STDA |
| 11:24 | MA15480-STD2 | 1 | | STDB |
| 11:32 | MA15480-STD3 | 1 | | STDC |
| 11:39 | MA15480-STD4 | 1 | | STDD |
| 11:48 | MA15480-STD5 | 1 | | STDE |
| 11:55 | MA15480-STD6 | 1 | | STDF |
| 12:02 | MA15480-STD7 | 1 | | STDG |
| 12:09 | MA15480-STD8 | 1 | | STDH |
| 12:16 | MA15480-ICV1 | 1 | | |
| 12:23 | MA15480-ICB1 | 1 | | |
| 12:30 | MA15480-CCV1 | 1 | | |
| 12:37 | MA15480-CCB1 | 1 | | |
| 12:44 | MA15480-CRI1 | 1 | | |
| 12:51 | MA15480-ICSA1 | 1 | | |
| 12:58 | MA15480-ICSAB1 | 1 | | |
| 13:05 | ZZZZZZ | 1 | | RINSECONF |
| 13:13 | MP20790-MB1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19762 | | | |
| 13:20 | MP20797-MB1 | 2 | | |
| 13:27 | MP20808-MB1 | 2 | | |
| 13:34 | MC19884-4F | 2 | | (sample used for QC only; not part of login MC19762) |
| 13:41 | ZZZZZZ | 2 | | |
| 13:48 | ZZZZZZ | 2 | | |
| 13:55 | MA15480-CCV2 | 1 | | |
| 14:03 | MA15480-CCB2 | 1 | | |
| 14:10 | ZZZZZZ | 2 | | |
| 14:17 | ZZZZZZ | 2 | | |
| 14:24 | ZZZZZZ | 2 | | |
| 14:31 | ZZZZZZ | 2 | | |
| 14:38 | ZZZZZZ | 2 | | |
| 14:45 | ZZZZZZ | 2 | | |
| 14:52 | MP20808-B1 | 20 | | |
| 14:59 | MP20808-S1 | 20 | | |
| 15:06 | MP20808-S2 | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:13 | MP20808-SD1 | 10 | | |
| 15:21 | MA15480-CCV3 | 1 | | |
| 15:28 | MA15480-CCB3 | 1 | | |
| 15:35 | MP20808-PS1 | 2 | | |
| 15:42 | ZZZZZZ | 10 | | |
| 15:49 | ZZZZZZ | 10 | | |
| 15:56 | ZZZZZZ | 100 | | |
| 16:03 | ZZZZZZ | 100 | | |
| 16:10 | MA15480-CRI2 | 1 | | |
| 16:17 | MA15480-CCV4 | 1 | | |
| 16:24 | MA15480-CCB4 | 1 | | |

----------> Last reportable CCB for job MC19762
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:17 | MA15480-STD1 | 1541753 R | 3631305 R | 481685 R | 789766 R | 188977 R | 4377550 R | 4716350 R | 1391932 R |
| 11:24 | MA15480-STD2 | 1566788 | 3593081 | 481537 | 790333 | 189464 | 4393906 | 4708684 | 1392312 |
| 11:32 | MA15480-STD3 | 1529338 | 3652986 | 482771 | 787690 | 189411 | 4412307 | 4691526 | 1398754 |
| 11:39 | MA15480-STD4 | 1547485 | 3636005 | 483590 | 783616 | 189574 | 4383870 | 4668812 | 1390887 |
| 11:48 | MA15480-STD5 | 1560551 | 3607749 | 479364 | 777879 | 188470 | 4402727 | 4695915 | 1392197 |
| 11:55 | MA15480-STD6 | 1558075 | 3617464 | 475617 | 784631 | 187626 | 4422195 | 4701510 | 1389568 |
| 12:02 | MA15480-STD7 | 1530762 | 3651803 | 483694 | 801304 | 190901 | 4361638 | 4709577 | 1385014 |
| 12:09 | MA15480-STD8 | 1581155 | 3643853 | 474970 | 790708 | 186905 | 4202332 | 4555886 | 1333453 |
| 12:16 | MA15480-ICV1 | 1581589 | 3678293 | 475218 | 790626 | 186136 | 4326321 | 4654448 | 1355830 |
| 12:23 | MA15480-ICB1 | 1574479 | 3643958 | 482283 | 800894 | 190676 | 4402868 | 4764711 | 1393277 |
| 12:30 | MA15480-CCV1 | 1579690 | 3662891 | 476421 | 786150 | 187657 | 4315800 | 4664565 | 1356706 |
| 12:37 | MA15480-CCB1 | 1583807 | 3684951 | 484754 | 806120 | 191440 | 4453982 | 4743883 | 1401721 |
| 12:44 | MA15480-CRI1 | 1590449 | 3666250 | 483401 | 802852 | 191214 | 4438372 | 4791845 | 1413142 |
| 12:51 | MA15480-ICSA1 | 1642656 | 3428425 | 423341 | 747115 | 171080 | 3822782 | 4203216 | 1250800 |
| 12:58 | MA15480-ICSAB1 | 1671220 | 3483339 | 420323 | 753646 | 169923 | 3891337 | 4287752 | 1255859 |
| 13:05 | ZZZZZZ | 1803310 | 3808733 | 448562 | 809462 | 182756 | 4710045 | 5041319 | 1429490 |
| 13:13 | MP20790-MB1 | 1616849 | 3599563 | 444876 | 774661 | 180819 | 4458230 | 4767146 | 1399514 |
| 13:20 | MP20797-MB1 | 1510912 | 3547460 | 452204 | 769753 | 180500 | 4393023 | 4695287 | 1412907 |
| 13:27 | MP20808-MB1 | 1485512 | 3553730 | 455458 | 776236 | 182831 | 4419543 | 4777269 | 1402610 |
| 13:34 | MC19884-4F | 1418491 | 3480077 | 438237 | 751283 | 173653 | 4040053 | 4504897 | 1335463 |
| 13:41 | ZZZZZZ | 1473324 | 3531894 | 446292 | 769821 | 180468 | 4177711 | 4623168 | 1349269 |
| 13:48 | ZZZZZZ | 1460284 | 3505757 | 441867 | 761069 | 178244 | 4142855 | 4585683 | 1354061 |
| 13:55 | MA15480-CCV2 | 1596539 | 3669971 | 459388 | 777834 | 183808 | 4365059 | 4762354 | 1392041 |
| 14:03 | MA15480-CCB2 | 1606228 | 3641012 | 467733 | 797133 | 187336 | 4480160 | 4848952 | 1422378 |
| 14:10 | ZZZZZZ | 1471382 | 3564395 | 456280 | 775980 | 181630 | 4391791 | 4688838 | 1379203 |
| 14:17 | ZZZZZZ | 1395278 | 3515872 | 459866 | 775929 | 185417 | 4219906 | 4677369 | 1348223 |
| 14:24 | ZZZZZZ | 1390154 | 3585812 | 462214 | 790867 | 185409 | 4275232 | 4751360 | 1382084 |
| 14:31 | ZZZZZZ | 1385855 | 3621580 | 462926 | 787629 | 186835 | 4351442 | 4793937 | 1409038 |
| 14:38 | ZZZZZZ | 1428643 | 3466248 | 440050 | 744030 | 173061 | 3998793 | 4430961 | 1319653 |
| 14:45 | ZZZZZZ | 1500990 | 3643341 | 468363 | 798669 | 187402 | 4527613 | 4798598 | 1421184 |
| 14:52 | MP20808-B1 | 1683896 | 3797903 | 474295 | 821985 | 191997 | 4630467 | 4989145 | 1443499 |
| 14:59 | MP20808-S1 | 1707219 | 3726595 | 459799 | 804561 | 187122 | 4462619 | 4839516 | 1415835 |
| 15:06 | MP20808-S2 | 1724946 | 3723354 | 459126 | 800791 | 185971 | 4388598 | 4783476 | 1397078 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:13 | MP20808-SD1 | 1708069 | 3657472 | 458652 | 803675 | 185632 | 4361565 | 4762588 | 1381816 |
| 15:21 | MA15480-CCV3 | 1659268 | 3719132 | 460259 | 789991 | 184245 | 4384780 | 4773998 | 1375226 |
| 15:28 | MA15480-CCB3 | 1688502 | 3673303 | 463859 | 800918 | 186820 | 4524691 | 4826781 | 1421061 |
| 15:35 | MP20808-PS1 | 1523267 | 3526273 | 440152 | 756408 | 174700 | 4098504 | 4563580 | 1331908 |
| 15:42 | ZZZZZZ | 1683961 | 3693803 | 461209 | 804430 | 186383 | 4456339 | 4870874 | 1418988 |
| 15:49 | ZZZZZZ | 1696914 | 3709575 | 457764 | 807716 | 184862 | 4477561 | 4880693 | 1425567 |
| 15:56 | ZZZZZZ | 1795300 | 3791558 | 472246 | 818775 | 190599 | 4565717 | 4930377 | 1448252 |
| 16:03 | ZZZZZZ | 1805004 | 3785050 | 470123 | 812636 | 188719 | 4534220 | 4888369 | 1426495 |
| 16:10 | MA15480-CRI2 | 1659536 | 3713483 | 461597 | 802924 | 185204 | 4488388 | 4841043 | 1409541 |
| 16:17 | MA15480-CCV4 | 1676019 | 3690310 | 455080 | 783201 | 181522 | 4338533 | 4733735 | 1370561 |
| 16:24 | MA15480-CCB4 | 1693019 | 3686463 | 460499 | 795560 | 184806 | 4479421 | 4822240 | 1401268 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:17 | MA15480-STD1 | 5566587 R | 2810000 R |
| 11:24 | MA15480-STD2 | 5581234 | 2819405 |
| 11:32 | MA15480-STD3 | 5613397 | 2822500 |
| 11:39 | MA15480-STD4 | 5625434 | 2815328 |
| 11:48 | MA15480-STD5 | 5612755 | 2853866 |
| 11:55 | MA15480-STD6 | 5685418 | 2852270 |
| 12:02 | MA15480-STD7 | 5615419 | 2824995 |
| 12:09 | MA15480-STD8 | 5589195 | 2710142 |
| 12:16 | MA15480-ICV1 | 5643890 | 2795710 |
| 12:23 | MA15480-ICB1 | 5748401 | 2897580 |
| 12:30 | MA15480-CCV1 | 5653593 | 2796137 |
| 12:37 | MA15480-CCB1 | 5722592 | 2916336 |
| 12:44 | MA15480-CRI1 | 5730534 | 2912913 |
| 12:51 | MA15480-ICSA1 | 5393658 | 2520268 |
| 12:58 | MA15480-ICSAB1 | 5506508 | 2600731 |
| 13:05 | ZZZZZZ | 6148101 | 3148830 |
| 13:13 | MP20790-MB1 | 5892863 | 3059805 |
| 13:20 | MP20797-MB1 | 5780470 | 2976625 |
| 13:27 | MP20808-MB1 | 5849363 | 3015336 |
| 13:34 | MC19884-4F | 5652973 | 2727337 |
| 13:41 | ZZZZZZ | 5762997 | 2846882 |
| 13:48 | ZZZZZZ | 5751848 | 2867828 |
| 13:55 | MA15480-CCV2 | 5877184 | 2930146 |
| 14:03 | MA15480-CCB2 | 5791748 | 3008734 |
| 14:10 | ZZZZZZ | 5792853 | 2945076 |
| 14:17 | ZZZZZZ | 5762682 | 2890552 |
| 14:24 | ZZZZZZ | 5891242 | 2929021 |
| 14:31 | ZZZZZZ | 5876358 | 2937753 |
| 14:38 | ZZZZZZ | 5609499 | 2706884 |
| 14:45 | ZZZZZZ | 5920034 | 3023255 |
| 14:52 | MP20808-B1 | 6026114 | 3034109 |
| 14:59 | MP20808-S1 | 5875230 | 2944998 |
| 15:06 | MP20808-S2 | 5836696 | 2936272 |

INTERNAL STANDARD SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:13 | MP20808-SD1 | 5790599 | 2912232 |
| 15:21 | MA15480-CCV3 | 5845342 | 2912503 |
| 15:28 | MA15480-CCB3 | 5869447 | 3025582 |
| 15:35 | MP20808-PS1 | 5637054 | 2757850 |
| 15:42 | ZZZZZZ | 5921391 | 2994269 |
| 15:49 | ZZZZZZ | 5856762 | 3037639 |
| 15:56 | ZZZZZZ | 5917699 | 2921395 |
| 16:03 | ZZZZZZ | 5896234 | 2892850 |
| 16:10 | MA15480-CRI2 | 5871071 | 2937529 |
| 16:17 | MA15480-CCV4 | 5875951 | 2891543 |
| 16:24 | MA15480-CCB4 | 5753740 | 2984526 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15480  Units: ug/l

| Time: / Sample ID: | | | | 12:23 ICB1 | | 12:37 CCB1 | | 14:03 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.023 | <0.50 | 0.022 | <0.50 | 0.020 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15480  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 15:28 CCB3 raw | final | 16:24 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.057 | <0.50 | 0.043 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | 12:16 | | | 12:30 | | | 13:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.8 | 99.7 | 50 | 50.0 | 100.0 | 50 | 50.0 | 100.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | 15:21 | | | 16:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.9 | 99.8 | 50 | 49.8 | 99.6 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | | 12:44 | | 16:10 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.58 | 116.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | | 12:51 | | 12:58 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Antimony | | | 0.30* | | 0.31* | |
| Arsenic | | 20 | 0.22 | | 20.8 | 104.0 |
| Barium | | | 0.25 | | 0.26 | |
| Beryllium | | | 0.0055 | | 0.016 | |
| Boron | | | 0.17 | | 0.16 | |
| Cadmium | | 20 | 0.99* | | 19.8 | 99.0 |
| Calcium | 100000 | 100000 | 97400 | 97.4 | 97400 | 97.4 |
| Chromium | | 20 | 1.1* | | 20.5 | 102.5 |
| Cobalt | | 20 | 0.045 | | 19.5 | 97.5 |
| Copper | | 20 | 0.26 | | 17.7 | 88.5 |
| Iron | 100000 | 100000 | 100000 | 100.0 | 102000 | 102.0 |
| Lead | | | 0.21 | | 0.53* | |
| Magnesium | 100000 | 100000 | 102000 | 102.0 | 101000 | 101.0 |
| Manganese | | 20 | 0.36 | | 20.2 | 101.0 |
| Molybdenum | 2000 | 2000 | 2060 | 103.0 | 2080 | 104.0 |
| Nickel | | 20 | 0.69* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 99300 | 99.3 | 99300 | 99.3 |
| Selenium | | | -0.017 | | 0.069 | |
| Silver | | 20 | 0.072 | | 19.8 | 99.0 |
| Sodium | 100000 | 100000 | 102000 | 102.0 | 102000 | 102.0 |
| Strontium | | | 4.9* | | 4.9* | |
| Thallium | | | 0.050 | | 0.033 | |
| Tin | | | 0.21 | | 0.22 | |
| Titanium | 2000 | 2000 | 2000 | 100.0 | 2000 | 100.0 |
| Vanadium | | | 0.044 | | 0.071 | |
| Zinc | | 20 | 2.9* | | 21.8 | 109.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.30 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.61 | 517 | 500 | 103.3 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.61 | 505 | 500 | 100.9 | 2.3 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 503 | 500 | 100.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/12/13

| Metal | MC19762-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.608 | 0.387 | 36.3 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20767
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/12/13

| Metal | Sample ml | Final ml | MC19762-2F Raw | MC19762-2F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.6078 | 0.5065 | 17.11 | 2 | .1 | 16.66667 | 99.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20767: MC19762-1F, MC19762-2F, MC19762-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/13/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.30 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/13/13

| Metal | MC19762-4F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.76 | 516 | 500 | 103.0 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/13/13

| Metal | MC19762-4F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.76 | 530 | 500 | 105.8 | 2.7 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/13/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 504 | 500 | 100.8 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/13/13

| Metal | MC19762-4F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.756 | 0.620 | 18.0 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20768 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/13/13

| Metal | Sample ml | Final ml | MC19762-4F Raw | MC19762-4F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.7557 | 0.62975 | 17.28 | 2 | .1 | 16.66667 | 99.9 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20768: MC19762-4F, MC19762-5F, MC19762-6F, MC19762-7F, MC19762-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/16/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.36 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/16/13

| Metal | MC19762-9F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.93 | 527 | 500 | 105.2 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/16/13

| Metal | MC19762-9F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.93 | 527 | 500 | 105.2 | 0.0 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/16/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 520 | 500 | 104.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/16/13

| Metal | MC19762-9F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.928 | 0.288 | 69.0 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20781
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/16/13

| Metal | Sample ml | Final ml | MC19762-9F Raw | MC19762-9F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.9284 | 0.773666716.82 | | 2 | .1 | 16.66667 | 96.3 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20781: MC19762-9F, MC19762-10F, MC19762-11F, MC19762-12F, MC19762-13F, MC19762-14F, MC19762-15F, MC19762-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.34 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.2 | 529 | 500 | 105.6 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.2 | 515 | 500 | 102.8 | 2.7 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 512 | 500 | 102.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.21 | 0.574 | 52.7 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19762
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | Sample ml | Final ml | MC19762-17F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.213 | 1.010833 | 17.54 | 2 | .1 | 16.66667 | 99.2 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20790: MC19762-17F, MC19762-18F, MC19762-19F, MC19762-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13D15k01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\001CAL
Date Acquired: Apr 15 2013 10:59 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1103804.00 | A | 12620.00 | 1.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 6.67 | 22.22 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 293.35 | P | 35.12 | 11.97 |
| 11 | B | 5.56 | P | 5.09 | 91.65 |
| 23 | Na | 480518.09 | P | 1049.00 | 0.22 |
| 23 | Na | 43144.63 | P | 389.20 | 0.90 |
| 24 | Mg | 4151.83 | P | 265.00 | 6.38 |
| 24 | Mg | 221.12 | P | 30.06 | 13.59 |
| 27 | Al | 10071.44 | P | 572.50 | 5.68 |
| 27 | Al | 316.71 | P | 37.59 | 11.87 |
| 39 | K | 2834107.00 | A | 17730.00 | 0.63 |
| 44 | Ca | 4108.48 | P | 126.10 | 3.07 |
| 45 | Sc | 2069560.00 | A | 4013.00 | 0.19 |
| 45 | Sc | 203979.80 | P | 6062.00 | 2.97 |
| 47 | Ti | 54.45 | P | 21.17 | 38.88 |
| 51 | V | 2003.28 | P | 70.90 | 3.54 |
| 52 | Cr | 1415.20 | P | 39.65 | 2.80 |
| 55 | Mn | 518.24 | P | 30.24 | 5.84 |
| 56 | Fe | 13987.05 | P | 194.20 | 1.39 |
| 59 | Co | 28.00 | P | 3.53 | 12.60 |
| 60 | Ni | 135.11 | P | 10.01 | 7.41 |
| 63 | Cu | 562.69 | P | 17.02 | 3.02 |
| 66 | Zn | 81.33 | P | 6.96 | 8.56 |
| 72 | Ge | 451866.91 | P | 2903.00 | 0.64 |
| 72 | Ge | 96192.40 | P | 1992.00 | 2.07 |
| 75 | As | 58.89 | P | 4.07 | 6.92 |
| 78 | Se | 66.67 | P | 9.33 | 14.00 |
| 88 | Sr | 265.57 | P | 57.48 | 21.64 |
| 98 | Mo | 93.34 | P | 23.09 | 24.74 |
| 103 | Rh | 2809047.00 | A | 2237.00 | 0.08 |
| 107 | Ag | 98.89 | P | 19.25 | 19.47 |

C:\ICPCHEM\1\DATA\13D15k01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 5.09 | 65.47 |
| 115 | In | 3235801.00 | A | 7249.00 | 0.22 |
| 115 | In | 931124.69 | P | 23240.00 | 2.50 |
| 118 | (In) | 238.90 | P | 32.04 | 13.41 |
| 118 | (In) | 90.00 | P | 29.06 | 32.29 |
| 120 | Sn | 305.57 | P | 36.57 | 11.97 |
| 121 | Sb | 66.67 | P | 3.33 | 5.00 |
| 137 | Ba | 505.59 | P | 46.71 | 9.24 |
| 159 | Tb | 4565283.00 | A | 37070.00 | 0.81 |
| 175 | Lu | 4487166.00 | A | 46270.00 | 1.03 |
| 205 | Tl | 1230.11 | P | 68.89 | 5.60 |
| 206 | (Pb) | 138.90 | P | 28.35 | 20.41 |
| 207 | (Pb) | 107.78 | P | 15.75 | 14.61 |
| 208 | Pb | 871.16 | P | 56.21 | 6.45 |
| 209 | Bi | 3007870.00 | A | 17580.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\002CAL
Date Acquired: Apr 15 2013 11:05 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1085278.00 | A | 17970.00 | 1.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 11.55 | 38.50 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 323.35 | P | 26.04 | 8.05 |
| 11 | B | 2.22 | P | 3.85 | 173.20 |
| 23 | Na | 472797.31 | P | 475.20 | 0.10 |
| 23 | Na | 43017.42 | P | 371.50 | 0.86 |
| 24 | Mg | 4044.00 | P | 77.97 | 1.93 |
| 24 | Mg | 261.13 | P | 15.40 | 5.90 |
| 27 | Al | 9770.97 | P | 127.50 | 1.30 |
| 27 | Al | 270.01 | P | 17.32 | 6.41 |
| 39 | K | 2849864.00 | A | 10660.00 | 0.37 |
| 44 | Ca | 3950.65 | P | 163.80 | 4.15 |
| 45 | Sc | 2030198.00 | A | 10610.00 | 0.52 |
| 45 | Sc | 207474.59 | P | 713.80 | 0.34 |
| 47 | Ti | 71.11 | P | 10.71 | 15.06 |
| 51 | V | 1902.37 | P | 24.67 | 1.30 |
| 52 | Cr | 1445.42 | P | 35.35 | 2.45 |
| 55 | Mn | 503.57 | P | 11.65 | 2.31 |
| 56 | Fe | 14036.95 | P | 107.50 | 0.77 |
| 59 | Co | 19.11 | P | 5.05 | 26.41 |
| 60 | Ni | 113.34 | P | 6.11 | 5.39 |
| 63 | Cu | 520.02 | P | 6.11 | 1.18 |
| 66 | Zn | 78.45 | P | 7.67 | 9.78 |
| 72 | Ge | 445119.59 | P | 4208.00 | 0.95 |
| 72 | Ge | 97575.89 | P | 894.90 | 0.92 |
| 75 | As | 67.11 | P | 6.68 | 9.95 |
| 78 | Se | 62.22 | P | 5.18 | 8.32 |
| 88 | Sr | 285.57 | P | 38.64 | 13.53 |
| 98 | Mo | 60.00 | P | 15.28 | 25.47 |
| 103 | Rh | 2785941.00 | A | 19890.00 | 0.71 |
| 107 | Ag | 96.67 | P | 27.28 | 28.22 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 3.85 | 49.49 |
| 115 | In | 3215847.00 | A | 28670.00 | 0.89 |
| 115 | In | 945097.19 | P | 5063.00 | 0.54 |
| 118 | (In) | 227.79 | P | 36.72 | 16.12 |
| 118 | (In) | 92.23 | P | 5.09 | 5.52 |
| 120 | Sn | 316.68 | P | 46.67 | 14.74 |
| 121 | Sb | 82.23 | P | 24.12 | 29.33 |
| 137 | Ba | 500.03 | P | 70.24 | 14.05 |
| 159 | Tb | 4520362.00 | A | 18520.00 | 0.41 |
| 175 | Lu | 4476326.00 | A | 42850.00 | 0.96 |
| 205 | Tl | 880.06 | P | 46.19 | 5.25 |
| 206 | (Pb) | 122.23 | P | 8.39 | 6.86 |
| 207 | (Pb) | 130.01 | P | 23.33 | 17.95 |
| 208 | Pb | 923.39 | P | 53.34 | 5.78 |
| 209 | Bi | 2985373.00 | A | 17410.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 15 2013 11:12 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1063341.00 | A | 16350.00 | 1.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 2119.11 | P | 65.78 | 3.10 |
| 9 | Be | 104.45 | P | 10.18 | 9.75 |
| 11 | B | 1561.24 | P | 10.19 | 0.65 |
| 11 | B | 50.00 | P | 6.67 | 13.33 |
| 23 | Na | 484603.59 | P | 975.30 | 0.20 |
| 23 | Na | 43878.64 | P | 630.10 | 1.44 |
| 24 | Mg | 11374.57 | P | 309.30 | 2.72 |
| 24 | Mg | 678.93 | P | 76.77 | 11.31 |
| 27 | Al | 18590.43 | P | 535.30 | 2.88 |
| 27 | Al | 493.36 | P | 41.77 | 8.47 |
| 39 | K | 2844084.00 | A | 8728.00 | 0.31 |
| 44 | Ca | 4807.59 | P | 56.88 | 1.18 |
| 45 | Sc | 2013656.00 | A | 27050.00 | 1.34 |
| 45 | Sc | 206048.41 | P | 871.60 | 0.42 |
| 47 | Ti | 956.74 | P | 98.39 | 10.28 |
| 51 | V | 4509.16 | P | 54.58 | 1.21 |
| 52 | Cr | 4374.46 | P | 93.37 | 2.13 |
| 55 | Mn | 2725.17 | P | 83.60 | 3.07 |
| 56 | Fe | 17280.80 | P | 503.30 | 2.91 |
| 59 | Co | 4398.92 | P | 85.72 | 1.95 |
| 60 | Ni | 1228.51 | P | 34.01 | 2.77 |
| 63 | Cu | 3524.01 | P | 149.20 | 4.23 |
| 66 | Zn | 672.02 | P | 16.83 | 2.50 |
| 72 | Ge | 440386.69 | P | 3128.00 | 0.71 |
| 72 | Ge | 97672.43 | P | 154.20 | 0.16 |
| 75 | As | 449.79 | P | 6.05 | 1.34 |
| 78 | Se | 114.45 | P | 6.01 | 5.25 |
| 88 | Sr | 17506.36 | P | 323.10 | 1.85 |
| 98 | Mo | 4734.26 | P | 296.80 | 6.27 |
| 103 | Rh | 2734104.00 | A | 19990.00 | 0.73 |
| 107 | Ag | 8285.97 | P | 221.80 | 2.68 |

C:\ICPCHEM\1\DATA\13D15k01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 772.27 | P | 22.20 | 2.87 |
| 115 | In | 3134057.00 | A | 12520.00 | 0.40 |
| 115 | In | 947271.31 | P | 3534.00 | 0.37 |
| 118 | (In) | 5733.57 | P | 84.98 | 1.48 |
| 118 | (In) | 2009.10 | P | 99.25 | 4.94 |
| 120 | Sn | 7780.15 | P | 91.97 | 1.18 |
| 121 | Sb | 7386.59 | P | 201.10 | 2.72 |
| 137 | Ba | 3137.13 | P | 56.87 | 1.81 |
| 159 | Tb | 4403258.00 | A | 83440.00 | 1.90 |
| 175 | Lu | 4333320.00 | A | 13860.00 | 0.32 |
| 205 | Tl | 14663.83 | P | 338.80 | 2.31 |
| 206 | (Pb) | 6043.79 | P | 221.90 | 3.67 |
| 207 | (Pb) | 5301.22 | P | 213.90 | 4.03 |
| 208 | Pb | 24681.92 | P | 282.20 | 1.14 |
| 209 | Bi | 2923579.00 | A | 18180.00 | 0.62 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1063340.80 | 1.54 | 1085278.40 | 98.0 | 70 - 130 | |
| 45 | Sc | 2013655.60 | 1.34 | 2030198.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 206048.36 | 0.42 | 207474.58 | 99.3 | 70 - 130 | |
| 72 | Ge | 440386.66 | 0.71 | 445119.63 | 98.9 | 70 - 130 | |
| 72 | Ge | 97672.43 | 0.16 | 97575.88 | 100.1 | 70 - 130 | |
| 103 | Rh | 2734103.80 | 0.73 | 2785940.50 | 98.1 | 70 - 130 | |
| 115 | In | 3134057.00 | 0.40 | 3215846.50 | 97.5 | 70 - 130 | |
| 115 | In | 947271.31 | 0.37 | 945097.19 | 100.2 | 70 - 130 | |
| 159 | Tb | 4403258.00 | 1.90 | 4520362.50 | 97.4 | 70 - 130 | |
| 175 | Lu | 4333319.50 | 0.32 | 4476326.50 | 96.8 | 70 - 130 | |
| 209 | Bi | 2923578.80 | 0.62 | 2985373.30 | 97.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 15 2013 11:18 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1118135.00 | A | 19040.00 | 1.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 21926.96 | P | 262.80 | 1.20 |
| 9 | Be | 1074.52 | P | 19.25 | 1.79 |
| 11 | B | 13648.57 | P | 430.20 | 3.15 |
| 11 | B | 433.35 | P | 27.29 | 6.30 |
| 23 | Na | 577820.31 | P | 1407.00 | 0.24 |
| 23 | Na | 50282.45 | P | 641.10 | 1.28 |
| 24 | Mg | 76163.49 | P | 369.90 | 0.49 |
| 24 | Mg | 4357.45 | P | 178.20 | 4.09 |
| 27 | Al | 100007.10 | P | 914.50 | 0.91 |
| 27 | Al | 2610.32 | P | 28.50 | 1.09 |
| 39 | K | 2909555.00 | A | 9438.00 | 0.32 |
| 44 | Ca | 11129.96 | P | 357.90 | 3.22 |
| 45 | Sc | 2111095.00 | A | 23740.00 | 1.12 |
| 45 | Sc | 211292.30 | P | 1462.00 | 0.69 |
| 47 | Ti | 8876.21 | P | 303.50 | 3.42 |
| 51 | V | 27964.73 | P | 236.00 | 0.84 |
| 52 | Cr | 31738.64 | P | 99.69 | 0.31 |
| 55 | Mn | 23150.53 | P | 234.70 | 1.01 |
| 56 | Fe | 42406.66 | P | 296.00 | 0.70 |
| 59 | Co | 43924.31 | P | 503.80 | 1.15 |
| 60 | Ni | 11295.86 | P | 247.70 | 2.19 |
| 63 | Cu | 30255.89 | P | 369.20 | 1.22 |
| 66 | Zn | 6101.03 | P | 81.77 | 1.34 |
| 72 | Ge | 458158.59 | P | 5076.00 | 1.11 |
| 72 | Ge | 100067.20 | P | 488.20 | 0.49 |
| 75 | As | 3759.60 | P | 40.86 | 1.09 |
| 78 | Se | 455.12 | P | 38.38 | 8.43 |
| 88 | Sr | 173533.30 | P | 965.20 | 0.56 |
| 98 | Mo | 48689.35 | P | 157.40 | 0.32 |
| 103 | Rh | 2872828.00 | A | 31830.00 | 1.11 |
| 107 | Ag | 81896.19 | P | 531.90 | 0.65 |

C:\ICPCHEM\1\DATA\13D15k01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7962.41 | P | 187.40 | 2.35 |
| 115 | In | 3298968.00 | A | 27580.00 | 0.84 |
| 115 | In | 966217.63 | P | 6681.00 | 0.69 |
| 118 | (In) | 54688.32 | P | 184.60 | 0.34 |
| 118 | (In) | 19064.13 | P | 460.00 | 2.41 |
| 120 | Sn | 75196.65 | P | 342.50 | 0.46 |
| 121 | Sb | 72799.40 | P | 826.10 | 1.13 |
| 137 | Ba | 26816.77 | P | 272.90 | 1.02 |
| 159 | Tb | 4642350.00 | A | 23590.00 | 0.51 |
| 175 | Lu | 4605249.00 | A | 44490.00 | 0.97 |
| 205 | Tl | 152334.41 | P | 2778.00 | 1.82 |
| 206 | (Pb) | 59863.62 | P | 680.10 | 1.14 |
| 207 | (Pb) | 50582.49 | P | 126.00 | 0.25 |
| 208 | Pb | 235770.70 | P | 923.10 | 0.39 |
| 209 | Bi | 3080467.00 | A | 44900.00 | 1.46 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1118135.00 | 1.70 | 1085278.40 | 103.0 | 70 - 130 | |
| 45 | Sc | 2111094.80 | 1.12 | 2030198.30 | 104.0 | 70 - 130 | |
| 45 | Sc | 211292.31 | 0.69 | 207474.58 | 101.8 | 70 - 130 | |
| 72 | Ge | 458158.63 | 1.11 | 445119.63 | 102.9 | 70 - 130 | |
| 72 | Ge | 100067.18 | 0.49 | 97575.88 | 102.6 | 70 - 130 | |
| 103 | Rh | 2872828.50 | 1.11 | 2785940.50 | 103.1 | 70 - 130 | |
| 115 | In | 3298968.50 | 0.84 | 3215846.50 | 102.6 | 70 - 130 | |
| 115 | In | 966217.56 | 0.69 | 945097.19 | 102.2 | 70 - 130 | |
| 159 | Tb | 4642350.00 | 0.51 | 4520362.50 | 102.7 | 70 - 130 | |
| 175 | Lu | 4605249.00 | 0.97 | 4476326.50 | 102.9 | 70 - 130 | |
| 209 | Bi | 3080467.30 | 1.46 | 2985373.30 | 103.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 15 2013 11:24 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1083813.00 | A | 2727.00 | 0.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 106705.00 | P | 929.50 | 0.87 |
| 9 | Be | 5168.80 | P | 51.03 | 0.99 |
| 11 | B | 65711.82 | P | 413.70 | 0.63 |
| 11 | B | 2057.99 | P | 103.10 | 5.01 |
| 23 | Na | 979248.00 | P | 4953.00 | 0.51 |
| 23 | Na | 78838.94 | P | 745.70 | 0.95 |
| 24 | Mg | 355216.81 | P | 4739.00 | 1.33 |
| 24 | Mg | 20713.34 | P | 234.60 | 1.13 |
| 27 | Al | 443021.91 | P | 2317.00 | 0.52 |
| 27 | Al | 11136.59 | P | 31.00 | 0.28 |
| 39 | K | 3319939.00 | A | 5880.00 | 0.18 |
| 44 | Ca | 22356.97 | P | 185.10 | 0.83 |
| 45 | Sc | 2028471.00 | A | 1409.00 | 0.07 |
| 45 | Sc | 209689.09 | P | 2880.00 | 1.37 |
| 47 | Ti | 43379.77 | P | 809.10 | 1.87 |
| 51 | V | 129990.60 | P | 797.70 | 0.61 |
| 52 | Cr | 148949.50 | P | 325.10 | 0.22 |
| 55 | Mn | 110076.90 | P | 935.90 | 0.85 |
| 56 | Fe | 151858.70 | P | 1073.00 | 0.71 |
| 59 | Co | 214714.30 | P | 1697.00 | 0.79 |
| 60 | Ni | 54947.76 | P | 540.60 | 0.98 |
| 63 | Cu | 144810.30 | P | 1532.00 | 1.06 |
| 66 | Zn | 26823.56 | P | 417.00 | 1.55 |
| 72 | Ge | 438943.31 | P | 1332.00 | 0.30 |
| 72 | Ge | 96975.53 | P | 726.80 | 0.75 |
| 75 | As | 18235.67 | P | 35.63 | 0.20 |
| 78 | Se | 1976.14 | P | 17.90 | 0.91 |
| 88 | Sr | 849878.31 | P | 9677.00 | 1.14 |
| 98 | Mo | 238568.50 | P | 2601.00 | 1.09 |
| 103 | Rh | 2729749.00 | A | 16130.00 | 0.59 |
| 107 | Ag | 405553.19 | P | 1912.00 | 0.47 |

C:\ICPCHEM\1\DATA\13D15k01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37887.42 | P | 359.60 | 0.95 |
| 115 | In | 3147275.00 | A | 40900.00 | 1.30 |
| 115 | In | 948047.38 | P | 11770.00 | 1.24 |
| 118 | (In) | 266399.19 | P | 1845.00 | 0.69 |
| 118 | (In) | 92850.28 | P | 1089.00 | 1.17 |
| 120 | Sn | 366422.91 | P | 1808.00 | 0.49 |
| 121 | Sb | 347772.00 | P | 844.70 | 0.24 |
| 137 | Ba | 129503.50 | P | 1111.00 | 0.86 |
| 159 | Tb | 4453885.00 | A | 22090.00 | 0.50 |
| 175 | Lu | 4409680.00 | A | 28910.00 | 0.66 |
| 205 | Tl | 826834.13 | P | 2986.00 | 0.36 |
| 206 | (Pb) | 291785.91 | P | 610.10 | 0.21 |
| 207 | (Pb) | 248722.09 | P | 1185.00 | 0.48 |
| 208 | Pb | 1153779.00 | P | 2813.00 | 0.24 |
| 209 | Bi | 2949324.00 | A | 22790.00 | 0.77 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1083813.40 | 0.25 | 1085278.40 | 99.9 | 70 - 130 | |
| 45 | Sc | 2028471.30 | 0.07 | 2030198.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 209689.14 | 1.37 | 207474.58 | 101.1 | 70 - 130 | |
| 72 | Ge | 438943.28 | 0.30 | 445119.63 | 98.6 | 70 - 130 | |
| 72 | Ge | 96975.53 | 0.75 | 97575.88 | 99.4 | 70 - 130 | |
| 103 | Rh | 2729749.30 | 0.59 | 2785940.50 | 98.0 | 70 - 130 | |
| 115 | In | 3147274.50 | 1.30 | 3215846.50 | 97.9 | 70 - 130 | |
| 115 | In | 948047.38 | 1.24 | 945097.19 | 100.3 | 70 - 130 | |
| 159 | Tb | 4453884.50 | 0.50 | 4520362.50 | 98.5 | 70 - 130 | |
| 175 | Lu | 4409679.50 | 0.66 | 4476326.50 | 98.5 | 70 - 130 | |
| 209 | Bi | 2949324.00 | 0.77 | 2985373.30 | 98.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 15 2013 11:31 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1094560.00 | A | 12450.00 | 1.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 216880.30 | P | 1242.00 | 0.57 |
| 9 | Be | 10456.03 | P | 186.40 | 1.78 |
| 11 | B | 131655.20 | P | 1363.00 | 1.04 |
| 11 | B | 4048.43 | P | 38.35 | 0.95 |
| 23 | Na | 1535657.00 | A | 20920.00 | 1.36 |
| 23 | Na | 114671.90 | P | 489.80 | 0.43 |
| 24 | Mg | 709713.38 | P | 3749.00 | 0.53 |
| 24 | Mg | 41120.45 | P | 459.60 | 1.12 |
| 27 | Al | 887291.38 | P | 2750.00 | 0.31 |
| 27 | Al | 22095.24 | P | 96.50 | 0.44 |
| 39 | K | 3806915.00 | A | 21900.00 | 0.58 |
| 44 | Ca | 41849.83 | P | 162.90 | 0.39 |
| 45 | Sc | 2002759.00 | A | 15360.00 | 0.77 |
| 45 | Sc | 201978.70 | P | 5888.00 | 2.92 |
| 47 | Ti | 87982.22 | P | 537.90 | 0.61 |
| 51 | V | 262510.50 | P | 4001.00 | 1.52 |
| 52 | Cr | 300026.59 | P | 2478.00 | 0.83 |
| 55 | Mn | 222880.20 | P | 1805.00 | 0.81 |
| 56 | Fe | 292594.41 | P | 3108.00 | 1.06 |
| 59 | Co | 433377.19 | P | 3056.00 | 0.71 |
| 60 | Ni | 110485.30 | P | 826.00 | 0.75 |
| 63 | Cu | 292065.31 | P | 2547.00 | 0.87 |
| 66 | Zn | 54948.58 | P | 589.50 | 1.07 |
| 72 | Ge | 435503.00 | P | 1378.00 | 0.32 |
| 72 | Ge | 96022.56 | P | 1047.00 | 1.09 |
| 75 | As | 37203.04 | P | 485.70 | 1.31 |
| 78 | Se | 3862.52 | P | 30.01 | 0.78 |
| 88 | Sr | 1749695.00 | A | 14460.00 | 0.83 |
| 98 | Mo | 483610.09 | P | 2857.00 | 0.59 |
| 103 | Rh | 2701390.00 | A | 2502.00 | 0.09 |
| 107 | Ag | 814009.69 | P | 5703.00 | 0.70 |

C:\ICPCHEM\1\DATA\13D15k01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 77605.05 | P | 487.20 | 0.63 |
| 115 | In | 3106948.00 | A | 11750.00 | 0.38 |
| 115 | In | 930996.81 | M | 28730.00 | 3.09 |
| 118 | (In) | 533202.19 | P | 2693.00 | 0.51 |
| 118 | (In) | 189108.59 | P | 2289.00 | 1.21 |
| 120 | Sn | 740117.50 | P | 6228.00 | 0.84 |
| 121 | Sb | 702742.13 | P | 2148.00 | 0.31 |
| 137 | Ba | 261162.09 | P | 2346.00 | 0.90 |
| 159 | Tb | 4425525.00 | A | 36100.00 | 0.82 |
| 175 | Lu | 4363498.00 | A | 24070.00 | 0.55 |
| 205 | Tl | 1699799.00 | P | 6897.00 | 0.41 |
| 206 | (Pb) | 590913.31 | P | 1707.00 | 0.29 |
| 207 | (Pb) | 502000.31 | P | 2289.00 | 0.46 |
| 208 | Pb | 2340817.00 | P | 4214.00 | 0.18 |
| 209 | Bi | 2955770.00 | A | 24270.00 | 0.82 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1094559.90 | 1.14 | 1085278.40 | 100.9 | 70 - 130 | |
| 45 | Sc | 2002759.40 | 0.77 | 2030198.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 201978.70 | 2.92 | 207474.58 | 97.4 | 70 - 130 | |
| 72 | Ge | 435502.97 | 0.32 | 445119.63 | 97.8 | 70 - 130 | |
| 72 | Ge | 96022.56 | 1.09 | 97575.88 | 98.4 | 70 - 130 | |
| 103 | Rh | 2701389.80 | 0.09 | 2785940.50 | 97.0 | 70 - 130 | |
| 115 | In | 3106948.30 | 0.38 | 3215846.50 | 96.6 | 70 - 130 | |
| 115 | In | 930996.75 | 3.09 | 945097.19 | 98.5 | 70 - 130 | |
| 159 | Tb | 4425525.00 | 0.82 | 4520362.50 | 97.9 | 70 - 130 | |
| 175 | Lu | 4363498.50 | 0.55 | 4476326.50 | 97.5 | 70 - 130 | |
| 209 | Bi | 2955769.50 | 0.82 | 2985373.30 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 15 2013 11:37 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1147803.00 | A | 103000.00 | 8.97 |
| 7 | (Li) | | P | | |
| 9 | Be | 428400.19 | P | 6076.00 | 1.42 |
| 9 | Be | 20631.85 | P | 393.90 | 1.91 |
| 11 | B | 262200.91 | P | 1342.00 | 0.51 |
| 11 | B | 7946.69 | P | 336.30 | 4.23 |
| 23 | Na | 2551442.00 | A | 20660.00 | 0.81 |
| 23 | Na | 186774.09 | P | 1192.00 | 0.64 |
| 24 | Mg | 1446658.00 | A | 12960.00 | 0.90 |
| 24 | Mg | 82414.84 | P | 898.00 | 1.09 |
| 27 | Al | 1768659.00 | A | 36610.00 | 2.07 |
| 27 | Al | 44390.63 | P | 416.90 | 0.94 |
| 39 | K | 4735822.00 | A | 35860.00 | 0.76 |
| 44 | Ca | 76136.35 | P | 314.70 | 0.41 |
| 45 | Sc | 2174275.00 | A | 271900.00 | 12.51 |
| 45 | Sc | 204936.59 | P | 613.30 | 0.30 |
| 47 | Ti | 173004.20 | P | 2116.00 | 1.22 |
| 51 | V | 522535.09 | P | 1101.00 | 0.21 |
| 52 | Cr | 603320.00 | P | 936.90 | 0.16 |
| 55 | Mn | 445186.31 | P | 295.80 | 0.07 |
| 56 | Fe | 571365.69 | P | 3705.00 | 0.65 |
| 59 | Co | 869319.38 | P | 2898.00 | 0.33 |
| 60 | Ni | 221453.91 | P | 523.60 | 0.24 |
| 63 | Cu | 580131.00 | P | 1120.00 | 0.19 |
| 66 | Zn | 108541.60 | P | 514.90 | 0.47 |
| 72 | Ge | 466403.91 | P | 50540.00 | 10.84 |
| 72 | Ge | 96564.43 | P | 311.30 | 0.32 |
| 75 | As | 74241.89 | P | 296.80 | 0.40 |
| 78 | Se | 7749.81 | P | 70.41 | 0.91 |
| 88 | Sr | 3427026.00 | A | 21820.00 | 0.64 |
| 98 | Mo | 962299.13 | P | 7187.00 | 0.75 |
| 103 | Rh | 2952789.00 | A | 375000.00 | 12.70 |
| 107 | Ag | 1641595.00 | P | 12470.00 | 0.76 |

C:\ICPCHEM\1\DATA\13D15k01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 155722.20 | P | 1226.00 | 0.79 |
| 115 | In | 3379852.00 | A | 409500.00 | 12.12 |
| 115 | In | 935949.63 | P | 5299.00 | 0.57 |
| 118 | (In) | 1064110.00 | P | 10670.00 | 1.00 |
| 118 | (In) | 379137.69 | P | 1907.00 | 0.50 |
| 120 | Sn | 1466463.00 | P | 20510.00 | 1.40 |
| 121 | Sb | 1401559.00 | P | 12700.00 | 0.91 |
| 137 | Ba | 519530.59 | P | 5447.00 | 1.05 |
| 159 | Tb | 4802390.00 | A | 586700.00 | 12.22 |
| 175 | Lu | 4762533.00 | A | 640000.00 | 13.44 |
| 205 | Tl | 3436199.00 | A | 40310.00 | 1.17 |
| 206 | (Pb) | 1175489.00 | P | 8759.00 | 0.75 |
| 207 | (Pb) | 1005738.00 | P | 5327.00 | 0.53 |
| 208 | Pb | 4705726.00 | A | 21980.00 | 0.47 |
| 209 | Bi | 3183428.00 | A | 361000.00 | 11.34 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1147803.30 | 8.97 | 1085278.40 | 105.8 | 70 - 130 | |
| 45 | Sc | 2174275.30 | 12.51 | 2030198.30 | 107.1 | 70 - 130 | |
| 45 | Sc | 204936.63 | 0.30 | 207474.58 | 98.8 | 70 - 130 | |
| 72 | Ge | 466403.91 | 10.84 | 445119.63 | 104.8 | 70 - 130 | |
| 72 | Ge | 96564.43 | 0.32 | 97575.88 | 99.0 | 70 - 130 | |
| 103 | Rh | 2952789.30 | 12.70 | 2785940.50 | 106.0 | 70 - 130 | |
| 115 | In | 3379852.50 | 12.12 | 3215846.50 | 105.1 | 70 - 130 | |
| 115 | In | 935949.56 | 0.57 | 945097.19 | 99.0 | 70 - 130 | |
| 159 | Tb | 4802390.50 | 12.22 | 4520362.50 | 106.2 | 70 - 130 | |
| 175 | Lu | 4762533.00 | 13.44 | 4476326.50 | 106.4 | 70 - 130 | |
| 209 | Bi | 3183427.80 | 11.34 | 2985373.30 | 106.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 15 2013 11:44 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1080731.00 | A | 6995.00 | 0.65 |
| 7 | (Li) | | P | | |
| 9 | Be | 116.67 | P | 8.82 | 7.56 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1941.30 | P | 25.03 | 1.29 |
| 11 | B | 58.89 | P | 26.94 | 45.75 |
| 23 | Na | 19715590.00 | A | 247000.00 | 1.25 |
| 23 | Na | 1405236.00 | A | 12480.00 | 0.89 |
| 24 | Mg | 13247660.00 | A | 263900.00 | 1.99 |
| 24 | Mg | 798620.19 | P | 4212.00 | 0.53 |
| 27 | Al | 16732620.00 | A | 116700.00 | 0.70 |
| 27 | Al | 442510.91 | P | 2757.00 | 0.62 |
| 39 | K | 21862940.00 | A | 239200.00 | 1.09 |
| 44 | Ca | 620056.50 | P | 9303.00 | 1.50 |
| 45 | Sc | 2023799.00 | A | 7321.00 | 0.36 |
| 45 | Sc | 208789.80 | P | 893.40 | 0.43 |
| 47 | Ti | 92.23 | P | 30.97 | 33.58 |
| 51 | V | 1765.91 | P | 56.30 | 3.19 |
| 52 | Cr | 1496.99 | P | 22.88 | 1.53 |
| 55 | Mn | 690.25 | P | 43.54 | 6.31 |
| 56 | Fe | 5230081.00 | A | 22370.00 | 0.43 |
| 59 | Co | 260.45 | P | 25.38 | 9.74 |
| 60 | Ni | 199.56 | P | 22.68 | 11.37 |
| 63 | Cu | 687.58 | P | 40.50 | 5.89 |
| 66 | Zn | 252.23 | P | 11.08 | 4.39 |
| 72 | Ge | 442726.19 | P | 3415.00 | 0.77 |
| 72 | Ge | 98248.10 | P | 119.00 | 0.12 |
| 75 | As | 77.33 | P | 14.25 | 18.43 |
| 78 | Se | 76.45 | P | 6.81 | 8.91 |
| 88 | Sr | 1963.54 | P | 127.20 | 6.48 |
| 98 | Mo | 1476.80 | P | 92.62 | 6.27 |
| 103 | Rh | 2718833.00 | A | 5288.00 | 0.19 |
| 107 | Ag | 364.46 | P | 52.11 | 14.30 |

C:\ICPCHEM\1\DATA\13D15k01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 21.11 | P | 15.03 | 71.19 |
| 115 | In | 3145951.00 | A | 22030.00 | 0.70 |
| 115 | In | 947496.00 | P | 5967.00 | 0.63 |
| 118 | (In) | 1494.59 | P | 274.00 | 18.33 |
| 118 | (In) | 958.96 | P | 41.94 | 4.37 |
| 120 | Sn | 2051.33 | P | 270.10 | 13.17 |
| 121 | Sb | 2475.87 | P | 405.80 | 16.39 |
| 137 | Ba | 572.26 | P | 92.52 | 16.17 |
| 159 | Tb | 4463799.00 | A | 27770.00 | 0.62 |
| 175 | Lu | 4395884.00 | A | 51390.00 | 1.17 |
| 205 | Tl | 3592.82 | P | 280.90 | 7.82 |
| 206 | (Pb) | 383.36 | P | 35.28 | 9.20 |
| 207 | (Pb) | 303.35 | P | 48.42 | 15.96 |
| 208 | Pb | 1901.25 | P | 151.30 | 7.96 |
| 209 | Bi | 2945681.00 | A | 20310.00 | 0.69 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1080731.10 | 0.65 | 1085278.40 | 99.6 | 70 - 130 | |
| 45 | Sc | 2023798.90 | 0.36 | 2030198.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 208789.80 | 0.43 | 207474.58 | 100.6 | 70 - 130 | |
| 72 | Ge | 442726.25 | 0.77 | 445119.63 | 99.5 | 70 - 130 | |
| 72 | Ge | 98248.10 | 0.12 | 97575.88 | 100.7 | 70 - 130 | |
| 103 | Rh | 2718833.00 | 0.19 | 2785940.50 | 97.6 | 70 - 130 | |
| 115 | In | 3145951.50 | 0.70 | 3215846.50 | 97.8 | 70 - 130 | |
| 115 | In | 947496.00 | 0.63 | 945097.19 | 100.3 | 70 - 130 | |
| 159 | Tb | 4463798.50 | 0.62 | 4520362.50 | 98.7 | 70 - 130 | |
| 175 | Lu | 4395883.50 | 1.17 | 4476326.50 | 98.2 | 70 - 130 | |
| 209 | Bi | 2945681.50 | 0.69 | 2985373.30 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 15 2013 11:50 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 15 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1050417.00 | A | 12710.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 54.45 | P | 13.88 | 25.49 |
| 9 | Be | 5.56 | P | 3.85 | 69.28 |
| 11 | B | 1067.85 | P | 25.24 | 2.36 |
| 11 | B | 21.11 | P | 8.39 | 39.74 |
| 23 | Na | 189889100.00 | A | 770700.00 | 0.41 |
| 23 | Na | 13243910.00 | A | 120600.00 | 0.91 |
| 24 | Mg | 128283900.00 | A | 512100.00 | 0.40 |
| 24 | Mg | 7414924.00 | A | 16650.00 | 0.22 |
| 27 | Al | 164217300.00 | A | 840800.00 | 0.51 |
| 27 | Al | 4168501.00 | A | 28320.00 | 0.68 |
| 39 | K | 190800900.00 | A | 672600.00 | 0.35 |
| 44 | Ca | 5897399.00 | A | 36460.00 | 0.62 |
| 45 | Sc | 2001831.00 | A | 22080.00 | 1.10 |
| 45 | Sc | 211353.50 | P | 298.70 | 0.14 |
| 47 | Ti | 94.45 | P | 11.71 | 12.40 |
| 51 | V | 1843.25 | P | 71.02 | 3.85 |
| 52 | Cr | 1940.15 | P | 73.44 | 3.79 |
| 55 | Mn | 1352.08 | P | 68.61 | 5.07 |
| 56 | Fe | 51050088.00 | A | 16900.00 | 0.03 |
| 59 | Co | 1284.96 | P | 46.08 | 3.59 |
| 60 | Ni | 465.79 | P | 19.97 | 4.29 |
| 63 | Cu | 665.80 | P | 58.22 | 8.74 |
| 66 | Zn | 420.01 | P | 13.32 | 3.17 |
| 72 | Ge | 443150.00 | P | 2639.00 | 0.60 |
| 72 | Ge | 98978.95 | P | 312.20 | 0.32 |
| 75 | As | 82.89 | P | 6.05 | 7.30 |
| 78 | Se | 70.22 | P | 7.90 | 11.25 |
| 88 | Sr | 12575.75 | P | 97.73 | 0.78 |
| 98 | Mo | 542.25 | P | 50.04 | 9.23 |
| 103 | Rh | 2603774.00 | A | 2107.00 | 0.08 |
| 107 | Ag | 812.28 | P | 55.41 | 6.82 |

C:\ICPCHEM\1\DATA\13D15k01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 5.09 | 41.66 |
| 115 | In | 3051296.00 | A | 18520.00 | 0.61 |
| 115 | In | 934079.00 | P | 7727.00 | 0.83 |
| 118 | (In) | 661.15 | P | 80.10 | 12.12 |
| 118 | (In) | 378.91 | P | 54.20 | 14.30 |
| 120 | Sn | 944.52 | P | 141.50 | 14.98 |
| 121 | Sb | 1314.56 | P | 140.10 | 10.66 |
| 137 | Ba | 604.48 | P | 57.39 | 9.49 |
| 159 | Tb | 4385528.00 | A | 31630.00 | 0.72 |
| 175 | Lu | 4354290.00 | A | 34280.00 | 0.79 |
| 205 | Tl | 1455.69 | P | 103.30 | 7.10 |
| 206 | (Pb) | 254.46 | P | 11.71 | 4.60 |
| 207 | (Pb) | 252.23 | P | 39.06 | 15.49 |
| 208 | Pb | 1485.66 | P | 35.01 | 2.36 |
| 209 | Bi | 2800037.00 | A | 15490.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1050417.10 | 1.21 | 1085278.40 | 96.8 | 70 - 130 | |
| 45 | Sc | 2001831.00 | 1.10 | 2030198.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 211353.50 | 0.14 | 207474.58 | 101.9 | 70 - 130 | |
| 72 | Ge | 443150.03 | 0.60 | 445119.63 | 99.6 | 70 - 130 | |
| 72 | Ge | 98978.95 | 0.32 | 97575.88 | 101.4 | 70 - 130 | |
| 103 | Rh | 2603774.30 | 0.08 | 2785940.50 | 93.5 | 70 - 130 | |
| 115 | In | 3051296.00 | 0.61 | 3215846.50 | 94.9 | 70 - 130 | |
| 115 | In | 934079.06 | 0.83 | 945097.19 | 98.8 | 70 - 130 | |
| 159 | Tb | 4385528.00 | 0.72 | 4520362.50 | 97.0 | 70 - 130 | |
| 175 | Lu | 4354290.50 | 0.79 | 4476326.50 | 97.3 | 70 - 130 | |
| 209 | Bi | 2800036.50 | 0.55 | 2985373.30 | 93.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 15 2013 11:56 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 63.97 | 63.97 | ppb | 2.14 | 900.00 | |
| 9 Be | 45 | 2 | 60.60 | 60.60 | ppb | 8.07 | 900.00 | |
| 11 B | 6 | 1 | 61.43 | 61.43 | ppb | 2.23 | 900.00 | |
| 11 B | 45 | 2 | 61.17 | 61.17 | ppb | 4.43 | 900.00 | |
| 23 Na | 45 | 1 | 5559.00 | 5559.00 | ppb | 0.97 | 90000.00 | |
| 23 Na | 45 | 2 | 5905.00 | 5905.00 | ppb | 8.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 5678.00 | 5678.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 6064.00 | 6064.00 | ppb | 8.29 | 90000.00 | |
| 27 Al | 45 | 1 | 5589.00 | 5589.00 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 6024.00 | 6024.00 | ppb | 8.68 | 90000.00 | |
| 39 K | 45 | 1 | 5624.00 | 5624.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 5660.00 | 5660.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 63.25 | 63.25 | ppb | 1.01 | 900.00 | |
| 51 V | 45 | 2 | 62.50 | 62.50 | ppb | 8.35 | 900.00 | |
| 52 Cr | 45 | 2 | 60.94 | 60.94 | ppb | 8.81 | 900.00 | |
| 55 Mn | 45 | 2 | 62.02 | 62.02 | ppb | 9.02 | 900.00 | |
| 56 Fe | 45 | 2 | 5986.00 | 5986.00 | ppb | 9.13 | 90000.00 | |
| 59 Co | 45 | 2 | 60.14 | 60.14 | ppb | 8.38 | 900.00 | |
| 60 Ni | 45 | 2 | 60.06 | 60.06 | ppb | 7.83 | 900.00 | |
| 63 Cu | 72 | 2 | 58.96 | 58.96 | ppb | 7.09 | 900.00 | |
| 66 Zn | 72 | 2 | 60.30 | 60.30 | ppb | 6.64 | 900.00 | |
| 75 As | 72 | 2 | 61.68 | 61.68 | ppb | 6.72 | 900.00 | |
| 78 Se | 72 | 2 | 62.01 | 62.01 | ppb | 6.07 | 900.00 | |
| 88 Sr | 103 | 1 | 65.37 | 65.37 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 65.67 | 65.67 | ppb | 1.31 | 900.00 | |
| 107 Ag | 115 | 1 | 61.90 | 61.90 | ppb | 0.06 | 180.00 | |
| 111 Cd | 115 | 2 | 61.50 | 61.50 | ppb | 8.20 | 900.00 | |
| 120 Sn | 115 | 1 | 62.29 | 62.29 | ppb | 0.78 | 900.00 | |
| 121 Sb | 115 | 1 | 63.86 | 63.86 | ppb | 0.49 | 900.00 | |
| 137 Ba | 159 | 1 | 62.97 | 62.97 | ppb | 0.75 | 900.00 | |
| 205 Tl | 209 | 1 | 60.35 | 60.35 | ppb | 0.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 62.47 | 62.47 | ppb | 0.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1062209 | 2.09 | 1085278 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 2030793 | 0.82 | 2030198 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 201416 | 8.55 | 207475 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 441314 | 0.60 | 445120 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 95510 | 7.20 | 97576 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 2661160 | 0.76 | 2785941 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3108376 | 0.55 | 3215847 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 894657 | 7.94 | 945097 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 4452097 | 0.52 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4410100 | 0.38 | 4476327 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 2868510 | 0.39 | 2985373 | 96.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 12:02 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 20.89 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.33 | ppb | 27.48 | 900.00 | |
| 11 B | 45 | 2 | 0.48 | 0.48 | ppb | 12.78 | 900.00 | |
| 23 Na | 45 | 1 | 2.85 | 2.85 | ppb | 165.66 | 90000.00 | |
| 23 Na | 45 | 2 | 2.80 | 2.80 | ppb | 5.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.49 | 0.49 | ppb | 24.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.67 | 0.67 | ppb | 30.71 | 90000.00 | |
| 27 Al | 45 | 1 | 0.41 | 0.41 | ppb | 42.57 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 33.61 | 90000.00 | |
| 39 K | 45 | 1 | -0.04 | -0.04 | ppb | 63327.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.35 | 3.35 | ppb | 46.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 1213.60 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 55.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 48.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 44.75 | 900.00 | |
| 56 Fe | 45 | 2 | 1.18 | 1.18 | ppb | 26.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 56.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 131.48 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 44.40 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 24.31 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 158.00 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 83.29 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 27.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 27.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 40.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 410.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 38.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 43.17 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 179.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 20.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 31.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1073461 | 16.98 | 1085278 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2028373 | 17.62 | 2030198 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 208416 | 0.45 | 207475 | 100.5 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 439933 | 17.56 | 445120 | 98.8 | 70 | - | 130 |
| 72 | Ge | 2 | 98450 | 0.54 | 97576 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2743118 | 19.00 | 2785941 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 3169865 | 19.03 | 3215847 | 98.6 | 70 | - | 130 |
| 115 | In | 2 | 954859 | 0.39 | 945097 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4465620 | 18.62 | 4520363 | 98.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4427273 | 19.38 | 4476327 | 98.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2975720 | 17.29 | 2985373 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Apr 15 2013 12:09 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.90 | 53.90 | ppb | 1.54 | 900.00 | |
| 9 Be | 45 | 2 | 49.10 | 49.10 | ppb | 2.79 | 900.00 | |
| 11 B | 6 | 1 | 53.37 | 53.37 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 48.03 | 48.03 | ppb | 3.60 | 900.00 | |
| 23 Na | 45 | 1 | 5148.00 | 5148.00 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 5130.00 | 5130.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 5189.00 | 5189.00 | ppb | 1.32 | 90000.00 | |
| 27 Al | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 2 | 5221.00 | 5221.00 | ppb | 1.55 | 90000.00 | |
| 39 K | 45 | 1 | 5103.00 | 5103.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5239.00 | 5239.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 53.21 | 53.21 | ppb | 0.46 | 900.00 | |
| 51 V | 45 | 2 | 49.12 | 49.12 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | 48.40 | 48.40 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 49.10 | 49.10 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5115.00 | 5115.00 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 47.98 | 47.98 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 48.04 | 48.04 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 47.75 | 47.75 | ppb | 0.69 | 900.00 | |
| 66 Zn | 72 | 2 | 48.59 | 48.59 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 49.47 | 49.47 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 50.51 | 50.51 | ppb | 1.15 | 900.00 | |
| 88 Sr | 103 | 1 | 54.36 | 54.36 | ppb | 2.01 | 900.00 | |
| 98 Mo | 103 | 1 | 54.46 | 54.46 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 52.63 | 52.63 | ppb | 0.28 | 180.00 | |
| 111 Cd | 115 | 2 | 49.08 | 49.08 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 53.70 | 53.70 | ppb | 0.76 | 900.00 | |
| 121 Sb | 115 | 1 | 54.71 | 54.71 | ppb | 0.34 | 900.00 | |
| 137 Ba | 159 | 1 | 52.83 | 52.83 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 50.14 | 50.14 | ppb | 1.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.08 | 52.08 | ppb | 0.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1072127 | 1.05 | 1085278 | 98.8 | 70 - 130 | |
| 45 Sc | 1 | 2015017 | 0.47 | 2030198 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 210124 | 0.31 | 207475 | 101.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438193 | 0.07 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 98324 | 0.59 | 97576 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2660175 | 1.08 | 2785941 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3070211 | 0.37 | 3215847 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 935040 | 0.54 | 945097 | 98.9 | 70 | - | 130 |
| 159 Tb | 1 | 4407020 | 0.12 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4405201 | 1.07 | 4476327 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 2898105 | 0.12 | 2985373 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 15 2013 12:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 56.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.19 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 10.95 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.35 | ppb | 36.47 | 900.00 | |
| 23 Na | 45 | 1 | 0.16 | 0.16 | ppb | 274.03 | 90000.00 | |
| 23 Na | 45 | 2 | 4.39 | 4.39 | ppb | 115.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.31 | 0.31 | ppb | 8.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.41 | 0.41 | ppb | 37.31 | 90000.00 | |
| 27 Al | 45 | 1 | 0.29 | 0.29 | ppb | 12.78 | 90000.00 | |
| 27 Al | 45 | 2 | 0.38 | 0.38 | ppb | 61.33 | 90000.00 | |
| 39 K | 45 | 1 | -3.46 | -3.46 | ppb | 85.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.65 | 13.65 | ppb | 3.11 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 161.88 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 180.50 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 403.97 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 54.13 | 900.00 | |
| 56 Fe | 45 | 2 | 1.37 | 1.37 | ppb | 50.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 47.43 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 80.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 53.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 34.51 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 85.21 | 900.00 | |
| 78 Se | 72 | 2 | 0.21 | 0.21 | ppb | 55.23 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 8.17 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 15.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.07 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 273.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 14.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 25.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 86.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 5.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1100387 | 0.95 | 1085278 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2055933 | 1.81 | 2030198 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 190032 | 13.27 | 207475 | 91.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444788 | 1.01 | 445120 | 99.9 | 70 | - | 130 |
| 72 Ge | 2 | 91516 | 9.67 | 97576 | 93.8 | 70 | - | 130 |
| 103 Rh | 1 | 2798794 | 2.04 | 2785941 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 3203783 | 1.52 | 3215847 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 876736 | 12.40 | 945097 | 92.8 | 70 | - | 130 |
| 159 Tb | 1 | 4555592 | 1.26 | 4520363 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 4486692 | 1.50 | 4476327 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3012141 | 1.42 | 2985373 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D# |
| Date Acquired: | Apr 15 2013 12:21 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2105 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.67 | 0.67 | ppb | 32.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.41 | 0.41 | ppb | 16.42 | 900.00 | |
| 11 B | 6 | 1 | 5.41 | 5.41 | ppb | 6.40 | 900.00 | |
| 11 B | 45 | 2 | 4.89 | 4.89 | ppb | 9.64 | 900.00 | |
| 23 Na | 45 | 1 | 289.40 | 289.40 | ppb | 21.33 | 90000.00 | |
| 23 Na | 45 | 2 | 269.20 | 269.20 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 282.50 | 282.50 | ppb | 12.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 271.00 | 271.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 47.17 | 47.17 | ppb | 77.10 | 90000.00 | |
| 27 Al | 45 | 2 | 26.67 | 26.67 | ppb | 1.03 | 90000.00 | |
| 39 K | 45 | 1 | 258.70 | 258.70 | ppb | 8.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 291.50 | 291.50 | ppb | 17.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 1.42 | ppb | 38.47 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 2.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.89 | ppb | 2.94 | 900.00 | |
| 55 Mn | 45 | 2 | 1.04 | 1.04 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | 27.81 | 27.81 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 2.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 2.60 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 8.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 11.94 | 900.00 | |
| 88 Sr | 103 | 1 | 5.11 | 5.11 | ppb | 3.11 | 900.00 | |
| 98 Mo | 103 | 1 | 1.42 | 1.42 | ppb | 38.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.60 | 0.60 | ppb | 31.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 1.81 | 900.00 | |
| 120 Sn | 115 | 1 | 5.00 | 5.00 | ppb | 1.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.65 | 0.65 | ppb | 30.07 | 900.00 | |
| 137 Ba | 159 | 1 | 1.15 | 1.15 | ppb | 12.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.58 | 0.58 | ppb | 26.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.64 | 0.64 | ppb | 31.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1078364 | 2.62 | 1085278 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 2042919 | 0.75 | 2030198 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 213012 | 0.52 | 207475 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 454919 | 2.32 | 445120 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 100120 | 0.70 | 97576 | 102.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2785318 | 1.75 | 2785941 | 100.0 | 70 | - | 130 |
| 115 | In | 1 | 3244639 | 1.65 | 3215847 | 100.9 | 70 | - | 130 |
| 115 | In | 2 | 979133 | 0.81 | 945097 | 103.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4558418 | 2.94 | 4520363 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4532275 | 3.32 | 4476327 | 101.2 | 70 | - | 130 |
| 209 | Bi | 1 | 3035730 | 2.05 | 2985373 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#
**Date Acquired:** Apr 15 2013 12:28 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:**
**Vial Number:** 2106
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 121.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 7.98 | 900.00 | |
| 11 B | 45 | 2 | 0.42 | 0.42 | ppb | 57.39 | 900.00 | |
| 23 Na | 45 | 1 | 95680.00 | 95680.00 | ppb | 0.62 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99470.00 | 99470.00 | ppb | 14.23 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96040.00 | 96040.00 | ppb | 0.60 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 100100.00 | 100100.00 | ppb | 14.01 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94710.00 | 94710.00 | ppb | 0.80 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 99220.00 | 99220.00 | ppb | 15.20 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97160.00 | 97160.00 | ppb | 0.85 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94700.00 | 94700.00 | ppb | 0.55 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2161.00 | 2161.00 | ppb | 0.77 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 183.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 1.02 | ppb | 17.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.35 | 0.35 | ppb | 17.91 | 900.00 | |
| 56 Fe | 45 | 2 | 99970.00 | 99970.00 | ppb | 14.32 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 8.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 20.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.38 | 0.38 | ppb | 14.42 | 900.00 | |
| 66 Zn | 72 | 2 | 1.77 | 1.77 | ppb | 11.16 | 900.00 | |
| 75 As | 72 | 2 | 0.21 | 0.21 | ppb | 21.64 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.30 | ppb | 68.07 | 900.00 | |
| 88 Sr | 103 | 1 | 4.94 | 4.94 | ppb | 2.09 | 900.00 | |
| 98 Mo | 103 | 1 | 2223.00 | 2223.00 | ppb | 1.72 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 2.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.76 | 0.76 | ppb | 11.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.15 | ppb | 12.36 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 5.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 4.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 11.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1026104 | 2.31 | 1085278 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 2032584 | 1.05 | 2030198 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 209137 | 12.89 | 207475 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444909 | 0.85 | 445120 | 100.0 | 70 | - | 130 |
| 72 Ge | 2 | 97596 | 9.83 | 97576 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 2453191 | 1.92 | 2785941 | 88.1 | 70 | - | 130 |
| 115 In | 1 | 2948770 | 0.98 | 3215847 | 91.7 | 70 | - | 130 |
| 115 In | 2 | 885139 | 11.57 | 945097 | 93.7 | 70 | - | 130 |
| 159 Tb | 1 | 4339504 | 1.12 | 4520363 | 96.0 | 70 | - | 130 |
| 175 Lu | 1 | 4340217 | 1.76 | 4476327 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 2661617 | 1.96 | 2985373 | 89.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#
Date Acquired: Apr 15 2013 12:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 27.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 68.99 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 15.23 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.35 | ppb | 19.56 | 900.00 | |
| 23 Na | 45 | 1 | 99110.00 | 99110.00 | ppb | 0.99 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100200.00 | 100200.00 | ppb | 2.47 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101100.00 | 101100.00 | ppb | 2.18 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 101000.00 | 101000.00 | ppb | 2.72 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 99660.00 | 99660.00 | ppb | 1.58 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 99880.00 | 99880.00 | ppb | 1.78 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 101300.00 | 101300.00 | ppb | 1.64 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 100800.00 | 100800.00 | ppb | 1.44 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2278.00 | 2278.00 | ppb | 1.43 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 67.30 | 900.00 | |
| 52 Cr | 45 | 2 | 20.17 | 20.17 | ppb | 1.39 | 900.00 | |
| 55 Mn | 45 | 2 | 19.92 | 19.92 | ppb | 2.04 | 900.00 | |
| 56 Fe | 45 | 2 | 100200.00 | 100200.00 | ppb | 2.35 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.67 | 18.67 | ppb | 2.37 | 900.00 | |
| 60 Ni | 45 | 2 | 18.96 | 18.96 | ppb | 3.40 | 900.00 | |
| 63 Cu | 72 | 2 | 18.06 | 18.06 | ppb | 2.05 | 900.00 | |
| 66 Zn | 72 | 2 | 54.51 | 54.51 | ppb | 1.96 | 900.00 | |
| 75 As | 72 | 2 | 20.85 | 20.85 | ppb | 2.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.28 | 0.28 | ppb | 41.44 | 900.00 | |
| 88 Sr | 103 | 1 | 5.12 | 5.12 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 2330.00 | 2330.00 | ppb | 0.48 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 20.49 | 20.49 | ppb | 2.25 | 180.00 | |
| 111 Cd | 115 | 2 | 20.18 | 20.18 | ppb | 3.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 6.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 3.10 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 8.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 26.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 6.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1020623 | 1.88 | 1085278 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 1983659 | 1.86 | 2030198 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 211441 | 2.07 | 207475 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438791 | 0.68 | 445120 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 98925 | 1.56 | 97576 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 2420159 | 1.31 | 2785941 | 86.9 | 70 | - | 130 |
| 115 In | 1 | 2899635 | 1.64 | 3215847 | 90.2 | 70 | - | 130 |
| 115 In | 2 | 891598 | 2.15 | 945097 | 94.3 | 70 | - | 130 |
| 159 Tb | 1 | 4252062 | 1.19 | 4520363 | 94.1 | 70 | - | 130 |
| 175 Lu | 1 | 4253219 | 1.03 | 4476327 | 95.0 | 70 | - | 130 |
| 209 Bi | 1 | 2599990 | 1.80 | 2985373 | 87.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 12:41 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2108 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 101.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.63 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 14.44 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 7.96 | 900.00 | |
| 23 Na | 45 | 1 | 12.26 | 12.26 | ppb | 4.90 | 90000.00 | |
| 23 Na | 45 | 2 | 39.23 | 39.23 | ppb | 44.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.97 | 5.97 | ppb | 7.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 29.95 | 29.95 | ppb | 47.88 | 90000.00 | |
| 27 Al | 45 | 1 | 5.46 | 5.46 | ppb | 6.40 | 90000.00 | |
| 27 Al | 45 | 2 | 27.96 | 27.96 | ppb | 45.42 | 90000.00 | |
| 39 K | 45 | 1 | -3.45 | -3.45 | ppb | 62.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.20 | 12.20 | ppb | 5.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.18 | 0.18 | ppb | 17.30 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 102.27 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 22.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.07 | 0.07 | ppb | 9.44 | 900.00 | |
| 56 Fe | 45 | 2 | 31.58 | 31.58 | ppb | 41.07 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 45.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 92.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 9.87 | 900.00 | |
| 66 Zn | 72 | 2 | 0.11 | 0.11 | ppb | 16.57 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 57.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.27 | ppb | 11.94 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 19.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.22 | 1.22 | ppb | 8.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 127.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 26.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 22.72 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 41.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 434.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 20.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1034100 | 1.91 | 1085278 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 2081591 | 1.42 | 2030198 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 213529 | 0.32 | 207475 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 459179 | 0.41 | 445120 | 103.2 | 70 - | 130 |
| 72 | Ge | 2 | 102831 | 0.14 | 97576 | 105.4 | 70 - | 130 |
| 103 | Rh | 1 | 2861425 | 0.76 | 2785941 | 102.7 | 70 - | 130 |
| 115 | In | 1 | 3292700 | 0.65 | 3215847 | 102.4 | 70 - | 130 |
| 115 | In | 2 | 1001584 | 0.50 | 945097 | 106.0 | 70 - | 130 |
| 159 | Tb | 1 | 4655115 | 0.45 | 4520363 | 103.0 | 70 - | 130 |
| 175 | Lu | 1 | 4587260 | 0.54 | 4476327 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 3113268 | 0.41 | 2985373 | 104.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | |
|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D#** |
| **Date Acquired:** | **Apr 15 2013 12:47 pm** |
| **Acq. Method:** | **EPA6020V.M** |
| **Operator:** | **METALS** |
| **Sample Name:** | **MP20767-MB1** |
| **Misc Info:** | |
| **Vial Number:** | **2109** |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** |
| **Last Cal. Update:** | **Apr 15 2013 11:53 am** |
| **Sample Type:** | **Sample** |
| **Dilution Factor:** | **2.00** |
| **Autodil Factor:** | **Undiluted** |
| **Final Dil Factor:** | **2.00** |

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 398.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.15 | ppb | 1.89 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.18 | ppb | 14.18 | 900.00 | |
| 23 Na | 45 | 1 | 27.30 | 13.65 | ppb | 7.20 | 90000.00 | |
| 23 Na | 45 | 2 | 29.78 | 14.89 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.65 | 1.82 | ppb | 7.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.51 | 1.75 | ppb | 11.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.28 | 1.14 | ppb | 11.21 | 90000.00 | |
| 27 Al | 45 | 2 | 2.02 | 1.01 | ppb | 6.72 | 90000.00 | |
| 39 K | 45 | 1 | -9.36 | -4.68 | ppb | 102.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 86.44 | 43.22 | ppb | 4.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.52 | 0.26 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 1.47 | 0.73 | ppb | 2.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 195.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.11 | ppb | 5.81 | 900.00 | |
| 56 Fe | 45 | 2 | 7.05 | 3.52 | ppb | 4.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 69.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.03 | ppb | 23.07 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 5.68 | 900.00 | |
| 66 Zn | 72 | 2 | 2.11 | 1.05 | ppb | 4.02 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 6.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.12 | ppb | 26.93 | 900.00 | |
| 88 Sr | 103 | 1 | 0.36 | 0.18 | ppb | 2.13 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 0.50 | ppb | 8.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 25.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 505.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 2.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.78 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 16.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 35.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 3.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 794297 | 0.96 | 1085278 | 73.2 | 70 - 130 | |
| 45 Sc | 1 | 1890092 | 1.89 | 2030198 | 93.1 | 70 - 130 | |
| 45 Sc | 2 | 192453 | 0.12 | 207475 | 92.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433734 | 0.31 | 445120 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 94709 | 0.31 | 97576 | 97.1 | 70 | - | 130 |
| 103 Rh | 1 | 2760128 | 0.61 | 2785941 | 99.1 | 70 | - | 130 |
| 115 In | 1 | 3221520 | 1.61 | 3215847 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 949868 | 0.13 | 945097 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 4585512 | 1.36 | 4520363 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4606415 | 1.40 | 4476327 | 102.9 | 70 | - | 130 |
| 209 Bi | 1 | 3085203 | 0.98 | 2985373 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 15 2013 12:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20768-MB1
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 22.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 42.83 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.12 | ppb | 24.29 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.17 | ppb | 41.28 | 900.00 | |
| 23 Na | 45 | 1 | 20.08 | 10.04 | ppb | 4.86 | 90000.00 | |
| 23 Na | 45 | 2 | 23.62 | 11.81 | ppb | 4.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.10 | 1.05 | ppb | 1.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.39 | 1.20 | ppb | 15.63 | 90000.00 | |
| 27 Al | 45 | 1 | 2.93 | 1.47 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 3.23 | 1.61 | ppb | 5.35 | 90000.00 | |
| 39 K | 45 | 1 | -6.41 | -3.21 | ppb | 44.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.99 | 8.50 | ppb | 3.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.57 | 0.28 | ppb | 16.27 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 0.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.20 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 0.33 | 0.17 | ppb | 4.77 | 900.00 | |
| 56 Fe | 45 | 2 | 10.54 | 5.27 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 53.59 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.05 | ppb | 11.95 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 0.52 | ppb | 2.21 | 900.00 | |
| 66 Zn | 72 | 2 | 0.82 | 0.41 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 0.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 175.02 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 13.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.40 | 0.20 | ppb | 12.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 22.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 87.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 14.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 7.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.05 | ppb | 28.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 35.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 742733 | 1.61 | 1085278 | 68.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1842447 | 0.93 | 2030198 | 90.8 | 70 - 130 | |
| 45 Sc | 2 | 188002 | 0.43 | 207475 | 90.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 425372 | 0.53 | 445120 | 95.6 | 70 | - | 130 |
| 72 Ge | 2 | 94172 | 0.19 | 97576 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 2761566 | 0.82 | 2785941 | 99.1 | 70 | - | 130 |
| 115 In | 1 | 3195229 | 0.32 | 3215847 | 99.4 | 70 | - | 130 |
| 115 In | 2 | 941068 | 0.39 | 945097 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 4593017 | 0.67 | 4520363 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4584749 | 0.62 | 4476327 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3099403 | 0.67 | 2985373 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 15 2013 01:00 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-2F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 50.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.10 | 0.05 | ppb | 22.68 | 900.00 | |
| 11 B | 6 | 1 | 26.52 | 13.26 | ppb | 1.07 | 900.00 | |
| 11 B | 45 | 2 | 19.67 | 9.83 | ppb | 6.28 | 900.00 | |
| 23 Na | 45 | 1 | 143120.00 | 71560.00 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 149460.00 | 74730.00 | ppb | 2.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 2358.00 | 1179.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2578.00 | 1289.00 | ppb | 1.96 | 90000.00 | |
| 27 Al | 45 | 1 | 3.37 | 1.68 | ppb | 1.29 | 90000.00 | |
| 27 Al | 45 | 2 | 3.47 | 1.73 | ppb | 7.92 | 90000.00 | |
| 39 K | 45 | 1 | 3684.00 | 1842.00 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 23760.00 | 11880.00 | ppb | 1.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.93 | 0.47 | ppb | 7.72 | 900.00 | |
| 51 V | 45 | 2 | 1.53 | 0.77 | ppb | 5.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.09 | ppb | 8.87 | 900.00 | |
| 55 Mn | 45 | 2 | 1069.20 | 534.60 | ppb | 1.73 | 900.00 | |
| 56 Fe | 45 | 2 | 372.00 | 186.00 | ppb | 2.52 | 90000.00 | |
| 59 Co | 45 | 2 | 6.60 | 3.30 | ppb | 1.81 | 900.00 | |
| 60 Ni | 45 | 2 | 11.23 | 5.62 | ppb | 3.55 | 900.00 | |
| 63 Cu | 72 | 2 | 1.59 | 0.79 | ppb | 3.91 | 900.00 | |
| 66 Zn | 72 | 2 | 16.04 | 8.02 | ppb | 2.18 | 900.00 | |
| 75 As | 72 | 2 | 0.61 | 0.30 | ppb | 6.56 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.27 | ppb | 39.89 | 900.00 | |
| 88 Sr | 103 | 1 | 267.60 | 133.80 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.53 | 1.26 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 26.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.21 | 0.11 | ppb | 4.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 13.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 6.38 | 900.00 | |
| 137 Ba | 159 | 1 | 14.78 | 7.39 | ppb | 1.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 15.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 721993 | 0.95 | 1085278 | 66.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1764924 | 0.58 | 2030198 | 86.9 | 70 - 130 | |
| 45 Sc | 2 | 181381 | 2.79 | 207475 | 87.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 409723 | 0.21 | 445120 | 92.0 | 70 | - | 130 |
| 72 | Ge | 2 | 90013 | 2.65 | 97576 | 92.2 | 70 | - | 130 |
| 103 | Rh | 1 | 2491928 | 0.78 | 2785941 | 89.4 | 70 | - | 130 |
| 115 | In | 1 | 2994186 | 0.50 | 3215847 | 93.1 | 70 | - | 130 |
| 115 | In | 2 | 886310 | 3.09 | 945097 | 93.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4384959 | 0.31 | 4520363 | 97.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4438617 | 0.85 | 4476327 | 99.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2843881 | 0.19 | 2985373 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 15 2013 01:06 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-1F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 14.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 99.73 | 900.00 | |
| 11 B | 6 | 1 | 26.94 | 13.47 | ppb | 2.63 | 900.00 | |
| 11 B | 45 | 2 | 20.94 | 10.47 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 127220.00 | 63610.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 135100.00 | 67550.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 2722.00 | 1361.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 3026.00 | 1513.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 5.50 | 2.75 | ppb | 1.35 | 90000.00 | |
| 27 Al | 45 | 2 | 6.17 | 3.08 | ppb | 4.66 | 90000.00 | |
| 39 K | 45 | 1 | 4262.00 | 2131.00 | ppb | 1.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 26360.00 | 13180.00 | ppb | 1.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 9.12 | 900.00 | |
| 51 V | 45 | 2 | 1.86 | 0.93 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 0.34 | 900.00 | |
| 55 Mn | 45 | 2 | 557.00 | 278.50 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 1924.60 | 962.30 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 10.34 | 5.17 | ppb | 1.06 | 900.00 | |
| 60 Ni | 45 | 2 | 11.38 | 5.69 | ppb | 1.59 | 900.00 | |
| 63 Cu | 72 | 2 | 3.78 | 1.89 | ppb | 2.41 | 900.00 | |
| 66 Zn | 72 | 2 | 15.32 | 7.66 | ppb | 0.67 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 6.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.17 | ppb | 23.60 | 900.00 | |
| 88 Sr | 103 | 1 | 356.20 | 178.10 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 6.70 | 3.35 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 49.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.06 | ppb | 9.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 2.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 1.32 | 900.00 | |
| 137 Ba | 159 | 1 | 17.82 | 8.91 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 7.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 8.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 710512 | 1.52 | 1085278 | 65.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1763801 | 1.27 | 2030198 | 86.9 | 70 - 130 | |
| 45 Sc | 2 | 180741 | 0.91 | 207475 | 87.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 411430 | 0.27 | 445120 | 92.4 | 70 | - | 130 |
| 72 Ge | 2 | 89707 | 0.29 | 97576 | 91.9 | 70 | - | 130 |
| 103 Rh | 1 | 2512205 | 0.06 | 2785941 | 90.2 | 70 | - | 130 |
| 115 In | 1 | 3014869 | 1.00 | 3215847 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 888025 | 0.34 | 945097 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 4446756 | 0.29 | 4520363 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4459284 | 0.40 | 4476327 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 2888743 | 0.55 | 2985373 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#
Date Acquired: Apr 15 2013 01:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-3F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 29.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 0.31 | 900.00 | |
| 11 B | 6 | 1 | 0.90 | 0.45 | ppb | 7.95 | 900.00 | |
| 11 B | 45 | 2 | 1.39 | 0.70 | ppb | 34.35 | 900.00 | |
| 23 Na | 45 | 1 | 33.34 | 16.67 | ppb | 2.12 | 90000.00 | |
| 23 Na | 45 | 2 | 34.22 | 17.11 | ppb | 2.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.64 | 1.32 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.89 | 1.44 | ppb | 16.40 | 90000.00 | |
| 27 Al | 45 | 1 | 1.87 | 0.93 | ppb | 15.60 | 90000.00 | |
| 27 Al | 45 | 2 | 1.57 | 0.78 | ppb | 3.09 | 90000.00 | |
| 39 K | 45 | 1 | 5.41 | 2.71 | ppb | 20.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 56.50 | 28.25 | ppb | 2.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.24 | ppb | 9.52 | 900.00 | |
| 51 V | 45 | 2 | 1.57 | 0.79 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.10 | ppb | 11.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 0.95 | 900.00 | |
| 56 Fe | 45 | 2 | 4.24 | 2.12 | ppb | 3.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 4.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 5.69 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 6.40 | 900.00 | |
| 66 Zn | 72 | 2 | 9.05 | 4.53 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.12 | ppb | 5.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.21 | ppb | 81.16 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 4.31 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.04 | ppb | 6.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 45.31 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 29.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 12.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 7.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.02 | ppb | 14.48 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 35.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.69 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 783144 | 1.16 | 1085278 | 72.2 | 70 - 130 | |
| 45 Sc | 1 | 1830382 | 0.62 | 2030198 | 90.2 | 70 - 130 | |
| 45 Sc | 2 | 188457 | 0.31 | 207475 | 90.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 426095 | 0.37 | 445120 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 93101 | 0.34 | 97576 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 2725233 | 0.39 | 2785941 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 3181079 | 0.55 | 3215847 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 937091 | 0.47 | 945097 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4595008 | 0.85 | 4520363 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 4582243 | 1.28 | 4476327 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3080384 | 1.65 | 2985373 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D# |
| Date Acquired: | Apr 15 2013 01:19 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19637-17F |
| Misc Info: | |
| Vial Number: | 2202 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 57.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 10.99 | 5.49 | ppb | 1.29 | 900.00 | |
| 11 B | 45 | 2 | 7.46 | 3.73 | ppb | 10.48 | 900.00 | |
| 23 Na | 45 | 1 | 8666.00 | 4333.00 | ppb | 2.69 | 90000.00 | |
| 23 Na | 45 | 2 | 9368.00 | 4684.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 12736.00 | 6368.00 | ppb | 2.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 13906.00 | 6953.00 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 1 | 6.53 | 3.27 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 6.98 | 3.49 | ppb | 8.08 | 90000.00 | |
| 39 K | 45 | 1 | 5384.00 | 2692.00 | ppb | 2.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 63960.00 | 31980.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 0.51 | ppb | 8.01 | 900.00 | |
| 51 V | 45 | 2 | 2.43 | 1.22 | ppb | 4.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.24 | 0.12 | ppb | 11.48 | 900.00 | |
| 55 Mn | 45 | 2 | 224.00 | 112.00 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 359.40 | 179.70 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.13 | 0.06 | ppb | 7.01 | 900.00 | |
| 60 Ni | 45 | 2 | 1.02 | 0.51 | ppb | 3.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 6.11 | 900.00 | |
| 66 Zn | 72 | 2 | 7.95 | 3.97 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 24.12 | 12.06 | ppb | 0.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 56.72 | 900.00 | |
| 88 Sr | 103 | 1 | 289.80 | 144.90 | ppb | 1.47 | 900.00 | |
| 98 Mo | 103 | 1 | 2.99 | 1.49 | ppb | 3.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 98.60 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 129.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 8.86 | 900.00 | |
| 137 Ba | 159 | 1 | 13.66 | 6.83 | ppb | 2.08 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 23.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 7.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 677157 | 1.40 | 1085278 | 62.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1756924 | 1.15 | 2030198 | 86.5 | 70 - 130 | |
| 45 Sc | 2 | 178795 | 0.38 | 207475 | 86.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 414274 | 0.38 | 445120 | 93.1 | 70 | - | 130 |
| 72 Ge | 2 | 89836 | 0.92 | 97576 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 2537706 | 1.32 | 2785941 | 91.1 | 70 | - | 130 |
| 115 In | 1 | 3037479 | 1.39 | 3215847 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 902937 | 0.33 | 945097 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 4505429 | 0.59 | 4520363 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 4495854 | 0.11 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2928034 | 0.27 | 2985373 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 15 2013 01:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.85 | 55.85 | ppb | 1.80 | 900.00 | |
| 9 Be | 45 | 2 | 46.55 | 46.55 | ppb | 2.47 | 900.00 | |
| 11 B | 6 | 1 | 55.82 | 55.82 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 44.41 | 44.41 | ppb | 0.94 | 900.00 | |
| 23 Na | 45 | 1 | 4902.00 | 4902.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 5020.00 | 5020.00 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 1 | 4936.00 | 4936.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 4892.00 | 4892.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 5146.00 | 5146.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 5035.00 | 5035.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 5235.00 | 5235.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.94 | 52.94 | ppb | 0.38 | 900.00 | |
| 51 V | 45 | 2 | 48.96 | 48.96 | ppb | 0.68 | 900.00 | |
| 52 Cr | 45 | 2 | 48.23 | 48.23 | ppb | 0.84 | 900.00 | |
| 55 Mn | 45 | 2 | 48.99 | 48.99 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 5186.00 | 5186.00 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 48.06 | 48.06 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 47.97 | 47.97 | ppb | 1.83 | 900.00 | |
| 63 Cu | 72 | 2 | 46.23 | 46.23 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 47.86 | 47.86 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 48.89 | 48.89 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 49.28 | 49.28 | ppb | 1.32 | 900.00 | |
| 88 Sr | 103 | 1 | 54.98 | 54.98 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 53.75 | 53.75 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 50.97 | 50.97 | ppb | 0.69 | 180.00 | |
| 111 Cd | 115 | 2 | 48.43 | 48.43 | ppb | 0.44 | 900.00 | |
| 120 Sn | 115 | 1 | 52.50 | 52.50 | ppb | 1.37 | 900.00 | |
| 121 Sb | 115 | 1 | 53.84 | 53.84 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 52.29 | 52.29 | ppb | 1.69 | 900.00 | |
| 205 Tl | 209 | 1 | 50.12 | 50.12 | ppb | 1.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.10 | 52.10 | ppb | 1.10 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 879199 | 1.97 | 1085278 | 81.0 | 70 - 130 | |
| 45 Sc | 1 | 1892228 | 0.46 | 2030198 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 198112 | 0.72 | 207475 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 427256 | 0.84 | 445120 | 96.0 | 70 | - | 130 |
| 72 Ge | 2 | 95653 | 0.29 | 97576 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 2634170 | 0.83 | 2785941 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 3129817 | 0.71 | 3215847 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 931375 | 0.54 | 945097 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 4486416 | 0.53 | 4520363 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 4495705 | 0.61 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2946050 | 1.19 | 2985373 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 15 2013 01:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 59.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 43.49 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 9.21 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.34 | ppb | 36.09 | 900.00 | |
| 23 Na | 45 | 1 | 5.53 | 5.53 | ppb | 4.56 | 90000.00 | |
| 23 Na | 45 | 2 | 6.92 | 6.92 | ppb | 5.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.84 | 0.84 | ppb | 5.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.09 | 1.09 | ppb | 7.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.60 | 0.60 | ppb | 17.95 | 90000.00 | |
| 27 Al | 45 | 2 | 0.76 | 0.76 | ppb | 10.53 | 90000.00 | |
| 39 K | 45 | 1 | 1.67 | 1.67 | ppb | 21.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.89 | 13.89 | ppb | 5.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 88.97 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 116.53 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 4.52 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 20.50 | 900.00 | |
| 56 Fe | 45 | 2 | 1.81 | 1.81 | ppb | 10.04 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 39.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 32.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 26.39 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 35.10 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 75.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 39.55 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 9.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 11.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 4.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 59.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 8.39 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 21.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 115.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 1.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 6.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 931119 | 1.22 | 1085278 | 85.8 | 70 - 130 | |
| 45 Sc | 1 | 1937376 | 0.58 | 2030198 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 199873 | 0.26 | 207475 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 431326 | 0.74 | 445120 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 96409 | 0.34 | 97576 | 98.8 | 70 - | 130 |
| 103 | Rh | 1 | 2738188 | 0.29 | 2785941 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 3197209 | 0.18 | 3215847 | 99.4 | 70 - | 130 |
| 115 | In | 2 | 959260 | 0.37 | 945097 | 101.5 | 70 - | 130 |
| 159 | Tb | 1 | 4510273 | 0.40 | 4520363 | 99.8 | 70 - | 130 |
| 175 | Lu | 1 | 4467963 | 1.26 | 4476327 | 99.8 | 70 - | 130 |
| 209 | Bi | 1 | 3031494 | 0.67 | 2985373 | 101.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 15 2013 01:38 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-18F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 32.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.04 | ppb | 49.65 | 900.00 | |
| 11 B | 6 | 1 | 22.68 | 11.34 | ppb | 0.72 | 900.00 | |
| 11 B | 45 | 2 | 18.52 | 9.26 | ppb | 10.61 | 900.00 | |
| 23 Na | 45 | 1 | 26400.00 | 13200.00 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 27900.00 | 13950.00 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 4606.00 | 2303.00 | ppb | 1.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 5118.00 | 2559.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 2.84 | 1.42 | ppb | 3.21 | 90000.00 | |
| 27 Al | 45 | 2 | 2.94 | 1.47 | ppb | 18.53 | 90000.00 | |
| 39 K | 45 | 1 | 2634.00 | 1317.00 | ppb | 1.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 47140.00 | 23570.00 | ppb | 1.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 0.67 | ppb | 10.96 | 900.00 | |
| 51 V | 45 | 2 | 2.12 | 1.06 | ppb | 5.95 | 900.00 | |
| 52 Cr | 45 | 2 | 1.03 | 0.51 | ppb | 6.07 | 900.00 | |
| 55 Mn | 45 | 2 | 257.80 | 128.90 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 388.80 | 194.40 | ppb | 0.50 | 90000.00 | |
| 59 Co | 45 | 2 | 3.85 | 1.92 | ppb | 1.23 | 900.00 | |
| 60 Ni | 45 | 2 | 4.84 | 2.42 | ppb | 2.50 | 900.00 | |
| 63 Cu | 72 | 2 | 1.59 | 0.80 | ppb | 1.72 | 900.00 | |
| 66 Zn | 72 | 2 | 10.63 | 5.32 | ppb | 0.92 | 900.00 | |
| 75 As | 72 | 2 | 0.85 | 0.42 | ppb | 2.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.26 | ppb | 39.25 | 900.00 | |
| 88 Sr | 103 | 1 | 272.20 | 136.10 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 1.53 | 0.77 | ppb | 7.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 39.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 34.95 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.16 | ppb | 10.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 1.27 | 900.00 | |
| 137 Ba | 159 | 1 | 15.11 | 7.55 | ppb | 1.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 6.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 23.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 699476 | 3.28 | 1085278 | 64.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1747953 | 0.38 | 2030198 | 86.1 | 70 - 130 | |
| 45 Sc | 2 | 179830 | 0.44 | 207475 | 86.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 409459 | 0.70 | 445120 | 92.0 | 70 | - | 130 |
| 72 Ge | 2 | 89387 | 0.17 | 97576 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 2530668 | 1.02 | 2785941 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3102298 | 1.75 | 3215847 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 900137 | 0.97 | 945097 | 95.2 | 70 | - | 130 |
| 159 Tb | 1 | 4453796 | 1.43 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4474732 | 0.60 | 4476327 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 2912377 | 1.08 | 2985373 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 15 2013 01:44 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19637-19F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 44.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 114.73 | 900.00 | |
| 11 B | 6 | 1 | 13.86 | 6.93 | ppb | 4.05 | 900.00 | |
| 11 B | 45 | 2 | 10.15 | 5.07 | ppb | 2.77 | 900.00 | |
| 23 Na | 45 | 1 | 56720.00 | 28360.00 | ppb | 0.94 | 90000.00 | |
| 23 Na | 45 | 2 | 61340.00 | 30670.00 | ppb | 2.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 2674.00 | 1337.00 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 2992.00 | 1496.00 | ppb | 2.27 | 90000.00 | |
| 27 Al | 45 | 1 | 4.98 | 2.49 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 2 | 5.12 | 2.56 | ppb | 6.73 | 90000.00 | |
| 39 K | 45 | 1 | 2928.00 | 1464.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 29500.00 | 14750.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.20 | 0.60 | ppb | 7.20 | 900.00 | |
| 51 V | 45 | 2 | 2.18 | 1.09 | ppb | 2.07 | 900.00 | |
| 52 Cr | 45 | 2 | 0.77 | 0.39 | ppb | 1.25 | 900.00 | |
| 55 Mn | 45 | 2 | 186.36 | 93.18 | ppb | 1.19 | 900.00 | |
| 56 Fe | 45 | 2 | 567.20 | 283.60 | ppb | 1.59 | 90000.00 | |
| 59 Co | 45 | 2 | 2.94 | 1.47 | ppb | 1.20 | 900.00 | |
| 60 Ni | 45 | 2 | 3.99 | 2.00 | ppb | 2.67 | 900.00 | |
| 63 Cu | 72 | 2 | 1.86 | 0.93 | ppb | 4.85 | 900.00 | |
| 66 Zn | 72 | 2 | 11.66 | 5.83 | ppb | 2.06 | 900.00 | |
| 75 As | 72 | 2 | 0.71 | 0.36 | ppb | 3.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.22 | ppb | 11.52 | 900.00 | |
| 88 Sr | 103 | 1 | 276.40 | 138.20 | ppb | 0.98 | 900.00 | |
| 98 Mo | 103 | 1 | 1.47 | 0.73 | ppb | 2.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 74.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 74.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 11.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 5.32 | 900.00 | |
| 137 Ba | 159 | 1 | 11.96 | 5.98 | ppb | 2.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 25.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 25.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 683897 | 1.03 | 1085278 | 63.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1758704 | 1.09 | 2030198 | 86.6 | 70 - 130 | |
| 45 Sc | 2 | 179050 | 1.43 | 207475 | 86.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 407497 | 0.30 | 445120 | 91.5 | 70 | - | 130 |
| 72 Ge | 2 | 88605 | 2.06 | 97576 | 90.8 | 70 | - | 130 |
| 103 Rh | 1 | 2516407 | 1.21 | 2785941 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3015018 | 0.51 | 3215847 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 889638 | 2.10 | 945097 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 4428771 | 0.71 | 4520363 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 4469521 | 0.87 | 4476327 | 99.8 | 70 | - | 130 |
| 209 Bi | 1 | 2845482 | 1.46 | 2985373 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#
Date Acquired: Apr 15 2013 01:51 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19637-20F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 594.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 105.33 | 900.00 | |
| 11 B | 6 | 1 | 21.32 | 10.66 | ppb | 1.57 | 900.00 | |
| 11 B | 45 | 2 | 19.95 | 9.97 | ppb | 9.28 | 900.00 | |
| 23 Na | 45 | 1 | 45240.00 | 22620.00 | ppb | 0.77 | 90000.00 | |
| 23 Na | 45 | 2 | 52360.00 | 26180.00 | ppb | 7.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3328.00 | 1664.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 4032.00 | 2016.00 | ppb | 8.34 | 90000.00 | |
| 27 Al | 45 | 1 | 4.28 | 2.14 | ppb | 3.06 | 90000.00 | |
| 27 Al | 45 | 2 | 5.09 | 2.55 | ppb | 15.91 | 90000.00 | |
| 39 K | 45 | 1 | 3648.00 | 1824.00 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 29220.00 | 14610.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.69 | ppb | 7.02 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 10.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 19.01 | 900.00 | |
| 55 Mn | 45 | 2 | 578.60 | 289.30 | ppb | 8.04 | 900.00 | |
| 56 Fe | 45 | 2 | 3128.00 | 1564.00 | ppb | 8.31 | 90000.00 | |
| 59 Co | 45 | 2 | 8.97 | 4.49 | ppb | 8.14 | 900.00 | |
| 60 Ni | 45 | 2 | 16.47 | 8.24 | ppb | 7.59 | 900.00 | |
| 63 Cu | 72 | 2 | 2.44 | 1.22 | ppb | 9.96 | 900.00 | |
| 66 Zn | 72 | 2 | 18.00 | 9.00 | ppb | 6.47 | 900.00 | |
| 75 As | 72 | 2 | 1.55 | 0.78 | ppb | 7.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.33 | 0.16 | ppb | 99.76 | 900.00 | |
| 88 Sr | 103 | 1 | 272.80 | 136.40 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 9.89 | 4.95 | ppb | 0.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 31.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 46.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 10.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.18 | ppb | 4.90 | 900.00 | |
| 137 Ba | 159 | 1 | 12.43 | 6.22 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 5.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 692268 | 0.83 | 1085278 | 63.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1739364 | 1.18 | 2030198 | 85.7 | 70 - 130 | |
| 45 Sc | 2 | 164253 | 7.71 | 207475 | 79.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 407489 | 0.24 | 445120 | 91.5 | 70 - | 130 |
| 72 | Ge | 2 | 82787 | 6.57 | 97576 | 84.8 | 70 - | 130 |
| 103 | Rh | 1 | 2521347 | 0.31 | 2785941 | 90.5 | 70 - | 130 |
| 115 | In | 1 | 3052017 | 0.64 | 3215847 | 94.9 | 70 - | 130 |
| 115 | In | 2 | 828355 | 7.22 | 945097 | 87.6 | 70 - | 130 |
| 159 | Tb | 1 | 4516986 | 0.69 | 4520363 | 99.9 | 70 - | 130 |
| 175 | Lu | 1 | 4544800 | 0.18 | 4476327 | 101.5 | 70 - | 130 |
| 209 | Bi | 1 | 2897289 | 0.84 | 2985373 | 97.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 15 2013 01:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-B1
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 524.60 | 26.23 | ppb | 1.11 | 900.00 | |
| 9 Be | 45 | 2 | 487.60 | 24.38 | ppb | 2.97 | 900.00 | |
| 11 B | 6 | 1 | 2.32 | 0.12 | ppb | 15.60 | 900.00 | |
| 11 B | 45 | 2 | 3.53 | 0.18 | ppb | 23.59 | 900.00 | |
| 23 Na | 45 | 1 | 25720.00 | 1286.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 27320.00 | 1366.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 26020.00 | 1301.00 | ppb | 0.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 27820.00 | 1391.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2176.00 | 108.80 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 2 | 2234.00 | 111.70 | ppb | 0.47 | 90000.00 | |
| 39 K | 45 | 1 | 25680.00 | 1284.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 26080.00 | 1304.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 517.00 | 25.85 | ppb | 0.56 | 900.00 | |
| 51 V | 45 | 2 | 497.20 | 24.86 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 486.80 | 24.34 | ppb | 0.17 | 900.00 | |
| 55 Mn | 45 | 2 | 489.80 | 24.49 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 2170.00 | 108.50 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 491.80 | 24.59 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 481.00 | 24.05 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 482.60 | 24.13 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 531.60 | 26.58 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 503.00 | 25.15 | ppb | 1.04 | 900.00 | |
| 78 Se | 72 | 2 | 505.40 | 25.27 | ppb | 2.56 | 900.00 | |
| 88 Sr | 103 | 1 | 517.00 | 25.85 | ppb | 1.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.04 | ppb | 10.67 | 900.00 | |
| 107 Ag | 115 | 1 | 209.40 | 10.47 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 493.00 | 24.65 | ppb | 1.16 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 309.85 | 900.00 | |
| 121 Sb | 115 | 1 | 539.40 | 26.97 | ppb | 1.64 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 1.21 | 900.00 | |
| 205 Tl | 209 | 1 | 481.20 | 24.06 | ppb | 1.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1042.60 | 52.13 | ppb | 0.74 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1049945 | 1.78 | 1085278 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 1983406 | 0.15 | 2030198 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 209433 | 0.43 | 207475 | 100.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437449 | 0.56 | 445120 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 99099 | 0.71 | 97576 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 2723778 | 1.49 | 2785941 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 3171336 | 1.24 | 3215847 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 964078 | 0.14 | 945097 | 102.0 | 70 | - | 130 |
| 159 Tb | 1 | 4509500 | 0.67 | 4520363 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 4498664 | 0.27 | 4476327 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 3004274 | 1.33 | 2985373 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 02:03 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20767-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2209 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 530.00 | 26.50 | ppb | 1.34 | 900.00 | |
| 9 Be | 45 | 2 | 504.80 | 25.24 | ppb | 2.80 | 900.00 | |
| 11 B | 6 | 1 | 21.74 | 1.09 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 30.72 | 1.54 | ppb | 21.64 | 900.00 | |
| 23 Na | 45 | 1 | 191280.00 | 9564.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 191860.00 | 9593.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 29420.00 | 1471.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 31160.00 | 1558.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 2220.00 | 111.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 2272.00 | 113.60 | ppb | 0.81 | 90000.00 | |
| 39 K | 45 | 1 | 29840.00 | 1492.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 51840.00 | 2592.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 515.20 | 25.76 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 507.20 | 25.36 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 489.60 | 24.48 | ppb | 1.14 | 900.00 | |
| 55 Mn | 45 | 2 | 1566.20 | 78.31 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 2508.00 | 125.40 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 495.80 | 24.79 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 488.40 | 24.42 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 490.60 | 24.53 | ppb | 0.06 | 900.00 | |
| 66 Zn | 72 | 2 | 539.00 | 26.95 | ppb | 0.94 | 900.00 | |
| 75 As | 72 | 2 | 516.40 | 25.82 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 517.80 | 25.89 | ppb | 3.09 | 900.00 | |
| 88 Sr | 103 | 1 | 798.00 | 39.90 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 2.65 | 0.13 | ppb | 3.66 | 900.00 | |
| 107 Ag | 115 | 1 | 209.60 | 10.48 | ppb | 0.91 | 180.00 | |
| 111 Cd | 115 | 2 | 493.20 | 24.66 | ppb | 1.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.00 | ppb | 83.39 | 900.00 | |
| 121 Sb | 115 | 1 | 546.80 | 27.34 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 2138.00 | 106.90 | ppb | 0.47 | 900.00 | |
| 205 Tl | 209 | 1 | 497.20 | 24.86 | ppb | 0.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1049.80 | 52.49 | ppb | 0.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1094656 | 0.99 | 1085278 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 2023269 | 0.46 | 2030198 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 211243 | 0.52 | 207475 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 433696 | 0.33 | 445120 | 97.4 | 70 - | 130 |
| 72 | Ge | 2 | 98164 | 0.41 | 97576 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 2666809 | 1.20 | 2785941 | 95.7 | 70 - | 130 |
| 115 | In | 1 | 3139036 | 0.66 | 3215847 | 97.6 | 70 - | 130 |
| 115 | In | 2 | 945926 | 1.29 | 945097 | 100.1 | 70 - | 130 |
| 159 | Tb | 1 | 4467268 | 0.34 | 4520363 | 98.8 | 70 - | 130 |
| 175 | Lu | 1 | 4429383 | 0.42 | 4476327 | 99.0 | 70 - | 130 |
| 209 | Bi | 1 | 2937980 | 0.99 | 2985373 | 98.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 02:10 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20767-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 517.80 | 25.89 | ppb | 2.16 | 900.00 | |
| 9 Be | 45 | 2 | 485.40 | 24.27 | ppb | 1.86 | 900.00 | |
| 11 B | 6 | 1 | 22.18 | 1.11 | ppb | 4.73 | 900.00 | |
| 11 B | 45 | 2 | 24.04 | 1.20 | ppb | 4.56 | 900.00 | |
| 23 Na | 45 | 1 | 194040.00 | 9702.00 | ppb | 1.81 | 90000.00 | |
| 23 Na | 45 | 2 | 192660.00 | 9633.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 29580.00 | 1479.00 | ppb | 1.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 30740.00 | 1537.00 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 1 | 2238.00 | 111.90 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2262.00 | 113.10 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 29740.00 | 1487.00 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 51640.00 | 2582.00 | ppb | 0.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 512.00 | 25.60 | ppb | 0.11 | 900.00 | |
| 51 V | 45 | 2 | 497.20 | 24.86 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 480.00 | 24.00 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 1555.20 | 77.76 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2528.00 | 126.40 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 491.80 | 24.59 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 484.00 | 24.20 | ppb | 0.92 | 900.00 | |
| 63 Cu | 72 | 2 | 484.80 | 24.24 | ppb | 0.77 | 900.00 | |
| 66 Zn | 72 | 2 | 537.20 | 26.86 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 505.40 | 25.27 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 505.20 | 25.26 | ppb | 0.82 | 900.00 | |
| 88 Sr | 103 | 1 | 793.80 | 39.69 | ppb | 0.78 | 900.00 | |
| 98 Mo | 103 | 1 | 2.77 | 0.14 | ppb | 6.54 | 900.00 | |
| 107 Ag | 115 | 1 | 208.00 | 10.40 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 487.80 | 24.39 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.01 | ppb | 37.15 | 900.00 | |
| 121 Sb | 115 | 1 | 537.60 | 26.88 | ppb | 0.36 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 0.28 | 900.00 | |
| 205 Tl | 209 | 1 | 488.60 | 24.43 | ppb | 1.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1041.20 | 52.06 | ppb | 1.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1114196 | 2.23 | 1085278 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 2014940 | 0.72 | 2030198 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 212998 | 0.78 | 207475 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 436656 | 0.17 | 445120 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 99244 | 0.31 | 97576 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 2658997 | 0.51 | 2785941 | 95.4 | 70 | - | 130 |
| 115 In | 1 | 3108453 | 0.62 | 3215847 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 953881 | 0.39 | 945097 | 100.9 | 70 | - | 130 |
| 159 Tb | 1 | 4428159 | 0.71 | 4520363 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 4394021 | 0.54 | 4476327 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2905657 | 1.25 | 2985373 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#
Date Acquired: Apr 15 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20767-SD1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.00 | ppb | 170.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.32 | 0.03 | ppb | 86.95 | 900.00 | |
| 11 B | 6 | 1 | 21.29 | 2.13 | ppb | 2.29 | 900.00 | |
| 11 B | 45 | 2 | 21.82 | 2.18 | ppb | 16.38 | 900.00 | |
| 23 Na | 45 | 1 | 164300.00 | 16430.00 | ppb | 2.70 | 90000.00 | |
| 23 Na | 45 | 2 | 161600.00 | 16160.00 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 2788.00 | 278.80 | ppb | 2.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 2755.00 | 275.50 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 0.30 | ppb | 8.26 | 90000.00 | |
| 27 Al | 45 | 2 | 3.28 | 0.33 | ppb | 11.36 | 90000.00 | |
| 39 K | 45 | 1 | 3917.00 | 391.70 | ppb | 1.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 25490.00 | 2549.00 | ppb | 2.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.95 | 0.10 | ppb | 13.73 | 900.00 | |
| 51 V | 45 | 2 | 0.21 | 0.02 | ppb | 44.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.72 | -0.07 | ppb | 2.04 | 900.00 | |
| 55 Mn | 45 | 2 | 1057.00 | 105.70 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 361.10 | 36.11 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 6.62 | 0.66 | ppb | 1.88 | 900.00 | |
| 60 Ni | 45 | 2 | 11.35 | 1.14 | ppb | 0.92 | 900.00 | |
| 63 Cu | 72 | 2 | 1.65 | 0.17 | ppb | 2.65 | 900.00 | |
| 66 Zn | 72 | 2 | 18.59 | 1.86 | ppb | 2.48 | 900.00 | |
| 75 As | 72 | 2 | 0.39 | 0.04 | ppb | 10.67 | 900.00 | |
| 78 Se | 72 | 2 | 1.85 | 0.18 | ppb | 59.47 | 900.00 | |
| 88 Sr | 103 | 1 | 270.70 | 27.07 | ppb | 2.03 | 900.00 | |
| 98 Mo | 103 | 1 | 2.39 | 0.24 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 117.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.02 | ppb | 29.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.00 | ppb | 837.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.03 | ppb | 15.33 | 900.00 | |
| 137 Ba | 159 | 1 | 15.08 | 1.51 | ppb | 0.18 | 900.00 | |
| 205 Tl | 209 | 1 | 1.17 | 0.12 | ppb | 6.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.01 | ppb | 19.26 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1071241 | 1.84 | 1085278 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 1962911 | 0.80 | 2030198 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 208643 | 0.34 | 207475 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433220 | 0.80 | 445120 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 98358 | 0.66 | 97576 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2602314 | 1.97 | 2785941 | 93.4 | 70 | - | 130 |
| 115 In | 1 | 3070556 | 1.20 | 3215847 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 948910 | 1.00 | 945097 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 4405765 | 1.60 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4376614 | 1.46 | 4476327 | 97.8 | 70 | - | 130 |
| 209 Bi | 1 | 2911275 | 1.06 | 2985373 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D# |
| Date Acquired: | Apr 15 2013 02:22 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20767-PS1 |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 19.18 | 9.59 | ppb | 1.08 | 900.00 | |
| 9 Be | 45 | 2 | 15.53 | 7.77 | ppb | 1.77 | 900.00 | |
| 11 B | 6 | 1 | 40.18 | 20.09 | ppb | 0.57 | 900.00 | |
| 11 B | 45 | 2 | 34.80 | 17.40 | ppb | 7.94 | 900.00 | |
| 23 Na | 45 | 1 | 125080.00 | 62540.00 | ppb | 0.20 | 90000.00 | |
| 23 Na | 45 | 2 | 128660.00 | 64330.00 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 2056.00 | 1028.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 2250.00 | 1125.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 20.36 | 10.18 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 2 | 21.28 | 10.64 | ppb | 1.34 | 90000.00 | |
| 39 K | 45 | 1 | 3124.00 | 1562.00 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 20180.00 | 10090.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.91 | 9.45 | ppb | 1.36 | 900.00 | |
| 51 V | 45 | 2 | 18.35 | 9.18 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 16.59 | 8.30 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 902.60 | 451.30 | ppb | 0.04 | 900.00 | |
| 56 Fe | 45 | 2 | 328.80 | 164.40 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 21.72 | 10.86 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 25.24 | 12.62 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 16.93 | 8.47 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 29.92 | 14.96 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 17.11 | 8.56 | ppb | 1.19 | 900.00 | |
| 78 Se | 72 | 2 | 16.63 | 8.32 | ppb | 3.65 | 900.00 | |
| 88 Sr | 103 | 1 | 245.00 | 122.50 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 21.24 | 10.62 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 17.04 | 8.52 | ppb | 0.38 | 180.00 | |
| 111 Cd | 115 | 2 | 16.40 | 8.20 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 19.00 | 9.50 | ppb | 0.48 | 900.00 | |
| 121 Sb | 115 | 1 | 18.21 | 9.10 | ppb | 1.07 | 900.00 | |
| 137 Ba | 159 | 1 | 30.40 | 15.20 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 17.35 | 8.68 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.72 | 8.86 | ppb | 0.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 831595 | 1.23 | 1085278 | 76.6 | 70 - 130 | |
| 45 Sc | 1 | 1804434 | 0.31 | 2030198 | 88.9 | 70 - 130 | |
| 45 Sc | 2 | 186599 | 0.42 | 207475 | 89.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 409108 | 0.38 | 445120 | 91.9 | 70 | - | 130 |
| 72 | Ge | 2 | 91184 | 0.32 | 97576 | 93.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2454477 | 1.39 | 2785941 | 88.1 | 70 | - | 130 |
| 115 | In | 1 | 2961304 | 0.24 | 3215847 | 92.1 | 70 | - | 130 |
| 115 | In | 2 | 884282 | 0.60 | 945097 | 93.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4358329 | 0.24 | 4520363 | 96.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4341454 | 0.20 | 4476327 | 97.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2793271 | 0.24 | 2985373 | 93.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 02:29 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19762-4F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 67.82 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 92.03 | 900.00 | |
| 11 B | 6 | 1 | 28.66 | 14.33 | ppb | 0.76 | 900.00 | |
| 11 B | 45 | 2 | 22.22 | 11.11 | ppb | 7.78 | 900.00 | |
| 23 Na | 45 | 1 | 42920.00 | 21460.00 | ppb | 1.90 | 90000.00 | |
| 23 Na | 45 | 2 | 45300.00 | 22650.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 821.00 | 410.50 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 890.80 | 445.40 | ppb | 1.92 | 90000.00 | |
| 27 Al | 45 | 1 | 7.93 | 3.97 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 8.97 | 4.49 | ppb | 2.80 | 90000.00 | |
| 39 K | 45 | 1 | 2858.00 | 1429.00 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 8040.00 | 4020.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 2.70 | 900.00 | |
| 51 V | 45 | 2 | 2.67 | 1.33 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.14 | ppb | 10.69 | 900.00 | |
| 55 Mn | 45 | 2 | 480.00 | 240.00 | ppb | 0.97 | 900.00 | |
| 56 Fe | 45 | 2 | 235.60 | 117.80 | ppb | 1.46 | 90000.00 | |
| 59 Co | 45 | 2 | 3.69 | 1.85 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 5.26 | 2.63 | ppb | 0.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 2.31 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.36 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 0.76 | 0.38 | ppb | 11.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.12 | ppb | 83.78 | 900.00 | |
| 88 Sr | 103 | 1 | 61.20 | 30.60 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 1.81 | 0.91 | ppb | 2.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.12 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 34.62 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.10 | ppb | 4.59 | 900.00 | |
| 137 Ba | 159 | 1 | 12.04 | 6.02 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 6.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 2.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 777025 | 2.31 | 1085278 | 71.6 | 70 - 130 | |
| 45 Sc | 1 | 1798624 | 0.71 | 2030198 | 88.6 | 70 - 130 | |
| 45 Sc | 2 | 184758 | 0.82 | 207475 | 89.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 417555 | 0.83 | 445120 | 93.8 | 70 | - | 130 |
| 72 Ge | 2 | 91194 | 0.90 | 97576 | 93.5 | 70 | - | 130 |
| 103 Rh | 1 | 2553697 | 1.10 | 2785941 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 3077170 | 0.20 | 3215847 | 95.7 | 70 | - | 130 |
| 115 In | 2 | 904309 | 1.20 | 945097 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 4467267 | 1.17 | 4520363 | 98.8 | 70 | - | 130 |
| 175 Lu | 1 | 4473390 | 0.46 | 4476327 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2932622 | 0.83 | 2985373 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#
**Date Acquired:** Apr 15 2013 02:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-5F
**Misc Info:**
**Vial Number:** 2302
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 15 2013 11:53 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 59.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 99.56 | 900.00 | |
| 11 B | 6 | 1 | 29.50 | 14.75 | ppb | 1.26 | 900.00 | |
| 11 B | 45 | 2 | 22.52 | 11.26 | ppb | 6.86 | 900.00 | |
| 23 Na | 45 | 1 | 42540.00 | 21270.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 45240.00 | 22620.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 821.80 | 410.90 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 888.80 | 444.40 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 3.73 | 1.87 | ppb | 3.33 | 90000.00 | |
| 27 Al | 45 | 2 | 4.05 | 2.03 | ppb | 0.75 | 90000.00 | |
| 39 K | 45 | 1 | 2866.00 | 1433.00 | ppb | 1.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 8052.00 | 4026.00 | ppb | 0.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.12 | 0.56 | ppb | 7.17 | 900.00 | |
| 51 V | 45 | 2 | 3.18 | 1.59 | ppb | 2.26 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.14 | ppb | 5.48 | 900.00 | |
| 55 Mn | 45 | 2 | 494.00 | 247.00 | ppb | 1.35 | 900.00 | |
| 56 Fe | 45 | 2 | 240.00 | 120.00 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 3.77 | 1.89 | ppb | 2.28 | 900.00 | |
| 60 Ni | 45 | 2 | 5.36 | 2.68 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 0.74 | 0.37 | ppb | 6.13 | 900.00 | |
| 66 Zn | 72 | 2 | 6.48 | 3.24 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 0.86 | 0.43 | ppb | 7.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.27 | ppb | 13.63 | 900.00 | |
| 88 Sr | 103 | 1 | 61.90 | 30.95 | ppb | 0.47 | 900.00 | |
| 98 Mo | 103 | 1 | 1.83 | 0.91 | ppb | 2.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 58.48 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 63.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 4.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 8.60 | 900.00 | |
| 137 Ba | 159 | 1 | 12.41 | 6.21 | ppb | 1.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 11.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 31.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 756773 | 1.06 | 1085278 | 69.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1777044 | 0.40 | 2030198 | 87.5 | 70 - 130 | |
| 45 Sc | 2 | 183063 | 0.66 | 207475 | 88.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 415666 | 0.75 | 445120 | 93.4 | 70 | - | 130 |
| 72 Ge | 2 | 90142 | 0.36 | 97576 | 92.4 | 70 | - | 130 |
| 103 Rh | 1 | 2515283 | 0.54 | 2785941 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3006461 | 1.10 | 3215847 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 897345 | 0.22 | 945097 | 94.9 | 70 | - | 130 |
| 159 Tb | 1 | 4407449 | 0.34 | 4520363 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4410018 | 0.96 | 4476327 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 2868654 | 0.59 | 2985373 | 96.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D# |
| Date Acquired: | Apr 15 2013 02:41 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2303 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.80 | 53.80 | ppb | 0.56 | 900.00 | |
| 9 Be | 45 | 2 | 47.48 | 47.48 | ppb | 1.83 | 900.00 | |
| 11 B | 6 | 1 | 53.75 | 53.75 | ppb | 2.09 | 900.00 | |
| 11 B | 45 | 2 | 48.15 | 48.15 | ppb | 0.99 | 900.00 | |
| 23 Na | 45 | 1 | 4937.00 | 4937.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5124.00 | 5124.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 4955.00 | 4955.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 5226.00 | 5226.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 4933.00 | 4933.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 5209.00 | 5209.00 | ppb | 0.86 | 90000.00 | |
| 39 K | 45 | 1 | 5016.00 | 5016.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5201.00 | 5201.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.23 | 52.23 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 48.66 | 48.66 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 48.07 | 48.07 | ppb | 0.60 | 900.00 | |
| 55 Mn | 45 | 2 | 49.20 | 49.20 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 5151.00 | 5151.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 47.72 | 47.72 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 47.55 | 47.55 | ppb | 0.26 | 900.00 | |
| 63 Cu | 72 | 2 | 46.67 | 46.67 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 47.91 | 47.91 | ppb | 0.21 | 900.00 | |
| 75 As | 72 | 2 | 49.03 | 49.03 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 0.91 | 900.00 | |
| 88 Sr | 103 | 1 | 54.47 | 54.47 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 53.13 | 53.13 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 51.12 | 51.12 | ppb | 1.52 | 180.00 | |
| 111 Cd | 115 | 2 | 48.53 | 48.53 | ppb | 0.79 | 900.00 | |
| 120 Sn | 115 | 1 | 52.77 | 52.77 | ppb | 0.65 | 900.00 | |
| 121 Sb | 115 | 1 | 53.86 | 53.86 | ppb | 1.21 | 900.00 | |
| 137 Ba | 159 | 1 | 51.83 | 51.83 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 50.29 | 50.29 | ppb | 1.87 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.24 | 52.24 | ppb | 1.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 964564 | 0.62 | 1085278 | 88.9 | 70 - 130 | |
| 45 Sc | 1 | 1955691 | 0.22 | 2030198 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 204063 | 0.27 | 207475 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 430024 | 0.31 | 445120 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 96646 | 0.27 | 97576 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 2680400 | 0.90 | 2785941 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 3132174 | 1.00 | 3215847 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 930451 | 0.80 | 945097 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 4508959 | 0.54 | 4520363 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 4492579 | 0.95 | 4476327 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 2893525 | 0.90 | 2985373 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D# |
| Date Acquired: | Apr 15 2013 02:48 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2304 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 32.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.62 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 5.12 | 900.00 | |
| 11 B | 45 | 2 | 0.32 | 0.32 | ppb | 66.76 | 900.00 | |
| 23 Na | 45 | 1 | 12.25 | 12.25 | ppb | 3.16 | 90000.00 | |
| 23 Na | 45 | 2 | 13.97 | 13.97 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.01 | 1.01 | ppb | 4.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.21 | 1.21 | ppb | 14.91 | 90000.00 | |
| 27 Al | 45 | 1 | 0.81 | 0.81 | ppb | 8.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.93 | 0.93 | ppb | 7.71 | 90000.00 | |
| 39 K | 45 | 1 | 2.80 | 2.80 | ppb | 35.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.67 | 3.67 | ppb | 1.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 70.29 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 28.32 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 47.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 28.72 | 900.00 | |
| 56 Fe | 45 | 2 | 1.74 | 1.74 | ppb | 3.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 47.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 29.03 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 23.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 15.05 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 67.52 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 29.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 13.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 3.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.89 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 60.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 3.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 19.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 57.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 4.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 18.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 984914 | 2.42 | 1085278 | 90.8 | 70 - 130 | |
| 45 Sc | 1 | 1973717 | 0.57 | 2030198 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 206088 | 0.29 | 207475 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433639 | 0.63 | 445120 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 97288 | 0.62 | 97576 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 2715777 | 0.80 | 2785941 | 97.5 | 70 | - | 130 |
| 115 In | 1 | 3150753 | 0.83 | 3215847 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 958708 | 0.56 | 945097 | 101.4 | 70 | - | 130 |
| 159 Tb | 1 | 4444098 | 0.39 | 4520363 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4423868 | 0.43 | 4476327 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 2959612 | 0.50 | 2985373 | 99.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 15 2013 02:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-6F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 70.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 173.24 | 900.00 | |
| 11 B | 6 | 1 | 61.40 | 30.70 | ppb | 2.98 | 900.00 | |
| 11 B | 45 | 2 | 49.72 | 24.86 | ppb | 2.39 | 900.00 | |
| 23 Na | 45 | 1 | 53880.00 | 26940.00 | ppb | 1.57 | 90000.00 | |
| 23 Na | 45 | 2 | 57760.00 | 28880.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1612.00 | 806.00 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 1807.20 | 903.60 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 1 | 5.53 | 2.76 | ppb | 3.09 | 90000.00 | |
| 27 Al | 45 | 2 | 5.70 | 2.85 | ppb | 4.14 | 90000.00 | |
| 39 K | 45 | 1 | 3474.00 | 1737.00 | ppb | 1.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 18406.00 | 9203.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.97 | 0.49 | ppb | 16.41 | 900.00 | |
| 51 V | 45 | 2 | 1.74 | 0.87 | ppb | 0.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.48 | ppb | 3.18 | 900.00 | |
| 55 Mn | 45 | 2 | 860.20 | 430.10 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 3006.00 | 1503.00 | ppb | 1.59 | 90000.00 | |
| 59 Co | 45 | 2 | 10.95 | 5.48 | ppb | 0.52 | 900.00 | |
| 60 Ni | 45 | 2 | 11.88 | 5.94 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1.19 | 0.60 | ppb | 2.86 | 900.00 | |
| 66 Zn | 72 | 2 | 6.86 | 3.43 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 0.82 | 0.41 | ppb | 2.49 | 900.00 | |
| 78 Se | 72 | 2 | 0.50 | 0.25 | ppb | 26.63 | 900.00 | |
| 88 Sr | 103 | 1 | 135.60 | 67.80 | ppb | 0.37 | 900.00 | |
| 98 Mo | 103 | 1 | 3.02 | 1.51 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 45.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 33.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 8.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 1.18 | 900.00 | |
| 137 Ba | 159 | 1 | 25.72 | 12.86 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 7.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 1.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 748562 | 1.11 | 1085278 | 69.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1785877 | 1.98 | 2030198 | 88.0 | 70 - 130 | |
| 45 Sc | 2 | 181479 | 0.40 | 207475 | 87.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 409228 | 0.56 | 445120 | 91.9 | 70 | - | 130 |
| 72 Ge | 2 | 89853 | 0.53 | 97576 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 2473488 | 0.62 | 2785941 | 88.8 | 70 | - | 130 |
| 115 In | 1 | 2975613 | 0.52 | 3215847 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 888719 | 0.73 | 945097 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 4339544 | 0.70 | 4520363 | 96.0 | 70 | - | 130 |
| 175 Lu | 1 | 4343386 | 0.91 | 4476327 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 2871169 | 0.14 | 2985373 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D#
Date Acquired: Apr 15 2013 03:00 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-7F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 26.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 38.38 | 19.19 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 31.02 | 15.51 | ppb | 2.74 | 900.00 | |
| 23 Na | 45 | 1 | 14422.00 | 7211.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 15112.00 | 7556.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 828.60 | 414.30 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 895.00 | 447.50 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 10.64 | 5.32 | ppb | 1.00 | 90000.00 | |
| 27 Al | 45 | 2 | 11.41 | 5.71 | ppb | 2.11 | 90000.00 | |
| 39 K | 45 | 1 | 1255.20 | 627.60 | ppb | 2.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 6876.00 | 3438.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.88 | 0.44 | ppb | 6.42 | 900.00 | |
| 51 V | 45 | 2 | 2.14 | 1.07 | ppb | 3.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.17 | ppb | 6.44 | 900.00 | |
| 55 Mn | 45 | 2 | 507.80 | 253.90 | ppb | 0.62 | 900.00 | |
| 56 Fe | 45 | 2 | 1772.40 | 886.20 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 4.78 | 2.39 | ppb | 0.21 | 900.00 | |
| 60 Ni | 45 | 2 | 8.28 | 4.14 | ppb | 2.02 | 900.00 | |
| 63 Cu | 72 | 2 | 3.22 | 1.61 | ppb | 2.01 | 900.00 | |
| 66 Zn | 72 | 2 | 8.71 | 4.36 | ppb | 1.65 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.45 | ppb | 4.08 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.28 | ppb | 24.84 | 900.00 | |
| 88 Sr | 103 | 1 | 30.86 | 15.43 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 3.39 | 1.69 | ppb | 0.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 7.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 95.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 8.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.12 | ppb | 4.53 | 900.00 | |
| 137 Ba | 159 | 1 | 6.58 | 3.29 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 4.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 2.18 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 740591 | 0.57 | 1085278 | 68.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1753069 | 1.37 | 2030198 | 86.3 | 70 - 130 | |
| 45 Sc | 2 | 182979 | 0.52 | 207475 | 88.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 414234 | 0.56 | 445120 | 93.1 | 70 | - | 130 |
| 72 Ge | 2 | 90682 | 0.37 | 97576 | 92.9 | 70 | - | 130 |
| 103 Rh | 1 | 2569438 | 1.03 | 2785941 | 92.2 | 70 | - | 130 |
| 115 In | 1 | 3059434 | 0.41 | 3215847 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 907770 | 0.70 | 945097 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 4447327 | 0.52 | 4520363 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4471377 | 0.65 | 4476327 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2929253 | 0.54 | 2985373 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 03:07 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19762-8F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2307 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 75.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.17 | 900.00 | |
| 11 B | 6 | 1 | 1.28 | 0.64 | ppb | 3.79 | 900.00 | |
| 11 B | 45 | 2 | 1.66 | 0.83 | ppb | 9.77 | 900.00 | |
| 23 Na | 45 | 1 | 37.76 | 18.88 | ppb | 3.84 | 90000.00 | |
| 23 Na | 45 | 2 | 45.82 | 22.91 | ppb | 40.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.57 | 1.78 | ppb | 2.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.75 | 1.87 | ppb | 18.96 | 90000.00 | |
| 27 Al | 45 | 1 | 2.88 | 1.44 | ppb | 8.31 | 90000.00 | |
| 27 Al | 45 | 2 | 3.16 | 1.58 | ppb | 16.89 | 90000.00 | |
| 39 K | 45 | 1 | 10.61 | 5.31 | ppb | 53.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 110.06 | 55.03 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.56 | 0.28 | ppb | 4.22 | 900.00 | |
| 51 V | 45 | 2 | 1.88 | 0.94 | ppb | 21.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.12 | 0.06 | ppb | 87.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.11 | ppb | 20.47 | 900.00 | |
| 56 Fe | 45 | 2 | 6.09 | 3.05 | ppb | 28.31 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 69.72 | 900.00 | |
| 60 Ni | 45 | 2 | 0.12 | 0.06 | ppb | 40.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 16.04 | 900.00 | |
| 66 Zn | 72 | 2 | 13.42 | 6.71 | ppb | 13.04 | 900.00 | |
| 75 As | 72 | 2 | 0.30 | 0.15 | ppb | 21.67 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 45.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.10 | 0.05 | ppb | 6.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 21.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 68.04 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 92.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 7.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.05 | ppb | 6.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.09 | ppb | 4.45 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 31.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 6.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 828830 | 2.18 | 1085278 | 76.4 | 70 - 130 | |
| 45 Sc | 1 | 1824032 | 1.10 | 2030198 | 89.8 | 70 - 130 | |
| 45 Sc | 2 | 186197 | 15.02 | 207475 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 418622 | 0.60 | 445120 | 94.0 | 70 | - | 130 |
| 72 | Ge | 2 | 91163 | 12.57 | 97576 | 93.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2659267 | 0.60 | 2785941 | 95.5 | 70 | - | 130 |
| 115 | In | 1 | 3120660 | 0.91 | 3215847 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 915101 | 14.73 | 945097 | 96.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4538183 | 0.79 | 4520363 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4487017 | 0.20 | 4476327 | 100.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2989716 | 0.78 | 2985373 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 03:13 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20768-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2308 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 521.00 | 26.05 | ppb | 0.35 | 900.00 | |
| 9 Be | 45 | 2 | 478.40 | 23.92 | ppb | 2.90 | 900.00 | |
| 11 B | 6 | 1 | 2.15 | 0.11 | ppb | 9.65 | 900.00 | |
| 11 B | 45 | 2 | 5.05 | 0.25 | ppb | 82.84 | 900.00 | |
| 23 Na | 45 | 1 | 26100.00 | 1305.00 | ppb | 1.81 | 90000.00 | |
| 23 Na | 45 | 2 | 27060.00 | 1353.00 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 26280.00 | 1314.00 | ppb | 1.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 27860.00 | 1393.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 2172.00 | 108.60 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.81 | 90000.00 | |
| 39 K | 45 | 1 | 25920.00 | 1296.00 | ppb | 0.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 25940.00 | 1297.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.20 | 25.41 | ppb | 1.12 | 900.00 | |
| 51 V | 45 | 2 | 497.60 | 24.88 | ppb | 0.79 | 900.00 | |
| 52 Cr | 45 | 2 | 485.00 | 24.25 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 486.40 | 24.32 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 2128.00 | 106.40 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 485.20 | 24.26 | ppb | 1.20 | 900.00 | |
| 60 Ni | 45 | 2 | 475.40 | 23.77 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 477.40 | 23.87 | ppb | 0.22 | 900.00 | |
| 66 Zn | 72 | 2 | 525.00 | 26.25 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 503.60 | 25.18 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | 511.20 | 25.56 | ppb | 1.55 | 900.00 | |
| 88 Sr | 103 | 1 | 514.80 | 25.74 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.55 | 0.03 | ppb | 15.14 | 900.00 | |
| 107 Ag | 115 | 1 | 208.40 | 10.42 | ppb | 0.80 | 180.00 | |
| 111 Cd | 115 | 2 | 489.20 | 24.46 | ppb | 0.58 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 443.08 | 900.00 | |
| 121 Sb | 115 | 1 | 530.00 | 26.50 | ppb | 0.79 | 900.00 | |
| 137 Ba | 159 | 1 | 2092.00 | 104.60 | ppb | 0.27 | 900.00 | |
| 205 Tl | 209 | 1 | 483.00 | 24.15 | ppb | 1.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1035.20 | 51.76 | ppb | 1.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1102232 | 2.52 | 1085278 | 101.6 | 70 - 130 | |
| 45 Sc | 1 | 2014224 | 0.91 | 2030198 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 212626 | 0.90 | 207475 | 102.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 435595 | 0.42 | 445120 | 97.9 | 70 - | 130 |
| 72 | Ge | 2 | 100190 | 0.33 | 97576 | 102.7 | 70 - | 130 |
| 103 | Rh | 1 | 2713291 | 0.41 | 2785941 | 97.4 | 70 - | 130 |
| 115 | In | 1 | 3178956 | 1.33 | 3215847 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 965837 | 0.59 | 945097 | 102.2 | 70 - | 130 |
| 159 | Tb | 1 | 4461912 | 0.08 | 4520363 | 98.7 | 70 - | 130 |
| 175 | Lu | 1 | 4479709 | 0.83 | 4476327 | 100.1 | 70 - | 130 |
| 209 | Bi | 1 | 2942646 | 1.36 | 2985373 | 98.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D# |
| Date Acquired: | Apr 15 2013 03:19 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20768-S1 |
| Misc Info: | |
| Vial Number: | 2309 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 521.20 | 26.06 | ppb | 1.50 | 900.00 | |
| 9 Be | 45 | 2 | 485.80 | 24.29 | ppb | 2.42 | 900.00 | |
| 11 B | 6 | 1 | 23.68 | 1.18 | ppb | 6.36 | 900.00 | |
| 11 B | 45 | 2 | 22.84 | 1.14 | ppb | 22.71 | 900.00 | |
| 23 Na | 45 | 1 | 75700.00 | 3785.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 75260.00 | 3763.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 28280.00 | 1414.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 29260.00 | 1463.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2270.00 | 113.50 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2274.00 | 113.70 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 29500.00 | 1475.00 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 34760.00 | 1738.00 | ppb | 1.02 | 90000.00 | |
| 47 Ti | 45 | 1 | 528.80 | 26.44 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 506.80 | 25.34 | ppb | 0.40 | 900.00 | |
| 52 Cr | 45 | 2 | 489.80 | 24.49 | ppb | 0.83 | 900.00 | |
| 55 Mn | 45 | 2 | 964.20 | 48.21 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 2366.00 | 118.30 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 495.00 | 24.75 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 487.80 | 24.39 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 490.20 | 24.51 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 539.20 | 26.96 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 516.00 | 25.80 | ppb | 0.33 | 900.00 | |
| 78 Se | 72 | 2 | 527.40 | 26.37 | ppb | 2.85 | 900.00 | |
| 88 Sr | 103 | 1 | 586.00 | 29.30 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 2.01 | 0.10 | ppb | 8.22 | 900.00 | |
| 107 Ag | 115 | 1 | 209.80 | 10.49 | ppb | 1.41 | 180.00 | |
| 111 Cd | 115 | 2 | 502.60 | 25.13 | ppb | 1.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 431.73 | 900.00 | |
| 121 Sb | 115 | 1 | 543.40 | 27.17 | ppb | 1.47 | 900.00 | |
| 137 Ba | 159 | 1 | 2144.00 | 107.20 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 497.60 | 24.88 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1060.20 | 53.01 | ppb | 0.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1154542 | 2.57 | 1085278 | 106.4 | 70 - 130 | |
| 45 Sc | 1 | 2030786 | 0.61 | 2030198 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 216535 | 0.62 | 207475 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438770 | 0.39 | 445120 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 100854 | 0.41 | 97576 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 2706043 | 0.67 | 2785941 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3153842 | 1.61 | 3215847 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 967003 | 0.55 | 945097 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4452698 | 0.19 | 4520363 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 4415219 | 0.47 | 4476327 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 2898748 | 0.62 | 2985373 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D# |
| Date Acquired: | Apr 15 2013 03:26 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20768-S2 |
| Misc Info: | |
| Vial Number: | 2310 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 525.40 | 26.27 | ppb | 2.42 | 900.00 | |
| 9 Be | 45 | 2 | 506.80 | 25.34 | ppb | 15.61 | 900.00 | |
| 11 B | 6 | 1 | 22.58 | 1.13 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 28.92 | 1.45 | ppb | 31.85 | 900.00 | |
| 23 Na | 45 | 1 | 74520.00 | 3726.00 | ppb | 1.68 | 90000.00 | |
| 23 Na | 45 | 2 | 78240.00 | 3912.00 | ppb | 15.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 27860.00 | 1393.00 | ppb | 2.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 30320.00 | 1516.00 | ppb | 15.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2248.00 | 112.40 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 2404.00 | 120.20 | ppb | 18.07 | 90000.00 | |
| 39 K | 45 | 1 | 29260.00 | 1463.00 | ppb | 1.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 34600.00 | 1730.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 526.40 | 26.32 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 15.80 | 900.00 | |
| 52 Cr | 45 | 2 | 508.80 | 25.44 | ppb | 15.46 | 900.00 | |
| 55 Mn | 45 | 2 | 1003.00 | 50.15 | ppb | 15.08 | 900.00 | |
| 56 Fe | 45 | 2 | 2480.00 | 124.00 | ppb | 16.11 | 90000.00 | |
| 59 Co | 45 | 2 | 515.60 | 25.78 | ppb | 15.35 | 900.00 | |
| 60 Ni | 45 | 2 | 504.80 | 25.24 | ppb | 15.08 | 900.00 | |
| 63 Cu | 72 | 2 | 508.60 | 25.43 | ppb | 10.55 | 900.00 | |
| 66 Zn | 72 | 2 | 556.00 | 27.80 | ppb | 11.31 | 900.00 | |
| 75 As | 72 | 2 | 530.00 | 26.50 | ppb | 10.69 | 900.00 | |
| 78 Se | 72 | 2 | 527.40 | 26.37 | ppb | 10.36 | 900.00 | |
| 88 Sr | 103 | 1 | 588.20 | 29.41 | ppb | 1.16 | 900.00 | |
| 98 Mo | 103 | 1 | 2.07 | 0.10 | ppb | 5.86 | 900.00 | |
| 107 Ag | 115 | 1 | 210.40 | 10.52 | ppb | 1.42 | 180.00 | |
| 111 Cd | 115 | 2 | 523.40 | 26.17 | ppb | 13.73 | 900.00 | |
| 120 Sn | 115 | 1 | 1.78 | 0.09 | ppb | 5.15 | 900.00 | |
| 121 Sb | 115 | 1 | 541.60 | 27.08 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 2132.00 | 106.60 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 499.00 | 24.95 | ppb | 3.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1060.20 | 53.01 | ppb | 1.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1146545 | 1.66 | 1085278 | 105.6 | 70 - 130 | |
| 45 Sc | 1 | 2070485 | 0.77 | 2030198 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 213559 | 14.46 | 207475 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 443438 | 0.97 | 445120 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 99688 | 9.44 | 97576 | 102.2 | 70 | - | 130 |
| 103 Rh | 1 | 2726384 | 1.18 | 2785941 | 97.9 | 70 | - | 130 |
| 115 In | 1 | 3167865 | 0.64 | 3215847 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 942186 | 12.97 | 945097 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 4482529 | 1.25 | 4520363 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 4415416 | 0.83 | 4476327 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 2878976 | 1.74 | 2985373 | 96.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D#
Date Acquired: Apr 15 2013 03:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20768-SD1
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.01 | ppb | 10.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.57 | 0.06 | ppb | 31.73 | 900.00 | |
| 11 B | 6 | 1 | 23.28 | 2.33 | ppb | 3.10 | 900.00 | |
| 11 B | 45 | 2 | 20.79 | 2.08 | ppb | 2.97 | 900.00 | |
| 23 Na | 45 | 1 | 47620.00 | 4762.00 | ppb | 0.84 | 90000.00 | |
| 23 Na | 45 | 2 | 47630.00 | 4763.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 948.20 | 94.82 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 959.10 | 95.91 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 9.58 | 0.96 | ppb | 4.10 | 90000.00 | |
| 27 Al | 45 | 2 | 11.99 | 1.20 | ppb | 10.94 | 90000.00 | |
| 39 K | 45 | 1 | 3024.00 | 302.40 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 8496.00 | 849.60 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.16 | 0.12 | ppb | 6.81 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.09 | ppb | 7.77 | 900.00 | |
| 52 Cr | 45 | 2 | -0.44 | -0.04 | ppb | 8.11 | 900.00 | |
| 55 Mn | 45 | 2 | 472.10 | 47.21 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 225.30 | 22.53 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 3.74 | 0.37 | ppb | 3.89 | 900.00 | |
| 60 Ni | 45 | 2 | 5.35 | 0.53 | ppb | 3.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.10 | ppb | 4.54 | 900.00 | |
| 66 Zn | 72 | 2 | 8.23 | 0.82 | ppb | 3.00 | 900.00 | |
| 75 As | 72 | 2 | 0.62 | 0.06 | ppb | 28.17 | 900.00 | |
| 78 Se | 72 | 2 | 2.87 | 0.29 | ppb | 37.73 | 900.00 | |
| 88 Sr | 103 | 1 | 61.78 | 6.18 | ppb | 0.91 | 900.00 | |
| 98 Mo | 103 | 1 | 1.58 | 0.16 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.01 | ppb | 14.90 | 180.00 | |
| 111 Cd | 115 | 2 | 0.28 | 0.03 | ppb | 25.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.98 | 0.10 | ppb | 0.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.03 | ppb | 11.86 | 900.00 | |
| 137 Ba | 159 | 1 | 12.80 | 1.28 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 1.16 | 0.12 | ppb | 9.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.02 | ppb | 7.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1086066 | 0.78 | 1085278 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 2003334 | 1.13 | 2030198 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 212085 | 0.21 | 207475 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437910 | 0.38 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 99871 | 0.34 | 97576 | 102.4 | 70 | - | 130 |
| 103 Rh | 1 | 2688047 | 1.10 | 2785941 | 96.5 | 70 | - | 130 |
| 115 In | 1 | 3130434 | 1.42 | 3215847 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 965779 | 0.54 | 945097 | 102.2 | 70 | - | 130 |
| 159 Tb | 1 | 4444553 | 0.20 | 4520363 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4375800 | 0.61 | 4476327 | 97.8 | 70 | - | 130 |
| 209 Bi | 1 | 2913666 | 0.53 | 2985373 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 03:39 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20768-PS1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2312 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 19.31 | 9.66 | ppb | 2.24 | 900.00 | |
| 9 Be | 45 | 2 | 15.87 | 7.94 | ppb | 0.72 | 900.00 | |
| 11 B | 6 | 1 | 42.48 | 21.24 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 35.68 | 17.84 | ppb | 4.00 | 900.00 | |
| 23 Na | 45 | 1 | 36800.00 | 18400.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 38300.00 | 19150.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 722.20 | 361.10 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 770.40 | 385.20 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 25.52 | 12.76 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 27.88 | 13.94 | ppb | 3.01 | 90000.00 | |
| 39 K | 45 | 1 | 2438.00 | 1219.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.95 | 9.47 | ppb | 1.53 | 900.00 | |
| 51 V | 45 | 2 | 19.13 | 9.57 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 16.61 | 8.31 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 413.00 | 206.50 | ppb | 0.96 | 900.00 | |
| 56 Fe | 45 | 2 | 213.00 | 106.50 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 19.34 | 9.67 | ppb | 0.21 | 900.00 | |
| 60 Ni | 45 | 2 | 20.48 | 10.24 | ppb | 0.29 | 900.00 | |
| 63 Cu | 72 | 2 | 16.52 | 8.26 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 24.48 | 12.24 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 17.28 | 8.64 | ppb | 0.74 | 900.00 | |
| 78 Se | 72 | 2 | 16.62 | 8.31 | ppb | 3.39 | 900.00 | |
| 88 Sr | 103 | 1 | 69.52 | 34.76 | ppb | 0.25 | 900.00 | |
| 98 Mo | 103 | 1 | 20.18 | 10.09 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 17.30 | 8.65 | ppb | 1.06 | 180.00 | |
| 111 Cd | 115 | 2 | 16.27 | 8.14 | ppb | 0.81 | 900.00 | |
| 120 Sn | 115 | 1 | 18.53 | 9.26 | ppb | 0.25 | 900.00 | |
| 121 Sb | 115 | 1 | 18.30 | 9.15 | ppb | 0.28 | 900.00 | |
| 137 Ba | 159 | 1 | 27.80 | 13.90 | ppb | 0.85 | 900.00 | |
| 205 Tl | 209 | 1 | 16.81 | 8.40 | ppb | 0.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.72 | 8.86 | ppb | 0.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 826456 | 0.88 | 1085278 | 76.2 | 70 - 130 | |
| 45 Sc | 1 | 1815481 | 0.33 | 2030198 | 89.4 | 70 - 130 | |
| 45 Sc | 2 | 190507 | 0.39 | 207475 | 91.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 416424 | 0.16 | 445120 | 93.6 | 70 | - | 130 |
| 72 Ge | 2 | 92340 | 0.43 | 97576 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 2549311 | 0.52 | 2785941 | 91.5 | 70 | - | 130 |
| 115 In | 1 | 3006726 | 0.47 | 3215847 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 908746 | 0.80 | 945097 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 4372158 | 0.39 | 4520363 | 96.7 | 70 | - | 130 |
| 175 Lu | 1 | 4311726 | 0.56 | 4476327 | 96.3 | 70 | - | 130 |
| 209 Bi | 1 | 2854855 | 1.94 | 2985373 | 95.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D# | | |
| **Date Acquired:** | Apr 15 2013 03:52 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2401 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 15 2013 11:53 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 2.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 27.64 | 900.00 | |
| 11 B | 6 | 1 | 5.06 | 5.06 | ppb | 2.78 | 900.00 | |
| 11 B | 45 | 2 | 4.62 | 4.62 | ppb | 9.41 | 900.00 | |
| 23 Na | 45 | 1 | 269.70 | 269.70 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 289.60 | 289.60 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 264.50 | 264.50 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.30 | 276.30 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 26.60 | 26.60 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 27.72 | 27.72 | ppb | 0.91 | 90000.00 | |
| 39 K | 45 | 1 | 249.40 | 249.40 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.90 | 264.90 | ppb | 0.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.09 | 1.09 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 1.29 | 1.29 | ppb | 2.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.91 | ppb | 1.65 | 900.00 | |
| 55 Mn | 45 | 2 | 1.15 | 1.15 | ppb | 3.30 | 900.00 | |
| 56 Fe | 45 | 2 | 28.83 | 28.83 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.48 | 0.48 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.95 | 0.95 | ppb | 1.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 1.69 | 900.00 | |
| 66 Zn | 72 | 2 | 2.12 | 2.12 | ppb | 3.54 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 5.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.52 | 0.52 | ppb | 10.73 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 1.25 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 3.69 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 0.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 1.39 | 900.00 | |
| 137 Ba | 159 | 1 | 1.10 | 1.10 | ppb | 3.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 1.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 1.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1043048 | 1.15 | 1085278 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 1972339 | 0.69 | 2030198 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 209458 | 0.24 | 207475 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 431683 | 0.61 | 445120 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 98510 | 0.27 | 97576 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 2705799 | 0.57 | 2785941 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3173747 | 0.18 | 3215847 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 956120 | 0.74 | 945097 | 101.2 | 70 | - | 130 |
| 159 Tb | 1 | 4380422 | 1.08 | 4520363 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 4330861 | 1.03 | 4476327 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 2906092 | 0.60 | 2985373 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#
Date Acquired: Apr 15 2013 03:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 15 2013 11:53 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.33 | 53.33 | ppb | 0.80 | 900.00 | |
| 9 Be | 45 | 2 | 46.52 | 46.52 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 52.33 | 52.33 | ppb | 0.91 | 900.00 | |
| 11 B | 45 | 2 | 47.89 | 47.89 | ppb | 6.24 | 900.00 | |
| 23 Na | 45 | 1 | 5003.00 | 5003.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 5133.00 | 5133.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 5030.00 | 5030.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 5247.00 | 5247.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 4989.00 | 4989.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 2 | 5333.00 | 5333.00 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 5051.00 | 5051.00 | ppb | 2.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 5209.00 | 5209.00 | ppb | 1.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 52.29 | 52.29 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 48.67 | 48.67 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 47.53 | 47.53 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 48.78 | 48.78 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 5118.00 | 5118.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 47.08 | 47.08 | ppb | 0.85 | 900.00 | |
| 60 Ni | 45 | 2 | 46.66 | 46.66 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 46.53 | 46.53 | ppb | 0.24 | 900.00 | |
| 66 Zn | 72 | 2 | 48.26 | 48.26 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 49.59 | 49.59 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 51.03 | 51.03 | ppb | 1.35 | 900.00 | |
| 88 Sr | 103 | 1 | 54.63 | 54.63 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 53.50 | 53.50 | ppb | 0.39 | 900.00 | |
| 107 Ag | 115 | 1 | 51.27 | 51.27 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 48.93 | 48.93 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | 52.77 | 52.77 | ppb | 0.70 | 900.00 | |
| 121 Sb | 115 | 1 | 54.06 | 54.06 | ppb | 0.07 | 900.00 | |
| 137 Ba | 159 | 1 | 52.62 | 52.62 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 50.31 | 50.31 | ppb | 1.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.37 | 52.37 | ppb | 0.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1015237 | 0.53 | 1085278 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 1975324 | 0.38 | 2030198 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 210025 | 0.55 | 207475 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 430260 | 0.53 | 445120 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 97819 | 0.16 | 97576 | 100.2 | 70 | - | 130 |
| 103 Rh | 1 | 2638427 | 0.80 | 2785941 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 3095157 | 0.32 | 3215847 | 96.2 | 70 | - | 130 |
| 115 In | 2 | 937548 | 0.30 | 945097 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4385827 | 1.23 | 4520363 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 4356441 | 0.68 | 4476327 | 97.3 | 70 | - | 130 |
| 209 Bi | 1 | 2810601 | 0.26 | 2985373 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Apr 15 2013 04:05 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2403 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 15 2013 11:53 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 97.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.20 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 13.85 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 50.02 | 900.00 | |
| 23 Na | 45 | 1 | 6.10 | 6.10 | ppb | 4.66 | 90000.00 | |
| 23 Na | 45 | 2 | 7.08 | 7.08 | ppb | 5.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.08 | 1.08 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.48 | 1.48 | ppb | 16.27 | 90000.00 | |
| 27 Al | 45 | 1 | 1.02 | 1.02 | ppb | 4.71 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 1.35 | ppb | 15.00 | 90000.00 | |
| 39 K | 45 | 1 | 2.96 | 2.96 | ppb | 29.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 14.66 | 14.66 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 168.15 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 24.24 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 31.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 7.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2.18 | 2.18 | ppb | 3.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.22 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 82.19 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 5.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 13.65 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 26.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 64.38 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 3.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 14.70 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 38.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 53.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 11.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 16.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 94.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 4.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1033544 | 1.86 | 1085278 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 1985080 | 0.61 | 2030198 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 211344 | 0.29 | 207475 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D15k01.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437828 | 0.72 | 445120 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 98792 | 0.45 | 97576 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 2712700 | 1.31 | 2785941 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 3162416 | 1.25 | 3215847 | 98.3 | 70 | - | 130 |
| 115 In | 2 | 966924 | 0.31 | 945097 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4457166 | 0.70 | 4520363 | 98.6 | 70 | - | 130 |
| 175 Lu | 1 | 4383383 | 0.55 | 4476327 | 97.9 | 70 | - | 130 |
| 209 Bi | 1 | 2931657 | 0.26 | 2985373 | 98.2 | 70 | - | 130 |

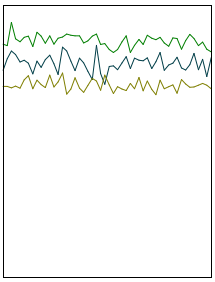
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D15k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

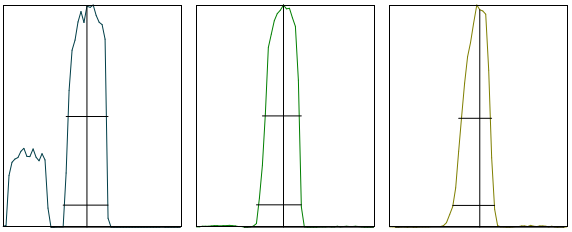
# Tune Report

Tune File : nogas.u
Comment : 041513



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 2,000 | 1617.0 | 1575.3 | 3.78 | 1.00 |
| 89 | 5,000 | 4146.0 | 4352.1 | 2.53 | 1.60 |
| 205 | 5,000 | 3468.0 | 3533.3 | 2.75 | 3.90 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.237%
Doubly Charged: 70/140 4.473%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 1,619 | 4,385 | 3,570 |
| Axis: | 6.95 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.65 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -120 V | AMU Offset | : | 124 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -16 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 2.4 V | Axis Offset | : | -0.07 |
| Torch-V | : | 1 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.85 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.2 L/min | Cell Exit | : | -30 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1870 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1540 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -10 V |
| Cell Exit: | -50 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 218.4 | 9.74 |
| 59 | 900.0 | 4.01 |
| 89 | 1040.9 | 3.99 |

Integration Time: 0.1000sec



Generated : Apr 15, 2013 10:03:59
Printed : Apr 15, 2013 10:04:49

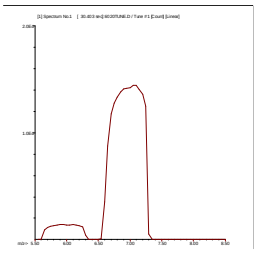
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 15 2013 10:35 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

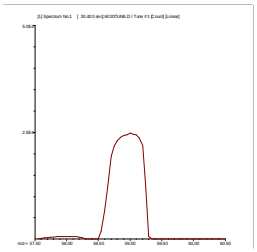
**QC Tune Summary:**
**Pass**

**RSD%**

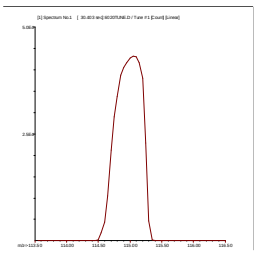
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.07 | 5.00 | 0 |
| 59 Co | 0.44 | 5.00 | |
| 115 In | 0.93 | 5.00 | |
| 205 Tl | 3.26 | 5.00 | |



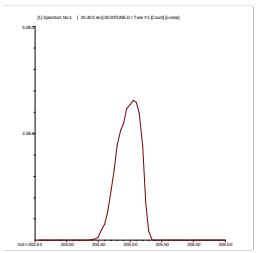
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 15, 2013 11:53 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

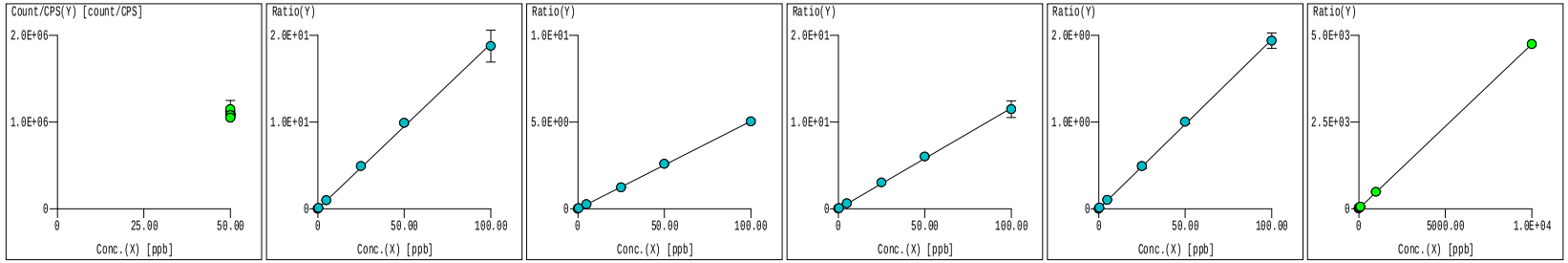
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d15k01.b\002calb.d\002calb.d# | STDA | Apr 15 2013 11:05 am |
| 2 | c:\icpchem\1\data\13d15k01.b\003cals.d\003cals.d# | STDB | Apr 15 2013 11:12 am |
| 3 | c:\icpchem\1\data\13d15k01.b\004cals.d\004cals.d# | STDC | Apr 15 2013 11:18 am |
| 4 | c:\icpchem\1\data\13d15k01.b\005cals.d\005cals.d# | STDD | Apr 15 2013 11:24 am |
| 5 | c:\icpchem\1\data\13d15k01.b\006cals.d\006cals.d# | STDE | Apr 15 2013 11:31 am |
| 6 | c:\icpchem\1\data\13d15k01.b\007cals.d\007cals.d# | STDF | Apr 15 2013 11:37 am |
| 7 | c:\icpchem\1\data\13d15k01.b\008cals.d\008cals.d# | STDG | Apr 15 2013 11:44 am |
| 8 | c:\icpchem\1\data\13d15k01.b\009cals.d\009cals.d# | STDH | Apr 15 2013 11:50 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

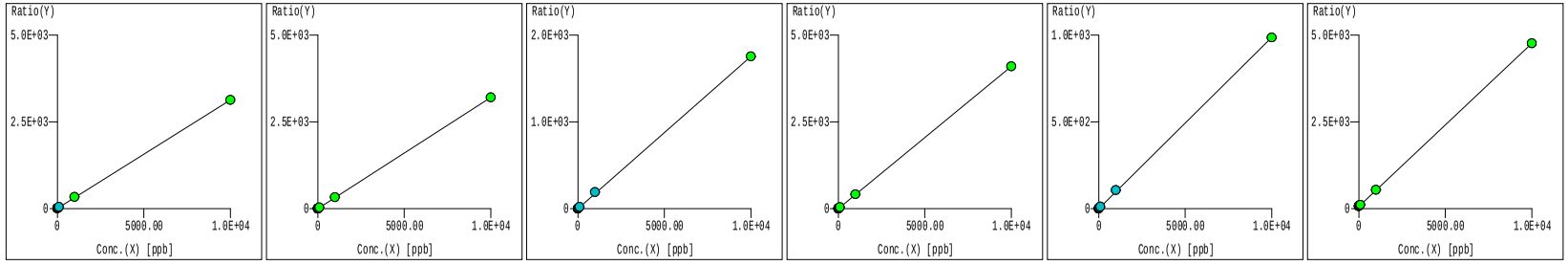
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9996 | 0.9999 | 0.9997 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 8.645E-03 ppb | --- ppb | 3.701E-02 ppb | 1.428E-01 ppb | 4.068E-01 ppb |
| < BEC > | --- ppb | 7.298E-03 ppb | 0.000 ppb | 1.286E-01 ppb | 2.749E-02 ppb | 24.61 ppb |



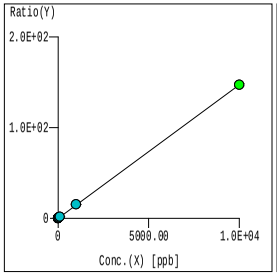

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.330E-01 ppb | 1.807E-02 ppb | 6.159E-02 ppb | 1.379E-02 ppb | 1.235E-01 ppb | 3.008 ppb |
| < BEC > | 33.18 ppb | 3.108E-01 ppb | 3.584E-01 ppb | 5.866E-01 ppb | 6.594E-01 ppb | 149.5 ppb |

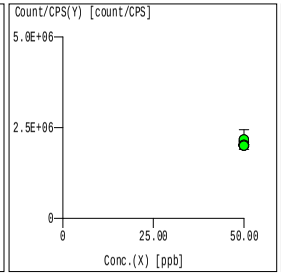


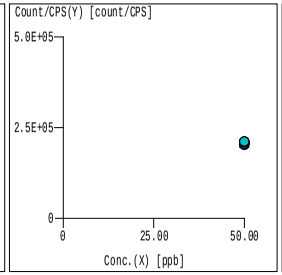
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

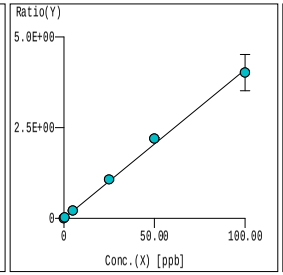
=== Graph Summary ===
Page: 2/4

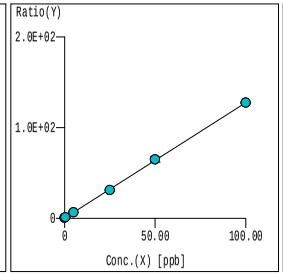
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9990 | 0.9999 | 0.9999 |
| < DL > | 7.192E-01 ppb | --- ppb | --- ppb | 1.913E-02 ppb | 1.433E-02 ppb | 1.760E-02 ppb |
| < BEC > | 6.606 ppb | --- ppb | --- ppb | 4.270E-02 ppb | 3.604E-01 ppb | 2.374E-01 ppb |

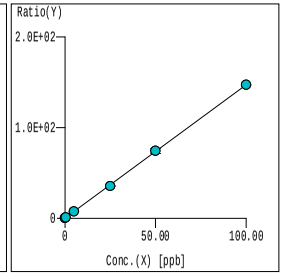




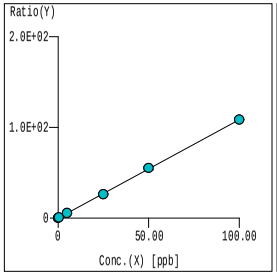


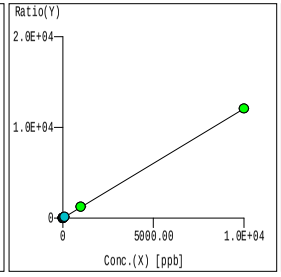


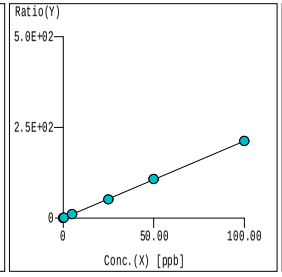


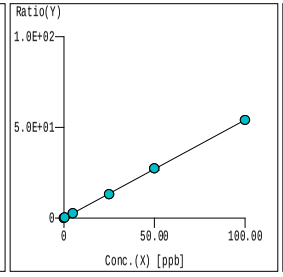


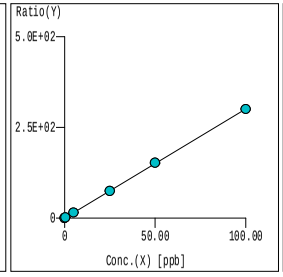

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 0.9999 | 1.0000 | 0.9999 |
| < DL > | 8.861E-03 ppb | 9.306E-02 ppb | 1.713E-03 ppb | 8.661E-03 ppb | 1.301E-03 ppb | 2.122E-02 ppb |
| < BEC > | 1.117E-01 ppb | 2.801 ppb | 2.170E-03 ppb | 5.054E-02 ppb | 8.862E-02 ppb | 7.139E-02 ppb |

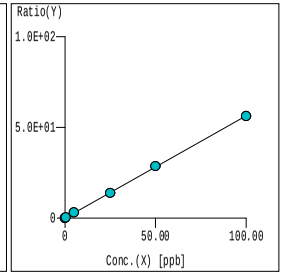








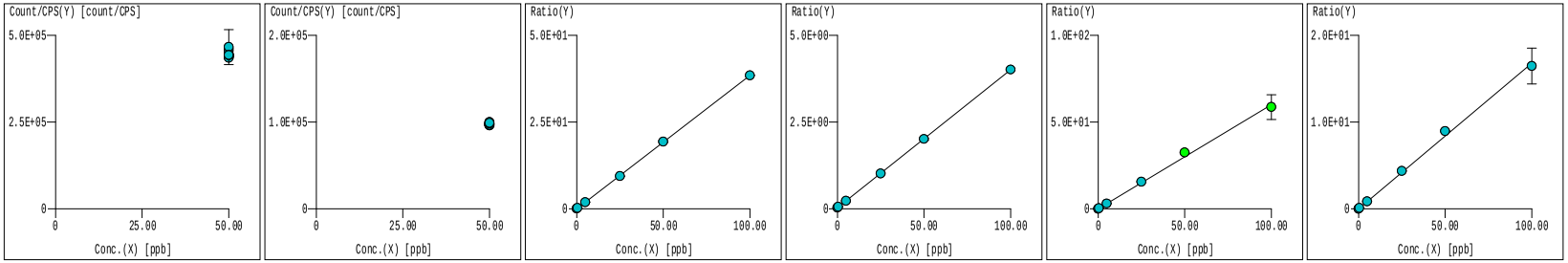




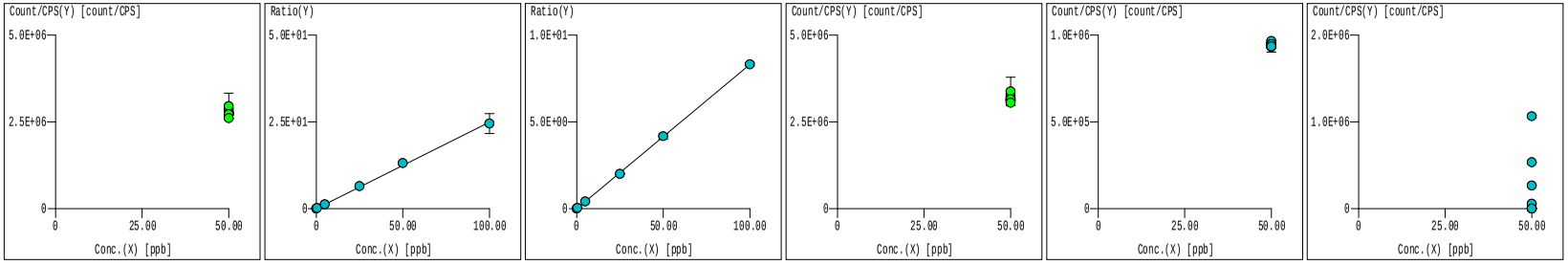
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9987 | 0.9991 |
| < DL > | --- ppb | --- ppb | 2.424E-02 ppb | 1.779E-01 ppb | 3.470E-03 ppb | 4.838E-03 ppb |
| < BEC > | --- ppb | --- ppb | 8.948E-02 ppb | 8.018E-01 ppb | 8.546E-03 ppb | 6.412E-03 ppb |



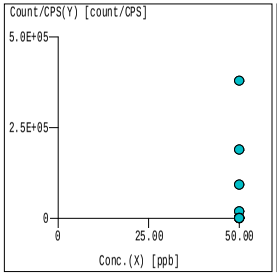

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9994 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.982E-03 ppb | 7.349E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.029E-03 ppb | 4.953E-03 ppb | --- ppb | --- ppb | --- ppb |

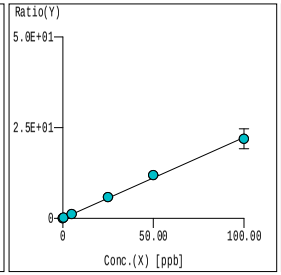


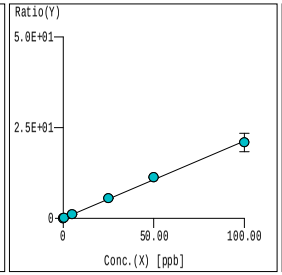
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

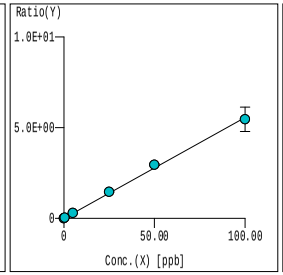
=== Graph Summary ===
Page: 4/4

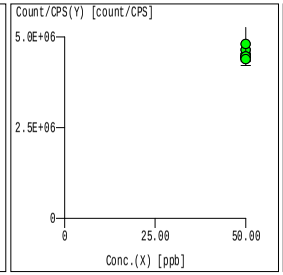
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9991 | 0.9992 | 0.9992 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.026E-02 ppb | 5.465E-03 ppb | 4.131E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.206E-02 ppb | 6.009E-03 ppb | 9.952E-02 ppb | --- ppb | --- ppb |

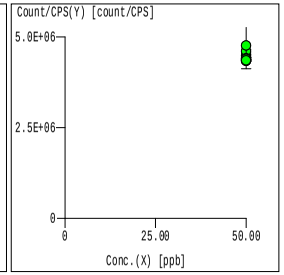


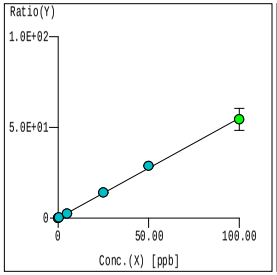



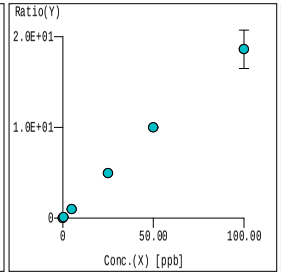



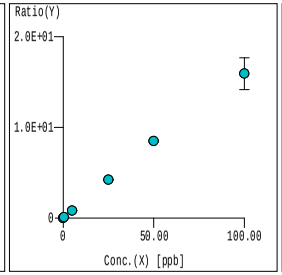



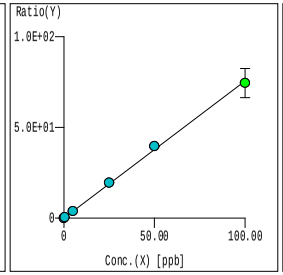



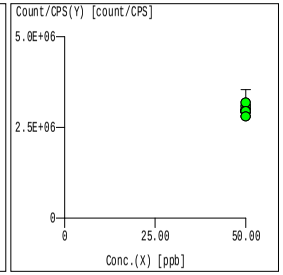

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9996 | 0.9993 | 0.9995 | 0.9995 | 0.0000 |
| < DL > | 4.630E-03 ppb | --- ppb | --- ppb | 3.360E-03 ppb | --- ppb |
| < BEC > | 2.677E-02 ppb | --- ppb | --- ppb | 2.046E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D19r00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\001CAL
Date Acquired: Apr 19 2013 05:50 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 05:48 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3072352.00 | A | 11030.00 | 0.36 |
| 7 | (Li) | | P | | |
| 9 | Be | 23.33 | P | 16.67 | 71.44 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1653.64 | P | 191.70 | 11.59 |
| 11 | B | 45.56 | P | 5.09 | 11.18 |
| 23 | Na | 498077.69 | P | 5999.00 | 1.20 |
| 23 | Na | 64728.23 | P | 438.30 | 0.68 |
| 24 | Mg | 4823.15 | P | 74.02 | 1.53 |
| 24 | Mg | 367.79 | P | 38.35 | 10.43 |
| 27 | Al | 26088.24 | P | 1393.00 | 5.34 |
| 27 | Al | 930.08 | P | 55.69 | 5.99 |
| 39 | K | 4235300.00 | A | 13360.00 | 0.32 |
| 44 | Ca | 110371.30 | P | 1344.00 | 1.22 |
| 45 | Sc | 5195889.00 | A | 22220.00 | 0.43 |
| 45 | Sc | 738552.31 | P | 3336.00 | 0.45 |
| 47 | Ti | 291.13 | P | 45.26 | 15.55 |
| 51 | V | 7033.26 | P | 95.87 | 1.36 |
| 52 | Cr | 1987.71 | P | 68.55 | 3.45 |
| 55 | Mn | 2064.18 | P | 73.65 | 3.57 |
| 56 | Fe | 50515.72 | P | 720.00 | 1.43 |
| 59 | Co | 25.33 | P | 6.93 | 27.35 |
| 60 | Ni | 363.12 | P | 34.80 | 9.58 |
| 63 | Cu | 1236.51 | P | 18.68 | 1.51 |
| 66 | Zn | 259.12 | P | 13.24 | 5.11 |
| 72 | Ge | 1059949.00 | P | 12210.00 | 1.15 |
| 72 | Ge | 272937.81 | P | 1288.00 | 0.47 |
| 75 | As | 241.34 | P | 17.68 | 7.33 |
| 78 | Se | 251.12 | P | 12.62 | 5.03 |
| 88 | Sr | 768.94 | P | 51.03 | 6.64 |
| 98 | Mo | 306.68 | P | 20.00 | 6.52 |
| 103 | Rh | 6046331.00 | A | 87370.00 | 1.45 |
| 107 | Ag | 237.79 | P | 25.46 | 10.71 |

C:\ICPCHEM\1\DATA\13D19r00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 6385235.00 | A | 18540.00 | 0.29 |
| 115 | In | 2083837.00 | A | 25190.00 | 1.21 |
| 118 | (In) | 466.69 | P | 39.30 | 8.42 |
| 118 | (In) | 178.90 | P | 18.36 | 10.26 |
| 120 | Sn | 636.70 | P | 23.34 | 3.67 |
| 121 | Sb | 494.47 | P | 34.70 | 7.02 |
| 137 | Ba | 914.51 | P | 25.89 | 2.83 |
| 159 | Tb | 7819000.00 | A | 95940.00 | 1.23 |
| 175 | Lu | 7445914.00 | A | 80030.00 | 1.07 |
| 205 | Tl | 1907.98 | P | 76.35 | 4.00 |
| 206 | (Pb) | 171.12 | P | 36.57 | 21.37 |
| 207 | (Pb) | 164.45 | P | 18.36 | 11.16 |
| 208 | Pb | 783.37 | P | 23.33 | 2.98 |
| 209 | Bi | 4013727.00 | A | 6857.00 | 0.17 |

C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\002CAL
Date Acquired: Apr 19 2013 05:57 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 05:54 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3146678.00 | A | 21770.00 | 0.69 |
| 7 | (Li) | | P | | |
| 9 | Be | 21.11 | P | 3.85 | 18.23 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 1456.78 | P | 63.60 | 4.37 |
| 11 | B | 43.33 | P | 17.64 | 40.71 |
| 23 | Na | 492543.31 | P | 7393.00 | 1.50 |
| 23 | Na | 64179.22 | P | 569.60 | 0.89 |
| 24 | Mg | 5144.38 | P | 168.10 | 3.27 |
| 24 | Mg | 420.02 | P | 42.56 | 10.13 |
| 27 | Al | 25590.62 | P | 720.30 | 2.81 |
| 27 | Al | 1000.09 | P | 78.40 | 7.84 |
| 39 | K | 4309702.00 | A | 50920.00 | 1.18 |
| 44 | Ca | 112927.40 | P | 2505.00 | 2.22 |
| 45 | Sc | 5213161.00 | A | 9362.00 | 0.18 |
| 45 | Sc | 741872.38 | P | 5053.00 | 0.68 |
| 47 | Ti | 320.02 | P | 12.02 | 3.76 |
| 51 | V | 7095.96 | P | 120.00 | 1.69 |
| 52 | Cr | 1989.93 | P | 22.41 | 1.13 |
| 55 | Mn | 2043.72 | P | 62.58 | 3.06 |
| 56 | Fe | 50906.08 | P | 1117.00 | 2.19 |
| 59 | Co | 29.33 | P | 4.81 | 16.39 |
| 60 | Ni | 499.95 | P | 182.30 | 36.46 |
| 63 | Cu | 1237.85 | P | 27.01 | 2.18 |
| 66 | Zn | 312.01 | P | 31.24 | 10.01 |
| 72 | Ge | 1062354.00 | P | 6194.00 | 0.58 |
| 72 | Ge | 273900.00 | P | 908.60 | 0.33 |
| 75 | As | 258.23 | P | 8.44 | 3.27 |
| 78 | Se | 226.23 | P | 0.77 | 0.34 |
| 88 | Sr | 711.15 | P | 23.41 | 3.29 |
| 98 | Mo | 205.57 | P | 20.37 | 9.91 |
| 103 | Rh | 6003827.00 | A | 23250.00 | 0.39 |
| 107 | Ag | 238.90 | P | 16.44 | 6.88 |

C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 4.44 | P | 1.93 | 43.31 |
| 115 | In | 6375567.00 | A | 42350.00 | 0.66 |
| 115 | In | 2096793.00 | A | 17000.00 | 0.81 |
| 118 | (In) | 351.13 | P | 17.11 | 4.87 |
| 118 | (In) | 225.62 | P | 70.83 | 31.39 |
| 120 | Sn | 500.03 | P | 41.64 | 8.33 |
| 121 | Sb | 373.35 | P | 35.12 | 9.41 |
| 137 | Ba | 903.40 | P | 28.48 | 3.15 |
| 159 | Tb | 7647907.00 | A | 42110.00 | 0.55 |
| 175 | Lu | 7337137.00 | A | 90020.00 | 1.23 |
| 205 | Tl | 1058.97 | P | 49.49 | 4.67 |
| 206 | (Pb) | 183.34 | P | 3.33 | 1.82 |
| 207 | (Pb) | 157.78 | P | 42.86 | 27.16 |
| 208 | Pb | 718.92 | P | 50.04 | 6.96 |
| 209 | Bi | 3950799.00 | A | 10600.00 | 0.27 |

C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 19 2013 06:04 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3199653.00 | A | 30140.00 | 0.94 |
| 7 | (Li) | | P | | |
| 9 | Be | 5736.79 | P | 252.10 | 4.39 |
| 9 | Be | 303.35 | P | 20.82 | 6.86 |
| 11 | B | 5321.08 | P | 120.60 | 2.27 |
| 11 | B | 154.45 | P | 36.87 | 23.87 |
| 23 | Na | 543694.13 | P | 5543.00 | 1.02 |
| 23 | Na | 67760.70 | P | 592.40 | 0.87 |
| 24 | Mg | 26413.39 | P | 129.20 | 0.49 |
| 24 | Mg | 1946.86 | P | 28.49 | 1.46 |
| 27 | Al | 56251.80 | P | 654.20 | 1.16 |
| 27 | Al | 1951.34 | P | 169.70 | 8.70 |
| 39 | K | 4334860.00 | A | 31370.00 | 0.72 |
| 44 | Ca | 115148.80 | P | 1225.00 | 1.06 |
| 45 | Sc | 5231544.00 | A | 40840.00 | 0.78 |
| 45 | Sc | 742391.81 | P | 3945.00 | 0.53 |
| 47 | Ti | 2819.25 | P | 105.20 | 3.73 |
| 51 | V | 15737.51 | P | 65.18 | 0.41 |
| 52 | Cr | 11445.72 | P | 35.55 | 0.31 |
| 55 | Mn | 9460.36 | P | 38.69 | 0.41 |
| 56 | Fe | 60829.86 | P | 199.90 | 0.33 |
| 59 | Co | 13199.59 | P | 92.88 | 0.70 |
| 60 | Ni | 3638.71 | P | 34.06 | 0.94 |
| 63 | Cu | 9774.36 | P | 161.50 | 1.65 |
| 66 | Zn | 1881.02 | P | 24.10 | 1.28 |
| 72 | Ge | 1064270.00 | P | 7749.00 | 0.73 |
| 72 | Ge | 274145.50 | P | 1684.00 | 0.61 |
| 75 | As | 1330.51 | P | 4.91 | 0.37 |
| 78 | Se | 370.01 | P | 11.37 | 3.07 |
| 88 | Sr | 41732.40 | P | 362.00 | 0.87 |
| 98 | Mo | 11740.57 | P | 151.40 | 1.29 |
| 103 | Rh | 6041791.00 | A | 54620.00 | 0.90 |
| 107 | Ag | 18815.96 | P | 597.90 | 3.18 |

C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1765.72 | P | 117.40 | 6.65 |
| 115 | In | 6422749.00 | A | 69220.00 | 1.08 |
| 115 | In | 2086730.00 | A | 7334.00 | 0.35 |
| 118 | (In) | 12035.36 | P | 207.60 | 1.72 |
| 118 | (In) | 4261.87 | P | 94.34 | 2.21 |
| 120 | Sn | 16794.58 | P | 199.00 | 1.18 |
| 121 | Sb | 15304.04 | P | 384.90 | 2.52 |
| 137 | Ba | 6282.73 | P | 363.50 | 5.79 |
| 159 | Tb | 7735967.00 | A | 49010.00 | 0.63 |
| 175 | Lu | 7385218.00 | A | 27360.00 | 0.37 |
| 205 | Tl | 21845.73 | P | 257.80 | 1.18 |
| 206 | (Pb) | 9284.57 | P | 90.61 | 0.98 |
| 207 | (Pb) | 7560.11 | P | 214.90 | 2.84 |
| 208 | Pb | 35378.95 | P | 642.50 | 1.82 |
| 209 | Bi | 3951980.00 | A | 43110.00 | 1.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3199653.50 | 0.94 | 3146678.50 | 101.7 | 70 - 130 | |
| 45 | Sc | 5231544.00 | 0.78 | 5213161.00 | 100.4 | 70 - 130 | |
| 45 | Sc | 742391.81 | 0.53 | 741872.44 | 100.1 | 70 - 130 | |
| 72 | Ge | 1064270.30 | 0.73 | 1062354.50 | 100.2 | 70 - 130 | |
| 72 | Ge | 274145.53 | 0.61 | 273900.03 | 100.1 | 70 - 130 | |
| 103 | Rh | 6041790.50 | 0.90 | 6003827.50 | 100.6 | 70 - 130 | |
| 115 | In | 6422748.50 | 1.08 | 6375567.50 | 100.7 | 70 - 130 | |
| 115 | In | 2086730.10 | 0.35 | 2096792.90 | 99.5 | 70 - 130 | |
| 159 | Tb | 7735967.50 | 0.63 | 7647906.50 | 101.2 | 70 - 130 | |
| 175 | Lu | 7385218.00 | 0.37 | 7337137.50 | 100.7 | 70 - 130 | |
| 209 | Bi | 3951979.50 | 1.09 | 3950799.00 | 100.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 19 2013 06:11 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3213593.00 | A | 5629.00 | 0.18 |
| 7 | (Li) | | P | | |
| 9 | Be | 58118.74 | P | 549.80 | 0.95 |
| 9 | Be | 2884.80 | P | 92.06 | 3.19 |
| 11 | B | 44132.60 | P | 405.30 | 0.92 |
| 11 | B | 1352.33 | P | 109.60 | 8.10 |
| 23 | Na | 798481.50 | P | 7690.00 | 0.96 |
| 23 | Na | 90387.07 | P | 592.60 | 0.66 |
| 24 | Mg | 208026.20 | P | 663.50 | 0.32 |
| 24 | Mg | 15738.42 | P | 142.70 | 0.91 |
| 27 | Al | 287101.81 | P | 5801.00 | 2.02 |
| 27 | Al | 10155.93 | P | 302.00 | 2.97 |
| 39 | K | 4585428.00 | A | 32040.00 | 0.70 |
| 44 | Ca | 133001.09 | P | 1657.00 | 1.25 |
| 45 | Sc | 5215379.00 | A | 11550.00 | 0.22 |
| 45 | Sc | 737624.31 | P | 9323.00 | 1.26 |
| 47 | Ti | 24327.70 | P | 136.40 | 0.56 |
| 51 | V | 91690.77 | P | 757.30 | 0.83 |
| 52 | Cr | 96831.31 | P | 445.00 | 0.46 |
| 55 | Mn | 76064.90 | P | 602.30 | 0.79 |
| 56 | Fe | 140942.00 | P | 811.90 | 0.58 |
| 59 | Co | 131763.80 | P | 1105.00 | 0.84 |
| 60 | Ni | 33260.69 | P | 351.10 | 1.06 |
| 63 | Cu | 85478.09 | P | 211.90 | 0.25 |
| 66 | Zn | 17496.72 | P | 97.11 | 0.56 |
| 72 | Ge | 1056752.00 | P | 8712.00 | 0.82 |
| 72 | Ge | 272758.81 | P | 1451.00 | 0.53 |
| 75 | As | 10957.56 | P | 105.50 | 0.96 |
| 78 | Se | 1601.65 | P | 1.92 | 0.12 |
| 88 | Sr | 415242.19 | P | 2356.00 | 0.57 |
| 98 | Mo | 116142.70 | P | 1217.00 | 1.05 |
| 103 | Rh | 6057861.00 | A | 9056.00 | 0.15 |
| 107 | Ag | 191454.70 | P | 1175.00 | 0.61 |

C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 17843.57 | P | 449.10 | 2.52 |
| 115 | In | 6391096.00 | A | 21350.00 | 0.33 |
| 115 | In | 2092201.00 | A | 27260.00 | 1.30 |
| 118 | (In) | 116879.00 | P | 950.40 | 0.81 |
| 118 | (In) | 41377.15 | P | 280.50 | 0.68 |
| 120 | Sn | 161441.20 | P | 1097.00 | 0.68 |
| 121 | Sb | 145480.20 | P | 1803.00 | 1.24 |
| 137 | Ba | 54408.78 | P | 366.10 | 0.67 |
| 159 | Tb | 7748838.00 | A | 82680.00 | 1.07 |
| 175 | Lu | 7349350.00 | A | 45320.00 | 0.62 |
| 205 | Tl | 229031.41 | P | 4325.00 | 1.89 |
| 206 | (Pb) | 89716.55 | P | 526.50 | 0.59 |
| 207 | (Pb) | 73966.89 | P | 170.80 | 0.23 |
| 208 | Pb | 344516.19 | P | 1318.00 | 0.38 |
| 209 | Bi | 3949575.00 | A | 21790.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3213593.30 | 0.18 | 3146678.50 | 102.1 | 70 - 130 | |
| 45 | Sc | 5215379.00 | 0.22 | 5213161.00 | 100.0 | 70 - 130 | |
| 45 | Sc | 737624.25 | 1.26 | 741872.44 | 99.4 | 70 - 130 | |
| 72 | Ge | 1056751.80 | 0.82 | 1062354.50 | 99.5 | 70 - 130 | |
| 72 | Ge | 272758.81 | 0.53 | 273900.03 | 99.6 | 70 - 130 | |
| 103 | Rh | 6057861.50 | 0.15 | 6003827.50 | 100.9 | 70 - 130 | |
| 115 | In | 6391096.50 | 0.33 | 6375567.50 | 100.2 | 70 - 130 | |
| 115 | In | 2092201.30 | 1.30 | 2096792.90 | 99.8 | 70 - 130 | |
| 159 | Tb | 7748838.00 | 1.07 | 7647906.50 | 101.3 | 70 - 130 | |
| 175 | Lu | 7349350.00 | 0.62 | 7337137.50 | 100.2 | 70 - 130 | |
| 209 | Bi | 3949575.30 | 0.55 | 3950799.00 | 100.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 19 2013 06:19 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3266387.00 | A | 65230.00 | 2.00 |
| 7 | (Li) | | P | | |
| 9 | Be | 286050.31 | P | 596.60 | 0.21 |
| 9 | Be | 14217.96 | P | 304.10 | 2.14 |
| 11 | B | 211041.00 | P | 1478.00 | 0.70 |
| 11 | B | 6637.19 | P | 181.50 | 2.73 |
| 23 | Na | 1907880.00 | A | 7111.00 | 0.37 |
| 23 | Na | 190056.09 | P | 542.40 | 0.29 |
| 24 | Mg | 960345.69 | P | 7095.00 | 0.74 |
| 24 | Mg | 73531.53 | P | 414.20 | 0.56 |
| 27 | Al | 1247306.00 | A | 10930.00 | 0.88 |
| 27 | Al | 44793.85 | P | 787.30 | 1.76 |
| 39 | K | 5628545.00 | A | 23340.00 | 0.41 |
| 44 | Ca | 166908.20 | P | 3090.00 | 1.85 |
| 45 | Sc | 5162269.00 | A | 28000.00 | 0.54 |
| 45 | Sc | 728648.81 | P | 6872.00 | 0.94 |
| 47 | Ti | 118799.40 | P | 1081.00 | 0.91 |
| 51 | V | 422552.81 | P | 4457.00 | 1.05 |
| 52 | Cr | 464416.81 | P | 4067.00 | 0.88 |
| 55 | Mn | 364816.09 | P | 4804.00 | 1.32 |
| 56 | Fe | 483512.91 | P | 4744.00 | 0.98 |
| 59 | Co | 638855.00 | P | 4932.00 | 0.77 |
| 60 | Ni | 160494.80 | P | 2147.00 | 1.34 |
| 63 | Cu | 407811.81 | P | 3640.00 | 0.89 |
| 66 | Zn | 75825.17 | P | 448.40 | 0.59 |
| 72 | Ge | 1053967.00 | P | 7872.00 | 0.75 |
| 72 | Ge | 269360.69 | P | 1479.00 | 0.55 |
| 75 | As | 52456.87 | P | 456.10 | 0.87 |
| 78 | Se | 6912.73 | P | 166.10 | 2.40 |
| 88 | Sr | 2041995.00 | A | 20600.00 | 1.01 |
| 98 | Mo | 565771.19 | P | 6496.00 | 1.15 |
| 103 | Rh | 6037972.00 | A | 91280.00 | 1.51 |
| 107 | Ag | 936470.69 | P | 13060.00 | 1.39 |

C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 86678.12 | P | 251.40 | 0.29 |
| 115 | In | 6316760.00 | A | 58160.00 | 0.92 |
| 115 | In | 2068218.00 | A | 40330.00 | 1.95 |
| 118 | (In) | 563501.50 | P | 9704.00 | 1.72 |
| 118 | (In) | 201728.91 | P | 2021.00 | 1.00 |
| 120 | Sn | 770985.38 | P | 7453.00 | 0.97 |
| 121 | Sb | 690830.00 | P | 4502.00 | 0.65 |
| 137 | Ba | 254032.59 | P | 3357.00 | 1.32 |
| 159 | Tb | 7551318.00 | A | 71920.00 | 0.95 |
| 175 | Lu | 7262299.00 | A | 75000.00 | 1.03 |
| 205 | Tl | 1209021.00 | P | 7609.00 | 0.63 |
| 206 | (Pb) | 434253.69 | P | 1887.00 | 0.43 |
| 207 | (Pb) | 358811.09 | P | 962.70 | 0.27 |
| 208 | Pb | 1680298.00 | P | 10040.00 | 0.60 |
| 209 | Bi | 3994173.00 | A | 47790.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3266386.80 | 2.00 | 3146678.50 | 103.8 | 70 - 130 | |
| 45 | Sc | 5162269.50 | 0.54 | 5213161.00 | 99.0 | 70 - 130 | |
| 45 | Sc | 728648.81 | 0.94 | 741872.44 | 98.2 | 70 - 130 | |
| 72 | Ge | 1053967.50 | 0.75 | 1062354.50 | 99.2 | 70 - 130 | |
| 72 | Ge | 269360.69 | 0.55 | 273900.03 | 98.3 | 70 - 130 | |
| 103 | Rh | 6037971.50 | 1.51 | 6003827.50 | 100.6 | 70 - 130 | |
| 115 | In | 6316760.00 | 0.92 | 6375567.50 | 99.1 | 70 - 130 | |
| 115 | In | 2068217.90 | 1.95 | 2096792.90 | 98.6 | 70 - 130 | |
| 159 | Tb | 7551318.00 | 0.95 | 7647906.50 | 98.7 | 70 - 130 | |
| 175 | Lu | 7262299.00 | 1.03 | 7337137.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 3994172.80 | 1.20 | 3950799.00 | 101.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 19 2013 06:26 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3206112.00 | A | 16840.00 | 0.53 |
| 7 | (Li) | | P | | |
| 9 | Be | 578265.31 | P | 1253.00 | 0.22 |
| 9 | Be | 28304.98 | P | 189.00 | 0.67 |
| 11 | B | 425549.81 | P | 1964.00 | 0.46 |
| 11 | B | 12989.13 | P | 211.10 | 1.63 |
| 23 | Na | 3551101.00 | A | 37800.00 | 1.06 |
| 23 | Na | 325783.59 | P | 3376.00 | 1.04 |
| 24 | Mg | 2048211.00 | A | 25190.00 | 1.23 |
| 24 | Mg | 149912.70 | P | 554.80 | 0.37 |
| 27 | Al | 2550494.00 | A | 30890.00 | 1.21 |
| 27 | Al | 91360.78 | P | 812.30 | 0.89 |
| 39 | K | 7057856.00 | A | 53390.00 | 0.76 |
| 44 | Ca | 236596.91 | P | 3271.00 | 1.38 |
| 45 | Sc | 5194530.00 | A | 26860.00 | 0.52 |
| 45 | Sc | 726955.69 | P | 6116.00 | 0.84 |
| 47 | Ti | 240054.30 | P | 2621.00 | 1.09 |
| 51 | V | 847319.19 | P | 9400.00 | 1.11 |
| 52 | Cr | 935370.81 | P | 5352.00 | 0.57 |
| 55 | Mn | 729077.88 | P | 4143.00 | 0.57 |
| 56 | Fe | 926274.50 | P | 3410.00 | 0.37 |
| 59 | Co | 1277144.00 | A | 5661.00 | 0.44 |
| 60 | Ni | 321208.69 | P | 963.90 | 0.30 |
| 63 | Cu | 819244.69 | P | 2196.00 | 0.27 |
| 66 | Zn | 152709.30 | P | 771.80 | 0.51 |
| 72 | Ge | 1045620.00 | P | 10840.00 | 1.04 |
| 72 | Ge | 267194.19 | P | 1171.00 | 0.44 |
| 75 | As | 106083.70 | P | 1184.00 | 1.12 |
| 78 | Se | 13662.89 | P | 55.96 | 0.41 |
| 88 | Sr | 3995678.00 | A | 56600.00 | 1.42 |
| 98 | Mo | 1143626.00 | P | 3476.00 | 0.30 |
| 103 | Rh | 5950331.00 | A | 40510.00 | 0.68 |
| 107 | Ag | 1816192.00 | A | 10590.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 176300.30 | P | 2072.00 | 1.18 |
| 115 | In | 6262976.00 | A | 79030.00 | 1.26 |
| 115 | In | 2044705.00 | A | 25000.00 | 1.22 |
| 118 | (In) | 1143851.00 | P | 6262.00 | 0.55 |
| 118 | (In) | 407125.00 | P | 4630.00 | 1.14 |
| 120 | Sn | 1556967.00 | A | 10170.00 | 0.65 |
| 121 | Sb | 1382032.00 | A | 9149.00 | 0.66 |
| 137 | Ba | 520301.59 | P | 4311.00 | 0.83 |
| 159 | Tb | 7637600.00 | A | 38790.00 | 0.51 |
| 175 | Lu | 7302208.00 | A | 22170.00 | 0.30 |
| 205 | Tl | 2479095.00 | A | 34810.00 | 1.40 |
| 206 | (Pb) | 878297.81 | P | 8772.00 | 1.00 |
| 207 | (Pb) | 720320.13 | P | 4884.00 | 0.68 |
| 208 | Pb | 3360198.00 | A | 18760.00 | 0.56 |
| 209 | Bi | 3939967.00 | A | 19480.00 | 0.49 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3206111.50 | 0.53 | 3146678.50 | 101.9 | 70 - 130 | |
| 45 | Sc | 5194530.50 | 0.52 | 5213161.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 726955.69 | 0.84 | 741872.44 | 98.0 | 70 - 130 | |
| 72 | Ge | 1045620.30 | 1.04 | 1062354.50 | 98.4 | 70 - 130 | |
| 72 | Ge | 267194.19 | 0.44 | 273900.03 | 97.6 | 70 - 130 | |
| 103 | Rh | 5950331.00 | 0.68 | 6003827.50 | 99.1 | 70 - 130 | |
| 115 | In | 6262975.50 | 1.26 | 6375567.50 | 98.2 | 70 - 130 | |
| 115 | In | 2044705.40 | 1.22 | 2096792.90 | 97.5 | 70 - 130 | |
| 159 | Tb | 7637600.00 | 0.51 | 7647906.50 | 99.9 | 70 - 130 | |
| 175 | Lu | 7302208.00 | 0.30 | 7337137.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3939966.50 | 0.49 | 3950799.00 | 99.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 19 2013 06:33 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3285193.00 | A | 23340.00 | 0.71 |
| 7 | (Li) | | P | | |
| 9 | Be | 1235832.00 | A | 14180.00 | 1.15 |
| 9 | Be | 57228.88 | P | 610.70 | 1.07 |
| 11 | B | 975989.69 | A | 12080.00 | 1.24 |
| 11 | B | 26409.49 | P | 281.80 | 1.07 |
| 23 | Na | 6825451.00 | A | 56390.00 | 0.83 |
| 23 | Na | 598597.81 | P | 7751.00 | 1.29 |
| 24 | Mg | 4126178.00 | A | 17940.00 | 0.43 |
| 24 | Mg | 299357.00 | P | 2688.00 | 0.90 |
| 27 | Al | 5026135.00 | A | 12600.00 | 0.25 |
| 27 | Al | 180096.59 | P | 902.70 | 0.50 |
| 39 | K | 9943862.00 | A | 69920.00 | 0.70 |
| 44 | Ca | 358193.91 | P | 4510.00 | 1.26 |
| 45 | Sc | 5205408.00 | A | 29530.00 | 0.57 |
| 45 | Sc | 725578.63 | P | 1643.00 | 0.23 |
| 47 | Ti | 482591.19 | P | 3897.00 | 0.81 |
| 51 | V | 1685502.00 | A | 15830.00 | 0.94 |
| 52 | Cr | 1862569.00 | A | 17400.00 | 0.93 |
| 55 | Mn | 1458930.00 | A | 16320.00 | 1.12 |
| 56 | Fe | 1789341.00 | A | 16120.00 | 0.90 |
| 59 | Co | 2549113.00 | A | 9449.00 | 0.37 |
| 60 | Ni | 649756.00 | P | 3493.00 | 0.54 |
| 63 | Cu | 1641570.00 | A | 9408.00 | 0.57 |
| 66 | Zn | 305717.59 | P | 1147.00 | 0.38 |
| 72 | Ge | 1052909.00 | P | 10590.00 | 1.01 |
| 72 | Ge | 267385.00 | P | 2097.00 | 0.78 |
| 75 | As | 213316.20 | P | 1240.00 | 0.58 |
| 78 | Se | 27421.51 | P | 226.10 | 0.82 |
| 88 | Sr | 7913185.00 | A | 45590.00 | 0.58 |
| 98 | Mo | 2336135.00 | A | 11410.00 | 0.49 |
| 103 | Rh | 5966754.00 | A | 36760.00 | 0.62 |
| 107 | Ag | 3628689.00 | A | 6694.00 | 0.18 |

C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 356755.00 | P | 2712.00 | 0.76 |
| 115 | In | 6317437.00 | A | 41470.00 | 0.66 |
| 115 | In | 2061927.00 | A | 22390.00 | 1.09 |
| 118 | (In) | 2278566.00 | A | 5646.00 | 0.25 |
| 118 | (In) | 813622.81 | P | 4747.00 | 0.58 |
| 120 | Sn | 3098481.00 | A | 17770.00 | 0.57 |
| 121 | Sb | 2760450.00 | A | 17540.00 | 0.64 |
| 137 | Ba | 1066283.00 | P | 9508.00 | 0.89 |
| 159 | Tb | 7705512.00 | A | 40060.00 | 0.52 |
| 175 | Lu | 7303142.00 | A | 54070.00 | 0.74 |
| 205 | Tl | 4918630.00 | A | 2879.00 | 0.06 |
| 206 | (Pb) | 1764618.00 | A | 8222.00 | 0.47 |
| 207 | (Pb) | 1418882.00 | A | 40080.00 | 2.82 |
| 208 | Pb | 6688366.00 | A | 37210.00 | 0.56 |
| 209 | Bi | 3966535.00 | A | 51260.00 | 1.29 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3285192.80 | 0.71 | 3146678.50 | 104.4 | 70 - 130 | |
| 45 | Sc | 5205408.00 | 0.57 | 5213161.00 | 99.9 | 70 - 130 | |
| 45 | Sc | 725578.56 | 0.23 | 741872.44 | 97.8 | 70 - 130 | |
| 72 | Ge | 1052909.10 | 1.01 | 1062354.50 | 99.1 | 70 - 130 | |
| 72 | Ge | 267385.03 | 0.78 | 273900.03 | 97.6 | 70 - 130 | |
| 103 | Rh | 5966753.50 | 0.62 | 6003827.50 | 99.4 | 70 - 130 | |
| 115 | In | 6317437.00 | 0.66 | 6375567.50 | 99.1 | 70 - 130 | |
| 115 | In | 2061926.60 | 1.09 | 2096792.90 | 98.3 | 70 - 130 | |
| 159 | Tb | 7705512.50 | 0.52 | 7647906.50 | 100.8 | 70 - 130 | |
| 175 | Lu | 7303142.50 | 0.74 | 7337137.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3966535.00 | 1.29 | 3950799.00 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 19 2013 06:39 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:36 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3327883.00 | A | 29790.00 | 0.90 |
| 7 | (Li) | | P | | |
| 9 | Be | 235.57 | P | 24.57 | 10.43 |
| 9 | Be | 15.56 | P | 13.47 | 86.59 |
| 11 | B | 4309.64 | P | 287.40 | 6.67 |
| 11 | B | 113.34 | P | 42.56 | 37.55 |
| 23 | Na | 55417248.00 | A | 997300.00 | 1.80 |
| 23 | Na | 4838371.00 | A | 11620.00 | 0.24 |
| 24 | Mg | 36899048.00 | A | 367200.00 | 1.00 |
| 24 | Mg | 2729497.00 | A | 25740.00 | 0.94 |
| 27 | Al | 46981632.00 | A | 405300.00 | 0.86 |
| 27 | Al | 1708142.00 | A | 8529.00 | 0.50 |
| 39 | K | 56462280.00 | A | 560100.00 | 0.99 |
| 44 | Ca | 1826112.00 | A | 19330.00 | 1.06 |
| 45 | Sc | 5290739.00 | A | 51340.00 | 0.97 |
| 45 | Sc | 733636.19 | P | 3382.00 | 0.46 |
| 47 | Ti | 414.47 | P | 21.69 | 5.23 |
| 51 | V | 8248.54 | P | 335.50 | 4.07 |
| 52 | Cr | 2717.61 | P | 371.90 | 13.69 |
| 55 | Mn | 7682.09 | P | 3969.00 | 51.67 |
| 56 | Fe | 16019060.00 | A | 214600.00 | 1.34 |
| 59 | Co | 1184.51 | P | 352.90 | 29.79 |
| 60 | Ni | 728.47 | P | 115.80 | 15.90 |
| 63 | Cu | 1985.05 | P | 219.10 | 11.04 |
| 66 | Zn | 888.25 | P | 56.89 | 6.40 |
| 72 | Ge | 1077258.00 | P | 9654.00 | 0.90 |
| 72 | Ge | 271936.81 | P | 1910.00 | 0.70 |
| 75 | As | 338.45 | P | 45.88 | 13.56 |
| 78 | Se | 259.56 | P | 28.88 | 11.13 |
| 88 | Sr | 5487.88 | P | 167.60 | 3.05 |
| 98 | Mo | 4945.43 | P | 134.10 | 2.71 |
| 103 | Rh | 6016431.00 | A | 10040.00 | 0.17 |
| 107 | Ag | 1178.98 | P | 25.46 | 2.16 |

C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 127.78 | P | 39.06 | 30.57 |
| 115 | In | 6331525.00 | A | 27920.00 | 0.44 |
| 115 | In | 2084929.00 | A | 31960.00 | 1.53 |
| 118 | (In) | 4856.53 | P | 468.50 | 9.65 |
| 118 | (In) | 2179.13 | P | 184.00 | 8.44 |
| 120 | Sn | 6684.00 | P | 712.00 | 10.65 |
| 121 | Sb | 8292.65 | P | 550.30 | 6.64 |
| 137 | Ba | 1271.21 | P | 71.91 | 5.66 |
| 159 | Tb | 7726989.00 | A | 42100.00 | 0.54 |
| 175 | Lu | 7351023.00 | A | 62310.00 | 0.85 |
| 205 | Tl | 8511.84 | P | 199.40 | 2.34 |
| 206 | (Pb) | 726.71 | P | 43.59 | 6.00 |
| 207 | (Pb) | 617.82 | P | 58.35 | 9.44 |
| 208 | Pb | 2810.23 | P | 72.20 | 2.57 |
| 209 | Bi | 3997342.00 | A | 56040.00 | 1.40 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3327882.80 | 0.90 | 3146678.50 | 105.8 | 70 - 130 | |
| 45 | Sc | 5290739.50 | 0.97 | 5213161.00 | 101.5 | 70 - 130 | |
| 45 | Sc | 733636.25 | 0.46 | 741872.44 | 98.9 | 70 - 130 | |
| 72 | Ge | 1077258.40 | 0.90 | 1062354.50 | 101.4 | 70 - 130 | |
| 72 | Ge | 271936.81 | 0.70 | 273900.03 | 99.3 | 70 - 130 | |
| 103 | Rh | 6016431.00 | 0.17 | 6003827.50 | 100.2 | 70 - 130 | |
| 115 | In | 6331525.50 | 0.44 | 6375567.50 | 99.3 | 70 - 130 | |
| 115 | In | 2084929.10 | 1.53 | 2096792.90 | 99.4 | 70 - 130 | |
| 159 | Tb | 7726989.00 | 0.54 | 7647906.50 | 101.0 | 70 - 130 | |
| 175 | Lu | 7351023.00 | 0.85 | 7337137.50 | 100.2 | 70 - 130 | |
| 209 | Bi | 3997342.50 | 1.40 | 3950799.00 | 101.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 19 2013 06:46 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:43 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3320833.00 | A | 40080.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 70.00 | P | 5.77 | 8.25 |
| 9 | Be | 6.67 | P | 8.82 | 132.28 |
| 11 | B | 2403.61 | P | 112.60 | 4.68 |
| 11 | B | 72.23 | P | 21.43 | 29.67 |
| 23 | Na | 543943100.00 | A | 5862000.00 | 1.08 |
| 23 | Na | 45886352.00 | A | 109500.00 | 0.24 |
| 24 | Mg | 365220900.00 | A | 2315000.00 | 0.63 |
| 24 | Mg | 25631290.00 | A | 161500.00 | 0.63 |
| 27 | Al | 466947200.00 | A | 2482000.00 | 0.53 |
| 27 | Al | 16121400.00 | A | 130300.00 | 0.81 |
| 39 | K | 517113220.00 | A | 465700.00 | 0.09 |
| 44 | Ca | 16110260.00 | A | 69270.00 | 0.43 |
| 45 | Sc | 5231988.00 | A | 31030.00 | 0.59 |
| 45 | Sc | 724405.31 | P | 4338.00 | 0.60 |
| 47 | Ti | 441.13 | P | 53.16 | 12.05 |
| 51 | V | 7637.55 | P | 236.60 | 3.10 |
| 52 | Cr | 4133.05 | P | 131.90 | 3.19 |
| 55 | Mn | 8423.13 | P | 3197.00 | 37.96 |
| 56 | Fe | 153979100.00 | A | 1243000.00 | 0.81 |
| 59 | Co | 3851.65 | P | 293.40 | 7.62 |
| 60 | Ni | 1417.87 | P | 48.75 | 3.44 |
| 63 | Cu | 1692.12 | P | 131.00 | 7.74 |
| 66 | Zn | 1165.61 | P | 49.15 | 4.22 |
| 72 | Ge | 1065275.00 | P | 296.60 | 0.03 |
| 72 | Ge | 267494.09 | P | 1089.00 | 0.41 |
| 75 | As | 340.01 | P | 16.71 | 4.91 |
| 78 | Se | 247.34 | P | 9.26 | 3.74 |
| 88 | Sr | 31199.98 | P | 532.60 | 1.71 |
| 98 | Mo | 1734.61 | P | 30.98 | 1.79 |
| 103 | Rh | 5737877.00 | A | 67710.00 | 1.18 |
| 107 | Ag | 1845.74 | P | 91.93 | 4.98 |

C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 60.00 | P | 33.33 | 55.55 |
| 115 | In | 6081972.00 | A | 87830.00 | 1.44 |
| 115 | In | 1990799.00 | A | 16250.00 | 0.82 |
| 118 | (In) | 1853.52 | P | 150.10 | 8.10 |
| 118 | (In) | 852.28 | P | 99.02 | 11.62 |
| 120 | Sn | 2516.97 | P | 137.40 | 5.46 |
| 121 | Sb | 3773.96 | P | 269.20 | 7.13 |
| 137 | Ba | 1208.98 | P | 68.51 | 5.67 |
| 159 | Tb | 7578506.00 | A | 37770.00 | 0.50 |
| 175 | Lu | 7288735.00 | A | 48080.00 | 0.66 |
| 205 | Tl | 3109.35 | P | 123.40 | 3.97 |
| 206 | (Pb) | 432.25 | P | 22.20 | 5.14 |
| 207 | (Pb) | 323.35 | P | 44.85 | 13.87 |
| 208 | Pb | 1614.55 | P | 26.74 | 1.66 |
| 209 | Bi | 3735559.00 | A | 65880.00 | 1.76 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3320832.80 | 1.21 | 3146678.50 | 105.5 | 70 - 130 | |
| 45 | Sc | 5231988.00 | 0.59 | 5213161.00 | 100.4 | 70 - 130 | |
| 45 | Sc | 724405.31 | 0.60 | 741872.44 | 97.6 | 70 - 130 | |
| 72 | Ge | 1065275.40 | 0.03 | 1062354.50 | 100.3 | 70 - 130 | |
| 72 | Ge | 267494.06 | 0.41 | 273900.03 | 97.7 | 70 - 130 | |
| 103 | Rh | 5737877.50 | 1.18 | 6003827.50 | 95.6 | 70 - 130 | |
| 115 | In | 6081972.50 | 1.44 | 6375567.50 | 95.4 | 70 - 130 | |
| 115 | In | 1990799.40 | 0.82 | 2096792.90 | 94.9 | 70 - 130 | |
| 159 | Tb | 7578506.50 | 0.50 | 7647906.50 | 99.1 | 70 - 130 | |
| 175 | Lu | 7288735.00 | 0.66 | 7337137.50 | 99.3 | 70 - 130 | |
| 209 | Bi | 3735559.00 | 1.76 | 3950799.00 | 94.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 19 2013 06:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.62 | 57.62 | ppb | 0.54 | 900.00 | |
| 9 Be | 45 | 2 | 61.31 | 61.31 | ppb | 1.32 | 900.00 | |
| 11 B | 6 | 1 | 52.35 | 52.35 | ppb | 0.57 | 900.00 | |
| 11 B | 45 | 2 | 57.31 | 57.31 | ppb | 1.17 | 900.00 | |
| 23 Na | 45 | 1 | 5709.00 | 5709.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 5695.00 | 5695.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 5745.00 | 5745.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 5777.00 | 5777.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 5721.00 | 5721.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 2 | 5692.00 | 5692.00 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 5728.00 | 5728.00 | ppb | 0.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 5646.00 | 5646.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.59 | 59.59 | ppb | 0.69 | 900.00 | |
| 51 V | 45 | 2 | 60.26 | 60.26 | ppb | 0.66 | 900.00 | |
| 52 Cr | 45 | 2 | 58.77 | 58.77 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 59.10 | 59.10 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 5707.00 | 5707.00 | ppb | 0.67 | 90000.00 | |
| 59 Co | 45 | 2 | 57.98 | 57.98 | ppb | 0.23 | 900.00 | |
| 60 Ni | 45 | 2 | 57.86 | 57.86 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 57.07 | 57.07 | ppb | 0.35 | 900.00 | |
| 66 Zn | 72 | 2 | 57.48 | 57.48 | ppb | 0.58 | 900.00 | |
| 75 As | 72 | 2 | 59.57 | 59.57 | ppb | 0.22 | 900.00 | |
| 78 Se | 72 | 2 | 60.16 | 60.16 | ppb | 0.63 | 900.00 | |
| 88 Sr | 103 | 1 | 60.31 | 60.31 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 61.52 | 61.52 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 59.52 | 59.52 | ppb | 0.99 | 180.00 | |
| 111 Cd | 115 | 2 | 57.98 | 57.98 | ppb | 0.35 | 900.00 | |
| 120 Sn | 115 | 1 | 59.45 | 59.45 | ppb | 1.17 | 900.00 | |
| 121 Sb | 115 | 1 | 60.71 | 60.71 | ppb | 1.31 | 900.00 | |
| 137 Ba | 159 | 1 | 59.26 | 59.26 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 58.25 | 58.25 | ppb | 1.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.46 | 60.46 | ppb | 0.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3445542 | 0.38 | 3146679 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 5264045 | 0.52 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 711729 | 0.57 | 741872 | 95.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1057750 | 0.85 | 1062355 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 261884 | 0.23 | 273900 | 95.6 | 70 | - | 130 |
| 103 Rh | 1 | 5887232 | 0.58 | 6003828 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 6232259 | 0.97 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2007578 | 0.65 | 2096793 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 7690609 | 0.73 | 7647907 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 7326444 | 0.41 | 7337138 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 3844975 | 0.39 | 3950799 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 19 2013 07:00 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 38.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7009.60 | 900.00 | |
| 11 B | 6 | 1 | 0.10 | 0.10 | ppb | 19.75 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 37.85 | 900.00 | |
| 23 Na | 45 | 1 | -0.93 | -0.93 | ppb | 11.92 | 90000.00 | |
| 23 Na | 45 | 2 | -1.21 | -1.21 | ppb | 13.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.13 | 0.13 | ppb | 4.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.36 | 0.36 | ppb | 37.92 | 90000.00 | |
| 27 Al | 45 | 1 | 0.23 | 0.23 | ppb | 14.10 | 90000.00 | |
| 27 Al | 45 | 2 | 0.37 | 0.37 | ppb | 29.62 | 90000.00 | |
| 39 K | 45 | 1 | -1.35 | -1.35 | ppb | 63.11 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.01 | -7.01 | ppb | 20.19 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 31.97 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 11.69 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 93.10 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 16.06 | 900.00 | |
| 56 Fe | 45 | 2 | 1.13 | 1.13 | ppb | 3.95 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 27.33 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 22.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 20.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 43.11 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 33.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 200.28 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 43.69 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 6.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 10.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 10.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 7.46 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 940.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 2.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 9.45 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3521132 | 0.73 | 3146679 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 5315206 | 0.40 | 5213161 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 734086 | 0.82 | 741872 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1087940 | 0.22 | 1062355 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 272348 | 0.60 | 273900 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 6156239 | 0.55 | 6003828 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 6485324 | 0.74 | 6375568 | 101.7 | 70 | - | 130 |
| 115 In | 2 | 2107285 | 0.54 | 2096793 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 7853041 | 0.81 | 7647907 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 7387283 | 0.97 | 7337138 | 100.7 | 70 | - | 130 |
| 209 Bi | 1 | 4081645 | 0.76 | 3950799 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 19 2013 07:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 47.96 | 47.96 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 51.89 | 51.89 | ppb | 0.48 | 900.00 | |
| 11 B | 6 | 1 | 45.07 | 45.07 | ppb | 1.01 | 900.00 | |
| 11 B | 45 | 2 | 50.34 | 50.34 | ppb | 1.63 | 900.00 | |
| 23 Na | 45 | 1 | 5199.00 | 5199.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 5165.00 | 5165.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5167.00 | 5167.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 5194.00 | 5194.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 5148.00 | 5148.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 5159.00 | 5159.00 | ppb | 0.74 | 90000.00 | |
| 39 K | 45 | 1 | 5151.00 | 5151.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 5149.00 | 5149.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.58 | 49.58 | ppb | 1.15 | 900.00 | |
| 51 V | 45 | 2 | 49.67 | 49.67 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 49.05 | 49.05 | ppb | 0.43 | 900.00 | |
| 55 Mn | 45 | 2 | 49.28 | 49.28 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 5143.00 | 5143.00 | ppb | 0.79 | 90000.00 | |
| 59 Co | 45 | 2 | 49.42 | 49.42 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 48.39 | 48.39 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | 47.95 | 47.95 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 48.42 | 48.42 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 49.43 | 49.43 | ppb | 0.23 | 900.00 | |
| 78 Se | 72 | 2 | 49.69 | 49.69 | ppb | 1.72 | 900.00 | |
| 88 Sr | 103 | 1 | 50.60 | 50.60 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 49.82 | 49.82 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 49.75 | 49.75 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 48.32 | 48.32 | ppb | 0.54 | 900.00 | |
| 120 Sn | 115 | 1 | 50.32 | 50.32 | ppb | 0.52 | 900.00 | |
| 121 Sb | 115 | 1 | 51.20 | 51.20 | ppb | 1.34 | 900.00 | |
| 137 Ba | 159 | 1 | 48.72 | 48.72 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 49.01 | 49.01 | ppb | 1.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.35 | 50.35 | ppb | 1.56 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3512158 | 0.99 | 3146679 | 111.6 | 70 - 130 | |
| 45 Sc | 1 | 5263110 | 0.27 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 708634 | 0.53 | 741872 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1060315 | 0.20 | 1062355 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 261348 | 0.66 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5918450 | 0.49 | 6003828 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 6247936 | 0.30 | 6375568 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 2021536 | 0.10 | 2096793 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 7781866 | 0.91 | 7647907 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 7456314 | 1.22 | 7337138 | 101.6 | 70 | - | 130 |
| 209 Bi | 1 | 3891846 | 0.88 | 3950799 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 19 2013 07:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 58.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 45.35 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 33.91 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 129.42 | 900.00 | |
| 23 Na | 45 | 1 | -0.77 | -0.77 | ppb | 4.20 | 90000.00 | |
| 23 Na | 45 | 2 | 1.01 | 1.01 | ppb | 211.89 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.12 | 0.12 | ppb | 9.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.12 | 1.12 | ppb | 46.03 | 90000.00 | |
| 27 Al | 45 | 1 | 0.20 | 0.20 | ppb | 12.56 | 90000.00 | |
| 27 Al | 45 | 2 | 1.14 | 1.14 | ppb | 47.59 | 90000.00 | |
| 39 K | 45 | 1 | -2.18 | -2.18 | ppb | 25.36 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.82 | -6.82 | ppb | 7.87 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 33.14 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 58.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 91.71 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.16 | ppb | 52.43 | 900.00 | |
| 56 Fe | 45 | 2 | 1.87 | 1.87 | ppb | 43.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 45.66 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 71.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 49.03 | 900.00 | |
| 66 Zn | 72 | 2 | 0.25 | 0.25 | ppb | 32.50 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 81.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 48.73 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 12.02 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 12.23 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 35.38 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 11.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 12.40 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 113.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.23 | ppb | 1.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 18.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3634146 | 0.64 | 3146679 | 115.5 | 70 - 130 | |
| 45 Sc | 1 | 5359922 | 1.20 | 5213161 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 700463 | 7.65 | 741872 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1091895 | 1.11 | 1062355 | 102.8 | 70 | - | 130 |
| 72 | Ge | 2 | 261598 | 6.48 | 273900 | 95.5 | 70 | - | 130 |
| 103 | Rh | 1 | 6207894 | 1.22 | 6003828 | 103.4 | 70 | - | 130 |
| 115 | In | 1 | 6521486 | 0.79 | 6375568 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 2014989 | 7.34 | 2096793 | 96.1 | 70 | - | 130 |
| 159 | Tb | 1 | 7867902 | 0.45 | 7647907 | 102.9 | 70 | - | 130 |
| 175 | Lu | 1 | 7509559 | 1.19 | 7337138 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 4104965 | 1.42 | 3950799 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 19 2013 07:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.46 | 0.46 | ppb | 1.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.49 | 0.49 | ppb | 8.63 | 900.00 | |
| 11 B | 6 | 1 | 4.32 | 4.32 | ppb | 2.90 | 900.00 | |
| 11 B | 45 | 2 | 5.10 | 5.10 | ppb | 12.96 | 900.00 | |
| 23 Na | 45 | 1 | 261.80 | 261.80 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 271.10 | 271.10 | ppb | 5.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 265.20 | 265.20 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 281.30 | 281.30 | ppb | 5.95 | 90000.00 | |
| 27 Al | 45 | 1 | 28.08 | 28.08 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 28.49 | 28.49 | ppb | 6.42 | 90000.00 | |
| 39 K | 45 | 1 | 255.00 | 255.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 257.80 | 257.80 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 1.00 | ppb | 5.07 | 900.00 | |
| 51 V | 45 | 2 | 1.08 | 1.08 | ppb | 7.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 6.16 | 900.00 | |
| 55 Mn | 45 | 2 | 1.10 | 1.10 | ppb | 8.02 | 900.00 | |
| 56 Fe | 45 | 2 | 29.57 | 29.57 | ppb | 7.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 6.25 | 900.00 | |
| 60 Ni | 45 | 2 | 1.01 | 1.01 | ppb | 7.39 | 900.00 | |
| 63 Cu | 72 | 2 | 1.03 | 1.03 | ppb | 4.88 | 900.00 | |
| 66 Zn | 72 | 2 | 2.04 | 2.04 | ppb | 4.49 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 3.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 18.40 | 900.00 | |
| 88 Sr | 103 | 1 | 4.92 | 4.92 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 1.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 10.14 | 900.00 | |
| 120 Sn | 115 | 1 | 4.91 | 4.91 | ppb | 0.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 1.36 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 2.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3630628 | 2.38 | 3146679 | 115.4 | 70 - 130 | |
| 45 Sc | 1 | 5325582 | 0.46 | 5213161 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 717966 | 5.16 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1081473 | 1.33 | 1062355 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 268153 | 4.00 | 273900 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 6172874 | 0.95 | 6003828 | 102.8 | 70 | - | 130 |
| 115 In | 1 | 6410697 | 0.65 | 6375568 | 100.6 | 70 | - | 130 |
| 115 In | 2 | 2066963 | 5.68 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7756196 | 0.89 | 7647907 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 7449609 | 0.80 | 7337138 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 4076090 | 0.44 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 07:28 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 42.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2.01 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.13 | ppb | 4.76 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 34.55 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98250.00 | 98250.00 | ppb | 1.28 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 98270.00 | 98270.00 | ppb | 1.54 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98050.00 | 98050.00 | ppb | 0.47 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 97960.00 | 97960.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97680.00 | 97680.00 | ppb | 0.64 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96910.00 | 96910.00 | ppb | 0.68 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2013.00 | 2013.00 | ppb | 0.92 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 60.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 0.34 | 0.34 | ppb | 4.53 | 900.00 | |
| 56 Fe | 45 | 2 | 96530.00 | 96530.00 | ppb | 0.33 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 2.16 | 900.00 | |
| 66 Zn | 72 | 2 | 2.50 | 2.50 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 4.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 24.71 | 900.00 | |
| 88 Sr | 103 | 1 | 4.87 | 4.87 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2066.00 | 2066.00 | ppb | 0.88 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 3.18 | 180.00 | |
| 111 Cd | 115 | 2 | 1.12 | 1.12 | ppb | 3.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.15 | ppb | 3.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 1.82 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 3.85 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 4.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.20 | ppb | 1.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3214307 | 0.65 | 3146679 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 4769927 | 0.92 | 5213161 | 91.5 | 70 - 130 | |
| 45 Sc | 2 | 640955 | 1.43 | 741872 | 86.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 980909 | 0.69 | 1062355 | 92.3 | 70 | - | 130 |
| 72 Ge | 2 | 240588 | 0.81 | 273900 | 87.8 | 70 | - | 130 |
| 103 Rh | 1 | 5012396 | 0.33 | 6003828 | 83.5 | 70 | - | 130 |
| 115 In | 1 | 5492030 | 1.12 | 6375568 | 86.1 | 70 | - | 130 |
| 115 In | 2 | 1728630 | 1.86 | 2096793 | 82.4 | 70 | - | 130 |
| 159 Tb | 1 | 7160070 | 1.35 | 7647907 | 93.6 | 70 | - | 130 |
| 175 Lu | 1 | 6918685 | 1.09 | 7337138 | 94.3 | 70 | - | 130 |
| 209 Bi | 1 | 3369295 | 0.47 | 3950799 | 85.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Apr 19 2013 07:36 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 22.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 75.08 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 15.18 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 37.04 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100000.00 | 100000.00 | ppb | 0.88 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96340.00 | 96340.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98950.00 | 98950.00 | ppb | 0.76 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95950.00 | 95950.00 | ppb | 0.41 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97560.00 | 97560.00 | ppb | 0.83 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96160.00 | 96160.00 | ppb | 1.14 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1991.00 | 1991.00 | ppb | 0.52 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 14.26 | 900.00 | |
| 52 Cr | 45 | 2 | 20.12 | 20.12 | ppb | 0.48 | 900.00 | |
| 55 Mn | 45 | 2 | 19.65 | 19.65 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 96990.00 | 96990.00 | ppb | 0.29 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.92 | 18.92 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 18.66 | 18.66 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 17.08 | 17.08 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 20.23 | 20.23 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 19.61 | 19.61 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.22 | ppb | 40.97 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 2074.00 | 2074.00 | ppb | 0.11 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.49 | 19.49 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 19.67 | 19.67 | ppb | 0.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.26 | ppb | 1.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.32 | ppb | 1.22 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.28 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 13.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.62 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2984632 | 1.04 | 3146679 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 4857424 | 0.18 | 5213161 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 638643 | 0.99 | 741872 | 86.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 985991 | 0.63 | 1062355 | 92.8 | 70 | - | 130 |
| 72 Ge | 2 | 240210 | 0.25 | 273900 | 87.7 | 70 | - | 130 |
| 103 Rh | 1 | 5081428 | 0.55 | 6003828 | 84.6 | 70 | - | 130 |
| 115 In | 1 | 5575267 | 0.48 | 6375568 | 87.4 | 70 | - | 130 |
| 115 In | 2 | 1718863 | 0.43 | 2096793 | 82.0 | 70 | - | 130 |
| 159 Tb | 1 | 7188756 | 0.21 | 7647907 | 94.0 | 70 | - | 130 |
| 175 Lu | 1 | 6894351 | 1.61 | 7337138 | 94.0 | 70 | - | 130 |
| 209 Bi | 1 | 3359714 | 0.26 | 3950799 | 85.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D#
Date Acquired: Apr 19 2013 07:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 87.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 87.30 | 900.00 | |
| 11 B | 6 | 1 | -0.06 | -0.06 | ppb | 7.21 | 900.00 | |
| 11 B | 45 | 2 | -0.04 | -0.04 | ppb | 109.88 | 900.00 | |
| 23 Na | 45 | 1 | 5.02 | 5.02 | ppb | 7.24 | 90000.00 | |
| 23 Na | 45 | 2 | 14.80 | 14.80 | ppb | 75.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.68 | 1.68 | ppb | 5.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 9.39 | 9.39 | ppb | 99.53 | 90000.00 | |
| 27 Al | 45 | 1 | 1.59 | 1.59 | ppb | 5.33 | 90000.00 | |
| 27 Al | 45 | 2 | 8.66 | 8.66 | ppb | 102.59 | 90000.00 | |
| 39 K | 45 | 1 | -2.30 | -2.30 | ppb | 61.63 | 90000.00 | |
| 44 Ca | 45 | 1 | -17.43 | -17.43 | ppb | 8.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.13 | 0.13 | ppb | 6.24 | 900.00 | |
| 51 V | 45 | 2 | 0.08 | 0.08 | ppb | 19.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 95.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.18 | 0.18 | ppb | 109.12 | 900.00 | |
| 56 Fe | 45 | 2 | 12.41 | 12.41 | ppb | 77.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 101.73 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 120.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 57.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.06 | 0.06 | ppb | 59.60 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 108.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 72.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 22.26 | 900.00 | |
| 98 Mo | 103 | 1 | 1.20 | 1.20 | ppb | 4.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 42.32 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 66.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 24.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 14.24 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 521.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 45.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 263.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3122430 | 1.01 | 3146679 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 5035842 | 0.53 | 5213161 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 674468 | 0.74 | 741872 | 90.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1027458 | 0.73 | 1062355 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 258207 | 0.66 | 273900 | 94.3 | 70 | - | 130 |
| 103 Rh | 1 | 5916386 | 0.42 | 6003828 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 6237443 | 1.04 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2018275 | 0.89 | 2096793 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 7573620 | 1.15 | 7647907 | 99.0 | 70 | - | 130 |
| 175 Lu | 1 | 7189723 | 0.16 | 7337138 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 4001200 | 0.36 | 3950799 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 19 2013 07:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-9F
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.03 | ppb | 13.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 26.57 | 900.00 | |
| 11 B | 6 | 1 | 13.85 | 6.93 | ppb | 1.65 | 900.00 | |
| 11 B | 45 | 2 | 13.89 | 6.94 | ppb | 1.84 | 900.00 | |
| 23 Na | 45 | 1 | 14570.00 | 7285.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 15380.00 | 7690.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 1107.80 | 553.90 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 1196.80 | 598.40 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 29.70 | 14.85 | ppb | 20.00 | 90000.00 | |
| 27 Al | 45 | 2 | 22.26 | 11.13 | ppb | 8.95 | 90000.00 | |
| 39 K | 45 | 1 | 2258.00 | 1129.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 6620.00 | 3310.00 | ppb | 0.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 0.71 | ppb | 9.17 | 900.00 | |
| 51 V | 45 | 2 | 3.78 | 1.89 | ppb | 7.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.52 | 0.26 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 165.68 | 82.84 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 553.60 | 276.80 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.84 | 1.42 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 5.08 | 2.54 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 1.70 | 900.00 | |
| 66 Zn | 72 | 2 | 10.03 | 5.01 | ppb | 0.14 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.46 | ppb | 5.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.21 | ppb | 36.87 | 900.00 | |
| 88 Sr | 103 | 1 | 41.50 | 20.75 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.88 | 0.94 | ppb | 3.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 17.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 22.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 10.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.96 | 900.00 | |
| 137 Ba | 159 | 1 | 20.28 | 10.14 | ppb | 0.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 9.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 4.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2833325 | 0.67 | 3146679 | 90.0 | 70 - 130 | |
| 45 Sc | 1 | 4877379 | 0.26 | 5213161 | 93.6 | 70 - 130 | |
| 45 Sc | 2 | 656263 | 0.39 | 741872 | 88.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 999389 | 0.47 | 1062355 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 250192 | 0.90 | 273900 | 91.3 | 70 | - | 130 |
| 103 Rh | 1 | 5556344 | 1.86 | 6003828 | 92.5 | 70 | - | 130 |
| 115 In | 1 | 6030646 | 0.64 | 6375568 | 94.6 | 70 | - | 130 |
| 115 In | 2 | 1930154 | 1.13 | 2096793 | 92.1 | 70 | - | 130 |
| 159 Tb | 1 | 7425066 | 0.63 | 7647907 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 7082348 | 0.61 | 7337138 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 3770608 | 1.23 | 3950799 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D#
Date Acquired: Apr 19 2013 07:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-10F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 28.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 26.17 | 900.00 | |
| 11 B | 6 | 1 | 21.02 | 10.51 | ppb | 1.14 | 900.00 | |
| 11 B | 45 | 2 | 21.02 | 10.51 | ppb | 2.73 | 900.00 | |
| 23 Na | 45 | 1 | 32520.00 | 16260.00 | ppb | 0.88 | 90000.00 | |
| 23 Na | 45 | 2 | 34300.00 | 17150.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 1545.40 | 772.70 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1667.00 | 833.50 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 13.36 | 6.68 | ppb | 1.25 | 90000.00 | |
| 27 Al | 45 | 2 | 13.15 | 6.57 | ppb | 2.53 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 1430.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 13890.00 | 6945.00 | ppb | 0.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.59 | ppb | 3.56 | 900.00 | |
| 51 V | 45 | 2 | 2.97 | 1.49 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.21 | ppb | 4.83 | 900.00 | |
| 55 Mn | 45 | 2 | 51.48 | 25.74 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 239.40 | 119.70 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.26 | ppb | 1.87 | 900.00 | |
| 60 Ni | 45 | 2 | 1.64 | 0.82 | ppb | 1.83 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.33 | ppb | 1.44 | 900.00 | |
| 66 Zn | 72 | 2 | 10.43 | 5.22 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 0.82 | 0.41 | ppb | 1.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.34 | 0.17 | ppb | 27.46 | 900.00 | |
| 88 Sr | 103 | 1 | 93.16 | 46.58 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 0.83 | 0.42 | ppb | 3.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 10.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.14 | ppb | 2.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 2.53 | 900.00 | |
| 137 Ba | 159 | 1 | 21.90 | 10.95 | ppb | 0.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 10.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 6.33 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2741037 | 0.78 | 3146679 | 87.1 | 70 - 130 | |
| 45 Sc | 1 | 4856751 | 0.71 | 5213161 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 664684 | 1.12 | 741872 | 89.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1003947 | 0.44 | 1062355 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 252199 | 0.71 | 273900 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 5506238 | 1.30 | 6003828 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 5996901 | 0.12 | 6375568 | 94.1 | 70 | - | 130 |
| 115 In | 2 | 1921576 | 0.51 | 2096793 | 91.6 | 70 | - | 130 |
| 159 Tb | 1 | 7402008 | 0.69 | 7647907 | 96.8 | 70 | - | 130 |
| 175 Lu | 1 | 7092826 | 0.93 | 7337138 | 96.7 | 70 | - | 130 |
| 209 Bi | 1 | 3745738 | 1.11 | 3950799 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 19 2013 08:04 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-11F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.54 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 28.70 | 14.35 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 28.72 | 14.36 | ppb | 3.97 | 900.00 | |
| 23 Na | 45 | 1 | 60400.00 | 30200.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 64340.00 | 32170.00 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 2698.00 | 1349.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 2904.00 | 1452.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 1 | 9.73 | 4.87 | ppb | 1.89 | 90000.00 | |
| 27 Al | 45 | 2 | 9.86 | 4.93 | ppb | 1.62 | 90000.00 | |
| 39 K | 45 | 1 | 4664.00 | 2332.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 22480.00 | 11240.00 | ppb | 1.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 0.54 | ppb | 0.87 | 900.00 | |
| 51 V | 45 | 2 | 3.08 | 1.54 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 3.91 | 900.00 | |
| 55 Mn | 45 | 2 | 43.48 | 21.74 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 296.60 | 148.30 | ppb | 0.17 | 90000.00 | |
| 59 Co | 45 | 2 | 0.69 | 0.35 | ppb | 0.13 | 900.00 | |
| 60 Ni | 45 | 2 | 2.22 | 1.11 | ppb | 1.62 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 0.50 | ppb | 0.90 | 900.00 | |
| 66 Zn | 72 | 2 | 11.96 | 5.98 | ppb | 0.27 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.47 | ppb | 6.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.47 | 0.24 | ppb | 48.49 | 900.00 | |
| 88 Sr | 103 | 1 | 149.54 | 74.77 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.60 | 0.30 | ppb | 7.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.80 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 25.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.30 | 0.15 | ppb | 2.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 3.78 | 900.00 | |
| 137 Ba | 159 | 1 | 47.18 | 23.59 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 14.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 3.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2759797 | 1.53 | 3146679 | 87.7 | 70 - 130 | |
| 45 Sc | 1 | 4906663 | 1.04 | 5213161 | 94.1 | 70 - 130 | |
| 45 Sc | 2 | 665476 | 0.23 | 741872 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 996054 | 0.72 | 1062355 | 93.8 | 70 | - | 130 |
| 72 Ge | 2 | 250958 | 0.12 | 273900 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 5461839 | 0.51 | 6003828 | 91.0 | 70 | - | 130 |
| 115 In | 1 | 5940591 | 0.20 | 6375568 | 93.2 | 70 | - | 130 |
| 115 In | 2 | 1918073 | 0.60 | 2096793 | 91.5 | 70 | - | 130 |
| 159 Tb | 1 | 7299400 | 0.60 | 7647907 | 95.4 | 70 | - | 130 |
| 175 Lu | 1 | 7054988 | 1.12 | 7337138 | 96.2 | 70 | - | 130 |
| 209 Bi | 1 | 3684239 | 1.08 | 3950799 | 93.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 19 2013 08:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-12F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 65.03 | 900.00 | |
| 11 B | 6 | 1 | 29.52 | 14.76 | ppb | 1.84 | 900.00 | |
| 11 B | 45 | 2 | 27.72 | 13.86 | ppb | 4.07 | 900.00 | |
| 23 Na | 45 | 1 | 61700.00 | 30850.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 65460.00 | 32730.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 2790.00 | 1395.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 2988.00 | 1494.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 10.55 | 5.27 | ppb | 1.47 | 90000.00 | |
| 27 Al | 45 | 2 | 12.76 | 6.38 | ppb | 13.30 | 90000.00 | |
| 39 K | 45 | 1 | 4764.00 | 2382.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 23260.00 | 11630.00 | ppb | 1.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 3.75 | 900.00 | |
| 51 V | 45 | 2 | 3.18 | 1.59 | ppb | 1.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 45.42 | 22.71 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 323.60 | 161.80 | ppb | 1.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.71 | 0.35 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 1.63 | 0.81 | ppb | 2.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.56 | 0.28 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 8.16 | 4.08 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 0.99 | 0.49 | ppb | 3.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.49 | 0.25 | ppb | 12.68 | 900.00 | |
| 88 Sr | 103 | 1 | 152.56 | 76.28 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 4.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 39.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.99 | 0.50 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 3.01 | 900.00 | |
| 137 Ba | 159 | 1 | 46.74 | 23.37 | ppb | 0.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 10.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 6.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2658155 | 1.09 | 3146679 | 84.5 | 70 - 130 | |
| 45 Sc | 1 | 4849858 | 0.86 | 5213161 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 665537 | 0.81 | 741872 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 994807 | 0.73 | 1062355 | 93.6 | 70 - | 130 |
| 72 | Ge | 2 | 250425 | 0.36 | 273900 | 91.4 | 70 - | 130 |
| 103 | Rh | 1 | 5416378 | 0.18 | 6003828 | 90.2 | 70 - | 130 |
| 115 | In | 1 | 5926395 | 1.09 | 6375568 | 93.0 | 70 - | 130 |
| 115 | In | 2 | 1901469 | 0.84 | 2096793 | 90.7 | 70 - | 130 |
| 159 | Tb | 1 | 7339548 | 0.65 | 7647907 | 96.0 | 70 - | 130 |
| 175 | Lu | 1 | 7039953 | 0.47 | 7337138 | 95.9 | 70 - | 130 |
| 209 | Bi | 1 | 3660023 | 0.78 | 3950799 | 92.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 08:18 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-13F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2201 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 48.86 | 900.00 | |
| 11 B | 6 | 1 | 31.38 | 15.69 | ppb | 1.26 | 900.00 | |
| 11 B | 45 | 2 | 31.78 | 15.89 | ppb | 2.53 | 900.00 | |
| 23 Na | 45 | 1 | 69440.00 | 34720.00 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 75780.00 | 37890.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 2062.00 | 1031.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 2300.00 | 1150.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 4.53 | 2.26 | ppb | 17.42 | 90000.00 | |
| 27 Al | 45 | 2 | 4.14 | 2.07 | ppb | 6.23 | 90000.00 | |
| 39 K | 45 | 1 | 4004.00 | 2002.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 19074.00 | 9537.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 6.03 | 900.00 | |
| 51 V | 45 | 2 | 2.91 | 1.46 | ppb | 1.85 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 8.03 | 900.00 | |
| 55 Mn | 45 | 2 | 1946.20 | 973.10 | ppb | 1.69 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 262.80 | 131.40 | ppb | 1.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.76 | 0.38 | ppb | 1.32 | 900.00 | |
| 60 Ni | 45 | 2 | 1.46 | 0.73 | ppb | 2.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.20 | ppb | 4.71 | 900.00 | |
| 66 Zn | 72 | 2 | 8.30 | 4.15 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 2.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.12 | ppb | 15.05 | 900.00 | |
| 88 Sr | 103 | 1 | 247.80 | 123.90 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.26 | ppb | 6.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 35.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 11.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 8.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.30 | 900.00 | |
| 137 Ba | 159 | 1 | 7.82 | 3.91 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 7.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 10.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2667267 | 0.41 | 3146679 | 84.8 | 70 - 130 | |
| 45 Sc | 1 | 4913174 | 0.34 | 5213161 | 94.2 | 70 - 130 | |
| 45 Sc | 2 | 670896 | 0.59 | 741872 | 90.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1006632 | 0.72 | 1062355 | 94.8 | 70 | - | 130 |
| 72 Ge | 2 | 254369 | 1.24 | 273900 | 92.9 | 70 | - | 130 |
| 103 Rh | 1 | 5442105 | 0.37 | 6003828 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 5958030 | 0.11 | 6375568 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 1896879 | 2.69 | 2096793 | 90.5 | 70 | - | 130 |
| 159 Tb | 1 | 7422818 | 0.42 | 7647907 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 7089657 | 0.74 | 7337138 | 96.6 | 70 | - | 130 |
| 209 Bi | 1 | 3682370 | 0.16 | 3950799 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 08:25 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-14F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2202 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 67.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 75.14 | 900.00 | |
| 11 B | 6 | 1 | 38.22 | 19.11 | ppb | 1.51 | 900.00 | |
| 11 B | 45 | 2 | 36.70 | 18.35 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 39820.00 | 19910.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 42960.00 | 21480.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 1412.20 | 706.10 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1573.00 | 786.50 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 3.34 | 1.67 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 3.37 | 1.69 | ppb | 10.38 | 90000.00 | |
| 39 K | 45 | 1 | 3012.00 | 1506.00 | ppb | 1.07 | 90000.00 | |
| 44 Ca | 45 | 1 | 13208.00 | 6604.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.46 | 0.73 | ppb | 2.82 | 900.00 | |
| 51 V | 45 | 2 | 2.98 | 1.49 | ppb | 1.07 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.17 | ppb | 5.78 | 900.00 | |
| 55 Mn | 45 | 2 | 2990.00 | 1495.00 | ppb | 1.39 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 105.54 | 52.77 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 3.98 | 1.99 | ppb | 0.69 | 900.00 | |
| 60 Ni | 45 | 2 | 8.37 | 4.18 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.44 | ppb | 0.55 | 900.00 | |
| 66 Zn | 72 | 2 | 8.57 | 4.28 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.45 | ppb | 2.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.15 | ppb | 53.78 | 900.00 | |
| 88 Sr | 103 | 1 | 203.20 | 101.60 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.29 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 5.52 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 23.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 4.47 | 900.00 | |
| 137 Ba | 159 | 1 | 6.05 | 3.02 | ppb | 0.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 100.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 3.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2629700 | 0.89 | 3146679 | 83.6 | 70 - 130 | |
| 45 Sc | 1 | 4955641 | 1.29 | 5213161 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 681105 | 1.00 | 741872 | 91.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1017741 | 0.25 | 1062355 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 255162 | 0.60 | 273900 | 93.2 | 70 | - | 130 |
| 103 Rh | 1 | 5530601 | 0.48 | 6003828 | 92.1 | 70 | - | 130 |
| 115 In | 1 | 6024037 | 0.54 | 6375568 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 1941818 | 1.02 | 2096793 | 92.6 | 70 | - | 130 |
| 159 Tb | 1 | 7476527 | 0.24 | 7647907 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 7158221 | 1.45 | 7337138 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 3744313 | 0.56 | 3950799 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 19 2013 08:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.71 | 50.71 | ppb | 1.43 | 900.00 | |
| 9 Be | 45 | 2 | 48.85 | 48.85 | ppb | 0.79 | 900.00 | |
| 11 B | 6 | 1 | 47.69 | 47.69 | ppb | 2.10 | 900.00 | |
| 11 B | 45 | 2 | 47.78 | 47.78 | ppb | 1.04 | 900.00 | |
| 23 Na | 45 | 1 | 4862.00 | 4862.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5301.00 | 5301.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 4877.00 | 4877.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 5249.00 | 5249.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4946.00 | 4946.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 5123.00 | 5123.00 | ppb | 0.52 | 90000.00 | |
| 39 K | 45 | 1 | 5106.00 | 5106.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5125.00 | 5125.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.70 | 48.70 | ppb | 0.66 | 900.00 | |
| 51 V | 45 | 2 | 50.55 | 50.55 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 49.57 | 49.57 | ppb | 0.46 | 900.00 | |
| 55 Mn | 45 | 2 | 49.28 | 49.28 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 5209.00 | 5209.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 49.70 | 49.70 | ppb | 1.25 | 900.00 | |
| 60 Ni | 45 | 2 | 48.74 | 48.74 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 47.77 | 47.77 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 48.08 | 48.08 | ppb | 0.40 | 900.00 | |
| 75 As | 72 | 2 | 49.22 | 49.22 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 48.14 | 48.14 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 51.88 | 51.88 | ppb | 1.14 | 900.00 | |
| 98 Mo | 103 | 1 | 50.27 | 50.27 | ppb | 0.63 | 900.00 | |
| 107 Ag | 115 | 1 | 48.32 | 48.32 | ppb | 0.89 | 180.00 | |
| 111 Cd | 115 | 2 | 48.80 | 48.80 | ppb | 0.57 | 900.00 | |
| 120 Sn | 115 | 1 | 50.40 | 50.40 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 52.20 | 52.20 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 49.48 | 49.48 | ppb | 1.35 | 900.00 | |
| 205 Tl | 209 | 1 | 48.68 | 48.68 | ppb | 1.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.64 | 50.64 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2819711 | 1.02 | 3146679 | 89.6 | 70 - 130 | |
| 45 Sc | 1 | 5162029 | 0.65 | 5213161 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 699356 | 0.06 | 741872 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1036691 | 1.22 | 1062355 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 261837 | 0.44 | 273900 | 95.6 | 70 | - | 130 |
| 103 Rh | 1 | 5771233 | 0.37 | 6003828 | 96.1 | 70 | - | 130 |
| 115 In | 1 | 6198317 | 0.66 | 6375568 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1963577 | 0.43 | 2096793 | 93.6 | 70 | - | 130 |
| 159 Tb | 1 | 7567258 | 0.66 | 7647907 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 7232286 | 0.94 | 7337138 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 3790752 | 1.01 | 3950799 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D# |
| Date Acquired: | Apr 19 2013 08:39 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2204 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 41.76 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 73.92 | 900.00 | |
| 11 B | 6 | 1 | 0.11 | 0.11 | ppb | 15.17 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 70.15 | 900.00 | |
| 23 Na | 45 | 1 | 4.51 | 4.51 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 37.53 | 37.53 | ppb | 60.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.16 | 0.16 | ppb | 15.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 15.79 | 15.79 | ppb | 71.94 | 90000.00 | |
| 27 Al | 45 | 1 | 0.16 | 0.16 | ppb | 16.47 | 90000.00 | |
| 27 Al | 45 | 2 | 14.50 | 14.50 | ppb | 71.66 | 90000.00 | |
| 39 K | 45 | 1 | 1.31 | 1.31 | ppb | 37.97 | 90000.00 | |
| 44 Ca | 45 | 1 | -19.65 | -19.65 | ppb | 5.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 723.38 | 900.00 | |
| 51 V | 45 | 2 | 0.08 | 0.08 | ppb | 24.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.03 | ppb | 57.55 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 72.44 | 900.00 | |
| 56 Fe | 45 | 2 | 16.07 | 16.07 | ppb | 69.32 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 72.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 198.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 61.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 116.93 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 106.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.11 | ppb | 39.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 50.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 11.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 5.58 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 64.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 10.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 15.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 23.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.23 | ppb | 3.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 6.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2895623 | 1.43 | 3146679 | 92.0 | 70 - 130 | |
| 45 Sc | 1 | 5181427 | 0.86 | 5213161 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 721516 | 0.67 | 741872 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1055439 | 1.41 | 1062355 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 272265 | 0.71 | 273900 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 5956166 | 1.53 | 6003828 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 6363924 | 1.41 | 6375568 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 2056234 | 0.63 | 2096793 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 7723228 | 0.79 | 7647907 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 7275886 | 1.67 | 7337138 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 3957787 | 1.66 | 3950799 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Apr 19 2013 08:47 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-15F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 58.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.03 | ppb | 145.28 | 900.00 | |
| 11 B | 6 | 1 | 67.88 | 33.94 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 65.98 | 32.99 | ppb | 3.45 | 900.00 | |
| 23 Na | 45 | 1 | 10776.00 | 5388.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 11756.00 | 5878.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 3216.00 | 1608.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 3530.00 | 1765.00 | ppb | 2.21 | 90000.00 | |
| 27 Al | 45 | 1 | 5.56 | 2.78 | ppb | 1.04 | 90000.00 | |
| 27 Al | 45 | 2 | 37.98 | 18.99 | ppb | 144.18 | 90000.00 | |
| 39 K | 45 | 1 | 1852.80 | 926.40 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 34840.00 | 17420.00 | ppb | 1.12 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.69 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 2.24 | 1.12 | ppb | 3.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.23 | ppb | 19.38 | 900.00 | |
| 55 Mn | 45 | 2 | 9364.00 | 4682.00 | ppb | 1.56 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 834.20 | 417.10 | ppb | 6.26 | 90000.00 | |
| 59 Co | 45 | 2 | 3.43 | 1.72 | ppb | 1.91 | 900.00 | |
| 60 Ni | 45 | 2 | 6.04 | 3.02 | ppb | 2.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.12 | 0.56 | ppb | 7.45 | 900.00 | |
| 66 Zn | 72 | 2 | 16.35 | 8.18 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 7.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 38.38 | 900.00 | |
| 88 Sr | 103 | 1 | 160.50 | 80.25 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 1.96 | 0.98 | ppb | 1.26 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 55.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 5.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.10 | ppb | 7.24 | 900.00 | |
| 137 Ba | 159 | 1 | 8.04 | 4.02 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 1.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 5.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2660193 | 0.76 | 3146679 | 84.5 | 70 - 130 | |
| 45 Sc | 1 | 5032095 | 1.39 | 5213161 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 704948 | 1.63 | 741872 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1013305 | 0.71 | 1062355 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 261403 | 1.41 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5606318 | 0.55 | 6003828 | 93.4 | 70 | - | 130 |
| 115 In | 1 | 6181613 | 0.48 | 6375568 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1985848 | 0.53 | 2096793 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 7607528 | 0.25 | 7647907 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 7312023 | 0.32 | 7337138 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3834232 | 0.37 | 3950799 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D# |
| Date Acquired: | Apr 19 2013 08:54 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-16F |
| Misc Info: | |
| Vial Number: | 2206 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 165.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 166.26 | 900.00 | |
| 11 B | 6 | 1 | 0.46 | 0.23 | ppb | 4.48 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.18 | ppb | 61.45 | 900.00 | |
| 23 Na | 45 | 1 | 21.52 | 10.76 | ppb | 5.44 | 90000.00 | |
| 23 Na | 45 | 2 | 26.24 | 13.12 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.02 | 1.51 | ppb | 2.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.20 | 1.60 | ppb | 3.70 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 1.53 | ppb | 38.59 | 90000.00 | |
| 27 Al | 45 | 2 | 2.17 | 1.09 | ppb | 4.23 | 90000.00 | |
| 39 K | 45 | 1 | 18.36 | 9.18 | ppb | 7.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 69.20 | 34.60 | ppb | 3.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 7.46 | 900.00 | |
| 51 V | 45 | 2 | 2.64 | 1.32 | ppb | 1.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 5.44 | 900.00 | |
| 55 Mn | 45 | 2 | 2.07 | 1.04 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 6.61 | 3.31 | ppb | 1.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 4.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.58 | 0.29 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 10.53 | 5.27 | ppb | 0.25 | 900.00 | |
| 75 As | 72 | 2 | 0.47 | 0.24 | ppb | 4.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 43.11 | 900.00 | |
| 88 Sr | 103 | 1 | 0.10 | 0.05 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.03 | ppb | 25.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 13.71 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 38.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 8.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.05 | ppb | 8.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 4.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 3.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 3.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2686515 | 0.59 | 3146679 | 85.4 | 70 - 130 | |
| 45 Sc | 1 | 5029911 | 0.87 | 5213161 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 717107 | 0.95 | 741872 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1034293 | 1.08 | 1062355 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 267555 | 0.86 | 273900 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 5896508 | 1.02 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6236141 | 0.90 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2019352 | 0.94 | 2096793 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 7722096 | 0.94 | 7647907 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 7352174 | 0.28 | 7337138 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3995456 | 0.40 | 3950799 | 101.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Apr 19 2013 09:01 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-17F |
| Misc Info: | |
| Vial Number: | 2207 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 92.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 113.79 | 900.00 | |
| 11 B | 6 | 1 | 41.42 | 20.71 | ppb | 3.25 | 900.00 | |
| 11 B | 45 | 2 | 39.60 | 19.80 | ppb | 1.72 | 900.00 | |
| 23 Na | 45 | 1 | 8988.00 | 4494.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 10172.00 | 5086.00 | ppb | 1.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 4362.00 | 2181.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 4840.00 | 2420.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 73.54 | 36.77 | ppb | 101.79 | 90000.00 | |
| 27 Al | 45 | 2 | 18.90 | 9.45 | ppb | 41.23 | 90000.00 | |
| 39 K | 45 | 1 | 2812.00 | 1406.00 | ppb | 1.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 47000.00 | 23500.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.75 | 1.38 | ppb | 52.47 | 900.00 | |
| 51 V | 45 | 2 | 2.51 | 1.26 | ppb | 1.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 0.54 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 3294.00 | 1647.00 | ppb | 2.11 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 622.40 | 311.20 | ppb | 1.94 | 90000.00 | |
| 59 Co | 45 | 2 | 3.99 | 2.00 | ppb | 1.71 | 900.00 | |
| 60 Ni | 45 | 2 | 7.35 | 3.67 | ppb | 0.14 | 900.00 | |
| 63 Cu | 72 | 2 | 1.56 | 0.78 | ppb | 3.25 | 900.00 | |
| 66 Zn | 72 | 2 | 14.86 | 7.43 | ppb | 1.80 | 900.00 | |
| 75 As | 72 | 2 | 1.21 | 0.61 | ppb | 1.81 | 900.00 | |
| 78 Se | 72 | 2 | 0.32 | 0.16 | ppb | 29.12 | 900.00 | |
| 88 Sr | 103 | 1 | 188.12 | 94.06 | ppb | 1.78 | 900.00 | |
| 98 Mo | 103 | 1 | 4.17 | 2.08 | ppb | 36.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.05 | ppb | 100.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 45.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.25 | 0.12 | ppb | 44.34 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.15 | ppb | 37.66 | 900.00 | |
| 137 Ba | 159 | 1 | 10.85 | 5.42 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.07 | ppb | 78.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.07 | ppb | 66.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2567088 | 2.44 | 3146679 | 81.6 | 70 - 130 | |
| 45 Sc | 1 | 5071136 | 0.56 | 5213161 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 714544 | 0.62 | 741872 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1028883 | 0.84 | 1062355 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 263415 | 1.64 | 273900 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 5627051 | 1.34 | 6003828 | 93.7 | 70 | - | 130 |
| 115 In | 1 | 6260230 | 0.94 | 6375568 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1981572 | 1.07 | 2096793 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 7793024 | 1.88 | 7647907 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 7477441 | 2.68 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 3882017 | 1.02 | 3950799 | 98.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 19 2013 09:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-18F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.05 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.72 | 900.00 | |
| 11 B | 6 | 1 | 39.50 | 19.75 | ppb | 0.55 | 900.00 | |
| 11 B | 45 | 2 | 38.18 | 19.09 | ppb | 2.83 | 900.00 | |
| 23 Na | 45 | 1 | 134000.00 | 67000.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 146920.00 | 73460.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 1607.20 | 803.60 | ppb | 1.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 1801.20 | 900.60 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 1 | 12.45 | 6.22 | ppb | 3.33 | 90000.00 | |
| 27 Al | 45 | 2 | 12.28 | 6.14 | ppb | 2.21 | 90000.00 | |
| 39 K | 45 | 1 | 3652.00 | 1826.00 | ppb | 1.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 13096.00 | 6548.00 | ppb | 1.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 0.53 | ppb | 2.32 | 900.00 | |
| 51 V | 45 | 2 | 2.17 | 1.09 | ppb | 2.52 | 900.00 | |
| 52 Cr | 45 | 2 | 0.82 | 0.41 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 96.54 | 48.27 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 140.72 | 70.36 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.58 | 0.29 | ppb | 2.95 | 900.00 | |
| 60 Ni | 45 | 2 | 1.92 | 0.96 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.29 | ppb | 1.49 | 900.00 | |
| 66 Zn | 72 | 2 | 8.15 | 4.08 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 3.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.20 | ppb | 20.47 | 900.00 | |
| 88 Sr | 103 | 1 | 137.58 | 68.79 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.26 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 52.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 25.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 8.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 8.25 | 900.00 | |
| 137 Ba | 159 | 1 | 20.48 | 10.24 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 6.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2609600 | 0.49 | 3146679 | 82.9 | 70 - 130 | |
| 45 Sc | 1 | 4940876 | 1.22 | 5213161 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 696758 | 0.74 | 741872 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1016209 | 0.68 | 1062355 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 257879 | 0.67 | 273900 | 94.2 | 70 | - | 130 |
| 103 Rh | 1 | 5466184 | 0.79 | 6003828 | 91.0 | 70 | - | 130 |
| 115 In | 1 | 6017609 | 0.68 | 6375568 | 94.4 | 70 | - | 130 |
| 115 In | 2 | 1934114 | 0.49 | 2096793 | 92.2 | 70 | - | 130 |
| 159 Tb | 1 | 7481145 | 1.21 | 7647907 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 7260883 | 0.99 | 7337138 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 3686353 | 1.06 | 3950799 | 93.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 19 2013 09:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-19F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 23.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 163.19 | 900.00 | |
| 11 B | 6 | 1 | 79.10 | 39.55 | ppb | 0.83 | 900.00 | |
| 11 B | 45 | 2 | 73.82 | 36.91 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 84320.00 | 42160.00 | ppb | 2.29 | 90000.00 | |
| 23 Na | 45 | 2 | 92560.00 | 46280.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 2954.00 | 1477.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 3234.00 | 1617.00 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 12.55 | 6.28 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 13.05 | 6.53 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 6628.00 | 3314.00 | ppb | 1.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 28040.00 | 14020.00 | ppb | 0.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.24 | 0.62 | ppb | 6.06 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.12 | ppb | 2.92 | 900.00 | |
| 52 Cr | 45 | 2 | 0.42 | 0.21 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 4064.00 | 2032.00 | ppb | 1.47 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 634.40 | 317.20 | ppb | 2.02 | 90000.00 | |
| 59 Co | 45 | 2 | 2.66 | 1.33 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 4.63 | 2.31 | ppb | 1.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 8.56 | 4.28 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 1.66 | 0.83 | ppb | 0.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.12 | ppb | 15.12 | 900.00 | |
| 88 Sr | 103 | 1 | 292.20 | 146.10 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.95 | 0.48 | ppb | 1.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.08 | ppb | 5.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 6.02 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 3.31 | 900.00 | |
| 137 Ba | 159 | 1 | 21.34 | 10.67 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 5.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 4.04 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2523524 | 0.77 | 3146679 | 80.2 | 70 - 130 | |
| 45 Sc | 1 | 4935801 | 0.89 | 5213161 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 704330 | 0.83 | 741872 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1002825 | 0.98 | 1062355 | 94.4 | 70 | - | 130 |
| 72 Ge | 2 | 259459 | 1.07 | 273900 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 5485448 | 0.60 | 6003828 | 91.4 | 70 | - | 130 |
| 115 In | 1 | 6032556 | 1.12 | 6375568 | 94.6 | 70 | - | 130 |
| 115 In | 2 | 1960438 | 2.79 | 2096793 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 7561425 | 0.27 | 7647907 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 7286739 | 0.22 | 7337138 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 3720797 | 0.52 | 3950799 | 94.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D# |
| Date Acquired: | Apr 19 2013 09:22 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-20F |
| Misc Info: | |
| Vial Number: | 2210 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 60.33 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 162.70 | 900.00 | |
| 11 B | 6 | 1 | 174.68 | 87.34 | ppb | 0.45 | 900.00 | |
| 11 B | 45 | 2 | 161.18 | 80.59 | ppb | 0.35 | 900.00 | |
| 23 Na | 45 | 1 | 14436.00 | 7218.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 16270.00 | 8135.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 4608.00 | 2304.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 5180.00 | 2590.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 11.43 | 5.72 | ppb | 3.66 | 90000.00 | |
| 27 Al | 45 | 2 | 12.04 | 6.02 | ppb | 2.15 | 90000.00 | |
| 39 K | 45 | 1 | 7374.00 | 3687.00 | ppb | 1.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 38600.00 | 19300.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.90 | 0.95 | ppb | 2.91 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 2.76 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 3.96 | 900.00 | |
| 55 Mn | 45 | 2 | 5256.00 | 2628.00 | ppb | 0.98 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 4822.00 | 2411.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 4.75 | 2.38 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 1.54 | 0.77 | ppb | 1.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 6.63 | 900.00 | |
| 66 Zn | 72 | 2 | 13.70 | 6.85 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 17.59 | 8.79 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.10 | ppb | 86.79 | 900.00 | |
| 88 Sr | 103 | 1 | 767.20 | 383.60 | ppb | 0.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.19 | ppb | 4.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 26.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 6.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 1.43 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.27 | 900.00 | |
| 137 Ba | 159 | 1 | 22.52 | 11.26 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 77.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 0.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2495364 | 0.26 | 3146679 | 79.3 | 70 - 130 | |
| 45 Sc | 1 | 5001990 | 0.28 | 5213161 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 701478 | 0.83 | 741872 | 94.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1005761 | 0.83 | 1062355 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 261205 | 0.33 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5576289 | 0.33 | 6003828 | 92.9 | 70 | - | 130 |
| 115 In | 1 | 6142427 | 0.96 | 6375568 | 96.3 | 70 | - | 130 |
| 115 In | 2 | 1987988 | 1.78 | 2096793 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 7704868 | 0.81 | 7647907 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 7484402 | 0.35 | 7337138 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 3863962 | 1.29 | 3950799 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:29 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19884-1F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 175.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.04 | ppb | 115.59 | 900.00 | |
| 11 B | 6 | 1 | 0.73 | 0.37 | ppb | 5.67 | 900.00 | |
| 11 B | 45 | 2 | 0.86 | 0.43 | ppb | 39.77 | 900.00 | |
| 23 Na | 45 | 1 | 30.64 | 15.32 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 208.60 | 104.30 | ppb | 114.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.72 | 1.86 | ppb | 2.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 63.52 | 31.76 | ppb | 130.89 | 90000.00 | |
| 27 Al | 45 | 1 | 108.46 | 54.23 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 160.22 | 80.11 | ppb | 41.81 | 90000.00 | |
| 39 K | 45 | 1 | 14.18 | 7.09 | ppb | 3.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 36.38 | 18.19 | ppb | 5.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 3.74 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.17 | ppb | 28.47 | 900.00 | |
| 55 Mn | 45 | 2 | 7.86 | 3.93 | ppb | 112.44 | 900.00 | |
| 56 Fe | 45 | 2 | 65.20 | 32.60 | ppb | 116.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.07 | 0.04 | ppb | 129.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 29.11 | 900.00 | |
| 63 Cu | 72 | 2 | 0.62 | 0.31 | ppb | 11.60 | 900.00 | |
| 66 Zn | 72 | 2 | 11.35 | 5.68 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.27 | ppb | 17.77 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 12.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.18 | 0.09 | ppb | 3.61 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 7.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 141.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 8.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.05 | ppb | 6.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.15 | 0.08 | ppb | 4.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 9.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 7.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2610655 | 1.79 | 3146679 | 83.0 | 70 - 130 | |
| 45 Sc | 1 | 4992580 | 0.95 | 5213161 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 725797 | 1.33 | 741872 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1030442 | 0.93 | 1062355 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 270352 | 2.07 | 273900 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 5861570 | 0.86 | 6003828 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 6277789 | 0.09 | 6375568 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 2067273 | 2.47 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7830573 | 0.35 | 7647907 | 102.4 | 70 | - | 130 |
| 175 Lu | 1 | 7464211 | 0.33 | 7337138 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 4053330 | 0.42 | 3950799 | 102.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:36 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19884-2F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2212 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 51.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 56.76 | 900.00 | |
| 11 B | 6 | 1 | 214.80 | 107.40 | ppb | 5.68 | 900.00 | |
| 11 B | 45 | 2 | 197.80 | 98.90 | ppb | 2.56 | 900.00 | |
| 23 Na | 45 | 1 | 23560.00 | 11780.00 | ppb | 0.86 | 90000.00 | |
| 23 Na | 45 | 2 | 27180.00 | 13590.00 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 7046.00 | 3523.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 8048.00 | 4024.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 1 | 3.61 | 1.81 | ppb | 3.80 | 90000.00 | |
| 27 Al | 45 | 2 | 4.07 | 2.04 | ppb | 22.15 | 90000.00 | |
| 39 K | 45 | 1 | 6546.00 | 3273.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 56340.00 | 28170.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 1.20 | ppb | 2.70 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 1.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.61 | 0.31 | ppb | 1.73 | 900.00 | |
| 55 Mn | 45 | 2 | 9562.00 | 4781.00 | ppb | 1.52 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 6984.00 | 3492.00 | ppb | 1.10 | 90000.00 | |
| 59 Co | 45 | 2 | 9.81 | 4.91 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 5.32 | 2.66 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 2.25 | 900.00 | |
| 66 Zn | 72 | 2 | 8.87 | 4.44 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 22.60 | 11.30 | ppb | 1.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 112.12 | 900.00 | |
| 88 Sr | 103 | 1 | 1354.20 | 677.10 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.55 | 0.78 | ppb | 0.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 2.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.27 | 0.14 | ppb | 5.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.78 | 900.00 | |
| 137 Ba | 159 | 1 | 80.58 | 40.29 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 48.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 4.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2463236 | 0.64 | 3146679 | 78.3 | 70 - 130 | |
| 45 Sc | 1 | 5081364 | 0.53 | 5213161 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 703049 | 0.28 | 741872 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1004476 | 0.72 | 1062355 | 94.6 | 70 | - | 130 |
| 72 Ge | 2 | 262302 | 0.69 | 273900 | 95.8 | 70 | - | 130 |
| 103 Rh | 1 | 5509923 | 0.34 | 6003828 | 91.8 | 70 | - | 130 |
| 115 In | 1 | 6160706 | 0.37 | 6375568 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1939530 | 1.00 | 2096793 | 92.5 | 70 | - | 130 |
| 159 Tb | 1 | 7783016 | 0.52 | 7647907 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 7476458 | 0.31 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 3817181 | 0.90 | 3950799 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D#** | | |
| **Date Acquired:** | **Apr 19 2013 09:43 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MC19884-3F** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2301** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 19 2013 06:50 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **10.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **10.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 105.24 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 214.80 | 21.48 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 207.30 | 20.73 | ppb | 2.02 | 900.00 | |
| 23 Na | 45 | 1 | 27670.00 | 2767.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 30300.00 | 3030.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 12900.00 | 1290.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 14110.00 | 1411.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 6.31 | 0.63 | ppb | 8.42 | 90000.00 | |
| 27 Al | 45 | 2 | 6.23 | 0.62 | ppb | 13.37 | 90000.00 | |
| 39 K | 45 | 1 | 7651.00 | 765.10 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 89190.00 | 8919.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.60 | 0.26 | ppb | 6.36 | 900.00 | |
| 51 V | 45 | 2 | -0.60 | -0.06 | ppb | 4.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.03 | ppb | 4.46 | 900.00 | |
| 55 Mn | 45 | 2 | 5047.00 | 504.70 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 14840.00 | 1484.00 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 8.74 | 0.87 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 17.06 | 1.71 | ppb | 1.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.10 | ppb | 2.79 | 900.00 | |
| 66 Zn | 72 | 2 | 13.97 | 1.40 | ppb | 3.19 | 900.00 | |
| 75 As | 72 | 2 | 356.80 | 35.68 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 1.05 | 0.10 | ppb | 90.76 | 900.00 | |
| 88 Sr | 103 | 1 | 963.70 | 96.37 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 8.34 | 0.83 | ppb | 1.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 118.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.00 | ppb | 120.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.02 | ppb | 12.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.01 | ppb | 11.97 | 900.00 | |
| 137 Ba | 159 | 1 | 61.96 | 6.20 | ppb | 0.84 | 900.00 | |
| 205 Tl | 209 | 1 | -0.09 | -0.01 | ppb | 7.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.01 | ppb | 15.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2829458 | 0.10 | 3146679 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 5247610 | 0.63 | 5213161 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 739837 | 1.21 | 741872 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1082209 | 0.75 | 1062355 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 276725 | 1.23 | 273900 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 5970378 | 0.33 | 6003828 | 99.4 | 70 | - | 130 |
| 115 In | 1 | 6473499 | 1.07 | 6375568 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 2069247 | 0.75 | 2096793 | 98.7 | 70 | - | 130 |
| 159 Tb | 1 | 7879529 | 0.71 | 7647907 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 7573449 | 0.43 | 7337138 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 4040321 | 0.75 | 3950799 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 19 2013 09:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 6.29 | 900.00 | |
| 9 Be | 45 | 2 | 0.51 | 0.51 | ppb | 10.84 | 900.00 | |
| 11 B | 6 | 1 | 4.91 | 4.91 | ppb | 5.31 | 900.00 | |
| 11 B | 45 | 2 | 4.92 | 4.92 | ppb | 4.06 | 900.00 | |
| 23 Na | 45 | 1 | 262.10 | 262.10 | ppb | 1.82 | 90000.00 | |
| 23 Na | 45 | 2 | 358.20 | 358.20 | ppb | 26.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 250.90 | 250.90 | ppb | 1.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 298.60 | 298.60 | ppb | 10.11 | 90000.00 | |
| 27 Al | 45 | 1 | 26.95 | 26.95 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 2 | 45.22 | 45.22 | ppb | 61.61 | 90000.00 | |
| 39 K | 45 | 1 | 255.50 | 255.50 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 276.00 | 276.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 3.39 | 900.00 | |
| 51 V | 45 | 2 | 1.02 | 1.02 | ppb | 3.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 2.90 | 900.00 | |
| 55 Mn | 45 | 2 | 4.61 | 4.61 | ppb | 107.56 | 900.00 | |
| 56 Fe | 45 | 2 | 49.74 | 49.74 | ppb | 63.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 6.64 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 2.01 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 3.31 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 3.78 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 11.69 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 9.51 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 1.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 1.18 | ppb | 0.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 1.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.52 | 0.52 | ppb | 4.78 | 900.00 | |
| 120 Sn | 115 | 1 | 4.92 | 4.92 | ppb | 1.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.55 | 0.55 | ppb | 2.19 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.42 | ppb | 4.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 2.09 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2861276 | 2.48 | 3146679 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 5276086 | 2.08 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 742273 | 1.96 | 741872 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1076177 | 1.79 | 1062355 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 278520 | 1.38 | 273900 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 6054230 | 1.86 | 6003828 | 100.8 | 70 | - | 130 |
| 115 In | 1 | 6478236 | 0.62 | 6375568 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 2117077 | 1.73 | 2096793 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 7997282 | 1.80 | 7647907 | 104.6 | 70 | - | 130 |
| 175 Lu | 1 | 7683657 | 1.55 | 7337138 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 4092945 | 2.76 | 3950799 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 19 2013 09:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.59 | 50.59 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 48.65 | 48.65 | ppb | 0.94 | 900.00 | |
| 11 B | 6 | 1 | 48.24 | 48.24 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 48.31 | 48.31 | ppb | 0.45 | 900.00 | |
| 23 Na | 45 | 1 | 4921.00 | 4921.00 | ppb | 2.02 | 90000.00 | |
| 23 Na | 45 | 2 | 5256.00 | 5256.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 4896.00 | 4896.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5280.00 | 5280.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 4997.00 | 4997.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5158.00 | 5158.00 | ppb | 1.31 | 90000.00 | |
| 39 K | 45 | 1 | 5137.00 | 5137.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5176.00 | 5176.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.58 | 48.58 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 50.09 | 50.09 | ppb | 0.11 | 900.00 | |
| 52 Cr | 45 | 2 | 49.28 | 49.28 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 49.30 | 49.30 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 5222.00 | 5222.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 49.96 | 49.96 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 48.66 | 48.66 | ppb | 0.09 | 900.00 | |
| 63 Cu | 72 | 2 | 47.73 | 47.73 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 48.03 | 48.03 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 49.10 | 49.10 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 48.45 | 48.45 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 52.03 | 52.03 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 50.52 | 50.52 | ppb | 1.08 | 900.00 | |
| 107 Ag | 115 | 1 | 49.95 | 49.95 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 49.40 | 49.40 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 50.64 | 50.64 | ppb | 2.31 | 900.00 | |
| 121 Sb | 115 | 1 | 51.52 | 51.52 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 49.52 | 49.52 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 48.59 | 48.59 | ppb | 2.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.25 | 50.25 | ppb | 2.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2907001 | 1.15 | 3146679 | 92.4 | 70 - 130 | |
| 45 Sc | 1 | 5272254 | 1.25 | 5213161 | 101.1 | 70 - 130 | |
| 45 Sc | 2 | 723788 | 0.25 | 741872 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1054562 | 0.79 | 1062355 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 269439 | 0.23 | 273900 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 5897845 | 0.87 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6370834 | 0.93 | 6375568 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 2046298 | 1.27 | 2096793 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 7896253 | 0.62 | 7647907 | 103.2 | 70 | - | 130 |
| 175 Lu | 1 | 7582981 | 0.85 | 7337138 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 4009175 | 0.86 | 3950799 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D#
**Date Acquired:** Apr 19 2013 10:04 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2304
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 46.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 30.19 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 5.10 | 900.00 | |
| 11 B | 45 | 2 | 0.19 | 0.19 | ppb | 60.90 | 900.00 | |
| 23 Na | 45 | 1 | 12.57 | 12.57 | ppb | 33.40 | 90000.00 | |
| 23 Na | 45 | 2 | 9.18 | 9.18 | ppb | 6.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.11 | 3.11 | ppb | 44.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.36 | 1.36 | ppb | 6.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2.65 | 2.65 | ppb | 45.74 | 90000.00 | |
| 27 Al | 45 | 2 | 1.10 | 1.10 | ppb | 7.94 | 90000.00 | |
| 39 K | 45 | 1 | 2.32 | 2.32 | ppb | 124.51 | 90000.00 | |
| 44 Ca | 45 | 1 | -12.60 | -12.60 | ppb | 35.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 71.82 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 11.29 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 115.78 | 900.00 | |
| 55 Mn | 45 | 2 | 0.15 | 0.15 | ppb | 13.18 | 900.00 | |
| 56 Fe | 45 | 2 | 2.02 | 2.02 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 918.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 14.53 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 24.41 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 68.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 57.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.05 | ppb | 43.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 10.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 18.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 9.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 43.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 4.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 16.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3000365 | 0.56 | 3146679 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 5266373 | 0.98 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 734766 | 1.23 | 741872 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1076273 | 0.72 | 1062355 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 275835 | 0.71 | 273900 | 100.7 | 70 | - | 130 |
| 103 Rh | 1 | 6115479 | 0.27 | 6003828 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 6559838 | 0.36 | 6375568 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 2111293 | 1.67 | 2096793 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 7980767 | 0.24 | 7647907 | 104.4 | 70 | - | 130 |
| 175 Lu | 1 | 7607101 | 0.44 | 7337138 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 4129693 | 1.23 | 3950799 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D#
**Date Acquired:** Apr 19 2013 10:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20781-MB1
**Misc Info:**
**Vial Number:** 2305
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 44.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 336.03 | 900.00 | |
| 11 B | 6 | 1 | 0.96 | 0.48 | ppb | 0.99 | 900.00 | |
| 11 B | 45 | 2 | 1.03 | 0.52 | ppb | 31.43 | 900.00 | |
| 23 Na | 45 | 1 | 16.31 | 8.16 | ppb | 2.58 | 90000.00 | |
| 23 Na | 45 | 2 | 22.28 | 11.14 | ppb | 1.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.06 | 1.03 | ppb | 1.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.17 | 1.08 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.92 | 1.46 | ppb | 1.68 | 90000.00 | |
| 27 Al | 45 | 2 | 2.70 | 1.35 | ppb | 2.87 | 90000.00 | |
| 39 K | 45 | 1 | 3.79 | 1.90 | ppb | 53.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 25.76 | 12.88 | ppb | 10.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.24 | ppb | 9.90 | 900.00 | |
| 51 V | 45 | 2 | 1.81 | 0.91 | ppb | 1.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.08 | 0.04 | ppb | 12.75 | 900.00 | |
| 55 Mn | 45 | 2 | 0.73 | 0.37 | ppb | 3.09 | 900.00 | |
| 56 Fe | 45 | 2 | 4.92 | 2.46 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.74 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.02 | ppb | 47.57 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.08 | ppb | 0.30 | 900.00 | |
| 66 Zn | 72 | 2 | 4.18 | 2.09 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 0.36 | 0.18 | ppb | 3.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 33.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 1.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.03 | ppb | 6.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 254.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 10.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 6.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 25.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 2.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 4.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2809550 | 0.70 | 3146679 | 89.3 | 70 - 130 | |
| 45 Sc | 1 | 5054813 | 1.07 | 5213161 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 720393 | 0.69 | 741872 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1039475 | 0.68 | 1062355 | 97.8 | 70 | - | 130 |
| 72 Ge | 2 | 268395 | 0.95 | 273900 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 5982826 | 0.63 | 6003828 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 6444133 | 0.51 | 6375568 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 2067716 | 2.06 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7924075 | 0.57 | 7647907 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 7574338 | 0.56 | 7337138 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 4088717 | 0.54 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D#
Date Acquired: Apr 19 2013 10:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20790-MB1
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 36.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 228.16 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.11 | ppb | 7.16 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.09 | ppb | 31.06 | 900.00 | |
| 23 Na | 45 | 1 | 29.46 | 14.73 | ppb | 2.74 | 90000.00 | |
| 23 Na | 45 | 2 | 28.24 | 14.12 | ppb | 5.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.52 | 3.26 | ppb | 3.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.33 | 2.16 | ppb | 10.36 | 90000.00 | |
| 27 Al | 45 | 1 | 8.67 | 4.33 | ppb | 7.15 | 90000.00 | |
| 27 Al | 45 | 2 | 6.27 | 3.13 | ppb | 5.77 | 90000.00 | |
| 39 K | 45 | 1 | 11.35 | 5.67 | ppb | 12.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.16 | 0.08 | ppb | 1735.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.55 | 0.28 | ppb | 8.73 | 900.00 | |
| 51 V | 45 | 2 | 2.54 | 1.27 | ppb | 1.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.37 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 1.42 | 0.71 | ppb | 6.15 | 900.00 | |
| 56 Fe | 45 | 2 | 12.89 | 6.45 | ppb | 4.01 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 9.97 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.04 | ppb | 6.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.81 | 0.41 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 1.17 | 0.58 | ppb | 3.55 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.25 | ppb | 2.91 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 41.43 | 900.00 | |
| 88 Sr | 103 | 1 | 0.11 | 0.05 | ppb | 4.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.22 | 0.11 | ppb | 3.59 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 11.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 28.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.36 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 3.44 | 900.00 | |
| 137 Ba | 159 | 1 | 0.13 | 0.07 | ppb | 26.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 12.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2689820 | 0.32 | 3146679 | 85.5 | 70 - 130 | |
| 45 Sc | 1 | 5036434 | 0.63 | 5213161 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 719017 | 0.15 | 741872 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1031861 | 0.78 | 1062355 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 267306 | 0.79 | 273900 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 5873267 | 0.27 | 6003828 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 6279288 | 0.54 | 6375568 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 2045151 | 1.53 | 2096793 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 7806918 | 0.43 | 7647907 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 7450372 | 0.35 | 7337138 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 4007485 | 0.55 | 3950799 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#
Date Acquired: Apr 19 2013 10:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-MB1
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 170.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 161.53 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.06 | ppb | 7.50 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.08 | ppb | 48.37 | 900.00 | |
| 23 Na | 45 | 1 | 22.30 | 11.15 | ppb | 1.55 | 90000.00 | |
| 23 Na | 45 | 2 | 58.54 | 29.27 | ppb | 31.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.70 | 2.85 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 16.90 | 8.45 | ppb | 40.30 | 90000.00 | |
| 27 Al | 45 | 1 | 4.44 | 2.22 | ppb | 7.20 | 90000.00 | |
| 27 Al | 45 | 2 | 13.06 | 6.53 | ppb | 43.35 | 90000.00 | |
| 39 K | 45 | 1 | 6.04 | 3.02 | ppb | 51.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 396.60 | 198.30 | ppb | 2.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.53 | 0.26 | ppb | 3.08 | 900.00 | |
| 51 V | 45 | 2 | 2.40 | 1.20 | ppb | 1.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.14 | 0.07 | ppb | 4.73 | 900.00 | |
| 55 Mn | 45 | 2 | 2.51 | 1.25 | ppb | 34.91 | 900.00 | |
| 56 Fe | 45 | 2 | 21.72 | 10.86 | ppb | 28.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 45.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 31.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.25 | 0.13 | ppb | 2.42 | 900.00 | |
| 66 Zn | 72 | 2 | 1.17 | 0.59 | ppb | 1.55 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 4.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.29 | 0.14 | ppb | 24.58 | 900.00 | |
| 88 Sr | 103 | 1 | 0.32 | 0.16 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 15.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 106.89 | 900.00 | |
| 120 Sn | 115 | 1 | 26.72 | 13.36 | ppb | 1.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 4.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 3.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 28.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.59 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2680711 | 0.59 | 3146679 | 85.2 | 70 - 130 | |
| 45 Sc | 1 | 5044531 | 1.05 | 5213161 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 723829 | 1.24 | 741872 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1027028 | 0.76 | 1062355 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 267212 | 0.62 | 273900 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 5895503 | 0.50 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6283536 | 0.92 | 6375568 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 2052402 | 1.91 | 2096793 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 7703430 | 0.62 | 7647907 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 7355566 | 0.67 | 7337138 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3962298 | 0.31 | 3950799 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#
**Date Acquired:** Apr 19 2013 10:32 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20781-B1
**Misc Info:**
**Vial Number:** 2308
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 487.80 | 24.39 | ppb | 0.60 | 900.00 | |
| 9 Be | 45 | 2 | 509.00 | 25.45 | ppb | 1.08 | 900.00 | |
| 11 B | 6 | 1 | 1.61 | 0.08 | ppb | 11.98 | 900.00 | |
| 11 B | 45 | 2 | 1.67 | 0.08 | ppb | 8.95 | 900.00 | |
| 23 Na | 45 | 1 | 25860.00 | 1293.00 | ppb | 1.90 | 90000.00 | |
| 23 Na | 45 | 2 | 26460.00 | 1323.00 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 25720.00 | 1286.00 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 26800.00 | 1340.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 2326.00 | 116.30 | ppb | 3.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2330.00 | 116.50 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 26240.00 | 1312.00 | ppb | 1.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 26640.00 | 1332.00 | ppb | 0.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 483.60 | 24.18 | ppb | 0.23 | 900.00 | |
| 51 V | 45 | 2 | 514.80 | 25.74 | ppb | 1.03 | 900.00 | |
| 52 Cr | 45 | 2 | 502.40 | 25.12 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 507.80 | 25.39 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 2208.00 | 110.40 | ppb | 1.62 | 90000.00 | |
| 59 Co | 45 | 2 | 514.40 | 25.72 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 491.60 | 24.58 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 488.20 | 24.41 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 553.80 | 27.69 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 520.00 | 26.00 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 531.80 | 26.59 | ppb | 1.56 | 900.00 | |
| 88 Sr | 103 | 1 | 509.40 | 25.47 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 3.35 | 0.17 | ppb | 49.70 | 900.00 | |
| 107 Ag | 115 | 1 | 203.80 | 10.19 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 499.60 | 24.98 | ppb | 0.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.99 | 0.05 | ppb | 21.20 | 900.00 | |
| 121 Sb | 115 | 1 | 523.20 | 26.16 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 1994.20 | 99.71 | ppb | 0.52 | 900.00 | |
| 205 Tl | 209 | 1 | 493.20 | 24.66 | ppb | 0.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.60 | 50.88 | ppb | 0.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3208955 | 0.81 | 3146679 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 5277936 | 0.70 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 727345 | 0.32 | 741872 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1080633 | 0.99 | 1062355 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 272475 | 0.43 | 273900 | 99.5 | 70 | - | 130 |
| 103 Rh | 1 | 6096613 | 0.76 | 6003828 | 101.5 | 70 | - | 130 |
| 115 In | 1 | 6494538 | 1.23 | 6375568 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 2094428 | 0.35 | 2096793 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 7750257 | 0.90 | 7647907 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 7315458 | 1.48 | 7337138 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3939073 | 0.24 | 3950799 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D# |
| Date Acquired: | Apr 19 2013 10:39 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20781-S1 |
| Misc Info: | |
| Vial Number: | 2309 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 575.60 | 28.78 | ppb | 24.02 | 900.00 | |
| 9 Be | 45 | 2 | 500.60 | 25.03 | ppb | 0.76 | 900.00 | |
| 11 B | 6 | 1 | 15.46 | 0.77 | ppb | 28.44 | 900.00 | |
| 11 B | 45 | 2 | 14.20 | 0.71 | ppb | 6.62 | 900.00 | |
| 23 Na | 45 | 1 | 49080.00 | 2454.00 | ppb | 26.79 | 90000.00 | |
| 23 Na | 45 | 2 | 42460.00 | 2123.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 32680.00 | 1634.00 | ppb | 26.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 28540.00 | 1427.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 2596.00 | 129.80 | ppb | 26.58 | 90000.00 | |
| 27 Al | 45 | 2 | 2272.00 | 113.60 | ppb | 0.34 | 90000.00 | |
| 39 K | 45 | 1 | 34700.00 | 1735.00 | ppb | 27.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 40880.00 | 2044.00 | ppb | 26.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 597.60 | 29.88 | ppb | 26.76 | 900.00 | |
| 51 V | 45 | 2 | 522.20 | 26.11 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 508.40 | 25.42 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 674.20 | 33.71 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 2750.00 | 137.50 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 522.80 | 26.14 | ppb | 0.67 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 501.80 | 25.09 | ppb | 0.31 | 900.00 | |
| 66 Zn | 72 | 2 | 560.60 | 28.03 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 527.20 | 26.36 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 535.60 | 26.78 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 671.00 | 33.55 | ppb | 29.43 | 900.00 | |
| 98 Mo | 103 | 1 | 1.17 | 0.06 | ppb | 36.78 | 900.00 | |
| 107 Ag | 115 | 1 | 254.40 | 12.72 | ppb | 28.69 | 180.00 | |
| 111 Cd | 115 | 2 | 505.00 | 25.25 | ppb | 1.43 | 900.00 | |
| 120 Sn | 115 | 1 | 0.96 | 0.05 | ppb | 42.15 | 900.00 | |
| 121 Sb | 115 | 1 | 649.60 | 32.48 | ppb | 28.98 | 900.00 | |
| 137 Ba | 159 | 1 | 2496.00 | 124.80 | ppb | 28.74 | 900.00 | |
| 205 Tl | 209 | 1 | 587.80 | 29.39 | ppb | 23.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1201.00 | 60.05 | ppb | 22.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2904712 | 20.81 | 3146679 | 92.3 | 70 - 130 | |
| 45 Sc | 1 | 4607778 | 23.37 | 5213161 | 88.4 | 70 - 130 | |
| 45 Sc | 2 | 722324 | 0.34 | 741872 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 957564 | 20.82 | 1062355 | 90.1 | 70 | - | 130 |
| 72 Ge | 2 | 269665 | 0.22 | 273900 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 5234232 | 24.40 | 6003828 | 87.2 | 70 | - | 130 |
| 115 In | 1 | 5566374 | 23.91 | 6375568 | 87.3 | 70 | - | 130 |
| 115 In | 2 | 2085418 | 0.72 | 2096793 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 6667640 | 24.55 | 7647907 | 87.2 | 70 | - | 130 |
| 175 Lu | 1 | 6319414 | 24.65 | 7337138 | 86.1 | 70 | - | 130 |
| 209 Bi | 1 | 3472730 | 19.96 | 3950799 | 87.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#
Date Acquired: Apr 19 2013 10:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20781-S2
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 493.80 | 24.69 | ppb | 0.29 | 900.00 | |
| 9 Be | 45 | 2 | 504.60 | 25.23 | ppb | 3.54 | 900.00 | |
| 11 B | 6 | 1 | 13.48 | 0.67 | ppb | 1.21 | 900.00 | |
| 11 B | 45 | 2 | 16.27 | 0.81 | ppb | 10.99 | 900.00 | |
| 23 Na | 45 | 1 | 41360.00 | 2068.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 42520.00 | 2126.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 27320.00 | 1366.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 28580.00 | 1429.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 2224.00 | 111.20 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2342.00 | 117.10 | ppb | 0.82 | 90000.00 | |
| 39 K | 45 | 1 | 28980.00 | 1449.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 34040.00 | 1702.00 | ppb | 1.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.00 | 24.75 | ppb | 0.84 | 900.00 | |
| 51 V | 45 | 2 | 520.40 | 26.02 | ppb | 0.10 | 900.00 | |
| 52 Cr | 45 | 2 | 508.00 | 25.40 | ppb | 0.21 | 900.00 | |
| 55 Mn | 45 | 2 | 675.20 | 33.76 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 2796.00 | 139.80 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 523.00 | 26.15 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 505.40 | 25.27 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 495.80 | 24.79 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 554.80 | 27.74 | ppb | 1.02 | 900.00 | |
| 75 As | 72 | 2 | 527.40 | 26.37 | ppb | 0.31 | 900.00 | |
| 78 Se | 72 | 2 | 539.20 | 26.96 | ppb | 0.31 | 900.00 | |
| 88 Sr | 103 | 1 | 551.20 | 27.56 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.07 | ppb | 1.34 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 0.72 | 180.00 | |
| 111 Cd | 115 | 2 | 506.60 | 25.33 | ppb | 1.46 | 900.00 | |
| 120 Sn | 115 | 1 | 1.19 | 0.06 | ppb | 3.56 | 900.00 | |
| 121 Sb | 115 | 1 | 535.60 | 26.78 | ppb | 1.39 | 900.00 | |
| 137 Ba | 159 | 1 | 2042.00 | 102.10 | ppb | 0.31 | 900.00 | |
| 205 Tl | 209 | 1 | 494.20 | 24.71 | ppb | 0.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1028.60 | 51.43 | ppb | 1.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3312905 | 0.76 | 3146679 | 105.3 | 70 - 130 | |
| 45 Sc | 1 | 5295628 | 0.49 | 5213161 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 721452 | 0.55 | 741872 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1072459 | 0.79 | 1062355 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 270603 | 0.75 | 273900 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 6070538 | 0.74 | 6003828 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 6424278 | 1.00 | 6375568 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 2096949 | 1.27 | 2096793 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 7745356 | 0.32 | 7647907 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 7355705 | 0.45 | 7337138 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3969060 | 1.03 | 3950799 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D# |
| Date Acquired: | Apr 19 2013 10:53 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20781-SD1 |
| Misc Info: | |
| Vial Number: | 2311 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.02 | ppb | 36.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.27 | 0.03 | ppb | 20.95 | 900.00 | |
| 11 B | 6 | 1 | 12.62 | 1.26 | ppb | 2.47 | 900.00 | |
| 11 B | 45 | 2 | 13.08 | 1.31 | ppb | 11.74 | 900.00 | |
| 23 Na | 45 | 1 | 15590.00 | 1559.00 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 15770.00 | 1577.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 1239.00 | 123.90 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 1257.00 | 125.70 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 57.30 | 5.73 | ppb | 29.08 | 90000.00 | |
| 27 Al | 45 | 2 | 34.50 | 3.45 | ppb | 19.06 | 90000.00 | |
| 39 K | 45 | 1 | 2378.00 | 237.80 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 7443.00 | 744.30 | ppb | 1.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.18 | ppb | 15.93 | 900.00 | |
| 51 V | 45 | 2 | 0.60 | 0.06 | ppb | 8.20 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | 0.00 | ppb | 48.53 | 900.00 | |
| 55 Mn | 45 | 2 | 167.40 | 16.74 | ppb | 0.59 | 900.00 | |
| 56 Fe | 45 | 2 | 572.70 | 57.27 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.92 | 0.29 | ppb | 2.01 | 900.00 | |
| 60 Ni | 45 | 2 | 4.97 | 0.50 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 1.08 | 0.11 | ppb | 3.65 | 900.00 | |
| 66 Zn | 72 | 2 | 14.72 | 1.47 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 0.29 | 0.03 | ppb | 17.49 | 900.00 | |
| 78 Se | 72 | 2 | 1.20 | 0.12 | ppb | 21.21 | 900.00 | |
| 88 Sr | 103 | 1 | 42.15 | 4.22 | ppb | 2.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.10 | ppb | 29.63 | 900.00 | |
| 107 Ag | 115 | 1 | 0.13 | 0.01 | ppb | 34.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.01 | ppb | 24.39 | 900.00 | |
| 120 Sn | 115 | 1 | 1.59 | 0.16 | ppb | 6.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.03 | ppb | 9.50 | 900.00 | |
| 137 Ba | 159 | 1 | 21.14 | 2.11 | ppb | 1.66 | 900.00 | |
| 205 Tl | 209 | 1 | 1.83 | 0.18 | ppb | 5.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.35 | 0.04 | ppb | 17.71 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3242172 | 1.73 | 3146679 | 103.0 | 70 - 130 | |
| 45 Sc | 1 | 5222268 | 2.12 | 5213161 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 723098 | 0.41 | 741872 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1068890 | 2.02 | 1062355 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 272121 | 0.25 | 273900 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 6079923 | 0.69 | 6003828 | 101.3 | 70 | - | 130 |
| 115 In | 1 | 6498380 | 0.34 | 6375568 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 2112760 | 0.93 | 2096793 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 7813221 | 1.46 | 7647907 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 7371411 | 2.02 | 7337138 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 4070000 | 0.90 | 3950799 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D# |
| Date Acquired: | Apr 19 2013 11:00 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20781-PS1 |
| Misc Info: | |
| Vial Number: | 2312 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.81 | 8.41 | ppb | 0.35 | 900.00 | |
| 9 Be | 45 | 2 | 16.91 | 8.46 | ppb | 5.28 | 900.00 | |
| 11 B | 6 | 1 | 28.14 | 14.07 | ppb | 0.24 | 900.00 | |
| 11 B | 45 | 2 | 28.86 | 14.43 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 12304.00 | 6152.00 | ppb | 0.52 | 90000.00 | |
| 23 Na | 45 | 2 | 13054.00 | 6527.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 939.80 | 469.90 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 1025.00 | 512.50 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 32.16 | 16.08 | ppb | 1.45 | 90000.00 | |
| 27 Al | 45 | 2 | 33.12 | 16.56 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 1912.00 | 956.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5566.00 | 2783.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.34 | 8.67 | ppb | 1.26 | 900.00 | |
| 51 V | 45 | 2 | 19.32 | 9.66 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | 17.09 | 8.55 | ppb | 1.09 | 900.00 | |
| 55 Mn | 45 | 2 | 154.22 | 77.11 | ppb | 0.55 | 900.00 | |
| 56 Fe | 45 | 2 | 467.60 | 233.80 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 19.42 | 9.71 | ppb | 0.04 | 900.00 | |
| 60 Ni | 45 | 2 | 20.70 | 10.35 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 17.11 | 8.56 | ppb | 0.32 | 900.00 | |
| 66 Zn | 72 | 2 | 23.94 | 11.97 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 16.82 | 8.41 | ppb | 1.05 | 900.00 | |
| 78 Se | 72 | 2 | 15.74 | 7.87 | ppb | 0.85 | 900.00 | |
| 88 Sr | 103 | 1 | 52.14 | 26.07 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 17.58 | 8.79 | ppb | 0.54 | 900.00 | |
| 107 Ag | 115 | 1 | 17.29 | 8.65 | ppb | 1.23 | 180.00 | |
| 111 Cd | 115 | 2 | 16.27 | 8.14 | ppb | 0.85 | 900.00 | |
| 120 Sn | 115 | 1 | 17.61 | 8.81 | ppb | 0.93 | 900.00 | |
| 121 Sb | 115 | 1 | 17.44 | 8.72 | ppb | 0.73 | 900.00 | |
| 137 Ba | 159 | 1 | 33.72 | 16.86 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 16.65 | 8.32 | ppb | 1.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.49 | 8.75 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2924281 | 0.18 | 3146679 | 92.9 | 70 - 130 | |
| 45 Sc | 1 | 5136690 | 0.66 | 5213161 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 713083 | 0.43 | 741872 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1047416 | 0.64 | 1062355 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 265950 | 0.43 | 273900 | 97.1 | 70 | - | 130 |
| 103 Rh | 1 | 5843531 | 0.37 | 6003828 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 6342927 | 0.65 | 6375568 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 2062957 | 0.86 | 2096793 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 7773903 | 0.55 | 7647907 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 7468498 | 0.20 | 7337138 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 3984321 | 0.12 | 3950799 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D# |
| Date Acquired: | Apr 19 2013 11:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-B1 |
| Misc Info: | |
| Vial Number: | 2401 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 474.00 | 23.70 | ppb | 1.66 | 900.00 | |
| 9 Be | 45 | 2 | 501.40 | 25.07 | ppb | 0.91 | 900.00 | |
| 11 B | 6 | 1 | 1.10 | 0.06 | ppb | 29.85 | 900.00 | |
| 11 B | 45 | 2 | 1.99 | 0.10 | ppb | 32.31 | 900.00 | |
| 23 Na | 45 | 1 | 25920.00 | 1296.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 26260.00 | 1313.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 26100.00 | 1305.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 26980.00 | 1349.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 2138.00 | 106.90 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2228.00 | 111.40 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 25980.00 | 1299.00 | ppb | 0.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 26300.00 | 1315.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 476.60 | 23.83 | ppb | 0.31 | 900.00 | |
| 51 V | 45 | 2 | 504.60 | 25.23 | ppb | 0.53 | 900.00 | |
| 52 Cr | 45 | 2 | 492.20 | 24.61 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 498.20 | 24.91 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 2184.00 | 109.20 | ppb | 1.13 | 90000.00 | |
| 59 Co | 45 | 2 | 509.40 | 25.47 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 490.20 | 24.51 | ppb | 0.54 | 900.00 | |
| 63 Cu | 72 | 2 | 484.80 | 24.24 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 536.00 | 26.80 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 511.60 | 25.58 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 532.60 | 26.63 | ppb | 1.54 | 900.00 | |
| 88 Sr | 103 | 1 | 504.00 | 25.20 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.03 | ppb | 8.10 | 900.00 | |
| 107 Ag | 115 | 1 | 207.00 | 10.35 | ppb | 1.52 | 180.00 | |
| 111 Cd | 115 | 2 | 487.40 | 24.37 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.00 | ppb | 22.41 | 900.00 | |
| 121 Sb | 115 | 1 | 518.20 | 25.91 | ppb | 1.17 | 900.00 | |
| 137 Ba | 159 | 1 | 1986.20 | 99.31 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 483.40 | 24.17 | ppb | 1.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.80 | 50.59 | ppb | 1.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3463446 | 1.58 | 3146679 | 110.1 | 70 - 130 | |
| 45 Sc | 1 | 5354635 | 0.32 | 5213161 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 718434 | 0.34 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1079265 | 0.35 | 1062355 | 101.6 | 70 | - | 130 |
| 72 | Ge | 2 | 270059 | 0.51 | 273900 | 98.6 | 70 | - | 130 |
| 103 | Rh | 1 | 6124372 | 0.93 | 6003828 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 6501499 | 0.45 | 6375568 | 102.0 | 70 | - | 130 |
| 115 | In | 2 | 2131943 | 0.19 | 2096793 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 7944675 | 0.46 | 7647907 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 7483268 | 1.55 | 7337138 | 102.0 | 70 | - | 130 |
| 209 | Bi | 1 | 4075383 | 0.76 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D# |
| Date Acquired: | Apr 19 2013 11:15 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-S1 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 479.20 | 23.96 | ppb | 1.56 | 900.00 | |
| 9 Be | 45 | 2 | 514.00 | 25.70 | ppb | 1.70 | 900.00 | |
| 11 B | 6 | 1 | 34.50 | 1.73 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 39.98 | 2.00 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 36500.00 | 1825.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 36400.00 | 1820.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 31560.00 | 1578.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 31840.00 | 1592.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 2186.00 | 109.30 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 2 | 2282.00 | 114.10 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 29380.00 | 1469.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 74320.00 | 3716.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.20 | 24.21 | ppb | 1.19 | 900.00 | |
| 51 V | 45 | 2 | 508.60 | 25.43 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 492.80 | 24.64 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 3916.00 | 195.80 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 2790.00 | 139.50 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 513.60 | 25.68 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 500.60 | 25.03 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 496.40 | 24.82 | ppb | 0.78 | 900.00 | |
| 66 Zn | 72 | 2 | 559.20 | 27.96 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 528.60 | 26.43 | ppb | 0.76 | 900.00 | |
| 78 Se | 72 | 2 | 554.60 | 27.73 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 687.80 | 34.39 | ppb | 0.79 | 900.00 | |
| 98 Mo | 103 | 1 | 2.59 | 0.13 | ppb | 1.89 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 0.85 | 180.00 | |
| 111 Cd | 115 | 2 | 497.20 | 24.86 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.01 | ppb | 8.48 | 900.00 | |
| 121 Sb | 115 | 1 | 525.60 | 26.28 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 2034.00 | 101.70 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 477.80 | 23.89 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1034.00 | 51.70 | ppb | 0.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3509449 | 0.95 | 3146679 | 111.5 | 70 - 130 | |
| 45 Sc | 1 | 5311320 | 0.50 | 5213161 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 717842 | 0.78 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1070513 | 0.70 | 1062355 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 266166 | 0.79 | 273900 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 6098841 | 0.58 | 6003828 | 101.6 | 70 | - | 130 |
| 115 | In | 1 | 6466063 | 0.21 | 6375568 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 2099501 | 0.27 | 2096793 | 100.1 | 70 | - | 130 |
| 159 | Tb | 1 | 7922946 | 0.33 | 7647907 | 103.6 | 70 | - | 130 |
| 175 | Lu | 1 | 7501543 | 0.33 | 7337138 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 4076069 | 0.66 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Apr 19 2013 11:21 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2403 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.32 | 48.32 | ppb | 0.57 | 900.00 | |
| 9 Be | 45 | 2 | 50.37 | 50.37 | ppb | 2.76 | 900.00 | |
| 11 B | 6 | 1 | 45.06 | 45.06 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 49.63 | 49.63 | ppb | 1.61 | 900.00 | |
| 23 Na | 45 | 1 | 5147.00 | 5147.00 | ppb | 2.30 | 90000.00 | |
| 23 Na | 45 | 2 | 5149.00 | 5149.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 5152.00 | 5152.00 | ppb | 2.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 5161.00 | 5161.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | 5149.00 | 5149.00 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 5183.00 | 5183.00 | ppb | 0.57 | 90000.00 | |
| 39 K | 45 | 1 | 5152.00 | 5152.00 | ppb | 1.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 5155.00 | 5155.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.74 | 49.74 | ppb | 1.65 | 900.00 | |
| 51 V | 45 | 2 | 49.39 | 49.39 | ppb | 0.31 | 900.00 | |
| 52 Cr | 45 | 2 | 48.85 | 48.85 | ppb | 0.52 | 900.00 | |
| 55 Mn | 45 | 2 | 50.58 | 50.58 | ppb | 1.63 | 900.00 | |
| 56 Fe | 45 | 2 | 5179.00 | 5179.00 | ppb | 0.92 | 90000.00 | |
| 59 Co | 45 | 2 | 49.23 | 49.23 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 48.01 | 48.01 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 47.22 | 47.22 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 47.82 | 47.82 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 49.15 | 49.15 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 49.64 | 49.64 | ppb | 1.14 | 900.00 | |
| 88 Sr | 103 | 1 | 51.59 | 51.59 | ppb | 1.68 | 900.00 | |
| 98 Mo | 103 | 1 | 50.16 | 50.16 | ppb | 1.48 | 900.00 | |
| 107 Ag | 115 | 1 | 49.81 | 49.81 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 48.63 | 48.63 | ppb | 0.50 | 900.00 | |
| 120 Sn | 115 | 1 | 50.12 | 50.12 | ppb | 1.32 | 900.00 | |
| 121 Sb | 115 | 1 | 52.16 | 52.16 | ppb | 1.22 | 900.00 | |
| 137 Ba | 159 | 1 | 49.16 | 49.16 | ppb | 1.44 | 900.00 | |
| 205 Tl | 209 | 1 | 48.87 | 48.87 | ppb | 0.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.93 | 50.93 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3370597 | 0.62 | 3146679 | 107.1 | 70 - 130 | |
| 45 Sc | 1 | 5233518 | 1.93 | 5213161 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 705753 | 0.29 | 741872 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1053571 | 0.25 | 1062355 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 263547 | 0.13 | 273900 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 5906749 | 1.14 | 6003828 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 6285785 | 0.34 | 6375568 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 2046946 | 0.79 | 2096793 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 7865829 | 1.26 | 7647907 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 7511923 | 0.51 | 7337138 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3983138 | 0.91 | 3950799 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#
Date Acquired: Apr 19 2013 11:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 55.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 123.23 | 900.00 | |
| 11 B | 6 | 1 | 0.10 | 0.10 | ppb | 9.36 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 86.69 | 900.00 | |
| 23 Na | 45 | 1 | 3.60 | 3.60 | ppb | 8.47 | 90000.00 | |
| 23 Na | 45 | 2 | 5.67 | 5.67 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.74 | 0.74 | ppb | 4.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.19 | 1.19 | ppb | 17.73 | 90000.00 | |
| 27 Al | 45 | 1 | 0.79 | 0.79 | ppb | 10.74 | 90000.00 | |
| 27 Al | 45 | 2 | 1.12 | 1.12 | ppb | 15.76 | 90000.00 | |
| 39 K | 45 | 1 | 1.52 | 1.52 | ppb | 129.67 | 90000.00 | |
| 44 Ca | 45 | 1 | -13.68 | -13.68 | ppb | 13.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 98.19 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 13.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 40.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 2.09 | 900.00 | |
| 56 Fe | 45 | 2 | 1.81 | 1.81 | ppb | 10.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 17.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 135.83 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 49.28 | 900.00 | |
| 66 Zn | 72 | 2 | 0.09 | 0.09 | ppb | 2.19 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 137.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 42.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 11.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 5.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 25.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 14.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 23.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 24.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 1.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 6.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3498608 | 0.46 | 3146679 | 111.2 | 70 - 130 | |
| 45 Sc | 1 | 5274534 | 1.71 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 714618 | 0.65 | 741872 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1077797 | 0.43 | 1062355 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 268649 | 0.38 | 273900 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 6153937 | 2.20 | 6003828 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 6520751 | 1.43 | 6375568 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 2124765 | 0.50 | 2096793 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 7943753 | 1.75 | 7647907 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 7590630 | 1.63 | 7337138 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4138927 | 1.48 | 3950799 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D# |
| Date Acquired: | Apr 19 2013 11:36 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-S2 |
| Misc Info: | |
| Vial Number: | 2405 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 476.80 | 23.84 | ppb | 1.22 | 900.00 | |
| 9 Be | 45 | 2 | 521.80 | 26.09 | ppb | 2.63 | 900.00 | |
| 11 B | 6 | 1 | 35.06 | 1.75 | ppb | 3.66 | 900.00 | |
| 11 B | 45 | 2 | 41.02 | 2.05 | ppb | 11.02 | 900.00 | |
| 23 Na | 45 | 1 | 36480.00 | 1824.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 36260.00 | 1813.00 | ppb | 1.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 31300.00 | 1565.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 31840.00 | 1592.00 | ppb | 2.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2154.00 | 107.70 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 2 | 2298.00 | 114.90 | ppb | 1.04 | 90000.00 | |
| 39 K | 45 | 1 | 29160.00 | 1458.00 | ppb | 0.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 74660.00 | 3733.00 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 482.20 | 24.11 | ppb | 0.51 | 900.00 | |
| 51 V | 45 | 2 | 508.80 | 25.44 | ppb | 1.12 | 900.00 | |
| 52 Cr | 45 | 2 | 496.60 | 24.83 | ppb | 1.93 | 900.00 | |
| 55 Mn | 45 | 2 | 4002.00 | 200.10 | ppb | 2.39 | 900.00 | |
| 56 Fe | 45 | 2 | 2904.00 | 145.20 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 514.20 | 25.71 | ppb | 2.60 | 900.00 | |
| 60 Ni | 45 | 2 | 494.80 | 24.74 | ppb | 2.03 | 900.00 | |
| 63 Cu | 72 | 2 | 479.40 | 23.97 | ppb | 1.75 | 900.00 | |
| 66 Zn | 72 | 2 | 549.00 | 27.45 | ppb | 1.93 | 900.00 | |
| 75 As | 72 | 2 | 514.80 | 25.74 | ppb | 0.65 | 900.00 | |
| 78 Se | 72 | 2 | 534.80 | 26.74 | ppb | 2.41 | 900.00 | |
| 88 Sr | 103 | 1 | 684.80 | 34.24 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 3.06 | 0.15 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 208.80 | 10.44 | ppb | 1.21 | 180.00 | |
| 111 Cd | 115 | 2 | 494.80 | 24.74 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.34 | 0.02 | ppb | 17.25 | 900.00 | |
| 121 Sb | 115 | 1 | 519.40 | 25.97 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 2012.00 | 100.60 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 482.80 | 24.14 | ppb | 0.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1012.60 | 50.63 | ppb | 1.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3586567 | 1.01 | 3146679 | 114.0 | 70 - 130 | |
| 45 Sc | 1 | 5298966 | 0.90 | 5213161 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 704497 | 1.76 | 741872 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1068788 | 1.03 | 1062355 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 266759 | 0.71 | 273900 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 6056427 | 0.97 | 6003828 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 6455953 | 0.32 | 6375568 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 2112328 | 1.17 | 2096793 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 7855681 | 0.82 | 7647907 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 7480054 | 1.20 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 4082585 | 0.59 | 3950799 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D# |
| Date Acquired: | Apr 19 2013 11:43 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-SD1 |
| Misc Info: | |
| Vial Number: | 2406 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.01 | ppb | 14.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.01 | ppb | 106.54 | 900.00 | |
| 11 B | 6 | 1 | 34.94 | 3.49 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 40.45 | 4.05 | ppb | 4.09 | 900.00 | |
| 23 Na | 45 | 1 | 9982.00 | 998.20 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 9960.00 | 996.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 4895.00 | 489.50 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 5018.00 | 501.80 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 1 | 18.89 | 1.89 | ppb | 9.03 | 90000.00 | |
| 27 Al | 45 | 2 | 10.03 | 1.00 | ppb | 11.91 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 286.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 48380.00 | 4838.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.17 | ppb | 6.09 | 900.00 | |
| 51 V | 45 | 2 | 0.38 | 0.04 | ppb | 33.79 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.06 | ppb | 4.29 | 900.00 | |
| 55 Mn | 45 | 2 | 3418.00 | 341.80 | ppb | 1.76 | 900.00 | |
| 56 Fe | 45 | 2 | 651.30 | 65.13 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 4.17 | 0.42 | ppb | 1.59 | 900.00 | |
| 60 Ni | 45 | 2 | 7.64 | 0.76 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 2.12 | 0.21 | ppb | 0.85 | 900.00 | |
| 66 Zn | 72 | 2 | 17.38 | 1.74 | ppb | 2.04 | 900.00 | |
| 75 As | 72 | 2 | 0.57 | 0.06 | ppb | 16.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.61 | 0.06 | ppb | 81.91 | 900.00 | |
| 88 Sr | 103 | 1 | 185.90 | 18.59 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 2.72 | 0.27 | ppb | 3.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.10 | 0.01 | ppb | 9.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 22.50 | 900.00 | |
| 120 Sn | 115 | 1 | 6.72 | 0.67 | ppb | 2.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.04 | ppb | 1.14 | 900.00 | |
| 137 Ba | 159 | 1 | 11.52 | 1.15 | ppb | 3.15 | 900.00 | |
| 205 Tl | 209 | 1 | 1.88 | 0.19 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.03 | ppb | 9.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3435793 | 0.91 | 3146679 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 5196546 | 0.17 | 5213161 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 700795 | 0.62 | 741872 | 94.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1069849 | 0.98 | 1062355 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 266473 | 0.64 | 273900 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 6017803 | 0.62 | 6003828 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 6482585 | 0.26 | 6375568 | 101.7 | 70 | - | 130 |
| 115 | In | 2 | 2122901 | 1.14 | 2096793 | 101.2 | 70 | - | 130 |
| 159 | Tb | 1 | 7887748 | 0.55 | 7647907 | 103.1 | 70 | - | 130 |
| 175 | Lu | 1 | 7518983 | 1.35 | 7337138 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4102596 | 1.09 | 3950799 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Apr 19 2013 11:50 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-PS1 |
| Misc Info: | |
| Vial Number: | 2407 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.95 | 8.48 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 17.23 | 8.62 | ppb | 5.61 | 900.00 | |
| 11 B | 6 | 1 | 48.76 | 24.38 | ppb | 0.99 | 900.00 | |
| 11 B | 45 | 2 | 52.22 | 26.11 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 8010.00 | 4005.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 8436.00 | 4218.00 | ppb | 1.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3948.00 | 1974.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 4136.00 | 2068.00 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 1 | 22.48 | 11.24 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 2 | 23.00 | 11.50 | ppb | 1.83 | 90000.00 | |
| 39 K | 45 | 1 | 2372.00 | 1186.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 40120.00 | 20060.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.08 | 9.04 | ppb | 1.09 | 900.00 | |
| 51 V | 45 | 2 | 19.46 | 9.73 | ppb | 2.23 | 900.00 | |
| 52 Cr | 45 | 2 | 18.08 | 9.04 | ppb | 3.45 | 900.00 | |
| 55 Mn | 45 | 2 | 2890.00 | 1445.00 | ppb | 3.19 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 547.00 | 273.50 | ppb | 3.76 | 90000.00 | |
| 59 Co | 45 | 2 | 20.56 | 10.28 | ppb | 3.08 | 900.00 | |
| 60 Ni | 45 | 2 | 22.80 | 11.40 | ppb | 1.07 | 900.00 | |
| 63 Cu | 72 | 2 | 17.84 | 8.92 | ppb | 3.79 | 900.00 | |
| 66 Zn | 72 | 2 | 27.42 | 13.71 | ppb | 2.81 | 900.00 | |
| 75 As | 72 | 2 | 17.54 | 8.77 | ppb | 2.02 | 900.00 | |
| 78 Se | 72 | 2 | 15.67 | 7.83 | ppb | 5.64 | 900.00 | |
| 88 Sr | 103 | 1 | 171.28 | 85.64 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 19.95 | 9.97 | ppb | 0.92 | 900.00 | |
| 107 Ag | 115 | 1 | 17.52 | 8.76 | ppb | 1.08 | 180.00 | |
| 111 Cd | 115 | 2 | 16.38 | 8.19 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 18.18 | 9.09 | ppb | 1.61 | 900.00 | |
| 121 Sb | 115 | 1 | 17.75 | 8.88 | ppb | 1.18 | 900.00 | |
| 137 Ba | 159 | 1 | 25.98 | 12.99 | ppb | 1.55 | 900.00 | |
| 205 Tl | 209 | 1 | 17.42 | 8.71 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.38 | 8.69 | ppb | 0.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3104770 | 1.58 | 3146679 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 5106915 | 0.95 | 5213161 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 691340 | 2.20 | 741872 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1023532 | 1.20 | 1062355 | 96.3 | 70 | - | 130 |
| 72 | Ge | 2 | 258788 | 1.70 | 273900 | 94.5 | 70 | - | 130 |
| 103 | Rh | 1 | 5756959 | 0.36 | 6003828 | 95.9 | 70 | - | 130 |
| 115 | In | 1 | 6276981 | 0.16 | 6375568 | 98.5 | 70 | - | 130 |
| 115 | In | 2 | 2052341 | 0.81 | 2096793 | 97.9 | 70 | - | 130 |
| 159 | Tb | 1 | 7834506 | 1.38 | 7647907 | 102.4 | 70 | - | 130 |
| 175 | Lu | 1 | 7528326 | 1.25 | 7337138 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 4031180 | 1.16 | 3950799 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D#
Date Acquired: Apr 19 2013 11:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-B1
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 467.20 | 23.36 | ppb | 1.92 | 900.00 | |
| 9 Be | 45 | 2 | 510.80 | 25.54 | ppb | 2.24 | 900.00 | |
| 11 B | 6 | 1 | 0.98 | 0.05 | ppb | 4.73 | 900.00 | |
| 11 B | 45 | 2 | 1.80 | 0.09 | ppb | 52.31 | 900.00 | |
| 23 Na | 45 | 1 | 26840.00 | 1342.00 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 26380.00 | 1319.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 27120.00 | 1356.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 27060.00 | 1353.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 1 | 2214.00 | 110.70 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2318.00 | 115.90 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 26720.00 | 1336.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 27060.00 | 1353.00 | ppb | 0.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 486.20 | 24.31 | ppb | 1.25 | 900.00 | |
| 51 V | 45 | 2 | 509.20 | 25.46 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 496.00 | 24.80 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 512.80 | 25.64 | ppb | 0.37 | 900.00 | |
| 56 Fe | 45 | 2 | 2274.00 | 113.70 | ppb | 1.19 | 90000.00 | |
| 59 Co | 45 | 2 | 515.60 | 25.78 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 497.40 | 24.87 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 484.60 | 24.23 | ppb | 0.25 | 900.00 | |
| 66 Zn | 72 | 2 | 537.20 | 26.86 | ppb | 0.03 | 900.00 | |
| 75 As | 72 | 2 | 516.40 | 25.82 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 546.20 | 27.31 | ppb | 1.24 | 900.00 | |
| 88 Sr | 103 | 1 | 493.80 | 24.69 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 11.33 | 900.00 | |
| 107 Ag | 115 | 1 | 209.20 | 10.46 | ppb | 1.36 | 180.00 | |
| 111 Cd | 115 | 2 | 493.40 | 24.67 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.71 | 0.04 | ppb | 5.04 | 900.00 | |
| 121 Sb | 115 | 1 | 522.40 | 26.12 | ppb | 1.44 | 900.00 | |
| 137 Ba | 159 | 1 | 2018.00 | 100.90 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 481.20 | 24.06 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1019.80 | 50.99 | ppb | 0.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3665858 | 1.72 | 3146679 | 116.5 | 70 - 130 | |
| 45 Sc | 1 | 5185424 | 0.47 | 5213161 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 684670 | 0.13 | 741872 | 92.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1057366 | 0.57 | 1062355 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 260669 | 0.22 | 273900 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 6086093 | 0.51 | 6003828 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 6429162 | 0.58 | 6375568 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 2103363 | 0.67 | 2096793 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 7934618 | 1.37 | 7647907 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 7541777 | 0.63 | 7337138 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 4150440 | 0.96 | 3950799 | 105.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 12:04 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20797-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2409 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 476.40 | 23.82 | ppb | 1.25 | 900.00 | |
| 9 Be | 45 | 2 | 533.40 | 26.67 | ppb | 2.60 | 900.00 | |
| 11 B | 6 | 1 | 162.54 | 8.13 | ppb | 1.93 | 900.00 | |
| 11 B | 45 | 2 | 197.26 | 9.86 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 54160.00 | 2708.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 53000.00 | 2650.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 35380.00 | 1769.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 35800.00 | 1790.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 2230.00 | 111.50 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 2 | 2324.00 | 116.20 | ppb | 1.05 | 90000.00 | |
| 39 K | 45 | 1 | 33720.00 | 1686.00 | ppb | 0.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 85020.00 | 4251.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 496.80 | 24.84 | ppb | 1.04 | 900.00 | |
| 51 V | 45 | 2 | 516.00 | 25.80 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | 504.60 | 25.23 | ppb | 1.47 | 900.00 | |
| 55 Mn | 45 | 2 | 10388.00 | 519.40 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | 9378.00 | 468.90 | ppb | 1.33 | 90000.00 | |
| 59 Co | 45 | 2 | 531.00 | 26.55 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 507.40 | 25.37 | ppb | 0.68 | 900.00 | |
| 63 Cu | 72 | 2 | 492.40 | 24.62 | ppb | 0.94 | 900.00 | |
| 66 Zn | 72 | 2 | 545.60 | 27.28 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 549.20 | 27.46 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 544.60 | 27.23 | ppb | 2.39 | 900.00 | |
| 88 Sr | 103 | 1 | 1755.60 | 87.78 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.82 | 0.09 | ppb | 2.93 | 900.00 | |
| 107 Ag | 115 | 1 | 212.80 | 10.64 | ppb | 0.14 | 180.00 | |
| 111 Cd | 115 | 2 | 499.80 | 24.99 | ppb | 0.64 | 900.00 | |
| 120 Sn | 115 | 1 | 3.89 | 0.19 | ppb | 4.23 | 900.00 | |
| 121 Sb | 115 | 1 | 535.20 | 26.76 | ppb | 0.56 | 900.00 | |
| 137 Ba | 159 | 1 | 2126.00 | 106.30 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 486.60 | 24.33 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1035.00 | 51.75 | ppb | 1.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3626427 | 1.47 | 3146679 | 115.2 | 70 - 130 | |
| 45 Sc | 1 | 5142174 | 0.14 | 5213161 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 684944 | 1.11 | 741872 | 92.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1045466 | 0.38 | 1062355 | 98.4 | 70 | - | 130 |
| 72 | Ge | 2 | 260174 | 0.26 | 273900 | 95.0 | 70 | - | 130 |
| 103 | Rh | 1 | 5987217 | 0.34 | 6003828 | 99.7 | 70 | - | 130 |
| 115 | In | 1 | 6358106 | 0.08 | 6375568 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 2091947 | 0.97 | 2096793 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 7879572 | 1.09 | 7647907 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 7603103 | 0.41 | 7337138 | 103.6 | 70 | - | 130 |
| 209 | Bi | 1 | 4104635 | 1.06 | 3950799 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D#
Date Acquired: Apr 20 2013 12:11 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-S2
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 474.60 | 23.73 | ppb | 0.59 | 900.00 | |
| 9 Be | 45 | 2 | 534.20 | 26.71 | ppb | 1.55 | 900.00 | |
| 11 B | 6 | 1 | 164.58 | 8.23 | ppb | 0.81 | 900.00 | |
| 11 B | 45 | 2 | 194.36 | 9.72 | ppb | 7.65 | 900.00 | |
| 23 Na | 45 | 1 | 54460.00 | 2723.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 52660.00 | 2633.00 | ppb | 1.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 35400.00 | 1770.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 35320.00 | 1766.00 | ppb | 1.65 | 90000.00 | |
| 27 Al | 45 | 1 | 2254.00 | 112.70 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 2330.00 | 116.50 | ppb | 1.65 | 90000.00 | |
| 39 K | 45 | 1 | 33600.00 | 1680.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 85180.00 | 4259.00 | ppb | 0.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 496.80 | 24.84 | ppb | 1.49 | 900.00 | |
| 51 V | 45 | 2 | 519.60 | 25.98 | ppb | 0.97 | 900.00 | |
| 52 Cr | 45 | 2 | 504.20 | 25.21 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 10290.00 | 514.50 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 9244.00 | 462.20 | ppb | 0.18 | 90000.00 | |
| 59 Co | 45 | 2 | 523.00 | 26.15 | ppb | 0.78 | 900.00 | |
| 60 Ni | 45 | 2 | 499.60 | 24.98 | ppb | 1.20 | 900.00 | |
| 63 Cu | 72 | 2 | 494.20 | 24.71 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 560.00 | 28.00 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 550.60 | 27.53 | ppb | 0.77 | 900.00 | |
| 78 Se | 72 | 2 | 558.60 | 27.93 | ppb | 1.65 | 900.00 | |
| 88 Sr | 103 | 1 | 1759.00 | 87.95 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 1.96 | 0.10 | ppb | 16.05 | 900.00 | |
| 107 Ag | 115 | 1 | 212.60 | 10.63 | ppb | 0.36 | 180.00 | |
| 111 Cd | 115 | 2 | 502.60 | 25.13 | ppb | 0.12 | 900.00 | |
| 120 Sn | 115 | 1 | 6.85 | 0.34 | ppb | 0.10 | 900.00 | |
| 121 Sb | 115 | 1 | 532.80 | 26.64 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 2110.00 | 105.50 | ppb | 0.56 | 900.00 | |
| 205 Tl | 209 | 1 | 496.20 | 24.81 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1037.80 | 51.89 | ppb | 1.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3640893 | 0.45 | 3146679 | 115.7 | 70 - 130 | |
| 45 Sc | 1 | 5168488 | 1.00 | 5213161 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 687143 | 0.43 | 741872 | 92.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1053861 | 0.85 | 1062355 | 99.2 | 70 | - | 130 |
| 72 | Ge | 2 | 259060 | 0.49 | 273900 | 94.6 | 70 | - | 130 |
| 103 | Rh | 1 | 6007285 | 0.59 | 6003828 | 100.1 | 70 | - | 130 |
| 115 | In | 1 | 6343500 | 0.31 | 6375568 | 99.5 | 70 | - | 130 |
| 115 | In | 2 | 2085893 | 0.92 | 2096793 | 99.5 | 70 | - | 130 |
| 159 | Tb | 1 | 7862263 | 0.77 | 7647907 | 102.8 | 70 | - | 130 |
| 175 | Lu | 1 | 7518723 | 0.27 | 7337138 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4090889 | 1.99 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D# |
| Date Acquired: | Apr 20 2013 12:18 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20797-SD1 |
| Misc Info: | |
| Vial Number: | 2411 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.01 | ppb | 19.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.01 | ppb | 87.80 | 900.00 | |
| 11 B | 6 | 1 | 169.10 | 16.91 | ppb | 1.19 | 900.00 | |
| 11 B | 45 | 2 | 187.60 | 18.76 | ppb | 1.12 | 900.00 | |
| 23 Na | 45 | 1 | 26900.00 | 2690.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 26160.00 | 2616.00 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 8140.00 | 814.00 | ppb | 1.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 8220.00 | 822.00 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 1 | 25.17 | 2.52 | ppb | 1.85 | 90000.00 | |
| 27 Al | 45 | 2 | 25.15 | 2.52 | ppb | 3.13 | 90000.00 | |
| 39 K | 45 | 1 | 6777.00 | 677.70 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 57760.00 | 5776.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.87 | 0.29 | ppb | 7.16 | 900.00 | |
| 51 V | 45 | 2 | -0.25 | -0.02 | ppb | 37.62 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.01 | ppb | 40.66 | 900.00 | |
| 55 Mn | 45 | 2 | 9649.00 | 964.90 | ppb | 2.09 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 7046.00 | 704.60 | ppb | 1.73 | 90000.00 | |
| 59 Co | 45 | 2 | 9.87 | 0.99 | ppb | 2.82 | 900.00 | |
| 60 Ni | 45 | 2 | 5.19 | 0.52 | ppb | 2.75 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.08 | ppb | 8.70 | 900.00 | |
| 66 Zn | 72 | 2 | 10.68 | 1.07 | ppb | 1.94 | 900.00 | |
| 75 As | 72 | 2 | 22.97 | 2.30 | ppb | 1.10 | 900.00 | |
| 78 Se | 72 | 2 | 1.32 | 0.13 | ppb | 56.58 | 900.00 | |
| 88 Sr | 103 | 1 | 1277.00 | 127.70 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.14 | ppb | 1.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.01 | ppb | 37.36 | 180.00 | |
| 111 Cd | 115 | 2 | 0.17 | 0.02 | ppb | 22.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.03 | ppb | 11.06 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.03 | ppb | 2.51 | 900.00 | |
| 137 Ba | 159 | 1 | 78.73 | 7.87 | ppb | 0.71 | 900.00 | |
| 205 Tl | 209 | 1 | 1.76 | 0.18 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.32 | 0.03 | ppb | 4.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3516562 | 1.15 | 3146679 | 111.8 | 70 - 130 | |
| 45 Sc | 1 | 5130415 | 0.51 | 5213161 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 687846 | 0.38 | 741872 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1050702 | 0.76 | 1062355 | 98.9 | 70 | - | 130 |
| 72 | Ge | 2 | 259702 | 1.36 | 273900 | 94.8 | 70 | - | 130 |
| 103 | Rh | 1 | 5881315 | 0.47 | 6003828 | 98.0 | 70 | - | 130 |
| 115 | In | 1 | 6316606 | 0.40 | 6375568 | 99.1 | 70 | - | 130 |
| 115 | In | 2 | 2061136 | 0.80 | 2096793 | 98.3 | 70 | - | 130 |
| 159 | Tb | 1 | 7797847 | 0.22 | 7647907 | 102.0 | 70 | - | 130 |
| 175 | Lu | 1 | 7520188 | 0.68 | 7337138 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4090053 | 0.51 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#
Date Acquired: Apr 20 2013 12:25 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-PS1
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.64 | 8.32 | ppb | 2.90 | 900.00 | |
| 9 Be | 45 | 2 | 17.47 | 8.74 | ppb | 1.44 | 900.00 | |
| 11 B | 6 | 1 | 182.22 | 91.11 | ppb | 7.68 | 900.00 | |
| 11 B | 45 | 2 | 185.94 | 92.97 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 21200.00 | 10600.00 | ppb | 0.89 | 90000.00 | |
| 23 Na | 45 | 2 | 21900.00 | 10950.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 6366.00 | 3183.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 6686.00 | 3343.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 24.62 | 12.31 | ppb | 9.99 | 90000.00 | |
| 27 Al | 45 | 2 | 22.20 | 11.10 | ppb | 2.60 | 90000.00 | |
| 39 K | 45 | 1 | 5552.00 | 2776.00 | ppb | 0.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 47240.00 | 23620.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.64 | 9.32 | ppb | 0.47 | 900.00 | |
| 51 V | 45 | 2 | 18.72 | 9.36 | ppb | 1.50 | 900.00 | |
| 52 Cr | 45 | 2 | 17.42 | 8.71 | ppb | 1.65 | 900.00 | |
| 55 Mn | 45 | 2 | 8072.00 | 4036.00 | ppb | 1.98 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 5918.00 | 2959.00 | ppb | 1.90 | 90000.00 | |
| 59 Co | 45 | 2 | 25.22 | 12.61 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 21.10 | 10.55 | ppb | 0.48 | 900.00 | |
| 63 Cu | 72 | 2 | 16.94 | 8.47 | ppb | 1.83 | 900.00 | |
| 66 Zn | 72 | 2 | 24.98 | 12.49 | ppb | 1.58 | 900.00 | |
| 75 As | 72 | 2 | 35.82 | 17.91 | ppb | 1.69 | 900.00 | |
| 78 Se | 72 | 2 | 15.96 | 7.98 | ppb | 4.59 | 900.00 | |
| 88 Sr | 103 | 1 | 1117.60 | 558.80 | ppb | 0.22 | 900.00 | |
| 98 Mo | 103 | 1 | 19.19 | 9.59 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 17.50 | 8.75 | ppb | 1.11 | 180.00 | |
| 111 Cd | 115 | 2 | 16.37 | 8.18 | ppb | 0.42 | 900.00 | |
| 120 Sn | 115 | 1 | 18.06 | 9.03 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 17.95 | 8.98 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 84.84 | 42.42 | ppb | 0.52 | 900.00 | |
| 205 Tl | 209 | 1 | 16.59 | 8.30 | ppb | 0.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.75 | 8.87 | ppb | 0.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3172629 | 1.39 | 3146679 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 5113638 | 0.83 | 5213161 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 678508 | 1.07 | 741872 | 91.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1006026 | 1.01 | 1062355 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 252390 | 1.29 | 273900 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 5618906 | 1.12 | 6003828 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 6088671 | 0.89 | 6375568 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 1988672 | 0.55 | 2096793 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 7668506 | 0.75 | 7647907 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 7389339 | 0.73 | 7337138 | 100.7 | 70 | - | 130 |
| 209 Bi | 1 | 3875825 | 0.91 | 3950799 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D#
Date Acquired: Apr 20 2013 12:32 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 120.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 148.13 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 10.95 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.16 | ppb | 63.71 | 900.00 | |
| 23 Na | 45 | 1 | 6.74 | 6.74 | ppb | 1.66 | 90000.00 | |
| 23 Na | 45 | 2 | 7.86 | 7.86 | ppb | 3.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.54 | 5.54 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.77 | 5.77 | ppb | 2.86 | 90000.00 | |
| 27 Al | 45 | 1 | 5.43 | 5.43 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 2 | 5.52 | 5.52 | ppb | 2.62 | 90000.00 | |
| 39 K | 45 | 1 | 6.16 | 6.16 | ppb | 4.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -14.93 | -14.93 | ppb | 1.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.11 | 0.11 | ppb | 8.85 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 17.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 160.90 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 26.31 | 900.00 | |
| 56 Fe | 45 | 2 | 6.64 | 6.64 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 32.92 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 3.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 452.48 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 5.33 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 366.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 3.25 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 5.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 3.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 57.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 88.62 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 4.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 17.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 31.62 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.09 | ppb | 3.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 12.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3602528 | 0.95 | 3146679 | 114.5 | 70 - 130 | |
| 45 Sc | 1 | 5160279 | 0.10 | 5213161 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 683562 | 0.78 | 741872 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1053073 | 0.94 | 1062355 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 259320 | 0.26 | 273900 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 6080241 | 0.32 | 6003828 | 101.3 | 70 | - | 130 |
| 115 In | 1 | 6420374 | 0.82 | 6375568 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 2099188 | 0.55 | 2096793 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 7831907 | 0.54 | 7647907 | 102.4 | 70 | - | 130 |
| 175 Lu | 1 | 7520282 | 1.02 | 7337138 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 4148135 | 0.72 | 3950799 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D# |
| Date Acquired: | Apr 20 2013 12:39 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2502 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.46 | 0.46 | ppb | 1.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 2.40 | 900.00 | |
| 11 B | 6 | 1 | 4.25 | 4.25 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 4.97 | 4.97 | ppb | 3.36 | 900.00 | |
| 23 Na | 45 | 1 | 280.70 | 280.70 | ppb | 1.35 | 90000.00 | |
| 23 Na | 45 | 2 | 284.60 | 284.60 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 271.40 | 271.40 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.90 | 276.90 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 29.43 | 29.43 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 28.35 | 28.35 | ppb | 0.97 | 90000.00 | |
| 39 K | 45 | 1 | 258.60 | 258.60 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 284.60 | 284.60 | ppb | 0.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 4.30 | 900.00 | |
| 51 V | 45 | 2 | 1.04 | 1.04 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 1.18 | 900.00 | |
| 55 Mn | 45 | 2 | 1.41 | 1.41 | ppb | 0.19 | 900.00 | |
| 56 Fe | 45 | 2 | 29.58 | 29.58 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 2.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 1.10 | 1.10 | ppb | 1.95 | 900.00 | |
| 66 Zn | 72 | 2 | 2.19 | 2.19 | ppb | 1.21 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 1.11 | 900.00 | |
| 78 Se | 72 | 2 | 0.58 | 0.58 | ppb | 7.96 | 900.00 | |
| 88 Sr | 103 | 1 | 4.98 | 4.98 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 0.12 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 3.58 | 900.00 | |
| 120 Sn | 115 | 1 | 4.89 | 4.89 | ppb | 1.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.02 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 1.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.47 | 0.47 | ppb | 2.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3616627 | 0.88 | 3146679 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 5122232 | 1.33 | 5213161 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 682978 | 0.60 | 741872 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1038440 | 0.81 | 1062355 | 97.7 | 70 | - | 130 |
| 72 | Ge | 2 | 258169 | 0.28 | 273900 | 94.3 | 70 | - | 130 |
| 103 | Rh | 1 | 6037028 | 0.50 | 6003828 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 6360310 | 0.47 | 6375568 | 99.8 | 70 | - | 130 |
| 115 | In | 2 | 2091861 | 0.73 | 2096793 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 7877868 | 0.16 | 7647907 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 7463712 | 0.53 | 7337138 | 101.7 | 70 | - | 130 |
| 209 | Bi | 1 | 4136088 | 0.62 | 3950799 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#
Date Acquired: Apr 20 2013 12:46 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 47.53 | 47.53 | ppb | 2.04 | 900.00 | |
| 9 Be | 45 | 2 | 51.37 | 51.37 | ppb | 0.94 | 900.00 | |
| 11 B | 6 | 1 | 44.05 | 44.05 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 49.80 | 49.80 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5250.00 | 5250.00 | ppb | 1.50 | 90000.00 | |
| 23 Na | 45 | 2 | 5136.00 | 5136.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 5234.00 | 5234.00 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 5157.00 | 5157.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 5189.00 | 5189.00 | ppb | 1.85 | 90000.00 | |
| 27 Al | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.50 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 5168.00 | ppb | 1.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 5132.00 | 5132.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.63 | 49.63 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 49.65 | 49.65 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 48.71 | 48.71 | ppb | 0.53 | 900.00 | |
| 55 Mn | 45 | 2 | 49.60 | 49.60 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 49.37 | 49.37 | ppb | 0.49 | 900.00 | |
| 60 Ni | 45 | 2 | 48.46 | 48.46 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 47.33 | 47.33 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 47.89 | 47.89 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 49.87 | 49.87 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 50.78 | 50.78 | ppb | 0.40 | 900.00 | |
| 88 Sr | 103 | 1 | 50.54 | 50.54 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 49.90 | 49.90 | ppb | 0.84 | 900.00 | |
| 107 Ag | 115 | 1 | 49.92 | 49.92 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 48.03 | 48.03 | ppb | 0.15 | 900.00 | |
| 120 Sn | 115 | 1 | 50.69 | 50.69 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 51.32 | 51.32 | ppb | 4.74 | 900.00 | |
| 137 Ba | 159 | 1 | 49.28 | 49.28 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 48.54 | 48.54 | ppb | 1.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.12 | 50.12 | ppb | 1.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3534259 | 1.92 | 3146679 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 5148210 | 0.63 | 5213161 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 681790 | 0.55 | 741872 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1033012 | 0.68 | 1062355 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 255825 | 0.41 | 273900 | 93.4 | 70 | - | 130 |
| 103 Rh | 1 | 5852754 | 0.52 | 6003828 | 97.5 | 70 | - | 130 |
| 115 In | 1 | 6223757 | 1.21 | 6375568 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 2037189 | 0.61 | 2096793 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 7824737 | 0.31 | 7647907 | 102.3 | 70 | - | 130 |
| 175 Lu | 1 | 7480077 | 0.49 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 4046839 | 0.89 | 3950799 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D# |
| Date Acquired: | Apr 20 2013 12:53 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2504 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 148.80 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 8.65 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 76.11 | 900.00 | |
| 23 Na | 45 | 1 | 6.97 | 6.97 | ppb | 25.65 | 90000.00 | |
| 23 Na | 45 | 2 | 5.90 | 5.90 | ppb | 9.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.93 | 1.93 | ppb | 29.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 15.99 | 90000.00 | |
| 27 Al | 45 | 1 | 1.63 | 1.63 | ppb | 35.55 | 90000.00 | |
| 27 Al | 45 | 2 | 1.06 | 1.06 | ppb | 21.32 | 90000.00 | |
| 39 K | 45 | 1 | 5.70 | 5.70 | ppb | 14.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.23 | -0.23 | ppb | 1103.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 154.90 | 900.00 | |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 9.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 5.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.19 | 0.19 | ppb | 22.11 | 900.00 | |
| 56 Fe | 45 | 2 | 2.29 | 2.29 | ppb | 6.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 5.09 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 361.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 8.54 | 900.00 | |
| 66 Zn | 72 | 2 | 0.68 | 0.68 | ppb | 2.38 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 36.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 56.61 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.05 | ppb | 31.87 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 7.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 53.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.04 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 48.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 1.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 15.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3673980 | 0.95 | 3146679 | 116.8 | 70 - 130 | |
| 45 Sc | 1 | 5105124 | 0.79 | 5213161 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 682530 | 0.64 | 741872 | 92.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1043989 | 0.82 | 1062355 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 257709 | 1.43 | 273900 | 94.1 | 70 | - | 130 |
| 103 Rh | 1 | 6021136 | 0.59 | 6003828 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 6301928 | 0.75 | 6375568 | 98.8 | 70 | - | 130 |
| 115 In | 2 | 2091473 | 1.49 | 2096793 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 7792188 | 0.67 | 7647907 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 7507822 | 0.65 | 7337138 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 4124944 | 1.31 | 3950799 | 104.4 | 70 | - | 130 |

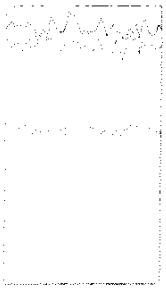
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

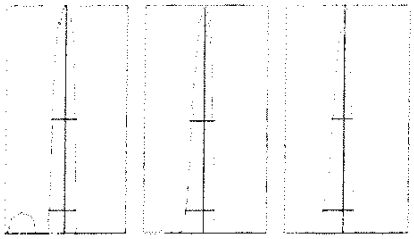
# Tune Report

Tune File : nogas.u
Comment : 041913A



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 4576.0 | 4594.4 | 2.66 | 1.80 |
| 89 | 10,000 | 8499.0 | 8558.7 | 2.32 | 1.40 |
| 205 | 10,000 | 5397.0 | 5542.8 | 2.45 | 11.80 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.192%
Doubly Charged: 70/140 2.304%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 4,505 | 8,500 | 5,574 |
| Axis: | 7.00 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.60 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 8 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.08 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 316.9 | 6.89 |
| 59 | 2170.7 | 3.04 |
| 89 | 2441.3 | 2.48 |

Integration Time: 0.1000sec



Generated : Apr 19, 2013 13:12:28
Printed : Apr 19, 2013 13:13:19

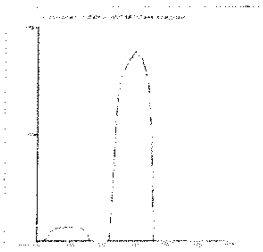
# 6020 Tune Check Sample

Data File: 6020TUNE.D
Date Acquired: Apr 19 2013 01:25 pm
Operator: METALS
Sample Name: TUNE CHECK
Misc Info:
Vial Number: 1303
Current Method: TN_6020.M

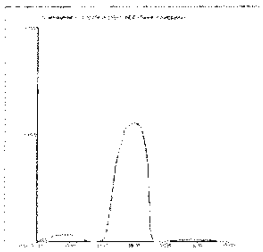
QC Tune Summary:
Pass

RSD%

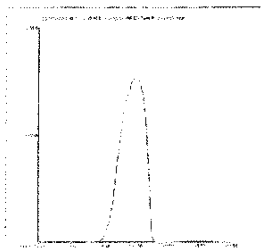
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.48 | 5.00 | 0 |
| 59 Co | 1.06 | 5.00 | |
| 115 In | 0.97 | 5.00 | |
| 205 Tl | 1.94 | 5.00 | |



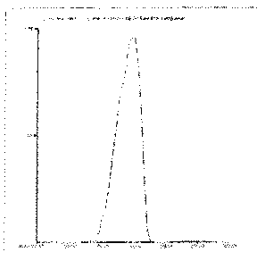
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 20, 2013 11:37 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

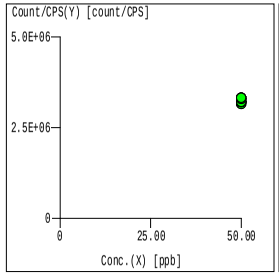
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

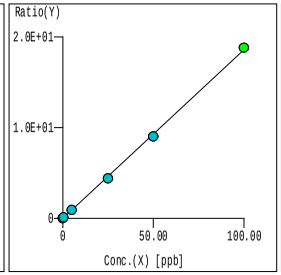
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d19r00.b\002calb.d\002calb.d# | STDA | Apr 19 2013 05:57 pm |
| 2 | c:\icpchem\1\data\13d19r00.b\003cals.d\003cals.d# | STDB | Apr 19 2013 06:04 pm |
| 3 | c:\icpchem\1\data\13d19r00.b\004cals.d\004cals.d# | STDC | Apr 19 2013 06:11 pm |
| 4 | c:\icpchem\1\data\13d19r00.b\005cals.d\005cals.d# | STDD | Apr 19 2013 06:19 pm |
| 5 | c:\icpchem\1\data\13d19r00.b\006cals.d\006cals.d# | STDE | Apr 19 2013 06:26 pm |
| 6 | c:\icpchem\1\data\13d19r00.b\007cals.d\007cals.d# | STDF | Apr 19 2013 06:33 pm |
| 7 | c:\icpchem\1\data\13d19r00.b\008cals.d\008cals.d# | STDG | Apr 19 2013 06:39 pm |
| 8 | c:\icpchem\1\data\13d19r00.b\009cals.d\009cals.d# | STDH | Apr 19 2013 06:46 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

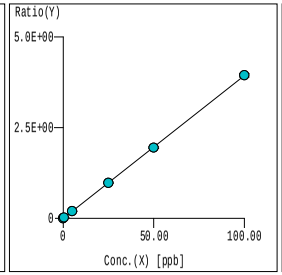
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

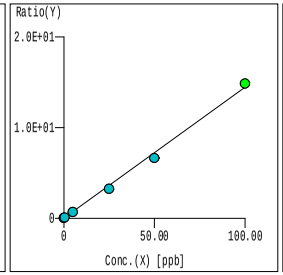
=== Graph Summary ===
Page: 1/4

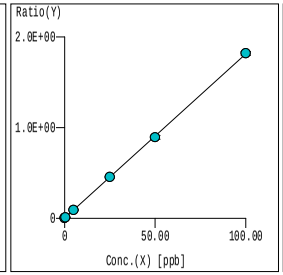
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9997 | 1.0000 | 0.9983 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 9.579E-04 ppb | 9.827E-03 ppb | 2.265E-02 ppb | 1.937E-01 ppb | 3.604E-01 ppb |
| < BEC > | --- ppb | 1.802E-03 ppb | 1.891E-03 ppb | 1.605E-01 ppb | 1.612E-01 ppb | 9.096 ppb |

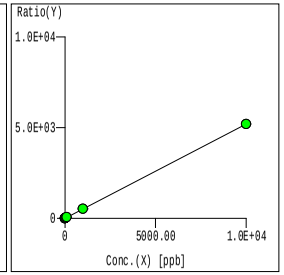




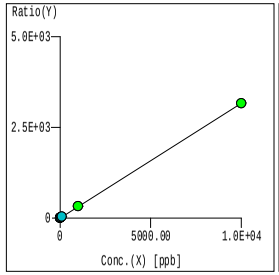


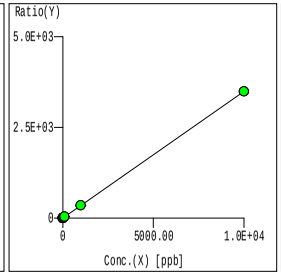


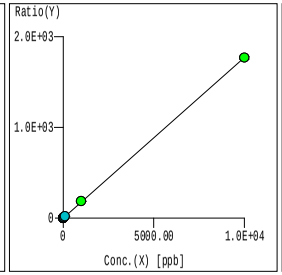


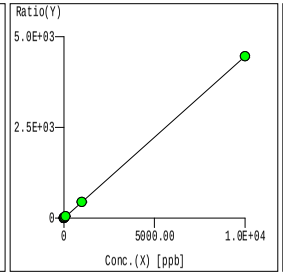


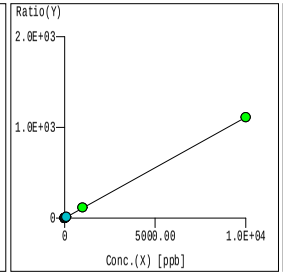

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 9.613E-02 ppb | 1.369E-02 ppb | 4.553E-02 ppb | 4.348E-02 ppb | 1.361E-01 ppb | 2.737 ppb |
| < BEC > | 13.67 ppb | 1.414E-01 ppb | 1.599E-01 ppb | 5.501E-01 ppb | 6.054E-01 ppb | 84.34 ppb |

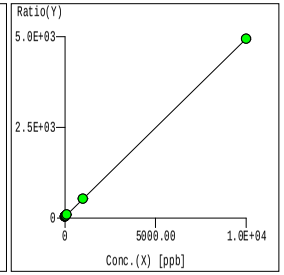








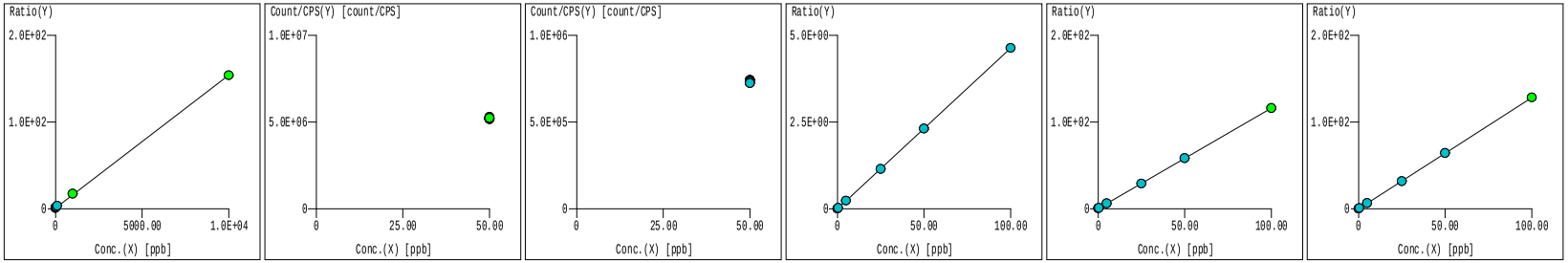




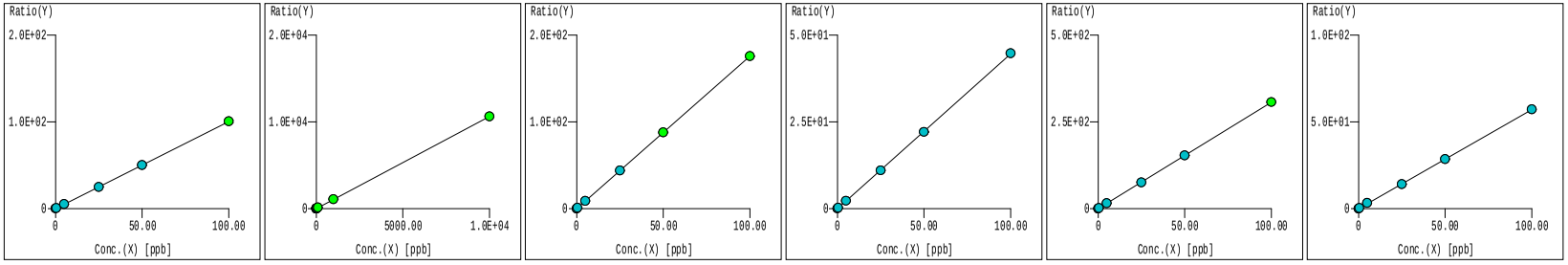
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.403 ppb | --- ppb | --- ppb | 7.604E-03 ppb | 1.430E-02 ppb | 5.227E-03 ppb |
| < BEC > | 70.80 ppb | --- ppb | --- ppb | 6.634E-02 ppb | 4.138E-01 ppb | 1.046E-01 ppb |



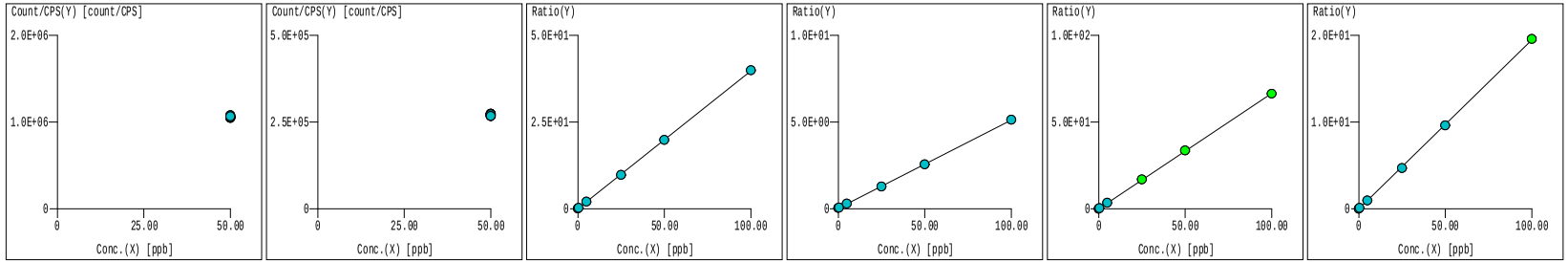

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.070E-02 ppb | 1.488E-01 ppb | 5.297E-04 ppb | 8.280E-02 ppb | 5.547E-03 ppb | 3.103E-02 ppb |
| < BEC > | 1.373E-01 ppb | 3.228 ppb | 1.125E-03 ppb | 7.559E-02 ppb | 7.375E-02 ppb | 9.984E-02 ppb |



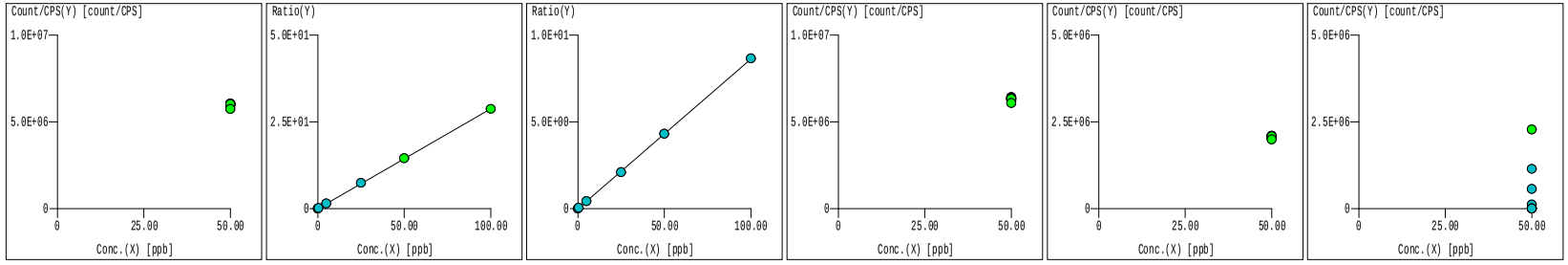
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 1.277E-02 ppb | 3.245E-04 ppb | 9.781E-04 ppb | 2.536E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.186E-01 ppb | 8.145E-01 ppb | 8.903E-03 ppb | 8.793E-03 ppb |



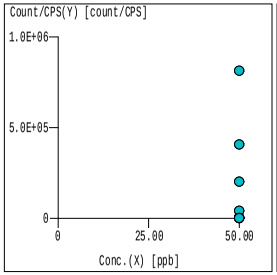

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.453E-03 ppb | 1.631E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.503E-03 ppb | 1.231E-03 ppb | --- ppb | --- ppb | --- ppb |

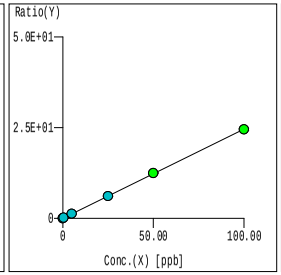


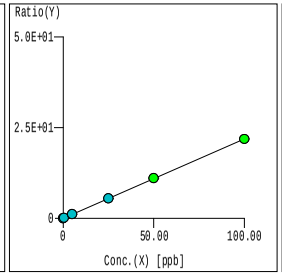
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

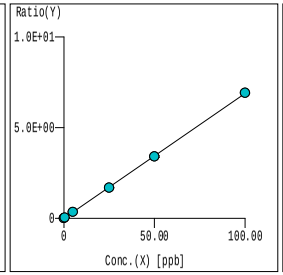
=== Graph Summary ===
Page: 4/4

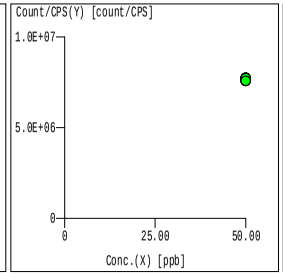
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.811E-03 ppb | 4.037E-03 ppb | 8.249E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 1.595E-02 ppb | 1.338E-02 ppb | 8.583E-02 ppb | --- ppb | --- ppb |

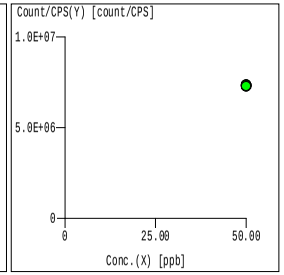


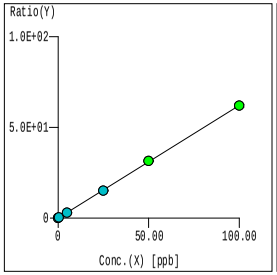



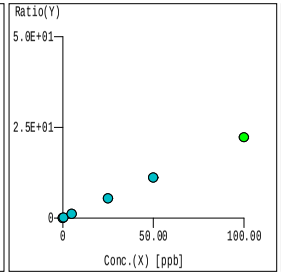



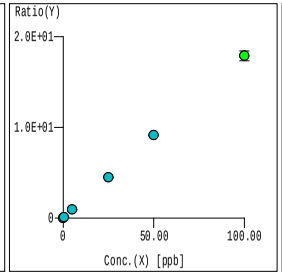



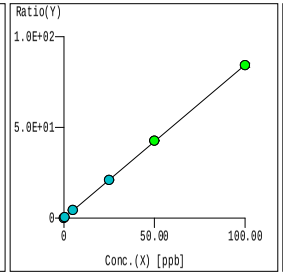



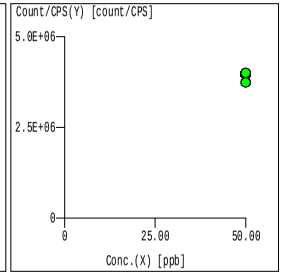

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 1.0000 | 0.0000 |
| < DL > | 2.863E-03 ppb | --- ppb | --- ppb | 2.237E-03 ppb | --- ppb |
| < BEC > | 2.158E-02 ppb | --- ppb | --- ppb | 1.077E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D20l00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\001CAL
Date Acquired: Apr 20 2013 11:10 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:50 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1528372.00 | A | 15440.00 | 1.01 |
| 7 | (Li) | | P | | |
| 9 | Be | 74.45 | P | 22.69 | 30.48 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 700.04 | P | 88.77 | 12.68 |
| 11 | B | 12.22 | P | 13.47 | 110.20 |
| 23 | Na | 517461.41 | P | 5412.00 | 1.05 |
| 23 | Na | 85206.25 | P | 501.20 | 0.59 |
| 24 | Mg | 4849.84 | P | 74.57 | 1.54 |
| 24 | Mg | 310.01 | P | 29.63 | 9.56 |
| 27 | Al | 23148.97 | P | 3147.00 | 13.60 |
| 27 | Al | 614.48 | P | 58.73 | 9.56 |
| 39 | K | 3964912.00 | A | 38990.00 | 0.98 |
| 44 | Ca | 77944.17 | P | 1347.00 | 1.73 |
| 45 | Sc | 3609434.00 | A | 30790.00 | 0.85 |
| 45 | Sc | 478164.09 | P | 4211.00 | 0.88 |
| 47 | Ti | 234.46 | P | 29.88 | 12.74 |
| 51 | V | 4199.29 | P | 29.79 | 0.71 |
| 52 | Cr | 1373.86 | P | 50.96 | 3.71 |
| 55 | Mn | 1230.74 | P | 78.81 | 6.40 |
| 56 | Fe | 41467.06 | P | 4378.00 | 10.56 |
| 59 | Co | 80.45 | P | 11.95 | 14.86 |
| 60 | Ni | 265.78 | P | 20.41 | 7.68 |
| 63 | Cu | 1024.94 | P | 48.64 | 4.75 |
| 66 | Zn | 162.00 | P | 8.82 | 5.44 |
| 72 | Ge | 786965.00 | P | 3781.00 | 0.48 |
| 72 | Ge | 188528.70 | P | 999.90 | 0.53 |
| 75 | As | 155.56 | P | 11.44 | 7.35 |
| 78 | Se | 211.78 | P | 13.04 | 6.16 |
| 88 | Sr | 651.15 | P | 10.72 | 1.65 |
| 98 | Mo | 355.57 | P | 55.51 | 15.61 |
| 103 | Rh | 4386223.00 | A | 32200.00 | 0.73 |
| 107 | Ag | 174.45 | P | 25.02 | 14.34 |

C:\ICPCHEM\1\DATA\13D20l00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 14.44 | P | 1.93 | 13.33 |
| 115 | In | 4705051.00 | A | 60400.00 | 1.28 |
| 115 | In | 1385471.00 | A | 8266.00 | 0.60 |
| 118 | (In) | 423.36 | P | 44.85 | 10.59 |
| 118 | (In) | 127.78 | P | 11.71 | 9.16 |
| 120 | Sn | 578.93 | P | 49.48 | 8.55 |
| 121 | Sb | 322.24 | P | 48.23 | 14.97 |
| 137 | Ba | 654.48 | P | 16.78 | 2.56 |
| 159 | Tb | 5539663.00 | A | 63700.00 | 1.15 |
| 175 | Lu | 5147850.00 | A | 14140.00 | 0.27 |
| 205 | Tl | 2613.68 | P | 150.20 | 5.75 |
| 206 | (Pb) | 215.57 | P | 30.97 | 14.37 |
| 207 | (Pb) | 201.12 | P | 28.35 | 14.10 |
| 208 | Pb | 896.71 | P | 53.65 | 5.98 |
| 209 | Bi | 2783693.00 | A | 48830.00 | 1.75 |

C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\002CAL
Date Acquired: Apr 20 2013 11:17 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:14 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1541753.00 | A | 18370.00 | 1.19 |
| 7 | (Li) | | P | | |
| 9 | Be | 40.00 | P | 8.82 | 22.05 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 676.74 | P | 99.46 | 14.70 |
| 11 | B | 18.89 | P | 11.71 | 61.99 |
| 23 | Na | 518685.31 | P | 8672.00 | 1.67 |
| 23 | Na | 85936.82 | P | 643.60 | 0.75 |
| 24 | Mg | 4175.23 | P | 333.70 | 7.99 |
| 24 | Mg | 344.46 | P | 33.39 | 9.69 |
| 27 | Al | 18838.66 | P | 118.80 | 0.63 |
| 27 | Al | 674.55 | P | 91.91 | 13.63 |
| 39 | K | 3973517.00 | A | 41430.00 | 1.04 |
| 44 | Ca | 78216.80 | P | 2332.00 | 2.98 |
| 45 | Sc | 3631305.00 | A | 28690.00 | 0.79 |
| 45 | Sc | 481684.91 | P | 5341.00 | 1.11 |
| 47 | Ti | 233.34 | P | 18.56 | 7.95 |
| 51 | V | 4146.84 | P | 137.00 | 3.30 |
| 52 | Cr | 1367.19 | P | 45.62 | 3.34 |
| 55 | Mn | 1274.74 | P | 66.39 | 5.21 |
| 56 | Fe | 39936.28 | P | 528.70 | 1.32 |
| 59 | Co | 66.67 | P | 12.72 | 19.08 |
| 60 | Ni | 263.56 | P | 32.78 | 12.44 |
| 63 | Cu | 1068.05 | P | 43.90 | 4.11 |
| 66 | Zn | 146.89 | P | 9.67 | 6.58 |
| 72 | Ge | 789765.50 | P | 7468.00 | 0.95 |
| 72 | Ge | 188977.20 | P | 1401.00 | 0.74 |
| 75 | As | 160.89 | P | 5.39 | 3.35 |
| 78 | Se | 207.56 | P | 18.10 | 8.72 |
| 88 | Sr | 561.14 | P | 27.76 | 4.95 |
| 98 | Mo | 197.79 | P | 33.39 | 16.88 |
| 103 | Rh | 4377550.00 | A | 30200.00 | 0.69 |
| 107 | Ag | 134.45 | P | 15.75 | 11.71 |

C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10.00 | P | 6.67 | 66.67 |
| 115 | In | 4716350.00 | A | 54550.00 | 1.16 |
| 115 | In | 1391932.00 | A | 25580.00 | 1.84 |
| 118 | (In) | 292.24 | P | 40.05 | 13.71 |
| 118 | (In) | 96.67 | P | 43.59 | 45.09 |
| 120 | Sn | 472.25 | P | 56.01 | 11.86 |
| 121 | Sb | 254.46 | P | 29.13 | 11.45 |
| 137 | Ba | 698.93 | P | 41.42 | 5.93 |
| 159 | Tb | 5566587.00 | A | 14350.00 | 0.26 |
| 175 | Lu | 5216106.00 | A | 73770.00 | 1.41 |
| 205 | Tl | 1341.23 | P | 25.24 | 1.88 |
| 206 | (Pb) | 203.34 | P | 33.83 | 16.64 |
| 207 | (Pb) | 171.12 | P | 27.96 | 16.34 |
| 208 | Pb | 775.59 | P | 55.01 | 7.09 |
| 209 | Bi | 2810000.00 | A | 22530.00 | 0.80 |

C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 20 2013 11:24 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:21 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1566788.00 | A | 16760.00 | 1.07 |
| 7 | (Li) | | P | | |
| 9 | Be | 2991.50 | P | 55.53 | 1.86 |
| 9 | Be | 154.45 | P | 37.17 | 24.07 |
| 11 | B | 2315.81 | P | 71.84 | 3.10 |
| 11 | B | 61.11 | P | 5.09 | 8.33 |
| 23 | Na | 556531.19 | P | 8838.00 | 1.59 |
| 23 | Na | 89395.93 | P | 1700.00 | 1.90 |
| 24 | Mg | 16756.14 | P | 154.60 | 0.92 |
| 24 | Mg | 1234.54 | P | 51.03 | 4.13 |
| 27 | Al | 37138.12 | P | 2529.00 | 6.81 |
| 27 | Al | 1158.98 | P | 35.02 | 3.02 |
| 39 | K | 4012047.00 | A | 26490.00 | 0.66 |
| 44 | Ca | 80593.21 | P | 1923.00 | 2.39 |
| 45 | Sc | 3593081.00 | A | 9782.00 | 0.27 |
| 45 | Sc | 481536.91 | P | 3739.00 | 0.78 |
| 47 | Ti | 1900.18 | P | 106.80 | 5.62 |
| 51 | V | 9864.62 | P | 236.20 | 2.39 |
| 52 | Cr | 7724.70 | P | 101.60 | 1.32 |
| 55 | Mn | 6001.25 | P | 46.91 | 0.78 |
| 56 | Fe | 42322.82 | P | 229.30 | 0.54 |
| 59 | Co | 9175.29 | P | 13.50 | 0.15 |
| 60 | Ni | 2545.14 | P | 38.89 | 1.53 |
| 63 | Cu | 6873.63 | P | 234.20 | 3.41 |
| 66 | Zn | 1200.50 | P | 20.01 | 1.67 |
| 72 | Ge | 790332.63 | P | 9492.00 | 1.20 |
| 72 | Ge | 189464.30 | P | 1533.00 | 0.81 |
| 75 | As | 886.92 | P | 30.48 | 3.44 |
| 78 | Se | 285.78 | P | 6.20 | 2.17 |
| 88 | Sr | 30884.83 | P | 447.10 | 1.45 |
| 98 | Mo | 8598.32 | P | 145.30 | 1.69 |
| 103 | Rh | 4393906.00 | A | 14110.00 | 0.32 |
| 107 | Ag | 13418.76 | P | 207.30 | 1.54 |

C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1177.87 | P | 47.65 | 4.05 |
| 115 | In | 4708684.00 | A | 42380.00 | 0.90 |
| 115 | In | 1392312.00 | A | 6133.00 | 0.44 |
| 118 | (In) | 8687.32 | P | 66.23 | 0.76 |
| 118 | (In) | 2822.60 | P | 78.21 | 2.77 |
| 120 | Sn | 12032.04 | P | 12.02 | 0.10 |
| 121 | Sb | 11111.28 | P | 63.68 | 0.57 |
| 137 | Ba | 4560.88 | P | 79.40 | 1.74 |
| 159 | Tb | 5581234.00 | A | 13700.00 | 0.25 |
| 175 | Lu | 5204053.00 | A | 27930.00 | 0.54 |
| 205 | Tl | 15545.94 | P | 303.00 | 1.95 |
| 206 | (Pb) | 6348.35 | P | 127.30 | 2.01 |
| 207 | (Pb) | 5280.11 | P | 162.00 | 3.07 |
| 208 | Pb | 24999.81 | P | 471.60 | 1.89 |
| 209 | Bi | 2819405.00 | A | 33940.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1566787.80 | 1.07 | 1541753.30 | 101.6 | 70 - 130 | |
| 45 | Sc | 3593080.80 | 0.27 | 3631305.00 | 98.9 | 70 - 130 | |
| 45 | Sc | 481536.88 | 0.78 | 481684.91 | 100.0 | 70 - 130 | |
| 72 | Ge | 790332.63 | 1.20 | 789765.50 | 100.1 | 70 - 130 | |
| 72 | Ge | 189464.30 | 0.81 | 188977.23 | 100.3 | 70 - 130 | |
| 103 | Rh | 4393906.00 | 0.32 | 4377550.50 | 100.4 | 70 - 130 | |
| 115 | In | 4708683.50 | 0.90 | 4716350.50 | 99.8 | 70 - 130 | |
| 115 | In | 1392311.60 | 0.44 | 1391932.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5581234.50 | 0.25 | 5566587.00 | 100.3 | 70 - 130 | |
| 175 | Lu | 5204053.00 | 0.54 | 5216106.00 | 99.8 | 70 - 130 | |
| 209 | Bi | 2819405.00 | 1.20 | 2809999.80 | 100.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 20 2013 11:32 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:28 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1529338.00 | A | 11390.00 | 0.74 |
| 7 | (Li) | | P | | |
| 9 | Be | 29928.94 | P | 64.41 | 0.22 |
| 9 | Be | 1572.35 | P | 131.30 | 8.35 |
| 11 | B | 20028.76 | P | 376.40 | 1.88 |
| 11 | B | 640.04 | P | 44.85 | 7.01 |
| 23 | Na | 715885.19 | P | 11440.00 | 1.60 |
| 23 | Na | 105359.20 | P | 294.80 | 0.28 |
| 24 | Mg | 128272.90 | P | 458.50 | 0.36 |
| 24 | Mg | 9768.98 | P | 116.20 | 1.19 |
| 27 | Al | 181578.09 | P | 2099.00 | 1.16 |
| 27 | Al | 6070.38 | P | 202.20 | 3.33 |
| 39 | K | 4222512.00 | A | 14000.00 | 0.33 |
| 44 | Ca | 94383.22 | P | 1865.00 | 1.98 |
| 45 | Sc | 3652986.00 | A | 6210.00 | 0.17 |
| 45 | Sc | 482771.00 | P | 5250.00 | 1.09 |
| 47 | Ti | 16859.78 | P | 357.30 | 2.12 |
| 51 | V | 62345.51 | P | 600.80 | 0.96 |
| 52 | Cr | 65960.84 | P | 149.40 | 0.23 |
| 55 | Mn | 49001.54 | P | 591.10 | 1.21 |
| 56 | Fe | 95624.68 | P | 727.70 | 0.76 |
| 59 | Co | 90708.76 | P | 167.40 | 0.18 |
| 60 | Ni | 22961.79 | P | 103.60 | 0.45 |
| 63 | Cu | 59864.84 | P | 482.80 | 0.81 |
| 66 | Zn | 11328.26 | P | 71.87 | 0.63 |
| 72 | Ge | 787690.13 | P | 7421.00 | 0.94 |
| 72 | Ge | 189411.30 | P | 1608.00 | 0.85 |
| 75 | As | 7463.88 | P | 152.40 | 2.04 |
| 78 | Se | 974.93 | P | 10.86 | 1.11 |
| 88 | Sr | 304689.19 | P | 3563.00 | 1.17 |
| 98 | Mo | 84390.43 | P | 387.50 | 0.46 |
| 103 | Rh | 4412307.00 | A | 31620.00 | 0.72 |
| 107 | Ag | 133034.50 | P | 606.00 | 0.46 |

C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 11706.16 | P | 269.70 | 2.30 |
| 115 | In | 4691526.00 | A | 23210.00 | 0.49 |
| 115 | In | 1398754.00 | M | 13480.00 | 0.96 |
| 118 | (In) | 84105.88 | P | 90.14 | 0.11 |
| 118 | (In) | 27751.40 | P | 309.90 | 1.12 |
| 120 | Sn | 116212.70 | P | 783.20 | 0.67 |
| 121 | Sb | 108719.60 | P | 525.40 | 0.48 |
| 137 | Ba | 39072.66 | P | 185.40 | 0.47 |
| 159 | Tb | 5613397.00 | A | 34750.00 | 0.62 |
| 175 | Lu | 5184875.00 | A | 43210.00 | 0.83 |
| 205 | Tl | 157156.09 | P | 3537.00 | 2.25 |
| 206 | (Pb) | 61723.65 | P | 614.20 | 1.00 |
| 207 | (Pb) | 52302.35 | P | 377.50 | 0.72 |
| 208 | Pb | 241978.70 | P | 2148.00 | 0.89 |
| 209 | Bi | 2822500.00 | A | 37370.00 | 1.32 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1529338.10 | 0.74 | 1541753.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 3652985.80 | 0.17 | 3631305.00 | 100.6 | 70 - 130 | |
| 45 | Sc | 482771.03 | 1.09 | 481684.91 | 100.2 | 70 - 130 | |
| 72 | Ge | 787690.06 | 0.94 | 789765.50 | 99.7 | 70 - 130 | |
| 72 | Ge | 189411.27 | 0.85 | 188977.23 | 100.2 | 70 - 130 | |
| 103 | Rh | 4412307.00 | 0.72 | 4377550.50 | 100.8 | 70 - 130 | |
| 115 | In | 4691526.00 | 0.49 | 4716350.50 | 99.5 | 70 - 130 | |
| 115 | In | 1398754.50 | 0.96 | 1391932.10 | 100.5 | 70 - 130 | |
| 159 | Tb | 5613397.50 | 0.62 | 5566587.00 | 100.8 | 70 - 130 | |
| 175 | Lu | 5184874.50 | 0.83 | 5216106.00 | 99.4 | 70 - 130 | |
| 209 | Bi | 2822499.80 | 1.32 | 2809999.80 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 20 2013 11:39 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:35 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1547485.00 | A | 20420.00 | 1.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 145176.91 | P | 1551.00 | 1.07 |
| 9 | Be | 7605.41 | P | 139.90 | 1.84 |
| 11 | B | 96612.67 | P | 704.40 | 0.73 |
| 11 | B | 3111.52 | P | 154.60 | 4.97 |
| 23 | Na | 1458150.00 | A | 9366.00 | 0.64 |
| 23 | Na | 171173.59 | P | 349.10 | 0.20 |
| 24 | Mg | 600128.19 | P | 3617.00 | 0.60 |
| 24 | Mg | 46504.23 | P | 336.50 | 0.72 |
| 27 | Al | 789381.50 | P | 4423.00 | 0.56 |
| 27 | Al | 27377.21 | P | 904.90 | 3.31 |
| 39 | K | 4936516.00 | A | 9990.00 | 0.20 |
| 44 | Ca | 117008.90 | P | 2110.00 | 1.80 |
| 45 | Sc | 3636005.00 | A | 23030.00 | 0.63 |
| 45 | Sc | 483589.50 | P | 3553.00 | 0.73 |
| 47 | Ti | 82936.76 | P | 540.20 | 0.65 |
| 51 | V | 291196.19 | P | 2469.00 | 0.85 |
| 52 | Cr | 319540.50 | P | 578.20 | 0.18 |
| 55 | Mn | 237169.41 | P | 1044.00 | 0.44 |
| 56 | Fe | 328355.19 | P | 1874.00 | 0.57 |
| 59 | Co | 446819.00 | P | 1289.00 | 0.29 |
| 60 | Ni | 111790.20 | P | 736.00 | 0.66 |
| 63 | Cu | 288857.69 | P | 2103.00 | 0.73 |
| 66 | Zn | 49933.87 | P | 191.30 | 0.38 |
| 72 | Ge | 783615.69 | P | 5054.00 | 0.64 |
| 72 | Ge | 189573.50 | P | 1092.00 | 0.58 |
| 75 | As | 35856.21 | P | 144.70 | 0.40 |
| 78 | Se | 4040.34 | P | 16.36 | 0.40 |
| 88 | Sr | 1479280.00 | A | 4073.00 | 0.28 |
| 98 | Mo | 412183.31 | P | 1362.00 | 0.33 |
| 103 | Rh | 4383870.00 | A | 39990.00 | 0.91 |
| 107 | Ag | 653158.69 | P | 4936.00 | 0.76 |

C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 57251.79 | P | 1013.00 | 1.77 |
| 115 | In | 4668812.00 | A | 25520.00 | 0.55 |
| 115 | In | 1390887.00 | A | 11900.00 | 0.86 |
| 118 | (In) | 410665.41 | P | 2005.00 | 0.49 |
| 118 | (In) | 136181.70 | P | 282.10 | 0.21 |
| 120 | Sn | 567480.13 | P | 4260.00 | 0.75 |
| 121 | Sb | 527582.13 | P | 3873.00 | 0.73 |
| 137 | Ba | 190639.20 | P | 839.10 | 0.44 |
| 159 | Tb | 5625434.00 | A | 26070.00 | 0.46 |
| 175 | Lu | 5198123.00 | A | 43290.00 | 0.83 |
| 205 | Tl | 841395.69 | P | 7180.00 | 0.85 |
| 206 | (Pb) | 297971.09 | P | 663.00 | 0.22 |
| 207 | (Pb) | 251626.09 | P | 2182.00 | 0.87 |
| 208 | Pb | 1176699.00 | P | 8102.00 | 0.69 |
| 209 | Bi | 2815328.00 | A | 38550.00 | 1.37 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 1547484.90 | 1.32 | 1541753.30 | 100.4 | 70 - 130 | |
| 45 Sc | 3636005.00 | 0.63 | 3631305.00 | 100.1 | 70 - 130 | |
| 45 Sc | 483589.50 | 0.73 | 481684.91 | 100.4 | 70 - 130 | |
| 72 Ge | 783615.69 | 0.64 | 789765.50 | 99.2 | 70 - 130 | |
| 72 Ge | 189573.55 | 0.58 | 188977.23 | 100.3 | 70 - 130 | |
| 103 Rh | 4383870.00 | 0.91 | 4377550.50 | 100.1 | 70 - 130 | |
| 115 In | 4668812.50 | 0.55 | 4716350.50 | 99.0 | 70 - 130 | |
| 115 In | 1390887.10 | 0.86 | 1391932.10 | 99.9 | 70 - 130 | |
| 159 Tb | 5625434.50 | 0.46 | 5566587.00 | 101.1 | 70 - 130 | |
| 175 Lu | 5198123.00 | 0.83 | 5216106.00 | 99.7 | 70 - 130 | |
| 209 Bi | 2815327.80 | 1.37 | 2809999.80 | 100.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 20 2013 11:48 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:45 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1560551.00 | A | 75430.00 | 4.83 |
| 7 | (Li) | | P | | |
| 9 | Be | 298581.31 | P | 2820.00 | 0.94 |
| 9 | Be | 15302.26 | P | 356.20 | 2.33 |
| 11 | B | 197035.41 | P | 2200.00 | 1.12 |
| 11 | B | 6222.54 | P | 32.07 | 0.52 |
| 23 | Na | 2289225.00 | A | 17670.00 | 0.77 |
| 23 | Na | 251092.41 | P | 1132.00 | 0.45 |
| 24 | Mg | 1233114.00 | A | 13250.00 | 1.07 |
| 24 | Mg | 93280.49 | P | 1039.00 | 1.11 |
| 27 | Al | 1577501.00 | A | 18610.00 | 1.18 |
| 27 | Al | 54395.28 | P | 568.10 | 1.04 |
| 39 | K | 5815225.00 | A | 88350.00 | 1.52 |
| 44 | Ca | 158931.09 | P | 3355.00 | 2.11 |
| 45 | Sc | 3607749.00 | A | 214700.00 | 5.95 |
| 45 | Sc | 479363.81 | P | 5282.00 | 1.10 |
| 47 | Ti | 164946.41 | P | 2439.00 | 1.48 |
| 51 | V | 584562.50 | P | 2064.00 | 0.35 |
| 52 | Cr | 648044.50 | P | 3622.00 | 0.56 |
| 55 | Mn | 479360.41 | P | 5498.00 | 1.15 |
| 56 | Fe | 623765.63 | P | 934.70 | 0.15 |
| 59 | Co | 902318.50 | P | 1716.00 | 0.19 |
| 60 | Ni | 225299.70 | P | 1112.00 | 0.49 |
| 63 | Cu | 578594.00 | P | 3209.00 | 0.55 |
| 66 | Zn | 100496.10 | P | 709.70 | 0.71 |
| 72 | Ge | 777879.31 | M | 53380.00 | 6.86 |
| 72 | Ge | 188469.70 | P | 1728.00 | 0.92 |
| 75 | As | 72091.29 | P | 733.10 | 1.02 |
| 78 | Se | 7860.76 | P | 216.50 | 2.75 |
| 88 | Sr | 2950597.00 | A | 30870.00 | 1.05 |
| 98 | Mo | 831055.38 | P | 11050.00 | 1.33 |
| 103 | Rh | 4402727.00 | A | 279900.00 | 6.36 |
| 107 | Ag | 1301297.00 | M | 44730.00 | 3.44 |

C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 115405.10 | P | 615.70 | 0.53 |
| 115 | In | 4695915.00 | A | 281600.00 | 6.00 |
| 115 | In | 1392197.00 | A | 10850.00 | 0.78 |
| 118 | (In) | 831192.88 | P | 9794.00 | 1.18 |
| 118 | (In) | 276800.09 | P | 3417.00 | 1.23 |
| 120 | Sn | 1145258.00 | P | 15010.00 | 1.31 |
| 121 | Sb | 1056272.00 | P | 9139.00 | 0.87 |
| 137 | Ba | 383618.50 | P | 4347.00 | 1.13 |
| 159 | Tb | 5612755.00 | A | 421400.00 | 7.51 |
| 175 | Lu | 5236701.00 | A | 343600.00 | 6.56 |
| 205 | Tl | 1755233.00 | A | 14630.00 | 0.83 |
| 206 | (Pb) | 607553.88 | P | 6301.00 | 1.04 |
| 207 | (Pb) | 508227.59 | P | 4002.00 | 0.79 |
| 208 | Pb | 2377167.00 | P | 20240.00 | 0.85 |
| 209 | Bi | 2853866.00 | A | 155400.00 | 5.45 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1560550.90 | 4.83 | 1541753.30 | 101.2 | 70 - 130 | |
| 45 | Sc | 3607749.00 | 5.95 | 3631305.00 | 99.4 | 70 - 130 | |
| 45 | Sc | 479363.75 | 1.10 | 481684.91 | 99.5 | 70 - 130 | |
| 72 | Ge | 777879.31 | 6.86 | 789765.50 | 98.5 | 70 - 130 | |
| 72 | Ge | 188469.69 | 0.92 | 188977.23 | 99.7 | 70 - 130 | |
| 103 | Rh | 4402727.50 | 6.36 | 4377550.50 | 100.6 | 70 - 130 | |
| 115 | In | 4695915.50 | 6.00 | 4716350.50 | 99.6 | 70 - 130 | |
| 115 | In | 1392196.80 | 0.78 | 1391932.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5612755.00 | 7.51 | 5566587.00 | 100.8 | 70 - 130 | |
| 175 | Lu | 5236701.50 | 6.56 | 5216106.00 | 100.4 | 70 - 130 | |
| 209 | Bi | 2853866.00 | 5.45 | 2809999.80 | 101.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 20 2013 11:55 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:51 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1558075.00 | A | 18120.00 | 1.16 |
| 7 | (Li) | | P | | |
| 9 | Be | 605617.63 | P | 1456.00 | 0.24 |
| 9 | Be | 31148.15 | P | 228.70 | 0.73 |
| 11 | B | 399511.31 | P | 3844.00 | 0.96 |
| 11 | B | 12499.80 | P | 152.60 | 1.22 |
| 23 | Na | 4140595.00 | A | 10260.00 | 0.25 |
| 23 | Na | 424484.69 | P | 496.80 | 0.12 |
| 24 | Mg | 2458619.00 | A | 17480.00 | 0.71 |
| 24 | Mg | 185190.20 | P | 931.90 | 0.50 |
| 27 | Al | 3128045.00 | A | 14570.00 | 0.47 |
| 27 | Al | 107580.40 | P | 631.60 | 0.59 |
| 39 | K | 7679772.00 | A | 16440.00 | 0.21 |
| 44 | Ca | 233904.50 | P | 1973.00 | 0.84 |
| 45 | Sc | 3617464.00 | A | 20740.00 | 0.57 |
| 45 | Sc | 475617.41 | P | 5642.00 | 1.19 |
| 47 | Ti | 333456.09 | P | 4528.00 | 1.36 |
| 51 | V | 1138302.00 | A | 5766.00 | 0.51 |
| 52 | Cr | 1274875.00 | A | 13480.00 | 1.06 |
| 55 | Mn | 955266.81 | P | 4722.00 | 0.49 |
| 56 | Fe | 1180990.00 | M | 15450.00 | 1.31 |
| 59 | Co | 1770073.00 | A | 10350.00 | 0.58 |
| 60 | Ni | 451189.41 | P | 532.50 | 0.12 |
| 63 | Cu | 1160355.00 | P | 5907.00 | 0.51 |
| 66 | Zn | 199720.00 | P | 1698.00 | 0.85 |
| 72 | Ge | 784631.19 | P | 6016.00 | 0.77 |
| 72 | Ge | 187626.30 | P | 1266.00 | 0.67 |
| 75 | As | 144145.09 | P | 837.80 | 0.58 |
| 78 | Se | 15542.04 | P | 171.40 | 1.10 |
| 88 | Sr | 5900591.00 | A | 4375.00 | 0.07 |
| 98 | Mo | 1719772.00 | A | 17530.00 | 1.02 |
| 103 | Rh | 4422195.00 | A | 33680.00 | 0.76 |
| 107 | Ag | 2595995.00 | A | 25470.00 | 0.98 |

C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 231007.41 | P | 1259.00 | 0.55 |
| 115 | In | 4701510.00 | A | 53990.00 | 1.15 |
| 115 | In | 1389568.00 | A | 29480.00 | 2.12 |
| 118 | (In) | 1686113.00 | A | 7040.00 | 0.42 |
| 118 | (In) | 552990.13 | P | 3539.00 | 0.64 |
| 120 | Sn | 2302438.00 | A | 19680.00 | 0.85 |
| 121 | Sb | 2135330.00 | A | 8871.00 | 0.42 |
| 137 | Ba | 788435.19 | P | 5128.00 | 0.65 |
| 159 | Tb | 5685418.00 | A | 13290.00 | 0.23 |
| 175 | Lu | 5239468.00 | A | 28700.00 | 0.55 |
| 205 | Tl | 3556294.00 | A | 25510.00 | 0.72 |
| 206 | (Pb) | 1245421.00 | P | 2690.00 | 0.22 |
| 207 | (Pb) | 1046208.00 | P | 5876.00 | 0.56 |
| 208 | Pb | 4808998.00 | A | 14650.00 | 0.30 |
| 209 | Bi | 2852270.00 | A | 25720.00 | 0.90 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1558075.30 | 1.16 | 1541753.30 | 101.1 | 70 - 130 | |
| 45 | Sc | 3617464.00 | 0.57 | 3631305.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 475617.41 | 1.19 | 481684.91 | 98.7 | 70 - 130 | |
| 72 | Ge | 784631.19 | 0.77 | 789765.50 | 99.3 | 70 - 130 | |
| 72 | Ge | 187626.30 | 0.67 | 188977.23 | 99.3 | 70 - 130 | |
| 103 | Rh | 4422195.00 | 0.76 | 4377550.50 | 101.0 | 70 - 130 | |
| 115 | In | 4701509.50 | 1.15 | 4716350.50 | 99.7 | 70 - 130 | |
| 115 | In | 1389567.80 | 2.12 | 1391932.10 | 99.8 | 70 - 130 | |
| 159 | Tb | 5685418.00 | 0.23 | 5566587.00 | 102.1 | 70 - 130 | |
| 175 | Lu | 5239468.00 | 0.55 | 5216106.00 | 100.4 | 70 - 130 | |
| 209 | Bi | 2852270.00 | 0.90 | 2809999.80 | 101.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 20 2013 12:02 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:58 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1530762.00 | A | 13310.00 | 0.87 |
| 7 | (Li) | | P | | |
| 9 | Be | 184.45 | P | 47.88 | 25.96 |
| 9 | Be | 8.89 | P | 1.93 | 21.66 |
| 11 | B | 2102.44 | P | 94.32 | 4.49 |
| 11 | B | 70.00 | P | 25.17 | 35.96 |
| 23 | Na | 33593080.00 | A | 518600.00 | 1.54 |
| 23 | Na | 3141072.00 | A | 14010.00 | 0.45 |
| 24 | Mg | 22699620.00 | A | 295900.00 | 1.30 |
| 24 | Mg | 1734141.00 | A | 7910.00 | 0.46 |
| 27 | Al | 29718620.00 | A | 247500.00 | 0.83 |
| 27 | Al | 1037694.00 | M | 17110.00 | 1.65 |
| 39 | K | 39764912.00 | A | 302300.00 | 0.76 |
| 44 | Ca | 1269319.00 | A | 13760.00 | 1.08 |
| 45 | Sc | 3651803.00 | A | 22120.00 | 0.61 |
| 45 | Sc | 483694.41 | P | 4050.00 | 0.84 |
| 47 | Ti | 607.81 | P | 41.68 | 6.86 |
| 51 | V | 4507.84 | P | 116.30 | 2.58 |
| 52 | Cr | 1838.81 | P | 37.12 | 2.02 |
| 55 | Mn | 1816.58 | P | 53.18 | 2.93 |
| 56 | Fe | 10661480.00 | A | 25670.00 | 0.24 |
| 59 | Co | 782.70 | P | 49.69 | 6.35 |
| 60 | Ni | 475.13 | P | 2.78 | 0.58 |
| 63 | Cu | 1485.43 | P | 32.33 | 2.18 |
| 66 | Zn | 554.24 | P | 11.18 | 2.02 |
| 72 | Ge | 801303.69 | P | 3432.00 | 0.43 |
| 72 | Ge | 190901.00 | P | 844.70 | 0.44 |
| 75 | As | 206.45 | P | 8.15 | 3.95 |
| 78 | Se | 220.67 | P | 4.62 | 2.09 |
| 88 | Sr | 4370.80 | P | 122.00 | 2.79 |
| 98 | Mo | 4779.84 | P | 420.90 | 8.81 |
| 103 | Rh | 4361638.00 | A | 20960.00 | 0.48 |
| 107 | Ag | 893.40 | P | 84.53 | 9.46 |

C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 80.00 | P | 17.64 | 22.05 |
| 115 | In | 4709577.00 | A | 46090.00 | 0.98 |
| 115 | In | 1385014.00 | A | 14830.00 | 1.07 |
| 118 | (In) | 3505.00 | P | 173.90 | 4.96 |
| 118 | (In) | 1333.45 | P | 45.83 | 3.44 |
| 120 | Sn | 4800.98 | P | 433.80 | 9.04 |
| 121 | Sb | 5462.33 | P | 299.90 | 5.49 |
| 137 | Ba | 965.63 | P | 16.78 | 1.74 |
| 159 | Tb | 5615419.00 | A | 38520.00 | 0.69 |
| 175 | Lu | 5253908.00 | A | 22190.00 | 0.42 |
| 205 | Tl | 5823.66 | P | 110.50 | 1.90 |
| 206 | (Pb) | 594.48 | P | 71.91 | 12.10 |
| 207 | (Pb) | 496.69 | P | 23.09 | 4.65 |
| 208 | Pb | 2346.84 | P | 163.40 | 6.96 |
| 209 | Bi | 2824995.00 | A | 40290.00 | 1.43 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1530762.30 | 0.87 | 1541753.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 3651803.30 | 0.61 | 3631305.00 | 100.6 | 70 - 130 | |
| 45 | Sc | 483694.38 | 0.84 | 481684.91 | 100.4 | 70 - 130 | |
| 72 | Ge | 801303.69 | 0.43 | 789765.50 | 101.5 | 70 - 130 | |
| 72 | Ge | 190900.95 | 0.44 | 188977.23 | 101.0 | 70 - 130 | |
| 103 | Rh | 4361638.50 | 0.48 | 4377550.50 | 99.6 | 70 - 130 | |
| 115 | In | 4709577.50 | 0.98 | 4716350.50 | 99.9 | 70 - 130 | |
| 115 | In | 1385013.90 | 1.07 | 1391932.10 | 99.5 | 70 - 130 | |
| 159 | Tb | 5615419.50 | 0.69 | 5566587.00 | 100.9 | 70 - 130 | |
| 175 | Lu | 5253908.50 | 0.42 | 5216106.00 | 100.7 | 70 - 130 | |
| 209 | Bi | 2824995.30 | 1.43 | 2809999.80 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 20 2013 12:09 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 12:05 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1581155.00 | A | 26310.00 | 1.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 101.12 | P | 29.13 | 28.81 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 1250.10 | P | 61.20 | 4.90 |
| 11 | B | 47.78 | P | 15.03 | 31.46 |
| 23 | Na | 329789790.00 | A | 3119000.00 | 0.95 |
| 23 | Na | 28839130.00 | A | 162400.00 | 0.56 |
| 24 | Mg | 223072300.00 | A | 1489000.00 | 0.67 |
| 24 | Mg | 15999010.00 | A | 79550.00 | 0.50 |
| 27 | Al | 293295100.00 | A | 2917000.00 | 0.99 |
| 27 | Al | 9583569.00 | A | 90400.00 | 0.94 |
| 39 | K | 353828700.00 | A | 2580000.00 | 0.73 |
| 44 | Ca | 11057200.00 | A | 55760.00 | 0.50 |
| 45 | Sc | 3643853.00 | A | 24540.00 | 0.67 |
| 45 | Sc | 474969.59 | P | 2768.00 | 0.58 |
| 47 | Ti | 504.47 | P | 62.58 | 12.41 |
| 51 | V | 4446.48 | P | 96.97 | 2.18 |
| 52 | Cr | 2769.62 | P | 135.20 | 4.88 |
| 55 | Mn | 3099.48 | P | 248.00 | 8.00 |
| 56 | Fe | 101208100.00 | A | 1029000.00 | 1.02 |
| 59 | Co | 2610.48 | P | 54.74 | 2.10 |
| 60 | Ni | 1010.27 | P | 25.21 | 2.50 |
| 63 | Cu | 1352.53 | P | 55.37 | 4.09 |
| 66 | Zn | 730.47 | P | 20.67 | 2.83 |
| 72 | Ge | 790707.69 | P | 7264.00 | 0.92 |
| 72 | Ge | 186905.30 | P | 865.10 | 0.46 |
| 75 | As | 212.45 | P | 19.29 | 9.08 |
| 78 | Se | 216.67 | P | 6.36 | 2.94 |
| 88 | Sr | 23622.68 | P | 453.50 | 1.92 |
| 98 | Mo | 2459.23 | P | 436.10 | 17.73 |
| 103 | Rh | 4202332.00 | A | 19200.00 | 0.46 |
| 107 | Ag | 1385.67 | P | 70.44 | 5.08 |

C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 48.89 | P | 27.76 | 56.78 |
| 115 | In | 4555886.00 | A | 50340.00 | 1.10 |
| 115 | In | 1333453.00 | A | 2406.00 | 0.18 |
| 118 | (In) | 1355.67 | P | 21.70 | 1.60 |
| 118 | (In) | 593.37 | P | 70.01 | 11.80 |
| 120 | Sn | 2005.78 | P | 43.51 | 2.17 |
| 121 | Sb | 2740.36 | P | 43.60 | 1.59 |
| 137 | Ba | 904.51 | P | 47.30 | 5.23 |
| 159 | Tb | 5589195.00 | A | 75080.00 | 1.34 |
| 175 | Lu | 5206816.00 | A | 45190.00 | 0.87 |
| 205 | Tl | 2472.53 | P | 45.40 | 1.84 |
| 206 | (Pb) | 367.80 | P | 80.45 | 21.87 |
| 207 | (Pb) | 390.02 | P | 63.60 | 16.31 |
| 208 | Pb | 1590.10 | P | 199.10 | 12.52 |
| 209 | Bi | 2710142.00 | A | 57630.00 | 2.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1581154.90 | 1.66 | 1541753.30 | 102.6 | 70 - 130 | |
| 45 | Sc | 3643852.80 | 0.67 | 3631305.00 | 100.3 | 70 - 130 | |
| 45 | Sc | 474969.59 | 0.58 | 481684.91 | 98.6 | 70 - 130 | |
| 72 | Ge | 790707.75 | 0.92 | 789765.50 | 100.1 | 70 - 130 | |
| 72 | Ge | 186905.27 | 0.46 | 188977.23 | 98.9 | 70 - 130 | |
| 103 | Rh | 4202332.00 | 0.46 | 4377550.50 | 96.0 | 70 - 130 | |
| 115 | In | 4555886.00 | 1.10 | 4716350.50 | 96.6 | 70 - 130 | |
| 115 | In | 1333452.90 | 0.18 | 1391932.10 | 95.8 | 70 - 130 | |
| 159 | Tb | 5589195.50 | 1.34 | 5566587.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 5206816.00 | 0.87 | 5216106.00 | 99.8 | 70 - 130 | |
| 209 | Bi | 2710141.80 | 2.13 | 2809999.80 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D# |
| Date Acquired: | Apr 20 2013 12:16 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICV |
| Misc Info: | |
| Vial Number: | 2101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.80 | 60.80 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 60.18 | 60.18 | ppb | 3.64 | 900.00 | |
| 11 B | 6 | 1 | 58.12 | 58.12 | ppb | 1.23 | 900.00 | |
| 11 B | 45 | 2 | 58.36 | 58.36 | ppb | 0.71 | 900.00 | |
| 23 Na | 45 | 1 | 5617.00 | 5617.00 | ppb | 0.34 | 90000.00 | |
| 23 Na | 45 | 2 | 5670.00 | 5670.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 5669.00 | 5669.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 5690.00 | 5690.00 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 5621.00 | 5621.00 | ppb | 1.07 | 90000.00 | |
| 27 Al | 45 | 2 | 5644.00 | 5644.00 | ppb | 0.50 | 90000.00 | |
| 39 K | 45 | 1 | 5705.00 | 5705.00 | ppb | 0.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 5604.00 | 5604.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.67 | 58.67 | ppb | 0.10 | 900.00 | |
| 51 V | 45 | 2 | 60.56 | 60.56 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 58.47 | 58.47 | ppb | 0.52 | 900.00 | |
| 55 Mn | 45 | 2 | 58.74 | 58.74 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 5709.00 | 5709.00 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 58.30 | 58.30 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 57.12 | 57.12 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 56.65 | 56.65 | ppb | 0.63 | 900.00 | |
| 66 Zn | 72 | 2 | 57.88 | 57.88 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 59.76 | 59.76 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 59.55 | 59.55 | ppb | 0.83 | 900.00 | |
| 88 Sr | 103 | 1 | 61.07 | 61.07 | ppb | 0.57 | 900.00 | |
| 98 Mo | 103 | 1 | 61.09 | 61.09 | ppb | 0.59 | 900.00 | |
| 107 Ag | 115 | 1 | 58.33 | 58.33 | ppb | 0.20 | 180.00 | |
| 111 Cd | 115 | 2 | 59.40 | 59.40 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 58.40 | 58.40 | ppb | 1.99 | 900.00 | |
| 121 Sb | 115 | 1 | 61.08 | 61.08 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 58.90 | 58.90 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 57.68 | 57.68 | ppb | 0.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.02 | 60.02 | ppb | 1.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1581589 | 1.02 | 1541753 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 3678293 | 0.84 | 3631305 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 475218 | 0.85 | 481685 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 790626 | 0.66 | 789766 | 100.1 | 70 - | 130 |
| 72 | Ge | 2 | 186136 | 0.83 | 188977 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 4326321 | 0.69 | 4377551 | 98.8 | 70 - | 130 |
| 115 | In | 1 | 4654449 | 1.03 | 4716351 | 98.7 | 70 - | 130 |
| 115 | In | 2 | 1355830 | 0.98 | 1391932 | 97.4 | 70 - | 130 |
| 159 | Tb | 1 | 5643891 | 0.56 | 5566587 | 101.4 | 70 - | 130 |
| 175 | Lu | 1 | 5296078 | 0.63 | 5216106 | 101.5 | 70 - | 130 |
| 209 | Bi | 1 | 2795710 | 0.61 | 2810000 | 99.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 12:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 57.11 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 9.92 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 83.33 | 900.00 | |
| 23 Na | 45 | 1 | 4.97 | 4.97 | ppb | 17.41 | 90000.00 | |
| 23 Na | 45 | 2 | 3.69 | 3.69 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.19 | 4.19 | ppb | 22.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.41 | 3.41 | ppb | 14.78 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 3.96 | ppb | 21.65 | 90000.00 | |
| 27 Al | 45 | 2 | 3.25 | 3.25 | ppb | 20.27 | 90000.00 | |
| 39 K | 45 | 1 | 5.46 | 5.46 | ppb | 23.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 20.56 | 20.56 | ppb | 8.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 36.55 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 2.96 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 20.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 20.46 | 900.00 | |
| 56 Fe | 45 | 2 | 3.64 | 3.64 | ppb | 17.45 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 27.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 22.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 16.94 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 14.68 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 40.49 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 373.36 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 11.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 9.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 10.20 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 52.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.18 | ppb | 6.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.05 | ppb | 10.17 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 15.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 0.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 10.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1574479 | 1.43 | 1541753 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 3643958 | 1.01 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 482283 | 0.98 | 481685 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 800894 | 0.98 | 789766 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 190676 | 0.66 | 188977 | 100.9 | 70 | - | 130 |
| 103 Rh | 1 | 4402868 | 0.67 | 4377551 | 100.6 | 70 | - | 130 |
| 115 In | 1 | 4764711 | 1.53 | 4716351 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1393277 | 2.43 | 1391932 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 5748401 | 0.26 | 5566587 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 5318094 | 0.18 | 5216106 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 2897580 | 1.15 | 2810000 | 103.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 20 2013 12:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.42 | 51.42 | ppb | 1.13 | 900.00 | |
| 9 Be | 45 | 2 | 49.96 | 49.96 | ppb | 2.68 | 900.00 | |
| 11 B | 6 | 1 | 50.98 | 50.98 | ppb | 1.67 | 900.00 | |
| 11 B | 45 | 2 | 51.30 | 51.30 | ppb | 1.84 | 900.00 | |
| 23 Na | 45 | 1 | 5165.00 | 5165.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 5235.00 | 5235.00 | ppb | 0.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 5172.00 | 5172.00 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5153.00 | 5153.00 | ppb | 1.50 | 90000.00 | |
| 27 Al | 45 | 2 | 5198.00 | 5198.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 5358.00 | 5358.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.92 | 49.92 | ppb | 0.90 | 900.00 | |
| 51 V | 45 | 2 | 50.74 | 50.74 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | 49.68 | 49.68 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.48 | 49.48 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 5205.00 | 5205.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 49.43 | 49.43 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 48.66 | 48.66 | ppb | 0.15 | 900.00 | |
| 63 Cu | 72 | 2 | 48.18 | 48.18 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.76 | 49.76 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 50.03 | 50.03 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 50.22 | 50.22 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 51.79 | 51.79 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 50.86 | 50.86 | ppb | 0.36 | 900.00 | |
| 107 Ag | 115 | 1 | 51.28 | 51.28 | ppb | 0.61 | 180.00 | |
| 111 Cd | 115 | 2 | 50.54 | 50.54 | ppb | 2.55 | 900.00 | |
| 120 Sn | 115 | 1 | 51.24 | 51.24 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 51.81 | 51.81 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | 49.72 | 49.72 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 48.60 | 48.60 | ppb | 1.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.59 | 50.59 | ppb | 0.60 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1579690 | 1.18 | 1541753 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 3662891 | 1.43 | 3631305 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 476421 | 0.84 | 481685 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 786150 | 0.83 | 789766 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 187657 | 0.78 | 188977 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 4315801 | 0.41 | 4377551 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 4664565 | 0.31 | 4716351 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 1356706 | 2.14 | 1391932 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 5653593 | 0.90 | 5566587 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 5245877 | 0.62 | 5216106 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 2796137 | 0.36 | 2810000 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 20 2013 12:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 75.14 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 15.98 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 82.94 | 900.00 | |
| 23 Na | 45 | 1 | 4.99 | 4.99 | ppb | 40.98 | 90000.00 | |
| 23 Na | 45 | 2 | 2.02 | 2.02 | ppb | 33.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.69 | 4.69 | ppb | 39.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.32 | 2.32 | ppb | 14.75 | 90000.00 | |
| 27 Al | 45 | 1 | 4.51 | 4.51 | ppb | 38.69 | 90000.00 | |
| 27 Al | 45 | 2 | 2.12 | 2.12 | ppb | 27.56 | 90000.00 | |
| 39 K | 45 | 1 | 3.78 | 3.78 | ppb | 40.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.55 | 3.55 | ppb | 66.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.09 | 0.09 | ppb | 43.40 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 12.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 382.60 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 15.64 | 900.00 | |
| 56 Fe | 45 | 2 | 2.51 | 2.51 | ppb | 19.45 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 9.17 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 19.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 60.86 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 16.33 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 57.29 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 114.33 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 27.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 12.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 22.35 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 25.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 9.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 7.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 63.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 6.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 27.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1583807 | 1.03 | 1541753 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 3684951 | 0.44 | 3631305 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 484754 | 0.68 | 481685 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 806120 | 0.90 | 789766 | 102.1 | 70 | - | 130 |
| 72 Ge | 2 | 191440 | 0.70 | 188977 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 4453982 | 1.48 | 4377551 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 4743884 | 1.07 | 4716351 | 100.6 | 70 | - | 130 |
| 115 In | 2 | 1401721 | 2.06 | 1391932 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 5722592 | 0.95 | 5566587 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 5346104 | 0.47 | 5216106 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 2916337 | 0.74 | 2810000 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 20 2013 12:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.52 | 0.52 | ppb | 2.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 1.66 | 900.00 | |
| 11 B | 6 | 1 | 5.10 | 5.10 | ppb | 2.29 | 900.00 | |
| 11 B | 45 | 2 | 5.20 | 5.20 | ppb | 3.06 | 900.00 | |
| 23 Na | 45 | 1 | 278.80 | 278.80 | ppb | 2.48 | 90000.00 | |
| 23 Na | 45 | 2 | 296.50 | 296.50 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 274.70 | 274.70 | ppb | 2.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 288.40 | 288.40 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 37.88 | 37.88 | ppb | 3.79 | 90000.00 | |
| 27 Al | 45 | 2 | 36.84 | 36.84 | ppb | 1.68 | 90000.00 | |
| 39 K | 45 | 1 | 267.40 | 267.40 | ppb | 3.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 280.60 | 280.60 | ppb | 2.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.35 | 1.35 | ppb | 1.70 | 900.00 | |
| 51 V | 45 | 2 | 1.06 | 1.06 | ppb | 1.66 | 900.00 | |
| 52 Cr | 45 | 2 | 1.11 | 1.11 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1.26 | 1.26 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 42.30 | 42.30 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 0.59 | 900.00 | |
| 60 Ni | 45 | 2 | 1.07 | 1.07 | ppb | 2.40 | 900.00 | |
| 63 Cu | 72 | 2 | 6.57 | 6.57 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 10.80 | 10.80 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 4.64 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 5.23 | ppb | 0.21 | 900.00 | |
| 98 Mo | 103 | 1 | 1.12 | 1.12 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.63 | 0.63 | ppb | 2.17 | 180.00 | |
| 111 Cd | 115 | 2 | 0.53 | 0.53 | ppb | 5.40 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 2.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.61 | 0.61 | ppb | 3.97 | 900.00 | |
| 137 Ba | 159 | 1 | 2.61 | 2.61 | ppb | 0.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 1.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.61 | 0.61 | ppb | 0.86 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1590450 | 1.40 | 1541753 | 103.2 | 70 - 130 | |
| 45 Sc | 1 | 3666250 | 2.19 | 3631305 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 483401 | 0.60 | 481685 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 802852 | 1.88 | 789766 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 191214 | 0.55 | 188977 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 4438373 | 0.73 | 4377551 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 4791845 | 2.47 | 4716351 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 1413142 | 0.71 | 1391932 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 5730534 | 0.96 | 5566587 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 5342316 | 0.97 | 5216106 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2912914 | 0.84 | 2810000 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 12:51 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 61.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 77.85 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 6.76 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 89.00 | 900.00 | |
| 23 Na | 45 | 1 | 102100.00 | 102100.00 | ppb | 0.00 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98090.00 | 98090.00 | ppb | 1.38 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101900.00 | 101900.00 | ppb | 1.68 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97720.00 | 97720.00 | ppb | 0.42 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 100200.00 | 100200.00 | ppb | 0.96 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97980.00 | 97980.00 | ppb | 0.70 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 99270.00 | 99270.00 | ppb | 0.76 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97440.00 | 97440.00 | ppb | 0.58 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2001.00 | 2001.00 | ppb | 0.83 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 11.53 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 1.08 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 0.36 | 0.36 | ppb | 2.48 | 900.00 | |
| 56 Fe | 45 | 2 | 100400.00 | 100400.00 | ppb | 0.71 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 0.69 | 0.69 | ppb | 2.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 2.90 | 2.90 | ppb | 0.26 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 7.97 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 214.97 | 900.00 | |
| 88 Sr | 103 | 1 | 4.87 | 4.87 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2059.00 | 2059.00 | ppb | 0.30 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.07 | ppb | 3.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.99 | 0.99 | ppb | 2.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.21 | ppb | 3.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 1.13 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.25 | ppb | 3.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 13.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.21 | 0.21 | ppb | 4.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1642656 | 1.03 | 1541753 | 106.5 | 70 - 130 | |
| 45 Sc | 1 | 3428425 | 0.75 | 3631305 | 94.4 | 70 - 130 | |
| 45 Sc | 2 | 423341 | 0.44 | 481685 | 87.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 747115 | 1.14 | 789766 | 94.6 | 70 - | 130 |
| 72 | Ge | 2 | 171080 | 0.54 | 188977 | 90.5 | 70 - | 130 |
| 103 | Rh | 1 | 3822783 | 0.11 | 4377551 | 87.3 | 70 - | 130 |
| 115 | In | 1 | 4203216 | 0.30 | 4716351 | 89.1 | 70 - | 130 |
| 115 | In | 2 | 1250800 | 0.50 | 1391932 | 89.9 | 70 - | 130 |
| 159 | Tb | 1 | 5393658 | 0.62 | 5566587 | 96.9 | 70 - | 130 |
| 175 | Lu | 1 | 5079303 | 1.20 | 5216106 | 97.4 | 70 - | 130 |
| 209 | Bi | 1 | 2520268 | 0.19 | 2810000 | 89.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Apr 20 2013 12:58 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 24.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 107.30 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.15 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.25 | ppb | 53.50 | 900.00 | |
| 23 Na | 45 | 1 | 102400.00 | 102400.00 | ppb | 0.26 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99060.00 | 99060.00 | ppb | 0.13 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101200.00 | 101200.00 | ppb | 0.75 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98460.00 | 98460.00 | ppb | 0.38 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 100300.00 | 100300.00 | ppb | 0.84 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 98420.00 | 98420.00 | ppb | 0.43 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 99310.00 | 99310.00 | ppb | 0.98 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97440.00 | 97440.00 | ppb | 1.06 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2001.00 | 2001.00 | ppb | 0.87 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 3.79 | 900.00 | |
| 52 Cr | 45 | 2 | 20.49 | 20.49 | ppb | 0.41 | 900.00 | |
| 55 Mn | 45 | 2 | 20.15 | 20.15 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 101900.00 | 101900.00 | ppb | 0.35 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.48 | 19.48 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 19.42 | 19.42 | ppb | 0.54 | 900.00 | |
| 63 Cu | 72 | 2 | 17.67 | 17.67 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 21.75 | 21.75 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 20.76 | 20.76 | ppb | 0.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 198.76 | 900.00 | |
| 88 Sr | 103 | 1 | 4.89 | 4.89 | ppb | 0.95 | 900.00 | |
| 98 Mo | 103 | 1 | 2078.00 | 2078.00 | ppb | 0.43 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.80 | 19.80 | ppb | 1.35 | 180.00 | |
| 111 Cd | 115 | 2 | 19.81 | 19.81 | ppb | 0.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.22 | ppb | 4.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 7.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 10.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 3.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1671220 | 0.57 | 1541753 | 108.4 | 70 - 130 | |
| 45 Sc | 1 | 3483339 | 0.94 | 3631305 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 420323 | 0.13 | 481685 | 87.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 753646 | 0.81 | 789766 | 95.4 | 70 - | 130 |
| 72 | Ge | 2 | 169923 | 0.21 | 188977 | 89.9 | 70 - | 130 |
| 103 | Rh | 1 | 3891337 | 1.01 | 4377551 | 88.9 | 70 - | 130 |
| 115 | In | 1 | 4287752 | 0.84 | 4716351 | 90.9 | 70 - | 130 |
| 115 | In | 2 | 1255859 | 0.46 | 1391932 | 90.2 | 70 - | 130 |
| 159 | Tb | 1 | 5506508 | 0.28 | 5566587 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 5198001 | 0.45 | 5216106 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 2600731 | 1.27 | 2810000 | 92.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Apr 20 2013 01:05 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 24.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 193.62 | 900.00 | |
| 11 B | 6 | 1 | -0.03 | -0.03 | ppb | 8.80 | 900.00 | |
| 11 B | 45 | 2 | -0.02 | -0.02 | ppb | 485.04 | 900.00 | |
| 23 Na | 45 | 1 | 41.02 | 41.02 | ppb | 12.93 | 90000.00 | |
| 23 Na | 45 | 2 | 57.31 | 57.31 | ppb | 4.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 30.68 | 30.68 | ppb | 8.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 45.33 | 45.33 | ppb | 5.39 | 90000.00 | |
| 27 Al | 45 | 1 | 29.22 | 29.22 | ppb | 10.20 | 90000.00 | |
| 27 Al | 45 | 2 | 40.98 | 40.98 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 22.27 | 22.27 | ppb | 52.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 14.21 | 14.21 | ppb | 56.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.68 | 0.68 | ppb | 8.76 | 900.00 | |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 7.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 41.04 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 17.63 | 900.00 | |
| 56 Fe | 45 | 2 | 48.22 | 48.22 | ppb | 5.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.89 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 32.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 56.21 | 900.00 | |
| 66 Zn | 72 | 2 | 0.09 | 0.09 | ppb | 1.72 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 41.76 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 446.08 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 37.56 | 900.00 | |
| 98 Mo | 103 | 1 | 1.99 | 1.99 | ppb | 3.99 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 28.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 93.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 12.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 19.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 172.41 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 23.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 64.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1803310 | 4.91 | 1541753 | 117.0 | 70 - 130 | |
| 45 Sc | 1 | 3808733 | 8.81 | 3631305 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 448562 | 1.18 | 481685 | 93.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 809462 | 5.01 | 789766 | 102.5 | 70 | - | 130 |
| 72 Ge | 2 | 182756 | 0.93 | 188977 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 4710046 | 8.85 | 4377551 | 107.6 | 70 | - | 130 |
| 115 In | 1 | 5041319 | 7.64 | 4716351 | 106.9 | 70 | - | 130 |
| 115 In | 2 | 1429490 | 0.68 | 1391932 | 102.7 | 70 | - | 130 |
| 159 Tb | 1 | 6148101 | 7.81 | 5566587 | 110.4 | 70 | - | 130 |
| 175 Lu | 1 | 5711603 | 9.63 | 5216106 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3148830 | 7.54 | 2810000 | 112.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#
**Date Acquired:** Apr 20 2013 01:13 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20790-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 65.42 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 203.30 | 900.00 | |
| 11 B | 6 | 1 | 0.59 | 0.29 | ppb | 6.29 | 900.00 | |
| 11 B | 45 | 2 | 0.75 | 0.38 | ppb | 27.83 | 900.00 | |
| 23 Na | 45 | 1 | 35.30 | 17.65 | ppb | 7.54 | 90000.00 | |
| 23 Na | 45 | 2 | 25.98 | 12.99 | ppb | 7.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 14.99 | 7.49 | ppb | 10.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.51 | 3.75 | ppb | 11.74 | 90000.00 | |
| 27 Al | 45 | 1 | 15.54 | 7.77 | ppb | 10.09 | 90000.00 | |
| 27 Al | 45 | 2 | 7.93 | 3.96 | ppb | 13.69 | 90000.00 | |
| 39 K | 45 | 1 | 6.06 | 3.03 | ppb | 54.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 34.32 | 17.16 | ppb | 11.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.65 | 0.32 | ppb | 3.03 | 900.00 | |
| 51 V | 45 | 2 | 1.35 | 0.68 | ppb | 2.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.01 | ppb | 56.25 | 900.00 | |
| 55 Mn | 45 | 2 | 0.56 | 0.28 | ppb | 5.92 | 900.00 | |
| 56 Fe | 45 | 2 | 12.84 | 6.42 | ppb | 8.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 15.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 5.02 | 900.00 | |
| 66 Zn | 72 | 2 | 2.94 | 1.47 | ppb | 3.59 | 900.00 | |
| 75 As | 72 | 2 | 0.34 | 0.17 | ppb | 8.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 147.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 8.87 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 0.64 | ppb | 5.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 4.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 0.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 8.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 4.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 13.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 30.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 6.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1616849 | 1.28 | 1541753 | 104.9 | 70 - 130 | |
| 45 Sc | 1 | 3599563 | 0.49 | 3631305 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 444876 | 0.76 | 481685 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 774661 | 0.67 | 789766 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 180819 | 0.79 | 188977 | 95.7 | 70 | - | 130 |
| 103 Rh | 1 | 4458231 | 0.67 | 4377551 | 101.8 | 70 | - | 130 |
| 115 In | 1 | 4767146 | 0.22 | 4716351 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1399514 | 0.28 | 1391932 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 5892863 | 0.45 | 5566587 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 5524069 | 0.14 | 5216106 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 3059805 | 0.72 | 2810000 | 108.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 20 2013 01:20 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20797-MB1
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 24.80 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 194.09 | 900.00 | |
| 11 B | 6 | 1 | -0.01 | 0.00 | ppb | 684.81 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.01 | ppb | 1017.70 | 900.00 | |
| 23 Na | 45 | 1 | 27.42 | 13.71 | ppb | 9.91 | 90000.00 | |
| 23 Na | 45 | 2 | 19.59 | 9.79 | ppb | 14.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 13.72 | 6.86 | ppb | 14.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.06 | 3.53 | ppb | 36.64 | 90000.00 | |
| 27 Al | 45 | 1 | 14.31 | 7.15 | ppb | 14.36 | 90000.00 | |
| 27 Al | 45 | 2 | 7.87 | 3.94 | ppb | 27.47 | 90000.00 | |
| 39 K | 45 | 1 | 9.20 | 4.60 | ppb | 27.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 24.68 | 12.34 | ppb | 12.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.29 | ppb | 19.32 | 900.00 | |
| 51 V | 45 | 2 | 1.75 | 0.87 | ppb | 2.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.03 | ppb | 35.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.69 | 0.35 | ppb | 2.95 | 900.00 | |
| 56 Fe | 45 | 2 | 16.99 | 8.50 | ppb | 12.91 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 7.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 2.14 | 900.00 | |
| 66 Zn | 72 | 2 | 0.76 | 0.38 | ppb | 2.62 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 4.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 10291.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 5.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.62 | 0.31 | ppb | 1.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 20.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 98.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 5.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 8.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.02 | ppb | 12.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 613.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 20.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1510913 | 1.58 | 1541753 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 3547460 | 0.81 | 3631305 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 452204 | 1.46 | 481685 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 769753 | 1.71 | 789766 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 180500 | 1.82 | 188977 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 4393024 | 1.19 | 4377551 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 4695287 | 0.45 | 4716351 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1412907 | 1.92 | 1391932 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 5780471 | 1.19 | 5566587 | 103.8 | 70 | - | 130 |
| 175 Lu | 1 | 5431734 | 0.55 | 5216106 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 2976625 | 0.99 | 2810000 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 20 2013 01:27 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-MB1
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 181.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1825.90 | 900.00 | |
| 11 B | 6 | 1 | 0.42 | 0.21 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 0.45 | 0.22 | ppb | 82.77 | 900.00 | |
| 23 Na | 45 | 1 | 36.54 | 18.27 | ppb | 94.36 | 90000.00 | |
| 23 Na | 45 | 2 | 14.63 | 7.32 | ppb | 10.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 26.48 | 13.24 | ppb | 136.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.73 | 1.87 | ppb | 23.25 | 90000.00 | |
| 27 Al | 45 | 1 | 26.92 | 13.46 | ppb | 139.52 | 90000.00 | |
| 27 Al | 45 | 2 | 3.38 | 1.69 | ppb | 28.60 | 90000.00 | |
| 39 K | 45 | 1 | 23.84 | 11.92 | ppb | 159.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 88.94 | 44.47 | ppb | 40.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.79 | 0.40 | ppb | 83.13 | 900.00 | |
| 51 V | 45 | 2 | 1.71 | 0.86 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 0.05 | 0.03 | ppb | 18.83 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 4.64 | 900.00 | |
| 56 Fe | 45 | 2 | 5.09 | 2.54 | ppb | 18.51 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 33.78 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 21.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 1.64 | 900.00 | |
| 66 Zn | 72 | 2 | 0.52 | 0.26 | ppb | 4.03 | 900.00 | |
| 75 As | 72 | 2 | 0.47 | 0.23 | ppb | 5.38 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.02 | ppb | 320.35 | 900.00 | |
| 88 Sr | 103 | 1 | 0.11 | 0.06 | ppb | 48.57 | 900.00 | |
| 98 Mo | 103 | 1 | 0.64 | 0.32 | ppb | 93.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 93.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 930.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 38.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 36.75 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 37.92 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 323.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 128.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1485512 | 0.81 | 1541753 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3553730 | 1.17 | 3631305 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 455458 | 0.71 | 481685 | 94.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 776236 | 0.89 | 789766 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 182831 | 0.45 | 188977 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 4419544 | 0.74 | 4377551 | 101.0 | 70 | - | 130 |
| 115 In | 1 | 4777269 | 0.41 | 4716351 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 1402610 | 0.73 | 1391932 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 5849363 | 0.75 | 5566587 | 105.1 | 70 | - | 130 |
| 175 Lu | 1 | 5503455 | 0.64 | 5216106 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 3015336 | 0.74 | 2810000 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 20 2013 01:34 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-4F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 11.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 161.04 | 900.00 | |
| 11 B | 6 | 1 | 24.76 | 12.38 | ppb | 2.22 | 900.00 | |
| 11 B | 45 | 2 | 24.04 | 12.02 | ppb | 7.39 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 262800.00 | 131400.00 | ppb | 0.43 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 4532.00 | 2266.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 4698.00 | 2349.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 24.36 | 12.18 | ppb | 6.66 | 90000.00 | |
| 27 Al | 45 | 2 | 19.13 | 9.56 | ppb | 7.37 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 2584.00 | ppb | 1.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 36660.00 | 18330.00 | ppb | 1.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.35 | 0.67 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.10 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.39 | 0.20 | ppb | 4.89 | 900.00 | |
| 55 Mn | 45 | 2 | 64.50 | 32.25 | ppb | 0.59 | 900.00 | |
| 56 Fe | 45 | 2 | 140.18 | 70.09 | ppb | 1.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.88 | 0.44 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 5.97 | 2.99 | ppb | 0.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.45 | ppb | 3.04 | 900.00 | |
| 66 Zn | 72 | 2 | 38.98 | 19.49 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 1.00 | 0.50 | ppb | 3.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.07 | ppb | 52.33 | 900.00 | |
| 88 Sr | 103 | 1 | 220.80 | 110.40 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 0.96 | 0.48 | ppb | 4.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 13.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.10 | ppb | 9.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 5.25 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 1.13 | 900.00 | |
| 137 Ba | 159 | 1 | 121.18 | 60.59 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 83.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 23.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1418491 | 1.45 | 1541753 | 92.0 | 70 - 130 | |
| 45 Sc | 1 | 3480078 | 1.47 | 3631305 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 438237 | 0.79 | 481685 | 91.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 751283 | 1.04 | 789766 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 173653 | 0.72 | 188977 | 91.9 | 70 | - | 130 |
| 103 Rh | 1 | 4040053 | 0.54 | 4377551 | 92.3 | 70 | - | 130 |
| 115 In | 1 | 4504898 | 0.19 | 4716351 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 1335463 | 0.89 | 1391932 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 5652973 | 1.06 | 5566587 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 5319186 | 0.49 | 5216106 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 2727337 | 0.60 | 2810000 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 20 2013 01:41 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-5F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 41.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2955.70 | 900.00 | |
| 11 B | 6 | 1 | 24.22 | 12.11 | ppb | 1.38 | 900.00 | |
| 11 B | 45 | 2 | 24.20 | 12.10 | ppb | 6.15 | 900.00 | |
| 23 Na | 45 | 1 | 82800.00 | 41400.00 | ppb | 1.13 | 90000.00 | |
| 23 Na | 45 | 2 | 84740.00 | 42370.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 2900.00 | 1450.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 3068.00 | 1534.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 10.16 | 5.08 | ppb | 27.92 | 90000.00 | |
| 27 Al | 45 | 2 | 7.12 | 3.56 | ppb | 9.92 | 90000.00 | |
| 39 K | 45 | 1 | 3288.00 | 1644.00 | ppb | 0.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 22160.00 | 11080.00 | ppb | 0.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.39 | 0.69 | ppb | 8.15 | 900.00 | |
| 51 V | 45 | 2 | 1.98 | 0.99 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.31 | 0.16 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 1120.60 | 560.30 | ppb | 0.16 | 900.00 | |
| 56 Fe | 45 | 2 | 5934.00 | 2967.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 13.56 | 6.78 | ppb | 0.25 | 900.00 | |
| 60 Ni | 45 | 2 | 16.66 | 8.33 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 0.32 | 0.16 | ppb | 2.92 | 900.00 | |
| 66 Zn | 72 | 2 | 8.87 | 4.44 | ppb | 0.13 | 900.00 | |
| 75 As | 72 | 2 | 230.80 | 115.40 | ppb | 0.93 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.01 | ppb | 533.76 | 900.00 | |
| 88 Sr | 103 | 1 | 185.76 | 92.88 | ppb | 1.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.94 | 0.47 | ppb | 5.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 19.05 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 11.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 2.22 | 900.00 | |
| 137 Ba | 159 | 1 | 44.26 | 22.13 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 7.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 15.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1473324 | 0.64 | 1541753 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 3531894 | 0.84 | 3631305 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 446292 | 0.41 | 481685 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 769821 | 0.36 | 789766 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 180468 | 0.45 | 188977 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 4177711 | 1.28 | 4377551 | 95.4 | 70 | - | 130 |
| 115 In | 1 | 4623169 | 0.77 | 4716351 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1349269 | 0.93 | 1391932 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 5762998 | 1.51 | 5566587 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5468313 | 0.83 | 5216106 | 104.8 | 70 | - | 130 |
| 209 Bi | 1 | 2846882 | 0.86 | 2810000 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 20 2013 01:48 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-6F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 141.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 161.05 | 900.00 | |
| 11 B | 6 | 1 | 24.78 | 12.39 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 24.86 | 12.43 | ppb | 6.86 | 900.00 | |
| 23 Na | 45 | 1 | 84100.00 | 42050.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 85560.00 | 42780.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 2978.00 | 1489.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 3120.00 | 1560.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 1 | 4.50 | 2.25 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 4.53 | 2.27 | ppb | 5.58 | 90000.00 | |
| 39 K | 45 | 1 | 3312.00 | 1656.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 22600.00 | 11300.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.36 | 0.68 | ppb | 3.17 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 2.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 2.83 | 900.00 | |
| 55 Mn | 45 | 2 | 1159.40 | 579.70 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 6148.00 | 3074.00 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 13.92 | 6.96 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 16.57 | 8.28 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.32 | 0.16 | ppb | 1.63 | 900.00 | |
| 66 Zn | 72 | 2 | 7.84 | 3.92 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 239.60 | 119.80 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | 0.00 | ppb | 1788.70 | 900.00 | |
| 88 Sr | 103 | 1 | 189.48 | 94.74 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.75 | 0.38 | ppb | 3.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.36 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 13.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.03 | ppb | 9.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.80 | 900.00 | |
| 137 Ba | 159 | 1 | 44.08 | 22.04 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 2.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1460284 | 0.95 | 1541753 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3505757 | 0.67 | 3631305 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 441867 | 0.68 | 481685 | 91.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 761069 | 0.38 | 789766 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 178244 | 0.73 | 188977 | 94.3 | 70 | - | 130 |
| 103 Rh | 1 | 4142855 | 0.30 | 4377551 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 4585684 | 0.75 | 4716351 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1354061 | 0.63 | 1391932 | 97.3 | 70 | - | 130 |
| 159 Tb | 1 | 5751848 | 0.56 | 5566587 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 5449938 | 0.91 | 5216106 | 104.5 | 70 | - | 130 |
| 209 Bi | 1 | 2867828 | 0.21 | 2810000 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D# |
| Date Acquired: | Apr 20 2013 01:55 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.09 | 50.09 | ppb | 0.68 | 900.00 | |
| 9 Be | 45 | 2 | 50.45 | 50.45 | ppb | 2.25 | 900.00 | |
| 11 B | 6 | 1 | 49.45 | 49.45 | ppb | 1.37 | 900.00 | |
| 11 B | 45 | 2 | 50.63 | 50.63 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | 5077.00 | 5077.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5183.00 | 5183.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 5102.00 | 5102.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 5120.00 | 5120.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 1 | 5124.00 | 5124.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 2 | 5146.00 | 5146.00 | ppb | 0.94 | 90000.00 | |
| 39 K | 45 | 1 | 5127.00 | 5127.00 | ppb | 1.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 5165.00 | 5165.00 | ppb | 0.29 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.31 | 49.31 | ppb | 0.61 | 900.00 | |
| 51 V | 45 | 2 | 50.66 | 50.66 | ppb | 0.19 | 900.00 | |
| 52 Cr | 45 | 2 | 49.48 | 49.48 | ppb | 0.65 | 900.00 | |
| 55 Mn | 45 | 2 | 49.38 | 49.38 | ppb | 0.17 | 900.00 | |
| 56 Fe | 45 | 2 | 5248.00 | 5248.00 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 49.86 | 49.86 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 48.91 | 48.91 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 47.72 | 47.72 | ppb | 0.66 | 900.00 | |
| 66 Zn | 72 | 2 | 48.65 | 48.65 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 49.98 | 49.98 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 50.59 | 50.59 | ppb | 0.89 | 900.00 | |
| 88 Sr | 103 | 1 | 51.34 | 51.34 | ppb | 1.66 | 900.00 | |
| 98 Mo | 103 | 1 | 50.46 | 50.46 | ppb | 0.22 | 900.00 | |
| 107 Ag | 115 | 1 | 49.87 | 49.87 | ppb | 2.45 | 180.00 | |
| 111 Cd | 115 | 2 | 49.19 | 49.19 | ppb | 1.12 | 900.00 | |
| 120 Sn | 115 | 1 | 50.44 | 50.44 | ppb | 0.79 | 900.00 | |
| 121 Sb | 115 | 1 | 51.41 | 51.41 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 49.08 | 49.08 | ppb | 0.66 | 900.00 | |
| 205 Tl | 209 | 1 | 48.21 | 48.21 | ppb | 0.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.30 | 50.30 | ppb | 1.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1596539 | 0.51 | 1541753 | 103.6 | 70 - 130 | |
| 45 Sc | 1 | 3669971 | 0.02 | 3631305 | 101.1 | 70 - 130 | |
| 45 Sc | 2 | 459388 | 0.48 | 481685 | 95.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 777834 | 0.69 | 789766 | 98.5 | 70 | - | 130 |
| 72 | Ge | 2 | 183808 | 0.49 | 188977 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 4365059 | 0.73 | 4377551 | 99.7 | 70 | - | 130 |
| 115 | In | 1 | 4762355 | 0.78 | 4716351 | 101.0 | 70 | - | 130 |
| 115 | In | 2 | 1392042 | 1.30 | 1391932 | 100.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5877184 | 0.23 | 5566587 | 105.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5516639 | 0.25 | 5216106 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2930146 | 1.02 | 2810000 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 20 2013 02:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.52 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 224.61 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 17.35 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 351.71 | 900.00 | |
| 23 Na | 45 | 1 | 27.66 | 27.66 | ppb | 9.83 | 90000.00 | |
| 23 Na | 45 | 2 | 20.13 | 20.13 | ppb | 9.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.72 | 7.72 | ppb | 25.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.58 | 3.58 | ppb | 29.25 | 90000.00 | |
| 27 Al | 45 | 1 | 7.89 | 7.89 | ppb | 32.02 | 90000.00 | |
| 27 Al | 45 | 2 | 3.30 | 3.30 | ppb | 26.56 | 90000.00 | |
| 39 K | 45 | 1 | 9.66 | 9.66 | ppb | 28.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.36 | 2.36 | ppb | 78.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.14 | 0.14 | ppb | 30.81 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 19.98 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 206.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 24.06 | 900.00 | |
| 56 Fe | 45 | 2 | 3.74 | 3.74 | ppb | 26.79 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 13.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 86.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 105.99 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 50.79 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 39.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 1228.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 18.16 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 20.43 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 9.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 88.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 13.31 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 16.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 98.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.12 | ppb | 8.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 23.19 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1606228 | 0.74 | 1541753 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 3641012 | 0.97 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 467733 | 0.62 | 481685 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 797133 | 1.17 | 789766 | 100.9 | 70 | - | 130 |
| 72 | Ge | 2 | 187336 | 0.45 | 188977 | 99.1 | 70 | - | 130 |
| 103 | Rh | 1 | 4480160 | 0.33 | 4377551 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4848952 | 0.61 | 4716351 | 102.8 | 70 | - | 130 |
| 115 | In | 2 | 1422378 | 0.38 | 1391932 | 102.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5791748 | 0.61 | 5566587 | 104.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5424949 | 0.58 | 5216106 | 104.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3008734 | 1.06 | 2810000 | 107.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Apr 20 2013 02:10 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19884-7F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 61.28 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 187.49 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.17 | ppb | 6.47 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.14 | ppb | 92.27 | 900.00 | |
| 23 Na | 45 | 1 | 61.06 | 30.53 | ppb | 13.68 | 90000.00 | |
| 23 Na | 45 | 2 | 36.24 | 18.12 | ppb | 5.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 21.40 | 10.70 | ppb | 29.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.48 | 2.24 | ppb | 16.32 | 90000.00 | |
| 27 Al | 45 | 1 | 21.86 | 10.93 | ppb | 25.91 | 90000.00 | |
| 27 Al | 45 | 2 | 5.06 | 2.53 | ppb | 17.96 | 90000.00 | |
| 39 K | 45 | 1 | 29.46 | 14.73 | ppb | 13.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.46 | 17.73 | ppb | 8.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.78 | 0.39 | ppb | 15.30 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 1.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.20 | 0.10 | ppb | 5.75 | 900.00 | |
| 55 Mn | 45 | 2 | 0.44 | 0.22 | ppb | 5.55 | 900.00 | |
| 56 Fe | 45 | 2 | 8.10 | 4.05 | ppb | 10.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 22.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 34.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.59 | 0.30 | ppb | 1.00 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.19 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 0.59 | 0.29 | ppb | 4.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.04 | ppb | 159.48 | 900.00 | |
| 88 Sr | 103 | 1 | 0.09 | 0.04 | ppb | 9.96 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.21 | ppb | 22.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.04 | 0.02 | ppb | 16.54 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 171.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.30 | 0.15 | ppb | 5.78 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 9.41 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.04 | ppb | 20.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 9.75 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 15.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1471382 | 0.60 | 1541753 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3564395 | 0.21 | 3631305 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 456280 | 0.98 | 481685 | 94.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 775980 | 0.34 | 789766 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 181630 | 0.88 | 188977 | 96.1 | 70 | - | 130 |
| 103 | Rh | 1 | 4391791 | 0.11 | 4377551 | 100.3 | 70 | - | 130 |
| 115 | In | 1 | 4688838 | 0.82 | 4716351 | 99.4 | 70 | - | 130 |
| 115 | In | 2 | 1379203 | 1.36 | 1391932 | 99.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5792853 | 0.73 | 5566587 | 104.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5469284 | 0.48 | 5216106 | 104.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2945076 | 1.37 | 2810000 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 20 2013 02:17 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-8F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 54.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 3.37 | 900.00 | |
| 11 B | 6 | 1 | 28.20 | 14.10 | ppb | 1.59 | 900.00 | |
| 11 B | 45 | 2 | 27.06 | 13.53 | ppb | 6.99 | 900.00 | |
| 23 Na | 45 | 1 | 9714.00 | 4857.00 | ppb | 1.15 | 90000.00 | |
| 23 Na | 45 | 2 | 10084.00 | 5042.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 2618.00 | 1309.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 2 | 2766.00 | 1383.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 16.43 | 8.21 | ppb | 8.17 | 90000.00 | |
| 27 Al | 45 | 2 | 9.81 | 4.91 | ppb | 17.68 | 90000.00 | |
| 39 K | 45 | 1 | 3490.00 | 1745.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 23040.00 | 11520.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.68 | 0.84 | ppb | 1.75 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.86 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.11 | ppb | 5.57 | 900.00 | |
| 55 Mn | 45 | 2 | 1985.60 | 992.80 | ppb | 0.77 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 45360.00 | 22680.00 | ppb | 0.95 | 90000.00 | |
| 59 Co | 45 | 2 | 17.82 | 8.91 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 12.55 | 6.28 | ppb | 1.40 | 900.00 | |
| 63 Cu | 72 | 2 | 0.47 | 0.24 | ppb | 3.40 | 900.00 | |
| 66 Zn | 72 | 2 | 33.16 | 16.58 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 3078.00 | 1539.00 | ppb | 0.84 | 900.00 | >LDR |
| 78 Se | 72 | 2 | 0.20 | 0.10 | ppb | 61.79 | 900.00 | |
| 88 Sr | 103 | 1 | 167.64 | 83.82 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 13.53 | 6.77 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 15.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 22.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 3.04 | 900.00 | |
| 137 Ba | 159 | 1 | 16.39 | 8.20 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 3.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 9.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1395278 | 0.77 | 1541753 | 90.5 | 70 - 130 | |
| 45 Sc | 1 | 3515872 | 0.88 | 3631305 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 459866 | 1.19 | 481685 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 775929 | 0.99 | 789766 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 185417 | 1.05 | 188977 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 4219906 | 0.59 | 4377551 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 4677369 | 0.58 | 4716351 | 99.2 | 70 | - | 130 |
| 115 In | 2 | 1348223 | 0.78 | 1391932 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 5762682 | 0.64 | 5566587 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5420889 | 1.13 | 5216106 | 103.9 | 70 | - | 130 |
| 209 Bi | 1 | 2890552 | 1.62 | 2810000 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\028SMPL.D\028SMPL.D#
**Date Acquired:** Apr 20 2013 02:24 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-9F
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 47.35 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2577.80 | 900.00 | |
| 11 B | 6 | 1 | 24.18 | 12.09 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | 22.38 | 11.19 | ppb | 4.29 | 900.00 | |
| 23 Na | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.16 | 90000.00 | |
| 23 Na | 45 | 2 | 7312.00 | 3656.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 1391.80 | 695.90 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 1512.40 | 756.20 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 6.38 | 3.19 | ppb | 5.83 | 90000.00 | |
| 27 Al | 45 | 2 | 9.94 | 4.97 | ppb | 11.43 | 90000.00 | |
| 39 K | 45 | 1 | 2594.00 | 1297.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 14940.00 | 7470.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 0.71 | ppb | 7.98 | 900.00 | |
| 51 V | 45 | 2 | 1.85 | 0.92 | ppb | 2.22 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.13 | ppb | 7.75 | 900.00 | |
| 55 Mn | 45 | 2 | 3392.00 | 1696.00 | ppb | 0.49 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 13528.00 | 6764.00 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 7.61 | 3.81 | ppb | 1.50 | 900.00 | |
| 60 Ni | 45 | 2 | 6.01 | 3.01 | ppb | 2.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.21 | ppb | 4.04 | 900.00 | |
| 66 Zn | 72 | 2 | 27.38 | 13.69 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 1551.60 | 775.80 | ppb | 0.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 137.07 | 900.00 | |
| 88 Sr | 103 | 1 | 155.82 | 77.91 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 10.66 | 5.33 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 31.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 18.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 11.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 1.84 | 900.00 | |
| 137 Ba | 159 | 1 | 4.61 | 2.30 | ppb | 2.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1390154 | 2.03 | 1541753 | 90.2 | 70 - 130 | |
| 45 Sc | 1 | 3585812 | 0.40 | 3631305 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 462214 | 0.99 | 481685 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 790867 | 0.76 | 789766 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 185409 | 0.82 | 188977 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 4275232 | 0.42 | 4377551 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 4751360 | 0.52 | 4716351 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1382085 | 0.86 | 1391932 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5891243 | 1.09 | 5566587 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 5505278 | 0.02 | 5216106 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 2929022 | 0.66 | 2810000 | 104.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D# |
| Date Acquired: | Apr 20 2013 02:31 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19884-10F |
| Misc Info: | |
| Vial Number: | 2208 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 49.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 182.51 | 900.00 | |
| 11 B | 6 | 1 | 27.22 | 13.61 | ppb | 0.33 | 900.00 | |
| 11 B | 45 | 2 | 25.82 | 12.91 | ppb | 8.02 | 900.00 | |
| 23 Na | 45 | 1 | 5298.00 | 2649.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 5556.00 | 2778.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 2314.00 | 1157.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 2494.00 | 1247.00 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 1 | 25.64 | 12.82 | ppb | 25.39 | 90000.00 | |
| 27 Al | 45 | 2 | 10.34 | 5.17 | ppb | 2.57 | 90000.00 | |
| 39 K | 45 | 1 | 2530.00 | 1265.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 24060.00 | 12030.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.54 | 0.77 | ppb | 6.70 | 900.00 | |
| 51 V | 45 | 2 | 1.82 | 0.91 | ppb | 1.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 3.99 | 900.00 | |
| 55 Mn | 45 | 2 | 2708.00 | 1354.00 | ppb | 0.51 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 3378.00 | 1689.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 2.36 | 1.18 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 5.91 | 2.96 | ppb | 0.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.46 | 0.23 | ppb | 3.64 | 900.00 | |
| 66 Zn | 72 | 2 | 16.94 | 8.47 | ppb | 0.79 | 900.00 | |
| 75 As | 72 | 2 | 84.96 | 42.48 | ppb | 0.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 406.49 | 900.00 | |
| 88 Sr | 103 | 1 | 112.48 | 56.24 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 8.06 | 4.03 | ppb | 1.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 28.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 13.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 4.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.18 | ppb | 2.78 | 900.00 | |
| 137 Ba | 159 | 1 | 6.44 | 3.22 | ppb | 2.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 23.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 17.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1385855 | 1.03 | 1541753 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 3621580 | 0.46 | 3631305 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 462926 | 0.30 | 481685 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 787629 | 0.58 | 789766 | 99.7 | 70 - | 130 |
| 72 | Ge | 2 | 186835 | 0.29 | 188977 | 98.9 | 70 - | 130 |
| 103 | Rh | 1 | 4351442 | 0.60 | 4377551 | 99.4 | 70 - | 130 |
| 115 | In | 1 | 4793937 | 0.71 | 4716351 | 101.6 | 70 - | 130 |
| 115 | In | 2 | 1409038 | 0.70 | 1391932 | 101.2 | 70 - | 130 |
| 159 | Tb | 1 | 5876358 | 0.33 | 5566587 | 105.6 | 70 - | 130 |
| 175 | Lu | 1 | 5543081 | 0.35 | 5216106 | 106.3 | 70 - | 130 |
| 209 | Bi | 1 | 2937753 | 0.67 | 2810000 | 104.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 20 2013 02:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-11F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 355.29 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 160.83 | 900.00 | |
| 11 B | 6 | 1 | 29.28 | 14.64 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 26.62 | 13.31 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 368800.00 | 184400.00 | ppb | 0.81 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2840.00 | 1420.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 3010.00 | 1505.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 6.93 | 3.47 | ppb | 5.05 | 90000.00 | |
| 27 Al | 45 | 2 | 7.77 | 3.89 | ppb | 24.37 | 90000.00 | |
| 39 K | 45 | 1 | 4242.00 | 2121.00 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 25980.00 | 12990.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.19 | 0.60 | ppb | 6.54 | 900.00 | |
| 51 V | 45 | 2 | 1.90 | 0.95 | ppb | 3.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 4.30 | 900.00 | |
| 55 Mn | 45 | 2 | 67.56 | 33.78 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 496.40 | 248.20 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 0.30 | 0.15 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 2.72 | 1.36 | ppb | 2.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.82 | 0.41 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 10.90 | 5.45 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 1.76 | 0.88 | ppb | 4.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.41 | 0.21 | ppb | 20.18 | 900.00 | |
| 88 Sr | 103 | 1 | 210.60 | 105.30 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 1.21 | 0.60 | ppb | 2.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 7.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 28.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 8.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.07 | ppb | 4.61 | 900.00 | |
| 137 Ba | 159 | 1 | 87.76 | 43.88 | ppb | 0.92 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 35.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 2.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1428643 | 0.20 | 1541753 | 92.7 | 70 - 130 | |
| 45 Sc | 1 | 3466248 | 0.54 | 3631305 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 440050 | 0.86 | 481685 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 744030 | 0.18 | 789766 | 94.2 | 70 | - | 130 |
| 72 | Ge | 2 | 173061 | 0.71 | 188977 | 91.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3998793 | 0.19 | 4377551 | 91.3 | 70 | - | 130 |
| 115 | In | 1 | 4430961 | 0.28 | 4716351 | 93.9 | 70 | - | 130 |
| 115 | In | 2 | 1319653 | 0.65 | 1391932 | 94.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5609499 | 0.93 | 5566587 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5302677 | 0.37 | 5216106 | 101.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2706884 | 0.72 | 2810000 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 20 2013 02:45 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-12F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 39.66 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 181.99 | 900.00 | |
| 11 B | 6 | 1 | 0.37 | 0.18 | ppb | 4.59 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.14 | ppb | 41.68 | 900.00 | |
| 23 Na | 45 | 1 | 143.28 | 71.64 | ppb | 14.84 | 90000.00 | |
| 23 Na | 45 | 2 | 109.38 | 54.69 | ppb | 11.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 22.38 | 11.19 | ppb | 36.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 10.62 | 5.31 | ppb | 33.28 | 90000.00 | |
| 27 Al | 45 | 1 | 21.62 | 10.81 | ppb | 36.86 | 90000.00 | |
| 27 Al | 45 | 2 | 9.51 | 4.76 | ppb | 35.71 | 90000.00 | |
| 39 K | 45 | 1 | 41.94 | 20.97 | ppb | 17.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 60.18 | 30.09 | ppb | 20.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.87 | 0.44 | ppb | 22.37 | 900.00 | |
| 51 V | 45 | 2 | 1.94 | 0.97 | ppb | 1.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 11.90 | 900.00 | |
| 55 Mn | 45 | 2 | 0.70 | 0.35 | ppb | 14.73 | 900.00 | |
| 56 Fe | 45 | 2 | 13.34 | 6.67 | ppb | 29.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 48.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.14 | 0.07 | ppb | 7.93 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 1.50 | 900.00 | |
| 66 Zn | 72 | 2 | 6.83 | 3.42 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 0.72 | 0.36 | ppb | 3.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.10 | ppb | 28.15 | 900.00 | |
| 88 Sr | 103 | 1 | 0.12 | 0.06 | ppb | 28.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.38 | 0.19 | ppb | 39.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 27.38 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 52.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 3.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 4.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 17.76 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 133.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 19.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1500990 | 0.77 | 1541753 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 3643341 | 1.85 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 468363 | 0.68 | 481685 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 798669 | 1.02 | 789766 | 101.1 | 70 | - | 130 |
| 72 Ge | 2 | 187401 | 0.22 | 188977 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 4527614 | 0.99 | 4377551 | 103.4 | 70 | - | 130 |
| 115 In | 1 | 4798598 | 1.10 | 4716351 | 101.7 | 70 | - | 130 |
| 115 In | 2 | 1421184 | 1.49 | 1391932 | 102.1 | 70 | - | 130 |
| 159 Tb | 1 | 5920034 | 1.54 | 5566587 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 5527771 | 2.23 | 5216106 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 3023255 | 0.45 | 2810000 | 107.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 20 2013 02:52 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-B1
**Misc Info:**
**Vial Number:** 2211
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.40 | 24.62 | ppb | 1.42 | 900.00 | |
| 9 Be | 45 | 2 | 496.60 | 24.83 | ppb | 0.36 | 900.00 | |
| 11 B | 6 | 1 | 0.90 | 0.04 | ppb | 18.30 | 900.00 | |
| 11 B | 45 | 2 | 1.84 | 0.09 | ppb | 104.68 | 900.00 | |
| 23 Na | 45 | 1 | 27500.00 | 1375.00 | ppb | 1.67 | 90000.00 | |
| 23 Na | 45 | 2 | 27580.00 | 1379.00 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 26940.00 | 1347.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 27800.00 | 1390.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 2388.00 | 119.40 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 2 | 2326.00 | 116.30 | ppb | 1.14 | 90000.00 | |
| 39 K | 45 | 1 | 26920.00 | 1346.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 27580.00 | 1379.00 | ppb | 1.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 489.20 | 24.46 | ppb | 0.46 | 900.00 | |
| 51 V | 45 | 2 | 524.00 | 26.20 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 507.80 | 25.39 | ppb | 0.42 | 900.00 | |
| 55 Mn | 45 | 2 | 502.80 | 25.14 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 2290.00 | 114.50 | ppb | 1.15 | 90000.00 | |
| 59 Co | 45 | 2 | 521.40 | 26.07 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 0.69 | 900.00 | |
| 63 Cu | 72 | 2 | 491.20 | 24.56 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 532.20 | 26.61 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 518.00 | 25.90 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 521.20 | 26.06 | ppb | 0.58 | 900.00 | |
| 88 Sr | 103 | 1 | 505.20 | 25.26 | ppb | 1.59 | 900.00 | |
| 98 Mo | 103 | 1 | 3.61 | 0.18 | ppb | 6.64 | 900.00 | |
| 107 Ag | 115 | 1 | 207.20 | 10.36 | ppb | 0.62 | 180.00 | |
| 111 Cd | 115 | 2 | 505.40 | 25.27 | ppb | 1.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.02 | ppb | 23.36 | 900.00 | |
| 121 Sb | 115 | 1 | 514.40 | 25.72 | ppb | 0.97 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 483.20 | 24.16 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1022.00 | 51.10 | ppb | 1.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1683897 | 1.34 | 1541753 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 3797903 | 0.95 | 3631305 | 104.6 | 70 - 130 | |
| 45 Sc | 2 | 474295 | 0.24 | 481685 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 821985 | 0.75 | 789766 | 104.1 | 70 | - | 130 |
| 72 Ge | 2 | 191997 | 0.16 | 188977 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 4630468 | 0.66 | 4377551 | 105.8 | 70 | - | 130 |
| 115 In | 1 | 4989146 | 0.26 | 4716351 | 105.8 | 70 | - | 130 |
| 115 In | 2 | 1443499 | 0.77 | 1391932 | 103.7 | 70 | - | 130 |
| 159 Tb | 1 | 6026114 | 0.62 | 5566587 | 108.3 | 70 | - | 130 |
| 175 Lu | 1 | 5652955 | 0.86 | 5216106 | 108.4 | 70 | - | 130 |
| 209 Bi | 1 | 3034109 | 0.63 | 2810000 | 108.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Apr 20 2013 02:59 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-S1
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 496.80 | 24.84 | ppb | 1.51 | 900.00 | |
| 9 Be | 45 | 2 | 525.60 | 26.28 | ppb | 0.25 | 900.00 | |
| 11 B | 6 | 1 | 22.84 | 1.14 | ppb | 2.57 | 900.00 | |
| 11 B | 45 | 2 | 20.28 | 1.01 | ppb | 29.87 | 900.00 | |
| 23 Na | 45 | 1 | 303600.00 | 15180.00 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 300000.00 | 15000.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 31580.00 | 1579.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 32020.00 | 1601.00 | ppb | 0.07 | 90000.00 | |
| 27 Al | 45 | 1 | 2370.00 | 118.50 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2328.00 | 116.40 | ppb | 1.45 | 90000.00 | |
| 39 K | 45 | 1 | 31860.00 | 1593.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 65840.00 | 3292.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.00 | 24.55 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 521.60 | 26.08 | ppb | 0.22 | 900.00 | |
| 52 Cr | 45 | 2 | 498.40 | 24.92 | ppb | 0.13 | 900.00 | |
| 55 Mn | 45 | 2 | 564.80 | 28.24 | ppb | 0.75 | 900.00 | |
| 56 Fe | 45 | 2 | 2404.00 | 120.20 | ppb | 1.68 | 90000.00 | |
| 59 Co | 45 | 2 | 514.60 | 25.73 | ppb | 0.29 | 900.00 | |
| 60 Ni | 45 | 2 | 504.20 | 25.21 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 486.00 | 24.30 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 565.40 | 28.27 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 516.60 | 25.83 | ppb | 0.69 | 900.00 | |
| 78 Se | 72 | 2 | 511.80 | 25.59 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 723.80 | 36.19 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 3.71 | 0.19 | ppb | 17.18 | 900.00 | |
| 107 Ag | 115 | 1 | 204.80 | 10.24 | ppb | 0.49 | 180.00 | |
| 111 Cd | 115 | 2 | 499.20 | 24.96 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.01 | ppb | 53.13 | 900.00 | |
| 121 Sb | 115 | 1 | 518.60 | 25.93 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 2132.00 | 106.60 | ppb | 0.36 | 900.00 | |
| 205 Tl | 209 | 1 | 476.20 | 23.81 | ppb | 0.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1016.60 | 50.83 | ppb | 0.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1707219 | 1.36 | 1541753 | 110.7 | 70 - 130 | |
| 45 Sc | 1 | 3726595 | 0.87 | 3631305 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 459799 | 0.60 | 481685 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 804561 | 0.80 | 789766 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 187122 | 1.11 | 188977 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 4462619 | 0.81 | 4377551 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 4839516 | 0.31 | 4716351 | 102.6 | 70 | - | 130 |
| 115 In | 2 | 1415835 | 1.08 | 1391932 | 101.7 | 70 | - | 130 |
| 159 Tb | 1 | 5875231 | 0.67 | 5566587 | 105.5 | 70 | - | 130 |
| 175 Lu | 1 | 5480550 | 0.91 | 5216106 | 105.1 | 70 | - | 130 |
| 209 Bi | 1 | 2944998 | 0.56 | 2810000 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D#
Date Acquired: Apr 20 2013 03:06 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20808-S2
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.00 | 24.60 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 519.00 | 25.95 | ppb | 1.97 | 900.00 | |
| 11 B | 6 | 1 | 21.50 | 1.08 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 19.96 | 1.00 | ppb | 18.84 | 900.00 | |
| 23 Na | 45 | 1 | 303600.00 | 15180.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 296000.00 | 14800.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 31800.00 | 1590.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 31700.00 | 1585.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | 2308.00 | 115.40 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 2 | 2280.00 | 114.00 | ppb | 1.17 | 90000.00 | |
| 39 K | 45 | 1 | 31520.00 | 1576.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 65440.00 | 3272.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 485.00 | 24.25 | ppb | 0.56 | 900.00 | |
| 51 V | 45 | 2 | 518.00 | 25.90 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 495.20 | 24.76 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 557.00 | 27.85 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 2394.00 | 119.70 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 510.20 | 25.51 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 495.80 | 24.79 | ppb | 0.24 | 900.00 | |
| 63 Cu | 72 | 2 | 483.20 | 24.16 | ppb | 0.16 | 900.00 | |
| 66 Zn | 72 | 2 | 563.20 | 28.16 | ppb | 0.43 | 900.00 | |
| 75 As | 72 | 2 | 513.60 | 25.68 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 506.00 | 25.30 | ppb | 0.19 | 900.00 | |
| 88 Sr | 103 | 1 | 726.60 | 36.33 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 2.30 | 0.11 | ppb | 3.17 | 900.00 | |
| 107 Ag | 115 | 1 | 204.20 | 10.21 | ppb | 1.14 | 180.00 | |
| 111 Cd | 115 | 2 | 499.20 | 24.96 | ppb | 1.31 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 35.55 | 900.00 | |
| 121 Sb | 115 | 1 | 519.00 | 25.95 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 2140.00 | 107.00 | ppb | 0.29 | 900.00 | |
| 205 Tl | 209 | 1 | 474.60 | 23.73 | ppb | 2.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.80 | 50.59 | ppb | 0.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1724946 | 0.52 | 1541753 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 3723354 | 0.88 | 3631305 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 459126 | 0.34 | 481685 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 800791 | 1.07 | 789766 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 185971 | 0.24 | 188977 | 98.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4388598 | 0.02 | 4377551 | 100.3 | 70 | - | 130 |
| 115 | In | 1 | 4783476 | 0.99 | 4716351 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 1397078 | 1.40 | 1391932 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5836696 | 0.20 | 5566587 | 104.9 | 70 | - | 130 |
| 175 | Lu | 1 | 5458317 | 0.21 | 5216106 | 104.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2936272 | 0.67 | 2810000 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 20 2013 03:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20808-SD1
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.13 | 0.01 | ppb | 10.03 | 900.00 | |
| 9 Be | 45 | 2 | 0.30 | 0.03 | ppb | 43.14 | 900.00 | |
| 11 B | 6 | 1 | 20.82 | 2.08 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 22.60 | 2.26 | ppb | 14.31 | 900.00 | |
| 23 Na | 45 | 1 | 275000.00 | 27500.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 265300.00 | 26530.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 4922.00 | 492.20 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 4971.00 | 497.10 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 55.48 | 5.55 | ppb | 17.82 | 90000.00 | |
| 27 Al | 45 | 2 | 34.77 | 3.48 | ppb | 12.55 | 90000.00 | |
| 39 K | 45 | 1 | 5458.00 | 545.80 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 38280.00 | 3828.00 | ppb | 0.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.08 | 0.21 | ppb | 8.72 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | 0.00 | ppb | 353.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.12 | -0.01 | ppb | 29.48 | 900.00 | |
| 55 Mn | 45 | 2 | 66.30 | 6.63 | ppb | 0.74 | 900.00 | |
| 56 Fe | 45 | 2 | 155.80 | 15.58 | ppb | 4.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.98 | 0.10 | ppb | 2.45 | 900.00 | |
| 60 Ni | 45 | 2 | 6.79 | 0.68 | ppb | 2.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.09 | 0.11 | ppb | 3.48 | 900.00 | |
| 66 Zn | 72 | 2 | 41.38 | 4.14 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.05 | ppb | 24.38 | 900.00 | |
| 78 Se | 72 | 2 | -0.23 | -0.02 | ppb | 402.31 | 900.00 | |
| 88 Sr | 103 | 1 | 222.90 | 22.29 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 1.27 | 0.13 | ppb | 12.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.01 | ppb | 9.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.02 | ppb | 21.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.02 | ppb | 17.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.38 | 0.04 | ppb | 10.17 | 900.00 | |
| 137 Ba | 159 | 1 | 124.70 | 12.47 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 1.29 | 0.13 | ppb | 1.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.02 | ppb | 9.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1708069 | 1.03 | 1541753 | 110.8 | 70 - 130 | |
| 45 Sc | 1 | 3657472 | 0.67 | 3631305 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 458652 | 0.38 | 481685 | 95.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 803675 | 0.60 | 789766 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 185632 | 0.12 | 188977 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 4361566 | 0.49 | 4377551 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 4762589 | 0.74 | 4716351 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1381817 | 2.07 | 1391932 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5790600 | 1.13 | 5566587 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 5416066 | 0.37 | 5216106 | 103.8 | 70 | - | 130 |
| 209 Bi | 1 | 2912233 | 0.91 | 2810000 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D# |
| Date Acquired: | Apr 20 2013 03:21 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2303 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.13 | 50.13 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 51.36 | 51.36 | ppb | 2.71 | 900.00 | |
| 11 B | 6 | 1 | 49.24 | 49.24 | ppb | 1.98 | 900.00 | |
| 11 B | 45 | 2 | 50.16 | 50.16 | ppb | 2.26 | 900.00 | |
| 23 Na | 45 | 1 | 5219.00 | 5219.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 5195.00 | 5195.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 5194.00 | 5194.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5189.00 | 5189.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 5162.00 | 5162.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 2 | 5176.00 | 5176.00 | ppb | 1.19 | 90000.00 | |
| 39 K | 45 | 1 | 5134.00 | 5134.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 5273.00 | 5273.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.54 | 49.54 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 50.64 | 50.64 | ppb | 0.33 | 900.00 | |
| 52 Cr | 45 | 2 | 49.63 | 49.63 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 49.39 | 49.39 | ppb | 0.79 | 900.00 | |
| 56 Fe | 45 | 2 | 5224.00 | 5224.00 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 49.70 | 49.70 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 48.87 | 48.87 | ppb | 0.88 | 900.00 | |
| 63 Cu | 72 | 2 | 47.72 | 47.72 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 49.49 | 49.49 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 49.87 | 49.87 | ppb | 0.13 | 900.00 | |
| 78 Se | 72 | 2 | 49.98 | 49.98 | ppb | 0.96 | 900.00 | |
| 88 Sr | 103 | 1 | 51.53 | 51.53 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 50.18 | 50.18 | ppb | 0.77 | 900.00 | |
| 107 Ag | 115 | 1 | 50.26 | 50.26 | ppb | 1.34 | 180.00 | |
| 111 Cd | 115 | 2 | 49.61 | 49.61 | ppb | 1.22 | 900.00 | |
| 120 Sn | 115 | 1 | 50.72 | 50.72 | ppb | 0.39 | 900.00 | |
| 121 Sb | 115 | 1 | 51.45 | 51.45 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 49.26 | 49.26 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 48.39 | 48.39 | ppb | 1.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.40 | 50.40 | ppb | 0.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1659268 | 0.82 | 1541753 | 107.6 | 70 - 130 | |
| 45 Sc | 1 | 3719132 | 0.69 | 3631305 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 460259 | 1.06 | 481685 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 789991 | 1.06 | 789766 | 100.0 | 70 | - | 130 |
| 72 | Ge | 2 | 184245 | 0.56 | 188977 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 4384780 | 1.10 | 4377551 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 4773999 | 0.76 | 4716351 | 101.2 | 70 | - | 130 |
| 115 | In | 2 | 1375227 | 1.81 | 1391932 | 98.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5845342 | 0.89 | 5566587 | 105.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5477232 | 1.14 | 5216106 | 105.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2912504 | 0.68 | 2810000 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#
Date Acquired: Apr 20 2013 03:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 44.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 56.57 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 18.65 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 34.11 | 900.00 | |
| 23 Na | 45 | 1 | 25.97 | 25.97 | ppb | 4.42 | 90000.00 | |
| 23 Na | 45 | 2 | 24.44 | 24.44 | ppb | 9.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.38 | 4.38 | ppb | 7.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.17 | 4.17 | ppb | 24.93 | 90000.00 | |
| 27 Al | 45 | 1 | 4.02 | 4.02 | ppb | 7.65 | 90000.00 | |
| 27 Al | 45 | 2 | 3.89 | 3.89 | ppb | 16.33 | 90000.00 | |
| 39 K | 45 | 1 | 7.59 | 7.59 | ppb | 7.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.61 | 11.61 | ppb | 9.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 17.60 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 15.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 39.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.07 | 0.07 | ppb | 19.91 | 900.00 | |
| 56 Fe | 45 | 2 | 4.51 | 4.51 | ppb | 19.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 30.45 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 16.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 11.61 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 2.89 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 9.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 114.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 4.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.14 | ppb | 11.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 9.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 13.77 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.18 | ppb | 5.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 20.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 12.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 1.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 10.64 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1688502 | 0.75 | 1541753 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 3673303 | 0.35 | 3631305 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 463858 | 0.48 | 481685 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 800918 | 0.22 | 789766 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 186820 | 0.15 | 188977 | 98.9 | 70 | - | 130 |
| 103 Rh | 1 | 4524691 | 0.44 | 4377551 | 103.4 | 70 | - | 130 |
| 115 In | 1 | 4826781 | 0.98 | 4716351 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 1421061 | 0.77 | 1391932 | 102.1 | 70 | - | 130 |
| 159 Tb | 1 | 5869447 | 0.61 | 5566587 | 105.4 | 70 | - | 130 |
| 175 Lu | 1 | 5514386 | 0.99 | 5216106 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 3025583 | 0.09 | 2810000 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 20 2013 03:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20808-PS1
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.21 | 8.61 | ppb | 0.46 | 900.00 | |
| 9 Be | 45 | 2 | 17.62 | 8.81 | ppb | 2.76 | 900.00 | |
| 11 B | 6 | 1 | 37.58 | 18.79 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 36.62 | 18.31 | ppb | 3.20 | 900.00 | |
| 23 Na | 45 | 1 | 217600.00 | 108800.00 | ppb | 1.55 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 223400.00 | 111700.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 3866.00 | 1933.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 4038.00 | 2019.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 39.06 | 19.53 | ppb | 2.44 | 90000.00 | |
| 27 Al | 45 | 2 | 35.46 | 17.73 | ppb | 1.56 | 90000.00 | |
| 39 K | 45 | 1 | 4392.00 | 2196.00 | ppb | 0.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 31100.00 | 15550.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.86 | 8.93 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 18.99 | 9.50 | ppb | 0.46 | 900.00 | |
| 52 Cr | 45 | 2 | 16.95 | 8.47 | ppb | 0.71 | 900.00 | |
| 55 Mn | 45 | 2 | 70.50 | 35.25 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 136.88 | 68.44 | ppb | 0.44 | 90000.00 | |
| 59 Co | 45 | 2 | 17.30 | 8.65 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 21.30 | 10.65 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 16.70 | 8.35 | ppb | 0.49 | 900.00 | |
| 66 Zn | 72 | 2 | 52.64 | 26.32 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 17.82 | 8.91 | ppb | 0.16 | 900.00 | |
| 78 Se | 72 | 2 | 16.37 | 8.18 | ppb | 0.76 | 900.00 | |
| 88 Sr | 103 | 1 | 201.60 | 100.80 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 18.68 | 9.34 | ppb | 0.19 | 900.00 | |
| 107 Ag | 115 | 1 | 16.54 | 8.27 | ppb | 0.46 | 180.00 | |
| 111 Cd | 115 | 2 | 16.21 | 8.11 | ppb | 1.91 | 900.00 | |
| 120 Sn | 115 | 1 | 17.58 | 8.79 | ppb | 0.60 | 900.00 | |
| 121 Sb | 115 | 1 | 17.32 | 8.66 | ppb | 0.51 | 900.00 | |
| 137 Ba | 159 | 1 | 118.98 | 59.49 | ppb | 1.12 | 900.00 | |
| 205 Tl | 209 | 1 | 16.56 | 8.28 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.26 | 8.63 | ppb | 1.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1523267 | 0.79 | 1541753 | 98.8 | 70 - 130 | |
| 45 Sc | 1 | 3526273 | 0.94 | 3631305 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 440152 | 0.85 | 481685 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 756408 | 0.26 | 789766 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 174700 | 0.41 | 188977 | 92.4 | 70 | - | 130 |
| 103 Rh | 1 | 4098505 | 0.19 | 4377551 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 4563580 | 0.13 | 4716351 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 1331908 | 0.38 | 1391932 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 5637054 | 1.14 | 5566587 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 5330438 | 0.58 | 5216106 | 102.2 | 70 | - | 130 |
| 209 Bi | 1 | 2757850 | 1.44 | 2810000 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 03:42 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19884-5F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.01 | ppb | 47.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.01 | ppb | 167.49 | 900.00 | |
| 11 B | 6 | 1 | 22.67 | 2.27 | ppb | 1.56 | 900.00 | |
| 11 B | 45 | 2 | 25.23 | 2.52 | ppb | 4.23 | 900.00 | |
| 23 Na | 45 | 1 | 89720.00 | 8972.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 87640.00 | 8764.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 3183.00 | 318.30 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 3229.00 | 322.90 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 44.29 | 4.43 | ppb | 28.83 | 90000.00 | |
| 27 Al | 45 | 2 | 29.72 | 2.97 | ppb | 19.33 | 90000.00 | |
| 39 K | 45 | 1 | 3534.00 | 353.40 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 23700.00 | 2370.00 | ppb | 0.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.16 | 0.22 | ppb | 7.83 | 900.00 | |
| 51 V | 45 | 2 | 0.32 | 0.03 | ppb | 10.32 | 900.00 | |
| 52 Cr | 45 | 2 | -0.22 | -0.02 | ppb | 5.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1199.00 | 119.90 | ppb | 0.88 | 900.00 | |
| 56 Fe | 45 | 2 | 6087.00 | 608.70 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 13.52 | 1.35 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 17.04 | 1.70 | ppb | 2.49 | 900.00 | |
| 63 Cu | 72 | 2 | 0.67 | 0.07 | ppb | 6.80 | 900.00 | |
| 66 Zn | 72 | 2 | 10.38 | 1.04 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 235.60 | 23.56 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 1.65 | 0.17 | ppb | 28.00 | 900.00 | |
| 88 Sr | 103 | 1 | 191.00 | 19.10 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.14 | ppb | 14.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.01 | ppb | 21.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.02 | ppb | 38.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.01 | ppb | 54.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.02 | ppb | 8.20 | 900.00 | |
| 137 Ba | 159 | 1 | 44.84 | 4.48 | ppb | 2.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.04 | ppb | 6.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.01 | ppb | 32.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1683961 | 1.22 | 1541753 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 3693803 | 0.71 | 3631305 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 461209 | 0.45 | 481685 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 804430 | 0.18 | 789766 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 186383 | 0.36 | 188977 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 4456339 | 0.72 | 4377551 | 101.8 | 70 | - | 130 |
| 115 In | 1 | 4870874 | 0.81 | 4716351 | 103.3 | 70 | - | 130 |
| 115 In | 2 | 1418988 | 0.59 | 1391932 | 101.9 | 70 | - | 130 |
| 159 Tb | 1 | 5921391 | 0.29 | 5566587 | 106.4 | 70 | - | 130 |
| 175 Lu | 1 | 5557023 | 0.22 | 5216106 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 2994269 | 1.49 | 2810000 | 106.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#
Date Acquired: Apr 20 2013 03:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-6F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.12 | 0.01 | ppb | 27.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.01 | ppb | 56.58 | 900.00 | |
| 11 B | 6 | 1 | 21.85 | 2.19 | ppb | 5.04 | 900.00 | |
| 11 B | 45 | 2 | 20.32 | 2.03 | ppb | 7.59 | 900.00 | |
| 23 Na | 45 | 1 | 89670.00 | 8967.00 | ppb | 1.35 | 90000.00 | |
| 23 Na | 45 | 2 | 88930.00 | 8893.00 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 3252.00 | 325.20 | ppb | 1.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 3315.00 | 331.50 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 84.67 | 8.47 | ppb | 15.58 | 90000.00 | |
| 27 Al | 45 | 2 | 35.64 | 3.56 | ppb | 21.16 | 90000.00 | |
| 39 K | 45 | 1 | 3546.00 | 354.60 | ppb | 1.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 23680.00 | 2368.00 | ppb | 1.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.78 | 0.28 | ppb | 10.28 | 900.00 | |
| 51 V | 45 | 2 | 0.23 | 0.02 | ppb | 18.36 | 900.00 | |
| 52 Cr | 45 | 2 | -0.25 | -0.03 | ppb | 5.54 | 900.00 | |
| 55 Mn | 45 | 2 | 1234.00 | 123.40 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 6268.00 | 626.80 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 14.02 | 1.40 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 16.98 | 1.70 | ppb | 0.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.53 | 0.05 | ppb | 13.31 | 900.00 | |
| 66 Zn | 72 | 2 | 9.42 | 0.94 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 243.90 | 24.39 | ppb | 0.73 | 900.00 | |
| 78 Se | 72 | 2 | -0.67 | -0.07 | ppb | 56.07 | 900.00 | |
| 88 Sr | 103 | 1 | 193.60 | 19.36 | ppb | 0.23 | 900.00 | |
| 98 Mo | 103 | 1 | 2.00 | 0.20 | ppb | 10.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.17 | 0.02 | ppb | 17.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 63.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.02 | ppb | 9.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.02 | ppb | 10.50 | 900.00 | |
| 137 Ba | 159 | 1 | 45.08 | 4.51 | ppb | 0.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.02 | ppb | 12.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 15.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1696914 | 0.21 | 1541753 | 110.1 | 70 - 130 | |
| 45 Sc | 1 | 3709575 | 1.81 | 3631305 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 457764 | 0.41 | 481685 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 807716 | 0.63 | 789766 | 102.3 | 70 | - | 130 |
| 72 | Ge | 2 | 184862 | 0.82 | 188977 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4477561 | 0.92 | 4377551 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4880694 | 0.04 | 4716351 | 103.5 | 70 | - | 130 |
| 115 | In | 2 | 1425567 | 0.30 | 1391932 | 102.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5856762 | 0.72 | 5566587 | 105.2 | 70 | - | 130 |
| 175 | Lu | 1 | 5522995 | 0.72 | 5216106 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3037639 | 0.83 | 2810000 | 108.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D#
Date Acquired: Apr 20 2013 03:56 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-8F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.00 | ppb | 271.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.36 | 0.00 | ppb | 297.87 | 900.00 | |
| 11 B | 6 | 1 | 17.70 | 0.18 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 23.69 | 0.24 | ppb | 39.08 | 900.00 | |
| 23 Na | 45 | 1 | 14790.00 | 147.90 | ppb | 2.66 | 90000.00 | |
| 23 Na | 45 | 2 | 14280.00 | 142.80 | ppb | 1.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 3425.00 | 34.25 | ppb | 3.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 3163.00 | 31.63 | ppb | 0.14 | 90000.00 | |
| 27 Al | 45 | 1 | 366.90 | 3.67 | ppb | 26.58 | 90000.00 | |
| 27 Al | 45 | 2 | 124.40 | 1.24 | ppb | 10.56 | 90000.00 | |
| 39 K | 45 | 1 | 4037.00 | 40.37 | ppb | 7.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 24840.00 | 248.40 | ppb | 2.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 7.68 | 0.08 | ppb | 8.78 | 900.00 | |
| 51 V | 45 | 2 | -27.06 | -0.27 | ppb | 1.00 | 900.00 | |
| 52 Cr | 45 | 2 | -7.30 | -0.07 | ppb | 4.23 | 900.00 | |
| 55 Mn | 45 | 2 | 2192.00 | 21.92 | ppb | 0.05 | 900.00 | |
| 56 Fe | 45 | 2 | 45790.00 | 457.90 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 18.79 | 0.19 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 18.04 | 0.18 | ppb | 7.07 | 900.00 | |
| 63 Cu | 72 | 2 | 1.75 | 0.02 | ppb | 13.22 | 900.00 | |
| 66 Zn | 72 | 2 | 43.34 | 0.43 | ppb | 2.08 | 900.00 | |
| 75 As | 72 | 2 | 3375.00 | 33.75 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 2.32 | 0.02 | ppb | 150.71 | 900.00 | |
| 88 Sr | 103 | 1 | 174.50 | 1.75 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 13.49 | 0.13 | ppb | 8.72 | 900.00 | |
| 107 Ag | 115 | 1 | 0.46 | 0.00 | ppb | 30.63 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.00 | ppb | 342.85 | 900.00 | |
| 120 Sn | 115 | 1 | 1.25 | 0.01 | ppb | 23.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.00 | ppb | 109.70 | 900.00 | |
| 137 Ba | 159 | 1 | 18.47 | 0.18 | ppb | 5.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.36 | 0.00 | ppb | 41.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.01 | ppb | 75.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795300 | 1.01 | 1541753 | 116.4 | 70 - 130 | |
| 45 Sc | 1 | 3791558 | 0.92 | 3631305 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 472246 | 0.87 | 481685 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 818775 | 0.56 | 789766 | 103.7 | 70 | - | 130 |
| 72 | Ge | 2 | 190599 | 0.74 | 188977 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 4565718 | 0.74 | 4377551 | 104.3 | 70 | - | 130 |
| 115 | In | 1 | 4930378 | 0.40 | 4716351 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1448252 | 1.95 | 1391932 | 104.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5917699 | 0.36 | 5566587 | 106.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5526483 | 0.85 | 5216106 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2921395 | 1.94 | 2810000 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#
**Date Acquired:** Apr 20 2013 04:03 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-9F
**Misc Info:**
**Vial Number:** 2309
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 100.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 100.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.34 | 0.00 | ppb | 122.56 | 900.00 | |
| 9 Be | 45 | 2 | -0.36 | 0.00 | ppb | 176.79 | 900.00 | |
| 11 B | 6 | 1 | 14.34 | 0.14 | ppb | 20.55 | 900.00 | |
| 11 B | 45 | 2 | 25.68 | 0.26 | ppb | 47.86 | 900.00 | |
| 23 Na | 45 | 1 | 10940.00 | 109.40 | ppb | 8.43 | 90000.00 | |
| 23 Na | 45 | 2 | 10740.00 | 107.40 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 2037.00 | 20.37 | ppb | 12.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1915.00 | 19.15 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 322.70 | 3.23 | ppb | 73.51 | 90000.00 | |
| 27 Al | 45 | 2 | 206.40 | 2.06 | ppb | 11.87 | 90000.00 | |
| 39 K | 45 | 1 | 3308.00 | 33.08 | ppb | 7.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 18900.00 | 189.00 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.18 | 0.05 | ppb | 101.56 | 900.00 | |
| 51 V | 45 | 2 | -26.74 | -0.27 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | -7.44 | -0.07 | ppb | 0.98 | 900.00 | |
| 55 Mn | 45 | 2 | 3755.00 | 37.55 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 13610.00 | 136.10 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 8.00 | 0.08 | ppb | 4.83 | 900.00 | |
| 60 Ni | 45 | 2 | 8.61 | 0.09 | ppb | 8.13 | 900.00 | |
| 63 Cu | 72 | 2 | 2.90 | 0.03 | ppb | 5.58 | 900.00 | |
| 66 Zn | 72 | 2 | 583.70 | 5.84 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 1645.00 | 16.45 | ppb | 0.84 | 900.00 | |
| 78 Se | 72 | 2 | 2.07 | 0.02 | ppb | 345.62 | 900.00 | |
| 88 Sr | 103 | 1 | 163.60 | 1.64 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 11.73 | 0.12 | ppb | 37.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.31 | 0.00 | ppb | 89.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.00 | ppb | 321.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.39 | 0.00 | ppb | 81.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.00 | ppb | 442.41 | 900.00 | |
| 137 Ba | 159 | 1 | 7.05 | 0.07 | ppb | 12.42 | 900.00 | |
| 205 Tl | 209 | 1 | -0.67 | -0.01 | ppb | 79.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.71 | 0.01 | ppb | 83.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1805004 | 1.43 | 1541753 | 117.1 | 70 - 130 | |
| 45 Sc | 1 | 3785050 | 0.09 | 3631305 | 104.2 | 70 - 130 | |
| 45 Sc | 2 | 470123 | 0.41 | 481685 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 812636 | 0.69 | 789766 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 188719 | 0.48 | 188977 | 99.9 | 70 | - | 130 |
| 103 | Rh | 1 | 4534220 | 0.33 | 4377551 | 103.6 | 70 | - | 130 |
| 115 | In | 1 | 4888370 | 0.54 | 4716351 | 103.6 | 70 | - | 130 |
| 115 | In | 2 | 1426495 | 0.66 | 1391932 | 102.5 | 70 | - | 130 |
| 159 | Tb | 1 | 5896234 | 0.31 | 5566587 | 105.9 | 70 | - | 130 |
| 175 | Lu | 1 | 5478669 | 0.62 | 5216106 | 105.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2892850 | 1.27 | 2810000 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D# |
| Date Acquired: | Apr 20 2013 04:10 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2310 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.53 | 0.53 | ppb | 5.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.54 | 0.54 | ppb | 8.40 | 900.00 | |
| 11 B | 6 | 1 | 4.84 | 4.84 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | 5.12 | 5.12 | ppb | 11.24 | 900.00 | |
| 23 Na | 45 | 1 | 328.60 | 328.60 | ppb | 6.80 | 90000.00 | |
| 23 Na | 45 | 2 | 314.50 | 314.50 | ppb | 3.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 279.20 | 279.20 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.10 | 285.10 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 1 | 42.07 | 42.07 | ppb | 15.60 | 90000.00 | |
| 27 Al | 45 | 2 | 34.15 | 34.15 | ppb | 6.55 | 90000.00 | |
| 39 K | 45 | 1 | 280.00 | 280.00 | ppb | 2.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 296.60 | 296.60 | ppb | 2.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 1.33 | ppb | 8.55 | 900.00 | |
| 51 V | 45 | 2 | 1.07 | 1.07 | ppb | 1.68 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 1.35 | 1.35 | ppb | 3.72 | 900.00 | |
| 56 Fe | 45 | 2 | 39.97 | 39.97 | ppb | 6.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 2.76 | 900.00 | |
| 63 Cu | 72 | 2 | 3.77 | 3.77 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 6.59 | 6.59 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.58 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.45 | 0.45 | ppb | 8.69 | 900.00 | |
| 88 Sr | 103 | 1 | 5.17 | 5.17 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 1.28 | ppb | 8.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.58 | 0.58 | ppb | 3.35 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 6.54 | 900.00 | |
| 120 Sn | 115 | 1 | 4.86 | 4.86 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.58 | 0.58 | ppb | 2.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.84 | 1.84 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 1.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.57 | 0.57 | ppb | 1.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1659536 | 0.96 | 1541753 | 107.6 | 70 - 130 | |
| 45 Sc | 1 | 3713483 | 0.83 | 3631305 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 461597 | 0.58 | 481685 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 802924 | 1.48 | 789766 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 185204 | 0.55 | 188977 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 4488388 | 0.36 | 4377551 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 4841043 | 0.82 | 4716351 | 102.6 | 70 | - | 130 |
| 115 In | 2 | 1409541 | 1.16 | 1391932 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5871071 | 0.53 | 5566587 | 105.5 | 70 | - | 130 |
| 175 Lu | 1 | 5460627 | 0.18 | 5216106 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 2937529 | 0.67 | 2810000 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#
Date Acquired: Apr 20 2013 04:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.78 | 49.78 | ppb | 1.68 | 900.00 | |
| 9 Be | 45 | 2 | 52.57 | 52.57 | ppb | 1.90 | 900.00 | |
| 11 B | 6 | 1 | 49.28 | 49.28 | ppb | 1.06 | 900.00 | |
| 11 B | 45 | 2 | 51.79 | 51.79 | ppb | 2.33 | 900.00 | |
| 23 Na | 45 | 1 | 5294.00 | 5294.00 | ppb | 1.48 | 90000.00 | |
| 23 Na | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 5239.00 | 5239.00 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 5201.00 | 5201.00 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 1 | 5225.00 | 5225.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 5203.00 | 5203.00 | ppb | 0.74 | 90000.00 | |
| 39 K | 45 | 1 | 5195.00 | 5195.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 5189.00 | 5189.00 | ppb | 1.01 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.28 | 49.28 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 50.73 | 50.73 | ppb | 0.72 | 900.00 | |
| 52 Cr | 45 | 2 | 49.60 | 49.60 | ppb | 0.85 | 900.00 | |
| 55 Mn | 45 | 2 | 49.54 | 49.54 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 5244.00 | 5244.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 49.58 | 49.58 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 48.95 | 48.95 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 47.76 | 47.76 | ppb | 0.88 | 900.00 | |
| 66 Zn | 72 | 2 | 49.24 | 49.24 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 49.80 | 49.80 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 49.92 | 49.92 | ppb | 2.49 | 900.00 | |
| 88 Sr | 103 | 1 | 52.08 | 52.08 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 50.44 | 50.44 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 50.64 | 50.64 | ppb | 0.98 | 180.00 | |
| 111 Cd | 115 | 2 | 49.30 | 49.30 | ppb | 0.75 | 900.00 | |
| 120 Sn | 115 | 1 | 50.51 | 50.51 | ppb | 0.67 | 900.00 | |
| 121 Sb | 115 | 1 | 51.22 | 51.22 | ppb | 0.55 | 900.00 | |
| 137 Ba | 159 | 1 | 48.64 | 48.64 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 48.46 | 48.46 | ppb | 1.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.46 | 50.46 | ppb | 1.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1676020 | 1.22 | 1541753 | 108.7 | 70 - 130 | |
| 45 Sc | 1 | 3690310 | 0.37 | 3631305 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 455080 | 0.77 | 481685 | 94.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 783200 | 0.52 | 789766 | 99.2 | 70 - | 130 |
| 72 | Ge | 2 | 181522 | 0.35 | 188977 | 96.1 | 70 - | 130 |
| 103 | Rh | 1 | 4338534 | 0.35 | 4377551 | 99.1 | 70 - | 130 |
| 115 | In | 1 | 4733735 | 0.19 | 4716351 | 100.4 | 70 - | 130 |
| 115 | In | 2 | 1370561 | 1.04 | 1391932 | 98.5 | 70 - | 130 |
| 159 | Tb | 1 | 5875951 | 0.50 | 5566587 | 105.6 | 70 - | 130 |
| 175 | Lu | 1 | 5448522 | 0.42 | 5216106 | 104.5 | 70 - | 130 |
| 209 | Bi | 1 | 2891543 | 1.89 | 2810000 | 102.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#
**Date Acquired:** Apr 20 2013 04:24 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 42.25 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 73.12 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.13 | ppb | 17.17 | 900.00 | |
| 11 B | 45 | 2 | 0.04 | 0.04 | ppb | 164.87 | 900.00 | |
| 23 Na | 45 | 1 | 38.63 | 38.63 | ppb | 13.34 | 90000.00 | |
| 23 Na | 45 | 2 | 33.92 | 33.92 | ppb | 5.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 20.31 | 20.31 | ppb | 7.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 19.27 | 19.27 | ppb | 3.23 | 90000.00 | |
| 27 Al | 45 | 1 | 19.64 | 19.64 | ppb | 7.19 | 90000.00 | |
| 27 Al | 45 | 2 | 18.48 | 18.48 | ppb | 2.20 | 90000.00 | |
| 39 K | 45 | 1 | 21.36 | 21.36 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.91 | 12.91 | ppb | 15.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.38 | 0.38 | ppb | 12.84 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 6.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 163.11 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 30.06 | 900.00 | |
| 56 Fe | 45 | 2 | 19.94 | 19.94 | ppb | 2.64 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 10.73 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 10.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 22.63 | 900.00 | |
| 66 Zn | 72 | 2 | 0.08 | 0.08 | ppb | 4.00 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 30.41 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 600.29 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 39.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.43 | ppb | 2.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 22.69 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 14.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 7.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 30.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 35.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 43.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1693020 | 0.83 | 1541753 | 109.8 | 70 - 130 | |
| 45 Sc | 1 | 3686463 | 1.14 | 3631305 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 460499 | 0.84 | 481685 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 795560 | 0.79 | 789766 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 184806 | 0.64 | 188977 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 4479422 | 0.35 | 4377551 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 4822240 | 0.99 | 4716351 | 102.2 | 70 | - | 130 |
| 115 In | 2 | 1401268 | 0.47 | 1391932 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 5753741 | 0.77 | 5566587 | 103.4 | 70 | - | 130 |
| 175 Lu | 1 | 5423778 | 0.44 | 5216106 | 104.0 | 70 | - | 130 |
| 209 Bi | 1 | 2984527 | 0.34 | 2810000 | 106.2 | 70 | - | 130 |

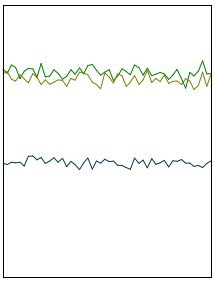
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

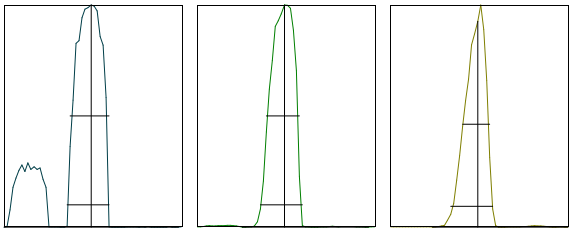
# Tune Report

Tune File : nogas.u
Comment : 042013



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2145.0 | 2109.0 | 3.00 | 2.10 |
| 89 | 10,000 | 7495.0 | 7542.1 | 2.47 | 2.90 |
| 205 | 5,000 | 3751.0 | 3638.3 | 2.46 | 15.10 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.068%
Doubly Charged: 70/140 3.485%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,159 | 7,663 | 3,603 |
| Axis: | 7.00 | 89.00 | 205.00 |
| W-50%: | 0.65 | 0.55 | 0.45 |
| W-10%: | 0.700 | 0.700 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.08 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 393.8 | 6.75 |
| 59 | 1848.6 | 3.29 |
| 89 | 1852.6 | 3.10 |

Integration Time: 0.1000sec



Generated : Apr 20, 2013 10:36:46
Printed : Apr 20, 2013 10:37:38

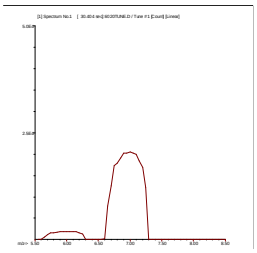
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 20 2013 10:56 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

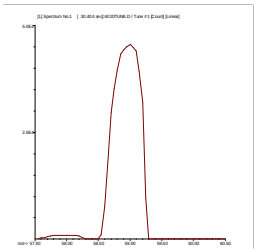
**QC Tune Summary:**
**Pass**

**RSD%**

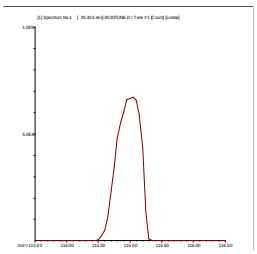
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.26 | 5.00 | 0 |
| 59 Co | 0.69 | 5.00 | |
| 115 In | 0.53 | 5.00 | |
| 205 Tl | 2.86 | 5.00 | |



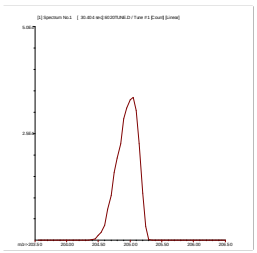
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 22, 2013 11:26 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

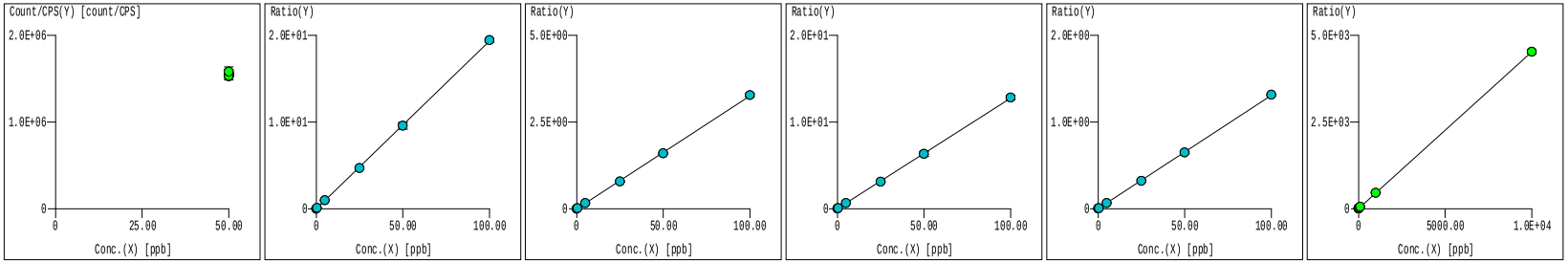
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d20l00.b\002calb.d\002calb.d# | STDA | Apr 20 2013 11:17 am |
| 2 | c:\icpchem\1\data\13d20l00.b\003cals.d\003cals.d# | STDB | Apr 20 2013 11:24 am |
| 3 | c:\icpchem\1\data\13d20l00.b\004cals.d\004cals.d# | STDC | Apr 20 2013 11:32 am |
| 4 | c:\icpchem\1\data\13d20l00.b\005cals.d\005cals.d# | STDD | Apr 20 2013 11:39 am |
| 5 | c:\icpchem\1\data\13d20l00.b\006cals.d\006cals.d# | STDE | Apr 20 2013 11:48 am |
| 6 | c:\icpchem\1\data\13d20l00.b\007cals.d\007cals.d# | STDF | Apr 20 2013 11:55 am |
| 7 | c:\icpchem\1\data\13d20l00.b\008cals.d\008cals.d# | STDG | Apr 20 2013 12:02 pm |
| 8 | c:\icpchem\1\data\13d20l00.b\009cals.d\009cals.d# | STDH | Apr 20 2013 12:09 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

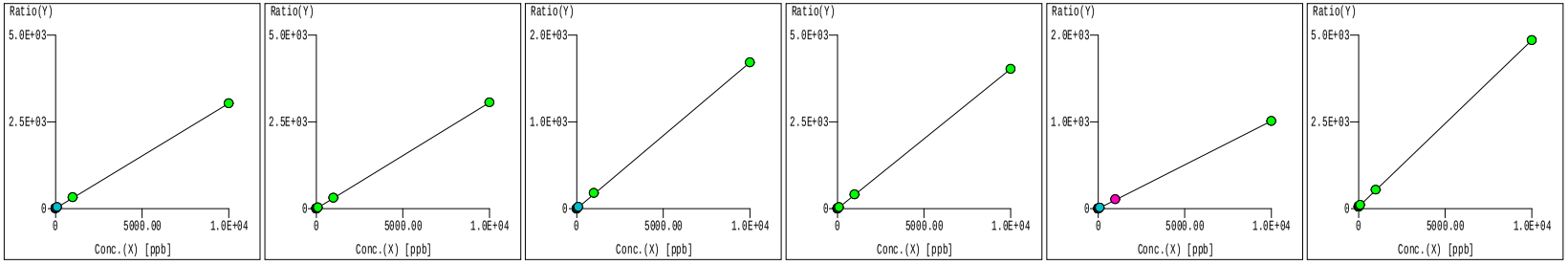
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 4.373E-03 ppb | 3.728E-02 ppb | 8.232E-02 ppb | 2.757E-01 ppb | 4.200E-01 ppb |
| < BEC > | --- ppb | 6.701E-03 ppb | 7.174E-03 ppb | 1.724E-01 ppb | 1.498E-01 ppb | 15.81 ppb |



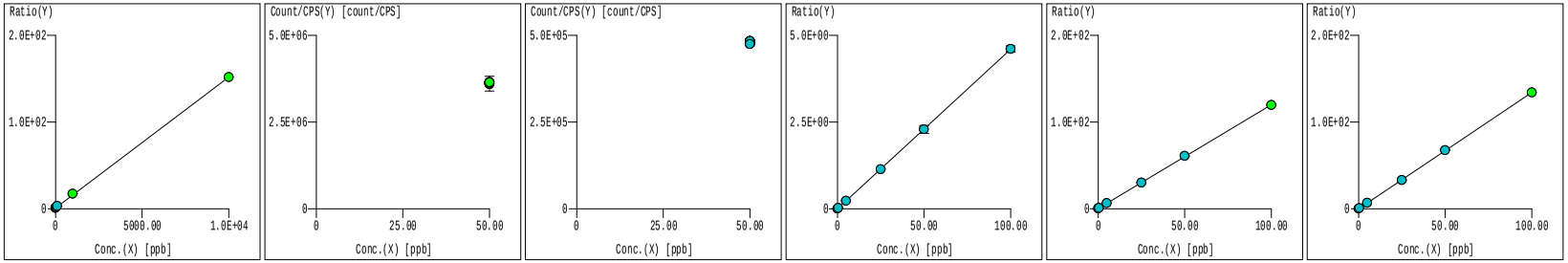

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.078 ppb | 4.198E-02 ppb | 5.471E-02 ppb | 1.381E-02 ppb | 2.846E-01 ppb | 1.186 ppb |
| < BEC > | 29.46 ppb | 1.877E-01 ppb | 2.120E-01 ppb | 6.445E-01 ppb | 6.937E-01 ppb | 113.9 ppb |



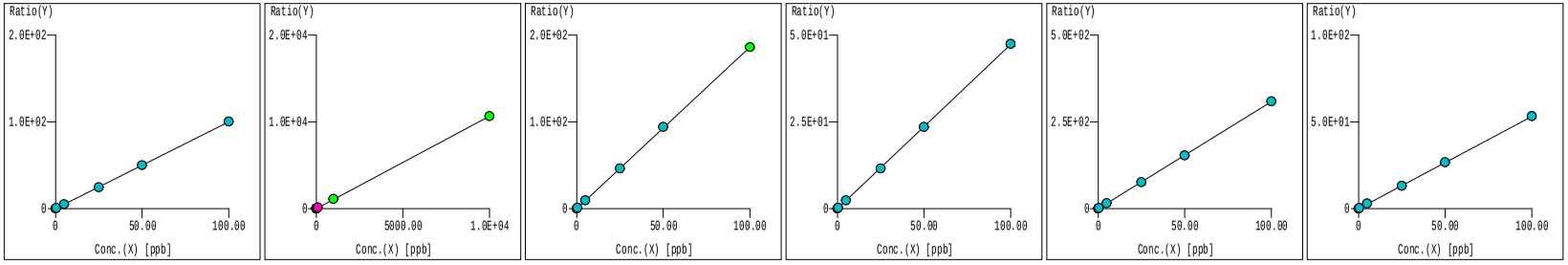
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.708 ppb | --- ppb | --- ppb | 1.527E-02 ppb | 2.517E-02 ppb | 1.025E-02 ppb |
| < BEC > | 71.42 ppb | --- ppb | --- ppb | 6.987E-02 ppb | 3.599E-01 ppb | 1.059E-01 ppb |



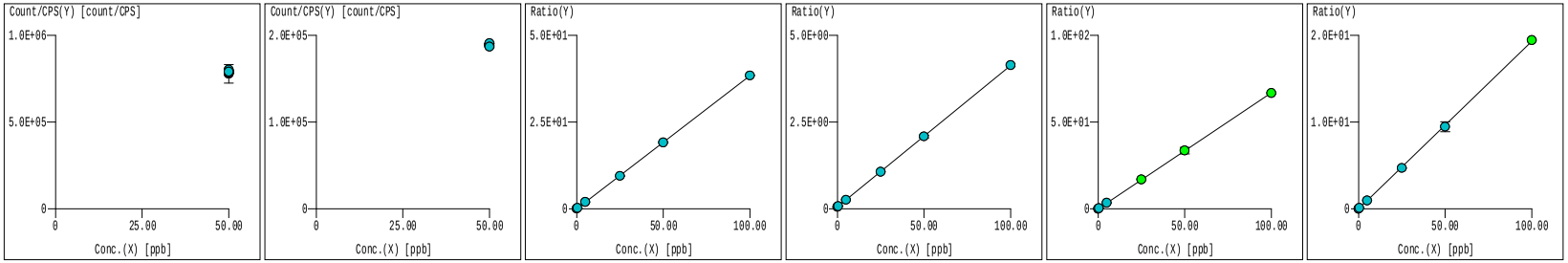

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 2.201E-02 ppb | 2.887E-02 ppb | 2.222E-03 ppb | 1.997E-02 ppb | 9.650E-03 ppb | 1.606E-02 ppb |
| < BEC > | 1.323E-01 ppb | 3.891 ppb | 3.717E-03 ppb | 5.785E-02 ppb | 9.167E-02 ppb | 7.311E-02 ppb |



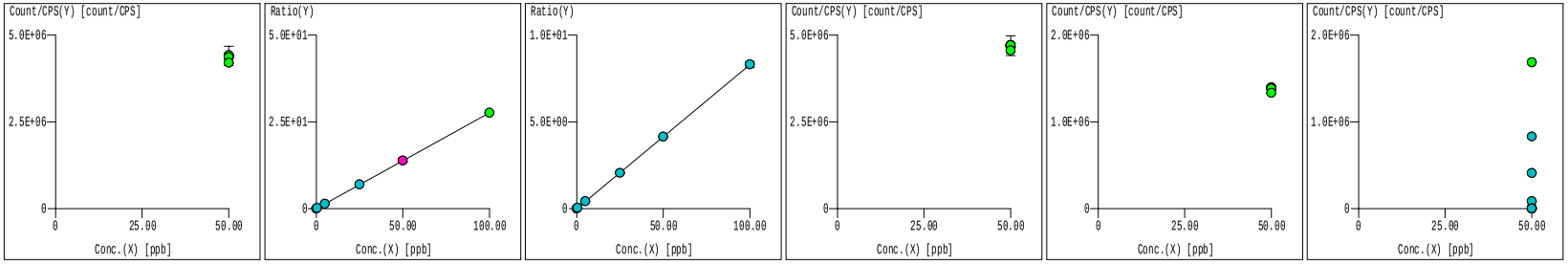
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 1.328E-02 ppb | 3.408E-01 ppb | 1.560E-03 ppb | 6.138E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.112E-01 ppb | 1.346 ppb | 9.591E-03 ppb | 1.171E-02 ppb |



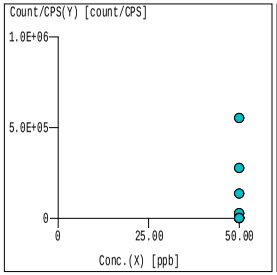

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.642E-03 ppb | 8.622E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.150E-03 ppb | 4.310E-03 ppb | --- ppb | --- ppb | --- ppb |

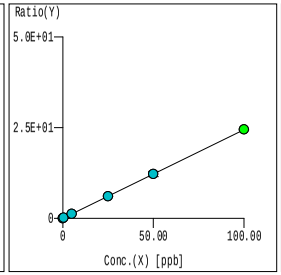


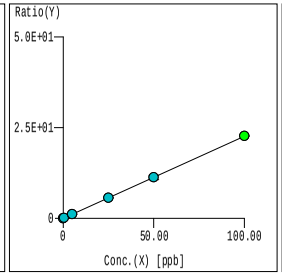
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

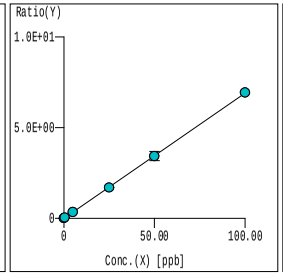
=== Graph Summary ===
Page: 4/4

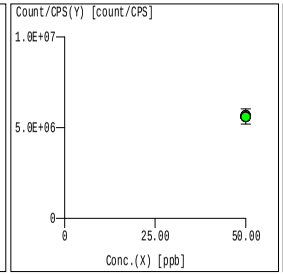
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.672E-03 ppb | 4.486E-03 ppb | 1.676E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.045E-02 ppb | 1.191E-02 ppb | 9.094E-02 ppb | --- ppb | --- ppb |

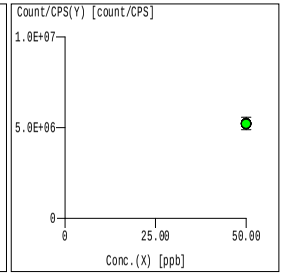


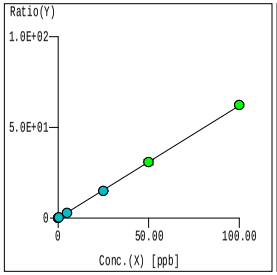



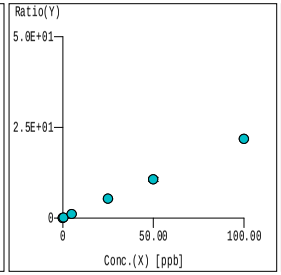



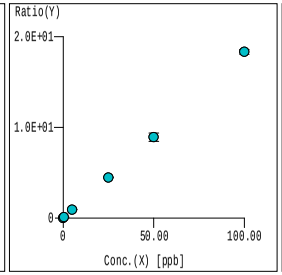



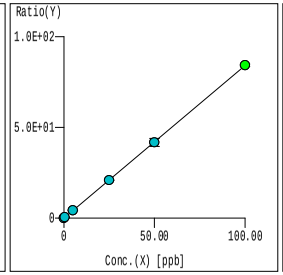



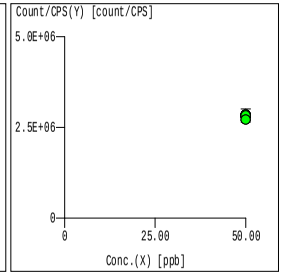

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
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| < BEC > | 3.847E-02 ppb | --- ppb | --- ppb | 1.641E-02 ppb | --- ppb |



ACCUTEST

| Date: | 04/12/13 |
|---|---|
| Time | 16:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20767 |
| QC Sample ID: | MC19762-2F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| Aqueous EPA 200.7/ 200.8 | ○ |
|---|---|
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 93 | Factor | 0 | Corrected Temp C | 93 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20767-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20767-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20767-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19637-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-3F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 04/15/13

(Format edits must be done by dept. Manager)

ACCUTEST

| Date: | 04/13/13 |
|---|---|
| Time | 13:25 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20768 |
| QC Sample ID: | MC19762-4F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35118-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35061-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20768-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20768-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20768-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20768-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20768-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-5F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-7F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-8F | 50 | 50 | | | | 3 | 5 | | |
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Protected Worksheet MMP003-02 QC Review PuiY Date: 04/15/13

(Format edits must be done by dept. Manager)

7.4.2

7

ACCUTEST

| Date: | 04/16/13 |
|---|---|
| Time | 16:57 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20781 |
| QC Sample ID: | MC19762-9F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35119-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35071-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20781-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20781-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20781-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20781-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20781-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-10F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-12F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-14F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-15F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-16F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-9F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/20/13

**(Format edits must be done by dept. Manager)**

7.4.3

7

ACCUTEST

| Date: | 04/17/13 |
|---|---|
| Time | 16:22 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20790 |
| QC Sample ID: | MC19762-17F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35119-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 94 | Factor | 0 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20790-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20790-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-1F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/20/13

**(Format edits must be done by dept. Manager)**

New England ACCUTEST LABORATORIES

04/25/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC19884

Sampling Dates: 04/16/13 - 04/22/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **686**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.



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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC19884

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19884-1F | 04/16/13 | 16:20 | CMH | 04/16/13 | AQ | Equip Blank Filtered | RB-041613-U |
| MC19884-2F | 04/17/13 | 09:30 | CMH | 04/17/13 | AQ | Groundwater Filtered | GP-13-03-040 |
| MC19884-3F | 04/17/13 | 10:55 | CMH | 04/17/13 | AQ | Groundwater Filtered | GP-13-03-050 |
| MC19884-4F | 04/17/13 | 14:25 | CMH | 04/17/13 | AQ | Groundwater Filtered | GP-13-06-020 |
| MC19884-4FD | 04/17/13 | 14:25 | CMH | 04/17/13 | AQ | Water Dup/MSD | GP-13-06-020 |
| MC19884-4FS | 04/17/13 | 14:25 | CMH | 04/17/13 | AQ | Water Matrix Spike | GP-13-06-020 |
| MC19884-5F | 04/17/13 | 15:35 | CMH | 04/17/13 | AQ | Groundwater Filtered | GP-13-06-030 |
| MC19884-6F | 04/17/13 | 00:00 | CMH | 04/17/13 | AQ | Groundwater Filtered | DUP-041713-F |
| MC19884-7F | 04/17/13 | 16:20 | CMH | 04/17/13 | AQ | Equip Blank Filtered | RB-041713-U |
| MC19884-8F | 04/18/13 | 10:55 | CMH | 04/18/13 | AQ | Groundwater Filtered | GP-13-06-040 |
| MC19884-9F | 04/18/13 | 11:55 | CMH | 04/18/13 | AQ | Groundwater Filtered | GP-13-06-050 |
| MC19884-10F | 04/18/13 | 13:15 | CMH | 04/18/13 | AQ | Groundwater Filtered | GW-13-06-058 |
| MC19884-11F | 04/18/13 | 15:25 | CMH | 04/18/13 | AQ | Groundwater Filtered | GP-13-07-021 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC19884

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC19884-12F | 04/18/13 | 16:00 | CMH | 04/18/13 | AQ | Equip Blank Filtered | RB-041813-U |
| MC19884-13F | 04/19/13 | 09:30 | CMH | 04/19/13 | AQ | Groundwater Filtered | GP-13-07-031 |
| MC19884-14F | 04/19/13 | 10:35 | CMH | 04/19/13 | AQ | Groundwater Filtered | GP-13-07-041 |
| MC19884-15F | 04/19/13 | 11:35 | CMH | 04/19/13 | AQ | Groundwater Filtered | GP-13-07-048 |
| MC19884-16F | 04/19/13 | 12:30 | CMH | 04/19/13 | AQ | Groundwater Filtered | RB-041913-U |
| MC19884-17F | 04/22/13 | 10:25 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-025 |
| MC19884-18F | 04/22/13 | 00:00 | CMH | 04/22/13 | AQ | Groundwater Filtered | DUP-042213-F |
| MC19884-19F | 04/22/13 | 11:25 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-035 |
| MC19884-20F | 04/22/13 | 12:30 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-045 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC19884

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 4/25/2013 5:38:36 PM

20 Sample(s) were collected on between 04/16/2013 and 04/22/2013 and were received at Accutest between 04/16/2013 and 04/22/2013 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC19884. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP20790

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19762-17FMS, MC19762-17FMSD, MC19762-17FPS, MC19762-17FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20790-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix** AQ **Batch ID:** MP20797

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19884-2FMS, MC19884-2FMSD, MC19884-2FPS, MC19884-2FSDL were used as the QC samples for metals.

**Matrix** AQ **Batch ID:** MP20808

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19884-4FMS, MC19884-4FMSD, MC19884-4FPS, MC19884-4FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20808-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix** AQ **Batch ID:** MP20810

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19884-15FMS, MC19884-15FMSD, MC19884-15FSDL, MC19884-15FPS were used as the QC samples for metals.
- MP20810-PS1 for Arsenic: Post-digestion spike recoveries outside of control limits indicate possible matrix interference.
- MC19884-15F for Arsenic: Post-digestion spike recovery outside of the control limit.

**Matrix** AQ **Batch ID:** MP20828

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP20828

- Sample(s) MC19884-17FMS, MC19884-17FMSD, MC19884-17FPS, MC19884-17FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20828-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC19884).

# Summary of Hits

**Job Number:** MC19884
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/16/13 thru 04/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC19884-1F** | **RB-041613-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19884-2F** | **GP-13-03-040** | | | | | |
| Arsenic | | 22.6 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-3F** | **GP-13-03-050** | | | | | |
| Arsenic | | 357 | 5.0 | | ug/l | SW846 6020A |
| **MC19884-4F** | **GP-13-06-020** | | | | | |
| Arsenic | | 1.0 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-5F** | **GP-13-06-030** | | | | | |
| Arsenic | | 236 | 5.0 | | ug/l | SW846 6020A |
| **MC19884-6F** | **DUP-041713-F** | | | | | |
| Arsenic | | 244 | 5.0 | | ug/l | SW846 6020A |
| **MC19884-7F** | **RB-041713-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19884-8F** | **GP-13-06-040** | | | | | |
| Arsenic | | 3380 | 50 | | ug/l | SW846 6020A |
| **MC19884-9F** | **GP-13-06-050** | | | | | |
| Arsenic | | 1650 | 50 | | ug/l | SW846 6020A |
| **MC19884-10F** | **GW-13-06-058** | | | | | |
| Arsenic | | 85.0 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-11F** | **GP-13-07-021** | | | | | |
| Arsenic | | 1.8 | 1.0 | | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC19884
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/16/13 thru 04/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC19884-12F** | **RB-041813-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19884-13F** | **GP-13-07-031** | | | | | |
| Arsenic | | 3170 | 50 | | ug/l | SW846 6020A |
| **MC19884-14F** | **GP-13-07-041** | | | | | |
| Arsenic | | 1650 | 25 | | ug/l | SW846 6020A |
| **MC19884-15F** | **GP-13-07-048** | | | | | |
| Arsenic [a] | | 135 J | 2.5 | | ug/l | SW846 6020A |
| **MC19884-16F** | **RB-041913-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC19884-17F** | **GP-13-08-025** | | | | | |
| Arsenic | | 1.7 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-18F** | **DUP-042213-F** | | | | | |
| Arsenic | | 1.7 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-19F** | **GP-13-08-035** | | | | | |
| Arsenic | | 1.5 | 1.0 | | ug/l | SW846 6020A |
| **MC19884-20F** | **GP-13-08-045** | | | | | |
| Arsenic | | 1.9 | 1.0 | | ug/l | SW846 6020A |

(a) Post-digestion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041613-U | | |
| **Lab Sample ID:** | MC19884-1F | **Date Sampled:** | 04/16/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/16/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/17/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20790

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-03-040 | | |
| **Lab Sample ID:** | MC19884-2F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 22.6 | 1.0 | ug/l | 2 | 04/18/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20797

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-03-050 | | |
| **Lab Sample ID:** | MC19884-3F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 357 | 5.0 | ug/l | 10 | 04/18/13 | 04/19/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15477
(2) Prep QC Batch: MP20797

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-06-020 | | |
| **Lab Sample ID:** | MC19884-4F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.0 | 1.0 | ug/l | 2 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-06-030 | | |
| **Lab Sample ID:** | MC19884-5F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 236 | 5.0 | ug/l | 10 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-041713-F | | |
| **Lab Sample ID:** | MC19884-6F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 244 | 5.0 | ug/l | 10 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041713-U | | |
| **Lab Sample ID:** | MC19884-7F | **Date Sampled:** | 04/17/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/17/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-06-040 | | |
| **Lab Sample ID:** | MC19884-8F | **Date Sampled:** | 04/18/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/18/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3380 | 50 | ug/l | 100 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-06-050 | | |
| **Lab Sample ID:** | MC19884-9F | **Date Sampled:** | 04/18/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/18/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1650 | 50 | ug/l | 100 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GW-13-06-058 | | |
| **Lab Sample ID:** | MC19884-10F | **Date Sampled:** | 04/18/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/18/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 85.0 | 1.0 | ug/l | 2 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-07-021 | | |
| **Lab Sample ID:** | MC19884-11F | **Date Sampled:** | 04/18/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/18/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.8 | 1.0 | ug/l | 2 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041813-U | | |
| **Lab Sample ID:** | MC19884-12F | **Date Sampled:** | 04/18/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/18/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/19/13 | 04/20/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15480
(2) Prep QC Batch: MP20808

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-07-031 | | |
| **Lab Sample ID:** | MC19884-13F | **Date Sampled:** | 04/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3170 | 50 | ug/l | 100 | 04/20/13 | 04/22/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15487
(2) Prep QC Batch: MP20810

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-07-041 | | |
| **Lab Sample ID:** | MC19884-14F | **Date Sampled:** | 04/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1650 | 25 | ug/l | 50 | 04/20/13 | 04/22/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15487
(2) Prep QC Batch: MP20810

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-07-048 | | |
| **Lab Sample ID:** | MC19884-15F | **Date Sampled:** | 04/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic [a] | 135 J | 2.5 | ug/l | 5 | 04/20/13 | 04/22/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15487
(2) Prep QC Batch: MP20810

(a) Post-digestion spike recovery outside of the control limit.

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-041913-U | | |
| **Lab Sample ID:** | MC19884-16F | **Date Sampled:** | 04/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/20/13 | 04/22/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15486
(2) Prep QC Batch: MP20810

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-025 | | |
| **Lab Sample ID:** | MC19884-17F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.7 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-042213-F | | |
| **Lab Sample ID:** | MC19884-18F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.7 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-035 | | |
| **Lab Sample ID:** | MC19884-19F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.5 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-045 | | |
| **Lab Sample ID:** | MC19884-20F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.9 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

PAGE 1 OF 1

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19884

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Dissolved As - 6020A

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | MB 041613-U | UA | 4-16-13 | 1620 | CMH | AQ | 1 | | | X | | | | | | Y | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG #3 - open
Custody Seal #041613-3 #041613-21

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/16/13 16:30 | 1 | 2 | 4/16/13 1715 | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | Custody Seal # | Intact / Not intact | Preserved where applicable | On Ice ✓ | Cooler Temp. 1.2 C |

**MC19884: Chain of Custody**
**Page 1 of 7**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 12

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC19884

## Client / Reporting Information

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SR Phone #:

## Project Information

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

## Requested Analysis ( see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MeOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -2 | GP-13-03-040 | NA | 4-17-13 | 0930 | CMH | GW | 1 | | | | X | | | | | X | |
| -3 | GP-13-03-050 | NA | 4-17-13 | 1055 | CMH | GW | 1 | | | | X | | | | | X | |
| | | | | | | | | | | | | | | | | | 6D |

## Turnaround Time ( Business days)

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labilink

Approved by: **RUSH!**

## Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

## Comments / Special Instructions

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG # 3- open
Custody Seal #04173 & #04173-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date/Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4/17/13 12:15 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [ ] Intact [ ] Not intact | Preserved where applicable [ ] On Ice [✓] Cooler Temp. 5.4°C |

**MC19884: Chain of Custody**
**Page 2 of 7**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 3 OF 16

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19884

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Dissolved As - 6020A

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4F | GP-13-06-020 | NA | 4-17-13 | 1425 | CMH | GW | 3 | | | X | | | | | | X | MS/MSD |
| -5F | GP-13-06-030 | NA | 4-17-13 | 1535 | CMH | GW | 1 | | | X | | | | | | X | |
| -6F | DUP-041713-F | NA | 4-17-13 | — | CMH | GW | 1 | | | X | | | | | | X | |
| -7F | RB-041713-U | NA | 4-17-13 | 1620 | CMH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 6D |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____ / _____

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG#3-open
Custody Seals #041713-3 #041713-4

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-17-13 1603 | | | | |
| 2 | | | | | 4/17/13 1708 | |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 4 | | | | | | |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not Intact | Preserved where applicable / On Ice / Cooler Temp. |
| | | | | | | 13.8°c |

**MC19884: Chain of Custody**
**Page 3 of 7**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 4 OF 16

FED-EX Tracking # | Bottle Order Control # 411813
Accutest Quote # | Accutest Job # MC19884

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, DSH Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State Zip
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -8F | GP-13-06-040 | N/A | 4-15-13 | 1055 | CMH | GW | 1 | | | X | | | | | | X | |
| -9F | GP-13-06-050 | N/A | 4-15-13 | 1155 | CMH | GW | 1 | | | X | | | | | | X | |
| -10F | GP-13-06-058 | N/A | 4-15-13 | 1315 | CMH | GW | 1 | | | X | | | | | | X | |
| -11F | GP-13-07-021 | N/A | 4-15-13 | 1525 | CMH | GW | 1 | | | X | | | | | | X | |
| -12F | TRB 041513-U | N/A | 4-15-13 | 1600 | CMH | WW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labfax

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG# 3 -open
Custody Seal # 041513-1 041513-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-15-13 1615 | | | 4-19-13 1645 | |
| 2 | | | | | | |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 4 | | | | | | |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not Intact | Preserved where applicable |

On Ice: X Cooler Temp: 0.8°



**MC19884: Chain of Custody**
**Page 4 of 7**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 5 OF 16

| FED-EX Tracking # | Bottle Order Control # 041913 |
|---|---|
| Accutest Quote # | Accutest Job # MC19884 |

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SSB Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -13F | GP-13-07-031 | NA | 4-19-13 | 0930 | CMH | GW | 1 | | | X | | | | | | X | |
| -14F | GP-13-07-041 | NA | 4-19-13 | 1035 | CMH | GW | 1 | | | X | | | | | | X | |
| -15F | GP-13-07-046 | NA | 4-19-13 | 1135 | CMH | GW | 1 | | | X | | | | | | X | |
| -16F | RB-041913-U | NA | 4-19-13 | 1230 | CMH | WW | 1 | | | X | | | | | | X | |

SAMPLES RECEIVED DIRECTLY FROM FIELD SAMPLING

GF

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG# 3 - open 041913-1
Custody Seal # 041913-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 1840 4-19-13 | | | | |
| 2 | | | | | 4-19-13 1315 | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Custody Seal # [ ] Intact [ ] Not intact
Preserved where applicable [ ]
On Ice [X] Cooler Temp. 8.7 C

**MC19884: Chain of Custody**
**Page 5 of 7**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1 4/22/13

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC19884

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SSR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Dissolved As - 6020A

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -17 | GP-13-05-025 | NA | ~~4-22-13~~ 4-22-13 | 1085 | CMH | GW | 1 | | | X | | | | | | Y | |
| -18 | DUP 042213-F | NA | 4-22-13 | — | CMH | GW | 1 | | | X | | | | | | X | |
| -19 | GP-13-05-035 | NA | 4-22-13 | 1125 | CMH | GW | 1 | | | X | | | | | | X | |
| -20 | GP-13-05-045 | NA | 4-22-13 | 1230 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~GP~~ | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 5A |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG#3 Closed
Custody Seal # 042213 # 042213 2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-22-13 1615 | | | 4-22-13 1725 | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Custody Seal # [ ] Intact [ ] Not intact | Preserved where applicable [ ] | On Ice [X] | Cooler Temp. 0°C

**MC19884: Chain of Custody**
**Page 6 of 7**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC19884 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 4/22/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS / SDG#3 **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

5.1

5

**MC19884: Chain of Custody**

**Page 7 of 7**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19884

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19884-1F | Collected: 16-APR-13 16:20 By: CMH RB-041613-U | | | Received: 16-APR-13 | By: | |
| MC19884-1S | SW846 6020A | 19-APR-13 21:29 | PY | 17-APR-13 | DA | ASMS |
| MC19884-2F | Collected: 17-APR-13 09:30 By: CMH GP-13-03-040 | | | Received: 17-APR-13 | By: | |
| MC19884-2S | SW846 6020A | 19-APR-13 21:36 | PY | 18-APR-13 | DA | ASMS |
| MC19884-3F | Collected: 17-APR-13 10:55 By: CMH GP-13-03-050 | | | Received: 17-APR-13 | By: | |
| MC19884-3S | SW846 6020A | 19-APR-13 21:43 | PY | 18-APR-13 | DA | ASMS |
| MC19884-4F | Collected: 17-APR-13 14:25 By: CMH GP-13-06-020 | | | Received: 17-APR-13 | By: | |
| MC19884-4S | SW846 6020A | 20-APR-13 13:34 | PY | 19-APR-13 | DA | ASMS |
| MC19884-5F | Collected: 17-APR-13 15:35 By: CMH GP-13-06-030 | | | Received: 17-APR-13 | By: | |
| MC19884-5S | SW846 6020A | 20-APR-13 15:42 | PY | 19-APR-13 | DA | ASMS |
| MC19884-6F | Collected: 17-APR-13 00:00 By: CMH DUP-041713-F | | | Received: 17-APR-13 | By: | |
| MC19884-6S | SW846 6020A | 20-APR-13 15:49 | PY | 19-APR-13 | DA | ASMS |
| MC19884-7F | Collected: 17-APR-13 16:20 By: CMH RB-041713-U | | | Received: 17-APR-13 | By: | |
| MC19884-7S | SW846 6020A | 20-APR-13 14:10 | PY | 19-APR-13 | DA | ASMS |
| MC19884-8F | Collected: 18-APR-13 10:55 By: CMH GP-13-06-040 | | | Received: 18-APR-13 | By: | |
| MC19884-8S | SW846 6020A | 20-APR-13 15:56 | PY | 19-APR-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19884

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19884-9F | Collected: 18-APR-13 11:55 By: CMH GP-13-06-050 | | | Received: 18-APR-13 | By: | |
| MC19884-9F | SW846 6020A | 20-APR-13 16:03 | PY | 19-APR-13 | DA | ASMS |
| MC19884-10 | Collected: 18-APR-13 13:15 By: CMH GW-13-06-058 | | | Received: 18-APR-13 | By: | |
| MC19884-10 | SW846 6020A | 20-APR-13 14:31 | PY | 19-APR-13 | DA | ASMS |
| MC19884-11 | Collected: 18-APR-13 15:25 By: CMH GP-13-07-021 | | | Received: 18-APR-13 | By: | |
| MC19884-11 | SW846 6020A | 20-APR-13 14:38 | PY | 19-APR-13 | DA | ASMS |
| MC19884-12 | Collected: 18-APR-13 16:00 By: CMH RB-041813-U | | | Received: 18-APR-13 | By: | |
| MC19884-12 | SW846 6020A | 20-APR-13 14:45 | PY | 19-APR-13 | DA | ASMS |
| MC19884-13 | Collected: 19-APR-13 09:30 By: CMH GP-13-07-031 | | | Received: 19-APR-13 | By: | |
| MC19884-13 | SW846 6020A | 22-APR-13 21:50 | PY | 20-APR-13 | SA | ASMS |
| MC19884-14 | Collected: 19-APR-13 10:35 By: CMH GP-13-07-041 | | | Received: 19-APR-13 | By: | |
| MC19884-14 | SW846 6020A | 22-APR-13 21:57 | PY | 20-APR-13 | SA | ASMS |
| MC19884-15 | Collected: 19-APR-13 11:35 By: CMH GP-13-07-048 | | | Received: 19-APR-13 | By: | |
| MC19884-15 | SW846 6020A | 22-APR-13 21:43 | PY | 20-APR-13 | SA | ASMS |
| MC19884-16 | Collected: 19-APR-13 12:30 By: CMH RB-041913-U | | | Received: 19-APR-13 | By: | |
| MC19884-16 | SW846 6020A | 22-APR-13 15:26 | PY | 20-APR-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC19884

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC19884-17 | Collected: 22-APR-13 10:25 By: CMH<br>GP-13-08-025 | | | Received: 22-APR-13 By: | | |
| MC19884-17 | SW846 6020A | 24-APR-13 19:14 | PY | 23-APR-13 | SA | ASMS |
| MC19884-18 | Collected: 22-APR-13 00:00 By: CMH<br>DUP-042213-F | | | Received: 22-APR-13 By: | | |
| MC19884-18 | SW846 6020A | 24-APR-13 19:21 | PY | 23-APR-13 | SA | ASMS |
| MC19884-19 | Collected: 22-APR-13 11:25 By: CMH<br>GP-13-08-035 | | | Received: 22-APR-13 By: | | |
| MC19884-19 | SW846 6020A | 24-APR-13 19:28 | PY | 23-APR-13 | SA | ASMS |
| MC19884-20 | Collected: 22-APR-13 12:30 By: CMH<br>GP-13-08-045 | | | Received: 22-APR-13 By: | | |
| MC19884-20 | SW846 6020A | 24-APR-13 19:35 | PY | 23-APR-13 | SA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC19884
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/16/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19884-1F.1 | Walk In Ref #5 | Sarah Ayaz | 04/17/13 13:14 | Retrieve from Storage |
| MC19884-1F.1 | Sarah Ayaz | Walk In Ref #5 | 04/17/13 16:24 | Return to Storage |
| MC19884-2F.1 | Walk In Ref #5 | Dorina Antonovici | 04/18/13 09:24 | Retrieve from Storage |
| MC19884-2F.1 | Dorina Antonovici | Walk In Ref #5 | 04/18/13 10:37 | Return to Storage |
| MC19884-3F.1 | Walk In Ref #5 | Dorina Antonovici | 04/18/13 09:24 | Retrieve from Storage |
| MC19884-3F.1 | Dorina Antonovici | Walk In Ref #5 | 04/18/13 10:37 | Return to Storage |
| MC19884-4F.2 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-4F.2 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-5F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-5F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-6F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-6F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-7F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-7F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-8F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-8F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-9F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-9F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-10F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-10F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-11F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-11F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-12F.1 | Walk In Ref #5 | Dorina Antonovici | 04/19/13 15:19 | Retrieve from Storage |
| MC19884-12F.1 | Dorina Antonovici | Walk In Ref #5 | 04/19/13 16:03 | Return to Storage |
| MC19884-13F.1 | Walk In Ref #5 | Sarah Ayaz | 04/20/13 10:21 | Retrieve from Storage |
| MC19884-13F.1 | Sarah Ayaz | Walk In Ref #5 | 04/23/13 07:57 | Return to Storage |
| MC19884-14F.1 | Walk In Ref #5 | Sarah Ayaz | 04/20/13 10:21 | Retrieve from Storage |
| MC19884-14F.1 | Sarah Ayaz | Walk In Ref #5 | 04/23/13 07:57 | Return to Storage |
| MC19884-15F.1 | Walk In Ref #5 | Sarah Ayaz | 04/20/13 10:21 | Retrieve from Storage |
| MC19884-15F.1 | Sarah Ayaz | Walk In Ref #5 | 04/23/13 07:57 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC19884
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/16/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC19884-16F.1 | Walk In Ref #5 | Sarah Ayaz | 04/20/13 10:21 | Retrieve from Storage |
| MC19884-16F.1 | Sarah Ayaz | Walk In Ref #5 | 04/23/13 07:57 | Return to Storage |
| MC19884-17F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC19884-17F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC19884-18F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC19884-18F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC19884-19F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC19884-19F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC19884-20F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC19884-20F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:57 | MA15477-STD1 | 1 | | STDA |
| 18:04 | MA15477-STD2 | 1 | | STDB |
| 18:11 | MA15477-STD3 | 1 | | STDC |
| 18:19 | MA15477-STD4 | 1 | | STDD |
| 18:26 | MA15477-STD5 | 1 | | STDE |
| 18:33 | MA15477-STD6 | 1 | | STDF |
| 18:39 | MA15477-STD7 | 1 | | STDG |
| 18:46 | MA15477-STD8 | 1 | | STDH |
| 18:53 | MA15477-ICV1 | 1 | | |
| 19:00 | MA15477-ICB1 | 1 | | |
| 19:07 | MA15477-CCV1 | 1 | | |
| 19:14 | MA15477-CCB1 | 1 | | |
| 19:21 | MA15477-CRI1 | 1 | | |
| 19:28 | MA15477-ICSA1 | 1 | | |
| 19:36 | MA15477-ICSAB1 | 1 | | |
| 19:43 | ZZZZZZ | 1 | | RINSECONF |
| 19:50 | MC19762-9F | 2 | | (sample used for QC only; not part of login MC19884) |
| 19:57 | ZZZZZZ | 2 | | |
| 20:04 | ZZZZZZ | 2 | | |
| 20:11 | ZZZZZZ | 2 | | |
| 20:18 | ZZZZZZ | 2 | | |
| 20:25 | ZZZZZZ | 2 | | |
| 20:32 | MA15477-CCV2 | 1 | | |
| 20:39 | MA15477-CCB2 | 1 | | |
| 20:47 | ZZZZZZ | 2 | | |
| 20:54 | ZZZZZZ | 2 | | |
| 21:01 | MC19762-17F | 2 | | (sample used for QC only; not part of login MC19884) |
| 21:08 | ZZZZZZ | 2 | | |
| 21:15 | ZZZZZZ | 2 | | |
| 21:22 | ZZZZZZ | 2 | | |
| 21:29 | MC19884-1F | 2 | | |
| 21:36 | MC19884-2F | 2 | | |
| 21:43 | MC19884-3F | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:50 | MA15477-CRI2 | 1 | | |
| 21:57 | MA15477-CCV3 | 1 | | |
| 22:04 | MA15477-CCB3 | 1 | | |
| 22:11 | MP20781-MB1 | 2 | | |
| 22:18 | MP20790-MB1 | 2 | | |
| 22:25 | MP20797-MB1 | 2 | | |
| 22:32 | MP20781-B1 | 20 | | |
| 22:39 | MP20781-S1 | 20 | | |
| 22:46 | MP20781-S2 | 20 | | |
| 22:53 | MP20781-SD1 | 10 | | |
| 23:00 | MP20781-PS1 | 2 | | |
| 23:07 | MP20790-B1 | 20 | | |
| 23:15 | MP20790-S1 | 20 | | |
| 23:21 | MA15477-CCV4 | 1 | | |
| 23:28 | MA15477-CCB4 | 1 | | |
| 23:36 | MP20790-S2 | 20 | | |
| 23:43 | MP20790-SD1 | 10 | | |
| 23:50 | MP20790-PS1 | 2 | | |
| 23:57 | MP20797-B1 | 20 | | |
| 00:04 | MP20797-S1 | 20 | | |
| 00:11 | MP20797-S2 | 20 | | |
| 00:18 | MP20797-SD1 | 10 | | |
| 00:25 | MP20797-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19884 | | | |
| 00:32 | ZZZZZZ | 1 | | RINSECONF |
| 00:39 | MA15477-CRI3 | 1 | | |
| 00:46 | MA15477-CCV5 | 1 | | |
| 00:53 | MA15477-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC19884 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:57 | MA15477-STD1 | 3146678 R | 5213161 R | 741872 R | 1062354 R | 273900 R | 6003827 R | 6375567 R | 2096793 R |
| 18:04 | MA15477-STD2 | 3199653 | 5231544 | 742392 | 1064270 | 274146 | 6041791 | 6422749 | 2086730 |
| 18:11 | MA15477-STD3 | 3213593 | 5215379 | 737624 | 1056752 | 272759 | 6057861 | 6391096 | 2092201 |
| 18:19 | MA15477-STD4 | 3266387 | 5162269 | 728649 | 1053967 | 269361 | 6037972 | 6316760 | 2068218 |
| 18:26 | MA15477-STD5 | 3206112 | 5194530 | 726956 | 1045620 | 267194 | 5950331 | 6262976 | 2044705 |
| 18:33 | MA15477-STD6 | 3285193 | 5205408 | 725579 | 1052909 | 267385 | 5966754 | 6317437 | 2061927 |
| 18:39 | MA15477-STD7 | 3327883 | 5290739 | 733636 | 1077258 | 271937 | 6016431 | 6331525 | 2084929 |
| 18:46 | MA15477-STD8 | 3320833 | 5231988 | 724405 | 1065275 | 267494 | 5737877 | 6081972 | 1990799 |
| 18:53 | MA15477-ICV1 | 3445542 | 5264044 | 711729 | 1057749 | 261884 | 5887232 | 6232259 | 2007578 |
| 19:00 | MA15477-ICB1 | 3521132 | 5315206 | 734086 | 1087940 | 272348 | 6156239 | 6485324 | 2107285 |
| 19:07 | MA15477-CCV1 | 3512158 | 5263109 | 708634 | 1060315 | 261348 | 5918450 | 6247935 | 2021536 |
| 19:14 | MA15477-CCB1 | 3634146 | 5359922 | 700463 | 1091895 | 261598 | 6207894 | 6521486 | 2014989 |
| 19:21 | MA15477-CRI1 | 3630628 | 5325582 | 717966 | 1081472 | 268153 | 6172874 | 6410697 | 2066962 |
| 19:28 | MA15477-ICSA1 | 3214306 | 4769927 | 640955 | 980910 | 240588 | 5012395 | 5492030 | 1728630 |
| 19:36 | MA15477-ICSAB1 | 2984631 | 4857423 | 638643 | 985991 | 240210 | 5081428 | 5575267 | 1718863 |
| 19:43 | ZZZZZZ | 3122430 | 5035842 | 674468 | 1027457 | 258207 | 5916385 | 6237443 | 2018275 |
| 19:50 | MC19762-9F | 2833325 | 4877379 | 656263 | 999389 | 250192 | 5556344 | 6030645 | 1930154 |
| 19:57 | ZZZZZZ | 2741037 | 4856751 | 664685 | 1003947 | 252199 | 5506238 | 5996900 | 1921576 |
| 20:04 | ZZZZZZ | 2759797 | 4906663 | 665476 | 996054 | 250958 | 5461838 | 5940591 | 1918073 |
| 20:11 | ZZZZZZ | 2658155 | 4849857 | 665537 | 994807 | 250425 | 5416377 | 5926395 | 1901469 |
| 20:18 | ZZZZZZ | 2667267 | 4913174 | 670896 | 1006632 | 254369 | 5442105 | 5958030 | 1896878 |
| 20:25 | ZZZZZZ | 2629700 | 4955641 | 681105 | 1017741 | 255162 | 5530600 | 6024037 | 1941818 |
| 20:32 | MA15477-CCV2 | 2819711 | 5162029 | 699356 | 1036691 | 261837 | 5771233 | 6198317 | 1963577 |
| 20:39 | MA15477-CCB2 | 2895623 | 5181426 | 721516 | 1055438 | 272265 | 5956166 | 6363924 | 2056234 |
| 20:47 | ZZZZZZ | 2660192 | 5032095 | 704948 | 1013305 | 261403 | 5606318 | 6181613 | 1985848 |
| 20:54 | ZZZZZZ | 2686514 | 5029911 | 717107 | 1034293 | 267555 | 5896508 | 6236140 | 2019352 |
| 21:01 | MC19762-17F | 2567088 | 5071135 | 714544 | 1028883 | 263415 | 5627051 | 6260229 | 1981572 |
| 21:08 | ZZZZZZ | 2609600 | 4940875 | 696758 | 1016209 | 257879 | 5466183 | 6017609 | 1934114 |
| 21:15 | ZZZZZZ | 2523524 | 4935801 | 704330 | 1002825 | 259459 | 5485447 | 6032555 | 1960438 |
| 21:22 | ZZZZZZ | 2495364 | 5001990 | 701478 | 1005761 | 261206 | 5576289 | 6142427 | 1987988 |
| 21:29 | MC19884-1F | 2610654 | 4992580 | 725797 | 1030442 | 270352 | 5861570 | 6277789 | 2067272 |
| 21:36 | MC19884-2F | 2463236 | 5081363 | 703049 | 1004476 | 262302 | 5509923 | 6160705 | 1939530 |
| 21:43 | MC19884-3F | 2829457 | 5247610 | 739837 | 1082209 | 276725 | 5970378 | 6473499 | 2069247 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 21:50 | MA15477-CRI2 | 2861276 | 5276085 | 742273 | 1076177 | 278520 | 6054229 | 6478236 | 2117076 |
| 21:57 | MA15477-CCV3 | 2907001 | 5272254 | 723788 | 1054562 | 269439 | 5897844 | 6370834 | 2046298 |
| 22:04 | MA15477-CCB3 | 3000365 | 5266373 | 734766 | 1076273 | 275835 | 6115479 | 6559837 | 2111292 |
| 22:11 | MP20781-MB1 | 2809550 | 5054812 | 720393 | 1039475 | 268395 | 5982826 | 6444133 | 2067716 |
| 22:18 | MP20790-MB1 | 2689820 | 5036434 | 719017 | 1031861 | 267306 | 5873267 | 6279288 | 2045151 |
| 22:25 | MP20797-MB1 | 2680711 | 5044531 | 723829 | 1027028 | 267212 | 5895502 | 6283536 | 2052402 |
| 22:32 | MP20781-B1 | 3208955 | 5277936 | 727345 | 1080633 | 272475 | 6096613 | 6494537 | 2094428 |
| 22:39 | MP20781-S1 | 2904712 | 4607778 | 722324 | 957564 | 269665 | 5234232 | 5566374 | 2085418 |
| 22:46 | MP20781-S2 | 3312905 | 5295627 | 721452 | 1072459 | 270603 | 6070538 | 6424278 | 2096949 |
| 22:53 | MP20781-SD1 | 3242171 | 5222267 | 723098 | 1068890 | 272121 | 6079922 | 6498379 | 2112760 |
| 23:00 | MP20781-PS1 | 2924281 | 5136690 | 713083 | 1047416 | 265950 | 5843531 | 6342927 | 2062957 |
| 23:07 | MP20790-B1 | 3463446 | 5354635 | 718434 | 1079265 | 270059 | 6124372 | 6501499 | 2131943 |
| 23:15 | MP20790-S1 | 3509449 | 5311320 | 717842 | 1070512 | 266166 | 6098841 | 6466063 | 2099501 |
| 23:21 | MA15477-CCV4 | 3370596 | 5233518 | 705753 | 1053571 | 263547 | 5906749 | 6285784 | 2046946 |
| 23:28 | MA15477-CCB4 | 3498608 | 5274534 | 714618 | 1077797 | 268649 | 6153937 | 6520751 | 2124765 |
| 23:36 | MP20790-S2 | 3586567 | 5298965 | 704497 | 1068788 | 266759 | 6056426 | 6455953 | 2112328 |
| 23:43 | MP20790-SD1 | 3435792 | 5196545 | 700795 | 1069849 | 266473 | 6017803 | 6482584 | 2122900 |
| 23:50 | MP20790-PS1 | 3104770 | 5106915 | 691340 | 1023532 | 258788 | 5756959 | 6276981 | 2052341 |
| 23:57 | MP20797-B1 | 3665858 | 5185423 | 684670 | 1057366 | 260669 | 6086092 | 6429162 | 2103363 |
| 00:04 | MP20797-S1 | 3626427 | 5142173 | 684944 | 1045466 | 260174 | 5987216 | 6358105 | 2091947 |
| 00:11 | MP20797-S2 | 3640892 | 5168487 | 687143 | 1053861 | 259060 | 6007285 | 6343500 | 2085893 |
| 00:18 | MP20797-SD1 | 3516562 | 5130415 | 687846 | 1050702 | 259702 | 5881314 | 6316606 | 2061136 |
| 00:25 | MP20797-PS1 | 3172629 | 5113638 | 678508 | 1006026 | 252390 | 5618906 | 6088671 | 1988672 |
| 00:32 | ZZZZZZ | 3602527 | 5160279 | 683562 | 1053073 | 259320 | 6080240 | 6420374 | 2099188 |
| 00:39 | MA15477-CRI3 | 3616627 | 5122231 | 682978 | 1038440 | 258169 | 6037028 | 6360309 | 2091861 |
| 00:46 | MA15477-CCV5 | 3534259 | 5148210 | 681790 | 1033012 | 255825 | 5852754 | 6223757 | 2037189 |
| 00:53 | MA15477-CCB5 | 3673980 | 5105124 | 682530 | 1043989 | 257709 | 6021135 | 6301928 | 2091472 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:57 | MA15477-STD1 | 7647907 R | 3950799 R |
| 18:04 | MA15477-STD2 | 7735967 | 3951980 |
| 18:11 | MA15477-STD3 | 7748838 | 3949575 |
| 18:19 | MA15477-STD4 | 7551318 | 3994173 |
| 18:26 | MA15477-STD5 | 7637600 | 3939967 |
| 18:33 | MA15477-STD6 | 7705512 | 3966535 |
| 18:39 | MA15477-STD7 | 7726989 | 3997342 |
| 18:46 | MA15477-STD8 | 7578506 | 3735559 |
| 18:53 | MA15477-ICV1 | 7690609 | 3844975 |
| 19:00 | MA15477-ICB1 | 7853041 | 4081645 |
| 19:07 | MA15477-CCV1 | 7781866 | 3891846 |
| 19:14 | MA15477-CCB1 | 7867902 | 4104965 |
| 19:21 | MA15477-CRI1 | 7756196 | 4076090 |
| 19:28 | MA15477-ICSA1 | 7160070 | 3369295 |
| 19:36 | MA15477-ICSAB1 | 7188756 | 3359714 |
| 19:43 | ZZZZZZ | 7573620 | 4001200 |
| 19:50 | MC19762-9F | 7425066 | 3770607 |
| 19:57 | ZZZZZZ | 7402007 | 3745738 |
| 20:04 | ZZZZZZ | 7299400 | 3684239 |
| 20:11 | ZZZZZZ | 7339548 | 3660023 |
| 20:18 | ZZZZZZ | 7422817 | 3682370 |
| 20:25 | ZZZZZZ | 7476527 | 3744312 |
| 20:32 | MA15477-CCV2 | 7567258 | 3790752 |
| 20:39 | MA15477-CCB2 | 7723227 | 3957787 |
| 20:47 | ZZZZZZ | 7607527 | 3834232 |
| 20:54 | ZZZZZZ | 7722096 | 3995456 |
| 21:01 | MC19762-17F | 7793024 | 3882017 |
| 21:08 | ZZZZZZ | 7481145 | 3686352 |
| 21:15 | ZZZZZZ | 7561425 | 3720797 |
| 21:22 | ZZZZZZ | 7704868 | 3863962 |
| 21:29 | MC19884-1F | 7830573 | 4053330 |
| 21:36 | MC19884-2F | 7783016 | 3817181 |
| 21:43 | MC19884-3F | 7879529 | 4040321 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15477
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 21:50 | MA15477-CRI2 | 7997281 | 4092945 |
| 21:57 | MA15477-CCV3 | 7896253 | 4009175 |
| 22:04 | MA15477-CCB3 | 7980766 | 4129692 |
| 22:11 | MP20781-MB1 | 7924075 | 4088717 |
| 22:18 | MP20790-MB1 | 7806918 | 4007485 |
| 22:25 | MP20797-MB1 | 7703430 | 3962298 |
| 22:32 | MP20781-B1 | 7750256 | 3939073 |
| 22:39 | MP20781-S1 | 6667639 | 3472730 |
| 22:46 | MP20781-S2 | 7745356 | 3969060 |
| 22:53 | MP20781-SD1 | 7813221 | 4070000 |
| 23:00 | MP20781-PS1 | 7773903 | 3984321 |
| 23:07 | MP20790-B1 | 7944675 | 4075383 |
| 23:15 | MP20790-S1 | 7922946 | 4076069 |
| 23:21 | MA15477-CCV4 | 7865829 | 3983138 |
| 23:28 | MA15477-CCB4 | 7943753 | 4138927 |
| 23:36 | MP20790-S2 | 7855681 | 4082585 |
| 23:43 | MP20790-SD1 | 7887748 | 4102596 |
| 23:50 | MP20790-PS1 | 7834506 | 4031180 |
| 23:57 | MP20797-B1 | 7934617 | 4150440 |
| 00:04 | MP20797-S1 | 7879572 | 4104635 |
| 00:11 | MP20797-S2 | 7862263 | 4090889 |
| 00:18 | MP20797-SD1 | 7797847 | 4090053 |
| 00:25 | MP20797-PS1 | 7668506 | 3875824 |
| 00:32 | ZZZZZZ | 7831906 | 4148135 |
| 00:39 | MA15477-CRI3 | 7877867 | 4136088 |
| 00:46 | MA15477-CCV5 | 7824737 | 4046839 |
| 00:53 | MA15477-CCB5 | 7792187 | 4124944 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15477  Units: ug/l

| Time: / Sample ID: | | | | 19:00 ICB1 | | 19:14 CCB1 | | 20:39 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.011 | <0.50 | 0.022 | <0.50 | 0.028 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15477  Units: ug/l

| Time: / Sample ID: | | | | 22:04 CCB3 | | 23:28 CCB4 | | 00:53 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0052 | <0.50 | 0.0071 | <0.50 | 0.017 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | 18:53 | | | 19:07 | | | 20:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.6 | 99.3 | 50 | 49.4 | 98.8 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | 21:57 | | | 23:21 | | | 00:46 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.1 | 98.2 | 50 | 49.2 | 98.4 | 50 | 49.9 | 99.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | | 19:21 | | 21:50 | | 00:39 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | | | |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.53 | 106.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Magnesium | 250 | 250 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA041913W1L.AGF  Date Analyzed: 04/19/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15477  Units: ug/l

| Time: | | | 19:28 | | 19:36 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 98000 | 98.0 | 96000 | 96.0 |
| Antimony | | | 0.31* | | 0.32* | |
| Arsenic | | 20 | 0.24 | | 19.6 | 98.0 |
| Barium | | | 0.24 | | 0.28 | |
| Beryllium | | | 0.0023 | | 0.020 | |
| Boron | | | 0.13 | | 0.14 | |
| Cadmium | | 20 | 1.1* | | 19.7 | 98.5 |
| Calcium | 100000 | 100000 | 96900 | 96.9 | 96200 | 96.2 |
| Chromium | | 20 | 1.1* | | 20.1 | 100.5 |
| Cobalt | | 20 | 0.047 | | 18.9 | 94.5 |
| Copper | | 20 | 0.26 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 96500 | 96.5 | 97000 | 97.0 |
| Lead | | | 0.20 | | 0.54* | |
| Magnesium | 100000 | 100000 | 98300 | 98.3 | 96300 | 96.3 |
| Manganese | | 20 | 0.34 | | 19.7 | 98.5 |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2070 | 103.5 |
| Nickel | | 20 | 0.67* | | 18.7 | 93.5 |
| Potassium | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Selenium | | | 0.17 | | 0.22 | |
| Silver | | 20 | 0.063 | | 19.5 | 97.5 |
| Strontium | | | 4.9* | | 5.0* | |
| Thallium | | | 0.050 | | 0.040 | |
| Tin | | | 0.15 | | 0.26 | |
| Titanium | 2000 | 2000 | 2010 | 100.5 | 1990 | 99.5 |
| Vanadium | | | 0.020 | | 0.044 | |
| Zinc | | 20 | 2.5* | | 20.2 | 101.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF Date Analyzed: 04/20/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15480
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:17 | MA15480-STD1 | 1 | | STDA |
| 11:24 | MA15480-STD2 | 1 | | STDB |
| 11:32 | MA15480-STD3 | 1 | | STDC |
| 11:39 | MA15480-STD4 | 1 | | STDD |
| 11:48 | MA15480-STD5 | 1 | | STDE |
| 11:55 | MA15480-STD6 | 1 | | STDF |
| 12:02 | MA15480-STD7 | 1 | | STDG |
| 12:09 | MA15480-STD8 | 1 | | STDH |
| 12:16 | MA15480-ICV1 | 1 | | |
| 12:23 | MA15480-ICB1 | 1 | | |
| 12:30 | MA15480-CCV1 | 1 | | |
| 12:37 | MA15480-CCB1 | 1 | | |
| 12:44 | MA15480-CRI1 | 1 | | |
| 12:51 | MA15480-ICSA1 | 1 | | |
| 12:58 | MA15480-ICSAB1 | 1 | | |
| 13:05 | ZZZZZZ | 1 | | RINSECONF |
| 13:13 | MP20790-MB1 | 2 | | |
| 13:20 | MP20797-MB1 | 2 | | |
| 13:27 | MP20808-MB1 | 2 | | |
| 13:34 | MC19884-4F | 2 | | |
| 13:41 | MC19884-5F | 2 | | |
| 13:48 | MC19884-6F | 2 | | |
| 13:55 | MA15480-CCV2 | 1 | | |
| 14:03 | MA15480-CCB2 | 1 | | |
| 14:10 | MC19884-7F | 2 | | |
| 14:17 | MC19884-8F | 2 | | AS OVER RANGE. |
| 14:24 | MC19884-9F | 2 | | |
| 14:31 | MC19884-10F | 2 | | |
| 14:38 | MC19884-11F | 2 | | |
| 14:45 | MC19884-12F | 2 | | |
| 14:52 | MP20808-B1 | 20 | | |
| 14:59 | MP20808-S1 | 20 | | |
| 15:06 | MP20808-S2 | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:13 | MP20808-SD1 | 10 | | |
| 15:21 | MA15480-CCV3 | 1 | | |
| 15:28 | MA15480-CCB3 | 1 | | |
| 15:35 | MP20808-PS1 | 2 | | |
| 15:42 | MC19884-5F | 10 | | |
| 15:49 | MC19884-6F | 10 | | |
| 15:56 | MC19884-8F | 100 | | |
| 16:03 | MC19884-9F | 100 | | |
| ----------> | Last reportable sample/prep for job MC19884 | | | |
| 16:10 | MA15480-CRI2 | 1 | | |
| 16:17 | MA15480-CCV4 | 1 | | |
| 16:24 | MA15480-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC19884 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:17 | MA15480-STD1 | 1541753 R | 3631305 R | 481685 R | 789766 R | 188977 R | 4377550 R | 4716350 R | 1391932 R |
| 11:24 | MA15480-STD2 | 1566788 | 3593081 | 481537 | 790333 | 189464 | 4393906 | 4708684 | 1392312 |
| 11:32 | MA15480-STD3 | 1529338 | 3652986 | 482771 | 787690 | 189411 | 4412307 | 4691526 | 1398754 |
| 11:39 | MA15480-STD4 | 1547485 | 3636005 | 483590 | 783616 | 189574 | 4383870 | 4668812 | 1390887 |
| 11:48 | MA15480-STD5 | 1560551 | 3607749 | 479364 | 777879 | 188470 | 4402727 | 4695915 | 1392197 |
| 11:55 | MA15480-STD6 | 1558075 | 3617464 | 475617 | 784631 | 187626 | 4422195 | 4701510 | 1389568 |
| 12:02 | MA15480-STD7 | 1530762 | 3651803 | 483694 | 801304 | 190901 | 4361638 | 4709577 | 1385014 |
| 12:09 | MA15480-STD8 | 1581155 | 3643853 | 474970 | 790708 | 186905 | 4202332 | 4555886 | 1333453 |
| 12:16 | MA15480-ICV1 | 1581589 | 3678293 | 475218 | 790626 | 186136 | 4326321 | 4654448 | 1355830 |
| 12:23 | MA15480-ICB1 | 1574479 | 3643958 | 482283 | 800894 | 190676 | 4402868 | 4764711 | 1393277 |
| 12:30 | MA15480-CCV1 | 1579690 | 3662891 | 476421 | 786150 | 187657 | 4315800 | 4664565 | 1356706 |
| 12:37 | MA15480-CCB1 | 1583807 | 3684951 | 484754 | 806120 | 191440 | 4453982 | 4743883 | 1401721 |
| 12:44 | MA15480-CRI1 | 1590449 | 3666250 | 483401 | 802852 | 191214 | 4438372 | 4791845 | 1413142 |
| 12:51 | MA15480-ICSA1 | 1642656 | 3428425 | 423341 | 747115 | 171080 | 3822782 | 4203216 | 1250800 |
| 12:58 | MA15480-ICSAB1 | 1671220 | 3483339 | 420323 | 753646 | 169923 | 3891337 | 4287752 | 1255859 |
| 13:05 | ZZZZZZ | 1803310 | 3808733 | 448562 | 809462 | 182756 | 4710045 | 5041319 | 1429490 |
| 13:13 | MP20790-MB1 | 1616849 | 3599563 | 444876 | 774661 | 180819 | 4458230 | 4767146 | 1399514 |
| 13:20 | MP20797-MB1 | 1510912 | 3547460 | 452204 | 769753 | 180500 | 4393023 | 4695287 | 1412907 |
| 13:27 | MP20808-MB1 | 1485512 | 3553730 | 455458 | 776236 | 182831 | 4419543 | 4777269 | 1402610 |
| 13:34 | MC19884-4F | 1418491 | 3480077 | 438237 | 751283 | 173653 | 4040053 | 4504897 | 1335463 |
| 13:41 | MC19884-5F | 1473324 | 3531894 | 446292 | 769821 | 180468 | 4177711 | 4623168 | 1349269 |
| 13:48 | MC19884-6F | 1460284 | 3505757 | 441867 | 761069 | 178244 | 4142855 | 4585683 | 1354061 |
| 13:55 | MA15480-CCV2 | 1596539 | 3669971 | 459388 | 777834 | 183808 | 4365059 | 4762354 | 1392041 |
| 14:03 | MA15480-CCB2 | 1606228 | 3641012 | 467733 | 797133 | 187336 | 4480160 | 4848952 | 1422378 |
| 14:10 | MC19884-7F | 1471382 | 3564395 | 456280 | 775980 | 181630 | 4391791 | 4688838 | 1379203 |
| 14:17 | MC19884-8F | 1395278 | 3515872 | 459866 | 775929 | 185417 | 4219906 | 4677369 | 1348223 |
| 14:24 | MC19884-9F | 1390154 | 3585812 | 462214 | 790867 | 185409 | 4275232 | 4751360 | 1382084 |
| 14:31 | MC19884-10F | 1385855 | 3621580 | 462926 | 787629 | 186835 | 4351442 | 4793937 | 1409038 |
| 14:38 | MC19884-11F | 1428643 | 3466248 | 440050 | 744030 | 173061 | 3998793 | 4430961 | 1319653 |
| 14:45 | MC19884-12F | 1500990 | 3643341 | 468363 | 798669 | 187402 | 4527613 | 4798598 | 1421184 |
| 14:52 | MP20808-B1 | 1683896 | 3797903 | 474295 | 821985 | 191997 | 4630467 | 4989145 | 1443499 |
| 14:59 | MP20808-S1 | 1707219 | 3726595 | 459799 | 804561 | 187122 | 4462619 | 4839516 | 1415835 |
| 15:06 | MP20808-S2 | 1724946 | 3723354 | 459126 | 800791 | 185971 | 4388598 | 4783476 | 1397078 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:13 | MP20808-SD1 | 1708069 | 3657472 | 458652 | 803675 | 185632 | 4361565 | 4762588 | 1381816 |
| 15:21 | MA15480-CCV3 | 1659268 | 3719132 | 460259 | 789991 | 184245 | 4384780 | 4773998 | 1375226 |
| 15:28 | MA15480-CCB3 | 1688502 | 3673303 | 463859 | 800918 | 186820 | 4524691 | 4826781 | 1421061 |
| 15:35 | MP20808-PS1 | 1523267 | 3526273 | 440152 | 756408 | 174700 | 4098504 | 4563580 | 1331908 |
| 15:42 | MC19884-5F | 1683961 | 3693803 | 461209 | 804430 | 186383 | 4456339 | 4870874 | 1418988 |
| 15:49 | MC19884-6F | 1696914 | 3709575 | 457764 | 807716 | 184862 | 4477561 | 4880693 | 1425567 |
| 15:56 | MC19884-8F | 1795300 | 3791558 | 472246 | 818775 | 190599 | 4565717 | 4930377 | 1448252 |
| 16:03 | MC19884-9F | 1805004 | 3785050 | 470123 | 812636 | 188719 | 4534220 | 4888369 | 1426495 |
| 16:10 | MA15480-CRI2 | 1659536 | 3713483 | 461597 | 802924 | 185204 | 4488388 | 4841043 | 1409541 |
| 16:17 | MA15480-CCV4 | 1676019 | 3690310 | 455080 | 783201 | 181522 | 4338533 | 4733735 | 1370561 |
| 16:24 | MA15480-CCB4 | 1693019 | 3686463 | 460499 | 795560 | 184806 | 4479421 | 4822240 | 1401268 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:17 | MA15480-STD1 | 5566587 R | 2810000 R |
| 11:24 | MA15480-STD2 | 5581234 | 2819405 |
| 11:32 | MA15480-STD3 | 5613397 | 2822500 |
| 11:39 | MA15480-STD4 | 5625434 | 2815328 |
| 11:48 | MA15480-STD5 | 5612755 | 2853866 |
| 11:55 | MA15480-STD6 | 5685418 | 2852270 |
| 12:02 | MA15480-STD7 | 5615419 | 2824995 |
| 12:09 | MA15480-STD8 | 5589195 | 2710142 |
| 12:16 | MA15480-ICV1 | 5643890 | 2795710 |
| 12:23 | MA15480-ICB1 | 5748401 | 2897580 |
| 12:30 | MA15480-CCV1 | 5653593 | 2796137 |
| 12:37 | MA15480-CCB1 | 5722592 | 2916336 |
| 12:44 | MA15480-CRI1 | 5730534 | 2912913 |
| 12:51 | MA15480-ICSA1 | 5393658 | 2520268 |
| 12:58 | MA15480-ICSAB1 | 5506508 | 2600731 |
| 13:05 | ZZZZZZ | 6148101 | 3148830 |
| 13:13 | MP20790-MB1 | 5892863 | 3059805 |
| 13:20 | MP20797-MB1 | 5780470 | 2976625 |
| 13:27 | MP20808-MB1 | 5849363 | 3015336 |
| 13:34 | MC19884-4F | 5652973 | 2727337 |
| 13:41 | MC19884-5F | 5762997 | 2846882 |
| 13:48 | MC19884-6F | 5751848 | 2867828 |
| 13:55 | MA15480-CCV2 | 5877184 | 2930146 |
| 14:03 | MA15480-CCB2 | 5791748 | 3008734 |
| 14:10 | MC19884-7F | 5792853 | 2945076 |
| 14:17 | MC19884-8F | 5762682 | 2890552 |
| 14:24 | MC19884-9F | 5891242 | 2929021 |
| 14:31 | MC19884-10F | 5876358 | 2937753 |
| 14:38 | MC19884-11F | 5609499 | 2706884 |
| 14:45 | MC19884-12F | 5920034 | 3023255 |
| 14:52 | MP20808-B1 | 6026114 | 3034109 |
| 14:59 | MP20808-S1 | 5875230 | 2944998 |
| 15:06 | MP20808-S2 | 5836696 | 2936272 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15480
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:13 | MP20808-SD1 | 5790599 | 2912232 |
| 15:21 | MA15480-CCV3 | 5845342 | 2912503 |
| 15:28 | MA15480-CCB3 | 5869447 | 3025582 |
| 15:35 | MP20808-PS1 | 5637054 | 2757850 |
| 15:42 | MC19884-5F | 5921391 | 2994269 |
| 15:49 | MC19884-6F | 5856762 | 3037639 |
| 15:56 | MC19884-8F | 5917699 | 2921395 |
| 16:03 | MC19884-9F | 5896234 | 2892850 |
| 16:10 | MA15480-CRI2 | 5871071 | 2937529 |
| 16:17 | MA15480-CCV4 | 5875951 | 2891543 |
| 16:24 | MA15480-CCB4 | 5753740 | 2984526 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15480  Units: ug/l

| Time: / Sample ID: | | | | 12:23 ICB1 | | 12:37 CCB1 | | 14:03 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.023 | <0.50 | 0.022 | <0.50 | 0.020 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15480  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 15:28 CCB3 raw | 15:28 CCB3 final | 16:24 CCB4 raw | 16:24 CCB4 final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.057 | <0.50 | 0.043 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | 12:16 | | | 12:30 | | | 13:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.8 | 99.7 | 50 | 50.0 | 100.0 | 50 | 50.0 | 100.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | 15:21 | | | 16:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.9 | 99.8 | 50 | 49.8 | 99.6 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | | 12:44 | | 16:10 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.58 | 116.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042013W1L.AGF  Date Analyzed: 04/20/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15480  Units: ug/l

| Time: | | | 12:51 | | 12:58 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 100000 | 100.0 | 100000 | 100.0 |
| Antimony | | | 0.30* | | 0.31* | |
| Arsenic | | 20 | 0.22 | | 20.8 | 104.0 |
| Barium | | | 0.25 | | 0.26 | |
| Beryllium | | | 0.0055 | | 0.016 | |
| Boron | | | 0.17 | | 0.16 | |
| Cadmium | | 20 | 0.99* | | 19.8 | 99.0 |
| Calcium | 100000 | 100000 | 97400 | 97.4 | 97400 | 97.4 |
| Chromium | | 20 | 1.1* | | 20.5 | 102.5 |
| Cobalt | | 20 | 0.045 | | 19.5 | 97.5 |
| Copper | | 20 | 0.26 | | 17.7 | 88.5 |
| Iron | 100000 | 100000 | 100000 | 100.0 | 102000 | 102.0 |
| Lead | | | 0.21 | | 0.53* | |
| Magnesium | 100000 | 100000 | 102000 | 102.0 | 101000 | 101.0 |
| Manganese | | 20 | 0.36 | | 20.2 | 101.0 |
| Molybdenum | 2000 | 2000 | 2060 | 103.0 | 2080 | 104.0 |
| Nickel | | 20 | 0.69* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 99300 | 99.3 | 99300 | 99.3 |
| Selenium | | | -0.017 | | 0.069 | |
| Silver | | 20 | 0.072 | | 19.8 | 99.0 |
| Sodium | 100000 | 100000 | 102000 | 102.0 | 102000 | 102.0 |
| Strontium | | | 4.9* | | 4.9* | |
| Thallium | | | 0.050 | | 0.033 | |
| Tin | | | 0.21 | | 0.22 | |
| Titanium | 2000 | 2000 | 2000 | 100.0 | 2000 | 100.0 |
| Vanadium | | | 0.044 | | 0.071 | |
| Zinc | | 20 | 2.9* | | 21.8 | 109.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15486
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:03 | MA15486-STD1 | 1 | | STDA |
| 13:10 | MA15486-STD2 | 1 | | STDB |
| 13:17 | MA15486-STD3 | 1 | | STDC |
| 13:24 | MA15486-STD4 | 1 | | STDD |
| 13:31 | MA15486-STD5 | 1 | | STDE |
| 13:39 | MA15486-STD6 | 1 | | STDF |
| 13:46 | MA15486-STD7 | 1 | | STDG |
| 13:53 | MA15486-STD8 | 1 | | STDH |
| 14:00 | MA15486-ICV1 | 1 | | |
| 14:07 | MA15486-ICB1 | 1 | | |
| 14:14 | MA15486-CCV1 | 1 | | |
| 14:21 | MA15486-CCB1 | 1 | | |
| 14:28 | MA15486-CRI1 | 1 | | |
| 14:36 | MA15486-ICSA1 | 1 | | |
| 14:43 | MA15486-ICSAB1 | 1 | | |
| 14:50 | ZZZZZZ | 1 | | RINSECONF |
| 14:57 | MP20810-MB1 | 2 | | |
| 15:05 | MC19884-15F | 2 | | |
| 15:12 | MC19884-13F | 2 | | OVER RANGE. |
| 15:19 | MC19884-14F | 2 | | |
| 15:26 | MC19884-16F | 2 | | |
| 15:33 | MP20810-B1 | 20 | | |
| 15:40 | MA15486-CCV2 | 1 | | |
| 15:47 | MA15486-CCB2 | 1 | | |
| 15:54 | MP20810-S1 | 20 | | |
| 16:01 | MP20810-S2 | 20 | | |
| 16:11 | MP20810-SD1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC19884 | | | |
| 16:18 | MA15486-CRI2 | 1 | | |
| 16:26 | MA15486-CCV3 | 1 | | |
| 16:33 | MA15486-CCB3 | 1 | | |
| ----------> | Last reportable CCB for job MC19884 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15486
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:03 | MA15486-STD1 | 2771684 R | 2330160 R | 215926 R | 466203 R | 87757 R | 2753404 R | 2900987 R | 790753 R |
| 13:10 | MA15486-STD2 | 2765342 | 2323997 | 214329 | 463591 | 87444 | 2746263 | 2919808 | 783768 |
| 13:17 | MA15486-STD3 | 2789586 | 2361425 | 215785 | 467174 | 87830 | 2774664 | 2921695 | 790778 |
| 13:24 | MA15486-STD4 | 2796146 | 2340133 | 215415 | 459709 | 87646 | 2753290 | 2926330 | 785443 |
| 13:31 | MA15486-STD5 | 2755318 | 2316742 | 212820 | 455455 | 86233 | 2742681 | 2894655 | 772189 |
| 13:39 | MA15486-STD6 | 2768009 | 2325116 | 213031 | 453240 | 86161 | 2737743 | 2902431 | 769231 |
| 13:46 | MA15486-STD7 | 2758885 | 2356419 | 222010 | 471620 | 89972 | 2765173 | 2912598 | 798869 |
| 13:53 | MA15486-STD8 | 2791420 | 2447742 | 230740 | 494493 | 93400 | 2734509 | 2900460 | 800566 |
| 14:00 | MA15486-ICV1 | 2803330 | 2460650 | 225635 | 484083 | 91126 | 2756935 | 2969583 | 791712 |
| 14:07 | MA15486-ICB1 | 2889746 | 2504022 | 234060 | 504806 | 94707 | 2932449 | 3099088 | 838534 |
| 14:14 | MA15486-CCV1 | 2647329 | 2238005 | 228189 | 446163 | 91431 | 2549475 | 2709746 | 793825 |
| 14:21 | MA15486-CCB1 | 2914955 | 2517421 | 236499 | 505339 | 95687 | 2925145 | 3082206 | 841522 |
| 14:28 | MA15486-CRI1 | 2924688 | 2532615 | 238303 | 506926 | 95638 | 2947482 | 3093837 | 845466 |
| 14:36 | MA15486-ICSA1 | 2574113 | 2389974 | 226899 | 498089 | 92093 | 2534578 | 2761883 | 732713 |
| 14:43 | MA15486-ICSAB1 | 2463843 | 2470832 | 233320 | 507938 | 94294 | 2586687 | 2859058 | 743266 |
| 14:50 | ZZZZZZ | 2620556 | 2623516 | 241054 | 522456 | 98462 | 3019326 | 3265987 | 847173 |
| 14:57 | MP20810-MB1 | 2311765 | 2568912 | 236883 | 509175 | 96954 | 2939673 | 3179387 | 816928 |
| 15:05 | MC19884-15F | 2038946 | 2447941 | 228402 | 492474 | 93934 | 2709153 | 3052913 | 772255 |
| 15:12 | MC19884-13F | 1982493 | 2441961 | 225716 | 492703 | 93618 | 2739588 | 3075356 | 771472 |
| 15:19 | MC19884-14F | 1922949 | !a2435058 | 226390 | 488612 | 93811 | 2689430 | 2989901 | 765570 |
| 15:26 | MC19884-16F | 1962272 | 2381387 | 235241 | 484837 | 96470 | 2762075 | 3029945 | 803298 |
| 15:33 | MP20810-B1 | 2369854 | 2694247 | 252477 | 534850 | 103636 | 3076014 | 3358989 | 857560 |
| 15:40 | MA15486-CCV2 | 2281821 | 2547617 | 236356 | 497419 | 97127 | 2829934 | 3100318 | 802493 |
| 15:47 | MA15486-CCB2 | 2369638 | 2550890 | 237195 | 504111 | 98139 | 2923322 | 3188689 | 828234 |
| 15:54 | MP20810-S1 | 2501384 | 2679756 | 245891 | 524355 | 100572 | 3010897 | 3267907 | 836981 |
| 16:01 | MP20810-S2 | 2570179 | 2661430 | 245849 | 523081 | 100813 | 3024003 | 3264156 | 838981 |
| 16:11 | MP20810-SD1 | 2519732 | 2648064 | 244648 | 524786 | 100734 | 2973721 | 3259776 | 842506 |
| 16:18 | MA15486-CRI2 | 2531008 | 2675489 | 253282 | 526216 | 102376 | 3036325 | 3264515 | 864456 |
| 16:26 | MA15486-CCV3 | 2518101 | 2665927 | 245170 | 518550 | 99037 | 2942161 | 3174134 | 816705 |
| 16:33 | MA15486-CCB3 | 2554566 | 2626229 | 234456 | 517558 | 96769 | 2992997 | 3222196 | 817980 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15486
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| Istd#8 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15486
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:03 | MA15486-STD1 | 3935389 R | 2186063 R |
| 13:10 | MA15486-STD2 | 3949888 | 2197756 |
| 13:17 | MA15486-STD3 | 3980545 | 2196536 |
| 13:24 | MA15486-STD4 | 3961691 | 2187586 |
| 13:31 | MA15486-STD5 | 3942779 | 2156884 |
| 13:39 | MA15486-STD6 | 3941521 | 2158754 |
| 13:46 | MA15486-STD7 | 3980245 | 2117688 |
| 13:53 | MA15486-STD8 | 4001057 | 2071318 |
| 14:00 | MA15486-ICV1 | 4042307 | 2110005 |
| 14:07 | MA15486-ICB1 | 4070279 | 2234264 |
| 14:14 | MA15486-CCV1 | 3687429 | 1948048 |
| 14:21 | MA15486-CCB1 | 4085477 | 2191503 |
| 14:28 | MA15486-CRI1 | 4102508 | 2211753 |
| 14:36 | MA15486-ICSA1 | 3842944 | 1906351 |
| 14:43 | MA15486-ICSAB1 | 3972319 | 1932692 |
| 14:50 | ZZZZZZ | 4251919 | 2271535 |
| 14:57 | MP20810-MB1 | 4263249 | 2239169 |
| 15:05 | MC19884-15F | 4154283 | 2151225 |
| 15:12 | MC19884-13F | 4159252 | 2137402 |
| 15:19 | MC19884-14F | 4104038 | 2104328 |
| 15:26 | MC19884-16F | 4092588 | 2194274 |
| 15:33 | MP20810-B1 | 4346661 | 2266432 |
| 15:40 | MA15486-CCV2 | 4168225 | 2146800 |
| 15:47 | MA15486-CCB2 | 4198387 | 2251399 |
| 15:54 | MP20810-S1 | 4310738 | 2224954 |
| 16:01 | MP20810-S2 | 4281779 | 2197356 |
| 16:11 | MP20810-SD1 | 4251616 | 2240072 |
| 16:18 | MA15486-CRI2 | 4305480 | 2236790 |
| 16:26 | MA15486-CCV3 | 4253377 | 2137338 |
| 16:33 | MA15486-CCB3 | 4233983 | 2207146 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15486  Units: ug/l

| Time: / Sample ID: | | | | 14:07 ICB1 | | 14:21 CCB1 | | 15:47 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.015 | <0.50 | -0.018 | <0.50 | 0.042 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15486  Units: ug/l

| Time: | | | | 16:33 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.021 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15486  Units: ug/l

| Time: | | 14:00 | | | 14:14 | | | 15:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.2 | 98.7 | 50 | 49.8 | 99.6 | 50 | 49.5 | 99.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15486  Units: ug/l

| Time: | | 16:26 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.7 | 99.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15486  Units: ug/l

| Time: | | | 14:28 | | 16:18 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.49 | 98.0 | 0.49 | 98.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W1L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15486  Units: ug/l

| Time: | | | 14:36 | | 14:43 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 96400 | 96.4 | 96500 | 96.5 |
| Antimony | | | 0.29* | | 0.31* | |
| Arsenic | | 20 | 0.15 | | 20.2 | 101.0 |
| Barium | | | 0.29 | | 0.29 | |
| Beryllium | | | 0.0019 | | 0.011 | |
| Boron | | | 0.19 | | 0.25 | |
| Cadmium | | 20 | 1.0* | | 20.4 | 102.0 |
| Calcium | 100000 | 100000 | 96100 | 96.1 | 98300 | 98.3 |
| Chromium | | 20 | 1.0* | | 20.0 | 100.0 |
| Cobalt | | 20 | 0.033 | | 18.5 | 92.5 |
| Copper | | 20 | 0.28 | | 17.5 | 87.5 |
| Iron | 100000 | 100000 | 96000 | 96.0 | 95700 | 95.7 |
| Lead | | | 0.20 | | 0.54* | |
| Magnesium | 100000 | 100000 | 97200 | 97.2 | 96100 | 96.1 |
| Manganese | | 20 | 0.28 | | 19.3 | 96.5 |
| Molybdenum | 2000 | 2000 | 2080 | 104.0 | 2130 | 106.5 |
| Nickel | | 20 | 0.65* | | 18.7 | 93.5 |
| Potassium | 100000 | 100000 | 98000 | 98.0 | 98800 | 98.8 |
| Selenium | | | 0.076 | | 0.16 | |
| Silver | | 20 | 0.076 | | 20.0 | 100.0 |
| Sodium | 100000 | 100000 | 96400 | 96.4 | 95700 | 95.7 |
| Strontium | | | 5.0* | | 5.1* | |
| Thallium | | | 0.045 | | 0.026 | |
| Tin | | | 0.13 | | 0.13 | |
| Titanium | 2000 | 2000 | 1990 | 99.5 | 2010 | 100.5 |
| Vanadium | | | -0.23 | | -0.23 | |
| Zinc | | 20 | 2.6* | | 21.8 | 109.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:32 | MA15487-STD1 | 1 | | STDA |
| 18:39 | MA15487-STD2 | 1 | | STDB |
| 18:46 | MA15487-STD3 | 1 | | STDC |
| 18:53 | MA15487-STD4 | 1 | | STDD |
| 19:00 | MA15487-STD5 | 1 | | STDE |
| 19:07 | MA15487-STD6 | 1 | | STDF |
| 19:14 | MA15487-STD7 | 1 | | STDG |
| 19:21 | MA15487-STD8 | 1 | | STDH |
| 19:28 | MA15487-ICV1 | 1 | | |
| 19:35 | MA15487-ICB1 | 1 | | |
| 19:42 | MA15487-CCV1 | 1 | | |
| 19:49 | MA15487-CCB1 | 1 | | |
| 19:57 | MA15487-CRI1 | 1 | | |
| 20:04 | MA15487-ICSA1 | 1 | | |
| 20:11 | MA15487-ICSAB1 | 1 | | |
| 20:18 | ZZZZZZ | 1 | | RINSECONF |
| 20:25 | MP20810-MB1 | 1 | | |
| 20:32 | ZZZZZZ | 2 | | OVER 1/2 OF CAL RANGE. |
| 20:39 | ZZZZZZ | 2 | | OVER 1/2 OF CAL RANGE. |
| 20:46 | ZZZZZZ | 2 | | OVER 1/2 OF CAL RANGE. |
| 20:53 | ZZZZZZ | 2 | | DNR: REPORTED FROM MA15486. |
| 21:01 | ZZZZZZ | 20 | | DNR: REPORTED FROM MA15486. |
| 21:08 | MA15487-CCV2 | 1 | | |
| 21:15 | MA15487-CCB2 | 1 | | |
| 21:22 | ZZZZZZ | 20 | | DNR: REPORTED FROM MA15486. |
| 21:29 | ZZZZZZ | 20 | | DNR: REPORTED FROM MA15486. |
| 21:36 | ZZZZZZ | 10 | | DNR: OVER 1/2 OF CAL RANGE. |
| 21:43 | MC19884-15F | 5 | | |
| 21:50 | MC19884-13F | 100 | | |
| 21:57 | MC19884-14F | 50 | | |
| 22:04 | MP20810-SD1 | 25 | | |
| 22:11 | MP20810-PS1 | 25 | | |
| ----------> | Last reportable sample/prep for job MC19884 | | | |
| 22:18 | ZZZZZZ | 1 | | RINSECONF |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 22:25 | MA15487-CRI2 | 1 | | |
| 22:32 | MA15487-CCV3 | 1 | | |
| 22:39 | MA15487-CCB3 | 1 | | |

----------> Last reportable CCB for job MC19884
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:32 | MA15487-STD1 | 2388263 R | 2903830 R | 309156 R | 618578 R | 133153 R | 3314277 R | 3516736 R | 1020578 R |
| 18:39 | MA15487-STD2 | 2447419 | 2998762 | 310492 | 647941 | 136331 | 3464219 | 3634005 | 1046736 |
| 18:46 | MA15487-STD3 | 2461856 | 3003845 | 306545 | 641003 | 133414 | 3439650 | 3639233 | 1028542 |
| 18:53 | MA15487-STD4 | 2446575 | 2971365 | 306031 | 613085 | 128315 | 3407024 | 3579573 | 1012126 |
| 19:00 | MA15487-STD5 | 2448660 | 2977266 | 303467 | 600977 | 126076 | 3433562 | 3589195 | 1003403 |
| 19:07 | MA15487-STD6 | 2438383 | 2950959 | 299661 | 595010 | 123625 | 3413959 | 3571672 | 989912 |
| 19:14 | MA15487-STD7 | 2433077 | 2995473 | 309399 | 610435 | 127289 | 3422370 | 3615169 | 1028416 |
| 19:21 | MA15487-STD8 | 2430402 | 3006950 | 309661 | 615629 | 125286 | 3319164 | 3498303 | 996191 |
| 19:28 | MA15487-ICV1 | 2449345 | 2996537 | 301238 | 600473 | 122657 | 3336536 | 3512040 | 979513 |
| 19:35 | MA15487-ICB1 | 2469927 | 3024564 | 307277 | 610384 | 125783 | 3440049 | 3599575 | 1022258 |
| 19:42 | MA15487-CCV1 | 2437702 | 3012486 | 299429 | 592242 | 121576 | 3327629 | 3500683 | 982754 |
| 19:49 | MA15487-CCB1 | 2490315 | 3011193 | 313541 | 610426 | 127622 | 3453340 | 3628623 | 1032970 |
| 19:57 | MA15487-CRI1 | 2478031 | 3022419 | 307511 | 612104 | 125762 | 3457854 | 3628649 | 1017576 |
| 20:04 | MA15487-ICSA1 | 2220820 | 2841165 | 281703 | 591941 | 116350 | 3008573 | 3292593 | 886402 |
| 20:11 | MA15487-ICSAB1 | 2012340 | 2876747 | 285842 | 597689 | 117671 | 3069376 | 3347935 | 884388 |
| 20:18 | ZZZZZZ | 2020596 | 3042512 | 300798 | 625321 | 126178 | 3535317 | 3764831 | 998740 |
| 20:25 | MP20810-MB1 | 1916849 | 2968049 | 297578 | 610528 | 123853 | 3487254 | 3717462 | 980088 |
| 20:32 | ZZZZZZ | 1695972 | 2875045 | 290332 | 592654 | 120263 | 3216950 | 3534661 | 940063 |
| 20:39 | ZZZZZZ | 1675470 | 2869031 | 289892 | 598808 | 121127 | 3265294 | 3559790 | 940044 |
| 20:46 | ZZZZZZ | 1618027 | !a2834517 | 289867 | 589949 | 120412 | 3181503 | 3487623 | 909992 |
| 20:53 | ZZZZZZ | 1632270 | !a2889166 | 300786 | 598819 | 123249 | 3427769 | 3650281 | 962738 |
| 21:01 | ZZZZZZ | 1910463 | 3070875 | 311347 | 623298 | 128366 | 3562123 | 3779485 | 987672 |
| 21:08 | MA15487-CCV2 | 1910782 | 2935195 | 294120 | 585987 | 120288 | 3271195 | 3549796 | 929908 |
| 21:15 | MA15487-CCB2 | 1984540 | 2980183 | 297811 | 608373 | 122500 | 3445754 | 3672035 | 972972 |
| 21:22 | ZZZZZZ | 2055441 | 3040115 | 307266 | 615757 | 124965 | 3450267 | 3691269 | 980507 |
| 21:29 | ZZZZZZ | 2152530 | 3070238 | 303374 | 618075 | 124388 | 3468842 | 3681384 | 981374 |
| 21:36 | ZZZZZZ | 2084760 | 2995357 | 301059 | 612038 | 123655 | 3380082 | 3660230 | 981177 |
| 21:43 | MC19884-15F | 1984253 | 2967292 | 297212 | 607590 | 122529 | 3326874 | 3572619 | 967824 |
| 21:50 | MC19884-13F | 2366420 | 3124482 | 313448 | 633401 | 126713 | 3571895 | 3763785 | 1014360 |
| 21:57 | MC19884-14F | 2285954 | 3083070 | 309913 | 628326 | 126201 | 3515082 | 3729026 | 1004705 |
| 22:04 | MP20810-SD1 | 2241703 | 3089709 | 307529 | 635041 | 124781 | 3512615 | 3709004 | 998786 |
| 22:11 | MP20810-PS1 | 2284839 | 3115599 | 308853 | 632261 | 124901 | 3489963 | 3710037 | 1000874 |
| 22:18 | ZZZZZZ | 2123304 | 3046400 | 308583 | 618101 | 124847 | 3484268 | 3696719 | 990081 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 22:25 | MA15487-CRI2 | 2122915 | 3009806 | 306595 | 610051 | 123947 | 3420914 | 3659529 | 988656 |
| 22:32 | MA15487-CCV3 | 2116219 | 2989080 | 301133 | 593801 | 120915 | 3300444 | 3508976 | 944619 |
| 22:39 | MA15487-CCB3 | 2188056 | 3002716 | 304400 | 612559 | 123620 | 3458779 | 3647089 | 989270 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:32 | MA15487-STD1 | 4430852 R | 2323029 R |
| 18:39 | MA15487-STD2 | 4554885 | 2353382 |
| 18:46 | MA15487-STD3 | 4559054 | 2369015 |
| 18:53 | MA15487-STD4 | 4535092 | 2353769 |
| 19:00 | MA15487-STD5 | 4557608 | 2352690 |
| 19:07 | MA15487-STD6 | 4550928 | 2337292 |
| 19:14 | MA15487-STD7 | 4516944 | 2352574 |
| 19:21 | MA15487-STD8 | 4446004 | 2176266 |
| 19:28 | MA15487-ICV1 | 4487626 | 2252149 |
| 19:35 | MA15487-ICB1 | 4502494 | 2333220 |
| 19:42 | MA15487-CCV1 | 4440499 | 2244981 |
| 19:49 | MA15487-CCB1 | 4483527 | 2318361 |
| 19:57 | MA15487-CRI1 | 4523756 | 2301393 |
| 20:04 | MA15487-ICSA1 | 4333861 | 2011185 |
| 20:11 | MA15487-ICSAB1 | 4408114 | 2029155 |
| 20:18 | ZZZZZZ | 4719614 | 2400945 |
| 20:25 | MP20810-MB1 | 4669884 | 2394707 |
| 20:32 | ZZZZZZ | 4570041 | 2249009 |
| 20:39 | ZZZZZZ | 4564893 | 2277652 |
| 20:46 | ZZZZZZ | 4526371 | 2224537 |
| 20:53 | ZZZZZZ | 4629005 | 2335640 |
| 21:01 | ZZZZZZ | 4689667 | 2315044 |
| 21:08 | MA15487-CCV2 | 4480670 | 2234870 |
| 21:15 | MA15487-CCB2 | 4552271 | 2325863 |
| 21:22 | ZZZZZZ | 4556375 | 2284774 |
| 21:29 | ZZZZZZ | 4589769 | 2304439 |
| 21:36 | ZZZZZZ | 4512100 | 2311586 |
| 21:43 | MC19884-15F | 4510994 | 2281590 |
| 21:50 | MC19884-13F | 4613855 | 2267965 |
| 21:57 | MC19884-14F | 4582782 | 2282783 |
| 22:04 | MP20810-SD1 | 4599304 | 2320971 |
| 22:11 | MP20810-PS1 | 4589047 | 2332906 |
| 22:18 | ZZZZZZ | 4579824 | 2321814 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15487
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 22:25 | MA15487-CRI2 | 4492606 | 2295853 |
| 22:32 | MA15487-CCV3 | 4492219 | 2213192 |
| 22:39 | MA15487-CCB3 | 4494517 | 2302513 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15487  Units: ug/l

| Time: / Sample ID: | | | | 19:35 ICB1 | | 19:49 CCB1 | | 21:15 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0074 | <0.50 | -0.0022 | <0.50 | 0.038 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15487  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 22:39 CCB3 raw | final |
|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.017 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15487  Units: ug/l

| Time: | | 19:28 | | | 19:42 | | | 21:08 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.0 | 100.0 | 50 | 50.2 | 100.4 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15487  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 22:32 | |
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.9 | 99.8 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15487  Units: ug/l

| Time: | | | 19:57 | | 22:25 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.51 | 102.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042213W2L.AGF  Date Analyzed: 04/22/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15487  Units: ug/l

| Time: | | | 20:04 | | 20:11 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 96300 | 96.3 | 93900 | 93.9 |
| Antimony | | | 0.28* | | 0.29* | |
| Arsenic | | 20 | 0.17 | | 20.5 | 102.5 |
| Barium | | | 0.26 | | 0.28 | |
| Beryllium | | | 0.0077 | | 0.013 | |
| Boron | | | 0.25 | | 0.24 | |
| Cadmium | | 20 | 0.86* | | 20.0 | 100.0 |
| Calcium | 100000 | 100000 | 96700 | 96.7 | 97300 | 97.3 |
| Chromium | | 20 | 1.1* | | 20.1 | 100.5 |
| Cobalt | | 20 | 0.041 | | 19.0 | 95.0 |
| Copper | | 20 | 0.25 | | 17.8 | 89.0 |
| Iron | 100000 | 100000 | 97600 | 97.6 | 97200 | 97.2 |
| Lead | | | 0.21 | | 0.55* | |
| Magnesium | 100000 | 100000 | 96000 | 96.0 | 93500 | 93.5 |
| Manganese | | 20 | 0.30 | | 19.4 | 97.0 |
| Molybdenum | 2000 | 2000 | 2030 | 101.5 | 2030 | 101.5 |
| Nickel | | 20 | 0.68* | | 19.2 | 96.0 |
| Potassium | 100000 | 100000 | 97400 | 97.4 | 98100 | 98.1 |
| Selenium | | | 0.34* | | 0.29* | |
| Silver | | 20 | 0.077 | | 19.4 | 97.0 |
| Sodium | 100000 | 100000 | 95300 | 95.3 | 92400 | 92.4 |
| Strontium | | | 4.9* | | 4.9* | |
| Thallium | | | 0.060 | | 0.033 | |
| Tin | | | 0.12 | | 0.13 | |
| Titanium | 2000 | 2000 | 1950 | 97.5 | 1950 | 97.5 |
| Vanadium | | | -0.097 | | -0.079 | |
| Zinc | | 20 | 2.6* | | 22.2 | 111.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:13 | MA15497-STD1 | 1 | | STDA |
| 17:20 | MA15497-STD2 | 1 | | STDB |
| 17:27 | MA15497-STD3 | 1 | | STDC |
| 17:35 | MA15497-STD4 | 1 | | STDD |
| 17:42 | MA15497-STD5 | 1 | | STDE |
| 17:49 | MA15497-STD6 | 1 | | STDF |
| 17:56 | MA15497-STD7 | 1 | | STDG |
| 18:03 | MA15497-STD8 | 1 | | STDH |
| 18:10 | MA15497-ICV1 | 1 | | |
| 18:17 | MA15497-ICB1 | 1 | | |
| 18:24 | MA15497-CCV1 | 1 | | |
| 18:31 | MA15497-CCB1 | 1 | | |
| 18:38 | MA15497-CRI1 | 1 | | |
| 18:45 | MA15497-ICSA1 | 1 | | |
| 18:53 | MA15497-ICSAB1 | 1 | | |
| 19:00 | ZZZZZZ | 1 | | RINSECONF |
| 19:07 | MP20828-MB1 | 2 | | |
| 19:14 | MC19884-17F | 2 | | |
| 19:21 | MC19884-18F | 2 | | |
| 19:28 | MC19884-19F | 2 | | |
| 19:35 | MC19884-20F | 2 | | |
| 19:42 | ZZZZZZ | 10 | | |
| 19:49 | MA15497-CCV2 | 1 | | |
| 19:56 | MA15497-CCB2 | 1 | | |
| 20:04 | ZZZZZZ | 100 | | |
| 20:11 | ZZZZZZ | 2 | | |
| 20:18 | ZZZZZZ | 2 | | |
| 20:25 | MP20828-B1 | 20 | | |
| 20:32 | MP20828-S1 | 20 | | |
| 20:39 | MP20828-S2 | 20 | | |
| 20:46 | MP20828-SD1 | 10 | | |
| 20:53 | MP20828-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC19884 | | | |
| 21:00 | ZZZZZZ | 1 | | RINSECONF |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:07 | MA15497-CRI2 | 1 | | |
| 21:14 | MA15497-CCV3 | 1 | | |
| 21:21 | MA15497-CCB3 | 1 | | |
| 21:28 | MP20756A-MB1 | 2 | | |
| 21:35 | MC19681-6 | 2 | | (sample used for QC only; not part of login MC19884) |
| 21:42 | ZZZZZZ | 2 | | |
| 21:49 | ZZZZZZ | 2 | | |
| 21:56 | ZZZZZZ | 2 | | |
| 22:03 | ZZZZZZ | 2 | | |
| 22:11 | ZZZZZZ | 2 | | |
| 22:18 | ZZZZZZ | 2 | | |
| 22:25 | ZZZZZZ | 2 | | |
| 22:32 | ZZZZZZ | 2 | | |
| 22:39 | MA15497-CCV4 | 1 | | |
| 22:46 | MA15497-CCB4 | 1 | | |
| 22:53 | ZZZZZZ | 2 | | |
| 23:00 | ZZZZZZ | 2 | | |
| 23:07 | MP20756A-B1 | 5 | | |
| 23:14 | MP20756A-S1 | 5 | | |
| 23:21 | MP20756A-S2 | 5 | | |
| 23:28 | MP20756A-SD1 | 10 | | |
| 23:35 | MP20764A-MB1 | 2 | | |
| 23:42 | MC20108-1 | 2 | | (sample used for QC only; not part of login MC19884) |
| 23:49 | ZZZZZZ | 2 | | |
| 23:56 | ZZZZZZ | 2 | | |
| 00:03 | MA15497-CCV5 | 1 | | |
| 00:10 | MA15497-CCB5 | 1 | | |
| 00:18 | ZZZZZZ | 2 | | |
| 00:25 | ZZZZZZ | 2 | | |
| 00:32 | ZZZZZZ | 2 | | |
| 00:39 | ZZZZZZ | 2 | | |
| 00:46 | ZZZZZZ | 2 | | |
| 00:53 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 01:00 | ZZZZZZ | 2 | | |
| 01:07 | MP20764A-B1 | 5 | | |
| 01:14 | MP20764A-S1 | 5 | | |
| 01:21 | MP20764A-S2 | 5 | | |
| 01:28 | MA15497-CCV6 | 1 | | |
| 01:35 | MA15497-CCB6 | 1 | | |
| 01:42 | MP20764A-SD1 | 10 | | |
| 01:49 | MA15497-CRI3 | 1 | | |
| 01:56 | MA15497-ICSA2 | 1 | | |
| 02:03 | MA15497-ICSAB2 | 1 | | |
| 02:11 | ZZZZZZ | 1 | | RINSECONF |
| 02:18 | MA15497-CCV7 | 1 | | |
| 02:25 | MA15497-CCB7 | 1 | | |

----------> Last reportable CCB for job MC19884
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:13 | MA15497-STD1 | 1663748 R | 2728585 R | 406595 R | 617288 R | 157406 R | 3944827 R | 4162834 R | 1319592 R |
| 17:20 | MA15497-STD2 | 1669461 | 2720414 | 406086 | 619566 | 157448 | 3916929 | 4188005 | 1315494 |
| 17:27 | MA15497-STD3 | 1670534 | 2718727 | 405395 | 612717 | 156858 | 3901592 | 4173284 | 1314666 |
| 17:35 | MA15497-STD4 | 1673562 | 2683283 | 406470 | 601994 | 156861 | 3893680 | 4139365 | 1319910 |
| 17:42 | MA15497-STD5 | 1639338 | 2690757 | 398865 | 598457 | 153880 | 3850722 | 4086852 | 1300239 |
| 17:49 | MA15497-STD6 | 1636274 | 2641334 | 392101 | 600578 | 150996 | 3860264 | 4071217 | 1283462 |
| 17:56 | MA15497-STD7 | 1645265 | 2705120 | 409351 | 624022 | 158675 | 3917278 | 4215249 | 1304340 |
| 18:03 | MA15497-STD8 | 1558491 | 2862488 | 425961 | 665305 | 163192 | 3910910 | 4213182 | 1291441 |
| 18:10 | MA15497-ICV1 | 1475293 | 2787078 | 411627 | 637236 | 158255 | 3932654 | 4216451 | 1282627 |
| 18:17 | MA15497-ICB1 | 1481342 | 2862991 | 431012 | 670327 | 165769 | 4158766 | 4437030 | 1347332 |
| 18:24 | MA15497-CCV1 | 1456893 | 2792744 | 412243 | 639444 | 158460 | 3941677 | 4245245 | 1294501 |
| 18:31 | MA15497-CCB1 | 1444451 | 2864991 | 431616 | 674789 | 165781 | 4222469 | 4498207 | 1364096 |
| 18:38 | MA15497-CRI1 | 1471649 | 2861350 | 434822 | 668371 | 166950 | 4190698 | 4459136 | 1365234 |
| 18:45 | MA15497-ICSA1 | 1252164 | 2695864 | 398809 | 653682 | 156134 | 3562781 | 3949833 | 1239659 |
| 18:53 | MA15497-ICSAB1 | 598985 !a | 2447521 | 410566 | 628074 | 159666 | 3663074 | 4151241 | 1243194 |
| 19:00 | ZZZZZZ | 493438 !a | 2391055 | 434845 | 629061 | 170150 | 4237916 | 4714962 | 1355315 |
| 19:07 | MP20828-MB1 | 380817 !a | 2185964 | 430355 | 598914 | 168463 | 4104614 | 4599647 | 1323224 |
| 19:14 | MC19884-17F | 381079 !a | 2188889 | 412504 | 583521 | 157147 | 3721132 | 4313947 | 1299879 |
| 19:21 | MC19884-18F | 428528 !a | 2208759 | 406525 | 578214 | 155443 | 3669827 | 4242876 | 1284569 |
| 19:28 | MC19884-19F | 447507 !a | 2359768 | 423509 | 621753 | 166019 | 3981368 | 4486511 | 1274282 |
| 19:35 | MC19884-20F | 442982 !a | 2307432 | 431471 | 618138 | 167290 | 4020347 | 4594227 | 1291528 |
| 19:42 | ZZZZZZ | 698955 !a | 2683132 | 445372 | 685546 | 173367 | 4355442 | 4816805 | 1372419 |
| 19:49 | MA15497-CCV2 | 765174 !a | 2822523 | 432495 | 687683 | 165646 | 4436168 | 4864260 | 1313802 |
| 19:56 | MA15497-CCB2 | 816401 !a | 2688393 | 436239 | 671409 | 168492 | 4361799 | 4710735 | 1342494 |
| 20:04 | ZZZZZZ | 1212479 | 2895873 | 433979 | 701134 | 167669 | 4388490 | 4711819 | 1351822 |
| 20:11 | ZZZZZZ | 594897 !a | 2482153 | 420566 | 644414 | 164261 | 3964508 | 4433482 | 1272618 |
| 20:18 | ZZZZZZ | 595685 !a | 2513139 | 431087 | 645096 | 165820 | 4251544 | 4635692 | 1312208 |
| 20:25 | MP20828-B1 | 1151533 !a | 2930985 | 437779 | 696820 | 167816 | 4411992 | 4747001 | 1352237 |
| 20:32 | MP20828-S1 | 1186282 | 2897643 | 433386 | 685842 | 163796 | 4192621 | 4546811 | 1286385 |
| 20:39 | MP20828-S2 | 1244800 | 2909583 | 422379 | 683358 | 163719 | 4193009 | 4521290 | 1289873 |
| 20:46 | MP20828-SD1 | 1154181 !a | 2818063 | 420906 | 683685 | 162284 | 4118725 | 4439482 | 1276166 |
| 20:53 | MP20828-PS1 | 899965 !a | 2628655 | 402010 | 626566 | 152690 | 3778642 | 4204448 | 1255606 |
| 21:00 | ZZZZZZ | 1211434 | 2876915 | 426874 | 689044 | 165776 | 4345255 | 4636434 | 1326297 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 21:07 | MA15497-CRI2 | 1204523 | 2881765 | 429515 | 687495 | 164808 | 4328517 | 4645386 | 1333156 |
| 21:14 | MA15497-CCV3 | 1175983 | 2808047 | 413893 | 664483 | 158985 | 4112500 | 4436126 | 1263501 |
| 21:21 | MA15497-CCB3 | 1216434 | 2824447 | 420935 | 680418 | 162469 | 4254779 | 4597241 | 1298149 |
| 21:28 | MP20756A-MB1 | 898531 !a | 2650625 | 417047 | 656177 | 159938 | 4219122 | 4534070 | 1280536 |
| 21:35 | MC19681-6 | 886916 !a | 2651771 | 408635 | 647474 | 157055 | 3884812 | 4368907 | 1257248 |
| 21:42 | ZZZZZZ | 828276 !a | 2653847 | 412604 | 657568 | 158221 | 3952132 | 4417291 | 1272092 |
| 21:49 | ZZZZZZ | 832870 !a | 2590351 | 404580 | 635248 | 157879 | 3931632 | 4343761 | 1258566 |
| 21:56 | ZZZZZZ | 826955 !a | 2602395 | 408957 | 642145 | 158136 | 3957759 | 4426078 | 1257880 |
| 22:03 | ZZZZZZ | 812350 !a | 2537017 | 402366 | 620590 | 155216 | 3841516 | 4325405 | 1255142 |
| 22:11 | ZZZZZZ | 822042 !a | 2518341 | 393946 | 611492 | 151463 | 3746053 | 4181462 | 1242395 |
| 22:18 | ZZZZZZ | 836288 !a | 2594633 | 397046 | 623475 | 151621 | 3794717 | 4291434 | 1293967 |
| 22:25 | ZZZZZZ | 851690 !a | 2560689 | 396642 | 634585 | 153781 | 3820904 | 4311208 | 1248238 |
| 22:32 | ZZZZZZ | 873947 !a | 2531789 | 396084 | 631173 | 152672 | 3827737 | 4288806 | 1246534 |
| 22:39 | MA15497-CCV4 | 1217366 | 2764962 | 405145 | 648837 | 156408 | 4072146 | 4446060 | 1249809 |
| 22:46 | MA15497-CCB4 | 1233928 | 2788145 | 419163 | 671123 | 162848 | 4234914 | 4576913 | 1310733 |
| 22:53 | ZZZZZZ | 889374 !a | 2538600 | 396077 | 627044 | 152174 | 3826437 | 4283478 | 1303850 |
| 23:00 | ZZZZZZ | 917425 !a | 2534596 | 386537 | 605049 | 147821 | 3653233 | 4085964 | 1265382 |
| 23:07 | MP20756A-B1 | 1200552 | 2798822 | 412679 | 661662 | 157135 | 4126245 | 4515194 | 1281234 |
| 23:14 | MP20756A-S1 | 1152659 !a | 2751809 | 402569 | 648050 | 154600 | 3957614 | 4390645 | 1277400 |
| 23:21 | MP20756A-S2 | 1145049 !a | 2750560 | 401141 | 646394 | 153347 | 3962962 | 4388694 | 1271115 |
| 23:28 | MP20756A-SD1 | 1291146 | 2780532 | 406840 | 670756 | 159244 | 4097239 | 4534301 | 1284597 |
| 23:35 | MP20764A-MB1 | 957201 !a | 2575681 | 402700 | 640391 | 156103 | 4071909 | 4489682 | 1265458 |
| 23:42 | MC20108-1 | 946934 !a | 2581274 | 397684 | 630900 | 152964 | 3889536 | 4341689 | 1324415 |
| 23:49 | ZZZZZZ | 971413 !a | 2607359 | 403145 | 645973 | 155461 | 4057914 | 4449413 | 1271875 |
| 23:56 | ZZZZZZ | 961873 !a | 2606791 | 402207 | 645547 | 155900 | 4048281 | 4444727 | 1262011 |
| 00:03 | MA15497-CCV5 | 1258615 | 2809440 | 403454 | 654242 | 156285 | 4095457 | 4453806 | 1254906 |
| 00:10 | MA15497-CCB5 | 1303403 | 2805388 | 411317 | 667244 | 159711 | 4187562 | 4550420 | 1301691 |
| 00:18 | ZZZZZZ | 842680 !a | 2519185 | 373540 | 605972 | 145901 | 3570845 | 4065342 | 1223614 |
| 00:25 | ZZZZZZ | 768857 !a | 2518042 | 389589 | 610245 | 149769 | 3690681 | 4210860 | 1277855 |
| 00:32 | ZZZZZZ | 778353 !a | 2534056 | 393824 | 626180 | 154391 | 3875387 | 4387174 | 1260714 |
| 00:39 | ZZZZZZ | 712767 !a | 2484698 | 386414 | 618518 | 149314 | 3728507 | 4240812 | 1269449 |
| 00:46 | ZZZZZZ | 709540 !a | 2591082 | 383474 | 603731 | 144563 | 3615309 | 4131379 | 1212371 |
| 00:53 | ZZZZZZ | 743626 !a | 2639803 | 386238 | 586895 | 144431 | 3573669 | 4082555 | 1206183 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 01:00 | ZZZZZZ | 669706 | !a 2536931 | 376829 | 578262 | 143790 | 3553406 | 4065533 | 1206732 |
| 01:07 | MP20764A-B1 | 944022 | !a 2530858 | 387022 | 618135 | 152108 | 3901875 | 4365336 | 1244307 |
| 01:14 | MP20764A-S1 | -348578 | !a2583424 | 392710 | 624158 | 152629 | 3840533 | 4316413 | 1243222 |
| 01:21 | MP20764A-S2 | -320440 | !a2571872 | 389357 | 623032 | 151054 | 3850255 | 4282942 | 1240220 |
| 01:28 | MA15497-CCV6 | 1036323 | !a2625853 | 392662 | 623560 | 153161 | 3964544 | 4391045 | 1247787 |
| 01:35 | MA15497-CCB6 | 1057956 | !a2620055 | 397113 | 631873 | 155534 | 4049160 | 4468588 | 1273866 |
| 01:42 | MP20764A-SD1 | 1092125 | !a2636578 | 400605 | 639587 | 158210 | 4046558 | 4447643 | 1272431 |
| 01:49 | MA15497-CRI3 | 1079842 | !a2630884 | 398520 | 639233 | 156875 | 4110261 | 4488149 | 1291975 |
| 01:56 | MA15497-ICSA2 | 723668 | !  2439985 | 381971 | 626882 | 152248 | 3542229 | 4043690 | 1202833 |
| 02:03 | MA15497-ICSAB2 | 415988 | !  2191342 | 378882 | 595844 | 151921 | 3537742 | 4127802 | 1195684 |
| 02:11 | ZZZZZZ | 377081 | !a 2176499 | 399911 | 595191 | 161107 | 4074615 | 4652762 | 1291807 |
| 02:18 | MA15497-CCV7 | 363088 | !a 2154432 | 396347 | 582950 | 157481 | 3952405 | 4501632 | 1260319 |
| 02:25 | MA15497-CCB7 | 370091 | !a 2173332 | 402879 | 593347 | 161275 | 4091624 | 4629754 | 1298085 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:13 | MA15497-STD1 | 5883852 R | 3404545 R |
| 17:20 | MA15497-STD2 | 5879111 | 3435468 |
| 17:27 | MA15497-STD3 | 5875325 | 3418772 |
| 17:35 | MA15497-STD4 | 5807809 | 3370385 |
| 17:42 | MA15497-STD5 | 5834352 | 3392538 |
| 17:49 | MA15497-STD6 | 5828572 | 3363218 |
| 17:56 | MA15497-STD7 | 5864173 | 3339608 |
| 18:03 | MA15497-STD8 | 5991162 | 3255112 |
| 18:10 | MA15497-ICV1 | 5986459 | 3306502 |
| 18:17 | MA15497-ICB1 | 6148310 | 3501228 |
| 18:24 | MA15497-CCV1 | 6011070 | 3327412 |
| 18:31 | MA15497-CCB1 | 6265561 | 3509637 |
| 18:38 | MA15497-CRI1 | 6257073 | 3478977 |
| 18:45 | MA15497-ICSA1 | 5833609 | 2940727 |
| 18:53 | MA15497-ICSAB1 | 6267746 | 3138961 |
| 19:00 | ZZZZZZ | 6926413 | 3962376 |
| 19:07 | MP20828-MB1 | 6906389 | 3916884 |
| 19:14 | MC19884-17F | 6568721 | 3413387 |
| 19:21 | MC19884-18F | 6382339 | 3396485 |
| 19:28 | MC19884-19F | 6754991 | 3619467 |
| 19:35 | MC19884-20F | 6767341 | 3684974 |
| 19:42 | ZZZZZZ | 6889975 | 3792553 |
| 19:49 | MA15497-CCV2 | 6953515 | 3734125 |
| 19:56 | MA15497-CCB2 | 6653819 | 3732146 |
| 20:04 | ZZZZZZ | 6452805 | 3622070 |
| 20:11 | ZZZZZZ | 6507106 | 3432198 |
| 20:18 | ZZZZZZ | 6731914 | 3743045 |
| 20:25 | MP20828-B1 | 6556951 | 3560440 |
| 20:32 | MP20828-S1 | 6381369 | 3461173 |
| 20:39 | MP20828-S2 | 6289382 | 3427118 |
| 20:46 | MP20828-SD1 | 6200164 | 3358085 |
| 20:53 | MP20828-PS1 | 6086958 | 3205826 |
| 21:00 | ZZZZZZ | 6400254 | 3574600 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 21:07 | MA15497-CRI2 | 6407741 | 3540405 |
| 21:14 | MA15497-CCV3 | 6298853 | 3412830 |
| 21:21 | MA15497-CCB3 | 6356741 | 3524247 |
| 21:28 | MP20756A-MB1 | 6500280 | 3627186 |
| 21:35 | MC19681-6 | 6358048 | 3381133 |
| 21:42 | ZZZZZZ | 6511855 | 3471707 |
| 21:49 | ZZZZZZ | 6445617 | 3518034 |
| 21:56 | ZZZZZZ | 6501899 | 3561267 |
| 22:03 | ZZZZZZ | 6395629 | 3434512 |
| 22:11 | ZZZZZZ | 6269912 | 3324840 |
| 22:18 | ZZZZZZ | 6327782 | 3333873 |
| 22:25 | ZZZZZZ | 6389664 | 3454267 |
| 22:32 | ZZZZZZ | 6349834 | 3459954 |
| 22:39 | MA15497-CCV4 | 6395521 | 3486264 |
| 22:46 | MA15497-CCB4 | 6430064 | 3608806 |
| 22:53 | ZZZZZZ | 6288661 | 3438850 |
| 23:00 | ZZZZZZ | 6104460 | 3239644 |
| 23:07 | MP20756A-B1 | 6450348 | 3457764 |
| 23:14 | MP20756A-S1 | 6342759 | 3357905 |
| 23:21 | MP20756A-S2 | 6359324 | 3420646 |
| 23:28 | MP20756A-SD1 | 6372704 | 3552336 |
| 23:35 | MP20764A-MB1 | 6502521 | 3684707 |
| 23:42 | MC20108-1 | 6413730 | 3486091 |
| 23:49 | ZZZZZZ | 6511357 | 3653077 |
| 23:56 | ZZZZZZ | 6475256 | 3653836 |
| 00:03 | MA15497-CCV5 | 6375809 | 3459315 |
| 00:10 | MA15497-CCB5 | 6413795 | 3581015 |
| 00:18 | ZZZZZZ | 6040806 | 3167297 |
| 00:25 | ZZZZZZ | 6354665 | 3337923 |
| 00:32 | ZZZZZZ | 6614541 | 3567361 |
| 00:39 | ZZZZZZ | 6350639 | 3361108 |
| 00:46 | ZZZZZZ | 6195164 | 3266341 |
| 00:53 | ZZZZZZ | 6137790 | 3275902 |

INTERNAL STANDARD SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 01:00 | ZZZZZZ | 6175419 | 3274178 |
| 01:07 | MP20764A-B1 | 6452127 | 3525481 |
| 01:14 | MP20764A-S1 | 6387649 | 3412500 |
| 01:21 | MP20764A-S2 | 6365198 | 3451999 |
| 01:28 | MA15497-CCV6 | 6425235 | 3520846 |
| 01:35 | MA15497-CCB6 | 6394354 | 3589006 |
| 01:42 | MP20764A-SD1 | 6420592 | 3592080 |
| 01:49 | MA15497-CRI3 | 6450358 | 3646616 |
| 01:56 | MA15497-ICSA2 | 6098702 | 3088413 |
| 02:03 | MA15497-ICSAB2 | 6313714 | 3205255 |
| 02:11 | ZZZZZZ | 6837460 | 3935583 |
| 02:18 | MA15497-CCV7 | 6827950 | 3793123 |
| 02:25 | MA15497-CCB7 | 6937803 | 3944137 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: | | | | 18:17 | | 18:31 | | 19:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0032 | <0.50 | -0.0091 | <0.50 | -0.0067 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: | | | | 21:21 | | 22:46 | | 00:10 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | | CCB4 | | CCB5 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.018 | <0.50 | 0.0033 | <0.50 | 0.011 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: / Sample ID: | | | | 01:35 CCB6 | | 02:25 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.021 | <0.50 | -0.014 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 18:10 | | | 18:24 | | | 19:49 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.3 | 98.8 | 50 | 50.6 | 101.2 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 21:14 | | | 22:39 | | | 00:03 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.3 | 98.6 | 50 | 49.4 | 98.8 | 50 | 49.1 | 98.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 01:28 | | | 02:18 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | |
| Arsenic | 50 | 49.4 | 98.8 | 50 | 49.4 | 98.8 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | anr | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | | 18:38 | | 21:07 | | 01:49 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.46 | 92.0 | 0.53 | 106.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | anr | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | | 18:45 | | 18:53 | | 01:56 | | 02:03 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Antimony | | | 0.28* | | 0.29* | | 0.29* | | 0.29* | |
| Arsenic | | 20 | 0.25 | | 20.1 | 100.5 | 0.26 | | 19.9 | 99.5 |
| Barium | | | 0.23 | | 0.24 | | 0.26 | | 0.28 | |
| Beryllium | | | -0.022 | | -0.024 | | -0.0059 | | 0.00044 | |
| Boron | | | 0.21 | | 0.30 | | 0.46 | | 0.48 | |
| Cadmium | | 20 | 1.1 | | 19.7 | 98.5 | 1.1 | | 19.8 | 99.0 |
| Calcium | 100000 | 100000 | 96600 | 96.6 | 97200 | 97.2 | 96700 | 96.7 | 97100 | 97.1 |
| Chromium | | 20 | 1.0* | | 20.5 | 102.5 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.048 | | 19.4 | 97.0 | 0.045 | | 19.7 | 98.5 |
| Copper | | 20 | 0.31 | | 17.7 | 88.5 | 0.26 | | 17.5 | 87.5 |
| Iron | 100000 | 100000 | 97200 | 97.2 | 99100 | 99.1 | 97600 | 97.6 | 99900 | 99.9 |
| Lead | | | 0.13 | | 0.13 | | 0.14 | | 0.14 | |
| Manganese | | 20 | 0.24 | | 19.2 | 96.0 | 0.26 | | 19.3 | 96.5 |
| Molybdenum | 2000 | 2000 | 2040 | 102.0 | 2050 | 102.5 | 2030 | 101.5 | 2050 | 102.5 |
| Nickel | | 20 | 0.66* | | 19.0 | 95.0 | 0.67* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 97200 | 97.2 | 94100 | 94.1 | 94700 | 94.7 | 91600 | 91.6 |
| Selenium | | | 0.091 | | 0.14 | | 0.24 | | 0.18 | |
| Silver | | 20 | 0.090 | | 19.5 | 97.5 | 0.062 | | 19.1 | 95.5 |
| Strontium | | | 5.1* | | 5.1* | | 5.1* | | 5.1* | |
| Thallium | | | 0.051 | | 0.022 | | 0.076 | | 0.052 | |
| Tin | | | 0.12 | | 0.12 | | 0.096 | | 0.087 | |
| Titanium | 2000 | 2000 | 1930 | 96.5 | 1930 | 96.5 | 1930 | 96.5 | 1940 | 97.0 |
| Vanadium | | | -0.12 | | -0.10 | | 0.058 | | 0.022 | |
| Zinc | | 20 | 1.9* | | 19.4 | 97.0 | 2.0* | | 19.1 | 95.5 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.34 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.2 | 529 | 500 | 105.6 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.2 | 515 | 500 | 102.8 | 2.7 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 512 | 500 | 102.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/17/13

| Metal | MC19762-17F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.21 | 0.574 | 52.7 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20790
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/17/13

| Metal | Sample ml | Final ml | MC19762-17F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.213 | 1.010833 | 17.54 | 2 | .1 | 16.66667 | 99.2 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20790: MC19884-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/18/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.44 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/18/13

| Metal | MC19884-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 22.6 | 549 | 500 | 105.3 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/18/13

| Metal | MC19884-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 22.6 | 551 | 500 | 105.7 | 0.4 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/18/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 517 | 500 | 103.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/18/13

| Metal | MC19884-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 22.6 | 23.0 | 1.7 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20797
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/18/13

| Metal | Sample ml | Final ml | MC19884-2F Raw | MC19884-2F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 22.59 | 18.825 | 35.81 | 2 | .1 | 16.66667 | 101.9 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20797: MC19884-2F, MC19884-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/19/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.47 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/19/13

| Metal | MC19884-4F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.0 | 517 | 500 | 103.2 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/19/13

| Metal | MC19884-4F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.0 | 514 | 500 | 102.6 | 0.6 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/19/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 518 | 500 | 103.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/19/13

| Metal | MC19884-4F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.00 | 0.492 | 50.8 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20808 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/19/13

| Metal | Sample ml | Final ml | MC19884-4F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1 | 0.833333 | 17.82 | 2 | .1 | 16.66667 | 101.9 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20808: MC19884-4F, MC19884-5F, MC19884-6F, MC19884-7F, MC19884-8F, MC19884-9F, MC19884-10F, MC19884-11F, MC19884-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 1.8 | | |
| Antimony | 0.50 | .014 | .022 | | |
| Arsenic | 0.50 | .029 | .2 | 0.10 | <0.50 |
| Barium | 1.0 | .015 | .04 | | |
| Beryllium | 0.50 | .0024 | .015 | | |
| Boron | 5.0 | .035 | .079 | | |
| Cadmium | 0.50 | .0031 | .019 | | |
| Calcium | 250 | 1.7 | 41 | | |
| Chromium | 1.0 | .0087 | .075 | | |
| Cobalt | 0.50 | .0019 | .0096 | | |
| Copper | 1.0 | .0092 | .44 | | |
| Iron | 25 | .52 | 6 | | |
| Lead | 0.50 | .0027 | .013 | | |
| Magnesium | 250 | .12 | .89 | | |
| Manganese | 1.0 | .051 | .35 | | |
| Molybdenum | 1.0 | .0058 | .15 | | |
| Nickel | 1.0 | .013 | .11 | | |
| Potassium | 250 | 1.8 | 24 | | |
| Selenium | 0.50 | .13 | .19 | | |
| Silver | 0.50 | .0029 | .013 | | |
| Sodium | 250 | 1.6 | 3.1 | | |
| Strontium | 5.0 | .0033 | .02 | | |
| Thallium | 0.50 | .0069 | .0068 | | |
| Tin | 5.0 | .032 | .25 | | |
| Titanium | 1.0 | .036 | .067 | | |
| Vanadium | 2.0 | .064 | .65 | | |
| Zinc | 2.0 | .11 | .68 | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/13

| Metal | MC19884-15F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 135 | 652 | 500 | 103.4 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/13

| Metal | MC19884-15F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 135 | 658 | 500 | 104.6 | 0.9 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/20/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 515 | 500 | 103.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/20/13

| Metal | MC19884-15F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 135 | 134 | 0.7 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20810 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/20/13

| Metal | Sample ml | Final ml | MC19884-15F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 134.6 | 112.1667 | 135.8 | 2 | .1 | 16.66667 | 141.8(a) | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20810: MC19884-13F, MC19884-14F, MC19884-15F, MC19884-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recoveries outside of control limits indicate possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/23/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.41 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Antimony | | | | | |
| Arsenic | 1.7 | 532 | 500 | 106.1 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Antimony | | | | | | |
| Arsenic | 1.7 | 521 | 500 | 103.9 | 2.1 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 521 | 500 | 104.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 1.68 | 0.787 | 53.1 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC19884
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | Sample ml | Final ml | MC19884-17F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.679 | 1.399167 | 18.07 | 2 | .1 | 16.66667 | 100.0 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20828: MC19884-17F, MC19884-18F, MC19884-19F, MC19884-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13D19r00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\001CAL
Date Acquired: Apr 19 2013 05:50 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 05:48 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3072352.00 | A | 11030.00 | 0.36 |
| 7 | (Li) | | P | | |
| 9 | Be | 23.33 | P | 16.67 | 71.44 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1653.64 | P | 191.70 | 11.59 |
| 11 | B | 45.56 | P | 5.09 | 11.18 |
| 23 | Na | 498077.69 | P | 5999.00 | 1.20 |
| 23 | Na | 64728.23 | P | 438.30 | 0.68 |
| 24 | Mg | 4823.15 | P | 74.02 | 1.53 |
| 24 | Mg | 367.79 | P | 38.35 | 10.43 |
| 27 | Al | 26088.24 | P | 1393.00 | 5.34 |
| 27 | Al | 930.08 | P | 55.69 | 5.99 |
| 39 | K | 4235300.00 | A | 13360.00 | 0.32 |
| 44 | Ca | 110371.30 | P | 1344.00 | 1.22 |
| 45 | Sc | 5195889.00 | A | 22220.00 | 0.43 |
| 45 | Sc | 738552.31 | P | 3336.00 | 0.45 |
| 47 | Ti | 291.13 | P | 45.26 | 15.55 |
| 51 | V | 7033.26 | P | 95.87 | 1.36 |
| 52 | Cr | 1987.71 | P | 68.55 | 3.45 |
| 55 | Mn | 2064.18 | P | 73.65 | 3.57 |
| 56 | Fe | 50515.72 | P | 720.00 | 1.43 |
| 59 | Co | 25.33 | P | 6.93 | 27.35 |
| 60 | Ni | 363.12 | P | 34.80 | 9.58 |
| 63 | Cu | 1236.51 | P | 18.68 | 1.51 |
| 66 | Zn | 259.12 | P | 13.24 | 5.11 |
| 72 | Ge | 1059949.00 | P | 12210.00 | 1.15 |
| 72 | Ge | 272937.81 | P | 1288.00 | 0.47 |
| 75 | As | 241.34 | P | 17.68 | 7.33 |
| 78 | Se | 251.12 | P | 12.62 | 5.03 |
| 88 | Sr | 768.94 | P | 51.03 | 6.64 |
| 98 | Mo | 306.68 | P | 20.00 | 6.52 |
| 103 | Rh | 6046331.00 | A | 87370.00 | 1.45 |
| 107 | Ag | 237.79 | P | 25.46 | 10.71 |

C:\ICPCHEM\1\DATA\13D19r00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 6385235.00 | A | 18540.00 | 0.29 |
| 115 | In | 2083837.00 | A | 25190.00 | 1.21 |
| 118 | (In) | 466.69 | P | 39.30 | 8.42 |
| 118 | (In) | 178.90 | P | 18.36 | 10.26 |
| 120 | Sn | 636.70 | P | 23.34 | 3.67 |
| 121 | Sb | 494.47 | P | 34.70 | 7.02 |
| 137 | Ba | 914.51 | P | 25.89 | 2.83 |
| 159 | Tb | 7819000.00 | A | 95940.00 | 1.23 |
| 175 | Lu | 7445914.00 | A | 80030.00 | 1.07 |
| 205 | Tl | 1907.98 | P | 76.35 | 4.00 |
| 206 | (Pb) | 171.12 | P | 36.57 | 21.37 |
| 207 | (Pb) | 164.45 | P | 18.36 | 11.16 |
| 208 | Pb | 783.37 | P | 23.33 | 2.98 |
| 209 | Bi | 4013727.00 | A | 6857.00 | 0.17 |

C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\002CAL
Date Acquired: Apr 19 2013 05:57 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 05:54 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3146678.00 | A | 21770.00 | 0.69 |
| 7 | (Li) | | P | | |
| 9 | Be | 21.11 | P | 3.85 | 18.23 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 1456.78 | P | 63.60 | 4.37 |
| 11 | B | 43.33 | P | 17.64 | 40.71 |
| 23 | Na | 492543.31 | P | 7393.00 | 1.50 |
| 23 | Na | 64179.22 | P | 569.60 | 0.89 |
| 24 | Mg | 5144.38 | P | 168.10 | 3.27 |
| 24 | Mg | 420.02 | P | 42.56 | 10.13 |
| 27 | Al | 25590.62 | P | 720.30 | 2.81 |
| 27 | Al | 1000.09 | P | 78.40 | 7.84 |
| 39 | K | 4309702.00 | A | 50920.00 | 1.18 |
| 44 | Ca | 112927.40 | P | 2505.00 | 2.22 |
| 45 | Sc | 5213161.00 | A | 9362.00 | 0.18 |
| 45 | Sc | 741872.38 | P | 5053.00 | 0.68 |
| 47 | Ti | 320.02 | P | 12.02 | 3.76 |
| 51 | V | 7095.96 | P | 120.00 | 1.69 |
| 52 | Cr | 1989.93 | P | 22.41 | 1.13 |
| 55 | Mn | 2043.72 | P | 62.58 | 3.06 |
| 56 | Fe | 50906.08 | P | 1117.00 | 2.19 |
| 59 | Co | 29.33 | P | 4.81 | 16.39 |
| 60 | Ni | 499.95 | P | 182.30 | 36.46 |
| 63 | Cu | 1237.85 | P | 27.01 | 2.18 |
| 66 | Zn | 312.01 | P | 31.24 | 10.01 |
| 72 | Ge | 1062354.00 | P | 6194.00 | 0.58 |
| 72 | Ge | 273900.00 | P | 908.60 | 0.33 |
| 75 | As | 258.23 | P | 8.44 | 3.27 |
| 78 | Se | 226.23 | P | 0.77 | 0.34 |
| 88 | Sr | 711.15 | P | 23.41 | 3.29 |
| 98 | Mo | 205.57 | P | 20.37 | 9.91 |
| 103 | Rh | 6003827.00 | A | 23250.00 | 0.39 |
| 107 | Ag | 238.90 | P | 16.44 | 6.88 |

C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 4.44 | P | 1.93 | 43.31 |
| 115 | In | 6375567.00 | A | 42350.00 | 0.66 |
| 115 | In | 2096793.00 | A | 17000.00 | 0.81 |
| 118 | (In) | 351.13 | P | 17.11 | 4.87 |
| 118 | (In) | 225.62 | P | 70.83 | 31.39 |
| 120 | Sn | 500.03 | P | 41.64 | 8.33 |
| 121 | Sb | 373.35 | P | 35.12 | 9.41 |
| 137 | Ba | 903.40 | P | 28.48 | 3.15 |
| 159 | Tb | 7647907.00 | A | 42110.00 | 0.55 |
| 175 | Lu | 7337137.00 | A | 90020.00 | 1.23 |
| 205 | Tl | 1058.97 | P | 49.49 | 4.67 |
| 206 | (Pb) | 183.34 | P | 3.33 | 1.82 |
| 207 | (Pb) | 157.78 | P | 42.86 | 27.16 |
| 208 | Pb | 718.92 | P | 50.04 | 6.96 |
| 209 | Bi | 3950799.00 | A | 10600.00 | 0.27 |

C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 19 2013 06:04 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3199653.00 | A | 30140.00 | 0.94 |
| 7 | (Li) | | P | | |
| 9 | Be | 5736.79 | P | 252.10 | 4.39 |
| 9 | Be | 303.35 | P | 20.82 | 6.86 |
| 11 | B | 5321.08 | P | 120.60 | 2.27 |
| 11 | B | 154.45 | P | 36.87 | 23.87 |
| 23 | Na | 543694.13 | P | 5543.00 | 1.02 |
| 23 | Na | 67760.70 | P | 592.40 | 0.87 |
| 24 | Mg | 26413.39 | P | 129.20 | 0.49 |
| 24 | Mg | 1946.86 | P | 28.49 | 1.46 |
| 27 | Al | 56251.80 | P | 654.20 | 1.16 |
| 27 | Al | 1951.34 | P | 169.70 | 8.70 |
| 39 | K | 4334860.00 | A | 31370.00 | 0.72 |
| 44 | Ca | 115148.80 | P | 1225.00 | 1.06 |
| 45 | Sc | 5231544.00 | A | 40840.00 | 0.78 |
| 45 | Sc | 742391.81 | P | 3945.00 | 0.53 |
| 47 | Ti | 2819.25 | P | 105.20 | 3.73 |
| 51 | V | 15737.51 | P | 65.18 | 0.41 |
| 52 | Cr | 11445.72 | P | 35.55 | 0.31 |
| 55 | Mn | 9460.36 | P | 38.69 | 0.41 |
| 56 | Fe | 60829.86 | P | 199.90 | 0.33 |
| 59 | Co | 13199.59 | P | 92.88 | 0.70 |
| 60 | Ni | 3638.71 | P | 34.06 | 0.94 |
| 63 | Cu | 9774.36 | P | 161.50 | 1.65 |
| 66 | Zn | 1881.02 | P | 24.10 | 1.28 |
| 72 | Ge | 1064270.00 | P | 7749.00 | 0.73 |
| 72 | Ge | 274145.50 | P | 1684.00 | 0.61 |
| 75 | As | 1330.51 | P | 4.91 | 0.37 |
| 78 | Se | 370.01 | P | 11.37 | 3.07 |
| 88 | Sr | 41732.40 | P | 362.00 | 0.87 |
| 98 | Mo | 11740.57 | P | 151.40 | 1.29 |
| 103 | Rh | 6041791.00 | A | 54620.00 | 0.90 |
| 107 | Ag | 18815.96 | P | 597.90 | 3.18 |

C:\ICPCHEM\1\DATA\13D19r00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1765.72 | P | 117.40 | 6.65 |
| 115 | In | 6422749.00 | A | 69220.00 | 1.08 |
| 115 | In | 2086730.00 | A | 7334.00 | 0.35 |
| 118 | (In) | 12035.36 | P | 207.60 | 1.72 |
| 118 | (In) | 4261.87 | P | 94.34 | 2.21 |
| 120 | Sn | 16794.58 | P | 199.00 | 1.18 |
| 121 | Sb | 15304.04 | P | 384.90 | 2.52 |
| 137 | Ba | 6282.73 | P | 363.50 | 5.79 |
| 159 | Tb | 7735967.00 | A | 49010.00 | 0.63 |
| 175 | Lu | 7385218.00 | A | 27360.00 | 0.37 |
| 205 | Tl | 21845.73 | P | 257.80 | 1.18 |
| 206 | (Pb) | 9284.57 | P | 90.61 | 0.98 |
| 207 | (Pb) | 7560.11 | P | 214.90 | 2.84 |
| 208 | Pb | 35378.95 | P | 642.50 | 1.82 |
| 209 | Bi | 3951980.00 | A | 43110.00 | 1.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3199653.50 | 0.94 | 3146678.50 | 101.7 | 70 - 130 | |
| 45 | Sc | 5231544.00 | 0.78 | 5213161.00 | 100.4 | 70 - 130 | |
| 45 | Sc | 742391.81 | 0.53 | 741872.44 | 100.1 | 70 - 130 | |
| 72 | Ge | 1064270.30 | 0.73 | 1062354.50 | 100.2 | 70 - 130 | |
| 72 | Ge | 274145.53 | 0.61 | 273900.03 | 100.1 | 70 - 130 | |
| 103 | Rh | 6041790.50 | 0.90 | 6003827.50 | 100.6 | 70 - 130 | |
| 115 | In | 6422748.50 | 1.08 | 6375567.50 | 100.7 | 70 - 130 | |
| 115 | In | 2086730.10 | 0.35 | 2096792.90 | 99.5 | 70 - 130 | |
| 159 | Tb | 7735967.50 | 0.63 | 7647906.50 | 101.2 | 70 - 130 | |
| 175 | Lu | 7385218.00 | 0.37 | 7337137.50 | 100.7 | 70 - 130 | |
| 209 | Bi | 3951979.50 | 1.09 | 3950799.00 | 100.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 19 2013 06:11 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3213593.00 | A | 5629.00 | 0.18 |
| 7 | (Li) | | P | | |
| 9 | Be | 58118.74 | P | 549.80 | 0.95 |
| 9 | Be | 2884.80 | P | 92.06 | 3.19 |
| 11 | B | 44132.60 | P | 405.30 | 0.92 |
| 11 | B | 1352.33 | P | 109.60 | 8.10 |
| 23 | Na | 798481.50 | P | 7690.00 | 0.96 |
| 23 | Na | 90387.07 | P | 592.60 | 0.66 |
| 24 | Mg | 208026.20 | P | 663.50 | 0.32 |
| 24 | Mg | 15738.42 | P | 142.70 | 0.91 |
| 27 | Al | 287101.81 | P | 5801.00 | 2.02 |
| 27 | Al | 10155.93 | P | 302.00 | 2.97 |
| 39 | K | 4585428.00 | A | 32040.00 | 0.70 |
| 44 | Ca | 133001.09 | P | 1657.00 | 1.25 |
| 45 | Sc | 5215379.00 | A | 11550.00 | 0.22 |
| 45 | Sc | 737624.31 | P | 9323.00 | 1.26 |
| 47 | Ti | 24327.70 | P | 136.40 | 0.56 |
| 51 | V | 91690.77 | P | 757.30 | 0.83 |
| 52 | Cr | 96831.31 | P | 445.00 | 0.46 |
| 55 | Mn | 76064.90 | P | 602.30 | 0.79 |
| 56 | Fe | 140942.00 | P | 811.90 | 0.58 |
| 59 | Co | 131763.80 | P | 1105.00 | 0.84 |
| 60 | Ni | 33260.69 | P | 351.10 | 1.06 |
| 63 | Cu | 85478.09 | P | 211.90 | 0.25 |
| 66 | Zn | 17496.72 | P | 97.11 | 0.56 |
| 72 | Ge | 1056752.00 | P | 8712.00 | 0.82 |
| 72 | Ge | 272758.81 | P | 1451.00 | 0.53 |
| 75 | As | 10957.56 | P | 105.50 | 0.96 |
| 78 | Se | 1601.65 | P | 1.92 | 0.12 |
| 88 | Sr | 415242.19 | P | 2356.00 | 0.57 |
| 98 | Mo | 116142.70 | P | 1217.00 | 1.05 |
| 103 | Rh | 6057861.00 | A | 9056.00 | 0.15 |
| 107 | Ag | 191454.70 | P | 1175.00 | 0.61 |

C:\ICPCHEM\1\DATA\13D19r00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 17843.57 | P | 449.10 | 2.52 |
| 115 | In | 6391096.00 | A | 21350.00 | 0.33 |
| 115 | In | 2092201.00 | A | 27260.00 | 1.30 |
| 118 | (In) | 116879.00 | P | 950.40 | 0.81 |
| 118 | (In) | 41377.15 | P | 280.50 | 0.68 |
| 120 | Sn | 161441.20 | P | 1097.00 | 0.68 |
| 121 | Sb | 145480.20 | P | 1803.00 | 1.24 |
| 137 | Ba | 54408.78 | P | 366.10 | 0.67 |
| 159 | Tb | 7748838.00 | A | 82680.00 | 1.07 |
| 175 | Lu | 7349350.00 | A | 45320.00 | 0.62 |
| 205 | Tl | 229031.41 | P | 4325.00 | 1.89 |
| 206 | (Pb) | 89716.55 | P | 526.50 | 0.59 |
| 207 | (Pb) | 73966.89 | P | 170.80 | 0.23 |
| 208 | Pb | 344516.19 | P | 1318.00 | 0.38 |
| 209 | Bi | 3949575.00 | A | 21790.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3213593.30 | 0.18 | 3146678.50 | 102.1 | 70 - 130 | |
| 45 | Sc | 5215379.00 | 0.22 | 5213161.00 | 100.0 | 70 - 130 | |
| 45 | Sc | 737624.25 | 1.26 | 741872.44 | 99.4 | 70 - 130 | |
| 72 | Ge | 1056751.80 | 0.82 | 1062354.50 | 99.5 | 70 - 130 | |
| 72 | Ge | 272758.81 | 0.53 | 273900.03 | 99.6 | 70 - 130 | |
| 103 | Rh | 6057861.50 | 0.15 | 6003827.50 | 100.9 | 70 - 130 | |
| 115 | In | 6391096.50 | 0.33 | 6375567.50 | 100.2 | 70 - 130 | |
| 115 | In | 2092201.30 | 1.30 | 2096792.90 | 99.8 | 70 - 130 | |
| 159 | Tb | 7748838.00 | 1.07 | 7647906.50 | 101.3 | 70 - 130 | |
| 175 | Lu | 7349350.00 | 0.62 | 7337137.50 | 100.2 | 70 - 130 | |
| 209 | Bi | 3949575.30 | 0.55 | 3950799.00 | 100.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 19 2013 06:19 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3266387.00 | A | 65230.00 | 2.00 |
| 7 | (Li) | | P | | |
| 9 | Be | 286050.31 | P | 596.60 | 0.21 |
| 9 | Be | 14217.96 | P | 304.10 | 2.14 |
| 11 | B | 211041.00 | P | 1478.00 | 0.70 |
| 11 | B | 6637.19 | P | 181.50 | 2.73 |
| 23 | Na | 1907880.00 | A | 7111.00 | 0.37 |
| 23 | Na | 190056.09 | P | 542.40 | 0.29 |
| 24 | Mg | 960345.69 | P | 7095.00 | 0.74 |
| 24 | Mg | 73531.53 | P | 414.20 | 0.56 |
| 27 | Al | 1247306.00 | A | 10930.00 | 0.88 |
| 27 | Al | 44793.85 | P | 787.30 | 1.76 |
| 39 | K | 5628545.00 | A | 23340.00 | 0.41 |
| 44 | Ca | 166908.20 | P | 3090.00 | 1.85 |
| 45 | Sc | 5162269.00 | A | 28000.00 | 0.54 |
| 45 | Sc | 728648.81 | P | 6872.00 | 0.94 |
| 47 | Ti | 118799.40 | P | 1081.00 | 0.91 |
| 51 | V | 422552.81 | P | 4457.00 | 1.05 |
| 52 | Cr | 464416.81 | P | 4067.00 | 0.88 |
| 55 | Mn | 364816.09 | P | 4804.00 | 1.32 |
| 56 | Fe | 483512.91 | P | 4744.00 | 0.98 |
| 59 | Co | 638855.00 | P | 4932.00 | 0.77 |
| 60 | Ni | 160494.80 | P | 2147.00 | 1.34 |
| 63 | Cu | 407811.81 | P | 3640.00 | 0.89 |
| 66 | Zn | 75825.17 | P | 448.40 | 0.59 |
| 72 | Ge | 1053967.00 | P | 7872.00 | 0.75 |
| 72 | Ge | 269360.69 | P | 1479.00 | 0.55 |
| 75 | As | 52456.87 | P | 456.10 | 0.87 |
| 78 | Se | 6912.73 | P | 166.10 | 2.40 |
| 88 | Sr | 2041995.00 | A | 20600.00 | 1.01 |
| 98 | Mo | 565771.19 | P | 6496.00 | 1.15 |
| 103 | Rh | 6037972.00 | A | 91280.00 | 1.51 |
| 107 | Ag | 936470.69 | P | 13060.00 | 1.39 |

C:\ICPCHEM\1\DATA\13D19r00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 86678.12 | P | 251.40 | 0.29 |
| 115 | In | 6316760.00 | A | 58160.00 | 0.92 |
| 115 | In | 2068218.00 | A | 40330.00 | 1.95 |
| 118 | (In) | 563501.50 | P | 9704.00 | 1.72 |
| 118 | (In) | 201728.91 | P | 2021.00 | 1.00 |
| 120 | Sn | 770985.38 | P | 7453.00 | 0.97 |
| 121 | Sb | 690830.00 | P | 4502.00 | 0.65 |
| 137 | Ba | 254032.59 | P | 3357.00 | 1.32 |
| 159 | Tb | 7551318.00 | A | 71920.00 | 0.95 |
| 175 | Lu | 7262299.00 | A | 75000.00 | 1.03 |
| 205 | Tl | 1209021.00 | P | 7609.00 | 0.63 |
| 206 | (Pb) | 434253.69 | P | 1887.00 | 0.43 |
| 207 | (Pb) | 358811.09 | P | 962.70 | 0.27 |
| 208 | Pb | 1680298.00 | P | 10040.00 | 0.60 |
| 209 | Bi | 3994173.00 | A | 47790.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3266386.80 | 2.00 | 3146678.50 | 103.8 | 70 - 130 | |
| 45 | Sc | 5162269.50 | 0.54 | 5213161.00 | 99.0 | 70 - 130 | |
| 45 | Sc | 728648.81 | 0.94 | 741872.44 | 98.2 | 70 - 130 | |
| 72 | Ge | 1053967.50 | 0.75 | 1062354.50 | 99.2 | 70 - 130 | |
| 72 | Ge | 269360.69 | 0.55 | 273900.03 | 98.3 | 70 - 130 | |
| 103 | Rh | 6037971.50 | 1.51 | 6003827.50 | 100.6 | 70 - 130 | |
| 115 | In | 6316760.00 | 0.92 | 6375567.50 | 99.1 | 70 - 130 | |
| 115 | In | 2068217.90 | 1.95 | 2096792.90 | 98.6 | 70 - 130 | |
| 159 | Tb | 7551318.00 | 0.95 | 7647906.50 | 98.7 | 70 - 130 | |
| 175 | Lu | 7262299.00 | 1.03 | 7337137.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 3994172.80 | 1.20 | 3950799.00 | 101.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 19 2013 06:26 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3206112.00 | A | 16840.00 | 0.53 |
| 7 | (Li) | | P | | |
| 9 | Be | 578265.31 | P | 1253.00 | 0.22 |
| 9 | Be | 28304.98 | P | 189.00 | 0.67 |
| 11 | B | 425549.81 | P | 1964.00 | 0.46 |
| 11 | B | 12989.13 | P | 211.10 | 1.63 |
| 23 | Na | 3551101.00 | A | 37800.00 | 1.06 |
| 23 | Na | 325783.59 | P | 3376.00 | 1.04 |
| 24 | Mg | 2048211.00 | A | 25190.00 | 1.23 |
| 24 | Mg | 149912.70 | P | 554.80 | 0.37 |
| 27 | Al | 2550494.00 | A | 30890.00 | 1.21 |
| 27 | Al | 91360.78 | P | 812.30 | 0.89 |
| 39 | K | 7057856.00 | A | 53390.00 | 0.76 |
| 44 | Ca | 236596.91 | P | 3271.00 | 1.38 |
| 45 | Sc | 5194530.00 | A | 26860.00 | 0.52 |
| 45 | Sc | 726955.69 | P | 6116.00 | 0.84 |
| 47 | Ti | 240054.30 | P | 2621.00 | 1.09 |
| 51 | V | 847319.19 | P | 9400.00 | 1.11 |
| 52 | Cr | 935370.81 | P | 5352.00 | 0.57 |
| 55 | Mn | 729077.88 | P | 4143.00 | 0.57 |
| 56 | Fe | 926274.50 | P | 3410.00 | 0.37 |
| 59 | Co | 1277144.00 | A | 5661.00 | 0.44 |
| 60 | Ni | 321208.69 | P | 963.90 | 0.30 |
| 63 | Cu | 819244.69 | P | 2196.00 | 0.27 |
| 66 | Zn | 152709.30 | P | 771.80 | 0.51 |
| 72 | Ge | 1045620.00 | P | 10840.00 | 1.04 |
| 72 | Ge | 267194.19 | P | 1171.00 | 0.44 |
| 75 | As | 106083.70 | P | 1184.00 | 1.12 |
| 78 | Se | 13662.89 | P | 55.96 | 0.41 |
| 88 | Sr | 3995678.00 | A | 56600.00 | 1.42 |
| 98 | Mo | 1143626.00 | P | 3476.00 | 0.30 |
| 103 | Rh | 5950331.00 | A | 40510.00 | 0.68 |
| 107 | Ag | 1816192.00 | A | 10590.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D19r00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 176300.30 | P | 2072.00 | 1.18 |
| 115 | In | 6262976.00 | A | 79030.00 | 1.26 |
| 115 | In | 2044705.00 | A | 25000.00 | 1.22 |
| 118 | (In) | 1143851.00 | P | 6262.00 | 0.55 |
| 118 | (In) | 407125.00 | P | 4630.00 | 1.14 |
| 120 | Sn | 1556967.00 | A | 10170.00 | 0.65 |
| 121 | Sb | 1382032.00 | A | 9149.00 | 0.66 |
| 137 | Ba | 520301.59 | P | 4311.00 | 0.83 |
| 159 | Tb | 7637600.00 | A | 38790.00 | 0.51 |
| 175 | Lu | 7302208.00 | A | 22170.00 | 0.30 |
| 205 | Tl | 2479095.00 | A | 34810.00 | 1.40 |
| 206 | (Pb) | 878297.81 | P | 8772.00 | 1.00 |
| 207 | (Pb) | 720320.13 | P | 4884.00 | 0.68 |
| 208 | Pb | 3360198.00 | A | 18760.00 | 0.56 |
| 209 | Bi | 3939967.00 | A | 19480.00 | 0.49 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3206111.50 | 0.53 | 3146678.50 | 101.9 | 70 - 130 | |
| 45 | Sc | 5194530.50 | 0.52 | 5213161.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 726955.69 | 0.84 | 741872.44 | 98.0 | 70 - 130 | |
| 72 | Ge | 1045620.30 | 1.04 | 1062354.50 | 98.4 | 70 - 130 | |
| 72 | Ge | 267194.19 | 0.44 | 273900.03 | 97.6 | 70 - 130 | |
| 103 | Rh | 5950331.00 | 0.68 | 6003827.50 | 99.1 | 70 - 130 | |
| 115 | In | 6262975.50 | 1.26 | 6375567.50 | 98.2 | 70 - 130 | |
| 115 | In | 2044705.40 | 1.22 | 2096792.90 | 97.5 | 70 - 130 | |
| 159 | Tb | 7637600.00 | 0.51 | 7647906.50 | 99.9 | 70 - 130 | |
| 175 | Lu | 7302208.00 | 0.30 | 7337137.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3939966.50 | 0.49 | 3950799.00 | 99.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 19 2013 06:33 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3285193.00 | A | 23340.00 | 0.71 |
| 7 | (Li) | | P | | |
| 9 | Be | 1235832.00 | A | 14180.00 | 1.15 |
| 9 | Be | 57228.88 | P | 610.70 | 1.07 |
| 11 | B | 975989.69 | A | 12080.00 | 1.24 |
| 11 | B | 26409.49 | P | 281.80 | 1.07 |
| 23 | Na | 6825451.00 | A | 56390.00 | 0.83 |
| 23 | Na | 598597.81 | P | 7751.00 | 1.29 |
| 24 | Mg | 4126178.00 | A | 17940.00 | 0.43 |
| 24 | Mg | 299357.00 | P | 2688.00 | 0.90 |
| 27 | Al | 5026135.00 | A | 12600.00 | 0.25 |
| 27 | Al | 180096.59 | P | 902.70 | 0.50 |
| 39 | K | 9943862.00 | A | 69920.00 | 0.70 |
| 44 | Ca | 358193.91 | P | 4510.00 | 1.26 |
| 45 | Sc | 5205408.00 | A | 29530.00 | 0.57 |
| 45 | Sc | 725578.63 | P | 1643.00 | 0.23 |
| 47 | Ti | 482591.19 | P | 3897.00 | 0.81 |
| 51 | V | 1685502.00 | A | 15830.00 | 0.94 |
| 52 | Cr | 1862569.00 | A | 17400.00 | 0.93 |
| 55 | Mn | 1458930.00 | A | 16320.00 | 1.12 |
| 56 | Fe | 1789341.00 | A | 16120.00 | 0.90 |
| 59 | Co | 2549113.00 | A | 9449.00 | 0.37 |
| 60 | Ni | 649756.00 | P | 3493.00 | 0.54 |
| 63 | Cu | 1641570.00 | A | 9408.00 | 0.57 |
| 66 | Zn | 305717.59 | P | 1147.00 | 0.38 |
| 72 | Ge | 1052909.00 | P | 10590.00 | 1.01 |
| 72 | Ge | 267385.00 | P | 2097.00 | 0.78 |
| 75 | As | 213316.20 | P | 1240.00 | 0.58 |
| 78 | Se | 27421.51 | P | 226.10 | 0.82 |
| 88 | Sr | 7913185.00 | A | 45590.00 | 0.58 |
| 98 | Mo | 2336135.00 | A | 11410.00 | 0.49 |
| 103 | Rh | 5966754.00 | A | 36760.00 | 0.62 |
| 107 | Ag | 3628689.00 | A | 6694.00 | 0.18 |

C:\ICPCHEM\1\DATA\13D19r00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 356755.00 | P | 2712.00 | 0.76 |
| 115 | In | 6317437.00 | A | 41470.00 | 0.66 |
| 115 | In | 2061927.00 | A | 22390.00 | 1.09 |
| 118 | (In) | 2278566.00 | A | 5646.00 | 0.25 |
| 118 | (In) | 813622.81 | P | 4747.00 | 0.58 |
| 120 | Sn | 3098481.00 | A | 17770.00 | 0.57 |
| 121 | Sb | 2760450.00 | A | 17540.00 | 0.64 |
| 137 | Ba | 1066283.00 | P | 9508.00 | 0.89 |
| 159 | Tb | 7705512.00 | A | 40060.00 | 0.52 |
| 175 | Lu | 7303142.00 | A | 54070.00 | 0.74 |
| 205 | Tl | 4918630.00 | A | 2879.00 | 0.06 |
| 206 | (Pb) | 1764618.00 | A | 8222.00 | 0.47 |
| 207 | (Pb) | 1418882.00 | A | 40080.00 | 2.82 |
| 208 | Pb | 6688366.00 | A | 37210.00 | 0.56 |
| 209 | Bi | 3966535.00 | A | 51260.00 | 1.29 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3285192.80 | 0.71 | 3146678.50 | 104.4 | 70 - 130 | |
| 45 | Sc | 5205408.00 | 0.57 | 5213161.00 | 99.9 | 70 - 130 | |
| 45 | Sc | 725578.56 | 0.23 | 741872.44 | 97.8 | 70 - 130 | |
| 72 | Ge | 1052909.10 | 1.01 | 1062354.50 | 99.1 | 70 - 130 | |
| 72 | Ge | 267385.03 | 0.78 | 273900.03 | 97.6 | 70 - 130 | |
| 103 | Rh | 5966753.50 | 0.62 | 6003827.50 | 99.4 | 70 - 130 | |
| 115 | In | 6317437.00 | 0.66 | 6375567.50 | 99.1 | 70 - 130 | |
| 115 | In | 2061926.60 | 1.09 | 2096792.90 | 98.3 | 70 - 130 | |
| 159 | Tb | 7705512.50 | 0.52 | 7647906.50 | 100.8 | 70 - 130 | |
| 175 | Lu | 7303142.50 | 0.74 | 7337137.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3966535.00 | 1.29 | 3950799.00 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 19 2013 06:39 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:36 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3327883.00 | A | 29790.00 | 0.90 |
| 7 | (Li) | | P | | |
| 9 | Be | 235.57 | P | 24.57 | 10.43 |
| 9 | Be | 15.56 | P | 13.47 | 86.59 |
| 11 | B | 4309.64 | P | 287.40 | 6.67 |
| 11 | B | 113.34 | P | 42.56 | 37.55 |
| 23 | Na | 55417248.00 | A | 997300.00 | 1.80 |
| 23 | Na | 4838371.00 | A | 11620.00 | 0.24 |
| 24 | Mg | 36899048.00 | A | 367200.00 | 1.00 |
| 24 | Mg | 2729497.00 | A | 25740.00 | 0.94 |
| 27 | Al | 46981632.00 | A | 405300.00 | 0.86 |
| 27 | Al | 1708142.00 | A | 8529.00 | 0.50 |
| 39 | K | 56462280.00 | A | 560100.00 | 0.99 |
| 44 | Ca | 1826112.00 | A | 19330.00 | 1.06 |
| 45 | Sc | 5290739.00 | A | 51340.00 | 0.97 |
| 45 | Sc | 733636.19 | P | 3382.00 | 0.46 |
| 47 | Ti | 414.47 | P | 21.69 | 5.23 |
| 51 | V | 8248.54 | P | 335.50 | 4.07 |
| 52 | Cr | 2717.61 | P | 371.90 | 13.69 |
| 55 | Mn | 7682.09 | P | 3969.00 | 51.67 |
| 56 | Fe | 16019060.00 | A | 214600.00 | 1.34 |
| 59 | Co | 1184.51 | P | 352.90 | 29.79 |
| 60 | Ni | 728.47 | P | 115.80 | 15.90 |
| 63 | Cu | 1985.05 | P | 219.10 | 11.04 |
| 66 | Zn | 888.25 | P | 56.89 | 6.40 |
| 72 | Ge | 1077258.00 | P | 9654.00 | 0.90 |
| 72 | Ge | 271936.81 | P | 1910.00 | 0.70 |
| 75 | As | 338.45 | P | 45.88 | 13.56 |
| 78 | Se | 259.56 | P | 28.88 | 11.13 |
| 88 | Sr | 5487.88 | P | 167.60 | 3.05 |
| 98 | Mo | 4945.43 | P | 134.10 | 2.71 |
| 103 | Rh | 6016431.00 | A | 10040.00 | 0.17 |
| 107 | Ag | 1178.98 | P | 25.46 | 2.16 |

C:\ICPCHEM\1\DATA\13D19r00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 127.78 | P | 39.06 | 30.57 |
| 115 | In | 6331525.00 | A | 27920.00 | 0.44 |
| 115 | In | 2084929.00 | A | 31960.00 | 1.53 |
| 118 | (In) | 4856.53 | P | 468.50 | 9.65 |
| 118 | (In) | 2179.13 | P | 184.00 | 8.44 |
| 120 | Sn | 6684.00 | P | 712.00 | 10.65 |
| 121 | Sb | 8292.65 | P | 550.30 | 6.64 |
| 137 | Ba | 1271.21 | P | 71.91 | 5.66 |
| 159 | Tb | 7726989.00 | A | 42100.00 | 0.54 |
| 175 | Lu | 7351023.00 | A | 62310.00 | 0.85 |
| 205 | Tl | 8511.84 | P | 199.40 | 2.34 |
| 206 | (Pb) | 726.71 | P | 43.59 | 6.00 |
| 207 | (Pb) | 617.82 | P | 58.35 | 9.44 |
| 208 | Pb | 2810.23 | P | 72.20 | 2.57 |
| 209 | Bi | 3997342.00 | A | 56040.00 | 1.40 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3327882.80 | 0.90 | 3146678.50 | 105.8 | 70 - 130 | |
| 45 | Sc | 5290739.50 | 0.97 | 5213161.00 | 101.5 | 70 - 130 | |
| 45 | Sc | 733636.25 | 0.46 | 741872.44 | 98.9 | 70 - 130 | |
| 72 | Ge | 1077258.40 | 0.90 | 1062354.50 | 101.4 | 70 - 130 | |
| 72 | Ge | 271936.81 | 0.70 | 273900.03 | 99.3 | 70 - 130 | |
| 103 | Rh | 6016431.00 | 0.17 | 6003827.50 | 100.2 | 70 - 130 | |
| 115 | In | 6331525.50 | 0.44 | 6375567.50 | 99.3 | 70 - 130 | |
| 115 | In | 2084929.10 | 1.53 | 2096792.90 | 99.4 | 70 - 130 | |
| 159 | Tb | 7726989.00 | 0.54 | 7647906.50 | 101.0 | 70 - 130 | |
| 175 | Lu | 7351023.00 | 0.85 | 7337137.50 | 100.2 | 70 - 130 | |
| 209 | Bi | 3997342.50 | 1.40 | 3950799.00 | 101.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 19 2013 06:46 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:43 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3320833.00 | A | 40080.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 70.00 | P | 5.77 | 8.25 |
| 9 | Be | 6.67 | P | 8.82 | 132.28 |
| 11 | B | 2403.61 | P | 112.60 | 4.68 |
| 11 | B | 72.23 | P | 21.43 | 29.67 |
| 23 | Na | 543943100.00 | A | 5862000.00 | 1.08 |
| 23 | Na | 45886352.00 | A | 109500.00 | 0.24 |
| 24 | Mg | 365220900.00 | A | 2315000.00 | 0.63 |
| 24 | Mg | 25631290.00 | A | 161500.00 | 0.63 |
| 27 | Al | 466947200.00 | A | 2482000.00 | 0.53 |
| 27 | Al | 16121400.00 | A | 130300.00 | 0.81 |
| 39 | K | 517113220.00 | A | 465700.00 | 0.09 |
| 44 | Ca | 16110260.00 | A | 69270.00 | 0.43 |
| 45 | Sc | 5231988.00 | A | 31030.00 | 0.59 |
| 45 | Sc | 724405.31 | P | 4338.00 | 0.60 |
| 47 | Ti | 441.13 | P | 53.16 | 12.05 |
| 51 | V | 7637.55 | P | 236.60 | 3.10 |
| 52 | Cr | 4133.05 | P | 131.90 | 3.19 |
| 55 | Mn | 8423.13 | P | 3197.00 | 37.96 |
| 56 | Fe | 153979100.00 | A | 1243000.00 | 0.81 |
| 59 | Co | 3851.65 | P | 293.40 | 7.62 |
| 60 | Ni | 1417.87 | P | 48.75 | 3.44 |
| 63 | Cu | 1692.12 | P | 131.00 | 7.74 |
| 66 | Zn | 1165.61 | P | 49.15 | 4.22 |
| 72 | Ge | 1065275.00 | P | 296.60 | 0.03 |
| 72 | Ge | 267494.09 | P | 1089.00 | 0.41 |
| 75 | As | 340.01 | P | 16.71 | 4.91 |
| 78 | Se | 247.34 | P | 9.26 | 3.74 |
| 88 | Sr | 31199.98 | P | 532.60 | 1.71 |
| 98 | Mo | 1734.61 | P | 30.98 | 1.79 |
| 103 | Rh | 5737877.00 | A | 67710.00 | 1.18 |
| 107 | Ag | 1845.74 | P | 91.93 | 4.98 |

C:\ICPCHEM\1\DATA\13D19r00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 60.00 | P | 33.33 | 55.55 |
| 115 | In | 6081972.00 | A | 87830.00 | 1.44 |
| 115 | In | 1990799.00 | A | 16250.00 | 0.82 |
| 118 | (In) | 1853.52 | P | 150.10 | 8.10 |
| 118 | (In) | 852.28 | P | 99.02 | 11.62 |
| 120 | Sn | 2516.97 | P | 137.40 | 5.46 |
| 121 | Sb | 3773.96 | P | 269.20 | 7.13 |
| 137 | Ba | 1208.98 | P | 68.51 | 5.67 |
| 159 | Tb | 7578506.00 | A | 37770.00 | 0.50 |
| 175 | Lu | 7288735.00 | A | 48080.00 | 0.66 |
| 205 | Tl | 3109.35 | P | 123.40 | 3.97 |
| 206 | (Pb) | 432.25 | P | 22.20 | 5.14 |
| 207 | (Pb) | 323.35 | P | 44.85 | 13.87 |
| 208 | Pb | 1614.55 | P | 26.74 | 1.66 |
| 209 | Bi | 3735559.00 | A | 65880.00 | 1.76 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3320832.80 | 1.21 | 3146678.50 | 105.5 | 70 - 130 | |
| 45 | Sc | 5231988.00 | 0.59 | 5213161.00 | 100.4 | 70 - 130 | |
| 45 | Sc | 724405.31 | 0.60 | 741872.44 | 97.6 | 70 - 130 | |
| 72 | Ge | 1065275.40 | 0.03 | 1062354.50 | 100.3 | 70 - 130 | |
| 72 | Ge | 267494.06 | 0.41 | 273900.03 | 97.7 | 70 - 130 | |
| 103 | Rh | 5737877.50 | 1.18 | 6003827.50 | 95.6 | 70 - 130 | |
| 115 | In | 6081972.50 | 1.44 | 6375567.50 | 95.4 | 70 - 130 | |
| 115 | In | 1990799.40 | 0.82 | 2096792.90 | 94.9 | 70 - 130 | |
| 159 | Tb | 7578506.50 | 0.50 | 7647906.50 | 99.1 | 70 - 130 | |
| 175 | Lu | 7288735.00 | 0.66 | 7337137.50 | 99.3 | 70 - 130 | |
| 209 | Bi | 3735559.00 | 1.76 | 3950799.00 | 94.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 19 2013 06:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.62 | 57.62 | ppb | 0.54 | 900.00 | |
| 9 Be | 45 | 2 | 61.31 | 61.31 | ppb | 1.32 | 900.00 | |
| 11 B | 6 | 1 | 52.35 | 52.35 | ppb | 0.57 | 900.00 | |
| 11 B | 45 | 2 | 57.31 | 57.31 | ppb | 1.17 | 900.00 | |
| 23 Na | 45 | 1 | 5709.00 | 5709.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 5695.00 | 5695.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 5745.00 | 5745.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 5777.00 | 5777.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 5721.00 | 5721.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 2 | 5692.00 | 5692.00 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 5728.00 | 5728.00 | ppb | 0.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 5646.00 | 5646.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.59 | 59.59 | ppb | 0.69 | 900.00 | |
| 51 V | 45 | 2 | 60.26 | 60.26 | ppb | 0.66 | 900.00 | |
| 52 Cr | 45 | 2 | 58.77 | 58.77 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 59.10 | 59.10 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 5707.00 | 5707.00 | ppb | 0.67 | 90000.00 | |
| 59 Co | 45 | 2 | 57.98 | 57.98 | ppb | 0.23 | 900.00 | |
| 60 Ni | 45 | 2 | 57.86 | 57.86 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 57.07 | 57.07 | ppb | 0.35 | 900.00 | |
| 66 Zn | 72 | 2 | 57.48 | 57.48 | ppb | 0.58 | 900.00 | |
| 75 As | 72 | 2 | 59.57 | 59.57 | ppb | 0.22 | 900.00 | |
| 78 Se | 72 | 2 | 60.16 | 60.16 | ppb | 0.63 | 900.00 | |
| 88 Sr | 103 | 1 | 60.31 | 60.31 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 61.52 | 61.52 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 59.52 | 59.52 | ppb | 0.99 | 180.00 | |
| 111 Cd | 115 | 2 | 57.98 | 57.98 | ppb | 0.35 | 900.00 | |
| 120 Sn | 115 | 1 | 59.45 | 59.45 | ppb | 1.17 | 900.00 | |
| 121 Sb | 115 | 1 | 60.71 | 60.71 | ppb | 1.31 | 900.00 | |
| 137 Ba | 159 | 1 | 59.26 | 59.26 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 58.25 | 58.25 | ppb | 1.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.46 | 60.46 | ppb | 0.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3445542 | 0.38 | 3146679 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 5264045 | 0.52 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 711729 | 0.57 | 741872 | 95.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1057750 | 0.85 | 1062355 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 261884 | 0.23 | 273900 | 95.6 | 70 | - | 130 |
| 103 Rh | 1 | 5887232 | 0.58 | 6003828 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 6232259 | 0.97 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2007578 | 0.65 | 2096793 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 7690609 | 0.73 | 7647907 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 7326444 | 0.41 | 7337138 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 3844975 | 0.39 | 3950799 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 07:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 38.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7009.60 | 900.00 | |
| 11 B | 6 | 1 | 0.10 | 0.10 | ppb | 19.75 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 37.85 | 900.00 | |
| 23 Na | 45 | 1 | -0.93 | -0.93 | ppb | 11.92 | 90000.00 | |
| 23 Na | 45 | 2 | -1.21 | -1.21 | ppb | 13.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.13 | 0.13 | ppb | 4.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.36 | 0.36 | ppb | 37.92 | 90000.00 | |
| 27 Al | 45 | 1 | 0.23 | 0.23 | ppb | 14.10 | 90000.00 | |
| 27 Al | 45 | 2 | 0.37 | 0.37 | ppb | 29.62 | 90000.00 | |
| 39 K | 45 | 1 | -1.35 | -1.35 | ppb | 63.11 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.01 | -7.01 | ppb | 20.19 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 31.97 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 11.69 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 93.10 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 16.06 | 900.00 | |
| 56 Fe | 45 | 2 | 1.13 | 1.13 | ppb | 3.95 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 27.33 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 22.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 20.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 43.11 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 33.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 200.28 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 43.69 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 6.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 10.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 10.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 7.46 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 940.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 2.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 9.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3521132 | 0.73 | 3146679 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 5315206 | 0.40 | 5213161 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 734086 | 0.82 | 741872 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1087940 | 0.22 | 1062355 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 272348 | 0.60 | 273900 | 99.4 | 70 | - | 130 |
| 103 | Rh | 1 | 6156239 | 0.55 | 6003828 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 6485324 | 0.74 | 6375568 | 101.7 | 70 | - | 130 |
| 115 | In | 2 | 2107285 | 0.54 | 2096793 | 100.5 | 70 | - | 130 |
| 159 | Tb | 1 | 7853041 | 0.81 | 7647907 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 7387283 | 0.97 | 7337138 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 4081645 | 0.76 | 3950799 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 19 2013 07:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 47.96 | 47.96 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 51.89 | 51.89 | ppb | 0.48 | 900.00 | |
| 11 B | 6 | 1 | 45.07 | 45.07 | ppb | 1.01 | 900.00 | |
| 11 B | 45 | 2 | 50.34 | 50.34 | ppb | 1.63 | 900.00 | |
| 23 Na | 45 | 1 | 5199.00 | 5199.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 5165.00 | 5165.00 | ppb | 1.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5167.00 | 5167.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 5194.00 | 5194.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 5148.00 | 5148.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 5159.00 | 5159.00 | ppb | 0.74 | 90000.00 | |
| 39 K | 45 | 1 | 5151.00 | 5151.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 5149.00 | 5149.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.58 | 49.58 | ppb | 1.15 | 900.00 | |
| 51 V | 45 | 2 | 49.67 | 49.67 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 49.05 | 49.05 | ppb | 0.43 | 900.00 | |
| 55 Mn | 45 | 2 | 49.28 | 49.28 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 5143.00 | 5143.00 | ppb | 0.79 | 90000.00 | |
| 59 Co | 45 | 2 | 49.42 | 49.42 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 48.39 | 48.39 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | 47.95 | 47.95 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 48.42 | 48.42 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 49.43 | 49.43 | ppb | 0.23 | 900.00 | |
| 78 Se | 72 | 2 | 49.69 | 49.69 | ppb | 1.72 | 900.00 | |
| 88 Sr | 103 | 1 | 50.60 | 50.60 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 49.82 | 49.82 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 49.75 | 49.75 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 48.32 | 48.32 | ppb | 0.54 | 900.00 | |
| 120 Sn | 115 | 1 | 50.32 | 50.32 | ppb | 0.52 | 900.00 | |
| 121 Sb | 115 | 1 | 51.20 | 51.20 | ppb | 1.34 | 900.00 | |
| 137 Ba | 159 | 1 | 48.72 | 48.72 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 49.01 | 49.01 | ppb | 1.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.35 | 50.35 | ppb | 1.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3512158 | 0.99 | 3146679 | 111.6 | 70 - 130 | |
| 45 Sc | 1 | 5263110 | 0.27 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 708634 | 0.53 | 741872 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1060315 | 0.20 | 1062355 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 261348 | 0.66 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5918450 | 0.49 | 6003828 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 6247936 | 0.30 | 6375568 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 2021536 | 0.10 | 2096793 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 7781866 | 0.91 | 7647907 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 7456314 | 1.22 | 7337138 | 101.6 | 70 | - | 130 |
| 209 Bi | 1 | 3891846 | 0.88 | 3950799 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 19 2013 07:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 58.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 45.35 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 33.91 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 129.42 | 900.00 | |
| 23 Na | 45 | 1 | -0.77 | -0.77 | ppb | 4.20 | 90000.00 | |
| 23 Na | 45 | 2 | 1.01 | 1.01 | ppb | 211.89 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.12 | 0.12 | ppb | 9.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.12 | 1.12 | ppb | 46.03 | 90000.00 | |
| 27 Al | 45 | 1 | 0.20 | 0.20 | ppb | 12.56 | 90000.00 | |
| 27 Al | 45 | 2 | 1.14 | 1.14 | ppb | 47.59 | 90000.00 | |
| 39 K | 45 | 1 | -2.18 | -2.18 | ppb | 25.36 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.82 | -6.82 | ppb | 7.87 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 33.14 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 58.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 91.71 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.16 | ppb | 52.43 | 900.00 | |
| 56 Fe | 45 | 2 | 1.87 | 1.87 | ppb | 43.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 45.66 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 71.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 49.03 | 900.00 | |
| 66 Zn | 72 | 2 | 0.25 | 0.25 | ppb | 32.50 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 81.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 48.73 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 12.02 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 12.23 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 35.38 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 11.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 12.40 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 113.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.23 | ppb | 1.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 18.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3634146 | 0.64 | 3146679 | 115.5 | 70 - 130 | |
| 45 Sc | 1 | 5359922 | 1.20 | 5213161 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 700463 | 7.65 | 741872 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1091895 | 1.11 | 1062355 | 102.8 | 70 | - | 130 |
| 72 Ge | 2 | 261598 | 6.48 | 273900 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 6207894 | 1.22 | 6003828 | 103.4 | 70 | - | 130 |
| 115 In | 1 | 6521486 | 0.79 | 6375568 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 2014989 | 7.34 | 2096793 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 7867902 | 0.45 | 7647907 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 7509559 | 1.19 | 7337138 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 4104965 | 1.42 | 3950799 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 07:21 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2105 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.46 | 0.46 | ppb | 1.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.49 | 0.49 | ppb | 8.63 | 900.00 | |
| 11 B | 6 | 1 | 4.32 | 4.32 | ppb | 2.90 | 900.00 | |
| 11 B | 45 | 2 | 5.10 | 5.10 | ppb | 12.96 | 900.00 | |
| 23 Na | 45 | 1 | 261.80 | 261.80 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 271.10 | 271.10 | ppb | 5.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 265.20 | 265.20 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 281.30 | 281.30 | ppb | 5.95 | 90000.00 | |
| 27 Al | 45 | 1 | 28.08 | 28.08 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 28.49 | 28.49 | ppb | 6.42 | 90000.00 | |
| 39 K | 45 | 1 | 255.00 | 255.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 257.80 | 257.80 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 1.00 | ppb | 5.07 | 900.00 | |
| 51 V | 45 | 2 | 1.08 | 1.08 | ppb | 7.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 6.16 | 900.00 | |
| 55 Mn | 45 | 2 | 1.10 | 1.10 | ppb | 8.02 | 900.00 | |
| 56 Fe | 45 | 2 | 29.57 | 29.57 | ppb | 7.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 6.25 | 900.00 | |
| 60 Ni | 45 | 2 | 1.01 | 1.01 | ppb | 7.39 | 900.00 | |
| 63 Cu | 72 | 2 | 1.03 | 1.03 | ppb | 4.88 | 900.00 | |
| 66 Zn | 72 | 2 | 2.04 | 2.04 | ppb | 4.49 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 3.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 18.40 | 900.00 | |
| 88 Sr | 103 | 1 | 4.92 | 4.92 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 1.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 10.14 | 900.00 | |
| 120 Sn | 115 | 1 | 4.91 | 4.91 | ppb | 0.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 1.36 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 2.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3630628 | 2.38 | 3146679 | 115.4 | 70 - 130 | |
| 45 Sc | 1 | 5325582 | 0.46 | 5213161 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 717966 | 5.16 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1081473 | 1.33 | 1062355 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 268153 | 4.00 | 273900 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 6172874 | 0.95 | 6003828 | 102.8 | 70 | - | 130 |
| 115 In | 1 | 6410697 | 0.65 | 6375568 | 100.6 | 70 | - | 130 |
| 115 In | 2 | 2066963 | 5.68 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7756196 | 0.89 | 7647907 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 7449609 | 0.80 | 7337138 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 4076090 | 0.44 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D#** | | |
| **Date Acquired:** | **Apr 19 2013 07:28 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSA** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2106** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 19 2013 06:50 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 42.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2.01 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.13 | ppb | 4.76 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 34.55 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98250.00 | 98250.00 | ppb | 1.28 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 98270.00 | 98270.00 | ppb | 1.54 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98050.00 | 98050.00 | ppb | 0.47 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 97960.00 | 97960.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97680.00 | 97680.00 | ppb | 0.64 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96910.00 | 96910.00 | ppb | 0.68 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2013.00 | 2013.00 | ppb | 0.92 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 60.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 0.34 | 0.34 | ppb | 4.53 | 900.00 | |
| 56 Fe | 45 | 2 | 96530.00 | 96530.00 | ppb | 0.33 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 2.16 | 900.00 | |
| 66 Zn | 72 | 2 | 2.50 | 2.50 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 4.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 24.71 | 900.00 | |
| 88 Sr | 103 | 1 | 4.87 | 4.87 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2066.00 | 2066.00 | ppb | 0.88 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 3.18 | 180.00 | |
| 111 Cd | 115 | 2 | 1.12 | 1.12 | ppb | 3.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.15 | ppb | 3.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 1.82 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 3.85 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 4.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.20 | ppb | 1.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3214307 | 0.65 | 3146679 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 4769927 | 0.92 | 5213161 | 91.5 | 70 - 130 | |
| 45 Sc | 2 | 640955 | 1.43 | 741872 | 86.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 980909 | 0.69 | 1062355 | 92.3 | 70 | - | 130 |
| 72 Ge | 2 | 240588 | 0.81 | 273900 | 87.8 | 70 | - | 130 |
| 103 Rh | 1 | 5012396 | 0.33 | 6003828 | 83.5 | 70 | - | 130 |
| 115 In | 1 | 5492030 | 1.12 | 6375568 | 86.1 | 70 | - | 130 |
| 115 In | 2 | 1728630 | 1.86 | 2096793 | 82.4 | 70 | - | 130 |
| 159 Tb | 1 | 7160070 | 1.35 | 7647907 | 93.6 | 70 | - | 130 |
| 175 Lu | 1 | 6918685 | 1.09 | 7337138 | 94.3 | 70 | - | 130 |
| 209 Bi | 1 | 3369295 | 0.47 | 3950799 | 85.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D#
Date Acquired: Apr 19 2013 07:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 22.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 75.08 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 15.18 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 37.04 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100000.00 | 100000.00 | ppb | 0.88 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96340.00 | 96340.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98950.00 | 98950.00 | ppb | 0.76 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95950.00 | 95950.00 | ppb | 0.41 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97560.00 | 97560.00 | ppb | 0.83 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96160.00 | 96160.00 | ppb | 1.14 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1991.00 | 1991.00 | ppb | 0.52 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 14.26 | 900.00 | |
| 52 Cr | 45 | 2 | 20.12 | 20.12 | ppb | 0.48 | 900.00 | |
| 55 Mn | 45 | 2 | 19.65 | 19.65 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 96990.00 | 96990.00 | ppb | 0.29 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.92 | 18.92 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 18.66 | 18.66 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 17.08 | 17.08 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 20.23 | 20.23 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 19.61 | 19.61 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.22 | ppb | 40.97 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 2074.00 | 2074.00 | ppb | 0.11 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.49 | 19.49 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 19.67 | 19.67 | ppb | 0.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.26 | ppb | 1.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.32 | ppb | 1.22 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.28 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 13.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.62 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2984632 | 1.04 | 3146679 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 4857424 | 0.18 | 5213161 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 638643 | 0.99 | 741872 | 86.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 985991 | 0.63 | 1062355 | 92.8 | 70 | - | 130 |
| 72 Ge | 2 | 240210 | 0.25 | 273900 | 87.7 | 70 | - | 130 |
| 103 Rh | 1 | 5081428 | 0.55 | 6003828 | 84.6 | 70 | - | 130 |
| 115 In | 1 | 5575267 | 0.48 | 6375568 | 87.4 | 70 | - | 130 |
| 115 In | 2 | 1718863 | 0.43 | 2096793 | 82.0 | 70 | - | 130 |
| 159 Tb | 1 | 7188756 | 0.21 | 7647907 | 94.0 | 70 | - | 130 |
| 175 Lu | 1 | 6894351 | 1.61 | 7337138 | 94.0 | 70 | - | 130 |
| 209 Bi | 1 | 3359714 | 0.26 | 3950799 | 85.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Apr 19 2013 07:43 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 87.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 87.30 | 900.00 | |
| 11 B | 6 | 1 | -0.06 | -0.06 | ppb | 7.21 | 900.00 | |
| 11 B | 45 | 2 | -0.04 | -0.04 | ppb | 109.88 | 900.00 | |
| 23 Na | 45 | 1 | 5.02 | 5.02 | ppb | 7.24 | 90000.00 | |
| 23 Na | 45 | 2 | 14.80 | 14.80 | ppb | 75.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.68 | 1.68 | ppb | 5.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 9.39 | 9.39 | ppb | 99.53 | 90000.00 | |
| 27 Al | 45 | 1 | 1.59 | 1.59 | ppb | 5.33 | 90000.00 | |
| 27 Al | 45 | 2 | 8.66 | 8.66 | ppb | 102.59 | 90000.00 | |
| 39 K | 45 | 1 | -2.30 | -2.30 | ppb | 61.63 | 90000.00 | |
| 44 Ca | 45 | 1 | -17.43 | -17.43 | ppb | 8.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.13 | 0.13 | ppb | 6.24 | 900.00 | |
| 51 V | 45 | 2 | 0.08 | 0.08 | ppb | 19.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 95.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.18 | 0.18 | ppb | 109.12 | 900.00 | |
| 56 Fe | 45 | 2 | 12.41 | 12.41 | ppb | 77.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 101.73 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 120.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 57.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.06 | 0.06 | ppb | 59.60 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 108.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 72.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 22.26 | 900.00 | |
| 98 Mo | 103 | 1 | 1.20 | 1.20 | ppb | 4.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 42.32 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 66.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 24.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 14.24 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 521.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 45.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 263.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3122430 | 1.01 | 3146679 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 5035842 | 0.53 | 5213161 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 674468 | 0.74 | 741872 | 90.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1027458 | 0.73 | 1062355 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 258207 | 0.66 | 273900 | 94.3 | 70 | - | 130 |
| 103 Rh | 1 | 5916386 | 0.42 | 6003828 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 6237443 | 1.04 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2018275 | 0.89 | 2096793 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 7573620 | 1.15 | 7647907 | 99.0 | 70 | - | 130 |
| 175 Lu | 1 | 7189723 | 0.16 | 7337138 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 4001200 | 0.36 | 3950799 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\018SMPL.D\018SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 19 2013 07:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-9F
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.03 | ppb | 13.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 26.57 | 900.00 | |
| 11 B | 6 | 1 | 13.85 | 6.93 | ppb | 1.65 | 900.00 | |
| 11 B | 45 | 2 | 13.89 | 6.94 | ppb | 1.84 | 900.00 | |
| 23 Na | 45 | 1 | 14570.00 | 7285.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 15380.00 | 7690.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 1107.80 | 553.90 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 1196.80 | 598.40 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 29.70 | 14.85 | ppb | 20.00 | 90000.00 | |
| 27 Al | 45 | 2 | 22.26 | 11.13 | ppb | 8.95 | 90000.00 | |
| 39 K | 45 | 1 | 2258.00 | 1129.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 6620.00 | 3310.00 | ppb | 0.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 0.71 | ppb | 9.17 | 900.00 | |
| 51 V | 45 | 2 | 3.78 | 1.89 | ppb | 7.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.52 | 0.26 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 165.68 | 82.84 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 553.60 | 276.80 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.84 | 1.42 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 5.08 | 2.54 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 1.70 | 900.00 | |
| 66 Zn | 72 | 2 | 10.03 | 5.01 | ppb | 0.14 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.46 | ppb | 5.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.21 | ppb | 36.87 | 900.00 | |
| 88 Sr | 103 | 1 | 41.50 | 20.75 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.88 | 0.94 | ppb | 3.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 17.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 22.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 10.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.96 | 900.00 | |
| 137 Ba | 159 | 1 | 20.28 | 10.14 | ppb | 0.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 9.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 4.48 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2833325 | 0.67 | 3146679 | 90.0 | 70 - 130 | |
| 45 Sc | 1 | 4877379 | 0.26 | 5213161 | 93.6 | 70 - 130 | |
| 45 Sc | 2 | 656263 | 0.39 | 741872 | 88.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 999389 | 0.47 | 1062355 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 250192 | 0.90 | 273900 | 91.3 | 70 | - | 130 |
| 103 Rh | 1 | 5556344 | 1.86 | 6003828 | 92.5 | 70 | - | 130 |
| 115 In | 1 | 6030646 | 0.64 | 6375568 | 94.6 | 70 | - | 130 |
| 115 In | 2 | 1930154 | 1.13 | 2096793 | 92.1 | 70 | - | 130 |
| 159 Tb | 1 | 7425066 | 0.63 | 7647907 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 7082348 | 0.61 | 7337138 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 3770608 | 1.23 | 3950799 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 07:57 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19762-10F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2110 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 28.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 26.17 | 900.00 | |
| 11 B | 6 | 1 | 21.02 | 10.51 | ppb | 1.14 | 900.00 | |
| 11 B | 45 | 2 | 21.02 | 10.51 | ppb | 2.73 | 900.00 | |
| 23 Na | 45 | 1 | 32520.00 | 16260.00 | ppb | 0.88 | 90000.00 | |
| 23 Na | 45 | 2 | 34300.00 | 17150.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 1545.40 | 772.70 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1667.00 | 833.50 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 13.36 | 6.68 | ppb | 1.25 | 90000.00 | |
| 27 Al | 45 | 2 | 13.15 | 6.57 | ppb | 2.53 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 1430.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 13890.00 | 6945.00 | ppb | 0.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.59 | ppb | 3.56 | 900.00 | |
| 51 V | 45 | 2 | 2.97 | 1.49 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.21 | ppb | 4.83 | 900.00 | |
| 55 Mn | 45 | 2 | 51.48 | 25.74 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 239.40 | 119.70 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.26 | ppb | 1.87 | 900.00 | |
| 60 Ni | 45 | 2 | 1.64 | 0.82 | ppb | 1.83 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.33 | ppb | 1.44 | 900.00 | |
| 66 Zn | 72 | 2 | 10.43 | 5.22 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 0.82 | 0.41 | ppb | 1.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.34 | 0.17 | ppb | 27.46 | 900.00 | |
| 88 Sr | 103 | 1 | 93.16 | 46.58 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 0.83 | 0.42 | ppb | 3.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 10.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.14 | ppb | 2.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 2.53 | 900.00 | |
| 137 Ba | 159 | 1 | 21.90 | 10.95 | ppb | 0.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 10.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 6.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2741037 | 0.78 | 3146679 | 87.1 | 70 - 130 | |
| 45 Sc | 1 | 4856751 | 0.71 | 5213161 | 93.2 | 70 - 130 | |
| 45 Sc | 2 | 664684 | 1.12 | 741872 | 89.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1003947 | 0.44 | 1062355 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 252199 | 0.71 | 273900 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 5506238 | 1.30 | 6003828 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 5996901 | 0.12 | 6375568 | 94.1 | 70 | - | 130 |
| 115 In | 2 | 1921576 | 0.51 | 2096793 | 91.6 | 70 | - | 130 |
| 159 Tb | 1 | 7402008 | 0.69 | 7647907 | 96.8 | 70 | - | 130 |
| 175 Lu | 1 | 7092826 | 0.93 | 7337138 | 96.7 | 70 | - | 130 |
| 209 Bi | 1 | 3745738 | 1.11 | 3950799 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#
Date Acquired: Apr 19 2013 08:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-11F
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.54 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 28.70 | 14.35 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 28.72 | 14.36 | ppb | 3.97 | 900.00 | |
| 23 Na | 45 | 1 | 60400.00 | 30200.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 64340.00 | 32170.00 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 2698.00 | 1349.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 2904.00 | 1452.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 1 | 9.73 | 4.87 | ppb | 1.89 | 90000.00 | |
| 27 Al | 45 | 2 | 9.86 | 4.93 | ppb | 1.62 | 90000.00 | |
| 39 K | 45 | 1 | 4664.00 | 2332.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 22480.00 | 11240.00 | ppb | 1.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 0.54 | ppb | 0.87 | 900.00 | |
| 51 V | 45 | 2 | 3.08 | 1.54 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 3.91 | 900.00 | |
| 55 Mn | 45 | 2 | 43.48 | 21.74 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 296.60 | 148.30 | ppb | 0.17 | 90000.00 | |
| 59 Co | 45 | 2 | 0.69 | 0.35 | ppb | 0.13 | 900.00 | |
| 60 Ni | 45 | 2 | 2.22 | 1.11 | ppb | 1.62 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 0.50 | ppb | 0.90 | 900.00 | |
| 66 Zn | 72 | 2 | 11.96 | 5.98 | ppb | 0.27 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.47 | ppb | 6.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.47 | 0.24 | ppb | 48.49 | 900.00 | |
| 88 Sr | 103 | 1 | 149.54 | 74.77 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.60 | 0.30 | ppb | 7.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.80 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 25.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.30 | 0.15 | ppb | 2.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 3.78 | 900.00 | |
| 137 Ba | 159 | 1 | 47.18 | 23.59 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 14.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 3.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2759797 | 1.53 | 3146679 | 87.7 | 70 - 130 | |
| 45 Sc | 1 | 4906663 | 1.04 | 5213161 | 94.1 | 70 - 130 | |
| 45 Sc | 2 | 665476 | 0.23 | 741872 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 996054 | 0.72 | 1062355 | 93.8 | 70 | - | 130 |
| 72 Ge | 2 | 250958 | 0.12 | 273900 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 5461839 | 0.51 | 6003828 | 91.0 | 70 | - | 130 |
| 115 In | 1 | 5940591 | 0.20 | 6375568 | 93.2 | 70 | - | 130 |
| 115 In | 2 | 1918073 | 0.60 | 2096793 | 91.5 | 70 | - | 130 |
| 159 Tb | 1 | 7299400 | 0.60 | 7647907 | 95.4 | 70 | - | 130 |
| 175 Lu | 1 | 7054988 | 1.12 | 7337138 | 96.2 | 70 | - | 130 |
| 209 Bi | 1 | 3684239 | 1.08 | 3950799 | 93.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 19 2013 08:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19762-12F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 65.03 | 900.00 | |
| 11 B | 6 | 1 | 29.52 | 14.76 | ppb | 1.84 | 900.00 | |
| 11 B | 45 | 2 | 27.72 | 13.86 | ppb | 4.07 | 900.00 | |
| 23 Na | 45 | 1 | 61700.00 | 30850.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 65460.00 | 32730.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 2790.00 | 1395.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 2988.00 | 1494.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 10.55 | 5.27 | ppb | 1.47 | 90000.00 | |
| 27 Al | 45 | 2 | 12.76 | 6.38 | ppb | 13.30 | 90000.00 | |
| 39 K | 45 | 1 | 4764.00 | 2382.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 23260.00 | 11630.00 | ppb | 1.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 3.75 | 900.00 | |
| 51 V | 45 | 2 | 3.18 | 1.59 | ppb | 1.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 45.42 | 22.71 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 323.60 | 161.80 | ppb | 1.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.71 | 0.35 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 1.63 | 0.81 | ppb | 2.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.56 | 0.28 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 8.16 | 4.08 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 0.99 | 0.49 | ppb | 3.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.49 | 0.25 | ppb | 12.68 | 900.00 | |
| 88 Sr | 103 | 1 | 152.56 | 76.28 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 4.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 39.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.99 | 0.50 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 3.01 | 900.00 | |
| 137 Ba | 159 | 1 | 46.74 | 23.37 | ppb | 0.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 10.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 6.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2658155 | 1.09 | 3146679 | 84.5 | 70 - 130 | |
| 45 Sc | 1 | 4849858 | 0.86 | 5213161 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 665537 | 0.81 | 741872 | 89.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 994807 | 0.73 | 1062355 | 93.6 | 70 - | 130 |
| 72 | Ge | 2 | 250425 | 0.36 | 273900 | 91.4 | 70 - | 130 |
| 103 | Rh | 1 | 5416378 | 0.18 | 6003828 | 90.2 | 70 - | 130 |
| 115 | In | 1 | 5926395 | 1.09 | 6375568 | 93.0 | 70 - | 130 |
| 115 | In | 2 | 1901469 | 0.84 | 2096793 | 90.7 | 70 - | 130 |
| 159 | Tb | 1 | 7339548 | 0.65 | 7647907 | 96.0 | 70 - | 130 |
| 175 | Lu | 1 | 7039953 | 0.47 | 7337138 | 95.9 | 70 - | 130 |
| 209 | Bi | 1 | 3660023 | 0.78 | 3950799 | 92.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D# |
| Date Acquired: | Apr 19 2013 08:18 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19762-13F |
| Misc Info: | |
| Vial Number: | 2201 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 48.86 | 900.00 | |
| 11 B | 6 | 1 | 31.38 | 15.69 | ppb | 1.26 | 900.00 | |
| 11 B | 45 | 2 | 31.78 | 15.89 | ppb | 2.53 | 900.00 | |
| 23 Na | 45 | 1 | 69440.00 | 34720.00 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 75780.00 | 37890.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 2062.00 | 1031.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 2300.00 | 1150.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 4.53 | 2.26 | ppb | 17.42 | 90000.00 | |
| 27 Al | 45 | 2 | 4.14 | 2.07 | ppb | 6.23 | 90000.00 | |
| 39 K | 45 | 1 | 4004.00 | 2002.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 19074.00 | 9537.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 6.03 | 900.00 | |
| 51 V | 45 | 2 | 2.91 | 1.46 | ppb | 1.85 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 8.03 | 900.00 | |
| 55 Mn | 45 | 2 | 1946.20 | 973.10 | ppb | 1.69 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 262.80 | 131.40 | ppb | 1.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.76 | 0.38 | ppb | 1.32 | 900.00 | |
| 60 Ni | 45 | 2 | 1.46 | 0.73 | ppb | 2.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.20 | ppb | 4.71 | 900.00 | |
| 66 Zn | 72 | 2 | 8.30 | 4.15 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 2.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.12 | ppb | 15.05 | 900.00 | |
| 88 Sr | 103 | 1 | 247.80 | 123.90 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.26 | ppb | 6.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 35.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 11.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 8.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.30 | 900.00 | |
| 137 Ba | 159 | 1 | 7.82 | 3.91 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 7.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 10.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2667267 | 0.41 | 3146679 | 84.8 | 70 - 130 | |
| 45 Sc | 1 | 4913174 | 0.34 | 5213161 | 94.2 | 70 - 130 | |
| 45 Sc | 2 | 670896 | 0.59 | 741872 | 90.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1006632 | 0.72 | 1062355 | 94.8 | 70 | - | 130 |
| 72 Ge | 2 | 254369 | 1.24 | 273900 | 92.9 | 70 | - | 130 |
| 103 Rh | 1 | 5442105 | 0.37 | 6003828 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 5958030 | 0.11 | 6375568 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 1896879 | 2.69 | 2096793 | 90.5 | 70 | - | 130 |
| 159 Tb | 1 | 7422818 | 0.42 | 7647907 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 7089657 | 0.74 | 7337138 | 96.6 | 70 | - | 130 |
| 209 Bi | 1 | 3682370 | 0.16 | 3950799 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 08:25 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-14F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2202 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 67.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 75.14 | 900.00 | |
| 11 B | 6 | 1 | 38.22 | 19.11 | ppb | 1.51 | 900.00 | |
| 11 B | 45 | 2 | 36.70 | 18.35 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 39820.00 | 19910.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 42960.00 | 21480.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 1412.20 | 706.10 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1573.00 | 786.50 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 3.34 | 1.67 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 3.37 | 1.69 | ppb | 10.38 | 90000.00 | |
| 39 K | 45 | 1 | 3012.00 | 1506.00 | ppb | 1.07 | 90000.00 | |
| 44 Ca | 45 | 1 | 13208.00 | 6604.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.46 | 0.73 | ppb | 2.82 | 900.00 | |
| 51 V | 45 | 2 | 2.98 | 1.49 | ppb | 1.07 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.17 | ppb | 5.78 | 900.00 | |
| 55 Mn | 45 | 2 | 2990.00 | 1495.00 | ppb | 1.39 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 105.54 | 52.77 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 3.98 | 1.99 | ppb | 0.69 | 900.00 | |
| 60 Ni | 45 | 2 | 8.37 | 4.18 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.44 | ppb | 0.55 | 900.00 | |
| 66 Zn | 72 | 2 | 8.57 | 4.28 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.45 | ppb | 2.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.15 | ppb | 53.78 | 900.00 | |
| 88 Sr | 103 | 1 | 203.20 | 101.60 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.29 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 5.52 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 23.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 4.47 | 900.00 | |
| 137 Ba | 159 | 1 | 6.05 | 3.02 | ppb | 0.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 100.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 3.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2629700 | 0.89 | 3146679 | 83.6 | 70 - 130 | |
| 45 Sc | 1 | 4955641 | 1.29 | 5213161 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 681105 | 1.00 | 741872 | 91.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1017741 | 0.25 | 1062355 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 255162 | 0.60 | 273900 | 93.2 | 70 | - | 130 |
| 103 Rh | 1 | 5530601 | 0.48 | 6003828 | 92.1 | 70 | - | 130 |
| 115 In | 1 | 6024037 | 0.54 | 6375568 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 1941818 | 1.02 | 2096793 | 92.6 | 70 | - | 130 |
| 159 Tb | 1 | 7476527 | 0.24 | 7647907 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 7158221 | 1.45 | 7337138 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 3744313 | 0.56 | 3950799 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 08:32 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2203 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.71 | 50.71 | ppb | 1.43 | 900.00 | |
| 9 Be | 45 | 2 | 48.85 | 48.85 | ppb | 0.79 | 900.00 | |
| 11 B | 6 | 1 | 47.69 | 47.69 | ppb | 2.10 | 900.00 | |
| 11 B | 45 | 2 | 47.78 | 47.78 | ppb | 1.04 | 900.00 | |
| 23 Na | 45 | 1 | 4862.00 | 4862.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5301.00 | 5301.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 4877.00 | 4877.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 5249.00 | 5249.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4946.00 | 4946.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 5123.00 | 5123.00 | ppb | 0.52 | 90000.00 | |
| 39 K | 45 | 1 | 5106.00 | 5106.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5125.00 | 5125.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.70 | 48.70 | ppb | 0.66 | 900.00 | |
| 51 V | 45 | 2 | 50.55 | 50.55 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 49.57 | 49.57 | ppb | 0.46 | 900.00 | |
| 55 Mn | 45 | 2 | 49.28 | 49.28 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 5209.00 | 5209.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 49.70 | 49.70 | ppb | 1.25 | 900.00 | |
| 60 Ni | 45 | 2 | 48.74 | 48.74 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 47.77 | 47.77 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 48.08 | 48.08 | ppb | 0.40 | 900.00 | |
| 75 As | 72 | 2 | 49.22 | 49.22 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 48.14 | 48.14 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 51.88 | 51.88 | ppb | 1.14 | 900.00 | |
| 98 Mo | 103 | 1 | 50.27 | 50.27 | ppb | 0.63 | 900.00 | |
| 107 Ag | 115 | 1 | 48.32 | 48.32 | ppb | 0.89 | 180.00 | |
| 111 Cd | 115 | 2 | 48.80 | 48.80 | ppb | 0.57 | 900.00 | |
| 120 Sn | 115 | 1 | 50.40 | 50.40 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 52.20 | 52.20 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 49.48 | 49.48 | ppb | 1.35 | 900.00 | |
| 205 Tl | 209 | 1 | 48.68 | 48.68 | ppb | 1.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.64 | 50.64 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2819711 | 1.02 | 3146679 | 89.6 | 70 - 130 | |
| 45 Sc | 1 | 5162029 | 0.65 | 5213161 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 699356 | 0.06 | 741872 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1036691 | 1.22 | 1062355 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 261837 | 0.44 | 273900 | 95.6 | 70 | - | 130 |
| 103 Rh | 1 | 5771233 | 0.37 | 6003828 | 96.1 | 70 | - | 130 |
| 115 In | 1 | 6198317 | 0.66 | 6375568 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1963577 | 0.43 | 2096793 | 93.6 | 70 | - | 130 |
| 159 Tb | 1 | 7567258 | 0.66 | 7647907 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 7232286 | 0.94 | 7337138 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 3790752 | 1.01 | 3950799 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D# |
| Date Acquired: | Apr 19 2013 08:39 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2204 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 41.76 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 73.92 | 900.00 | |
| 11 B | 6 | 1 | 0.11 | 0.11 | ppb | 15.17 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 70.15 | 900.00 | |
| 23 Na | 45 | 1 | 4.51 | 4.51 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 37.53 | 37.53 | ppb | 60.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.16 | 0.16 | ppb | 15.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 15.79 | 15.79 | ppb | 71.94 | 90000.00 | |
| 27 Al | 45 | 1 | 0.16 | 0.16 | ppb | 16.47 | 90000.00 | |
| 27 Al | 45 | 2 | 14.50 | 14.50 | ppb | 71.66 | 90000.00 | |
| 39 K | 45 | 1 | 1.31 | 1.31 | ppb | 37.97 | 90000.00 | |
| 44 Ca | 45 | 1 | -19.65 | -19.65 | ppb | 5.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 723.38 | 900.00 | |
| 51 V | 45 | 2 | 0.08 | 0.08 | ppb | 24.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.03 | ppb | 57.55 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 72.44 | 900.00 | |
| 56 Fe | 45 | 2 | 16.07 | 16.07 | ppb | 69.32 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 72.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 198.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 61.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 116.93 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 106.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.11 | ppb | 39.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 50.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 11.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 5.58 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 64.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 10.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 15.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 23.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.23 | ppb | 3.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 6.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2895623 | 1.43 | 3146679 | 92.0 | 70 - 130 | |
| 45 Sc | 1 | 5181427 | 0.86 | 5213161 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 721516 | 0.67 | 741872 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1055439 | 1.41 | 1062355 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 272265 | 0.71 | 273900 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 5956166 | 1.53 | 6003828 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 6363924 | 1.41 | 6375568 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 2056234 | 0.63 | 2096793 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 7723228 | 0.79 | 7647907 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 7275886 | 1.67 | 7337138 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 3957787 | 1.66 | 3950799 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 08:47 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-15F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2205 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 58.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.03 | ppb | 145.28 | 900.00 | |
| 11 B | 6 | 1 | 67.88 | 33.94 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 65.98 | 32.99 | ppb | 3.45 | 900.00 | |
| 23 Na | 45 | 1 | 10776.00 | 5388.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 11756.00 | 5878.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 3216.00 | 1608.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 3530.00 | 1765.00 | ppb | 2.21 | 90000.00 | |
| 27 Al | 45 | 1 | 5.56 | 2.78 | ppb | 1.04 | 90000.00 | |
| 27 Al | 45 | 2 | 37.98 | 18.99 | ppb | 144.18 | 90000.00 | |
| 39 K | 45 | 1 | 1852.80 | 926.40 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 34840.00 | 17420.00 | ppb | 1.12 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.69 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 2.24 | 1.12 | ppb | 3.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.23 | ppb | 19.38 | 900.00 | |
| 55 Mn | 45 | 2 | 9364.00 | 4682.00 | ppb | 1.56 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 834.20 | 417.10 | ppb | 6.26 | 90000.00 | |
| 59 Co | 45 | 2 | 3.43 | 1.72 | ppb | 1.91 | 900.00 | |
| 60 Ni | 45 | 2 | 6.04 | 3.02 | ppb | 2.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.12 | 0.56 | ppb | 7.45 | 900.00 | |
| 66 Zn | 72 | 2 | 16.35 | 8.18 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.47 | ppb | 7.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 38.38 | 900.00 | |
| 88 Sr | 103 | 1 | 160.50 | 80.25 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 1.96 | 0.98 | ppb | 1.26 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 55.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 5.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.10 | ppb | 7.24 | 900.00 | |
| 137 Ba | 159 | 1 | 8.04 | 4.02 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 1.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 5.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2660193 | 0.76 | 3146679 | 84.5 | 70 - 130 | |
| 45 Sc | 1 | 5032095 | 1.39 | 5213161 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 704948 | 1.63 | 741872 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1013305 | 0.71 | 1062355 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 261403 | 1.41 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5606318 | 0.55 | 6003828 | 93.4 | 70 | - | 130 |
| 115 In | 1 | 6181613 | 0.48 | 6375568 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1985848 | 0.53 | 2096793 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 7607528 | 0.25 | 7647907 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 7312023 | 0.32 | 7337138 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3834232 | 0.37 | 3950799 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D#
Date Acquired: Apr 19 2013 08:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-16F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 165.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 166.26 | 900.00 | |
| 11 B | 6 | 1 | 0.46 | 0.23 | ppb | 4.48 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.18 | ppb | 61.45 | 900.00 | |
| 23 Na | 45 | 1 | 21.52 | 10.76 | ppb | 5.44 | 90000.00 | |
| 23 Na | 45 | 2 | 26.24 | 13.12 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.02 | 1.51 | ppb | 2.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.20 | 1.60 | ppb | 3.70 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 1.53 | ppb | 38.59 | 90000.00 | |
| 27 Al | 45 | 2 | 2.17 | 1.09 | ppb | 4.23 | 90000.00 | |
| 39 K | 45 | 1 | 18.36 | 9.18 | ppb | 7.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 69.20 | 34.60 | ppb | 3.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 7.46 | 900.00 | |
| 51 V | 45 | 2 | 2.64 | 1.32 | ppb | 1.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 5.44 | 900.00 | |
| 55 Mn | 45 | 2 | 2.07 | 1.04 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 6.61 | 3.31 | ppb | 1.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 4.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.58 | 0.29 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 10.53 | 5.27 | ppb | 0.25 | 900.00 | |
| 75 As | 72 | 2 | 0.47 | 0.24 | ppb | 4.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 43.11 | 900.00 | |
| 88 Sr | 103 | 1 | 0.10 | 0.05 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.03 | ppb | 25.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 13.71 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 38.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 8.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.05 | ppb | 8.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 4.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 3.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 3.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2686515 | 0.59 | 3146679 | 85.4 | 70 - 130 | |
| 45 Sc | 1 | 5029911 | 0.87 | 5213161 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 717107 | 0.95 | 741872 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1034293 | 1.08 | 1062355 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 267555 | 0.86 | 273900 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 5896508 | 1.02 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6236141 | 0.90 | 6375568 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 2019352 | 0.94 | 2096793 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 7722096 | 0.94 | 7647907 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 7352174 | 0.28 | 7337138 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3995456 | 0.40 | 3950799 | 101.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:01 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-17F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2207 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 92.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 113.79 | 900.00 | |
| 11 B | 6 | 1 | 41.42 | 20.71 | ppb | 3.25 | 900.00 | |
| 11 B | 45 | 2 | 39.60 | 19.80 | ppb | 1.72 | 900.00 | |
| 23 Na | 45 | 1 | 8988.00 | 4494.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 10172.00 | 5086.00 | ppb | 1.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 4362.00 | 2181.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 4840.00 | 2420.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 73.54 | 36.77 | ppb | 101.79 | 90000.00 | |
| 27 Al | 45 | 2 | 18.90 | 9.45 | ppb | 41.23 | 90000.00 | |
| 39 K | 45 | 1 | 2812.00 | 1406.00 | ppb | 1.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 47000.00 | 23500.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.75 | 1.38 | ppb | 52.47 | 900.00 | |
| 51 V | 45 | 2 | 2.51 | 1.26 | ppb | 1.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 0.54 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 3294.00 | 1647.00 | ppb | 2.11 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 622.40 | 311.20 | ppb | 1.94 | 90000.00 | |
| 59 Co | 45 | 2 | 3.99 | 2.00 | ppb | 1.71 | 900.00 | |
| 60 Ni | 45 | 2 | 7.35 | 3.67 | ppb | 0.14 | 900.00 | |
| 63 Cu | 72 | 2 | 1.56 | 0.78 | ppb | 3.25 | 900.00 | |
| 66 Zn | 72 | 2 | 14.86 | 7.43 | ppb | 1.80 | 900.00 | |
| 75 As | 72 | 2 | 1.21 | 0.61 | ppb | 1.81 | 900.00 | |
| 78 Se | 72 | 2 | 0.32 | 0.16 | ppb | 29.12 | 900.00 | |
| 88 Sr | 103 | 1 | 188.12 | 94.06 | ppb | 1.78 | 900.00 | |
| 98 Mo | 103 | 1 | 4.17 | 2.08 | ppb | 36.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.05 | ppb | 100.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 45.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.25 | 0.12 | ppb | 44.34 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.15 | ppb | 37.66 | 900.00 | |
| 137 Ba | 159 | 1 | 10.85 | 5.42 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.07 | ppb | 78.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.07 | ppb | 66.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2567088 | 2.44 | 3146679 | 81.6 | 70 - 130 | |
| 45 Sc | 1 | 5071136 | 0.56 | 5213161 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 714544 | 0.62 | 741872 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1028883 | 0.84 | 1062355 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 263415 | 1.64 | 273900 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 5627051 | 1.34 | 6003828 | 93.7 | 70 | - | 130 |
| 115 In | 1 | 6260230 | 0.94 | 6375568 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1981572 | 1.07 | 2096793 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 7793024 | 1.88 | 7647907 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 7477441 | 2.68 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 3882017 | 1.02 | 3950799 | 98.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 19 2013 09:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-18F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.05 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.72 | 900.00 | |
| 11 B | 6 | 1 | 39.50 | 19.75 | ppb | 0.55 | 900.00 | |
| 11 B | 45 | 2 | 38.18 | 19.09 | ppb | 2.83 | 900.00 | |
| 23 Na | 45 | 1 | 134000.00 | 67000.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 146920.00 | 73460.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 1607.20 | 803.60 | ppb | 1.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 1801.20 | 900.60 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 1 | 12.45 | 6.22 | ppb | 3.33 | 90000.00 | |
| 27 Al | 45 | 2 | 12.28 | 6.14 | ppb | 2.21 | 90000.00 | |
| 39 K | 45 | 1 | 3652.00 | 1826.00 | ppb | 1.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 13096.00 | 6548.00 | ppb | 1.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 0.53 | ppb | 2.32 | 900.00 | |
| 51 V | 45 | 2 | 2.17 | 1.09 | ppb | 2.52 | 900.00 | |
| 52 Cr | 45 | 2 | 0.82 | 0.41 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 96.54 | 48.27 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 140.72 | 70.36 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.58 | 0.29 | ppb | 2.95 | 900.00 | |
| 60 Ni | 45 | 2 | 1.92 | 0.96 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.29 | ppb | 1.49 | 900.00 | |
| 66 Zn | 72 | 2 | 8.15 | 4.08 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 3.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.20 | ppb | 20.47 | 900.00 | |
| 88 Sr | 103 | 1 | 137.58 | 68.79 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.26 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 52.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 25.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 8.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 8.25 | 900.00 | |
| 137 Ba | 159 | 1 | 20.48 | 10.24 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 6.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2609600 | 0.49 | 3146679 | 82.9 | 70 - 130 | |
| 45 Sc | 1 | 4940876 | 1.22 | 5213161 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 696758 | 0.74 | 741872 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1016209 | 0.68 | 1062355 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 257879 | 0.67 | 273900 | 94.2 | 70 | - | 130 |
| 103 Rh | 1 | 5466184 | 0.79 | 6003828 | 91.0 | 70 | - | 130 |
| 115 In | 1 | 6017609 | 0.68 | 6375568 | 94.4 | 70 | - | 130 |
| 115 In | 2 | 1934114 | 0.49 | 2096793 | 92.2 | 70 | - | 130 |
| 159 Tb | 1 | 7481145 | 1.21 | 7647907 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 7260883 | 0.99 | 7337138 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 3686353 | 1.06 | 3950799 | 93.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 19 2013 09:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19762-19F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 23.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 163.19 | 900.00 | |
| 11 B | 6 | 1 | 79.10 | 39.55 | ppb | 0.83 | 900.00 | |
| 11 B | 45 | 2 | 73.82 | 36.91 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 84320.00 | 42160.00 | ppb | 2.29 | 90000.00 | |
| 23 Na | 45 | 2 | 92560.00 | 46280.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 2954.00 | 1477.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 3234.00 | 1617.00 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 12.55 | 6.28 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 13.05 | 6.53 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 6628.00 | 3314.00 | ppb | 1.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 28040.00 | 14020.00 | ppb | 0.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.24 | 0.62 | ppb | 6.06 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.12 | ppb | 2.92 | 900.00 | |
| 52 Cr | 45 | 2 | 0.42 | 0.21 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 4064.00 | 2032.00 | ppb | 1.47 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 634.40 | 317.20 | ppb | 2.02 | 90000.00 | |
| 59 Co | 45 | 2 | 2.66 | 1.33 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 4.63 | 2.31 | ppb | 1.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 8.56 | 4.28 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 1.66 | 0.83 | ppb | 0.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.12 | ppb | 15.12 | 900.00 | |
| 88 Sr | 103 | 1 | 292.20 | 146.10 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.95 | 0.48 | ppb | 1.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.08 | ppb | 5.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 6.02 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 3.31 | 900.00 | |
| 137 Ba | 159 | 1 | 21.34 | 10.67 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 5.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 4.04 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2523524 | 0.77 | 3146679 | 80.2 | 70 - 130 | |
| 45 Sc | 1 | 4935801 | 0.89 | 5213161 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 704330 | 0.83 | 741872 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1002825 | 0.98 | 1062355 | 94.4 | 70 | - | 130 |
| 72 Ge | 2 | 259459 | 1.07 | 273900 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 5485448 | 0.60 | 6003828 | 91.4 | 70 | - | 130 |
| 115 In | 1 | 6032556 | 1.12 | 6375568 | 94.6 | 70 | - | 130 |
| 115 In | 2 | 1960438 | 2.79 | 2096793 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 7561425 | 0.27 | 7647907 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 7286739 | 0.22 | 7337138 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 3720797 | 0.52 | 3950799 | 94.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:22 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19762-20F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 60.33 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 162.70 | 900.00 | |
| 11 B | 6 | 1 | 174.68 | 87.34 | ppb | 0.45 | 900.00 | |
| 11 B | 45 | 2 | 161.18 | 80.59 | ppb | 0.35 | 900.00 | |
| 23 Na | 45 | 1 | 14436.00 | 7218.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 16270.00 | 8135.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 4608.00 | 2304.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 5180.00 | 2590.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 11.43 | 5.72 | ppb | 3.66 | 90000.00 | |
| 27 Al | 45 | 2 | 12.04 | 6.02 | ppb | 2.15 | 90000.00 | |
| 39 K | 45 | 1 | 7374.00 | 3687.00 | ppb | 1.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 38600.00 | 19300.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.90 | 0.95 | ppb | 2.91 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 2.76 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 3.96 | 900.00 | |
| 55 Mn | 45 | 2 | 5256.00 | 2628.00 | ppb | 0.98 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 4822.00 | 2411.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 4.75 | 2.38 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 1.54 | 0.77 | ppb | 1.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 6.63 | 900.00 | |
| 66 Zn | 72 | 2 | 13.70 | 6.85 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 17.59 | 8.79 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.10 | ppb | 86.79 | 900.00 | |
| 88 Sr | 103 | 1 | 767.20 | 383.60 | ppb | 0.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.19 | ppb | 4.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 26.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 6.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 1.43 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.27 | 900.00 | |
| 137 Ba | 159 | 1 | 22.52 | 11.26 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 77.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 0.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2495364 | 0.26 | 3146679 | 79.3 | 70 - 130 | |
| 45 Sc | 1 | 5001990 | 0.28 | 5213161 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 701478 | 0.83 | 741872 | 94.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1005761 | 0.83 | 1062355 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 261205 | 0.33 | 273900 | 95.4 | 70 | - | 130 |
| 103 Rh | 1 | 5576289 | 0.33 | 6003828 | 92.9 | 70 | - | 130 |
| 115 In | 1 | 6142427 | 0.96 | 6375568 | 96.3 | 70 | - | 130 |
| 115 In | 2 | 1987988 | 1.78 | 2096793 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 7704868 | 0.81 | 7647907 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 7484402 | 0.35 | 7337138 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 3863962 | 1.29 | 3950799 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 19 2013 09:29 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-1F
**Misc Info:**
**Vial Number:** 2211
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 175.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.04 | ppb | 115.59 | 900.00 | |
| 11 B | 6 | 1 | 0.73 | 0.37 | ppb | 5.67 | 900.00 | |
| 11 B | 45 | 2 | 0.86 | 0.43 | ppb | 39.77 | 900.00 | |
| 23 Na | 45 | 1 | 30.64 | 15.32 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 208.60 | 104.30 | ppb | 114.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.72 | 1.86 | ppb | 2.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 63.52 | 31.76 | ppb | 130.89 | 90000.00 | |
| 27 Al | 45 | 1 | 108.46 | 54.23 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 160.22 | 80.11 | ppb | 41.81 | 90000.00 | |
| 39 K | 45 | 1 | 14.18 | 7.09 | ppb | 3.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 36.38 | 18.19 | ppb | 5.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 3.74 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.17 | ppb | 28.47 | 900.00 | |
| 55 Mn | 45 | 2 | 7.86 | 3.93 | ppb | 112.44 | 900.00 | |
| 56 Fe | 45 | 2 | 65.20 | 32.60 | ppb | 116.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.07 | 0.04 | ppb | 129.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 29.11 | 900.00 | |
| 63 Cu | 72 | 2 | 0.62 | 0.31 | ppb | 11.60 | 900.00 | |
| 66 Zn | 72 | 2 | 11.35 | 5.68 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.27 | ppb | 17.77 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 12.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.18 | 0.09 | ppb | 3.61 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 7.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 141.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 8.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.05 | ppb | 6.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.15 | 0.08 | ppb | 4.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 9.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 7.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2610655 | 1.79 | 3146679 | 83.0 | 70 - 130 | |
| 45 Sc | 1 | 4992580 | 0.95 | 5213161 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 725797 | 1.33 | 741872 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1030442 | 0.93 | 1062355 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 270352 | 2.07 | 273900 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 5861570 | 0.86 | 6003828 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 6277789 | 0.09 | 6375568 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 2067273 | 2.47 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7830573 | 0.35 | 7647907 | 102.4 | 70 | - | 130 |
| 175 Lu | 1 | 7464211 | 0.33 | 7337138 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 4053330 | 0.42 | 3950799 | 102.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Apr 19 2013 09:36 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-2F
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 51.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 56.76 | 900.00 | |
| 11 B | 6 | 1 | 214.80 | 107.40 | ppb | 5.68 | 900.00 | |
| 11 B | 45 | 2 | 197.80 | 98.90 | ppb | 2.56 | 900.00 | |
| 23 Na | 45 | 1 | 23560.00 | 11780.00 | ppb | 0.86 | 90000.00 | |
| 23 Na | 45 | 2 | 27180.00 | 13590.00 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 7046.00 | 3523.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 8048.00 | 4024.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 1 | 3.61 | 1.81 | ppb | 3.80 | 90000.00 | |
| 27 Al | 45 | 2 | 4.07 | 2.04 | ppb | 22.15 | 90000.00 | |
| 39 K | 45 | 1 | 6546.00 | 3273.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 56340.00 | 28170.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 1.20 | ppb | 2.70 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 1.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.61 | 0.31 | ppb | 1.73 | 900.00 | |
| 55 Mn | 45 | 2 | 9562.00 | 4781.00 | ppb | 1.52 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 6984.00 | 3492.00 | ppb | 1.10 | 90000.00 | |
| 59 Co | 45 | 2 | 9.81 | 4.91 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 5.32 | 2.66 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.30 | ppb | 2.25 | 900.00 | |
| 66 Zn | 72 | 2 | 8.87 | 4.44 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 22.60 | 11.30 | ppb | 1.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 112.12 | 900.00 | |
| 88 Sr | 103 | 1 | 1354.20 | 677.10 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.55 | 0.78 | ppb | 0.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 2.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.27 | 0.14 | ppb | 5.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.78 | 900.00 | |
| 137 Ba | 159 | 1 | 80.58 | 40.29 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 48.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 4.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2463236 | 0.64 | 3146679 | 78.3 | 70 - 130 | |
| 45 Sc | 1 | 5081364 | 0.53 | 5213161 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 703049 | 0.28 | 741872 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1004476 | 0.72 | 1062355 | 94.6 | 70 | - | 130 |
| 72 Ge | 2 | 262302 | 0.69 | 273900 | 95.8 | 70 | - | 130 |
| 103 Rh | 1 | 5509923 | 0.34 | 6003828 | 91.8 | 70 | - | 130 |
| 115 In | 1 | 6160706 | 0.37 | 6375568 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1939530 | 1.00 | 2096793 | 92.5 | 70 | - | 130 |
| 159 Tb | 1 | 7783016 | 0.52 | 7647907 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 7476458 | 0.31 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 3817181 | 0.90 | 3950799 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:43 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19884-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 105.24 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 214.80 | 21.48 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 207.30 | 20.73 | ppb | 2.02 | 900.00 | |
| 23 Na | 45 | 1 | 27670.00 | 2767.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 30300.00 | 3030.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 12900.00 | 1290.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 14110.00 | 1411.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 6.31 | 0.63 | ppb | 8.42 | 90000.00 | |
| 27 Al | 45 | 2 | 6.23 | 0.62 | ppb | 13.37 | 90000.00 | |
| 39 K | 45 | 1 | 7651.00 | 765.10 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 89190.00 | 8919.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.60 | 0.26 | ppb | 6.36 | 900.00 | |
| 51 V | 45 | 2 | -0.60 | -0.06 | ppb | 4.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.03 | ppb | 4.46 | 900.00 | |
| 55 Mn | 45 | 2 | 5047.00 | 504.70 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 14840.00 | 1484.00 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 8.74 | 0.87 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 17.06 | 1.71 | ppb | 1.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.10 | ppb | 2.79 | 900.00 | |
| 66 Zn | 72 | 2 | 13.97 | 1.40 | ppb | 3.19 | 900.00 | |
| 75 As | 72 | 2 | 356.80 | 35.68 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 1.05 | 0.10 | ppb | 90.76 | 900.00 | |
| 88 Sr | 103 | 1 | 963.70 | 96.37 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 8.34 | 0.83 | ppb | 1.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 118.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.00 | ppb | 120.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.02 | ppb | 12.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.01 | ppb | 11.97 | 900.00 | |
| 137 Ba | 159 | 1 | 61.96 | 6.20 | ppb | 0.84 | 900.00 | |
| 205 Tl | 209 | 1 | -0.09 | -0.01 | ppb | 7.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.01 | ppb | 15.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2829458 | 0.10 | 3146679 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 5247610 | 0.63 | 5213161 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 739837 | 1.21 | 741872 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1082209 | 0.75 | 1062355 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 276725 | 1.23 | 273900 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 5970378 | 0.33 | 6003828 | 99.4 | 70 | - | 130 |
| 115 In | 1 | 6473499 | 1.07 | 6375568 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 2069247 | 0.75 | 2096793 | 98.7 | 70 | - | 130 |
| 159 Tb | 1 | 7879529 | 0.71 | 7647907 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 7573449 | 0.43 | 7337138 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 4040321 | 0.75 | 3950799 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 09:50 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2302 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 6.29 | 900.00 | |
| 9 Be | 45 | 2 | 0.51 | 0.51 | ppb | 10.84 | 900.00 | |
| 11 B | 6 | 1 | 4.91 | 4.91 | ppb | 5.31 | 900.00 | |
| 11 B | 45 | 2 | 4.92 | 4.92 | ppb | 4.06 | 900.00 | |
| 23 Na | 45 | 1 | 262.10 | 262.10 | ppb | 1.82 | 90000.00 | |
| 23 Na | 45 | 2 | 358.20 | 358.20 | ppb | 26.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 250.90 | 250.90 | ppb | 1.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 298.60 | 298.60 | ppb | 10.11 | 90000.00 | |
| 27 Al | 45 | 1 | 26.95 | 26.95 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 2 | 45.22 | 45.22 | ppb | 61.61 | 90000.00 | |
| 39 K | 45 | 1 | 255.50 | 255.50 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 276.00 | 276.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 3.39 | 900.00 | |
| 51 V | 45 | 2 | 1.02 | 1.02 | ppb | 3.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 2.90 | 900.00 | |
| 55 Mn | 45 | 2 | 4.61 | 4.61 | ppb | 107.56 | 900.00 | |
| 56 Fe | 45 | 2 | 49.74 | 49.74 | ppb | 63.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 6.64 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 2.01 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 3.31 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 3.78 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 11.69 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 9.51 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 1.74 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 1.18 | ppb | 0.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 1.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.52 | 0.52 | ppb | 4.78 | 900.00 | |
| 120 Sn | 115 | 1 | 4.92 | 4.92 | ppb | 1.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.55 | 0.55 | ppb | 2.19 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.42 | ppb | 4.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 2.09 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2861276 | 2.48 | 3146679 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 5276086 | 2.08 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 742273 | 1.96 | 741872 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1076177 | 1.79 | 1062355 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 278520 | 1.38 | 273900 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 6054230 | 1.86 | 6003828 | 100.8 | 70 | - | 130 |
| 115 In | 1 | 6478236 | 0.62 | 6375568 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 2117077 | 1.73 | 2096793 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 7997282 | 1.80 | 7647907 | 104.6 | 70 | - | 130 |
| 175 Lu | 1 | 7683657 | 1.55 | 7337138 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 4092945 | 2.76 | 3950799 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 19 2013 09:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.59 | 50.59 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 48.65 | 48.65 | ppb | 0.94 | 900.00 | |
| 11 B | 6 | 1 | 48.24 | 48.24 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 48.31 | 48.31 | ppb | 0.45 | 900.00 | |
| 23 Na | 45 | 1 | 4921.00 | 4921.00 | ppb | 2.02 | 90000.00 | |
| 23 Na | 45 | 2 | 5256.00 | 5256.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 4896.00 | 4896.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5280.00 | 5280.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 4997.00 | 4997.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5158.00 | 5158.00 | ppb | 1.31 | 90000.00 | |
| 39 K | 45 | 1 | 5137.00 | 5137.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5176.00 | 5176.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.58 | 48.58 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 50.09 | 50.09 | ppb | 0.11 | 900.00 | |
| 52 Cr | 45 | 2 | 49.28 | 49.28 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 49.30 | 49.30 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 5222.00 | 5222.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 49.96 | 49.96 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 48.66 | 48.66 | ppb | 0.09 | 900.00 | |
| 63 Cu | 72 | 2 | 47.73 | 47.73 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 48.03 | 48.03 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 49.10 | 49.10 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 48.45 | 48.45 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 52.03 | 52.03 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 50.52 | 50.52 | ppb | 1.08 | 900.00 | |
| 107 Ag | 115 | 1 | 49.95 | 49.95 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 49.40 | 49.40 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 50.64 | 50.64 | ppb | 2.31 | 900.00 | |
| 121 Sb | 115 | 1 | 51.52 | 51.52 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 49.52 | 49.52 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 48.59 | 48.59 | ppb | 2.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.25 | 50.25 | ppb | 2.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2907001 | 1.15 | 3146679 | 92.4 | 70 - 130 | |
| 45 Sc | 1 | 5272254 | 1.25 | 5213161 | 101.1 | 70 - 130 | |
| 45 Sc | 2 | 723788 | 0.25 | 741872 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1054562 | 0.79 | 1062355 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 269439 | 0.23 | 273900 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 5897845 | 0.87 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6370834 | 0.93 | 6375568 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 2046298 | 1.27 | 2096793 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 7896253 | 0.62 | 7647907 | 103.2 | 70 | - | 130 |
| 175 Lu | 1 | 7582981 | 0.85 | 7337138 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 4009175 | 0.86 | 3950799 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D# |
| Date Acquired: | Apr 19 2013 10:04 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2304 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 46.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 30.19 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 5.10 | 900.00 | |
| 11 B | 45 | 2 | 0.19 | 0.19 | ppb | 60.90 | 900.00 | |
| 23 Na | 45 | 1 | 12.57 | 12.57 | ppb | 33.40 | 90000.00 | |
| 23 Na | 45 | 2 | 9.18 | 9.18 | ppb | 6.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.11 | 3.11 | ppb | 44.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.36 | 1.36 | ppb | 6.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2.65 | 2.65 | ppb | 45.74 | 90000.00 | |
| 27 Al | 45 | 2 | 1.10 | 1.10 | ppb | 7.94 | 90000.00 | |
| 39 K | 45 | 1 | 2.32 | 2.32 | ppb | 124.51 | 90000.00 | |
| 44 Ca | 45 | 1 | -12.60 | -12.60 | ppb | 35.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 71.82 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 11.29 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 115.78 | 900.00 | |
| 55 Mn | 45 | 2 | 0.15 | 0.15 | ppb | 13.18 | 900.00 | |
| 56 Fe | 45 | 2 | 2.02 | 2.02 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 918.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 14.53 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 24.41 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 68.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 57.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.05 | ppb | 43.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 10.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 18.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 9.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 43.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 4.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 16.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3000365 | 0.56 | 3146679 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 5266373 | 0.98 | 5213161 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 734766 | 1.23 | 741872 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1076273 | 0.72 | 1062355 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 275835 | 0.71 | 273900 | 100.7 | 70 | - | 130 |
| 103 Rh | 1 | 6115479 | 0.27 | 6003828 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 6559838 | 0.36 | 6375568 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 2111293 | 1.67 | 2096793 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 7980767 | 0.24 | 7647907 | 104.4 | 70 | - | 130 |
| 175 Lu | 1 | 7607101 | 0.44 | 7337138 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 4129693 | 1.23 | 3950799 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 10:11 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20781-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2305 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 44.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 336.03 | 900.00 | |
| 11 B | 6 | 1 | 0.96 | 0.48 | ppb | 0.99 | 900.00 | |
| 11 B | 45 | 2 | 1.03 | 0.52 | ppb | 31.43 | 900.00 | |
| 23 Na | 45 | 1 | 16.31 | 8.16 | ppb | 2.58 | 90000.00 | |
| 23 Na | 45 | 2 | 22.28 | 11.14 | ppb | 1.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.06 | 1.03 | ppb | 1.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.17 | 1.08 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.92 | 1.46 | ppb | 1.68 | 90000.00 | |
| 27 Al | 45 | 2 | 2.70 | 1.35 | ppb | 2.87 | 90000.00 | |
| 39 K | 45 | 1 | 3.79 | 1.90 | ppb | 53.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 25.76 | 12.88 | ppb | 10.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.24 | ppb | 9.90 | 900.00 | |
| 51 V | 45 | 2 | 1.81 | 0.91 | ppb | 1.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.08 | 0.04 | ppb | 12.75 | 900.00 | |
| 55 Mn | 45 | 2 | 0.73 | 0.37 | ppb | 3.09 | 900.00 | |
| 56 Fe | 45 | 2 | 4.92 | 2.46 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.74 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.02 | ppb | 47.57 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.08 | ppb | 0.30 | 900.00 | |
| 66 Zn | 72 | 2 | 4.18 | 2.09 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 0.36 | 0.18 | ppb | 3.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 33.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 1.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.03 | ppb | 6.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 254.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 10.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 6.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 25.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 2.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 4.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2809550 | 0.70 | 3146679 | 89.3 | 70 - 130 | |
| 45 Sc | 1 | 5054813 | 1.07 | 5213161 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 720393 | 0.69 | 741872 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1039475 | 0.68 | 1062355 | 97.8 | 70 | - | 130 |
| 72 Ge | 2 | 268395 | 0.95 | 273900 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 5982826 | 0.63 | 6003828 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 6444133 | 0.51 | 6375568 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 2067716 | 2.06 | 2096793 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 7924075 | 0.57 | 7647907 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 7574338 | 0.56 | 7337138 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 4088717 | 0.54 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 10:18 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20790-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 36.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 228.16 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.11 | ppb | 7.16 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.09 | ppb | 31.06 | 900.00 | |
| 23 Na | 45 | 1 | 29.46 | 14.73 | ppb | 2.74 | 90000.00 | |
| 23 Na | 45 | 2 | 28.24 | 14.12 | ppb | 5.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.52 | 3.26 | ppb | 3.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.33 | 2.16 | ppb | 10.36 | 90000.00 | |
| 27 Al | 45 | 1 | 8.67 | 4.33 | ppb | 7.15 | 90000.00 | |
| 27 Al | 45 | 2 | 6.27 | 3.13 | ppb | 5.77 | 90000.00 | |
| 39 K | 45 | 1 | 11.35 | 5.67 | ppb | 12.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.16 | 0.08 | ppb | 1735.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.55 | 0.28 | ppb | 8.73 | 900.00 | |
| 51 V | 45 | 2 | 2.54 | 1.27 | ppb | 1.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.37 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 1.42 | 0.71 | ppb | 6.15 | 900.00 | |
| 56 Fe | 45 | 2 | 12.89 | 6.45 | ppb | 4.01 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 9.97 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.04 | ppb | 6.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.81 | 0.41 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 1.17 | 0.58 | ppb | 3.55 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.25 | ppb | 2.91 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 41.43 | 900.00 | |
| 88 Sr | 103 | 1 | 0.11 | 0.05 | ppb | 4.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.22 | 0.11 | ppb | 3.59 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 11.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 28.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.36 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 3.44 | 900.00 | |
| 137 Ba | 159 | 1 | 0.13 | 0.07 | ppb | 26.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 12.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2689820 | 0.32 | 3146679 | 85.5 | 70 - 130 | |
| 45 Sc | 1 | 5036434 | 0.63 | 5213161 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 719017 | 0.15 | 741872 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1031861 | 0.78 | 1062355 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 267306 | 0.79 | 273900 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 5873267 | 0.27 | 6003828 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 6279288 | 0.54 | 6375568 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 2045151 | 1.53 | 2096793 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 7806918 | 0.43 | 7647907 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 7450372 | 0.35 | 7337138 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 4007485 | 0.55 | 3950799 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#
Date Acquired: Apr 19 2013 10:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-MB1
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 170.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 161.53 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.06 | ppb | 7.50 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.08 | ppb | 48.37 | 900.00 | |
| 23 Na | 45 | 1 | 22.30 | 11.15 | ppb | 1.55 | 90000.00 | |
| 23 Na | 45 | 2 | 58.54 | 29.27 | ppb | 31.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.70 | 2.85 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 16.90 | 8.45 | ppb | 40.30 | 90000.00 | |
| 27 Al | 45 | 1 | 4.44 | 2.22 | ppb | 7.20 | 90000.00 | |
| 27 Al | 45 | 2 | 13.06 | 6.53 | ppb | 43.35 | 90000.00 | |
| 39 K | 45 | 1 | 6.04 | 3.02 | ppb | 51.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 396.60 | 198.30 | ppb | 2.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.53 | 0.26 | ppb | 3.08 | 900.00 | |
| 51 V | 45 | 2 | 2.40 | 1.20 | ppb | 1.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.14 | 0.07 | ppb | 4.73 | 900.00 | |
| 55 Mn | 45 | 2 | 2.51 | 1.25 | ppb | 34.91 | 900.00 | |
| 56 Fe | 45 | 2 | 21.72 | 10.86 | ppb | 28.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 45.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 31.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.25 | 0.13 | ppb | 2.42 | 900.00 | |
| 66 Zn | 72 | 2 | 1.17 | 0.59 | ppb | 1.55 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 4.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.29 | 0.14 | ppb | 24.58 | 900.00 | |
| 88 Sr | 103 | 1 | 0.32 | 0.16 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 15.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 106.89 | 900.00 | |
| 120 Sn | 115 | 1 | 26.72 | 13.36 | ppb | 1.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 4.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 3.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 28.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.59 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2680711 | 0.59 | 3146679 | 85.2 | 70 - 130 | |
| 45 Sc | 1 | 5044531 | 1.05 | 5213161 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 723829 | 1.24 | 741872 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1027028 | 0.76 | 1062355 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 267212 | 0.62 | 273900 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 5895503 | 0.50 | 6003828 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 6283536 | 0.92 | 6375568 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 2052402 | 1.91 | 2096793 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 7703430 | 0.62 | 7647907 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 7355566 | 0.67 | 7337138 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3962298 | 0.31 | 3950799 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#
Date Acquired: Apr 19 2013 10:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20781-B1
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 487.80 | 24.39 | ppb | 0.60 | 900.00 | |
| 9 Be | 45 | 2 | 509.00 | 25.45 | ppb | 1.08 | 900.00 | |
| 11 B | 6 | 1 | 1.61 | 0.08 | ppb | 11.98 | 900.00 | |
| 11 B | 45 | 2 | 1.67 | 0.08 | ppb | 8.95 | 900.00 | |
| 23 Na | 45 | 1 | 25860.00 | 1293.00 | ppb | 1.90 | 90000.00 | |
| 23 Na | 45 | 2 | 26460.00 | 1323.00 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 25720.00 | 1286.00 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 26800.00 | 1340.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 2326.00 | 116.30 | ppb | 3.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2330.00 | 116.50 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 26240.00 | 1312.00 | ppb | 1.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 26640.00 | 1332.00 | ppb | 0.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 483.60 | 24.18 | ppb | 0.23 | 900.00 | |
| 51 V | 45 | 2 | 514.80 | 25.74 | ppb | 1.03 | 900.00 | |
| 52 Cr | 45 | 2 | 502.40 | 25.12 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 507.80 | 25.39 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 2208.00 | 110.40 | ppb | 1.62 | 90000.00 | |
| 59 Co | 45 | 2 | 514.40 | 25.72 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 491.60 | 24.58 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 488.20 | 24.41 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 553.80 | 27.69 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 520.00 | 26.00 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 531.80 | 26.59 | ppb | 1.56 | 900.00 | |
| 88 Sr | 103 | 1 | 509.40 | 25.47 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 3.35 | 0.17 | ppb | 49.70 | 900.00 | |
| 107 Ag | 115 | 1 | 203.80 | 10.19 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 499.60 | 24.98 | ppb | 0.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.99 | 0.05 | ppb | 21.20 | 900.00 | |
| 121 Sb | 115 | 1 | 523.20 | 26.16 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 1994.20 | 99.71 | ppb | 0.52 | 900.00 | |
| 205 Tl | 209 | 1 | 493.20 | 24.66 | ppb | 0.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.60 | 50.88 | ppb | 0.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3208955 | 0.81 | 3146679 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 5277936 | 0.70 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 727345 | 0.32 | 741872 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1080633 | 0.99 | 1062355 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 272475 | 0.43 | 273900 | 99.5 | 70 | - | 130 |
| 103 Rh | 1 | 6096613 | 0.76 | 6003828 | 101.5 | 70 | - | 130 |
| 115 In | 1 | 6494538 | 1.23 | 6375568 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 2094428 | 0.35 | 2096793 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 7750257 | 0.90 | 7647907 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 7315458 | 1.48 | 7337138 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3939073 | 0.24 | 3950799 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D#
**Date Acquired:** Apr 19 2013 10:39 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20781-S1
**Misc Info:**
**Vial Number:** 2309
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 575.60 | 28.78 | ppb | 24.02 | 900.00 | |
| 9 Be | 45 | 2 | 500.60 | 25.03 | ppb | 0.76 | 900.00 | |
| 11 B | 6 | 1 | 15.46 | 0.77 | ppb | 28.44 | 900.00 | |
| 11 B | 45 | 2 | 14.20 | 0.71 | ppb | 6.62 | 900.00 | |
| 23 Na | 45 | 1 | 49080.00 | 2454.00 | ppb | 26.79 | 90000.00 | |
| 23 Na | 45 | 2 | 42460.00 | 2123.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 32680.00 | 1634.00 | ppb | 26.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 28540.00 | 1427.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 2596.00 | 129.80 | ppb | 26.58 | 90000.00 | |
| 27 Al | 45 | 2 | 2272.00 | 113.60 | ppb | 0.34 | 90000.00 | |
| 39 K | 45 | 1 | 34700.00 | 1735.00 | ppb | 27.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 40880.00 | 2044.00 | ppb | 26.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 597.60 | 29.88 | ppb | 26.76 | 900.00 | |
| 51 V | 45 | 2 | 522.20 | 26.11 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 508.40 | 25.42 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 674.20 | 33.71 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 2750.00 | 137.50 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 522.80 | 26.14 | ppb | 0.67 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 501.80 | 25.09 | ppb | 0.31 | 900.00 | |
| 66 Zn | 72 | 2 | 560.60 | 28.03 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 527.20 | 26.36 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 535.60 | 26.78 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 671.00 | 33.55 | ppb | 29.43 | 900.00 | |
| 98 Mo | 103 | 1 | 1.17 | 0.06 | ppb | 36.78 | 900.00 | |
| 107 Ag | 115 | 1 | 254.40 | 12.72 | ppb | 28.69 | 180.00 | |
| 111 Cd | 115 | 2 | 505.00 | 25.25 | ppb | 1.43 | 900.00 | |
| 120 Sn | 115 | 1 | 0.96 | 0.05 | ppb | 42.15 | 900.00 | |
| 121 Sb | 115 | 1 | 649.60 | 32.48 | ppb | 28.98 | 900.00 | |
| 137 Ba | 159 | 1 | 2496.00 | 124.80 | ppb | 28.74 | 900.00 | |
| 205 Tl | 209 | 1 | 587.80 | 29.39 | ppb | 23.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1201.00 | 60.05 | ppb | 22.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2904712 | 20.81 | 3146679 | 92.3 | 70 - 130 | |
| 45 Sc | 1 | 4607778 | 23.37 | 5213161 | 88.4 | 70 - 130 | |
| 45 Sc | 2 | 722324 | 0.34 | 741872 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 957564 | 20.82 | 1062355 | 90.1 | 70 | - | 130 |
| 72 Ge | 2 | 269665 | 0.22 | 273900 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 5234232 | 24.40 | 6003828 | 87.2 | 70 | - | 130 |
| 115 In | 1 | 5566374 | 23.91 | 6375568 | 87.3 | 70 | - | 130 |
| 115 In | 2 | 2085418 | 0.72 | 2096793 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 6667640 | 24.55 | 7647907 | 87.2 | 70 | - | 130 |
| 175 Lu | 1 | 6319414 | 24.65 | 7337138 | 86.1 | 70 | - | 130 |
| 209 Bi | 1 | 3472730 | 19.96 | 3950799 | 87.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#
**Date Acquired:** Apr 19 2013 10:46 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20781-S2
**Misc Info:**
**Vial Number:** 2310
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 19 2013 06:50 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 493.80 | 24.69 | ppb | 0.29 | 900.00 | |
| 9 Be | 45 | 2 | 504.60 | 25.23 | ppb | 3.54 | 900.00 | |
| 11 B | 6 | 1 | 13.48 | 0.67 | ppb | 1.21 | 900.00 | |
| 11 B | 45 | 2 | 16.27 | 0.81 | ppb | 10.99 | 900.00 | |
| 23 Na | 45 | 1 | 41360.00 | 2068.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 42520.00 | 2126.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 27320.00 | 1366.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 28580.00 | 1429.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 2224.00 | 111.20 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2342.00 | 117.10 | ppb | 0.82 | 90000.00 | |
| 39 K | 45 | 1 | 28980.00 | 1449.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 34040.00 | 1702.00 | ppb | 1.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.00 | 24.75 | ppb | 0.84 | 900.00 | |
| 51 V | 45 | 2 | 520.40 | 26.02 | ppb | 0.10 | 900.00 | |
| 52 Cr | 45 | 2 | 508.00 | 25.40 | ppb | 0.21 | 900.00 | |
| 55 Mn | 45 | 2 | 675.20 | 33.76 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 2796.00 | 139.80 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 523.00 | 26.15 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 505.40 | 25.27 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 495.80 | 24.79 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 554.80 | 27.74 | ppb | 1.02 | 900.00 | |
| 75 As | 72 | 2 | 527.40 | 26.37 | ppb | 0.31 | 900.00 | |
| 78 Se | 72 | 2 | 539.20 | 26.96 | ppb | 0.31 | 900.00 | |
| 88 Sr | 103 | 1 | 551.20 | 27.56 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.07 | ppb | 1.34 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 0.72 | 180.00 | |
| 111 Cd | 115 | 2 | 506.60 | 25.33 | ppb | 1.46 | 900.00 | |
| 120 Sn | 115 | 1 | 1.19 | 0.06 | ppb | 3.56 | 900.00 | |
| 121 Sb | 115 | 1 | 535.60 | 26.78 | ppb | 1.39 | 900.00 | |
| 137 Ba | 159 | 1 | 2042.00 | 102.10 | ppb | 0.31 | 900.00 | |
| 205 Tl | 209 | 1 | 494.20 | 24.71 | ppb | 0.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1028.60 | 51.43 | ppb | 1.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3312905 | 0.76 | 3146679 | 105.3 | 70 - 130 | |
| 45 Sc | 1 | 5295628 | 0.49 | 5213161 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 721452 | 0.55 | 741872 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1072459 | 0.79 | 1062355 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 270603 | 0.75 | 273900 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 6070538 | 0.74 | 6003828 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 6424278 | 1.00 | 6375568 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 2096949 | 1.27 | 2096793 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 7745356 | 0.32 | 7647907 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 7355705 | 0.45 | 7337138 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3969060 | 1.03 | 3950799 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D#
Date Acquired: Apr 19 2013 10:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20781-SD1
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.02 | ppb | 36.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.27 | 0.03 | ppb | 20.95 | 900.00 | |
| 11 B | 6 | 1 | 12.62 | 1.26 | ppb | 2.47 | 900.00 | |
| 11 B | 45 | 2 | 13.08 | 1.31 | ppb | 11.74 | 900.00 | |
| 23 Na | 45 | 1 | 15590.00 | 1559.00 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 15770.00 | 1577.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 1239.00 | 123.90 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 1257.00 | 125.70 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 57.30 | 5.73 | ppb | 29.08 | 90000.00 | |
| 27 Al | 45 | 2 | 34.50 | 3.45 | ppb | 19.06 | 90000.00 | |
| 39 K | 45 | 1 | 2378.00 | 237.80 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 7443.00 | 744.30 | ppb | 1.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.18 | ppb | 15.93 | 900.00 | |
| 51 V | 45 | 2 | 0.60 | 0.06 | ppb | 8.20 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | 0.00 | ppb | 48.53 | 900.00 | |
| 55 Mn | 45 | 2 | 167.40 | 16.74 | ppb | 0.59 | 900.00 | |
| 56 Fe | 45 | 2 | 572.70 | 57.27 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.92 | 0.29 | ppb | 2.01 | 900.00 | |
| 60 Ni | 45 | 2 | 4.97 | 0.50 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 1.08 | 0.11 | ppb | 3.65 | 900.00 | |
| 66 Zn | 72 | 2 | 14.72 | 1.47 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 0.29 | 0.03 | ppb | 17.49 | 900.00 | |
| 78 Se | 72 | 2 | 1.20 | 0.12 | ppb | 21.21 | 900.00 | |
| 88 Sr | 103 | 1 | 42.15 | 4.22 | ppb | 2.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.10 | ppb | 29.63 | 900.00 | |
| 107 Ag | 115 | 1 | 0.13 | 0.01 | ppb | 34.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.01 | ppb | 24.39 | 900.00 | |
| 120 Sn | 115 | 1 | 1.59 | 0.16 | ppb | 6.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.03 | ppb | 9.50 | 900.00 | |
| 137 Ba | 159 | 1 | 21.14 | 2.11 | ppb | 1.66 | 900.00 | |
| 205 Tl | 209 | 1 | 1.83 | 0.18 | ppb | 5.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.35 | 0.04 | ppb | 17.71 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3242172 | 1.73 | 3146679 | 103.0 | 70 - 130 | |
| 45 Sc | 1 | 5222268 | 2.12 | 5213161 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 723098 | 0.41 | 741872 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1068890 | 2.02 | 1062355 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 272121 | 0.25 | 273900 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 6079923 | 0.69 | 6003828 | 101.3 | 70 | - | 130 |
| 115 In | 1 | 6498380 | 0.34 | 6375568 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 2112760 | 0.93 | 2096793 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 7813221 | 1.46 | 7647907 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 7371411 | 2.02 | 7337138 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 4070000 | 0.90 | 3950799 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D# |
| Date Acquired: | Apr 19 2013 11:00 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20781-PS1 |
| Misc Info: | |
| Vial Number: | 2312 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.81 | 8.41 | ppb | 0.35 | 900.00 | |
| 9 Be | 45 | 2 | 16.91 | 8.46 | ppb | 5.28 | 900.00 | |
| 11 B | 6 | 1 | 28.14 | 14.07 | ppb | 0.24 | 900.00 | |
| 11 B | 45 | 2 | 28.86 | 14.43 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 12304.00 | 6152.00 | ppb | 0.52 | 90000.00 | |
| 23 Na | 45 | 2 | 13054.00 | 6527.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 939.80 | 469.90 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 1025.00 | 512.50 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 32.16 | 16.08 | ppb | 1.45 | 90000.00 | |
| 27 Al | 45 | 2 | 33.12 | 16.56 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 1912.00 | 956.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5566.00 | 2783.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.34 | 8.67 | ppb | 1.26 | 900.00 | |
| 51 V | 45 | 2 | 19.32 | 9.66 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | 17.09 | 8.55 | ppb | 1.09 | 900.00 | |
| 55 Mn | 45 | 2 | 154.22 | 77.11 | ppb | 0.55 | 900.00 | |
| 56 Fe | 45 | 2 | 467.60 | 233.80 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 19.42 | 9.71 | ppb | 0.04 | 900.00 | |
| 60 Ni | 45 | 2 | 20.70 | 10.35 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 17.11 | 8.56 | ppb | 0.32 | 900.00 | |
| 66 Zn | 72 | 2 | 23.94 | 11.97 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 16.82 | 8.41 | ppb | 1.05 | 900.00 | |
| 78 Se | 72 | 2 | 15.74 | 7.87 | ppb | 0.85 | 900.00 | |
| 88 Sr | 103 | 1 | 52.14 | 26.07 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 17.58 | 8.79 | ppb | 0.54 | 900.00 | |
| 107 Ag | 115 | 1 | 17.29 | 8.65 | ppb | 1.23 | 180.00 | |
| 111 Cd | 115 | 2 | 16.27 | 8.14 | ppb | 0.85 | 900.00 | |
| 120 Sn | 115 | 1 | 17.61 | 8.81 | ppb | 0.93 | 900.00 | |
| 121 Sb | 115 | 1 | 17.44 | 8.72 | ppb | 0.73 | 900.00 | |
| 137 Ba | 159 | 1 | 33.72 | 16.86 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 16.65 | 8.32 | ppb | 1.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.49 | 8.75 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2924281 | 0.18 | 3146679 | 92.9 | 70 - 130 | |
| 45 Sc | 1 | 5136690 | 0.66 | 5213161 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 713083 | 0.43 | 741872 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1047416 | 0.64 | 1062355 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 265950 | 0.43 | 273900 | 97.1 | 70 | - | 130 |
| 103 Rh | 1 | 5843531 | 0.37 | 6003828 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 6342927 | 0.65 | 6375568 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 2062957 | 0.86 | 2096793 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 7773903 | 0.55 | 7647907 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 7468498 | 0.20 | 7337138 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 3984321 | 0.12 | 3950799 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D# |
| Date Acquired: | Apr 19 2013 11:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-B1 |
| Misc Info: | |
| Vial Number: | 2401 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 474.00 | 23.70 | ppb | 1.66 | 900.00 | |
| 9 Be | 45 | 2 | 501.40 | 25.07 | ppb | 0.91 | 900.00 | |
| 11 B | 6 | 1 | 1.10 | 0.06 | ppb | 29.85 | 900.00 | |
| 11 B | 45 | 2 | 1.99 | 0.10 | ppb | 32.31 | 900.00 | |
| 23 Na | 45 | 1 | 25920.00 | 1296.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 26260.00 | 1313.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 26100.00 | 1305.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 26980.00 | 1349.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 2138.00 | 106.90 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2228.00 | 111.40 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 25980.00 | 1299.00 | ppb | 0.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 26300.00 | 1315.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 476.60 | 23.83 | ppb | 0.31 | 900.00 | |
| 51 V | 45 | 2 | 504.60 | 25.23 | ppb | 0.53 | 900.00 | |
| 52 Cr | 45 | 2 | 492.20 | 24.61 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 498.20 | 24.91 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 2184.00 | 109.20 | ppb | 1.13 | 90000.00 | |
| 59 Co | 45 | 2 | 509.40 | 25.47 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 490.20 | 24.51 | ppb | 0.54 | 900.00 | |
| 63 Cu | 72 | 2 | 484.80 | 24.24 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 536.00 | 26.80 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 511.60 | 25.58 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 532.60 | 26.63 | ppb | 1.54 | 900.00 | |
| 88 Sr | 103 | 1 | 504.00 | 25.20 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.03 | ppb | 8.10 | 900.00 | |
| 107 Ag | 115 | 1 | 207.00 | 10.35 | ppb | 1.52 | 180.00 | |
| 111 Cd | 115 | 2 | 487.40 | 24.37 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.00 | ppb | 22.41 | 900.00 | |
| 121 Sb | 115 | 1 | 518.20 | 25.91 | ppb | 1.17 | 900.00 | |
| 137 Ba | 159 | 1 | 1986.20 | 99.31 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 483.40 | 24.17 | ppb | 1.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.80 | 50.59 | ppb | 1.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3463446 | 1.58 | 3146679 | 110.1 | 70 - 130 | |
| 45 Sc | 1 | 5354635 | 0.32 | 5213161 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 718434 | 0.34 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1079265 | 0.35 | 1062355 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 270059 | 0.51 | 273900 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 6124372 | 0.93 | 6003828 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 6501499 | 0.45 | 6375568 | 102.0 | 70 | - | 130 |
| 115 In | 2 | 2131943 | 0.19 | 2096793 | 101.7 | 70 | - | 130 |
| 159 Tb | 1 | 7944675 | 0.46 | 7647907 | 103.9 | 70 | - | 130 |
| 175 Lu | 1 | 7483268 | 1.55 | 7337138 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 4075383 | 0.76 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D# |
| Date Acquired: | Apr 19 2013 11:15 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-S1 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 479.20 | 23.96 | ppb | 1.56 | 900.00 | |
| 9 Be | 45 | 2 | 514.00 | 25.70 | ppb | 1.70 | 900.00 | |
| 11 B | 6 | 1 | 34.50 | 1.73 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 39.98 | 2.00 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 36500.00 | 1825.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 36400.00 | 1820.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 31560.00 | 1578.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 31840.00 | 1592.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 2186.00 | 109.30 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 2 | 2282.00 | 114.10 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 29380.00 | 1469.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 74320.00 | 3716.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.20 | 24.21 | ppb | 1.19 | 900.00 | |
| 51 V | 45 | 2 | 508.60 | 25.43 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 492.80 | 24.64 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 3916.00 | 195.80 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 2790.00 | 139.50 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 513.60 | 25.68 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 500.60 | 25.03 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 496.40 | 24.82 | ppb | 0.78 | 900.00 | |
| 66 Zn | 72 | 2 | 559.20 | 27.96 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 528.60 | 26.43 | ppb | 0.76 | 900.00 | |
| 78 Se | 72 | 2 | 554.60 | 27.73 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 687.80 | 34.39 | ppb | 0.79 | 900.00 | |
| 98 Mo | 103 | 1 | 2.59 | 0.13 | ppb | 1.89 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 0.85 | 180.00 | |
| 111 Cd | 115 | 2 | 497.20 | 24.86 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.01 | ppb | 8.48 | 900.00 | |
| 121 Sb | 115 | 1 | 525.60 | 26.28 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 2034.00 | 101.70 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 477.80 | 23.89 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1034.00 | 51.70 | ppb | 0.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3509449 | 0.95 | 3146679 | 111.5 | 70 - 130 | |
| 45 Sc | 1 | 5311320 | 0.50 | 5213161 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 717842 | 0.78 | 741872 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1070513 | 0.70 | 1062355 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 266166 | 0.79 | 273900 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 6098841 | 0.58 | 6003828 | 101.6 | 70 | - | 130 |
| 115 | In | 1 | 6466063 | 0.21 | 6375568 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 2099501 | 0.27 | 2096793 | 100.1 | 70 | - | 130 |
| 159 | Tb | 1 | 7922946 | 0.33 | 7647907 | 103.6 | 70 | - | 130 |
| 175 | Lu | 1 | 7501543 | 0.33 | 7337138 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 4076069 | 0.66 | 3950799 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D#
Date Acquired: Apr 19 2013 11:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.32 | 48.32 | ppb | 0.57 | 900.00 | |
| 9 Be | 45 | 2 | 50.37 | 50.37 | ppb | 2.76 | 900.00 | |
| 11 B | 6 | 1 | 45.06 | 45.06 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 49.63 | 49.63 | ppb | 1.61 | 900.00 | |
| 23 Na | 45 | 1 | 5147.00 | 5147.00 | ppb | 2.30 | 90000.00 | |
| 23 Na | 45 | 2 | 5149.00 | 5149.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 5152.00 | 5152.00 | ppb | 2.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 5161.00 | 5161.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | 5149.00 | 5149.00 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 5183.00 | 5183.00 | ppb | 0.57 | 90000.00 | |
| 39 K | 45 | 1 | 5152.00 | 5152.00 | ppb | 1.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 5155.00 | 5155.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.74 | 49.74 | ppb | 1.65 | 900.00 | |
| 51 V | 45 | 2 | 49.39 | 49.39 | ppb | 0.31 | 900.00 | |
| 52 Cr | 45 | 2 | 48.85 | 48.85 | ppb | 0.52 | 900.00 | |
| 55 Mn | 45 | 2 | 50.58 | 50.58 | ppb | 1.63 | 900.00 | |
| 56 Fe | 45 | 2 | 5179.00 | 5179.00 | ppb | 0.92 | 90000.00 | |
| 59 Co | 45 | 2 | 49.23 | 49.23 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 48.01 | 48.01 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 47.22 | 47.22 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 47.82 | 47.82 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 49.15 | 49.15 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 49.64 | 49.64 | ppb | 1.14 | 900.00 | |
| 88 Sr | 103 | 1 | 51.59 | 51.59 | ppb | 1.68 | 900.00 | |
| 98 Mo | 103 | 1 | 50.16 | 50.16 | ppb | 1.48 | 900.00 | |
| 107 Ag | 115 | 1 | 49.81 | 49.81 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 48.63 | 48.63 | ppb | 0.50 | 900.00 | |
| 120 Sn | 115 | 1 | 50.12 | 50.12 | ppb | 1.32 | 900.00 | |
| 121 Sb | 115 | 1 | 52.16 | 52.16 | ppb | 1.22 | 900.00 | |
| 137 Ba | 159 | 1 | 49.16 | 49.16 | ppb | 1.44 | 900.00 | |
| 205 Tl | 209 | 1 | 48.87 | 48.87 | ppb | 0.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.93 | 50.93 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3370597 | 0.62 | 3146679 | 107.1 | 70 - 130 | |
| 45 Sc | 1 | 5233518 | 1.93 | 5213161 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 705753 | 0.29 | 741872 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1053571 | 0.25 | 1062355 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 263547 | 0.13 | 273900 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 5906749 | 1.14 | 6003828 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 6285785 | 0.34 | 6375568 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 2046946 | 0.79 | 2096793 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 7865829 | 1.26 | 7647907 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 7511923 | 0.51 | 7337138 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 3983138 | 0.91 | 3950799 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#
Date Acquired: Apr 19 2013 11:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 55.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 123.23 | 900.00 | |
| 11 B | 6 | 1 | 0.10 | 0.10 | ppb | 9.36 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 86.69 | 900.00 | |
| 23 Na | 45 | 1 | 3.60 | 3.60 | ppb | 8.47 | 90000.00 | |
| 23 Na | 45 | 2 | 5.67 | 5.67 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.74 | 0.74 | ppb | 4.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.19 | 1.19 | ppb | 17.73 | 90000.00 | |
| 27 Al | 45 | 1 | 0.79 | 0.79 | ppb | 10.74 | 90000.00 | |
| 27 Al | 45 | 2 | 1.12 | 1.12 | ppb | 15.76 | 90000.00 | |
| 39 K | 45 | 1 | 1.52 | 1.52 | ppb | 129.67 | 90000.00 | |
| 44 Ca | 45 | 1 | -13.68 | -13.68 | ppb | 13.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 98.19 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 13.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 40.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 2.09 | 900.00 | |
| 56 Fe | 45 | 2 | 1.81 | 1.81 | ppb | 10.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 17.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 135.83 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 49.28 | 900.00 | |
| 66 Zn | 72 | 2 | 0.09 | 0.09 | ppb | 2.19 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 137.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 42.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 11.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 5.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 25.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 14.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 23.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 24.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 1.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 6.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3498608 | 0.46 | 3146679 | 111.2 | 70 - 130 | |
| 45 Sc | 1 | 5274534 | 1.71 | 5213161 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 714618 | 0.65 | 741872 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1077797 | 0.43 | 1062355 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 268649 | 0.38 | 273900 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 6153937 | 2.20 | 6003828 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 6520751 | 1.43 | 6375568 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 2124765 | 0.50 | 2096793 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 7943753 | 1.75 | 7647907 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 7590630 | 1.63 | 7337138 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4138927 | 1.48 | 3950799 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 11:36 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20790-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2405 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 476.80 | 23.84 | ppb | 1.22 | 900.00 | |
| 9 Be | 45 | 2 | 521.80 | 26.09 | ppb | 2.63 | 900.00 | |
| 11 B | 6 | 1 | 35.06 | 1.75 | ppb | 3.66 | 900.00 | |
| 11 B | 45 | 2 | 41.02 | 2.05 | ppb | 11.02 | 900.00 | |
| 23 Na | 45 | 1 | 36480.00 | 1824.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 36260.00 | 1813.00 | ppb | 1.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 31300.00 | 1565.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 31840.00 | 1592.00 | ppb | 2.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2154.00 | 107.70 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 2 | 2298.00 | 114.90 | ppb | 1.04 | 90000.00 | |
| 39 K | 45 | 1 | 29160.00 | 1458.00 | ppb | 0.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 74660.00 | 3733.00 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 482.20 | 24.11 | ppb | 0.51 | 900.00 | |
| 51 V | 45 | 2 | 508.80 | 25.44 | ppb | 1.12 | 900.00 | |
| 52 Cr | 45 | 2 | 496.60 | 24.83 | ppb | 1.93 | 900.00 | |
| 55 Mn | 45 | 2 | 4002.00 | 200.10 | ppb | 2.39 | 900.00 | |
| 56 Fe | 45 | 2 | 2904.00 | 145.20 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 514.20 | 25.71 | ppb | 2.60 | 900.00 | |
| 60 Ni | 45 | 2 | 494.80 | 24.74 | ppb | 2.03 | 900.00 | |
| 63 Cu | 72 | 2 | 479.40 | 23.97 | ppb | 1.75 | 900.00 | |
| 66 Zn | 72 | 2 | 549.00 | 27.45 | ppb | 1.93 | 900.00 | |
| 75 As | 72 | 2 | 514.80 | 25.74 | ppb | 0.65 | 900.00 | |
| 78 Se | 72 | 2 | 534.80 | 26.74 | ppb | 2.41 | 900.00 | |
| 88 Sr | 103 | 1 | 684.80 | 34.24 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 3.06 | 0.15 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 208.80 | 10.44 | ppb | 1.21 | 180.00 | |
| 111 Cd | 115 | 2 | 494.80 | 24.74 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.34 | 0.02 | ppb | 17.25 | 900.00 | |
| 121 Sb | 115 | 1 | 519.40 | 25.97 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 2012.00 | 100.60 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 482.80 | 24.14 | ppb | 0.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1012.60 | 50.63 | ppb | 1.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3586567 | 1.01 | 3146679 | 114.0 | 70 - 130 | |
| 45 Sc | 1 | 5298966 | 0.90 | 5213161 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 704497 | 1.76 | 741872 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1068788 | 1.03 | 1062355 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 266759 | 0.71 | 273900 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 6056427 | 0.97 | 6003828 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 6455953 | 0.32 | 6375568 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 2112328 | 1.17 | 2096793 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 7855681 | 0.82 | 7647907 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 7480054 | 1.20 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 4082585 | 0.59 | 3950799 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 11:43 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20790-SD1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2406 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.01 | ppb | 14.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.01 | ppb | 106.54 | 900.00 | |
| 11 B | 6 | 1 | 34.94 | 3.49 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 40.45 | 4.05 | ppb | 4.09 | 900.00 | |
| 23 Na | 45 | 1 | 9982.00 | 998.20 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 9960.00 | 996.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 4895.00 | 489.50 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 5018.00 | 501.80 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 1 | 18.89 | 1.89 | ppb | 9.03 | 90000.00 | |
| 27 Al | 45 | 2 | 10.03 | 1.00 | ppb | 11.91 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 286.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 48380.00 | 4838.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.17 | ppb | 6.09 | 900.00 | |
| 51 V | 45 | 2 | 0.38 | 0.04 | ppb | 33.79 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.06 | ppb | 4.29 | 900.00 | |
| 55 Mn | 45 | 2 | 3418.00 | 341.80 | ppb | 1.76 | 900.00 | |
| 56 Fe | 45 | 2 | 651.30 | 65.13 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 4.17 | 0.42 | ppb | 1.59 | 900.00 | |
| 60 Ni | 45 | 2 | 7.64 | 0.76 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 2.12 | 0.21 | ppb | 0.85 | 900.00 | |
| 66 Zn | 72 | 2 | 17.38 | 1.74 | ppb | 2.04 | 900.00 | |
| 75 As | 72 | 2 | 0.57 | 0.06 | ppb | 16.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.61 | 0.06 | ppb | 81.91 | 900.00 | |
| 88 Sr | 103 | 1 | 185.90 | 18.59 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 2.72 | 0.27 | ppb | 3.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.10 | 0.01 | ppb | 9.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 22.50 | 900.00 | |
| 120 Sn | 115 | 1 | 6.72 | 0.67 | ppb | 2.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.04 | ppb | 1.14 | 900.00 | |
| 137 Ba | 159 | 1 | 11.52 | 1.15 | ppb | 3.15 | 900.00 | |
| 205 Tl | 209 | 1 | 1.88 | 0.19 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.03 | ppb | 9.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3435793 | 0.91 | 3146679 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 5196546 | 0.17 | 5213161 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 700795 | 0.62 | 741872 | 94.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1069849 | 0.98 | 1062355 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 266473 | 0.64 | 273900 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 6017803 | 0.62 | 6003828 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 6482585 | 0.26 | 6375568 | 101.7 | 70 | - | 130 |
| 115 | In | 2 | 2122901 | 1.14 | 2096793 | 101.2 | 70 | - | 130 |
| 159 | Tb | 1 | 7887748 | 0.55 | 7647907 | 103.1 | 70 | - | 130 |
| 175 | Lu | 1 | 7518983 | 1.35 | 7337138 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 4102596 | 1.09 | 3950799 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Apr 19 2013 11:50 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20790-PS1 |
| Misc Info: | |
| Vial Number: | 2407 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.95 | 8.48 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 17.23 | 8.62 | ppb | 5.61 | 900.00 | |
| 11 B | 6 | 1 | 48.76 | 24.38 | ppb | 0.99 | 900.00 | |
| 11 B | 45 | 2 | 52.22 | 26.11 | ppb | 4.50 | 900.00 | |
| 23 Na | 45 | 1 | 8010.00 | 4005.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 8436.00 | 4218.00 | ppb | 1.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3948.00 | 1974.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 4136.00 | 2068.00 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 1 | 22.48 | 11.24 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 2 | 23.00 | 11.50 | ppb | 1.83 | 90000.00 | |
| 39 K | 45 | 1 | 2372.00 | 1186.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 40120.00 | 20060.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.08 | 9.04 | ppb | 1.09 | 900.00 | |
| 51 V | 45 | 2 | 19.46 | 9.73 | ppb | 2.23 | 900.00 | |
| 52 Cr | 45 | 2 | 18.08 | 9.04 | ppb | 3.45 | 900.00 | |
| 55 Mn | 45 | 2 | 2890.00 | 1445.00 | ppb | 3.19 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 547.00 | 273.50 | ppb | 3.76 | 90000.00 | |
| 59 Co | 45 | 2 | 20.56 | 10.28 | ppb | 3.08 | 900.00 | |
| 60 Ni | 45 | 2 | 22.80 | 11.40 | ppb | 1.07 | 900.00 | |
| 63 Cu | 72 | 2 | 17.84 | 8.92 | ppb | 3.79 | 900.00 | |
| 66 Zn | 72 | 2 | 27.42 | 13.71 | ppb | 2.81 | 900.00 | |
| 75 As | 72 | 2 | 17.54 | 8.77 | ppb | 2.02 | 900.00 | |
| 78 Se | 72 | 2 | 15.67 | 7.83 | ppb | 5.64 | 900.00 | |
| 88 Sr | 103 | 1 | 171.28 | 85.64 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 19.95 | 9.97 | ppb | 0.92 | 900.00 | |
| 107 Ag | 115 | 1 | 17.52 | 8.76 | ppb | 1.08 | 180.00 | |
| 111 Cd | 115 | 2 | 16.38 | 8.19 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 18.18 | 9.09 | ppb | 1.61 | 900.00 | |
| 121 Sb | 115 | 1 | 17.75 | 8.88 | ppb | 1.18 | 900.00 | |
| 137 Ba | 159 | 1 | 25.98 | 12.99 | ppb | 1.55 | 900.00 | |
| 205 Tl | 209 | 1 | 17.42 | 8.71 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.38 | 8.69 | ppb | 0.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3104770 | 1.58 | 3146679 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 5106915 | 0.95 | 5213161 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 691340 | 2.20 | 741872 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1023532 | 1.20 | 1062355 | 96.3 | 70 | - | 130 |
| 72 | Ge | 2 | 258788 | 1.70 | 273900 | 94.5 | 70 | - | 130 |
| 103 | Rh | 1 | 5756959 | 0.36 | 6003828 | 95.9 | 70 | - | 130 |
| 115 | In | 1 | 6276981 | 0.16 | 6375568 | 98.5 | 70 | - | 130 |
| 115 | In | 2 | 2052341 | 0.81 | 2096793 | 97.9 | 70 | - | 130 |
| 159 | Tb | 1 | 7834506 | 1.38 | 7647907 | 102.4 | 70 | - | 130 |
| 175 | Lu | 1 | 7528326 | 1.25 | 7337138 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 4031180 | 1.16 | 3950799 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D# | | |
| **Date Acquired:** | Apr 19 2013 11:57 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20797-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2408 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 467.20 | 23.36 | ppb | 1.92 | 900.00 | |
| 9 Be | 45 | 2 | 510.80 | 25.54 | ppb | 2.24 | 900.00 | |
| 11 B | 6 | 1 | 0.98 | 0.05 | ppb | 4.73 | 900.00 | |
| 11 B | 45 | 2 | 1.80 | 0.09 | ppb | 52.31 | 900.00 | |
| 23 Na | 45 | 1 | 26840.00 | 1342.00 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 26380.00 | 1319.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 27120.00 | 1356.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 27060.00 | 1353.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 1 | 2214.00 | 110.70 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2318.00 | 115.90 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 26720.00 | 1336.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 27060.00 | 1353.00 | ppb | 0.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 486.20 | 24.31 | ppb | 1.25 | 900.00 | |
| 51 V | 45 | 2 | 509.20 | 25.46 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 496.00 | 24.80 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 512.80 | 25.64 | ppb | 0.37 | 900.00 | |
| 56 Fe | 45 | 2 | 2274.00 | 113.70 | ppb | 1.19 | 90000.00 | |
| 59 Co | 45 | 2 | 515.60 | 25.78 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 497.40 | 24.87 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 484.60 | 24.23 | ppb | 0.25 | 900.00 | |
| 66 Zn | 72 | 2 | 537.20 | 26.86 | ppb | 0.03 | 900.00 | |
| 75 As | 72 | 2 | 516.40 | 25.82 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 546.20 | 27.31 | ppb | 1.24 | 900.00 | |
| 88 Sr | 103 | 1 | 493.80 | 24.69 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 11.33 | 900.00 | |
| 107 Ag | 115 | 1 | 209.20 | 10.46 | ppb | 1.36 | 180.00 | |
| 111 Cd | 115 | 2 | 493.40 | 24.67 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.71 | 0.04 | ppb | 5.04 | 900.00 | |
| 121 Sb | 115 | 1 | 522.40 | 26.12 | ppb | 1.44 | 900.00 | |
| 137 Ba | 159 | 1 | 2018.00 | 100.90 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 481.20 | 24.06 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1019.80 | 50.99 | ppb | 0.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3665858 | 1.72 | 3146679 | 116.5 | 70 - 130 | |
| 45 Sc | 1 | 5185424 | 0.47 | 5213161 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 684670 | 0.13 | 741872 | 92.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1057366 | 0.57 | 1062355 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 260669 | 0.22 | 273900 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 6086093 | 0.51 | 6003828 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 6429162 | 0.58 | 6375568 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 2103363 | 0.67 | 2096793 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 7934618 | 1.37 | 7647907 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 7541777 | 0.63 | 7337138 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 4150440 | 0.96 | 3950799 | 105.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D#
Date Acquired: Apr 20 2013 12:04 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-S1
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 476.40 | 23.82 | ppb | 1.25 | 900.00 | |
| 9 Be | 45 | 2 | 533.40 | 26.67 | ppb | 2.60 | 900.00 | |
| 11 B | 6 | 1 | 162.54 | 8.13 | ppb | 1.93 | 900.00 | |
| 11 B | 45 | 2 | 197.26 | 9.86 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 54160.00 | 2708.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 53000.00 | 2650.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 35380.00 | 1769.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 35800.00 | 1790.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 2230.00 | 111.50 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 2 | 2324.00 | 116.20 | ppb | 1.05 | 90000.00 | |
| 39 K | 45 | 1 | 33720.00 | 1686.00 | ppb | 0.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 85020.00 | 4251.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 496.80 | 24.84 | ppb | 1.04 | 900.00 | |
| 51 V | 45 | 2 | 516.00 | 25.80 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | 504.60 | 25.23 | ppb | 1.47 | 900.00 | |
| 55 Mn | 45 | 2 | 10388.00 | 519.40 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | 9378.00 | 468.90 | ppb | 1.33 | 90000.00 | |
| 59 Co | 45 | 2 | 531.00 | 26.55 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 507.40 | 25.37 | ppb | 0.68 | 900.00 | |
| 63 Cu | 72 | 2 | 492.40 | 24.62 | ppb | 0.94 | 900.00 | |
| 66 Zn | 72 | 2 | 545.60 | 27.28 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 549.20 | 27.46 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 544.60 | 27.23 | ppb | 2.39 | 900.00 | |
| 88 Sr | 103 | 1 | 1755.60 | 87.78 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.82 | 0.09 | ppb | 2.93 | 900.00 | |
| 107 Ag | 115 | 1 | 212.80 | 10.64 | ppb | 0.14 | 180.00 | |
| 111 Cd | 115 | 2 | 499.80 | 24.99 | ppb | 0.64 | 900.00 | |
| 120 Sn | 115 | 1 | 3.89 | 0.19 | ppb | 4.23 | 900.00 | |
| 121 Sb | 115 | 1 | 535.20 | 26.76 | ppb | 0.56 | 900.00 | |
| 137 Ba | 159 | 1 | 2126.00 | 106.30 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 486.60 | 24.33 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1035.00 | 51.75 | ppb | 1.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3626427 | 1.47 | 3146679 | 115.2 | 70 - 130 | |
| 45 Sc | 1 | 5142174 | 0.14 | 5213161 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 684944 | 1.11 | 741872 | 92.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1045466 | 0.38 | 1062355 | 98.4 | 70 | - | 130 |
| 72 | Ge | 2 | 260174 | 0.26 | 273900 | 95.0 | 70 | - | 130 |
| 103 | Rh | 1 | 5987217 | 0.34 | 6003828 | 99.7 | 70 | - | 130 |
| 115 | In | 1 | 6358106 | 0.08 | 6375568 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 2091947 | 0.97 | 2096793 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 7879572 | 1.09 | 7647907 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 7603103 | 0.41 | 7337138 | 103.6 | 70 | - | 130 |
| 209 | Bi | 1 | 4104635 | 1.06 | 3950799 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 12:11 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20797-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2410 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 19 2013 06:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 474.60 | 23.73 | ppb | 0.59 | 900.00 | |
| 9 Be | 45 | 2 | 534.20 | 26.71 | ppb | 1.55 | 900.00 | |
| 11 B | 6 | 1 | 164.58 | 8.23 | ppb | 0.81 | 900.00 | |
| 11 B | 45 | 2 | 194.36 | 9.72 | ppb | 7.65 | 900.00 | |
| 23 Na | 45 | 1 | 54460.00 | 2723.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 52660.00 | 2633.00 | ppb | 1.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 35400.00 | 1770.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 35320.00 | 1766.00 | ppb | 1.65 | 90000.00 | |
| 27 Al | 45 | 1 | 2254.00 | 112.70 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 2330.00 | 116.50 | ppb | 1.65 | 90000.00 | |
| 39 K | 45 | 1 | 33600.00 | 1680.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 85180.00 | 4259.00 | ppb | 0.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 496.80 | 24.84 | ppb | 1.49 | 900.00 | |
| 51 V | 45 | 2 | 519.60 | 25.98 | ppb | 0.97 | 900.00 | |
| 52 Cr | 45 | 2 | 504.20 | 25.21 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 10290.00 | 514.50 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 9244.00 | 462.20 | ppb | 0.18 | 90000.00 | |
| 59 Co | 45 | 2 | 523.00 | 26.15 | ppb | 0.78 | 900.00 | |
| 60 Ni | 45 | 2 | 499.60 | 24.98 | ppb | 1.20 | 900.00 | |
| 63 Cu | 72 | 2 | 494.20 | 24.71 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 560.00 | 28.00 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 550.60 | 27.53 | ppb | 0.77 | 900.00 | |
| 78 Se | 72 | 2 | 558.60 | 27.93 | ppb | 1.65 | 900.00 | |
| 88 Sr | 103 | 1 | 1759.00 | 87.95 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 1.96 | 0.10 | ppb | 16.05 | 900.00 | |
| 107 Ag | 115 | 1 | 212.60 | 10.63 | ppb | 0.36 | 180.00 | |
| 111 Cd | 115 | 2 | 502.60 | 25.13 | ppb | 0.12 | 900.00 | |
| 120 Sn | 115 | 1 | 6.85 | 0.34 | ppb | 0.10 | 900.00 | |
| 121 Sb | 115 | 1 | 532.80 | 26.64 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 2110.00 | 105.50 | ppb | 0.56 | 900.00 | |
| 205 Tl | 209 | 1 | 496.20 | 24.81 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1037.80 | 51.89 | ppb | 1.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3640893 | 0.45 | 3146679 | 115.7 | 70 - 130 | |
| 45 Sc | 1 | 5168488 | 1.00 | 5213161 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 687143 | 0.43 | 741872 | 92.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1053861 | 0.85 | 1062355 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 259060 | 0.49 | 273900 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 6007285 | 0.59 | 6003828 | 100.1 | 70 | - | 130 |
| 115 In | 1 | 6343500 | 0.31 | 6375568 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 2085893 | 0.92 | 2096793 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 7862263 | 0.77 | 7647907 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 7518723 | 0.27 | 7337138 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 4090889 | 1.99 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D# |
| Date Acquired: | Apr 20 2013 12:18 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20797-SD1 |
| Misc Info: | |
| Vial Number: | 2411 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.01 | ppb | 19.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.01 | ppb | 87.80 | 900.00 | |
| 11 B | 6 | 1 | 169.10 | 16.91 | ppb | 1.19 | 900.00 | |
| 11 B | 45 | 2 | 187.60 | 18.76 | ppb | 1.12 | 900.00 | |
| 23 Na | 45 | 1 | 26900.00 | 2690.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 26160.00 | 2616.00 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 8140.00 | 814.00 | ppb | 1.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 8220.00 | 822.00 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 1 | 25.17 | 2.52 | ppb | 1.85 | 90000.00 | |
| 27 Al | 45 | 2 | 25.15 | 2.52 | ppb | 3.13 | 90000.00 | |
| 39 K | 45 | 1 | 6777.00 | 677.70 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 57760.00 | 5776.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.87 | 0.29 | ppb | 7.16 | 900.00 | |
| 51 V | 45 | 2 | -0.25 | -0.02 | ppb | 37.62 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.01 | ppb | 40.66 | 900.00 | |
| 55 Mn | 45 | 2 | 9649.00 | 964.90 | ppb | 2.09 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 7046.00 | 704.60 | ppb | 1.73 | 90000.00 | |
| 59 Co | 45 | 2 | 9.87 | 0.99 | ppb | 2.82 | 900.00 | |
| 60 Ni | 45 | 2 | 5.19 | 0.52 | ppb | 2.75 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.08 | ppb | 8.70 | 900.00 | |
| 66 Zn | 72 | 2 | 10.68 | 1.07 | ppb | 1.94 | 900.00 | |
| 75 As | 72 | 2 | 22.97 | 2.30 | ppb | 1.10 | 900.00 | |
| 78 Se | 72 | 2 | 1.32 | 0.13 | ppb | 56.58 | 900.00 | |
| 88 Sr | 103 | 1 | 1277.00 | 127.70 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.14 | ppb | 1.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.01 | ppb | 37.36 | 180.00 | |
| 111 Cd | 115 | 2 | 0.17 | 0.02 | ppb | 22.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.03 | ppb | 11.06 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.03 | ppb | 2.51 | 900.00 | |
| 137 Ba | 159 | 1 | 78.73 | 7.87 | ppb | 0.71 | 900.00 | |
| 205 Tl | 209 | 1 | 1.76 | 0.18 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.32 | 0.03 | ppb | 4.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3516562 | 1.15 | 3146679 | 111.8 | 70 - 130 | |
| 45 Sc | 1 | 5130415 | 0.51 | 5213161 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 687846 | 0.38 | 741872 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1050702 | 0.76 | 1062355 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 259702 | 1.36 | 273900 | 94.8 | 70 | - | 130 |
| 103 Rh | 1 | 5881315 | 0.47 | 6003828 | 98.0 | 70 | - | 130 |
| 115 In | 1 | 6316606 | 0.40 | 6375568 | 99.1 | 70 | - | 130 |
| 115 In | 2 | 2061136 | 0.80 | 2096793 | 98.3 | 70 | - | 130 |
| 159 Tb | 1 | 7797847 | 0.22 | 7647907 | 102.0 | 70 | - | 130 |
| 175 Lu | 1 | 7520188 | 0.68 | 7337138 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 4090053 | 0.51 | 3950799 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#
Date Acquired: Apr 20 2013 12:25 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20797-PS1
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.64 | 8.32 | ppb | 2.90 | 900.00 | |
| 9 Be | 45 | 2 | 17.47 | 8.74 | ppb | 1.44 | 900.00 | |
| 11 B | 6 | 1 | 182.22 | 91.11 | ppb | 7.68 | 900.00 | |
| 11 B | 45 | 2 | 185.94 | 92.97 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 21200.00 | 10600.00 | ppb | 0.89 | 90000.00 | |
| 23 Na | 45 | 2 | 21900.00 | 10950.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 6366.00 | 3183.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 6686.00 | 3343.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 24.62 | 12.31 | ppb | 9.99 | 90000.00 | |
| 27 Al | 45 | 2 | 22.20 | 11.10 | ppb | 2.60 | 90000.00 | |
| 39 K | 45 | 1 | 5552.00 | 2776.00 | ppb | 0.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 47240.00 | 23620.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.64 | 9.32 | ppb | 0.47 | 900.00 | |
| 51 V | 45 | 2 | 18.72 | 9.36 | ppb | 1.50 | 900.00 | |
| 52 Cr | 45 | 2 | 17.42 | 8.71 | ppb | 1.65 | 900.00 | |
| 55 Mn | 45 | 2 | 8072.00 | 4036.00 | ppb | 1.98 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 5918.00 | 2959.00 | ppb | 1.90 | 90000.00 | |
| 59 Co | 45 | 2 | 25.22 | 12.61 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 21.10 | 10.55 | ppb | 0.48 | 900.00 | |
| 63 Cu | 72 | 2 | 16.94 | 8.47 | ppb | 1.83 | 900.00 | |
| 66 Zn | 72 | 2 | 24.98 | 12.49 | ppb | 1.58 | 900.00 | |
| 75 As | 72 | 2 | 35.82 | 17.91 | ppb | 1.69 | 900.00 | |
| 78 Se | 72 | 2 | 15.96 | 7.98 | ppb | 4.59 | 900.00 | |
| 88 Sr | 103 | 1 | 1117.60 | 558.80 | ppb | 0.22 | 900.00 | |
| 98 Mo | 103 | 1 | 19.19 | 9.59 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 17.50 | 8.75 | ppb | 1.11 | 180.00 | |
| 111 Cd | 115 | 2 | 16.37 | 8.18 | ppb | 0.42 | 900.00 | |
| 120 Sn | 115 | 1 | 18.06 | 9.03 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 17.95 | 8.98 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 84.84 | 42.42 | ppb | 0.52 | 900.00 | |
| 205 Tl | 209 | 1 | 16.59 | 8.30 | ppb | 0.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.75 | 8.87 | ppb | 0.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3172629 | 1.39 | 3146679 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 5113638 | 0.83 | 5213161 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 678508 | 1.07 | 741872 | 91.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1006026 | 1.01 | 1062355 | 94.7 | 70 | - | 130 |
| 72 | Ge | 2 | 252390 | 1.29 | 273900 | 92.1 | 70 | - | 130 |
| 103 | Rh | 1 | 5618906 | 1.12 | 6003828 | 93.6 | 70 | - | 130 |
| 115 | In | 1 | 6088671 | 0.89 | 6375568 | 95.5 | 70 | - | 130 |
| 115 | In | 2 | 1988672 | 0.55 | 2096793 | 94.8 | 70 | - | 130 |
| 159 | Tb | 1 | 7668506 | 0.75 | 7647907 | 100.3 | 70 | - | 130 |
| 175 | Lu | 1 | 7389339 | 0.73 | 7337138 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 3875825 | 0.91 | 3950799 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D# |
| Date Acquired: | Apr 20 2013 12:32 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2501 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 120.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 148.13 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 10.95 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.16 | ppb | 63.71 | 900.00 | |
| 23 Na | 45 | 1 | 6.74 | 6.74 | ppb | 1.66 | 90000.00 | |
| 23 Na | 45 | 2 | 7.86 | 7.86 | ppb | 3.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.54 | 5.54 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.77 | 5.77 | ppb | 2.86 | 90000.00 | |
| 27 Al | 45 | 1 | 5.43 | 5.43 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 2 | 5.52 | 5.52 | ppb | 2.62 | 90000.00 | |
| 39 K | 45 | 1 | 6.16 | 6.16 | ppb | 4.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -14.93 | -14.93 | ppb | 1.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.11 | 0.11 | ppb | 8.85 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 17.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 160.90 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 26.31 | 900.00 | |
| 56 Fe | 45 | 2 | 6.64 | 6.64 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 32.92 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 3.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 452.48 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 5.33 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 366.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 3.25 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 5.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 3.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 57.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 88.62 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 4.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 17.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 31.62 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.09 | ppb | 3.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 12.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3602528 | 0.95 | 3146679 | 114.5 | 70 - 130 | |
| 45 Sc | 1 | 5160279 | 0.10 | 5213161 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 683562 | 0.78 | 741872 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1053073 | 0.94 | 1062355 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 259320 | 0.26 | 273900 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 6080241 | 0.32 | 6003828 | 101.3 | 70 | - | 130 |
| 115 In | 1 | 6420374 | 0.82 | 6375568 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 2099188 | 0.55 | 2096793 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 7831907 | 0.54 | 7647907 | 102.4 | 70 | - | 130 |
| 175 Lu | 1 | 7520282 | 1.02 | 7337138 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 4148135 | 0.72 | 3950799 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D# |
| Date Acquired: | Apr 20 2013 12:39 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2502 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.46 | 0.46 | ppb | 1.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 2.40 | 900.00 | |
| 11 B | 6 | 1 | 4.25 | 4.25 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 4.97 | 4.97 | ppb | 3.36 | 900.00 | |
| 23 Na | 45 | 1 | 280.70 | 280.70 | ppb | 1.35 | 90000.00 | |
| 23 Na | 45 | 2 | 284.60 | 284.60 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 271.40 | 271.40 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.90 | 276.90 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 29.43 | 29.43 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 28.35 | 28.35 | ppb | 0.97 | 90000.00 | |
| 39 K | 45 | 1 | 258.60 | 258.60 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 284.60 | 284.60 | ppb | 0.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 4.30 | 900.00 | |
| 51 V | 45 | 2 | 1.04 | 1.04 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 1.18 | 900.00 | |
| 55 Mn | 45 | 2 | 1.41 | 1.41 | ppb | 0.19 | 900.00 | |
| 56 Fe | 45 | 2 | 29.58 | 29.58 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 2.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 1.10 | 1.10 | ppb | 1.95 | 900.00 | |
| 66 Zn | 72 | 2 | 2.19 | 2.19 | ppb | 1.21 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 1.11 | 900.00 | |
| 78 Se | 72 | 2 | 0.58 | 0.58 | ppb | 7.96 | 900.00 | |
| 88 Sr | 103 | 1 | 4.98 | 4.98 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 0.12 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 3.58 | 900.00 | |
| 120 Sn | 115 | 1 | 4.89 | 4.89 | ppb | 1.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.02 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 1.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.47 | 0.47 | ppb | 2.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3616627 | 0.88 | 3146679 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 5122232 | 1.33 | 5213161 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 682978 | 0.60 | 741872 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1038440 | 0.81 | 1062355 | 97.7 | 70 | - | 130 |
| 72 | Ge | 2 | 258169 | 0.28 | 273900 | 94.3 | 70 | - | 130 |
| 103 | Rh | 1 | 6037028 | 0.50 | 6003828 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 6360310 | 0.47 | 6375568 | 99.8 | 70 | - | 130 |
| 115 | In | 2 | 2091861 | 0.73 | 2096793 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 7877868 | 0.16 | 7647907 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 7463712 | 0.53 | 7337138 | 101.7 | 70 | - | 130 |
| 209 | Bi | 1 | 4136088 | 0.62 | 3950799 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#
Date Acquired: Apr 20 2013 12:46 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 19 2013 06:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 47.53 | 47.53 | ppb | 2.04 | 900.00 | |
| 9 Be | 45 | 2 | 51.37 | 51.37 | ppb | 0.94 | 900.00 | |
| 11 B | 6 | 1 | 44.05 | 44.05 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 49.80 | 49.80 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5250.00 | 5250.00 | ppb | 1.50 | 90000.00 | |
| 23 Na | 45 | 2 | 5136.00 | 5136.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 5234.00 | 5234.00 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 5157.00 | 5157.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 5189.00 | 5189.00 | ppb | 1.85 | 90000.00 | |
| 27 Al | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.50 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 5168.00 | ppb | 1.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 5132.00 | 5132.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.63 | 49.63 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 49.65 | 49.65 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 48.71 | 48.71 | ppb | 0.53 | 900.00 | |
| 55 Mn | 45 | 2 | 49.60 | 49.60 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 49.37 | 49.37 | ppb | 0.49 | 900.00 | |
| 60 Ni | 45 | 2 | 48.46 | 48.46 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 47.33 | 47.33 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 47.89 | 47.89 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 49.87 | 49.87 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 50.78 | 50.78 | ppb | 0.40 | 900.00 | |
| 88 Sr | 103 | 1 | 50.54 | 50.54 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 49.90 | 49.90 | ppb | 0.84 | 900.00 | |
| 107 Ag | 115 | 1 | 49.92 | 49.92 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 48.03 | 48.03 | ppb | 0.15 | 900.00 | |
| 120 Sn | 115 | 1 | 50.69 | 50.69 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 51.32 | 51.32 | ppb | 4.74 | 900.00 | |
| 137 Ba | 159 | 1 | 49.28 | 49.28 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 48.54 | 48.54 | ppb | 1.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.12 | 50.12 | ppb | 1.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3534259 | 1.92 | 3146679 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 5148210 | 0.63 | 5213161 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 681790 | 0.55 | 741872 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1033012 | 0.68 | 1062355 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 255825 | 0.41 | 273900 | 93.4 | 70 | - | 130 |
| 103 Rh | 1 | 5852754 | 0.52 | 6003828 | 97.5 | 70 | - | 130 |
| 115 In | 1 | 6223757 | 1.21 | 6375568 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 2037189 | 0.61 | 2096793 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 7824737 | 0.31 | 7647907 | 102.3 | 70 | - | 130 |
| 175 Lu | 1 | 7480077 | 0.49 | 7337138 | 101.9 | 70 | - | 130 |
| 209 Bi | 1 | 4046839 | 0.89 | 3950799 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D# |
| Date Acquired: | Apr 20 2013 12:53 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2504 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 19 2013 06:50 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 148.80 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 8.65 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 76.11 | 900.00 | |
| 23 Na | 45 | 1 | 6.97 | 6.97 | ppb | 25.65 | 90000.00 | |
| 23 Na | 45 | 2 | 5.90 | 5.90 | ppb | 9.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.93 | 1.93 | ppb | 29.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 15.99 | 90000.00 | |
| 27 Al | 45 | 1 | 1.63 | 1.63 | ppb | 35.55 | 90000.00 | |
| 27 Al | 45 | 2 | 1.06 | 1.06 | ppb | 21.32 | 90000.00 | |
| 39 K | 45 | 1 | 5.70 | 5.70 | ppb | 14.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.23 | -0.23 | ppb | 1103.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 154.90 | 900.00 | |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 9.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 5.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.19 | 0.19 | ppb | 22.11 | 900.00 | |
| 56 Fe | 45 | 2 | 2.29 | 2.29 | ppb | 6.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 5.09 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 361.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 8.54 | 900.00 | |
| 66 Zn | 72 | 2 | 0.68 | 0.68 | ppb | 2.38 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 36.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 56.61 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.05 | ppb | 31.87 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 7.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 53.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.04 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 48.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 1.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 15.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3673980 | 0.95 | 3146679 | 116.8 | 70 - 130 | |
| 45 Sc | 1 | 5105124 | 0.79 | 5213161 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 682530 | 0.64 | 741872 | 92.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D19r00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 1043989 | 0.82 | 1062355 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 257709 | 1.43 | 273900 | 94.1 | 70 | - | 130 |
| 103 Rh | 1 | 6021136 | 0.59 | 6003828 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 6301928 | 0.75 | 6375568 | 98.8 | 70 | - | 130 |
| 115 In | 2 | 2091473 | 1.49 | 2096793 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 7792188 | 0.67 | 7647907 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 7507822 | 0.65 | 7337138 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 4124944 | 1.31 | 3950799 | 104.4 | 70 | - | 130 |

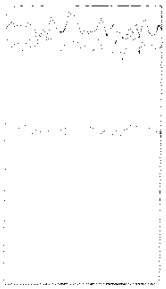
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D19r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

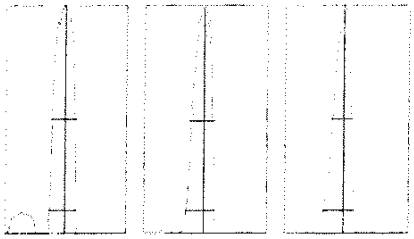
# Tune Report

Tune File : nogas.u
Comment : 041913A



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 4576.0 | 4594.4 | 2.66 | 1.80 |
| 89 | 10,000 | 8499.0 | 8558.7 | 2.32 | 1.40 |
| 205 | 10,000 | 5397.0 | 5542.8 | 2.45 | 11.80 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.192%
Doubly Charged: 70/140 2.304%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 4,505 | 8,500 | 5,574 |
| Axis: | 7.00 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.60 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 8 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.08 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 316.9 | 6.89 |
| 59 | 2170.7 | 3.04 |
| 89 | 2441.3 | 2.48 |

Integration Time: 0.1000sec



Generated : Apr 19, 2013 13:12:28
Printed : Apr 19, 2013 13:13:19

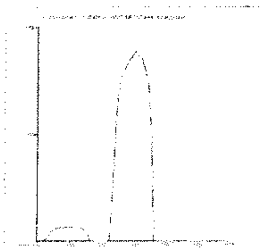
# 6020 Tune Check Sample

Data File: 6020TUNE.D
Date Acquired: Apr 19 2013 01:25 pm
Operator: METALS
Sample Name: TUNE CHECK
Misc Info:
Vial Number: 1303
Current Method: TN_6020.M

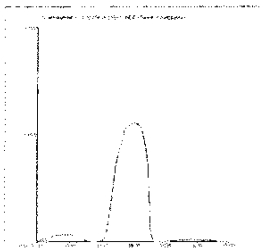
QC Tune Summary:
Pass

RSD%

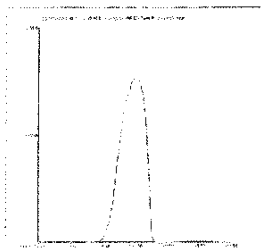
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.48 | 5.00 | 0 |
| 59 Co | 1.06 | 5.00 | |
| 115 In | 0.97 | 5.00 | |
| 205 Tl | 1.94 | 5.00 | |



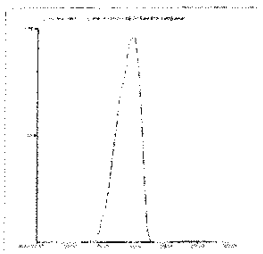
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 20, 2013 11:37 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

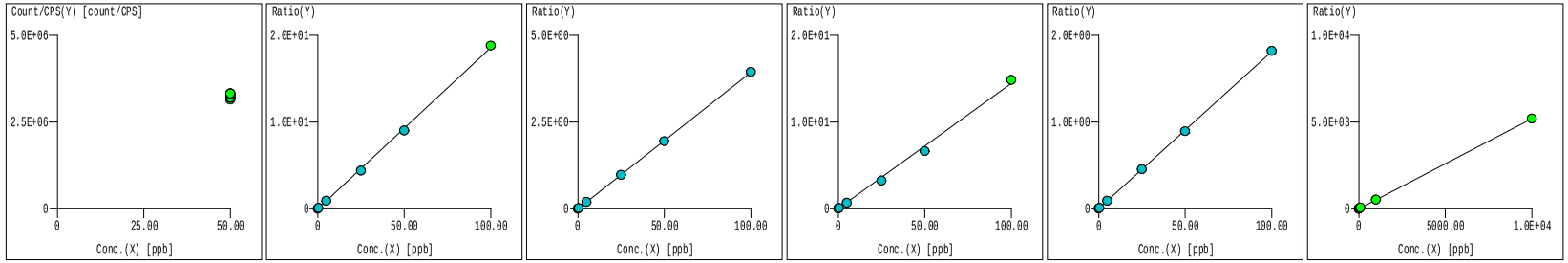
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d19r00.b\002calb.d\002calb.d# | STDA | Apr 19 2013 05:57 pm |
| 2 | c:\icpchem\1\data\13d19r00.b\003cals.d\003cals.d# | STDB | Apr 19 2013 06:04 pm |
| 3 | c:\icpchem\1\data\13d19r00.b\004cals.d\004cals.d# | STDC | Apr 19 2013 06:11 pm |
| 4 | c:\icpchem\1\data\13d19r00.b\005cals.d\005cals.d# | STDD | Apr 19 2013 06:19 pm |
| 5 | c:\icpchem\1\data\13d19r00.b\006cals.d\006cals.d# | STDE | Apr 19 2013 06:26 pm |
| 6 | c:\icpchem\1\data\13d19r00.b\007cals.d\007cals.d# | STDF | Apr 19 2013 06:33 pm |
| 7 | c:\icpchem\1\data\13d19r00.b\008cals.d\008cals.d# | STDG | Apr 19 2013 06:39 pm |
| 8 | c:\icpchem\1\data\13d19r00.b\009cals.d\009cals.d# | STDH | Apr 19 2013 06:46 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

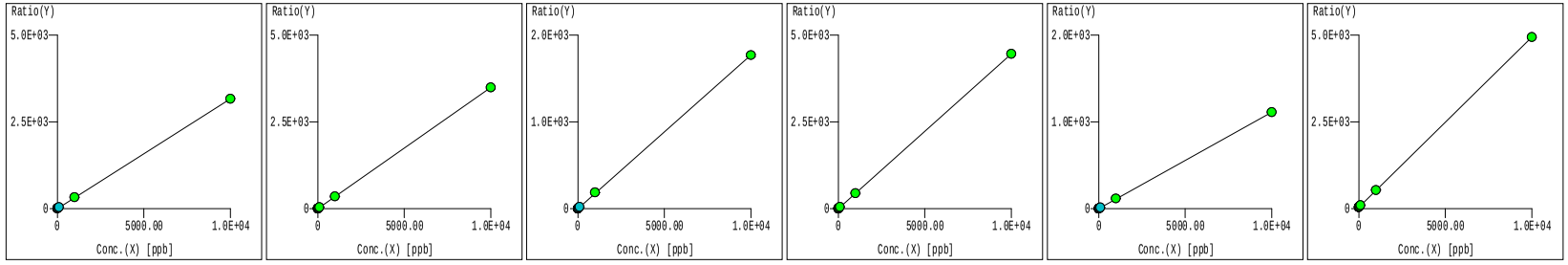
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9997 | 1.0000 | 0.9983 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 9.579E-04 ppb | 9.827E-03 ppb | 2.265E-02 ppb | 1.937E-01 ppb | 3.604E-01 ppb |
| < BEC > | --- ppb | 1.802E-03 ppb | 1.891E-03 ppb | 1.605E-01 ppb | 1.612E-01 ppb | 9.096 ppb |



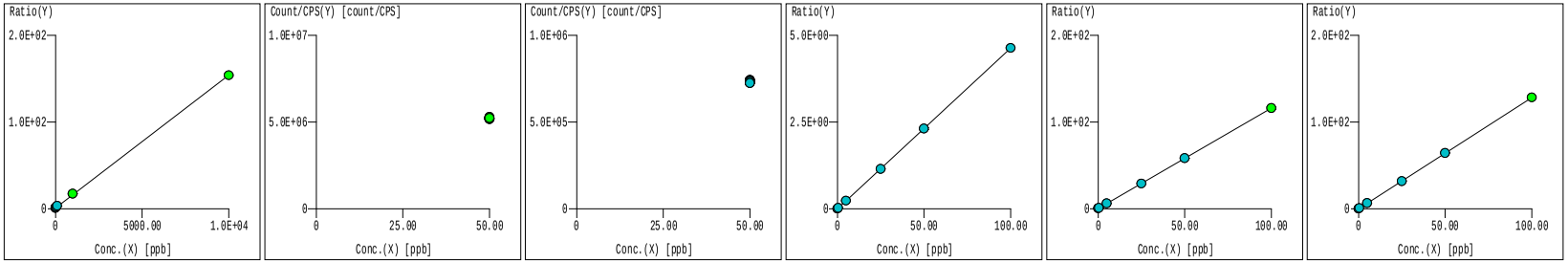

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 9.613E-02 ppb | 1.369E-02 ppb | 4.553E-02 ppb | 4.348E-02 ppb | 1.361E-01 ppb | 2.737 ppb |
| < BEC > | 13.67 ppb | 1.414E-01 ppb | 1.599E-01 ppb | 5.501E-01 ppb | 6.054E-01 ppb | 84.34 ppb |



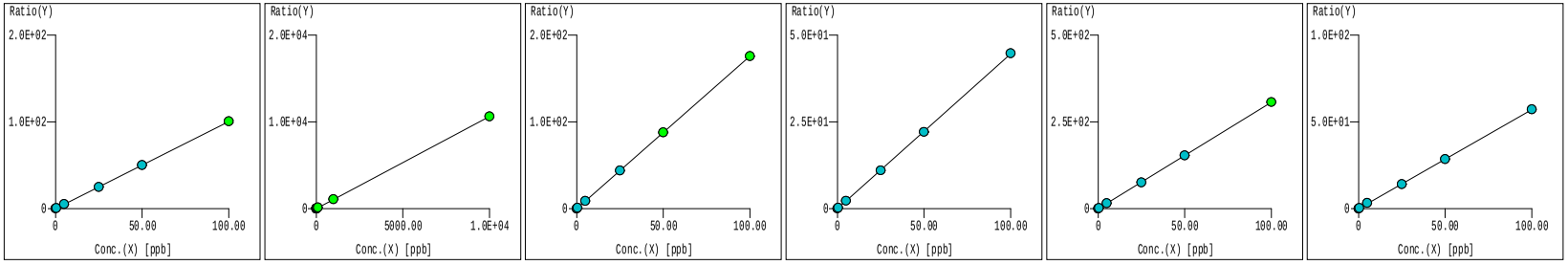
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.403 ppb | --- ppb | --- ppb | 7.604E-03 ppb | 1.430E-02 ppb | 5.227E-03 ppb |
| < BEC > | 70.80 ppb | --- ppb | --- ppb | 6.634E-02 ppb | 4.138E-01 ppb | 1.046E-01 ppb |



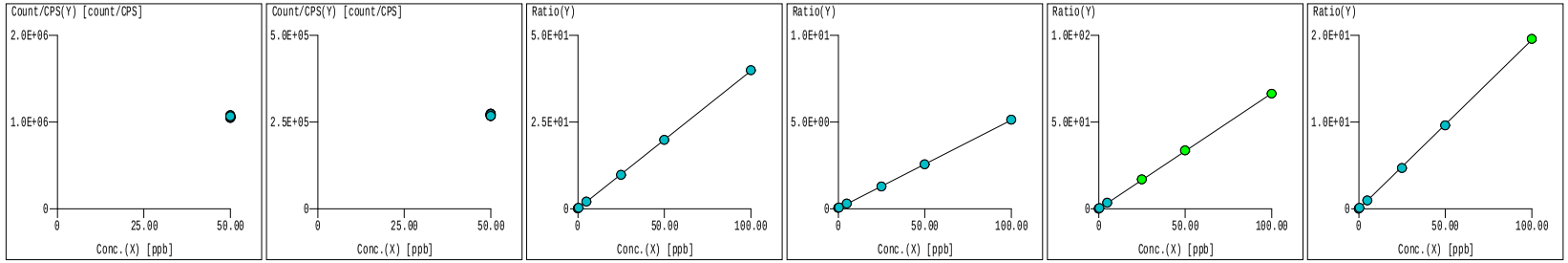

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.070E-02 ppb | 1.488E-01 ppb | 5.297E-04 ppb | 8.280E-02 ppb | 5.547E-03 ppb | 3.103E-02 ppb |
| < BEC > | 1.373E-01 ppb | 3.228 ppb | 1.125E-03 ppb | 7.559E-02 ppb | 7.375E-02 ppb | 9.984E-02 ppb |



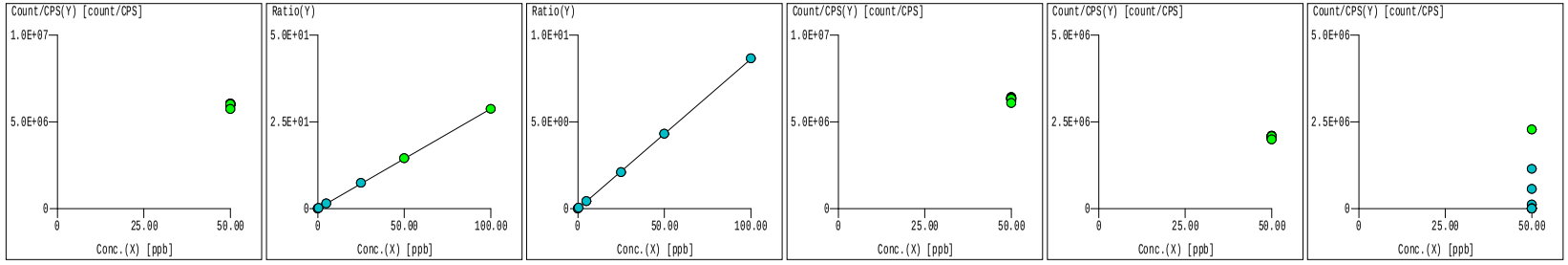
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 1.277E-02 ppb | 3.245E-04 ppb | 9.781E-04 ppb | 2.536E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.186E-01 ppb | 8.145E-01 ppb | 8.903E-03 ppb | 8.793E-03 ppb |



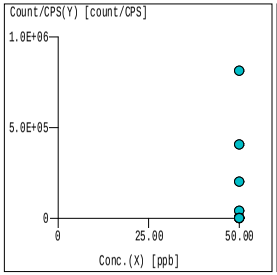

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.453E-03 ppb | 1.631E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.503E-03 ppb | 1.231E-03 ppb | --- ppb | --- ppb | --- ppb |

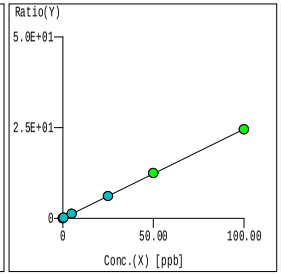


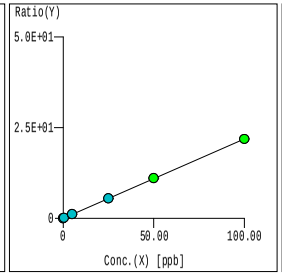
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

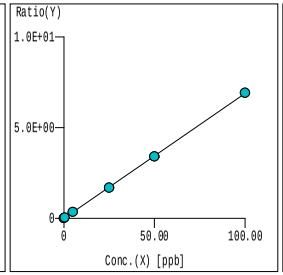
=== Graph Summary ===
Page: 4/4

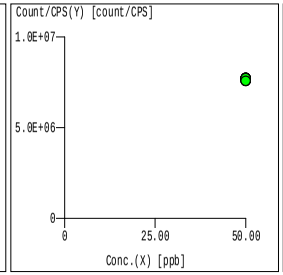
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.811E-03 ppb | 4.037E-03 ppb | 8.249E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 1.595E-02 ppb | 1.338E-02 ppb | 8.583E-02 ppb | --- ppb | --- ppb |

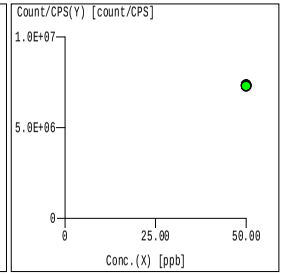


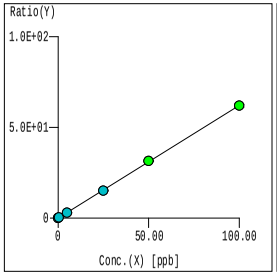



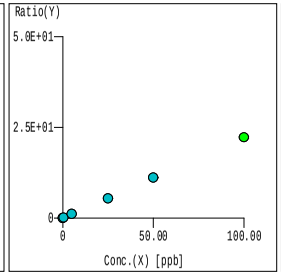



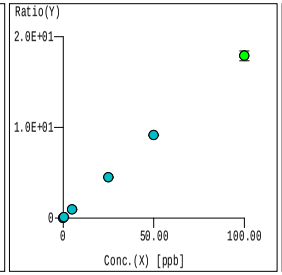



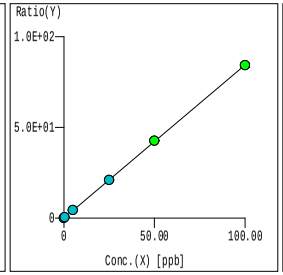



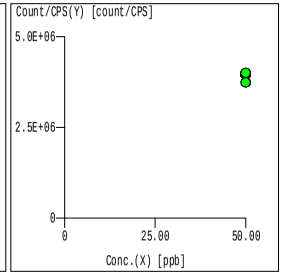

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 1.0000 | 0.0000 |
| < DL > | 2.863E-03 ppb | --- ppb | --- ppb | 2.237E-03 ppb | --- ppb |
| < BEC > | 2.158E-02 ppb | --- ppb | --- ppb | 1.077E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D20l00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\001CAL
Date Acquired: Apr 20 2013 11:10 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 19 2013 06:50 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1528372.00 | A | 15440.00 | 1.01 |
| 7 | (Li) | | P | | |
| 9 | Be | 74.45 | P | 22.69 | 30.48 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 700.04 | P | 88.77 | 12.68 |
| 11 | B | 12.22 | P | 13.47 | 110.20 |
| 23 | Na | 517461.41 | P | 5412.00 | 1.05 |
| 23 | Na | 85206.25 | P | 501.20 | 0.59 |
| 24 | Mg | 4849.84 | P | 74.57 | 1.54 |
| 24 | Mg | 310.01 | P | 29.63 | 9.56 |
| 27 | Al | 23148.97 | P | 3147.00 | 13.60 |
| 27 | Al | 614.48 | P | 58.73 | 9.56 |
| 39 | K | 3964912.00 | A | 38990.00 | 0.98 |
| 44 | Ca | 77944.17 | P | 1347.00 | 1.73 |
| 45 | Sc | 3609434.00 | A | 30790.00 | 0.85 |
| 45 | Sc | 478164.09 | P | 4211.00 | 0.88 |
| 47 | Ti | 234.46 | P | 29.88 | 12.74 |
| 51 | V | 4199.29 | P | 29.79 | 0.71 |
| 52 | Cr | 1373.86 | P | 50.96 | 3.71 |
| 55 | Mn | 1230.74 | P | 78.81 | 6.40 |
| 56 | Fe | 41467.06 | P | 4378.00 | 10.56 |
| 59 | Co | 80.45 | P | 11.95 | 14.86 |
| 60 | Ni | 265.78 | P | 20.41 | 7.68 |
| 63 | Cu | 1024.94 | P | 48.64 | 4.75 |
| 66 | Zn | 162.00 | P | 8.82 | 5.44 |
| 72 | Ge | 786965.00 | P | 3781.00 | 0.48 |
| 72 | Ge | 188528.70 | P | 999.90 | 0.53 |
| 75 | As | 155.56 | P | 11.44 | 7.35 |
| 78 | Se | 211.78 | P | 13.04 | 6.16 |
| 88 | Sr | 651.15 | P | 10.72 | 1.65 |
| 98 | Mo | 355.57 | P | 55.51 | 15.61 |
| 103 | Rh | 4386223.00 | A | 32200.00 | 0.73 |
| 107 | Ag | 174.45 | P | 25.02 | 14.34 |

C:\ICPCHEM\1\DATA\13D20l00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 14.44 | P | 1.93 | 13.33 |
| 115 | In | 4705051.00 | A | 60400.00 | 1.28 |
| 115 | In | 1385471.00 | A | 8266.00 | 0.60 |
| 118 | (In) | 423.36 | P | 44.85 | 10.59 |
| 118 | (In) | 127.78 | P | 11.71 | 9.16 |
| 120 | Sn | 578.93 | P | 49.48 | 8.55 |
| 121 | Sb | 322.24 | P | 48.23 | 14.97 |
| 137 | Ba | 654.48 | P | 16.78 | 2.56 |
| 159 | Tb | 5539663.00 | A | 63700.00 | 1.15 |
| 175 | Lu | 5147850.00 | A | 14140.00 | 0.27 |
| 205 | Tl | 2613.68 | P | 150.20 | 5.75 |
| 206 | (Pb) | 215.57 | P | 30.97 | 14.37 |
| 207 | (Pb) | 201.12 | P | 28.35 | 14.10 |
| 208 | Pb | 896.71 | P | 53.65 | 5.98 |
| 209 | Bi | 2783693.00 | A | 48830.00 | 1.75 |

C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\002CAL
Date Acquired: Apr 20 2013 11:17 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:14 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1541753.00 | A | 18370.00 | 1.19 |
| 7 | (Li) | | P | | |
| 9 | Be | 40.00 | P | 8.82 | 22.05 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 676.74 | P | 99.46 | 14.70 |
| 11 | B | 18.89 | P | 11.71 | 61.99 |
| 23 | Na | 518685.31 | P | 8672.00 | 1.67 |
| 23 | Na | 85936.82 | P | 643.60 | 0.75 |
| 24 | Mg | 4175.23 | P | 333.70 | 7.99 |
| 24 | Mg | 344.46 | P | 33.39 | 9.69 |
| 27 | Al | 18838.66 | P | 118.80 | 0.63 |
| 27 | Al | 674.55 | P | 91.91 | 13.63 |
| 39 | K | 3973517.00 | A | 41430.00 | 1.04 |
| 44 | Ca | 78216.80 | P | 2332.00 | 2.98 |
| 45 | Sc | 3631305.00 | A | 28690.00 | 0.79 |
| 45 | Sc | 481684.91 | P | 5341.00 | 1.11 |
| 47 | Ti | 233.34 | P | 18.56 | 7.95 |
| 51 | V | 4146.84 | P | 137.00 | 3.30 |
| 52 | Cr | 1367.19 | P | 45.62 | 3.34 |
| 55 | Mn | 1274.74 | P | 66.39 | 5.21 |
| 56 | Fe | 39936.28 | P | 528.70 | 1.32 |
| 59 | Co | 66.67 | P | 12.72 | 19.08 |
| 60 | Ni | 263.56 | P | 32.78 | 12.44 |
| 63 | Cu | 1068.05 | P | 43.90 | 4.11 |
| 66 | Zn | 146.89 | P | 9.67 | 6.58 |
| 72 | Ge | 789765.50 | P | 7468.00 | 0.95 |
| 72 | Ge | 188977.20 | P | 1401.00 | 0.74 |
| 75 | As | 160.89 | P | 5.39 | 3.35 |
| 78 | Se | 207.56 | P | 18.10 | 8.72 |
| 88 | Sr | 561.14 | P | 27.76 | 4.95 |
| 98 | Mo | 197.79 | P | 33.39 | 16.88 |
| 103 | Rh | 4377550.00 | A | 30200.00 | 0.69 |
| 107 | Ag | 134.45 | P | 15.75 | 11.71 |

C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10.00 | P | 6.67 | 66.67 |
| 115 | In | 4716350.00 | A | 54550.00 | 1.16 |
| 115 | In | 1391932.00 | A | 25580.00 | 1.84 |
| 118 | (In) | 292.24 | P | 40.05 | 13.71 |
| 118 | (In) | 96.67 | P | 43.59 | 45.09 |
| 120 | Sn | 472.25 | P | 56.01 | 11.86 |
| 121 | Sb | 254.46 | P | 29.13 | 11.45 |
| 137 | Ba | 698.93 | P | 41.42 | 5.93 |
| 159 | Tb | 5566587.00 | A | 14350.00 | 0.26 |
| 175 | Lu | 5216106.00 | A | 73770.00 | 1.41 |
| 205 | Tl | 1341.23 | P | 25.24 | 1.88 |
| 206 | (Pb) | 203.34 | P | 33.83 | 16.64 |
| 207 | (Pb) | 171.12 | P | 27.96 | 16.34 |
| 208 | Pb | 775.59 | P | 55.01 | 7.09 |
| 209 | Bi | 2810000.00 | A | 22530.00 | 0.80 |

C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 20 2013 11:24 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:21 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1566788.00 | A | 16760.00 | 1.07 |
| 7 | (Li) | | P | | |
| 9 | Be | 2991.50 | P | 55.53 | 1.86 |
| 9 | Be | 154.45 | P | 37.17 | 24.07 |
| 11 | B | 2315.81 | P | 71.84 | 3.10 |
| 11 | B | 61.11 | P | 5.09 | 8.33 |
| 23 | Na | 556531.19 | P | 8838.00 | 1.59 |
| 23 | Na | 89395.93 | P | 1700.00 | 1.90 |
| 24 | Mg | 16756.14 | P | 154.60 | 0.92 |
| 24 | Mg | 1234.54 | P | 51.03 | 4.13 |
| 27 | Al | 37138.12 | P | 2529.00 | 6.81 |
| 27 | Al | 1158.98 | P | 35.02 | 3.02 |
| 39 | K | 4012047.00 | A | 26490.00 | 0.66 |
| 44 | Ca | 80593.21 | P | 1923.00 | 2.39 |
| 45 | Sc | 3593081.00 | A | 9782.00 | 0.27 |
| 45 | Sc | 481536.91 | P | 3739.00 | 0.78 |
| 47 | Ti | 1900.18 | P | 106.80 | 5.62 |
| 51 | V | 9864.62 | P | 236.20 | 2.39 |
| 52 | Cr | 7724.70 | P | 101.60 | 1.32 |
| 55 | Mn | 6001.25 | P | 46.91 | 0.78 |
| 56 | Fe | 42322.82 | P | 229.30 | 0.54 |
| 59 | Co | 9175.29 | P | 13.50 | 0.15 |
| 60 | Ni | 2545.14 | P | 38.89 | 1.53 |
| 63 | Cu | 6873.63 | P | 234.20 | 3.41 |
| 66 | Zn | 1200.50 | P | 20.01 | 1.67 |
| 72 | Ge | 790332.63 | P | 9492.00 | 1.20 |
| 72 | Ge | 189464.30 | P | 1533.00 | 0.81 |
| 75 | As | 886.92 | P | 30.48 | 3.44 |
| 78 | Se | 285.78 | P | 6.20 | 2.17 |
| 88 | Sr | 30884.83 | P | 447.10 | 1.45 |
| 98 | Mo | 8598.32 | P | 145.30 | 1.69 |
| 103 | Rh | 4393906.00 | A | 14110.00 | 0.32 |
| 107 | Ag | 13418.76 | P | 207.30 | 1.54 |

C:\ICPCHEM\1\DATA\13D20l00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1177.87 | P | 47.65 | 4.05 |
| 115 | In | 4708684.00 | A | 42380.00 | 0.90 |
| 115 | In | 1392312.00 | A | 6133.00 | 0.44 |
| 118 | (In) | 8687.32 | P | 66.23 | 0.76 |
| 118 | (In) | 2822.60 | P | 78.21 | 2.77 |
| 120 | Sn | 12032.04 | P | 12.02 | 0.10 |
| 121 | Sb | 11111.28 | P | 63.68 | 0.57 |
| 137 | Ba | 4560.88 | P | 79.40 | 1.74 |
| 159 | Tb | 5581234.00 | A | 13700.00 | 0.25 |
| 175 | Lu | 5204053.00 | A | 27930.00 | 0.54 |
| 205 | Tl | 15545.94 | P | 303.00 | 1.95 |
| 206 | (Pb) | 6348.35 | P | 127.30 | 2.01 |
| 207 | (Pb) | 5280.11 | P | 162.00 | 3.07 |
| 208 | Pb | 24999.81 | P | 471.60 | 1.89 |
| 209 | Bi | 2819405.00 | A | 33940.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1566787.80 | 1.07 | 1541753.30 | 101.6 | 70 - 130 | |
| 45 | Sc | 3593080.80 | 0.27 | 3631305.00 | 98.9 | 70 - 130 | |
| 45 | Sc | 481536.88 | 0.78 | 481684.91 | 100.0 | 70 - 130 | |
| 72 | Ge | 790332.63 | 1.20 | 789765.50 | 100.1 | 70 - 130 | |
| 72 | Ge | 189464.30 | 0.81 | 188977.23 | 100.3 | 70 - 130 | |
| 103 | Rh | 4393906.00 | 0.32 | 4377550.50 | 100.4 | 70 - 130 | |
| 115 | In | 4708683.50 | 0.90 | 4716350.50 | 99.8 | 70 - 130 | |
| 115 | In | 1392311.60 | 0.44 | 1391932.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5581234.50 | 0.25 | 5566587.00 | 100.3 | 70 - 130 | |
| 175 | Lu | 5204053.00 | 0.54 | 5216106.00 | 99.8 | 70 - 130 | |
| 209 | Bi | 2819405.00 | 1.20 | 2809999.80 | 100.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 20 2013 11:32 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:28 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1529338.00 | A | 11390.00 | 0.74 |
| 7 | (Li) | | P | | |
| 9 | Be | 29928.94 | P | 64.41 | 0.22 |
| 9 | Be | 1572.35 | P | 131.30 | 8.35 |
| 11 | B | 20028.76 | P | 376.40 | 1.88 |
| 11 | B | 640.04 | P | 44.85 | 7.01 |
| 23 | Na | 715885.19 | P | 11440.00 | 1.60 |
| 23 | Na | 105359.20 | P | 294.80 | 0.28 |
| 24 | Mg | 128272.90 | P | 458.50 | 0.36 |
| 24 | Mg | 9768.98 | P | 116.20 | 1.19 |
| 27 | Al | 181578.09 | P | 2099.00 | 1.16 |
| 27 | Al | 6070.38 | P | 202.20 | 3.33 |
| 39 | K | 4222512.00 | A | 14000.00 | 0.33 |
| 44 | Ca | 94383.22 | P | 1865.00 | 1.98 |
| 45 | Sc | 3652986.00 | A | 6210.00 | 0.17 |
| 45 | Sc | 482771.00 | P | 5250.00 | 1.09 |
| 47 | Ti | 16859.78 | P | 357.30 | 2.12 |
| 51 | V | 62345.51 | P | 600.80 | 0.96 |
| 52 | Cr | 65960.84 | P | 149.40 | 0.23 |
| 55 | Mn | 49001.54 | P | 591.10 | 1.21 |
| 56 | Fe | 95624.68 | P | 727.70 | 0.76 |
| 59 | Co | 90708.76 | P | 167.40 | 0.18 |
| 60 | Ni | 22961.79 | P | 103.60 | 0.45 |
| 63 | Cu | 59864.84 | P | 482.80 | 0.81 |
| 66 | Zn | 11328.26 | P | 71.87 | 0.63 |
| 72 | Ge | 787690.13 | P | 7421.00 | 0.94 |
| 72 | Ge | 189411.30 | P | 1608.00 | 0.85 |
| 75 | As | 7463.88 | P | 152.40 | 2.04 |
| 78 | Se | 974.93 | P | 10.86 | 1.11 |
| 88 | Sr | 304689.19 | P | 3563.00 | 1.17 |
| 98 | Mo | 84390.43 | P | 387.50 | 0.46 |
| 103 | Rh | 4412307.00 | A | 31620.00 | 0.72 |
| 107 | Ag | 133034.50 | P | 606.00 | 0.46 |

C:\ICPCHEM\1\DATA\13D20l00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 11706.16 | P | 269.70 | 2.30 |
| 115 | In | 4691526.00 | A | 23210.00 | 0.49 |
| 115 | In | 1398754.00 | M | 13480.00 | 0.96 |
| 118 | (In) | 84105.88 | P | 90.14 | 0.11 |
| 118 | (In) | 27751.40 | P | 309.90 | 1.12 |
| 120 | Sn | 116212.70 | P | 783.20 | 0.67 |
| 121 | Sb | 108719.60 | P | 525.40 | 0.48 |
| 137 | Ba | 39072.66 | P | 185.40 | 0.47 |
| 159 | Tb | 5613397.00 | A | 34750.00 | 0.62 |
| 175 | Lu | 5184875.00 | A | 43210.00 | 0.83 |
| 205 | Tl | 157156.09 | P | 3537.00 | 2.25 |
| 206 | (Pb) | 61723.65 | P | 614.20 | 1.00 |
| 207 | (Pb) | 52302.35 | P | 377.50 | 0.72 |
| 208 | Pb | 241978.70 | P | 2148.00 | 0.89 |
| 209 | Bi | 2822500.00 | A | 37370.00 | 1.32 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1529338.10 | 0.74 | 1541753.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 3652985.80 | 0.17 | 3631305.00 | 100.6 | 70 - 130 | |
| 45 | Sc | 482771.03 | 1.09 | 481684.91 | 100.2 | 70 - 130 | |
| 72 | Ge | 787690.06 | 0.94 | 789765.50 | 99.7 | 70 - 130 | |
| 72 | Ge | 189411.27 | 0.85 | 188977.23 | 100.2 | 70 - 130 | |
| 103 | Rh | 4412307.00 | 0.72 | 4377550.50 | 100.8 | 70 - 130 | |
| 115 | In | 4691526.00 | 0.49 | 4716350.50 | 99.5 | 70 - 130 | |
| 115 | In | 1398754.50 | 0.96 | 1391932.10 | 100.5 | 70 - 130 | |
| 159 | Tb | 5613397.50 | 0.62 | 5566587.00 | 100.8 | 70 - 130 | |
| 175 | Lu | 5184874.50 | 0.83 | 5216106.00 | 99.4 | 70 - 130 | |
| 209 | Bi | 2822499.80 | 1.32 | 2809999.80 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 20 2013 11:39 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:35 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1547485.00 | A | 20420.00 | 1.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 145176.91 | P | 1551.00 | 1.07 |
| 9 | Be | 7605.41 | P | 139.90 | 1.84 |
| 11 | B | 96612.67 | P | 704.40 | 0.73 |
| 11 | B | 3111.52 | P | 154.60 | 4.97 |
| 23 | Na | 1458150.00 | A | 9366.00 | 0.64 |
| 23 | Na | 171173.59 | P | 349.10 | 0.20 |
| 24 | Mg | 600128.19 | P | 3617.00 | 0.60 |
| 24 | Mg | 46504.23 | P | 336.50 | 0.72 |
| 27 | Al | 789381.50 | P | 4423.00 | 0.56 |
| 27 | Al | 27377.21 | P | 904.90 | 3.31 |
| 39 | K | 4936516.00 | A | 9990.00 | 0.20 |
| 44 | Ca | 117008.90 | P | 2110.00 | 1.80 |
| 45 | Sc | 3636005.00 | A | 23030.00 | 0.63 |
| 45 | Sc | 483589.50 | P | 3553.00 | 0.73 |
| 47 | Ti | 82936.76 | P | 540.20 | 0.65 |
| 51 | V | 291196.19 | P | 2469.00 | 0.85 |
| 52 | Cr | 319540.50 | P | 578.20 | 0.18 |
| 55 | Mn | 237169.41 | P | 1044.00 | 0.44 |
| 56 | Fe | 328355.19 | P | 1874.00 | 0.57 |
| 59 | Co | 446819.00 | P | 1289.00 | 0.29 |
| 60 | Ni | 111790.20 | P | 736.00 | 0.66 |
| 63 | Cu | 288857.69 | P | 2103.00 | 0.73 |
| 66 | Zn | 49933.87 | P | 191.30 | 0.38 |
| 72 | Ge | 783615.69 | P | 5054.00 | 0.64 |
| 72 | Ge | 189573.50 | P | 1092.00 | 0.58 |
| 75 | As | 35856.21 | P | 144.70 | 0.40 |
| 78 | Se | 4040.34 | P | 16.36 | 0.40 |
| 88 | Sr | 1479280.00 | A | 4073.00 | 0.28 |
| 98 | Mo | 412183.31 | P | 1362.00 | 0.33 |
| 103 | Rh | 4383870.00 | A | 39990.00 | 0.91 |
| 107 | Ag | 653158.69 | P | 4936.00 | 0.76 |

C:\ICPCHEM\1\DATA\13D20l00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 57251.79 | P | 1013.00 | 1.77 |
| 115 | In | 4668812.00 | A | 25520.00 | 0.55 |
| 115 | In | 1390887.00 | A | 11900.00 | 0.86 |
| 118 | (In) | 410665.41 | P | 2005.00 | 0.49 |
| 118 | (In) | 136181.70 | P | 282.10 | 0.21 |
| 120 | Sn | 567480.13 | P | 4260.00 | 0.75 |
| 121 | Sb | 527582.13 | P | 3873.00 | 0.73 |
| 137 | Ba | 190639.20 | P | 839.10 | 0.44 |
| 159 | Tb | 5625434.00 | A | 26070.00 | 0.46 |
| 175 | Lu | 5198123.00 | A | 43290.00 | 0.83 |
| 205 | Tl | 841395.69 | P | 7180.00 | 0.85 |
| 206 | (Pb) | 297971.09 | P | 663.00 | 0.22 |
| 207 | (Pb) | 251626.09 | P | 2182.00 | 0.87 |
| 208 | Pb | 1176699.00 | P | 8102.00 | 0.69 |
| 209 | Bi | 2815328.00 | A | 38550.00 | 1.37 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1547484.90 | 1.32 | 1541753.30 | 100.4 | 70 - 130 | |
| 45 | Sc | 3636005.00 | 0.63 | 3631305.00 | 100.1 | 70 - 130 | |
| 45 | Sc | 483589.50 | 0.73 | 481684.91 | 100.4 | 70 - 130 | |
| 72 | Ge | 783615.69 | 0.64 | 789765.50 | 99.2 | 70 - 130 | |
| 72 | Ge | 189573.55 | 0.58 | 188977.23 | 100.3 | 70 - 130 | |
| 103 | Rh | 4383870.00 | 0.91 | 4377550.50 | 100.1 | 70 - 130 | |
| 115 | In | 4668812.50 | 0.55 | 4716350.50 | 99.0 | 70 - 130 | |
| 115 | In | 1390887.10 | 0.86 | 1391932.10 | 99.9 | 70 - 130 | |
| 159 | Tb | 5625434.50 | 0.46 | 5566587.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 5198123.00 | 0.83 | 5216106.00 | 99.7 | 70 - 130 | |
| 209 | Bi | 2815327.80 | 1.37 | 2809999.80 | 100.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 20 2013 11:48 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:45 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1560551.00 | A | 75430.00 | 4.83 |
| 7 | (Li) | | P | | |
| 9 | Be | 298581.31 | P | 2820.00 | 0.94 |
| 9 | Be | 15302.26 | P | 356.20 | 2.33 |
| 11 | B | 197035.41 | P | 2200.00 | 1.12 |
| 11 | B | 6222.54 | P | 32.07 | 0.52 |
| 23 | Na | 2289225.00 | A | 17670.00 | 0.77 |
| 23 | Na | 251092.41 | P | 1132.00 | 0.45 |
| 24 | Mg | 1233114.00 | A | 13250.00 | 1.07 |
| 24 | Mg | 93280.49 | P | 1039.00 | 1.11 |
| 27 | Al | 1577501.00 | A | 18610.00 | 1.18 |
| 27 | Al | 54395.28 | P | 568.10 | 1.04 |
| 39 | K | 5815225.00 | A | 88350.00 | 1.52 |
| 44 | Ca | 158931.09 | P | 3355.00 | 2.11 |
| 45 | Sc | 3607749.00 | A | 214700.00 | 5.95 |
| 45 | Sc | 479363.81 | P | 5282.00 | 1.10 |
| 47 | Ti | 164946.41 | P | 2439.00 | 1.48 |
| 51 | V | 584562.50 | P | 2064.00 | 0.35 |
| 52 | Cr | 648044.50 | P | 3622.00 | 0.56 |
| 55 | Mn | 479360.41 | P | 5498.00 | 1.15 |
| 56 | Fe | 623765.63 | P | 934.70 | 0.15 |
| 59 | Co | 902318.50 | P | 1716.00 | 0.19 |
| 60 | Ni | 225299.70 | P | 1112.00 | 0.49 |
| 63 | Cu | 578594.00 | P | 3209.00 | 0.55 |
| 66 | Zn | 100496.10 | P | 709.70 | 0.71 |
| 72 | Ge | 777879.31 | M | 53380.00 | 6.86 |
| 72 | Ge | 188469.70 | P | 1728.00 | 0.92 |
| 75 | As | 72091.29 | P | 733.10 | 1.02 |
| 78 | Se | 7860.76 | P | 216.50 | 2.75 |
| 88 | Sr | 2950597.00 | A | 30870.00 | 1.05 |
| 98 | Mo | 831055.38 | P | 11050.00 | 1.33 |
| 103 | Rh | 4402727.00 | A | 279900.00 | 6.36 |
| 107 | Ag | 1301297.00 | M | 44730.00 | 3.44 |

C:\ICPCHEM\1\DATA\13D20l00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 115405.10 | P | 615.70 | 0.53 |
| 115 | In | 4695915.00 | A | 281600.00 | 6.00 |
| 115 | In | 1392197.00 | A | 10850.00 | 0.78 |
| 118 | (In) | 831192.88 | P | 9794.00 | 1.18 |
| 118 | (In) | 276800.09 | P | 3417.00 | 1.23 |
| 120 | Sn | 1145258.00 | P | 15010.00 | 1.31 |
| 121 | Sb | 1056272.00 | P | 9139.00 | 0.87 |
| 137 | Ba | 383618.50 | P | 4347.00 | 1.13 |
| 159 | Tb | 5612755.00 | A | 421400.00 | 7.51 |
| 175 | Lu | 5236701.00 | A | 343600.00 | 6.56 |
| 205 | Tl | 1755233.00 | A | 14630.00 | 0.83 |
| 206 | (Pb) | 607553.88 | P | 6301.00 | 1.04 |
| 207 | (Pb) | 508227.59 | P | 4002.00 | 0.79 |
| 208 | Pb | 2377167.00 | P | 20240.00 | 0.85 |
| 209 | Bi | 2853866.00 | A | 155400.00 | 5.45 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1560550.90 | 4.83 | 1541753.30 | 101.2 | 70 - 130 | |
| 45 | Sc | 3607749.00 | 5.95 | 3631305.00 | 99.4 | 70 - 130 | |
| 45 | Sc | 479363.75 | 1.10 | 481684.91 | 99.5 | 70 - 130 | |
| 72 | Ge | 777879.31 | 6.86 | 789765.50 | 98.5 | 70 - 130 | |
| 72 | Ge | 188469.69 | 0.92 | 188977.23 | 99.7 | 70 - 130 | |
| 103 | Rh | 4402727.50 | 6.36 | 4377550.50 | 100.6 | 70 - 130 | |
| 115 | In | 4695915.50 | 6.00 | 4716350.50 | 99.6 | 70 - 130 | |
| 115 | In | 1392196.80 | 0.78 | 1391932.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5612755.00 | 7.51 | 5566587.00 | 100.8 | 70 - 130 | |
| 175 | Lu | 5236701.50 | 6.56 | 5216106.00 | 100.4 | 70 - 130 | |
| 209 | Bi | 2853866.00 | 5.45 | 2809999.80 | 101.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 20 2013 11:55 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:51 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1558075.00 | A | 18120.00 | 1.16 |
| 7 | (Li) | | P | | |
| 9 | Be | 605617.63 | P | 1456.00 | 0.24 |
| 9 | Be | 31148.15 | P | 228.70 | 0.73 |
| 11 | B | 399511.31 | P | 3844.00 | 0.96 |
| 11 | B | 12499.80 | P | 152.60 | 1.22 |
| 23 | Na | 4140595.00 | A | 10260.00 | 0.25 |
| 23 | Na | 424484.69 | P | 496.80 | 0.12 |
| 24 | Mg | 2458619.00 | A | 17480.00 | 0.71 |
| 24 | Mg | 185190.20 | P | 931.90 | 0.50 |
| 27 | Al | 3128045.00 | A | 14570.00 | 0.47 |
| 27 | Al | 107580.40 | P | 631.60 | 0.59 |
| 39 | K | 7679772.00 | A | 16440.00 | 0.21 |
| 44 | Ca | 233904.50 | P | 1973.00 | 0.84 |
| 45 | Sc | 3617464.00 | A | 20740.00 | 0.57 |
| 45 | Sc | 475617.41 | P | 5642.00 | 1.19 |
| 47 | Ti | 333456.09 | P | 4528.00 | 1.36 |
| 51 | V | 1138302.00 | A | 5766.00 | 0.51 |
| 52 | Cr | 1274875.00 | A | 13480.00 | 1.06 |
| 55 | Mn | 955266.81 | P | 4722.00 | 0.49 |
| 56 | Fe | 1180990.00 | M | 15450.00 | 1.31 |
| 59 | Co | 1770073.00 | A | 10350.00 | 0.58 |
| 60 | Ni | 451189.41 | P | 532.50 | 0.12 |
| 63 | Cu | 1160355.00 | P | 5907.00 | 0.51 |
| 66 | Zn | 199720.00 | P | 1698.00 | 0.85 |
| 72 | Ge | 784631.19 | P | 6016.00 | 0.77 |
| 72 | Ge | 187626.30 | P | 1266.00 | 0.67 |
| 75 | As | 144145.09 | P | 837.80 | 0.58 |
| 78 | Se | 15542.04 | P | 171.40 | 1.10 |
| 88 | Sr | 5900591.00 | A | 4375.00 | 0.07 |
| 98 | Mo | 1719772.00 | A | 17530.00 | 1.02 |
| 103 | Rh | 4422195.00 | A | 33680.00 | 0.76 |
| 107 | Ag | 2595995.00 | A | 25470.00 | 0.98 |

C:\ICPCHEM\1\DATA\13D20l00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 231007.41 | P | 1259.00 | 0.55 |
| 115 | In | 4701510.00 | A | 53990.00 | 1.15 |
| 115 | In | 1389568.00 | A | 29480.00 | 2.12 |
| 118 | (In) | 1686113.00 | A | 7040.00 | 0.42 |
| 118 | (In) | 552990.13 | P | 3539.00 | 0.64 |
| 120 | Sn | 2302438.00 | A | 19680.00 | 0.85 |
| 121 | Sb | 2135330.00 | A | 8871.00 | 0.42 |
| 137 | Ba | 788435.19 | P | 5128.00 | 0.65 |
| 159 | Tb | 5685418.00 | A | 13290.00 | 0.23 |
| 175 | Lu | 5239468.00 | A | 28700.00 | 0.55 |
| 205 | Tl | 3556294.00 | A | 25510.00 | 0.72 |
| 206 | (Pb) | 1245421.00 | P | 2690.00 | 0.22 |
| 207 | (Pb) | 1046208.00 | P | 5876.00 | 0.56 |
| 208 | Pb | 4808998.00 | A | 14650.00 | 0.30 |
| 209 | Bi | 2852270.00 | A | 25720.00 | 0.90 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1558075.30 | 1.16 | 1541753.30 | 101.1 | 70 - 130 | |
| 45 | Sc | 3617464.00 | 0.57 | 3631305.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 475617.41 | 1.19 | 481684.91 | 98.7 | 70 - 130 | |
| 72 | Ge | 784631.19 | 0.77 | 789765.50 | 99.3 | 70 - 130 | |
| 72 | Ge | 187626.30 | 0.67 | 188977.23 | 99.3 | 70 - 130 | |
| 103 | Rh | 4422195.00 | 0.76 | 4377550.50 | 101.0 | 70 - 130 | |
| 115 | In | 4701509.50 | 1.15 | 4716350.50 | 99.7 | 70 - 130 | |
| 115 | In | 1389567.80 | 2.12 | 1391932.10 | 99.8 | 70 - 130 | |
| 159 | Tb | 5685418.00 | 0.23 | 5566587.00 | 102.1 | 70 - 130 | |
| 175 | Lu | 5239468.00 | 0.55 | 5216106.00 | 100.4 | 70 - 130 | |
| 209 | Bi | 2852270.00 | 0.90 | 2809999.80 | 101.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 20 2013 12:02 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 11:58 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1530762.00 | A | 13310.00 | 0.87 |
| 7 | (Li) | | P | | |
| 9 | Be | 184.45 | P | 47.88 | 25.96 |
| 9 | Be | 8.89 | P | 1.93 | 21.66 |
| 11 | B | 2102.44 | P | 94.32 | 4.49 |
| 11 | B | 70.00 | P | 25.17 | 35.96 |
| 23 | Na | 33593080.00 | A | 518600.00 | 1.54 |
| 23 | Na | 3141072.00 | A | 14010.00 | 0.45 |
| 24 | Mg | 22699620.00 | A | 295900.00 | 1.30 |
| 24 | Mg | 1734141.00 | A | 7910.00 | 0.46 |
| 27 | Al | 29718620.00 | A | 247500.00 | 0.83 |
| 27 | Al | 1037694.00 | M | 17110.00 | 1.65 |
| 39 | K | 39764912.00 | A | 302300.00 | 0.76 |
| 44 | Ca | 1269319.00 | A | 13760.00 | 1.08 |
| 45 | Sc | 3651803.00 | A | 22120.00 | 0.61 |
| 45 | Sc | 483694.41 | P | 4050.00 | 0.84 |
| 47 | Ti | 607.81 | P | 41.68 | 6.86 |
| 51 | V | 4507.84 | P | 116.30 | 2.58 |
| 52 | Cr | 1838.81 | P | 37.12 | 2.02 |
| 55 | Mn | 1816.58 | P | 53.18 | 2.93 |
| 56 | Fe | 10661480.00 | A | 25670.00 | 0.24 |
| 59 | Co | 782.70 | P | 49.69 | 6.35 |
| 60 | Ni | 475.13 | P | 2.78 | 0.58 |
| 63 | Cu | 1485.43 | P | 32.33 | 2.18 |
| 66 | Zn | 554.24 | P | 11.18 | 2.02 |
| 72 | Ge | 801303.69 | P | 3432.00 | 0.43 |
| 72 | Ge | 190901.00 | P | 844.70 | 0.44 |
| 75 | As | 206.45 | P | 8.15 | 3.95 |
| 78 | Se | 220.67 | P | 4.62 | 2.09 |
| 88 | Sr | 4370.80 | P | 122.00 | 2.79 |
| 98 | Mo | 4779.84 | P | 420.90 | 8.81 |
| 103 | Rh | 4361638.00 | A | 20960.00 | 0.48 |
| 107 | Ag | 893.40 | P | 84.53 | 9.46 |

C:\ICPCHEM\1\DATA\13D20l00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 80.00 | P | 17.64 | 22.05 |
| 115 | In | 4709577.00 | A | 46090.00 | 0.98 |
| 115 | In | 1385014.00 | A | 14830.00 | 1.07 |
| 118 | (In) | 3505.00 | P | 173.90 | 4.96 |
| 118 | (In) | 1333.45 | P | 45.83 | 3.44 |
| 120 | Sn | 4800.98 | P | 433.80 | 9.04 |
| 121 | Sb | 5462.33 | P | 299.90 | 5.49 |
| 137 | Ba | 965.63 | P | 16.78 | 1.74 |
| 159 | Tb | 5615419.00 | A | 38520.00 | 0.69 |
| 175 | Lu | 5253908.00 | A | 22190.00 | 0.42 |
| 205 | Tl | 5823.66 | P | 110.50 | 1.90 |
| 206 | (Pb) | 594.48 | P | 71.91 | 12.10 |
| 207 | (Pb) | 496.69 | P | 23.09 | 4.65 |
| 208 | Pb | 2346.84 | P | 163.40 | 6.96 |
| 209 | Bi | 2824995.00 | A | 40290.00 | 1.43 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1530762.30 | 0.87 | 1541753.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 3651803.30 | 0.61 | 3631305.00 | 100.6 | 70 - 130 | |
| 45 | Sc | 483694.38 | 0.84 | 481684.91 | 100.4 | 70 - 130 | |
| 72 | Ge | 801303.69 | 0.43 | 789765.50 | 101.5 | 70 - 130 | |
| 72 | Ge | 190900.95 | 0.44 | 188977.23 | 101.0 | 70 - 130 | |
| 103 | Rh | 4361638.50 | 0.48 | 4377550.50 | 99.6 | 70 - 130 | |
| 115 | In | 4709577.50 | 0.98 | 4716350.50 | 99.9 | 70 - 130 | |
| 115 | In | 1385013.90 | 1.07 | 1391932.10 | 99.5 | 70 - 130 | |
| 159 | Tb | 5615419.50 | 0.69 | 5566587.00 | 100.9 | 70 - 130 | |
| 175 | Lu | 5253908.50 | 0.42 | 5216106.00 | 100.7 | 70 - 130 | |
| 209 | Bi | 2824995.30 | 1.43 | 2809999.80 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 20 2013 12:09 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 20 2013 12:05 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1581155.00 | A | 26310.00 | 1.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 101.12 | P | 29.13 | 28.81 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 1250.10 | P | 61.20 | 4.90 |
| 11 | B | 47.78 | P | 15.03 | 31.46 |
| 23 | Na | 329789790.00 | A | 3119000.00 | 0.95 |
| 23 | Na | 28839130.00 | A | 162400.00 | 0.56 |
| 24 | Mg | 223072300.00 | A | 1489000.00 | 0.67 |
| 24 | Mg | 15999010.00 | A | 79550.00 | 0.50 |
| 27 | Al | 293295100.00 | A | 2917000.00 | 0.99 |
| 27 | Al | 9583569.00 | A | 90400.00 | 0.94 |
| 39 | K | 353828700.00 | A | 2580000.00 | 0.73 |
| 44 | Ca | 11057200.00 | A | 55760.00 | 0.50 |
| 45 | Sc | 3643853.00 | A | 24540.00 | 0.67 |
| 45 | Sc | 474969.59 | P | 2768.00 | 0.58 |
| 47 | Ti | 504.47 | P | 62.58 | 12.41 |
| 51 | V | 4446.48 | P | 96.97 | 2.18 |
| 52 | Cr | 2769.62 | P | 135.20 | 4.88 |
| 55 | Mn | 3099.48 | P | 248.00 | 8.00 |
| 56 | Fe | 101208100.00 | A | 1029000.00 | 1.02 |
| 59 | Co | 2610.48 | P | 54.74 | 2.10 |
| 60 | Ni | 1010.27 | P | 25.21 | 2.50 |
| 63 | Cu | 1352.53 | P | 55.37 | 4.09 |
| 66 | Zn | 730.47 | P | 20.67 | 2.83 |
| 72 | Ge | 790707.69 | P | 7264.00 | 0.92 |
| 72 | Ge | 186905.30 | P | 865.10 | 0.46 |
| 75 | As | 212.45 | P | 19.29 | 9.08 |
| 78 | Se | 216.67 | P | 6.36 | 2.94 |
| 88 | Sr | 23622.68 | P | 453.50 | 1.92 |
| 98 | Mo | 2459.23 | P | 436.10 | 17.73 |
| 103 | Rh | 4202332.00 | A | 19200.00 | 0.46 |
| 107 | Ag | 1385.67 | P | 70.44 | 5.08 |

C:\ICPCHEM\1\DATA\13D20l00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 48.89 | P | 27.76 | 56.78 |
| 115 | In | 4555886.00 | A | 50340.00 | 1.10 |
| 115 | In | 1333453.00 | A | 2406.00 | 0.18 |
| 118 | (In) | 1355.67 | P | 21.70 | 1.60 |
| 118 | (In) | 593.37 | P | 70.01 | 11.80 |
| 120 | Sn | 2005.78 | P | 43.51 | 2.17 |
| 121 | Sb | 2740.36 | P | 43.60 | 1.59 |
| 137 | Ba | 904.51 | P | 47.30 | 5.23 |
| 159 | Tb | 5589195.00 | A | 75080.00 | 1.34 |
| 175 | Lu | 5206816.00 | A | 45190.00 | 0.87 |
| 205 | Tl | 2472.53 | P | 45.40 | 1.84 |
| 206 | (Pb) | 367.80 | P | 80.45 | 21.87 |
| 207 | (Pb) | 390.02 | P | 63.60 | 16.31 |
| 208 | Pb | 1590.10 | P | 199.10 | 12.52 |
| 209 | Bi | 2710142.00 | A | 57630.00 | 2.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1581154.90 | 1.66 | 1541753.30 | 102.6 | 70 - 130 | |
| 45 | Sc | 3643852.80 | 0.67 | 3631305.00 | 100.3 | 70 - 130 | |
| 45 | Sc | 474969.59 | 0.58 | 481684.91 | 98.6 | 70 - 130 | |
| 72 | Ge | 790707.75 | 0.92 | 789765.50 | 100.1 | 70 - 130 | |
| 72 | Ge | 186905.27 | 0.46 | 188977.23 | 98.9 | 70 - 130 | |
| 103 | Rh | 4202332.00 | 0.46 | 4377550.50 | 96.0 | 70 - 130 | |
| 115 | In | 4555886.00 | 1.10 | 4716350.50 | 96.6 | 70 - 130 | |
| 115 | In | 1333452.90 | 0.18 | 1391932.10 | 95.8 | 70 - 130 | |
| 159 | Tb | 5589195.50 | 1.34 | 5566587.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 5206816.00 | 0.87 | 5216106.00 | 99.8 | 70 - 130 | |
| 209 | Bi | 2710141.80 | 2.13 | 2809999.80 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 20 2013 12:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.80 | 60.80 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 60.18 | 60.18 | ppb | 3.64 | 900.00 | |
| 11 B | 6 | 1 | 58.12 | 58.12 | ppb | 1.23 | 900.00 | |
| 11 B | 45 | 2 | 58.36 | 58.36 | ppb | 0.71 | 900.00 | |
| 23 Na | 45 | 1 | 5617.00 | 5617.00 | ppb | 0.34 | 90000.00 | |
| 23 Na | 45 | 2 | 5670.00 | 5670.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 5669.00 | 5669.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 5690.00 | 5690.00 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 5621.00 | 5621.00 | ppb | 1.07 | 90000.00 | |
| 27 Al | 45 | 2 | 5644.00 | 5644.00 | ppb | 0.50 | 90000.00 | |
| 39 K | 45 | 1 | 5705.00 | 5705.00 | ppb | 0.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 5604.00 | 5604.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.67 | 58.67 | ppb | 0.10 | 900.00 | |
| 51 V | 45 | 2 | 60.56 | 60.56 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 58.47 | 58.47 | ppb | 0.52 | 900.00 | |
| 55 Mn | 45 | 2 | 58.74 | 58.74 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 5709.00 | 5709.00 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 58.30 | 58.30 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 57.12 | 57.12 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 56.65 | 56.65 | ppb | 0.63 | 900.00 | |
| 66 Zn | 72 | 2 | 57.88 | 57.88 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 59.76 | 59.76 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 59.55 | 59.55 | ppb | 0.83 | 900.00 | |
| 88 Sr | 103 | 1 | 61.07 | 61.07 | ppb | 0.57 | 900.00 | |
| 98 Mo | 103 | 1 | 61.09 | 61.09 | ppb | 0.59 | 900.00 | |
| 107 Ag | 115 | 1 | 58.33 | 58.33 | ppb | 0.20 | 180.00 | |
| 111 Cd | 115 | 2 | 59.40 | 59.40 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 58.40 | 58.40 | ppb | 1.99 | 900.00 | |
| 121 Sb | 115 | 1 | 61.08 | 61.08 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 58.90 | 58.90 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 57.68 | 57.68 | ppb | 0.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.02 | 60.02 | ppb | 1.06 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1581589 | 1.02 | 1541753 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 3678293 | 0.84 | 3631305 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 475218 | 0.85 | 481685 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 790626 | 0.66 | 789766 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 186136 | 0.83 | 188977 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 4326321 | 0.69 | 4377551 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 4654449 | 1.03 | 4716351 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 1355830 | 0.98 | 1391932 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 5643891 | 0.56 | 5566587 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 5296078 | 0.63 | 5216106 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 2795710 | 0.61 | 2810000 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 12:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 57.11 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 9.92 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 83.33 | 900.00 | |
| 23 Na | 45 | 1 | 4.97 | 4.97 | ppb | 17.41 | 90000.00 | |
| 23 Na | 45 | 2 | 3.69 | 3.69 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.19 | 4.19 | ppb | 22.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.41 | 3.41 | ppb | 14.78 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 3.96 | ppb | 21.65 | 90000.00 | |
| 27 Al | 45 | 2 | 3.25 | 3.25 | ppb | 20.27 | 90000.00 | |
| 39 K | 45 | 1 | 5.46 | 5.46 | ppb | 23.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 20.56 | 20.56 | ppb | 8.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 36.55 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 2.96 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 20.50 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 20.46 | 900.00 | |
| 56 Fe | 45 | 2 | 3.64 | 3.64 | ppb | 17.45 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 27.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 22.20 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 16.94 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 14.68 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 40.49 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 373.36 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 11.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 9.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 10.20 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 52.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.18 | ppb | 6.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.05 | ppb | 10.17 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 15.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 0.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 10.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1574479 | 1.43 | 1541753 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 3643958 | 1.01 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 482283 | 0.98 | 481685 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 800894 | 0.98 | 789766 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 190676 | 0.66 | 188977 | 100.9 | 70 | - | 130 |
| 103 Rh | 1 | 4402868 | 0.67 | 4377551 | 100.6 | 70 | - | 130 |
| 115 In | 1 | 4764711 | 1.53 | 4716351 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1393277 | 2.43 | 1391932 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 5748401 | 0.26 | 5566587 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 5318094 | 0.18 | 5216106 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 2897580 | 1.15 | 2810000 | 103.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Apr 20 2013 12:30 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.42 | 51.42 | ppb | 1.13 | 900.00 | |
| 9 Be | 45 | 2 | 49.96 | 49.96 | ppb | 2.68 | 900.00 | |
| 11 B | 6 | 1 | 50.98 | 50.98 | ppb | 1.67 | 900.00 | |
| 11 B | 45 | 2 | 51.30 | 51.30 | ppb | 1.84 | 900.00 | |
| 23 Na | 45 | 1 | 5165.00 | 5165.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 5235.00 | 5235.00 | ppb | 0.14 | 90000.00 | |
| 24 Mg | 45 | 1 | 5172.00 | 5172.00 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5153.00 | 5153.00 | ppb | 1.50 | 90000.00 | |
| 27 Al | 45 | 2 | 5198.00 | 5198.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 5358.00 | 5358.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.92 | 49.92 | ppb | 0.90 | 900.00 | |
| 51 V | 45 | 2 | 50.74 | 50.74 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | 49.68 | 49.68 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.48 | 49.48 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 5205.00 | 5205.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 49.43 | 49.43 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 48.66 | 48.66 | ppb | 0.15 | 900.00 | |
| 63 Cu | 72 | 2 | 48.18 | 48.18 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.76 | 49.76 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 50.03 | 50.03 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 50.22 | 50.22 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 51.79 | 51.79 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 50.86 | 50.86 | ppb | 0.36 | 900.00 | |
| 107 Ag | 115 | 1 | 51.28 | 51.28 | ppb | 0.61 | 180.00 | |
| 111 Cd | 115 | 2 | 50.54 | 50.54 | ppb | 2.55 | 900.00 | |
| 120 Sn | 115 | 1 | 51.24 | 51.24 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 51.81 | 51.81 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | 49.72 | 49.72 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 48.60 | 48.60 | ppb | 1.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.59 | 50.59 | ppb | 0.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1579690 | 1.18 | 1541753 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 3662891 | 1.43 | 3631305 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 476421 | 0.84 | 481685 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 786150 | 0.83 | 789766 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 187657 | 0.78 | 188977 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 4315801 | 0.41 | 4377551 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 4664565 | 0.31 | 4716351 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 1356706 | 2.14 | 1391932 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 5653593 | 0.90 | 5566587 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 5245877 | 0.62 | 5216106 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 2796137 | 0.36 | 2810000 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 20 2013 12:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 75.14 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 15.98 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 82.94 | 900.00 | |
| 23 Na | 45 | 1 | 4.99 | 4.99 | ppb | 40.98 | 90000.00 | |
| 23 Na | 45 | 2 | 2.02 | 2.02 | ppb | 33.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.69 | 4.69 | ppb | 39.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.32 | 2.32 | ppb | 14.75 | 90000.00 | |
| 27 Al | 45 | 1 | 4.51 | 4.51 | ppb | 38.69 | 90000.00 | |
| 27 Al | 45 | 2 | 2.12 | 2.12 | ppb | 27.56 | 90000.00 | |
| 39 K | 45 | 1 | 3.78 | 3.78 | ppb | 40.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.55 | 3.55 | ppb | 66.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.09 | 0.09 | ppb | 43.40 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 12.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 382.60 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 15.64 | 900.00 | |
| 56 Fe | 45 | 2 | 2.51 | 2.51 | ppb | 19.45 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 9.17 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 19.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 60.86 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 16.33 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 57.29 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 114.33 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 27.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 12.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 22.35 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 25.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 9.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 7.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 63.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 6.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 27.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1583807 | 1.03 | 1541753 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 3684951 | 0.44 | 3631305 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 484754 | 0.68 | 481685 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 806120 | 0.90 | 789766 | 102.1 | 70 | - | 130 |
| 72 Ge | 2 | 191440 | 0.70 | 188977 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 4453982 | 1.48 | 4377551 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 4743884 | 1.07 | 4716351 | 100.6 | 70 | - | 130 |
| 115 In | 2 | 1401721 | 2.06 | 1391932 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 5722592 | 0.95 | 5566587 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 5346104 | 0.47 | 5216106 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 2916337 | 0.74 | 2810000 | 103.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 20 2013 12:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.52 | 0.52 | ppb | 2.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 1.66 | 900.00 | |
| 11 B | 6 | 1 | 5.10 | 5.10 | ppb | 2.29 | 900.00 | |
| 11 B | 45 | 2 | 5.20 | 5.20 | ppb | 3.06 | 900.00 | |
| 23 Na | 45 | 1 | 278.80 | 278.80 | ppb | 2.48 | 90000.00 | |
| 23 Na | 45 | 2 | 296.50 | 296.50 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 274.70 | 274.70 | ppb | 2.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 288.40 | 288.40 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 37.88 | 37.88 | ppb | 3.79 | 90000.00 | |
| 27 Al | 45 | 2 | 36.84 | 36.84 | ppb | 1.68 | 90000.00 | |
| 39 K | 45 | 1 | 267.40 | 267.40 | ppb | 3.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 280.60 | 280.60 | ppb | 2.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.35 | 1.35 | ppb | 1.70 | 900.00 | |
| 51 V | 45 | 2 | 1.06 | 1.06 | ppb | 1.66 | 900.00 | |
| 52 Cr | 45 | 2 | 1.11 | 1.11 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1.26 | 1.26 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 42.30 | 42.30 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 0.59 | 900.00 | |
| 60 Ni | 45 | 2 | 1.07 | 1.07 | ppb | 2.40 | 900.00 | |
| 63 Cu | 72 | 2 | 6.57 | 6.57 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 10.80 | 10.80 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 4.64 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 5.23 | ppb | 0.21 | 900.00 | |
| 98 Mo | 103 | 1 | 1.12 | 1.12 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.63 | 0.63 | ppb | 2.17 | 180.00 | |
| 111 Cd | 115 | 2 | 0.53 | 0.53 | ppb | 5.40 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 2.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.61 | 0.61 | ppb | 3.97 | 900.00 | |
| 137 Ba | 159 | 1 | 2.61 | 2.61 | ppb | 0.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 1.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.61 | 0.61 | ppb | 0.86 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1590450 | 1.40 | 1541753 | 103.2 | 70 - 130 | |
| 45 Sc | 1 | 3666250 | 2.19 | 3631305 | 101.0 | 70 - 130 | |
| 45 Sc | 2 | 483401 | 0.60 | 481685 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 802852 | 1.88 | 789766 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 191214 | 0.55 | 188977 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 4438373 | 0.73 | 4377551 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 4791845 | 2.47 | 4716351 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 1413142 | 0.71 | 1391932 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 5730534 | 0.96 | 5566587 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 5342316 | 0.97 | 5216106 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2912914 | 0.84 | 2810000 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 20 2013 12:51 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 61.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 77.85 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 6.76 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 89.00 | 900.00 | |
| 23 Na | 45 | 1 | 102100.00 | 102100.00 | ppb | 0.00 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98090.00 | 98090.00 | ppb | 1.38 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101900.00 | 101900.00 | ppb | 1.68 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97720.00 | 97720.00 | ppb | 0.42 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 100200.00 | 100200.00 | ppb | 0.96 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97980.00 | 97980.00 | ppb | 0.70 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 99270.00 | 99270.00 | ppb | 0.76 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97440.00 | 97440.00 | ppb | 0.58 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2001.00 | 2001.00 | ppb | 0.83 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 11.53 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 1.08 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 0.36 | 0.36 | ppb | 2.48 | 900.00 | |
| 56 Fe | 45 | 2 | 100400.00 | 100400.00 | ppb | 0.71 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 0.69 | 0.69 | ppb | 2.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 2.90 | 2.90 | ppb | 0.26 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 7.97 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 214.97 | 900.00 | |
| 88 Sr | 103 | 1 | 4.87 | 4.87 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2059.00 | 2059.00 | ppb | 0.30 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.07 | ppb | 3.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.99 | 0.99 | ppb | 2.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.21 | ppb | 3.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 1.13 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.25 | ppb | 3.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 13.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.21 | 0.21 | ppb | 4.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1642656 | 1.03 | 1541753 | 106.5 | 70 - 130 | |
| 45 Sc | 1 | 3428425 | 0.75 | 3631305 | 94.4 | 70 - 130 | |
| 45 Sc | 2 | 423341 | 0.44 | 481685 | 87.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 747115 | 1.14 | 789766 | 94.6 | 70 - | 130 |
| 72 | Ge | 2 | 171080 | 0.54 | 188977 | 90.5 | 70 - | 130 |
| 103 | Rh | 1 | 3822783 | 0.11 | 4377551 | 87.3 | 70 - | 130 |
| 115 | In | 1 | 4203216 | 0.30 | 4716351 | 89.1 | 70 - | 130 |
| 115 | In | 2 | 1250800 | 0.50 | 1391932 | 89.9 | 70 - | 130 |
| 159 | Tb | 1 | 5393658 | 0.62 | 5566587 | 96.9 | 70 - | 130 |
| 175 | Lu | 1 | 5079303 | 1.20 | 5216106 | 97.4 | 70 - | 130 |
| 209 | Bi | 1 | 2520268 | 0.19 | 2810000 | 89.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 20 2013 12:58 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 24.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 107.30 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.15 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.25 | ppb | 53.50 | 900.00 | |
| 23 Na | 45 | 1 | 102400.00 | 102400.00 | ppb | 0.26 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99060.00 | 99060.00 | ppb | 0.13 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 101200.00 | 101200.00 | ppb | 0.75 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98460.00 | 98460.00 | ppb | 0.38 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 100300.00 | 100300.00 | ppb | 0.84 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 98420.00 | 98420.00 | ppb | 0.43 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 99310.00 | 99310.00 | ppb | 0.98 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97440.00 | 97440.00 | ppb | 1.06 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2001.00 | 2001.00 | ppb | 0.87 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 3.79 | 900.00 | |
| 52 Cr | 45 | 2 | 20.49 | 20.49 | ppb | 0.41 | 900.00 | |
| 55 Mn | 45 | 2 | 20.15 | 20.15 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 101900.00 | 101900.00 | ppb | 0.35 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.48 | 19.48 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 19.42 | 19.42 | ppb | 0.54 | 900.00 | |
| 63 Cu | 72 | 2 | 17.67 | 17.67 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 21.75 | 21.75 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 20.76 | 20.76 | ppb | 0.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 198.76 | 900.00 | |
| 88 Sr | 103 | 1 | 4.89 | 4.89 | ppb | 0.95 | 900.00 | |
| 98 Mo | 103 | 1 | 2078.00 | 2078.00 | ppb | 0.43 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.80 | 19.80 | ppb | 1.35 | 180.00 | |
| 111 Cd | 115 | 2 | 19.81 | 19.81 | ppb | 0.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.22 | ppb | 4.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 7.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 10.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 3.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1671220 | 0.57 | 1541753 | 108.4 | 70 - 130 | |
| 45 Sc | 1 | 3483339 | 0.94 | 3631305 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 420323 | 0.13 | 481685 | 87.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 753646 | 0.81 | 789766 | 95.4 | 70 - | 130 |
| 72 | Ge | 2 | 169923 | 0.21 | 188977 | 89.9 | 70 - | 130 |
| 103 | Rh | 1 | 3891337 | 1.01 | 4377551 | 88.9 | 70 - | 130 |
| 115 | In | 1 | 4287752 | 0.84 | 4716351 | 90.9 | 70 - | 130 |
| 115 | In | 2 | 1255859 | 0.46 | 1391932 | 90.2 | 70 - | 130 |
| 159 | Tb | 1 | 5506508 | 0.28 | 5566587 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 5198001 | 0.45 | 5216106 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 2600731 | 1.27 | 2810000 | 92.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Apr 20 2013 01:05 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 24.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 193.62 | 900.00 | |
| 11 B | 6 | 1 | -0.03 | -0.03 | ppb | 8.80 | 900.00 | |
| 11 B | 45 | 2 | -0.02 | -0.02 | ppb | 485.04 | 900.00 | |
| 23 Na | 45 | 1 | 41.02 | 41.02 | ppb | 12.93 | 90000.00 | |
| 23 Na | 45 | 2 | 57.31 | 57.31 | ppb | 4.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 30.68 | 30.68 | ppb | 8.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 45.33 | 45.33 | ppb | 5.39 | 90000.00 | |
| 27 Al | 45 | 1 | 29.22 | 29.22 | ppb | 10.20 | 90000.00 | |
| 27 Al | 45 | 2 | 40.98 | 40.98 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 22.27 | 22.27 | ppb | 52.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 14.21 | 14.21 | ppb | 56.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.68 | 0.68 | ppb | 8.76 | 900.00 | |
| 51 V | 45 | 2 | 0.07 | 0.07 | ppb | 7.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 41.04 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 17.63 | 900.00 | |
| 56 Fe | 45 | 2 | 48.22 | 48.22 | ppb | 5.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.89 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 32.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 56.21 | 900.00 | |
| 66 Zn | 72 | 2 | 0.09 | 0.09 | ppb | 1.72 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 41.76 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 446.08 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 37.56 | 900.00 | |
| 98 Mo | 103 | 1 | 1.99 | 1.99 | ppb | 3.99 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 28.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 93.17 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 12.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 19.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 172.41 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 23.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 64.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1803310 | 4.91 | 1541753 | 117.0 | 70 - 130 | |
| 45 Sc | 1 | 3808733 | 8.81 | 3631305 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 448562 | 1.18 | 481685 | 93.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 809462 | 5.01 | 789766 | 102.5 | 70 | - | 130 |
| 72 Ge | 2 | 182756 | 0.93 | 188977 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 4710046 | 8.85 | 4377551 | 107.6 | 70 | - | 130 |
| 115 In | 1 | 5041319 | 7.64 | 4716351 | 106.9 | 70 | - | 130 |
| 115 In | 2 | 1429490 | 0.68 | 1391932 | 102.7 | 70 | - | 130 |
| 159 Tb | 1 | 6148101 | 7.81 | 5566587 | 110.4 | 70 | - | 130 |
| 175 Lu | 1 | 5711603 | 9.63 | 5216106 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3148830 | 7.54 | 2810000 | 112.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 20 2013 01:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20790-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 65.42 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 203.30 | 900.00 | |
| 11 B | 6 | 1 | 0.59 | 0.29 | ppb | 6.29 | 900.00 | |
| 11 B | 45 | 2 | 0.75 | 0.38 | ppb | 27.83 | 900.00 | |
| 23 Na | 45 | 1 | 35.30 | 17.65 | ppb | 7.54 | 90000.00 | |
| 23 Na | 45 | 2 | 25.98 | 12.99 | ppb | 7.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 14.99 | 7.49 | ppb | 10.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.51 | 3.75 | ppb | 11.74 | 90000.00 | |
| 27 Al | 45 | 1 | 15.54 | 7.77 | ppb | 10.09 | 90000.00 | |
| 27 Al | 45 | 2 | 7.93 | 3.96 | ppb | 13.69 | 90000.00 | |
| 39 K | 45 | 1 | 6.06 | 3.03 | ppb | 54.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 34.32 | 17.16 | ppb | 11.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.65 | 0.32 | ppb | 3.03 | 900.00 | |
| 51 V | 45 | 2 | 1.35 | 0.68 | ppb | 2.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.01 | ppb | 56.25 | 900.00 | |
| 55 Mn | 45 | 2 | 0.56 | 0.28 | ppb | 5.92 | 900.00 | |
| 56 Fe | 45 | 2 | 12.84 | 6.42 | ppb | 8.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 9.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 15.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 5.02 | 900.00 | |
| 66 Zn | 72 | 2 | 2.94 | 1.47 | ppb | 3.59 | 900.00 | |
| 75 As | 72 | 2 | 0.34 | 0.17 | ppb | 8.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 147.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 8.87 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 0.64 | ppb | 5.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 4.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 0.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 8.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 4.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 13.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 30.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 6.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1616849 | 1.28 | 1541753 | 104.9 | 70 - 130 | |
| 45 Sc | 1 | 3599563 | 0.49 | 3631305 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 444876 | 0.76 | 481685 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 774661 | 0.67 | 789766 | 98.1 | 70 - | 130 |
| 72 | Ge | 2 | 180819 | 0.79 | 188977 | 95.7 | 70 - | 130 |
| 103 | Rh | 1 | 4458231 | 0.67 | 4377551 | 101.8 | 70 - | 130 |
| 115 | In | 1 | 4767146 | 0.22 | 4716351 | 101.1 | 70 - | 130 |
| 115 | In | 2 | 1399514 | 0.28 | 1391932 | 100.5 | 70 - | 130 |
| 159 | Tb | 1 | 5892863 | 0.45 | 5566587 | 105.9 | 70 - | 130 |
| 175 | Lu | 1 | 5524069 | 0.14 | 5216106 | 105.9 | 70 - | 130 |
| 209 | Bi | 1 | 3059805 | 0.72 | 2810000 | 108.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 20 2013 01:20 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20797-MB1
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 24.80 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 194.09 | 900.00 | |
| 11 B | 6 | 1 | -0.01 | 0.00 | ppb | 684.81 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.01 | ppb | 1017.70 | 900.00 | |
| 23 Na | 45 | 1 | 27.42 | 13.71 | ppb | 9.91 | 90000.00 | |
| 23 Na | 45 | 2 | 19.59 | 9.79 | ppb | 14.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 13.72 | 6.86 | ppb | 14.80 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.06 | 3.53 | ppb | 36.64 | 90000.00 | |
| 27 Al | 45 | 1 | 14.31 | 7.15 | ppb | 14.36 | 90000.00 | |
| 27 Al | 45 | 2 | 7.87 | 3.94 | ppb | 27.47 | 90000.00 | |
| 39 K | 45 | 1 | 9.20 | 4.60 | ppb | 27.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 24.68 | 12.34 | ppb | 12.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.29 | ppb | 19.32 | 900.00 | |
| 51 V | 45 | 2 | 1.75 | 0.87 | ppb | 2.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.03 | ppb | 35.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.69 | 0.35 | ppb | 2.95 | 900.00 | |
| 56 Fe | 45 | 2 | 16.99 | 8.50 | ppb | 12.91 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 7.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 2.14 | 900.00 | |
| 66 Zn | 72 | 2 | 0.76 | 0.38 | ppb | 2.62 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 4.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 10291.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 5.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.62 | 0.31 | ppb | 1.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 20.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 98.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 5.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 8.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.02 | ppb | 12.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 613.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 20.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1510913 | 1.58 | 1541753 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 3547460 | 0.81 | 3631305 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 452204 | 1.46 | 481685 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 769753 | 1.71 | 789766 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 180500 | 1.82 | 188977 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 4393024 | 1.19 | 4377551 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 4695287 | 0.45 | 4716351 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1412907 | 1.92 | 1391932 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 5780471 | 1.19 | 5566587 | 103.8 | 70 | - | 130 |
| 175 Lu | 1 | 5431734 | 0.55 | 5216106 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 2976625 | 0.99 | 2810000 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 20 2013 01:27 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-MB1
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 181.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1825.90 | 900.00 | |
| 11 B | 6 | 1 | 0.42 | 0.21 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 0.45 | 0.22 | ppb | 82.77 | 900.00 | |
| 23 Na | 45 | 1 | 36.54 | 18.27 | ppb | 94.36 | 90000.00 | |
| 23 Na | 45 | 2 | 14.63 | 7.32 | ppb | 10.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 26.48 | 13.24 | ppb | 136.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.73 | 1.87 | ppb | 23.25 | 90000.00 | |
| 27 Al | 45 | 1 | 26.92 | 13.46 | ppb | 139.52 | 90000.00 | |
| 27 Al | 45 | 2 | 3.38 | 1.69 | ppb | 28.60 | 90000.00 | |
| 39 K | 45 | 1 | 23.84 | 11.92 | ppb | 159.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 88.94 | 44.47 | ppb | 40.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.79 | 0.40 | ppb | 83.13 | 900.00 | |
| 51 V | 45 | 2 | 1.71 | 0.86 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 0.05 | 0.03 | ppb | 18.83 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 4.64 | 900.00 | |
| 56 Fe | 45 | 2 | 5.09 | 2.54 | ppb | 18.51 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 33.78 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 21.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 1.64 | 900.00 | |
| 66 Zn | 72 | 2 | 0.52 | 0.26 | ppb | 4.03 | 900.00 | |
| 75 As | 72 | 2 | 0.47 | 0.23 | ppb | 5.38 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.02 | ppb | 320.35 | 900.00 | |
| 88 Sr | 103 | 1 | 0.11 | 0.06 | ppb | 48.57 | 900.00 | |
| 98 Mo | 103 | 1 | 0.64 | 0.32 | ppb | 93.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 93.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 930.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 38.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 36.75 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 37.92 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 323.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 128.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1485512 | 0.81 | 1541753 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3553730 | 1.17 | 3631305 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 455458 | 0.71 | 481685 | 94.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 776236 | 0.89 | 789766 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 182831 | 0.45 | 188977 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 4419544 | 0.74 | 4377551 | 101.0 | 70 | - | 130 |
| 115 In | 1 | 4777269 | 0.41 | 4716351 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 1402610 | 0.73 | 1391932 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 5849363 | 0.75 | 5566587 | 105.1 | 70 | - | 130 |
| 175 Lu | 1 | 5503455 | 0.64 | 5216106 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 3015336 | 0.74 | 2810000 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D# |
| Date Acquired: | Apr 20 2013 01:34 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19884-4F |
| Misc Info: | |
| Vial Number: | 2112 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 20 2013 12:12 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 11.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 161.04 | 900.00 | |
| 11 B | 6 | 1 | 24.76 | 12.38 | ppb | 2.22 | 900.00 | |
| 11 B | 45 | 2 | 24.04 | 12.02 | ppb | 7.39 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 262800.00 | 131400.00 | ppb | 0.43 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 4532.00 | 2266.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 4698.00 | 2349.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 24.36 | 12.18 | ppb | 6.66 | 90000.00 | |
| 27 Al | 45 | 2 | 19.13 | 9.56 | ppb | 7.37 | 90000.00 | |
| 39 K | 45 | 1 | 5168.00 | 2584.00 | ppb | 1.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 36660.00 | 18330.00 | ppb | 1.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.35 | 0.67 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.10 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.39 | 0.20 | ppb | 4.89 | 900.00 | |
| 55 Mn | 45 | 2 | 64.50 | 32.25 | ppb | 0.59 | 900.00 | |
| 56 Fe | 45 | 2 | 140.18 | 70.09 | ppb | 1.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.88 | 0.44 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 5.97 | 2.99 | ppb | 0.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.45 | ppb | 3.04 | 900.00 | |
| 66 Zn | 72 | 2 | 38.98 | 19.49 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 1.00 | 0.50 | ppb | 3.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.07 | ppb | 52.33 | 900.00 | |
| 88 Sr | 103 | 1 | 220.80 | 110.40 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 0.96 | 0.48 | ppb | 4.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 13.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.10 | ppb | 9.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 5.25 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 1.13 | 900.00 | |
| 137 Ba | 159 | 1 | 121.18 | 60.59 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 83.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 23.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1418491 | 1.45 | 1541753 | 92.0 | 70 - 130 | |
| 45 Sc | 1 | 3480078 | 1.47 | 3631305 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 438237 | 0.79 | 481685 | 91.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 751283 | 1.04 | 789766 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 173653 | 0.72 | 188977 | 91.9 | 70 | - | 130 |
| 103 Rh | 1 | 4040053 | 0.54 | 4377551 | 92.3 | 70 | - | 130 |
| 115 In | 1 | 4504898 | 0.19 | 4716351 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 1335463 | 0.89 | 1391932 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 5652973 | 1.06 | 5566587 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 5319186 | 0.49 | 5216106 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 2727337 | 0.60 | 2810000 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 20 2013 01:41 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-5F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 41.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2955.70 | 900.00 | |
| 11 B | 6 | 1 | 24.22 | 12.11 | ppb | 1.38 | 900.00 | |
| 11 B | 45 | 2 | 24.20 | 12.10 | ppb | 6.15 | 900.00 | |
| 23 Na | 45 | 1 | 82800.00 | 41400.00 | ppb | 1.13 | 90000.00 | |
| 23 Na | 45 | 2 | 84740.00 | 42370.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 2900.00 | 1450.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 3068.00 | 1534.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 10.16 | 5.08 | ppb | 27.92 | 90000.00 | |
| 27 Al | 45 | 2 | 7.12 | 3.56 | ppb | 9.92 | 90000.00 | |
| 39 K | 45 | 1 | 3288.00 | 1644.00 | ppb | 0.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 22160.00 | 11080.00 | ppb | 0.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.39 | 0.69 | ppb | 8.15 | 900.00 | |
| 51 V | 45 | 2 | 1.98 | 0.99 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.31 | 0.16 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 1120.60 | 560.30 | ppb | 0.16 | 900.00 | |
| 56 Fe | 45 | 2 | 5934.00 | 2967.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 13.56 | 6.78 | ppb | 0.25 | 900.00 | |
| 60 Ni | 45 | 2 | 16.66 | 8.33 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 0.32 | 0.16 | ppb | 2.92 | 900.00 | |
| 66 Zn | 72 | 2 | 8.87 | 4.44 | ppb | 0.13 | 900.00 | |
| 75 As | 72 | 2 | 230.80 | 115.40 | ppb | 0.93 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.01 | ppb | 533.76 | 900.00 | |
| 88 Sr | 103 | 1 | 185.76 | 92.88 | ppb | 1.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.94 | 0.47 | ppb | 5.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 19.05 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 11.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 2.22 | 900.00 | |
| 137 Ba | 159 | 1 | 44.26 | 22.13 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 7.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 15.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1473324 | 0.64 | 1541753 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 3531894 | 0.84 | 3631305 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 446292 | 0.41 | 481685 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 769821 | 0.36 | 789766 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 180468 | 0.45 | 188977 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 4177711 | 1.28 | 4377551 | 95.4 | 70 | - | 130 |
| 115 In | 1 | 4623169 | 0.77 | 4716351 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1349269 | 0.93 | 1391932 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 5762998 | 1.51 | 5566587 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5468313 | 0.83 | 5216106 | 104.8 | 70 | - | 130 |
| 209 Bi | 1 | 2846882 | 0.86 | 2810000 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 20 2013 01:48 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-6F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 141.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 161.05 | 900.00 | |
| 11 B | 6 | 1 | 24.78 | 12.39 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 24.86 | 12.43 | ppb | 6.86 | 900.00 | |
| 23 Na | 45 | 1 | 84100.00 | 42050.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 85560.00 | 42780.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 2978.00 | 1489.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 3120.00 | 1560.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 1 | 4.50 | 2.25 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 4.53 | 2.27 | ppb | 5.58 | 90000.00 | |
| 39 K | 45 | 1 | 3312.00 | 1656.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 22600.00 | 11300.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.36 | 0.68 | ppb | 3.17 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 2.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 2.83 | 900.00 | |
| 55 Mn | 45 | 2 | 1159.40 | 579.70 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 6148.00 | 3074.00 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 13.92 | 6.96 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 16.57 | 8.28 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.32 | 0.16 | ppb | 1.63 | 900.00 | |
| 66 Zn | 72 | 2 | 7.84 | 3.92 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 239.60 | 119.80 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | 0.00 | ppb | 1788.70 | 900.00 | |
| 88 Sr | 103 | 1 | 189.48 | 94.74 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.75 | 0.38 | ppb | 3.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.36 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 13.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.03 | ppb | 9.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.80 | 900.00 | |
| 137 Ba | 159 | 1 | 44.08 | 22.04 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 2.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1460284 | 0.95 | 1541753 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3505757 | 0.67 | 3631305 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 441867 | 0.68 | 481685 | 91.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 761069 | 0.38 | 789766 | 96.4 | 70 - | 130 |
| 72 | Ge | 2 | 178244 | 0.73 | 188977 | 94.3 | 70 - | 130 |
| 103 | Rh | 1 | 4142855 | 0.30 | 4377551 | 94.6 | 70 - | 130 |
| 115 | In | 1 | 4585684 | 0.75 | 4716351 | 97.2 | 70 - | 130 |
| 115 | In | 2 | 1354061 | 0.63 | 1391932 | 97.3 | 70 - | 130 |
| 159 | Tb | 1 | 5751848 | 0.56 | 5566587 | 103.3 | 70 - | 130 |
| 175 | Lu | 1 | 5449938 | 0.91 | 5216106 | 104.5 | 70 - | 130 |
| 209 | Bi | 1 | 2867828 | 0.21 | 2810000 | 102.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 20 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.09 | 50.09 | ppb | 0.68 | 900.00 | |
| 9 Be | 45 | 2 | 50.45 | 50.45 | ppb | 2.25 | 900.00 | |
| 11 B | 6 | 1 | 49.45 | 49.45 | ppb | 1.37 | 900.00 | |
| 11 B | 45 | 2 | 50.63 | 50.63 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | 5077.00 | 5077.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5183.00 | 5183.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 5102.00 | 5102.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 5120.00 | 5120.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 1 | 5124.00 | 5124.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 2 | 5146.00 | 5146.00 | ppb | 0.94 | 90000.00 | |
| 39 K | 45 | 1 | 5127.00 | 5127.00 | ppb | 1.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 5165.00 | 5165.00 | ppb | 0.29 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.31 | 49.31 | ppb | 0.61 | 900.00 | |
| 51 V | 45 | 2 | 50.66 | 50.66 | ppb | 0.19 | 900.00 | |
| 52 Cr | 45 | 2 | 49.48 | 49.48 | ppb | 0.65 | 900.00 | |
| 55 Mn | 45 | 2 | 49.38 | 49.38 | ppb | 0.17 | 900.00 | |
| 56 Fe | 45 | 2 | 5248.00 | 5248.00 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 49.86 | 49.86 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 48.91 | 48.91 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 47.72 | 47.72 | ppb | 0.66 | 900.00 | |
| 66 Zn | 72 | 2 | 48.65 | 48.65 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 49.98 | 49.98 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 50.59 | 50.59 | ppb | 0.89 | 900.00 | |
| 88 Sr | 103 | 1 | 51.34 | 51.34 | ppb | 1.66 | 900.00 | |
| 98 Mo | 103 | 1 | 50.46 | 50.46 | ppb | 0.22 | 900.00 | |
| 107 Ag | 115 | 1 | 49.87 | 49.87 | ppb | 2.45 | 180.00 | |
| 111 Cd | 115 | 2 | 49.19 | 49.19 | ppb | 1.12 | 900.00 | |
| 120 Sn | 115 | 1 | 50.44 | 50.44 | ppb | 0.79 | 900.00 | |
| 121 Sb | 115 | 1 | 51.41 | 51.41 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 49.08 | 49.08 | ppb | 0.66 | 900.00 | |
| 205 Tl | 209 | 1 | 48.21 | 48.21 | ppb | 0.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.30 | 50.30 | ppb | 1.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1596539 | 0.51 | 1541753 | 103.6 | 70 - 130 | |
| 45 Sc | 1 | 3669971 | 0.02 | 3631305 | 101.1 | 70 - 130 | |
| 45 Sc | 2 | 459388 | 0.48 | 481685 | 95.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 777834 | 0.69 | 789766 | 98.5 | 70 | - | 130 |
| 72 Ge | 2 | 183808 | 0.49 | 188977 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 4365059 | 0.73 | 4377551 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4762355 | 0.78 | 4716351 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1392042 | 1.30 | 1391932 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 5877184 | 0.23 | 5566587 | 105.6 | 70 | - | 130 |
| 175 Lu | 1 | 5516639 | 0.25 | 5216106 | 105.8 | 70 | - | 130 |
| 209 Bi | 1 | 2930146 | 1.02 | 2810000 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 20 2013 02:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.52 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 224.61 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 17.35 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 351.71 | 900.00 | |
| 23 Na | 45 | 1 | 27.66 | 27.66 | ppb | 9.83 | 90000.00 | |
| 23 Na | 45 | 2 | 20.13 | 20.13 | ppb | 9.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.72 | 7.72 | ppb | 25.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.58 | 3.58 | ppb | 29.25 | 90000.00 | |
| 27 Al | 45 | 1 | 7.89 | 7.89 | ppb | 32.02 | 90000.00 | |
| 27 Al | 45 | 2 | 3.30 | 3.30 | ppb | 26.56 | 90000.00 | |
| 39 K | 45 | 1 | 9.66 | 9.66 | ppb | 28.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.36 | 2.36 | ppb | 78.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.14 | 0.14 | ppb | 30.81 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 19.98 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 206.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 24.06 | 900.00 | |
| 56 Fe | 45 | 2 | 3.74 | 3.74 | ppb | 26.79 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 13.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 86.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 105.99 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 50.79 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 39.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 1228.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 18.16 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 20.43 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 9.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 88.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 13.31 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 16.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 98.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.12 | ppb | 8.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 23.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1606228 | 0.74 | 1541753 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 3641012 | 0.97 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 467733 | 0.62 | 481685 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 797133 | 1.17 | 789766 | 100.9 | 70 - | 130 |
| 72 | Ge | 2 | 187336 | 0.45 | 188977 | 99.1 | 70 - | 130 |
| 103 | Rh | 1 | 4480160 | 0.33 | 4377551 | 102.3 | 70 - | 130 |
| 115 | In | 1 | 4848952 | 0.61 | 4716351 | 102.8 | 70 - | 130 |
| 115 | In | 2 | 1422378 | 0.38 | 1391932 | 102.2 | 70 - | 130 |
| 159 | Tb | 1 | 5791748 | 0.61 | 5566587 | 104.0 | 70 - | 130 |
| 175 | Lu | 1 | 5424949 | 0.58 | 5216106 | 104.0 | 70 - | 130 |
| 209 | Bi | 1 | 3008734 | 1.06 | 2810000 | 107.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 20 2013 02:10 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-7F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 61.28 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 187.49 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.17 | ppb | 6.47 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.14 | ppb | 92.27 | 900.00 | |
| 23 Na | 45 | 1 | 61.06 | 30.53 | ppb | 13.68 | 90000.00 | |
| 23 Na | 45 | 2 | 36.24 | 18.12 | ppb | 5.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 21.40 | 10.70 | ppb | 29.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.48 | 2.24 | ppb | 16.32 | 90000.00 | |
| 27 Al | 45 | 1 | 21.86 | 10.93 | ppb | 25.91 | 90000.00 | |
| 27 Al | 45 | 2 | 5.06 | 2.53 | ppb | 17.96 | 90000.00 | |
| 39 K | 45 | 1 | 29.46 | 14.73 | ppb | 13.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.46 | 17.73 | ppb | 8.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.78 | 0.39 | ppb | 15.30 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 1.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.20 | 0.10 | ppb | 5.75 | 900.00 | |
| 55 Mn | 45 | 2 | 0.44 | 0.22 | ppb | 5.55 | 900.00 | |
| 56 Fe | 45 | 2 | 8.10 | 4.05 | ppb | 10.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 22.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 34.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.59 | 0.30 | ppb | 1.00 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.19 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 0.59 | 0.29 | ppb | 4.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.04 | ppb | 159.48 | 900.00 | |
| 88 Sr | 103 | 1 | 0.09 | 0.04 | ppb | 9.96 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.21 | ppb | 22.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.04 | 0.02 | ppb | 16.54 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 171.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.30 | 0.15 | ppb | 5.78 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 9.41 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.04 | ppb | 20.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 9.75 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 15.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1471382 | 0.60 | 1541753 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3564395 | 0.21 | 3631305 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 456280 | 0.98 | 481685 | 94.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 775980 | 0.34 | 789766 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 181630 | 0.88 | 188977 | 96.1 | 70 | - | 130 |
| 103 Rh | 1 | 4391791 | 0.11 | 4377551 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 4688838 | 0.82 | 4716351 | 99.4 | 70 | - | 130 |
| 115 In | 2 | 1379203 | 1.36 | 1391932 | 99.1 | 70 | - | 130 |
| 159 Tb | 1 | 5792853 | 0.73 | 5566587 | 104.1 | 70 | - | 130 |
| 175 Lu | 1 | 5469284 | 0.48 | 5216106 | 104.9 | 70 | - | 130 |
| 209 Bi | 1 | 2945076 | 1.37 | 2810000 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#
Date Acquired: Apr 20 2013 02:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-8F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 54.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 3.37 | 900.00 | |
| 11 B | 6 | 1 | 28.20 | 14.10 | ppb | 1.59 | 900.00 | |
| 11 B | 45 | 2 | 27.06 | 13.53 | ppb | 6.99 | 900.00 | |
| 23 Na | 45 | 1 | 9714.00 | 4857.00 | ppb | 1.15 | 90000.00 | |
| 23 Na | 45 | 2 | 10084.00 | 5042.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 2618.00 | 1309.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 2 | 2766.00 | 1383.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 16.43 | 8.21 | ppb | 8.17 | 90000.00 | |
| 27 Al | 45 | 2 | 9.81 | 4.91 | ppb | 17.68 | 90000.00 | |
| 39 K | 45 | 1 | 3490.00 | 1745.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 23040.00 | 11520.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.68 | 0.84 | ppb | 1.75 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.86 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.11 | ppb | 5.57 | 900.00 | |
| 55 Mn | 45 | 2 | 1985.60 | 992.80 | ppb | 0.77 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 45360.00 | 22680.00 | ppb | 0.95 | 90000.00 | |
| 59 Co | 45 | 2 | 17.82 | 8.91 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 12.55 | 6.28 | ppb | 1.40 | 900.00 | |
| 63 Cu | 72 | 2 | 0.47 | 0.24 | ppb | 3.40 | 900.00 | |
| 66 Zn | 72 | 2 | 33.16 | 16.58 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 3078.00 | 1539.00 | ppb | 0.84 | 900.00 | >LDR |
| 78 Se | 72 | 2 | 0.20 | 0.10 | ppb | 61.79 | 900.00 | |
| 88 Sr | 103 | 1 | 167.64 | 83.82 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 13.53 | 6.77 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 15.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 22.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 3.04 | 900.00 | |
| 137 Ba | 159 | 1 | 16.39 | 8.20 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 3.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 9.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1395278 | 0.77 | 1541753 | 90.5 | 70 - 130 | |
| 45 Sc | 1 | 3515872 | 0.88 | 3631305 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 459866 | 1.19 | 481685 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 775929 | 0.99 | 789766 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 185417 | 1.05 | 188977 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 4219906 | 0.59 | 4377551 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 4677369 | 0.58 | 4716351 | 99.2 | 70 | - | 130 |
| 115 In | 2 | 1348223 | 0.78 | 1391932 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 5762682 | 0.64 | 5566587 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5420889 | 1.13 | 5216106 | 103.9 | 70 | - | 130 |
| 209 Bi | 1 | 2890552 | 1.62 | 2810000 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\028SMPL.D\028SMPL.D#
**Date Acquired:** Apr 20 2013 02:24 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-9F
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 47.35 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2577.80 | 900.00 | |
| 11 B | 6 | 1 | 24.18 | 12.09 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | 22.38 | 11.19 | ppb | 4.29 | 900.00 | |
| 23 Na | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.16 | 90000.00 | |
| 23 Na | 45 | 2 | 7312.00 | 3656.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 1391.80 | 695.90 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 1512.40 | 756.20 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 6.38 | 3.19 | ppb | 5.83 | 90000.00 | |
| 27 Al | 45 | 2 | 9.94 | 4.97 | ppb | 11.43 | 90000.00 | |
| 39 K | 45 | 1 | 2594.00 | 1297.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 14940.00 | 7470.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.42 | 0.71 | ppb | 7.98 | 900.00 | |
| 51 V | 45 | 2 | 1.85 | 0.92 | ppb | 2.22 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.13 | ppb | 7.75 | 900.00 | |
| 55 Mn | 45 | 2 | 3392.00 | 1696.00 | ppb | 0.49 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 13528.00 | 6764.00 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 7.61 | 3.81 | ppb | 1.50 | 900.00 | |
| 60 Ni | 45 | 2 | 6.01 | 3.01 | ppb | 2.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.21 | ppb | 4.04 | 900.00 | |
| 66 Zn | 72 | 2 | 27.38 | 13.69 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 1551.60 | 775.80 | ppb | 0.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 137.07 | 900.00 | |
| 88 Sr | 103 | 1 | 155.82 | 77.91 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 10.66 | 5.33 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 31.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 18.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 11.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 1.84 | 900.00 | |
| 137 Ba | 159 | 1 | 4.61 | 2.30 | ppb | 2.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1390154 | 2.03 | 1541753 | 90.2 | 70 - 130 | |
| 45 Sc | 1 | 3585812 | 0.40 | 3631305 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 462214 | 0.99 | 481685 | 96.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 790867 | 0.76 | 789766 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 185409 | 0.82 | 188977 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 4275232 | 0.42 | 4377551 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 4751360 | 0.52 | 4716351 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1382085 | 0.86 | 1391932 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5891243 | 1.09 | 5566587 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 5505278 | 0.02 | 5216106 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 2929022 | 0.66 | 2810000 | 104.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D#
**Date Acquired:** Apr 20 2013 02:31 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-10F
**Misc Info:**
**Vial Number:** 2208
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 49.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 182.51 | 900.00 | |
| 11 B | 6 | 1 | 27.22 | 13.61 | ppb | 0.33 | 900.00 | |
| 11 B | 45 | 2 | 25.82 | 12.91 | ppb | 8.02 | 900.00 | |
| 23 Na | 45 | 1 | 5298.00 | 2649.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 5556.00 | 2778.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 2314.00 | 1157.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 2494.00 | 1247.00 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 1 | 25.64 | 12.82 | ppb | 25.39 | 90000.00 | |
| 27 Al | 45 | 2 | 10.34 | 5.17 | ppb | 2.57 | 90000.00 | |
| 39 K | 45 | 1 | 2530.00 | 1265.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 24060.00 | 12030.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.54 | 0.77 | ppb | 6.70 | 900.00 | |
| 51 V | 45 | 2 | 1.82 | 0.91 | ppb | 1.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 3.99 | 900.00 | |
| 55 Mn | 45 | 2 | 2708.00 | 1354.00 | ppb | 0.51 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 3378.00 | 1689.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 2.36 | 1.18 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 5.91 | 2.96 | ppb | 0.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.46 | 0.23 | ppb | 3.64 | 900.00 | |
| 66 Zn | 72 | 2 | 16.94 | 8.47 | ppb | 0.79 | 900.00 | |
| 75 As | 72 | 2 | 84.96 | 42.48 | ppb | 0.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 406.49 | 900.00 | |
| 88 Sr | 103 | 1 | 112.48 | 56.24 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 8.06 | 4.03 | ppb | 1.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 28.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 13.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 4.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.36 | 0.18 | ppb | 2.78 | 900.00 | |
| 137 Ba | 159 | 1 | 6.44 | 3.22 | ppb | 2.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 23.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 17.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1385855 | 1.03 | 1541753 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 3621580 | 0.46 | 3631305 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 462926 | 0.30 | 481685 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 787629 | 0.58 | 789766 | 99.7 | 70 - | 130 |
| 72 | Ge | 2 | 186835 | 0.29 | 188977 | 98.9 | 70 - | 130 |
| 103 | Rh | 1 | 4351442 | 0.60 | 4377551 | 99.4 | 70 - | 130 |
| 115 | In | 1 | 4793937 | 0.71 | 4716351 | 101.6 | 70 - | 130 |
| 115 | In | 2 | 1409038 | 0.70 | 1391932 | 101.2 | 70 - | 130 |
| 159 | Tb | 1 | 5876358 | 0.33 | 5566587 | 105.6 | 70 - | 130 |
| 175 | Lu | 1 | 5543081 | 0.35 | 5216106 | 106.3 | 70 - | 130 |
| 209 | Bi | 1 | 2937753 | 0.67 | 2810000 | 104.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 20 2013 02:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-11F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 355.29 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 160.83 | 900.00 | |
| 11 B | 6 | 1 | 29.28 | 14.64 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 26.62 | 13.31 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 368800.00 | 184400.00 | ppb | 0.81 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2840.00 | 1420.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 3010.00 | 1505.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 6.93 | 3.47 | ppb | 5.05 | 90000.00 | |
| 27 Al | 45 | 2 | 7.77 | 3.89 | ppb | 24.37 | 90000.00 | |
| 39 K | 45 | 1 | 4242.00 | 2121.00 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 25980.00 | 12990.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.19 | 0.60 | ppb | 6.54 | 900.00 | |
| 51 V | 45 | 2 | 1.90 | 0.95 | ppb | 3.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 4.30 | 900.00 | |
| 55 Mn | 45 | 2 | 67.56 | 33.78 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 496.40 | 248.20 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 0.30 | 0.15 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 2.72 | 1.36 | ppb | 2.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.82 | 0.41 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 10.90 | 5.45 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 1.76 | 0.88 | ppb | 4.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.41 | 0.21 | ppb | 20.18 | 900.00 | |
| 88 Sr | 103 | 1 | 210.60 | 105.30 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 1.21 | 0.60 | ppb | 2.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 7.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 28.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 8.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.07 | ppb | 4.61 | 900.00 | |
| 137 Ba | 159 | 1 | 87.76 | 43.88 | ppb | 0.92 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 35.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 2.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1428643 | 0.20 | 1541753 | 92.7 | 70 - 130 | |
| 45 Sc | 1 | 3466248 | 0.54 | 3631305 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 440050 | 0.86 | 481685 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 744030 | 0.18 | 789766 | 94.2 | 70 | - | 130 |
| 72 Ge | 2 | 173061 | 0.71 | 188977 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 3998793 | 0.19 | 4377551 | 91.3 | 70 | - | 130 |
| 115 In | 1 | 4430961 | 0.28 | 4716351 | 93.9 | 70 | - | 130 |
| 115 In | 2 | 1319653 | 0.65 | 1391932 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 5609499 | 0.93 | 5566587 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 5302677 | 0.37 | 5216106 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 2706884 | 0.72 | 2810000 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 20 2013 02:45 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-12F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 39.66 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 181.99 | 900.00 | |
| 11 B | 6 | 1 | 0.37 | 0.18 | ppb | 4.59 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.14 | ppb | 41.68 | 900.00 | |
| 23 Na | 45 | 1 | 143.28 | 71.64 | ppb | 14.84 | 90000.00 | |
| 23 Na | 45 | 2 | 109.38 | 54.69 | ppb | 11.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 22.38 | 11.19 | ppb | 36.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 10.62 | 5.31 | ppb | 33.28 | 90000.00 | |
| 27 Al | 45 | 1 | 21.62 | 10.81 | ppb | 36.86 | 90000.00 | |
| 27 Al | 45 | 2 | 9.51 | 4.76 | ppb | 35.71 | 90000.00 | |
| 39 K | 45 | 1 | 41.94 | 20.97 | ppb | 17.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 60.18 | 30.09 | ppb | 20.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.87 | 0.44 | ppb | 22.37 | 900.00 | |
| 51 V | 45 | 2 | 1.94 | 0.97 | ppb | 1.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 11.90 | 900.00 | |
| 55 Mn | 45 | 2 | 0.70 | 0.35 | ppb | 14.73 | 900.00 | |
| 56 Fe | 45 | 2 | 13.34 | 6.67 | ppb | 29.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 48.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.14 | 0.07 | ppb | 7.93 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 1.50 | 900.00 | |
| 66 Zn | 72 | 2 | 6.83 | 3.42 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 0.72 | 0.36 | ppb | 3.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.10 | ppb | 28.15 | 900.00 | |
| 88 Sr | 103 | 1 | 0.12 | 0.06 | ppb | 28.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.38 | 0.19 | ppb | 39.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 27.38 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 52.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 3.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 4.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 17.76 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 133.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 19.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1500990 | 0.77 | 1541753 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 3643341 | 1.85 | 3631305 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 468363 | 0.68 | 481685 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 798669 | 1.02 | 789766 | 101.1 | 70 | - | 130 |
| 72 | Ge | 2 | 187401 | 0.22 | 188977 | 99.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4527614 | 0.99 | 4377551 | 103.4 | 70 | - | 130 |
| 115 | In | 1 | 4798598 | 1.10 | 4716351 | 101.7 | 70 | - | 130 |
| 115 | In | 2 | 1421184 | 1.49 | 1391932 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5920034 | 1.54 | 5566587 | 106.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5527771 | 2.23 | 5216106 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3023255 | 0.45 | 2810000 | 107.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 20 2013 02:52 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-B1
**Misc Info:**
**Vial Number:** 2211
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.40 | 24.62 | ppb | 1.42 | 900.00 | |
| 9 Be | 45 | 2 | 496.60 | 24.83 | ppb | 0.36 | 900.00 | |
| 11 B | 6 | 1 | 0.90 | 0.04 | ppb | 18.30 | 900.00 | |
| 11 B | 45 | 2 | 1.84 | 0.09 | ppb | 104.68 | 900.00 | |
| 23 Na | 45 | 1 | 27500.00 | 1375.00 | ppb | 1.67 | 90000.00 | |
| 23 Na | 45 | 2 | 27580.00 | 1379.00 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 26940.00 | 1347.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 27800.00 | 1390.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 2388.00 | 119.40 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 2 | 2326.00 | 116.30 | ppb | 1.14 | 90000.00 | |
| 39 K | 45 | 1 | 26920.00 | 1346.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 27580.00 | 1379.00 | ppb | 1.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 489.20 | 24.46 | ppb | 0.46 | 900.00 | |
| 51 V | 45 | 2 | 524.00 | 26.20 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 507.80 | 25.39 | ppb | 0.42 | 900.00 | |
| 55 Mn | 45 | 2 | 502.80 | 25.14 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 2290.00 | 114.50 | ppb | 1.15 | 90000.00 | |
| 59 Co | 45 | 2 | 521.40 | 26.07 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 0.69 | 900.00 | |
| 63 Cu | 72 | 2 | 491.20 | 24.56 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 532.20 | 26.61 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 518.00 | 25.90 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 521.20 | 26.06 | ppb | 0.58 | 900.00 | |
| 88 Sr | 103 | 1 | 505.20 | 25.26 | ppb | 1.59 | 900.00 | |
| 98 Mo | 103 | 1 | 3.61 | 0.18 | ppb | 6.64 | 900.00 | |
| 107 Ag | 115 | 1 | 207.20 | 10.36 | ppb | 0.62 | 180.00 | |
| 111 Cd | 115 | 2 | 505.40 | 25.27 | ppb | 1.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.02 | ppb | 23.36 | 900.00 | |
| 121 Sb | 115 | 1 | 514.40 | 25.72 | ppb | 0.97 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 483.20 | 24.16 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1022.00 | 51.10 | ppb | 1.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1683897 | 1.34 | 1541753 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 3797903 | 0.95 | 3631305 | 104.6 | 70 - 130 | |
| 45 Sc | 2 | 474295 | 0.24 | 481685 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 821985 | 0.75 | 789766 | 104.1 | 70 | - | 130 |
| 72 Ge | 2 | 191997 | 0.16 | 188977 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 4630468 | 0.66 | 4377551 | 105.8 | 70 | - | 130 |
| 115 In | 1 | 4989146 | 0.26 | 4716351 | 105.8 | 70 | - | 130 |
| 115 In | 2 | 1443499 | 0.77 | 1391932 | 103.7 | 70 | - | 130 |
| 159 Tb | 1 | 6026114 | 0.62 | 5566587 | 108.3 | 70 | - | 130 |
| 175 Lu | 1 | 5652955 | 0.86 | 5216106 | 108.4 | 70 | - | 130 |
| 209 Bi | 1 | 3034109 | 0.63 | 2810000 | 108.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Apr 20 2013 02:59 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-S1
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 496.80 | 24.84 | ppb | 1.51 | 900.00 | |
| 9 Be | 45 | 2 | 525.60 | 26.28 | ppb | 0.25 | 900.00 | |
| 11 B | 6 | 1 | 22.84 | 1.14 | ppb | 2.57 | 900.00 | |
| 11 B | 45 | 2 | 20.28 | 1.01 | ppb | 29.87 | 900.00 | |
| 23 Na | 45 | 1 | 303600.00 | 15180.00 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 300000.00 | 15000.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 31580.00 | 1579.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 32020.00 | 1601.00 | ppb | 0.07 | 90000.00 | |
| 27 Al | 45 | 1 | 2370.00 | 118.50 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2328.00 | 116.40 | ppb | 1.45 | 90000.00 | |
| 39 K | 45 | 1 | 31860.00 | 1593.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 65840.00 | 3292.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.00 | 24.55 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 521.60 | 26.08 | ppb | 0.22 | 900.00 | |
| 52 Cr | 45 | 2 | 498.40 | 24.92 | ppb | 0.13 | 900.00 | |
| 55 Mn | 45 | 2 | 564.80 | 28.24 | ppb | 0.75 | 900.00 | |
| 56 Fe | 45 | 2 | 2404.00 | 120.20 | ppb | 1.68 | 90000.00 | |
| 59 Co | 45 | 2 | 514.60 | 25.73 | ppb | 0.29 | 900.00 | |
| 60 Ni | 45 | 2 | 504.20 | 25.21 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 486.00 | 24.30 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 565.40 | 28.27 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 516.60 | 25.83 | ppb | 0.69 | 900.00 | |
| 78 Se | 72 | 2 | 511.80 | 25.59 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 723.80 | 36.19 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 3.71 | 0.19 | ppb | 17.18 | 900.00 | |
| 107 Ag | 115 | 1 | 204.80 | 10.24 | ppb | 0.49 | 180.00 | |
| 111 Cd | 115 | 2 | 499.20 | 24.96 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.01 | ppb | 53.13 | 900.00 | |
| 121 Sb | 115 | 1 | 518.60 | 25.93 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 2132.00 | 106.60 | ppb | 0.36 | 900.00 | |
| 205 Tl | 209 | 1 | 476.20 | 23.81 | ppb | 0.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1016.60 | 50.83 | ppb | 0.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1707219 | 1.36 | 1541753 | 110.7 | 70 - 130 | |
| 45 Sc | 1 | 3726595 | 0.87 | 3631305 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 459799 | 0.60 | 481685 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 804561 | 0.80 | 789766 | 101.9 | 70 | - | 130 |
| 72 | Ge | 2 | 187122 | 1.11 | 188977 | 99.0 | 70 | - | 130 |
| 103 | Rh | 1 | 4462619 | 0.81 | 4377551 | 101.9 | 70 | - | 130 |
| 115 | In | 1 | 4839516 | 0.31 | 4716351 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1415835 | 1.08 | 1391932 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5875231 | 0.67 | 5566587 | 105.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5480550 | 0.91 | 5216106 | 105.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2944998 | 0.56 | 2810000 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 03:06 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20808-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.00 | 24.60 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 519.00 | 25.95 | ppb | 1.97 | 900.00 | |
| 11 B | 6 | 1 | 21.50 | 1.08 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 19.96 | 1.00 | ppb | 18.84 | 900.00 | |
| 23 Na | 45 | 1 | 303600.00 | 15180.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 296000.00 | 14800.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 31800.00 | 1590.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 31700.00 | 1585.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | 2308.00 | 115.40 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 2 | 2280.00 | 114.00 | ppb | 1.17 | 90000.00 | |
| 39 K | 45 | 1 | 31520.00 | 1576.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 65440.00 | 3272.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 485.00 | 24.25 | ppb | 0.56 | 900.00 | |
| 51 V | 45 | 2 | 518.00 | 25.90 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 495.20 | 24.76 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 557.00 | 27.85 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 2394.00 | 119.70 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 510.20 | 25.51 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 495.80 | 24.79 | ppb | 0.24 | 900.00 | |
| 63 Cu | 72 | 2 | 483.20 | 24.16 | ppb | 0.16 | 900.00 | |
| 66 Zn | 72 | 2 | 563.20 | 28.16 | ppb | 0.43 | 900.00 | |
| 75 As | 72 | 2 | 513.60 | 25.68 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 506.00 | 25.30 | ppb | 0.19 | 900.00 | |
| 88 Sr | 103 | 1 | 726.60 | 36.33 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 2.30 | 0.11 | ppb | 3.17 | 900.00 | |
| 107 Ag | 115 | 1 | 204.20 | 10.21 | ppb | 1.14 | 180.00 | |
| 111 Cd | 115 | 2 | 499.20 | 24.96 | ppb | 1.31 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 35.55 | 900.00 | |
| 121 Sb | 115 | 1 | 519.00 | 25.95 | ppb | 0.89 | 900.00 | |
| 137 Ba | 159 | 1 | 2140.00 | 107.00 | ppb | 0.29 | 900.00 | |
| 205 Tl | 209 | 1 | 474.60 | 23.73 | ppb | 2.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.80 | 50.59 | ppb | 0.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1724946 | 0.52 | 1541753 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 3723354 | 0.88 | 3631305 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 459126 | 0.34 | 481685 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 800791 | 1.07 | 789766 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 185971 | 0.24 | 188977 | 98.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4388598 | 0.02 | 4377551 | 100.3 | 70 | - | 130 |
| 115 | In | 1 | 4783476 | 0.99 | 4716351 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 1397078 | 1.40 | 1391932 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5836696 | 0.20 | 5566587 | 104.9 | 70 | - | 130 |
| 175 | Lu | 1 | 5458317 | 0.21 | 5216106 | 104.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2936272 | 0.67 | 2810000 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#
**Date Acquired:** Apr 20 2013 03:13 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20808-SD1
**Misc Info:**
**Vial Number:** 2302
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.13 | 0.01 | ppb | 10.03 | 900.00 | |
| 9 Be | 45 | 2 | 0.30 | 0.03 | ppb | 43.14 | 900.00 | |
| 11 B | 6 | 1 | 20.82 | 2.08 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 22.60 | 2.26 | ppb | 14.31 | 900.00 | |
| 23 Na | 45 | 1 | 275000.00 | 27500.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 265300.00 | 26530.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 4922.00 | 492.20 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 4971.00 | 497.10 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 55.48 | 5.55 | ppb | 17.82 | 90000.00 | |
| 27 Al | 45 | 2 | 34.77 | 3.48 | ppb | 12.55 | 90000.00 | |
| 39 K | 45 | 1 | 5458.00 | 545.80 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 38280.00 | 3828.00 | ppb | 0.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.08 | 0.21 | ppb | 8.72 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | 0.00 | ppb | 353.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.12 | -0.01 | ppb | 29.48 | 900.00 | |
| 55 Mn | 45 | 2 | 66.30 | 6.63 | ppb | 0.74 | 900.00 | |
| 56 Fe | 45 | 2 | 155.80 | 15.58 | ppb | 4.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.98 | 0.10 | ppb | 2.45 | 900.00 | |
| 60 Ni | 45 | 2 | 6.79 | 0.68 | ppb | 2.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.09 | 0.11 | ppb | 3.48 | 900.00 | |
| 66 Zn | 72 | 2 | 41.38 | 4.14 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.05 | ppb | 24.38 | 900.00 | |
| 78 Se | 72 | 2 | -0.23 | -0.02 | ppb | 402.31 | 900.00 | |
| 88 Sr | 103 | 1 | 222.90 | 22.29 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 1.27 | 0.13 | ppb | 12.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.01 | ppb | 9.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.02 | ppb | 21.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.02 | ppb | 17.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.38 | 0.04 | ppb | 10.17 | 900.00 | |
| 137 Ba | 159 | 1 | 124.70 | 12.47 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 1.29 | 0.13 | ppb | 1.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.02 | ppb | 9.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1708069 | 1.03 | 1541753 | 110.8 | 70 - 130 | |
| 45 Sc | 1 | 3657472 | 0.67 | 3631305 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 458652 | 0.38 | 481685 | 95.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 803675 | 0.60 | 789766 | 101.8 | 70 | - | 130 |
| 72 | Ge | 2 | 185632 | 0.12 | 188977 | 98.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4361566 | 0.49 | 4377551 | 99.6 | 70 | - | 130 |
| 115 | In | 1 | 4762589 | 0.74 | 4716351 | 101.0 | 70 | - | 130 |
| 115 | In | 2 | 1381817 | 2.07 | 1391932 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5790600 | 1.13 | 5566587 | 104.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5416066 | 0.37 | 5216106 | 103.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2912233 | 0.91 | 2810000 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D#
**Date Acquired:** Apr 20 2013 03:21 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2303
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.13 | 50.13 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 51.36 | 51.36 | ppb | 2.71 | 900.00 | |
| 11 B | 6 | 1 | 49.24 | 49.24 | ppb | 1.98 | 900.00 | |
| 11 B | 45 | 2 | 50.16 | 50.16 | ppb | 2.26 | 900.00 | |
| 23 Na | 45 | 1 | 5219.00 | 5219.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 5195.00 | 5195.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 5194.00 | 5194.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5189.00 | 5189.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 5162.00 | 5162.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 2 | 5176.00 | 5176.00 | ppb | 1.19 | 90000.00 | |
| 39 K | 45 | 1 | 5134.00 | 5134.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 5273.00 | 5273.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.54 | 49.54 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 50.64 | 50.64 | ppb | 0.33 | 900.00 | |
| 52 Cr | 45 | 2 | 49.63 | 49.63 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 49.39 | 49.39 | ppb | 0.79 | 900.00 | |
| 56 Fe | 45 | 2 | 5224.00 | 5224.00 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 49.70 | 49.70 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 48.87 | 48.87 | ppb | 0.88 | 900.00 | |
| 63 Cu | 72 | 2 | 47.72 | 47.72 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 49.49 | 49.49 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 49.87 | 49.87 | ppb | 0.13 | 900.00 | |
| 78 Se | 72 | 2 | 49.98 | 49.98 | ppb | 0.96 | 900.00 | |
| 88 Sr | 103 | 1 | 51.53 | 51.53 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 50.18 | 50.18 | ppb | 0.77 | 900.00 | |
| 107 Ag | 115 | 1 | 50.26 | 50.26 | ppb | 1.34 | 180.00 | |
| 111 Cd | 115 | 2 | 49.61 | 49.61 | ppb | 1.22 | 900.00 | |
| 120 Sn | 115 | 1 | 50.72 | 50.72 | ppb | 0.39 | 900.00 | |
| 121 Sb | 115 | 1 | 51.45 | 51.45 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 49.26 | 49.26 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 48.39 | 48.39 | ppb | 1.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.40 | 50.40 | ppb | 0.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1659268 | 0.82 | 1541753 | 107.6 | 70 - 130 | |
| 45 Sc | 1 | 3719132 | 0.69 | 3631305 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 460259 | 1.06 | 481685 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 789991 | 1.06 | 789766 | 100.0 | 70 | - | 130 |
| 72 Ge | 2 | 184245 | 0.56 | 188977 | 97.5 | 70 | - | 130 |
| 103 Rh | 1 | 4384780 | 1.10 | 4377551 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 4773999 | 0.76 | 4716351 | 101.2 | 70 | - | 130 |
| 115 In | 2 | 1375227 | 1.81 | 1391932 | 98.8 | 70 | - | 130 |
| 159 Tb | 1 | 5845342 | 0.89 | 5566587 | 105.0 | 70 | - | 130 |
| 175 Lu | 1 | 5477232 | 1.14 | 5216106 | 105.0 | 70 | - | 130 |
| 209 Bi | 1 | 2912504 | 0.68 | 2810000 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#
**Date Acquired:** Apr 20 2013 03:28 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2304
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 44.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 56.57 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 18.65 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 34.11 | 900.00 | |
| 23 Na | 45 | 1 | 25.97 | 25.97 | ppb | 4.42 | 90000.00 | |
| 23 Na | 45 | 2 | 24.44 | 24.44 | ppb | 9.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.38 | 4.38 | ppb | 7.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.17 | 4.17 | ppb | 24.93 | 90000.00 | |
| 27 Al | 45 | 1 | 4.02 | 4.02 | ppb | 7.65 | 90000.00 | |
| 27 Al | 45 | 2 | 3.89 | 3.89 | ppb | 16.33 | 90000.00 | |
| 39 K | 45 | 1 | 7.59 | 7.59 | ppb | 7.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.61 | 11.61 | ppb | 9.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 17.60 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 15.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 39.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.07 | 0.07 | ppb | 19.91 | 900.00 | |
| 56 Fe | 45 | 2 | 4.51 | 4.51 | ppb | 19.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 30.45 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 16.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 11.61 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 2.89 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 9.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 114.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 4.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.14 | ppb | 11.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 9.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 13.77 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.18 | ppb | 5.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 20.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 12.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 1.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 10.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1688502 | 0.75 | 1541753 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 3673303 | 0.35 | 3631305 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 463858 | 0.48 | 481685 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 800918 | 0.22 | 789766 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 186820 | 0.15 | 188977 | 98.9 | 70 | - | 130 |
| 103 | Rh | 1 | 4524691 | 0.44 | 4377551 | 103.4 | 70 | - | 130 |
| 115 | In | 1 | 4826781 | 0.98 | 4716351 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 1421061 | 0.77 | 1391932 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5869447 | 0.61 | 5566587 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5514386 | 0.99 | 5216106 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 3025583 | 0.09 | 2810000 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 20 2013 03:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20808-PS1
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.21 | 8.61 | ppb | 0.46 | 900.00 | |
| 9 Be | 45 | 2 | 17.62 | 8.81 | ppb | 2.76 | 900.00 | |
| 11 B | 6 | 1 | 37.58 | 18.79 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 36.62 | 18.31 | ppb | 3.20 | 900.00 | |
| 23 Na | 45 | 1 | 217600.00 | 108800.00 | ppb | 1.55 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 223400.00 | 111700.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 3866.00 | 1933.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 4038.00 | 2019.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 39.06 | 19.53 | ppb | 2.44 | 90000.00 | |
| 27 Al | 45 | 2 | 35.46 | 17.73 | ppb | 1.56 | 90000.00 | |
| 39 K | 45 | 1 | 4392.00 | 2196.00 | ppb | 0.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 31100.00 | 15550.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.86 | 8.93 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 18.99 | 9.50 | ppb | 0.46 | 900.00 | |
| 52 Cr | 45 | 2 | 16.95 | 8.47 | ppb | 0.71 | 900.00 | |
| 55 Mn | 45 | 2 | 70.50 | 35.25 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 136.88 | 68.44 | ppb | 0.44 | 90000.00 | |
| 59 Co | 45 | 2 | 17.30 | 8.65 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 21.30 | 10.65 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 16.70 | 8.35 | ppb | 0.49 | 900.00 | |
| 66 Zn | 72 | 2 | 52.64 | 26.32 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 17.82 | 8.91 | ppb | 0.16 | 900.00 | |
| 78 Se | 72 | 2 | 16.37 | 8.18 | ppb | 0.76 | 900.00 | |
| 88 Sr | 103 | 1 | 201.60 | 100.80 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 18.68 | 9.34 | ppb | 0.19 | 900.00 | |
| 107 Ag | 115 | 1 | 16.54 | 8.27 | ppb | 0.46 | 180.00 | |
| 111 Cd | 115 | 2 | 16.21 | 8.11 | ppb | 1.91 | 900.00 | |
| 120 Sn | 115 | 1 | 17.58 | 8.79 | ppb | 0.60 | 900.00 | |
| 121 Sb | 115 | 1 | 17.32 | 8.66 | ppb | 0.51 | 900.00 | |
| 137 Ba | 159 | 1 | 118.98 | 59.49 | ppb | 1.12 | 900.00 | |
| 205 Tl | 209 | 1 | 16.56 | 8.28 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.26 | 8.63 | ppb | 1.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1523267 | 0.79 | 1541753 | 98.8 | 70 - 130 | |
| 45 Sc | 1 | 3526273 | 0.94 | 3631305 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 440152 | 0.85 | 481685 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 756408 | 0.26 | 789766 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 174700 | 0.41 | 188977 | 92.4 | 70 | - | 130 |
| 103 Rh | 1 | 4098505 | 0.19 | 4377551 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 4563580 | 0.13 | 4716351 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 1331908 | 0.38 | 1391932 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 5637054 | 1.14 | 5566587 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 5330438 | 0.58 | 5216106 | 102.2 | 70 | - | 130 |
| 209 Bi | 1 | 2757850 | 1.44 | 2810000 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 03:42 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19884-5F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.01 | ppb | 47.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.01 | ppb | 167.49 | 900.00 | |
| 11 B | 6 | 1 | 22.67 | 2.27 | ppb | 1.56 | 900.00 | |
| 11 B | 45 | 2 | 25.23 | 2.52 | ppb | 4.23 | 900.00 | |
| 23 Na | 45 | 1 | 89720.00 | 8972.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 87640.00 | 8764.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 3183.00 | 318.30 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 3229.00 | 322.90 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 44.29 | 4.43 | ppb | 28.83 | 90000.00 | |
| 27 Al | 45 | 2 | 29.72 | 2.97 | ppb | 19.33 | 90000.00 | |
| 39 K | 45 | 1 | 3534.00 | 353.40 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 23700.00 | 2370.00 | ppb | 0.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.16 | 0.22 | ppb | 7.83 | 900.00 | |
| 51 V | 45 | 2 | 0.32 | 0.03 | ppb | 10.32 | 900.00 | |
| 52 Cr | 45 | 2 | -0.22 | -0.02 | ppb | 5.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1199.00 | 119.90 | ppb | 0.88 | 900.00 | |
| 56 Fe | 45 | 2 | 6087.00 | 608.70 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 13.52 | 1.35 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 17.04 | 1.70 | ppb | 2.49 | 900.00 | |
| 63 Cu | 72 | 2 | 0.67 | 0.07 | ppb | 6.80 | 900.00 | |
| 66 Zn | 72 | 2 | 10.38 | 1.04 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 235.60 | 23.56 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 1.65 | 0.17 | ppb | 28.00 | 900.00 | |
| 88 Sr | 103 | 1 | 191.00 | 19.10 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.14 | ppb | 14.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.01 | ppb | 21.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.02 | ppb | 38.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.01 | ppb | 54.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.02 | ppb | 8.20 | 900.00 | |
| 137 Ba | 159 | 1 | 44.84 | 4.48 | ppb | 2.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.04 | ppb | 6.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.01 | ppb | 32.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1683961 | 1.22 | 1541753 | 109.2 | 70 - 130 | |
| 45 Sc | 1 | 3693803 | 0.71 | 3631305 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 461209 | 0.45 | 481685 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 804430 | 0.18 | 789766 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 186383 | 0.36 | 188977 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 4456339 | 0.72 | 4377551 | 101.8 | 70 | - | 130 |
| 115 In | 1 | 4870874 | 0.81 | 4716351 | 103.3 | 70 | - | 130 |
| 115 In | 2 | 1418988 | 0.59 | 1391932 | 101.9 | 70 | - | 130 |
| 159 Tb | 1 | 5921391 | 0.29 | 5566587 | 106.4 | 70 | - | 130 |
| 175 Lu | 1 | 5557023 | 0.22 | 5216106 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 2994269 | 1.49 | 2810000 | 106.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#
Date Acquired: Apr 20 2013 03:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-6F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.12 | 0.01 | ppb | 27.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.01 | ppb | 56.58 | 900.00 | |
| 11 B | 6 | 1 | 21.85 | 2.19 | ppb | 5.04 | 900.00 | |
| 11 B | 45 | 2 | 20.32 | 2.03 | ppb | 7.59 | 900.00 | |
| 23 Na | 45 | 1 | 89670.00 | 8967.00 | ppb | 1.35 | 90000.00 | |
| 23 Na | 45 | 2 | 88930.00 | 8893.00 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 3252.00 | 325.20 | ppb | 1.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 3315.00 | 331.50 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 84.67 | 8.47 | ppb | 15.58 | 90000.00 | |
| 27 Al | 45 | 2 | 35.64 | 3.56 | ppb | 21.16 | 90000.00 | |
| 39 K | 45 | 1 | 3546.00 | 354.60 | ppb | 1.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 23680.00 | 2368.00 | ppb | 1.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.78 | 0.28 | ppb | 10.28 | 900.00 | |
| 51 V | 45 | 2 | 0.23 | 0.02 | ppb | 18.36 | 900.00 | |
| 52 Cr | 45 | 2 | -0.25 | -0.03 | ppb | 5.54 | 900.00 | |
| 55 Mn | 45 | 2 | 1234.00 | 123.40 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 6268.00 | 626.80 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 14.02 | 1.40 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 16.98 | 1.70 | ppb | 0.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.53 | 0.05 | ppb | 13.31 | 900.00 | |
| 66 Zn | 72 | 2 | 9.42 | 0.94 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 243.90 | 24.39 | ppb | 0.73 | 900.00 | |
| 78 Se | 72 | 2 | -0.67 | -0.07 | ppb | 56.07 | 900.00 | |
| 88 Sr | 103 | 1 | 193.60 | 19.36 | ppb | 0.23 | 900.00 | |
| 98 Mo | 103 | 1 | 2.00 | 0.20 | ppb | 10.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.17 | 0.02 | ppb | 17.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 63.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.02 | ppb | 9.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.02 | ppb | 10.50 | 900.00 | |
| 137 Ba | 159 | 1 | 45.08 | 4.51 | ppb | 0.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.02 | ppb | 12.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 15.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1696914 | 0.21 | 1541753 | 110.1 | 70 - 130 | |
| 45 Sc | 1 | 3709575 | 1.81 | 3631305 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 457764 | 0.41 | 481685 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 807716 | 0.63 | 789766 | 102.3 | 70 | - | 130 |
| 72 Ge | 2 | 184862 | 0.82 | 188977 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 4477561 | 0.92 | 4377551 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 4880694 | 0.04 | 4716351 | 103.5 | 70 | - | 130 |
| 115 In | 2 | 1425567 | 0.30 | 1391932 | 102.4 | 70 | - | 130 |
| 159 Tb | 1 | 5856762 | 0.72 | 5566587 | 105.2 | 70 | - | 130 |
| 175 Lu | 1 | 5522995 | 0.72 | 5216106 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 3037639 | 0.83 | 2810000 | 108.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Apr 20 2013 03:56 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19884-8F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2308 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 20 2013 12:12 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 100.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 100.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.00 | ppb | 271.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.36 | 0.00 | ppb | 297.87 | 900.00 | |
| 11 B | 6 | 1 | 17.70 | 0.18 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 23.69 | 0.24 | ppb | 39.08 | 900.00 | |
| 23 Na | 45 | 1 | 14790.00 | 147.90 | ppb | 2.66 | 90000.00 | |
| 23 Na | 45 | 2 | 14280.00 | 142.80 | ppb | 1.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 3425.00 | 34.25 | ppb | 3.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 3163.00 | 31.63 | ppb | 0.14 | 90000.00 | |
| 27 Al | 45 | 1 | 366.90 | 3.67 | ppb | 26.58 | 90000.00 | |
| 27 Al | 45 | 2 | 124.40 | 1.24 | ppb | 10.56 | 90000.00 | |
| 39 K | 45 | 1 | 4037.00 | 40.37 | ppb | 7.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 24840.00 | 248.40 | ppb | 2.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 7.68 | 0.08 | ppb | 8.78 | 900.00 | |
| 51 V | 45 | 2 | -27.06 | -0.27 | ppb | 1.00 | 900.00 | |
| 52 Cr | 45 | 2 | -7.30 | -0.07 | ppb | 4.23 | 900.00 | |
| 55 Mn | 45 | 2 | 2192.00 | 21.92 | ppb | 0.05 | 900.00 | |
| 56 Fe | 45 | 2 | 45790.00 | 457.90 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 18.79 | 0.19 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 18.04 | 0.18 | ppb | 7.07 | 900.00 | |
| 63 Cu | 72 | 2 | 1.75 | 0.02 | ppb | 13.22 | 900.00 | |
| 66 Zn | 72 | 2 | 43.34 | 0.43 | ppb | 2.08 | 900.00 | |
| 75 As | 72 | 2 | 3375.00 | 33.75 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 2.32 | 0.02 | ppb | 150.71 | 900.00 | |
| 88 Sr | 103 | 1 | 174.50 | 1.75 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 13.49 | 0.13 | ppb | 8.72 | 900.00 | |
| 107 Ag | 115 | 1 | 0.46 | 0.00 | ppb | 30.63 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.00 | ppb | 342.85 | 900.00 | |
| 120 Sn | 115 | 1 | 1.25 | 0.01 | ppb | 23.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.00 | ppb | 109.70 | 900.00 | |
| 137 Ba | 159 | 1 | 18.47 | 0.18 | ppb | 5.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.36 | 0.00 | ppb | 41.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.01 | ppb | 75.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795300 | 1.01 | 1541753 | 116.4 | 70 - 130 | |
| 45 Sc | 1 | 3791558 | 0.92 | 3631305 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 472246 | 0.87 | 481685 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 818775 | 0.56 | 789766 | 103.7 | 70 | - | 130 |
| 72 | Ge | 2 | 190599 | 0.74 | 188977 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 4565718 | 0.74 | 4377551 | 104.3 | 70 | - | 130 |
| 115 | In | 1 | 4930378 | 0.40 | 4716351 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1448252 | 1.95 | 1391932 | 104.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5917699 | 0.36 | 5566587 | 106.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5526483 | 0.85 | 5216106 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2921395 | 1.94 | 2810000 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#
Date Acquired: Apr 20 2013 04:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-9F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.34 | 0.00 | ppb | 122.56 | 900.00 | |
| 9 Be | 45 | 2 | -0.36 | 0.00 | ppb | 176.79 | 900.00 | |
| 11 B | 6 | 1 | 14.34 | 0.14 | ppb | 20.55 | 900.00 | |
| 11 B | 45 | 2 | 25.68 | 0.26 | ppb | 47.86 | 900.00 | |
| 23 Na | 45 | 1 | 10940.00 | 109.40 | ppb | 8.43 | 90000.00 | |
| 23 Na | 45 | 2 | 10740.00 | 107.40 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 2037.00 | 20.37 | ppb | 12.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1915.00 | 19.15 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 322.70 | 3.23 | ppb | 73.51 | 90000.00 | |
| 27 Al | 45 | 2 | 206.40 | 2.06 | ppb | 11.87 | 90000.00 | |
| 39 K | 45 | 1 | 3308.00 | 33.08 | ppb | 7.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 18900.00 | 189.00 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.18 | 0.05 | ppb | 101.56 | 900.00 | |
| 51 V | 45 | 2 | -26.74 | -0.27 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | -7.44 | -0.07 | ppb | 0.98 | 900.00 | |
| 55 Mn | 45 | 2 | 3755.00 | 37.55 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 13610.00 | 136.10 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 8.00 | 0.08 | ppb | 4.83 | 900.00 | |
| 60 Ni | 45 | 2 | 8.61 | 0.09 | ppb | 8.13 | 900.00 | |
| 63 Cu | 72 | 2 | 2.90 | 0.03 | ppb | 5.58 | 900.00 | |
| 66 Zn | 72 | 2 | 583.70 | 5.84 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 1645.00 | 16.45 | ppb | 0.84 | 900.00 | |
| 78 Se | 72 | 2 | 2.07 | 0.02 | ppb | 345.62 | 900.00 | |
| 88 Sr | 103 | 1 | 163.60 | 1.64 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 11.73 | 0.12 | ppb | 37.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.31 | 0.00 | ppb | 89.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.00 | ppb | 321.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.39 | 0.00 | ppb | 81.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.00 | ppb | 442.41 | 900.00 | |
| 137 Ba | 159 | 1 | 7.05 | 0.07 | ppb | 12.42 | 900.00 | |
| 205 Tl | 209 | 1 | -0.67 | -0.01 | ppb | 79.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.71 | 0.01 | ppb | 83.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1805004 | 1.43 | 1541753 | 117.1 | 70 - 130 | |
| 45 Sc | 1 | 3785050 | 0.09 | 3631305 | 104.2 | 70 - 130 | |
| 45 Sc | 2 | 470123 | 0.41 | 481685 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 812636 | 0.69 | 789766 | 102.9 | 70 | - | 130 |
| 72 Ge | 2 | 188719 | 0.48 | 188977 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 4534220 | 0.33 | 4377551 | 103.6 | 70 | - | 130 |
| 115 In | 1 | 4888370 | 0.54 | 4716351 | 103.6 | 70 | - | 130 |
| 115 In | 2 | 1426495 | 0.66 | 1391932 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 5896234 | 0.31 | 5566587 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 5478669 | 0.62 | 5216106 | 105.0 | 70 | - | 130 |
| 209 Bi | 1 | 2892850 | 1.27 | 2810000 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D#
Date Acquired: Apr 20 2013 04:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.53 | 0.53 | ppb | 5.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.54 | 0.54 | ppb | 8.40 | 900.00 | |
| 11 B | 6 | 1 | 4.84 | 4.84 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | 5.12 | 5.12 | ppb | 11.24 | 900.00 | |
| 23 Na | 45 | 1 | 328.60 | 328.60 | ppb | 6.80 | 90000.00 | |
| 23 Na | 45 | 2 | 314.50 | 314.50 | ppb | 3.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 279.20 | 279.20 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.10 | 285.10 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 1 | 42.07 | 42.07 | ppb | 15.60 | 90000.00 | |
| 27 Al | 45 | 2 | 34.15 | 34.15 | ppb | 6.55 | 90000.00 | |
| 39 K | 45 | 1 | 280.00 | 280.00 | ppb | 2.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 296.60 | 296.60 | ppb | 2.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 1.33 | ppb | 8.55 | 900.00 | |
| 51 V | 45 | 2 | 1.07 | 1.07 | ppb | 1.68 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 1.35 | 1.35 | ppb | 3.72 | 900.00 | |
| 56 Fe | 45 | 2 | 39.97 | 39.97 | ppb | 6.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 2.76 | 900.00 | |
| 63 Cu | 72 | 2 | 3.77 | 3.77 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 6.59 | 6.59 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.58 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.45 | 0.45 | ppb | 8.69 | 900.00 | |
| 88 Sr | 103 | 1 | 5.17 | 5.17 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 1.28 | ppb | 8.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.58 | 0.58 | ppb | 3.35 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 6.54 | 900.00 | |
| 120 Sn | 115 | 1 | 4.86 | 4.86 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.58 | 0.58 | ppb | 2.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.84 | 1.84 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 1.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.57 | 0.57 | ppb | 1.96 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1659536 | 0.96 | 1541753 | 107.6 | 70 - 130 | |
| 45 Sc | 1 | 3713483 | 0.83 | 3631305 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 461597 | 0.58 | 481685 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 802924 | 1.48 | 789766 | 101.7 | 70 | - | 130 |
| 72 Ge | 2 | 185204 | 0.55 | 188977 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 4488388 | 0.36 | 4377551 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 4841043 | 0.82 | 4716351 | 102.6 | 70 | - | 130 |
| 115 In | 2 | 1409541 | 1.16 | 1391932 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5871071 | 0.53 | 5566587 | 105.5 | 70 | - | 130 |
| 175 Lu | 1 | 5460627 | 0.18 | 5216106 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 2937529 | 0.67 | 2810000 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#
Date Acquired: Apr 20 2013 04:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 20 2013 12:12 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.78 | 49.78 | ppb | 1.68 | 900.00 | |
| 9 Be | 45 | 2 | 52.57 | 52.57 | ppb | 1.90 | 900.00 | |
| 11 B | 6 | 1 | 49.28 | 49.28 | ppb | 1.06 | 900.00 | |
| 11 B | 45 | 2 | 51.79 | 51.79 | ppb | 2.33 | 900.00 | |
| 23 Na | 45 | 1 | 5294.00 | 5294.00 | ppb | 1.48 | 90000.00 | |
| 23 Na | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 5239.00 | 5239.00 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 5201.00 | 5201.00 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 1 | 5225.00 | 5225.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 5203.00 | 5203.00 | ppb | 0.74 | 90000.00 | |
| 39 K | 45 | 1 | 5195.00 | 5195.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 5189.00 | 5189.00 | ppb | 1.01 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.28 | 49.28 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 50.73 | 50.73 | ppb | 0.72 | 900.00 | |
| 52 Cr | 45 | 2 | 49.60 | 49.60 | ppb | 0.85 | 900.00 | |
| 55 Mn | 45 | 2 | 49.54 | 49.54 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 5244.00 | 5244.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 49.58 | 49.58 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 48.95 | 48.95 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 47.76 | 47.76 | ppb | 0.88 | 900.00 | |
| 66 Zn | 72 | 2 | 49.24 | 49.24 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 49.80 | 49.80 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 49.92 | 49.92 | ppb | 2.49 | 900.00 | |
| 88 Sr | 103 | 1 | 52.08 | 52.08 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 50.44 | 50.44 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 50.64 | 50.64 | ppb | 0.98 | 180.00 | |
| 111 Cd | 115 | 2 | 49.30 | 49.30 | ppb | 0.75 | 900.00 | |
| 120 Sn | 115 | 1 | 50.51 | 50.51 | ppb | 0.67 | 900.00 | |
| 121 Sb | 115 | 1 | 51.22 | 51.22 | ppb | 0.55 | 900.00 | |
| 137 Ba | 159 | 1 | 48.64 | 48.64 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 48.46 | 48.46 | ppb | 1.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.46 | 50.46 | ppb | 1.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1676020 | 1.22 | 1541753 | 108.7 | 70 - 130 | |
| 45 Sc | 1 | 3690310 | 0.37 | 3631305 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 455080 | 0.77 | 481685 | 94.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 783200 | 0.52 | 789766 | 99.2 | 70 - | 130 |
| 72 | Ge | 2 | 181522 | 0.35 | 188977 | 96.1 | 70 - | 130 |
| 103 | Rh | 1 | 4338534 | 0.35 | 4377551 | 99.1 | 70 - | 130 |
| 115 | In | 1 | 4733735 | 0.19 | 4716351 | 100.4 | 70 - | 130 |
| 115 | In | 2 | 1370561 | 1.04 | 1391932 | 98.5 | 70 - | 130 |
| 159 | Tb | 1 | 5875951 | 0.50 | 5566587 | 105.6 | 70 - | 130 |
| 175 | Lu | 1 | 5448522 | 0.42 | 5216106 | 104.5 | 70 - | 130 |
| 209 | Bi | 1 | 2891543 | 1.89 | 2810000 | 102.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#
**Date Acquired:** Apr 20 2013 04:24 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 20 2013 12:12 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 42.25 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 73.12 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.13 | ppb | 17.17 | 900.00 | |
| 11 B | 45 | 2 | 0.04 | 0.04 | ppb | 164.87 | 900.00 | |
| 23 Na | 45 | 1 | 38.63 | 38.63 | ppb | 13.34 | 90000.00 | |
| 23 Na | 45 | 2 | 33.92 | 33.92 | ppb | 5.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 20.31 | 20.31 | ppb | 7.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 19.27 | 19.27 | ppb | 3.23 | 90000.00 | |
| 27 Al | 45 | 1 | 19.64 | 19.64 | ppb | 7.19 | 90000.00 | |
| 27 Al | 45 | 2 | 18.48 | 18.48 | ppb | 2.20 | 90000.00 | |
| 39 K | 45 | 1 | 21.36 | 21.36 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.91 | 12.91 | ppb | 15.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.38 | 0.38 | ppb | 12.84 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 6.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 163.11 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 30.06 | 900.00 | |
| 56 Fe | 45 | 2 | 19.94 | 19.94 | ppb | 2.64 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 10.73 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 10.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 22.63 | 900.00 | |
| 66 Zn | 72 | 2 | 0.08 | 0.08 | ppb | 4.00 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 30.41 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 600.29 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 39.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.43 | ppb | 2.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 22.69 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 14.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 7.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 30.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 35.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 43.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1693020 | 0.83 | 1541753 | 109.8 | 70 - 130 | |
| 45 Sc | 1 | 3686463 | 1.14 | 3631305 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 460499 | 0.84 | 481685 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D20l00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 795560 | 0.79 | 789766 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 184806 | 0.64 | 188977 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4479422 | 0.35 | 4377551 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4822240 | 0.99 | 4716351 | 102.2 | 70 | - | 130 |
| 115 | In | 2 | 1401268 | 0.47 | 1391932 | 100.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5753741 | 0.77 | 5566587 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5423778 | 0.44 | 5216106 | 104.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2984527 | 0.34 | 2810000 | 106.2 | 70 | - | 130 |

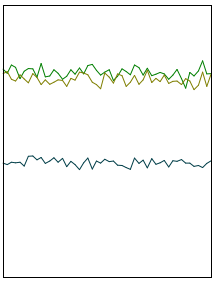
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D20l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

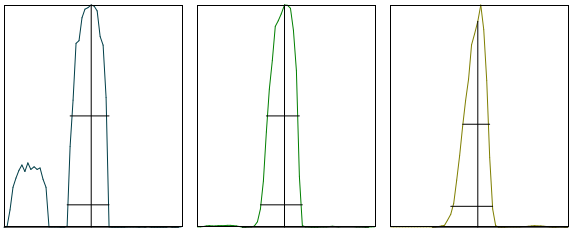
# Tune Report

Tune File : nogas.u
Comment : 042013



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2145.0 | 2109.0 | 3.00 | 2.10 |
| 89 | 10,000 | 7495.0 | 7542.1 | 2.47 | 2.90 |
| 205 | 5,000 | 3751.0 | 3638.3 | 2.46 | 15.10 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.068%
Doubly Charged: 70/140 3.485%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,159 | 7,663 | 3,603 |
| Axis: | 7.00 | 89.00 | 205.00 |
| W-50%: | 0.65 | 0.55 | 0.45 |
| W-10%: | 0.700 | 0.700 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9979 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.08 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 393.8 | 6.75 |
| 59 | 1848.6 | 3.29 |
| 89 | 1852.6 | 3.10 |

Integration Time: 0.1000sec



Generated : Apr 20, 2013 10:36:46
Printed : Apr 20, 2013 10:37:38

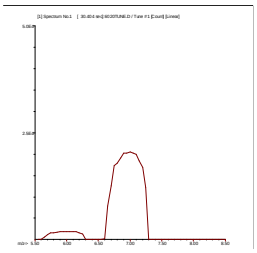
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 20 2013 10:56 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

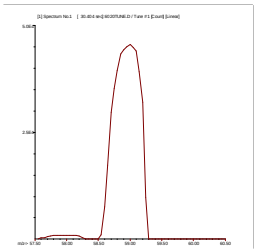
**QC Tune Summary:**
**Pass**

**RSD%**

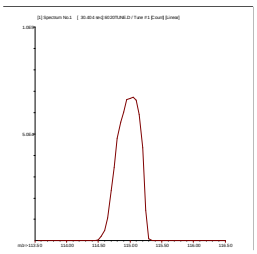
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.26 | 5.00 | 0 |
| 59 Co | 0.69 | 5.00 | |
| 115 In | 0.53 | 5.00 | |
| 205 Tl | 2.86 | 5.00 | |



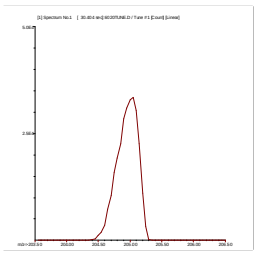
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 22, 2013 11:26 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

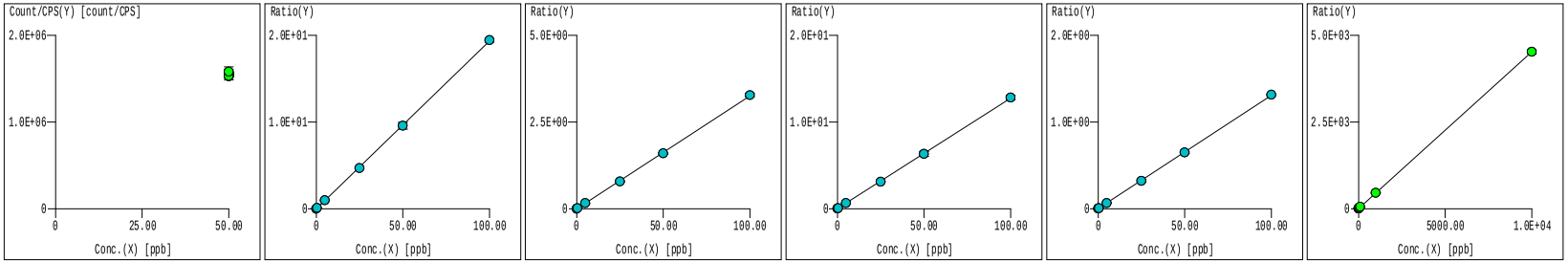
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d20l00.b\002calb.d\002calb.d# | STDA | Apr 20 2013 11:17 am |
| 2 | c:\icpchem\1\data\13d20l00.b\003cals.d\003cals.d# | STDB | Apr 20 2013 11:24 am |
| 3 | c:\icpchem\1\data\13d20l00.b\004cals.d\004cals.d# | STDC | Apr 20 2013 11:32 am |
| 4 | c:\icpchem\1\data\13d20l00.b\005cals.d\005cals.d# | STDD | Apr 20 2013 11:39 am |
| 5 | c:\icpchem\1\data\13d20l00.b\006cals.d\006cals.d# | STDE | Apr 20 2013 11:48 am |
| 6 | c:\icpchem\1\data\13d20l00.b\007cals.d\007cals.d# | STDF | Apr 20 2013 11:55 am |
| 7 | c:\icpchem\1\data\13d20l00.b\008cals.d\008cals.d# | STDG | Apr 20 2013 12:02 pm |
| 8 | c:\icpchem\1\data\13d20l00.b\009cals.d\009cals.d# | STDH | Apr 20 2013 12:09 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

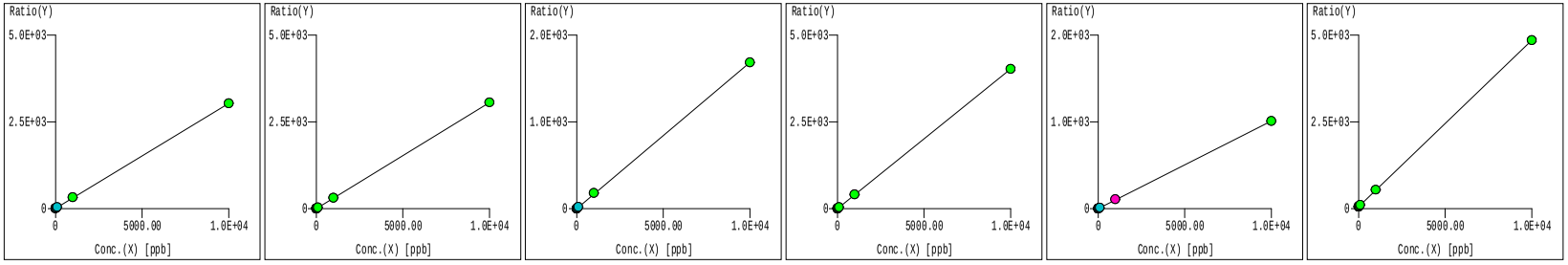
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 4.373E-03 ppb | 3.728E-02 ppb | 8.232E-02 ppb | 2.757E-01 ppb | 4.200E-01 ppb |
| < BEC > | --- ppb | 6.701E-03 ppb | 7.174E-03 ppb | 1.724E-01 ppb | 1.498E-01 ppb | 15.81 ppb |



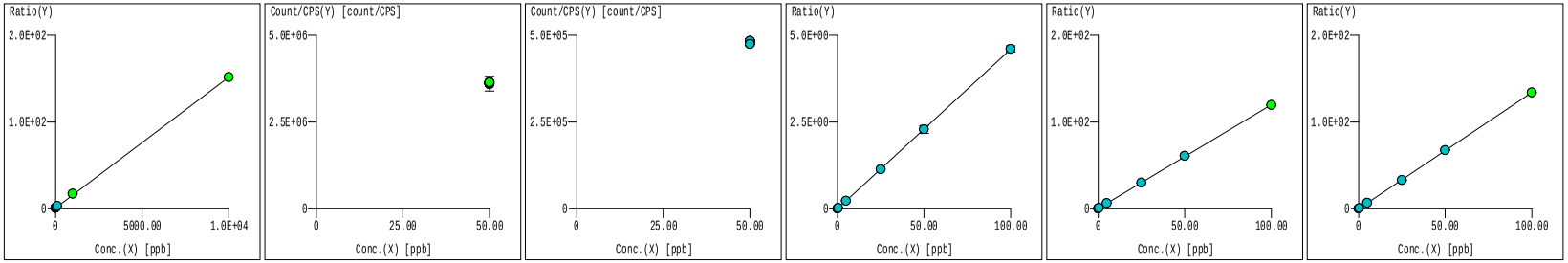

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.078 ppb | 4.198E-02 ppb | 5.471E-02 ppb | 1.381E-02 ppb | 2.846E-01 ppb | 1.186 ppb |
| < BEC > | 29.46 ppb | 1.877E-01 ppb | 2.120E-01 ppb | 6.445E-01 ppb | 6.937E-01 ppb | 113.9 ppb |



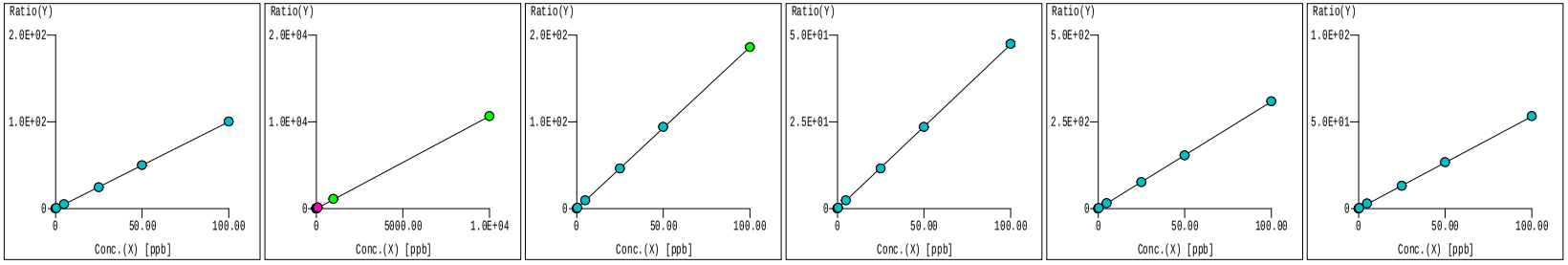
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.708 ppb | --- ppb | --- ppb | 1.527E-02 ppb | 2.517E-02 ppb | 1.025E-02 ppb |
| < BEC > | 71.42 ppb | --- ppb | --- ppb | 6.987E-02 ppb | 3.599E-01 ppb | 1.059E-01 ppb |



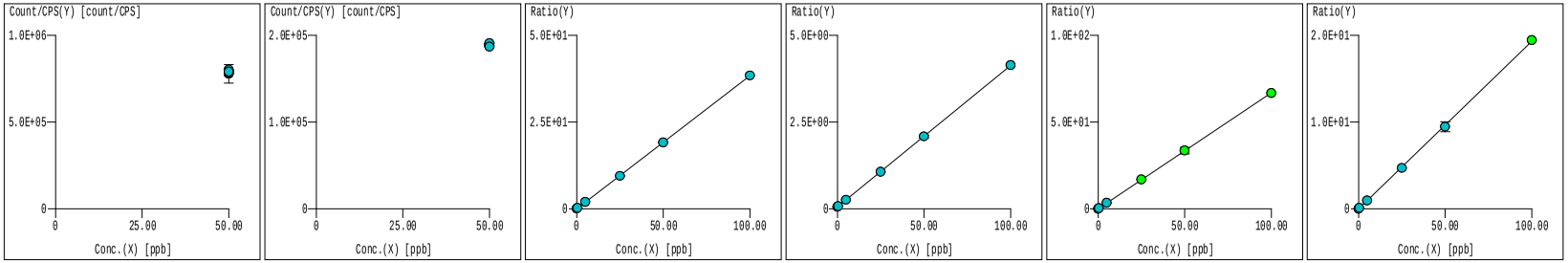

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 2.201E-02 ppb | 2.887E-02 ppb | 2.222E-03 ppb | 1.997E-02 ppb | 9.650E-03 ppb | 1.606E-02 ppb |
| < BEC > | 1.323E-01 ppb | 3.891 ppb | 3.717E-03 ppb | 5.785E-02 ppb | 9.167E-02 ppb | 7.311E-02 ppb |



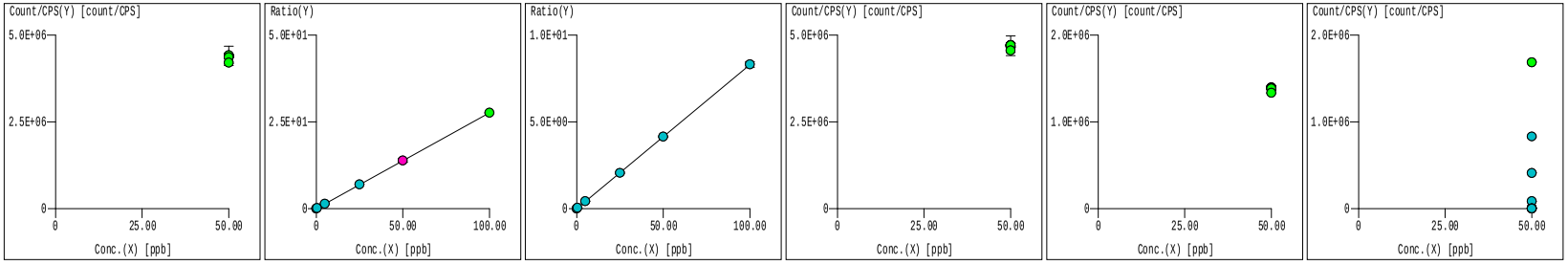
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 1.328E-02 ppb | 3.408E-01 ppb | 1.560E-03 ppb | 6.138E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.112E-01 ppb | 1.346 ppb | 9.591E-03 ppb | 1.171E-02 ppb |



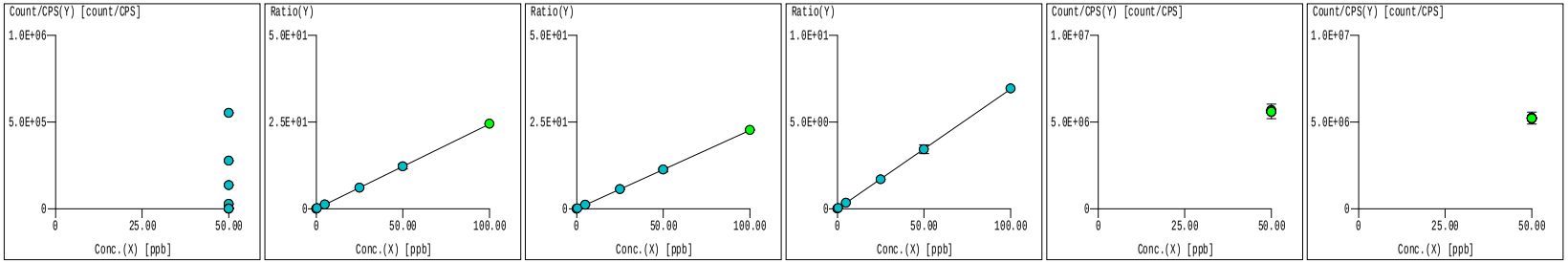

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.642E-03 ppb | 8.622E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.150E-03 ppb | 4.310E-03 ppb | --- ppb | --- ppb | --- ppb |



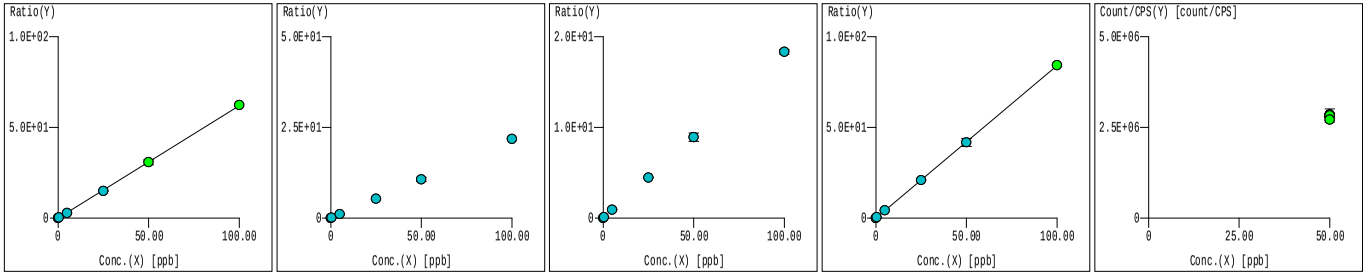
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 4/4

| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.672E-03 ppb | 4.486E-03 ppb | 1.676E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.045E-02 ppb | 1.191E-02 ppb | 9.094E-02 ppb | --- ppb | --- ppb |




| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 0.9999 | 0.9999 | 1.0000 | 0.0000 |
| < DL > | 2.871E-03 ppb | --- ppb | --- ppb | 3.650E-03 ppb | --- ppb |
| < BEC > | 3.847E-02 ppb | --- ppb | --- ppb | 1.641E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D22m01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\001CAL
Date Acquired: Apr 22 2013 12:56 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2762024.00 | A | 30140.00 | 1.09 |
| 7 | (Li) | | P | | |
| 9 | Be | 54.45 | P | 27.76 | 50.99 |
| 9 | Be | 4.44 | P | 3.85 | 86.60 |
| 11 | B | 743.38 | P | 32.15 | 4.32 |
| 11 | B | 13.33 | P | 5.77 | 43.30 |
| 23 | Na | 383936.81 | P | 3617.00 | 0.94 |
| 23 | Na | 35554.28 | P | 281.10 | 0.79 |
| 24 | Mg | 3350.48 | P | 279.10 | 8.33 |
| 24 | Mg | 197.79 | P | 37.91 | 19.17 |
| 27 | Al | 14604.04 | P | 649.80 | 4.45 |
| 27 | Al | 341.13 | P | 43.51 | 12.76 |
| 39 | K | 2848413.00 | A | 17690.00 | 0.62 |
| 44 | Ca | 25063.24 | P | 270.40 | 1.08 |
| 45 | Sc | 2311185.00 | A | 17480.00 | 0.76 |
| 45 | Sc | 211856.59 | P | 1141.00 | 0.54 |
| 47 | Ti | 131.13 | P | 46.85 | 35.73 |
| 51 | V | 3031.01 | P | 67.46 | 2.23 |
| 52 | Cr | 806.25 | P | 31.45 | 3.90 |
| 55 | Mn | 658.69 | P | 23.70 | 3.60 |
| 56 | Fe | 13981.29 | P | 263.70 | 1.89 |
| 59 | Co | 52.89 | P | 11.34 | 21.44 |
| 60 | Ni | 190.67 | P | 14.42 | 7.56 |
| 63 | Cu | 715.58 | P | 12.10 | 1.69 |
| 66 | Zn | 101.78 | P | 13.50 | 13.26 |
| 72 | Ge | 465389.50 | P | 4751.00 | 1.02 |
| 72 | Ge | 86530.88 | P | 435.80 | 0.50 |
| 75 | As | 94.67 | P | 8.11 | 8.57 |
| 78 | Se | 38.44 | P | 3.42 | 8.90 |
| 88 | Sr | 358.91 | P | 94.54 | 26.34 |
| 98 | Mo | 184.45 | P | 27.15 | 14.72 |
| 103 | Rh | 2720445.00 | A | 5940.00 | 0.22 |
| 107 | Ag | 96.67 | P | 6.67 | 6.90 |

C:\ICPCHEM\1\DATA\13D22m01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 5.09 | 65.47 |
| 115 | In | 2905137.00 | A | 12640.00 | 0.44 |
| 115 | In | 775255.31 | P | 8356.00 | 1.08 |
| 118 | (In) | 227.79 | P | 60.50 | 26.56 |
| 118 | (In) | 74.45 | P | 15.03 | 20.19 |
| 120 | Sn | 352.24 | P | 48.80 | 13.85 |
| 121 | Sb | 75.56 | P | 17.10 | 22.63 |
| 137 | Ba | 476.69 | P | 40.96 | 8.59 |
| 159 | Tb | 3922627.00 | A | 26700.00 | 0.68 |
| 175 | Lu | 3871008.00 | A | 29470.00 | 0.76 |
| 205 | Tl | 1384.56 | P | 98.01 | 7.08 |
| 206 | (Pb) | 156.67 | P | 40.00 | 25.53 |
| 207 | (Pb) | 125.56 | P | 23.41 | 18.64 |
| 208 | Pb | 604.47 | P | 85.14 | 14.09 |
| 209 | Bi | 2182009.00 | A | 11640.00 | 0.53 |

C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\002CAL
Date Acquired: Apr 22 2013 01:03 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2771684.00 | A | 23620.00 | 0.85 |
| 7 | (Li) | | P | | |
| 9 | Be | 52.22 | P | 15.03 | 28.78 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 713.37 | P | 80.90 | 11.34 |
| 11 | B | 15.56 | P | 3.85 | 24.74 |
| 23 | Na | 383909.50 | P | 2069.00 | 0.54 |
| 23 | Na | 35343.84 | P | 375.30 | 1.06 |
| 24 | Mg | 3773.91 | P | 136.20 | 3.61 |
| 24 | Mg | 176.67 | P | 12.02 | 6.80 |
| 27 | Al | 15232.79 | P | 302.40 | 1.99 |
| 27 | Al | 340.03 | P | 45.83 | 13.48 |
| 39 | K | 2911783.00 | A | 8878.00 | 0.30 |
| 44 | Ca | 25609.68 | P | 549.90 | 2.15 |
| 45 | Sc | 2330160.00 | A | 28280.00 | 1.21 |
| 45 | Sc | 215925.80 | P | 782.20 | 0.36 |
| 47 | Ti | 133.34 | P | 29.06 | 21.79 |
| 51 | V | 3024.34 | P | 13.13 | 0.43 |
| 52 | Cr | 764.47 | P | 18.00 | 2.35 |
| 55 | Mn | 616.47 | P | 32.01 | 5.19 |
| 56 | Fe | 13913.46 | P | 31.77 | 0.23 |
| 59 | Co | 59.56 | P | 7.34 | 12.33 |
| 60 | Ni | 187.56 | P | 7.58 | 4.04 |
| 63 | Cu | 652.02 | P | 75.35 | 11.56 |
| 66 | Zn | 96.22 | P | 5.75 | 5.97 |
| 72 | Ge | 466203.09 | P | 885.90 | 0.19 |
| 72 | Ge | 87757.16 | P | 584.80 | 0.67 |
| 75 | As | 112.45 | P | 4.44 | 3.95 |
| 78 | Se | 40.89 | P | 8.44 | 20.65 |
| 88 | Sr | 403.35 | P | 35.28 | 8.75 |
| 98 | Mo | 188.90 | P | 25.24 | 13.36 |
| 103 | Rh | 2753404.00 | A | 23920.00 | 0.87 |
| 107 | Ag | 87.78 | P | 24.57 | 27.99 |

C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 2900987.00 | A | 36030.00 | 1.24 |
| 115 | In | 790752.63 | P | 4776.00 | 0.60 |
| 118 | (In) | 262.23 | P | 50.59 | 19.29 |
| 118 | (In) | 78.89 | P | 24.12 | 30.57 |
| 120 | Sn | 272.24 | P | 1.93 | 0.71 |
| 121 | Sb | 88.89 | P | 5.09 | 5.73 |
| 137 | Ba | 410.02 | P | 12.02 | 2.93 |
| 159 | Tb | 3935389.00 | A | 38970.00 | 0.99 |
| 175 | Lu | 3842807.00 | A | 15870.00 | 0.41 |
| 205 | Tl | 1040.08 | P | 114.10 | 10.97 |
| 206 | (Pb) | 162.23 | P | 34.05 | 20.99 |
| 207 | (Pb) | 144.45 | P | 16.78 | 11.62 |
| 208 | Pb | 644.48 | P | 77.49 | 12.02 |
| 209 | Bi | 2186063.00 | A | 22670.00 | 1.04 |

C:\ICPCHEM\1\DATA\13D22m01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 22 2013 01:10 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2765342.00 | A | 43010.00 | 1.56 |
| 7 | (Li) | | P | | |
| 9 | Be | 4409.65 | P | 108.70 | 2.47 |
| 9 | Be | 130.00 | P | 10.00 | 7.69 |
| 11 | B | 2990.39 | P | 88.40 | 2.96 |
| 11 | B | 57.78 | P | 8.39 | 14.52 |
| 23 | Na | 583919.00 | P | 6398.00 | 1.10 |
| 23 | Na | 46460.37 | P | 323.20 | 0.70 |
| 24 | Mg | 31556.86 | P | 1166.00 | 3.69 |
| 24 | Mg | 1421.22 | P | 48.24 | 3.39 |
| 27 | Al | 79542.00 | P | 927.60 | 1.17 |
| 27 | Al | 1526.80 | P | 118.70 | 7.77 |
| 39 | K | 2959280.00 | A | 11080.00 | 0.37 |
| 44 | Ca | 51471.65 | P | 733.20 | 1.42 |
| 45 | Sc | 2323997.00 | A | 10130.00 | 0.44 |
| 45 | Sc | 214329.09 | P | 1669.00 | 0.78 |
| 47 | Ti | 1222.31 | P | 74.57 | 6.10 |
| 51 | V | 5846.96 | P | 190.20 | 3.25 |
| 52 | Cr | 3957.45 | P | 136.40 | 3.45 |
| 55 | Mn | 3367.52 | P | 108.10 | 3.21 |
| 56 | Fe | 22616.28 | P | 434.50 | 1.92 |
| 59 | Co | 4400.69 | P | 170.30 | 3.87 |
| 60 | Ni | 1364.08 | P | 62.87 | 4.61 |
| 63 | Cu | 26682.50 | P | 14.66 | 0.05 |
| 66 | Zn | 2046.60 | P | 68.01 | 3.32 |
| 72 | Ge | 463591.00 | P | 6670.00 | 1.44 |
| 72 | Ge | 87443.91 | P | 622.50 | 0.71 |
| 75 | As | 456.68 | P | 25.33 | 5.55 |
| 78 | Se | 70.45 | P | 6.47 | 9.19 |
| 88 | Sr | 17815.60 | P | 466.10 | 2.62 |
| 98 | Mo | 5167.74 | P | 33.35 | 0.65 |
| 103 | Rh | 2746263.00 | A | 33040.00 | 1.20 |
| 107 | Ag | 7904.61 | P | 255.30 | 3.23 |

C:\ICPCHEM\1\DATA\13D22m01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 613.37 | P | 69.37 | 11.31 |
| 115 | In | 2919808.00 | A | 11670.00 | 0.40 |
| 115 | In | 783767.69 | P | 9367.00 | 1.20 |
| 118 | (In) | 5196.66 | P | 267.00 | 5.14 |
| 118 | (In) | 1533.47 | P | 29.06 | 1.90 |
| 120 | Sn | 7220.92 | P | 440.20 | 6.10 |
| 121 | Sb | 6557.25 | P | 62.76 | 0.96 |
| 137 | Ba | 2991.53 | P | 16.78 | 0.56 |
| 159 | Tb | 3949888.00 | A | 24410.00 | 0.62 |
| 175 | Lu | 3864888.00 | A | 13240.00 | 0.34 |
| 205 | Tl | 11673.12 | P | 324.00 | 2.78 |
| 206 | (Pb) | 4783.23 | P | 192.90 | 4.03 |
| 207 | (Pb) | 4038.53 | P | 123.30 | 3.05 |
| 208 | Pb | 18583.33 | P | 428.90 | 2.31 |
| 209 | Bi | 2197756.00 | A | 10920.00 | 0.50 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2765341.80 | 1.56 | 2771684.30 | 99.8 | 70 - 130 | |
| 45 | Sc | 2323996.80 | 0.44 | 2330160.50 | 99.7 | 70 - 130 | |
| 45 | Sc | 214329.06 | 0.78 | 215925.80 | 99.3 | 70 - 130 | |
| 72 | Ge | 463590.97 | 1.44 | 466203.13 | 99.4 | 70 - 130 | |
| 72 | Ge | 87443.91 | 0.71 | 87757.16 | 99.6 | 70 - 130 | |
| 103 | Rh | 2746263.00 | 1.20 | 2753404.30 | 99.7 | 70 - 130 | |
| 115 | In | 2919808.30 | 0.40 | 2900987.00 | 100.6 | 70 - 130 | |
| 115 | In | 783767.75 | 1.20 | 790752.63 | 99.1 | 70 - 130 | |
| 159 | Tb | 3949887.80 | 0.62 | 3935389.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 3864887.80 | 0.34 | 3842806.50 | 100.6 | 70 - 130 | |
| 209 | Bi | 2197755.50 | 0.50 | 2186063.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 22 2013 01:17 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2789586.00 | A | 10540.00 | 0.38 |
| 7 | (Li) | | P | | |
| 9 | Be | 41830.40 | P | 589.30 | 1.41 |
| 9 | Be | 1343.44 | P | 75.73 | 5.64 |
| 11 | B | 25765.02 | P | 198.30 | 0.77 |
| 11 | B | 474.47 | P | 48.35 | 10.19 |
| 23 | Na | 555674.13 | P | 5980.00 | 1.08 |
| 23 | Na | 45301.53 | P | 113.50 | 0.25 |
| 24 | Mg | 108909.20 | P | 913.60 | 0.84 |
| 24 | Mg | 4974.30 | P | 36.06 | 0.72 |
| 27 | Al | 142972.59 | P | 1550.00 | 1.08 |
| 27 | Al | 2837.02 | P | 66.60 | 2.35 |
| 39 | K | 3046957.00 | A | 22370.00 | 0.73 |
| 44 | Ca | 34160.61 | P | 477.50 | 1.40 |
| 45 | Sc | 2361425.00 | A | 37870.00 | 1.60 |
| 45 | Sc | 215785.41 | P | 1148.00 | 0.53 |
| 47 | Ti | 10645.12 | P | 295.40 | 2.78 |
| 51 | V | 29637.06 | P | 209.70 | 0.71 |
| 52 | Cr | 31673.56 | P | 112.90 | 0.36 |
| 55 | Mn | 22048.82 | P | 128.30 | 0.58 |
| 56 | Fe | 41177.37 | P | 362.00 | 0.88 |
| 59 | Co | 44512.06 | P | 207.80 | 0.47 |
| 60 | Ni | 11573.38 | P | 285.20 | 2.46 |
| 63 | Cu | 30673.52 | P | 192.90 | 0.63 |
| 66 | Zn | 5647.52 | P | 64.09 | 1.13 |
| 72 | Ge | 467173.69 | P | 5306.00 | 1.14 |
| 72 | Ge | 87830.09 | P | 438.60 | 0.50 |
| 75 | As | 3475.97 | P | 58.21 | 1.67 |
| 78 | Se | 384.23 | P | 22.20 | 5.78 |
| 88 | Sr | 168896.59 | P | 1561.00 | 0.92 |
| 98 | Mo | 50007.98 | P | 475.70 | 0.95 |
| 103 | Rh | 2774664.00 | A | 51220.00 | 1.85 |
| 107 | Ag | 80035.53 | P | 279.60 | 0.35 |

C:\ICPCHEM\1\DATA\13D22m01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 6424.93 | P | 63.63 | 0.99 |
| 115 | In | 2921695.00 | A | 53700.00 | 1.84 |
| 115 | In | 790777.63 | P | 5614.00 | 0.71 |
| 118 | (In) | 50417.46 | P | 293.50 | 0.58 |
| 118 | (In) | 14887.98 | P | 401.90 | 2.70 |
| 120 | Sn | 69594.61 | P | 237.00 | 0.34 |
| 121 | Sb | 64645.66 | P | 672.80 | 1.04 |
| 137 | Ba | 24387.91 | P | 467.80 | 1.92 |
| 159 | Tb | 3980545.00 | A | 51030.00 | 1.28 |
| 175 | Lu | 3897835.00 | A | 57670.00 | 1.48 |
| 205 | Tl | 115884.90 | P | 1235.00 | 1.07 |
| 206 | (Pb) | 45720.95 | P | 352.10 | 0.77 |
| 207 | (Pb) | 37311.52 | P | 655.80 | 1.76 |
| 208 | Pb | 174930.91 | P | 1359.00 | 0.78 |
| 209 | Bi | 2196536.00 | A | 10900.00 | 0.50 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2789585.80 | 0.38 | 2771684.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 2361424.50 | 1.60 | 2330160.50 | 101.3 | 70 - 130 | |
| 45 | Sc | 215785.44 | 0.53 | 215925.80 | 99.9 | 70 - 130 | |
| 72 | Ge | 467173.75 | 1.14 | 466203.13 | 100.2 | 70 - 130 | |
| 72 | Ge | 87830.09 | 0.50 | 87757.16 | 100.1 | 70 - 130 | |
| 103 | Rh | 2774664.30 | 1.85 | 2753404.30 | 100.8 | 70 - 130 | |
| 115 | In | 2921694.80 | 1.84 | 2900987.00 | 100.7 | 70 - 130 | |
| 115 | In | 790777.63 | 0.71 | 790752.63 | 100.0 | 70 - 130 | |
| 159 | Tb | 3980545.30 | 1.28 | 3935389.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 3897834.50 | 1.48 | 3842806.50 | 101.4 | 70 - 130 | |
| 209 | Bi | 2196535.50 | 0.50 | 2186063.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 22 2013 01:24 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2796146.00 | A | 22500.00 | 0.80 |
| 7 | (Li) | | P | | |
| 9 | Be | 205952.91 | P | 1385.00 | 0.67 |
| 9 | Be | 6624.93 | P | 153.10 | 2.31 |
| 11 | B | 125563.70 | P | 883.20 | 0.70 |
| 11 | B | 2325.81 | P | 37.47 | 1.61 |
| 23 | Na | 1195619.00 | A | 6902.00 | 0.58 |
| 23 | Na | 78558.20 | P | 642.40 | 0.82 |
| 24 | Mg | 508787.50 | P | 3238.00 | 0.64 |
| 24 | Mg | 22519.04 | P | 304.70 | 1.35 |
| 27 | Al | 610409.81 | P | 2389.00 | 0.39 |
| 27 | Al | 12348.57 | P | 150.80 | 1.22 |
| 39 | K | 3503482.00 | A | 2960.00 | 0.08 |
| 44 | Ca | 48407.44 | P | 125.60 | 0.26 |
| 45 | Sc | 2340133.00 | A | 7958.00 | 0.34 |
| 45 | Sc | 215414.50 | P | 854.40 | 0.40 |
| 47 | Ti | 51488.95 | P | 487.70 | 0.95 |
| 51 | V | 133774.20 | P | 736.40 | 0.55 |
| 52 | Cr | 152382.09 | P | 597.60 | 0.39 |
| 55 | Mn | 106356.40 | P | 314.60 | 0.30 |
| 56 | Fe | 149272.20 | P | 561.20 | 0.38 |
| 59 | Co | 217421.00 | P | 233.40 | 0.11 |
| 60 | Ni | 55816.86 | P | 155.70 | 0.28 |
| 63 | Cu | 145467.09 | P | 373.60 | 0.26 |
| 66 | Zn | 24496.98 | P | 287.40 | 1.17 |
| 72 | Ge | 459709.41 | P | 1727.00 | 0.38 |
| 72 | Ge | 87646.32 | P | 554.40 | 0.63 |
| 75 | As | 16749.27 | P | 233.50 | 1.39 |
| 78 | Se | 1739.89 | P | 33.69 | 1.94 |
| 88 | Sr | 823111.13 | P | 3241.00 | 0.39 |
| 98 | Mo | 243916.30 | P | 63.13 | 0.03 |
| 103 | Rh | 2753290.00 | A | 32860.00 | 1.19 |
| 107 | Ag | 394244.50 | P | 1823.00 | 0.46 |

C:\ICPCHEM\1\DATA\13D22m01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 31610.22 | P | 170.90 | 0.54 |
| 115 | In | 2926330.00 | A | 11320.00 | 0.39 |
| 115 | In | 785442.88 | P | 5475.00 | 0.70 |
| 118 | (In) | 245579.30 | P | 1281.00 | 0.52 |
| 118 | (In) | 73728.96 | P | 189.90 | 0.26 |
| 120 | Sn | 338493.91 | P | 3608.00 | 1.07 |
| 121 | Sb | 317823.41 | P | 627.40 | 0.20 |
| 137 | Ba | 117488.20 | P | 1120.00 | 0.95 |
| 159 | Tb | 3961691.00 | A | 23870.00 | 0.60 |
| 175 | Lu | 3854330.00 | A | 9911.00 | 0.26 |
| 205 | Tl | 606599.31 | P | 5375.00 | 0.89 |
| 206 | (Pb) | 222453.00 | P | 3427.00 | 1.54 |
| 207 | (Pb) | 178137.20 | P | 1423.00 | 0.80 |
| 208 | Pb | 846803.81 | P | 8060.00 | 0.95 |
| 209 | Bi | 2187586.00 | A | 23230.00 | 1.06 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2796146.30 | 0.80 | 2771684.30 | 100.9 | 70 - 130 | |
| 45 | Sc | 2340133.00 | 0.34 | 2330160.50 | 100.4 | 70 - 130 | |
| 45 | Sc | 215414.52 | 0.40 | 215925.80 | 99.8 | 70 - 130 | |
| 72 | Ge | 459709.38 | 0.38 | 466203.13 | 98.6 | 70 - 130 | |
| 72 | Ge | 87646.32 | 0.63 | 87757.16 | 99.9 | 70 - 130 | |
| 103 | Rh | 2753290.50 | 1.19 | 2753404.30 | 100.0 | 70 - 130 | |
| 115 | In | 2926330.30 | 0.39 | 2900987.00 | 100.9 | 70 - 130 | |
| 115 | In | 785442.88 | 0.70 | 790752.63 | 99.3 | 70 - 130 | |
| 159 | Tb | 3961690.80 | 0.60 | 3935389.00 | 100.7 | 70 - 130 | |
| 175 | Lu | 3854330.00 | 0.26 | 3842806.50 | 100.3 | 70 - 130 | |
| 209 | Bi | 2187586.50 | 1.06 | 2186063.00 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 22 2013 01:31 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2755318.00 | A | 32560.00 | 1.18 |
| 7 | (Li) | | P | | |
| 9 | Be | 414533.41 | P | 2221.00 | 0.54 |
| 9 | Be | 13562.92 | P | 394.20 | 2.91 |
| 11 | B | 252657.00 | P | 1353.00 | 0.54 |
| 11 | B | 4571.94 | P | 73.84 | 1.62 |
| 23 | Na | 1915497.00 | A | 4142.00 | 0.22 |
| 23 | Na | 116507.90 | P | 361.80 | 0.31 |
| 24 | Mg | 1038842.00 | A | 11440.00 | 1.10 |
| 24 | Mg | 45364.16 | P | 393.70 | 0.87 |
| 27 | Al | 1231526.00 | A | 6589.00 | 0.54 |
| 27 | Al | 24286.17 | P | 452.50 | 1.86 |
| 39 | K | 4048079.00 | A | 9664.00 | 0.24 |
| 44 | Ca | 74445.96 | P | 690.90 | 0.93 |
| 45 | Sc | 2316742.00 | A | 10870.00 | 0.47 |
| 45 | Sc | 212820.00 | P | 2034.00 | 0.96 |
| 47 | Ti | 103624.50 | P | 443.10 | 0.43 |
| 51 | V | 265071.81 | P | 191.30 | 0.07 |
| 52 | Cr | 304275.31 | P | 1711.00 | 0.56 |
| 55 | Mn | 211457.91 | P | 1593.00 | 0.75 |
| 56 | Fe | 286810.31 | P | 2760.00 | 0.96 |
| 59 | Co | 435067.41 | P | 673.40 | 0.15 |
| 60 | Ni | 112205.40 | P | 631.20 | 0.56 |
| 63 | Cu | 290894.19 | P | 1206.00 | 0.41 |
| 66 | Zn | 49316.03 | P | 418.10 | 0.85 |
| 72 | Ge | 455454.59 | P | 619.90 | 0.14 |
| 72 | Ge | 86232.54 | P | 269.60 | 0.31 |
| 75 | As | 33169.66 | P | 232.10 | 0.70 |
| 78 | Se | 3466.64 | P | 43.45 | 1.25 |
| 88 | Sr | 1643784.00 | A | 7841.00 | 0.48 |
| 98 | Mo | 485468.69 | P | 270.40 | 0.06 |
| 103 | Rh | 2742681.00 | A | 17390.00 | 0.63 |
| 107 | Ag | 786074.81 | P | 6388.00 | 0.81 |

C:\ICPCHEM\1\DATA\13D22m01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 62706.19 | P | 590.50 | 0.94 |
| 115 | In | 2894655.00 | A | 12250.00 | 0.42 |
| 115 | In | 772189.00 | P | 2815.00 | 0.36 |
| 118 | (In) | 490296.09 | P | 4924.00 | 1.00 |
| 118 | (In) | 146759.70 | P | 710.20 | 0.48 |
| 120 | Sn | 677738.13 | P | 5867.00 | 0.87 |
| 121 | Sb | 629447.31 | P | 4128.00 | 0.66 |
| 137 | Ba | 232858.30 | P | 3748.00 | 1.61 |
| 159 | Tb | 3942779.00 | A | 28720.00 | 0.73 |
| 175 | Lu | 3847110.00 | A | 24370.00 | 0.63 |
| 205 | Tl | 1246856.00 | P | 14060.00 | 1.13 |
| 206 | (Pb) | 444426.00 | P | 2975.00 | 0.67 |
| 207 | (Pb) | 356918.81 | P | 5439.00 | 1.52 |
| 208 | Pb | 1691456.00 | P | 19970.00 | 1.18 |
| 209 | Bi | 2156884.00 | A | 33400.00 | 1.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2755318.00 | 1.18 | 2771684.30 | 99.4 | 70 - 130 | |
| 45 | Sc | 2316742.00 | 0.47 | 2330160.50 | 99.4 | 70 - 130 | |
| 45 | Sc | 212820.02 | 0.96 | 215925.80 | 98.6 | 70 - 130 | |
| 72 | Ge | 455454.63 | 0.14 | 466203.13 | 97.7 | 70 - 130 | |
| 72 | Ge | 86232.54 | 0.31 | 87757.16 | 98.3 | 70 - 130 | |
| 103 | Rh | 2742681.50 | 0.63 | 2753404.30 | 99.6 | 70 - 130 | |
| 115 | In | 2894655.50 | 0.42 | 2900987.00 | 99.8 | 70 - 130 | |
| 115 | In | 772189.00 | 0.36 | 790752.63 | 97.7 | 70 - 130 | |
| 159 | Tb | 3942778.80 | 0.73 | 3935389.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 3847109.50 | 0.63 | 3842806.50 | 100.1 | 70 - 130 | |
| 209 | Bi | 2156884.00 | 1.55 | 2186063.00 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 22 2013 01:39 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2768009.00 | A | 25170.00 | 0.91 |
| 7 | (Li) | | P | | |
| 9 | Be | 850031.19 | A | 5010.00 | 0.59 |
| 9 | Be | 27210.79 | P | 207.30 | 0.76 |
| 11 | B | 502040.19 | P | 2881.00 | 0.57 |
| 11 | B | 9386.40 | P | 262.80 | 2.80 |
| 23 | Na | 3479962.00 | A | 18620.00 | 0.54 |
| 23 | Na | 204102.00 | P | 322.90 | 0.16 |
| 24 | Mg | 2038602.00 | A | 9910.00 | 0.49 |
| 24 | Mg | 91064.04 | P | 782.10 | 0.86 |
| 27 | Al | 2383790.00 | A | 24520.00 | 1.03 |
| 27 | Al | 48027.85 | P | 690.60 | 1.44 |
| 39 | K | 5175193.00 | A | 31460.00 | 0.61 |
| 44 | Ca | 120463.70 | P | 588.80 | 0.49 |
| 45 | Sc | 2325116.00 | A | 4779.00 | 0.21 |
| 45 | Sc | 213031.41 | P | 2510.00 | 1.18 |
| 47 | Ti | 206949.20 | P | 1177.00 | 0.57 |
| 51 | V | 527502.88 | P | 4161.00 | 0.79 |
| 52 | Cr | 608673.88 | P | 2444.00 | 0.40 |
| 55 | Mn | 423005.59 | P | 2856.00 | 0.68 |
| 56 | Fe | 561743.19 | P | 1955.00 | 0.35 |
| 59 | Co | 873549.50 | P | 2375.00 | 0.27 |
| 60 | Ni | 223928.20 | P | 621.50 | 0.28 |
| 63 | Cu | 580495.88 | P | 1664.00 | 0.29 |
| 66 | Zn | 97643.09 | P | 205.70 | 0.21 |
| 72 | Ge | 453240.19 | P | 3055.00 | 0.67 |
| 72 | Ge | 86160.80 | P | 557.80 | 0.65 |
| 75 | As | 66449.92 | P | 213.60 | 0.32 |
| 78 | Se | 6898.28 | P | 131.90 | 1.91 |
| 88 | Sr | 3241538.00 | A | 17590.00 | 0.54 |
| 98 | Mo | 973884.50 | P | 4385.00 | 0.45 |
| 103 | Rh | 2737743.00 | A | 24130.00 | 0.88 |
| 107 | Ag | 1561554.00 | A | 17070.00 | 1.09 |

C:\ICPCHEM\1\DATA\13D22m01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 126437.50 | P | 1911.00 | 1.51 |
| 115 | In | 2902431.00 | A | 23130.00 | 0.80 |
| 115 | In | 769230.63 | P | 9178.00 | 1.19 |
| 118 | (In) | 986103.19 | P | 7255.00 | 0.74 |
| 118 | (In) | 291816.91 | P | 1513.00 | 0.52 |
| 120 | Sn | 1346098.00 | A | 9776.00 | 0.73 |
| 121 | Sb | 1251933.00 | P | 14810.00 | 1.18 |
| 137 | Ba | 467023.50 | P | 5474.00 | 1.17 |
| 159 | Tb | 3941521.00 | A | 10020.00 | 0.25 |
| 175 | Lu | 3852670.00 | A | 22350.00 | 0.58 |
| 205 | Tl | 2520058.00 | A | 17100.00 | 0.68 |
| 206 | (Pb) | 885164.63 | P | 1722.00 | 0.19 |
| 207 | (Pb) | 709511.19 | P | 5726.00 | 0.81 |
| 208 | Pb | 3387668.00 | A | 13410.00 | 0.40 |
| 209 | Bi | 2158754.00 | A | 32140.00 | 1.49 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2768008.50 | 0.91 | 2771684.30 | 99.9 | 70 - 130 | |
| 45 Sc | 2325115.80 | 0.21 | 2330160.50 | 99.8 | 70 - 130 | |
| 45 Sc | 213031.42 | 1.18 | 215925.80 | 98.7 | 70 - 130 | |
| 72 Ge | 453240.25 | 0.67 | 466203.13 | 97.2 | 70 - 130 | |
| 72 Ge | 86160.80 | 0.65 | 87757.16 | 98.2 | 70 - 130 | |
| 103 Rh | 2737743.30 | 0.88 | 2753404.30 | 99.4 | 70 - 130 | |
| 115 In | 2902430.80 | 0.80 | 2900987.00 | 100.0 | 70 - 130 | |
| 115 In | 769230.63 | 1.19 | 790752.63 | 97.3 | 70 - 130 | |
| 159 Tb | 3941521.30 | 0.25 | 3935389.00 | 100.2 | 70 - 130 | |
| 175 Lu | 3852670.00 | 0.58 | 3842806.50 | 100.3 | 70 - 130 | |
| 209 Bi | 2158754.00 | 1.49 | 2186063.00 | 98.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 22 2013 01:46 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2758885.00 | A | 58370.00 | 2.12 |
| 7 | (Li) | | P | | |
| 9 | Be | 123.34 | P | 15.28 | 12.39 |
| 9 | Be | 4.44 | P | 3.85 | 86.60 |
| 11 | B | 3029.39 | P | 108.00 | 3.57 |
| 11 | B | 51.11 | P | 30.97 | 60.59 |
| 23 | Na | 29011290.00 | A | 78140.00 | 0.27 |
| 23 | Na | 1613463.00 | A | 13530.00 | 0.84 |
| 24 | Mg | 19031850.00 | A | 96450.00 | 0.51 |
| 24 | Mg | 891210.88 | P | 3675.00 | 0.41 |
| 27 | Al | 22749650.00 | A | 109800.00 | 0.48 |
| 27 | Al | 487198.91 | P | 3821.00 | 0.78 |
| 39 | K | 25173970.00 | A | 135400.00 | 0.54 |
| 44 | Ca | 742353.88 | P | 9543.00 | 1.29 |
| 45 | Sc | 2356419.00 | A | 27490.00 | 1.17 |
| 45 | Sc | 222009.59 | P | 2236.00 | 1.01 |
| 47 | Ti | 177.79 | P | 36.72 | 20.65 |
| 51 | V | 2866.53 | P | 43.14 | 1.51 |
| 52 | Cr | 845.81 | P | 23.49 | 2.78 |
| 55 | Mn | 778.70 | P | 42.73 | 5.49 |
| 56 | Fe | 5222185.00 | A | 83200.00 | 1.59 |
| 59 | Co | 281.78 | P | 18.87 | 6.70 |
| 60 | Ni | 242.23 | P | 15.91 | 6.57 |
| 63 | Cu | 862.70 | P | 43.35 | 5.02 |
| 66 | Zn | 297.12 | P | 20.71 | 6.97 |
| 72 | Ge | 471620.00 | P | 1584.00 | 0.34 |
| 72 | Ge | 89972.24 | P | 348.00 | 0.39 |
| 75 | As | 114.67 | P | 7.21 | 6.29 |
| 78 | Se | 40.44 | P | 4.68 | 11.58 |
| 88 | Sr | 2003.54 | P | 145.00 | 7.24 |
| 98 | Mo | 2229.14 | P | 137.00 | 6.15 |
| 103 | Rh | 2765173.00 | A | 31720.00 | 1.15 |
| 107 | Ag | 384.46 | P | 6.94 | 1.81 |

C:\ICPCHEM\1\DATA\13D22m01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 27.78 | P | 8.39 | 30.20 |
| 115 | In | 2912598.00 | A | 31310.00 | 1.08 |
| 115 | In | 798868.69 | P | 5522.00 | 0.69 |
| 118 | (In) | 1867.96 | P | 297.30 | 15.92 |
| 118 | (In) | 702.26 | P | 21.17 | 3.01 |
| 120 | Sn | 2594.77 | P | 264.80 | 10.21 |
| 121 | Sb | 2308.05 | P | 110.40 | 4.78 |
| 137 | Ba | 554.48 | P | 36.57 | 6.60 |
| 159 | Tb | 3980245.00 | A | 39630.00 | 1.00 |
| 175 | Lu | 3837078.00 | A | 34470.00 | 0.90 |
| 205 | Tl | 4942.17 | P | 156.30 | 3.16 |
| 206 | (Pb) | 390.02 | P | 23.10 | 5.92 |
| 207 | (Pb) | 297.79 | P | 24.12 | 8.10 |
| 208 | Pb | 1468.97 | P | 22.20 | 1.51 |
| 209 | Bi | 2117688.00 | A | 19280.00 | 0.91 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2758884.80 | 2.12 | 2771684.30 | 99.5 | 70 - 130 | |
| 45 | Sc | 2356418.80 | 1.17 | 2330160.50 | 101.1 | 70 - 130 | |
| 45 | Sc | 222009.64 | 1.01 | 215925.80 | 102.8 | 70 - 130 | |
| 72 | Ge | 471620.03 | 0.34 | 466203.13 | 101.2 | 70 - 130 | |
| 72 | Ge | 89972.24 | 0.39 | 87757.16 | 102.5 | 70 - 130 | |
| 103 | Rh | 2765173.30 | 1.15 | 2753404.30 | 100.4 | 70 - 130 | |
| 115 | In | 2912597.80 | 1.08 | 2900987.00 | 100.4 | 70 - 130 | |
| 115 | In | 798868.75 | 0.69 | 790752.63 | 101.0 | 70 - 130 | |
| 159 | Tb | 3980245.00 | 1.00 | 3935389.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 3837077.80 | 0.90 | 3842806.50 | 99.9 | 70 - 130 | |
| 209 | Bi | 2117688.50 | 0.91 | 2186063.00 | 96.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 22 2013 01:53 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2791420.00 | A | 31090.00 | 1.11 |
| 7 | (Li) | | P | | |
| 9 | Be | 48.89 | P | 10.18 | 20.82 |
| 9 | Be | 3.33 | P | 5.77 | 173.21 |
| 11 | B | 1463.45 | P | 89.65 | 6.13 |
| 11 | B | 21.11 | P | 8.39 | 39.74 |
| 23 | Na | 291555580.00 | A | 989400.00 | 0.34 |
| 23 | Na | 15490240.00 | A | 44010.00 | 0.28 |
| 24 | Mg | 191749500.00 | A | 67140.00 | 0.04 |
| 24 | Mg | 8481112.00 | A | 40290.00 | 0.48 |
| 27 | Al | 233947200.00 | A | 1447000.00 | 0.62 |
| 27 | Al | 4693384.00 | A | 32820.00 | 0.70 |
| 39 | K | 232624800.00 | A | 154500.00 | 0.07 |
| 44 | Ca | 6976819.00 | A | 17280.00 | 0.25 |
| 45 | Sc | 2447742.00 | A | 18400.00 | 0.75 |
| 45 | Sc | 230739.59 | P | 1627.00 | 0.71 |
| 47 | Ti | 176.67 | P | 23.33 | 13.21 |
| 51 | V | 2555.80 | P | 86.27 | 3.38 |
| 52 | Cr | 1404.08 | P | 31.52 | 2.24 |
| 55 | Mn | 1352.08 | P | 68.53 | 5.07 |
| 56 | Fe | 51982712.00 | A | 245300.00 | 0.47 |
| 59 | Co | 1332.97 | P | 30.30 | 2.27 |
| 60 | Ni | 515.57 | P | 48.63 | 9.43 |
| 63 | Cu | 879.59 | P | 56.95 | 6.47 |
| 66 | Zn | 382.90 | P | 13.42 | 3.50 |
| 72 | Ge | 494492.81 | P | 3144.00 | 0.64 |
| 72 | Ge | 93399.77 | P | 759.00 | 0.81 |
| 75 | As | 112.45 | P | 4.54 | 4.04 |
| 78 | Se | 43.33 | P | 3.53 | 8.14 |
| 88 | Sr | 13388.67 | P | 105.80 | 0.79 |
| 98 | Mo | 896.73 | P | 32.83 | 3.66 |
| 103 | Rh | 2734509.00 | A | 22710.00 | 0.83 |
| 107 | Ag | 754.49 | P | 10.71 | 1.42 |

C:\ICPCHEM\1\DATA\13D22m01.B\009CALS.D\009CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 20.00 | P | 6.67 | 33.33 | |
| 115 | In | 2900460.00 | A | 10410.00 | 0.36 | |
| 115 | In | 800566.38 | P | 5795.00 | 0.72 | |
| 118 | (In) | 923.40 | P | 125.80 | 13.62 | |
| 118 | (In) | 306.68 | P | 37.86 | 12.35 | |
| 120 | Sn | 1227.87 | P | 100.00 | 8.14 | |
| 121 | Sb | 1230.10 | P | 83.34 | 6.78 | |
| 137 | Ba | 642.26 | P | 18.96 | 2.95 | |
| 159 | Tb | 4001057.00 | A | 7745.00 | 0.19 | |
| 175 | Lu | 3900783.00 | A | 12310.00 | 0.32 | |
| 205 | Tl | 2323.61 | P | 135.10 | 5.81 | |
| 206 | (Pb) | 277.79 | P | 39.06 | 14.06 | |
| 207 | (Pb) | 267.79 | P | 36.72 | 13.71 | |
| 208 | Pb | 1104.50 | P | 74.26 | 6.72 | |
| 209 | Bi | 2071318.00 | A | 11040.00 | 0.53 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2791420.50 | 1.11 | 2771684.30 | 100.7 | 70 - 130 | |
| 45 | Sc | 2447742.50 | 0.75 | 2330160.50 | 105.0 | 70 - 130 | |
| 45 | Sc | 230739.64 | 0.71 | 215925.80 | 106.9 | 70 - 130 | |
| 72 | Ge | 494492.75 | 0.64 | 466203.13 | 106.1 | 70 - 130 | |
| 72 | Ge | 93399.77 | 0.81 | 87757.16 | 106.4 | 70 - 130 | |
| 103 | Rh | 2734508.50 | 0.83 | 2753404.30 | 99.3 | 70 - 130 | |
| 115 | In | 2900460.30 | 0.36 | 2900987.00 | 100.0 | 70 - 130 | |
| 115 | In | 800566.38 | 0.72 | 790752.63 | 101.2 | 70 - 130 | |
| 159 | Tb | 4001056.50 | 0.19 | 3935389.00 | 101.7 | 70 - 130 | |
| 175 | Lu | 3900783.30 | 0.32 | 3842806.50 | 101.5 | 70 - 130 | |
| 209 | Bi | 2071318.30 | 0.53 | 2186063.00 | 94.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22m01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 22 2013 02:00 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.17 | 60.17 | ppb | 0.43 | 900.00 | |
| 9 Be | 45 | 2 | 57.95 | 57.95 | ppb | 2.23 | 900.00 | |
| 11 B | 6 | 1 | 59.11 | 59.11 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 55.79 | 55.79 | ppb | 2.39 | 900.00 | |
| 23 Na | 45 | 1 | 5686.00 | 5686.00 | ppb | 1.01 | 90000.00 | |
| 23 Na | 45 | 2 | 5750.00 | 5750.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 5762.00 | 5762.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 5787.00 | 5787.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5662.00 | 5662.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 2 | 5784.00 | 5784.00 | ppb | 0.48 | 90000.00 | |
| 39 K | 45 | 1 | 5728.00 | 5728.00 | ppb | 0.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5701.00 | 5701.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.61 | 59.61 | ppb | 1.31 | 900.00 | |
| 51 V | 45 | 2 | 59.90 | 59.90 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 58.58 | 58.58 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 58.81 | 58.81 | ppb | 0.29 | 900.00 | |
| 56 Fe | 45 | 2 | 5695.00 | 5695.00 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 57.36 | 57.36 | ppb | 0.52 | 900.00 | |
| 60 Ni | 45 | 2 | 57.88 | 57.88 | ppb | 0.67 | 900.00 | |
| 63 Cu | 72 | 2 | 56.61 | 56.61 | ppb | 0.66 | 900.00 | |
| 66 Zn | 72 | 2 | 58.45 | 58.45 | ppb | 0.96 | 900.00 | |
| 75 As | 72 | 2 | 59.17 | 59.17 | ppb | 1.04 | 900.00 | |
| 78 Se | 72 | 2 | 58.11 | 58.11 | ppb | 1.83 | 900.00 | |
| 88 Sr | 103 | 1 | 62.41 | 62.41 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 63.05 | 63.05 | ppb | 0.33 | 900.00 | |
| 107 Ag | 115 | 1 | 60.68 | 60.68 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 58.66 | 58.66 | ppb | 2.14 | 900.00 | |
| 120 Sn | 115 | 1 | 60.04 | 60.04 | ppb | 1.07 | 900.00 | |
| 121 Sb | 115 | 1 | 60.98 | 60.98 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 60.56 | 60.56 | ppb | 0.33 | 900.00 | |
| 205 Tl | 209 | 1 | 59.84 | 59.84 | ppb | 1.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.13 | 60.13 | ppb | 1.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2803330 | 0.43 | 2771684 | 101.1 | 70 - 130 | |
| 45 Sc | 1 | 2460651 | 0.47 | 2330161 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 225635 | 0.16 | 215926 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 484083 | 1.42 | 466203 | 103.8 | 70 | - | 130 |
| 72 Ge | 2 | 91126 | 0.51 | 87757 | 103.8 | 70 | - | 130 |
| 103 Rh | 1 | 2756935 | 0.49 | 2753404 | 100.1 | 70 | - | 130 |
| 115 In | 1 | 2969584 | 1.29 | 2900987 | 102.4 | 70 | - | 130 |
| 115 In | 2 | 791712 | 0.25 | 790753 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 4042307 | 0.94 | 3935389 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 3924378 | 0.61 | 3842807 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2110005 | 1.13 | 2186063 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\011SMPL.D\011SMPL.D#
**Date Acquired:** Apr 22 2013 02:07 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICB
**Misc Info:**
**Vial Number:** 2102
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 299.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 156.10 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 1.03 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 19.59 | 900.00 | |
| 23 Na | 45 | 1 | 50.79 | 50.79 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 52.94 | 52.94 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.58 | 2.58 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.90 | 2.90 | ppb | 0.15 | 90000.00 | |
| 27 Al | 45 | 1 | 0.45 | 0.45 | ppb | 13.27 | 90000.00 | |
| 27 Al | 45 | 2 | 0.63 | 0.63 | ppb | 38.78 | 90000.00 | |
| 39 K | 45 | 1 | 12.32 | 12.32 | ppb | 7.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 40.45 | 40.45 | ppb | 3.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 378.15 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 6.66 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 7.72 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 190.70 | 900.00 | |
| 56 Fe | 45 | 2 | 0.75 | 0.75 | ppb | 8.96 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 52.38 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 109.71 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.08 | ppb | 11.50 | 900.00 | |
| 66 Zn | 72 | 2 | 0.76 | 0.76 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 174.79 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 51.79 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.07 | ppb | 3.63 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.11 | ppb | 4.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.82 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 358.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.06 | ppb | 10.71 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 13.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.13 | ppb | 2.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 10.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2889746 | 1.31 | 2771684 | 104.3 | 70 - 130 | |
| 45 Sc | 1 | 2504022 | 0.73 | 2330161 | 107.5 | 70 - 130 | |
| 45 Sc | 2 | 234060 | 0.73 | 215926 | 108.4 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 504806 | 0.79 | 466203 | 108.3 | 70 | - | 130 |
| 72 Ge | 2 | 94707 | 0.26 | 87757 | 107.9 | 70 | - | 130 |
| 103 Rh | 1 | 2932449 | 0.21 | 2753404 | 106.5 | 70 | - | 130 |
| 115 In | 1 | 3099089 | 0.80 | 2900987 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 838534 | 0.24 | 790753 | 106.0 | 70 | - | 130 |
| 159 Tb | 1 | 4070280 | 1.08 | 3935389 | 103.4 | 70 | - | 130 |
| 175 Lu | 1 | 3981135 | 0.75 | 3842807 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 2234264 | 0.82 | 2186063 | 102.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Apr 22 2013 02:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 54.18 | 54.18 | ppb | 11.81 | 900.00 | |
| 9 Be | 45 | 2 | 48.64 | 48.64 | ppb | 1.12 | 900.00 | |
| 11 B | 6 | 1 | 54.94 | 54.94 | ppb | 11.69 | 900.00 | |
| 11 B | 45 | 2 | 49.92 | 49.92 | ppb | 3.51 | 900.00 | |
| 23 Na | 45 | 1 | 5755.00 | 5755.00 | ppb | 16.77 | 90000.00 | |
| 23 Na | 45 | 2 | 5219.00 | 5219.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 5761.00 | 5761.00 | ppb | 16.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 5238.00 | 5238.00 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 5730.00 | 5730.00 | ppb | 17.70 | 90000.00 | |
| 27 Al | 45 | 2 | 5238.00 | 5238.00 | ppb | 1.48 | 90000.00 | |
| 39 K | 45 | 1 | 5757.00 | 5757.00 | ppb | 17.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 5829.00 | 5829.00 | ppb | 16.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 56.12 | 56.12 | ppb | 17.46 | 900.00 | |
| 51 V | 45 | 2 | 49.28 | 49.28 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 48.64 | 48.64 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 48.41 | 48.41 | ppb | 1.06 | 900.00 | |
| 56 Fe | 45 | 2 | 5136.00 | 5136.00 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 48.00 | 48.00 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 48.05 | 48.05 | ppb | 0.52 | 900.00 | |
| 63 Cu | 72 | 2 | 47.87 | 47.87 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 48.23 | 48.23 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 49.77 | 49.77 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 48.78 | 48.78 | ppb | 1.49 | 900.00 | |
| 88 Sr | 103 | 1 | 57.95 | 57.95 | ppb | 16.59 | 900.00 | |
| 98 Mo | 103 | 1 | 57.47 | 57.47 | ppb | 16.99 | 900.00 | |
| 107 Ag | 115 | 1 | 55.64 | 55.64 | ppb | 16.33 | 180.00 | |
| 111 Cd | 115 | 2 | 49.31 | 49.31 | ppb | 0.56 | 900.00 | |
| 120 Sn | 115 | 1 | 57.51 | 57.51 | ppb | 17.03 | 900.00 | |
| 121 Sb | 115 | 1 | 57.59 | 57.59 | ppb | 16.45 | 900.00 | |
| 137 Ba | 159 | 1 | 56.14 | 56.14 | ppb | 17.34 | 900.00 | |
| 205 Tl | 209 | 1 | 53.48 | 53.48 | ppb | 14.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 55.05 | 55.05 | ppb | 15.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2647329 | 9.93 | 2771684 | 95.5 | 70 - 130 | |
| 45 Sc | 1 | 2238005 | 14.54 | 2330161 | 96.0 | 70 - 130 | |
| 45 Sc | 2 | 228189 | 0.93 | 215926 | 105.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446163 | 10.69 | 466203 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 91431 | 0.29 | 87757 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 2549475 | 14.10 | 2753404 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 2709746 | 13.85 | 2900987 | 93.4 | 70 | - | 130 |
| 115 In | 2 | 793825 | 0.97 | 790753 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 3687430 | 14.60 | 3935389 | 93.7 | 70 | - | 130 |
| 175 Lu | 1 | 3605995 | 13.82 | 3842807 | 93.8 | 70 | - | 130 |
| 209 Bi | 1 | 1948048 | 12.75 | 2186063 | 89.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\013SMPL.D\013SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 22 2013 02:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 293.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 386.30 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 7.97 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 87.94 | 900.00 | |
| 23 Na | 45 | 1 | 0.30 | 0.30 | ppb | 80.01 | 90000.00 | |
| 23 Na | 45 | 2 | 1.04 | 1.04 | ppb | 32.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.18 | 0.18 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.70 | 0.70 | ppb | 38.35 | 90000.00 | |
| 27 Al | 45 | 1 | 0.11 | 0.11 | ppb | 49.17 | 90000.00 | |
| 27 Al | 45 | 2 | 0.41 | 0.41 | ppb | 48.98 | 90000.00 | |
| 39 K | 45 | 1 | 0.67 | 0.67 | ppb | 241.60 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.13 | -2.13 | ppb | 53.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 207.50 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 14.02 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 14.50 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 59.03 | 900.00 | |
| 56 Fe | 45 | 2 | 0.66 | 0.66 | ppb | 38.42 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 150.00 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 6.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 8.32 | 900.00 | |
| 66 Zn | 72 | 2 | 0.18 | 0.18 | ppb | 4.28 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 75.34 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 158.32 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 163.31 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 2.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.80 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 1742.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 16.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 104.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.42 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2914955 | 1.26 | 2771684 | 105.2 | 70 - 130 | |
| 45 Sc | 1 | 2517421 | 0.78 | 2330161 | 108.0 | 70 - 130 | |
| 45 Sc | 2 | 236499 | 1.16 | 215926 | 109.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 505339 | 0.32 | 466203 | 108.4 | 70 | - | 130 |
| 72 Ge | 2 | 95687 | 1.02 | 87757 | 109.0 | 70 | - | 130 |
| 103 Rh | 1 | 2925145 | 1.09 | 2753404 | 106.2 | 70 | - | 130 |
| 115 In | 1 | 3082207 | 0.50 | 2900987 | 106.2 | 70 | - | 130 |
| 115 In | 2 | 841522 | 1.19 | 790753 | 106.4 | 70 | - | 130 |
| 159 Tb | 1 | 4085478 | 1.35 | 3935389 | 103.8 | 70 | - | 130 |
| 175 Lu | 1 | 3971685 | 0.97 | 3842807 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 2191503 | 1.12 | 2186063 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D22m01.B\014SMPL.D\014SMPL.D# |
| Date Acquired: | Apr 22 2013 02:28 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2105 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 23 2013 04:00 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 2.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.46 | 0.46 | ppb | 14.48 | 900.00 | |
| 11 B | 6 | 1 | 4.99 | 4.99 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 4.94 | 4.94 | ppb | 6.83 | 900.00 | |
| 23 Na | 45 | 1 | 257.80 | 257.80 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 277.00 | 277.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.80 | 261.80 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.50 | 279.50 | ppb | 0.78 | 90000.00 | |
| 27 Al | 45 | 1 | 26.99 | 26.99 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 2 | 26.76 | 26.76 | ppb | 1.39 | 90000.00 | |
| 39 K | 45 | 1 | 251.40 | 251.40 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.10 | 264.10 | ppb | 1.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 1.02 | ppb | 2.15 | 900.00 | |
| 51 V | 45 | 2 | 0.96 | 0.96 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 0.94 | 0.94 | ppb | 1.86 | 900.00 | |
| 55 Mn | 45 | 2 | 0.98 | 0.98 | ppb | 2.78 | 900.00 | |
| 56 Fe | 45 | 2 | 27.59 | 27.59 | ppb | 0.94 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 0.89 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 1.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 2.63 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 1.07 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 3.05 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 3.12 | 900.00 | |
| 88 Sr | 103 | 1 | 4.98 | 4.98 | ppb | 1.15 | 900.00 | |
| 98 Mo | 103 | 1 | 1.04 | 1.04 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 2.28 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 7.69 | 900.00 | |
| 120 Sn | 115 | 1 | 4.91 | 4.91 | ppb | 0.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 5.01 | 900.00 | |
| 137 Ba | 159 | 1 | 1.10 | 1.10 | ppb | 3.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.49 | 0.49 | ppb | 2.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 1.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2924688 | 0.86 | 2771684 | 105.5 | 70 - 130 | |
| 45 Sc | 1 | 2532616 | 0.81 | 2330161 | 108.7 | 70 - 130 | |
| 45 Sc | 2 | 238303 | 0.62 | 215926 | 110.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 506926 | 0.90 | 466203 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 95638 | 0.34 | 87757 | 109.0 | 70 | - | 130 |
| 103 Rh | 1 | 2947482 | 0.84 | 2753404 | 107.0 | 70 | - | 130 |
| 115 In | 1 | 3093837 | 0.15 | 2900987 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 845466 | 0.10 | 790753 | 106.9 | 70 | - | 130 |
| 159 Tb | 1 | 4102508 | 0.75 | 3935389 | 104.2 | 70 | - | 130 |
| 175 Lu | 1 | 3998918 | 0.38 | 3842807 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 2211753 | 0.11 | 2186063 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D22m01.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Apr 22 2013 02:36 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 23 2013 04:00 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 66.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 3836.10 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 4.84 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 59.89 | 900.00 | |
| 23 Na | 45 | 1 | 96380.00 | 96380.00 | ppb | 1.27 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99760.00 | 99760.00 | ppb | 0.68 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 97170.00 | 97170.00 | ppb | 0.58 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 99230.00 | 99230.00 | ppb | 0.60 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 96360.00 | 96360.00 | ppb | 0.70 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97300.00 | 97300.00 | ppb | 0.35 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98030.00 | 98030.00 | ppb | 0.26 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96060.00 | 96060.00 | ppb | 0.48 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1994.00 | 1994.00 | ppb | 0.51 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 3.08 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 1.02 | ppb | 2.45 | 900.00 | |
| 55 Mn | 45 | 2 | 0.28 | 0.28 | ppb | 0.79 | 900.00 | |
| 56 Fe | 45 | 2 | 96020.00 | 96020.00 | ppb | 0.58 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 4.87 | 900.00 | |
| 60 Ni | 45 | 2 | 0.65 | 0.65 | ppb | 3.77 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.28 | ppb | 6.25 | 900.00 | |
| 66 Zn | 72 | 2 | 2.61 | 2.61 | ppb | 1.12 | 900.00 | |
| 75 As | 72 | 2 | 0.15 | 0.15 | ppb | 3.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 68.77 | 900.00 | |
| 88 Sr | 103 | 1 | 4.98 | 4.98 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 2079.00 | 2079.00 | ppb | 0.53 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.08 | 0.08 | ppb | 6.29 | 180.00 | |
| 111 Cd | 115 | 2 | 1.01 | 1.01 | ppb | 7.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.13 | ppb | 4.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.29 | 0.29 | ppb | 7.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 5.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.20 | ppb | 3.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2574113 | 0.37 | 2771684 | 92.9 | 70 - 130 | |
| 45 Sc | 1 | 2389974 | 1.01 | 2330161 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 226899 | 0.53 | 215926 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 498089 | 0.39 | 466203 | 106.8 | 70 | - | 130 |
| 72 Ge | 2 | 92093 | 0.25 | 87757 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 2534578 | 0.99 | 2753404 | 92.1 | 70 | - | 130 |
| 115 In | 1 | 2761883 | 0.76 | 2900987 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 732713 | 0.50 | 790753 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 3842944 | 0.88 | 3935389 | 97.7 | 70 | - | 130 |
| 175 Lu | 1 | 3795040 | 0.18 | 3842807 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 1906351 | 1.66 | 2186063 | 87.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 22 2013 02:43 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 33.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1912.40 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.25 | ppb | 6.27 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 128.95 | 900.00 | |
| 23 Na | 45 | 1 | 95720.00 | 95720.00 | ppb | 2.94 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100900.00 | 100900.00 | ppb | 1.23 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96130.00 | 96130.00 | ppb | 2.93 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 99890.00 | 99890.00 | ppb | 0.93 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 96450.00 | 96450.00 | ppb | 2.31 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 96650.00 | 96650.00 | ppb | 0.80 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98750.00 | 98750.00 | ppb | 2.91 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 98250.00 | 98250.00 | ppb | 2.60 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2005.00 | 2005.00 | ppb | 2.66 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 6.36 | 900.00 | |
| 52 Cr | 45 | 2 | 19.96 | 19.96 | ppb | 0.37 | 900.00 | |
| 55 Mn | 45 | 2 | 19.33 | 19.33 | ppb | 0.75 | 900.00 | |
| 56 Fe | 45 | 2 | 95660.00 | 95660.00 | ppb | 0.64 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.51 | 18.51 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 18.69 | 18.69 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 17.45 | 17.45 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 21.82 | 21.82 | ppb | 1.55 | 900.00 | |
| 75 As | 72 | 2 | 20.18 | 20.18 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 56.59 | 900.00 | |
| 88 Sr | 103 | 1 | 5.11 | 5.11 | ppb | 3.42 | 900.00 | |
| 98 Mo | 103 | 1 | 2126.00 | 2126.00 | ppb | 2.04 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.98 | 19.98 | ppb | 3.79 | 180.00 | |
| 111 Cd | 115 | 2 | 20.43 | 20.43 | ppb | 0.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.13 | ppb | 4.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.29 | 0.29 | ppb | 8.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 10.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 4.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2463843 | 2.08 | 2771684 | 88.9 | 70 - 130 | |
| 45 Sc | 1 | 2470832 | 2.86 | 2330161 | 106.0 | 70 - 130 | |
| 45 Sc | 2 | 233320 | 0.93 | 215926 | 108.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 507938 | 0.33 | 466203 | 109.0 | 70 | - | 130 |
| 72 Ge | 2 | 94294 | 0.55 | 87757 | 107.4 | 70 | - | 130 |
| 103 Rh | 1 | 2586688 | 2.16 | 2753404 | 93.9 | 70 | - | 130 |
| 115 In | 1 | 2859058 | 2.90 | 2900987 | 98.6 | 70 | - | 130 |
| 115 In | 2 | 743266 | 0.33 | 790753 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 3972319 | 2.79 | 3935389 | 100.9 | 70 | - | 130 |
| 175 Lu | 1 | 3855935 | 2.09 | 3842807 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 1932692 | 3.03 | 2186063 | 88.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\017SMPL.D\017SMPL.D#
Date Acquired: Apr 22 2013 02:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 33.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1582.40 | 900.00 | |
| 11 B | 6 | 1 | -0.04 | -0.04 | ppb | 17.28 | 900.00 | |
| 11 B | 45 | 2 | -0.02 | -0.02 | ppb | 284.78 | 900.00 | |
| 23 Na | 45 | 1 | 13.43 | 13.43 | ppb | 2.18 | 90000.00 | |
| 23 Na | 45 | 2 | 29.78 | 29.78 | ppb | 14.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.76 | 4.76 | ppb | 10.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 13.64 | 13.64 | ppb | 26.57 | 90000.00 | |
| 27 Al | 45 | 1 | 4.48 | 4.48 | ppb | 9.56 | 90000.00 | |
| 27 Al | 45 | 2 | 10.82 | 10.82 | ppb | 24.82 | 90000.00 | |
| 39 K | 45 | 1 | 4.03 | 4.03 | ppb | 29.13 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.14 | -0.14 | ppb | 270.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.19 | 0.19 | ppb | 12.12 | 900.00 | |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 7.12 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 16.65 | 900.00 | |
| 55 Mn | 45 | 2 | -0.02 | -0.02 | ppb | 16.68 | 900.00 | |
| 56 Fe | 45 | 2 | 13.86 | 13.86 | ppb | 19.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 25.58 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 215.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.16 | ppb | 3.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 22.58 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 51.37 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 26.31 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 46.41 | 900.00 | |
| 98 Mo | 103 | 1 | 1.59 | 1.59 | ppb | 5.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 41.36 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 126.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 12.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 25.44 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 28.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 37.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 57.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2620556 | 0.91 | 2771684 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 2623516 | 0.77 | 2330161 | 112.6 | 70 - 130 | |
| 45 Sc | 2 | 241054 | 0.62 | 215926 | 111.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 522456 | 1.48 | 466203 | 112.1 | 70 | - | 130 |
| 72 Ge | 2 | 98462 | 0.92 | 87757 | 112.2 | 70 | - | 130 |
| 103 Rh | 1 | 3019326 | 0.93 | 2753404 | 109.7 | 70 | - | 130 |
| 115 In | 1 | 3265987 | 0.20 | 2900987 | 112.6 | 70 | - | 130 |
| 115 In | 2 | 847173 | 0.85 | 790753 | 107.1 | 70 | - | 130 |
| 159 Tb | 1 | 4251919 | 0.86 | 3935389 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 4131859 | 0.76 | 3842807 | 107.5 | 70 | - | 130 |
| 209 Bi | 1 | 2271535 | 1.60 | 2186063 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\018SMPL.D\018SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 22 2013 02:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 29.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1747.90 | 900.00 | |
| 11 B | 6 | 1 | 0.52 | 0.26 | ppb | 6.73 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.17 | ppb | 72.54 | 900.00 | |
| 23 Na | 45 | 1 | 22.60 | 11.30 | ppb | 3.62 | 90000.00 | |
| 23 Na | 45 | 2 | 36.20 | 18.10 | ppb | 2.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.34 | 1.17 | ppb | 2.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.45 | 1.22 | ppb | 4.91 | 90000.00 | |
| 27 Al | 45 | 1 | 1.73 | 0.86 | ppb | 3.80 | 90000.00 | |
| 27 Al | 45 | 2 | 2.11 | 1.05 | ppb | 43.12 | 90000.00 | |
| 39 K | 45 | 1 | 0.91 | 0.45 | ppb | 219.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 14.99 | 7.50 | ppb | 10.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.50 | 0.25 | ppb | 7.57 | 900.00 | |
| 51 V | 45 | 2 | 2.46 | 1.23 | ppb | 3.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.03 | ppb | 17.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.11 | ppb | 12.52 | 900.00 | |
| 56 Fe | 45 | 2 | 3.90 | 1.95 | ppb | 13.46 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 18.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 80.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.13 | 0.07 | ppb | 11.70 | 900.00 | |
| 66 Zn | 72 | 2 | 0.28 | 0.14 | ppb | 5.21 | 900.00 | |
| 75 As | 72 | 2 | 0.68 | 0.34 | ppb | 9.04 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.01 | ppb | 56.39 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 7.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.10 | 0.55 | ppb | 6.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 18.83 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 23.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 4.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 14.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 42.71 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 54.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 32.76 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2311765 | 1.19 | 2771684 | 83.4 | 70 - 130 | |
| 45 Sc | 1 | 2568912 | 0.46 | 2330161 | 110.2 | 70 - 130 | |
| 45 Sc | 2 | 236883 | 0.77 | 215926 | 109.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 509175 | 0.87 | 466203 | 109.2 | 70 | - | 130 |
| 72 Ge | 2 | 96954 | 0.29 | 87757 | 110.5 | 70 | - | 130 |
| 103 Rh | 1 | 2939673 | 0.68 | 2753404 | 106.8 | 70 | - | 130 |
| 115 In | 1 | 3179387 | 0.69 | 2900987 | 109.6 | 70 | - | 130 |
| 115 In | 2 | 816928 | 0.22 | 790753 | 103.3 | 70 | - | 130 |
| 159 Tb | 1 | 4263249 | 0.99 | 3935389 | 108.3 | 70 | - | 130 |
| 175 Lu | 1 | 4129246 | 1.92 | 3842807 | 107.5 | 70 | - | 130 |
| 209 Bi | 1 | 2239169 | 0.36 | 2186063 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D22m01.B\019SMPL.D\019SMPL.D# | | |
| **Date Acquired:** | Apr 22 2013 03:05 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19884-15F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2110 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 23 2013 04:00 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 825.55 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 182.83 | 900.00 | |
| 11 B | 6 | 1 | 105.16 | 52.58 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 85.30 | 42.65 | ppb | 0.58 | 900.00 | |
| 23 Na | 45 | 1 | 14766.00 | 7383.00 | ppb | 1.08 | 90000.00 | |
| 23 Na | 45 | 2 | 16992.00 | 8496.00 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5516.00 | 2758.00 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 6278.00 | 3139.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 5.88 | 2.94 | ppb | 2.85 | 90000.00 | |
| 27 Al | 45 | 2 | 5.54 | 2.77 | ppb | 6.04 | 90000.00 | |
| 39 K | 45 | 1 | 3090.00 | 1545.00 | ppb | 0.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 57200.00 | 28600.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.66 | 0.83 | ppb | 6.29 | 900.00 | |
| 51 V | 45 | 2 | 1.56 | 0.78 | ppb | 2.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.31 | 0.15 | ppb | 2.86 | 900.00 | |
| 55 Mn | 45 | 2 | 3346.00 | 1673.00 | ppb | 0.53 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 8700.00 | 4350.00 | ppb | 0.92 | 90000.00 | |
| 59 Co | 45 | 2 | 11.23 | 5.62 | ppb | 0.79 | 900.00 | |
| 60 Ni | 45 | 2 | 16.29 | 8.15 | ppb | 1.57 | 900.00 | |
| 63 Cu | 72 | 2 | 0.59 | 0.29 | ppb | 2.99 | 900.00 | |
| 66 Zn | 72 | 2 | 12.47 | 6.23 | ppb | 0.67 | 900.00 | |
| 75 As | 72 | 2 | 132.20 | 66.10 | ppb | 1.05 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.08 | ppb | 159.92 | 900.00 | |
| 88 Sr | 103 | 1 | 294.00 | 147.00 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 15.79 | 7.90 | ppb | 0.72 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 3.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 48.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 5.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.84 | 0.42 | ppb | 2.87 | 900.00 | |
| 137 Ba | 159 | 1 | 8.21 | 4.10 | ppb | 2.09 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 27.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 9.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2038946 | 0.80 | 2771684 | 73.6 | 70 - 130 | |
| 45 Sc | 1 | 2447942 | 0.56 | 2330161 | 105.1 | 70 - 130 | |
| 45 Sc | 2 | 228402 | 0.92 | 215926 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 492473 | 0.43 | 466203 | 105.6 | 70 | - | 130 |
| 72 Ge | 2 | 93934 | 0.70 | 87757 | 107.0 | 70 | - | 130 |
| 103 Rh | 1 | 2709153 | 0.44 | 2753404 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 3052913 | 0.22 | 2900987 | 105.2 | 70 | - | 130 |
| 115 In | 2 | 772255 | 0.96 | 790753 | 97.7 | 70 | - | 130 |
| 159 Tb | 1 | 4154283 | 0.49 | 3935389 | 105.6 | 70 | - | 130 |
| 175 Lu | 1 | 4060147 | 1.02 | 3842807 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2151225 | 1.17 | 2186063 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 22 2013 03:12 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-13F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 20.30 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 1.12 | 900.00 | |
| 11 B | 6 | 1 | 72.22 | 36.11 | ppb | 0.50 | 900.00 | |
| 11 B | 45 | 2 | 56.82 | 28.41 | ppb | 3.51 | 900.00 | |
| 23 Na | 45 | 1 | 11170.00 | 5585.00 | ppb | 1.79 | 90000.00 | |
| 23 Na | 45 | 2 | 13044.00 | 6522.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 2374.00 | 1187.00 | ppb | 2.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 2758.00 | 1379.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 1 | 5.13 | 2.57 | ppb | 4.19 | 90000.00 | |
| 27 Al | 45 | 2 | 4.98 | 2.49 | ppb | 4.69 | 90000.00 | |
| 39 K | 45 | 1 | 3838.00 | 1919.00 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 18312.00 | 9156.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.86 | 0.93 | ppb | 5.55 | 900.00 | |
| 51 V | 45 | 2 | 1.51 | 0.75 | ppb | 1.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.92 | 0.46 | ppb | 3.41 | 900.00 | |
| 55 Mn | 45 | 2 | 811.20 | 405.60 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 27120.00 | 13560.00 | ppb | 0.23 | 90000.00 | |
| 59 Co | 45 | 2 | 10.52 | 5.26 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 8.66 | 4.33 | ppb | 0.63 | 900.00 | |
| 63 Cu | 72 | 2 | 1.25 | 0.63 | ppb | 2.51 | 900.00 | |
| 66 Zn | 72 | 2 | 15.32 | 7.66 | ppb | 0.32 | 900.00 | |
| 75 As | 72 | 2 | 3038.00 | 1519.00 | ppb | 0.51 | 900.00 | >LDR |
| 78 Se | 72 | 2 | 0.19 | 0.10 | ppb | 58.40 | 900.00 | |
| 88 Sr | 103 | 1 | 178.62 | 89.31 | ppb | 1.02 | 900.00 | |
| 98 Mo | 103 | 1 | 13.55 | 6.78 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.33 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 120.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 12.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 6.71 | 900.00 | |
| 137 Ba | 159 | 1 | 14.33 | 7.17 | ppb | 1.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 41.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 7.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982494 | 0.09 | 2771684 | 71.5 | 70 - 130 | |
| 45 Sc | 1 | 2441962 | 1.31 | 2330161 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 225716 | 0.99 | 215926 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 492703 | 0.50 | 466203 | 105.7 | 70 | - | 130 |
| 72 Ge | 2 | 93618 | 0.90 | 87757 | 106.7 | 70 | - | 130 |
| 103 Rh | 1 | 2739588 | 0.47 | 2753404 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3075356 | 1.60 | 2900987 | 106.0 | 70 | - | 130 |
| 115 In | 2 | 771472 | 0.83 | 790753 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 4159252 | 1.61 | 3935389 | 105.7 | 70 | - | 130 |
| 175 Lu | 1 | 4083606 | 1.55 | 3842807 | 106.3 | 70 | - | 130 |
| 209 Bi | 1 | 2137402 | 0.82 | 2186063 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 22 2013 03:19 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-14F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 97.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 363.19 | 900.00 | |
| 11 B | 6 | 1 | 157.54 | 78.77 | ppb | 1.01 | 900.00 | |
| 11 B | 45 | 2 | 122.16 | 61.08 | ppb | 2.52 | 900.00 | |
| 23 Na | 45 | 1 | 17918.00 | 8959.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 21180.00 | 10590.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 7624.00 | 3812.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 8726.00 | 4363.00 | ppb | 0.22 | 90000.00 | |
| 27 Al | 45 | 1 | 4.75 | 2.38 | ppb | 1.04 | 90000.00 | |
| 27 Al | 45 | 2 | 4.40 | 2.20 | ppb | 3.00 | 90000.00 | |
| 39 K | 45 | 1 | 4764.00 | 2382.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 55660.00 | 27830.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.15 | 1.07 | ppb | 5.43 | 900.00 | |
| 51 V | 45 | 2 | 1.10 | 0.55 | ppb | 3.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.24 | 0.12 | ppb | 4.76 | 900.00 | |
| 55 Mn | 45 | 2 | 2888.00 | 1444.00 | ppb | 0.25 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 45720.00 | 22860.00 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 18.99 | 9.49 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 22.34 | 11.17 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 0.63 | 0.32 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 56.10 | 28.05 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 1582.40 | 791.20 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 175.89 | 900.00 | |
| 88 Sr | 103 | 1 | 582.40 | 291.20 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 24.32 | 12.16 | ppb | 0.60 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 29.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 118.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.48 | 900.00 | |
| 121 Sb | 115 | 1 | 0.43 | 0.22 | ppb | 1.84 | 900.00 | |
| 137 Ba | 159 | 1 | 15.81 | 7.90 | ppb | 0.70 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 41.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 3.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1922949 | 1.16 | 2771684 | 69.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2435058 | 0.18 | 2330161 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 226390 | 1.17 | 215926 | 104.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 488612 | 0.87 | 466203 | 104.8 | 70 | - | 130 |
| 72 Ge | 2 | 93811 | 0.60 | 87757 | 106.9 | 70 | - | 130 |
| 103 Rh | 1 | 2689430 | 0.49 | 2753404 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 2989901 | 1.46 | 2900987 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 765570 | 1.04 | 790753 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 4104038 | 0.17 | 3935389 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4035213 | 0.67 | 3842807 | 105.0 | 70 | - | 130 |
| 209 Bi | 1 | 2104328 | 0.86 | 2186063 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\022SMPL.D\022SMPL.D#
Date Acquired: Apr 22 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-16F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 223.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 1.54 | 900.00 | |
| 11 B | 6 | 1 | 0.90 | 0.45 | ppb | 4.11 | 900.00 | |
| 11 B | 45 | 2 | 0.41 | 0.20 | ppb | 19.26 | 900.00 | |
| 23 Na | 45 | 1 | 24.42 | 12.21 | ppb | 7.89 | 90000.00 | |
| 23 Na | 45 | 2 | 39.70 | 19.85 | ppb | 2.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.63 | 1.32 | ppb | 5.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.91 | 1.46 | ppb | 7.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2.17 | 1.09 | ppb | 5.38 | 90000.00 | |
| 27 Al | 45 | 2 | 1.75 | 0.88 | ppb | 2.86 | 90000.00 | |
| 39 K | 45 | 1 | 18.04 | 9.02 | ppb | 58.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 39.06 | 19.53 | ppb | 17.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.75 | 0.37 | ppb | 15.37 | 900.00 | |
| 51 V | 45 | 2 | 1.68 | 0.84 | ppb | 4.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.60 | 0.30 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.12 | ppb | 5.67 | 900.00 | |
| 56 Fe | 45 | 2 | 6.01 | 3.00 | ppb | 1.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 59.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 23.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.48 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 7.33 | 3.67 | ppb | 1.18 | 900.00 | |
| 75 As | 72 | 2 | 0.86 | 0.43 | ppb | 6.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 93.22 | 900.00 | |
| 88 Sr | 103 | 1 | 0.08 | 0.04 | ppb | 7.63 | 900.00 | |
| 98 Mo | 103 | 1 | 0.23 | 0.12 | ppb | 6.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 31.53 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 146.35 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 4.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 11.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.16 | 0.08 | ppb | 5.84 | 900.00 | |
| 205 Tl | 209 | 1 | -0.03 | -0.02 | ppb | 22.31 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 7.69 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1962272 | 0.68 | 2771684 | 70.8 | 70 - 130 | |
| 45 Sc | 1 | 2381387 | 3.06 | 2330161 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 235241 | 0.97 | 215926 | 108.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 484837 | 1.41 | 466203 | 104.0 | 70 | - | 130 |
| 72 Ge | 2 | 96470 | 1.02 | 87757 | 109.9 | 70 | - | 130 |
| 103 Rh | 1 | 2762075 | 2.12 | 2753404 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 3029945 | 1.89 | 2900987 | 104.4 | 70 | - | 130 |
| 115 In | 2 | 803298 | 0.80 | 790753 | 101.6 | 70 | - | 130 |
| 159 Tb | 1 | 4092588 | 1.87 | 3935389 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 3995798 | 1.74 | 3842807 | 104.0 | 70 | - | 130 |
| 209 Bi | 1 | 2194274 | 1.71 | 2186063 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 22 2013 03:33 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20810-B1
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 554.80 | 27.74 | ppb | 1.07 | 900.00 | |
| 9 Be | 45 | 2 | 449.40 | 22.47 | ppb | 0.72 | 900.00 | |
| 11 B | 6 | 1 | 2.56 | 0.13 | ppb | 8.03 | 900.00 | |
| 11 B | 45 | 2 | 3.54 | 0.18 | ppb | 131.60 | 900.00 | |
| 23 Na | 45 | 1 | 24720.00 | 1236.00 | ppb | 0.90 | 90000.00 | |
| 23 Na | 45 | 2 | 28620.00 | 1431.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 1 | 25360.00 | 1268.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 28500.00 | 1425.00 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | 2152.00 | 107.60 | ppb | 0.76 | 90000.00 | |
| 27 Al | 45 | 2 | 2238.00 | 111.90 | ppb | 0.39 | 90000.00 | |
| 39 K | 45 | 1 | 26380.00 | 1319.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 27780.00 | 1389.00 | ppb | 0.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 473.80 | 23.69 | ppb | 1.17 | 900.00 | |
| 51 V | 45 | 2 | 515.40 | 25.77 | ppb | 0.19 | 900.00 | |
| 52 Cr | 45 | 2 | 502.40 | 25.12 | ppb | 0.54 | 900.00 | |
| 55 Mn | 45 | 2 | 490.00 | 24.50 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 2334.00 | 116.70 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 506.20 | 25.31 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 496.20 | 24.81 | ppb | 0.17 | 900.00 | |
| 63 Cu | 72 | 2 | 488.00 | 24.40 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 531.40 | 26.57 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 515.20 | 25.76 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 468.60 | 23.43 | ppb | 0.88 | 900.00 | |
| 88 Sr | 103 | 1 | 520.00 | 26.00 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 0.97 | 0.05 | ppb | 13.09 | 900.00 | |
| 107 Ag | 115 | 1 | 200.40 | 10.02 | ppb | 1.59 | 180.00 | |
| 111 Cd | 115 | 2 | 516.00 | 25.80 | ppb | 0.80 | 900.00 | |
| 120 Sn | 115 | 1 | -0.10 | 0.00 | ppb | 39.18 | 900.00 | |
| 121 Sb | 115 | 1 | 524.40 | 26.22 | ppb | 2.00 | 900.00 | |
| 137 Ba | 159 | 1 | 2136.00 | 106.80 | ppb | 1.33 | 900.00 | |
| 205 Tl | 209 | 1 | 483.00 | 24.15 | ppb | 0.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1037.20 | 51.86 | ppb | 1.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2369854 | 0.78 | 2771684 | 85.5 | 70 - 130 | |
| 45 Sc | 1 | 2694247 | 0.80 | 2330161 | 115.6 | 70 - 130 | |
| 45 Sc | 2 | 252477 | 0.69 | 215926 | 116.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 534850 | 0.72 | 466203 | 114.7 | 70 | - | 130 |
| 72 Ge | 2 | 103636 | 0.46 | 87757 | 118.1 | 70 | - | 130 |
| 103 Rh | 1 | 3076014 | 0.54 | 2753404 | 111.7 | 70 | - | 130 |
| 115 In | 1 | 3358989 | 0.99 | 2900987 | 115.8 | 70 | - | 130 |
| 115 In | 2 | 857560 | 0.50 | 790753 | 108.4 | 70 | - | 130 |
| 159 Tb | 1 | 4346661 | 1.09 | 3935389 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 4249651 | 1.19 | 3842807 | 110.6 | 70 | - | 130 |
| 209 Bi | 1 | 2266432 | 0.48 | 2186063 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D22m01.B\024SMPL.D\024SMPL.D# |
| Date Acquired: | Apr 22 2013 03:40 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 23 2013 04:00 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 56.13 | 56.13 | ppb | 1.03 | 900.00 | |
| 9 Be | 45 | 2 | 46.34 | 46.34 | ppb | 2.43 | 900.00 | |
| 11 B | 6 | 1 | 58.47 | 58.47 | ppb | 0.69 | 900.00 | |
| 11 B | 45 | 2 | 46.71 | 46.71 | ppb | 3.40 | 900.00 | |
| 23 Na | 45 | 1 | 4885.00 | 4885.00 | ppb | 1.68 | 90000.00 | |
| 23 Na | 45 | 2 | 5407.00 | 5407.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 4930.00 | 4930.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5348.00 | 5348.00 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 1 | 4957.00 | 4957.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 2 | 5171.00 | 5171.00 | ppb | 0.74 | 90000.00 | |
| 39 K | 45 | 1 | 5140.00 | 5140.00 | ppb | 1.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 5250.00 | 5250.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.82 | 48.82 | ppb | 0.98 | 900.00 | |
| 51 V | 45 | 2 | 50.50 | 50.50 | ppb | 0.40 | 900.00 | |
| 52 Cr | 45 | 2 | 49.44 | 49.44 | ppb | 0.70 | 900.00 | |
| 55 Mn | 45 | 2 | 47.99 | 47.99 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5145.00 | 5145.00 | ppb | 0.92 | 90000.00 | |
| 59 Co | 45 | 2 | 48.83 | 48.83 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 48.44 | 48.44 | ppb | 1.22 | 900.00 | |
| 63 Cu | 72 | 2 | 47.15 | 47.15 | ppb | 1.04 | 900.00 | |
| 66 Zn | 72 | 2 | 47.99 | 47.99 | ppb | 0.39 | 900.00 | |
| 75 As | 72 | 2 | 49.50 | 49.50 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 46.02 | 46.02 | ppb | 0.55 | 900.00 | |
| 88 Sr | 103 | 1 | 54.19 | 54.19 | ppb | 2.46 | 900.00 | |
| 98 Mo | 103 | 1 | 52.05 | 52.05 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 49.31 | 49.31 | ppb | 0.96 | 180.00 | |
| 111 Cd | 115 | 2 | 50.60 | 50.60 | ppb | 1.06 | 900.00 | |
| 120 Sn | 115 | 1 | 52.00 | 52.00 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 53.38 | 53.38 | ppb | 1.21 | 900.00 | |
| 137 Ba | 159 | 1 | 50.97 | 50.97 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 48.79 | 48.79 | ppb | 2.34 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.26 | 50.26 | ppb | 1.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2281821 | 1.16 | 2771684 | 82.3 | 70 - 130 | |
| 45 Sc | 1 | 2547617 | 1.35 | 2330161 | 109.3 | 70 - 130 | |
| 45 Sc | 2 | 236356 | 0.48 | 215926 | 109.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 497419 | 1.05 | 466203 | 106.7 | 70 | - | 130 |
| 72 Ge | 2 | 97127 | 0.67 | 87757 | 110.7 | 70 | - | 130 |
| 103 Rh | 1 | 2829934 | 1.20 | 2753404 | 102.8 | 70 | - | 130 |
| 115 In | 1 | 3100318 | 1.87 | 2900987 | 106.9 | 70 | - | 130 |
| 115 In | 2 | 802493 | 0.22 | 790753 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 4168225 | 1.53 | 3935389 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 4106462 | 1.58 | 3842807 | 106.9 | 70 | - | 130 |
| 209 Bi | 1 | 2146800 | 1.51 | 2186063 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D22m01.B\025SMPL.D\025SMPL.D# |
| Date Acquired: | Apr 22 2013 03:47 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2204 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 23 2013 04:00 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 160.22 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 12.12 | 900.00 | |
| 11 B | 45 | 2 | 0.05 | 0.05 | ppb | 37.47 | 900.00 | |
| 23 Na | 45 | 1 | 6.61 | 6.61 | ppb | 3.28 | 90000.00 | |
| 23 Na | 45 | 2 | 13.70 | 13.70 | ppb | 6.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.95 | 0.95 | ppb | 3.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.80 | 1.80 | ppb | 21.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.88 | 0.88 | ppb | 5.27 | 90000.00 | |
| 27 Al | 45 | 2 | 1.27 | 1.27 | ppb | 23.62 | 90000.00 | |
| 39 K | 45 | 1 | 4.57 | 4.57 | ppb | 33.89 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.18 | -8.18 | ppb | 9.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 88.62 | 900.00 | |
| 51 V | 45 | 2 | -0.14 | -0.14 | ppb | 1.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 36.95 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 1541.30 | 900.00 | |
| 56 Fe | 45 | 2 | 1.90 | 1.90 | ppb | 17.07 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 35.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 1466.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 5.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.18 | 0.18 | ppb | 4.67 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 68.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 9.19 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 14.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 3.90 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 7.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 74.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 21.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 24.30 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 20.17 | 900.00 | |
| 205 Tl | 209 | 1 | 0.30 | 0.30 | ppb | 2.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 21.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2369638 | 0.47 | 2771684 | 85.5 | 70 - 130 | |
| 45 Sc | 1 | 2550890 | 1.59 | 2330161 | 109.5 | 70 - 130 | |
| 45 Sc | 2 | 237195 | 0.23 | 215926 | 109.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 504111 | 1.51 | 466203 | 108.1 | 70 - | 130 |
| 72 | Ge | 2 | 98139 | 0.35 | 87757 | 111.8 | 70 - | 130 |
| 103 | Rh | 1 | 2923322 | 0.66 | 2753404 | 106.2 | 70 - | 130 |
| 115 | In | 1 | 3188689 | 1.41 | 2900987 | 109.9 | 70 - | 130 |
| 115 | In | 2 | 828234 | 0.50 | 790753 | 104.7 | 70 - | 130 |
| 159 | Tb | 1 | 4198387 | 0.60 | 3935389 | 106.7 | 70 - | 130 |
| 175 | Lu | 1 | 4103065 | 0.79 | 3842807 | 106.8 | 70 - | 130 |
| 209 | Bi | 1 | 2251399 | 1.38 | 2186063 | 103.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 22 2013 03:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20810-S1
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 553.60 | 27.68 | ppb | 0.80 | 900.00 | |
| 9 Be | 45 | 2 | 461.80 | 23.09 | ppb | 2.22 | 900.00 | |
| 11 B | 6 | 1 | 93.08 | 4.65 | ppb | 0.86 | 900.00 | |
| 11 B | 45 | 2 | 77.34 | 3.87 | ppb | 3.12 | 900.00 | |
| 23 Na | 45 | 1 | 40640.00 | 2032.00 | ppb | 0.15 | 90000.00 | |
| 23 Na | 45 | 2 | 45560.00 | 2278.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 31520.00 | 1576.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 35060.00 | 1753.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 2188.00 | 109.40 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 2 | 2304.00 | 115.20 | ppb | 0.38 | 90000.00 | |
| 39 K | 45 | 1 | 29700.00 | 1485.00 | ppb | 0.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 86340.00 | 4317.00 | ppb | 1.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 479.40 | 23.97 | ppb | 1.63 | 900.00 | |
| 51 V | 45 | 2 | 517.60 | 25.88 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 502.60 | 25.13 | ppb | 0.53 | 900.00 | |
| 55 Mn | 45 | 2 | 4154.00 | 207.70 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 11358.00 | 567.90 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 518.40 | 25.92 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 510.60 | 25.53 | ppb | 0.35 | 900.00 | |
| 63 Cu | 72 | 2 | 488.00 | 24.40 | ppb | 1.38 | 900.00 | |
| 66 Zn | 72 | 2 | 537.40 | 26.87 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 652.00 | 32.60 | ppb | 0.17 | 900.00 | |
| 78 Se | 72 | 2 | 482.60 | 24.13 | ppb | 1.11 | 900.00 | |
| 88 Sr | 103 | 1 | 818.60 | 40.93 | ppb | 1.43 | 900.00 | |
| 98 Mo | 103 | 1 | 14.27 | 0.71 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 204.80 | 10.24 | ppb | 1.55 | 180.00 | |
| 111 Cd | 115 | 2 | 516.80 | 25.84 | ppb | 1.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.53 | 0.03 | ppb | 11.49 | 900.00 | |
| 121 Sb | 115 | 1 | 533.80 | 26.69 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 2144.00 | 107.20 | ppb | 1.57 | 900.00 | |
| 205 Tl | 209 | 1 | 479.20 | 23.96 | ppb | 0.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1043.00 | 52.15 | ppb | 1.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2501384 | 0.13 | 2771684 | 90.2 | 70 - 130 | |
| 45 Sc | 1 | 2679757 | 0.86 | 2330161 | 115.0 | 70 - 130 | |
| 45 Sc | 2 | 245891 | 0.68 | 215926 | 113.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 524355 | 0.53 | 466203 | 112.5 | 70 | - | 130 |
| 72 Ge | 2 | 100572 | 0.93 | 87757 | 114.6 | 70 | - | 130 |
| 103 Rh | 1 | 3010898 | 1.13 | 2753404 | 109.4 | 70 | - | 130 |
| 115 In | 1 | 3267907 | 0.71 | 2900987 | 112.6 | 70 | - | 130 |
| 115 In | 2 | 836981 | 0.95 | 790753 | 105.8 | 70 | - | 130 |
| 159 Tb | 1 | 4310738 | 0.27 | 3935389 | 109.5 | 70 | - | 130 |
| 175 Lu | 1 | 4170020 | 0.89 | 3842807 | 108.5 | 70 | - | 130 |
| 209 Bi | 1 | 2224954 | 0.96 | 2186063 | 101.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22m01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 22 2013 04:01 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20810-S2
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 23 2013 04:00 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 555.40 | 27.77 | ppb | 1.38 | 900.00 | |
| 9 Be | 45 | 2 | 478.80 | 23.94 | ppb | 2.09 | 900.00 | |
| 11 B | 6 | 1 | 92.90 | 4.65 | ppb | 2.38 | 900.00 | |
| 11 B | 45 | 2 | 80.24 | 4.01 | ppb | 4.86 | 900.00 | |
| 23 Na | 45 | 1 | 42000.00 | 2100.00 | ppb | 1.13 | 90000.00 | |
| 23 Na | 45 | 2 | 46200.00 | 2310.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 32400.00 | 1620.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 35460.00 | 1773.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 2244.00 | 112.20 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 2 | 2306.00 | 115.30 | ppb | 0.32 | 90000.00 | |
| 39 K | 45 | 1 | 30400.00 | 1520.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 87360.00 | 4368.00 | ppb | 0.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.00 | 24.55 | ppb | 0.97 | 900.00 | |
| 51 V | 45 | 2 | 527.40 | 26.37 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | 512.60 | 25.63 | ppb | 0.71 | 900.00 | |
| 55 Mn | 45 | 2 | 4220.00 | 211.00 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 11412.00 | 570.60 | ppb | 0.11 | 90000.00 | |
| 59 Co | 45 | 2 | 525.60 | 26.28 | ppb | 0.30 | 900.00 | |
| 60 Ni | 45 | 2 | 519.60 | 25.98 | ppb | 0.27 | 900.00 | |
| 63 Cu | 72 | 2 | 497.00 | 24.85 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 548.60 | 27.43 | ppb | 0.58 | 900.00 | |
| 75 As | 72 | 2 | 657.60 | 32.88 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 494.60 | 24.73 | ppb | 2.01 | 900.00 | |
| 88 Sr | 103 | 1 | 829.00 | 41.45 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 14.17 | 0.71 | ppb | 3.23 | 900.00 | |
| 107 Ag | 115 | 1 | 208.20 | 10.41 | ppb | 0.82 | 180.00 | |
| 111 Cd | 115 | 2 | 524.40 | 26.22 | ppb | 1.78 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 296.86 | 900.00 | |
| 121 Sb | 115 | 1 | 542.00 | 27.10 | ppb | 1.13 | 900.00 | |
| 137 Ba | 159 | 1 | 2184.00 | 109.20 | ppb | 1.73 | 900.00 | |
| 205 Tl | 209 | 1 | 486.00 | 24.30 | ppb | 0.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1072.20 | 53.61 | ppb | 1.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2570179 | 1.26 | 2771684 | 92.7 | 70 - 130 | |
| 45 Sc | 1 | 2661430 | 0.83 | 2330161 | 114.2 | 70 - 130 | |
| 45 Sc | 2 | 245849 | 0.69 | 215926 | 113.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 523081 | 0.39 | 466203 | 112.2 | 70 | - | 130 |
| 72 Ge | 2 | 100813 | 0.87 | 87757 | 114.9 | 70 | - | 130 |
| 103 Rh | 1 | 3024003 | 0.91 | 2753404 | 109.8 | 70 | - | 130 |
| 115 In | 1 | 3264156 | 0.44 | 2900987 | 112.5 | 70 | - | 130 |
| 115 In | 2 | 838981 | 0.80 | 790753 | 106.1 | 70 | - | 130 |
| 159 Tb | 1 | 4281780 | 0.85 | 3935389 | 108.8 | 70 | - | 130 |
| 175 Lu | 1 | 4136638 | 0.78 | 3842807 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 2197356 | 0.60 | 2186063 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\028SMPL.D\028SMPL.D#
Date Acquired: Apr 22 2013 04:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-SD1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 95.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.10 | 0.01 | ppb | 120.82 | 900.00 | |
| 11 B | 6 | 1 | 91.62 | 9.16 | ppb | 2.69 | 900.00 | |
| 11 B | 45 | 2 | 77.90 | 7.79 | ppb | 11.21 | 900.00 | |
| 23 Na | 45 | 1 | 15630.00 | 1563.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 17570.00 | 1757.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 5830.00 | 583.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 6619.00 | 661.90 | ppb | 1.03 | 90000.00 | |
| 27 Al | 45 | 1 | 9.27 | 0.93 | ppb | 3.40 | 90000.00 | |
| 27 Al | 45 | 2 | 9.26 | 0.93 | ppb | 7.76 | 90000.00 | |
| 39 K | 45 | 1 | 3220.00 | 322.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 58820.00 | 5882.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.71 | 0.17 | ppb | 13.17 | 900.00 | |
| 51 V | 45 | 2 | -2.10 | -0.21 | ppb | 2.96 | 900.00 | |
| 52 Cr | 45 | 2 | -0.36 | -0.04 | ppb | 14.98 | 900.00 | |
| 55 Mn | 45 | 2 | 3528.00 | 352.80 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 8838.00 | 883.80 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 11.21 | 1.12 | ppb | 2.37 | 900.00 | |
| 60 Ni | 45 | 2 | 16.45 | 1.65 | ppb | 2.79 | 900.00 | |
| 63 Cu | 72 | 2 | 0.63 | 0.06 | ppb | 22.06 | 900.00 | |
| 66 Zn | 72 | 2 | 16.57 | 1.66 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 133.10 | 13.31 | ppb | 1.20 | 900.00 | |
| 78 Se | 72 | 2 | 1.56 | 0.16 | ppb | 36.15 | 900.00 | |
| 88 Sr | 103 | 1 | 303.20 | 30.32 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 14.47 | 1.45 | ppb | 2.23 | 900.00 | |
| 107 Ag | 115 | 1 | 0.06 | 0.01 | ppb | 26.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 138.78 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.02 | ppb | 11.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.97 | 0.10 | ppb | 6.08 | 900.00 | |
| 137 Ba | 159 | 1 | 9.25 | 0.92 | ppb | 2.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.91 | 0.09 | ppb | 2.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.01 | ppb | 3.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2519732 | 2.69 | 2771684 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 2648064 | 1.27 | 2330161 | 113.6 | 70 - 130 | |
| 45 Sc | 2 | 244648 | 0.95 | 215926 | 113.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 524786 | 0.77 | 466203 | 112.6 | 70 | - | 130 |
| 72 Ge | 2 | 100734 | 0.74 | 87757 | 114.8 | 70 | - | 130 |
| 103 Rh | 1 | 2973722 | 1.79 | 2753404 | 108.0 | 70 | - | 130 |
| 115 In | 1 | 3259777 | 0.83 | 2900987 | 112.4 | 70 | - | 130 |
| 115 In | 2 | 842506 | 0.89 | 790753 | 106.5 | 70 | - | 130 |
| 159 Tb | 1 | 4251616 | 1.83 | 3935389 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 4099237 | 0.71 | 3842807 | 106.7 | 70 | - | 130 |
| 209 Bi | 1 | 2240072 | 1.88 | 2186063 | 102.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 22 2013 04:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.52 | 0.52 | ppb | 2.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.45 | 0.45 | ppb | 8.32 | 900.00 | |
| 11 B | 6 | 1 | 5.38 | 5.38 | ppb | 0.08 | 900.00 | |
| 11 B | 45 | 2 | 4.20 | 4.20 | ppb | 10.19 | 900.00 | |
| 23 Na | 45 | 1 | 246.70 | 246.70 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 286.90 | 286.90 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 247.40 | 247.40 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 274.70 | 274.70 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 25.65 | 25.65 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 25.80 | 25.80 | ppb | 1.31 | 90000.00 | |
| 39 K | 45 | 1 | 254.30 | 254.30 | ppb | 0.77 | 90000.00 | |
| 44 Ca | 45 | 1 | 254.50 | 254.50 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 5.70 | 900.00 | |
| 51 V | 45 | 2 | 0.79 | 0.79 | ppb | 2.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.92 | 0.92 | ppb | 1.33 | 900.00 | |
| 55 Mn | 45 | 2 | 0.95 | 0.95 | ppb | 3.16 | 900.00 | |
| 56 Fe | 45 | 2 | 26.93 | 26.93 | ppb | 0.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.47 | 0.47 | ppb | 2.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.92 | 0.92 | ppb | 3.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 1.47 | 900.00 | |
| 66 Zn | 72 | 2 | 1.94 | 1.94 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 10.93 | 900.00 | |
| 78 Se | 72 | 2 | 0.58 | 0.58 | ppb | 16.66 | 900.00 | |
| 88 Sr | 103 | 1 | 5.06 | 5.06 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 1.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 1.84 | 900.00 | |
| 120 Sn | 115 | 1 | 4.87 | 4.87 | ppb | 0.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 2.19 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 4.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 2.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 2.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2531008 | 1.25 | 2771684 | 91.3 | 70 - 130 | |
| 45 Sc | 1 | 2675490 | 0.09 | 2330161 | 114.8 | 70 - 130 | |
| 45 Sc | 2 | 253282 | 0.93 | 215926 | 117.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 526216 | 0.32 | 466203 | 112.9 | 70 | - | 130 |
| 72 Ge | 2 | 102376 | 0.90 | 87757 | 116.7 | 70 | - | 130 |
| 103 Rh | 1 | 3036325 | 0.23 | 2753404 | 110.3 | 70 | - | 130 |
| 115 In | 1 | 3264515 | 0.49 | 2900987 | 112.5 | 70 | - | 130 |
| 115 In | 2 | 864456 | 1.00 | 790753 | 109.3 | 70 | - | 130 |
| 159 Tb | 1 | 4305481 | 0.14 | 3935389 | 109.4 | 70 | - | 130 |
| 175 Lu | 1 | 4155728 | 0.80 | 3842807 | 108.1 | 70 | - | 130 |
| 209 Bi | 1 | 2236790 | 0.14 | 2186063 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 22 2013 04:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 54.34 | 54.34 | ppb | 0.77 | 900.00 | |
| 9 Be | 45 | 2 | 46.20 | 46.20 | ppb | 2.23 | 900.00 | |
| 11 B | 6 | 1 | 56.57 | 56.57 | ppb | 0.61 | 900.00 | |
| 11 B | 45 | 2 | 48.74 | 48.74 | ppb | 4.48 | 900.00 | |
| 23 Na | 45 | 1 | 4912.00 | 4912.00 | ppb | 0.60 | 90000.00 | |
| 23 Na | 45 | 2 | 5407.00 | 5407.00 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 4929.00 | 4929.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5368.00 | 5368.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 4957.00 | 4957.00 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 5245.00 | 5245.00 | ppb | 0.68 | 90000.00 | |
| 39 K | 45 | 1 | 5108.00 | 5108.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 5192.00 | 5192.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.53 | 48.53 | ppb | 0.22 | 900.00 | |
| 51 V | 45 | 2 | 49.99 | 49.99 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 48.87 | 48.87 | ppb | 0.37 | 900.00 | |
| 55 Mn | 45 | 2 | 47.78 | 47.78 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 5101.00 | 5101.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 48.28 | 48.28 | ppb | 0.27 | 900.00 | |
| 60 Ni | 45 | 2 | 47.92 | 47.92 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 47.05 | 47.05 | ppb | 1.00 | 900.00 | |
| 66 Zn | 72 | 2 | 48.07 | 48.07 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 49.66 | 49.66 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 47.10 | 47.10 | ppb | 1.20 | 900.00 | |
| 88 Sr | 103 | 1 | 53.59 | 53.59 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 51.78 | 51.78 | ppb | 0.62 | 900.00 | |
| 107 Ag | 115 | 1 | 49.30 | 49.30 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 50.32 | 50.32 | ppb | 0.82 | 900.00 | |
| 120 Sn | 115 | 1 | 51.62 | 51.62 | ppb | 0.09 | 900.00 | |
| 121 Sb | 115 | 1 | 52.50 | 52.50 | ppb | 0.33 | 900.00 | |
| 137 Ba | 159 | 1 | 50.78 | 50.78 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 48.61 | 48.61 | ppb | 0.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.73 | 49.73 | ppb | 1.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2518101 | 0.63 | 2771684 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 2665927 | 0.84 | 2330161 | 114.4 | 70 - 130 | |
| 45 Sc | 2 | 245170 | 0.68 | 215926 | 113.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 518550 | 0.18 | 466203 | 111.2 | 70 | - | 130 |
| 72 Ge | 2 | 99037 | 1.07 | 87757 | 112.9 | 70 | - | 130 |
| 103 Rh | 1 | 2942161 | 0.60 | 2753404 | 106.9 | 70 | - | 130 |
| 115 In | 1 | 3174134 | 0.81 | 2900987 | 109.4 | 70 | - | 130 |
| 115 In | 2 | 816705 | 0.56 | 790753 | 103.3 | 70 | - | 130 |
| 159 Tb | 1 | 4253378 | 0.71 | 3935389 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 4114630 | 0.28 | 3842807 | 107.1 | 70 | - | 130 |
| 209 Bi | 1 | 2137339 | 0.14 | 2186063 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22m01.B\031SMPL.D\031SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22m01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 22 2013 04:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 23 2013 04:00 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 11.60 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.25 | ppb | 9.89 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 47.15 | 900.00 | |
| 23 Na | 45 | 1 | 5.98 | 5.98 | ppb | 3.15 | 90000.00 | |
| 23 Na | 45 | 2 | 14.74 | 14.74 | ppb | 37.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.28 | 1.28 | ppb | 6.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.82 | 2.82 | ppb | 25.90 | 90000.00 | |
| 27 Al | 45 | 1 | 1.19 | 1.19 | ppb | 7.67 | 90000.00 | |
| 27 Al | 45 | 2 | 2.34 | 2.34 | ppb | 34.41 | 90000.00 | |
| 39 K | 45 | 1 | 5.76 | 5.76 | ppb | 31.80 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.26 | -7.26 | ppb | 10.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 20.49 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 48.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 283.89 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 160.05 | 900.00 | |
| 56 Fe | 45 | 2 | 2.96 | 2.96 | ppb | 35.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 36.59 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 310.31 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 41.49 | 900.00 | |
| 66 Zn | 72 | 2 | 0.22 | 0.22 | ppb | 8.73 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 179.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.12 | ppb | 77.84 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 21.67 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 10.90 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 5.99 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 26.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 12.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 7.25 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 45.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 1.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.36 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2554566 | 0.70 | 2771684 | 92.2 | 70 - 130 | |
| 45 Sc | 1 | 2626229 | 0.57 | 2330161 | 112.7 | 70 - 130 | |
| 45 Sc | 2 | 234456 | 13.02 | 215926 | 108.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22m01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 517558 | 0.38 | 466203 | 111.0 | 70 | - | 130 |
| 72 Ge | 2 | 96769 | 10.06 | 87757 | 110.3 | 70 | - | 130 |
| 103 Rh | 1 | 2992998 | 1.13 | 2753404 | 108.7 | 70 | - | 130 |
| 115 In | 1 | 3222197 | 0.48 | 2900987 | 111.1 | 70 | - | 130 |
| 115 In | 2 | 817980 | 13.33 | 790753 | 103.4 | 70 | - | 130 |
| 159 Tb | 1 | 4233983 | 1.04 | 3935389 | 107.6 | 70 | - | 130 |
| 175 Lu | 1 | 4105488 | 0.74 | 3842807 | 106.8 | 70 | - | 130 |
| 209 Bi | 1 | 2207147 | 1.41 | 2186063 | 101.0 | 70 | - | 130 |

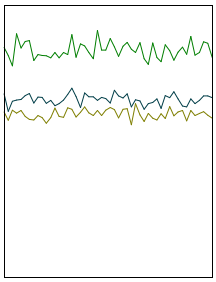
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

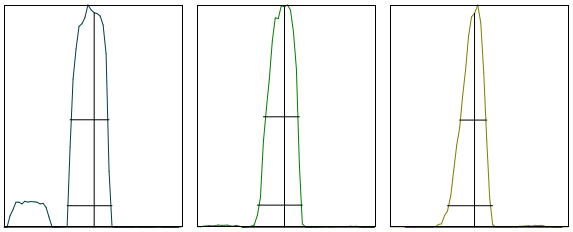
# Tune Report

Tune File : nogas.u
Comment : 042213



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3303.0 | 3271.5 | 2.84 | 1.70 |
| 89 | 5,000 | 4045.0 | 4178.6 | 3.59 | 2.30 |
| 205 | 5,000 | 2926.0 | 3001.8 | 2.90 | 19.10 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.034%
Doubly Charged: 70/140 53.155%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,225 | 4,224 | 2,867 |
| Axis: | 7.05 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.05 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 263.4 | 7.32 | |
| QP Focus: | -8 V | 59 | 900.0 | 4.42 | |
| Cell Exit: | -34 V | 89 | 853.1 | 4.00 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 22, 2013 11:58:33
Printed : Apr 22, 2013 11:59:23

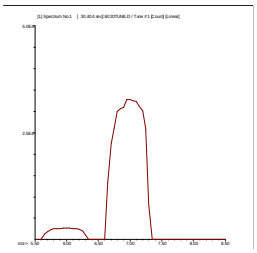
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 22 2013 12:32 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

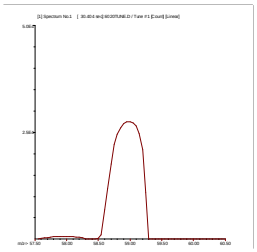
**QC Tune Summary:**
**Pass**

**RSD%**

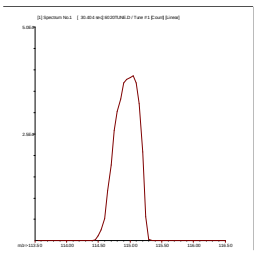
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.82 | 5.00 | 0 |
| 59 Co | 0.80 | 5.00 | |
| 115 In | 0.75 | 5.00 | |
| 205 Tl | 3.38 | 5.00 | |



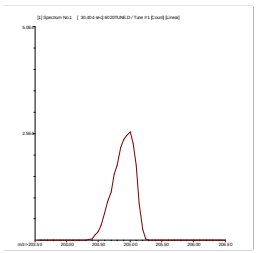
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 22, 2013 07:25 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

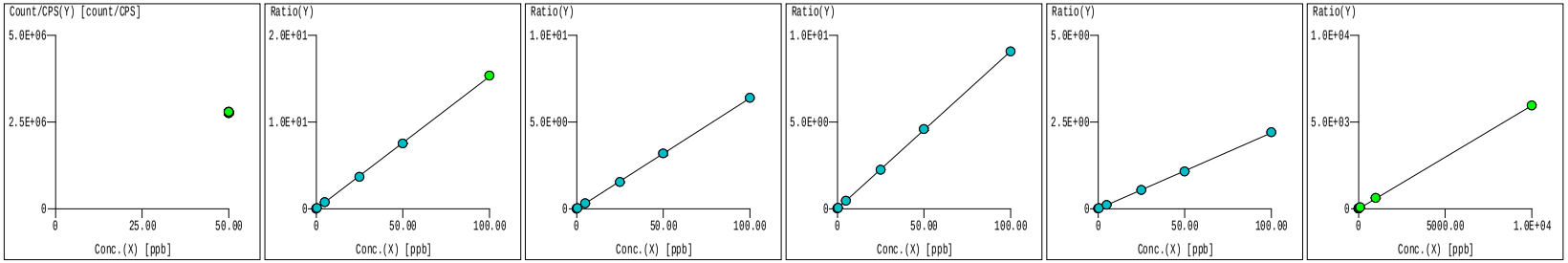
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d22m01.b\002calb.d\002calb.d# | STDA | Apr 22 2013 01:03 pm |
| 2 | c:\icpchem\1\data\13d22m01.b\003cals.d\003cals.d# | STDB | Apr 22 2013 01:10 pm |
| 3 | c:\icpchem\1\data\13d22m01.b\004cals.d\004cals.d# | STDC | Apr 22 2013 01:17 pm |
| 4 | c:\icpchem\1\data\13d22m01.b\005cals.d\005cals.d# | STDD | Apr 22 2013 01:24 pm |
| 5 | c:\icpchem\1\data\13d22m01.b\006cals.d\006cals.d# | STDE | Apr 22 2013 01:31 pm |
| 6 | c:\icpchem\1\data\13d22m01.b\007cals.d\007cals.d# | STDF | Apr 22 2013 01:39 pm |
| 7 | c:\icpchem\1\data\13d22m01.b\008cals.d\008cals.d# | STDG | Apr 22 2013 01:46 pm |
| 8 | c:\icpchem\1\data\13d22m01.b\009cals.d\009cals.d# | STDH | Apr 22 2013 01:53 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

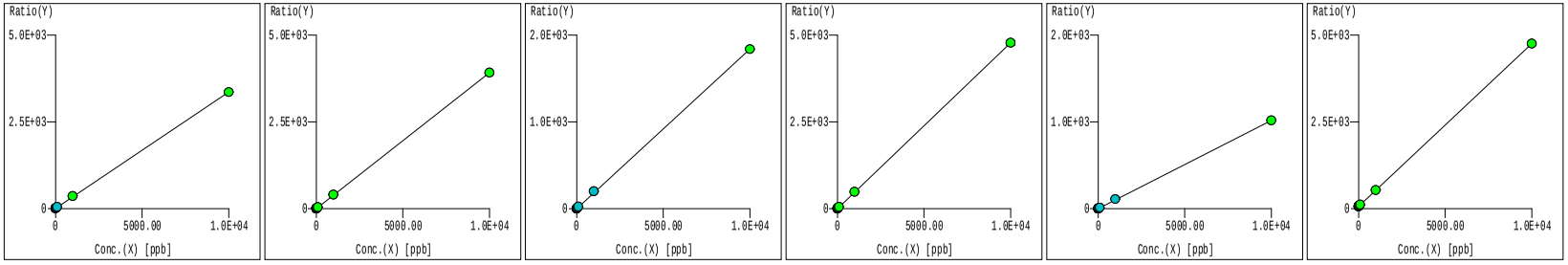
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 5.320E-03 ppb | 2.099E-02 ppb | 4.665E-02 ppb | 1.226E-01 ppb | 6.988E-01 ppb |
| < BEC > | --- ppb | 6.173E-03 ppb | 4.040E-03 ppb | 1.419E-01 ppb | 1.648E-01 ppb | 13.85 ppb |



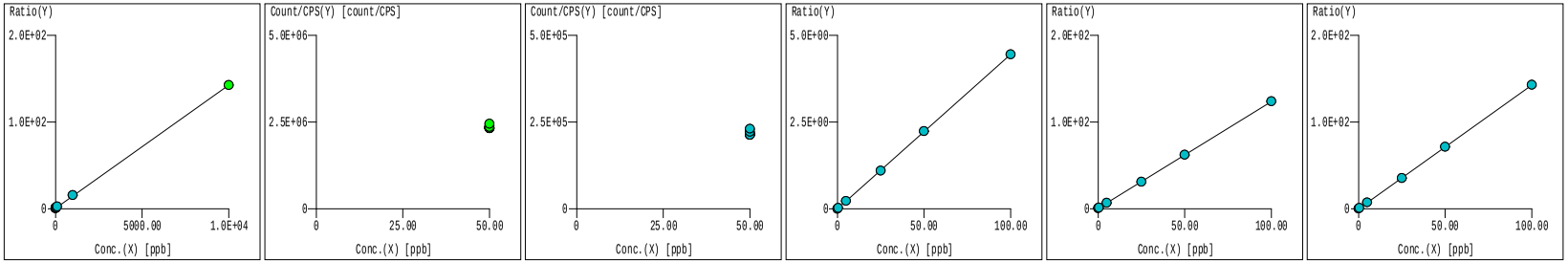

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 8.815E-01 ppb | 1.644E-02 ppb | 4.721E-02 ppb | 5.487E-02 ppb | 3.089E-01 ppb | 3.945 ppb |
| < BEC > | 24.43 ppb | 2.066E-01 ppb | 2.224E-01 ppb | 6.840E-01 ppb | 7.735E-01 ppb | 133.2 ppb |



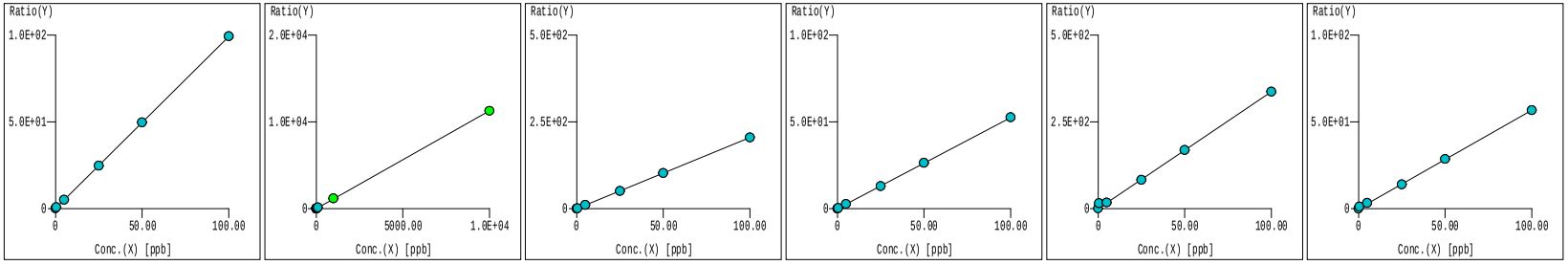
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.809 ppb | --- ppb | --- ppb | 4.403E-02 ppb | 7.677E-03 ppb | 1.010E-02 ppb |
| < BEC > | 38.68 ppb | --- ppb | --- ppb | 6.443E-02 ppb | 5.692E-01 ppb | 1.242E-01 ppb |



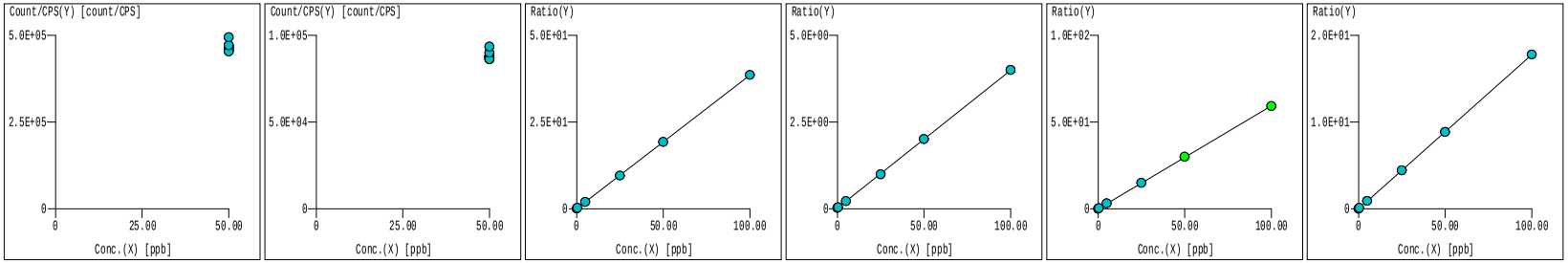

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9992 | 0.9999 |
| < DL > | 2.379E-02 ppb | 1.151E-02 ppb | 2.563E-03 ppb | 1.088E-02 ppb | 4.051E-02 ppb | 1.920E-02 ppb |
| < BEC > | 1.441E-01 ppb | 2.860 ppb | 6.737E-03 ppb | 8.273E-02 ppb | 1.105E-01 ppb | 9.677E-02 ppb |



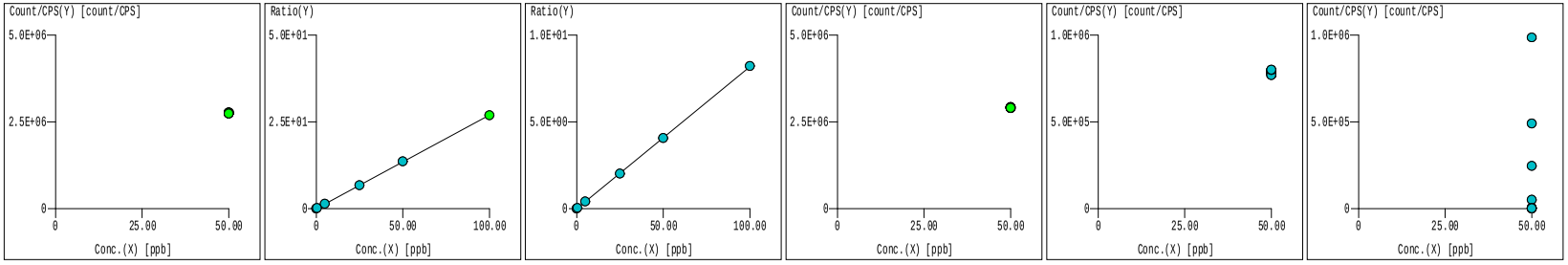
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 2.004E-02 ppb | 3.514E-01 ppb | 2.908E-03 ppb | 7.450E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.667E-01 ppb | 5.858E-01 ppb | 1.233E-02 ppb | 1.930E-02 ppb |



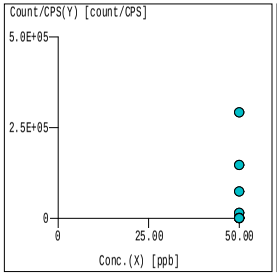

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.545E-03 ppb | 4.441E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.603E-03 ppb | 6.861E-03 ppb | --- ppb | --- ppb | --- ppb |

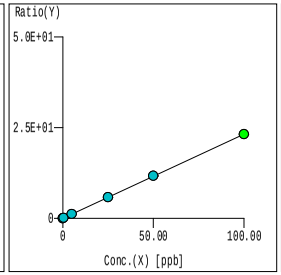


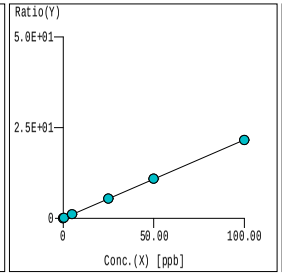
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

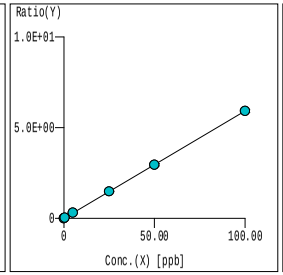
=== Graph Summary ===
Page: 4/4

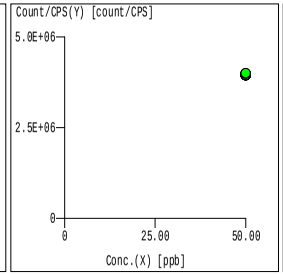
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.156E-03 ppb | 1.306E-03 ppb | 1.032E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.021E-02 ppb | 7.092E-03 ppb | 8.810E-02 ppb | --- ppb | --- ppb |

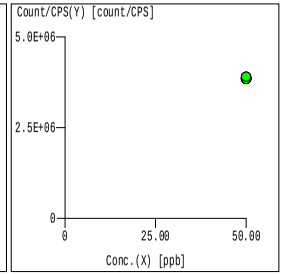


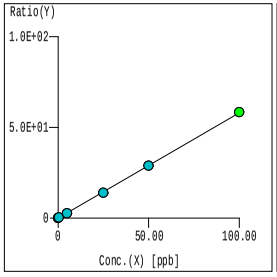



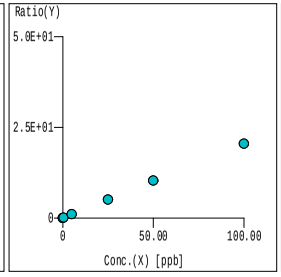



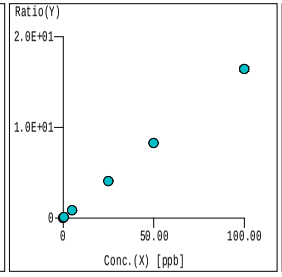



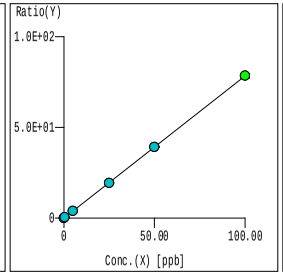



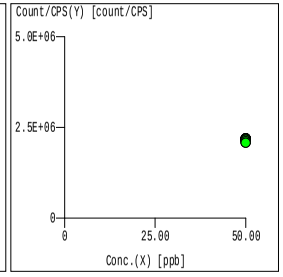

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 1.282E-02 ppb | --- ppb | --- ppb | 6.698E-03 ppb | --- ppb |
| < BEC > | 4.094E-02 ppb | --- ppb | --- ppb | 1.880E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D22s01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\001CAL
Date Acquired: Apr 22 2013 06:24 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 01:56 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2431364.00 | A | 5600.00 | 0.23 |
| 7 | (Li) | | P | | |
| 9 | Be | 25.56 | P | 5.09 | 19.93 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 672.26 | P | 39.06 | 5.81 |
| 11 | B | 18.89 | P | 5.09 | 26.96 |
| 23 | Na | 488687.19 | P | 7167.00 | 1.47 |
| 23 | Na | 54676.85 | P | 224.30 | 0.41 |
| 24 | Mg | 4854.27 | P | 98.24 | 2.02 |
| 24 | Mg | 238.90 | P | 31.68 | 13.26 |
| 27 | Al | 17296.19 | P | 1596.00 | 9.23 |
| 27 | Al | 378.91 | P | 38.93 | 10.27 |
| 39 | K | 3469001.00 | A | 10750.00 | 0.31 |
| 44 | Ca | 27878.07 | P | 553.90 | 1.99 |
| 45 | Sc | 3012271.00 | A | 10740.00 | 0.36 |
| 45 | Sc | 312325.41 | P | 919.00 | 0.29 |
| 47 | Ti | 160.01 | P | 20.28 | 12.67 |
| 51 | V | 3042.56 | P | 16.30 | 0.54 |
| 52 | Cr | 825.81 | P | 40.03 | 4.85 |
| 55 | Mn | 636.47 | P | 23.49 | 3.69 |
| 56 | Fe | 16843.84 | P | 327.90 | 1.95 |
| 59 | Co | 11.11 | P | 5.55 | 49.96 |
| 60 | Ni | 190.23 | P | 11.34 | 5.96 |
| 63 | Cu | 928.04 | P | 18.33 | 1.98 |
| 66 | Zn | 105.33 | P | 5.33 | 5.06 |
| 72 | Ge | 623416.31 | P | 4715.00 | 0.76 |
| 72 | Ge | 130839.80 | P | 935.80 | 0.72 |
| 75 | As | 132.89 | P | 14.91 | 11.22 |
| 78 | Se | 82.00 | P | 9.33 | 11.38 |
| 88 | Sr | 421.13 | P | 25.02 | 5.94 |
| 98 | Mo | 331.13 | P | 47.65 | 14.39 |
| 103 | Rh | 3512990.00 | A | 36220.00 | 1.03 |
| 107 | Ag | 174.45 | P | 22.69 | 13.01 |

C:\ICPCHEM\1\DATA\13D22s01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1.11 | P | 1.93 | 173.24 |
| 115 | In | 3684109.00 | A | 36120.00 | 0.98 |
| 115 | In | 1051222.00 | P | 11840.00 | 1.13 |
| 118 | (In) | 516.69 | P | 3.33 | 0.64 |
| 118 | (In) | 178.90 | P | 37.91 | 21.19 |
| 120 | Sn | 730.04 | P | 46.19 | 6.33 |
| 121 | Sb | 240.01 | P | 33.83 | 14.10 |
| 137 | Ba | 541.14 | P | 23.41 | 4.33 |
| 159 | Tb | 4637741.00 | A | 84220.00 | 1.82 |
| 175 | Lu | 4419364.00 | A | 58140.00 | 1.32 |
| 205 | Tl | 2368.08 | P | 87.03 | 3.68 |
| 206 | (Pb) | 150.01 | P | 11.55 | 7.70 |
| 207 | (Pb) | 130.01 | P | 12.02 | 9.25 |
| 208 | Pb | 624.47 | P | 65.52 | 10.49 |
| 209 | Bi | 2432568.00 | A | 21640.00 | 0.89 |

C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\002CAL
Date Acquired: Apr 22 2013 06:32 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 06:28 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2388263.00 | A | 52360.00 | 2.19 |
| 7 | (Li) | | P | | |
| 9 | Be | 18.89 | P | 5.09 | 26.96 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 444.47 | P | 26.74 | 6.02 |
| 11 | B | 10.00 | P | 0.00 | 0.00 |
| 23 | Na | 488540.09 | P | 5534.00 | 1.13 |
| 23 | Na | 54348.89 | P | 782.20 | 1.44 |
| 24 | Mg | 5152.15 | P | 192.50 | 3.74 |
| 24 | Mg | 224.45 | P | 13.47 | 6.00 |
| 27 | Al | 17044.72 | P | 1212.00 | 7.11 |
| 27 | Al | 433.36 | P | 18.56 | 4.28 |
| 39 | K | 3487524.00 | A | 17540.00 | 0.50 |
| 44 | Ca | 28275.39 | P | 736.60 | 2.61 |
| 45 | Sc | 2903830.00 | A | 180100.00 | 6.20 |
| 45 | Sc | 309155.91 | P | 37270.00 | 12.06 |
| 47 | Ti | 198.94 | P | 84.82 | 42.64 |
| 51 | V | 3012.78 | P | 82.01 | 2.72 |
| 52 | Cr | 823.59 | P | 3.36 | 0.41 |
| 55 | Mn | 687.14 | P | 33.53 | 4.88 |
| 56 | Fe | 16866.82 | P | 901.90 | 5.35 |
| 59 | Co | 17.33 | P | 8.33 | 48.04 |
| 60 | Ni | 191.12 | P | 25.52 | 13.35 |
| 63 | Cu | 918.26 | P | 33.34 | 3.63 |
| 66 | Zn | 129.56 | P | 7.00 | 5.41 |
| 72 | Ge | 618578.38 | P | 19810.00 | 3.20 |
| 72 | Ge | 133152.80 | P | 11920.00 | 8.95 |
| 75 | As | 135.11 | P | 12.69 | 9.39 |
| 78 | Se | 74.67 | P | 3.71 | 4.97 |
| 88 | Sr | 397.80 | P | 107.80 | 27.10 |
| 98 | Mo | 192.23 | P | 28.74 | 14.95 |
| 103 | Rh | 3314277.00 | A | 172600.00 | 5.21 |
| 107 | Ag | 132.23 | P | 3.85 | 2.91 |

C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 3516736.00 | A | 158400.00 | 4.50 |
| 115 | In | 1020578.00 | M | 104300.00 | 10.22 |
| 118 | (In) | 343.35 | P | 14.53 | 4.23 |
| 118 | (In) | 115.56 | P | 47.65 | 41.23 |
| 120 | Sn | 506.69 | P | 44.85 | 8.85 |
| 121 | Sb | 138.89 | P | 45.01 | 32.41 |
| 137 | Ba | 506.69 | P | 55.08 | 10.87 |
| 159 | Tb | 4430852.00 | A | 241900.00 | 5.46 |
| 175 | Lu | 4183901.00 | A | 227400.00 | 5.44 |
| 205 | Tl | 1210.10 | P | 70.01 | 5.79 |
| 206 | (Pb) | 136.67 | P | 14.53 | 10.63 |
| 207 | (Pb) | 131.12 | P | 5.09 | 3.88 |
| 208 | Pb | 626.70 | P | 29.63 | 4.73 |
| 209 | Bi | 2323029.00 | A | 132200.00 | 5.69 |

C:\ICPCHEM\1\DATA\13D22s01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 22 2013 06:39 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 06:35 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2447419.00 | A | 28270.00 | 1.16 |
| 7 | (Li) | | P | | |
| 9 | Be | 4179.58 | P | 112.90 | 2.70 |
| 9 | Be | 155.56 | P | 12.62 | 8.11 |
| 11 | B | 3033.72 | P | 108.20 | 3.57 |
| 11 | B | 55.56 | P | 17.11 | 30.80 |
| 23 | Na | 765588.38 | P | 11010.00 | 1.44 |
| 23 | Na | 71992.60 | P | 801.00 | 1.11 |
| 24 | Mg | 40967.50 | P | 886.90 | 2.16 |
| 24 | Mg | 1935.74 | P | 109.60 | 5.66 |
| 27 | Al | 133496.30 | P | 1256.00 | 0.94 |
| 27 | Al | 3012.63 | P | 195.00 | 6.47 |
| 39 | K | 3570171.00 | A | 31600.00 | 0.89 |
| 44 | Ca | 63190.59 | P | 1075.00 | 1.70 |
| 45 | Sc | 2998762.00 | A | 19010.00 | 0.63 |
| 45 | Sc | 310492.31 | P | 2105.00 | 0.68 |
| 47 | Ti | 1533.46 | P | 105.40 | 6.87 |
| 51 | V | 6862.95 | P | 98.82 | 1.44 |
| 52 | Cr | 5326.77 | P | 142.20 | 2.67 |
| 55 | Mn | 4618.09 | P | 100.20 | 2.17 |
| 56 | Fe | 37798.74 | P | 624.00 | 1.65 |
| 59 | Co | 6194.66 | P | 0.00 | 0.00 |
| 60 | Ni | 1853.02 | P | 75.84 | 4.09 |
| 63 | Cu | 40270.36 | P | 662.80 | 1.65 |
| 66 | Zn | 2987.87 | P | 10.10 | 0.34 |
| 72 | Ge | 647941.13 | P | 7648.00 | 1.18 |
| 72 | Ge | 136331.00 | P | 1150.00 | 0.84 |
| 75 | As | 624.46 | P | 34.36 | 5.50 |
| 78 | Se | 126.45 | P | 20.81 | 16.46 |
| 88 | Sr | 23092.89 | P | 222.10 | 0.96 |
| 98 | Mo | 6380.48 | P | 103.30 | 1.62 |
| 103 | Rh | 3464219.00 | A | 17890.00 | 0.52 |
| 107 | Ag | 9934.80 | P | 163.30 | 1.64 |

C:\ICPCHEM\1\DATA\13D22s01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 828.94 | P | 15.03 | 1.81 |
| 115 | In | 3634005.00 | A | 28060.00 | 0.77 |
| 115 | In | 1046736.00 | P | 1518.00 | 0.15 |
| 118 | (In) | 6493.87 | P | 174.60 | 2.69 |
| 118 | (In) | 2134.68 | P | 44.27 | 2.07 |
| 120 | Sn | 9237.63 | P | 130.10 | 1.41 |
| 121 | Sb | 8205.89 | P | 138.70 | 1.69 |
| 137 | Ba | 3750.62 | P | 99.07 | 2.64 |
| 159 | Tb | 4554885.00 | A | 28270.00 | 0.62 |
| 175 | Lu | 4335212.00 | A | 65220.00 | 1.50 |
| 205 | Tl | 12417.13 | P | 187.80 | 1.51 |
| 206 | (Pb) | 5241.19 | P | 211.10 | 4.03 |
| 207 | (Pb) | 4240.82 | P | 122.60 | 2.89 |
| 208 | Pb | 19870.78 | P | 381.30 | 1.92 |
| 209 | Bi | 2353382.00 | A | 3109.00 | 0.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2447419.00 | 1.16 | 2388262.80 | 102.5 | 70 - 130 | |
| 45 | Sc | 2998761.50 | 0.63 | 2903830.00 | 103.3 | 70 - 130 | |
| 45 | Sc | 310492.28 | 0.68 | 309155.91 | 100.4 | 70 - 130 | |
| 72 | Ge | 647941.13 | 1.18 | 618578.38 | 104.7 | 70 - 130 | |
| 72 | Ge | 136330.95 | 0.84 | 133152.77 | 102.4 | 70 - 130 | |
| 103 | Rh | 3464219.00 | 0.52 | 3314277.00 | 104.5 | 70 - 130 | |
| 115 | In | 3634004.50 | 0.77 | 3516736.30 | 103.3 | 70 - 130 | |
| 115 | In | 1046735.50 | 0.15 | 1020578.10 | 102.6 | 70 - 130 | |
| 159 | Tb | 4554885.00 | 0.62 | 4430852.50 | 102.8 | 70 - 130 | |
| 175 | Lu | 4335212.50 | 1.50 | 4183901.30 | 103.6 | 70 - 130 | |
| 209 | Bi | 2353382.00 | 0.13 | 2323029.30 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 22 2013 06:46 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 06:42 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2461856.00 | A | 14510.00 | 0.59 |
| 7 | (Li) | | P | | |
| 9 | Be | 42225.85 | P | 345.00 | 0.82 |
| 9 | Be | 1484.57 | P | 104.70 | 7.05 |
| 11 | B | 26335.89 | P | 330.90 | 1.26 |
| 11 | B | 515.58 | P | 60.04 | 11.65 |
| 23 | Na | 720641.19 | P | 8484.00 | 1.18 |
| 23 | Na | 69542.86 | P | 193.10 | 0.28 |
| 24 | Mg | 126159.20 | P | 1581.00 | 1.25 |
| 24 | Mg | 6243.69 | P | 271.50 | 4.35 |
| 27 | Al | 169859.20 | P | 1501.00 | 0.88 |
| 27 | Al | 3677.22 | P | 51.33 | 1.40 |
| 39 | K | 3659310.00 | A | 14590.00 | 0.40 |
| 44 | Ca | 40592.93 | P | 811.20 | 2.00 |
| 45 | Sc | 3003845.00 | A | 26880.00 | 0.89 |
| 45 | Sc | 306545.41 | P | 2181.00 | 0.71 |
| 47 | Ti | 13505.29 | P | 185.30 | 1.37 |
| 51 | V | 40538.14 | P | 101.30 | 0.25 |
| 52 | Cr | 44017.46 | P | 462.70 | 1.05 |
| 55 | Mn | 30802.93 | P | 105.60 | 0.34 |
| 56 | Fe | 57886.72 | P | 615.40 | 1.06 |
| 59 | Co | 61611.22 | P | 484.80 | 0.79 |
| 60 | Ni | 15806.52 | P | 121.60 | 0.77 |
| 63 | Cu | 41832.28 | P | 390.50 | 0.93 |
| 66 | Zn | 7838.50 | P | 57.59 | 0.73 |
| 72 | Ge | 641002.88 | P | 7818.00 | 1.22 |
| 72 | Ge | 133414.09 | P | 297.80 | 0.22 |
| 75 | As | 5024.86 | P | 40.35 | 0.80 |
| 78 | Se | 552.46 | P | 29.64 | 5.37 |
| 88 | Sr | 215893.41 | P | 2254.00 | 1.04 |
| 98 | Mo | 62729.46 | P | 501.10 | 0.80 |
| 103 | Rh | 3439650.00 | A | 17060.00 | 0.50 |
| 107 | Ag | 100623.20 | P | 845.40 | 0.84 |

C:\ICPCHEM\1\DATA\13D22s01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8334.87 | P | 147.00 | 1.76 |
| 115 | In | 3639233.00 | A | 45070.00 | 1.24 |
| 115 | In | 1028542.00 | P | 3870.00 | 0.38 |
| 118 | (In) | 62755.95 | P | 377.80 | 0.60 |
| 118 | (In) | 19780.59 | P | 485.20 | 2.45 |
| 120 | Sn | 86575.21 | P | 784.80 | 0.91 |
| 121 | Sb | 81435.39 | P | 930.50 | 1.14 |
| 137 | Ba | 30008.49 | P | 123.70 | 0.41 |
| 159 | Tb | 4559054.00 | A | 4328.00 | 0.09 |
| 175 | Lu | 4352730.00 | A | 37510.00 | 0.86 |
| 205 | Tl | 121917.40 | P | 1728.00 | 1.42 |
| 206 | (Pb) | 50243.86 | P | 1291.00 | 2.57 |
| 207 | (Pb) | 39986.15 | P | 656.70 | 1.64 |
| 208 | Pb | 189756.41 | P | 2951.00 | 1.56 |
| 209 | Bi | 2369015.00 | A | 10080.00 | 0.43 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2461856.50 | 0.59 | 2388262.80 | 103.1 | 70 - 130 | |
| 45 Sc | 3003845.30 | 0.89 | 2903830.00 | 103.4 | 70 - 130 | |
| 45 Sc | 306545.41 | 0.71 | 309155.91 | 99.2 | 70 - 130 | |
| 72 Ge | 641002.94 | 1.22 | 618578.38 | 103.6 | 70 - 130 | |
| 72 Ge | 133414.08 | 0.22 | 133152.77 | 100.2 | 70 - 130 | |
| 103 Rh | 3439650.50 | 0.50 | 3314277.00 | 103.8 | 70 - 130 | |
| 115 In | 3639233.30 | 1.24 | 3516736.30 | 103.5 | 70 - 130 | |
| 115 In | 1028541.60 | 0.38 | 1020578.10 | 100.8 | 70 - 130 | |
| 159 Tb | 4559054.00 | 0.09 | 4430852.50 | 102.9 | 70 - 130 | |
| 175 Lu | 4352730.00 | 0.86 | 4183901.30 | 104.0 | 70 - 130 | |
| 209 Bi | 2369015.30 | 0.43 | 2323029.30 | 102.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 22 2013 06:53 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 06:50 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2446575.00 | A | 19710.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 205305.50 | P | 1730.00 | 0.84 |
| 9 | Be | 7376.41 | P | 150.10 | 2.03 |
| 11 | B | 127062.60 | P | 1022.00 | 0.80 |
| 11 | B | 2542.51 | P | 73.52 | 2.89 |
| 23 | Na | 1456496.00 | A | 17700.00 | 1.22 |
| 23 | Na | 111636.60 | P | 409.20 | 0.37 |
| 24 | Mg | 585250.69 | P | 5837.00 | 1.00 |
| 24 | Mg | 28974.12 | P | 225.20 | 0.78 |
| 27 | Al | 725446.81 | P | 6914.00 | 0.95 |
| 27 | Al | 15968.59 | P | 198.70 | 1.24 |
| 39 | K | 4247628.00 | A | 15490.00 | 0.36 |
| 44 | Ca | 57784.03 | P | 985.80 | 1.71 |
| 45 | Sc | 2971365.00 | A | 49820.00 | 1.68 |
| 45 | Sc | 306030.91 | P | 2944.00 | 0.96 |
| 47 | Ti | 65623.29 | P | 530.60 | 0.81 |
| 51 | V | 188257.41 | P | 851.70 | 0.45 |
| 52 | Cr | 212212.50 | P | 877.10 | 0.41 |
| 55 | Mn | 147844.41 | P | 1218.00 | 0.82 |
| 56 | Fe | 206990.41 | P | 680.50 | 0.33 |
| 59 | Co | 300216.41 | P | 397.30 | 0.13 |
| 60 | Ni | 76738.84 | P | 933.60 | 1.22 |
| 63 | Cu | 199180.59 | P | 558.50 | 0.28 |
| 66 | Zn | 34014.18 | P | 285.60 | 0.84 |
| 72 | Ge | 613084.81 | P | 8620.00 | 1.41 |
| 72 | Ge | 128314.60 | P | 1102.00 | 0.86 |
| 75 | As | 23879.23 | P | 127.20 | 0.53 |
| 78 | Se | 2446.21 | P | 58.86 | 2.41 |
| 88 | Sr | 1049810.00 | P | 4132.00 | 0.39 |
| 98 | Mo | 305016.09 | P | 1571.00 | 0.52 |
| 103 | Rh | 3407024.00 | A | 51930.00 | 1.52 |
| 107 | Ag | 489268.69 | P | 4390.00 | 0.90 |

C:\ICPCHEM\1\DATA\13D22s01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40753.88 | P | 360.20 | 0.88 |
| 115 | In | 3579573.00 | A | 41060.00 | 1.15 |
| 115 | In | 1012126.00 | P | 2067.00 | 0.20 |
| 118 | (In) | 303002.31 | P | 3385.00 | 1.12 |
| 118 | (In) | 95742.56 | P | 228.60 | 0.24 |
| 120 | Sn | 415043.59 | P | 3996.00 | 0.96 |
| 121 | Sb | 393212.81 | P | 2979.00 | 0.76 |
| 137 | Ba | 142612.30 | P | 901.80 | 0.63 |
| 159 | Tb | 4535092.00 | A | 77630.00 | 1.71 |
| 175 | Lu | 4271440.00 | A | 74860.00 | 1.75 |
| 205 | Tl | 646280.50 | P | 2696.00 | 0.42 |
| 206 | (Pb) | 238929.91 | P | 1944.00 | 0.81 |
| 207 | (Pb) | 190952.00 | P | 1013.00 | 0.53 |
| 208 | Pb | 906377.31 | P | 4037.00 | 0.45 |
| 209 | Bi | 2353769.00 | A | 24070.00 | 1.02 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2446575.00 | 0.81 | 2388262.80 | 102.4 | 70 - 130 | |
| 45 | Sc | 2971364.80 | 1.68 | 2903830.00 | 102.3 | 70 - 130 | |
| 45 | Sc | 306030.94 | 0.96 | 309155.91 | 99.0 | 70 - 130 | |
| 72 | Ge | 613084.81 | 1.41 | 618578.38 | 99.1 | 70 - 130 | |
| 72 | Ge | 128314.56 | 0.86 | 133152.77 | 96.4 | 70 - 130 | |
| 103 | Rh | 3407024.30 | 1.52 | 3314277.00 | 102.8 | 70 - 130 | |
| 115 | In | 3579572.80 | 1.15 | 3516736.30 | 101.8 | 70 - 130 | |
| 115 | In | 1012125.50 | 0.20 | 1020578.10 | 99.2 | 70 - 130 | |
| 159 | Tb | 4535092.00 | 1.71 | 4430852.50 | 102.4 | 70 - 130 | |
| 175 | Lu | 4271440.50 | 1.75 | 4183901.30 | 102.1 | 70 - 130 | |
| 209 | Bi | 2353769.00 | 1.02 | 2323029.30 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 22 2013 07:00 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 06:57 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2448660.00 | A | 8155.00 | 0.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 416507.59 | P | 2570.00 | 0.62 |
| 9 | Be | 14857.43 | P | 325.40 | 2.19 |
| 11 | B | 257856.20 | P | 1934.00 | 0.75 |
| 11 | B | 5245.49 | P | 111.70 | 2.13 |
| 23 | Na | 2301957.00 | A | 1283.00 | 0.06 |
| 23 | Na | 162398.30 | P | 1428.00 | 0.88 |
| 24 | Mg | 1209807.00 | A | 4387.00 | 0.36 |
| 24 | Mg | 59167.75 | P | 625.10 | 1.06 |
| 27 | Al | 1471283.00 | A | 15150.00 | 1.03 |
| 27 | Al | 31687.20 | P | 115.50 | 0.36 |
| 39 | K | 5007103.00 | A | 16200.00 | 0.32 |
| 44 | Ca | 91573.55 | P | 258.30 | 0.28 |
| 45 | Sc | 2977266.00 | A | 14620.00 | 0.49 |
| 45 | Sc | 303466.69 | P | 1784.00 | 0.59 |
| 47 | Ti | 132183.70 | P | 1231.00 | 0.93 |
| 51 | V | 377100.81 | P | 304.00 | 0.08 |
| 52 | Cr | 427424.69 | P | 1434.00 | 0.34 |
| 55 | Mn | 298428.00 | P | 1602.00 | 0.54 |
| 56 | Fe | 399415.69 | P | 2013.00 | 0.50 |
| 59 | Co | 605945.00 | P | 1489.00 | 0.25 |
| 60 | Ni | 155008.80 | P | 327.90 | 0.21 |
| 63 | Cu | 399711.19 | P | 2002.00 | 0.50 |
| 66 | Zn | 68124.53 | P | 85.07 | 0.12 |
| 72 | Ge | 600976.63 | P | 6299.00 | 1.05 |
| 72 | Ge | 126075.60 | P | 877.20 | 0.70 |
| 75 | As | 47985.41 | P | 130.70 | 0.27 |
| 78 | Se | 4815.24 | P | 52.78 | 1.10 |
| 88 | Sr | 2111535.00 | A | 13590.00 | 0.64 |
| 98 | Mo | 621020.38 | P | 3640.00 | 0.59 |
| 103 | Rh | 3433562.00 | A | 14180.00 | 0.41 |
| 107 | Ag | 983473.31 | P | 7862.00 | 0.80 |

C:\ICPCHEM\1\DATA\13D22s01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 82486.46 | P | 969.80 | 1.18 |
| 115 | In | 3589195.00 | A | 12560.00 | 0.35 |
| 115 | In | 1003403.00 | P | 3949.00 | 0.39 |
| 118 | (In) | 612268.13 | P | 3160.00 | 0.52 |
| 118 | (In) | 192843.91 | P | 1401.00 | 0.73 |
| 120 | Sn | 842527.50 | P | 2473.00 | 0.29 |
| 121 | Sb | 792142.88 | P | 1697.00 | 0.21 |
| 137 | Ba | 287422.50 | P | 436.00 | 0.15 |
| 159 | Tb | 4557608.00 | A | 32340.00 | 0.71 |
| 175 | Lu | 4291464.00 | A | 38980.00 | 0.91 |
| 205 | Tl | 1348280.00 | A | 24250.00 | 1.80 |
| 206 | (Pb) | 481947.69 | P | 2917.00 | 0.61 |
| 207 | (Pb) | 388113.41 | P | 2432.00 | 0.63 |
| 208 | Pb | 1840845.00 | P | 8294.00 | 0.45 |
| 209 | Bi | 2352690.00 | A | 21890.00 | 0.93 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2448659.50 | 0.33 | 2388262.80 | 102.5 | 70 - 130 | |
| 45 | Sc | 2977265.80 | 0.49 | 2903830.00 | 102.5 | 70 - 130 | |
| 45 | Sc | 303466.72 | 0.59 | 309155.91 | 98.2 | 70 - 130 | |
| 72 | Ge | 600976.63 | 1.05 | 618578.38 | 97.2 | 70 - 130 | |
| 72 | Ge | 126075.59 | 0.70 | 133152.77 | 94.7 | 70 - 130 | |
| 103 | Rh | 3433562.30 | 0.41 | 3314277.00 | 103.6 | 70 - 130 | |
| 115 | In | 3589195.30 | 0.35 | 3516736.30 | 102.1 | 70 - 130 | |
| 115 | In | 1003403.00 | 0.39 | 1020578.10 | 98.3 | 70 - 130 | |
| 159 | Tb | 4557608.00 | 0.71 | 4430852.50 | 102.9 | 70 - 130 | |
| 175 | Lu | 4291464.00 | 0.91 | 4183901.30 | 102.6 | 70 - 130 | |
| 209 | Bi | 2352690.50 | 0.93 | 2323029.30 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 22 2013 07:07 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 07:04 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2438383.00 | A | 9005.00 | 0.37 |
| 7 | (Li) | | P | | |
| 9 | Be | 834938.19 | M | 10010.00 | 1.20 |
| 9 | Be | 29444.74 | P | 137.70 | 0.47 |
| 11 | B | 516535.50 | P | 2695.00 | 0.52 |
| 11 | B | 10401.55 | P | 227.60 | 2.19 |
| 23 | Na | 4104808.00 | A | 16480.00 | 0.40 |
| 23 | Na | 273662.81 | P | 2061.00 | 0.75 |
| 24 | Mg | 2385874.00 | A | 16670.00 | 0.70 |
| 24 | Mg | 115353.80 | P | 1081.00 | 0.94 |
| 27 | Al | 2861729.00 | A | 11510.00 | 0.40 |
| 27 | Al | 61553.86 | P | 659.10 | 1.07 |
| 39 | K | 6477749.00 | A | 31260.00 | 0.48 |
| 44 | Ca | 152024.20 | P | 567.30 | 0.37 |
| 45 | Sc | 2950959.00 | A | 22800.00 | 0.77 |
| 45 | Sc | 299661.41 | P | 6.17 | 0.00 |
| 47 | Ti | 263750.09 | P | 2534.00 | 0.96 |
| 51 | V | 739332.50 | P | 1887.00 | 0.26 |
| 52 | Cr | 844322.13 | P | 1325.00 | 0.16 |
| 55 | Mn | 589245.19 | P | 1627.00 | 0.28 |
| 56 | Fe | 772068.38 | P | 2419.00 | 0.31 |
| 59 | Co | 1180507.00 | A | 3113.00 | 0.26 |
| 60 | Ni | 305139.19 | P | 883.40 | 0.29 |
| 63 | Cu | 789779.63 | P | 2748.00 | 0.35 |
| 66 | Zn | 134729.00 | P | 301.30 | 0.22 |
| 72 | Ge | 595010.13 | P | 2253.00 | 0.38 |
| 72 | Ge | 123625.00 | P | 246.50 | 0.20 |
| 75 | As | 94879.07 | P | 132.10 | 0.14 |
| 78 | Se | 9446.77 | P | 93.71 | 0.99 |
| 88 | Sr | 4156188.00 | A | 29290.00 | 0.70 |
| 98 | Mo | 1251282.00 | A | 5714.00 | 0.46 |
| 103 | Rh | 3413959.00 | A | 9940.00 | 0.29 |
| 107 | Ag | 1945543.00 | A | 2823.00 | 0.15 |

C:\ICPCHEM\1\DATA\13D22s01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 163299.91 | P | 861.60 | 0.53 |
| 115 | In | 3571672.00 | A | 54620.00 | 1.53 |
| 115 | In | 989911.63 | P | 2665.00 | 0.27 |
| 118 | (In) | 1219540.00 | M | 5215.00 | 0.43 |
| 118 | (In) | 382504.69 | P | 1800.00 | 0.47 |
| 120 | Sn | 1673459.00 | A | 23080.00 | 1.38 |
| 121 | Sb | 1559791.00 | A | 6862.00 | 0.44 |
| 137 | Ba | 579841.00 | P | 4653.00 | 0.80 |
| 159 | Tb | 4550928.00 | A | 10700.00 | 0.24 |
| 175 | Lu | 4298672.00 | A | 25630.00 | 0.60 |
| 205 | Tl | 2748924.00 | A | 28220.00 | 1.03 |
| 206 | (Pb) | 970240.63 | P | 7910.00 | 0.82 |
| 207 | (Pb) | 778500.88 | P | 9328.00 | 1.20 |
| 208 | Pb | 3711657.00 | A | 35630.00 | 0.96 |
| 209 | Bi | 2337292.00 | A | 10830.00 | 0.46 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2438383.00 | 0.37 | 2388262.80 | 102.1 | 70 - 130 | |
| 45 | Sc | 2950959.00 | 0.77 | 2903830.00 | 101.6 | 70 - 130 | |
| 45 | Sc | 299661.41 | 0.00 | 309155.91 | 96.9 | 70 - 130 | |
| 72 | Ge | 595010.13 | 0.38 | 618578.38 | 96.2 | 70 - 130 | |
| 72 | Ge | 123625.03 | 0.20 | 133152.77 | 92.8 | 70 - 130 | |
| 103 | Rh | 3413959.30 | 0.29 | 3314277.00 | 103.0 | 70 - 130 | |
| 115 | In | 3571671.50 | 1.53 | 3516736.30 | 101.6 | 70 - 130 | |
| 115 | In | 989911.63 | 0.27 | 1020578.10 | 97.0 | 70 - 130 | |
| 159 | Tb | 4550928.50 | 0.24 | 4430852.50 | 102.7 | 70 - 130 | |
| 175 | Lu | 4298672.50 | 0.60 | 4183901.30 | 102.7 | 70 - 130 | |
| 209 | Bi | 2337292.00 | 0.46 | 2323029.30 | 100.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 22 2013 07:14 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 07:11 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2433077.00 | A | 46420.00 | 1.91 |
| 7 | (Li) | | P | | |
| 9 | Be | 116.67 | P | 30.00 | 25.71 |
| 9 | Be | 4.44 | P | 1.93 | 43.31 |
| 11 | B | 2983.71 | P | 70.95 | 2.38 |
| 11 | B | 54.45 | P | 13.47 | 24.74 |
| 23 | Na | 33559980.00 | A | 891400.00 | 2.66 |
| 23 | Na | 2065719.00 | A | 12620.00 | 0.61 |
| 24 | Mg | 22017940.00 | A | 617800.00 | 2.81 |
| 24 | Mg | 1099581.00 | A | 2154.00 | 0.20 |
| 27 | Al | 27091260.00 | A | 644600.00 | 2.38 |
| 27 | Al | 618487.19 | P | 5236.00 | 0.85 |
| 39 | K | 31945310.00 | A | 701600.00 | 2.20 |
| 44 | Ca | 941784.13 | P | 16990.00 | 1.80 |
| 45 | Sc | 2995473.00 | A | 33630.00 | 1.12 |
| 45 | Sc | 309398.91 | P | 863.50 | 0.28 |
| 47 | Ti | 231.12 | P | 30.97 | 13.40 |
| 51 | V | 3700.94 | P | 168.40 | 4.55 |
| 52 | Cr | 1043.16 | P | 38.10 | 3.65 |
| 55 | Mn | 950.26 | P | 49.11 | 5.17 |
| 56 | Fe | 6967864.00 | A | 33820.00 | 0.49 |
| 59 | Co | 324.45 | P | 7.81 | 2.41 |
| 60 | Ni | 298.23 | P | 16.02 | 5.37 |
| 63 | Cu | 930.26 | P | 17.61 | 1.89 |
| 66 | Zn | 647.57 | P | 8.23 | 1.27 |
| 72 | Ge | 610434.50 | P | 1238.00 | 0.20 |
| 72 | Ge | 127289.30 | P | 259.50 | 0.20 |
| 75 | As | 136.89 | P | 9.67 | 7.06 |
| 78 | Se | 82.22 | P | 7.13 | 8.67 |
| 88 | Sr | 2461.40 | P | 77.21 | 3.14 |
| 98 | Mo | 2742.57 | P | 209.00 | 7.62 |
| 103 | Rh | 3422370.00 | A | 45270.00 | 1.32 |
| 107 | Ag | 381.13 | P | 10.71 | 2.81 |

C:\ICPCHEM\1\DATA\13D22s01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 27.78 | P | 18.95 | 68.22 |
| 115 | In | 3615169.00 | A | 36450.00 | 1.01 |
| 115 | In | 1028416.00 | P | 4967.00 | 0.48 |
| 118 | (In) | 2153.57 | P | 81.86 | 3.80 |
| 118 | (In) | 870.06 | P | 39.30 | 4.52 |
| 120 | Sn | 3012.64 | P | 136.90 | 4.54 |
| 121 | Sb | 2805.93 | P | 224.40 | 8.00 |
| 137 | Ba | 618.93 | P | 55.01 | 8.89 |
| 159 | Tb | 4516944.00 | A | 76280.00 | 1.69 |
| 175 | Lu | 4270803.00 | A | 52370.00 | 1.23 |
| 205 | Tl | 5480.17 | P | 80.06 | 1.46 |
| 206 | (Pb) | 345.57 | P | 40.05 | 11.59 |
| 207 | (Pb) | 311.13 | P | 38.64 | 12.42 |
| 208 | Pb | 1445.65 | P | 37.48 | 2.59 |
| 209 | Bi | 2352574.00 | A | 36630.00 | 1.56 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2433077.30 | 1.91 | 2388262.80 | 101.9 | 70 - 130 | |
| 45 | Sc | 2995472.80 | 1.12 | 2903830.00 | 103.2 | 70 - 130 | |
| 45 | Sc | 309398.84 | 0.28 | 309155.91 | 100.1 | 70 - 130 | |
| 72 | Ge | 610434.50 | 0.20 | 618578.38 | 98.7 | 70 - 130 | |
| 72 | Ge | 127289.29 | 0.20 | 133152.77 | 95.6 | 70 - 130 | |
| 103 | Rh | 3422370.30 | 1.32 | 3314277.00 | 103.3 | 70 - 130 | |
| 115 | In | 3615169.00 | 1.01 | 3516736.30 | 102.8 | 70 - 130 | |
| 115 | In | 1028416.40 | 0.48 | 1020578.10 | 100.8 | 70 - 130 | |
| 159 | Tb | 4516943.50 | 1.69 | 4430852.50 | 101.9 | 70 - 130 | |
| 175 | Lu | 4270803.00 | 1.23 | 4183901.30 | 102.1 | 70 - 130 | |
| 209 | Bi | 2352574.50 | 1.56 | 2323029.30 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 22 2013 07:21 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 22 2013 07:18 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2430402.00 | A | 36290.00 | 1.49 |
| 7 | (Li) | | P | | |
| 9 | Be | 52.22 | P | 20.37 | 39.01 |
| 9 | Be | 2.22 | P | 3.85 | 173.19 |
| 11 | B | 1492.35 | P | 55.94 | 3.75 |
| 11 | B | 31.11 | P | 15.03 | 48.31 |
| 23 | Na | 324687390.00 | A | 1938000.00 | 0.60 |
| 23 | Na | 19224090.00 | A | 102700.00 | 0.53 |
| 24 | Mg | 213934900.00 | A | 533100.00 | 0.25 |
| 24 | Mg | 10430110.00 | A | 47050.00 | 0.45 |
| 27 | Al | 265859100.00 | A | 1999000.00 | 0.75 |
| 27 | Al | 5763969.00 | A | 58710.00 | 1.02 |
| 39 | K | 283437790.00 | A | 1706000.00 | 0.60 |
| 44 | Ca | 8537642.00 | A | 29960.00 | 0.35 |
| 45 | Sc | 3006950.00 | A | 17590.00 | 0.58 |
| 45 | Sc | 309660.81 | P | 2124.00 | 0.69 |
| 47 | Ti | 232.25 | P | 22.19 | 9.55 |
| 51 | V | 3248.83 | P | 58.66 | 1.81 |
| 52 | Cr | 1792.58 | P | 76.11 | 4.25 |
| 55 | Mn | 1808.13 | P | 10.07 | 0.56 |
| 56 | Fe | 67588952.00 | A | 272300.00 | 0.40 |
| 59 | Co | 1753.01 | P | 70.06 | 4.00 |
| 60 | Ni | 688.03 | P | 2.67 | 0.39 |
| 63 | Cu | 880.04 | P | 31.75 | 3.61 |
| 66 | Zn | 538.68 | P | 25.10 | 4.66 |
| 72 | Ge | 615629.19 | P | 4629.00 | 0.75 |
| 72 | Ge | 125285.70 | P | 452.90 | 0.36 |
| 75 | As | 162.89 | P | 2.34 | 1.44 |
| 78 | Se | 86.00 | P | 5.46 | 6.35 |
| 88 | Sr | 16568.56 | P | 363.20 | 2.19 |
| 98 | Mo | 955.62 | P | 30.06 | 3.15 |
| 103 | Rh | 3319164.00 | A | 20070.00 | 0.60 |
| 107 | Ag | 964.51 | P | 39.06 | 4.05 |

C:\ICPCHEM\1\DATA\13D22s01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 18.89 | P | 6.94 | 36.74 |
| 115 | In | 3498303.00 | A | 17940.00 | 0.51 |
| 115 | In | 996191.00 | P | 5494.00 | 0.55 |
| 118 | (In) | 994.52 | P | 39.77 | 4.00 |
| 118 | (In) | 371.13 | P | 16.78 | 4.52 |
| 120 | Sn | 1404.56 | P | 63.45 | 4.52 |
| 121 | Sb | 1424.57 | P | 84.76 | 5.95 |
| 137 | Ba | 666.71 | P | 20.27 | 3.04 |
| 159 | Tb | 4446004.00 | A | 37760.00 | 0.85 |
| 175 | Lu | 4190152.00 | A | 58690.00 | 1.40 |
| 205 | Tl | 2310.28 | P | 5.78 | 0.25 |
| 206 | (Pb) | 305.57 | P | 22.69 | 7.43 |
| 207 | (Pb) | 215.57 | P | 40.74 | 18.90 |
| 208 | Pb | 1112.28 | P | 22.20 | 2.00 |
| 209 | Bi | 2176266.00 | A | 38890.00 | 1.79 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2430401.80 | 1.49 | 2388262.80 | 101.8 | 70 - 130 | |
| 45 | Sc | 3006950.50 | 0.58 | 2903830.00 | 103.6 | 70 - 130 | |
| 45 | Sc | 309660.78 | 0.69 | 309155.91 | 100.2 | 70 - 130 | |
| 72 | Ge | 615629.19 | 0.75 | 618578.38 | 99.5 | 70 - 130 | |
| 72 | Ge | 125285.66 | 0.36 | 133152.77 | 94.1 | 70 - 130 | |
| 103 | Rh | 3319164.00 | 0.60 | 3314277.00 | 100.1 | 70 - 130 | |
| 115 | In | 3498302.80 | 0.51 | 3516736.30 | 99.5 | 70 - 130 | |
| 115 | In | 996191.00 | 0.55 | 1020578.10 | 97.6 | 70 - 130 | |
| 159 | Tb | 4446003.50 | 0.85 | 4430852.50 | 100.3 | 70 - 130 | |
| 175 | Lu | 4190151.50 | 1.40 | 4183901.30 | 100.1 | 70 - 130 | |
| 209 | Bi | 2176266.30 | 1.79 | 2323029.30 | 93.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D22s01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 22 2013 07:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.46 | 59.46 | ppb | 0.65 | 900.00 | |
| 9 Be | 45 | 2 | 57.96 | 57.96 | ppb | 3.52 | 900.00 | |
| 11 B | 6 | 1 | 56.39 | 56.39 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 55.94 | 55.94 | ppb | 0.83 | 900.00 | |
| 23 Na | 45 | 1 | 5642.00 | 5642.00 | ppb | 0.68 | 90000.00 | |
| 23 Na | 45 | 2 | 5715.00 | 5715.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 5712.00 | 5712.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 5793.00 | 5793.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 5676.00 | 5676.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 5816.00 | 5816.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 5707.00 | 5707.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5681.00 | 5681.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.41 | 58.41 | ppb | 1.14 | 900.00 | |
| 51 V | 45 | 2 | 59.81 | 59.81 | ppb | 0.15 | 900.00 | |
| 52 Cr | 45 | 2 | 58.18 | 58.18 | ppb | 0.37 | 900.00 | |
| 55 Mn | 45 | 2 | 58.71 | 58.71 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5757.00 | 5757.00 | ppb | 0.23 | 90000.00 | |
| 59 Co | 45 | 2 | 58.07 | 58.07 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 58.09 | 58.09 | ppb | 0.64 | 900.00 | |
| 63 Cu | 72 | 2 | 63.22 | 63.22 | ppb | 0.92 | 900.00 | |
| 66 Zn | 72 | 2 | 59.38 | 59.38 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 59.97 | 59.97 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 59.87 | 59.87 | ppb | 1.49 | 900.00 | |
| 88 Sr | 103 | 1 | 61.32 | 61.32 | ppb | 1.75 | 900.00 | |
| 98 Mo | 103 | 1 | 61.17 | 61.17 | ppb | 0.45 | 900.00 | |
| 107 Ag | 115 | 1 | 60.32 | 60.32 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 58.20 | 58.20 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 59.27 | 59.27 | ppb | 1.08 | 900.00 | |
| 121 Sb | 115 | 1 | 60.87 | 60.87 | ppb | 0.80 | 900.00 | |
| 137 Ba | 159 | 1 | 59.60 | 59.60 | ppb | 0.63 | 900.00 | |
| 205 Tl | 209 | 1 | 58.59 | 58.59 | ppb | 1.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 58.69 | 58.69 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2449345 | 0.03 | 2388263 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 2996537 | 0.58 | 2903830 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 301238 | 0.31 | 309156 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 600473 | 1.33 | 618578 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 122657 | 0.51 | 133153 | 92.1 | 70 | - | 130 |
| 103 Rh | 1 | 3336536 | 0.38 | 3314277 | 100.7 | 70 | - | 130 |
| 115 In | 1 | 3512040 | 0.47 | 3516736 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 979513 | 0.73 | 1020578 | 96.0 | 70 | - | 130 |
| 159 Tb | 1 | 4487626 | 0.19 | 4430853 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 4272156 | 0.83 | 4183901 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2252149 | 0.91 | 2323029 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 22 2013 07:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 228.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2326200.00 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 8.55 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.16 | ppb | 40.29 | 900.00 | |
| 23 Na | 45 | 1 | 1.50 | 1.50 | ppb | 11.42 | 90000.00 | |
| 23 Na | 45 | 2 | 3.13 | 3.13 | ppb | 12.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.05 | 0.05 | ppb | 24.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.51 | 0.51 | ppb | 80.29 | 90000.00 | |
| 27 Al | 45 | 1 | 0.03 | 0.03 | ppb | 106.02 | 90000.00 | |
| 27 Al | 45 | 2 | 0.33 | 0.33 | ppb | 137.47 | 90000.00 | |
| 39 K | 45 | 1 | -2.43 | -2.43 | ppb | 37.04 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.53 | -0.53 | ppb | 173.50 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 72.50 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 39.97 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 66.25 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 120.75 | 900.00 | |
| 56 Fe | 45 | 2 | 1.39 | 1.39 | ppb | 24.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 65.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 28.22 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 30.43 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 148.24 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 105.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 28.62 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 519.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 1.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 116.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 11.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 10.81 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 121.82 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 4.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2469928 | 0.14 | 2388263 | 103.4 | 70 - 130 | |
| 45 Sc | 1 | 3024564 | 0.29 | 2903830 | 104.2 | 70 - 130 | |
| 45 Sc | 2 | 307277 | 0.68 | 309156 | 99.4 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 610384 | 0.63 | 618578 | 98.7 | 70 | - | 130 |
| 72 | Ge | 2 | 125783 | 0.62 | 133153 | 94.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3440049 | 0.75 | 3314277 | 103.8 | 70 | - | 130 |
| 115 | In | 1 | 3599575 | 0.68 | 3516736 | 102.4 | 70 | - | 130 |
| 115 | In | 2 | 1022258 | 1.01 | 1020578 | 100.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4502494 | 0.57 | 4430853 | 101.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4262091 | 0.64 | 4183901 | 101.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2333221 | 0.80 | 2323029 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 22 2013 07:42 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.84 | 49.84 | ppb | 1.03 | 900.00 | |
| 9 Be | 45 | 2 | 49.03 | 49.03 | ppb | 1.31 | 900.00 | |
| 11 B | 6 | 1 | 49.63 | 49.63 | ppb | 0.71 | 900.00 | |
| 11 B | 45 | 2 | 49.33 | 49.33 | ppb | 2.29 | 900.00 | |
| 23 Na | 45 | 1 | 5095.00 | 5095.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5148.00 | 5148.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 5130.00 | 5130.00 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 5183.00 | 5183.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 5107.00 | 5107.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 2 | 5263.00 | 5263.00 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 5095.00 | 5095.00 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 5136.00 | 5136.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.14 | 49.14 | ppb | 0.71 | 900.00 | |
| 51 V | 45 | 2 | 49.17 | 49.17 | ppb | 0.33 | 900.00 | |
| 52 Cr | 45 | 2 | 48.44 | 48.44 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 48.09 | 48.09 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 5146.00 | 5146.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 48.53 | 48.53 | ppb | 0.77 | 900.00 | |
| 60 Ni | 45 | 2 | 47.72 | 47.72 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 48.03 | 48.03 | ppb | 0.46 | 900.00 | |
| 66 Zn | 72 | 2 | 48.82 | 48.82 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 50.17 | 50.17 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | 49.73 | 49.73 | ppb | 2.48 | 900.00 | |
| 88 Sr | 103 | 1 | 51.35 | 51.35 | ppb | 1.63 | 900.00 | |
| 98 Mo | 103 | 1 | 50.40 | 50.40 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 50.00 | 50.00 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 48.20 | 48.20 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 50.80 | 50.80 | ppb | 0.41 | 900.00 | |
| 121 Sb | 115 | 1 | 51.44 | 51.44 | ppb | 0.81 | 900.00 | |
| 137 Ba | 159 | 1 | 49.70 | 49.70 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 47.56 | 47.56 | ppb | 1.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.07 | 49.07 | ppb | 1.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2437702 | 0.33 | 2388263 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 3012486 | 0.32 | 2903830 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 299429 | 0.53 | 309156 | 96.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 592242 | 0.31 | 618578 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 121576 | 0.48 | 133153 | 91.3 | 70 | - | 130 |
| 103 Rh | 1 | 3327629 | 0.90 | 3314277 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 3500683 | 0.52 | 3516736 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 982754 | 0.87 | 1020578 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 4440499 | 0.17 | 4430853 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4267669 | 1.10 | 4183901 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 2244982 | 0.38 | 2323029 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Apr 22 2013 07:49 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 72.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 60.45 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 16.26 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 77.63 | 900.00 | |
| 23 Na | 45 | 1 | 7.53 | 7.53 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 7.98 | 7.98 | ppb | 13.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.05 | 0.05 | ppb | 4.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.13 | 0.13 | ppb | 11.31 | 90000.00 | |
| 27 Al | 45 | 1 | 0.06 | 0.06 | ppb | 40.02 | 90000.00 | |
| 27 Al | 45 | 2 | 0.05 | 0.05 | ppb | 39.89 | 90000.00 | |
| 39 K | 45 | 1 | -2.73 | -2.73 | ppb | 13.21 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.33 | -1.33 | ppb | 20.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 273.94 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 365.69 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 122.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 43.24 | 900.00 | |
| 56 Fe | 45 | 2 | 0.74 | 0.74 | ppb | 20.57 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 39.43 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 34.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 88.01 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 26.71 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 257.37 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 35.73 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 61.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 9.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 3292.10 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 18.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 74.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 4.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 18.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2490316 | 0.67 | 2388263 | 104.3 | 70 - 130 | |
| 45 Sc | 1 | 3011193 | 0.36 | 2903830 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 313541 | 2.52 | 309156 | 101.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 610426 | 1.07 | 618578 | 98.7 | 70 - | 130 |
| 72 | Ge | 2 | 127622 | 1.63 | 133153 | 95.8 | 70 - | 130 |
| 103 | Rh | 1 | 3453340 | 0.76 | 3314277 | 104.2 | 70 - | 130 |
| 115 | In | 1 | 3628623 | 0.28 | 3516736 | 103.2 | 70 - | 130 |
| 115 | In | 2 | 1032970 | 0.67 | 1020578 | 101.2 | 70 - | 130 |
| 159 | Tb | 1 | 4483527 | 1.02 | 4430853 | 101.2 | 70 - | 130 |
| 175 | Lu | 1 | 4250413 | 1.46 | 4183901 | 101.6 | 70 - | 130 |
| 209 | Bi | 1 | 2318361 | 0.89 | 2323029 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 22 2013 07:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.47 | 0.47 | ppb | 5.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.55 | 0.55 | ppb | 14.33 | 900.00 | |
| 11 B | 6 | 1 | 4.74 | 4.74 | ppb | 1.36 | 900.00 | |
| 11 B | 45 | 2 | 4.62 | 4.62 | ppb | 7.44 | 900.00 | |
| 23 Na | 45 | 1 | 256.20 | 256.20 | ppb | 0.19 | 90000.00 | |
| 23 Na | 45 | 2 | 276.20 | 276.20 | ppb | 0.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 258.50 | 258.50 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 275.00 | 275.00 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 1 | 26.82 | 26.82 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 2 | 27.01 | 27.01 | ppb | 1.77 | 90000.00 | |
| 39 K | 45 | 1 | 249.40 | 249.40 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 265.50 | 265.50 | ppb | 0.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.96 | 0.96 | ppb | 5.13 | 900.00 | |
| 51 V | 45 | 2 | 1.01 | 1.01 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.95 | 0.95 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 0.98 | 0.98 | ppb | 2.97 | 900.00 | |
| 56 Fe | 45 | 2 | 27.82 | 27.82 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.98 | ppb | 2.34 | 900.00 | |
| 63 Cu | 72 | 2 | 0.96 | 0.96 | ppb | 1.06 | 900.00 | |
| 66 Zn | 72 | 2 | 2.02 | 2.02 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 3.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.66 | 0.66 | ppb | 9.05 | 900.00 | |
| 88 Sr | 103 | 1 | 4.94 | 4.94 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 1.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 2.56 | 900.00 | |
| 120 Sn | 115 | 1 | 4.77 | 4.77 | ppb | 1.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 0.25 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 3.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 0.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2478031 | 0.78 | 2388263 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 3022419 | 0.27 | 2903830 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 307511 | 0.28 | 309156 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 612104 | 0.63 | 618578 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 125762 | 0.66 | 133153 | 94.4 | 70 | - | 130 |
| 103 Rh | 1 | 3457854 | 1.18 | 3314277 | 104.3 | 70 | - | 130 |
| 115 In | 1 | 3628649 | 0.95 | 3516736 | 103.2 | 70 | - | 130 |
| 115 In | 2 | 1017576 | 0.70 | 1020578 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 4523756 | 0.56 | 4430853 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 4256877 | 0.29 | 4183901 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 2301393 | 1.15 | 2323029 | 99.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 22 2013 08:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 18.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 249.67 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.25 | ppb | 7.85 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 116.07 | 900.00 | |
| 23 Na | 45 | 1 | 95330.00 | 95330.00 | ppb | 0.90 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99090.00 | 99090.00 | ppb | 0.18 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96000.00 | 96000.00 | ppb | 0.53 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98730.00 | 98730.00 | ppb | 0.28 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 96300.00 | 96300.00 | ppb | 1.09 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97290.00 | 97290.00 | ppb | 0.27 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97440.00 | 97440.00 | ppb | 0.96 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96680.00 | 96680.00 | ppb | 0.34 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1947.00 | 1947.00 | ppb | 0.95 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 1.07 | 1.07 | ppb | 1.48 | 900.00 | |
| 55 Mn | 45 | 2 | 0.30 | 0.30 | ppb | 1.72 | 900.00 | |
| 56 Fe | 45 | 2 | 97640.00 | 97640.00 | ppb | 0.61 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 1.54 | 900.00 | |
| 60 Ni | 45 | 2 | 0.68 | 0.68 | ppb | 2.95 | 900.00 | |
| 63 Cu | 72 | 2 | 0.25 | 0.25 | ppb | 3.87 | 900.00 | |
| 66 Zn | 72 | 2 | 2.61 | 2.61 | ppb | 1.27 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.17 | ppb | 1.91 | 900.00 | |
| 78 Se | 72 | 2 | 0.34 | 0.34 | ppb | 16.69 | 900.00 | |
| 88 Sr | 103 | 1 | 4.88 | 4.88 | ppb | 0.77 | 900.00 | |
| 98 Mo | 103 | 1 | 2034.00 | 2034.00 | ppb | 0.88 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.08 | 0.08 | ppb | 1.55 | 180.00 | |
| 111 Cd | 115 | 2 | 0.86 | 0.86 | ppb | 1.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 8.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.03 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 3.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.21 | 0.21 | ppb | 3.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2220820 | 0.63 | 2388263 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 2841165 | 0.71 | 2903830 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 281703 | 0.35 | 309156 | 91.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 591941 | 0.60 | 618578 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 116350 | 0.63 | 133153 | 87.4 | 70 | - | 130 |
| 103 Rh | 1 | 3008573 | 0.83 | 3314277 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3292593 | 1.05 | 3516736 | 93.6 | 70 | - | 130 |
| 115 In | 2 | 886402 | 0.37 | 1020578 | 86.9 | 70 | - | 130 |
| 159 Tb | 1 | 4333861 | 0.79 | 4430853 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 4087334 | 0.53 | 4183901 | 97.7 | 70 | - | 130 |
| 209 Bi | 1 | 2011185 | 0.96 | 2323029 | 86.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 22 2013 08:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.72 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 41.68 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.24 | ppb | 0.69 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 32.64 | 900.00 | |
| 23 Na | 45 | 1 | 92440.00 | 92440.00 | ppb | 1.47 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 99530.00 | 99530.00 | ppb | 0.91 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 93460.00 | 93460.00 | ppb | 0.59 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98620.00 | 98620.00 | ppb | 0.47 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 93900.00 | 93900.00 | ppb | 1.62 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 96320.00 | 96320.00 | ppb | 0.40 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98140.00 | 98140.00 | ppb | 1.04 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97320.00 | 97320.00 | ppb | 0.41 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1948.00 | 1948.00 | ppb | 0.76 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 16.94 | 900.00 | |
| 52 Cr | 45 | 2 | 20.11 | 20.11 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 19.36 | 19.36 | ppb | 0.14 | 900.00 | |
| 56 Fe | 45 | 2 | 97190.00 | 97190.00 | ppb | 0.22 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.04 | 19.04 | ppb | 0.13 | 900.00 | |
| 60 Ni | 45 | 2 | 19.16 | 19.16 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 17.83 | 17.83 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 22.22 | 22.22 | ppb | 0.47 | 900.00 | |
| 75 As | 72 | 2 | 20.45 | 20.45 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.29 | 0.29 | ppb | 63.21 | 900.00 | |
| 88 Sr | 103 | 1 | 4.91 | 4.91 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 2034.00 | 2034.00 | ppb | 0.53 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.40 | 19.40 | ppb | 1.07 | 180.00 | |
| 111 Cd | 115 | 2 | 20.04 | 20.04 | ppb | 1.45 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.13 | ppb | 7.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 3.27 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.28 | ppb | 4.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 2.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.55 | 0.55 | ppb | 0.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2012340 | 0.54 | 2388263 | 84.3 | 70 - 130 | |
| 45 Sc | 1 | 2876747 | 1.29 | 2903830 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 285842 | 1.01 | 309156 | 92.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 597689 | 0.18 | 618578 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 117671 | 0.69 | 133153 | 88.4 | 70 | - | 130 |
| 103 Rh | 1 | 3069377 | 0.66 | 3314277 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 3347935 | 0.43 | 3516736 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 884388 | 0.74 | 1020578 | 86.7 | 70 | - | 130 |
| 159 Tb | 1 | 4408114 | 1.03 | 4430853 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 4233153 | 1.44 | 4183901 | 101.2 | 70 | - | 130 |
| 209 Bi | 1 | 2029155 | 1.69 | 2323029 | 87.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D22s01.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Apr 22 2013 08:18 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 22 2013 07:25 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 21.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 10647.00 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 58.86 | 900.00 | |
| 11 B | 45 | 2 | -0.06 | -0.06 | ppb | 51.41 | 900.00 | |
| 23 Na | 45 | 1 | 20.55 | 20.55 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 28.75 | 28.75 | ppb | 4.06 | 90000.00 | |
| 24 Mg | 45 | 1 | 11.73 | 11.73 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 14.50 | 14.50 | ppb | 6.70 | 90000.00 | |
| 27 Al | 45 | 1 | 11.92 | 11.92 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 2 | 13.60 | 13.60 | ppb | 4.22 | 90000.00 | |
| 39 K | 45 | 1 | 3.30 | 3.30 | ppb | 2.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 8.51 | 8.51 | ppb | 7.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.33 | 0.33 | ppb | 11.99 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 30.56 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 154.10 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 14.48 | 900.00 | |
| 56 Fe | 45 | 2 | 17.45 | 17.45 | ppb | 1.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 17.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 33.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.18 | ppb | 3.23 | 900.00 | |
| 66 Zn | 72 | 2 | 0.06 | 0.06 | ppb | 8.18 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 143.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.12 | ppb | 76.69 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 36.98 | 900.00 | |
| 98 Mo | 103 | 1 | 1.83 | 1.83 | ppb | 2.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.95 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 93.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 4.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 32.47 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 87.47 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 41.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 11.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2020596 | 1.11 | 2388263 | 84.6 | 70 - 130 | |
| 45 Sc | 1 | 3042512 | 0.40 | 2903830 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 300798 | 0.64 | 309156 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 625321 | 0.88 | 618578 | 101.1 | 70 | - | 130 |
| 72 Ge | 2 | 126178 | 0.46 | 133153 | 94.8 | 70 | - | 130 |
| 103 Rh | 1 | 3535317 | 0.57 | 3314277 | 106.7 | 70 | - | 130 |
| 115 In | 1 | 3764831 | 0.61 | 3516736 | 107.1 | 70 | - | 130 |
| 115 In | 2 | 998740 | 0.69 | 1020578 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 4719614 | 0.64 | 4430853 | 106.5 | 70 | - | 130 |
| 175 Lu | 1 | 4463790 | 1.44 | 4183901 | 106.7 | 70 | - | 130 |
| 209 Bi | 1 | 2400945 | 0.94 | 2323029 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\018SMPL.D\018SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 22 2013 08:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 41.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 5119.50 | 900.00 | |
| 11 B | 6 | 1 | 0.10 | 0.10 | ppb | 12.76 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 99.75 | 900.00 | |
| 23 Na | 45 | 1 | 10.57 | 10.57 | ppb | 3.72 | 90000.00 | |
| 23 Na | 45 | 2 | 17.49 | 17.49 | ppb | 3.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.35 | 3.35 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.58 | 3.58 | ppb | 3.50 | 90000.00 | |
| 27 Al | 45 | 1 | 3.21 | 3.21 | ppb | 1.53 | 90000.00 | |
| 27 Al | 45 | 2 | 3.28 | 3.28 | ppb | 5.97 | 90000.00 | |
| 39 K | 45 | 1 | -4.98 | -4.98 | ppb | 21.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.34 | 3.34 | ppb | 21.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.15 | 0.15 | ppb | 13.72 | 900.00 | |
| 51 V | 45 | 2 | 0.40 | 0.40 | ppb | 3.14 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 17.65 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 14.85 | 900.00 | |
| 56 Fe | 45 | 2 | 4.67 | 4.67 | ppb | 3.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 8.78 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 10.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 26.34 | 900.00 | |
| 66 Zn | 72 | 2 | 0.07 | 0.07 | ppb | 18.86 | 900.00 | |
| 75 As | 72 | 2 | 0.10 | 0.10 | ppb | 5.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 31.24 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 6.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.47 | 0.47 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 0.83 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 17.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 33.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 107.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 11.71 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1916849 | 0.95 | 2388263 | 80.3 | 70 - 130 | |
| 45 Sc | 1 | 2968049 | 0.43 | 2903830 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 297578 | 0.82 | 309156 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 610528 | 1.03 | 618578 | 98.7 | 70 | - | 130 |
| 72 Ge | 2 | 123853 | 0.75 | 133153 | 93.0 | 70 | - | 130 |
| 103 Rh | 1 | 3487254 | 0.26 | 3314277 | 105.2 | 70 | - | 130 |
| 115 In | 1 | 3717462 | 1.09 | 3516736 | 105.7 | 70 | - | 130 |
| 115 In | 2 | 980088 | 0.57 | 1020578 | 96.0 | 70 | - | 130 |
| 159 Tb | 1 | 4669884 | 0.12 | 4430853 | 105.4 | 70 | - | 130 |
| 175 Lu | 1 | 4445937 | 0.70 | 4183901 | 106.3 | 70 | - | 130 |
| 209 Bi | 1 | 2394707 | 0.77 | 2323029 | 103.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 22 2013 08:32 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-15F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 11.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 164.40 | 900.00 | |
| 11 B | 6 | 1 | 97.14 | 48.57 | ppb | 0.72 | 900.00 | |
| 11 B | 45 | 2 | 83.46 | 41.73 | ppb | 2.69 | 900.00 | |
| 23 Na | 45 | 1 | 14116.00 | 7058.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 16486.00 | 8243.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 5312.00 | 2656.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 6090.00 | 3045.00 | ppb | 1.64 | 90000.00 | |
| 27 Al | 45 | 1 | 10.60 | 5.30 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 10.81 | 5.41 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 3032.00 | 1516.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 56540.00 | 28270.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.46 | 0.73 | ppb | 4.72 | 900.00 | |
| 51 V | 45 | 2 | 1.51 | 0.76 | ppb | 3.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 6.39 | 900.00 | |
| 55 Mn | 45 | 2 | 3328.00 | 1664.00 | ppb | 0.60 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 8808.00 | 4404.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 11.36 | 5.68 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 16.27 | 8.14 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 1.96 | 900.00 | |
| 66 Zn | 72 | 2 | 12.65 | 6.33 | ppb | 1.27 | 900.00 | |
| 75 As | 72 | 2 | 132.26 | 66.13 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.33 | 0.16 | ppb | 97.73 | 900.00 | |
| 88 Sr | 103 | 1 | 285.80 | 142.90 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 15.49 | 7.75 | ppb | 1.10 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 11.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 19.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 10.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.85 | 0.42 | ppb | 1.35 | 900.00 | |
| 137 Ba | 159 | 1 | 7.88 | 3.94 | ppb | 1.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 66.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 5.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1695972 | 0.77 | 2388263 | 71.0 | 70 - 130 | |
| 45 Sc | 1 | 2875045 | 1.23 | 2903830 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 290332 | 0.60 | 309156 | 93.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 592654 | 1.08 | 618578 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 120263 | 0.52 | 133153 | 90.3 | 70 | - | 130 |
| 103 Rh | 1 | 3216951 | 0.88 | 3314277 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3534661 | 0.76 | 3516736 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 940063 | 0.79 | 1020578 | 92.1 | 70 | - | 130 |
| 159 Tb | 1 | 4570041 | 0.51 | 4430853 | 103.1 | 70 | - | 130 |
| 175 Lu | 1 | 4358958 | 0.56 | 4183901 | 104.2 | 70 | - | 130 |
| 209 Bi | 1 | 2249009 | 0.72 | 2323029 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 22 2013 08:39 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-13F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 20.05 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2867.70 | 900.00 | |
| 11 B | 6 | 1 | 67.14 | 33.57 | ppb | 0.24 | 900.00 | |
| 11 B | 45 | 2 | 56.30 | 28.15 | ppb | 1.10 | 900.00 | |
| 23 Na | 45 | 1 | 10850.00 | 5425.00 | ppb | 0.36 | 90000.00 | |
| 23 Na | 45 | 2 | 12702.00 | 6351.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 2310.00 | 1155.00 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 2720.00 | 1360.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 11.51 | 5.75 | ppb | 3.25 | 90000.00 | |
| 27 Al | 45 | 2 | 10.17 | 5.08 | ppb | 4.03 | 90000.00 | |
| 39 K | 45 | 1 | 3782.00 | 1891.00 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 18236.00 | 9118.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.61 | 0.81 | ppb | 0.74 | 900.00 | |
| 51 V | 45 | 2 | 1.51 | 0.75 | ppb | 2.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.48 | ppb | 0.75 | 900.00 | |
| 55 Mn | 45 | 2 | 809.80 | 404.90 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 27240.00 | 13620.00 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 10.60 | 5.30 | ppb | 0.08 | 900.00 | |
| 60 Ni | 45 | 2 | 8.78 | 4.39 | ppb | 0.99 | 900.00 | |
| 63 Cu | 72 | 2 | 1.20 | 0.60 | ppb | 2.11 | 900.00 | |
| 66 Zn | 72 | 2 | 15.66 | 7.83 | ppb | 0.43 | 900.00 | |
| 75 As | 72 | 2 | 2972.00 | 1486.00 | ppb | 0.69 | 900.00 | >LDR |
| 78 Se | 72 | 2 | 0.45 | 0.22 | ppb | 40.53 | 900.00 | |
| 88 Sr | 103 | 1 | 176.04 | 88.02 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 13.33 | 6.66 | ppb | 0.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 44.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 4.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.11 | ppb | 2.21 | 900.00 | |
| 137 Ba | 159 | 1 | 14.04 | 7.02 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 20.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 2.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1675470 | 0.82 | 2388263 | 70.2 | 70 - 130 | |
| 45 Sc | 1 | 2869031 | 0.47 | 2903830 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 289892 | 0.25 | 309156 | 93.8 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 598808 | 1.33 | 618578 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 121127 | 0.40 | 133153 | 91.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3265294 | 1.56 | 3314277 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 3559790 | 0.47 | 3516736 | 101.2 | 70 | - | 130 |
| 115 | In | 2 | 940044 | 0.19 | 1020578 | 92.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4564893 | 0.17 | 4430853 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4397495 | 0.96 | 4183901 | 105.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2277652 | 0.38 | 2323029 | 98.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 22 2013 08:46 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-14F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.55 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 163.52 | 900.00 | |
| 11 B | 6 | 1 | 143.94 | 71.97 | ppb | 1.25 | 900.00 | |
| 11 B | 45 | 2 | 118.82 | 59.41 | ppb | 2.09 | 900.00 | |
| 23 Na | 45 | 1 | 17386.00 | 8693.00 | ppb | 1.03 | 90000.00 | |
| 23 Na | 45 | 2 | 20800.00 | 10400.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 7442.00 | 3721.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 8626.00 | 4313.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 1 | 9.54 | 4.77 | ppb | 3.09 | 90000.00 | |
| 27 Al | 45 | 2 | 10.36 | 5.18 | ppb | 2.77 | 90000.00 | |
| 39 K | 45 | 1 | 4726.00 | 2363.00 | ppb | 1.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 55240.00 | 27620.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.89 | ppb | 4.91 | 900.00 | |
| 51 V | 45 | 2 | 1.17 | 0.58 | ppb | 2.97 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.15 | ppb | 4.54 | 900.00 | |
| 55 Mn | 45 | 2 | 2868.00 | 1434.00 | ppb | 0.62 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 46200.00 | 23100.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 19.09 | 9.55 | ppb | 0.45 | 900.00 | |
| 60 Ni | 45 | 2 | 22.16 | 11.08 | ppb | 0.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.61 | 0.30 | ppb | 1.71 | 900.00 | |
| 66 Zn | 72 | 2 | 56.46 | 28.23 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 1579.80 | 789.90 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 72.97 | 900.00 | |
| 88 Sr | 103 | 1 | 572.60 | 286.30 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 23.84 | 11.92 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 10.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 26.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 3.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.44 | 0.22 | ppb | 1.78 | 900.00 | |
| 137 Ba | 159 | 1 | 15.74 | 7.87 | ppb | 2.10 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 24.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 6.71 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1618027 | 1.05 | 2388263 | 67.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2834517 | 1.03 | 2903830 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 289867 | 0.71 | 309156 | 93.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 589949 | 0.66 | 618578 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 120412 | 0.73 | 133153 | 90.4 | 70 | - | 130 |
| 103 Rh | 1 | 3181503 | 0.68 | 3314277 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 3487623 | 0.68 | 3516736 | 99.2 | 70 | - | 130 |
| 115 In | 2 | 909992 | 0.35 | 1020578 | 89.2 | 70 | - | 130 |
| 159 Tb | 1 | 4526371 | 0.50 | 4430853 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4354895 | 0.87 | 4183901 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 2224537 | 0.69 | 2323029 | 95.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 22 2013 08:53 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-16F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 8.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 6081.60 | 900.00 | |
| 11 B | 6 | 1 | 1.01 | 0.50 | ppb | 3.98 | 900.00 | |
| 11 B | 45 | 2 | 0.62 | 0.31 | ppb | 5.30 | 900.00 | |
| 23 Na | 45 | 1 | 24.98 | 12.49 | ppb | 3.47 | 90000.00 | |
| 23 Na | 45 | 2 | 43.02 | 21.51 | ppb | 2.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.71 | 2.85 | ppb | 2.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.81 | 3.41 | ppb | 2.17 | 90000.00 | |
| 27 Al | 45 | 1 | 2.24 | 1.12 | ppb | 5.32 | 900.00 | |
| 27 Al | 45 | 2 | 2.40 | 1.20 | ppb | 8.42 | 900.00 | |
| 39 K | 45 | 1 | 4.73 | 2.37 | ppb | 73.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 54.96 | 27.48 | ppb | 2.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.50 | 0.25 | ppb | 5.74 | 900.00 | |
| 51 V | 45 | 2 | 1.64 | 0.82 | ppb | 1.41 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 2.07 | 900.00 | |
| 55 Mn | 45 | 2 | 0.68 | 0.34 | ppb | 5.20 | 900.00 | |
| 56 Fe | 45 | 2 | 14.35 | 7.17 | ppb | 2.39 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 16.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 8.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.49 | ppb | 1.41 | 900.00 | |
| 66 Zn | 72 | 2 | 7.41 | 3.71 | ppb | 0.37 | 900.00 | |
| 75 As | 72 | 2 | 1.04 | 0.52 | ppb | 1.89 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 32.84 | 900.00 | |
| 88 Sr | 103 | 1 | 0.13 | 0.07 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.26 | 0.13 | ppb | 4.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.51 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 76.95 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.08 | ppb | 9.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 7.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 14.16 | 900.00 | |
| 205 Tl | 209 | 1 | -0.03 | -0.01 | ppb | 10.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 7.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1632270 | 0.81 | 2388263 | 68.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2889166 | 0.69 | 2903830 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 300786 | 0.65 | 309156 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 598819 | 0.88 | 618578 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 123249 | 0.34 | 133153 | 92.6 | 70 | - | 130 |
| 103 Rh | 1 | 3427769 | 1.14 | 3314277 | 103.4 | 70 | - | 130 |
| 115 In | 1 | 3650281 | 1.25 | 3516736 | 103.8 | 70 | - | 130 |
| 115 In | 2 | 962738 | 0.65 | 1020578 | 94.3 | 70 | - | 130 |
| 159 Tb | 1 | 4629006 | 0.59 | 4430853 | 104.5 | 70 | - | 130 |
| 175 Lu | 1 | 4419674 | 0.42 | 4183901 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2335640 | 0.63 | 2323029 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\023SMPL.D\023SMPL.D#
Date Acquired: Apr 22 2013 09:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-B1
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 541.40 | 27.07 | ppb | 1.47 | 900.00 | |
| 9 Be | 45 | 2 | 468.20 | 23.41 | ppb | 2.93 | 900.00 | |
| 11 B | 6 | 1 | 3.72 | 0.19 | ppb | 13.72 | 900.00 | |
| 11 B | 45 | 2 | 2.65 | 0.13 | ppb | 57.72 | 900.00 | |
| 23 Na | 45 | 1 | 24400.00 | 1220.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 28400.00 | 1420.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 24880.00 | 1244.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 28320.00 | 1416.00 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 1 | 2190.00 | 109.50 | ppb | 1.87 | 90000.00 | |
| 27 Al | 45 | 2 | 2308.00 | 115.40 | ppb | 0.61 | 90000.00 | |
| 39 K | 45 | 1 | 26280.00 | 1314.00 | ppb | 1.26 | 90000.00 | |
| 44 Ca | 45 | 1 | 27920.00 | 1396.00 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 476.80 | 23.84 | ppb | 0.37 | 900.00 | |
| 51 V | 45 | 2 | 515.20 | 25.76 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 504.20 | 25.21 | ppb | 0.05 | 900.00 | |
| 55 Mn | 45 | 2 | 494.60 | 24.73 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 2436.00 | 121.80 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 513.20 | 25.66 | ppb | 0.61 | 900.00 | |
| 60 Ni | 45 | 2 | 497.20 | 24.86 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 501.20 | 25.06 | ppb | 0.27 | 900.00 | |
| 66 Zn | 72 | 2 | 548.20 | 27.41 | ppb | 0.67 | 900.00 | |
| 75 As | 72 | 2 | 512.20 | 25.61 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 498.80 | 24.94 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 510.80 | 25.54 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 2.36 | 0.12 | ppb | 11.83 | 900.00 | |
| 107 Ag | 115 | 1 | 200.80 | 10.04 | ppb | 0.73 | 180.00 | |
| 111 Cd | 115 | 2 | 509.20 | 25.46 | ppb | 0.50 | 900.00 | |
| 120 Sn | 115 | 1 | -0.19 | -0.01 | ppb | 29.76 | 900.00 | |
| 121 Sb | 115 | 1 | 520.60 | 26.03 | ppb | 0.58 | 900.00 | |
| 137 Ba | 159 | 1 | 2070.00 | 103.50 | ppb | 0.24 | 900.00 | |
| 205 Tl | 209 | 1 | 474.00 | 23.70 | ppb | 0.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1033.00 | 51.65 | ppb | 1.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1910463 | 0.74 | 2388263 | 80.0 | 70 - 130 | |
| 45 Sc | 1 | 3070875 | 0.66 | 2903830 | 105.8 | 70 - 130 | |
| 45 Sc | 2 | 311347 | 0.65 | 309156 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623298 | 0.63 | 618578 | 100.8 | 70 | - | 130 |
| 72 Ge | 2 | 128366 | 0.59 | 133153 | 96.4 | 70 | - | 130 |
| 103 Rh | 1 | 3562123 | 0.33 | 3314277 | 107.5 | 70 | - | 130 |
| 115 In | 1 | 3779485 | 0.84 | 3516736 | 107.5 | 70 | - | 130 |
| 115 In | 2 | 987672 | 0.62 | 1020578 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 4689667 | 0.56 | 4430853 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 4452399 | 0.83 | 4183901 | 106.4 | 70 | - | 130 |
| 209 Bi | 1 | 2315044 | 0.83 | 2323029 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\024SMPL.D\024SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 22 2013 09:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.66 | 52.66 | ppb | 1.00 | 900.00 | |
| 9 Be | 45 | 2 | 46.81 | 46.81 | ppb | 2.69 | 900.00 | |
| 11 B | 6 | 1 | 53.30 | 53.30 | ppb | 1.09 | 900.00 | |
| 11 B | 45 | 2 | 47.92 | 47.92 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 4760.00 | 4760.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5369.00 | 5369.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 4831.00 | 4831.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 5319.00 | 5319.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4928.00 | 4928.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 2 | 5211.00 | 5211.00 | ppb | 0.40 | 90000.00 | |
| 39 K | 45 | 1 | 5063.00 | 5063.00 | ppb | 1.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 5170.00 | 5170.00 | ppb | 0.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.20 | 48.20 | ppb | 0.62 | 900.00 | |
| 51 V | 45 | 2 | 49.75 | 49.75 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 48.74 | 48.74 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 47.59 | 47.59 | ppb | 0.88 | 900.00 | |
| 56 Fe | 45 | 2 | 5164.00 | 5164.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 49.25 | 49.25 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 48.70 | 48.70 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | 48.38 | 48.38 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 48.57 | 48.57 | ppb | 0.13 | 900.00 | |
| 75 As | 72 | 2 | 49.20 | 49.20 | ppb | 0.22 | 900.00 | |
| 78 Se | 72 | 2 | 47.18 | 47.18 | ppb | 0.60 | 900.00 | |
| 88 Sr | 103 | 1 | 52.88 | 52.88 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 50.76 | 50.76 | ppb | 1.02 | 900.00 | |
| 107 Ag | 115 | 1 | 48.52 | 48.52 | ppb | 0.88 | 180.00 | |
| 111 Cd | 115 | 2 | 49.48 | 49.48 | ppb | 0.41 | 900.00 | |
| 120 Sn | 115 | 1 | 50.69 | 50.69 | ppb | 1.08 | 900.00 | |
| 121 Sb | 115 | 1 | 51.68 | 51.68 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.22 | 49.22 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 47.68 | 47.68 | ppb | 2.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.81 | 48.81 | ppb | 1.81 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1910782 | 0.88 | 2388263 | 80.0 | 70 - 130 | |
| 45 Sc | 1 | 2935195 | 0.21 | 2903830 | 101.1 | 70 - 130 | |
| 45 Sc | 2 | 294120 | 0.28 | 309156 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 585987 | 0.52 | 618578 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 120288 | 0.68 | 133153 | 90.3 | 70 | - | 130 |
| 103 Rh | 1 | 3271195 | 0.66 | 3314277 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 3549796 | 0.92 | 3516736 | 100.9 | 70 | - | 130 |
| 115 In | 2 | 929908 | 0.86 | 1020578 | 91.1 | 70 | - | 130 |
| 159 Tb | 1 | 4480670 | 0.39 | 4430853 | 101.1 | 70 | - | 130 |
| 175 Lu | 1 | 4322367 | 0.44 | 4183901 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 2234870 | 1.59 | 2323029 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D22s01.B\025SMPL.D\025SMPL.D# | | |
| **Date Acquired:** | Apr 22 2013 09:15 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2204 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 22 2013 07:25 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 76.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.29 | 0.29 | ppb | 9.86 | 900.00 | |
| 11 B | 45 | 2 | 0.29 | 0.29 | ppb | 29.63 | 900.00 | |
| 23 Na | 45 | 1 | 5.96 | 5.96 | ppb | 2.85 | 90000.00 | |
| 23 Na | 45 | 2 | 12.74 | 12.74 | ppb | 4.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.09 | 0.09 | ppb | 16.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.40 | 0.40 | ppb | 40.70 | 90000.00 | |
| 27 Al | 45 | 1 | 0.06 | 0.06 | ppb | 64.03 | 90000.00 | |
| 27 Al | 45 | 2 | 0.19 | 0.19 | ppb | 43.81 | 90000.00 | |
| 39 K | 45 | 1 | -0.83 | -0.83 | ppb | 107.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.38 | 0.38 | ppb | 173.55 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 101.89 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 718.49 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 524.43 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 22.23 | 900.00 | |
| 56 Fe | 45 | 2 | 1.01 | 1.01 | ppb | 13.36 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 87.31 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 176.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 58.79 | 900.00 | |
| 66 Zn | 72 | 2 | 0.40 | 0.40 | ppb | 3.24 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 12.10 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 24.46 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 16.50 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.11 | ppb | 6.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.15 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 229.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 13.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 11.82 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 112.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.30 | 0.30 | ppb | 3.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 33.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1984540 | 0.28 | 2388263 | 83.1 | 70 - 130 | |
| 45 Sc | 1 | 2980183 | 0.93 | 2903830 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 297811 | 0.48 | 309156 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 608373 | 0.92 | 618578 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 122500 | 0.22 | 133153 | 92.0 | 70 | - | 130 |
| 103 Rh | 1 | 3445754 | 0.94 | 3314277 | 104.0 | 70 | - | 130 |
| 115 In | 1 | 3672035 | 1.28 | 3516736 | 104.4 | 70 | - | 130 |
| 115 In | 2 | 972972 | 0.32 | 1020578 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 4552272 | 1.32 | 4430853 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 4341455 | 1.16 | 4183901 | 103.8 | 70 | - | 130 |
| 209 Bi | 1 | 2325863 | 0.78 | 2323029 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 22 2013 09:22 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20810-S1
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 534.80 | 26.74 | ppb | 1.91 | 900.00 | |
| 9 Be | 45 | 2 | 485.60 | 24.28 | ppb | 0.37 | 900.00 | |
| 11 B | 6 | 1 | 88.50 | 4.43 | ppb | 2.27 | 900.00 | |
| 11 B | 45 | 2 | 78.66 | 3.93 | ppb | 10.70 | 900.00 | |
| 23 Na | 45 | 1 | 40580.00 | 2029.00 | ppb | 0.97 | 90000.00 | |
| 23 Na | 45 | 2 | 44580.00 | 2229.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 31400.00 | 1570.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 34300.00 | 1715.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 2202.00 | 110.10 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 2320.00 | 116.00 | ppb | 0.33 | 90000.00 | |
| 39 K | 45 | 1 | 29640.00 | 1482.00 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 86080.00 | 4304.00 | ppb | 0.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 478.80 | 23.94 | ppb | 0.74 | 900.00 | |
| 51 V | 45 | 2 | 514.00 | 25.70 | ppb | 0.22 | 900.00 | |
| 52 Cr | 45 | 2 | 499.60 | 24.98 | ppb | 0.16 | 900.00 | |
| 55 Mn | 45 | 2 | 4028.00 | 201.40 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 11250.00 | 562.50 | ppb | 0.12 | 90000.00 | |
| 59 Co | 45 | 2 | 520.60 | 26.03 | ppb | 0.45 | 900.00 | |
| 60 Ni | 45 | 2 | 510.20 | 25.51 | ppb | 0.20 | 900.00 | |
| 63 Cu | 72 | 2 | 504.00 | 25.20 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 551.00 | 27.55 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 655.00 | 32.75 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 490.40 | 24.52 | ppb | 1.06 | 900.00 | |
| 88 Sr | 103 | 1 | 803.00 | 40.15 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 13.85 | 0.69 | ppb | 1.26 | 900.00 | |
| 107 Ag | 115 | 1 | 201.80 | 10.09 | ppb | 1.15 | 180.00 | |
| 111 Cd | 115 | 2 | 504.20 | 25.21 | ppb | 0.36 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.02 | ppb | 6.26 | 900.00 | |
| 121 Sb | 115 | 1 | 522.00 | 26.10 | ppb | 0.86 | 900.00 | |
| 137 Ba | 159 | 1 | 2090.00 | 104.50 | ppb | 0.15 | 900.00 | |
| 205 Tl | 209 | 1 | 465.00 | 23.25 | ppb | 0.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1031.80 | 51.59 | ppb | 1.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2055441 | 1.86 | 2388263 | 86.1 | 70 - 130 | |
| 45 Sc | 1 | 3040115 | 1.08 | 2903830 | 104.7 | 70 - 130 | |
| 45 Sc | 2 | 307266 | 0.67 | 309156 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 615757 | 1.28 | 618578 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 124965 | 0.88 | 133153 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 3450267 | 0.60 | 3314277 | 104.1 | 70 | - | 130 |
| 115 In | 1 | 3691269 | 1.31 | 3516736 | 105.0 | 70 | - | 130 |
| 115 In | 2 | 980507 | 1.31 | 1020578 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 4556375 | 0.95 | 4430853 | 102.8 | 70 | - | 130 |
| 175 Lu | 1 | 4327835 | 0.90 | 4183901 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 2284774 | 0.89 | 2323029 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D22s01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 22 2013 09:29 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20810-S2
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 22 2013 07:25 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 527.20 | 26.36 | ppb | 0.51 | 900.00 | |
| 9 Be | 45 | 2 | 484.80 | 24.24 | ppb | 1.44 | 900.00 | |
| 11 B | 6 | 1 | 85.94 | 4.30 | ppb | 1.11 | 900.00 | |
| 11 B | 45 | 2 | 74.60 | 3.73 | ppb | 5.27 | 900.00 | |
| 23 Na | 45 | 1 | 41240.00 | 2062.00 | ppb | 1.52 | 90000.00 | |
| 23 Na | 45 | 2 | 45640.00 | 2282.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 32060.00 | 1603.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 35160.00 | 1758.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2254.00 | 112.70 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 2 | 2374.00 | 118.70 | ppb | 0.33 | 90000.00 | |
| 39 K | 45 | 1 | 30100.00 | 1505.00 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 86740.00 | 4337.00 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 485.80 | 24.29 | ppb | 0.36 | 900.00 | |
| 51 V | 45 | 2 | 523.80 | 26.19 | ppb | 0.14 | 900.00 | |
| 52 Cr | 45 | 2 | 509.80 | 25.49 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 4168.00 | 208.40 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 11506.00 | 575.30 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 534.00 | 26.70 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 525.80 | 26.29 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 510.80 | 25.54 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 560.40 | 28.02 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 664.60 | 33.23 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 506.40 | 25.32 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 817.20 | 40.86 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 14.06 | 0.70 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 208.40 | 10.42 | ppb | 0.33 | 180.00 | |
| 111 Cd | 115 | 2 | 514.40 | 25.72 | ppb | 0.58 | 900.00 | |
| 120 Sn | 115 | 1 | -0.15 | -0.01 | ppb | 28.51 | 900.00 | |
| 121 Sb | 115 | 1 | 535.00 | 26.75 | ppb | 0.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2132.00 | 106.60 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 457.80 | 22.89 | ppb | 2.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1044.00 | 52.20 | ppb | 2.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2152530 | 0.60 | 2388263 | 90.1 | 70 - 130 | |
| 45 Sc | 1 | 3070238 | 0.95 | 2903830 | 105.7 | 70 - 130 | |
| 45 Sc | 2 | 303374 | 0.52 | 309156 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618075 | 1.03 | 618578 | 99.9 | 70 | - | 130 |
| 72 Ge | 2 | 124388 | 1.03 | 133153 | 93.4 | 70 | - | 130 |
| 103 Rh | 1 | 3468843 | 0.38 | 3314277 | 104.7 | 70 | - | 130 |
| 115 In | 1 | 3681384 | 0.94 | 3516736 | 104.7 | 70 | - | 130 |
| 115 In | 2 | 981374 | 0.58 | 1020578 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 4589769 | 1.12 | 4430853 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4334062 | 0.66 | 4183901 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 2304439 | 1.61 | 2323029 | 99.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\028SMPL.D\028SMPL.D#
Date Acquired: Apr 22 2013 09:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-SD1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 39.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.19 | 0.02 | ppb | 59.13 | 900.00 | |
| 11 B | 6 | 1 | 86.09 | 8.61 | ppb | 1.42 | 900.00 | |
| 11 B | 45 | 2 | 73.92 | 7.39 | ppb | 6.10 | 900.00 | |
| 23 Na | 45 | 1 | 15430.00 | 1543.00 | ppb | 2.08 | 90000.00 | |
| 23 Na | 45 | 2 | 17140.00 | 1714.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 5834.00 | 583.40 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 6538.00 | 653.80 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 10.42 | 1.04 | ppb | 3.62 | 90000.00 | |
| 27 Al | 45 | 2 | 11.62 | 1.16 | ppb | 5.63 | 90000.00 | |
| 39 K | 45 | 1 | 3178.00 | 317.80 | ppb | 2.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 58430.00 | 5843.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.44 | 0.14 | ppb | 10.52 | 900.00 | |
| 51 V | 45 | 2 | -0.89 | -0.09 | ppb | 7.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.01 | ppb | 22.46 | 900.00 | |
| 55 Mn | 45 | 2 | 3480.00 | 348.00 | ppb | 0.26 | 900.00 | |
| 56 Fe | 45 | 2 | 8847.00 | 884.70 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 11.30 | 1.13 | ppb | 1.11 | 900.00 | |
| 60 Ni | 45 | 2 | 16.42 | 1.64 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 0.78 | 0.08 | ppb | 5.01 | 900.00 | |
| 66 Zn | 72 | 2 | 18.07 | 1.81 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 133.70 | 13.37 | ppb | 0.23 | 900.00 | |
| 78 Se | 72 | 2 | 1.84 | 0.18 | ppb | 102.07 | 900.00 | |
| 88 Sr | 103 | 1 | 287.20 | 28.72 | ppb | 1.74 | 900.00 | |
| 98 Mo | 103 | 1 | 14.07 | 1.41 | ppb | 2.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.01 | ppb | 12.26 | 180.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.01 | ppb | 28.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.01 | ppb | 20.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.93 | 0.09 | ppb | 4.30 | 900.00 | |
| 137 Ba | 159 | 1 | 9.12 | 0.91 | ppb | 2.11 | 900.00 | |
| 205 Tl | 209 | 1 | 1.50 | 0.15 | ppb | 3.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.02 | ppb | 9.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2084760 | 0.31 | 2388263 | 87.3 | 70 - 130 | |
| 45 Sc | 1 | 2995357 | 1.00 | 2903830 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 301059 | 0.76 | 309156 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 612038 | 0.98 | 618578 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 123655 | 0.60 | 133153 | 92.9 | 70 | - | 130 |
| 103 Rh | 1 | 3380082 | 0.38 | 3314277 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 3660230 | 1.05 | 3516736 | 104.1 | 70 | - | 130 |
| 115 In | 2 | 981177 | 0.35 | 1020578 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 4512101 | 0.57 | 4430853 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 4293159 | 1.05 | 4183901 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 2311587 | 0.75 | 2323029 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 22 2013 09:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-15F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 131.83 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 89.95 | 17.99 | ppb | 1.67 | 900.00 | |
| 11 B | 45 | 2 | 86.20 | 17.24 | ppb | 6.79 | 900.00 | |
| 23 Na | 45 | 1 | 15120.00 | 3024.00 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 16910.00 | 3382.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 5720.00 | 1144.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 6470.00 | 1294.00 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 1 | 11.32 | 2.26 | ppb | 4.30 | 90000.00 | |
| 27 Al | 45 | 2 | 12.04 | 2.41 | ppb | 16.37 | 90000.00 | |
| 39 K | 45 | 1 | 3123.50 | 624.70 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 58200.00 | 11640.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.52 | 0.30 | ppb | 4.43 | 900.00 | |
| 51 V | 45 | 2 | 0.57 | 0.11 | ppb | 14.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.16 | 0.03 | ppb | 24.45 | 900.00 | |
| 55 Mn | 45 | 2 | 3471.50 | 694.30 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 8945.00 | 1789.00 | ppb | 0.70 | 90000.00 | |
| 59 Co | 45 | 2 | 11.50 | 2.30 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 16.66 | 3.33 | ppb | 1.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.75 | 0.15 | ppb | 4.76 | 900.00 | |
| 66 Zn | 72 | 2 | 13.36 | 2.67 | ppb | 0.72 | 900.00 | |
| 75 As | 72 | 2 | 134.65 | 26.93 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.62 | 0.12 | ppb | 32.81 | 900.00 | |
| 88 Sr | 103 | 1 | 292.90 | 58.58 | ppb | 2.01 | 900.00 | |
| 98 Mo | 103 | 1 | 14.66 | 2.93 | ppb | 0.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 49.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.02 | ppb | 34.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.01 | ppb | 12.33 | 900.00 | |
| 121 Sb | 115 | 1 | 0.93 | 0.19 | ppb | 3.41 | 900.00 | |
| 137 Ba | 159 | 1 | 8.34 | 1.67 | ppb | 0.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.04 | ppb | 8.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.01 | ppb | 9.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1984254 | 0.19 | 2388263 | 83.1 | 70 - 130 | |
| 45 Sc | 1 | 2967292 | 0.32 | 2903830 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 297212 | 0.29 | 309156 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 607590 | 0.81 | 618578 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 122529 | 0.39 | 133153 | 92.0 | 70 | - | 130 |
| 103 Rh | 1 | 3326874 | 0.83 | 3314277 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 3572619 | 0.49 | 3516736 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 967824 | 0.42 | 1020578 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 4510994 | 1.14 | 4430853 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 4298525 | 0.27 | 4183901 | 102.7 | 70 | - | 130 |
| 209 Bi | 1 | 2281590 | 1.25 | 2323029 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 22 2013 09:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-13F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.00 | ppb | 186.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.71 | 0.01 | ppb | 151.07 | 900.00 | |
| 11 B | 6 | 1 | 56.76 | 0.57 | ppb | 5.95 | 900.00 | |
| 11 B | 45 | 2 | 60.25 | 0.60 | ppb | 20.23 | 900.00 | |
| 23 Na | 45 | 1 | 12980.00 | 129.80 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 14780.00 | 147.80 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 2764.00 | 27.64 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 2934.00 | 29.34 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 136.50 | 1.37 | ppb | 15.01 | 90000.00 | |
| 27 Al | 45 | 2 | 169.60 | 1.70 | ppb | 29.48 | 90000.00 | |
| 39 K | 45 | 1 | 3668.00 | 36.68 | ppb | 3.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 22060.00 | 220.60 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.67 | 0.03 | ppb | 38.14 | 900.00 | |
| 51 V | 45 | 2 | -32.33 | -0.32 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | -5.40 | -0.05 | ppb | 6.58 | 900.00 | |
| 55 Mn | 45 | 2 | 893.70 | 8.94 | ppb | 0.97 | 900.00 | |
| 56 Fe | 45 | 2 | 26790.00 | 267.90 | ppb | 1.20 | 90000.00 | |
| 59 Co | 45 | 2 | 10.45 | 0.10 | ppb | 3.51 | 900.00 | |
| 60 Ni | 45 | 2 | 10.61 | 0.11 | ppb | 3.43 | 900.00 | |
| 63 Cu | 72 | 2 | 9.54 | 0.10 | ppb | 5.53 | 900.00 | |
| 66 Zn | 72 | 2 | 27.45 | 0.27 | ppb | 4.00 | 900.00 | |
| 75 As | 72 | 2 | 3166.00 | 31.66 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | 8.66 | 0.09 | ppb | 75.17 | 900.00 | |
| 88 Sr | 103 | 1 | 177.70 | 1.78 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 7.64 | 0.08 | ppb | 3.56 | 900.00 | |
| 107 Ag | 115 | 1 | -0.30 | 0.00 | ppb | 4.04 | 180.00 | |
| 111 Cd | 115 | 2 | -0.19 | 0.00 | ppb | 0.00 | 900.00 | |
| 120 Sn | 115 | 1 | -1.88 | -0.02 | ppb | 4.83 | 900.00 | |
| 121 Sb | 115 | 1 | -0.22 | 0.00 | ppb | 7.28 | 900.00 | |
| 137 Ba | 159 | 1 | 18.21 | 0.18 | ppb | 7.88 | 900.00 | |
| 205 Tl | 209 | 1 | 2.31 | 0.02 | ppb | 5.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.01 | ppb | 23.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2366420 | 0.96 | 2388263 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 3124483 | 1.28 | 2903830 | 107.6 | 70 - 130 | |
| 45 Sc | 2 | 313447 | 0.52 | 309156 | 101.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 633401 | 2.19 | 618578 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 126713 | 0.73 | 133153 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 3571895 | 1.69 | 3314277 | 107.8 | 70 | - | 130 |
| 115 In | 1 | 3763785 | 1.16 | 3516736 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1014360 | 0.85 | 1020578 | 99.4 | 70 | - | 130 |
| 159 Tb | 1 | 4613855 | 1.66 | 4430853 | 104.1 | 70 | - | 130 |
| 175 Lu | 1 | 4391254 | 1.56 | 4183901 | 105.0 | 70 | - | 130 |
| 209 Bi | 1 | 2267965 | 0.16 | 2323029 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 22 2013 09:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-14F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.00 | ppb | 72.34 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.00 | ppb | 350.78 | 900.00 | |
| 11 B | 6 | 1 | 118.85 | 2.38 | ppb | 3.16 | 900.00 | |
| 11 B | 45 | 2 | 108.40 | 2.17 | ppb | 10.89 | 900.00 | |
| 23 Na | 45 | 1 | 22250.00 | 445.00 | ppb | 1.99 | 90000.00 | |
| 23 Na | 45 | 2 | 24590.00 | 491.80 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 8715.00 | 174.30 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 9425.00 | 188.50 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 73.00 | 1.46 | ppb | 17.66 | 90000.00 | |
| 27 Al | 45 | 2 | 65.35 | 1.31 | ppb | 10.41 | 90000.00 | |
| 39 K | 45 | 1 | 5415.00 | 108.30 | ppb | 1.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 61400.00 | 1228.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.04 | ppb | 30.33 | 900.00 | |
| 51 V | 45 | 2 | -15.14 | -0.30 | ppb | 1.26 | 900.00 | |
| 52 Cr | 45 | 2 | -2.66 | -0.05 | ppb | 2.04 | 900.00 | |
| 55 Mn | 45 | 2 | 3193.50 | 63.87 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 46460.00 | 929.20 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 19.30 | 0.39 | ppb | 1.58 | 900.00 | |
| 60 Ni | 45 | 2 | 24.45 | 0.49 | ppb | 2.18 | 900.00 | |
| 63 Cu | 72 | 2 | 7.34 | 0.15 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 48.26 | 0.97 | ppb | 3.17 | 900.00 | |
| 75 As | 72 | 2 | 1647.00 | 32.94 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 4.02 | 0.08 | ppb | 213.90 | 900.00 | |
| 88 Sr | 103 | 1 | 596.00 | 11.92 | ppb | 0.33 | 900.00 | |
| 98 Mo | 103 | 1 | 16.56 | 0.33 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | -0.10 | 0.00 | ppb | 38.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 3159.00 | 900.00 | |
| 120 Sn | 115 | 1 | -0.89 | -0.02 | ppb | 7.75 | 900.00 | |
| 121 Sb | 115 | 1 | 0.45 | 0.01 | ppb | 20.77 | 900.00 | |
| 137 Ba | 159 | 1 | 17.07 | 0.34 | ppb | 10.14 | 900.00 | |
| 205 Tl | 209 | 1 | -0.17 | 0.00 | ppb | 65.05 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.20 | 0.00 | ppb | 27.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2285954 | 0.89 | 2388263 | 95.7 | 70 - 130 | |
| 45 Sc | 1 | 3083070 | 0.52 | 2903830 | 106.2 | 70 - 130 | |
| 45 Sc | 2 | 309913 | 0.80 | 309156 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 628326 | 0.98 | 618578 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 126201 | 0.49 | 133153 | 94.8 | 70 | - | 130 |
| 103 Rh | 1 | 3515082 | 1.02 | 3314277 | 106.1 | 70 | - | 130 |
| 115 In | 1 | 3729026 | 1.18 | 3516736 | 106.0 | 70 | - | 130 |
| 115 In | 2 | 1004705 | 0.49 | 1020578 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 4582782 | 1.12 | 4430853 | 103.4 | 70 | - | 130 |
| 175 Lu | 1 | 4300087 | 1.45 | 4183901 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 2282783 | 1.78 | 2323029 | 98.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D22s01.B\032SMPL.D\032SMPL.D#** | | |
| **Date Acquired:** | **Apr 22 2013 10:04 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MP20810-SD1** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2211** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 22 2013 07:25 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **25.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **25.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 188.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 80593.00 | 900.00 | |
| 11 B | 6 | 1 | 81.80 | 3.27 | ppb | 1.97 | 900.00 | |
| 11 B | 45 | 2 | 75.80 | 3.03 | ppb | 14.55 | 900.00 | |
| 23 Na | 45 | 1 | 15737.50 | 629.50 | ppb | 2.38 | 90000.00 | |
| 23 Na | 45 | 2 | 17762.50 | 710.50 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 5935.00 | 237.40 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 6562.50 | 262.50 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 34.28 | 1.37 | ppb | 14.25 | 90000.00 | |
| 27 Al | 45 | 2 | 27.88 | 1.12 | ppb | 11.18 | 90000.00 | |
| 39 K | 45 | 1 | 3107.50 | 124.30 | ppb | 2.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 60600.00 | 2424.00 | ppb | 1.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.56 | 0.06 | ppb | 29.69 | 900.00 | |
| 51 V | 45 | 2 | -6.30 | -0.25 | ppb | 0.84 | 900.00 | |
| 52 Cr | 45 | 2 | -1.18 | -0.05 | ppb | 3.39 | 900.00 | |
| 55 Mn | 45 | 2 | 3657.50 | 146.30 | ppb | 0.14 | 900.00 | |
| 56 Fe | 45 | 2 | 9252.50 | 370.10 | ppb | 0.39 | 90000.00 | |
| 59 Co | 45 | 2 | 11.39 | 0.46 | ppb | 1.45 | 900.00 | |
| 60 Ni | 45 | 2 | 16.68 | 0.67 | ppb | 3.18 | 900.00 | |
| 63 Cu | 72 | 2 | 3.11 | 0.12 | ppb | 4.74 | 900.00 | |
| 66 Zn | 72 | 2 | 15.72 | 0.63 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 133.58 | 5.34 | ppb | 0.16 | 900.00 | |
| 78 Se | 72 | 2 | 2.61 | 0.10 | ppb | 111.97 | 900.00 | |
| 88 Sr | 103 | 1 | 297.50 | 11.90 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 12.97 | 0.52 | ppb | 4.75 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 132.71 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 208.72 | 900.00 | |
| 120 Sn | 115 | 1 | -0.37 | -0.01 | ppb | 19.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.66 | 0.03 | ppb | 5.10 | 900.00 | |
| 137 Ba | 159 | 1 | 9.33 | 0.37 | ppb | 5.34 | 900.00 | |
| 205 Tl | 209 | 1 | -0.21 | -0.01 | ppb | 23.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.01 | ppb | 16.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2241703 | 2.49 | 2388263 | 93.9 | 70 - 130 | |
| 45 Sc | 1 | 3089709 | 1.70 | 2903830 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 307529 | 0.50 | 309156 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 635041 | 0.84 | 618578 | 102.7 | 70 | - | 130 |
| 72 | Ge | 2 | 124781 | 0.23 | 133153 | 93.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3512615 | 0.50 | 3314277 | 106.0 | 70 | - | 130 |
| 115 | In | 1 | 3709004 | 0.36 | 3516736 | 105.5 | 70 | - | 130 |
| 115 | In | 2 | 998786 | 0.33 | 1020578 | 97.9 | 70 | - | 130 |
| 159 | Tb | 1 | 4599304 | 0.73 | 4430853 | 103.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4418214 | 1.40 | 4183901 | 105.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2320971 | 1.91 | 2323029 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 22 2013 10:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20810-PS1
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 18.10 | 0.72 | ppb | 3.89 | 900.00 | |
| 9 Be | 45 | 2 | 16.41 | 0.66 | ppb | 1.91 | 900.00 | |
| 11 B | 6 | 1 | 89.28 | 3.57 | ppb | 5.63 | 900.00 | |
| 11 B | 45 | 2 | 92.60 | 3.70 | ppb | 7.91 | 900.00 | |
| 23 Na | 45 | 1 | 13625.00 | 545.00 | ppb | 3.29 | 90000.00 | |
| 23 Na | 45 | 2 | 15585.00 | 623.40 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 5172.50 | 206.90 | ppb | 3.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5797.50 | 231.90 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 60.30 | 2.41 | ppb | 10.41 | 90000.00 | |
| 27 Al | 45 | 2 | 53.18 | 2.13 | ppb | 6.47 | 90000.00 | |
| 39 K | 45 | 1 | 2675.00 | 107.00 | ppb | 2.18 | 90000.00 | |
| 44 Ca | 45 | 1 | 52600.00 | 2104.00 | ppb | 1.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 19.36 | 0.77 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | 11.32 | 0.45 | ppb | 2.66 | 900.00 | |
| 52 Cr | 45 | 2 | 16.36 | 0.65 | ppb | 1.29 | 900.00 | |
| 55 Mn | 45 | 2 | 3205.00 | 128.20 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 8082.50 | 323.30 | ppb | 1.13 | 90000.00 | |
| 59 Co | 45 | 2 | 27.40 | 1.10 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 32.85 | 1.31 | ppb | 2.00 | 900.00 | |
| 63 Cu | 72 | 2 | 20.41 | 0.82 | ppb | 2.24 | 900.00 | |
| 66 Zn | 72 | 2 | 37.78 | 1.51 | ppb | 1.29 | 900.00 | |
| 75 As | 72 | 2 | 135.80 | 5.43 | ppb | 1.72 | 900.00 | |
| 78 Se | 72 | 2 | 20.85 | 0.83 | ppb | 16.04 | 900.00 | |
| 88 Sr | 103 | 1 | 277.00 | 11.08 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 26.53 | 1.06 | ppb | 1.06 | 900.00 | |
| 107 Ag | 115 | 1 | 17.29 | 0.69 | ppb | 2.15 | 180.00 | |
| 111 Cd | 115 | 2 | 17.58 | 0.70 | ppb | 6.05 | 900.00 | |
| 120 Sn | 115 | 1 | 16.24 | 0.65 | ppb | 1.27 | 900.00 | |
| 121 Sb | 115 | 1 | 19.19 | 0.77 | ppb | 1.88 | 900.00 | |
| 137 Ba | 159 | 1 | 26.20 | 1.05 | ppb | 3.85 | 900.00 | |
| 205 Tl | 209 | 1 | 15.63 | 0.63 | ppb | 2.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 18.02 | 0.72 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2284839 | 2.08 | 2388263 | 95.7 | 70 - 130 | |
| 45 Sc | 1 | 3115599 | 1.54 | 2903830 | 107.3 | 70 - 130 | |
| 45 Sc | 2 | 308853 | 0.28 | 309156 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 632261 | 2.55 | 618578 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124901 | 1.50 | 133153 | 93.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3489964 | 0.94 | 3314277 | 105.3 | 70 | - | 130 |
| 115 | In | 1 | 3710037 | 0.97 | 3516736 | 105.5 | 70 | - | 130 |
| 115 | In | 2 | 1000874 | 0.59 | 1020578 | 98.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4589047 | 1.03 | 4430853 | 103.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4375559 | 1.68 | 4183901 | 104.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2332907 | 2.29 | 2323029 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\034SMPL.D\034SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\034SMPL.D\034SMPL.D#
Date Acquired: Apr 22 2013 10:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 39.25 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 173.97 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 25.23 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 25.11 | 900.00 | |
| 23 Na | 45 | 1 | 5.99 | 5.99 | ppb | 3.79 | 90000.00 | |
| 23 Na | 45 | 2 | 11.23 | 11.23 | ppb | 3.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.43 | 1.43 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.62 | 1.62 | ppb | 1.65 | 90000.00 | |
| 27 Al | 45 | 1 | 1.42 | 1.42 | ppb | 4.68 | 90000.00 | |
| 27 Al | 45 | 2 | 1.30 | 1.30 | ppb | 10.28 | 90000.00 | |
| 39 K | 45 | 1 | 2.35 | 2.35 | ppb | 38.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.31 | 1.31 | ppb | 43.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 196.91 | 900.00 | |
| 51 V | 45 | 2 | -0.04 | -0.04 | ppb | 37.79 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 63.16 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 2.46 | 900.00 | |
| 56 Fe | 45 | 2 | 2.52 | 2.52 | ppb | 4.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 13.23 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 32.26 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 7.83 | 900.00 | |
| 66 Zn | 72 | 2 | 0.20 | 0.20 | ppb | 7.19 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 75.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 82.80 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 4.74 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 9.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 59.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 30.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 8.43 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 93.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 512.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 7.08 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2123304 | 1.47 | 2388263 | 88.9 | 70 - 130 | |
| 45 Sc | 1 | 3046400 | 0.31 | 2903830 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 308583 | 0.73 | 309156 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 618101 | 0.70 | 618578 | 99.9 | 70 - | 130 |
| 72 | Ge | 2 | 124847 | 0.62 | 133153 | 93.8 | 70 - | 130 |
| 103 | Rh | 1 | 3484268 | 0.78 | 3314277 | 105.1 | 70 - | 130 |
| 115 | In | 1 | 3696719 | 0.58 | 3516736 | 105.1 | 70 - | 130 |
| 115 | In | 2 | 990081 | 0.42 | 1020578 | 97.0 | 70 - | 130 |
| 159 | Tb | 1 | 4579824 | 0.31 | 4430853 | 103.4 | 70 - | 130 |
| 175 | Lu | 1 | 4291019 | 0.86 | 4183901 | 102.6 | 70 - | 130 |
| 209 | Bi | 1 | 2321814 | 0.57 | 2323029 | 99.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D22s01.B\035SMPL.D\035SMPL.D# |
| Date Acquired: | Apr 22 2013 10:25 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2302 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 22 2013 07:25 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 2.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.42 | 0.42 | ppb | 11.30 | 900.00 | |
| 11 B | 6 | 1 | 4.96 | 4.96 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 4.78 | 4.78 | ppb | 6.85 | 900.00 | |
| 23 Na | 45 | 1 | 248.10 | 248.10 | ppb | 0.91 | 90000.00 | |
| 23 Na | 45 | 2 | 288.20 | 288.20 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 247.90 | 247.90 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 278.20 | 278.20 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 25.86 | 25.86 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 26.58 | 26.58 | ppb | 3.74 | 90000.00 | |
| 39 K | 45 | 1 | 254.20 | 254.20 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 265.30 | 265.30 | ppb | 0.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.94 | 0.94 | ppb | 1.19 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 1.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.95 | 0.95 | ppb | 1.46 | 900.00 | |
| 55 Mn | 45 | 2 | 0.97 | 0.97 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 27.91 | 27.91 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.52 | 900.00 | |
| 60 Ni | 45 | 2 | 0.95 | 0.95 | ppb | 3.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.98 | 0.98 | ppb | 0.69 | 900.00 | |
| 66 Zn | 72 | 2 | 2.05 | 2.05 | ppb | 0.96 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 3.79 | 900.00 | |
| 78 Se | 72 | 2 | 0.62 | 0.62 | ppb | 19.97 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 1.01 | ppb | 1.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 0.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 5.11 | 900.00 | |
| 120 Sn | 115 | 1 | 4.75 | 4.75 | ppb | 0.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 3.34 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 1.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.37 | 0.37 | ppb | 2.57 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122916 | 0.38 | 2388263 | 88.9 | 70 - 130 | |
| 45 Sc | 1 | 3009806 | 0.61 | 2903830 | 103.6 | 70 - 130 | |
| 45 Sc | 2 | 306595 | 0.95 | 309156 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 610051 | 1.26 | 618578 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 123947 | 1.32 | 133153 | 93.1 | 70 | - | 130 |
| 103 Rh | 1 | 3420914 | 0.65 | 3314277 | 103.2 | 70 | - | 130 |
| 115 In | 1 | 3659529 | 0.99 | 3516736 | 104.1 | 70 | - | 130 |
| 115 In | 2 | 988656 | 0.69 | 1020578 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 4492607 | 0.55 | 4430853 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4271924 | 0.99 | 4183901 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2295853 | 0.75 | 2323029 | 98.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\036SMPL.D\036SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 22 2013 10:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.85 | 51.85 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 48.18 | 48.18 | ppb | 0.15 | 900.00 | |
| 11 B | 6 | 1 | 52.48 | 52.48 | ppb | 0.81 | 900.00 | |
| 11 B | 45 | 2 | 48.98 | 48.98 | ppb | 1.62 | 900.00 | |
| 23 Na | 45 | 1 | 4950.00 | 4950.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 5364.00 | 5364.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 4986.00 | 4986.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5342.00 | 5342.00 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 5053.00 | 5053.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 5332.00 | 5332.00 | ppb | 0.79 | 90000.00 | |
| 39 K | 45 | 1 | 5159.00 | 5159.00 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 5241.00 | 5241.00 | ppb | 0.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.08 | 49.08 | ppb | 0.03 | 900.00 | |
| 51 V | 45 | 2 | 49.19 | 49.19 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 48.52 | 48.52 | ppb | 0.44 | 900.00 | |
| 55 Mn | 45 | 2 | 47.85 | 47.85 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 5149.00 | 5149.00 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 48.49 | 48.49 | ppb | 0.52 | 900.00 | |
| 60 Ni | 45 | 2 | 47.77 | 47.77 | ppb | 0.61 | 900.00 | |
| 63 Cu | 72 | 2 | 48.51 | 48.51 | ppb | 1.04 | 900.00 | |
| 66 Zn | 72 | 2 | 49.14 | 49.14 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 49.89 | 49.89 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 48.72 | 48.72 | ppb | 0.63 | 900.00 | |
| 88 Sr | 103 | 1 | 52.73 | 52.73 | ppb | 0.82 | 900.00 | |
| 98 Mo | 103 | 1 | 50.85 | 50.85 | ppb | 1.25 | 900.00 | |
| 107 Ag | 115 | 1 | 49.83 | 49.83 | ppb | 1.54 | 180.00 | |
| 111 Cd | 115 | 2 | 49.88 | 49.88 | ppb | 1.77 | 900.00 | |
| 120 Sn | 115 | 1 | 51.38 | 51.38 | ppb | 1.42 | 900.00 | |
| 121 Sb | 115 | 1 | 52.21 | 52.21 | ppb | 0.92 | 900.00 | |
| 137 Ba | 159 | 1 | 49.83 | 49.83 | ppb | 1.58 | 900.00 | |
| 205 Tl | 209 | 1 | 47.74 | 47.74 | ppb | 0.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.42 | 49.42 | ppb | 0.80 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2116219 | 0.71 | 2388263 | 88.6 | 70 - 130 | |
| 45 Sc | 1 | 2989080 | 0.41 | 2903830 | 102.9 | 70 - 130 | |
| 45 Sc | 2 | 301133 | 0.66 | 309156 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 593801 | 0.20 | 618578 | 96.0 | 70 | - | 130 |
| 72 Ge | 2 | 120915 | 0.93 | 133153 | 90.8 | 70 | - | 130 |
| 103 Rh | 1 | 3300444 | 0.72 | 3314277 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 3508976 | 0.75 | 3516736 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 944619 | 1.21 | 1020578 | 92.6 | 70 | - | 130 |
| 159 Tb | 1 | 4492219 | 1.06 | 4430853 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4244483 | 1.02 | 4183901 | 101.4 | 70 | - | 130 |
| 209 Bi | 1 | 2213192 | 0.20 | 2323029 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D22s01.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D22s01.B\037SMPL.D\037SMPL.D#
Date Acquired: Apr 22 2013 10:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 22 2013 07:25 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 194.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 14.71 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 16.62 | 900.00 | |
| 23 Na | 45 | 1 | 4.73 | 4.73 | ppb | 2.04 | 90000.00 | |
| 23 Na | 45 | 2 | 9.61 | 9.61 | ppb | 4.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.06 | 0.06 | ppb | 26.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.30 | 0.30 | ppb | 33.99 | 90000.00 | |
| 27 Al | 45 | 1 | 0.01 | 0.01 | ppb | 138.77 | 90000.00 | |
| 27 Al | 45 | 2 | 0.14 | 0.14 | ppb | 91.97 | 90000.00 | |
| 39 K | 45 | 1 | 1.48 | 1.48 | ppb | 79.51 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.20 | -1.20 | ppb | 46.13 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 73.48 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 231.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 232.89 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 21.34 | 900.00 | |
| 56 Fe | 45 | 2 | 1.10 | 1.10 | ppb | 3.52 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 67.28 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 84.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 53.29 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 23.64 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 68.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 165.91 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 400.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 13.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 22.21 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 92.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 11.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.00 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 446.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 2.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 9.90 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2188056 | 0.55 | 2388263 | 91.6 | 70 - 130 | |
| 45 Sc | 1 | 3002717 | 0.93 | 2903830 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 304400 | 1.08 | 309156 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D22s01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 612559 | 1.16 | 618578 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 123620 | 0.61 | 133153 | 92.8 | 70 | - | 130 |
| 103 Rh | 1 | 3458779 | 0.42 | 3314277 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 3647089 | 0.50 | 3516736 | 103.7 | 70 | - | 130 |
| 115 In | 2 | 989270 | 0.87 | 1020578 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 4494518 | 0.97 | 4430853 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4275818 | 0.75 | 4183901 | 102.2 | 70 | - | 130 |
| 209 Bi | 1 | 2302514 | 1.34 | 2323029 | 99.1 | 70 | - | 130 |

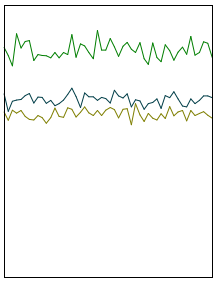
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D22s01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

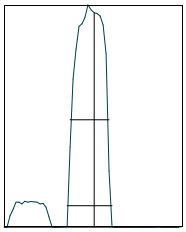
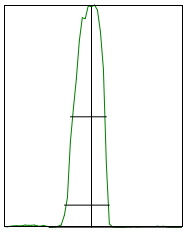
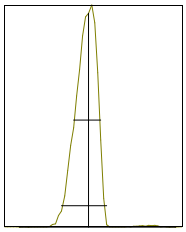
# Tune Report

Tune File : nogas.u
Comment : 042213



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3303.0 | 3271.5 | 2.84 | 1.70 |
| 89 | 5,000 | 4045.0 | 4178.6 | 3.59 | 2.30 |
| 205 | 5,000 | 2926.0 | 3001.8 | 2.90 | 19.10 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.034%
Doubly Charged: 70/140 53.155%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,225 | 4,224 | 2,867 |
| Axis: | 7.05 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 1 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.05 |
| Torch-V | : | 1.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 170 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 263.4 | 7.32 | |
| QP Focus: | -8 V | 59 | 900.0 | 4.42 | |
| Cell Exit: | -34 V | 89 | 853.1 | 4.00 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 22, 2013 11:58:33
Printed : Apr 22, 2013 11:59:23

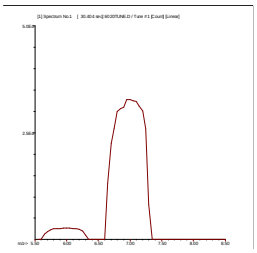
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 22 2013 12:32 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

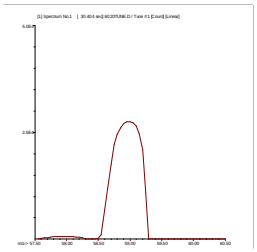
**QC Tune Summary:**
**Pass**

**RSD%**

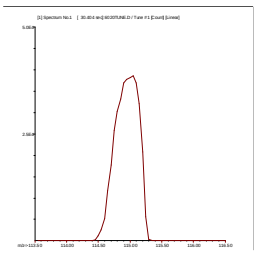
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.82 | 5.00 | 0 |
| 59 Co | 0.80 | 5.00 | |
| 115 In | 0.75 | 5.00 | |
| 205 Tl | 3.38 | 5.00 | |



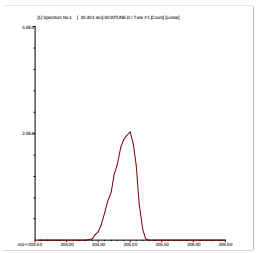
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:

Last Calib: Apr 23, 2013 04:00 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

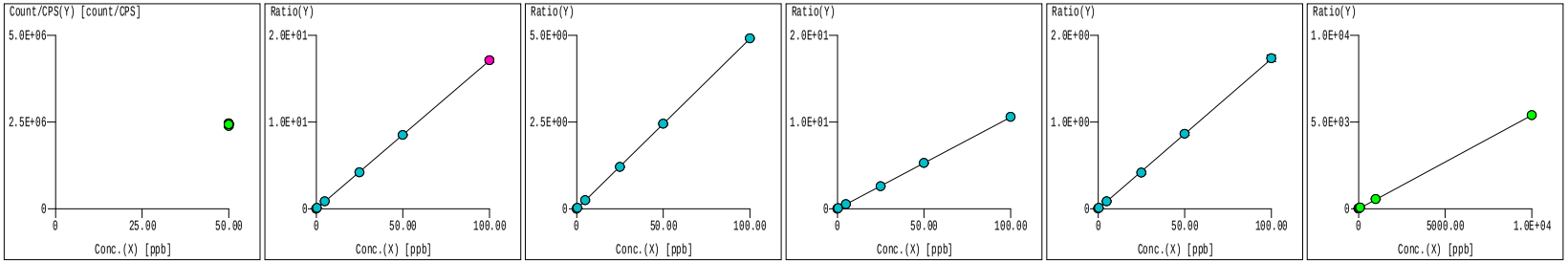
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d22s01.b\002calb.d\002calb.d# | STDA | Apr 22 2013 06:32 pm |
| 2 | c:\icpchem\1\data\13d22s01.b\003cals.d\003cals.d# | STDB | Apr 22 2013 06:39 pm |
| 3 | c:\icpchem\1\data\13d22s01.b\004cals.d\004cals.d# | STDC | Apr 22 2013 06:46 pm |
| 4 | c:\icpchem\1\data\13d22s01.b\005cals.d\005cals.d# | STDD | Apr 22 2013 06:53 pm |
| 5 | c:\icpchem\1\data\13d22s01.b\006cals.d\006cals.d# | STDE | Apr 22 2013 07:00 pm |
| 6 | c:\icpchem\1\data\13d22s01.b\007cals.d\007cals.d# | STDF | Apr 22 2013 07:07 pm |
| 7 | c:\icpchem\1\data\13d22s01.b\008cals.d\008cals.d# | STDG | Apr 22 2013 07:14 pm |
| 8 | c:\icpchem\1\data\13d22s01.b\009cals.d\009cals.d# | STDH | Apr 22 2013 07:21 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

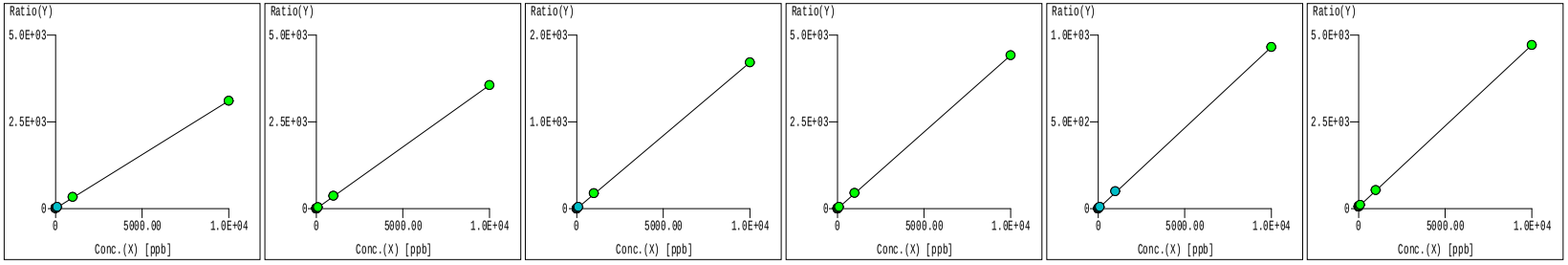
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 1.788E-03 ppb | 1.913E-02 ppb | 1.316E-02 ppb | 3.419E-02 ppb | 2.891 ppb |
| < BEC > | --- ppb | 2.309E-03 ppb | 3.681E-03 ppb | 8.811E-02 ppb | 9.449E-02 ppb | 15.64 ppb |



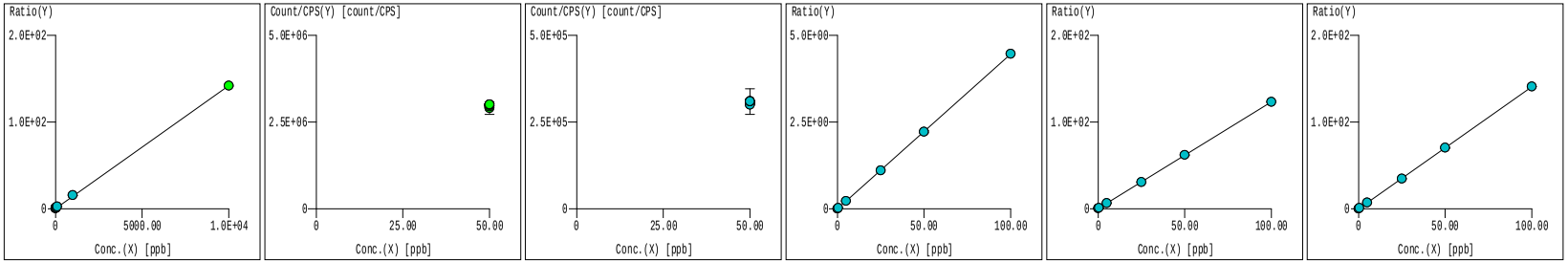

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 9.988 ppb | 2.207E-02 ppb | 5.019E-02 ppb | 3.629E-02 ppb | 3.327E-01 ppb | 26.68 ppb |
| < BEC > | 28.65 ppb | 2.496E-01 ppb | 2.166E-01 ppb | 6.636E-01 ppb | 7.610E-01 ppb | 129.4 ppb |



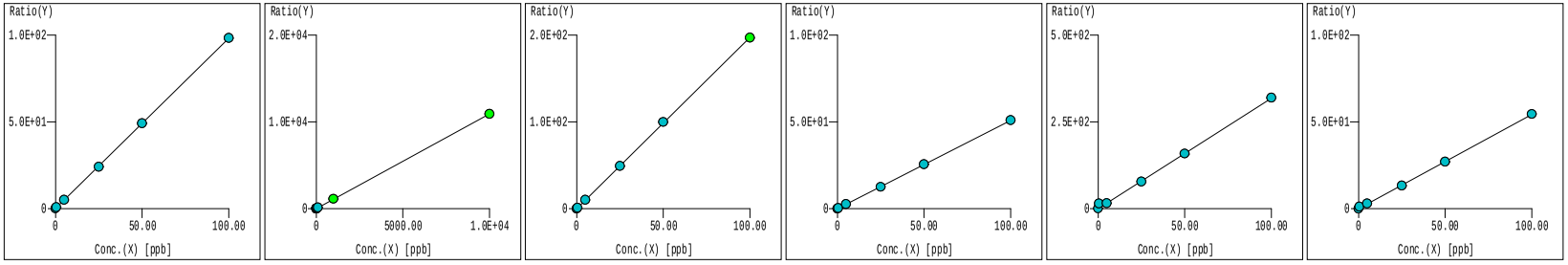
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.708 ppb | --- ppb | --- ppb | 8.938E-02 ppb | 1.768E-01 ppb | 3.523E-02 ppb |
| < BEC > | 34.47 ppb | --- ppb | --- ppb | 7.631E-02 ppb | 4.013E-01 ppb | 9.569E-02 ppb |



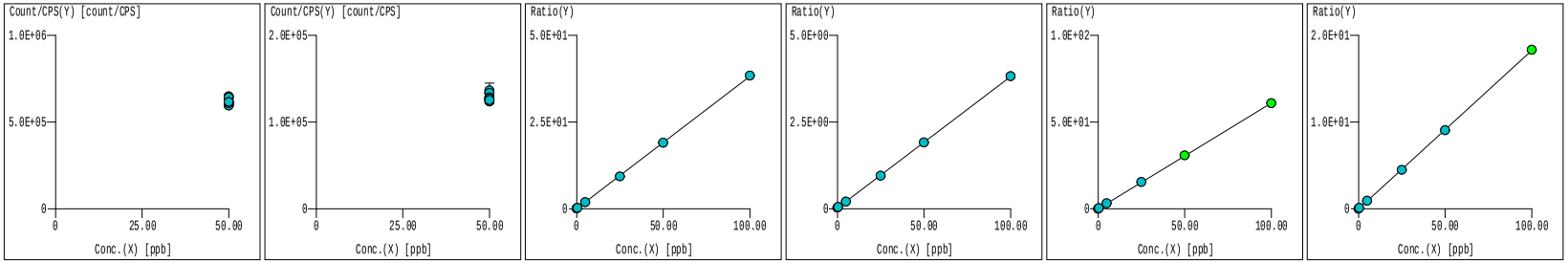

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9991 | 0.9998 |
| < DL > | 2.541E-02 ppb | 6.435E-01 ppb | 1.502E-03 ppb | 4.578E-03 ppb | 2.507E-02 ppb | 2.080E-02 ppb |
| < BEC > | 1.140E-01 ppb | 2.515 ppb | 1.381E-03 ppb | 6.070E-02 ppb | 1.089E-01 ppb | 8.997E-02 ppb |



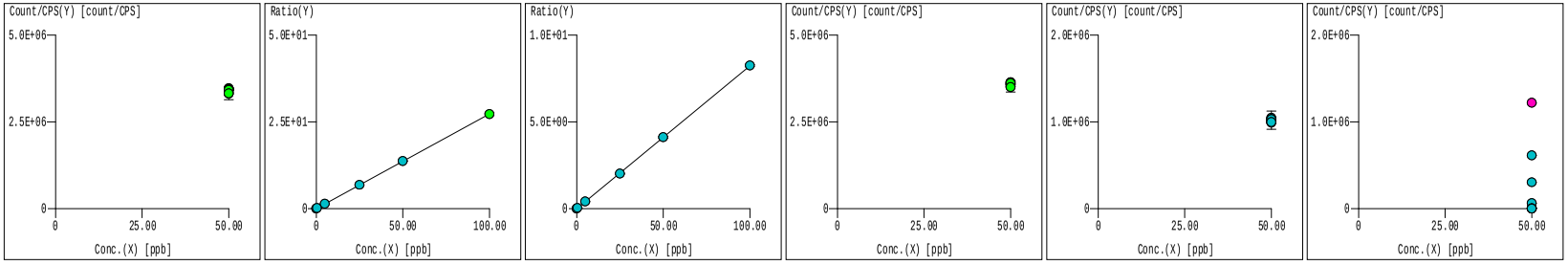
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 6.237E-02 ppb | 9.101E-02 ppb | 9.334E-03 ppb | 9.535E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.340E-01 ppb | 7.431E-01 ppb | 9.934E-03 ppb | 1.598E-02 ppb |



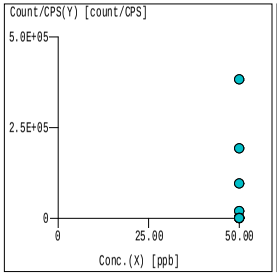

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.019E-03 ppb | 5.875E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.902E-03 ppb | 1.908E-03 ppb | --- ppb | --- ppb | --- ppb |

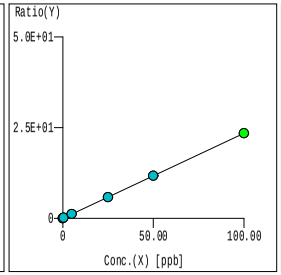


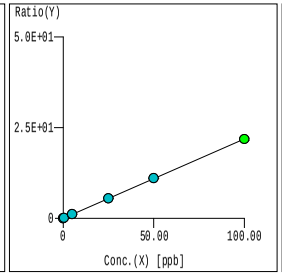
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

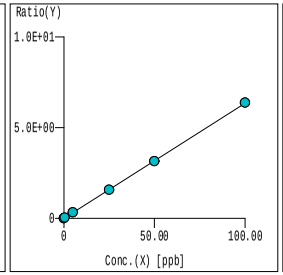
=== Graph Summary ===
Page: 4/4

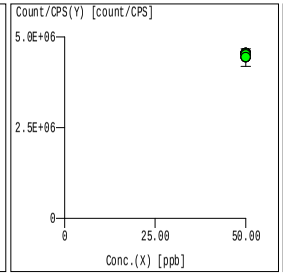
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.207E-02 ppb | 8.205E-03 ppb | 3.974E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 3.088E-02 ppb | 8.977E-03 ppb | 9.048E-02 ppb | --- ppb | --- ppb |

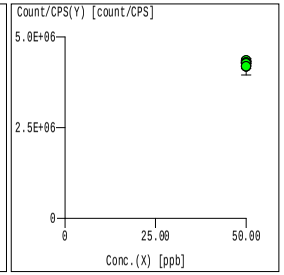


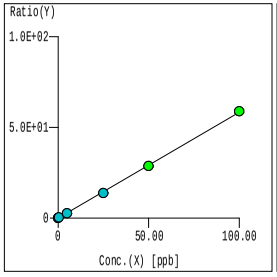



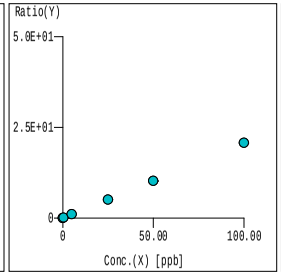



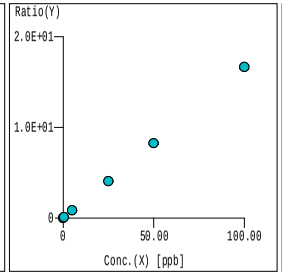



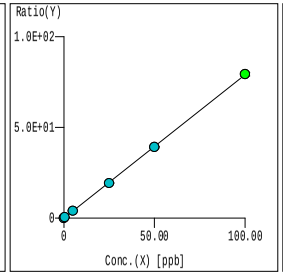



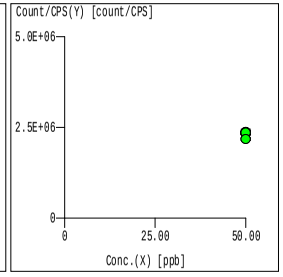

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9998 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 9.392E-03 ppb | --- ppb | --- ppb | 2.483E-03 ppb | --- ppb |
| < BEC > | 4.476E-02 ppb | --- ppb | --- ppb | 1.708E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D24r00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\001CAL
Date Acquired: Apr 24 2013 05:06 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 06:26 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1652091.00 | A | 20710.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 151.12 | P | 66.20 | 43.81 |
| 9 | Be | 12.22 | P | 5.09 | 41.66 |
| 11 | B | 803.38 | P | 20.00 | 2.49 |
| 11 | B | 26.67 | P | 14.53 | 54.49 |
| 23 | Na | 227631.30 | P | 3557.00 | 1.56 |
| 23 | Na | 35102.15 | P | 192.10 | 0.55 |
| 24 | Mg | 4433.00 | P | 776.60 | 17.52 |
| 24 | Mg | 327.79 | P | 7.70 | 2.35 |
| 27 | Al | 17245.54 | P | 1777.00 | 10.30 |
| 27 | Al | 663.37 | P | 121.70 | 18.35 |
| 39 | K | 2735298.00 | A | 2110.00 | 0.08 |
| 44 | Ca | 11274.50 | P | 479.30 | 4.25 |
| 45 | Sc | 2731215.00 | A | 14160.00 | 0.52 |
| 45 | Sc | 406742.31 | P | 2580.00 | 0.63 |
| 47 | Ti | 124.45 | P | 1.92 | 1.55 |
| 51 | V | 5966.11 | P | 86.04 | 1.44 |
| 52 | Cr | 1641.00 | P | 18.68 | 1.14 |
| 55 | Mn | 1135.17 | P | 76.09 | 6.70 |
| 56 | Fe | 28323.65 | P | 200.10 | 0.71 |
| 59 | Co | 164.45 | P | 30.30 | 18.43 |
| 60 | Ni | 403.57 | P | 27.01 | 6.69 |
| 63 | Cu | 1169.84 | P | 8.68 | 0.74 |
| 66 | Zn | 449.57 | P | 65.35 | 14.54 |
| 72 | Ge | 625215.81 | P | 2234.00 | 0.36 |
| 72 | Ge | 157318.50 | P | 585.90 | 0.37 |
| 75 | As | 232.67 | P | 10.97 | 4.71 |
| 78 | Se | 156.22 | P | 5.09 | 3.26 |
| 88 | Sr | 822.27 | P | 118.30 | 14.39 |
| 98 | Mo | 262.23 | P | 43.51 | 16.59 |
| 103 | Rh | 3945020.00 | A | 22200.00 | 0.56 |
| 107 | Ag | 111.12 | P | 28.35 | 25.51 |

C:\ICPCHEM\1\DATA\13D24r00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 62.22 | P | 12.62 | 20.28 |
| 115 | In | 4182845.00 | A | 21910.00 | 0.52 |
| 115 | In | 1325632.00 | A | 8445.00 | 0.64 |
| 118 | (In) | 735.60 | P | 131.40 | 17.86 |
| 118 | (In) | 270.01 | P | 26.67 | 9.88 |
| 120 | Sn | 1067.85 | P | 116.60 | 10.92 |
| 121 | Sb | 316.68 | P | 95.05 | 30.01 |
| 137 | Ba | 794.50 | P | 42.21 | 5.31 |
| 159 | Tb | 5867083.00 | A | 51870.00 | 0.88 |
| 175 | Lu | 5710456.00 | A | 44920.00 | 0.79 |
| 205 | Tl | 1274.55 | P | 53.38 | 4.19 |
| 206 | (Pb) | 433.36 | P | 99.39 | 22.94 |
| 207 | (Pb) | 380.02 | P | 78.39 | 20.63 |
| 208 | Pb | 1845.68 | P | 387.70 | 21.01 |
| 209 | Bi | 3450183.00 | A | 20050.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\002CAL
Date Acquired: Apr 24 2013 05:13 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:10 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1663748.00 | A | 20790.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 201.12 | P | 35.95 | 17.88 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 758.94 | P | 27.76 | 3.66 |
| 11 | B | 24.45 | P | 1.93 | 7.87 |
| 23 | Na | 226648.20 | P | 2042.00 | 0.90 |
| 23 | Na | 34731.30 | P | 441.20 | 1.27 |
| 24 | Mg | 4521.97 | P | 94.46 | 2.09 |
| 24 | Mg | 318.90 | P | 37.47 | 11.75 |
| 27 | Al | 17456.87 | P | 1296.00 | 7.42 |
| 27 | Al | 548.92 | P | 68.67 | 12.51 |
| 39 | K | 2733902.00 | A | 11680.00 | 0.43 |
| 44 | Ca | 11410.10 | P | 252.90 | 2.22 |
| 45 | Sc | 2728585.00 | A | 14740.00 | 0.54 |
| 45 | Sc | 406594.69 | P | 3418.00 | 0.84 |
| 47 | Ti | 141.12 | P | 5.09 | 3.61 |
| 51 | V | 5950.56 | P | 128.60 | 2.16 |
| 52 | Cr | 1569.44 | P | 61.58 | 3.92 |
| 55 | Mn | 1100.50 | P | 10.86 | 0.99 |
| 56 | Fe | 28432.97 | P | 485.10 | 1.71 |
| 59 | Co | 124.45 | P | 24.45 | 19.65 |
| 60 | Ni | 365.34 | P | 20.18 | 5.52 |
| 63 | Cu | 884.04 | P | 46.67 | 5.28 |
| 66 | Zn | 348.23 | P | 5.39 | 1.55 |
| 72 | Ge | 617287.81 | P | 3799.00 | 0.62 |
| 72 | Ge | 157406.30 | P | 928.70 | 0.59 |
| 75 | As | 217.34 | P | 4.00 | 1.84 |
| 78 | Se | 160.00 | P | 9.24 | 5.77 |
| 88 | Sr | 955.62 | P | 9.62 | 1.01 |
| 98 | Mo | 334.46 | P | 54.20 | 16.21 |
| 103 | Rh | 3944827.00 | A | 29020.00 | 0.74 |
| 107 | Ag | 110.00 | P | 31.80 | 28.91 |

C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 47.78 | P | 12.62 | 26.41 |
| 115 | In | 4162834.00 | A | 5510.00 | 0.13 |
| 115 | In | 1319592.00 | A | 14080.00 | 1.07 |
| 118 | (In) | 820.05 | P | 121.70 | 14.84 |
| 118 | (In) | 252.23 | P | 35.95 | 14.25 |
| 120 | Sn | 1036.74 | P | 54.88 | 5.29 |
| 121 | Sb | 345.57 | P | 37.91 | 10.97 |
| 137 | Ba | 752.27 | P | 12.62 | 1.68 |
| 159 | Tb | 5883852.00 | A | 73480.00 | 1.25 |
| 175 | Lu | 5727334.00 | A | 20340.00 | 0.36 |
| 205 | Tl | 997.85 | P | 93.48 | 9.37 |
| 206 | (Pb) | 493.36 | P | 41.77 | 8.47 |
| 207 | (Pb) | 424.47 | P | 30.25 | 7.13 |
| 208 | Pb | 2062.36 | P | 140.70 | 6.82 |
| 209 | Bi | 3404545.00 | A | 17940.00 | 0.53 |

C:\ICPCHEM\1\DATA\13D24r00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 24 2013 05:20 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:17 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1669461.00 | A | 7507.00 | 0.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 3384.92 | P | 229.00 | 6.77 |
| 9 | Be | 196.67 | P | 45.09 | 22.93 |
| 11 | B | 2510.28 | P | 40.42 | 1.61 |
| 11 | B | 71.11 | P | 13.88 | 19.52 |
| 23 | Na | 268544.41 | P | 1554.00 | 0.58 |
| 23 | Na | 39025.85 | P | 188.30 | 0.48 |
| 24 | Mg | 14947.58 | P | 175.70 | 1.18 |
| 24 | Mg | 1226.76 | P | 104.10 | 8.49 |
| 27 | Al | 31472.78 | P | 690.80 | 2.19 |
| 27 | Al | 1232.33 | P | 42.99 | 3.49 |
| 39 | K | 2753385.00 | A | 25420.00 | 0.92 |
| 44 | Ca | 12276.36 | P | 275.30 | 2.24 |
| 45 | Sc | 2720414.00 | A | 31680.00 | 1.16 |
| 45 | Sc | 406085.81 | P | 1964.00 | 0.48 |
| 47 | Ti | 1589.03 | P | 33.72 | 2.12 |
| 51 | V | 11024.51 | P | 232.40 | 2.11 |
| 52 | Cr | 6940.32 | P | 62.16 | 0.90 |
| 55 | Mn | 5582.86 | P | 74.41 | 1.33 |
| 56 | Fe | 34372.85 | P | 562.70 | 1.64 |
| 59 | Co | 7755.84 | P | 162.60 | 2.10 |
| 60 | Ni | 2268.65 | P | 49.44 | 2.18 |
| 63 | Cu | 6608.18 | P | 100.60 | 1.52 |
| 66 | Zn | 1175.61 | P | 35.64 | 3.03 |
| 72 | Ge | 619566.00 | P | 6444.00 | 1.04 |
| 72 | Ge | 157448.30 | P | 1287.00 | 0.82 |
| 75 | As | 865.81 | P | 25.82 | 2.98 |
| 78 | Se | 241.11 | P | 9.46 | 3.92 |
| 88 | Sr | 27005.13 | P | 351.30 | 1.30 |
| 98 | Mo | 7967.95 | P | 94.59 | 1.19 |
| 103 | Rh | 3916929.00 | A | 23920.00 | 0.61 |
| 107 | Ag | 12874.89 | P | 130.90 | 1.02 |

C:\ICPCHEM\1\DATA\13D24r00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1076.74 | P | 44.10 | 4.10 |
| 115 | In | 4188005.00 | A | 26650.00 | 0.64 |
| 115 | In | 1315494.00 | A | 14570.00 | 1.11 |
| 118 | (In) | 8836.26 | P | 190.80 | 2.16 |
| 118 | (In) | 3004.86 | P | 98.01 | 3.26 |
| 120 | Sn | 11918.53 | P | 126.90 | 1.06 |
| 121 | Sb | 10499.65 | P | 51.07 | 0.49 |
| 137 | Ba | 4702.05 | P | 158.70 | 3.38 |
| 159 | Tb | 5879111.00 | A | 32100.00 | 0.55 |
| 175 | Lu | 5729217.00 | A | 11420.00 | 0.20 |
| 205 | Tl | 20140.87 | P | 289.20 | 1.44 |
| 206 | (Pb) | 8270.57 | P | 228.50 | 2.76 |
| 207 | (Pb) | 7003.14 | P | 53.51 | 0.76 |
| 208 | Pb | 32792.13 | P | 355.40 | 1.08 |
| 209 | Bi | 3435468.00 | A | 29310.00 | 0.85 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | | Flag |
|---|---|---|---|---|---|---|---|---|
| 6 | Li | 1669460.80 | 0.45 | 1663747.60 | 100.3 | 70 - | 130 | |
| 45 | Sc | 2720413.80 | 1.16 | 2728585.30 | 99.7 | 70 - | 130 | |
| 45 | Sc | 406085.78 | 0.48 | 406594.72 | 99.9 | 70 - | 130 | |
| 72 | Ge | 619566.00 | 1.04 | 617287.81 | 100.4 | 70 - | 130 | |
| 72 | Ge | 157448.27 | 0.82 | 157406.30 | 100.0 | 70 - | 130 | |
| 103 | Rh | 3916928.80 | 0.61 | 3944826.50 | 99.3 | 70 - | 130 | |
| 115 | In | 4188005.00 | 0.64 | 4162834.50 | 100.6 | 70 - | 130 | |
| 115 | In | 1315494.00 | 1.11 | 1319592.10 | 99.7 | 70 - | 130 | |
| 159 | Tb | 5879111.00 | 0.55 | 5883852.00 | 99.9 | 70 - | 130 | |
| 175 | Lu | 5729217.50 | 0.20 | 5727333.50 | 100.0 | 70 - | 130 | |
| 209 | Bi | 3435468.00 | 0.85 | 3404545.00 | 100.9 | 70 - | 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 24 2013 05:27 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1670534.00 | A | 10210.00 | 0.61 |
| 7 | (Li) | | P | | |
| 9 | Be | 33878.97 | P | 82.21 | 0.24 |
| 9 | Be | 1965.74 | P | 75.17 | 3.82 |
| 11 | B | 22442.07 | P | 399.10 | 1.78 |
| 11 | B | 746.71 | P | 35.28 | 4.72 |
| 23 | Na | 409374.09 | P | 1784.00 | 0.44 |
| 23 | Na | 50870.72 | P | 354.50 | 0.70 |
| 24 | Mg | 116860.70 | P | 968.60 | 0.83 |
| 24 | Mg | 8657.09 | P | 174.00 | 2.01 |
| 27 | Al | 178157.00 | P | 2778.00 | 1.56 |
| 27 | Al | 6684.97 | P | 20.02 | 0.30 |
| 39 | K | 2902190.00 | A | 17280.00 | 0.60 |
| 44 | Ca | 23169.02 | P | 415.10 | 1.79 |
| 45 | Sc | 2718727.00 | A | 22190.00 | 0.82 |
| 45 | Sc | 405395.09 | P | 878.20 | 0.22 |
| 47 | Ti | 13724.31 | P | 240.10 | 1.75 |
| 51 | V | 55269.31 | P | 178.20 | 0.32 |
| 52 | Cr | 56496.03 | P | 420.20 | 0.74 |
| 55 | Mn | 45116.70 | P | 110.70 | 0.25 |
| 56 | Fe | 84747.60 | P | 531.30 | 0.63 |
| 59 | Co | 76808.46 | P | 115.20 | 0.15 |
| 60 | Ni | 19691.45 | P | 136.90 | 0.70 |
| 63 | Cu | 50380.45 | P | 224.30 | 0.45 |
| 66 | Zn | 10324.41 | P | 81.62 | 0.79 |
| 72 | Ge | 612717.31 | P | 5378.00 | 0.88 |
| 72 | Ge | 156858.20 | P | 262.40 | 0.17 |
| 75 | As | 6675.72 | P | 77.49 | 1.16 |
| 78 | Se | 988.26 | P | 2.69 | 0.27 |
| 88 | Sr | 263225.09 | P | 1903.00 | 0.72 |
| 98 | Mo | 79730.24 | P | 517.80 | 0.65 |
| 103 | Rh | 3901592.00 | A | 21910.00 | 0.56 |
| 107 | Ag | 127850.70 | P | 849.50 | 0.66 |

C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 11160.16 | P | 404.90 | 3.63 |
| 115 | In | 4173284.00 | A | 35490.00 | 0.85 |
| 115 | In | 1314666.00 | A | 13990.00 | 1.06 |
| 118 | (In) | 81082.78 | P | 1206.00 | 1.49 |
| 118 | (In) | 27246.07 | P | 795.50 | 2.92 |
| 120 | Sn | 112641.70 | P | 1082.00 | 0.96 |
| 121 | Sb | 103727.50 | P | 529.80 | 0.51 |
| 137 | Ba | 40729.06 | P | 105.80 | 0.26 |
| 159 | Tb | 5875325.00 | A | 40740.00 | 0.69 |
| 175 | Lu | 5735418.00 | A | 56450.00 | 0.98 |
| 205 | Tl | 203481.41 | P | 3499.00 | 1.72 |
| 206 | (Pb) | 80236.78 | P | 1565.00 | 1.95 |
| 207 | (Pb) | 66605.05 | P | 699.90 | 1.05 |
| 208 | Pb | 310267.69 | P | 4316.00 | 1.39 |
| 209 | Bi | 3418772.00 | A | 37360.00 | 1.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1670533.90 | 0.61 | 1663747.60 | 100.4 | 70 - 130 | |
| 45 | Sc | 2718726.80 | 0.82 | 2728585.30 | 99.6 | 70 - 130 | |
| 45 | Sc | 405395.09 | 0.22 | 406594.72 | 99.7 | 70 - 130 | |
| 72 | Ge | 612717.31 | 0.88 | 617287.81 | 99.3 | 70 - 130 | |
| 72 | Ge | 156858.20 | 0.17 | 157406.30 | 99.7 | 70 - 130 | |
| 103 | Rh | 3901591.50 | 0.56 | 3944826.50 | 98.9 | 70 - 130 | |
| 115 | In | 4173284.00 | 0.85 | 4162834.50 | 100.3 | 70 - 130 | |
| 115 | In | 1314666.10 | 1.06 | 1319592.10 | 99.6 | 70 - 130 | |
| 159 | Tb | 5875325.50 | 0.69 | 5883852.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 5735418.00 | 0.98 | 5727333.50 | 100.1 | 70 - 130 | |
| 209 | Bi | 3418771.50 | 1.09 | 3404545.00 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 24 2013 05:35 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:31 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1673562.00 | A | 21220.00 | 1.27 |
| 7 | (Li) | | P | | |
| 9 | Be | 164310.50 | P | 1572.00 | 0.96 |
| 9 | Be | 9820.00 | P | 270.90 | 2.76 |
| 11 | B | 107521.60 | P | 862.40 | 0.80 |
| 11 | B | 3620.53 | P | 93.89 | 2.59 |
| 23 | Na | 1054394.00 | A | 10570.00 | 1.00 |
| 23 | Na | 106246.40 | P | 327.50 | 0.31 |
| 24 | Mg | 535305.63 | P | 3705.00 | 0.69 |
| 24 | Mg | 39169.53 | P | 292.30 | 0.75 |
| 27 | Al | 668767.19 | P | 8192.00 | 1.22 |
| 27 | Al | 25069.56 | P | 586.00 | 2.34 |
| 39 | K | 3462155.00 | A | 16520.00 | 0.48 |
| 44 | Ca | 42057.91 | P | 411.10 | 0.98 |
| 45 | Sc | 2683283.00 | A | 25580.00 | 0.95 |
| 45 | Sc | 406470.19 | P | 349.80 | 0.09 |
| 47 | Ti | 66826.27 | P | 951.50 | 1.42 |
| 51 | V | 249095.30 | P | 874.10 | 0.35 |
| 52 | Cr | 270235.50 | P | 353.60 | 0.13 |
| 55 | Mn | 212922.80 | P | 198.70 | 0.09 |
| 56 | Fe | 280824.31 | P | 923.50 | 0.33 |
| 59 | Co | 373069.59 | P | 986.00 | 0.26 |
| 60 | Ni | 94692.81 | P | 504.40 | 0.53 |
| 63 | Cu | 240095.80 | P | 1326.00 | 0.55 |
| 66 | Zn | 43820.96 | P | 211.80 | 0.48 |
| 72 | Ge | 601994.13 | P | 2313.00 | 0.38 |
| 72 | Ge | 156861.41 | P | 1246.00 | 0.79 |
| 75 | As | 32180.68 | P | 119.20 | 0.37 |
| 78 | Se | 4158.82 | P | 79.83 | 1.92 |
| 88 | Sr | 1255103.00 | A | 14880.00 | 1.19 |
| 98 | Mo | 388106.19 | P | 3023.00 | 0.78 |
| 103 | Rh | 3893680.00 | A | 20190.00 | 0.52 |
| 107 | Ag | 628726.88 | P | 7429.00 | 1.18 |

C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 54652.16 | P | 169.20 | 0.31 |
| 115 | In | 4139365.00 | A | 41270.00 | 1.00 |
| 115 | In | 1319910.00 | A | 12350.00 | 0.94 |
| 118 | (In) | 395779.69 | P | 2884.00 | 0.73 |
| 118 | (In) | 133902.70 | P | 795.00 | 0.59 |
| 120 | Sn | 544728.00 | P | 3773.00 | 0.69 |
| 121 | Sb | 499757.41 | P | 3459.00 | 0.69 |
| 137 | Ba | 195481.80 | P | 602.40 | 0.31 |
| 159 | Tb | 5807809.00 | A | 25450.00 | 0.44 |
| 175 | Lu | 5670066.00 | A | 25690.00 | 0.45 |
| 205 | Tl | 1091794.00 | P | 6542.00 | 0.60 |
| 206 | (Pb) | 391884.41 | P | 2651.00 | 0.68 |
| 207 | (Pb) | 322236.19 | P | 1187.00 | 0.37 |
| 208 | Pb | 1503730.00 | P | 10770.00 | 0.72 |
| 209 | Bi | 3370385.00 | A | 38870.00 | 1.15 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1673562.00 | 1.27 | 1663747.60 | 100.6 | 70 - 130 | |
| 45 | Sc | 2683283.00 | 0.95 | 2728585.30 | 98.3 | 70 - 130 | |
| 45 | Sc | 406470.22 | 0.09 | 406594.72 | 100.0 | 70 - 130 | |
| 72 | Ge | 601994.19 | 0.38 | 617287.81 | 97.5 | 70 - 130 | |
| 72 | Ge | 156861.42 | 0.79 | 157406.30 | 99.7 | 70 - 130 | |
| 103 | Rh | 3893679.50 | 0.52 | 3944826.50 | 98.7 | 70 - 130 | |
| 115 | In | 4139364.50 | 1.00 | 4162834.50 | 99.4 | 70 - 130 | |
| 115 | In | 1319910.30 | 0.94 | 1319592.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5807808.50 | 0.44 | 5883852.00 | 98.7 | 70 - 130 | |
| 175 | Lu | 5670065.50 | 0.45 | 5727333.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 3370384.80 | 1.15 | 3404545.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 24 2013 05:42 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1639338.00 | A | 11020.00 | 0.67 |
| 7 | (Li) | | P | | |
| 9 | Be | 331744.31 | P | 1503.00 | 0.45 |
| 9 | Be | 19327.88 | P | 246.30 | 1.27 |
| 11 | B | 217571.09 | P | 913.80 | 0.42 |
| 11 | B | 7563.16 | P | 205.20 | 2.71 |
| 23 | Na | 1805328.00 | A | 9229.00 | 0.51 |
| 23 | Na | 171981.80 | P | 1012.00 | 0.59 |
| 24 | Mg | 1074017.00 | A | 14360.00 | 1.34 |
| 24 | Mg | 78762.09 | P | 1039.00 | 1.32 |
| 27 | Al | 1308745.00 | A | 5892.00 | 0.45 |
| 27 | Al | 49283.83 | P | 229.60 | 0.47 |
| 39 | K | 4102585.00 | A | 19270.00 | 0.47 |
| 44 | Ca | 73108.58 | P | 304.80 | 0.42 |
| 45 | Sc | 2690757.00 | A | 14990.00 | 0.56 |
| 45 | Sc | 398865.00 | P | 1761.00 | 0.44 |
| 47 | Ti | 133873.80 | P | 558.60 | 0.42 |
| 51 | V | 492640.91 | P | 699.50 | 0.14 |
| 52 | Cr | 538958.81 | P | 1704.00 | 0.32 |
| 55 | Mn | 426584.19 | P | 1032.00 | 0.24 |
| 56 | Fe | 539278.63 | P | 1341.00 | 0.25 |
| 59 | Co | 748403.81 | P | 1361.00 | 0.18 |
| 60 | Ni | 189089.09 | P | 843.30 | 0.45 |
| 63 | Cu | 482308.31 | P | 2182.00 | 0.45 |
| 66 | Zn | 87329.96 | P | 296.30 | 0.34 |
| 72 | Ge | 598457.00 | P | 6218.00 | 1.04 |
| 72 | Ge | 153880.20 | P | 994.50 | 0.65 |
| 75 | As | 64190.66 | P | 196.30 | 0.31 |
| 78 | Se | 8180.92 | P | 69.32 | 0.85 |
| 88 | Sr | 2511900.00 | A | 4458.00 | 0.18 |
| 98 | Mo | 779339.00 | P | 2715.00 | 0.35 |
| 103 | Rh | 3850722.00 | A | 34640.00 | 0.90 |
| 107 | Ag | 1259910.00 | P | 12400.00 | 0.98 |

C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 110348.70 | P | 564.30 | 0.51 |
| 115 | In | 4086852.00 | A | 46390.00 | 1.14 |
| 115 | In | 1300239.00 | A | 12820.00 | 0.99 |
| 118 | (In) | 794648.00 | P | 4745.00 | 0.60 |
| 118 | (In) | 268477.81 | P | 2127.00 | 0.79 |
| 120 | Sn | 1098195.00 | P | 9548.00 | 0.87 |
| 121 | Sb | 1006450.00 | P | 10270.00 | 1.02 |
| 137 | Ba | 393162.91 | P | 2862.00 | 0.73 |
| 159 | Tb | 5834352.00 | A | 21420.00 | 0.37 |
| 175 | Lu | 5702877.00 | A | 24460.00 | 0.43 |
| 205 | Tl | 2207924.00 | A | 10160.00 | 0.46 |
| 206 | (Pb) | 790182.50 | P | 14980.00 | 1.90 |
| 207 | (Pb) | 647714.13 | P | 6721.00 | 1.04 |
| 208 | Pb | 3000349.00 | A | 34860.00 | 1.16 |
| 209 | Bi | 3392538.00 | A | 16940.00 | 0.50 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1639338.30 | 0.67 | 1663747.60 | 98.5 | 70 - 130 | |
| 45 | Sc | 2690757.30 | 0.56 | 2728585.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 398865.00 | 0.44 | 406594.72 | 98.1 | 70 - 130 | |
| 72 | Ge | 598457.00 | 1.04 | 617287.81 | 96.9 | 70 - 130 | |
| 72 | Ge | 153880.20 | 0.65 | 157406.30 | 97.8 | 70 - 130 | |
| 103 | Rh | 3850722.50 | 0.90 | 3944826.50 | 97.6 | 70 - 130 | |
| 115 | In | 4086852.00 | 1.14 | 4162834.50 | 98.2 | 70 - 130 | |
| 115 | In | 1300238.90 | 0.99 | 1319592.10 | 98.5 | 70 - 130 | |
| 159 | Tb | 5834352.50 | 0.37 | 5883852.00 | 99.2 | 70 - 130 | |
| 175 | Lu | 5702876.50 | 0.43 | 5727333.50 | 99.6 | 70 - 130 | |
| 209 | Bi | 3392538.50 | 0.50 | 3404545.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 24 2013 05:49 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:45 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1636274.00 | A | 35130.00 | 2.15 |
| 7 | (Li) | | P | | |
| 9 | Be | 661642.00 | P | 7579.00 | 1.15 |
| 9 | Be | 38832.78 | P | 588.50 | 1.52 |
| 11 | B | 430822.09 | P | 3348.00 | 0.78 |
| 11 | B | 14761.72 | P | 165.70 | 1.12 |
| 23 | Na | 3320435.00 | A | 7559.00 | 0.23 |
| 23 | Na | 308949.91 | P | 1525.00 | 0.49 |
| 24 | Mg | 2102849.00 | A | 9205.00 | 0.44 |
| 24 | Mg | 156768.20 | P | 714.00 | 0.46 |
| 27 | Al | 2567611.00 | A | 20810.00 | 0.81 |
| 27 | Al | 98124.33 | P | 643.80 | 0.66 |
| 39 | K | 5450014.00 | A | 17350.00 | 0.32 |
| 44 | Ca | 131973.41 | P | 1871.00 | 1.42 |
| 45 | Sc | 2641334.00 | A | 12480.00 | 0.47 |
| 45 | Sc | 392100.91 | P | 2218.00 | 0.57 |
| 47 | Ti | 266931.19 | P | 1933.00 | 0.72 |
| 51 | V | 971614.31 | P | 2099.00 | 0.22 |
| 52 | Cr | 1068932.00 | P | 4045.00 | 0.38 |
| 55 | Mn | 844696.19 | P | 1910.00 | 0.23 |
| 56 | Fe | 1038246.00 | P | 5575.00 | 0.54 |
| 59 | Co | 1445069.00 | A | 10130.00 | 0.70 |
| 60 | Ni | 374421.69 | P | 1730.00 | 0.46 |
| 63 | Cu | 954537.81 | P | 2026.00 | 0.21 |
| 66 | Zn | 172055.00 | P | 272.30 | 0.16 |
| 72 | Ge | 600578.00 | P | 3746.00 | 0.62 |
| 72 | Ge | 150996.09 | P | 267.00 | 0.18 |
| 75 | As | 127898.30 | P | 278.70 | 0.22 |
| 78 | Se | 15951.12 | P | 130.20 | 0.82 |
| 88 | Sr | 4895249.00 | A | 35630.00 | 0.73 |
| 98 | Mo | 1562501.00 | A | 6773.00 | 0.43 |
| 103 | Rh | 3860264.00 | A | 22060.00 | 0.57 |
| 107 | Ag | 2440561.00 | A | 12630.00 | 0.52 |

C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 218480.50 | P | 774.10 | 0.35 |
| 115 | In | 4071217.00 | A | 18100.00 | 0.44 |
| 115 | In | 1283462.00 | A | 10290.00 | 0.80 |
| 118 | (In) | 1545819.00 | A | 3045.00 | 0.20 |
| 118 | (In) | 535732.88 | P | 2267.00 | 0.42 |
| 120 | Sn | 2128065.00 | A | 7639.00 | 0.36 |
| 121 | Sb | 1933836.00 | A | 20760.00 | 1.07 |
| 137 | Ba | 793788.19 | P | 8679.00 | 1.09 |
| 159 | Tb | 5828572.00 | A | 11280.00 | 0.19 |
| 175 | Lu | 5676591.00 | A | 38710.00 | 0.68 |
| 205 | Tl | 4295036.00 | A | 18470.00 | 0.43 |
| 206 | (Pb) | 1536274.00 | A | 8136.00 | 0.53 |
| 207 | (Pb) | 1287970.00 | M | 36480.00 | 2.83 |
| 208 | Pb | 5904700.00 | A | 18870.00 | 0.32 |
| 209 | Bi | 3363218.00 | A | 34630.00 | 1.03 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | | Flag |
|---|---|---|---|---|---|---|---|---|
| 6 | Li | 1636274.40 | 2.15 | 1663747.60 | 98.3 | 70 - | 130 | |
| 45 | Sc | 2641333.80 | 0.47 | 2728585.30 | 96.8 | 70 - | 130 | |
| 45 | Sc | 392100.88 | 0.57 | 406594.72 | 96.4 | 70 - | 130 | |
| 72 | Ge | 600578.00 | 0.62 | 617287.81 | 97.3 | 70 - | 130 | |
| 72 | Ge | 150996.09 | 0.18 | 157406.30 | 95.9 | 70 - | 130 | |
| 103 | Rh | 3860263.80 | 0.57 | 3944826.50 | 97.9 | 70 - | 130 | |
| 115 | In | 4071217.50 | 0.44 | 4162834.50 | 97.8 | 70 - | 130 | |
| 115 | In | 1283461.90 | 0.80 | 1319592.10 | 97.3 | 70 - | 130 | |
| 159 | Tb | 5828572.50 | 0.19 | 5883852.00 | 99.1 | 70 - | 130 | |
| 175 | Lu | 5676590.50 | 0.68 | 5727333.50 | 99.1 | 70 - | 130 | |
| 209 | Bi | 3363218.50 | 1.03 | 3404545.00 | 98.8 | 70 - | 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 24 2013 05:56 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:52 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1645265.00 | A | 30300.00 | 1.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 141.12 | P | 33.39 | 23.66 |
| 9 | Be | 14.44 | P | 5.09 | 35.25 |
| 11 | B | 2488.05 | P | 168.40 | 6.77 |
| 11 | B | 98.89 | P | 15.40 | 15.57 |
| 23 | Na | 29817760.00 | A | 548100.00 | 1.84 |
| 23 | Na | 2609866.00 | A | 4309.00 | 0.17 |
| 24 | Mg | 19655470.00 | A | 299900.00 | 1.53 |
| 24 | Mg | 1478007.00 | A | 7013.00 | 0.47 |
| 27 | Al | 24511480.00 | A | 429500.00 | 1.75 |
| 27 | Al | 987034.19 | P | 5572.00 | 0.56 |
| 39 | K | 30303900.00 | A | 290200.00 | 0.96 |
| 44 | Ca | 937048.63 | P | 8200.00 | 0.88 |
| 45 | Sc | 2705120.00 | A | 18500.00 | 0.68 |
| 45 | Sc | 409350.91 | P | 2446.00 | 0.60 |
| 47 | Ti | 203.34 | P | 32.83 | 16.15 |
| 51 | V | 6429.86 | P | 225.70 | 3.51 |
| 52 | Cr | 1840.58 | P | 10.78 | 0.59 |
| 55 | Mn | 1450.31 | P | 87.59 | 6.04 |
| 56 | Fe | 9318202.00 | A | 47340.00 | 0.51 |
| 59 | Co | 747.58 | P | 45.30 | 6.06 |
| 60 | Ni | 449.35 | P | 73.05 | 16.26 |
| 63 | Cu | 1172.51 | P | 44.39 | 3.79 |
| 66 | Zn | 557.57 | P | 24.67 | 4.42 |
| 72 | Ge | 624022.13 | P | 2282.00 | 0.37 |
| 72 | Ge | 158674.59 | P | 1264.00 | 0.80 |
| 75 | As | 254.23 | P | 12.76 | 5.02 |
| 78 | Se | 172.89 | P | 8.49 | 4.91 |
| 88 | Sr | 3380.50 | P | 155.40 | 4.60 |
| 98 | Mo | 2055.77 | P | 286.90 | 13.96 |
| 103 | Rh | 3917278.00 | A | 30140.00 | 0.77 |
| 107 | Ag | 673.37 | P | 15.28 | 2.27 |

C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 84.45 | P | 21.69 | 25.69 |
| 115 | In | 4215249.00 | A | 60370.00 | 1.43 |
| 115 | In | 1304340.00 | A | 7146.00 | 0.55 |
| 118 | (In) | 2938.18 | P | 265.60 | 9.04 |
| 118 | (In) | 1238.99 | P | 19.54 | 1.58 |
| 120 | Sn | 3958.45 | P | 456.70 | 11.54 |
| 121 | Sb | 3588.35 | P | 272.00 | 7.58 |
| 137 | Ba | 873.39 | P | 20.28 | 2.32 |
| 159 | Tb | 5864173.00 | A | 25950.00 | 0.44 |
| 175 | Lu | 5699061.00 | A | 77430.00 | 1.36 |
| 205 | Tl | 6541.78 | P | 138.70 | 2.12 |
| 206 | (Pb) | 735.60 | P | 74.34 | 10.11 |
| 207 | (Pb) | 624.48 | P | 48.80 | 7.81 |
| 208 | Pb | 2974.68 | P | 149.40 | 5.02 |
| 209 | Bi | 3339608.00 | A | 78420.00 | 2.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1645265.10 | 1.84 | 1663747.60 | 98.9 | 70 - 130 | |
| 45 | Sc | 2705119.80 | 0.68 | 2728585.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 409350.88 | 0.60 | 406594.72 | 100.7 | 70 - 130 | |
| 72 | Ge | 624022.06 | 0.37 | 617287.81 | 101.1 | 70 - 130 | |
| 72 | Ge | 158674.64 | 0.80 | 157406.30 | 100.8 | 70 - 130 | |
| 103 | Rh | 3917277.80 | 0.77 | 3944826.50 | 99.3 | 70 - 130 | |
| 115 | In | 4215249.00 | 1.43 | 4162834.50 | 101.3 | 70 - 130 | |
| 115 | In | 1304340.00 | 0.55 | 1319592.10 | 98.8 | 70 - 130 | |
| 159 | Tb | 5864173.00 | 0.44 | 5883852.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 5699060.50 | 1.36 | 5727333.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3339608.50 | 2.35 | 3404545.00 | 98.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 24 2013 06:03 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:59 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1558491.00 | A | 12640.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 115.56 | P | 18.36 | 15.89 |
| 9 | Be | 4.44 | P | 3.85 | 86.60 |
| 11 | B | 1270.09 | P | 98.73 | 7.77 |
| 11 | B | 41.11 | P | 17.11 | 41.62 |
| 23 | Na | 293481410.00 | A | 1307000.00 | 0.45 |
| 23 | Na | 25596770.00 | A | 87450.00 | 0.34 |
| 24 | Mg | 194636100.00 | A | 1222000.00 | 0.63 |
| 24 | Mg | 14365970.00 | A | 169500.00 | 1.18 |
| 27 | Al | 250210300.00 | A | 2495000.00 | 1.00 |
| 27 | Al | 9327912.00 | A | 63470.00 | 0.68 |
| 39 | K | 286666500.00 | A | 1754000.00 | 0.61 |
| 44 | Ca | 8950000.00 | A | 37670.00 | 0.42 |
| 45 | Sc | 2862488.00 | A | 35520.00 | 1.24 |
| 45 | Sc | 425960.50 | P | 3762.00 | 0.88 |
| 47 | Ti | 234.45 | P | 30.97 | 13.21 |
| 51 | V | 5767.37 | P | 61.75 | 1.07 |
| 52 | Cr | 2700.27 | P | 83.61 | 3.10 |
| 55 | Mn | 2701.61 | P | 38.59 | 1.43 |
| 56 | Fe | 93216000.00 | A | 1357000.00 | 1.46 |
| 59 | Co | 2361.55 | P | 40.69 | 1.72 |
| 60 | Ni | 921.82 | P | 33.90 | 3.68 |
| 63 | Cu | 1229.85 | P | 23.49 | 1.91 |
| 66 | Zn | 1188.28 | P | 15.98 | 1.34 |
| 72 | Ge | 665304.63 | P | 3272.00 | 0.49 |
| 72 | Ge | 163192.30 | P | 534.20 | 0.33 |
| 75 | As | 251.34 | P | 8.67 | 3.45 |
| 78 | Se | 178.45 | P | 4.82 | 2.70 |
| 88 | Sr | 22100.28 | P | 127.20 | 0.58 |
| 98 | Mo | 1162.31 | P | 95.60 | 8.23 |
| 103 | Rh | 3910910.00 | A | 18510.00 | 0.47 |
| 107 | Ag | 1660.15 | P | 24.04 | 1.45 |

C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 43.34 | P | 15.28 | 35.26 |
| 115 | In | 4213182.00 | A | 20910.00 | 0.50 |
| 115 | In | 1291441.00 | A | 6816.00 | 0.53 |
| 118 | (In) | 1703.50 | P | 130.20 | 7.64 |
| 118 | (In) | 612.26 | P | 66.70 | 10.89 |
| 120 | Sn | 2482.58 | P | 165.20 | 6.65 |
| 121 | Sb | 2133.57 | P | 145.20 | 6.81 |
| 137 | Ba | 1041.19 | P | 60.59 | 5.82 |
| 159 | Tb | 5991162.00 | A | 48590.00 | 0.81 |
| 175 | Lu | 5807211.00 | A | 32850.00 | 0.57 |
| 205 | Tl | 3062.68 | P | 159.90 | 5.22 |
| 206 | (Pb) | 585.59 | P | 28.35 | 4.84 |
| 207 | (Pb) | 561.14 | P | 41.68 | 7.43 |
| 208 | Pb | 2497.96 | P | 188.90 | 7.56 |
| 209 | Bi | 3255112.00 | A | 8977.00 | 0.28 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1558491.30 | 0.81 | 1663747.60 | 93.7 | 70 - 130 | |
| 45 | Sc | 2862488.00 | 1.24 | 2728585.30 | 104.9 | 70 - 130 | |
| 45 | Sc | 425960.47 | 0.88 | 406594.72 | 104.8 | 70 - 130 | |
| 72 | Ge | 665304.63 | 0.49 | 617287.81 | 107.8 | 70 - 130 | |
| 72 | Ge | 163192.28 | 0.33 | 157406.30 | 103.7 | 70 - 130 | |
| 103 | Rh | 3910910.00 | 0.47 | 3944826.50 | 99.1 | 70 - 130 | |
| 115 | In | 4213181.50 | 0.50 | 4162834.50 | 101.2 | 70 - 130 | |
| 115 | In | 1291440.50 | 0.53 | 1319592.10 | 97.9 | 70 - 130 | |
| 159 | Tb | 5991162.50 | 0.81 | 5883852.00 | 101.8 | 70 - 130 | |
| 175 | Lu | 5807211.00 | 0.57 | 5727333.50 | 101.4 | 70 - 130 | |
| 209 | Bi | 3255112.50 | 0.28 | 3404545.00 | 95.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:10 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2101 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 62.62 | 62.62 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 57.97 | 57.97 | ppb | 0.62 | 900.00 | |
| 11 B | 6 | 1 | 60.33 | 60.33 | ppb | 1.22 | 900.00 | |
| 11 B | 45 | 2 | 55.05 | 55.05 | ppb | 1.72 | 900.00 | |
| 23 Na | 45 | 1 | 5671.00 | 5671.00 | ppb | 1.61 | 90000.00 | |
| 23 Na | 45 | 2 | 5750.00 | 5750.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 5678.00 | 5678.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 5808.00 | 5808.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 5642.00 | 5642.00 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 2 | 5742.00 | 5742.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 5750.00 | 5750.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 5726.00 | 5726.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.05 | 59.05 | ppb | 0.44 | 900.00 | |
| 51 V | 45 | 2 | 60.32 | 60.32 | ppb | 0.07 | 900.00 | |
| 52 Cr | 45 | 2 | 58.88 | 58.88 | ppb | 0.15 | 900.00 | |
| 55 Mn | 45 | 2 | 59.07 | 59.07 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 5782.00 | 5782.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 59.05 | 59.05 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 58.14 | 58.14 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 57.14 | 57.14 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 58.99 | 58.99 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 59.32 | 59.32 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 58.36 | 58.36 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 61.88 | 61.88 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 62.57 | 62.57 | ppb | 0.81 | 900.00 | |
| 107 Ag | 115 | 1 | 58.62 | 58.62 | ppb | 0.50 | 180.00 | |
| 111 Cd | 115 | 2 | 59.87 | 59.87 | ppb | 1.48 | 900.00 | |
| 120 Sn | 115 | 1 | 58.32 | 58.32 | ppb | 0.89 | 900.00 | |
| 121 Sb | 115 | 1 | 62.16 | 62.16 | ppb | 0.76 | 900.00 | |
| 137 Ba | 159 | 1 | 60.55 | 60.55 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 60.11 | 60.11 | ppb | 1.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.25 | 60.25 | ppb | 2.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1475293 | 0.22 | 1663748 | 88.7 | 70 - 130 | |
| 45 Sc | 1 | 2787078 | 0.57 | 2728585 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 411627 | 0.24 | 406595 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 637236 | 0.35 | 617288 | 103.2 | 70 | - | 130 |
| 72 Ge | 2 | 158255 | 0.45 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3932655 | 0.56 | 3944827 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4216451 | 0.50 | 4162835 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 1282627 | 0.50 | 1319592 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 5986460 | 0.50 | 5883852 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 5868590 | 0.19 | 5727334 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 3306502 | 1.24 | 3404545 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:17 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 19.05 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 79.41 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 10.46 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.23 | ppb | 79.21 | 900.00 | |
| 23 Na | 45 | 1 | 4.41 | 4.41 | ppb | 3.88 | 90000.00 | |
| 23 Na | 45 | 2 | 6.86 | 6.86 | ppb | 3.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.39 | 1.39 | ppb | 11.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.78 | 2.78 | ppb | 9.77 | 90000.00 | |
| 27 Al | 45 | 1 | 4.15 | 4.15 | ppb | 1.64 | 90000.00 | |
| 27 Al | 45 | 2 | 5.64 | 5.64 | ppb | 5.02 | 90000.00 | |
| 39 K | 45 | 1 | 3.27 | 3.27 | ppb | 36.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.42 | 7.42 | ppb | 6.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 158.70 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 23.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 31.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 2.74 | 900.00 | |
| 56 Fe | 45 | 2 | 3.16 | 3.16 | ppb | 7.37 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 27.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 249.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.06 | 0.06 | ppb | 4.83 | 900.00 | |
| 66 Zn | 72 | 2 | 1.12 | 1.12 | ppb | 2.11 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 21.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 117.90 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 35.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 14.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 2.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 133.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 8.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 21.18 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 65.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 2.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 44.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1481342 | 1.34 | 1663748 | 89.0 | 70 - 130 | |
| 45 Sc | 1 | 2862991 | 0.87 | 2728585 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 431012 | 0.39 | 406595 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 670327 | 0.59 | 617288 | 108.6 | 70 - | 130 |
| 72 | Ge | 2 | 165769 | 0.35 | 157406 | 105.3 | 70 - | 130 |
| 103 | Rh | 1 | 4158766 | 0.57 | 3944827 | 105.4 | 70 - | 130 |
| 115 | In | 1 | 4437031 | 0.25 | 4162835 | 106.6 | 70 - | 130 |
| 115 | In | 2 | 1347332 | 0.88 | 1319592 | 102.1 | 70 - | 130 |
| 159 | Tb | 1 | 6148311 | 0.47 | 5883852 | 104.5 | 70 - | 130 |
| 175 | Lu | 1 | 5968970 | 0.75 | 5727334 | 104.2 | 70 - | 130 |
| 209 | Bi | 1 | 3501228 | 0.23 | 3404545 | 102.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Apr 24 2013 06:24 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 2103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.76 | 53.76 | ppb | 0.18 | 900.00 | |
| 9 Be | 45 | 2 | 50.27 | 50.27 | ppb | 0.49 | 900.00 | |
| 11 B | 6 | 1 | 54.48 | 54.48 | ppb | 0.71 | 900.00 | |
| 11 B | 45 | 2 | 50.77 | 50.77 | ppb | 3.84 | 900.00 | |
| 23 Na | 45 | 1 | 5192.00 | 5192.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 5367.00 | 5367.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 5180.00 | 5180.00 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 5343.00 | 5343.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 5122.00 | 5122.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 5320.00 | 5320.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5254.00 | 5254.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 5343.00 | 5343.00 | ppb | 0.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.03 | 51.03 | ppb | 1.08 | 900.00 | |
| 51 V | 45 | 2 | 50.96 | 50.96 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 50.29 | 50.29 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.82 | 49.82 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 5379.00 | 5379.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 51.05 | 51.05 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 49.73 | 49.73 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 49.24 | 49.24 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 49.73 | 49.73 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 50.64 | 50.64 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 0.70 | 900.00 | |
| 88 Sr | 103 | 1 | 53.57 | 53.57 | ppb | 0.37 | 900.00 | |
| 98 Mo | 103 | 1 | 53.12 | 53.12 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 49.97 | 49.97 | ppb | 3.11 | 180.00 | |
| 111 Cd | 115 | 2 | 51.01 | 51.01 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 53.43 | 53.43 | ppb | 0.89 | 900.00 | |
| 121 Sb | 115 | 1 | 53.94 | 53.94 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 51.42 | 51.42 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 51.15 | 51.15 | ppb | 1.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.48 | 51.48 | ppb | 1.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1456893 | 0.58 | 1663748 | 87.6 | 70 - 130 | |
| 45 Sc | 1 | 2792744 | 0.80 | 2728585 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 412243 | 0.39 | 406595 | 101.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639444 | 1.29 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 158460 | 0.66 | 157406 | 100.7 | 70 | - | 130 |
| 103 Rh | 1 | 3941677 | 0.38 | 3944827 | 99.9 | 70 | - | 130 |
| 115 In | 1 | 4245245 | 0.11 | 4162835 | 102.0 | 70 | - | 130 |
| 115 In | 2 | 1294501 | 0.89 | 1319592 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 6011071 | 0.05 | 5883852 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 5840620 | 0.22 | 5727334 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 3327412 | 0.90 | 3404545 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:31 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2104 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 17.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 184.26 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 10.09 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 101.69 | 900.00 | |
| 23 Na | 45 | 1 | 0.37 | 0.37 | ppb | 24.20 | 90000.00 | |
| 23 Na | 45 | 2 | 2.15 | 2.15 | ppb | 8.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.07 | 1.07 | ppb | 15.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.16 | 2.16 | ppb | 5.27 | 90000.00 | |
| 27 Al | 45 | 1 | 0.86 | 0.86 | ppb | 13.23 | 90000.00 | |
| 27 Al | 45 | 2 | 1.77 | 1.77 | ppb | 6.75 | 90000.00 | |
| 39 K | 45 | 1 | -0.41 | -0.41 | ppb | 164.75 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.46 | -0.46 | ppb | 34.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 847.70 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 323.34 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 31.05 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 26.07 | 900.00 | |
| 56 Fe | 45 | 2 | 2.18 | 2.18 | ppb | 6.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 4.51 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 36.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 41.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 4.17 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 48.88 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 303.42 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 353.22 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 17.92 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 508.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 8.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 22.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 56.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.26 | 0.26 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 82.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1444451 | 1.00 | 1663748 | 86.8 | 70 - 130 | |
| 45 Sc | 1 | 2864991 | 0.62 | 2728585 | 105.0 | 70 - 130 | |
| 45 Sc | 2 | 431616 | 0.50 | 406595 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 674789 | 1.17 | 617288 | 109.3 | 70 | - | 130 |
| 72 Ge | 2 | 165781 | 0.35 | 157406 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 4222469 | 0.52 | 3944827 | 107.0 | 70 | - | 130 |
| 115 In | 1 | 4498207 | 0.40 | 4162835 | 108.1 | 70 | - | 130 |
| 115 In | 2 | 1364096 | 0.46 | 1319592 | 103.4 | 70 | - | 130 |
| 159 Tb | 1 | 6265562 | 0.36 | 5883852 | 106.5 | 70 | - | 130 |
| 175 Lu | 1 | 6029431 | 0.34 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3509637 | 0.73 | 3404545 | 103.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:38 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2105 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 1.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 17.32 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 0.51 | 900.00 | |
| 11 B | 45 | 2 | 4.59 | 4.59 | ppb | 2.34 | 900.00 | |
| 23 Na | 45 | 1 | 254.70 | 254.70 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 284.80 | 284.80 | ppb | 1.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 259.10 | 259.10 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 287.00 | 287.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 28.34 | 28.34 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 31.41 | 31.41 | ppb | 0.35 | 90000.00 | |
| 39 K | 45 | 1 | 253.00 | 253.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 275.30 | 275.30 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 1.68 | 900.00 | |
| 51 V | 45 | 2 | 1.07 | 1.07 | ppb | 0.85 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 1.02 | 1.02 | ppb | 1.52 | 900.00 | |
| 56 Fe | 45 | 2 | 31.84 | 31.84 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.86 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 1.73 | 900.00 | |
| 66 Zn | 72 | 2 | 1.99 | 1.99 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 2.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.48 | 0.48 | ppb | 15.26 | 900.00 | |
| 88 Sr | 103 | 1 | 5.20 | 5.20 | ppb | 0.98 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 1.59 | 180.00 | |
| 111 Cd | 115 | 2 | 0.54 | 0.54 | ppb | 7.00 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 0.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.32 | 900.00 | |
| 137 Ba | 159 | 1 | 1.09 | 1.09 | ppb | 3.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.50 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1471649 | 1.06 | 1663748 | 88.5 | 70 - 130 | |
| 45 Sc | 1 | 2861350 | 0.34 | 2728585 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 434822 | 1.34 | 406595 | 106.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 668371 | 0.09 | 617288 | 108.3 | 70 | - | 130 |
| 72 Ge | 2 | 166950 | 1.22 | 157406 | 106.1 | 70 | - | 130 |
| 103 Rh | 1 | 4190698 | 0.24 | 3944827 | 106.2 | 70 | - | 130 |
| 115 In | 1 | 4459136 | 0.57 | 4162835 | 107.1 | 70 | - | 130 |
| 115 In | 2 | 1365234 | 1.51 | 1319592 | 103.5 | 70 | - | 130 |
| 159 Tb | 1 | 6257073 | 1.14 | 5883852 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 6040099 | 0.91 | 5727334 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 3478977 | 0.75 | 3404545 | 102.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D# | | |
| Date Acquired: | Apr 24 2013 06:45 pm | | |
| Acq. Method: | EPA6020V.M | Data Results: | |
| Operator: | METALS | Analytes: | Fail |
| Sample Name: | ICSA | ISTD: | Pass |
| Misc Info: | | | |
| Vial Number: | 2106 | | |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| Last Cal. Update: | Apr 24 2013 06:06 pm | | |
| Sample Type: | Sample | | |
| Dilution Factor: | 1.00 | | |
| Autodil Factor: | Undiluted | | |
| Final Dil Factor: | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 19.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 73.56 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 21.05 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 84.95 | 900.00 | |
| 23 Na | 45 | 1 | 92790.00 | 92790.00 | ppb | 0.69 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 101300.00 | 101300.00 | ppb | 0.50 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92970.00 | 92970.00 | ppb | 1.21 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 100200.00 | 100200.00 | ppb | 0.09 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 92480.00 | 92480.00 | ppb | 0.21 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 98050.00 | 98050.00 | ppb | 0.36 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97150.00 | 97150.00 | ppb | 0.58 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96630.00 | 96630.00 | ppb | 0.86 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1925.00 | 1925.00 | ppb | 0.78 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 6.02 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 2.58 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 3.94 | 900.00 | |
| 56 Fe | 45 | 2 | 97170.00 | 97170.00 | ppb | 0.04 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 5.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.66 | 0.66 | ppb | 2.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.31 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 0.25 | 0.25 | ppb | 2.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 80.52 | 900.00 | |
| 88 Sr | 103 | 1 | 5.15 | 5.15 | ppb | 1.71 | 900.00 | |
| 98 Mo | 103 | 1 | 2041.00 | 2041.00 | ppb | 0.34 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.09 | 0.09 | ppb | 3.19 | 180.00 | |
| 111 Cd | 115 | 2 | 1.12 | 1.12 | ppb | 1.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 3.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 5.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 5.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 5.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1252164 | 1.69 | 1663748 | 75.3 | 70 - 130 | |
| 45 Sc | 1 | 2695864 | 0.52 | 2728585 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 398809 | 0.72 | 406595 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 653682 | 0.32 | 617288 | 105.9 | 70 | - | 130 |
| 72 Ge | 2 | 156134 | 0.82 | 157406 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 3562781 | 1.46 | 3944827 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3949833 | 0.62 | 4162835 | 94.9 | 70 | - | 130 |
| 115 In | 2 | 1239659 | 0.54 | 1319592 | 93.9 | 70 | - | 130 |
| 159 Tb | 1 | 5833609 | 0.87 | 5883852 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 5670373 | 1.33 | 5727334 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 2940727 | 1.39 | 3404545 | 86.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:53 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSAB | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2107 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 9.06 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 170.67 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.30 | ppb | 8.25 | 900.00 | |
| 11 B | 45 | 2 | 0.21 | 0.21 | ppb | 68.29 | 900.00 | |
| 23 Na | 45 | 1 | 76750.00 | 76750.00 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 105100.00 | 105100.00 | ppb | 0.20 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 77130.00 | 77130.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 103700.00 | 103700.00 | ppb | 0.57 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 79660.00 | 79660.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 99000.00 | 99000.00 | ppb | 0.41 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94120.00 | 94120.00 | ppb | 1.46 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97190.00 | 97190.00 | ppb | 0.75 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1926.00 | 1926.00 | ppb | 0.20 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 2.91 | 900.00 | |
| 52 Cr | 45 | 2 | 20.50 | 20.50 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 19.23 | 19.23 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 99100.00 | 99100.00 | ppb | 0.34 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.40 | 19.40 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 19.01 | 19.01 | ppb | 0.27 | 900.00 | |
| 63 Cu | 72 | 2 | 17.67 | 17.67 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 19.44 | 19.44 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 20.07 | 20.07 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 30.26 | 900.00 | |
| 88 Sr | 103 | 1 | 5.13 | 5.13 | ppb | 1.72 | 900.00 | |
| 98 Mo | 103 | 1 | 2045.00 | 2045.00 | ppb | 1.07 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.46 | 19.46 | ppb | 1.02 | 180.00 | |
| 111 Cd | 115 | 2 | 19.74 | 19.74 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 7.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 3.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 11.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 598985 | 1.01 | 1663748 | 36.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2447521 | 0.54 | 2728585 | 89.7 | 70 - 130 | |
| 45 Sc | 2 | 410566 | 0.43 | 406595 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 628074 | 0.24 | 617288 | 101.7 | 70 - | 130 |
| 72 | Ge | 2 | 159666 | 0.60 | 157406 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 3663074 | 0.45 | 3944827 | 92.9 | 70 - | 130 |
| 115 | In | 1 | 4151241 | 0.75 | 4162835 | 99.7 | 70 - | 130 |
| 115 | In | 2 | 1243194 | 0.32 | 1319592 | 94.2 | 70 - | 130 |
| 159 | Tb | 1 | 6267746 | 0.36 | 5883852 | 106.5 | 70 - | 130 |
| 175 | Lu | 1 | 6159667 | 0.41 | 5727334 | 107.5 | 70 - | 130 |
| 209 | Bi | 1 | 3138961 | 0.69 | 3404545 | 92.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\017SMPL.D\017SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 07:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2108 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 20.57 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 24.38 | 900.00 | |
| 11 B | 45 | 2 | -0.06 | -0.06 | ppb | 35.94 | 900.00 | |
| 23 Na | 45 | 1 | 28.91 | 28.91 | ppb | 1.98 | 90000.00 | |
| 23 Na | 45 | 2 | 56.28 | 56.28 | ppb | 2.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 22.86 | 22.86 | ppb | 4.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 43.25 | 43.25 | ppb | 2.88 | 90000.00 | |
| 27 Al | 45 | 1 | 22.95 | 22.95 | ppb | 4.63 | 90000.00 | |
| 27 Al | 45 | 2 | 38.02 | 38.02 | ppb | 0.71 | 90000.00 | |
| 39 K | 45 | 1 | 20.07 | 20.07 | ppb | 4.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 26.90 | 26.90 | ppb | 4.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.66 | 0.66 | ppb | 5.35 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 16.23 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 22.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 29.23 | 900.00 | |
| 56 Fe | 45 | 2 | 43.77 | 43.77 | ppb | 1.86 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 173.22 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 151.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.21 | 0.21 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 65.53 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 26.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 34.11 | 900.00 | |
| 88 Sr | 103 | 1 | 0.08 | 0.08 | ppb | 7.32 | 900.00 | |
| 98 Mo | 103 | 1 | 1.34 | 1.34 | ppb | 10.10 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.86 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 40.95 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 19.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 36.40 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 509.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 20.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 5.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 493438 | 0.41 | 1663748 | 29.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2391055 | 0.75 | 2728585 | 87.6 | 70 - 130 | |
| 45 Sc | 2 | 434844 | 0.58 | 406595 | 106.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 629061 | 0.74 | 617288 | 101.9 | 70 - | 130 |
| 72 | Ge | 2 | 170150 | 0.11 | 157406 | 108.1 | 70 - | 130 |
| 103 | Rh | 1 | 4237916 | 0.37 | 3944827 | 107.4 | 70 - | 130 |
| 115 | In | 1 | 4714962 | 0.35 | 4162835 | 113.3 | 70 - | 130 |
| 115 | In | 2 | 1355315 | 1.17 | 1319592 | 102.7 | 70 - | 130 |
| 159 | Tb | 1 | 6926413 | 0.20 | 5883852 | 117.7 | 70 - | 130 |
| 175 | Lu | 1 | 6760025 | 0.61 | 5727334 | 118.0 | 70 - | 130 |
| 209 | Bi | 1 | 3962376 | 0.82 | 3404545 | 116.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\018SMPL.D\018SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 07:07 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-MB1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2109 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.03 | ppb | 4.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 154.08 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.16 | ppb | 12.75 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.02 | ppb | 186.51 | 900.00 | |
| 23 Na | 45 | 1 | 12.68 | 6.34 | ppb | 6.67 | 90000.00 | |
| 23 Na | 45 | 2 | 19.30 | 9.65 | ppb | 4.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.49 | 0.74 | ppb | 19.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.56 | 0.78 | ppb | 6.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2.48 | 1.24 | ppb | 13.91 | 90000.00 | |
| 27 Al | 45 | 2 | 2.95 | 1.47 | ppb | 16.78 | 90000.00 | |
| 39 K | 45 | 1 | -16.52 | -8.26 | ppb | 13.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.01 | 2.51 | ppb | 21.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.35 | 0.17 | ppb | 9.78 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 1.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.07 | 0.03 | ppb | 8.11 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 3.05 | 900.00 | |
| 56 Fe | 45 | 2 | 11.17 | 5.58 | ppb | 4.21 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 3.38 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.01 | ppb | 16.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 2.11 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.06 | ppb | 18.31 | 900.00 | |
| 75 As | 72 | 2 | 0.41 | 0.21 | ppb | 14.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 376.72 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 88.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.55 | 0.27 | ppb | 13.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.81 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 9.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 19.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 24.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.01 | ppb | 70.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 78.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 20.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 380817 | 0.80 | 1663748 | 22.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2185964 | 0.90 | 2728585 | 80.1 | 70 - 130 | |
| 45 Sc | 2 | 430355 | 0.37 | 406595 | 105.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 598914 | 0.25 | 617288 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 168463 | 0.27 | 157406 | 107.0 | 70 | - | 130 |
| 103 Rh | 1 | 4104614 | 0.52 | 3944827 | 104.1 | 70 | - | 130 |
| 115 In | 1 | 4599648 | 0.25 | 4162835 | 110.5 | 70 | - | 130 |
| 115 In | 2 | 1323224 | 0.57 | 1319592 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 6906389 | 0.17 | 5883852 | 117.4 | 70 | - | 130 |
| 175 Lu | 1 | 6803816 | 0.76 | 5727334 | 118.8 | 70 | - | 130 |
| 209 Bi | 1 | 3916884 | 0.97 | 3404545 | 115.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 24 2013 07:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-17F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 55.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 533.83 | 900.00 | |
| 11 B | 6 | 1 | 82.38 | 41.19 | ppb | 0.63 | 900.00 | |
| 11 B | 45 | 2 | 45.90 | 22.95 | ppb | 2.87 | 900.00 | |
| 23 Na | 45 | 1 | 216000.00 | 108000.00 | ppb | 0.68 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 340800.00 | 170400.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2608.00 | 1304.00 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 4144.00 | 2072.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 6.10 | 3.05 | ppb | 4.24 | 90000.00 | |
| 27 Al | 45 | 2 | 9.27 | 4.63 | ppb | 0.84 | 90000.00 | |
| 39 K | 45 | 1 | 7706.00 | 3853.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 41840.00 | 20920.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 4.29 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.18 | ppb | 3.26 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.45 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 3996.00 | 1998.00 | ppb | 0.85 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1120.80 | 560.40 | ppb | 0.15 | 90000.00 | |
| 59 Co | 45 | 2 | 1.39 | 0.70 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 5.89 | 2.95 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 2.25 | 1.13 | ppb | 0.63 | 900.00 | |
| 66 Zn | 72 | 2 | 19.79 | 9.90 | ppb | 0.37 | 900.00 | |
| 75 As | 72 | 2 | 1.68 | 0.84 | ppb | 1.26 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 45.54 | 900.00 | |
| 88 Sr | 103 | 1 | 509.00 | 254.50 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 3.62 | 1.81 | ppb | 1.90 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.05 | ppb | 3.94 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 13.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.11 | ppb | 6.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 1.23 | 900.00 | |
| 137 Ba | 159 | 1 | 139.86 | 69.93 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.06 | ppb | 9.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 50.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 381079 | 0.21 | 1663748 | 22.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2188889 | 0.54 | 2728585 | 80.2 | 70 - 130 | |
| 45 Sc | 2 | 412504 | 0.30 | 406595 | 101.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 583521 | 0.48 | 617288 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 157147 | 0.37 | 157406 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3721132 | 0.99 | 3944827 | 94.3 | 70 | - | 130 |
| 115 In | 1 | 4313947 | 0.45 | 4162835 | 103.6 | 70 | - | 130 |
| 115 In | 2 | 1299879 | 0.30 | 1319592 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 6568721 | 0.07 | 5883852 | 111.6 | 70 | - | 130 |
| 175 Lu | 1 | 6442627 | 0.39 | 5727334 | 112.5 | 70 | - | 130 |
| 209 Bi | 1 | 3413387 | 0.35 | 3404545 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#
Date Acquired: Apr 24 2013 07:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19884-18F
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 38.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 208.36 | 900.00 | |
| 11 B | 6 | 1 | 80.70 | 40.35 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 47.40 | 23.70 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 231000.00 | 115500.00 | ppb | 0.96 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 348800.00 | 174400.00 | ppb | 0.51 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2786.00 | 1393.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 4226.00 | 2113.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 20.12 | 10.06 | ppb | 12.55 | 90000.00 | |
| 27 Al | 45 | 2 | 13.69 | 6.85 | ppb | 9.52 | 90000.00 | |
| 39 K | 45 | 1 | 7830.00 | 3915.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 42760.00 | 21380.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.55 | 0.77 | ppb | 14.08 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.17 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 3.40 | 900.00 | |
| 55 Mn | 45 | 2 | 4072.00 | 2036.00 | ppb | 1.13 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1149.40 | 574.70 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 1.33 | 0.67 | ppb | 2.05 | 900.00 | |
| 60 Ni | 45 | 2 | 5.38 | 2.69 | ppb | 2.60 | 900.00 | |
| 63 Cu | 72 | 2 | 1.20 | 0.60 | ppb | 2.32 | 900.00 | |
| 66 Zn | 72 | 2 | 18.85 | 9.43 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 1.68 | 0.84 | ppb | 1.83 | 900.00 | |
| 78 Se | 72 | 2 | 0.31 | 0.16 | ppb | 24.17 | 900.00 | |
| 88 Sr | 103 | 1 | 516.60 | 258.30 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 3.59 | 1.80 | ppb | 3.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.12 | 0.06 | ppb | 7.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 22.78 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 12.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.51 | 900.00 | |
| 137 Ba | 159 | 1 | 140.84 | 70.42 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.06 | ppb | 1.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 546.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 428528 | 1.35 | 1663748 | 25.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2208759 | 0.14 | 2728585 | 80.9 | 70 - 130 | |
| 45 Sc | 2 | 406525 | 0.73 | 406595 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 578214 | 0.30 | 617288 | 93.7 | 70 - | 130 |
| 72 | Ge | 2 | 155443 | 0.65 | 157406 | 98.8 | 70 - | 130 |
| 103 | Rh | 1 | 3669828 | 1.05 | 3944827 | 93.0 | 70 - | 130 |
| 115 | In | 1 | 4242876 | 0.43 | 4162835 | 101.9 | 70 - | 130 |
| 115 | In | 2 | 1284569 | 0.80 | 1319592 | 97.3 | 70 - | 130 |
| 159 | Tb | 1 | 6382339 | 0.67 | 5883852 | 108.5 | 70 - | 130 |
| 175 | Lu | 1 | 6370903 | 1.02 | 5727334 | 111.2 | 70 - | 130 |
| 209 | Bi | 1 | 3396485 | 0.35 | 3404545 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 24 2013 07:28 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-19F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 25.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 132.50 | 900.00 | |
| 11 B | 6 | 1 | 117.16 | 58.58 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 71.50 | 35.75 | ppb | 1.16 | 900.00 | |
| 23 Na | 45 | 1 | 70000.00 | 35000.00 | ppb | 1.76 | 90000.00 | |
| 23 Na | 45 | 2 | 107280.00 | 53640.00 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 2106.00 | 1053.00 | ppb | 1.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 3220.00 | 1610.00 | ppb | 1.25 | 90000.00 | |
| 27 Al | 45 | 1 | 9.81 | 4.91 | ppb | 11.77 | 90000.00 | |
| 27 Al | 45 | 2 | 9.33 | 4.66 | ppb | 3.04 | 90000.00 | |
| 39 K | 45 | 1 | 6944.00 | 3472.00 | ppb | 1.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 30600.00 | 15300.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.63 | ppb | 4.58 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 2.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.34 | 0.67 | ppb | 1.28 | 900.00 | |
| 55 Mn | 45 | 2 | 6078.00 | 3039.00 | ppb | 1.00 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 7802.00 | 3901.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 15.59 | 7.80 | ppb | 1.08 | 900.00 | |
| 60 Ni | 45 | 2 | 53.32 | 26.66 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 4.26 | 2.13 | ppb | 1.36 | 900.00 | |
| 66 Zn | 72 | 2 | 47.02 | 23.51 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 1.52 | 0.76 | ppb | 1.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 51.90 | 900.00 | |
| 88 Sr | 103 | 1 | 320.80 | 160.40 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 13.03 | 6.51 | ppb | 1.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 15.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.06 | ppb | 15.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.41 | 0.21 | ppb | 4.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.48 | 0.24 | ppb | 0.24 | 900.00 | |
| 137 Ba | 159 | 1 | 44.54 | 22.27 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.06 | ppb | 3.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 17.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 447507 | 1.07 | 1663748 | 26.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2359768 | 1.15 | 2728585 | 86.5 | 70 - 130 | |
| 45 Sc | 2 | 423509 | 0.47 | 406595 | 104.2 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 621753 | 0.57 | 617288 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 166019 | 0.40 | 157406 | 105.5 | 70 | - | 130 |
| 103 Rh | 1 | 3981368 | 0.65 | 3944827 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 4486512 | 0.39 | 4162835 | 107.8 | 70 | - | 130 |
| 115 In | 2 | 1274282 | 1.62 | 1319592 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 6754991 | 0.47 | 5883852 | 114.8 | 70 | - | 130 |
| 175 Lu | 1 | 6665867 | 0.57 | 5727334 | 116.4 | 70 | - | 130 |
| 209 Bi | 1 | 3619468 | 0.55 | 3404545 | 106.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 24 2013 07:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-20F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 193.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 120.00 | 900.00 | |
| 11 B | 6 | 1 | 159.14 | 79.57 | ppb | 1.30 | 900.00 | |
| 11 B | 45 | 2 | 93.96 | 46.98 | ppb | 0.36 | 900.00 | |
| 23 Na | 45 | 1 | 31340.00 | 15670.00 | ppb | 1.56 | 90000.00 | |
| 23 Na | 45 | 2 | 47960.00 | 23980.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 3916.00 | 1958.00 | ppb | 1.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5836.00 | 2918.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 1 | 7.90 | 3.95 | ppb | 5.82 | 90000.00 | |
| 27 Al | 45 | 2 | 10.87 | 5.43 | ppb | 2.36 | 90000.00 | |
| 39 K | 45 | 1 | 4232.00 | 2116.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 51620.00 | 25810.00 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.39 | 0.69 | ppb | 4.32 | 900.00 | |
| 51 V | 45 | 2 | 1.90 | 0.95 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 3.11 | 1.55 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 4348.00 | 2174.00 | ppb | 1.56 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 8136.00 | 4068.00 | ppb | 1.43 | 90000.00 | |
| 59 Co | 45 | 2 | 9.91 | 4.95 | ppb | 1.92 | 900.00 | |
| 60 Ni | 45 | 2 | 21.18 | 10.59 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 3.07 | 1.54 | ppb | 2.25 | 900.00 | |
| 66 Zn | 72 | 2 | 29.30 | 14.65 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 1.86 | 0.93 | ppb | 2.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 173.99 | 900.00 | |
| 88 Sr | 103 | 1 | 410.20 | 205.10 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 6.78 | 3.39 | ppb | 1.00 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 10.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 14.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.46 | 0.23 | ppb | 2.99 | 900.00 | |
| 137 Ba | 159 | 1 | 54.86 | 27.43 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 4.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 12.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 442981 | 0.88 | 1663748 | 26.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2307433 | 1.88 | 2728585 | 84.6 | 70 - 130 | |
| 45 Sc | 2 | 431471 | 0.47 | 406595 | 106.1 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618138 | 1.37 | 617288 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 167290 | 0.83 | 157406 | 106.3 | 70 | - | 130 |
| 103 Rh | 1 | 4020347 | 0.03 | 3944827 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 4594227 | 0.87 | 4162835 | 110.4 | 70 | - | 130 |
| 115 In | 2 | 1291528 | 1.44 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6767341 | 1.02 | 5883852 | 115.0 | 70 | - | 130 |
| 175 Lu | 1 | 6684392 | 0.80 | 5727334 | 116.7 | 70 | - | 130 |
| 209 Bi | 1 | 3684974 | 0.53 | 3404545 | 108.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 24 2013 07:42 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-1F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.26 | -0.03 | ppb | 2.21 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.01 | ppb | 62.00 | 900.00 | |
| 11 B | 6 | 1 | 159.50 | 15.95 | ppb | 5.37 | 900.00 | |
| 11 B | 45 | 2 | 110.40 | 11.04 | ppb | 4.54 | 900.00 | |
| 23 Na | 45 | 1 | 10890.00 | 1089.00 | ppb | 2.23 | 90000.00 | |
| 23 Na | 45 | 2 | 15030.00 | 1503.00 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 1575.00 | 157.50 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 2172.00 | 217.20 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 60.29 | 6.03 | ppb | 4.05 | 90000.00 | |
| 27 Al | 45 | 2 | 63.77 | 6.38 | ppb | 3.69 | 90000.00 | |
| 39 K | 45 | 1 | 5966.00 | 596.60 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 16580.00 | 1658.00 | ppb | 1.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 0.24 | ppb | 11.73 | 900.00 | |
| 51 V | 45 | 2 | -2.36 | -0.24 | ppb | 5.91 | 900.00 | |
| 52 Cr | 45 | 2 | -0.68 | -0.07 | ppb | 4.41 | 900.00 | |
| 55 Mn | 45 | 2 | 1916.00 | 191.60 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 38450.00 | 3845.00 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 22.28 | 2.23 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 16.33 | 1.63 | ppb | 1.27 | 900.00 | |
| 63 Cu | 72 | 2 | 2.06 | 0.21 | ppb | 2.61 | 900.00 | |
| 66 Zn | 72 | 2 | 16.06 | 1.61 | ppb | 3.59 | 900.00 | |
| 75 As | 72 | 2 | 288.30 | 28.83 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 1.41 | 0.14 | ppb | 23.85 | 900.00 | |
| 88 Sr | 103 | 1 | 220.90 | 22.09 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 23.61 | 2.36 | ppb | 1.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 11.81 | 180.00 | |
| 111 Cd | 115 | 2 | -0.06 | -0.01 | ppb | 89.21 | 900.00 | |
| 120 Sn | 115 | 1 | -0.12 | -0.01 | ppb | 29.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.05 | ppb | 8.09 | 900.00 | |
| 137 Ba | 159 | 1 | 22.52 | 2.25 | ppb | 1.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.01 | ppb | 17.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.11 | -0.01 | ppb | 5.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 698955 | 4.85 | 1663748 | 42.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2683132 | 2.66 | 2728585 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 445372 | 0.42 | 406595 | 109.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 685546 | 1.23 | 617288 | 111.1 | 70 | - | 130 |
| 72 Ge | 2 | 173367 | 0.26 | 157406 | 110.1 | 70 | - | 130 |
| 103 Rh | 1 | 4355443 | 0.51 | 3944827 | 110.4 | 70 | - | 130 |
| 115 In | 1 | 4816805 | 0.72 | 4162835 | 115.7 | 70 | - | 130 |
| 115 In | 2 | 1372419 | 0.75 | 1319592 | 104.0 | 70 | - | 130 |
| 159 Tb | 1 | 6889975 | 1.40 | 5883852 | 117.1 | 70 | - | 130 |
| 175 Lu | 1 | 6669601 | 1.42 | 5727334 | 116.5 | 70 | - | 130 |
| 209 Bi | 1 | 3792553 | 1.44 | 3404545 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D# |
| Date Acquired: | Apr 24 2013 07:49 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 63.32 | 63.32 | ppb | 7.48 | 900.00 | |
| 9 Be | 45 | 2 | 47.74 | 47.74 | ppb | 2.80 | 900.00 | |
| 11 B | 6 | 1 | 64.47 | 64.47 | ppb | 8.69 | 900.00 | |
| 11 B | 45 | 2 | 47.14 | 47.14 | ppb | 1.71 | 900.00 | |
| 23 Na | 45 | 1 | 3904.00 | 3904.00 | ppb | 7.87 | 90000.00 | |
| 23 Na | 45 | 2 | 5447.00 | 5447.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 3920.00 | 3920.00 | ppb | 7.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5375.00 | 5375.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 4066.00 | 4066.00 | ppb | 7.60 | 90000.00 | |
| 27 Al | 45 | 2 | 5208.00 | 5208.00 | ppb | 0.41 | 90000.00 | |
| 39 K | 45 | 1 | 4728.00 | 4728.00 | ppb | 7.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5009.00 | 5009.00 | ppb | 7.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 47.01 | 47.01 | ppb | 8.24 | 900.00 | |
| 51 V | 45 | 2 | 50.12 | 50.12 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 49.40 | 49.40 | ppb | 0.22 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5229.00 | 5229.00 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 50.12 | 50.12 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 48.80 | 48.80 | ppb | 0.53 | 900.00 | |
| 63 Cu | 72 | 2 | 48.35 | 48.35 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 48.29 | 48.29 | ppb | 0.08 | 900.00 | |
| 75 As | 72 | 2 | 49.20 | 49.20 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 47.02 | 47.02 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 50.65 | 50.65 | ppb | 7.22 | 900.00 | |
| 98 Mo | 103 | 1 | 49.40 | 49.40 | ppb | 7.31 | 900.00 | |
| 107 Ag | 115 | 1 | 45.78 | 45.78 | ppb | 7.35 | 180.00 | |
| 111 Cd | 115 | 2 | 50.38 | 50.38 | ppb | 0.26 | 900.00 | |
| 120 Sn | 115 | 1 | 50.61 | 50.61 | ppb | 6.07 | 900.00 | |
| 121 Sb | 115 | 1 | 51.26 | 51.26 | ppb | 6.51 | 900.00 | |
| 137 Ba | 159 | 1 | 48.48 | 48.48 | ppb | 7.00 | 900.00 | |
| 205 Tl | 209 | 1 | 48.01 | 48.01 | ppb | 8.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.79 | 48.79 | ppb | 7.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 765174 | 8.22 | 1663748 | 46.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2822524 | 7.53 | 2728585 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 432495 | 0.37 | 406595 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687683 | 8.35 | 617288 | 111.4 | 70 | - | 130 |
| 72 Ge | 2 | 165646 | 0.35 | 157406 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 4436168 | 7.37 | 3944827 | 112.5 | 70 | - | 130 |
| 115 In | 1 | 4864260 | 6.80 | 4162835 | 116.8 | 70 | - | 130 |
| 115 In | 2 | 1313803 | 1.27 | 1319592 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 6953515 | 7.23 | 5883852 | 118.2 | 70 | - | 130 |
| 175 Lu | 1 | 6733001 | 7.29 | 5727334 | 117.6 | 70 | - | 130 |
| 209 Bi | 1 | 3734125 | 8.00 | 3404545 | 109.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#
**Date Acquired:** Apr 24 2013 07:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2204
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 10.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 93.13 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.33 | ppb | 7.40 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 65.09 | 900.00 | |
| 23 Na | 45 | 1 | 5.44 | 5.44 | ppb | 6.68 | 90000.00 | |
| 23 Na | 45 | 2 | 12.60 | 12.60 | ppb | 3.82 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.59 | 0.59 | ppb | 19.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.58 | 1.58 | ppb | 6.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.33 | 0.33 | ppb | 21.84 | 90000.00 | |
| 27 Al | 45 | 2 | 1.13 | 1.13 | ppb | 14.50 | 90000.00 | |
| 39 K | 45 | 1 | 0.00 | 0.00 | ppb | 37924.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.63 | 11.63 | ppb | 2.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 133.62 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 24.49 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 10.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.27 | ppb | 6.09 | 900.00 | |
| 56 Fe | 45 | 2 | 2.47 | 2.47 | ppb | 2.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 6.18 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 89.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 9.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.36 | 0.36 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 174.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 262.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 46.20 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 11.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 6.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.52 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 39.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 115.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 2.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 11.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 816401 | 1.54 | 1663748 | 49.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2688393 | 0.48 | 2728585 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 436239 | 0.63 | 406595 | 107.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 671409 | 0.52 | 617288 | 108.8 | 70 | - | 130 |
| 72 Ge | 2 | 168492 | 0.30 | 157406 | 107.0 | 70 | - | 130 |
| 103 Rh | 1 | 4361799 | 0.79 | 3944827 | 110.6 | 70 | - | 130 |
| 115 In | 1 | 4710735 | 0.40 | 4162835 | 113.2 | 70 | - | 130 |
| 115 In | 2 | 1342494 | 1.64 | 1319592 | 101.7 | 70 | - | 130 |
| 159 Tb | 1 | 6653819 | 0.60 | 5883852 | 113.1 | 70 | - | 130 |
| 175 Lu | 1 | 6444281 | 0.84 | 5727334 | 112.5 | 70 | - | 130 |
| 209 Bi | 1 | 3732146 | 0.64 | 3404545 | 109.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:04 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20063-2F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2205 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 100.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 100.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1.89 | -0.02 | ppb | 8.70 | 900.00 | |
| 9 Be | 45 | 2 | 0.23 | 0.00 | ppb | 593.00 | 900.00 | |
| 11 B | 6 | 1 | 225.60 | 2.26 | ppb | 2.65 | 900.00 | |
| 11 B | 45 | 2 | 193.50 | 1.94 | ppb | 13.31 | 900.00 | |
| 23 Na | 45 | 1 | 20200.00 | 202.00 | ppb | 0.04 | 90000.00 | |
| 23 Na | 45 | 2 | 24660.00 | 246.60 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 7550.00 | 75.50 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 8763.00 | 87.63 | ppb | 0.20 | 90000.00 | |
| 27 Al | 45 | 1 | 203.60 | 2.04 | ppb | 2.03 | 90000.00 | |
| 27 Al | 45 | 2 | 267.80 | 2.68 | ppb | 15.90 | 90000.00 | |
| 39 K | 45 | 1 | 11780.00 | 117.80 | ppb | 1.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 44480.00 | 444.80 | ppb | 1.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 13.66 | 0.14 | ppb | 100.07 | 900.00 | |
| 51 V | 45 | 2 | -47.05 | -0.47 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -9.67 | -0.10 | ppb | 1.21 | 900.00 | |
| 55 Mn | 45 | 2 | 1792.00 | 17.92 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 57830.00 | 578.30 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 23.85 | 0.24 | ppb | 2.53 | 900.00 | |
| 60 Ni | 45 | 2 | 32.87 | 0.33 | ppb | 3.22 | 900.00 | |
| 63 Cu | 72 | 2 | 12.98 | 0.13 | ppb | 3.64 | 900.00 | |
| 66 Zn | 72 | 2 | 50.67 | 0.51 | ppb | 4.61 | 900.00 | |
| 75 As | 72 | 2 | 1078.00 | 10.78 | ppb | 1.01 | 900.00 | |
| 78 Se | 72 | 2 | 8.37 | 0.08 | ppb | 107.62 | 900.00 | |
| 88 Sr | 103 | 1 | 842.30 | 8.42 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 19.68 | 0.20 | ppb | 0.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.07 | 0.00 | ppb | 79.96 | 180.00 | |
| 111 Cd | 115 | 2 | -1.41 | -0.01 | ppb | 10.32 | 900.00 | |
| 120 Sn | 115 | 1 | -1.32 | -0.01 | ppb | 8.06 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.00 | ppb | 787.64 | 900.00 | |
| 137 Ba | 159 | 1 | 44.87 | 0.45 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 3.45 | 0.03 | ppb | 9.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.87 | -0.01 | ppb | 15.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1212479 | 0.56 | 1663748 | 72.9 | 70 - 130 | |
| 45 Sc | 1 | 2895873 | 0.84 | 2728585 | 106.1 | 70 - 130 | |
| 45 Sc | 2 | 433979 | 0.29 | 406595 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 701134 | 0.70 | 617288 | 113.6 | 70 - | 130 |
| 72 | Ge | 2 | 167669 | 0.69 | 157406 | 106.5 | 70 - | 130 |
| 103 | Rh | 1 | 4388490 | 0.56 | 3944827 | 111.2 | 70 - | 130 |
| 115 | In | 1 | 4711819 | 0.80 | 4162835 | 113.2 | 70 - | 130 |
| 115 | In | 2 | 1351822 | 0.08 | 1319592 | 102.4 | 70 - | 130 |
| 159 | Tb | 1 | 6452806 | 0.55 | 5883852 | 109.7 | 70 - | 130 |
| 175 | Lu | 1 | 6270458 | 0.16 | 5727334 | 109.5 | 70 - | 130 |
| 209 | Bi | 1 | 3622070 | 0.75 | 3404545 | 106.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 24 2013 08:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-3F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.02 | ppb | 10.35 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 317.04 | 900.00 | |
| 11 B | 6 | 1 | 295.20 | 147.60 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 192.10 | 96.05 | ppb | 2.25 | 900.00 | |
| 23 Na | 45 | 1 | 41880.00 | 20940.00 | ppb | 2.05 | 90000.00 | |
| 23 Na | 45 | 2 | 57480.00 | 28740.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 3230.00 | 1615.00 | ppb | 2.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 4400.00 | 2200.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 7.45 | 3.73 | ppb | 4.16 | 90000.00 | |
| 27 Al | 45 | 2 | 10.08 | 5.04 | ppb | 2.79 | 90000.00 | |
| 39 K | 45 | 1 | 8164.00 | 4082.00 | ppb | 2.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 34980.00 | 17490.00 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 0.67 | ppb | 2.30 | 900.00 | |
| 51 V | 45 | 2 | 1.37 | 0.68 | ppb | 4.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.11 | ppb | 3.68 | 900.00 | |
| 55 Mn | 45 | 2 | 4774.00 | 2387.00 | ppb | 1.24 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 56360.00 | 28180.00 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 24.62 | 12.31 | ppb | 0.45 | 900.00 | |
| 60 Ni | 45 | 2 | 127.24 | 63.62 | ppb | 0.33 | 900.00 | |
| 63 Cu | 72 | 2 | 3.59 | 1.80 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 15.41 | 7.70 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 20.62 | 10.31 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 395.08 | 900.00 | |
| 88 Sr | 103 | 1 | 329.40 | 164.70 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 50.72 | 25.36 | ppb | 1.11 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.78 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 58.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.40 | 0.20 | ppb | 2.77 | 900.00 | |
| 121 Sb | 115 | 1 | 1.37 | 0.69 | ppb | 1.89 | 900.00 | |
| 137 Ba | 159 | 1 | 35.82 | 17.91 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 5.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 594897 | 0.24 | 1663748 | 35.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2482153 | 1.00 | 2728585 | 91.0 | 70 - 130 | |
| 45 Sc | 2 | 420566 | 0.96 | 406595 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 644414 | 0.33 | 617288 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 164261 | 0.30 | 157406 | 104.4 | 70 | - | 130 |
| 103 Rh | 1 | 3964508 | 0.85 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4433483 | 0.41 | 4162835 | 106.5 | 70 | - | 130 |
| 115 In | 2 | 1272618 | 3.93 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6507106 | 0.66 | 5883852 | 110.6 | 70 | - | 130 |
| 175 Lu | 1 | 6316891 | 1.07 | 5727334 | 110.3 | 70 | - | 130 |
| 209 Bi | 1 | 3432198 | 0.60 | 3404545 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:18 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20063-4F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2207 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 25.08 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 58.22 | 900.00 | |
| 11 B | 6 | 1 | 1.70 | 0.85 | ppb | 9.04 | 900.00 | |
| 11 B | 45 | 2 | 0.78 | 0.39 | ppb | 27.09 | 900.00 | |
| 23 Na | 45 | 1 | 24.62 | 12.31 | ppb | 2.70 | 90000.00 | |
| 23 Na | 45 | 2 | 38.20 | 19.10 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.63 | 2.81 | ppb | 1.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.85 | 3.92 | ppb | 1.78 | 90000.00 | |
| 27 Al | 45 | 1 | 4.06 | 2.03 | ppb | 3.32 | 90000.00 | |
| 27 Al | 45 | 2 | 5.35 | 2.68 | ppb | 7.23 | 90000.00 | |
| 39 K | 45 | 1 | -6.48 | -3.24 | ppb | 63.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 214.00 | 107.00 | ppb | 1.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.30 | ppb | 19.59 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.86 | ppb | 1.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.75 | 0.38 | ppb | 5.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.49 | ppb | 0.71 | 900.00 | |
| 56 Fe | 45 | 2 | 15.11 | 7.55 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 24.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 47.26 | 900.00 | |
| 63 Cu | 72 | 2 | 1.56 | 0.78 | ppb | 1.11 | 900.00 | |
| 66 Zn | 72 | 2 | 10.43 | 5.22 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 8.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 970.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.21 | 0.10 | ppb | 1.71 | 900.00 | |
| 98 Mo | 103 | 1 | 0.20 | 0.10 | ppb | 3.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 31.19 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 8.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.10 | ppb | 11.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 3.48 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.08 | ppb | 16.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 13.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 24.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 595685 | 1.47 | 1663748 | 35.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2513139 | 0.29 | 2728585 | 92.1 | 70 - 130 | |
| 45 Sc | 2 | 431087 | 0.44 | 406595 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 645096 | 0.98 | 617288 | 104.5 | 70 | - | 130 |
| 72 Ge | 2 | 165820 | 0.69 | 157406 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 4251545 | 0.71 | 3944827 | 107.8 | 70 | - | 130 |
| 115 In | 1 | 4635692 | 0.74 | 4162835 | 111.4 | 70 | - | 130 |
| 115 In | 2 | 1312208 | 0.93 | 1319592 | 99.4 | 70 | - | 130 |
| 159 Tb | 1 | 6731914 | 0.55 | 5883852 | 114.4 | 70 | - | 130 |
| 175 Lu | 1 | 6543887 | 0.52 | 5727334 | 114.3 | 70 | - | 130 |
| 209 Bi | 1 | 3743045 | 0.38 | 3404545 | 109.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:25 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-B1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2208 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 582.00 | 29.10 | ppb | 1.77 | 900.00 | |
| 9 Be | 45 | 2 | 484.20 | 24.21 | ppb | 1.00 | 900.00 | |
| 11 B | 6 | 1 | 3.03 | 0.15 | ppb | 4.83 | 900.00 | |
| 11 B | 45 | 2 | 1.53 | 0.08 | ppb | 31.09 | 900.00 | |
| 23 Na | 45 | 1 | 23720.00 | 1186.00 | ppb | 0.89 | 90000.00 | |
| 23 Na | 45 | 2 | 28000.00 | 1400.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 23940.00 | 1197.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 28580.00 | 1429.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 2074.00 | 103.70 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 2 | 2406.00 | 120.30 | ppb | 0.93 | 90000.00 | |
| 39 K | 45 | 1 | 26320.00 | 1316.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 27920.00 | 1396.00 | ppb | 1.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 494.00 | 24.70 | ppb | 1.93 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 512.00 | 25.60 | ppb | 0.20 | 900.00 | |
| 55 Mn | 45 | 2 | 521.40 | 26.07 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 2518.00 | 125.90 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 528.80 | 26.44 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 508.60 | 25.43 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 515.60 | 25.78 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 568.40 | 28.42 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 520.60 | 26.03 | ppb | 0.52 | 900.00 | |
| 78 Se | 72 | 2 | 515.60 | 25.78 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 525.40 | 26.27 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.63 | 0.03 | ppb | 3.35 | 900.00 | |
| 107 Ag | 115 | 1 | 212.20 | 10.61 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 525.60 | 26.28 | ppb | 0.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.38 | -0.02 | ppb | 13.82 | 900.00 | |
| 121 Sb | 115 | 1 | 540.60 | 27.03 | ppb | 0.92 | 900.00 | |
| 137 Ba | 159 | 1 | 2116.00 | 105.80 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 522.60 | 26.13 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1041.80 | 52.09 | ppb | 1.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1151533 | 0.89 | 1663748 | 69.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2930985 | 1.22 | 2728585 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 437779 | 0.62 | 406595 | 107.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 696820 | 0.46 | 617288 | 112.9 | 70 | - | 130 |
| 72 Ge | 2 | 167816 | 0.54 | 157406 | 106.6 | 70 | - | 130 |
| 103 Rh | 1 | 4411993 | 0.19 | 3944827 | 111.8 | 70 | - | 130 |
| 115 In | 1 | 4747001 | 0.29 | 4162835 | 114.0 | 70 | - | 130 |
| 115 In | 2 | 1352237 | 0.17 | 1319592 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 6556951 | 0.71 | 5883852 | 111.4 | 70 | - | 130 |
| 175 Lu | 1 | 6265931 | 1.29 | 5727334 | 109.4 | 70 | - | 130 |
| 209 Bi | 1 | 3560440 | 0.37 | 3404545 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:32 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2209 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 577.80 | 28.89 | ppb | 1.01 | 900.00 | |
| 9 Be | 45 | 2 | 485.60 | 24.28 | ppb | 1.47 | 900.00 | |
| 11 B | 6 | 1 | 53.36 | 2.67 | ppb | 2.40 | 900.00 | |
| 11 B | 45 | 2 | 45.06 | 2.25 | ppb | 11.38 | 900.00 | |
| 23 Na | 45 | 1 | 325200.00 | 16260.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 370600.00 | 18530.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 27960.00 | 1398.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 32100.00 | 1605.00 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 1 | 2102.00 | 105.10 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 2430.00 | 121.50 | ppb | 0.84 | 90000.00 | |
| 39 K | 45 | 1 | 34760.00 | 1738.00 | ppb | 0.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 70620.00 | 3531.00 | ppb | 1.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 24.94 | ppb | 0.55 | 900.00 | |
| 51 V | 45 | 2 | 520.60 | 26.03 | ppb | 1.20 | 900.00 | |
| 52 Cr | 45 | 2 | 499.20 | 24.96 | ppb | 1.76 | 900.00 | |
| 55 Mn | 45 | 2 | 4678.00 | 233.90 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 3494.00 | 174.70 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 521.40 | 26.07 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 508.20 | 25.41 | ppb | 0.53 | 900.00 | |
| 63 Cu | 72 | 2 | 522.20 | 26.11 | ppb | 0.62 | 900.00 | |
| 66 Zn | 72 | 2 | 569.60 | 28.48 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 532.00 | 26.60 | ppb | 1.50 | 900.00 | |
| 78 Se | 72 | 2 | 518.40 | 25.92 | ppb | 1.10 | 900.00 | |
| 88 Sr | 103 | 1 | 1056.60 | 52.83 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 3.40 | 0.17 | ppb | 4.10 | 900.00 | |
| 107 Ag | 115 | 1 | 214.00 | 10.70 | ppb | 1.37 | 180.00 | |
| 111 Cd | 115 | 2 | 531.80 | 26.59 | ppb | 0.25 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 16.36 | 900.00 | |
| 121 Sb | 115 | 1 | 557.80 | 27.89 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 2274.00 | 113.70 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 501.80 | 25.09 | ppb | 1.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 51.95 | ppb | 0.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1186282 | 0.87 | 1663748 | 71.3 | 70 - 130 | |
| 45 Sc | 1 | 2897644 | 0.28 | 2728585 | 106.2 | 70 - 130 | |
| 45 Sc | 2 | 433386 | 0.67 | 406595 | 106.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 685842 | 0.31 | 617288 | 111.1 | 70 | - | 130 |
| 72 Ge | 2 | 163796 | 0.17 | 157406 | 104.1 | 70 | - | 130 |
| 103 Rh | 1 | 4192621 | 0.89 | 3944827 | 106.3 | 70 | - | 130 |
| 115 In | 1 | 4546811 | 1.04 | 4162835 | 109.2 | 70 | - | 130 |
| 115 In | 2 | 1286385 | 0.56 | 1319592 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 6381370 | 0.70 | 5883852 | 108.5 | 70 | - | 130 |
| 175 Lu | 1 | 6113435 | 0.34 | 5727334 | 106.7 | 70 | - | 130 |
| 209 Bi | 1 | 3461173 | 0.87 | 3404545 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:39 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 559.80 | 27.99 | ppb | 0.29 | 900.00 | |
| 9 Be | 45 | 2 | 492.60 | 24.63 | ppb | 2.65 | 900.00 | |
| 11 B | 6 | 1 | 50.20 | 2.51 | ppb | 3.13 | 900.00 | |
| 11 B | 45 | 2 | 44.88 | 2.24 | ppb | 7.43 | 900.00 | |
| 23 Na | 45 | 1 | 321000.00 | 16050.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 370800.00 | 18540.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 27600.00 | 1380.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 32020.00 | 1601.00 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 1 | 2112.00 | 105.60 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2418.00 | 120.90 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 34260.00 | 1713.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 69420.00 | 3471.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.60 | 24.78 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 521.80 | 26.09 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 508.80 | 25.44 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 4774.00 | 238.70 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 3560.00 | 178.00 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 522.60 | 26.13 | ppb | 1.26 | 900.00 | |
| 60 Ni | 45 | 2 | 502.40 | 25.12 | ppb | 1.63 | 900.00 | |
| 63 Cu | 72 | 2 | 503.40 | 25.17 | ppb | 1.30 | 900.00 | |
| 66 Zn | 72 | 2 | 561.60 | 28.08 | ppb | 1.46 | 900.00 | |
| 75 As | 72 | 2 | 520.80 | 26.04 | ppb | 1.09 | 900.00 | |
| 78 Se | 72 | 2 | 495.40 | 24.77 | ppb | 0.93 | 900.00 | |
| 88 Sr | 103 | 1 | 1031.80 | 51.59 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 3.86 | 0.19 | ppb | 2.72 | 900.00 | |
| 107 Ag | 115 | 1 | 209.60 | 10.48 | ppb | 0.98 | 180.00 | |
| 111 Cd | 115 | 2 | 524.40 | 26.22 | ppb | 0.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.36 | -0.02 | ppb | 8.34 | 900.00 | |
| 121 Sb | 115 | 1 | 548.80 | 27.44 | ppb | 0.49 | 900.00 | |
| 137 Ba | 159 | 1 | 2248.00 | 112.40 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 493.80 | 24.69 | ppb | 1.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1021.60 | 51.08 | ppb | 0.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1244800 | 0.77 | 1663748 | 74.8 | 70 - 130 | |
| 45 Sc | 1 | 2909583 | 1.36 | 2728585 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 422379 | 0.49 | 406595 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 683358 | 0.67 | 617288 | 110.7 | 70 | - | 130 |
| 72 Ge | 2 | 163719 | 0.60 | 157406 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 4193010 | 0.11 | 3944827 | 106.3 | 70 | - | 130 |
| 115 In | 1 | 4521290 | 0.15 | 4162835 | 108.6 | 70 | - | 130 |
| 115 In | 2 | 1289873 | 0.66 | 1319592 | 97.7 | 70 | - | 130 |
| 159 Tb | 1 | 6289383 | 0.70 | 5883852 | 106.9 | 70 | - | 130 |
| 175 Lu | 1 | 6028899 | 1.07 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3427118 | 0.26 | 3404545 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:46 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-SD1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.02 | ppb | 15.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 29.73 | 900.00 | |
| 11 B | 6 | 1 | 52.25 | 5.23 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 45.04 | 4.50 | ppb | 4.00 | 900.00 | |
| 23 Na | 45 | 1 | 294600.00 | 29460.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 333900.00 | 33390.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 3565.00 | 356.50 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 4323.00 | 432.30 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 24.38 | 2.44 | ppb | 7.24 | 90000.00 | |
| 27 Al | 45 | 2 | 30.19 | 3.02 | ppb | 12.41 | 90000.00 | |
| 39 K | 45 | 1 | 8438.00 | 843.80 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 43390.00 | 4339.00 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.15 | ppb | 1.45 | 900.00 | |
| 51 V | 45 | 2 | -1.72 | -0.17 | ppb | 1.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.15 | 0.01 | ppb | 6.65 | 900.00 | |
| 55 Mn | 45 | 2 | 4144.00 | 414.40 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 1217.00 | 121.70 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 1.43 | 0.14 | ppb | 2.97 | 900.00 | |
| 60 Ni | 45 | 2 | 6.71 | 0.67 | ppb | 7.16 | 900.00 | |
| 63 Cu | 72 | 2 | 3.18 | 0.32 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 22.11 | 2.21 | ppb | 1.84 | 900.00 | |
| 75 As | 72 | 2 | 0.79 | 0.08 | ppb | 6.73 | 900.00 | |
| 78 Se | 72 | 2 | 1.03 | 0.10 | ppb | 40.45 | 900.00 | |
| 88 Sr | 103 | 1 | 509.80 | 50.98 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 3.00 | 0.30 | ppb | 2.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.14 | 0.01 | ppb | 14.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.01 | ppb | 201.88 | 900.00 | |
| 120 Sn | 115 | 1 | -0.11 | -0.01 | ppb | 18.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.03 | ppb | 7.35 | 900.00 | |
| 137 Ba | 159 | 1 | 149.00 | 14.90 | ppb | 1.25 | 900.00 | |
| 205 Tl | 209 | 1 | 1.84 | 0.18 | ppb | 1.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 4.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1154181 | 1.22 | 1663748 | 69.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2818063 | 0.82 | 2728585 | 103.3 | 70 - 130 | |
| 45 Sc | 2 | 420906 | 0.84 | 406595 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 683685 | 0.40 | 617288 | 110.8 | 70 - | 130 |
| 72 | Ge | 2 | 162284 | 0.41 | 157406 | 103.1 | 70 - | 130 |
| 103 | Rh | 1 | 4118725 | 0.71 | 3944827 | 104.4 | 70 - | 130 |
| 115 | In | 1 | 4439482 | 0.33 | 4162835 | 106.6 | 70 - | 130 |
| 115 | In | 2 | 1276166 | 0.70 | 1319592 | 96.7 | 70 - | 130 |
| 159 | Tb | 1 | 6200165 | 0.50 | 5883852 | 105.4 | 70 - | 130 |
| 175 | Lu | 1 | 5954615 | 0.34 | 5727334 | 104.0 | 70 - | 130 |
| 209 | Bi | 1 | 3358085 | 0.81 | 3404545 | 98.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Apr 24 2013 08:53 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20828-PS1
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 20.12 | 10.06 | ppb | 2.14 | 900.00 | |
| 9 Be | 45 | 2 | 16.08 | 8.04 | ppb | 3.13 | 900.00 | |
| 11 B | 6 | 1 | 69.04 | 34.52 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 55.02 | 27.51 | ppb | 2.54 | 900.00 | |
| 23 Na | 45 | 1 | 223800.00 | 111900.00 | ppb | 0.94 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 278200.00 | 139100.00 | ppb | 0.56 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2700.00 | 1350.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 3448.00 | 1724.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 23.38 | 11.69 | ppb | 1.87 | 90000.00 | |
| 27 Al | 45 | 2 | 27.92 | 13.96 | ppb | 1.76 | 90000.00 | |
| 39 K | 45 | 1 | 6734.00 | 3367.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 34640.00 | 17320.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.36 | 8.68 | ppb | 2.60 | 900.00 | |
| 51 V | 45 | 2 | 18.74 | 9.37 | ppb | 0.29 | 900.00 | |
| 52 Cr | 45 | 2 | 17.33 | 8.67 | ppb | 0.13 | 900.00 | |
| 55 Mn | 45 | 2 | 3378.00 | 1689.00 | ppb | 0.26 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 957.40 | 478.70 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 17.71 | 8.86 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 20.70 | 10.35 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 17.94 | 8.97 | ppb | 0.85 | 900.00 | |
| 66 Zn | 72 | 2 | 35.70 | 17.85 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 18.07 | 9.03 | ppb | 0.76 | 900.00 | |
| 78 Se | 72 | 2 | 15.50 | 7.75 | ppb | 4.38 | 900.00 | |
| 88 Sr | 103 | 1 | 438.80 | 219.40 | ppb | 1.44 | 900.00 | |
| 98 Mo | 103 | 1 | 21.40 | 10.70 | ppb | 1.70 | 900.00 | |
| 107 Ag | 115 | 1 | 16.93 | 8.47 | ppb | 0.80 | 180.00 | |
| 111 Cd | 115 | 2 | 16.03 | 8.01 | ppb | 3.79 | 900.00 | |
| 120 Sn | 115 | 1 | 18.38 | 9.19 | ppb | 0.13 | 900.00 | |
| 121 Sb | 115 | 1 | 18.40 | 9.20 | ppb | 1.09 | 900.00 | |
| 137 Ba | 159 | 1 | 136.96 | 68.48 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 17.65 | 8.83 | ppb | 0.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 18.13 | 9.07 | ppb | 0.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 899964 | 1.64 | 1663748 | 54.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2628655 | 0.55 | 2728585 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 402010 | 0.70 | 406595 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626566 | 0.09 | 617288 | 101.5 | 70 | - | 130 |
| 72 Ge | 2 | 152690 | 0.85 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3778643 | 0.96 | 3944827 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 4204448 | 0.10 | 4162835 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1255606 | 3.67 | 1319592 | 95.2 | 70 | - | 130 |
| 159 Tb | 1 | 6086958 | 0.74 | 5883852 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5908546 | 0.39 | 5727334 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 3205826 | 0.52 | 3404545 | 94.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 09:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 14.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 1.11 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 27.91 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 70.73 | 900.00 | |
| 23 Na | 45 | 1 | 12.09 | 12.09 | ppb | 8.47 | 90000.00 | |
| 23 Na | 45 | 2 | 64.64 | 64.64 | ppb | 25.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 9.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 14.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.41 | 3.41 | ppb | 1.94 | 90000.00 | |
| 27 Al | 45 | 2 | 4.19 | 4.19 | ppb | 1.83 | 90000.00 | |
| 39 K | 45 | 1 | 3.81 | 3.81 | ppb | 12.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.11 | 7.11 | ppb | 9.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 116.69 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 15.12 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 25.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 26.72 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 4.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 157.38 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 28.71 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 5.59 | 900.00 | |
| 66 Zn | 72 | 2 | 1.15 | 1.15 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 61.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 41.59 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 13.29 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | -0.01 | ppb | 20.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.59 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 37.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 498.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 38.72 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 22.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 7.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1211434 | 0.50 | 1663748 | 72.8 | 70 - 130 | |
| 45 Sc | 1 | 2876915 | 0.40 | 2728585 | 105.4 | 70 - 130 | |
| 45 Sc | 2 | 426874 | 0.72 | 406595 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689044 | 0.87 | 617288 | 111.6 | 70 | - | 130 |
| 72 Ge | 2 | 165776 | 0.39 | 157406 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 4345256 | 1.24 | 3944827 | 110.2 | 70 | - | 130 |
| 115 In | 1 | 4636434 | 0.12 | 4162835 | 111.4 | 70 | - | 130 |
| 115 In | 2 | 1326297 | 0.24 | 1319592 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 6400255 | 0.79 | 5883852 | 108.8 | 70 | - | 130 |
| 175 Lu | 1 | 6135041 | 0.24 | 5727334 | 107.1 | 70 | - | 130 |
| 209 Bi | 1 | 3574600 | 1.37 | 3404545 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 24 2013 09:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.53 | 0.53 | ppb | 0.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 1.57 | 900.00 | |
| 11 B | 6 | 1 | 5.33 | 5.33 | ppb | 1.36 | 900.00 | |
| 11 B | 45 | 2 | 4.08 | 4.08 | ppb | 7.19 | 900.00 | |
| 23 Na | 45 | 1 | 235.30 | 235.30 | ppb | 1.55 | 90000.00 | |
| 23 Na | 45 | 2 | 290.40 | 290.40 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 235.30 | 235.30 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.90 | 285.90 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 25.06 | 25.06 | ppb | 1.80 | 90000.00 | |
| 27 Al | 45 | 2 | 28.37 | 28.37 | ppb | 0.97 | 90000.00 | |
| 39 K | 45 | 1 | 247.80 | 247.80 | ppb | 2.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 267.20 | 267.20 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.09 | 1.09 | ppb | 1.63 | 900.00 | |
| 51 V | 45 | 2 | 0.89 | 0.89 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 1.03 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 28.74 | 28.74 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.93 | 0.93 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 1.92 | 1.92 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 0.46 | 0.46 | ppb | 1.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 20.10 | 900.00 | |
| 88 Sr | 103 | 1 | 5.20 | 5.20 | ppb | 2.04 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 1.01 | ppb | 2.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 1.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.45 | 0.45 | ppb | 6.79 | 900.00 | |
| 120 Sn | 115 | 1 | 4.83 | 4.83 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.77 | 900.00 | |
| 137 Ba | 159 | 1 | 1.11 | 1.11 | ppb | 2.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.42 | ppb | 2.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1204523 | 1.94 | 1663748 | 72.4 | 70 - 130 | |
| 45 Sc | 1 | 2881765 | 1.30 | 2728585 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 429515 | 0.62 | 406595 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687495 | 0.80 | 617288 | 111.4 | 70 | - | 130 |
| 72 Ge | 2 | 164808 | 0.42 | 157406 | 104.7 | 70 | - | 130 |
| 103 Rh | 1 | 4328517 | 2.27 | 3944827 | 109.7 | 70 | - | 130 |
| 115 In | 1 | 4645386 | 1.66 | 4162835 | 111.6 | 70 | - | 130 |
| 115 In | 2 | 1333156 | 1.07 | 1319592 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 6407741 | 1.70 | 5883852 | 108.9 | 70 | - | 130 |
| 175 Lu | 1 | 6171900 | 1.25 | 5727334 | 107.8 | 70 | - | 130 |
| 209 Bi | 1 | 3540405 | 2.46 | 3404545 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 24 2013 09:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.54 | 55.54 | ppb | 2.36 | 900.00 | |
| 9 Be | 45 | 2 | 48.37 | 48.37 | ppb | 1.71 | 900.00 | |
| 11 B | 6 | 1 | 55.95 | 55.95 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 47.94 | 47.94 | ppb | 1.56 | 900.00 | |
| 23 Na | 45 | 1 | 4717.00 | 4717.00 | ppb | 0.74 | 90000.00 | |
| 23 Na | 45 | 2 | 5305.00 | 5305.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 4707.00 | 4707.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 5315.00 | 5315.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 4741.00 | 4741.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 5233.00 | 5233.00 | ppb | 0.12 | 90000.00 | |
| 39 K | 45 | 1 | 5087.00 | 5087.00 | ppb | 1.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 5308.00 | 5308.00 | ppb | 1.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.42 | 49.42 | ppb | 1.42 | 900.00 | |
| 51 V | 45 | 2 | 49.67 | 49.67 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 49.07 | 49.07 | ppb | 0.06 | 900.00 | |
| 55 Mn | 45 | 2 | 48.53 | 48.53 | ppb | 0.07 | 900.00 | |
| 56 Fe | 45 | 2 | 5174.00 | 5174.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 49.63 | 49.63 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 48.78 | 48.78 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 48.12 | 48.12 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 50.14 | 50.14 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 49.30 | 49.30 | ppb | 0.31 | 900.00 | |
| 78 Se | 72 | 2 | 47.23 | 47.23 | ppb | 1.10 | 900.00 | |
| 88 Sr | 103 | 1 | 52.85 | 52.85 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 51.65 | 51.65 | ppb | 0.52 | 900.00 | |
| 107 Ag | 115 | 1 | 47.94 | 47.94 | ppb | 1.82 | 180.00 | |
| 111 Cd | 115 | 2 | 50.13 | 50.13 | ppb | 1.31 | 900.00 | |
| 120 Sn | 115 | 1 | 52.58 | 52.58 | ppb | 0.41 | 900.00 | |
| 121 Sb | 115 | 1 | 53.18 | 53.18 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 51.04 | 51.04 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 49.09 | 49.09 | ppb | 1.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.27 | 50.27 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1175983 | 1.21 | 1663748 | 70.7 | 70 - 130 | |
| 45 Sc | 1 | 2808047 | 0.74 | 2728585 | 102.9 | 70 - 130 | |
| 45 Sc | 2 | 413893 | 0.39 | 406595 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 664483 | 0.14 | 617288 | 107.6 | 70 | - | 130 |
| 72 Ge | 2 | 158985 | 0.56 | 157406 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 4112500 | 0.12 | 3944827 | 104.3 | 70 | - | 130 |
| 115 In | 1 | 4436126 | 0.35 | 4162835 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 1263501 | 1.10 | 1319592 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 6298853 | 0.39 | 5883852 | 107.1 | 70 | - | 130 |
| 175 Lu | 1 | 6053445 | 0.67 | 5727334 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 3412830 | 1.41 | 3404545 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 09:21 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2304 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.03 | ppb | 5.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 163.21 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 20.85 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 133.60 | 900.00 | |
| 23 Na | 45 | 1 | 2.68 | 2.68 | ppb | 5.01 | 90000.00 | |
| 23 Na | 45 | 2 | 7.15 | 7.15 | ppb | 14.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.62 | 0.62 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.36 | 1.36 | ppb | 15.20 | 90000.00 | |
| 27 Al | 45 | 1 | 0.09 | 0.09 | ppb | 39.61 | 90000.00 | |
| 27 Al | 45 | 2 | 0.80 | 0.80 | ppb | 15.97 | 90000.00 | |
| 39 K | 45 | 1 | -1.27 | -1.27 | ppb | 64.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 32.80 | 32.80 | ppb | 1.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 284.57 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 17.97 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 11.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 40.32 | 900.00 | |
| 56 Fe | 45 | 2 | 1.31 | 1.31 | ppb | 21.16 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 2249.60 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 13.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 23.75 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 4.85 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 92.42 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 74.90 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 17.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 21.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.48 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 28.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 19.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 38.68 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 108.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 10.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1216435 | 0.85 | 1663748 | 73.1 | 70 - 130 | |
| 45 Sc | 1 | 2824447 | 0.80 | 2728585 | 103.5 | 70 - 130 | |
| 45 Sc | 2 | 420935 | 0.53 | 406595 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 680418 | 0.34 | 617288 | 110.2 | 70 - | 130 |
| 72 | Ge | 2 | 162468 | 0.57 | 157406 | 103.2 | 70 - | 130 |
| 103 | Rh | 1 | 4254779 | 0.93 | 3944827 | 107.9 | 70 - | 130 |
| 115 | In | 1 | 4597241 | 0.71 | 4162835 | 110.4 | 70 - | 130 |
| 115 | In | 2 | 1298149 | 0.57 | 1319592 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 6356741 | 0.85 | 5883852 | 108.0 | 70 - | 130 |
| 175 | Lu | 1 | 6105836 | 0.80 | 5727334 | 106.6 | 70 - | 130 |
| 209 | Bi | 1 | 3524247 | 0.29 | 3404545 | 103.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#
**Date Acquired:** Apr 24 2013 09:28 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20756A-MB1
**Misc Info:**
**Vial Number:** 2305
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 15.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 234.80 | 900.00 | |
| 11 B | 6 | 1 | 0.39 | 0.19 | ppb | 16.19 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.12 | ppb | 81.42 | 900.00 | |
| 23 Na | 45 | 1 | 13.87 | 6.94 | ppb | 3.24 | 90000.00 | |
| 23 Na | 45 | 2 | 22.32 | 11.16 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.69 | 0.85 | ppb | 5.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.22 | 1.11 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.40 | 1.70 | ppb | 6.64 | 90000.00 | |
| 27 Al | 45 | 2 | 4.88 | 2.44 | ppb | 2.81 | 90000.00 | |
| 39 K | 45 | 1 | -2.78 | -1.39 | ppb | 87.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 33.12 | 16.56 | ppb | 2.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 1.55 | 900.00 | |
| 51 V | 45 | 2 | 2.48 | 1.24 | ppb | 2.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.70 | 0.35 | ppb | 2.88 | 900.00 | |
| 55 Mn | 45 | 2 | 1.03 | 0.52 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 17.99 | 8.99 | ppb | 1.05 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 28.85 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 169.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.36 | 0.68 | ppb | 1.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.93 | 0.47 | ppb | 4.18 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 11.32 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.01 | ppb | 85.25 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 19.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 5.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 9.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 14.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 9.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 5.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 5.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.06 | ppb | 3.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 13.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 898531 | 0.38 | 1663748 | 54.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2650626 | 0.45 | 2728585 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 417047 | 0.20 | 406595 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 656177 | 0.09 | 617288 | 106.3 | 70 | - | 130 |
| 72 Ge | 2 | 159938 | 0.55 | 157406 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 4219122 | 0.33 | 3944827 | 107.0 | 70 | - | 130 |
| 115 In | 1 | 4534071 | 0.30 | 4162835 | 108.9 | 70 | - | 130 |
| 115 In | 2 | 1280536 | 1.65 | 1319592 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 6500281 | 0.46 | 5883852 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 6246111 | 0.46 | 5727334 | 109.1 | 70 | - | 130 |
| 209 Bi | 1 | 3627186 | 0.63 | 3404545 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 09:35 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19681-6 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 25.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 130.56 | 900.00 | |
| 11 B | 6 | 1 | 23.58 | 11.79 | ppb | 2.57 | 900.00 | |
| 11 B | 45 | 2 | 19.13 | 9.57 | ppb | 3.14 | 900.00 | |
| 23 Na | 45 | 1 | 43440.00 | 21720.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 54280.00 | 27140.00 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 13902.00 | 6951.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 17148.00 | 8574.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 11.42 | 5.71 | ppb | 1.50 | 90000.00 | |
| 27 Al | 45 | 2 | 14.37 | 7.18 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 3964.00 | 1982.00 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 63380.00 | 31690.00 | ppb | 0.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.60 | 0.80 | ppb | 5.62 | 900.00 | |
| 51 V | 45 | 2 | 3.07 | 1.53 | ppb | 4.19 | 900.00 | |
| 52 Cr | 45 | 2 | 2.54 | 1.27 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | 405.80 | 202.90 | ppb | 1.49 | 900.00 | |
| 56 Fe | 45 | 2 | 1076.00 | 538.00 | ppb | 1.33 | 90000.00 | |
| 59 Co | 45 | 2 | 2.17 | 1.09 | ppb | 2.03 | 900.00 | |
| 60 Ni | 45 | 2 | 4.66 | 2.33 | ppb | 0.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.32 | ppb | 2.21 | 900.00 | |
| 66 Zn | 72 | 2 | 8.90 | 4.45 | ppb | 1.94 | 900.00 | |
| 75 As | 72 | 2 | 14.10 | 7.05 | ppb | 1.17 | 900.00 | |
| 78 Se | 72 | 2 | 1.34 | 0.67 | ppb | 10.43 | 900.00 | |
| 88 Sr | 103 | 1 | 687.40 | 343.70 | ppb | 1.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.51 | ppb | 1.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 16.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 42.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.58 | 0.29 | ppb | 5.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.38 | 0.19 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 61.78 | 30.89 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.09 | ppb | 2.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 9.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 886916 | 0.47 | 1663748 | 53.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2651771 | 0.31 | 2728585 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 408635 | 0.64 | 406595 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 647474 | 0.47 | 617288 | 104.9 | 70 | - | 130 |
| 72 Ge | 2 | 157055 | 0.73 | 157406 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3884812 | 0.40 | 3944827 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 4368908 | 0.10 | 4162835 | 105.0 | 70 | - | 130 |
| 115 In | 2 | 1257248 | 4.13 | 1319592 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 6358048 | 1.52 | 5883852 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 6178312 | 0.85 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3381134 | 1.34 | 3404545 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 09:42 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19681-2 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2307 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 173.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 232.29 | 900.00 | |
| 11 B | 6 | 1 | 56.18 | 28.09 | ppb | 1.63 | 900.00 | |
| 11 B | 45 | 2 | 45.08 | 22.54 | ppb | 2.31 | 900.00 | |
| 23 Na | 45 | 1 | 30780.00 | 15390.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 40160.00 | 20080.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 14984.00 | 7492.00 | ppb | 1.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 19106.00 | 9553.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 8.65 | 4.33 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 10.63 | 5.32 | ppb | 1.48 | 90000.00 | |
| 39 K | 45 | 1 | 4646.00 | 2323.00 | ppb | 1.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 65780.00 | 32890.00 | ppb | 0.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.98 | 0.99 | ppb | 4.07 | 900.00 | |
| 51 V | 45 | 2 | 4.65 | 2.32 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.56 | 0.28 | ppb | 1.53 | 900.00 | |
| 55 Mn | 45 | 2 | 1364.00 | 682.00 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 57.56 | 28.78 | ppb | 0.70 | 90000.00 | |
| 59 Co | 45 | 2 | 20.24 | 10.12 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 30.08 | 15.04 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.78 | 0.39 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 43.08 | 21.54 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 1.85 | 0.93 | ppb | 1.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 22.87 | 900.00 | |
| 88 Sr | 103 | 1 | 697.40 | 348.70 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 48.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 19.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.58 | 0.29 | ppb | 8.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 7.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.50 | 900.00 | |
| 137 Ba | 159 | 1 | 40.58 | 20.29 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 22.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 828276 | 1.11 | 1663748 | 49.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2653847 | 0.58 | 2728585 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 412604 | 0.40 | 406595 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 657568 | 0.67 | 617288 | 106.5 | 70 | - | 130 |
| 72 Ge | 2 | 158221 | 0.35 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3952133 | 0.37 | 3944827 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 4417291 | 0.50 | 4162835 | 106.1 | 70 | - | 130 |
| 115 In | 2 | 1272092 | 4.04 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6511856 | 0.68 | 5883852 | 110.7 | 70 | - | 130 |
| 175 Lu | 1 | 6298261 | 0.79 | 5727334 | 110.0 | 70 | - | 130 |
| 209 Bi | 1 | 3471707 | 1.15 | 3404545 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#
**Date Acquired:** Apr 24 2013 09:49 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-3
**Misc Info:**
**Vial Number:** 2308
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 24.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 91.63 | 900.00 | |
| 11 B | 6 | 1 | 7.80 | 3.90 | ppb | 0.40 | 900.00 | |
| 11 B | 45 | 2 | 6.46 | 3.23 | ppb | 7.28 | 900.00 | |
| 23 Na | 45 | 1 | 15240.00 | 7620.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 19454.00 | 9727.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 12236.00 | 6118.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 15430.00 | 7715.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 32.74 | 16.37 | ppb | 1.60 | 90000.00 | |
| 27 Al | 45 | 2 | 39.66 | 19.83 | ppb | 1.24 | 90000.00 | |
| 39 K | 45 | 1 | 4254.00 | 2127.00 | ppb | 1.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 49180.00 | 24590.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.63 | 1.31 | ppb | 3.81 | 900.00 | |
| 51 V | 45 | 2 | 1.61 | 0.81 | ppb | 3.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.06 | ppb | 7.69 | 900.00 | |
| 55 Mn | 45 | 2 | 1010.00 | 505.00 | ppb | 0.95 | 900.00 | |
| 56 Fe | 45 | 2 | 34260.00 | 17130.00 | ppb | 0.57 | 90000.00 | |
| 59 Co | 45 | 2 | 1.80 | 0.90 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 2.44 | 1.22 | ppb | 1.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.52 | 0.26 | ppb | 2.20 | 900.00 | |
| 66 Zn | 72 | 2 | 14.35 | 7.18 | ppb | 0.81 | 900.00 | |
| 75 As | 72 | 2 | 1.11 | 0.56 | ppb | 5.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.02 | ppb | 206.56 | 900.00 | |
| 88 Sr | 103 | 1 | 389.60 | 194.80 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 69.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 29.44 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.01 | ppb | 37.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 10.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 8.30 | 900.00 | |
| 137 Ba | 159 | 1 | 42.32 | 21.16 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 15.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 80.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 832870 | 1.00 | 1663748 | 50.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2590352 | 0.42 | 2728585 | 94.9 | 70 - 130 | |
| 45 Sc | 2 | 404580 | 0.25 | 406595 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 635248 | 0.35 | 617288 | 102.9 | 70 | - | 130 |
| 72 Ge | 2 | 157879 | 0.35 | 157406 | 100.3 | 70 | - | 130 |
| 103 Rh | 1 | 3931632 | 0.44 | 3944827 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4343761 | 0.95 | 4162835 | 104.3 | 70 | - | 130 |
| 115 In | 2 | 1258566 | 4.33 | 1319592 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 6445617 | 0.52 | 5883852 | 109.5 | 70 | - | 130 |
| 175 Lu | 1 | 6272665 | 0.62 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3518034 | 0.45 | 3404545 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#
**Date Acquired:** Apr 24 2013 09:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-4
**Misc Info:**
**Vial Number:** 2309
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 36.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 192.99 | 900.00 | |
| 11 B | 6 | 1 | 7.64 | 3.82 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 5.76 | 2.88 | ppb | 9.36 | 900.00 | |
| 23 Na | 45 | 1 | 13454.00 | 6727.00 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 17130.00 | 8565.00 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 7576.00 | 3788.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 9564.00 | 4782.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 42.86 | 21.43 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 51.50 | 25.75 | ppb | 2.54 | 90000.00 | |
| 39 K | 45 | 1 | 3328.00 | 1664.00 | ppb | 0.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 30820.00 | 15410.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.54 | 1.27 | ppb | 3.31 | 900.00 | |
| 51 V | 45 | 2 | 2.36 | 1.18 | ppb | 5.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.13 | 0.07 | ppb | 5.74 | 900.00 | |
| 55 Mn | 45 | 2 | 755.20 | 377.60 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 14354.00 | 7177.00 | ppb | 1.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.84 | 0.42 | ppb | 1.39 | 900.00 | |
| 60 Ni | 45 | 2 | 1.46 | 0.73 | ppb | 4.94 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.21 | ppb | 4.44 | 900.00 | |
| 66 Zn | 72 | 2 | 11.82 | 5.91 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 2.45 | 1.22 | ppb | 2.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 77.59 | 900.00 | |
| 88 Sr | 103 | 1 | 257.80 | 128.90 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.06 | ppb | 8.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 20.22 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 24.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.10 | ppb | 5.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 13.37 | 900.00 | |
| 137 Ba | 159 | 1 | 22.82 | 11.41 | ppb | 0.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 71.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 10.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 826955 | 2.03 | 1663748 | 49.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2602395 | 0.18 | 2728585 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 408957 | 0.60 | 406595 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 642145 | 0.92 | 617288 | 104.0 | 70 | - | 130 |
| 72 Ge | 2 | 158136 | 0.35 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3957759 | 0.37 | 3944827 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 4426078 | 0.44 | 4162835 | 106.3 | 70 | - | 130 |
| 115 In | 2 | 1257880 | 1.47 | 1319592 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 6501899 | 0.69 | 5883852 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 6348398 | 1.24 | 5727334 | 110.8 | 70 | - | 130 |
| 209 Bi | 1 | 3561267 | 1.00 | 3404545 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#
Date Acquired: Apr 24 2013 10:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19681-7
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 22.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 3.48 | 900.00 | |
| 11 B | 6 | 1 | 24.06 | 12.03 | ppb | 3.30 | 900.00 | |
| 11 B | 45 | 2 | 17.84 | 8.92 | ppb | 10.12 | 900.00 | |
| 23 Na | 45 | 1 | 42800.00 | 21400.00 | ppb | 1.06 | 90000.00 | |
| 23 Na | 45 | 2 | 54300.00 | 27150.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 13678.00 | 6839.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 17108.00 | 8554.00 | ppb | 1.00 | 90000.00 | |
| 27 Al | 45 | 1 | 16.93 | 8.47 | ppb | 1.99 | 90000.00 | |
| 27 Al | 45 | 2 | 20.64 | 10.32 | ppb | 3.50 | 90000.00 | |
| 39 K | 45 | 1 | 3952.00 | 1976.00 | ppb | 1.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 63460.00 | 31730.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.91 | 0.96 | ppb | 7.85 | 900.00 | |
| 51 V | 45 | 2 | 2.71 | 1.36 | ppb | 3.24 | 900.00 | |
| 52 Cr | 45 | 2 | 3.25 | 1.63 | ppb | 0.38 | 900.00 | |
| 55 Mn | 45 | 2 | 400.40 | 200.20 | ppb | 1.59 | 900.00 | |
| 56 Fe | 45 | 2 | 1066.00 | 533.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.73 | 1.37 | ppb | 2.12 | 900.00 | |
| 60 Ni | 45 | 2 | 11.67 | 5.83 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.45 | 0.72 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 9.78 | 4.89 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 14.06 | 7.03 | ppb | 0.89 | 900.00 | |
| 78 Se | 72 | 2 | 0.98 | 0.49 | ppb | 20.66 | 900.00 | |
| 88 Sr | 103 | 1 | 672.00 | 336.00 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.13 | 0.57 | ppb | 3.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 20.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 33.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 2.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.40 | 0.20 | ppb | 5.48 | 900.00 | |
| 137 Ba | 159 | 1 | 61.72 | 30.86 | ppb | 0.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 2.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 812350 | 1.18 | 1663748 | 48.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2537018 | 1.16 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 402366 | 1.18 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 620590 | 0.08 | 617288 | 100.5 | 70 | - | 130 |
| 72 Ge | 2 | 155216 | 0.69 | 157406 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 3841516 | 0.92 | 3944827 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 4325406 | 0.67 | 4162835 | 103.9 | 70 | - | 130 |
| 115 In | 2 | 1255142 | 4.24 | 1319592 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 6395629 | 1.24 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6272977 | 1.09 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3434512 | 0.66 | 3404545 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D#
**Date Acquired:** Apr 24 2013 10:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-10
**Misc Info:**
**Vial Number:** 2311
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 192.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 41.99 | 900.00 | |
| 11 B | 6 | 1 | 30.30 | 15.15 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 23.52 | 11.76 | ppb | 3.22 | 900.00 | |
| 23 Na | 45 | 1 | 140240.00 | 70120.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 178560.00 | 89280.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 9346.00 | 4673.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 11666.00 | 5833.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 42.14 | 21.07 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 51.02 | 25.51 | ppb | 2.55 | 90000.00 | |
| 39 K | 45 | 1 | 6284.00 | 3142.00 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 47320.00 | 23660.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.68 | 1.84 | ppb | 1.04 | 900.00 | |
| 51 V | 45 | 2 | 2.71 | 1.35 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.66 | 0.33 | ppb | 0.68 | 900.00 | |
| 55 Mn | 45 | 2 | 1382.80 | 691.40 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 28260.00 | 14130.00 | ppb | 1.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.67 | 0.33 | ppb | 3.98 | 900.00 | |
| 60 Ni | 45 | 2 | 1.31 | 0.66 | ppb | 0.63 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.28 | ppb | 2.01 | 900.00 | |
| 66 Zn | 72 | 2 | 8.77 | 4.39 | ppb | 1.56 | 900.00 | |
| 75 As | 72 | 2 | 7.01 | 3.51 | ppb | 1.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.17 | ppb | 35.38 | 900.00 | |
| 88 Sr | 103 | 1 | 417.40 | 208.70 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 1.11 | 0.55 | ppb | 3.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.87 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 6.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 12.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 3.35 | 900.00 | |
| 137 Ba | 159 | 1 | 55.50 | 27.75 | ppb | 1.70 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 6.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.08 | ppb | 3.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 822042 | 0.49 | 1663748 | 49.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2518341 | 0.96 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 393946 | 1.14 | 406595 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 611492 | 0.25 | 617288 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 151463 | 0.78 | 157406 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 3746053 | 0.17 | 3944827 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 4181462 | 0.38 | 4162835 | 100.4 | 70 | - | 130 |
| 115 In | 2 | 1242395 | 5.43 | 1319592 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 6269912 | 1.29 | 5883852 | 106.6 | 70 | - | 130 |
| 175 Lu | 1 | 6150186 | 0.82 | 5727334 | 107.4 | 70 | - | 130 |
| 209 Bi | 1 | 3324840 | 0.64 | 3404545 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#
**Date Acquired:** Apr 24 2013 10:18 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-10F
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.03 | ppb | 11.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 0.54 | 900.00 | |
| 11 B | 6 | 1 | 30.84 | 15.42 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 23.80 | 11.90 | ppb | 0.81 | 900.00 | |
| 23 Na | 45 | 1 | 140120.00 | 70060.00 | ppb | 1.51 | 90000.00 | |
| 23 Na | 45 | 2 | 180480.00 | 90240.00 | ppb | 0.65 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 9242.00 | 4621.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 11912.00 | 5956.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 3.33 | 1.67 | ppb | 3.10 | 90000.00 | |
| 27 Al | 45 | 2 | 4.46 | 2.23 | ppb | 5.43 | 90000.00 | |
| 39 K | 45 | 1 | 6296.00 | 3148.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 46940.00 | 23470.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.94 | 0.97 | ppb | 4.19 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.22 | ppb | 2.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.08 | ppb | 5.20 | 900.00 | |
| 55 Mn | 45 | 2 | 1375.40 | 687.70 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 274.60 | 137.30 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.26 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 1.52 | 0.76 | ppb | 1.71 | 900.00 | |
| 63 Cu | 72 | 2 | 0.62 | 0.31 | ppb | 2.98 | 900.00 | |
| 66 Zn | 72 | 2 | 11.55 | 5.78 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 1.11 | 0.56 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 261.05 | 900.00 | |
| 88 Sr | 103 | 1 | 414.60 | 207.30 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.42 | 0.21 | ppb | 6.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 12.76 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 5.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 6.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 4.20 | 900.00 | |
| 137 Ba | 159 | 1 | 47.76 | 23.88 | ppb | 0.71 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 35.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 50.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 836288 | 1.03 | 1663748 | 50.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2594633 | 0.99 | 2728585 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 397046 | 0.19 | 406595 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623475 | 0.62 | 617288 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 151621 | 0.16 | 157406 | 96.3 | 70 | - | 130 |
| 103 Rh | 1 | 3794717 | 0.80 | 3944827 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 4291434 | 0.59 | 4162835 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1293967 | 0.58 | 1319592 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 6327782 | 0.79 | 5883852 | 107.5 | 70 | - | 130 |
| 175 Lu | 1 | 6181743 | 0.20 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3333873 | 0.86 | 3404545 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#
Date Acquired: Apr 24 2013 10:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19681-11
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 24.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 150.71 | 900.00 | |
| 11 B | 6 | 1 | 47.82 | 23.91 | ppb | 0.66 | 900.00 | |
| 11 B | 45 | 2 | 39.16 | 19.58 | ppb | 0.90 | 900.00 | |
| 23 Na | 45 | 1 | 78440.00 | 39220.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 99360.00 | 49680.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 4958.00 | 2479.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 6274.00 | 3137.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 9.54 | 4.77 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 2 | 11.51 | 5.75 | ppb | 2.79 | 90000.00 | |
| 39 K | 45 | 1 | 4108.00 | 2054.00 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 26960.00 | 13480.00 | ppb | 0.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 4.65 | 900.00 | |
| 51 V | 45 | 2 | 3.81 | 1.90 | ppb | 3.61 | 900.00 | |
| 52 Cr | 45 | 2 | 219.20 | 109.60 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 2.25 | 1.13 | ppb | 7.81 | 900.00 | |
| 56 Fe | 45 | 2 | 24.60 | 12.30 | ppb | 6.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.19 | 0.10 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.91 | 0.46 | ppb | 3.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.55 | 0.27 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 6.97 | 3.49 | ppb | 1.96 | 900.00 | |
| 75 As | 72 | 2 | 1.14 | 0.57 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.18 | ppb | 6.57 | 900.00 | |
| 88 Sr | 103 | 1 | 266.20 | 133.10 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 2.17 | 1.09 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 6.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 35.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 8.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 20.08 | 900.00 | |
| 137 Ba | 159 | 1 | 43.28 | 21.64 | ppb | 0.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 51.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 5.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 851690 | 0.41 | 1663748 | 51.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2560689 | 0.81 | 2728585 | 93.8 | 70 - 130 | |
| 45 Sc | 2 | 396642 | 0.74 | 406595 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 634585 | 0.29 | 617288 | 102.8 | 70 | - | 130 |
| 72 Ge | 2 | 153781 | 0.79 | 157406 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3820904 | 0.41 | 3944827 | 96.9 | 70 | - | 130 |
| 115 In | 1 | 4311208 | 0.66 | 4162835 | 103.6 | 70 | - | 130 |
| 115 In | 2 | 1248238 | 3.94 | 1319592 | 94.6 | 70 | - | 130 |
| 159 Tb | 1 | 6389665 | 0.35 | 5883852 | 108.6 | 70 | - | 130 |
| 175 Lu | 1 | 6204393 | 0.64 | 5727334 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 3454267 | 0.78 | 3404545 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\047SMPL.D\047SMPL.D#
**Date Acquired:** Apr 24 2013 10:32 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-12
**Misc Info:**
**Vial Number:** 2402
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 17.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 168.90 | 900.00 | |
| 11 B | 6 | 1 | 36.36 | 18.18 | ppb | 2.60 | 900.00 | |
| 11 B | 45 | 2 | 29.70 | 14.85 | ppb | 8.80 | 900.00 | |
| 23 Na | 45 | 1 | 79640.00 | 39820.00 | ppb | 1.23 | 90000.00 | |
| 23 Na | 45 | 2 | 98520.00 | 49260.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 4504.00 | 2252.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 5642.00 | 2821.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 9.80 | 4.90 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 12.21 | 6.11 | ppb | 4.39 | 90000.00 | |
| 39 K | 45 | 1 | 4124.00 | 2062.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 26300.00 | 13150.00 | ppb | 0.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.41 | 0.71 | ppb | 4.56 | 900.00 | |
| 51 V | 45 | 2 | 4.54 | 2.27 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 177.36 | 88.68 | ppb | 0.64 | 900.00 | |
| 55 Mn | 45 | 2 | 77.18 | 38.59 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 29.60 | 14.80 | ppb | 2.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 2.69 | 900.00 | |
| 60 Ni | 45 | 2 | 1.42 | 0.71 | ppb | 1.86 | 900.00 | |
| 63 Cu | 72 | 2 | 0.50 | 0.25 | ppb | 1.26 | 900.00 | |
| 66 Zn | 72 | 2 | 11.43 | 5.71 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 1.19 | 0.60 | ppb | 0.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.44 | 0.22 | ppb | 23.43 | 900.00 | |
| 88 Sr | 103 | 1 | 244.80 | 122.40 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 12.99 | 6.50 | ppb | 0.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 26.69 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 35.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 19.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 6.91 | 900.00 | |
| 137 Ba | 159 | 1 | 30.70 | 15.35 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 19.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 26.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 873947 | 2.01 | 1663748 | 52.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2531790 | 0.25 | 2728585 | 92.8 | 70 - 130 | |
| 45 Sc | 2 | 396084 | 0.53 | 406595 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 631173 | 0.74 | 617288 | 102.2 | 70 | - | 130 |
| 72 Ge | 2 | 152672 | 0.62 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3827737 | 0.77 | 3944827 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 4288806 | 0.56 | 4162835 | 103.0 | 70 | - | 130 |
| 115 In | 2 | 1246534 | 3.86 | 1319592 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 6349835 | 0.73 | 5883852 | 107.9 | 70 | - | 130 |
| 175 Lu | 1 | 6269847 | 0.64 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3459954 | 0.25 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 10:39 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2403 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.65 | 53.65 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 49.92 | 49.92 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 54.56 | 54.56 | ppb | 0.63 | 900.00 | |
| 11 B | 45 | 2 | 48.39 | 48.39 | ppb | 1.49 | 900.00 | |
| 23 Na | 45 | 1 | 4737.00 | 4737.00 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 5440.00 | 5440.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 4713.00 | 4713.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5371.00 | 5371.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 4760.00 | 4760.00 | ppb | 1.43 | 90000.00 | |
| 27 Al | 45 | 2 | 5268.00 | 5268.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 5022.00 | 5022.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 5202.00 | 5202.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.70 | 49.70 | ppb | 1.58 | 900.00 | |
| 51 V | 45 | 2 | 50.14 | 50.14 | ppb | 0.16 | 900.00 | |
| 52 Cr | 45 | 2 | 49.51 | 49.51 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 48.89 | 48.89 | ppb | 0.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5196.00 | 5196.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 50.08 | 50.08 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 49.11 | 49.11 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 48.53 | 48.53 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 49.42 | 49.42 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 49.37 | 49.37 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 47.10 | 47.10 | ppb | 0.49 | 900.00 | |
| 88 Sr | 103 | 1 | 52.68 | 52.68 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 51.53 | 51.53 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 47.87 | 47.87 | ppb | 0.30 | 180.00 | |
| 111 Cd | 115 | 2 | 50.81 | 50.81 | ppb | 2.40 | 900.00 | |
| 120 Sn | 115 | 1 | 52.66 | 52.66 | ppb | 1.45 | 900.00 | |
| 121 Sb | 115 | 1 | 53.30 | 53.30 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 50.40 | 50.40 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 50.11 | 50.11 | ppb | 1.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.47 | 50.47 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1217366 | 1.10 | 1663748 | 73.2 | 70 - 130 | |
| 45 Sc | 1 | 2764963 | 1.17 | 2728585 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 405145 | 0.50 | 406595 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 648837 | 1.13 | 617288 | 105.1 | 70 | - | 130 |
| 72 Ge | 2 | 156408 | 0.44 | 157406 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 4072146 | 0.25 | 3944827 | 103.2 | 70 | - | 130 |
| 115 In | 1 | 4446061 | 0.47 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1249809 | 1.72 | 1319592 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 6395521 | 1.14 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6205150 | 0.33 | 5727334 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 3486264 | 0.74 | 3404545 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#
Date Acquired: Apr 24 2013 10:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 16.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 75.58 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 9.59 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 45.37 | 900.00 | |
| 23 Na | 45 | 1 | 19.46 | 19.46 | ppb | 15.17 | 90000.00 | |
| 23 Na | 45 | 2 | 35.53 | 35.53 | ppb | 6.71 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.70 | 1.70 | ppb | 21.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.05 | 3.05 | ppb | 3.76 | 90000.00 | |
| 27 Al | 45 | 1 | 0.66 | 0.66 | ppb | 21.06 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 1.35 | ppb | 8.93 | 90000.00 | |
| 39 K | 45 | 1 | -0.04 | -0.04 | ppb | 1308.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.28 | 3.28 | ppb | 36.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 162.90 | 900.00 | |
| 51 V | 45 | 2 | 0.11 | 0.11 | ppb | 7.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 311.96 | 900.00 | |
| 55 Mn | 45 | 2 | 0.09 | 0.09 | ppb | 5.28 | 900.00 | |
| 56 Fe | 45 | 2 | 2.28 | 2.28 | ppb | 3.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.16 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 29.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 10.31 | 900.00 | |
| 66 Zn | 72 | 2 | -0.03 | -0.03 | ppb | 12.03 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 411.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 177.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 33.72 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 21.10 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 12.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 30.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 25.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 7.26 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.05 | ppb | 23.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.15 | ppb | 3.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 34.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1233928 | 0.49 | 1663748 | 74.2 | 70 - 130 | |
| 45 Sc | 1 | 2788145 | 0.46 | 2728585 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 419163 | 0.46 | 406595 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 671123 | 0.56 | 617288 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 162848 | 0.53 | 157406 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 4234914 | 0.35 | 3944827 | 107.4 | 70 | - | 130 |
| 115 In | 1 | 4576914 | 0.25 | 4162835 | 109.9 | 70 | - | 130 |
| 115 In | 2 | 1310733 | 0.89 | 1319592 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 6430065 | 0.98 | 5883852 | 109.3 | 70 | - | 130 |
| 175 Lu | 1 | 6160241 | 0.96 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3608806 | 0.36 | 3404545 | 106.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 10:53 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19681-13 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2405 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 7.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 90.75 | 900.00 | |
| 11 B | 6 | 1 | 36.12 | 18.06 | ppb | 1.33 | 900.00 | |
| 11 B | 45 | 2 | 30.04 | 15.02 | ppb | 4.75 | 900.00 | |
| 23 Na | 45 | 1 | 78420.00 | 39210.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 96880.00 | 48440.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 4392.00 | 2196.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 2 | 5448.00 | 2724.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 11.21 | 5.61 | ppb | 4.21 | 90000.00 | |
| 27 Al | 45 | 2 | 13.24 | 6.62 | ppb | 2.19 | 90000.00 | |
| 39 K | 45 | 1 | 4032.00 | 2016.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 24400.00 | 12200.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.48 | 0.74 | ppb | 11.85 | 900.00 | |
| 51 V | 45 | 2 | 3.46 | 1.73 | ppb | 4.70 | 900.00 | |
| 52 Cr | 45 | 2 | 172.70 | 86.35 | ppb | 0.32 | 900.00 | |
| 55 Mn | 45 | 2 | 70.68 | 35.34 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 21.10 | 10.55 | ppb | 1.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 1.50 | 900.00 | |
| 60 Ni | 45 | 2 | 1.38 | 0.69 | ppb | 2.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.63 | 0.32 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 13.89 | 6.95 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 1.06 | 0.53 | ppb | 1.53 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 30.72 | 900.00 | |
| 88 Sr | 103 | 1 | 237.40 | 118.70 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 13.16 | 6.58 | ppb | 0.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 6.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.03 | ppb | 11.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.50 | 0.25 | ppb | 4.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 9.00 | 900.00 | |
| 137 Ba | 159 | 1 | 29.98 | 14.99 | ppb | 0.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.05 | ppb | 3.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 8.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 889374 | 0.71 | 1663748 | 53.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2538600 | 0.92 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 396077 | 0.76 | 406595 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 627044 | 0.37 | 617288 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 152174 | 1.00 | 157406 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 3826437 | 0.62 | 3944827 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 4283479 | 0.61 | 4162835 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1303850 | 0.69 | 1319592 | 98.8 | 70 | - | 130 |
| 159 Tb | 1 | 6288662 | 0.66 | 5883852 | 106.9 | 70 | - | 130 |
| 175 Lu | 1 | 6175815 | 1.02 | 5727334 | 107.8 | 70 | - | 130 |
| 209 Bi | 1 | 3438850 | 0.53 | 3404545 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19681-14 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2406 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.02 | ppb | 19.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1602.90 | 900.00 | |
| 11 B | 6 | 1 | 20.82 | 10.41 | ppb | 1.35 | 900.00 | |
| 11 B | 45 | 2 | 16.03 | 8.02 | ppb | 6.54 | 900.00 | |
| 23 Na | 45 | 1 | 192760.00 | 96380.00 | ppb | 0.52 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 236000.00 | 118000.00 | ppb | 0.12 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 22260.00 | 11130.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 27000.00 | 13500.00 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 1 | 6.02 | 3.01 | ppb | 3.11 | 90000.00 | |
| 27 Al | 45 | 2 | 7.45 | 3.72 | ppb | 3.34 | 90000.00 | |
| 39 K | 45 | 1 | 7664.00 | 3832.00 | ppb | 0.22 | 90000.00 | |
| 44 Ca | 45 | 1 | 98980.00 | 49490.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.99 | 1.00 | ppb | 2.99 | 900.00 | |
| 51 V | 45 | 2 | 1.71 | 0.86 | ppb | 1.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.11 | ppb | 8.77 | 900.00 | |
| 55 Mn | 45 | 2 | 3482.00 | 1741.00 | ppb | 0.23 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 12010.00 | 6005.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 6.17 | 3.09 | ppb | 0.97 | 900.00 | |
| 60 Ni | 45 | 2 | 4.45 | 2.23 | ppb | 1.05 | 900.00 | |
| 63 Cu | 72 | 2 | 0.71 | 0.35 | ppb | 4.27 | 900.00 | |
| 66 Zn | 72 | 2 | 8.80 | 4.40 | ppb | 2.13 | 900.00 | |
| 75 As | 72 | 2 | 2.38 | 1.19 | ppb | 2.58 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.15 | ppb | 28.49 | 900.00 | |
| 88 Sr | 103 | 1 | 1000.00 | 500.00 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.68 | 0.84 | ppb | 1.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 14.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 19.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.24 | 0.12 | ppb | 6.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 16.27 | 900.00 | |
| 137 Ba | 159 | 1 | 85.52 | 42.76 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 10.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 69.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 917425 | 0.32 | 1663748 | 55.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2534596 | 0.34 | 2728585 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 386537 | 0.63 | 406595 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 605049 | 0.28 | 617288 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 147821 | 0.86 | 157406 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 3653233 | 0.93 | 3944827 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 4085964 | 0.97 | 4162835 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1265382 | 0.54 | 1319592 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 6104460 | 1.18 | 5883852 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 6039096 | 0.72 | 5727334 | 105.4 | 70 | - | 130 |
| 209 Bi | 1 | 3239644 | 0.14 | 3404545 | 95.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Apr 24 2013 11:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20756A-B1 |
| Misc Info: | |
| Vial Number: | 2407 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 545.00 | 109.00 | ppb | 1.44 | 900.00 | |
| 9 Be | 45 | 2 | 493.50 | 98.70 | ppb | 1.93 | 900.00 | |
| 11 B | 6 | 1 | 1065.00 | 213.00 | ppb | 0.87 | 900.00 | |
| 11 B | 45 | 2 | 932.50 | 186.50 | ppb | 0.93 | 900.00 | |
| 23 Na | 45 | 1 | 23490.00 | 4698.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 27380.00 | 5476.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 23730.00 | 4746.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 27175.00 | 5435.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 1948.50 | 389.70 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 2311.00 | 462.20 | ppb | 0.31 | 90000.00 | |
| 39 K | 45 | 1 | 25610.00 | 5122.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 25960.00 | 5192.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.30 | 96.86 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 517.00 | 103.40 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | 491.85 | 98.37 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 485.55 | 97.11 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 2191.00 | 438.20 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 490.20 | 98.04 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 487.25 | 97.45 | ppb | 0.52 | 900.00 | |
| 63 Cu | 72 | 2 | 494.05 | 98.81 | ppb | 1.64 | 900.00 | |
| 66 Zn | 72 | 2 | 515.50 | 103.10 | ppb | 1.21 | 900.00 | |
| 75 As | 72 | 2 | 506.00 | 101.20 | ppb | 0.84 | 900.00 | |
| 78 Se | 72 | 2 | 477.70 | 95.54 | ppb | 1.75 | 900.00 | |
| 88 Sr | 103 | 1 | 500.50 | 100.10 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.44 | 0.09 | ppb | 2.89 | 900.00 | |
| 107 Ag | 115 | 1 | 209.55 | 41.91 | ppb | 1.15 | 180.00 | |
| 111 Cd | 115 | 2 | 503.00 | 100.60 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.04 | ppb | 11.93 | 900.00 | |
| 121 Sb | 115 | 1 | 503.50 | 100.70 | ppb | 0.60 | 900.00 | |
| 137 Ba | 159 | 1 | 1919.50 | 383.90 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 501.00 | 100.20 | ppb | 0.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 984.00 | 196.80 | ppb | 0.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1200552 | 0.66 | 1663748 | 72.2 | 70 - 130 | |
| 45 Sc | 1 | 2798822 | 0.96 | 2728585 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 412679 | 0.23 | 406595 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 661662 | 0.72 | 617288 | 107.2 | 70 | - | 130 |
| 72 Ge | 2 | 157135 | 1.22 | 157406 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 4126245 | 0.36 | 3944827 | 104.6 | 70 | - | 130 |
| 115 In | 1 | 4515195 | 0.58 | 4162835 | 108.5 | 70 | - | 130 |
| 115 In | 2 | 1281234 | 1.68 | 1319592 | 97.1 | 70 | - | 130 |
| 159 Tb | 1 | 6450348 | 0.39 | 5883852 | 109.6 | 70 | - | 130 |
| 175 Lu | 1 | 6221341 | 0.22 | 5727334 | 108.6 | 70 | - | 130 |
| 209 Bi | 1 | 3457764 | 0.08 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#
**Date Acquired:** Apr 24 2013 11:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20756A-S1
**Misc Info:**
**Vial Number:** 2408
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 556.50 | 111.30 | ppb | 2.53 | 900.00 | |
| 9 Be | 45 | 2 | 504.00 | 100.80 | ppb | 0.84 | 900.00 | |
| 11 B | 6 | 1 | 1125.50 | 225.10 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 990.00 | 198.00 | ppb | 0.23 | 900.00 | |
| 23 Na | 45 | 1 | 70400.00 | 14080.00 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 81550.00 | 16310.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 38510.00 | 7702.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 44630.00 | 8926.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 1957.00 | 391.40 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2345.50 | 469.10 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 29490.00 | 5898.00 | ppb | 1.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 89100.00 | 17820.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.50 | 97.50 | ppb | 0.24 | 900.00 | |
| 51 V | 45 | 2 | 527.50 | 105.50 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 508.00 | 101.60 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 880.50 | 176.10 | ppb | 1.16 | 900.00 | |
| 56 Fe | 45 | 2 | 3241.00 | 648.20 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 496.40 | 99.28 | ppb | 0.26 | 900.00 | |
| 60 Ni | 45 | 2 | 490.00 | 98.00 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 485.70 | 97.14 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 519.00 | 103.80 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 529.00 | 105.80 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 473.85 | 94.77 | ppb | 0.81 | 900.00 | |
| 88 Sr | 103 | 1 | 1192.00 | 238.40 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.27 | ppb | 1.69 | 900.00 | |
| 107 Ag | 115 | 1 | 208.80 | 41.76 | ppb | 0.88 | 180.00 | |
| 111 Cd | 115 | 2 | 504.00 | 100.80 | ppb | 3.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.63 | 0.13 | ppb | 3.41 | 900.00 | |
| 121 Sb | 115 | 1 | 515.00 | 103.00 | ppb | 0.61 | 900.00 | |
| 137 Ba | 159 | 1 | 2000.50 | 400.10 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 509.00 | 101.80 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1000.00 | 200.00 | ppb | 1.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1152659 | 2.01 | 1663748 | 69.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2751809 | 0.75 | 2728585 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 402569 | 0.16 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 648050 | 0.43 | 617288 | 105.0 | 70 | - | 130 |
| 72 Ge | 2 | 154600 | 0.25 | 157406 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 3957614 | 0.78 | 3944827 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 4390645 | 0.88 | 4162835 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1277400 | 3.00 | 1319592 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 6342759 | 0.92 | 5883852 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 6140408 | 0.55 | 5727334 | 107.2 | 70 | - | 130 |
| 209 Bi | 1 | 3357905 | 1.15 | 3404545 | 98.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#
Date Acquired: Apr 24 2013 11:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20756A-S2
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 567.50 | 113.50 | ppb | 0.08 | 900.00 | |
| 9 Be | 45 | 2 | 505.50 | 101.10 | ppb | 0.32 | 900.00 | |
| 11 B | 6 | 1 | 1146.00 | 229.20 | ppb | 0.98 | 900.00 | |
| 11 B | 45 | 2 | 986.00 | 197.20 | ppb | 0.58 | 900.00 | |
| 23 Na | 45 | 1 | 71200.00 | 14240.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 82500.00 | 16500.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 38690.00 | 7738.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 44640.00 | 8928.00 | ppb | 0.03 | 90000.00 | |
| 27 Al | 45 | 1 | 1968.00 | 393.60 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2358.50 | 471.70 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 29315.00 | 5863.00 | ppb | 0.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 89600.00 | 17920.00 | ppb | 0.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.70 | 96.94 | ppb | 0.49 | 900.00 | |
| 51 V | 45 | 2 | 527.50 | 105.50 | ppb | 0.60 | 900.00 | |
| 52 Cr | 45 | 2 | 507.50 | 101.50 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 891.00 | 178.20 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 3240.50 | 648.10 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 492.35 | 98.47 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 491.15 | 98.23 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 489.00 | 97.80 | ppb | 0.08 | 900.00 | |
| 66 Zn | 72 | 2 | 521.00 | 104.20 | ppb | 0.30 | 900.00 | |
| 75 As | 72 | 2 | 530.50 | 106.10 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 480.75 | 96.15 | ppb | 0.69 | 900.00 | |
| 88 Sr | 103 | 1 | 1197.00 | 239.40 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 1.45 | 0.29 | ppb | 2.64 | 900.00 | |
| 107 Ag | 115 | 1 | 208.55 | 41.71 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 498.35 | 99.67 | ppb | 2.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.06 | ppb | 9.31 | 900.00 | |
| 121 Sb | 115 | 1 | 521.00 | 104.20 | ppb | 1.01 | 900.00 | |
| 137 Ba | 159 | 1 | 2003.00 | 400.60 | ppb | 1.00 | 900.00 | |
| 205 Tl | 209 | 1 | 507.00 | 101.40 | ppb | 0.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 992.50 | 198.50 | ppb | 1.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1145049 | 0.56 | 1663748 | 68.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2750560 | 0.17 | 2728585 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 401141 | 0.25 | 406595 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 646394 | 0.89 | 617288 | 104.7 | 70 | - | 130 |
| 72 Ge | 2 | 153347 | 0.24 | 157406 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 3962962 | 0.76 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4388695 | 0.60 | 4162835 | 105.4 | 70 | - | 130 |
| 115 In | 2 | 1271115 | 2.61 | 1319592 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 6359325 | 0.62 | 5883852 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 6179446 | 0.46 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3420646 | 0.39 | 3404545 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:28 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20756A-SD1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2410 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.61 | 0.06 | ppb | 3.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.91 | 0.09 | ppb | 49.70 | 900.00 | |
| 11 B | 6 | 1 | 32.03 | 3.20 | ppb | 1.18 | 900.00 | |
| 11 B | 45 | 2 | 28.02 | 2.80 | ppb | 2.61 | 900.00 | |
| 23 Na | 45 | 1 | 51280.00 | 5128.00 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 56720.00 | 5672.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 16370.00 | 1637.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 18570.00 | 1857.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 28.02 | 2.80 | ppb | 6.20 | 90000.00 | |
| 27 Al | 45 | 2 | 33.61 | 3.36 | ppb | 7.22 | 90000.00 | |
| 39 K | 45 | 1 | 4311.00 | 431.10 | ppb | 1.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 66600.00 | 6660.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.15 | 0.32 | ppb | 5.96 | 900.00 | |
| 51 V | 45 | 2 | 2.04 | 0.20 | ppb | 3.25 | 900.00 | |
| 52 Cr | 45 | 2 | 2.70 | 0.27 | ppb | 3.87 | 900.00 | |
| 55 Mn | 45 | 2 | 444.30 | 44.43 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 1252.00 | 125.20 | ppb | 3.14 | 90000.00 | |
| 59 Co | 45 | 2 | 3.16 | 0.32 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 5.54 | 0.55 | ppb | 1.54 | 900.00 | |
| 63 Cu | 72 | 2 | 2.65 | 0.26 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 11.45 | 1.15 | ppb | 3.77 | 900.00 | |
| 75 As | 72 | 2 | 14.05 | 1.41 | ppb | 3.89 | 900.00 | |
| 78 Se | 72 | 2 | 3.63 | 0.36 | ppb | 14.35 | 900.00 | |
| 88 Sr | 103 | 1 | 695.60 | 69.56 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.80 | 0.08 | ppb | 6.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.39 | 0.04 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.91 | 0.09 | ppb | 33.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.00 | ppb | 63.22 | 900.00 | |
| 121 Sb | 115 | 1 | 1.31 | 0.13 | ppb | 7.74 | 900.00 | |
| 137 Ba | 159 | 1 | 67.09 | 6.71 | ppb | 1.33 | 900.00 | |
| 205 Tl | 209 | 1 | 5.16 | 0.52 | ppb | 2.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.86 | 0.19 | ppb | 9.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1291146 | 1.12 | 1663748 | 77.6 | 70 - 130 | |
| 45 Sc | 1 | 2780532 | 1.50 | 2728585 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 406840 | 0.32 | 406595 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 670756 | 0.55 | 617288 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 159244 | 0.59 | 157406 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 4097239 | 1.43 | 3944827 | 103.9 | 70 | - | 130 |
| 115 In | 1 | 4534302 | 0.78 | 4162835 | 108.9 | 70 | - | 130 |
| 115 In | 2 | 1284597 | 0.20 | 1319592 | 97.3 | 70 | - | 130 |
| 159 Tb | 1 | 6372704 | 0.18 | 5883852 | 108.3 | 70 | - | 130 |
| 175 Lu | 1 | 6159755 | 0.95 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3552336 | 1.18 | 3404545 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:35 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20764A-MB1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2411 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 5.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7020.40 | 900.00 | |
| 11 B | 6 | 1 | 1.22 | 0.61 | ppb | 8.92 | 900.00 | |
| 11 B | 45 | 2 | 0.92 | 0.46 | ppb | 16.85 | 900.00 | |
| 23 Na | 45 | 1 | 24.06 | 12.03 | ppb | 6.90 | 90000.00 | |
| 23 Na | 45 | 2 | 32.90 | 16.45 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.09 | 1.55 | ppb | 8.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.45 | 1.72 | ppb | 7.79 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 1.98 | ppb | 8.46 | 90000.00 | |
| 27 Al | 45 | 2 | 5.15 | 2.58 | ppb | 8.37 | 90000.00 | |
| 39 K | 45 | 1 | 9.69 | 4.85 | ppb | 27.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 37.68 | 18.84 | ppb | 3.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.52 | 0.26 | ppb | 15.36 | 900.00 | |
| 51 V | 45 | 2 | 2.94 | 1.47 | ppb | 1.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.10 | 0.05 | ppb | 18.31 | 900.00 | |
| 55 Mn | 45 | 2 | 0.88 | 0.44 | ppb | 3.76 | 900.00 | |
| 56 Fe | 45 | 2 | 13.78 | 6.89 | ppb | 1.38 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 6.77 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 66.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.40 | 0.20 | ppb | 2.61 | 900.00 | |
| 66 Zn | 72 | 2 | 1.52 | 0.76 | ppb | 1.12 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 2.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.03 | ppb | 167.39 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 28.59 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | 0.00 | ppb | 9.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 11.20 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 0.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.01 | ppb | 27.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 5.90 | 900.00 | |
| 137 Ba | 159 | 1 | 0.20 | 0.10 | ppb | 16.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.16 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 23.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 957201 | 1.45 | 1663748 | 57.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2575681 | 0.63 | 2728585 | 94.4 | 70 - 130 | |
| 45 Sc | 2 | 402700 | 0.27 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 640391 | 0.49 | 617288 | 103.7 | 70 | - | 130 |
| 72 Ge | 2 | 156103 | 0.52 | 157406 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 4071909 | 0.25 | 3944827 | 103.2 | 70 | - | 130 |
| 115 In | 1 | 4489682 | 0.30 | 4162835 | 107.9 | 70 | - | 130 |
| 115 In | 2 | 1265458 | 1.65 | 1319592 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 6502521 | 1.26 | 5883852 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 6338059 | 0.35 | 5727334 | 110.7 | 70 | - | 130 |
| 209 Bi | 1 | 3684707 | 0.67 | 3404545 | 108.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D# |
| Date Acquired: | Apr 24 2013 11:42 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20108-1 |
| Misc Info: | |
| Vial Number: | 2412 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 19.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 85.44 | 900.00 | |
| 11 B | 6 | 1 | 43.46 | 21.73 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 36.76 | 18.38 | ppb | 4.33 | 900.00 | |
| 23 Na | 45 | 1 | 26640.00 | 13320.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 32780.00 | 16390.00 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 7948.00 | 3974.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 9676.00 | 4838.00 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 1 | 20.32 | 10.16 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 2 | 23.84 | 11.92 | ppb | 4.72 | 90000.00 | |
| 39 K | 45 | 1 | 8206.00 | 4103.00 | ppb | 0.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 52100.00 | 26050.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.65 | 2.32 | ppb | 4.66 | 900.00 | |
| 51 V | 45 | 2 | 4.07 | 2.04 | ppb | 2.73 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.48 | ppb | 33.47 | 900.00 | |
| 55 Mn | 45 | 2 | 6.89 | 3.45 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 74.22 | 37.11 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.11 | 0.06 | ppb | 2.83 | 900.00 | |
| 60 Ni | 45 | 2 | 1.33 | 0.66 | ppb | 4.97 | 900.00 | |
| 63 Cu | 72 | 2 | 35.68 | 17.84 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 32.74 | 16.37 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 1.59 | 0.80 | ppb | 2.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.13 | ppb | 39.34 | 900.00 | |
| 88 Sr | 103 | 1 | 200.40 | 100.20 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 1.61 | 0.80 | ppb | 1.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.10 | 0.05 | ppb | 1.53 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 34.49 | 900.00 | |
| 120 Sn | 115 | 1 | 0.46 | 0.23 | ppb | 4.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 3.79 | 900.00 | |
| 137 Ba | 159 | 1 | 14.87 | 7.44 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 6.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.12 | ppb | 1.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 946934 | 1.63 | 1663748 | 56.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2581274 | 0.51 | 2728585 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 397684 | 0.85 | 406595 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 630900 | 0.30 | 617288 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 152964 | 0.24 | 157406 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3889536 | 0.79 | 3944827 | 98.6 | 70 | - | 130 |
| 115 | In | 1 | 4341689 | 0.56 | 4162835 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1324415 | 0.37 | 1319592 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 6413731 | 0.96 | 5883852 | 109.0 | 70 | - | 130 |
| 175 | Lu | 1 | 6288525 | 1.44 | 5727334 | 109.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3486091 | 0.60 | 3404545 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:49 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19712-1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1769.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 21.84 | 900.00 | |
| 11 B | 6 | 1 | 6.88 | 3.44 | ppb | 3.28 | 900.00 | |
| 11 B | 45 | 2 | 5.75 | 2.87 | ppb | 2.84 | 900.00 | |
| 23 Na | 45 | 1 | 8072.00 | 4036.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 9914.00 | 4957.00 | ppb | 0.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 1152.80 | 576.40 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 1485.80 | 742.90 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 204.20 | 102.10 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 2 | 245.80 | 122.90 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 940.40 | 470.20 | ppb | 1.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 4944.00 | 2472.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.79 | 2.39 | ppb | 3.67 | 900.00 | |
| 51 V | 45 | 2 | 4.86 | 2.43 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.80 | 0.40 | ppb | 2.33 | 900.00 | |
| 55 Mn | 45 | 2 | 33.54 | 16.77 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 539.00 | 269.50 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.16 | 0.08 | ppb | 3.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.35 | ppb | 6.36 | 900.00 | |
| 63 Cu | 72 | 2 | 1.27 | 0.64 | ppb | 1.44 | 900.00 | |
| 66 Zn | 72 | 2 | 11.12 | 5.56 | ppb | 0.95 | 900.00 | |
| 75 As | 72 | 2 | 1.60 | 0.80 | ppb | 3.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 649.31 | 900.00 | |
| 88 Sr | 103 | 1 | 31.06 | 15.53 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 9.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.60 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 17.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 3.89 | 900.00 | |
| 137 Ba | 159 | 1 | 4.20 | 2.10 | ppb | 0.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.05 | ppb | 5.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.18 | ppb | 3.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 971413 | 0.47 | 1663748 | 58.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2607359 | 0.38 | 2728585 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 403145 | 0.19 | 406595 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 645973 | 0.99 | 617288 | 104.6 | 70 | - | 130 |
| 72 Ge | 2 | 155461 | 0.36 | 157406 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 4057914 | 0.44 | 3944827 | 102.9 | 70 | - | 130 |
| 115 In | 1 | 4449413 | 0.41 | 4162835 | 106.9 | 70 | - | 130 |
| 115 In | 2 | 1271875 | 1.07 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6511358 | 0.73 | 5883852 | 110.7 | 70 | - | 130 |
| 175 Lu | 1 | 6360371 | 0.35 | 5727334 | 111.1 | 70 | - | 130 |
| 209 Bi | 1 | 3653077 | 1.35 | 3404545 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:56 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19712-2 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2502 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 48.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 114.63 | 900.00 | |
| 11 B | 6 | 1 | 6.91 | 3.46 | ppb | 3.04 | 900.00 | |
| 11 B | 45 | 2 | 5.60 | 2.80 | ppb | 13.13 | 900.00 | |
| 23 Na | 45 | 1 | 7948.00 | 3974.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 9760.00 | 4880.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 1170.60 | 585.30 | ppb | 0.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 1472.80 | 736.40 | ppb | 2.37 | 90000.00 | |
| 27 Al | 45 | 1 | 198.98 | 99.49 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 238.60 | 119.30 | ppb | 0.88 | 90000.00 | |
| 39 K | 45 | 1 | 955.20 | 477.60 | ppb | 0.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 4884.00 | 2442.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.55 | 2.27 | ppb | 0.67 | 900.00 | |
| 51 V | 45 | 2 | 5.29 | 2.64 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 3.14 | 1.57 | ppb | 2.32 | 900.00 | |
| 55 Mn | 45 | 2 | 37.14 | 18.57 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 564.80 | 282.40 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.19 | 0.09 | ppb | 5.20 | 900.00 | |
| 60 Ni | 45 | 2 | 1.86 | 0.93 | ppb | 10.90 | 900.00 | |
| 63 Cu | 72 | 2 | 2.87 | 1.43 | ppb | 1.76 | 900.00 | |
| 66 Zn | 72 | 2 | 12.87 | 6.43 | ppb | 0.06 | 900.00 | |
| 75 As | 72 | 2 | 1.63 | 0.81 | ppb | 3.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.05 | ppb | 70.11 | 900.00 | |
| 88 Sr | 103 | 1 | 31.60 | 15.80 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 0.24 | 0.12 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 5.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 32.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.32 | 0.16 | ppb | 1.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 5.68 | 900.00 | |
| 137 Ba | 159 | 1 | 4.15 | 2.08 | ppb | 2.41 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 10.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.20 | ppb | 1.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 961873 | 1.64 | 1663748 | 57.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2606791 | 0.11 | 2728585 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 402207 | 0.32 | 406595 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 645547 | 0.39 | 617288 | 104.6 | 70 | - | 130 |
| 72 Ge | 2 | 155900 | 0.70 | 157406 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 4048281 | 0.32 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4444728 | 0.99 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1262012 | 1.52 | 1319592 | 95.6 | 70 | - | 130 |
| 159 Tb | 1 | 6475256 | 1.41 | 5883852 | 110.1 | 70 | - | 130 |
| 175 Lu | 1 | 6357201 | 1.44 | 5727334 | 111.0 | 70 | - | 130 |
| 209 Bi | 1 | 3653836 | 0.03 | 3404545 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#
Date Acquired: Apr 25 2013 12:03 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.64 | 53.64 | ppb | 1.82 | 900.00 | |
| 9 Be | 45 | 2 | 49.78 | 49.78 | ppb | 1.77 | 900.00 | |
| 11 B | 6 | 1 | 54.02 | 54.02 | ppb | 1.00 | 900.00 | |
| 11 B | 45 | 2 | 48.91 | 48.91 | ppb | 2.81 | 900.00 | |
| 23 Na | 45 | 1 | 4727.00 | 4727.00 | ppb | 1.24 | 90000.00 | |
| 23 Na | 45 | 2 | 5381.00 | 5381.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 4737.00 | 4737.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5310.00 | 5310.00 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 1 | 4771.00 | 4771.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 5279.00 | 5279.00 | ppb | 1.23 | 90000.00 | |
| 39 K | 45 | 1 | 4996.00 | 4996.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 5158.00 | 5158.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.09 | 49.09 | ppb | 0.21 | 900.00 | |
| 51 V | 45 | 2 | 50.02 | 50.02 | ppb | 0.70 | 900.00 | |
| 52 Cr | 45 | 2 | 49.48 | 49.48 | ppb | 0.21 | 900.00 | |
| 55 Mn | 45 | 2 | 48.72 | 48.72 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 50.05 | 50.05 | ppb | 0.62 | 900.00 | |
| 60 Ni | 45 | 2 | 48.76 | 48.76 | ppb | 0.20 | 900.00 | |
| 63 Cu | 72 | 2 | 48.26 | 48.26 | ppb | 0.65 | 900.00 | |
| 66 Zn | 72 | 2 | 49.28 | 49.28 | ppb | 0.56 | 900.00 | |
| 75 As | 72 | 2 | 49.11 | 49.11 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 47.39 | 47.39 | ppb | 1.26 | 900.00 | |
| 88 Sr | 103 | 1 | 52.81 | 52.81 | ppb | 1.56 | 900.00 | |
| 98 Mo | 103 | 1 | 51.39 | 51.39 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 47.53 | 47.53 | ppb | 1.06 | 180.00 | |
| 111 Cd | 115 | 2 | 50.77 | 50.77 | ppb | 0.63 | 900.00 | |
| 120 Sn | 115 | 1 | 52.47 | 52.47 | ppb | 0.97 | 900.00 | |
| 121 Sb | 115 | 1 | 53.18 | 53.18 | ppb | 0.79 | 900.00 | |
| 137 Ba | 159 | 1 | 50.37 | 50.37 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 49.67 | 49.67 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.78 | 50.78 | ppb | 0.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1258615 | 1.22 | 1663748 | 75.6 | 70 - 130 | |
| 45 Sc | 1 | 2809440 | 0.55 | 2728585 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 403454 | 0.42 | 406595 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 654242 | 0.44 | 617288 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 156285 | 0.60 | 157406 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 4095458 | 1.10 | 3944827 | 103.8 | 70 | - | 130 |
| 115 In | 1 | 4453806 | 0.73 | 4162835 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1254906 | 0.74 | 1319592 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 6375810 | 0.31 | 5883852 | 108.4 | 70 | - | 130 |
| 175 Lu | 1 | 6167783 | 1.10 | 5727334 | 107.7 | 70 | - | 130 |
| 209 Bi | 1 | 3459315 | 0.27 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D# |
| Date Acquired: | Apr 25 2013 12:10 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2504 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 7.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 86.13 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 7.58 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 49.22 | 900.00 | |
| 23 Na | 45 | 1 | 5.87 | 5.87 | ppb | 7.65 | 90000.00 | |
| 23 Na | 45 | 2 | 11.41 | 11.41 | ppb | 3.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.96 | 0.96 | ppb | 11.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.58 | 2.58 | ppb | 15.07 | 90000.00 | |
| 27 Al | 45 | 1 | 0.38 | 0.38 | ppb | 13.58 | 90000.00 | |
| 27 Al | 45 | 2 | 1.85 | 1.85 | ppb | 19.26 | 90000.00 | |
| 39 K | 45 | 1 | 0.60 | 0.60 | ppb | 150.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.29 | 0.29 | ppb | 161.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 328.46 | 900.00 | |
| 51 V | 45 | 2 | 0.11 | 0.11 | ppb | 11.22 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 45.96 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 17.49 | 900.00 | |
| 56 Fe | 45 | 2 | 2.50 | 2.50 | ppb | 12.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 22.35 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 69.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 12.94 | 900.00 | |
| 66 Zn | 72 | 2 | -0.07 | -0.07 | ppb | 9.82 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 95.43 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 751.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 62.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 20.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.36 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 76.79 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 6.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 11.79 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 28.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 4.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 120.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1303403 | 0.50 | 1663748 | 78.3 | 70 - 130 | |
| 45 Sc | 1 | 2805389 | 1.18 | 2728585 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 411317 | 0.29 | 406595 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 667244 | 1.05 | 617288 | 108.1 | 70 | - | 130 |
| 72 Ge | 2 | 159711 | 0.63 | 157406 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 4187563 | 0.65 | 3944827 | 106.2 | 70 | - | 130 |
| 115 In | 1 | 4550421 | 1.05 | 4162835 | 109.3 | 70 | - | 130 |
| 115 In | 2 | 1301691 | 0.59 | 1319592 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 6413796 | 1.09 | 5883852 | 109.0 | 70 | - | 130 |
| 175 Lu | 1 | 6162265 | 0.91 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3581015 | 1.62 | 3404545 | 105.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#
**Date Acquired:** Apr 25 2013 12:18 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-4
**Misc Info:**
**Vial Number:** 2505
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 189.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 55.05 | 900.00 | |
| 11 B | 6 | 1 | 56.28 | 28.14 | ppb | 0.36 | 900.00 | |
| 11 B | 45 | 2 | 45.64 | 22.82 | ppb | 0.98 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 436400.00 | 218200.00 | ppb | 0.32 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 9420.00 | 4710.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 11830.00 | 5915.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 465.80 | 232.90 | ppb | 0.12 | 90000.00 | |
| 27 Al | 45 | 2 | 593.80 | 296.90 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 17296.00 | 8648.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 49660.00 | 24830.00 | ppb | 0.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 31.36 | 15.68 | ppb | 2.99 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.22 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 1.93 | 0.97 | ppb | 0.08 | 900.00 | |
| 55 Mn | 45 | 2 | 1791.80 | 895.90 | ppb | 0.29 | 900.00 | |
| 56 Fe | 45 | 2 | 49560.00 | 24780.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 7.87 | 3.94 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 3.78 | 1.89 | ppb | 1.64 | 900.00 | |
| 63 Cu | 72 | 2 | 1.14 | 0.57 | ppb | 1.34 | 900.00 | |
| 66 Zn | 72 | 2 | 12.40 | 6.20 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 163.20 | 81.60 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 241.55 | 900.00 | |
| 88 Sr | 103 | 1 | 546.40 | 273.20 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 4.45 | 2.23 | ppb | 1.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 13.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 17.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 4.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.29 | 900.00 | |
| 137 Ba | 159 | 1 | 25.70 | 12.85 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.09 | ppb | 7.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.36 | 0.18 | ppb | 4.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 842680 | 0.81 | 1663748 | 50.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2519186 | 0.75 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 373540 | 0.89 | 406595 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 605972 | 0.92 | 617288 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 145901 | 0.50 | 157406 | 92.7 | 70 | - | 130 |
| 103 Rh | 1 | 3570845 | 0.34 | 3944827 | 90.5 | 70 | - | 130 |
| 115 In | 1 | 4065343 | 0.90 | 4162835 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1223614 | 0.76 | 1319592 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 6040806 | 0.23 | 5883852 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 5918230 | 0.32 | 5727334 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 3167297 | 1.53 | 3404545 | 93.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#
**Date Acquired:** Apr 25 2013 12:25 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-5
**Misc Info:**
**Vial Number:** 2506
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 247.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 75.01 | 900.00 | |
| 11 B | 6 | 1 | 13.06 | 6.53 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 9.14 | 4.57 | ppb | 10.35 | 900.00 | |
| 23 Na | 45 | 1 | 103020.00 | 51510.00 | ppb | 1.27 | 90000.00 | |
| 23 Na | 45 | 2 | 136700.00 | 68350.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 33040.00 | 16520.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 42660.00 | 21330.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 125.46 | 62.73 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 154.24 | 77.12 | ppb | 0.66 | 90000.00 | |
| 39 K | 45 | 1 | 9382.00 | 4691.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 166460.00 | 83230.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.79 | 2.39 | ppb | 6.78 | 900.00 | |
| 51 V | 45 | 2 | 3.38 | 1.69 | ppb | 2.92 | 900.00 | |
| 52 Cr | 45 | 2 | 1.19 | 0.59 | ppb | 1.99 | 900.00 | |
| 55 Mn | 45 | 2 | 3374.00 | 1687.00 | ppb | 0.40 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 2472.00 | 1236.00 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 5.15 | 2.58 | ppb | 0.82 | 900.00 | |
| 60 Ni | 45 | 2 | 18.35 | 9.18 | ppb | 0.99 | 900.00 | |
| 63 Cu | 72 | 2 | 1.70 | 0.85 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 67.52 | 33.76 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 18.87 | 9.43 | ppb | 1.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.31 | 0.15 | ppb | 8.81 | 900.00 | |
| 88 Sr | 103 | 1 | 1872.00 | 936.00 | ppb | 0.43 | 900.00 | >LDR |
| 98 Mo | 103 | 1 | 2.73 | 1.37 | ppb | 0.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 15.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.28 | 0.14 | ppb | 5.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 5.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.15 | ppb | 1.99 | 900.00 | |
| 137 Ba | 159 | 1 | 65.64 | 32.82 | ppb | 0.77 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.08 | ppb | 2.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.27 | 0.14 | ppb | 2.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 768857 | 2.24 | 1663748 | 46.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2518042 | 1.48 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 389589 | 0.36 | 406595 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 610245 | 0.46 | 617288 | 98.9 | 70 | - | 130 |
| 72 | Ge | 2 | 149769 | 0.80 | 157406 | 95.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3690681 | 0.39 | 3944827 | 93.6 | 70 | - | 130 |
| 115 | In | 1 | 4210861 | 0.39 | 4162835 | 101.2 | 70 | - | 130 |
| 115 | In | 2 | 1277855 | 0.36 | 1319592 | 96.8 | 70 | - | 130 |
| 159 | Tb | 1 | 6354665 | 0.32 | 5883852 | 108.0 | 70 | - | 130 |
| 175 | Lu | 1 | 6224836 | 0.70 | 5727334 | 108.7 | 70 | - | 130 |
| 209 | Bi | 1 | 3337923 | 0.11 | 3404545 | 98.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D# |
| Date Acquired: | Apr 25 2013 12:32 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC19712-6 |
| Misc Info: | |
| Vial Number: | 2507 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 37.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 73.73 | 900.00 | |
| 11 B | 6 | 1 | 9.65 | 4.83 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 7.10 | 3.55 | ppb | 8.19 | 900.00 | |
| 23 Na | 45 | 1 | 25140.00 | 12570.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 32640.00 | 16320.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 9058.00 | 4529.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 11678.00 | 5839.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 161.58 | 80.79 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 2 | 199.94 | 99.97 | ppb | 1.47 | 90000.00 | |
| 39 K | 45 | 1 | 4932.00 | 2466.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 39440.00 | 19720.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 8.72 | 4.36 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | 3.00 | 1.50 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 9.41 | 4.70 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 619.20 | 309.60 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 4634.00 | 2317.00 | ppb | 1.08 | 90000.00 | |
| 59 Co | 45 | 2 | 10.43 | 5.22 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 53.72 | 26.86 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | 16.35 | 8.18 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 18.51 | 9.26 | ppb | 0.52 | 900.00 | |
| 75 As | 72 | 2 | 7.36 | 3.68 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 113.39 | 900.00 | |
| 88 Sr | 103 | 1 | 321.60 | 160.80 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 2.62 | 1.31 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 6.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 76.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 3.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 13.59 | 900.00 | |
| 137 Ba | 159 | 1 | 21.54 | 10.77 | ppb | 2.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 2.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.15 | ppb | 4.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 778353 | 2.22 | 1663748 | 46.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2534057 | 1.12 | 2728585 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 393824 | 0.70 | 406595 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626180 | 0.63 | 617288 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 154391 | 0.38 | 157406 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 3875387 | 0.69 | 3944827 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 4387174 | 0.44 | 4162835 | 105.4 | 70 | - | 130 |
| 115 In | 2 | 1260714 | 3.01 | 1319592 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 6614542 | 0.97 | 5883852 | 112.4 | 70 | - | 130 |
| 175 Lu | 1 | 6430658 | 0.91 | 5727334 | 112.3 | 70 | - | 130 |
| 209 Bi | 1 | 3567361 | 0.59 | 3404545 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#
Date Acquired: Apr 25 2013 12:39 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19712-8
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 57.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 61.24 | 900.00 | |
| 11 B | 6 | 1 | 47.58 | 23.79 | ppb | 2.88 | 900.00 | |
| 11 B | 45 | 2 | 33.44 | 16.72 | ppb | 2.31 | 900.00 | |
| 23 Na | 45 | 1 | 239800.00 | 119900.00 | ppb | 0.18 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 318600.00 | 159300.00 | ppb | 0.49 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 125.18 | 62.59 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 163.44 | 81.72 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 1 | 1056.80 | 528.40 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 2 | 1386.00 | 693.00 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 1652.20 | 826.10 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 446.40 | 223.20 | ppb | 0.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 38.04 | 19.02 | ppb | 0.88 | 900.00 | |
| 51 V | 45 | 2 | 11.30 | 5.65 | ppb | 0.73 | 900.00 | |
| 52 Cr | 45 | 2 | 4.55 | 2.28 | ppb | 1.22 | 900.00 | |
| 55 Mn | 45 | 2 | 14.40 | 7.20 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 1337.00 | 668.50 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.78 | 0.39 | ppb | 1.46 | 900.00 | |
| 60 Ni | 45 | 2 | 6.94 | 3.47 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 3.22 | 1.61 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 11.71 | 5.85 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 78.34 | 39.17 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.35 | ppb | 20.68 | 900.00 | |
| 88 Sr | 103 | 1 | 4.15 | 2.08 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.70 | 0.85 | ppb | 1.59 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.06 | ppb | 1.85 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 15.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 2.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 3.72 | 900.00 | |
| 137 Ba | 159 | 1 | 4.22 | 2.11 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 15.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.83 | 0.42 | ppb | 2.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 712767 | 3.05 | 1663748 | 42.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2484698 | 0.63 | 2728585 | 91.1 | 70 - 130 | |
| 45 Sc | 2 | 386414 | 0.58 | 406595 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618518 | 0.22 | 617288 | 100.2 | 70 | - | 130 |
| 72 Ge | 2 | 149314 | 0.32 | 157406 | 94.9 | 70 | - | 130 |
| 103 Rh | 1 | 3728507 | 0.57 | 3944827 | 94.5 | 70 | - | 130 |
| 115 In | 1 | 4240812 | 0.94 | 4162835 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 1269449 | 0.91 | 1319592 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 6350640 | 0.41 | 5883852 | 107.9 | 70 | - | 130 |
| 175 Lu | 1 | 6224427 | 0.63 | 5727334 | 108.7 | 70 | - | 130 |
| 209 Bi | 1 | 3361109 | 0.80 | 3404545 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#
**Date Acquired:** Apr 25 2013 12:46 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-9
**Misc Info:**
**Vial Number:** 2509
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.64 | 0.32 | ppb | 4.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.59 | 0.30 | ppb | 1.58 | 900.00 | |
| 11 B | 6 | 1 | 30.64 | 15.32 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 21.58 | 10.79 | ppb | 4.29 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 483000.00 | 241500.00 | ppb | 1.37 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 476.40 | 238.20 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 683.00 | 341.50 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 5270.00 | 2635.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 2 | 6850.00 | 3425.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 1949.00 | 974.50 | ppb | 1.18 | 90000.00 | |
| 44 Ca | 45 | 1 | 741.60 | 370.80 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 235.60 | 117.80 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 69.42 | 34.71 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 19.03 | 9.51 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 39.96 | 19.98 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 7946.00 | 3973.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 5.10 | 2.55 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 13.66 | 6.83 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 14.77 | 7.39 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 24.02 | 12.01 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 571.40 | 285.70 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 1.39 | 0.70 | ppb | 30.95 | 900.00 | |
| 88 Sr | 103 | 1 | 5.57 | 2.79 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 5.48 | 2.74 | ppb | 1.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.25 | ppb | 3.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 65.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.58 | 0.29 | ppb | 1.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.28 | ppb | 2.75 | 900.00 | |
| 137 Ba | 159 | 1 | 27.90 | 13.95 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.08 | ppb | 1.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 6.08 | 3.04 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 709540 | 2.53 | 1663748 | 42.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2591082 | 1.51 | 2728585 | 95.0 | 70 - 130 | |
| 45 Sc | 2 | 383474 | 0.48 | 406595 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 603731 | 1.13 | 617288 | 97.8 | 70 - | 130 |
| 72 | Ge | 2 | 144563 | 0.44 | 157406 | 91.8 | 70 - | 130 |
| 103 | Rh | 1 | 3615309 | 0.72 | 3944827 | 91.6 | 70 - | 130 |
| 115 | In | 1 | 4131379 | 0.52 | 4162835 | 99.2 | 70 - | 130 |
| 115 | In | 2 | 1212371 | 0.24 | 1319592 | 91.9 | 70 - | 130 |
| 159 | Tb | 1 | 6195164 | 0.37 | 5883852 | 105.3 | 70 - | 130 |
| 175 | Lu | 1 | 6141794 | 0.74 | 5727334 | 107.2 | 70 - | 130 |
| 209 | Bi | 1 | 3266341 | 0.33 | 3404545 | 95.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#
**Date Acquired:** Apr 25 2013 12:53 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-10
**Misc Info:**
**Vial Number:** 2510
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1.79 | 0.90 | ppb | 7.96 | 900.00 | |
| 9 Be | 45 | 2 | 1.38 | 0.69 | ppb | 12.12 | 900.00 | |
| 11 B | 6 | 1 | 35.24 | 17.62 | ppb | 5.56 | 900.00 | |
| 11 B | 45 | 2 | 26.42 | 13.21 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 469200.00 | 234600.00 | ppb | 0.89 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 1390.20 | 695.10 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 2054.00 | 1027.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 10216.00 | 5108.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 13214.00 | 6607.00 | ppb | 0.78 | 90000.00 | |
| 39 K | 45 | 1 | 3572.00 | 1786.00 | ppb | 0.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 1329.00 | 664.50 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 576.00 | 288.00 | ppb | 0.24 | 900.00 | |
| 51 V | 45 | 2 | 89.44 | 44.72 | ppb | 0.48 | 900.00 | |
| 52 Cr | 45 | 2 | 42.70 | 21.35 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 121.72 | 60.86 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 23080.00 | 11540.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 14.53 | 7.27 | ppb | 1.60 | 900.00 | |
| 60 Ni | 45 | 2 | 41.16 | 20.58 | ppb | 1.34 | 900.00 | |
| 63 Cu | 72 | 2 | 40.84 | 20.42 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 52.80 | 26.40 | ppb | 0.41 | 900.00 | |
| 75 As | 72 | 2 | 708.00 | 354.00 | ppb | 0.05 | 900.00 | |
| 78 Se | 72 | 2 | 1.67 | 0.83 | ppb | 5.75 | 900.00 | |
| 88 Sr | 103 | 1 | 14.34 | 7.17 | ppb | 0.33 | 900.00 | |
| 98 Mo | 103 | 1 | 8.18 | 4.09 | ppb | 0.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.82 | 0.41 | ppb | 2.33 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 29.49 | 900.00 | |
| 120 Sn | 115 | 1 | 1.36 | 0.68 | ppb | 0.60 | 900.00 | |
| 121 Sb | 115 | 1 | 1.75 | 0.88 | ppb | 2.06 | 900.00 | |
| 137 Ba | 159 | 1 | 67.32 | 33.66 | ppb | 0.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.38 | 0.19 | ppb | 3.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 19.27 | 9.63 | ppb | 0.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 743626 | 5.56 | 1663748 | 44.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2639803 | 0.68 | 2728585 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 386238 | 1.11 | 406595 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 586895 | 0.69 | 617288 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 144431 | 0.41 | 157406 | 91.8 | 70 | - | 130 |
| 103 Rh | 1 | 3573669 | 0.18 | 3944827 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 4082555 | 0.63 | 4162835 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 1206183 | 0.63 | 1319592 | 91.4 | 70 | - | 130 |
| 159 Tb | 1 | 6137791 | 1.13 | 5883852 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 6030384 | 0.91 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3275903 | 0.58 | 3404545 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#
Date Acquired: Apr 25 2013 01:00 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19712-10F
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.09 | ppb | 9.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.08 | ppb | 22.92 | 900.00 | |
| 11 B | 6 | 1 | 37.80 | 18.90 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 26.68 | 13.34 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 478000.00 | 239000.00 | ppb | 0.59 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 51.44 | 25.72 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 72.18 | 36.09 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 1255.40 | 627.70 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 1758.40 | 879.20 | ppb | 0.41 | 90000.00 | |
| 39 K | 45 | 1 | 955.80 | 477.90 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 586.60 | 293.30 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 172.86 | 86.43 | ppb | 0.28 | 900.00 | |
| 51 V | 45 | 2 | 68.26 | 34.13 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 6.18 | 3.09 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 14.34 | 7.17 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 4976.00 | 2488.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 1.34 | 0.67 | ppb | 1.02 | 900.00 | |
| 60 Ni | 45 | 2 | 5.98 | 2.99 | ppb | 0.68 | 900.00 | |
| 63 Cu | 72 | 2 | 3.88 | 1.94 | ppb | 0.57 | 900.00 | |
| 66 Zn | 72 | 2 | 14.13 | 7.07 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 677.60 | 338.80 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.61 | 0.31 | ppb | 3.02 | 900.00 | |
| 88 Sr | 103 | 1 | 3.99 | 1.99 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 7.77 | 3.88 | ppb | 1.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 16.55 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 33.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 5.43 | 900.00 | |
| 121 Sb | 115 | 1 | 1.30 | 0.65 | ppb | 3.77 | 900.00 | |
| 137 Ba | 159 | 1 | 16.90 | 8.45 | ppb | 0.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 6.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 5.24 | 2.62 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 669706 | 0.70 | 1663748 | 40.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2536931 | 0.23 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 376829 | 0.37 | 406595 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578262 | 0.56 | 617288 | 93.7 | 70 | - | 130 |
| 72 Ge | 2 | 143790 | 0.20 | 157406 | 91.3 | 70 | - | 130 |
| 103 Rh | 1 | 3553406 | 0.32 | 3944827 | 90.1 | 70 | - | 130 |
| 115 In | 1 | 4065533 | 0.61 | 4162835 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1206732 | 0.85 | 1319592 | 91.4 | 70 | - | 130 |
| 159 Tb | 1 | 6175420 | 0.73 | 5883852 | 105.0 | 70 | - | 130 |
| 175 Lu | 1 | 6073673 | 0.76 | 5727334 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 3274178 | 1.03 | 3404545 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\069SMPL.D\069SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\069SMPL.D\069SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 01:07 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20764A-B1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2512 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 587.00 | 117.40 | ppb | 0.94 | 900.00 | |
| 9 Be | 45 | 2 | 515.00 | 103.00 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 3.04 | 0.61 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 2.84 | 0.57 | ppb | 17.65 | 900.00 | |
| 23 Na | 45 | 1 | 22795.00 | 4559.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 28440.00 | 5688.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 23015.00 | 4603.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 28180.00 | 5636.00 | ppb | 1.71 | 90000.00 | |
| 27 Al | 45 | 1 | 1920.00 | 384.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 2366.00 | 473.20 | ppb | 0.54 | 90000.00 | |
| 39 K | 45 | 1 | 25270.00 | 5054.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 26090.00 | 5218.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.50 | 98.30 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 535.00 | 107.00 | ppb | 0.58 | 900.00 | |
| 52 Cr | 45 | 2 | 517.00 | 103.40 | ppb | 0.96 | 900.00 | |
| 55 Mn | 45 | 2 | 501.50 | 100.30 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 2257.00 | 451.40 | ppb | 1.27 | 90000.00 | |
| 59 Co | 45 | 2 | 509.00 | 101.80 | ppb | 1.23 | 900.00 | |
| 60 Ni | 45 | 2 | 505.00 | 101.00 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 490.40 | 98.08 | ppb | 1.39 | 900.00 | |
| 66 Zn | 72 | 2 | 621.00 | 124.20 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 509.50 | 101.90 | ppb | 0.91 | 900.00 | |
| 78 Se | 72 | 2 | 469.55 | 93.91 | ppb | 1.96 | 900.00 | |
| 88 Sr | 103 | 1 | 507.50 | 101.50 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 0.53 | 0.11 | ppb | 5.46 | 900.00 | |
| 107 Ag | 115 | 1 | 209.05 | 41.81 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 512.50 | 102.50 | ppb | 2.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 31.69 | 900.00 | |
| 121 Sb | 115 | 1 | 516.50 | 103.30 | ppb | 0.26 | 900.00 | |
| 137 Ba | 159 | 1 | 1895.50 | 379.10 | ppb | 1.03 | 900.00 | |
| 205 Tl | 209 | 1 | 508.50 | 101.70 | ppb | 0.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 993.00 | 198.60 | ppb | 0.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 944022 | 1.24 | 1663748 | 56.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2530858 | 0.72 | 2728585 | 92.8 | 70 - 130 | |
| 45 Sc | 2 | 387022 | 0.73 | 406595 | 95.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\069SMPL.D\069SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618135 | 0.73 | 617288 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 152108 | 0.81 | 157406 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 3901875 | 0.65 | 3944827 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 4365336 | 0.29 | 4162835 | 104.9 | 70 | - | 130 |
| 115 In | 2 | 1244307 | 2.22 | 1319592 | 94.3 | 70 | - | 130 |
| 159 Tb | 1 | 6452127 | 0.28 | 5883852 | 109.7 | 70 | - | 130 |
| 175 Lu | 1 | 6312358 | 0.38 | 5727334 | 110.2 | 70 | - | 130 |
| 209 Bi | 1 | 3525481 | 0.64 | 3404545 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D# |
| Date Acquired: | Apr 25 2013 01:14 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20764A-S1 |
| Misc Info: | |
| Vial Number: | 3101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1614.00 | -322.80 | ppb | 18.05 | 900.00 | |
| 9 Be | 45 | 2 | 505.00 | 101.00 | ppb | 2.11 | 900.00 | |
| 11 B | 6 | 1 | -3274.50 | -654.90 | ppb | 17.97 | 900.00 | |
| 11 B | 45 | 2 | 1007.00 | 201.40 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 49020.00 | 9804.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 61050.00 | 12210.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 30255.00 | 6051.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 37220.00 | 7444.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 1885.50 | 377.10 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2343.50 | 468.70 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 33080.00 | 6616.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 77400.00 | 15480.00 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 492.30 | 98.46 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 537.00 | 107.40 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 509.50 | 101.90 | ppb | 0.26 | 900.00 | |
| 55 Mn | 45 | 2 | 497.05 | 99.41 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 2264.50 | 452.90 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 500.50 | 100.10 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 491.35 | 98.27 | ppb | 0.50 | 900.00 | |
| 63 Cu | 72 | 2 | 523.00 | 104.60 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 544.50 | 108.90 | ppb | 0.62 | 900.00 | |
| 75 As | 72 | 2 | 514.00 | 102.80 | ppb | 0.11 | 900.00 | |
| 78 Se | 72 | 2 | 461.60 | 92.32 | ppb | 0.55 | 900.00 | |
| 88 Sr | 103 | 1 | 718.00 | 143.60 | ppb | 1.20 | 900.00 | |
| 98 Mo | 103 | 1 | 2.08 | 0.42 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 208.10 | 41.62 | ppb | 1.22 | 180.00 | |
| 111 Cd | 115 | 2 | 508.00 | 101.60 | ppb | 3.35 | 900.00 | |
| 120 Sn | 115 | 1 | 0.34 | 0.07 | ppb | 4.11 | 900.00 | |
| 121 Sb | 115 | 1 | 523.00 | 104.60 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 1932.50 | 386.50 | ppb | 1.41 | 900.00 | |
| 205 Tl | 209 | 1 | 511.50 | 102.30 | ppb | 0.34 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 994.00 | 198.80 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | -348578 | 20.06 | 1663748 | -21.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2583424 | 0.45 | 2728585 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 392710 | 0.15 | 406595 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 624158 | 1.03 | 617288 | 101.1 | 70 | - | 130 |
| 72 Ge | 2 | 152629 | 0.53 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3840533 | 0.43 | 3944827 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 4316413 | 0.90 | 4162835 | 103.7 | 70 | - | 130 |
| 115 In | 2 | 1243222 | 2.87 | 1319592 | 94.2 | 70 | - | 130 |
| 159 Tb | 1 | 6387649 | 1.07 | 5883852 | 108.6 | 70 | - | 130 |
| 175 Lu | 1 | 6231660 | 0.16 | 5727334 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3412500 | 0.61 | 3404545 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D#
**Date Acquired:** Apr 25 2013 01:21 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20764A-S2
**Misc Info:**
**Vial Number:** 3102
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1764.50 | -352.90 | ppb | 8.43 | 900.00 | |
| 9 Be | 45 | 2 | 514.00 | 102.80 | ppb | 0.80 | 900.00 | |
| 11 B | 6 | 1 | -3622.00 | -724.40 | ppb | 7.81 | 900.00 | |
| 11 B | 45 | 2 | 1022.00 | 204.40 | ppb | 1.10 | 900.00 | |
| 23 Na | 45 | 1 | 49655.00 | 9931.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 60850.00 | 12170.00 | ppb | 1.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 31010.00 | 6202.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 37660.00 | 7532.00 | ppb | 0.18 | 90000.00 | |
| 27 Al | 45 | 1 | 1914.50 | 382.90 | ppb | 0.96 | 90000.00 | |
| 27 Al | 45 | 2 | 2341.50 | 468.30 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 33805.00 | 6761.00 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 78400.00 | 15680.00 | ppb | 0.29 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 99.76 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 543.00 | 108.60 | ppb | 0.15 | 900.00 | |
| 52 Cr | 45 | 2 | 515.50 | 103.10 | ppb | 0.71 | 900.00 | |
| 55 Mn | 45 | 2 | 503.00 | 100.60 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 2263.00 | 452.60 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 509.00 | 101.80 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 497.50 | 99.50 | ppb | 0.10 | 900.00 | |
| 63 Cu | 72 | 2 | 530.50 | 106.10 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 558.50 | 111.70 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 522.50 | 104.50 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 472.80 | 94.56 | ppb | 0.90 | 900.00 | |
| 88 Sr | 103 | 1 | 719.50 | 143.90 | ppb | 1.15 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.41 | ppb | 1.48 | 900.00 | |
| 107 Ag | 115 | 1 | 211.10 | 42.22 | ppb | 0.83 | 180.00 | |
| 111 Cd | 115 | 2 | 511.00 | 102.20 | ppb | 2.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.05 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 528.50 | 105.70 | ppb | 0.62 | 900.00 | |
| 137 Ba | 159 | 1 | 1926.50 | 385.30 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 507.50 | 101.50 | ppb | 1.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 989.50 | 197.90 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | -320440 | 7.52 | 1663748 | -19.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2571872 | 0.24 | 2728585 | 94.3 | 70 - 130 | |
| 45 Sc | 2 | 389357 | 0.54 | 406595 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623032 | 0.60 | 617288 | 100.9 | 70 | - | 130 |
| 72 Ge | 2 | 151054 | 0.27 | 157406 | 96.0 | 70 | - | 130 |
| 103 Rh | 1 | 3850255 | 0.39 | 3944827 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 4282943 | 0.29 | 4162835 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1240220 | 3.10 | 1319592 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 6365198 | 0.38 | 5883852 | 108.2 | 70 | - | 130 |
| 175 Lu | 1 | 6257498 | 0.49 | 5727334 | 109.3 | 70 | - | 130 |
| 209 Bi | 1 | 3451999 | 1.36 | 3404545 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\072SMPL.D\072SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\072SMPL.D\072SMPL.D# |
| Date Acquired: | Apr 25 2013 01:28 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 3103 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.79 | 55.79 | ppb | 2.17 | 900.00 | |
| 9 Be | 45 | 2 | 50.26 | 50.26 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 57.77 | 57.77 | ppb | 1.90 | 900.00 | |
| 11 B | 45 | 2 | 49.36 | 49.36 | ppb | 1.71 | 900.00 | |
| 23 Na | 45 | 1 | 4534.00 | 4534.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 5445.00 | 5445.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 4537.00 | 4537.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 5365.00 | 5365.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 4573.00 | 4573.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 5269.00 | 5269.00 | ppb | 0.19 | 90000.00 | |
| 39 K | 45 | 1 | 4936.00 | 4936.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.90 | 48.90 | ppb | 1.57 | 900.00 | |
| 51 V | 45 | 2 | 50.58 | 50.58 | ppb | 0.14 | 900.00 | |
| 52 Cr | 45 | 2 | 49.73 | 49.73 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 48.78 | 48.78 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5184.00 | 5184.00 | ppb | 0.22 | 90000.00 | |
| 59 Co | 45 | 2 | 50.42 | 50.42 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 49.01 | 49.01 | ppb | 1.13 | 900.00 | |
| 63 Cu | 72 | 2 | 48.07 | 48.07 | ppb | 0.84 | 900.00 | |
| 66 Zn | 72 | 2 | 48.62 | 48.62 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 49.35 | 49.35 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 47.30 | 47.30 | ppb | 0.76 | 900.00 | |
| 88 Sr | 103 | 1 | 52.61 | 52.61 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 51.40 | 51.40 | ppb | 0.50 | 900.00 | |
| 107 Ag | 115 | 1 | 47.71 | 47.71 | ppb | 4.19 | 180.00 | |
| 111 Cd | 115 | 2 | 50.32 | 50.32 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | 53.17 | 53.17 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 53.88 | 53.88 | ppb | 1.07 | 900.00 | |
| 137 Ba | 159 | 1 | 49.89 | 49.89 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 50.98 | 50.98 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.00 | 51.00 | ppb | 0.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1036323 | 1.47 | 1663748 | 62.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2625854 | 0.76 | 2728585 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 392662 | 0.16 | 406595 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\072SMPL.D\072SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623560 | 1.39 | 617288 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 153161 | 0.24 | 157406 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3964544 | 0.33 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4391045 | 0.59 | 4162835 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1247787 | 0.88 | 1319592 | 94.6 | 70 | - | 130 |
| 159 Tb | 1 | 6425236 | 0.39 | 5883852 | 109.2 | 70 | - | 130 |
| 175 Lu | 1 | 6269566 | 0.49 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3520846 | 0.80 | 3404545 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\073SMPL.D\073SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\073SMPL.D\073SMPL.D# |
| Date Acquired: | Apr 25 2013 01:35 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 3104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 55.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 285.92 | 900.00 | |
| 11 B | 6 | 1 | 0.71 | 0.71 | ppb | 2.02 | 900.00 | |
| 11 B | 45 | 2 | 0.56 | 0.56 | ppb | 22.11 | 900.00 | |
| 23 Na | 45 | 1 | 23.32 | 23.32 | ppb | 10.35 | 90000.00 | |
| 23 Na | 45 | 2 | 23.49 | 23.49 | ppb | 4.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.11 | 1.11 | ppb | 14.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.39 | 1.39 | ppb | 39.09 | 90000.00 | |
| 27 Al | 45 | 1 | 0.31 | 0.31 | ppb | 19.06 | 90000.00 | |
| 27 Al | 45 | 2 | 0.77 | 0.77 | ppb | 44.60 | 90000.00 | |
| 39 K | 45 | 1 | 0.21 | 0.21 | ppb | 1054.00 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.10 | -1.10 | ppb | 43.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 42.50 | 900.00 | |
| 51 V | 45 | 2 | 0.25 | 0.25 | ppb | 6.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 181.81 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 33.42 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 16.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 105.99 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 57.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 31.69 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 9.09 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 98.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 67.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 21.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 17.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.64 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 106.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 14.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 9.96 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 19.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 14.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1057956 | 2.12 | 1663748 | 63.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2620055 | 1.64 | 2728585 | 96.0 | 70 - 130 | |
| 45 Sc | 2 | 397113 | 0.39 | 406595 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\073SMPL.D\073SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 631873 | 0.30 | 617288 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 155533 | 0.37 | 157406 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 4049160 | 0.52 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4468589 | 0.45 | 4162835 | 107.3 | 70 | - | 130 |
| 115 In | 2 | 1273866 | 1.00 | 1319592 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 6394354 | 0.30 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6251579 | 0.41 | 5727334 | 109.2 | 70 | - | 130 |
| 209 Bi | 1 | 3589006 | 0.65 | 3404545 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\074SMPL.D\074SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\074SMPL.D\074SMPL.D#
**Date Acquired:** Apr 25 2013 01:42 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20764A-SD1
**Misc Info:**
**Vial Number:** 3105
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 348.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.34 | 0.03 | ppb | 80.20 | 900.00 | |
| 11 B | 6 | 1 | 40.88 | 4.09 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 33.58 | 3.36 | ppb | 2.44 | 900.00 | |
| 23 Na | 45 | 1 | 29000.00 | 2900.00 | ppb | 0.36 | 90000.00 | |
| 23 Na | 45 | 2 | 33530.00 | 3353.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 8543.00 | 854.30 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 10260.00 | 1026.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 43.56 | 4.36 | ppb | 1.76 | 90000.00 | |
| 27 Al | 45 | 2 | 58.87 | 5.89 | ppb | 2.61 | 90000.00 | |
| 39 K | 45 | 1 | 8470.00 | 847.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 54220.00 | 5422.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.98 | 0.50 | ppb | 24.22 | 900.00 | |
| 51 V | 45 | 2 | 4.80 | 0.48 | ppb | 5.18 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.05 | ppb | 33.48 | 900.00 | |
| 55 Mn | 45 | 2 | 10.89 | 1.09 | ppb | 1.89 | 900.00 | |
| 56 Fe | 45 | 2 | 156.00 | 15.60 | ppb | 2.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.40 | 0.04 | ppb | 11.58 | 900.00 | |
| 60 Ni | 45 | 2 | 1.54 | 0.15 | ppb | 4.30 | 900.00 | |
| 63 Cu | 72 | 2 | 37.32 | 3.73 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 36.92 | 3.69 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 1.58 | 0.16 | ppb | 5.99 | 900.00 | |
| 78 Se | 72 | 2 | 0.88 | 0.09 | ppb | 62.90 | 900.00 | |
| 88 Sr | 103 | 1 | 214.60 | 21.46 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 1.65 | 0.16 | ppb | 3.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.24 | 0.02 | ppb | 14.62 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.02 | ppb | 27.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.53 | 0.05 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.42 | 0.04 | ppb | 3.28 | 900.00 | |
| 137 Ba | 159 | 1 | 16.06 | 1.61 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 1.41 | 0.14 | ppb | 5.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.58 | 0.06 | ppb | 1.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1092125 | 1.07 | 1663748 | 65.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2636578 | 0.40 | 2728585 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 400605 | 0.47 | 406595 | 98.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639587 | 0.30 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 158210 | 0.22 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 4046558 | 0.59 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4447644 | 0.34 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1272431 | 0.71 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6420592 | 0.63 | 5883852 | 109.1 | 70 | - | 130 |
| 175 Lu | 1 | 6213204 | 0.22 | 5727334 | 108.5 | 70 | - | 130 |
| 209 Bi | 1 | 3592080 | 1.29 | 3404545 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\075SMPL.D\075SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\075SMPL.D\075SMPL.D#
Date Acquired: Apr 25 2013 01:49 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 1.67 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 30.74 | 900.00 | |
| 11 B | 6 | 1 | 5.55 | 5.55 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 4.61 | 4.61 | ppb | 3.17 | 900.00 | |
| 23 Na | 45 | 1 | 247.20 | 247.20 | ppb | 0.73 | 90000.00 | |
| 23 Na | 45 | 2 | 308.90 | 308.90 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 239.30 | 239.30 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 292.80 | 292.80 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 24.93 | 24.93 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 2 | 28.64 | 28.64 | ppb | 3.51 | 90000.00 | |
| 39 K | 45 | 1 | 246.60 | 246.60 | ppb | 0.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 267.10 | 267.10 | ppb | 1.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.99 | 0.99 | ppb | 7.15 | 900.00 | |
| 51 V | 45 | 2 | 1.39 | 1.39 | ppb | 0.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.99 | ppb | 1.69 | 900.00 | |
| 56 Fe | 45 | 2 | 29.25 | 29.25 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 2.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 2.53 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 5.29 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.51 | ppb | 7.63 | 900.00 | |
| 88 Sr | 103 | 1 | 5.15 | 5.15 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 1.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.10 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 7.47 | 900.00 | |
| 120 Sn | 115 | 1 | 4.98 | 4.98 | ppb | 0.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.27 | 900.00 | |
| 137 Ba | 159 | 1 | 1.11 | 1.11 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 1.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1079842 | 0.84 | 1663748 | 64.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2630884 | 0.38 | 2728585 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 398520 | 0.67 | 406595 | 98.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639233 | 0.97 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 156875 | 0.52 | 157406 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 4110261 | 0.39 | 3944827 | 104.2 | 70 | - | 130 |
| 115 In | 1 | 4488149 | 0.25 | 4162835 | 107.8 | 70 | - | 130 |
| 115 In | 2 | 1291975 | 0.63 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6450358 | 1.14 | 5883852 | 109.6 | 70 | - | 130 |
| 175 Lu | 1 | 6285173 | 0.97 | 5727334 | 109.7 | 70 | - | 130 |
| 209 Bi | 1 | 3646616 | 0.73 | 3404545 | 107.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\076SMPL.D\076SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\076SMPL.D\076SMPL.D#
Date Acquired: Apr 25 2013 01:56 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 124.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.62 | 900.00 | |
| 11 B | 6 | 1 | 0.46 | 0.46 | ppb | 8.55 | 900.00 | |
| 11 B | 45 | 2 | 0.37 | 0.37 | ppb | 18.68 | 900.00 | |
| 23 Na | 45 | 1 | 80070.00 | 80070.00 | ppb | 1.92 | 90000.00 | |
| 23 Na | 45 | 2 | 103100.00 | 103100.00 | ppb | 0.44 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 80730.00 | 80730.00 | ppb | 3.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 102200.00 | 102200.00 | ppb | 0.51 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 82800.00 | 82800.00 | ppb | 1.82 | 90000.00 | |
| 27 Al | 45 | 2 | 97370.00 | 97370.00 | ppb | 0.71 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94700.00 | 94700.00 | ppb | 1.18 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96690.00 | 96690.00 | ppb | 0.47 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1928.00 | 1928.00 | ppb | 0.83 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 12.23 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.26 | ppb | 2.64 | 900.00 | |
| 56 Fe | 45 | 2 | 97630.00 | 97630.00 | ppb | 0.39 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 7.78 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 2.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 3.73 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 0.26 | 0.26 | ppb | 5.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.24 | ppb | 34.04 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 2034.00 | 2034.00 | ppb | 0.31 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 6.35 | 180.00 | |
| 111 Cd | 115 | 2 | 1.13 | 1.13 | ppb | 1.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 4.58 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.92 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 2.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 3.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 2.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 723668 | 9.20 | 1663748 | 43.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2439986 | 0.71 | 2728585 | 89.4 | 70 - 130 | |
| 45 Sc | 2 | 381971 | 0.44 | 406595 | 93.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626882 | 1.06 | 617288 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 152248 | 0.13 | 157406 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 3542230 | 0.26 | 3944827 | 89.8 | 70 | - | 130 |
| 115 In | 1 | 4043690 | 1.23 | 4162835 | 97.1 | 70 | - | 130 |
| 115 In | 2 | 1202833 | 0.34 | 1319592 | 91.2 | 70 | - | 130 |
| 159 Tb | 1 | 6098702 | 0.54 | 5883852 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 5977623 | 1.56 | 5727334 | 104.4 | 70 | - | 130 |
| 209 Bi | 1 | 3088414 | 1.60 | 3404545 | 90.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D# |
| Date Acquired: | Apr 25 2013 02:03 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 3108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1109.70 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.47 | 900.00 | |
| 11 B | 6 | 1 | 0.48 | 0.48 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 0.19 | 0.19 | ppb | 44.53 | 900.00 | |
| 23 Na | 45 | 1 | 69600.00 | 69600.00 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 105000.00 | 105000.00 | ppb | 0.36 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 69620.00 | 69620.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 103200.00 | 103200.00 | ppb | 0.18 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 73670.00 | 73670.00 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 2 | 97970.00 | 97970.00 | ppb | 0.61 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 91640.00 | 91640.00 | ppb | 0.58 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97060.00 | 97060.00 | ppb | 0.27 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1938.00 | 1938.00 | ppb | 0.33 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 14.88 | 900.00 | |
| 52 Cr | 45 | 2 | 20.68 | 20.68 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 19.33 | 19.33 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 99890.00 | 99890.00 | ppb | 1.04 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.66 | 19.66 | ppb | 0.17 | 900.00 | |
| 60 Ni | 45 | 2 | 19.37 | 19.37 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 17.50 | 17.50 | ppb | 0.55 | 900.00 | |
| 66 Zn | 72 | 2 | 19.10 | 19.10 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 19.86 | 19.86 | ppb | 0.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 79.00 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.61 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.05 | 19.05 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 19.80 | 19.80 | ppb | 1.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 6.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.28 | ppb | 4.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 8.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 5.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 415988 | 0.47 | 1663748 | 25.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2191342 | 0.74 | 2728585 | 80.3 | 70 - 130 | |
| 45 Sc | 2 | 378882 | 0.30 | 406595 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 595844 | 0.65 | 617288 | 96.5 | 70 - | 130 |
| 72 | Ge | 2 | 151921 | 0.16 | 157406 | 96.5 | 70 - | 130 |
| 103 | Rh | 1 | 3537742 | 0.62 | 3944827 | 89.7 | 70 - | 130 |
| 115 | In | 1 | 4127802 | 0.81 | 4162835 | 99.2 | 70 - | 130 |
| 115 | In | 2 | 1195684 | 0.72 | 1319592 | 90.6 | 70 - | 130 |
| 159 | Tb | 1 | 6313714 | 0.77 | 5883852 | 107.3 | 70 - | 130 |
| 175 | Lu | 1 | 6233055 | 0.48 | 5727334 | 108.8 | 70 - | 130 |
| 209 | Bi | 1 | 3205255 | 0.36 | 3404545 | 94.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D# |
| Date Acquired: | Apr 25 2013 02:11 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 3109 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 11.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 287.91 | 900.00 | |
| 11 B | 6 | 1 | 0.11 | 0.11 | ppb | 20.96 | 900.00 | |
| 11 B | 45 | 2 | 0.03 | 0.03 | ppb | 311.36 | 900.00 | |
| 23 Na | 45 | 1 | 27.96 | 27.96 | ppb | 6.60 | 90000.00 | |
| 23 Na | 45 | 2 | 99.61 | 99.61 | ppb | 17.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 12.02 | 12.02 | ppb | 15.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 54.81 | 54.81 | ppb | 21.47 | 90000.00 | |
| 27 Al | 45 | 1 | 11.92 | 11.92 | ppb | 16.26 | 90000.00 | |
| 27 Al | 45 | 2 | 46.30 | 46.30 | ppb | 20.30 | 90000.00 | |
| 39 K | 45 | 1 | 11.36 | 11.36 | ppb | 12.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.39 | 12.39 | ppb | 21.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.47 | ppb | 18.32 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 26.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 72.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 27.37 | 900.00 | |
| 56 Fe | 45 | 2 | 53.00 | 53.00 | ppb | 19.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 23.01 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 30.86 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 15.41 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 21.12 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 59.52 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 47.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 86.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.24 | 1.24 | ppb | 11.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.16 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 254.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 11.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 44.73 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 17.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 16.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 9.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 377081 | 1.45 | 1663748 | 22.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2176499 | 0.81 | 2728585 | 79.8 | 70 - 130 | |
| 45 Sc | 2 | 399911 | 0.49 | 406595 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595191 | 0.71 | 617288 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 161107 | 0.57 | 157406 | 102.4 | 70 | - | 130 |
| 103 Rh | 1 | 4074615 | 0.84 | 3944827 | 103.3 | 70 | - | 130 |
| 115 In | 1 | 4652762 | 0.87 | 4162835 | 111.8 | 70 | - | 130 |
| 115 In | 2 | 1291807 | 0.50 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6837461 | 0.78 | 5883852 | 116.2 | 70 | - | 130 |
| 175 Lu | 1 | 6758279 | 0.18 | 5727334 | 118.0 | 70 | - | 130 |
| 209 Bi | 1 | 3935583 | 0.72 | 3404545 | 115.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 02:18 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 3110 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 79.92 | 79.92 | ppb | 0.56 | 900.00 | |
| 9 Be | 45 | 2 | 47.30 | 47.30 | ppb | 0.46 | 900.00 | |
| 11 B | 6 | 1 | 83.76 | 83.76 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 48.57 | 48.57 | ppb | 2.48 | 900.00 | |
| 23 Na | 45 | 1 | 3428.00 | 3428.00 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 5538.00 | 5538.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 3484.00 | 3484.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 5433.00 | 5433.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 3694.00 | 3694.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 5122.00 | 5122.00 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 4676.00 | 4676.00 | ppb | 0.86 | 90000.00 | |
| 44 Ca | 45 | 1 | 5145.00 | 5145.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.89 | 48.89 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 51.53 | 51.53 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 50.77 | 50.77 | ppb | 0.58 | 900.00 | |
| 55 Mn | 45 | 2 | 48.71 | 48.71 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 5303.00 | 5303.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 51.82 | 51.82 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 50.49 | 50.49 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | 48.51 | 48.51 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 48.62 | 48.62 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 49.37 | 49.37 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 46.15 | 46.15 | ppb | 2.16 | 900.00 | |
| 88 Sr | 103 | 1 | 52.92 | 52.92 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 51.43 | 51.43 | ppb | 0.26 | 900.00 | |
| 107 Ag | 115 | 1 | 46.68 | 46.68 | ppb | 1.43 | 180.00 | |
| 111 Cd | 115 | 2 | 51.85 | 51.85 | ppb | 0.80 | 900.00 | |
| 120 Sn | 115 | 1 | 53.91 | 53.91 | ppb | 0.43 | 900.00 | |
| 121 Sb | 115 | 1 | 55.09 | 55.09 | ppb | 0.35 | 900.00 | |
| 137 Ba | 159 | 1 | 49.07 | 49.07 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 50.05 | 50.05 | ppb | 0.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.30 | 51.30 | ppb | 1.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 363088 | 1.18 | 1663748 | 21.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2154432 | 0.50 | 2728585 | 79.0 | 70 - 130 | |
| 45 Sc | 2 | 396347 | 0.13 | 406595 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 582950 | 0.44 | 617288 | 94.4 | 70 | - | 130 |
| 72 Ge | 2 | 157481 | 0.47 | 157406 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 3952405 | 0.89 | 3944827 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 4501632 | 0.94 | 4162835 | 108.1 | 70 | - | 130 |
| 115 In | 2 | 1260319 | 1.21 | 1319592 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 6827951 | 1.28 | 5883852 | 116.0 | 70 | - | 130 |
| 175 Lu | 1 | 6788632 | 0.53 | 5727334 | 118.5 | 70 | - | 130 |
| 209 Bi | 1 | 3793123 | 0.76 | 3404545 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D# |
| Date Acquired: | Apr 25 2013 02:25 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 3111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 32.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 511.46 | 900.00 | |
| 11 B | 6 | 1 | 0.57 | 0.57 | ppb | 19.18 | 900.00 | |
| 11 B | 45 | 2 | 0.30 | 0.30 | ppb | 33.83 | 900.00 | |
| 23 Na | 45 | 1 | 14.14 | 14.14 | ppb | 4.33 | 90000.00 | |
| 23 Na | 45 | 2 | 25.65 | 25.65 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.02 | 3.02 | ppb | 15.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.10 | 5.10 | ppb | 6.83 | 90000.00 | |
| 27 Al | 45 | 1 | 2.87 | 2.87 | ppb | 16.03 | 90000.00 | |
| 27 Al | 45 | 2 | 4.23 | 4.23 | ppb | 2.50 | 90000.00 | |
| 39 K | 45 | 1 | 1.46 | 1.46 | ppb | 70.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.20 | 11.20 | ppb | 4.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 24.94 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 80.74 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 24.27 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 31.92 | 900.00 | |
| 56 Fe | 45 | 2 | 5.55 | 5.55 | ppb | 3.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 67.97 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 20.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.06 | 0.06 | ppb | 2.77 | 900.00 | |
| 66 Zn | 72 | 2 | 0.36 | 0.36 | ppb | 5.27 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 63.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 70.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 79.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.22 | 0.22 | ppb | 2.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.89 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 62.06 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 31.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 58.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 15.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 370091 | 0.57 | 1663748 | 22.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2173333 | 1.12 | 2728585 | 79.7 | 70 - 130 | |
| 45 Sc | 2 | 402879 | 0.27 | 406595 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 593347 | 0.29 | 617288 | 96.1 | 70 - | 130 |
| 72 | Ge | 2 | 161275 | 0.53 | 157406 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 4091624 | 0.30 | 3944827 | 103.7 | 70 - | 130 |
| 115 | In | 1 | 4629755 | 0.38 | 4162835 | 111.2 | 70 - | 130 |
| 115 | In | 2 | 1298085 | 1.37 | 1319592 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 6937803 | 0.33 | 5883852 | 117.9 | 70 - | 130 |
| 175 | Lu | 1 | 6794872 | 0.53 | 5727334 | 118.6 | 70 - | 130 |
| 209 | Bi | 1 | 3944137 | 0.73 | 3404545 | 115.8 | 70 - | 130 |

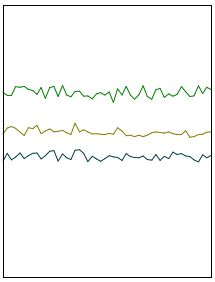
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

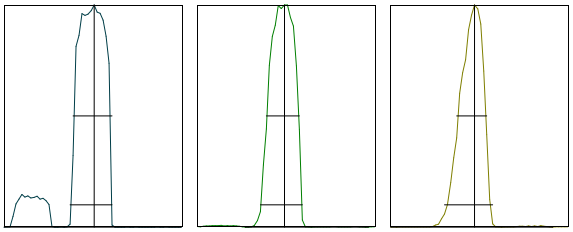
# Tune Report

Tune File : nogas.u
Comment : 042413



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2243.0 | 2220.9 | 2.64 | 2.00 |
| 89 | 10,000 | 6904.0 | 6798.1 | 2.38 | 3.20 |
| 205 | 10,000 | 5352.0 | 5334.8 | 2.11 | 13.40 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.148%
Doubly Charged: 70/140 3.310%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,303 | 6,773 | 5,257 |
| Axis: | 7.05 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.55 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.6 mm | Omega Lens-ce | : | 0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.8 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.27 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 559.8 | 5.79 | |
| QP Focus: | -8 V | 59 | 1636.1 | 3.05 | |
| Cell Exit: | -34 V | 89 | 1844.2 | 2.80 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 24, 2013 16:11:49
Printed : Apr 24, 2013 16:12:39

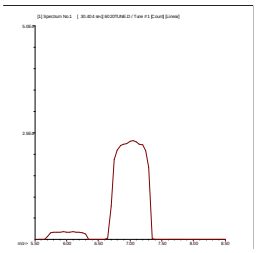
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 24 2013 04:42 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

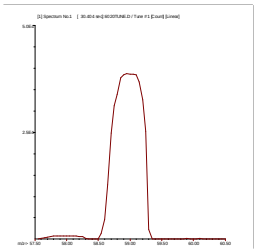
**QC Tune Summary:**
**Pass**

**RSD%**

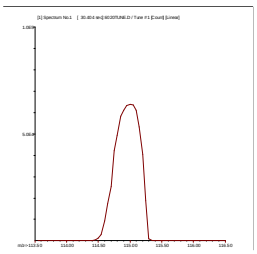
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.11 | 5.00 | 0 |
| 59 Co | 0.41 | 5.00 | |
| 115 In | 0.38 | 5.00 | |
| 205 Tl | 4.10 | 5.00 | |



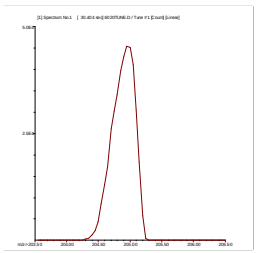
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 24, 2013 06:06 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

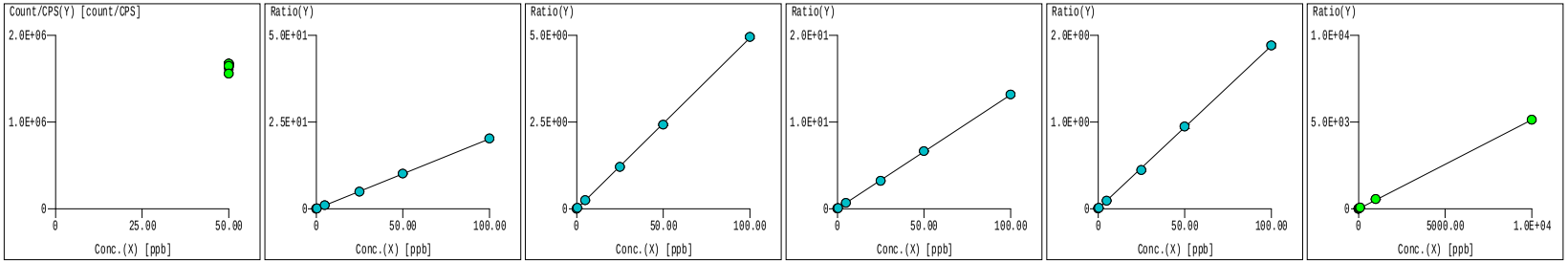
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d24r00.b\002calb.d\002calb.d# | STDA | Apr 24 2013 05:13 pm |
| 2 | c:\icpchem\1\data\13d24r00.b\003cals.d\003cals.d# | STDB | Apr 24 2013 05:20 pm |
| 3 | c:\icpchem\1\data\13d24r00.b\004cals.d\004cals.d# | STDC | Apr 24 2013 05:27 pm |
| 4 | c:\icpchem\1\data\13d24r00.b\005cals.d\005cals.d# | STDD | Apr 24 2013 05:35 pm |
| 5 | c:\icpchem\1\data\13d24r00.b\006cals.d\006cals.d# | STDE | Apr 24 2013 05:42 pm |
| 6 | c:\icpchem\1\data\13d24r00.b\007cals.d\007cals.d# | STDF | Apr 24 2013 05:49 pm |
| 7 | c:\icpchem\1\data\13d24r00.b\008cals.d\008cals.d# | STDG | Apr 24 2013 05:56 pm |
| 8 | c:\icpchem\1\data\13d24r00.b\009cals.d\009cals.d# | STDH | Apr 24 2013 06:03 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

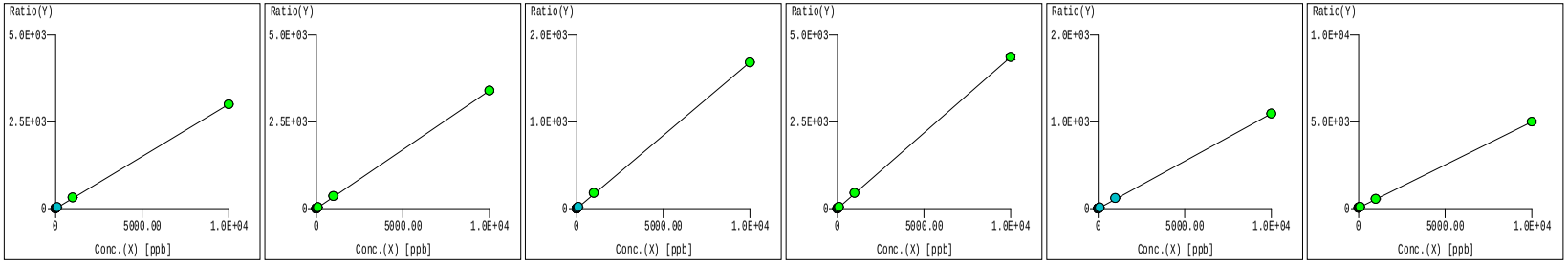
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 1.693E-02 ppb | 1.439E-02 ppb | 2.510E-02 ppb | 4.049E-02 ppb | 9.096E-02 ppb |
| < BEC > | --- ppb | 2.998E-02 ppb | 5.538E-03 ppb | 1.736E-01 ppb | 1.603E-01 ppb | 8.102 ppb |



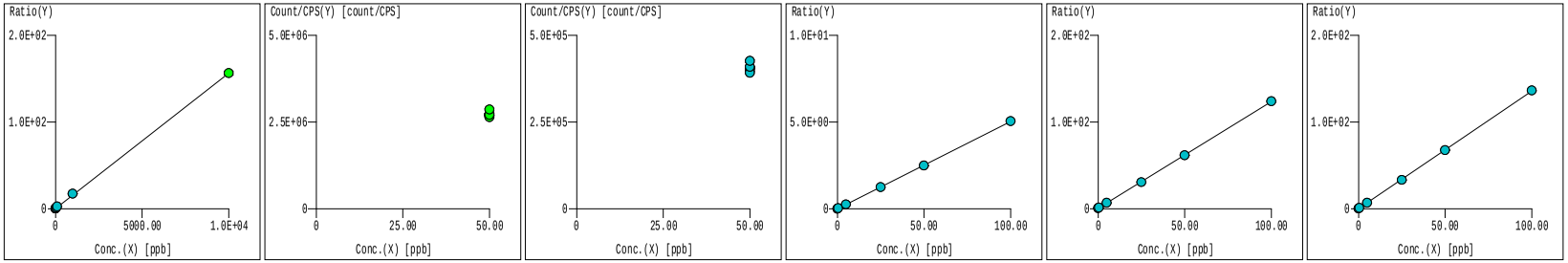

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 2.014E-01 ppb | 1.144E-02 ppb | 7.633E-02 ppb | 1.627E-01 ppb | 2.453E-01 ppb | 4.511E-01 ppb |
| < BEC > | 14.23 ppb | 2.435E-01 ppb | 2.323E-01 ppb | 7.316E-01 ppb | 6.163E-01 ppb | 101.0 ppb |



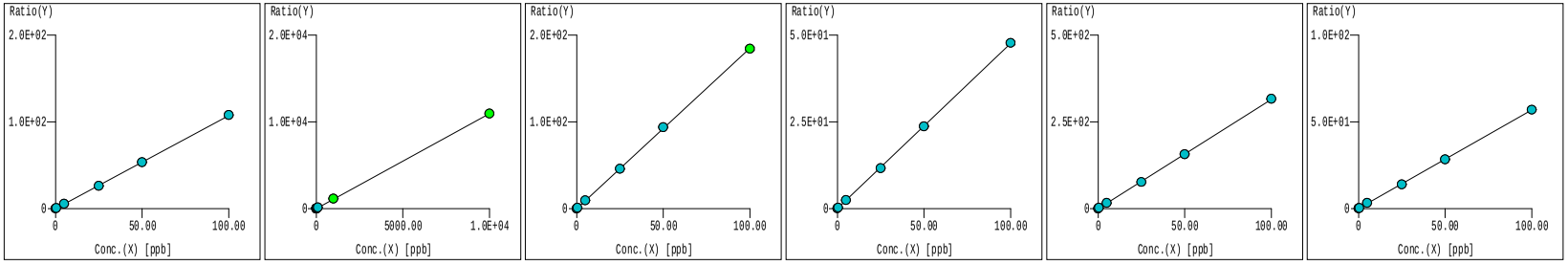
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 7.185E-01 ppb | --- ppb | --- ppb | 5.428E-03 ppb | 3.448E-02 ppb | 1.404E-02 ppb |
| < BEC > | 13.38 ppb | --- ppb | --- ppb | 5.140E-02 ppb | 5.960E-01 ppb | 1.422E-01 ppb |



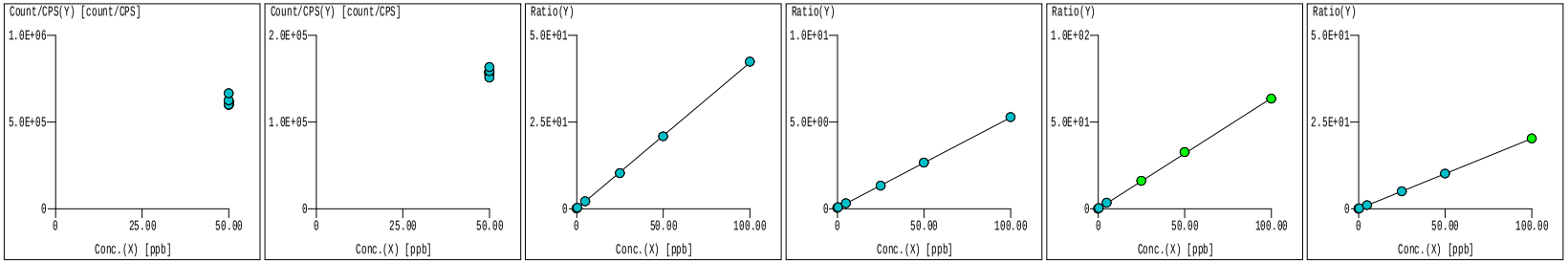

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 3.492E-03 ppb | 1.309E-01 ppb | 4.989E-03 ppb | 1.680E-02 ppb | 1.555E-02 ppb | 1.206E-02 ppb |
| < BEC > | 1.262E-01 ppb | 3.195 ppb | 8.282E-03 ppb | 9.446E-02 ppb | 8.924E-02 ppb | 1.949E-01 ppb |



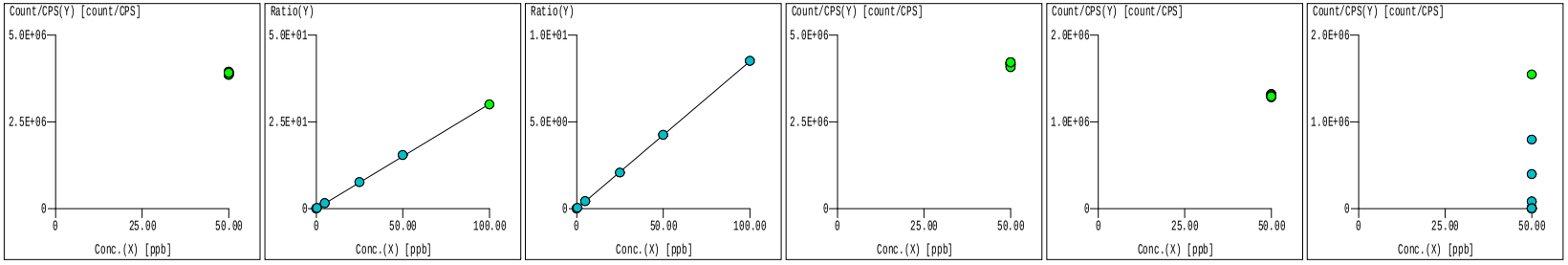
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 6.163E-03 ppb | 1.540E-01 ppb | 9.049E-04 ppb | 1.023E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.641E-01 ppb | 9.731E-01 ppb | 1.899E-02 ppb | 2.097E-02 ppb |



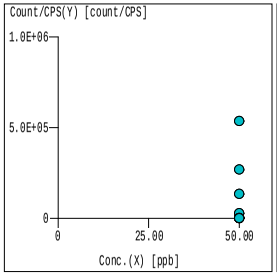

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.786E-03 ppb | 1.746E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.380E-03 ppb | 2.135E-02 ppb | --- ppb | --- ppb | --- ppb |

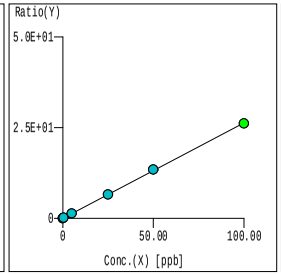


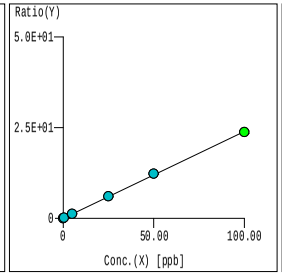
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

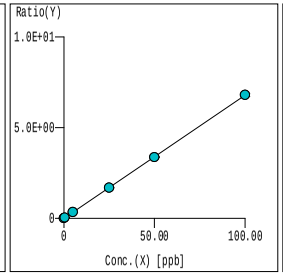
=== Graph Summary ===
Page: 4/4

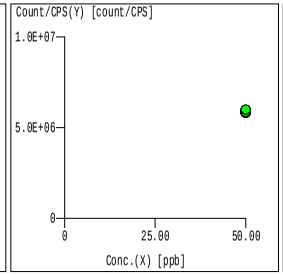
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9998 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.509E-03 ppb | 5.745E-03 ppb | 8.312E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.740E-02 ppb | 1.734E-02 ppb | 9.426E-02 ppb | --- ppb | --- ppb |

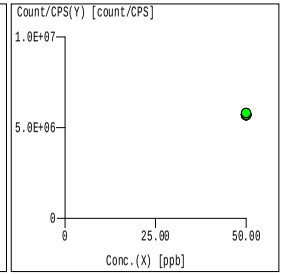


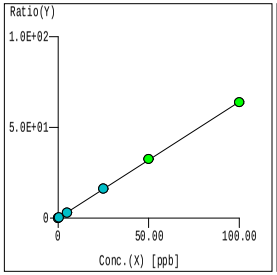



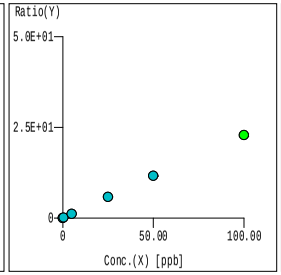



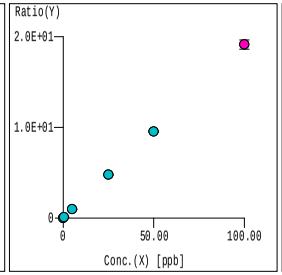



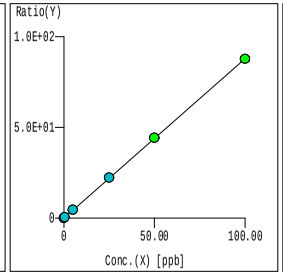



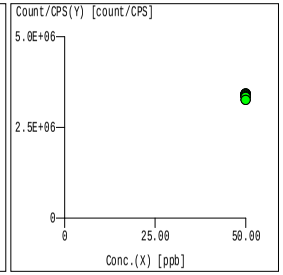

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 6.137E-03 ppb | --- ppb | --- ppb | 7.184E-03 ppb | --- ppb |
| < BEC > | 2.285E-02 ppb | --- ppb | --- ppb | 3.444E-02 ppb | --- ppb |



ACCUTEST

| Date: | 04/17/13 |
|---|---|
| Time | 16:22 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20790 |
| QC Sample ID: | MC19762-17F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35119-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 94 | Factor | 0 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20790-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20790-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20790-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19762-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-1F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 04/20/13

(Format edits must be done by dept. Manager)

ACCUTEST

| Date: | 04/18/13 |
|---|---|
| Time | 11:00 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20797 |
| QC Sample ID: | MC19884-2F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35245-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20797-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20797-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20797-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20797-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20797-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-3F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 04/20/13

(Format edits must be done by dept. Manager)

7.6.2

7

ACCUTEST

| Date: | 04/19/13 |
|---|---|
| Time | 16:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20808 |
| QC Sample ID: | MC19884-4F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35245-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20808-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20808-B1 | 50 | 50 | | | | 3 | 5 | | |
| 2 | MP20808-S1 | 50 | 50 | | | | 3 | 5 | | |
| 2 | MP20808-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 2 | MP20808-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-10F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-12F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC19884-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-5F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-7F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-8F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-9F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/22/13

**(Format edits must be done by dept. Manager)**

7.6.3

7

Prep QC: MP20810

ACCUTEST

| Date: | 04/20/13 |
|---|---|
| Time | 12:40 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20810 |
| QC Sample ID: | MC19884-15F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35245-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35128-METALS |
| 0.5 | RGT-35100-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 94 | Factor | 0 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20810-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20810-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20810-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20810-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20810-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-14F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-15F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-16F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 04/22/13

(Format edits must be done by dept. Manager)

7.9.4

7

Prep QC: MP20828

ACCUTEST

| Date: | 04/23/13 |
|---|---|
| Time | 17:40 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20828 |
| QC Sample ID: | MC19884-17F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35301-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20828-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20828-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-4F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/25/13

**(Format edits must be done by dept. Manager)**

7.6.5

7

New England ACCUTEST LABORATORIES

04/29/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC20063

Sampling Dates: 04/22/13 - 04/25/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **573**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC20063

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC20063-1F | 04/22/13 | 13:45 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-055 |
| MC20063-2F | 04/22/13 | 14:45 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-065 |
| MC20063-3F | 04/22/13 | 15:55 | CMH | 04/22/13 | AQ | Groundwater Filtered | GP-13-08-071 |
| MC20063-4F | 04/22/13 | 16:00 | CMH | 04/22/13 | AQ | Equip Blank Filtered | RB-042213-U |
| MC20063-5F | 04/23/13 | 10:10 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-025 |
| MC20063-5FD | 04/23/13 | 10:10 | CMH | 04/23/13 | AQ | Water Dup/MSD | GP-13-09-025 |
| MC20063-5FS | 04/23/13 | 10:10 | CMH | 04/23/13 | AQ | Water Matrix Spike | GP-13-09-025 |
| MC20063-6F | 04/23/13 | 11:05 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-035 |
| MC20063-7F | 04/23/13 | 12:05 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-045 |
| MC20063-8F | 04/23/13 | 00:00 | CMH | 04/23/13 | AQ | Groundwater Filtered | DUP-042313-F |
| MC20063-9F | 04/23/13 | 13:25 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-055 |
| MC20063-10F | 04/23/13 | 14:40 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-065 |
| MC20063-11F | 04/23/13 | 15:50 | CMH | 04/23/13 | AQ | Groundwater Filtered | GP-13-09-075 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC20063

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC20063-12F | 04/23/13 | 16:00 | CMH | 04/23/13 | AQ | Equip Blank Filtered | RB-042313-U |
| MC20063-13F | 04/24/13 | 10:15 | CMH | 04/24/13 | AQ | Groundwater Filtered | GP-13-09-085 |
| MC20063-14F | 04/24/13 | 11:50 | CMH | 04/24/13 | AQ | Groundwater Filtered | GP-13-09-095 |
| MC20063-15F | 04/24/13 | 14:00 | CMH | 04/24/13 | AQ | Equip Blank Filtered | RB-042413-U |
| MC20063-16F | 04/24/13 | 14:45 | CMH | 04/24/13 | AQ | Groundwater Filtered | GP-13-10-025 |
| MC20063-17F | 04/24/13 | 15:40 | CMH | 04/24/13 | AQ | Groundwater Filtered | GP-13-10-035 |
| MC20063-18F | 04/25/13 | 00:00 | CMH | 04/25/13 | AQ | Groundwater Filtered | GP-13-10-045 |
| MC20063-19F | 04/25/13 | 00:00 | CMH | 04/25/13 | AQ | Groundwater Filtered | DUP-042413-F |
| MC20063-20F | 04/25/13 | 10:40 | CMH | 04/25/13 | AQ | Groundwater Filtered | GP-13-10-055 |
| MC20063-21F | 04/25/13 | 11:50 | CMH | 04/25/13 | AQ | Equip Blank Filtered | RB-042413-U |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC20063

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 4/29/2013 2:15:45 PM

21 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 04/22/2013 and 04/25/2013 and were received at Accutest between 04/22/2013 and 04/25/2013 properly preserved, at 0.4 Deg. C and intact. These Samples received an Accutest job number of MC20063. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP20828

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC19884-17FMS, MC19884-17FMSD, MC19884-17FPS, MC19884-17FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20828-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20836

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20063-5FMS, MC20063-5FMSD, MC20063-5FPS, MC20063-5FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20836-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP20836-MB2 for Arsenic: No samples reported for this element bracketed by this filter balnk.

**Matrix:** AQ **Batch ID:** MP20844

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20063-13FMS, MC20063-13FMSD, MC20063-13FPS, MC20063-13FSDL were used as the QC samples for metals.

**Matrix:** AQ **Batch ID:** MP20853

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20199-2FMS, MC20199-2FMSD, MC20199-2FPS, MC20199-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20853-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC20063).

# Summary of Hits



**Job Number:** MC20063
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/22/13 thru 04/25/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC20063-1F** | **GP-13-08-055** | | | | | |
| Arsenic | | 288 | 5.0 | | ug/l | SW846 6020A |
| **MC20063-2F** | **GP-13-08-065** | | | | | |
| Arsenic | | 1080 | 50 | | ug/l | SW846 6020A |
| **MC20063-3F** | **GP-13-08-071** | | | | | |
| Arsenic | | 20.6 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-4F** | **RB-042213-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20063-5F** | **GP-13-09-025** | | | | | |
| Arsenic | | 1.3 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-6F** | **GP-13-09-035** | | | | | |
| Arsenic | | 152 | 2.5 | | ug/l | SW846 6020A |
| **MC20063-7F** | **GP-13-09-045** | | | | | |
| Arsenic | | 77.2 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-8F** | **DUP-042313-F** | | | | | |
| Arsenic | | 165 | 2.5 | | ug/l | SW846 6020A |
| **MC20063-9F** | **GP-13-09-055** | | | | | |
| Arsenic | | 4.2 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-10F** | **GP-13-09-065** | | | | | |
| Arsenic | | 59.5 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-11F** | **GP-13-09-075** | | | | | |
| Arsenic | | 12.2 | 1.0 | | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC20063
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/22/13 thru 04/25/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC20063-12F** | **RB-042313-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20063-13F** | **GP-13-09-085** | | | | | |
| Arsenic | | 9.6 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-14F** | **GP-13-09-095** | | | | | |
| Arsenic | | 12.1 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-15F** | **RB-042413-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20063-16F** | **GP-13-10-025** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20063-17F** | **GP-13-10-035** | | | | | |
| Arsenic | | 1.6 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-18F** | **GP-13-10-045** | | | | | |
| Arsenic | | 12.5 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-19F** | **DUP-042413-F** | | | | | |
| Arsenic | | 14.7 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-20F** | **GP-13-10-055** | | | | | |
| Arsenic | | 17.5 | 1.0 | | ug/l | SW846 6020A |
| **MC20063-21F** | **RB-042413-U** | | | | | |
| No hits reported in this sample. | | | | | | |

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-055 | | |
| **Lab Sample ID:** | MC20063-1F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 288 | 5.0 | ug/l | 10 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-065 | | |
| **Lab Sample ID:** | MC20063-2F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1080 | 50 | ug/l | 100 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-08-071 | | |
| **Lab Sample ID:** | MC20063-3F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 20.6 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-042213-U | | |
| **Lab Sample ID:** | MC20063-4F | **Date Sampled:** | 04/22/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/23/13 | 04/24/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15497
(2) Prep QC Batch: MP20828

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-025 | | |
| **Lab Sample ID:** | MC20063-5F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.3 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-035 | | |
| **Lab Sample ID:** | MC20063-6F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 152 | 2.5 | ug/l | 5 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-045 | | |
| **Lab Sample ID:** | MC20063-7F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 77.2 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-042313-F | | |
| **Lab Sample ID:** | MC20063-8F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 165 | 2.5 | ug/l | 5 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-055 | | |
| **Lab Sample ID:** | MC20063-9F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 4.2 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-065 | | |
| **Lab Sample ID:** | MC20063-10F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 59.5 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-075 | | |
| **Lab Sample ID:** | MC20063-11F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 12.2 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-042313-U | | |
| **Lab Sample ID:** | MC20063-12F | **Date Sampled:** | 04/23/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/24/13 | 04/25/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15502
(2) Prep QC Batch: MP20836

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-085 | | |
| **Lab Sample ID:** | MC20063-13F | **Date Sampled:** | 04/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 9.6 | 1.0 | ug/l | 2 | 04/25/13 | 04/26/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15506
(2) Prep QC Batch: MP20844

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-09-095 | | |
| **Lab Sample ID:** | MC20063-14F | **Date Sampled:** | 04/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 12.1 | 1.0 | ug/l | 2 | 04/25/13 | 04/26/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15506
(2) Prep QC Batch: MP20844

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-042413-U | | |
| **Lab Sample ID:** | MC20063-15F | **Date Sampled:** | 04/24/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/25/13 | 04/26/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15506
(2) Prep QC Batch: MP20844

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-025 | | |
| **Lab Sample ID:** | MC20063-16F | **Date Sampled:** | 04/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/25/13 | 04/26/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15506
(2) Prep QC Batch: MP20844

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-035 | | |
| **Lab Sample ID:** | MC20063-17F | **Date Sampled:** | 04/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.6 | 1.0 | ug/l | 2 | 04/25/13 | 04/26/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15506
(2) Prep QC Batch: MP20844

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-045 | | |
| **Lab Sample ID:** | MC20063-18F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 12.5 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-042413-F | | |
| **Lab Sample ID:** | MC20063-19F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 14.7 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-055 | | |
| **Lab Sample ID:** | MC20063-20F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 17.5 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-042413-U | | |
| **Lab Sample ID:** | MC20063-21F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 4

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC20063

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SSR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State Zip
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | GP-13-05-055 | NA | 4-22-13 | 1345 | CMH | GW | 1 | | | X | | | | | | X | |
| -2F | GP-13-05-065 | NA | 4-22-13 | 1445 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~GP-13-05-CH~~ | | | | | | | | | | | | | | | | -4 |
| -3F | GP-13-08-071 | NA | 4-22-13 | 1555 | CMH | GW | 1 | | | X | | | | | | X | |
| -4F | BB (4/22/13 - 1) | NA | 4-22-13 | 1600 | CMH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 5A |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG #4. open
Custody Seal # 042313-1 042213-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-22-13 1615 | | | 4-22-13 1725 | |
| 2 | | | | | | |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 4 | | | | | | |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable / On Ice / Cooler Temp. |
| | | | | | | 0.4°C |

**MC20063: Chain of Custody**
**Page 1 of 5**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 4 (2)

FED-EX Tracking # | Bottle Order Control # MC20063
Accutest Quote # | Accutest Job # MA20096 4/29/13

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): GMH, SJR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -5 SD | GP-13-C9-C25 | NA | 4-23-13 | 1010 | GMH | GW | 3 | | | X | | | | | | X | MS/MSD |
| -6 | GP-13-C9-C35 | NA | 4-23-13 | 1105 | GMH | GW | 1 | | | X | | | | | | X | |
| -7 | GP-13-C9-C45 | NA | 4-23-13 | 1205 | GMH | GW | 1 | | | X | | | | | | X | |
| -8 | Dup-C42313-E | NA | 4-23-13 | — | GMH | GW | 1 | | | X | | | | | | X | |
| -9 | GP-13-C9-C55 | NA | 4-23-13 | 1325 | GMH | GW | 1 | | | X | | | | | | X | |
| -10 | GP-13-C9-C65 | NA | 4-23-13 | 1440 | GMH | GW | 1 | | | X | | | | | | X | |
| -11 | GP-13-C9-C75 | NA | 4-23-13 | 1550 | GMH | GW | 1 | | | X | | | | | | X | |
| -12 | BB-C42313-U | NA | 4-23-13 | 1600 | GMH | WW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

LOC 5A

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

RUSH!

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG # 4 open
Custody Seals # 042313-1 042313-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | | 1 | 2 | 19:10 4-23-13 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | Intact / Not Intact | Preserved where applicable / On Ice / Cooler Temp. 0.4 C |

**MC20063: Chain of Custody**
**Page 2 of 5**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

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www.accutest.com

PAGE 3 OF 4 — 4/24/14

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC20063

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SSR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -13F | GP-13-09-065 | N/A | 4-24-13 | 1015 | CMH | GW | 1 | | | X | | | | | | X | |
| -14F | GP-13-09-095 | N/A | 4-24-13 | 1150 | CMH | GW | 1 | | | X | | | | | | X | |
| -15F | FB-042413-1 | N/A | 4-24-13 | 1400 | CMH | GW | 1 | | | X | | | | | | X | |
| -16F | GP-13-10-025 | N/A | 4-24-13 | 1445 | CMH | GW | 1 | | | X | | | | | | X | |
| -17F | GP-13-10-035 | N/A | 4-24-13 | 1540 | CMH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 5C |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtink

Approved by: **RUSH!**

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

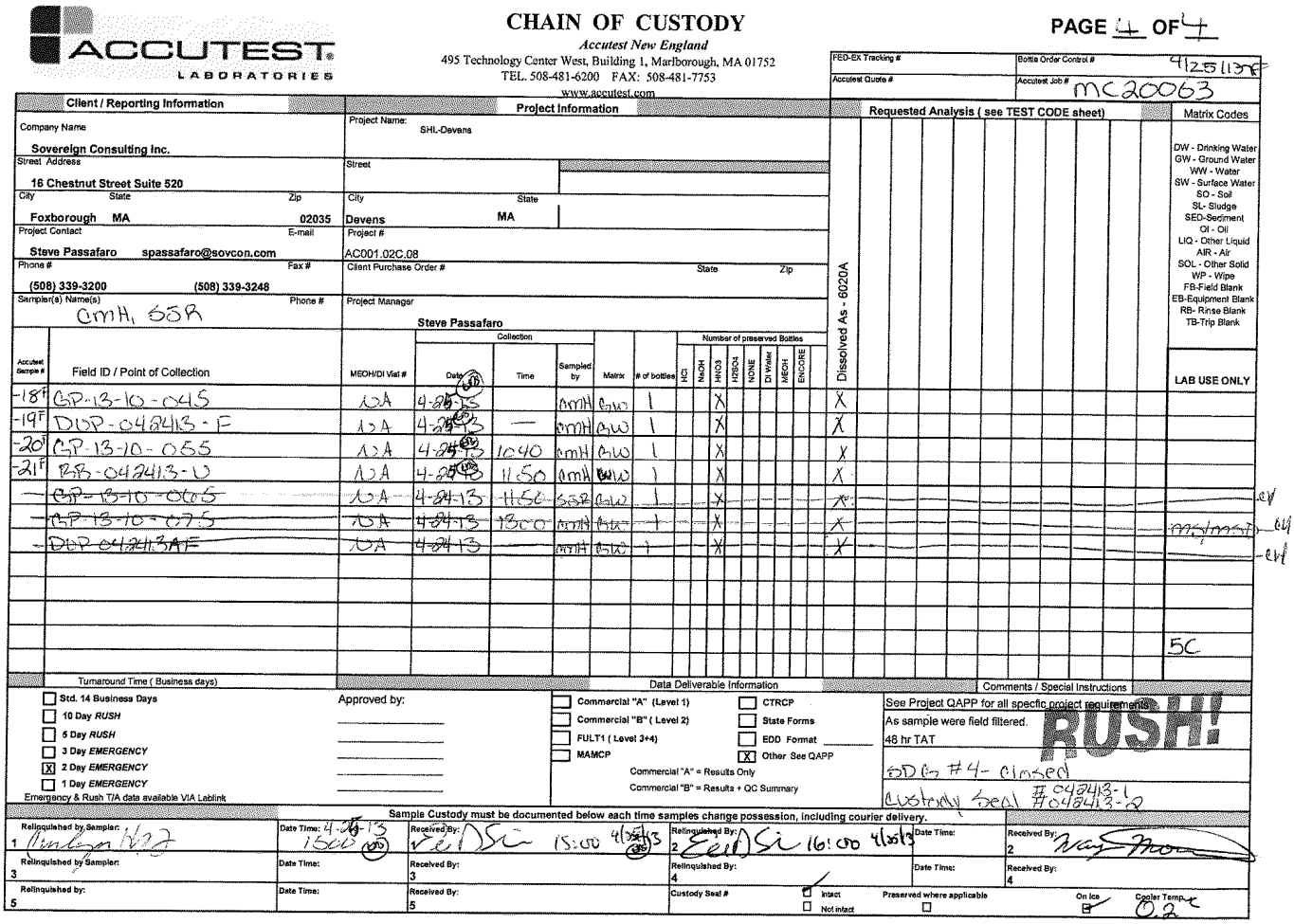
See Project QAPP for all specfic project requirements
As sample were field filtered.
48 hr TAT
SDG # 4 - open
Custody Seal #042413-1 #042413-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-24-13 1600 | 1 | 2 | 4-24-13 1630 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] On Ice [ ] Cooler Temp. 0.2 C |

5.1 5

**MC20063: Chain of Custody**
**Page 3 of 5**



ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

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TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 4 OF 4

FED-EX Tracking #: | Bottle Order Control #: 412511338
Accutest Quote #: | Accutest Job #: MC20063

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH, SSR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Dissolved As - 6020A

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -18F | GP-13-10-045 | 10A | 4-24-13 | | CMH | GW | 1 | | | X | | | | | | X | |
| -19F | DUP-042413-F | 11A | 4-24-13 | | CMH | GW | 1 | | | X | | | | | | X | |
| -20F | GP-13-10-055 | 12A | 4-24-13 | 1040 | CMH | GW | 1 | | | X | | | | | | X | |
| -21F | BB-042413-U | 13A | 4-24-13 | 1150 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~GP-13-10-065~~ | 10A | 4-24-13 | 1150 | SSR | GW | 1 | | | X | | | | | | X | |
| | ~~GP-13-10-075~~ | 10A | 4-24-13 | 1300 | CMH | GW | 1 | | | X | | | | | | X | |
| | ~~DUP-042413AE~~ | 10A | 4-24-13 | | CMH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 5C |

Turnaround Time ( Business days)

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtink

Approved by:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

See Project QAPP for all specific project requirements.
As sample were field filtered.
48 hr TAT
RUSH!
EDDs #4- closed
Custody Seal #042413-1 #042413-2

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | Pinelyn IV27 | 4-24-13 1500 | Vel Si 15:00 4/25/13 | 2 Vel Si 16:00 4/25/13 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # [ ] Intact [ ] Not intact | Preserved where applicable [ ] | On Ice [✓] Cooler Temp: 0.2 |

**MC20063: Chain of Custody**
**Page 4 of 5**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC20063 **Client:** SOVEREING **Immediate Client Services Action Required:** No

**Date / Time Received:** 4/25/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS / SDG #4 **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC20063: Chain of Custody**
**Page 5 of 5**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20063

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20063-1F | Collected: 22-APR-13 13:45 By: CMH GP-13-08-055 | | | Received: 22-APR-13 | By: | |
| MC20063-1S | SW846 6020A | 24-APR-13 19:42 | PY | 23-APR-13 | SA | ASMS |
| MC20063-2F | Collected: 22-APR-13 14:45 By: CMH GP-13-08-065 | | | Received: 22-APR-13 | By: | |
| MC20063-2S | SW846 6020A | 24-APR-13 20:04 | PY | 23-APR-13 | SA | ASMS |
| MC20063-3F | Collected: 22-APR-13 15:55 By: CMH GP-13-08-071 | | | Received: 22-APR-13 | By: | |
| MC20063-3S | SW846 6020A | 24-APR-13 20:11 | PY | 23-APR-13 | SA | ASMS |
| MC20063-4F | Collected: 22-APR-13 16:00 By: CMH RB-042213-U | | | Received: 22-APR-13 | By: | |
| MC20063-4S | SW846 6020A | 24-APR-13 20:18 | PY | 23-APR-13 | SA | ASMS |
| MC20063-5F | Collected: 23-APR-13 10:10 By: CMH GP-13-09-025 | | | Received: 23-APR-13 | By: | SAP |
| MC20063-5S | SW846 6020A | 25-APR-13 12:59 | PY | 24-APR-13 | DA | ASMS |
| MC20063-6F | Collected: 23-APR-13 11:05 By: CMH GP-13-09-035 | | | Received: 23-APR-13 | By: | SAP |
| MC20063-6S | SW846 6020A | 25-APR-13 14:46 | PY | 24-APR-13 | DA | ASMS |
| MC20063-7F | Collected: 23-APR-13 12:05 By: CMH GP-13-09-045 | | | Received: 23-APR-13 | By: | SAP |
| MC20063-7S | SW846 6020A | 25-APR-13 13:13 | PY | 24-APR-13 | DA | ASMS |
| MC20063-8F | Collected: 23-APR-13 00:00 By: CMH DUP-042313-F | | | Received: 23-APR-13 | By: | SAP |
| MC20063-8S | SW846 6020A | 25-APR-13 15:07 | PY | 24-APR-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20063

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20063-9 | Collected: 23-APR-13 13:25 By: CMH<br>GP-13-09-055 | | | Received: 23-APR-13 By: SAP | | |
| MC20063-9 | SW846 6020A | 25-APR-13 13:41 | PY | 24-APR-13 | DA | ASMS |
| MC20063-10 | Collected: 23-APR-13 14:40 By: CMH<br>GP-13-09-065 | | | Received: 23-APR-13 By: SAP | | |
| MC20063-10 | SW846 6020A | 25-APR-13 13:48 | PY | 24-APR-13 | DA | ASMS |
| MC20063-11 | Collected: 23-APR-13 15:50 By: CMH<br>GP-13-09-075 | | | Received: 23-APR-13 By: SAP | | |
| MC20063-11 | SW846 6020A | 25-APR-13 13:55 | PY | 24-APR-13 | DA | ASMS |
| MC20063-12 | Collected: 23-APR-13 16:00 By: CMH<br>RB-042313-U | | | Received: 23-APR-13 By: SAP | | |
| MC20063-12 | SW846 6020A | 25-APR-13 14:02 | PY | 24-APR-13 | DA | ASMS |
| MC20063-13 | Collected: 24-APR-13 10:15 By: CMH<br>GP-13-09-085 | | | Received: 24-APR-13 By: | | |
| MC20063-13 | SW846 6020A | 26-APR-13 20:31 | PY | 25-APR-13 | DA | ASMS |
| MC20063-14 | Collected: 24-APR-13 11:50 By: CMH<br>GP-13-09-095 | | | Received: 24-APR-13 By: | | |
| MC20063-14 | SW846 6020A | 26-APR-13 20:38 | PY | 25-APR-13 | DA | ASMS |
| MC20063-15 | Collected: 24-APR-13 14:00 By: CMH<br>RB-042413-U | | | Received: 24-APR-13 By: | | |
| MC20063-15 | SW846 6020A | 26-APR-13 20:45 | PY | 25-APR-13 | DA | ASMS |
| MC20063-16 | Collected: 24-APR-13 14:45 By: CMH<br>GP-13-10-025 | | | Received: 24-APR-13 By: | | |
| MC20063-16 | SW846 6020A | 26-APR-13 21:07 | PY | 25-APR-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20063

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20063-17 | Collected: 24-APR-13 15:40 By: CMH<br>GP-13-10-035 | | | Received: 24-APR-13 By: | | |
| MC20063-17 | SW846 6020A | 26-APR-13 21:14 | PY | 25-APR-13 | DA | ASMS |
| MC20063-18 | Collected: 25-APR-13 00:00 By: CMH<br>GP-13-10-045 | | | Received: 25-APR-13 By: | | |
| MC20063-18 | SW846 6020A | 27-APR-13 15:52 | PY | 26-APR-13 | DA | ASMS |
| MC20063-19 | Collected: 25-APR-13 00:00 By: CMH<br>DUP-042413-F | | | Received: 25-APR-13 By: | | |
| MC20063-19 | SW846 6020A | 27-APR-13 15:59 | PY | 26-APR-13 | DA | ASMS |
| MC20063-20 | Collected: 25-APR-13 10:40 By: CMH<br>GP-13-10-055 | | | Received: 25-APR-13 By: | | |
| MC20063-20 | SW846 6020A | 27-APR-13 16:06 | PY | 26-APR-13 | DA | ASMS |
| MC20063-21 | Collected: 25-APR-13 11:50 By: CMH<br>RB-042413-U | | | Received: 25-APR-13 By: | | |
| MC20063-21 | SW846 6020A | 27-APR-13 16:13 | PY | 26-APR-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC20063
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC20063-1F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC20063-1F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC20063-2F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC20063-2F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC20063-3F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC20063-3F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC20063-4F.1 | Walk In Ref #5 | Sarah Ayaz | 04/23/13 14:31 | Retrieve from Storage |
| MC20063-4F.1 | Sarah Ayaz | Walk In Ref #5 | 04/24/13 09:19 | Return to Storage |
| MC20063-5.2 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-5.2 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-6.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-6.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-7.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-7.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-8.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-8.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-9.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-9.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-10.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-10.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-11.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-11.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-12.1 | Walk In Ref #5 | Dorina Antonovici | 04/24/13 13:32 | Retrieve from Storage |
| MC20063-12.1 | Dorina Antonovici | Walk In Ref #5 | 04/24/13 16:04 | Return to Storage |
| MC20063-13F.1 | Walk In Ref #5 | Dorina Antonovici | 04/25/13 15:16 | Retrieve from Storage |
| MC20063-13F.1 | Dorina Antonovici | Walk In Ref #5 | 04/25/13 16:50 | Return to Storage |
| MC20063-14F.1 | Walk In Ref #5 | Dorina Antonovici | 04/25/13 15:16 | Retrieve from Storage |
| MC20063-14F.1 | Dorina Antonovici | Walk In Ref #5 | 04/25/13 16:50 | Return to Storage |
| MC20063-15F.1 | Walk In Ref #5 | Dorina Antonovici | 04/25/13 15:16 | Retrieve from Storage |
| MC20063-15F.1 | Dorina Antonovici | Walk In Ref #5 | 04/25/13 16:50 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC20063
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC20063-16F.1 | Walk In Ref #5 | Dorina Antonovici | 04/25/13 15:16 | Retrieve from Storage |
| MC20063-16F.1 | Dorina Antonovici | Walk In Ref #5 | 04/25/13 16:50 | Return to Storage |
| MC20063-17F.1 | Walk In Ref #5 | Dorina Antonovici | 04/25/13 15:16 | Retrieve from Storage |
| MC20063-17F.1 | Dorina Antonovici | Walk In Ref #5 | 04/25/13 16:50 | Return to Storage |
| MC20063-18F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20063-18F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20063-19F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20063-19F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20063-20F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20063-20F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20063-21F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20063-21F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:13 | MA15497-STD1 | 1 | | STDA |
| 17:20 | MA15497-STD2 | 1 | | STDB |
| 17:27 | MA15497-STD3 | 1 | | STDC |
| 17:35 | MA15497-STD4 | 1 | | STDD |
| 17:42 | MA15497-STD5 | 1 | | STDE |
| 17:49 | MA15497-STD6 | 1 | | STDF |
| 17:56 | MA15497-STD7 | 1 | | STDG |
| 18:03 | MA15497-STD8 | 1 | | STDH |
| 18:10 | MA15497-ICV1 | 1 | | |
| 18:17 | MA15497-ICB1 | 1 | | |
| 18:24 | MA15497-CCV1 | 1 | | |
| 18:31 | MA15497-CCB1 | 1 | | |
| 18:38 | MA15497-CRI1 | 1 | | |
| 18:45 | MA15497-ICSA1 | 1 | | |
| 18:53 | MA15497-ICSAB1 | 1 | | |
| 19:00 | ZZZZZZ | 1 | | RINSECONF |
| 19:07 | MP20828-MB1 | 2 | | |
| 19:14 | MC19884-17F | 2 | | (sample used for QC only; not part of login MC20063) |
| 19:21 | ZZZZZZ | 2 | | |
| 19:28 | ZZZZZZ | 2 | | |
| 19:35 | ZZZZZZ | 2 | | |
| 19:42 | MC20063-1F | 10 | | |
| 19:49 | MA15497-CCV2 | 1 | | |
| 19:56 | MA15497-CCB2 | 1 | | |
| 20:04 | MC20063-2F | 100 | | |
| 20:11 | MC20063-3F | 2 | | |
| 20:18 | MC20063-4F | 2 | | |
| 20:25 | MP20828-B1 | 20 | | |
| 20:32 | MP20828-S1 | 20 | | |
| 20:39 | MP20828-S2 | 20 | | |
| 20:46 | MP20828-SD1 | 10 | | |
| 20:53 | MP20828-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC20063 | | | |
| 21:00 | ZZZZZZ | 1 | | RINSECONF |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:07 | MA15497-CRI2 | 1 | | |
| 21:14 | MA15497-CCV3 | 1 | | |
| 21:21 | MA15497-CCB3 | 1 | | |
| 21:28 | MP20756A-MB1 | 2 | | |
| 21:35 | MC19681-6 | 2 | | (sample used for QC only; not part of login MC20063) |
| 21:42 | ZZZZZZ | 2 | | |
| 21:49 | ZZZZZZ | 2 | | |
| 21:56 | ZZZZZZ | 2 | | |
| 22:03 | ZZZZZZ | 2 | | |
| 22:11 | ZZZZZZ | 2 | | |
| 22:18 | ZZZZZZ | 2 | | |
| 22:25 | ZZZZZZ | 2 | | |
| 22:32 | ZZZZZZ | 2 | | |
| 22:39 | MA15497-CCV4 | 1 | | |
| 22:46 | MA15497-CCB4 | 1 | | |
| 22:53 | ZZZZZZ | 2 | | |
| 23:00 | ZZZZZZ | 2 | | |
| 23:07 | MP20756A-B1 | 5 | | |
| 23:14 | MP20756A-S1 | 5 | | |
| 23:21 | MP20756A-S2 | 5 | | |
| 23:28 | MP20756A-SD1 | 10 | | |
| 23:35 | MP20764A-MB1 | 2 | | |
| 23:42 | MC20108-1 | 2 | | (sample used for QC only; not part of login MC20063) |
| 23:49 | ZZZZZZ | 2 | | |
| 23:56 | ZZZZZZ | 2 | | |
| 00:03 | MA15497-CCV5 | 1 | | |
| 00:10 | MA15497-CCB5 | 1 | | |
| 00:18 | ZZZZZZ | 2 | | |
| 00:25 | ZZZZZZ | 2 | | |
| 00:32 | ZZZZZZ | 2 | | |
| 00:39 | ZZZZZZ | 2 | | |
| 00:46 | ZZZZZZ | 2 | | |
| 00:53 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 01:00 | ZZZZZZ | 2 | | |
| 01:07 | MP20764A-B1 | 5 | | |
| 01:14 | MP20764A-S1 | 5 | | |
| 01:21 | MP20764A-S2 | 5 | | |
| 01:28 | MA15497-CCV6 | 1 | | |
| 01:35 | MA15497-CCB6 | 1 | | |
| 01:42 | MP20764A-SD1 | 10 | | |
| 01:49 | MA15497-CRI3 | 1 | | |
| 01:56 | MA15497-ICSA2 | 1 | | |
| 02:03 | MA15497-ICSAB2 | 1 | | |
| 02:11 | ZZZZZZ | 1 | | RINSECONF |
| 02:18 | MA15497-CCV7 | 1 | | |
| 02:25 | MA15497-CCB7 | 1 | | |

----------> Last reportable CCB for job MC20063
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:13 | MA15497-STD1 | 1663748 R | 2728585 R | 406595 R | 617288 R | 157406 R | 3944827 R | 4162834 R | 1319592 R |
| 17:20 | MA15497-STD2 | 1669461 | 2720414 | 406086 | 619566 | 157448 | 3916929 | 4188005 | 1315494 |
| 17:27 | MA15497-STD3 | 1670534 | 2718727 | 405395 | 612717 | 156858 | 3901592 | 4173284 | 1314666 |
| 17:35 | MA15497-STD4 | 1673562 | 2683283 | 406470 | 601994 | 156861 | 3893680 | 4139365 | 1319910 |
| 17:42 | MA15497-STD5 | 1639338 | 2690757 | 398865 | 598457 | 153880 | 3850722 | 4086852 | 1300239 |
| 17:49 | MA15497-STD6 | 1636274 | 2641334 | 392101 | 600578 | 150996 | 3860264 | 4071217 | 1283462 |
| 17:56 | MA15497-STD7 | 1645265 | 2705120 | 409351 | 624022 | 158675 | 3917278 | 4215249 | 1304340 |
| 18:03 | MA15497-STD8 | 1558491 | 2862488 | 425961 | 665305 | 163192 | 3910910 | 4213182 | 1291441 |
| 18:10 | MA15497-ICV1 | 1475293 | 2787078 | 411627 | 637236 | 158255 | 3932654 | 4216451 | 1282627 |
| 18:17 | MA15497-ICB1 | 1481342 | 2862991 | 431012 | 670327 | 165769 | 4158766 | 4437030 | 1347332 |
| 18:24 | MA15497-CCV1 | 1456893 | 2792744 | 412243 | 639444 | 158460 | 3941677 | 4245245 | 1294501 |
| 18:31 | MA15497-CCB1 | 1444451 | 2864991 | 431616 | 674789 | 165781 | 4222469 | 4498207 | 1364096 |
| 18:38 | MA15497-CRI1 | 1471649 | 2861350 | 434822 | 668371 | 166950 | 4190698 | 4459136 | 1365234 |
| 18:45 | MA15497-ICSA1 | 1252164 | 2695864 | 398809 | 653682 | 156134 | 3562781 | 3949833 | 1239659 |
| 18:53 | MA15497-ICSAB1 | 598985 !a | 2447521 | 410566 | 628074 | 159666 | 3663074 | 4151241 | 1243194 |
| 19:00 | ZZZZZZ | 493438 !a | 2391055 | 434845 | 629061 | 170150 | 4237916 | 4714962 | 1355315 |
| 19:07 | MP20828-MB1 | 380817 !a | 2185964 | 430355 | 598914 | 168463 | 4104614 | 4599647 | 1323224 |
| 19:14 | MC19884-17F | 381079 !a | 2188889 | 412504 | 583521 | 157147 | 3721132 | 4313947 | 1299879 |
| 19:21 | ZZZZZZ | 428528 !a | 2208759 | 406525 | 578214 | 155443 | 3669827 | 4242876 | 1284569 |
| 19:28 | ZZZZZZ | 447507 !a | 2359768 | 423509 | 621753 | 166019 | 3981368 | 4486511 | 1274282 |
| 19:35 | ZZZZZZ | 442982 !a | 2307432 | 431471 | 618138 | 167290 | 4020347 | 4594227 | 1291528 |
| 19:42 | MC20063-1F | 698955 !a | 2683132 | 445372 | 685546 | 173367 | 4355442 | 4816805 | 1372419 |
| 19:49 | MA15497-CCV2 | 765174 !a | 2822523 | 432495 | 687683 | 165646 | 4436168 | 4864260 | 1313802 |
| 19:56 | MA15497-CCB2 | 816401 !a | 2688393 | 436239 | 671409 | 168492 | 4361799 | 4710735 | 1342494 |
| 20:04 | MC20063-2F | 1212479 | 2895873 | 433979 | 701134 | 167669 | 4388490 | 4711819 | 1351822 |
| 20:11 | MC20063-3F | 594897 !a | 2482153 | 420566 | 644414 | 164261 | 3964508 | 4433482 | 1272618 |
| 20:18 | MC20063-4F | 595685 !a | 2513139 | 431087 | 645096 | 165820 | 4251544 | 4635692 | 1312208 |
| 20:25 | MP20828-B1 | 1151533 !a | 2930985 | 437779 | 696820 | 167816 | 4411992 | 4747001 | 1352237 |
| 20:32 | MP20828-S1 | 1186282 | 2897643 | 433386 | 685842 | 163796 | 4192621 | 4546811 | 1286385 |
| 20:39 | MP20828-S2 | 1244800 | 2909583 | 422379 | 683358 | 163719 | 4193009 | 4521290 | 1289873 |
| 20:46 | MP20828-SD1 | 1154181 !a | 2818063 | 420906 | 683685 | 162284 | 4118725 | 4439482 | 1276166 |
| 20:53 | MP20828-PS1 | 899965 !a | 2628655 | 402010 | 626566 | 152690 | 3778642 | 4204448 | 1255606 |
| 21:00 | ZZZZZZ | 1211434 | 2876915 | 426874 | 689044 | 165776 | 4345255 | 4636434 | 1326297 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 21:07 | MA15497-CRI2 | 1204523 | 2881765 | 429515 | 687495 | 164808 | 4328517 | 4645386 | 1333156 |
| 21:14 | MA15497-CCV3 | 1175983 | 2808047 | 413893 | 664483 | 158985 | 4112500 | 4436126 | 1263501 |
| 21:21 | MA15497-CCB3 | 1216434 | 2824447 | 420935 | 680418 | 162469 | 4254779 | 4597241 | 1298149 |
| 21:28 | MP20756A-MB1 | 898531 !a | 2650625 | 417047 | 656177 | 159938 | 4219122 | 4534070 | 1280536 |
| 21:35 | MC19681-6 | 886916 !a | 2651771 | 408635 | 647474 | 157055 | 3884812 | 4368907 | 1257248 |
| 21:42 | ZZZZZZ | 828276 !a | 2653847 | 412604 | 657568 | 158221 | 3952132 | 4417291 | 1272092 |
| 21:49 | ZZZZZZ | 832870 !a | 2590351 | 404580 | 635248 | 157879 | 3931632 | 4343761 | 1258566 |
| 21:56 | ZZZZZZ | 826955 !a | 2602395 | 408957 | 642145 | 158136 | 3957759 | 4426078 | 1257880 |
| 22:03 | ZZZZZZ | 812350 !a | 2537017 | 402366 | 620590 | 155216 | 3841516 | 4325405 | 1255142 |
| 22:11 | ZZZZZZ | 822042 !a | 2518341 | 393946 | 611492 | 151463 | 3746053 | 4181462 | 1242395 |
| 22:18 | ZZZZZZ | 836288 !a | 2594633 | 397046 | 623475 | 151621 | 3794717 | 4291434 | 1293967 |
| 22:25 | ZZZZZZ | 851690 !a | 2560689 | 396642 | 634585 | 153781 | 3820904 | 4311208 | 1248238 |
| 22:32 | ZZZZZZ | 873947 !a | 2531789 | 396084 | 631173 | 152672 | 3827737 | 4288806 | 1246534 |
| 22:39 | MA15497-CCV4 | 1217366 | 2764962 | 405145 | 648837 | 156408 | 4072146 | 4446060 | 1249809 |
| 22:46 | MA15497-CCB4 | 1233928 | 2788145 | 419163 | 671123 | 162848 | 4234914 | 4576913 | 1310733 |
| 22:53 | ZZZZZZ | 889374 !a | 2538600 | 396077 | 627044 | 152174 | 3826437 | 4283478 | 1303850 |
| 23:00 | ZZZZZZ | 917425 !a | 2534596 | 386537 | 605049 | 147821 | 3653233 | 4085964 | 1265382 |
| 23:07 | MP20756A-B1 | 1200552 | 2798822 | 412679 | 661662 | 157135 | 4126245 | 4515194 | 1281234 |
| 23:14 | MP20756A-S1 | 1152659 !a | 2751809 | 402569 | 648050 | 154600 | 3957614 | 4390645 | 1277400 |
| 23:21 | MP20756A-S2 | 1145049 !a | 2750560 | 401141 | 646394 | 153347 | 3962962 | 4388694 | 1271115 |
| 23:28 | MP20756A-SD1 | 1291146 | 2780532 | 406840 | 670756 | 159244 | 4097239 | 4534301 | 1284597 |
| 23:35 | MP20764A-MB1 | 957201 !a | 2575681 | 402700 | 640391 | 156103 | 4071909 | 4489682 | 1265458 |
| 23:42 | MC20108-1 | 946934 !a | 2581274 | 397684 | 630900 | 152964 | 3889536 | 4341689 | 1324415 |
| 23:49 | ZZZZZZ | 971413 !a | 2607359 | 403145 | 645973 | 155461 | 4057914 | 4449413 | 1271875 |
| 23:56 | ZZZZZZ | 961873 !a | 2606791 | 402207 | 645547 | 155900 | 4048281 | 4444727 | 1262011 |
| 00:03 | MA15497-CCV5 | 1258615 | 2809440 | 403454 | 654242 | 156285 | 4095457 | 4453806 | 1254906 |
| 00:10 | MA15497-CCB5 | 1303403 | 2805388 | 411317 | 667244 | 159711 | 4187562 | 4550420 | 1301691 |
| 00:18 | ZZZZZZ | 842680 !a | 2519185 | 373540 | 605972 | 145901 | 3570845 | 4065342 | 1223614 |
| 00:25 | ZZZZZZ | 768857 !a | 2518042 | 389589 | 610245 | 149769 | 3690681 | 4210860 | 1277855 |
| 00:32 | ZZZZZZ | 778353 !a | 2534056 | 393824 | 626180 | 154391 | 3875387 | 4387174 | 1260714 |
| 00:39 | ZZZZZZ | 712767 !a | 2484698 | 386414 | 618518 | 149314 | 3728507 | 4240812 | 1269449 |
| 00:46 | ZZZZZZ | 709540 !a | 2591082 | 383474 | 603731 | 144563 | 3615309 | 4131379 | 1212371 |
| 00:53 | ZZZZZZ | 743626 !a | 2639803 | 386238 | 586895 | 144431 | 3573669 | 4082555 | 1206183 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 01:00 | ZZZZZZ | 669706 | !a 2536931 | 376829 | 578262 | 143790 | 3553406 | 4065533 | 1206732 |
| 01:07 | MP20764A-B1 | 944022 | !a 2530858 | 387022 | 618135 | 152108 | 3901875 | 4365336 | 1244307 |
| 01:14 | MP20764A-S1 | -348578 | !a2583424 | 392710 | 624158 | 152629 | 3840533 | 4316413 | 1243222 |
| 01:21 | MP20764A-S2 | -320440 | !a2571872 | 389357 | 623032 | 151054 | 3850255 | 4282942 | 1240220 |
| 01:28 | MA15497-CCV6 | 1036323 | !a2625853 | 392662 | 623560 | 153161 | 3964544 | 4391045 | 1247787 |
| 01:35 | MA15497-CCB6 | 1057956 | !a2620055 | 397113 | 631873 | 155534 | 4049160 | 4468588 | 1273866 |
| 01:42 | MP20764A-SD1 | 1092125 | !a2636578 | 400605 | 639587 | 158210 | 4046558 | 4447643 | 1272431 |
| 01:49 | MA15497-CRI3 | 1079842 | !a2630884 | 398520 | 639233 | 156875 | 4110261 | 4488149 | 1291975 |
| 01:56 | MA15497-ICSA2 | 723668 | !  2439985 | 381971 | 626882 | 152248 | 3542229 | 4043690 | 1202833 |
| 02:03 | MA15497-ICSAB2 | 415988 | !  2191342 | 378882 | 595844 | 151921 | 3537742 | 4127802 | 1195684 |
| 02:11 | ZZZZZZ | 377081 | !a 2176499 | 399911 | 595191 | 161107 | 4074615 | 4652762 | 1291807 |
| 02:18 | MA15497-CCV7 | 363088 | !a 2154432 | 396347 | 582950 | 157481 | 3952405 | 4501632 | 1260319 |
| 02:25 | MA15497-CCB7 | 370091 | !a 2173332 | 402879 | 593347 | 161275 | 4091624 | 4629754 | 1298085 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:13 | MA15497-STD1 | 5883852 R | 3404545 R |
| 17:20 | MA15497-STD2 | 5879111 | 3435468 |
| 17:27 | MA15497-STD3 | 5875325 | 3418772 |
| 17:35 | MA15497-STD4 | 5807809 | 3370385 |
| 17:42 | MA15497-STD5 | 5834352 | 3392538 |
| 17:49 | MA15497-STD6 | 5828572 | 3363218 |
| 17:56 | MA15497-STD7 | 5864173 | 3339608 |
| 18:03 | MA15497-STD8 | 5991162 | 3255112 |
| 18:10 | MA15497-ICV1 | 5986459 | 3306502 |
| 18:17 | MA15497-ICB1 | 6148310 | 3501228 |
| 18:24 | MA15497-CCV1 | 6011070 | 3327412 |
| 18:31 | MA15497-CCB1 | 6265561 | 3509637 |
| 18:38 | MA15497-CRI1 | 6257073 | 3478977 |
| 18:45 | MA15497-ICSA1 | 5833609 | 2940727 |
| 18:53 | MA15497-ICSAB1 | 6267746 | 3138961 |
| 19:00 | ZZZZZZ | 6926413 | 3962376 |
| 19:07 | MP20828-MB1 | 6906389 | 3916884 |
| 19:14 | MC19884-17F | 6568721 | 3413387 |
| 19:21 | ZZZZZZ | 6382339 | 3396485 |
| 19:28 | ZZZZZZ | 6754991 | 3619467 |
| 19:35 | ZZZZZZ | 6767341 | 3684974 |
| 19:42 | MC20063-1F | 6889975 | 3792553 |
| 19:49 | MA15497-CCV2 | 6953515 | 3734125 |
| 19:56 | MA15497-CCB2 | 6653819 | 3732146 |
| 20:04 | MC20063-2F | 6452805 | 3622070 |
| 20:11 | MC20063-3F | 6507106 | 3432198 |
| 20:18 | MC20063-4F | 6731914 | 3743045 |
| 20:25 | MP20828-B1 | 6556951 | 3560440 |
| 20:32 | MP20828-S1 | 6381369 | 3461173 |
| 20:39 | MP20828-S2 | 6289382 | 3427118 |
| 20:46 | MP20828-SD1 | 6200164 | 3358085 |
| 20:53 | MP20828-PS1 | 6086958 | 3205826 |
| 21:00 | ZZZZZZ | 6400254 | 3574600 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 21:07 | MA15497-CRI2 | 6407741 | 3540405 |
| 21:14 | MA15497-CCV3 | 6298853 | 3412830 |
| 21:21 | MA15497-CCB3 | 6356741 | 3524247 |
| 21:28 | MP20756A-MB1 | 6500280 | 3627186 |
| 21:35 | MC19681-6 | 6358048 | 3381133 |
| 21:42 | ZZZZZZ | 6511855 | 3471707 |
| 21:49 | ZZZZZZ | 6445617 | 3518034 |
| 21:56 | ZZZZZZ | 6501899 | 3561267 |
| 22:03 | ZZZZZZ | 6395629 | 3434512 |
| 22:11 | ZZZZZZ | 6269912 | 3324840 |
| 22:18 | ZZZZZZ | 6327782 | 3333873 |
| 22:25 | ZZZZZZ | 6389664 | 3454267 |
| 22:32 | ZZZZZZ | 6349834 | 3459954 |
| 22:39 | MA15497-CCV4 | 6395521 | 3486264 |
| 22:46 | MA15497-CCB4 | 6430064 | 3608806 |
| 22:53 | ZZZZZZ | 6288661 | 3438850 |
| 23:00 | ZZZZZZ | 6104460 | 3239644 |
| 23:07 | MP20756A-B1 | 6450348 | 3457764 |
| 23:14 | MP20756A-S1 | 6342759 | 3357905 |
| 23:21 | MP20756A-S2 | 6359324 | 3420646 |
| 23:28 | MP20756A-SD1 | 6372704 | 3552336 |
| 23:35 | MP20764A-MB1 | 6502521 | 3684707 |
| 23:42 | MC20108-1 | 6413730 | 3486091 |
| 23:49 | ZZZZZZ | 6511357 | 3653077 |
| 23:56 | ZZZZZZ | 6475256 | 3653836 |
| 00:03 | MA15497-CCV5 | 6375809 | 3459315 |
| 00:10 | MA15497-CCB5 | 6413795 | 3581015 |
| 00:18 | ZZZZZZ | 6040806 | 3167297 |
| 00:25 | ZZZZZZ | 6354665 | 3337923 |
| 00:32 | ZZZZZZ | 6614541 | 3567361 |
| 00:39 | ZZZZZZ | 6350639 | 3361108 |
| 00:46 | ZZZZZZ | 6195164 | 3266341 |
| 00:53 | ZZZZZZ | 6137790 | 3275902 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15497
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 01:00 | ZZZZZZ | 6175419 | 3274178 |
| 01:07 | MP20764A-B1 | 6452127 | 3525481 |
| 01:14 | MP20764A-S1 | 6387649 | 3412500 |
| 01:21 | MP20764A-S2 | 6365198 | 3451999 |
| 01:28 | MA15497-CCV6 | 6425235 | 3520846 |
| 01:35 | MA15497-CCB6 | 6394354 | 3589006 |
| 01:42 | MP20764A-SD1 | 6420592 | 3592080 |
| 01:49 | MA15497-CRI3 | 6450358 | 3646616 |
| 01:56 | MA15497-ICSA2 | 6098702 | 3088413 |
| 02:03 | MA15497-ICSAB2 | 6313714 | 3205255 |
| 02:11 | ZZZZZZ | 6837460 | 3935583 |
| 02:18 | MA15497-CCV7 | 6827950 | 3793123 |
| 02:25 | MA15497-CCB7 | 6937803 | 3944137 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: | | | | 18:17 | | 18:31 | | 19:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0032 | <0.50 | -0.0091 | <0.50 | -0.0067 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: / Sample ID: | | | | 21:21 CCB3 | | 22:46 CCB4 | | 00:10 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.018 | <0.50 | 0.0033 | <0.50 | 0.011 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15497  Units: ug/l

| Time: / Sample ID: | | | | 01:35 CCB6 | | 02:25 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.021 | <0.50 | -0.014 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 18:10 | | | 18:24 | | | 19:49 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.3 | 98.8 | 50 | 50.6 | 101.2 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 21:14 | | | 22:39 | | | 00:03 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.3 | 98.6 | 50 | 49.4 | 98.8 | 50 | 49.1 | 98.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | 01:28 | | | 02:18 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | |
| Arsenic | 50 | 49.4 | 98.8 | 50 | 49.4 | 98.8 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | anr | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | | 18:38 | | 21:07 | | 01:49 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.46 | 92.0 | 0.53 | 106.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | anr | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042413W1L.AGF  Date Analyzed: 04/24/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15497  Units: ug/l

| Time: | | | 18:45 | | 18:53 | | 01:56 | | 02:03 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Antimony | | | 0.28* | | 0.29* | | 0.29* | | 0.29* | |
| Arsenic | | 20 | 0.25 | | 20.1 | 100.5 | 0.26 | | 19.9 | 99.5 |
| Barium | | | 0.23 | | 0.24 | | 0.26 | | 0.28 | |
| Beryllium | | | -0.022 | | -0.024 | | -0.0059 | | 0.00044 | |
| Boron | | | 0.21 | | 0.30 | | 0.46 | | 0.48 | |
| Cadmium | | 20 | 1.1 | | 19.7 | 98.5 | 1.1 | | 19.8 | 99.0 |
| Calcium | 100000 | 100000 | 96600 | 96.6 | 97200 | 97.2 | 96700 | 96.7 | 97100 | 97.1 |
| Chromium | | 20 | 1.0* | | 20.5 | 102.5 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.048 | | 19.4 | 97.0 | 0.045 | | 19.7 | 98.5 |
| Copper | | 20 | 0.31 | | 17.7 | 88.5 | 0.26 | | 17.5 | 87.5 |
| Iron | 100000 | 100000 | 97200 | 97.2 | 99100 | 99.1 | 97600 | 97.6 | 99900 | 99.9 |
| Lead | | | 0.13 | | 0.13 | | 0.14 | | 0.14 | |
| Manganese | | 20 | 0.24 | | 19.2 | 96.0 | 0.26 | | 19.3 | 96.5 |
| Molybdenum | 2000 | 2000 | 2040 | 102.0 | 2050 | 102.5 | 2030 | 101.5 | 2050 | 102.5 |
| Nickel | | 20 | 0.66* | | 19.0 | 95.0 | 0.67* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 97200 | 97.2 | 94100 | 94.1 | 94700 | 94.7 | 91600 | 91.6 |
| Selenium | | | 0.091 | | 0.14 | | 0.24 | | 0.18 | |
| Silver | | 20 | 0.090 | | 19.5 | 97.5 | 0.062 | | 19.1 | 95.5 |
| Strontium | | | 5.1* | | 5.1* | | 5.1* | | 5.1* | |
| Thallium | | | 0.051 | | 0.022 | | 0.076 | | 0.052 | |
| Tin | | | 0.12 | | 0.12 | | 0.096 | | 0.087 | |
| Titanium | 2000 | 2000 | 1930 | 96.5 | 1930 | 96.5 | 1930 | 96.5 | 1940 | 97.0 |
| Vanadium | | | -0.12 | | -0.10 | | 0.058 | | 0.022 | |
| Zinc | | 20 | 1.9* | | 19.4 | 97.0 | 2.0* | | 19.1 | 95.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:51 | MA15502-STD1 | 1 | | STDA |
| 10:58 | MA15502-STD2 | 1 | | STDB |
| 11:05 | MA15502-STD3 | 1 | | STDC |
| 11:12 | MA15502-STD4 | 1 | | STDD |
| 11:20 | MA15502-STD5 | 1 | | STDE |
| 11:27 | MA15502-STD6 | 1 | | STDF |
| 11:34 | MA15502-STD7 | 1 | | STDG |
| 11:41 | MA15502-STD8 | 1 | | STDH |
| 11:48 | MA15502-ICV1 | 1 | | |
| 11:55 | MA15502-ICB1 | 1 | | |
| 12:02 | MA15502-CCV1 | 1 | | |
| 12:09 | MA15502-CCB1 | 1 | | |
| 12:16 | MA15502-CRI1 | 1 | | |
| 12:23 | MA15502-ICSA1 | 1 | | |
| 12:30 | MA15502-ICSAB1 | 1 | | |
| 12:38 | ZZZZZZ | 1 | | RINSECONF |
| 12:45 | ZZZZZZ | 2 | | DNR: SEE RERUN. |
| 12:52 | MP20836-MB2 | 2 | | |
| 12:59 | MC20063-5F | 2 | | |
| 13:06 | MC20063-6F | 2 | | OVER 1/2 OF CAL RANGE. |
| 13:13 | MC20063-7F | 2 | | |
| 13:20 | MC20063-8F | 2 | | OVER 1/2 OF CAL RANGE. |
| 13:27 | MA15502-CCV2 | 1 | | |
| 13:34 | MA15502-CCB2 | 1 | | |
| 13:41 | MC20063-9F | 2 | | |
| 13:48 | MC20063-10F | 2 | | |
| 13:55 | MC20063-11F | 2 | | |
| 14:02 | MC20063-12F | 2 | | |
| 14:10 | MP20836-B1 | 20 | | |
| 14:17 | MP20836-S1 | 20 | | |
| 14:24 | MP20836-S2 | 20 | | |
| 14:31 | MP20836-SD1 | 10 | | |
| 14:39 | MP20836-PS1 | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:46 | MC20063-6F | 5 | | |
| 14:53 | MA15502-CCV3 | 1 | | |
| 15:00 | MA15502-CCB3 | 1 | | |
| 15:07 | MC20063-8F | 5 | | |
| 15:14 | ZZZZZZ | 2 | | |
| 15:21 | ZZZZZZ | 2 | | |
| 15:28 | ZZZZZZ | 500 | | DNR: WRONG DILUTION, SEE RERUN. |
| 15:35 | ZZZZZZ | 2 | | |
| 15:43 | ZZZZZZ | 2 | | |
| 15:50 | ZZZZZZ | 500 | | |
| 15:57 | ZZZZZZ | 2 | | |
| 16:04 | ZZZZZZ | 500 | | |
| 16:14 | MP20836-MB1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC20063 | | | |
| 16:26 | MA15502-CCV4 | 1 | | |
| 16:34 | MA15502-CCB4 | 1 | | |
| 16:41 | MA15502-CRI2 | 1 | | |
| 16:48 | MA15502-CCV5 | 1 | | |
| 16:55 | MA15502-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC20063 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:51 | MA15502-STD1 | 933317 R | 2639197 R | 364590 R | 649076 R | 145622 R | 4189460 R | 4630434 R | 1254271 R |
| 10:58 | MA15502-STD2 | 925457 | 2599479 | 363676 | 643253 | 145124 | 4148474 | 4598237 | 1257338 |
| 11:05 | MA15502-STD3 | 927369 | 2653153 | 365171 | 647615 | 145791 | 4236056 | 4678929 | 1260062 |
| 11:12 | MA15502-STD4 | 939584 | 2619156 | 358690 | 631511 | 143166 | 4229785 | 4633797 | 1239339 |
| 11:20 | MA15502-STD5 | 939569 | 2620809 | 356521 | 626619 | 142056 | 4178285 | 4565157 | 1231610 |
| 11:27 | MA15502-STD6 | 950033 | 2605966 | 355294 | 626840 | 141754 | 4118558 | 4544992 | 1217196 |
| 11:34 | MA15502-STD7 | 956256 | 2626551 | 365473 | 648129 | 146666 | 4173792 | 4613879 | 1261842 |
| 11:41 | MA15502-STD8 | 958610 | 2659993 | 363141 | 655584 | 144917 | 3983512 | 4456604 | 1226206 |
| 11:48 | MA15502-ICV1 | 965817 | 2634981 | 357402 | 629622 | 142655 | 4028387 | 4465526 | 1205475 |
| 11:55 | MA15502-ICB1 | 977435 | 2647901 | 363789 | 651066 | 145516 | 4181502 | 4587852 | 1265319 |
| 12:02 | MA15502-CCV1 | 968960 | 2606917 | 356704 | 626397 | 142323 | 4003307 | 4470220 | 1198919 |
| 12:09 | MA15502-CCB1 | 974564 | 2622775 | 363144 | 645306 | 145756 | 4174278 | 4582076 | 1257921 |
| 12:16 | MA15502-CRI1 | 971359 | 2623886 | 359808 | 639334 | 144174 | 4119783 | 4521188 | 1243614 |
| 12:23 | MA15502-ICSA1 | 662319 | 2373950 | 340412 | 606890 | 137043 | 3498010 | 4017672 | 1077015 |
| 12:30 | MA15502-ICSAB1 | 396379 !a | 2105447 | 336659 | 575515 | 136794 | 3502024 | 4085430 | 1066085 |
| 12:38 | ZZZZZZ | 360971 !a | 2105014 | 356519 | 581041 | 145659 | 4056375 | 4656075 | 1237292 |
| 12:45 | ZZZZZZ | 294904 !a | 1935600 | 350739 | 555531 | 143456 | 3945466 | 4511520 | 1207727 |
| 12:52 | MP20836-MB2 | 284348 !a | 1919588 | 351792 | 552651 | 143131 | 3972337 | 4510256 | 1205621 |
| 12:59 | MC20063-5F | 307708 !a | 1937490 | 343726 | 547951 | 140373 | 3682847 | 4333964 | 1160213 |
| 13:06 | MC20063-6F | 290534 !a | 1961611 | 350993 | 559717 | 143283 | 3745686 | 4427740 | 1185897 |
| 13:13 | MC20063-7F | 291442 !a | 1980429 | 355968 | 562007 | 145367 | 3827574 | 4486507 | 1206527 |
| 13:20 | MC20063-8F | 298537 !a | 1985067 | 354942 | 562498 | 144892 | 3801615 | 4456454 | 1191711 |
| 13:27 | MA15502-CCV2 | 471692 !a | 2348611 | 363909 | 615918 | 146811 | 4109189 | 4679685 | 1231359 |
| 13:34 | MA15502-CCB2 | 524839 !a | 2392294 | 364950 | 623490 | 148317 | 4220260 | 4778449 | 1272338 |
| 13:41 | MC20063-9F | 351539 !a | 2061272 | 352945 | 574572 | 144893 | 3891229 | 4475253 | 1221252 |
| 13:48 | MC20063-10F | 357078 !a | 2145678 | 365976 | 588066 | 148872 | 3946367 | 4614439 | 1251386 |
| 13:55 | MC20063-11F | 333691 !a | 2101150 | 359673 | 583845 | 146460 | 3877217 | 4516868 | 1207344 |
| 14:02 | MC20063-12F | 358589 !a | 2103297 | 363011 | 581679 | 146029 | 4085252 | 4653318 | 1249085 |
| 14:10 | MP20836-B1 | 671286 | 2532882 | 368968 | 638296 | 148989 | 4256687 | 4763482 | 1275736 |
| 14:17 | MP20836-S1 | 731575 | 2541236 | 367580 | 633283 | 147625 | 4155975 | 4689040 | 1261723 |
| 14:24 | MP20836-S2 | 742580 | 2584519 | 364012 | 637970 | 147427 | 4236028 | 4726870 | 1261367 |
| 14:31 | MP20836-SD1 | 663175 | 2455619 | 362365 | 627851 | 147043 | 4110429 | 4639832 | 1233351 |
| 14:39 | MP20836-PS1 | 444867 !a | 2222038 | 353843 | 587103 | 142670 | 3880452 | 4435305 | 1210411 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:46 | MC20063-6F | 535967 !a | 2254849 | 358030 | 593852 | 145419 | 3809617 | 4345287 | 1238470 |
| 14:53 | MA15502-CCV3 | 640530 !a | 2489666 | 360118 | 621688 | 144092 | 4069181 | 4556579 | 1210107 |
| 15:00 | MA15502-CCB3 | 667959 | 2478775 | 361694 | 629977 | 145947 | 4160024 | 4647148 | 1245805 |
| 15:07 | MC20063-8F | 564387 !a | 2378643 | 360421 | 617256 | 145047 | 3972581 | 4510492 | 1218484 |
| 15:14 | ZZZZZZ | 436057 !a | 2199957 | 345485 | 570401 | 133926 | 3562439 | 4119917 | 1101026 |
| 15:21 | ZZZZZZ | 448749 !a | 2221014 | 345148 | 559434 | 134917 | 3511842 | 4088623 | 1123060 |
| 15:28 | ZZZZZZ | 969230 | 2780518 | 376678 | 686261 | 152583 | 4305919 | 4816109 | 1300894 |
| 15:35 | ZZZZZZ | 482892 !a | 2315820 | 350186 | 586245 | 136269 | 3688544 | 4236750 | 1138079 |
| 15:43 | ZZZZZZ | 435887 !a | 2275946 | 346910 | 586056 | 137427 | 3725842 | 4344221 | 1144931 |
| 15:50 | ZZZZZZ | 1047435 | 2845572 | 377034 | 693571 | 152665 | 4412820 | 4887915 | 1285042 |
| 15:57 | ZZZZZZ | 476005 !a | 2284969 | 352259 | 597252 | 141865 | 3926727 | 4486897 | 1204293 |
| 16:04 | ZZZZZZ | 1032913 | 2720650 | 366683 | 667685 | 149068 | 4246038 | 4715149 | 1260986 |
| 16:14 | MP20836-MB1 | 798628 | 2503133 | 355017 | 627008 | 142806 | 4133333 | 4561042 | 1235875 |
| 16:26 | MA15502-CCV4 | 737832 | 2512647 | 369019 | 618128 | 146483 | 4017044 | 4534850 | 1240475 |
| 16:34 | MA15502-CCB4 | 790748 | 2517228 | 356639 | 628446 | 144456 | 4170659 | 4619923 | 1254718 |
| 16:41 | MA15502-CRI2 | 816471 | 2538411 | 357329 | 629980 | 144327 | 4127711 | 4625068 | 1252954 |
| 16:48 | MA15502-CCV5 | 765886 | 2543120 | 353691 | 620687 | 142125 | 4036487 | 4539304 | 1208023 |
| 16:55 | MA15502-CCB5 | 792866 | 2500432 | 354738 | 631407 | 143802 | 4126173 | 4602624 | 1255252 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:51 | MA15502-STD1 | 6569468 R | 3784338 R |
| 10:58 | MA15502-STD2 | 6475119 | 3765102 |
| 11:05 | MA15502-STD3 | 6605609 | 3808118 |
| 11:12 | MA15502-STD4 | 6562087 | 3760812 |
| 11:20 | MA15502-STD5 | 6528605 | 3731115 |
| 11:27 | MA15502-STD6 | 6473231 | 3734917 |
| 11:34 | MA15502-STD7 | 6528760 | 3707307 |
| 11:41 | MA15502-STD8 | 6428780 | 3508663 |
| 11:48 | MA15502-ICV1 | 6430995 | 3568749 |
| 11:55 | MA15502-ICB1 | 6501629 | 3724382 |
| 12:02 | MA15502-CCV1 | 6417254 | 3575727 |
| 12:09 | MA15502-CCB1 | 6423589 | 3708962 |
| 12:16 | MA15502-CRI1 | 6374798 | 3688719 |
| 12:23 | MA15502-ICSA1 | 6025741 | 3121386 |
| 12:30 | MA15502-ICSAB1 | 6209859 | 3286527 |
| 12:38 | ZZZZZZ | 6837201 | 4062737 |
| 12:45 | ZZZZZZ | 6868895 | 4047976 |
| 12:52 | MP20836-MB2 | 6853424 | 4073734 |
| 12:59 | MC20063-5F | 6613477 | 3744815 |
| 13:06 | MC20063-6F | 6797876 | 3844145 |
| 13:13 | MC20063-7F | 6838982 | 3850236 |
| 13:20 | MC20063-8F | 6806374 | 3808332 |
| 13:27 | MA15502-CCV2 | 6899683 | 3889694 |
| 13:34 | MA15502-CCB2 | 6866759 | 3996734 |
| 13:41 | MC20063-9F | 6788612 | 3914249 |
| 13:48 | MC20063-10F | 6962213 | 3890952 |
| 13:55 | MC20063-11F | 6858907 | 3812817 |
| 14:02 | MC20063-12F | 6880587 | 4001327 |
| 14:10 | MP20836-B1 | 6802869 | 3869600 |
| 14:17 | MP20836-S1 | 6730607 | 3764513 |
| 14:24 | MP20836-S2 | 6731947 | 3741323 |
| 14:31 | MP20836-SD1 | 6642596 | 3759675 |
| 14:39 | MP20836-PS1 | 6660695 | 3687537 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15502
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:46 | MC20063-6F | 6336298 | 3606886 |
| 14:53 | MA15502-CCV3 | 6584568 | 3699092 |
| 15:00 | MA15502-CCB3 | 6566009 | 3765404 |
| 15:07 | MC20063-8F | 6435596 | 3661782 |
| 15:14 | ZZZZZZ | 6121477 | 3251586 |
| 15:21 | ZZZZZZ | 6144034 | 3234584 |
| 15:28 | ZZZZZZ | 6649280 | 3754547 |
| 15:35 | ZZZZZZ | 6387412 | 3339402 |
| 15:43 | ZZZZZZ | 6527263 | 3540076 |
| 15:50 | ZZZZZZ | 6654142 | 3822149 |
| 15:57 | ZZZZZZ | 6672052 | 3776882 |
| 16:04 | ZZZZZZ | 6508061 | 3760927 |
| 16:14 | MP20836-MB1 | 6532873 | 3774970 |
| 16:26 | MA15502-CCV4 | 6597195 | 3669637 |
| 16:34 | MA15502-CCB4 | 6591891 | 3805073 |
| 16:41 | MA15502-CRI2 | 6547635 | 3779718 |
| 16:48 | MA15502-CCV5 | 6507486 | 3644084 |
| 16:55 | MA15502-CCB5 | 6538259 | 3775585 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15502  Units: ug/l

| Time: | | | | 11:55 | | 12:09 | | 13:34 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.017 | <0.50 | 0.015 | <0.50 | 0.0088 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15502  Units: ug/l

| Time: / Sample ID: | | | | 15:00 CCB3 | | 16:34 CCB4 | | 16:55 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0014 | <0.50 | 0.013 | <0.50 | 0.0038 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15502  Units: ug/l

| Time: | | 11:48 | | | 12:02 | | | 13:27 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.6 | 99.3 | 50 | 51.3 | 102.6 | 50 | 49.9 | 99.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15502  Units: ug/l

| Time: | | 14:53 | | | 16:26 | | | 16:48 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.9 | 99.8 | 50 | 48.2 | 96.4 | 50 | 50.2 | 100.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15502  Units: ug/l

| Time: | | | 12:16 | | 16:41 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.48 | 96.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | anr | | | |
| Manganese | 1.0 | 1.0 | anr | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042513W1L.AGF  Date Analyzed: 04/25/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15502  Units: ug/l

| Time: | | | 12:23 | | 12:30 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Antimony | | | 0.29* | | 0.28* | |
| Arsenic | | 20 | 0.22 | | 20.4 | 102.0 |
| Barium | | | 0.24 | | 0.24 | |
| Beryllium | | | 0.0039 | | -0.0019 | |
| Boron | | | 0.25 | | 0.29 | |
| Cadmium | | 20 | 1.1* | | 20.4 | 102.0 |
| Calcium | 100000 | 100000 | 95400 | 95.4 | 97800 | 97.8 |
| Chromium | | 20 | 1.0* | | 20.6 | 103.0 |
| Cobalt | | 20 | 0.039 | | 19.3 | 96.5 |
| Copper | | 20 | 0.26 | | 17.8 | 89.0 |
| Iron | 100000 | 100000 | 96000 | 96.0 | 99300 | 99.3 |
| Lead | | | 0.14 | | 0.14 | |
| Manganese | | 20 | 0.24 | | 19.6 | 98.0 |
| Molybdenum | 2000 | 2000 | 2030 | 101.5 | 2060 | 103.0 |
| Nickel | | 20 | 0.74* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 94900 | 94.9 | 94900 | 94.9 |
| Selenium | | | 0.16 | | 0.16 | |
| Silver | | 20 | 0.072 | | 19.6 | 98.0 |
| Strontium | | | 4.9* | | 5.0* | |
| Thallium | | | 0.052 | | 0.019 | |
| Tin | | | 0.12 | | 0.12 | |
| Titanium | 2000 | 2000 | 1940 | 97.0 | 1990 | 99.5 |
| Vanadium | | | -0.033 | | -0.035 | |
| Zinc | | 20 | 2.0* | | 19.9 | 99.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:11 | MA15506-STD1 | 1 | | STDA |
| 18:18 | MA15506-STD2 | 1 | | STDB |
| 18:25 | MA15506-STD3 | 1 | | STDC |
| 18:32 | MA15506-STD4 | 1 | | STDD |
| 18:40 | MA15506-STD5 | 1 | | STDE |
| 18:47 | MA15506-STD6 | 1 | | STDF |
| 18:53 | MA15506-STD7 | 1 | | STDG |
| 19:00 | MA15506-STD8 | 1 | | STDH |
| 19:07 | MA15506-ICV1 | 1 | | |
| 19:18 | MA15506-ICB1 | 1 | | |
| 19:25 | MA15506-CCV1 | 1 | | |
| 19:34 | MA15506-CCB1 | 1 | | |
| 19:41 | MA15506-CRI1 | 1 | | |
| 19:48 | MA15506-ICSA1 | 1 | | K SATURATED, SEE RERUN @ 1:2. |
| 19:55 | MA15506-ICSAB1 | 1 | | |
| 20:03 | MA15506-ICSA2 | 2 | | |
| 20:10 | MA15506-ICSAB2 | 2 | | |
| 20:17 | ZZZZZZ | 1 | | RINSECONF |
| 20:24 | MP20844-MB1 | 2 | | |
| 20:31 | MC20063-13F | 2 | | |
| 20:38 | MC20063-14F | 2 | | |
| 20:45 | MC20063-15F | 2 | | |
| 20:53 | MA15506-CCV2 | 1 | | |
| 20:59 | MA15506-CCB2 | 1 | | |
| 21:07 | MC20063-16F | 2 | | |
| 21:14 | MC20063-17F | 2 | | |
| 21:21 | MP20844-B1 | 20 | | |
| 21:28 | MP20844-S1 | 20 | | |
| 21:35 | MP20844-S2 | 20 | | |
| 21:42 | MP20844-PS1 | 2 | | |
| 21:49 | MP20844-SD1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC20063 | | | |
| 21:56 | MA15506-CRI2 | 1 | | |
| 22:03 | MA15506-CCV3 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 22:10 | MA15506-CCB3 | 1 | | |

----------> Last reportable CCB for job MC20063
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:11 | MA15506-STD1 | 1669598 R | 4377339 R | 454956 R | 980053 R | 192701 R | 5612562 R | 5986270 R | 1511351 R |
| 18:18 | MA15506-STD2 | 1669185 | 4325249 | 452171 | 978774 | 193135 | 5591257 | 6002069 | 1514395 |
| 18:25 | MA15506-STD3 | 1656513 | 4327337 | 455207 | 974436 | 193509 | 5596032 | 5983478 | 1524720 |
| 18:32 | MA15506-STD4 | 1667071 | 4359790 | 451307 | 964657 | 190969 | 5597978 | 5959802 | 1509845 |
| 18:40 | MA15506-STD5 | 1649403 | 4368029 | 445682 | 971313 | 189031 | 5622410 | 5959016 | 1480864 |
| 18:47 | MA15506-STD6 | 1655710 | 4321465 | 445172 | 968082 | 189379 | 5596127 | 5969046 | 1491980 |
| 18:53 | MA15506-STD7 | 1599240 | 4250483 | 454991 | 960230 | 194257 | 5381093 | 5875585 | 1489055 |
| 19:00 | MA15506-STD8 | 1604377 | 4349679 | 455570 | 987390 | 192619 | 5297945 | 5771658 | 1436717 |
| 19:07 | MA15506-ICV1 | 1623920 | 4332349 | 449409 | 974369 | 190656 | 5413822 | 5869307 | 1452819 |
| 19:18 | MA15506-ICB1 | 1665028 | 4401345 | 459799 | 1003088 | 196087 | 5668080 | 6121830 | 1527635 |
| 19:25 | MA15506-CCV1 | 1631785 | 4384358 | 455529 | 976132 | 192071 | 5453526 | 5896970 | 1477995 |
| 19:34 | MA15506-CCB1 | 1539088 | 4096965 | 460074 | 935320 | 196077 | 5335113 | 5711813 | 1524244 |
| 19:41 | MA15506-CRI1 | 1618690 | 4389507 | 457296 | 990961 | 194296 | 5595461 | 6034330 | 1503932 |
| 19:48 | MA15506-ICSA1 | 1602213 | 4093604 | 410784 | 922633 | 174630 | 4708697 | 5172029 | 1289684 |
| 19:55 | MA15506-ICSAB1 | 1617488 | 4111782 | 407258 | 931206 | 174809 | 4740076 | 5266453 | 1291847 |
| 20:03 | MA15506-ICSA2 | 1678525 | 4160336 | 413941 | 938970 | 178720 | 4938309 | 5466697 | 1363028 |
| 20:10 | MA15506-ICSAB2 | 1675099 | 4203685 | 414822 | 939717 | 177881 | 4926952 | 5406746 | 1358525 |
| 20:17 | ZZZZZZ | 1706042 | 4349297 | 435124 | 973264 | 188936 | 5613700 | 5956148 | 1522484 |
| 20:24 | MP20844-MB1 | 1527066 | 4244852 | 429551 | 965446 | 185551 | 5511912 | 5869619 | 1488667 |
| 20:31 | MC20063-13F | 1414336 | 4141867 | 423796 | 945319 | 185629 | 5126224 | 5616375 | 1423124 |
| 20:38 | MC20063-14F | 1402827 | 4180664 | 431232 | 942865 | 183775 | 5072849 | 5581293 | 1370650 |
| 20:45 | MC20063-15F | 1483205 | 4244306 | 434493 | 974759 | 187858 | 5542098 | 5863068 | 1478769 |
| 20:53 | MA15506-CCV2 | 1556869 | 4304068 | 437361 | 954650 | 186846 | 5384957 | 5823084 | 1478658 |
| 20:59 | MA15506-CCB2 | 1606089 | 4374405 | 441845 | 977879 | 190845 | 5653169 | 6048221 | 1511691 |
| 21:07 | MC20063-16F | 1412187 | 4168568 | 428279 | 953882 | 185832 | 5206882 | 5716903 | 1440582 |
| 21:14 | MC20063-17F | 1382894 | 4205042 | 439424 | 960011 | 185263 | 5209872 | 5735343 | 1411797 |
| 21:21 | MP20844-B1 | 1669323 | 4381036 | 443393 | 966907 | 189873 | 5551611 | 5964312 | 1492475 |
| 21:28 | MP20844-S1 | 1693364 | 4348320 | 451458 | 961050 | 194318 | 5404611 | 5863009 | 1560173 |
| 21:35 | MP20844-S2 | 1721330 | 4286668 | 440190 | 957270 | 185691 | 5389635 | 5850452 | 1466813 |
| 21:42 | MP20844-PS1 | 1433181 | 4186305 | 421634 | 938801 | 183614 | 5116625 | 5625428 | 1396079 |
| 21:49 | MP20844-SD1 | 1595785 | 4310207 | 442641 | 974439 | 190653 | 5402889 | 5853349 | 1465350 |
| 21:56 | MA15506-CRI2 | 1651850 | 4386445 | 443955 | 977459 | 189935 | 5526820 | 6000202 | 1515614 |
| 22:03 | MA15506-CCV3 | 1605047 | 4308650 | 435800 | 957665 | 185888 | 5327541 | 5803127 | 1442538 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 22:10 | MA15506-CCB3 | 1666736 | 4350810 | 441876 | 974352 | 189723 | 5523325 | 5973898 | 1498379 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:11 | MA15506-STD1 | 7475008 R | 4024922 R |
| 18:18 | MA15506-STD2 | 7468348 | 4018308 |
| 18:25 | MA15506-STD3 | 7473362 | 4022450 |
| 18:32 | MA15506-STD4 | 7468591 | 3993848 |
| 18:40 | MA15506-STD5 | 7488662 | 4021615 |
| 18:47 | MA15506-STD6 | 7428177 | 4037118 |
| 18:53 | MA15506-STD7 | 7364177 | 3878407 |
| 19:00 | MA15506-STD8 | 7376421 | 3799039 |
| 19:07 | MA15506-ICV1 | 7448380 | 3845278 |
| 19:18 | MA15506-ICB1 | 7523653 | 4053694 |
| 19:25 | MA15506-CCV1 | 7405981 | 3876670 |
| 19:34 | MA15506-CCB1 | 7010567 | 3785437 |
| 19:41 | MA15506-CRI1 | 7416571 | 3974272 |
| 19:48 | MA15506-ICSA1 | 6862692 | 3385379 |
| 19:55 | MA15506-ICSAB1 | 6955356 | 3385252 |
| 20:03 | MA15506-ICSA2 | 7155764 | 3637069 |
| 20:10 | MA15506-ICSAB2 | 7153922 | 3603136 |
| 20:17 | ZZZZZZ | 7435621 | 4084829 |
| 20:24 | MP20844-MB1 | 7414289 | 4024147 |
| 20:31 | MC20063-13F | 7250526 | 3764949 |
| 20:38 | MC20063-14F | 7221797 | 3689713 |
| 20:45 | MC20063-15F | 7488192 | 3963682 |
| 20:53 | MA15506-CCV2 | 7342158 | 3843396 |
| 20:59 | MA15506-CCB2 | 7419924 | 4010606 |
| 21:07 | MC20063-16F | 7309375 | 3783300 |
| 21:14 | MC20063-17F | 7266881 | 3754727 |
| 21:21 | MP20844-B1 | 7389929 | 3952542 |
| 21:28 | MP20844-S1 | 7326931 | 3935392 |
| 21:35 | MP20844-S2 | 7296422 | 3920193 |
| 21:42 | MP20844-PS1 | 7209351 | 3743926 |
| 21:49 | MP20844-SD1 | 7295986 | 3916752 |
| 21:56 | MA15506-CRI2 | 7458361 | 3976512 |
| 22:03 | MA15506-CCV3 | 7319826 | 3797337 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15506
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 22:10 | MA15506-CCB3 | 7334211 | 3974180 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15506  Units: ug/l

| Time: / Sample ID: | | | | 19:18 ICB1 | | 19:34 CCB1 | | 20:59 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.017 | <0.50 | 0.0030 | <0.50 | 0.012 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15506  Units: ug/l

| Time: | | | | 22:10 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.013 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15506  Units: ug/l

| Time: | | 19:07 | | | 19:25 | | | 20:53 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 58.6 | 97.7 | 50 | 49.2 | 98.4 | 50 | 49.0 | 98.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15506  Units: ug/l

| Time: | | 22:03 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.2 | 98.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15506  Units: ug/l

| Time: | | | 19:41 | | 21:56 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.49 | 98.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042613W1L.AGF  Date Analyzed: 04/26/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15506  Units: ug/l

| Time: | | | 19:48 | | 19:55 | | 20:03 | | 20:10 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94500 | 94.5 | 96100 | 96.1 | | | | |
| Antimony | | | 0.27* | | 0.27* | | | | | |
| Arsenic | | 20 | 0.18 | | 19.8 | 99.0 | | | | |
| Barium | | | 0.21 | | 0.20 | | | | | |
| Beryllium | | | -0.0020 | | -0.0012 | | | | | |
| Boron | | | 0.16 | | 0.14 | | | | | |
| Cadmium | | 20 | 0.90* | | 19.3 | 96.5 | | | | |
| Calcium | 100000 | 100000 | 93600 | 93.6 | 94400 | 94.4 | | | | |
| Chromium | | 20 | 1.0* | | 20.0 | 100.0 | | | | |
| Cobalt | | 20 | 0.033 | | 18.6 | 93.0 | | | | |
| Copper | | 20 | -0.16 | | 16.9 | 84.5 | | | | |
| Iron | 100000 | 100000 | 95700 | 95.7 | 97200 | 97.2 | | | | |
| Lead | | | 0.13 | | 0.13 | | | | | |
| Magnesium | 100000 | 100000 | 96800 | 96.8 | 97700 | 97.7 | | | | |
| Manganese | | 20 | 0.22 | | 19.0 | 95.0 | | | | |
| Molybdenum | 2000 | 2000 | 2020 | 101.0 | 2030 | 101.5 | | | | |
| Nickel | | 20 | 0.63* | | 18.4 | 92.0 | | | | |
| Potassium | 100000 | 100000 | | | | | 98200 | 98.2 | 97300 | 97.3 |
| Selenium | | | 0.19 | | 0.16 | | | | | |
| Silver | | 20 | 0.055 | | 19.2 | 96.0 | | | | |
| Sodium | 100000 | 100000 | 96900 | 96.9 | 97300 | 97.3 | | | | |
| Strontium | | | 4.8* | | 4.8* | | | | | |
| Thallium | | | 0.039 | | 0.020 | | | | | |
| Tin | | | 0.11 | | 0.097 | | | | | |
| Titanium | 2000 | 2000 | 1900 | 95.0 | 1930 | 96.5 | | | | |
| Vanadium | | | 0.020 | | 0.044 | | | | | |
| Zinc | | 20 | 1.9* | | 18.8 | 94.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:38 | MA15509-STD1 | 1 | | STDA |
| 12:45 | MA15509-STD2 | 1 | | STDB |
| 12:52 | MA15509-STD3 | 1 | | STDC |
| 12:59 | MA15509-STD4 | 1 | | STDD |
| 13:07 | MA15509-STD5 | 1 | | STDE |
| 13:14 | MA15509-STD6 | 1 | | STDF |
| 13:21 | MA15509-STD7 | 1 | | STDG |
| 13:28 | MA15509-STD8 | 1 | | STDH |
| 13:35 | MA15509-ICV1 | 1 | | |
| 13:41 | MA15509-ICB1 | 1 | | |
| 13:49 | MA15509-CCV1 | 1 | | |
| 13:55 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCB. |
| 14:04 | MA15509-CCB1 | 1 | | |
| 14:12 | MA15509-CRI1 | 1 | | |
| 14:19 | MA15509-ICSA1 | 1 | | NA SATURATED, SEE RERUN @ 1:2. |
| 14:26 | MA15509-ICSAB1 | 1 | | NA AND K SATURATED, SEE RERUN @ 1:2. |
| 14:33 | ZZZZZZ | 2 | | DNR: WRONG DILUTION, SEE RERUN. |
| 14:54 | MA15509-ICSA2 | 2 | | |
| 15:02 | MA15509-ICSAB2 | 2 | | |
| 15:09 | ZZZZZZ | 1 | | RINSECONF |
| 15:16 | MA15509-CCV2 | 1 | | |
| 15:23 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCB. |
| 15:30 | MA15509-CCB2 | 1 | | |
| 15:38 | MP20853-MB1 | 2 | | |
| 15:45 | MC20199-2F | 2 | | (sample used for QC only; not part of login MC20063) |
| 15:52 | MC20063-18F | 2 | | |
| 15:59 | MC20063-19F | 2 | | |
| 16:06 | MC20063-20F | 2 | | |
| 16:13 | MC20063-21F | 2 | | |
| 16:20 | ZZZZZZ | 2 | | |
| 16:27 | ZZZZZZ | 2 | | |
| 16:34 | ZZZZZZ | 2 | | |
| 16:42 | MP20853-B1 | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:49 | MA15509-CCV3 | 1 | | |
| 17:04 | MA15509-CCB3 | 1 | | |
| 17:11 | MP20853-S1 | 20 | | |
| 17:18 | MP20853-S2 | 20 | | |
| 17:25 | MP20853-PS1 | 2 | | |
| 17:32 | MP20853-SD1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC20063 | | | |
| 17:39 | MA15509-CRI2 | 1 | | |
| 17:46 | MA15509-CCV4 | 1 | | |
| 17:59 | MA15509-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC20063 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 12:38 | MA15509-STD1 | 1927370 R | 4239129 R | 400302 R | 959644 R | 174244 R | 5379893 R | 5735998 R | 1381769 R |
| 12:45 | MA15509-STD2 | 1967495 | 4278014 | 403167 | 979828 | 180184 | 5423624 | 5759538 | 1414337 |
| 12:52 | MA15509-STD3 | 1890395 | 4057452 | 401491 | 1018959 | 196861 | 5120220 | 5480291 | 1405129 |
| 12:59 | MA15509-STD4 | 1952304 | 4191559 | 398549 | 993417 | 183200 | 5323912 | 5655571 | 1372753 |
| 13:07 | MA15509-STD5 | 1901249 | 4131824 | 395343 | 931633 | 170759 | 5263255 | 5608166 | 1367195 |
| 13:14 | MA15509-STD6 | 1855209 | 4144079 | 393466 | 926696 | 169837 | 5244192 | 5552102 | 1363965 |
| 13:21 | MA15509-STD7 | 1839668 | 4150085 | 404358 | 949787 | 174030 | 5222863 | 5571874 | 1365045 |
| 13:28 | MA15509-STD8 | 1819870 | 4169729 | 404009 | 945603 | 174076 | 4983276 | 5362734 | 1322698 |
| 13:35 | MA15509-ICV1 | 1879883 | 4261395 | 403352 | 944035 | 173088 | 5178639 | 5546173 | 1346531 |
| 13:41 | MA15509-ICB1 | 1883620 | 4209937 | 404714 | 953439 | 175116 | 5308065 | 5681136 | 1389193 |
| 13:49 | MA15509-CCV1 | 1775234 | 4103348 | 398728 | 911385 | 171369 | 5018135 | 5339344 | 1313087 |
| 13:55 | ZZZZZZ | 1793323 | 4147727 | 407785 | 944667 | 176732 | 5206351 | 5551611 | 1360493 |
| 14:04 | MA15509-CCB1 | 1828848 | 4189701 | 409344 | 945028 | 176498 | 5288605 | 5616076 | 1377362 |
| 14:12 | MA15509-CRI1 | 1830689 | 4252286 | 409290 | 951344 | 176681 | 5289581 | 5649349 | 1395463 |
| 14:19 | MA15509-ICSA1 | 1703768 | 3978115 | 385031 | 912402 | 165634 | 4522086 | 4977352 | 1256879 |
| 14:26 | MA15509-ICSAB1 | 1691416 | 4085038 | 396138 | 938176 | 169747 | 4673046 | 5163370 | 1228531 |
| 14:33 | ZZZZZZ | 1705663 | 4010543 | 385118 | 913876 | 166125 | 4596807 | 5107256 | 1241119 |
| 14:54 | MA15509-ICSA2 | 1796843 | 4147556 | 400428 | 947812 | 174229 | 4841002 | 5284345 | 1307042 |
| 15:02 | MA15509-ICSAB2 | 1824329 | 4171436 | 399914 | 942917 | 172923 | 4844566 | 5342662 | 1303217 |
| 15:09 | ZZZZZZ | 1835887 | 4210026 | 404551 | 948482 | 177924 | 5348184 | 5665596 | 1423429 |
| 15:16 | MA15509-CCV2 | 1731980 | 4209977 | 399733 | 933274 | 174338 | 5154339 | 5547700 | 1372106 |
| 15:23 | ZZZZZZ | 1747028 | 4128438 | 400928 | 933957 | 175958 | 5249530 | 5604335 | 1400467 |
| 15:30 | MA15509-CCB2 | 1730117 | 4264107 | 406116 | 955785 | 178543 | 5401160 | 5731770 | 1407578 |
| 15:38 | MP20853-MB1 | 1633726 | 4114597 | 400604 | 933940 | 176288 | 5233276 | 5549933 | 1399835 |
| 15:45 | MC20199-2F | 1488652 | 4079037 | 397877 | 926402 | 174858 | 4833875 | 5310575 | 1327400 |
| 15:52 | MC20063-18F | 1501495 | 4107295 | 400777 | 943854 | 178381 | 4969515 | 5449785 | 1348995 |
| 15:59 | MC20063-19F | 1481931 | 4123807 | 404294 | 943622 | 178673 | 4981229 | 5443729 | 1351997 |
| 16:06 | MC20063-20F | 1484735 | 4062311 | 396784 | 943215 | 177296 | 4842362 | 5290920 | 1318831 |
| 16:13 | MC20063-21F | 1496323 | 4087079 | 405121 | 936262 | 176382 | 5187162 | 5509061 | 1388500 |
| 16:20 | ZZZZZZ | 1477222 | 4132940 | 406436 | 943644 | 177310 | 4941820 | 5412814 | 1337759 |
| 16:27 | ZZZZZZ | 1523760 | 4096017 | 400768 | 934298 | 175342 | 4876475 | 5352196 | 1323001 |
| 16:34 | ZZZZZZ | 1554379 | 4196433 | 400149 | 944993 | 176162 | 4935368 | 5420638 | 1326303 |
| 16:42 | MP20853-B1 | 1835080 | 4322392 | 412112 | 959034 | 179668 | 5424580 | 5865840 | 1448642 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 16:49 | MA15509-CCV3 | 1729110 | 4181901 | 398781 | 920359 | 173680 | 5110842 | 5541580 | 1388262 |
| 17:04 | MA15509-CCB3 | 1751590 | 4117620 | 402508 | 931298 | 176823 | 5188040 | 5589810 | 1407747 |
| 17:11 | MP20853-S1 | 1795627 | 4152081 | 402632 | 927899 | 175359 | 5138432 | 5547960 | 1387425 |
| 17:18 | MP20853-S2 | 1816752 | 4173648 | 404619 | 928662 | 176542 | 5117775 | 5624428 | 1406791 |
| 17:25 | MP20853-PS1 | 1550265 | 4044739 | 400116 | 909045 | 174253 | 4810173 | 5304470 | 1334170 |
| 17:32 | MP20853-SD1 | 1728646 | 4208253 | 418961 | 957193 | 182001 | 5204841 | 5664421 | 1426333 |
| 17:39 | MA15509-CRI2 | 1778361 | 4258584 | 413249 | 945595 | 179495 | 5321973 | 5767027 | 1438668 |
| 17:46 | MA15509-CCV4 | 1730559 | 4193400 | 410033 | 929213 | 177469 | 5101843 | 5540211 | 1403066 |
| 17:59 | MA15509-CCB4 | 1792370 | 4261190 | 417839 | 951236 | 181472 | 5334913 | 5737080 | 1452429 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 12:38 | MA15509-STD1 | 7108936 R | 3907325 R |
| 12:45 | MA15509-STD2 | 7237381 | 3969833 |
| 12:52 | MA15509-STD3 | 6863655 | 3828339 |
| 12:59 | MA15509-STD4 | 7124923 | 3855757 |
| 13:07 | MA15509-STD5 | 6985521 | 3829350 |
| 13:14 | MA15509-STD6 | 6920750 | 3753930 |
| 13:21 | MA15509-STD7 | 6891352 | 3701562 |
| 13:28 | MA15509-STD8 | 6774618 | 3502934 |
| 13:35 | MA15509-ICV1 | 7047358 | 3724317 |
| 13:41 | MA15509-ICB1 | 7039133 | 3843040 |
| 13:49 | MA15509-CCV1 | 6735869 | 3537947 |
| 13:55 | ZZZZZZ | 6829615 | 3673446 |
| 14:04 | MA15509-CCB1 | 6929399 | 3714681 |
| 14:12 | MA15509-CRI1 | 6952469 | 3751214 |
| 14:19 | MA15509-ICSA1 | 6520755 | 3228198 |
| 14:26 | MA15509-ICSAB1 | 6834979 | 3342229 |
| 14:33 | ZZZZZZ | 6708938 | 3350700 |
| 14:54 | MA15509-ICSA2 | 6928879 | 3487873 |
| 15:02 | MA15509-ICSAB2 | 6995959 | 3567932 |
| 15:09 | ZZZZZZ | 7065564 | 3877501 |
| 15:16 | MA15509-CCV2 | 6997249 | 3708888 |
| 15:23 | ZZZZZZ | 6953441 | 3812090 |
| 15:30 | MA15509-CCB2 | 7117318 | 3850085 |
| 15:38 | MP20853-MB1 | 7005894 | 3822888 |
| 15:45 | MC20199-2F | 6890809 | 3545862 |
| 15:52 | MC20063-18F | 6987825 | 3651753 |
| 15:59 | MC20063-19F | 6932579 | 3570263 |
| 16:06 | MC20063-20F | 6824004 | 3477907 |
| 16:13 | MC20063-21F | 6966536 | 3696278 |
| 16:20 | ZZZZZZ | 6850190 | 3497287 |
| 16:27 | ZZZZZZ | 6925802 | 3511132 |
| 16:34 | ZZZZZZ | 6986963 | 3549704 |
| 16:42 | MP20853-B1 | 7256246 | 3935434 |

INTERNAL STANDARD SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 16:49 | MA15509-CCV3 | 7076012 | 3791396 |
| 17:04 | MA15509-CCB3 | 6933790 | 3805867 |
| 17:11 | MP20853-S1 | 6976595 | 3750998 |
| 17:18 | MP20853-S2 | 7016607 | 3792382 |
| 17:25 | MP20853-PS1 | 6811380 | 3540324 |
| 17:32 | MP20853-SD1 | 7045846 | 3816678 |
| 17:39 | MA15509-CRI2 | 7106074 | 3931792 |
| 17:46 | MA15509-CCV4 | 7029047 | 3727313 |
| 17:59 | MA15509-CCB4 | 7161356 | 3924099 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15509  Units: ug/l

| Time: / Sample ID: | | | | 13:41 ICB1 | | 14:04 CCB1 | | 15:30 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.10 | <0.50 | -0.089 | <0.50 | -0.0075 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15509  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 17:04 CCB3 raw | final | 17:59 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.054 | <0.50 | -0.12 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | 13:35 | | | 13:49 | | | 15:16 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.5 | 99.2 | 50 | 50.4 | 100.8 | 50 | 50.0 | 100.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | 16:49 | | | 17:46 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.6 | 99.2 | 50 | 49.3 | 98.6 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | | 14:12 | | 17:39 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.42 | 84.0 | 0.43 | 86.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | | 14:19 | | 14:26 | | 14:54 | | 15:02 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95700 | 95.7 | 95300 | 95.3 | | | | |
| Antimony | | | 0.27* | | 0.28* | | | | | |
| Arsenic | | 20 | | | | | -0.040 | | 20.3 | 101.5 |
| Barium | | | 0.19 | | 0.17 | | | | | |
| Beryllium | | | -0.083 | | -0.086 | | | | | |
| Boron | | | 0.14 | | 0.15 | | | | | |
| Cadmium | | 20 | 0.95* | | 20.8 | 104.0 | | | | |
| Calcium | 100000 | 100000 | 96700 | 96.7 | 96600 | 96.6 | | | | |
| Chromium | | 20 | 1.1* | | 20.1 | 100.5 | | | | |
| Cobalt | | 20 | 0.040 | | 18.8 | 94.0 | | | | |
| Copper | | 20 | 0.20 | | 17.4 | 87.0 | | | | |
| Iron | 100000 | 100000 | 96500 | 96.5 | 97300 | 97.3 | | | | |
| Lead | | | 0.12 | | 0.10 | | | | | |
| Magnesium | 100000 | 100000 | 96800 | 96.8 | 96100 | 96.1 | | | | |
| Manganese | | 20 | 0.17 | | 19.1 | 95.5 | | | | |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2090 | 104.5 | | | | |
| Nickel | | 20 | 0.67* | | 18.5 | 92.5 | | | | |
| Potassium | 100000 | 100000 | | | | | 100000 | 100.0 | 102000 | 102.0 |
| Selenium | | | 1.2* | | 4.9* | | | | | |
| Silver | | 20 | 0.040 | | 20.0 | 100.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 99400 | 99.4 | 101000 | 101.0 |
| Strontium | | | 5.1* | | 5.1* | | | | | |
| Thallium | | | 0.0013 | | -0.0032 | | | | | |
| Tin | | | 0.090 | | 0.097 | | | | | |
| Titanium | 2000 | 2000 | 1960 | 98.0 | 1970 | 98.5 | | | | |
| Vanadium | | | 0.032 | | 0.093 | | | | | |
| Zinc | | 20 | 2.0* | | 19.9 | 99.5 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.41 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Antimony | | | | | |
| Arsenic | 1.7 | 532 | 500 | 106.1 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Antimony | | | | | | |
| Arsenic | 1.7 | 521 | 500 | 103.9 | 2.1 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 521 | 500 | 104.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | MC19884-17F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 1.68 | 0.787 | 53.1 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20828
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/23/13

| Metal | Sample ml | Final ml | MC19884-17F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.679 | 1.399167 | 18.07 | 2 | .1 | 16.66667 | 100.0 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20828: MC20063-1F, MC20063-2F, MC20063-3F, MC20063-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

| Prep Date: | | | | 04/24/13 | | 04/24/13 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | MDL | MB raw | final | MB raw | final |
| Antimony | 1.0 | .028 | .044 | | | | |
| Arsenic | 1.0 | .057 | .41 | 0.65 | <1.0 (a) | -0.026 | <1.0 |
| Barium | 2.0 | .03 | .08 | | | | |
| Beryllium | 1.0 | .0048 | .029 | | | | |
| Boron | 10 | .07 | .16 | | | | |
| Cadmium | 1.0 | .0062 | .037 | | | | |
| Calcium | 500 | 3.4 | 83 | | | | |
| Chromium | 2.0 | .017 | .15 | | | | |
| Cobalt | 1.0 | .0038 | .019 | | | | |
| Copper | 2.0 | .018 | .89 | | | | |
| Iron | 50 | 1 | 12 | | | | |
| Lead | 1.0 | .0054 | .025 | | | | |
| Manganese | 2.0 | .1 | .69 | | | | |
| Molybdenum | 2.0 | .012 | .3 | | | | |
| Nickel | 2.0 | .025 | .22 | | | | |
| Potassium | 500 | 3.7 | 49 | | | | |
| Selenium | 1.0 | .26 | .38 | | | | |
| Silver | 1.0 | .0059 | .025 | | | | |
| Strontium | 10 | .0065 | .039 | | | | |
| Thallium | 1.0 | .014 | .014 | | | | |
| Tin | 10 | .063 | .5 | | | | |
| Titanium | 2.0 | .071 | .13 | | | | |
| Vanadium | 4.0 | .13 | 1.3 | | | | |
| Zinc | 4.0 | .21 | 1.4 | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element bracketed by this filter balnk.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/24/13

| Metal | MC20063-5F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Antimony | | | | | |
| Arsenic | 1.3 | 523 | 500 | 104.3 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | anr | | | | |
| Manganese | anr | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/24/13

| Metal | MC20063-5F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Antimony | | | | | | |
| Arsenic | 1.3 | 525 | 500 | 104.7 | 0.4 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | anr | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/24/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 513 | 500 | 102.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | anr | | | |
| Manganese | anr | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/24/13

| Metal | MC20063-5F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Antimony | | | | |
| Arsenic | 1.28 | 0.657 | 48.5 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | anr | | | |
| Manganese | anr | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20836 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/24/13

| Metal | Sample ml | Final ml | MC20063-5F Raw | MC20063-5F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.276 | 1.063333 | 17.59 | 2 | .1 | 16.66667 | 99.2 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20836: MC20063-5F, MC20063-6F, MC20063-7F, MC20063-8F, MC20063-9F, MC20063-10F, MC20063-11F, MC20063-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/25/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.37 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/25/13

| Metal | MC20063-13F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 9.6 | 506 | 500 | 99.3 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/25/13

| Metal | MC20063-13F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 9.6 | 531 | 500 | 104.3 | 4.8 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/25/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 508 | 500 | 101.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/25/13

| Metal | MC20063-13F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 9.55 | 9.71 | 1.6 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20844 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/25/13

| Metal | Sample ml | Final ml | MC20063-13F Raw | MC20063-13F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 9.55 | 7.958333 | 23.73 | 2 | .1 | 16.66667 | 94.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20844: MC20063-13F, MC20063-14F, MC20063-15F, MC20063-16F, MC20063-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/26/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.17 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 3.0 | 525 | 500 | 104.4 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 3.0 | 520 | 500 | 103.4 | 1.0 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/26/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 515 | 500 | 103.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 3.02 | 1.75 | 42.1 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20063
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | Sample ml | Final ml | MC20199-2F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 3.015 | 2.5125 | 18.78 | 2 | .1 | 16.66667 | 97.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20853: MC20063-18F, MC20063-19F, MC20063-20F, MC20063-21F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13D24r00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\001CAL
Date Acquired: Apr 24 2013 05:06 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 23 2013 06:26 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1652091.00 | A | 20710.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 151.12 | P | 66.20 | 43.81 |
| 9 | Be | 12.22 | P | 5.09 | 41.66 |
| 11 | B | 803.38 | P | 20.00 | 2.49 |
| 11 | B | 26.67 | P | 14.53 | 54.49 |
| 23 | Na | 227631.30 | P | 3557.00 | 1.56 |
| 23 | Na | 35102.15 | P | 192.10 | 0.55 |
| 24 | Mg | 4433.00 | P | 776.60 | 17.52 |
| 24 | Mg | 327.79 | P | 7.70 | 2.35 |
| 27 | Al | 17245.54 | P | 1777.00 | 10.30 |
| 27 | Al | 663.37 | P | 121.70 | 18.35 |
| 39 | K | 2735298.00 | A | 2110.00 | 0.08 |
| 44 | Ca | 11274.50 | P | 479.30 | 4.25 |
| 45 | Sc | 2731215.00 | A | 14160.00 | 0.52 |
| 45 | Sc | 406742.31 | P | 2580.00 | 0.63 |
| 47 | Ti | 124.45 | P | 1.92 | 1.55 |
| 51 | V | 5966.11 | P | 86.04 | 1.44 |
| 52 | Cr | 1641.00 | P | 18.68 | 1.14 |
| 55 | Mn | 1135.17 | P | 76.09 | 6.70 |
| 56 | Fe | 28323.65 | P | 200.10 | 0.71 |
| 59 | Co | 164.45 | P | 30.30 | 18.43 |
| 60 | Ni | 403.57 | P | 27.01 | 6.69 |
| 63 | Cu | 1169.84 | P | 8.68 | 0.74 |
| 66 | Zn | 449.57 | P | 65.35 | 14.54 |
| 72 | Ge | 625215.81 | P | 2234.00 | 0.36 |
| 72 | Ge | 157318.50 | P | 585.90 | 0.37 |
| 75 | As | 232.67 | P | 10.97 | 4.71 |
| 78 | Se | 156.22 | P | 5.09 | 3.26 |
| 88 | Sr | 822.27 | P | 118.30 | 14.39 |
| 98 | Mo | 262.23 | P | 43.51 | 16.59 |
| 103 | Rh | 3945020.00 | A | 22200.00 | 0.56 |
| 107 | Ag | 111.12 | P | 28.35 | 25.51 |

C:\ICPCHEM\1\DATA\13D24r00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 62.22 | P | 12.62 | 20.28 |
| 115 | In | 4182845.00 | A | 21910.00 | 0.52 |
| 115 | In | 1325632.00 | A | 8445.00 | 0.64 |
| 118 | (In) | 735.60 | P | 131.40 | 17.86 |
| 118 | (In) | 270.01 | P | 26.67 | 9.88 |
| 120 | Sn | 1067.85 | P | 116.60 | 10.92 |
| 121 | Sb | 316.68 | P | 95.05 | 30.01 |
| 137 | Ba | 794.50 | P | 42.21 | 5.31 |
| 159 | Tb | 5867083.00 | A | 51870.00 | 0.88 |
| 175 | Lu | 5710456.00 | A | 44920.00 | 0.79 |
| 205 | Tl | 1274.55 | P | 53.38 | 4.19 |
| 206 | (Pb) | 433.36 | P | 99.39 | 22.94 |
| 207 | (Pb) | 380.02 | P | 78.39 | 20.63 |
| 208 | Pb | 1845.68 | P | 387.70 | 21.01 |
| 209 | Bi | 3450183.00 | A | 20050.00 | 0.58 |

C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\002CAL
Date Acquired: Apr 24 2013 05:13 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:10 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1663748.00 | A | 20790.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 201.12 | P | 35.95 | 17.88 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 758.94 | P | 27.76 | 3.66 |
| 11 | B | 24.45 | P | 1.93 | 7.87 |
| 23 | Na | 226648.20 | P | 2042.00 | 0.90 |
| 23 | Na | 34731.30 | P | 441.20 | 1.27 |
| 24 | Mg | 4521.97 | P | 94.46 | 2.09 |
| 24 | Mg | 318.90 | P | 37.47 | 11.75 |
| 27 | Al | 17456.87 | P | 1296.00 | 7.42 |
| 27 | Al | 548.92 | P | 68.67 | 12.51 |
| 39 | K | 2733902.00 | A | 11680.00 | 0.43 |
| 44 | Ca | 11410.10 | P | 252.90 | 2.22 |
| 45 | Sc | 2728585.00 | A | 14740.00 | 0.54 |
| 45 | Sc | 406594.69 | P | 3418.00 | 0.84 |
| 47 | Ti | 141.12 | P | 5.09 | 3.61 |
| 51 | V | 5950.56 | P | 128.60 | 2.16 |
| 52 | Cr | 1569.44 | P | 61.58 | 3.92 |
| 55 | Mn | 1100.50 | P | 10.86 | 0.99 |
| 56 | Fe | 28432.97 | P | 485.10 | 1.71 |
| 59 | Co | 124.45 | P | 24.45 | 19.65 |
| 60 | Ni | 365.34 | P | 20.18 | 5.52 |
| 63 | Cu | 884.04 | P | 46.67 | 5.28 |
| 66 | Zn | 348.23 | P | 5.39 | 1.55 |
| 72 | Ge | 617287.81 | P | 3799.00 | 0.62 |
| 72 | Ge | 157406.30 | P | 928.70 | 0.59 |
| 75 | As | 217.34 | P | 4.00 | 1.84 |
| 78 | Se | 160.00 | P | 9.24 | 5.77 |
| 88 | Sr | 955.62 | P | 9.62 | 1.01 |
| 98 | Mo | 334.46 | P | 54.20 | 16.21 |
| 103 | Rh | 3944827.00 | A | 29020.00 | 0.74 |
| 107 | Ag | 110.00 | P | 31.80 | 28.91 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 47.78 | P | 12.62 | 26.41 |
| 115 | In | 4162834.00 | A | 5510.00 | 0.13 |
| 115 | In | 1319592.00 | A | 14080.00 | 1.07 |
| 118 | (In) | 820.05 | P | 121.70 | 14.84 |
| 118 | (In) | 252.23 | P | 35.95 | 14.25 |
| 120 | Sn | 1036.74 | P | 54.88 | 5.29 |
| 121 | Sb | 345.57 | P | 37.91 | 10.97 |
| 137 | Ba | 752.27 | P | 12.62 | 1.68 |
| 159 | Tb | 5883852.00 | A | 73480.00 | 1.25 |
| 175 | Lu | 5727334.00 | A | 20340.00 | 0.36 |
| 205 | Tl | 997.85 | P | 93.48 | 9.37 |
| 206 | (Pb) | 493.36 | P | 41.77 | 8.47 |
| 207 | (Pb) | 424.47 | P | 30.25 | 7.13 |
| 208 | Pb | 2062.36 | P | 140.70 | 6.82 |
| 209 | Bi | 3404545.00 | A | 17940.00 | 0.53 |

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# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 24 2013 05:20 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:17 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1669461.00 | A | 7507.00 | 0.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 3384.92 | P | 229.00 | 6.77 |
| 9 | Be | 196.67 | P | 45.09 | 22.93 |
| 11 | B | 2510.28 | P | 40.42 | 1.61 |
| 11 | B | 71.11 | P | 13.88 | 19.52 |
| 23 | Na | 268544.41 | P | 1554.00 | 0.58 |
| 23 | Na | 39025.85 | P | 188.30 | 0.48 |
| 24 | Mg | 14947.58 | P | 175.70 | 1.18 |
| 24 | Mg | 1226.76 | P | 104.10 | 8.49 |
| 27 | Al | 31472.78 | P | 690.80 | 2.19 |
| 27 | Al | 1232.33 | P | 42.99 | 3.49 |
| 39 | K | 2753385.00 | A | 25420.00 | 0.92 |
| 44 | Ca | 12276.36 | P | 275.30 | 2.24 |
| 45 | Sc | 2720414.00 | A | 31680.00 | 1.16 |
| 45 | Sc | 406085.81 | P | 1964.00 | 0.48 |
| 47 | Ti | 1589.03 | P | 33.72 | 2.12 |
| 51 | V | 11024.51 | P | 232.40 | 2.11 |
| 52 | Cr | 6940.32 | P | 62.16 | 0.90 |
| 55 | Mn | 5582.86 | P | 74.41 | 1.33 |
| 56 | Fe | 34372.85 | P | 562.70 | 1.64 |
| 59 | Co | 7755.84 | P | 162.60 | 2.10 |
| 60 | Ni | 2268.65 | P | 49.44 | 2.18 |
| 63 | Cu | 6608.18 | P | 100.60 | 1.52 |
| 66 | Zn | 1175.61 | P | 35.64 | 3.03 |
| 72 | Ge | 619566.00 | P | 6444.00 | 1.04 |
| 72 | Ge | 157448.30 | P | 1287.00 | 0.82 |
| 75 | As | 865.81 | P | 25.82 | 2.98 |
| 78 | Se | 241.11 | P | 9.46 | 3.92 |
| 88 | Sr | 27005.13 | P | 351.30 | 1.30 |
| 98 | Mo | 7967.95 | P | 94.59 | 1.19 |
| 103 | Rh | 3916929.00 | A | 23920.00 | 0.61 |
| 107 | Ag | 12874.89 | P | 130.90 | 1.02 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1076.74 | P | 44.10 | 4.10 |
| 115 | In | 4188005.00 | A | 26650.00 | 0.64 |
| 115 | In | 1315494.00 | A | 14570.00 | 1.11 |
| 118 | (In) | 8836.26 | P | 190.80 | 2.16 |
| 118 | (In) | 3004.86 | P | 98.01 | 3.26 |
| 120 | Sn | 11918.53 | P | 126.90 | 1.06 |
| 121 | Sb | 10499.65 | P | 51.07 | 0.49 |
| 137 | Ba | 4702.05 | P | 158.70 | 3.38 |
| 159 | Tb | 5879111.00 | A | 32100.00 | 0.55 |
| 175 | Lu | 5729217.00 | A | 11420.00 | 0.20 |
| 205 | Tl | 20140.87 | P | 289.20 | 1.44 |
| 206 | (Pb) | 8270.57 | P | 228.50 | 2.76 |
| 207 | (Pb) | 7003.14 | P | 53.51 | 0.76 |
| 208 | Pb | 32792.13 | P | 355.40 | 1.08 |
| 209 | Bi | 3435468.00 | A | 29310.00 | 0.85 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1669460.80 | 0.45 | 1663747.60 | 100.3 | 70 - 130 | |
| 45 | Sc | 2720413.80 | 1.16 | 2728585.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 406085.78 | 0.48 | 406594.72 | 99.9 | 70 - 130 | |
| 72 | Ge | 619566.00 | 1.04 | 617287.81 | 100.4 | 70 - 130 | |
| 72 | Ge | 157448.27 | 0.82 | 157406.30 | 100.0 | 70 - 130 | |
| 103 | Rh | 3916928.80 | 0.61 | 3944826.50 | 99.3 | 70 - 130 | |
| 115 | In | 4188005.00 | 0.64 | 4162834.50 | 100.6 | 70 - 130 | |
| 115 | In | 1315494.00 | 1.11 | 1319592.10 | 99.7 | 70 - 130 | |
| 159 | Tb | 5879111.00 | 0.55 | 5883852.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 5729217.50 | 0.20 | 5727333.50 | 100.0 | 70 - 130 | |
| 209 | Bi | 3435468.00 | 0.85 | 3404545.00 | 100.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 24 2013 05:27 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1670534.00 | A | 10210.00 | 0.61 |
| 7 | (Li) | | P | | |
| 9 | Be | 33878.97 | P | 82.21 | 0.24 |
| 9 | Be | 1965.74 | P | 75.17 | 3.82 |
| 11 | B | 22442.07 | P | 399.10 | 1.78 |
| 11 | B | 746.71 | P | 35.28 | 4.72 |
| 23 | Na | 409374.09 | P | 1784.00 | 0.44 |
| 23 | Na | 50870.72 | P | 354.50 | 0.70 |
| 24 | Mg | 116860.70 | P | 968.60 | 0.83 |
| 24 | Mg | 8657.09 | P | 174.00 | 2.01 |
| 27 | Al | 178157.00 | P | 2778.00 | 1.56 |
| 27 | Al | 6684.97 | P | 20.02 | 0.30 |
| 39 | K | 2902190.00 | A | 17280.00 | 0.60 |
| 44 | Ca | 23169.02 | P | 415.10 | 1.79 |
| 45 | Sc | 2718727.00 | A | 22190.00 | 0.82 |
| 45 | Sc | 405395.09 | P | 878.20 | 0.22 |
| 47 | Ti | 13724.31 | P | 240.10 | 1.75 |
| 51 | V | 55269.31 | P | 178.20 | 0.32 |
| 52 | Cr | 56496.03 | P | 420.20 | 0.74 |
| 55 | Mn | 45116.70 | P | 110.70 | 0.25 |
| 56 | Fe | 84747.60 | P | 531.30 | 0.63 |
| 59 | Co | 76808.46 | P | 115.20 | 0.15 |
| 60 | Ni | 19691.45 | P | 136.90 | 0.70 |
| 63 | Cu | 50380.45 | P | 224.30 | 0.45 |
| 66 | Zn | 10324.41 | P | 81.62 | 0.79 |
| 72 | Ge | 612717.31 | P | 5378.00 | 0.88 |
| 72 | Ge | 156858.20 | P | 262.40 | 0.17 |
| 75 | As | 6675.72 | P | 77.49 | 1.16 |
| 78 | Se | 988.26 | P | 2.69 | 0.27 |
| 88 | Sr | 263225.09 | P | 1903.00 | 0.72 |
| 98 | Mo | 79730.24 | P | 517.80 | 0.65 |
| 103 | Rh | 3901592.00 | A | 21910.00 | 0.56 |
| 107 | Ag | 127850.70 | P | 849.50 | 0.66 |

C:\ICPCHEM\1\DATA\13D24r00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 11160.16 | P | 404.90 | 3.63 |
| 115 | In | 4173284.00 | A | 35490.00 | 0.85 |
| 115 | In | 1314666.00 | A | 13990.00 | 1.06 |
| 118 | (In) | 81082.78 | P | 1206.00 | 1.49 |
| 118 | (In) | 27246.07 | P | 795.50 | 2.92 |
| 120 | Sn | 112641.70 | P | 1082.00 | 0.96 |
| 121 | Sb | 103727.50 | P | 529.80 | 0.51 |
| 137 | Ba | 40729.06 | P | 105.80 | 0.26 |
| 159 | Tb | 5875325.00 | A | 40740.00 | 0.69 |
| 175 | Lu | 5735418.00 | A | 56450.00 | 0.98 |
| 205 | Tl | 203481.41 | P | 3499.00 | 1.72 |
| 206 | (Pb) | 80236.78 | P | 1565.00 | 1.95 |
| 207 | (Pb) | 66605.05 | P | 699.90 | 1.05 |
| 208 | Pb | 310267.69 | P | 4316.00 | 1.39 |
| 209 | Bi | 3418772.00 | A | 37360.00 | 1.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1670533.90 | 0.61 | 1663747.60 | 100.4 | 70 - 130 | |
| 45 | Sc | 2718726.80 | 0.82 | 2728585.30 | 99.6 | 70 - 130 | |
| 45 | Sc | 405395.09 | 0.22 | 406594.72 | 99.7 | 70 - 130 | |
| 72 | Ge | 612717.31 | 0.88 | 617287.81 | 99.3 | 70 - 130 | |
| 72 | Ge | 156858.20 | 0.17 | 157406.30 | 99.7 | 70 - 130 | |
| 103 | Rh | 3901591.50 | 0.56 | 3944826.50 | 98.9 | 70 - 130 | |
| 115 | In | 4173284.00 | 0.85 | 4162834.50 | 100.3 | 70 - 130 | |
| 115 | In | 1314666.10 | 1.06 | 1319592.10 | 99.6 | 70 - 130 | |
| 159 | Tb | 5875325.50 | 0.69 | 5883852.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 5735418.00 | 0.98 | 5727333.50 | 100.1 | 70 - 130 | |
| 209 | Bi | 3418771.50 | 1.09 | 3404545.00 | 100.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 24 2013 05:35 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:31 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1673562.00 | A | 21220.00 | 1.27 |
| 7 | (Li) | | P | | |
| 9 | Be | 164310.50 | P | 1572.00 | 0.96 |
| 9 | Be | 9820.00 | P | 270.90 | 2.76 |
| 11 | B | 107521.60 | P | 862.40 | 0.80 |
| 11 | B | 3620.53 | P | 93.89 | 2.59 |
| 23 | Na | 1054394.00 | A | 10570.00 | 1.00 |
| 23 | Na | 106246.40 | P | 327.50 | 0.31 |
| 24 | Mg | 535305.63 | P | 3705.00 | 0.69 |
| 24 | Mg | 39169.53 | P | 292.30 | 0.75 |
| 27 | Al | 668767.19 | P | 8192.00 | 1.22 |
| 27 | Al | 25069.56 | P | 586.00 | 2.34 |
| 39 | K | 3462155.00 | A | 16520.00 | 0.48 |
| 44 | Ca | 42057.91 | P | 411.10 | 0.98 |
| 45 | Sc | 2683283.00 | A | 25580.00 | 0.95 |
| 45 | Sc | 406470.19 | P | 349.80 | 0.09 |
| 47 | Ti | 66826.27 | P | 951.50 | 1.42 |
| 51 | V | 249095.30 | P | 874.10 | 0.35 |
| 52 | Cr | 270235.50 | P | 353.60 | 0.13 |
| 55 | Mn | 212922.80 | P | 198.70 | 0.09 |
| 56 | Fe | 280824.31 | P | 923.50 | 0.33 |
| 59 | Co | 373069.59 | P | 986.00 | 0.26 |
| 60 | Ni | 94692.81 | P | 504.40 | 0.53 |
| 63 | Cu | 240095.80 | P | 1326.00 | 0.55 |
| 66 | Zn | 43820.96 | P | 211.80 | 0.48 |
| 72 | Ge | 601994.13 | P | 2313.00 | 0.38 |
| 72 | Ge | 156861.41 | P | 1246.00 | 0.79 |
| 75 | As | 32180.68 | P | 119.20 | 0.37 |
| 78 | Se | 4158.82 | P | 79.83 | 1.92 |
| 88 | Sr | 1255103.00 | A | 14880.00 | 1.19 |
| 98 | Mo | 388106.19 | P | 3023.00 | 0.78 |
| 103 | Rh | 3893680.00 | A | 20190.00 | 0.52 |
| 107 | Ag | 628726.88 | P | 7429.00 | 1.18 |

C:\ICPCHEM\1\DATA\13D24r00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 54652.16 | P | 169.20 | 0.31 |
| 115 | In | 4139365.00 | A | 41270.00 | 1.00 |
| 115 | In | 1319910.00 | A | 12350.00 | 0.94 |
| 118 | (In) | 395779.69 | P | 2884.00 | 0.73 |
| 118 | (In) | 133902.70 | P | 795.00 | 0.59 |
| 120 | Sn | 544728.00 | P | 3773.00 | 0.69 |
| 121 | Sb | 499757.41 | P | 3459.00 | 0.69 |
| 137 | Ba | 195481.80 | P | 602.40 | 0.31 |
| 159 | Tb | 5807809.00 | A | 25450.00 | 0.44 |
| 175 | Lu | 5670066.00 | A | 25690.00 | 0.45 |
| 205 | Tl | 1091794.00 | P | 6542.00 | 0.60 |
| 206 | (Pb) | 391884.41 | P | 2651.00 | 0.68 |
| 207 | (Pb) | 322236.19 | P | 1187.00 | 0.37 |
| 208 | Pb | 1503730.00 | P | 10770.00 | 0.72 |
| 209 | Bi | 3370385.00 | A | 38870.00 | 1.15 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1673562.00 | 1.27 | 1663747.60 | 100.6 | 70 - 130 | |
| 45 | Sc | 2683283.00 | 0.95 | 2728585.30 | 98.3 | 70 - 130 | |
| 45 | Sc | 406470.22 | 0.09 | 406594.72 | 100.0 | 70 - 130 | |
| 72 | Ge | 601994.19 | 0.38 | 617287.81 | 97.5 | 70 - 130 | |
| 72 | Ge | 156861.42 | 0.79 | 157406.30 | 99.7 | 70 - 130 | |
| 103 | Rh | 3893679.50 | 0.52 | 3944826.50 | 98.7 | 70 - 130 | |
| 115 | In | 4139364.50 | 1.00 | 4162834.50 | 99.4 | 70 - 130 | |
| 115 | In | 1319910.30 | 0.94 | 1319592.10 | 100.0 | 70 - 130 | |
| 159 | Tb | 5807808.50 | 0.44 | 5883852.00 | 98.7 | 70 - 130 | |
| 175 | Lu | 5670065.50 | 0.45 | 5727333.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 3370384.80 | 1.15 | 3404545.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 24 2013 05:42 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1639338.00 | A | 11020.00 | 0.67 |
| 7 | (Li) | | P | | |
| 9 | Be | 331744.31 | P | 1503.00 | 0.45 |
| 9 | Be | 19327.88 | P | 246.30 | 1.27 |
| 11 | B | 217571.09 | P | 913.80 | 0.42 |
| 11 | B | 7563.16 | P | 205.20 | 2.71 |
| 23 | Na | 1805328.00 | A | 9229.00 | 0.51 |
| 23 | Na | 171981.80 | P | 1012.00 | 0.59 |
| 24 | Mg | 1074017.00 | A | 14360.00 | 1.34 |
| 24 | Mg | 78762.09 | P | 1039.00 | 1.32 |
| 27 | Al | 1308745.00 | A | 5892.00 | 0.45 |
| 27 | Al | 49283.83 | P | 229.60 | 0.47 |
| 39 | K | 4102585.00 | A | 19270.00 | 0.47 |
| 44 | Ca | 73108.58 | P | 304.80 | 0.42 |
| 45 | Sc | 2690757.00 | A | 14990.00 | 0.56 |
| 45 | Sc | 398865.00 | P | 1761.00 | 0.44 |
| 47 | Ti | 133873.80 | P | 558.60 | 0.42 |
| 51 | V | 492640.91 | P | 699.50 | 0.14 |
| 52 | Cr | 538958.81 | P | 1704.00 | 0.32 |
| 55 | Mn | 426584.19 | P | 1032.00 | 0.24 |
| 56 | Fe | 539278.63 | P | 1341.00 | 0.25 |
| 59 | Co | 748403.81 | P | 1361.00 | 0.18 |
| 60 | Ni | 189089.09 | P | 843.30 | 0.45 |
| 63 | Cu | 482308.31 | P | 2182.00 | 0.45 |
| 66 | Zn | 87329.96 | P | 296.30 | 0.34 |
| 72 | Ge | 598457.00 | P | 6218.00 | 1.04 |
| 72 | Ge | 153880.20 | P | 994.50 | 0.65 |
| 75 | As | 64190.66 | P | 196.30 | 0.31 |
| 78 | Se | 8180.92 | P | 69.32 | 0.85 |
| 88 | Sr | 2511900.00 | A | 4458.00 | 0.18 |
| 98 | Mo | 779339.00 | P | 2715.00 | 0.35 |
| 103 | Rh | 3850722.00 | A | 34640.00 | 0.90 |
| 107 | Ag | 1259910.00 | P | 12400.00 | 0.98 |

C:\ICPCHEM\1\DATA\13D24r00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 110348.70 | P | 564.30 | 0.51 |
| 115 | In | 4086852.00 | A | 46390.00 | 1.14 |
| 115 | In | 1300239.00 | A | 12820.00 | 0.99 |
| 118 | (In) | 794648.00 | P | 4745.00 | 0.60 |
| 118 | (In) | 268477.81 | P | 2127.00 | 0.79 |
| 120 | Sn | 1098195.00 | P | 9548.00 | 0.87 |
| 121 | Sb | 1006450.00 | P | 10270.00 | 1.02 |
| 137 | Ba | 393162.91 | P | 2862.00 | 0.73 |
| 159 | Tb | 5834352.00 | A | 21420.00 | 0.37 |
| 175 | Lu | 5702877.00 | A | 24460.00 | 0.43 |
| 205 | Tl | 2207924.00 | A | 10160.00 | 0.46 |
| 206 | (Pb) | 790182.50 | P | 14980.00 | 1.90 |
| 207 | (Pb) | 647714.13 | P | 6721.00 | 1.04 |
| 208 | Pb | 3000349.00 | A | 34860.00 | 1.16 |
| 209 | Bi | 3392538.00 | A | 16940.00 | 0.50 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1639338.30 | 0.67 | 1663747.60 | 98.5 | 70 - 130 | |
| 45 | Sc | 2690757.30 | 0.56 | 2728585.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 398865.00 | 0.44 | 406594.72 | 98.1 | 70 - 130 | |
| 72 | Ge | 598457.00 | 1.04 | 617287.81 | 96.9 | 70 - 130 | |
| 72 | Ge | 153880.20 | 0.65 | 157406.30 | 97.8 | 70 - 130 | |
| 103 | Rh | 3850722.50 | 0.90 | 3944826.50 | 97.6 | 70 - 130 | |
| 115 | In | 4086852.00 | 1.14 | 4162834.50 | 98.2 | 70 - 130 | |
| 115 | In | 1300238.90 | 0.99 | 1319592.10 | 98.5 | 70 - 130 | |
| 159 | Tb | 5834352.50 | 0.37 | 5883852.00 | 99.2 | 70 - 130 | |
| 175 | Lu | 5702876.50 | 0.43 | 5727333.50 | 99.6 | 70 - 130 | |
| 209 | Bi | 3392538.50 | 0.50 | 3404545.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 24 2013 05:49 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:45 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1636274.00 | A | 35130.00 | 2.15 |
| 7 | (Li) | | P | | |
| 9 | Be | 661642.00 | P | 7579.00 | 1.15 |
| 9 | Be | 38832.78 | P | 588.50 | 1.52 |
| 11 | B | 430822.09 | P | 3348.00 | 0.78 |
| 11 | B | 14761.72 | P | 165.70 | 1.12 |
| 23 | Na | 3320435.00 | A | 7559.00 | 0.23 |
| 23 | Na | 308949.91 | P | 1525.00 | 0.49 |
| 24 | Mg | 2102849.00 | A | 9205.00 | 0.44 |
| 24 | Mg | 156768.20 | P | 714.00 | 0.46 |
| 27 | Al | 2567611.00 | A | 20810.00 | 0.81 |
| 27 | Al | 98124.33 | P | 643.80 | 0.66 |
| 39 | K | 5450014.00 | A | 17350.00 | 0.32 |
| 44 | Ca | 131973.41 | P | 1871.00 | 1.42 |
| 45 | Sc | 2641334.00 | A | 12480.00 | 0.47 |
| 45 | Sc | 392100.91 | P | 2218.00 | 0.57 |
| 47 | Ti | 266931.19 | P | 1933.00 | 0.72 |
| 51 | V | 971614.31 | P | 2099.00 | 0.22 |
| 52 | Cr | 1068932.00 | P | 4045.00 | 0.38 |
| 55 | Mn | 844696.19 | P | 1910.00 | 0.23 |
| 56 | Fe | 1038246.00 | P | 5575.00 | 0.54 |
| 59 | Co | 1445069.00 | A | 10130.00 | 0.70 |
| 60 | Ni | 374421.69 | P | 1730.00 | 0.46 |
| 63 | Cu | 954537.81 | P | 2026.00 | 0.21 |
| 66 | Zn | 172055.00 | P | 272.30 | 0.16 |
| 72 | Ge | 600578.00 | P | 3746.00 | 0.62 |
| 72 | Ge | 150996.09 | P | 267.00 | 0.18 |
| 75 | As | 127898.30 | P | 278.70 | 0.22 |
| 78 | Se | 15951.12 | P | 130.20 | 0.82 |
| 88 | Sr | 4895249.00 | A | 35630.00 | 0.73 |
| 98 | Mo | 1562501.00 | A | 6773.00 | 0.43 |
| 103 | Rh | 3860264.00 | A | 22060.00 | 0.57 |
| 107 | Ag | 2440561.00 | A | 12630.00 | 0.52 |

C:\ICPCHEM\1\DATA\13D24r00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 218480.50 | P | 774.10 | 0.35 |
| 115 | In | 4071217.00 | A | 18100.00 | 0.44 |
| 115 | In | 1283462.00 | A | 10290.00 | 0.80 |
| 118 | (In) | 1545819.00 | A | 3045.00 | 0.20 |
| 118 | (In) | 535732.88 | P | 2267.00 | 0.42 |
| 120 | Sn | 2128065.00 | A | 7639.00 | 0.36 |
| 121 | Sb | 1933836.00 | A | 20760.00 | 1.07 |
| 137 | Ba | 793788.19 | P | 8679.00 | 1.09 |
| 159 | Tb | 5828572.00 | A | 11280.00 | 0.19 |
| 175 | Lu | 5676591.00 | A | 38710.00 | 0.68 |
| 205 | Tl | 4295036.00 | A | 18470.00 | 0.43 |
| 206 | (Pb) | 1536274.00 | A | 8136.00 | 0.53 |
| 207 | (Pb) | 1287970.00 | M | 36480.00 | 2.83 |
| 208 | Pb | 5904700.00 | A | 18870.00 | 0.32 |
| 209 | Bi | 3363218.00 | A | 34630.00 | 1.03 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1636274.40 | 2.15 | 1663747.60 | 98.3 | 70 - 130 | |
| 45 | Sc | 2641333.80 | 0.47 | 2728585.30 | 96.8 | 70 - 130 | |
| 45 | Sc | 392100.88 | 0.57 | 406594.72 | 96.4 | 70 - 130 | |
| 72 | Ge | 600578.00 | 0.62 | 617287.81 | 97.3 | 70 - 130 | |
| 72 | Ge | 150996.09 | 0.18 | 157406.30 | 95.9 | 70 - 130 | |
| 103 | Rh | 3860263.80 | 0.57 | 3944826.50 | 97.9 | 70 - 130 | |
| 115 | In | 4071217.50 | 0.44 | 4162834.50 | 97.8 | 70 - 130 | |
| 115 | In | 1283461.90 | 0.80 | 1319592.10 | 97.3 | 70 - 130 | |
| 159 | Tb | 5828572.50 | 0.19 | 5883852.00 | 99.1 | 70 - 130 | |
| 175 | Lu | 5676590.50 | 0.68 | 5727333.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 3363218.50 | 1.03 | 3404545.00 | 98.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 24 2013 05:56 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:52 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1645265.00 | A | 30300.00 | 1.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 141.12 | P | 33.39 | 23.66 |
| 9 | Be | 14.44 | P | 5.09 | 35.25 |
| 11 | B | 2488.05 | P | 168.40 | 6.77 |
| 11 | B | 98.89 | P | 15.40 | 15.57 |
| 23 | Na | 29817760.00 | A | 548100.00 | 1.84 |
| 23 | Na | 2609866.00 | A | 4309.00 | 0.17 |
| 24 | Mg | 19655470.00 | A | 299900.00 | 1.53 |
| 24 | Mg | 1478007.00 | A | 7013.00 | 0.47 |
| 27 | Al | 24511480.00 | A | 429500.00 | 1.75 |
| 27 | Al | 987034.19 | P | 5572.00 | 0.56 |
| 39 | K | 30303900.00 | A | 290200.00 | 0.96 |
| 44 | Ca | 937048.63 | P | 8200.00 | 0.88 |
| 45 | Sc | 2705120.00 | A | 18500.00 | 0.68 |
| 45 | Sc | 409350.91 | P | 2446.00 | 0.60 |
| 47 | Ti | 203.34 | P | 32.83 | 16.15 |
| 51 | V | 6429.86 | P | 225.70 | 3.51 |
| 52 | Cr | 1840.58 | P | 10.78 | 0.59 |
| 55 | Mn | 1450.31 | P | 87.59 | 6.04 |
| 56 | Fe | 9318202.00 | A | 47340.00 | 0.51 |
| 59 | Co | 747.58 | P | 45.30 | 6.06 |
| 60 | Ni | 449.35 | P | 73.05 | 16.26 |
| 63 | Cu | 1172.51 | P | 44.39 | 3.79 |
| 66 | Zn | 557.57 | P | 24.67 | 4.42 |
| 72 | Ge | 624022.13 | P | 2282.00 | 0.37 |
| 72 | Ge | 158674.59 | P | 1264.00 | 0.80 |
| 75 | As | 254.23 | P | 12.76 | 5.02 |
| 78 | Se | 172.89 | P | 8.49 | 4.91 |
| 88 | Sr | 3380.50 | P | 155.40 | 4.60 |
| 98 | Mo | 2055.77 | P | 286.90 | 13.96 |
| 103 | Rh | 3917278.00 | A | 30140.00 | 0.77 |
| 107 | Ag | 673.37 | P | 15.28 | 2.27 |

C:\ICPCHEM\1\DATA\13D24r00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 84.45 | P | 21.69 | 25.69 |
| 115 | In | 4215249.00 | A | 60370.00 | 1.43 |
| 115 | In | 1304340.00 | A | 7146.00 | 0.55 |
| 118 | (In) | 2938.18 | P | 265.60 | 9.04 |
| 118 | (In) | 1238.99 | P | 19.54 | 1.58 |
| 120 | Sn | 3958.45 | P | 456.70 | 11.54 |
| 121 | Sb | 3588.35 | P | 272.00 | 7.58 |
| 137 | Ba | 873.39 | P | 20.28 | 2.32 |
| 159 | Tb | 5864173.00 | A | 25950.00 | 0.44 |
| 175 | Lu | 5699061.00 | A | 77430.00 | 1.36 |
| 205 | Tl | 6541.78 | P | 138.70 | 2.12 |
| 206 | (Pb) | 735.60 | P | 74.34 | 10.11 |
| 207 | (Pb) | 624.48 | P | 48.80 | 7.81 |
| 208 | Pb | 2974.68 | P | 149.40 | 5.02 |
| 209 | Bi | 3339608.00 | A | 78420.00 | 2.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1645265.10 | 1.84 | 1663747.60 | 98.9 | 70 - 130 | |
| 45 | Sc | 2705119.80 | 0.68 | 2728585.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 409350.88 | 0.60 | 406594.72 | 100.7 | 70 - 130 | |
| 72 | Ge | 624022.06 | 0.37 | 617287.81 | 101.1 | 70 - 130 | |
| 72 | Ge | 158674.64 | 0.80 | 157406.30 | 100.8 | 70 - 130 | |
| 103 | Rh | 3917277.80 | 0.77 | 3944826.50 | 99.3 | 70 - 130 | |
| 115 | In | 4215249.00 | 1.43 | 4162834.50 | 101.3 | 70 - 130 | |
| 115 | In | 1304340.00 | 0.55 | 1319592.10 | 98.8 | 70 - 130 | |
| 159 | Tb | 5864173.00 | 0.44 | 5883852.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 5699060.50 | 1.36 | 5727333.50 | 99.5 | 70 - 130 | |
| 209 | Bi | 3339608.50 | 2.35 | 3404545.00 | 98.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 24 2013 06:03 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 05:59 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1558491.00 | A | 12640.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 115.56 | P | 18.36 | 15.89 |
| 9 | Be | 4.44 | P | 3.85 | 86.60 |
| 11 | B | 1270.09 | P | 98.73 | 7.77 |
| 11 | B | 41.11 | P | 17.11 | 41.62 |
| 23 | Na | 293481410.00 | A | 1307000.00 | 0.45 |
| 23 | Na | 25596770.00 | A | 87450.00 | 0.34 |
| 24 | Mg | 194636100.00 | A | 1222000.00 | 0.63 |
| 24 | Mg | 14365970.00 | A | 169500.00 | 1.18 |
| 27 | Al | 250210300.00 | A | 2495000.00 | 1.00 |
| 27 | Al | 9327912.00 | A | 63470.00 | 0.68 |
| 39 | K | 286666500.00 | A | 1754000.00 | 0.61 |
| 44 | Ca | 8950000.00 | A | 37670.00 | 0.42 |
| 45 | Sc | 2862488.00 | A | 35520.00 | 1.24 |
| 45 | Sc | 425960.50 | P | 3762.00 | 0.88 |
| 47 | Ti | 234.45 | P | 30.97 | 13.21 |
| 51 | V | 5767.37 | P | 61.75 | 1.07 |
| 52 | Cr | 2700.27 | P | 83.61 | 3.10 |
| 55 | Mn | 2701.61 | P | 38.59 | 1.43 |
| 56 | Fe | 93216000.00 | A | 1357000.00 | 1.46 |
| 59 | Co | 2361.55 | P | 40.69 | 1.72 |
| 60 | Ni | 921.82 | P | 33.90 | 3.68 |
| 63 | Cu | 1229.85 | P | 23.49 | 1.91 |
| 66 | Zn | 1188.28 | P | 15.98 | 1.34 |
| 72 | Ge | 665304.63 | P | 3272.00 | 0.49 |
| 72 | Ge | 163192.30 | P | 534.20 | 0.33 |
| 75 | As | 251.34 | P | 8.67 | 3.45 |
| 78 | Se | 178.45 | P | 4.82 | 2.70 |
| 88 | Sr | 22100.28 | P | 127.20 | 0.58 |
| 98 | Mo | 1162.31 | P | 95.60 | 8.23 |
| 103 | Rh | 3910910.00 | A | 18510.00 | 0.47 |
| 107 | Ag | 1660.15 | P | 24.04 | 1.45 |

C:\ICPCHEM\1\DATA\13D24r00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 43.34 | P | 15.28 | 35.26 |
| 115 | In | 4213182.00 | A | 20910.00 | 0.50 |
| 115 | In | 1291441.00 | A | 6816.00 | 0.53 |
| 118 | (In) | 1703.50 | P | 130.20 | 7.64 |
| 118 | (In) | 612.26 | P | 66.70 | 10.89 |
| 120 | Sn | 2482.58 | P | 165.20 | 6.65 |
| 121 | Sb | 2133.57 | P | 145.20 | 6.81 |
| 137 | Ba | 1041.19 | P | 60.59 | 5.82 |
| 159 | Tb | 5991162.00 | A | 48590.00 | 0.81 |
| 175 | Lu | 5807211.00 | A | 32850.00 | 0.57 |
| 205 | Tl | 3062.68 | P | 159.90 | 5.22 |
| 206 | (Pb) | 585.59 | P | 28.35 | 4.84 |
| 207 | (Pb) | 561.14 | P | 41.68 | 7.43 |
| 208 | Pb | 2497.96 | P | 188.90 | 7.56 |
| 209 | Bi | 3255112.00 | A | 8977.00 | 0.28 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1558491.30 | 0.81 | 1663747.60 | 93.7 | 70 - 130 | |
| 45 | Sc | 2862488.00 | 1.24 | 2728585.30 | 104.9 | 70 - 130 | |
| 45 | Sc | 425960.47 | 0.88 | 406594.72 | 104.8 | 70 - 130 | |
| 72 | Ge | 665304.63 | 0.49 | 617287.81 | 107.8 | 70 - 130 | |
| 72 | Ge | 163192.28 | 0.33 | 157406.30 | 103.7 | 70 - 130 | |
| 103 | Rh | 3910910.00 | 0.47 | 3944826.50 | 99.1 | 70 - 130 | |
| 115 | In | 4213181.50 | 0.50 | 4162834.50 | 101.2 | 70 - 130 | |
| 115 | In | 1291440.50 | 0.53 | 1319592.10 | 97.9 | 70 - 130 | |
| 159 | Tb | 5991162.50 | 0.81 | 5883852.00 | 101.8 | 70 - 130 | |
| 175 | Lu | 5807211.00 | 0.57 | 5727333.50 | 101.4 | 70 - 130 | |
| 209 | Bi | 3255112.50 | 0.28 | 3404545.00 | 95.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D# |
| Date Acquired: | Apr 24 2013 06:10 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICV |
| Misc Info: | |
| Vial Number: | 2101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 62.62 | 62.62 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 57.97 | 57.97 | ppb | 0.62 | 900.00 | |
| 11 B | 6 | 1 | 60.33 | 60.33 | ppb | 1.22 | 900.00 | |
| 11 B | 45 | 2 | 55.05 | 55.05 | ppb | 1.72 | 900.00 | |
| 23 Na | 45 | 1 | 5671.00 | 5671.00 | ppb | 1.61 | 90000.00 | |
| 23 Na | 45 | 2 | 5750.00 | 5750.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 5678.00 | 5678.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 5808.00 | 5808.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 5642.00 | 5642.00 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 2 | 5742.00 | 5742.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 5750.00 | 5750.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 5726.00 | 5726.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.05 | 59.05 | ppb | 0.44 | 900.00 | |
| 51 V | 45 | 2 | 60.32 | 60.32 | ppb | 0.07 | 900.00 | |
| 52 Cr | 45 | 2 | 58.88 | 58.88 | ppb | 0.15 | 900.00 | |
| 55 Mn | 45 | 2 | 59.07 | 59.07 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 5782.00 | 5782.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 59.05 | 59.05 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 58.14 | 58.14 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 57.14 | 57.14 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 58.99 | 58.99 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 59.32 | 59.32 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 58.36 | 58.36 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 61.88 | 61.88 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 62.57 | 62.57 | ppb | 0.81 | 900.00 | |
| 107 Ag | 115 | 1 | 58.62 | 58.62 | ppb | 0.50 | 180.00 | |
| 111 Cd | 115 | 2 | 59.87 | 59.87 | ppb | 1.48 | 900.00 | |
| 120 Sn | 115 | 1 | 58.32 | 58.32 | ppb | 0.89 | 900.00 | |
| 121 Sb | 115 | 1 | 62.16 | 62.16 | ppb | 0.76 | 900.00 | |
| 137 Ba | 159 | 1 | 60.55 | 60.55 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 60.11 | 60.11 | ppb | 1.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.25 | 60.25 | ppb | 2.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1475293 | 0.22 | 1663748 | 88.7 | 70 - 130 | |
| 45 Sc | 1 | 2787078 | 0.57 | 2728585 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 411627 | 0.24 | 406595 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 637236 | 0.35 | 617288 | 103.2 | 70 | - | 130 |
| 72 Ge | 2 | 158255 | 0.45 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3932655 | 0.56 | 3944827 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4216451 | 0.50 | 4162835 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 1282627 | 0.50 | 1319592 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 5986460 | 0.50 | 5883852 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 5868590 | 0.19 | 5727334 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 3306502 | 1.24 | 3404545 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 06:17 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 19.05 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 79.41 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 10.46 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.23 | ppb | 79.21 | 900.00 | |
| 23 Na | 45 | 1 | 4.41 | 4.41 | ppb | 3.88 | 90000.00 | |
| 23 Na | 45 | 2 | 6.86 | 6.86 | ppb | 3.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.39 | 1.39 | ppb | 11.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.78 | 2.78 | ppb | 9.77 | 90000.00 | |
| 27 Al | 45 | 1 | 4.15 | 4.15 | ppb | 1.64 | 90000.00 | |
| 27 Al | 45 | 2 | 5.64 | 5.64 | ppb | 5.02 | 90000.00 | |
| 39 K | 45 | 1 | 3.27 | 3.27 | ppb | 36.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.42 | 7.42 | ppb | 6.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 158.70 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 23.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 31.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 2.74 | 900.00 | |
| 56 Fe | 45 | 2 | 3.16 | 3.16 | ppb | 7.37 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 27.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 249.59 | 900.00 | |
| 63 Cu | 72 | 2 | 0.06 | 0.06 | ppb | 4.83 | 900.00 | |
| 66 Zn | 72 | 2 | 1.12 | 1.12 | ppb | 2.11 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 21.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 117.90 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 35.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 14.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 2.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 133.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 8.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 21.18 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 65.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 2.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 44.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1481342 | 1.34 | 1663748 | 89.0 | 70 - 130 | |
| 45 Sc | 1 | 2862991 | 0.87 | 2728585 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 431012 | 0.39 | 406595 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 670327 | 0.59 | 617288 | 108.6 | 70 - | 130 |
| 72 | Ge | 2 | 165769 | 0.35 | 157406 | 105.3 | 70 - | 130 |
| 103 | Rh | 1 | 4158766 | 0.57 | 3944827 | 105.4 | 70 - | 130 |
| 115 | In | 1 | 4437031 | 0.25 | 4162835 | 106.6 | 70 - | 130 |
| 115 | In | 2 | 1347332 | 0.88 | 1319592 | 102.1 | 70 - | 130 |
| 159 | Tb | 1 | 6148311 | 0.47 | 5883852 | 104.5 | 70 - | 130 |
| 175 | Lu | 1 | 5968970 | 0.75 | 5727334 | 104.2 | 70 - | 130 |
| 209 | Bi | 1 | 3501228 | 0.23 | 3404545 | 102.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 24 2013 06:24 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.76 | 53.76 | ppb | 0.18 | 900.00 | |
| 9 Be | 45 | 2 | 50.27 | 50.27 | ppb | 0.49 | 900.00 | |
| 11 B | 6 | 1 | 54.48 | 54.48 | ppb | 0.71 | 900.00 | |
| 11 B | 45 | 2 | 50.77 | 50.77 | ppb | 3.84 | 900.00 | |
| 23 Na | 45 | 1 | 5192.00 | 5192.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 5367.00 | 5367.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 5180.00 | 5180.00 | ppb | 1.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 5343.00 | 5343.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 5122.00 | 5122.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 2 | 5320.00 | 5320.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5254.00 | 5254.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 5343.00 | 5343.00 | ppb | 0.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.03 | 51.03 | ppb | 1.08 | 900.00 | |
| 51 V | 45 | 2 | 50.96 | 50.96 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 50.29 | 50.29 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.82 | 49.82 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 5379.00 | 5379.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 51.05 | 51.05 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 49.73 | 49.73 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 49.24 | 49.24 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 49.73 | 49.73 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 50.64 | 50.64 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 0.70 | 900.00 | |
| 88 Sr | 103 | 1 | 53.57 | 53.57 | ppb | 0.37 | 900.00 | |
| 98 Mo | 103 | 1 | 53.12 | 53.12 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 49.97 | 49.97 | ppb | 3.11 | 180.00 | |
| 111 Cd | 115 | 2 | 51.01 | 51.01 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 53.43 | 53.43 | ppb | 0.89 | 900.00 | |
| 121 Sb | 115 | 1 | 53.94 | 53.94 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 51.42 | 51.42 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 51.15 | 51.15 | ppb | 1.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.48 | 51.48 | ppb | 1.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1456893 | 0.58 | 1663748 | 87.6 | 70 - 130 | |
| 45 Sc | 1 | 2792744 | 0.80 | 2728585 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 412243 | 0.39 | 406595 | 101.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639444 | 1.29 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 158460 | 0.66 | 157406 | 100.7 | 70 | - | 130 |
| 103 Rh | 1 | 3941677 | 0.38 | 3944827 | 99.9 | 70 | - | 130 |
| 115 In | 1 | 4245245 | 0.11 | 4162835 | 102.0 | 70 | - | 130 |
| 115 In | 2 | 1294501 | 0.89 | 1319592 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 6011071 | 0.05 | 5883852 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 5840620 | 0.22 | 5727334 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 3327412 | 0.90 | 3404545 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Apr 24 2013 06:31 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 17.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 184.26 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 10.09 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 101.69 | 900.00 | |
| 23 Na | 45 | 1 | 0.37 | 0.37 | ppb | 24.20 | 90000.00 | |
| 23 Na | 45 | 2 | 2.15 | 2.15 | ppb | 8.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.07 | 1.07 | ppb | 15.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.16 | 2.16 | ppb | 5.27 | 90000.00 | |
| 27 Al | 45 | 1 | 0.86 | 0.86 | ppb | 13.23 | 90000.00 | |
| 27 Al | 45 | 2 | 1.77 | 1.77 | ppb | 6.75 | 90000.00 | |
| 39 K | 45 | 1 | -0.41 | -0.41 | ppb | 164.75 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.46 | -0.46 | ppb | 34.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 847.70 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 323.34 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 31.05 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 26.07 | 900.00 | |
| 56 Fe | 45 | 2 | 2.18 | 2.18 | ppb | 6.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 4.51 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 36.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 41.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 4.17 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 48.88 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 303.42 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 353.22 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 17.92 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 508.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 8.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 22.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 56.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.26 | 0.26 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 82.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1444451 | 1.00 | 1663748 | 86.8 | 70 - 130 | |
| 45 Sc | 1 | 2864991 | 0.62 | 2728585 | 105.0 | 70 - 130 | |
| 45 Sc | 2 | 431616 | 0.50 | 406595 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 674789 | 1.17 | 617288 | 109.3 | 70 | - | 130 |
| 72 Ge | 2 | 165781 | 0.35 | 157406 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 4222469 | 0.52 | 3944827 | 107.0 | 70 | - | 130 |
| 115 In | 1 | 4498207 | 0.40 | 4162835 | 108.1 | 70 | - | 130 |
| 115 In | 2 | 1364096 | 0.46 | 1319592 | 103.4 | 70 | - | 130 |
| 159 Tb | 1 | 6265562 | 0.36 | 5883852 | 106.5 | 70 | - | 130 |
| 175 Lu | 1 | 6029431 | 0.34 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3509637 | 0.73 | 3404545 | 103.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D# |
| Date Acquired: | Apr 24 2013 06:38 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2105 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 1.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 17.32 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 0.51 | 900.00 | |
| 11 B | 45 | 2 | 4.59 | 4.59 | ppb | 2.34 | 900.00 | |
| 23 Na | 45 | 1 | 254.70 | 254.70 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 284.80 | 284.80 | ppb | 1.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 259.10 | 259.10 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 287.00 | 287.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 28.34 | 28.34 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 31.41 | 31.41 | ppb | 0.35 | 90000.00 | |
| 39 K | 45 | 1 | 253.00 | 253.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 275.30 | 275.30 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 1.68 | 900.00 | |
| 51 V | 45 | 2 | 1.07 | 1.07 | ppb | 0.85 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 1.02 | 1.02 | ppb | 1.52 | 900.00 | |
| 56 Fe | 45 | 2 | 31.84 | 31.84 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.86 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 1.73 | 900.00 | |
| 66 Zn | 72 | 2 | 1.99 | 1.99 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 2.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.48 | 0.48 | ppb | 15.26 | 900.00 | |
| 88 Sr | 103 | 1 | 5.20 | 5.20 | ppb | 0.98 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 1.59 | 180.00 | |
| 111 Cd | 115 | 2 | 0.54 | 0.54 | ppb | 7.00 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 0.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.32 | 900.00 | |
| 137 Ba | 159 | 1 | 1.09 | 1.09 | ppb | 3.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.50 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1471649 | 1.06 | 1663748 | 88.5 | 70 - 130 | |
| 45 Sc | 1 | 2861350 | 0.34 | 2728585 | 104.9 | 70 - 130 | |
| 45 Sc | 2 | 434822 | 1.34 | 406595 | 106.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 668371 | 0.09 | 617288 | 108.3 | 70 - | 130 |
| 72 | Ge | 2 | 166950 | 1.22 | 157406 | 106.1 | 70 - | 130 |
| 103 | Rh | 1 | 4190698 | 0.24 | 3944827 | 106.2 | 70 - | 130 |
| 115 | In | 1 | 4459136 | 0.57 | 4162835 | 107.1 | 70 - | 130 |
| 115 | In | 2 | 1365234 | 1.51 | 1319592 | 103.5 | 70 - | 130 |
| 159 | Tb | 1 | 6257073 | 1.14 | 5883852 | 106.3 | 70 - | 130 |
| 175 | Lu | 1 | 6040099 | 0.91 | 5727334 | 105.5 | 70 - | 130 |
| 209 | Bi | 1 | 3478977 | 0.75 | 3404545 | 102.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 24 2013 06:45 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 19.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 73.56 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 21.05 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 84.95 | 900.00 | |
| 23 Na | 45 | 1 | 92790.00 | 92790.00 | ppb | 0.69 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 101300.00 | 101300.00 | ppb | 0.50 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92970.00 | 92970.00 | ppb | 1.21 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 100200.00 | 100200.00 | ppb | 0.09 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 92480.00 | 92480.00 | ppb | 0.21 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 98050.00 | 98050.00 | ppb | 0.36 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97150.00 | 97150.00 | ppb | 0.58 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96630.00 | 96630.00 | ppb | 0.86 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1925.00 | 1925.00 | ppb | 0.78 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 6.02 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 2.58 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 3.94 | 900.00 | |
| 56 Fe | 45 | 2 | 97170.00 | 97170.00 | ppb | 0.04 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 5.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.66 | 0.66 | ppb | 2.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.31 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 0.25 | 0.25 | ppb | 2.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 80.52 | 900.00 | |
| 88 Sr | 103 | 1 | 5.15 | 5.15 | ppb | 1.71 | 900.00 | |
| 98 Mo | 103 | 1 | 2041.00 | 2041.00 | ppb | 0.34 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.09 | 0.09 | ppb | 3.19 | 180.00 | |
| 111 Cd | 115 | 2 | 1.12 | 1.12 | ppb | 1.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 3.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 5.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 5.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 5.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1252164 | 1.69 | 1663748 | 75.3 | 70 - 130 | |
| 45 Sc | 1 | 2695864 | 0.52 | 2728585 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 398809 | 0.72 | 406595 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 653682 | 0.32 | 617288 | 105.9 | 70 | - | 130 |
| 72 Ge | 2 | 156134 | 0.82 | 157406 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 3562781 | 1.46 | 3944827 | 90.3 | 70 | - | 130 |
| 115 In | 1 | 3949833 | 0.62 | 4162835 | 94.9 | 70 | - | 130 |
| 115 In | 2 | 1239659 | 0.54 | 1319592 | 93.9 | 70 | - | 130 |
| 159 Tb | 1 | 5833609 | 0.87 | 5883852 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 5670373 | 1.33 | 5727334 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 2940727 | 1.39 | 3404545 | 86.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 24 2013 06:53 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 9.06 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 170.67 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.30 | ppb | 8.25 | 900.00 | |
| 11 B | 45 | 2 | 0.21 | 0.21 | ppb | 68.29 | 900.00 | |
| 23 Na | 45 | 1 | 76750.00 | 76750.00 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 105100.00 | 105100.00 | ppb | 0.20 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 77130.00 | 77130.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 103700.00 | 103700.00 | ppb | 0.57 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 79660.00 | 79660.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 99000.00 | 99000.00 | ppb | 0.41 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94120.00 | 94120.00 | ppb | 1.46 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97190.00 | 97190.00 | ppb | 0.75 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1926.00 | 1926.00 | ppb | 0.20 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 2.91 | 900.00 | |
| 52 Cr | 45 | 2 | 20.50 | 20.50 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 19.23 | 19.23 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 99100.00 | 99100.00 | ppb | 0.34 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.40 | 19.40 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 19.01 | 19.01 | ppb | 0.27 | 900.00 | |
| 63 Cu | 72 | 2 | 17.67 | 17.67 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 19.44 | 19.44 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 20.07 | 20.07 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 30.26 | 900.00 | |
| 88 Sr | 103 | 1 | 5.13 | 5.13 | ppb | 1.72 | 900.00 | |
| 98 Mo | 103 | 1 | 2045.00 | 2045.00 | ppb | 1.07 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.46 | 19.46 | ppb | 1.02 | 180.00 | |
| 111 Cd | 115 | 2 | 19.74 | 19.74 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 7.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 3.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 11.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 598985 | 1.01 | 1663748 | 36.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2447521 | 0.54 | 2728585 | 89.7 | 70 - 130 | |
| 45 Sc | 2 | 410566 | 0.43 | 406595 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 628074 | 0.24 | 617288 | 101.7 | 70 - | 130 |
| 72 | Ge | 2 | 159666 | 0.60 | 157406 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 3663074 | 0.45 | 3944827 | 92.9 | 70 - | 130 |
| 115 | In | 1 | 4151241 | 0.75 | 4162835 | 99.7 | 70 - | 130 |
| 115 | In | 2 | 1243194 | 0.32 | 1319592 | 94.2 | 70 - | 130 |
| 159 | Tb | 1 | 6267746 | 0.36 | 5883852 | 106.5 | 70 - | 130 |
| 175 | Lu | 1 | 6159667 | 0.41 | 5727334 | 107.5 | 70 - | 130 |
| 209 | Bi | 1 | 3138961 | 0.69 | 3404545 | 92.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\017SMPL.D\017SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 07:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2108 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 20.57 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 24.38 | 900.00 | |
| 11 B | 45 | 2 | -0.06 | -0.06 | ppb | 35.94 | 900.00 | |
| 23 Na | 45 | 1 | 28.91 | 28.91 | ppb | 1.98 | 90000.00 | |
| 23 Na | 45 | 2 | 56.28 | 56.28 | ppb | 2.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 22.86 | 22.86 | ppb | 4.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 43.25 | 43.25 | ppb | 2.88 | 90000.00 | |
| 27 Al | 45 | 1 | 22.95 | 22.95 | ppb | 4.63 | 90000.00 | |
| 27 Al | 45 | 2 | 38.02 | 38.02 | ppb | 0.71 | 90000.00 | |
| 39 K | 45 | 1 | 20.07 | 20.07 | ppb | 4.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 26.90 | 26.90 | ppb | 4.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.66 | 0.66 | ppb | 5.35 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 16.23 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 22.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 29.23 | 900.00 | |
| 56 Fe | 45 | 2 | 43.77 | 43.77 | ppb | 1.86 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 173.22 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 151.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.21 | 0.21 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 65.53 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 26.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 34.11 | 900.00 | |
| 88 Sr | 103 | 1 | 0.08 | 0.08 | ppb | 7.32 | 900.00 | |
| 98 Mo | 103 | 1 | 1.34 | 1.34 | ppb | 10.10 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.86 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 40.95 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 19.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 36.40 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 509.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 20.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 5.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 493438 | 0.41 | 1663748 | 29.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2391055 | 0.75 | 2728585 | 87.6 | 70 - 130 | |
| 45 Sc | 2 | 434844 | 0.58 | 406595 | 106.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 629061 | 0.74 | 617288 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 170150 | 0.11 | 157406 | 108.1 | 70 | - | 130 |
| 103 Rh | 1 | 4237916 | 0.37 | 3944827 | 107.4 | 70 | - | 130 |
| 115 In | 1 | 4714962 | 0.35 | 4162835 | 113.3 | 70 | - | 130 |
| 115 In | 2 | 1355315 | 1.17 | 1319592 | 102.7 | 70 | - | 130 |
| 159 Tb | 1 | 6926413 | 0.20 | 5883852 | 117.7 | 70 | - | 130 |
| 175 Lu | 1 | 6760025 | 0.61 | 5727334 | 118.0 | 70 | - | 130 |
| 209 Bi | 1 | 3962376 | 0.82 | 3404545 | 116.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\018SMPL.D\018SMPL.D#
**Date Acquired:** Apr 24 2013 07:07 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20828-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.03 | ppb | 4.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 154.08 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.16 | ppb | 12.75 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.02 | ppb | 186.51 | 900.00 | |
| 23 Na | 45 | 1 | 12.68 | 6.34 | ppb | 6.67 | 90000.00 | |
| 23 Na | 45 | 2 | 19.30 | 9.65 | ppb | 4.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.49 | 0.74 | ppb | 19.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.56 | 0.78 | ppb | 6.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2.48 | 1.24 | ppb | 13.91 | 90000.00 | |
| 27 Al | 45 | 2 | 2.95 | 1.47 | ppb | 16.78 | 90000.00 | |
| 39 K | 45 | 1 | -16.52 | -8.26 | ppb | 13.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.01 | 2.51 | ppb | 21.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.35 | 0.17 | ppb | 9.78 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 1.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.07 | 0.03 | ppb | 8.11 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 3.05 | 900.00 | |
| 56 Fe | 45 | 2 | 11.17 | 5.58 | ppb | 4.21 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 3.38 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.01 | ppb | 16.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 2.11 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.06 | ppb | 18.31 | 900.00 | |
| 75 As | 72 | 2 | 0.41 | 0.21 | ppb | 14.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 376.72 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 88.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.55 | 0.27 | ppb | 13.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 28.81 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 9.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 19.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 24.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.01 | ppb | 70.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 78.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 20.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 380817 | 0.80 | 1663748 | 22.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2185964 | 0.90 | 2728585 | 80.1 | 70 - 130 | |
| 45 Sc | 2 | 430355 | 0.37 | 406595 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 598914 | 0.25 | 617288 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 168463 | 0.27 | 157406 | 107.0 | 70 - | 130 |
| 103 | Rh | 1 | 4104614 | 0.52 | 3944827 | 104.1 | 70 - | 130 |
| 115 | In | 1 | 4599648 | 0.25 | 4162835 | 110.5 | 70 - | 130 |
| 115 | In | 2 | 1323224 | 0.57 | 1319592 | 100.3 | 70 - | 130 |
| 159 | Tb | 1 | 6906389 | 0.17 | 5883852 | 117.4 | 70 - | 130 |
| 175 | Lu | 1 | 6803816 | 0.76 | 5727334 | 118.8 | 70 - | 130 |
| 209 | Bi | 1 | 3916884 | 0.97 | 3404545 | 115.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 24 2013 07:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-17F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 55.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 533.83 | 900.00 | |
| 11 B | 6 | 1 | 82.38 | 41.19 | ppb | 0.63 | 900.00 | |
| 11 B | 45 | 2 | 45.90 | 22.95 | ppb | 2.87 | 900.00 | |
| 23 Na | 45 | 1 | 216000.00 | 108000.00 | ppb | 0.68 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 340800.00 | 170400.00 | ppb | 0.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2608.00 | 1304.00 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 4144.00 | 2072.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 6.10 | 3.05 | ppb | 4.24 | 90000.00 | |
| 27 Al | 45 | 2 | 9.27 | 4.63 | ppb | 0.84 | 90000.00 | |
| 39 K | 45 | 1 | 7706.00 | 3853.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 41840.00 | 20920.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 4.29 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.18 | ppb | 3.26 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.45 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 3996.00 | 1998.00 | ppb | 0.85 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1120.80 | 560.40 | ppb | 0.15 | 90000.00 | |
| 59 Co | 45 | 2 | 1.39 | 0.70 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 5.89 | 2.95 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 2.25 | 1.13 | ppb | 0.63 | 900.00 | |
| 66 Zn | 72 | 2 | 19.79 | 9.90 | ppb | 0.37 | 900.00 | |
| 75 As | 72 | 2 | 1.68 | 0.84 | ppb | 1.26 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 45.54 | 900.00 | |
| 88 Sr | 103 | 1 | 509.00 | 254.50 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 3.62 | 1.81 | ppb | 1.90 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.05 | ppb | 3.94 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 13.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.11 | ppb | 6.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 1.23 | 900.00 | |
| 137 Ba | 159 | 1 | 139.86 | 69.93 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.06 | ppb | 9.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 50.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 381079 | 0.21 | 1663748 | 22.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2188889 | 0.54 | 2728585 | 80.2 | 70 - 130 | |
| 45 Sc | 2 | 412504 | 0.30 | 406595 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 583521 | 0.48 | 617288 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 157147 | 0.37 | 157406 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3721132 | 0.99 | 3944827 | 94.3 | 70 | - | 130 |
| 115 In | 1 | 4313947 | 0.45 | 4162835 | 103.6 | 70 | - | 130 |
| 115 In | 2 | 1299879 | 0.30 | 1319592 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 6568721 | 0.07 | 5883852 | 111.6 | 70 | - | 130 |
| 175 Lu | 1 | 6442627 | 0.39 | 5727334 | 112.5 | 70 | - | 130 |
| 209 Bi | 1 | 3413387 | 0.35 | 3404545 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 24 2013 07:21 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-18F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 38.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 208.36 | 900.00 | |
| 11 B | 6 | 1 | 80.70 | 40.35 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 47.40 | 23.70 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 231000.00 | 115500.00 | ppb | 0.96 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 348800.00 | 174400.00 | ppb | 0.51 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2786.00 | 1393.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 4226.00 | 2113.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 20.12 | 10.06 | ppb | 12.55 | 90000.00 | |
| 27 Al | 45 | 2 | 13.69 | 6.85 | ppb | 9.52 | 90000.00 | |
| 39 K | 45 | 1 | 7830.00 | 3915.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 42760.00 | 21380.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.55 | 0.77 | ppb | 14.08 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.17 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 3.40 | 900.00 | |
| 55 Mn | 45 | 2 | 4072.00 | 2036.00 | ppb | 1.13 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1149.40 | 574.70 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 1.33 | 0.67 | ppb | 2.05 | 900.00 | |
| 60 Ni | 45 | 2 | 5.38 | 2.69 | ppb | 2.60 | 900.00 | |
| 63 Cu | 72 | 2 | 1.20 | 0.60 | ppb | 2.32 | 900.00 | |
| 66 Zn | 72 | 2 | 18.85 | 9.43 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 1.68 | 0.84 | ppb | 1.83 | 900.00 | |
| 78 Se | 72 | 2 | 0.31 | 0.16 | ppb | 24.17 | 900.00 | |
| 88 Sr | 103 | 1 | 516.60 | 258.30 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 3.59 | 1.80 | ppb | 3.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.12 | 0.06 | ppb | 7.41 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 22.78 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 12.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.51 | 900.00 | |
| 137 Ba | 159 | 1 | 140.84 | 70.42 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.06 | ppb | 1.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 546.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 428528 | 1.35 | 1663748 | 25.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2208759 | 0.14 | 2728585 | 80.9 | 70 - 130 | |
| 45 Sc | 2 | 406525 | 0.73 | 406595 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 578214 | 0.30 | 617288 | 93.7 | 70 - | 130 |
| 72 | Ge | 2 | 155443 | 0.65 | 157406 | 98.8 | 70 - | 130 |
| 103 | Rh | 1 | 3669828 | 1.05 | 3944827 | 93.0 | 70 - | 130 |
| 115 | In | 1 | 4242876 | 0.43 | 4162835 | 101.9 | 70 - | 130 |
| 115 | In | 2 | 1284569 | 0.80 | 1319592 | 97.3 | 70 - | 130 |
| 159 | Tb | 1 | 6382339 | 0.67 | 5883852 | 108.5 | 70 - | 130 |
| 175 | Lu | 1 | 6370903 | 1.02 | 5727334 | 111.2 | 70 - | 130 |
| 209 | Bi | 1 | 3396485 | 0.35 | 3404545 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\021SMPL.D\021SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 07:28 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC19884-19F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 25.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 132.50 | 900.00 | |
| 11 B | 6 | 1 | 117.16 | 58.58 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 71.50 | 35.75 | ppb | 1.16 | 900.00 | |
| 23 Na | 45 | 1 | 70000.00 | 35000.00 | ppb | 1.76 | 90000.00 | |
| 23 Na | 45 | 2 | 107280.00 | 53640.00 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 2106.00 | 1053.00 | ppb | 1.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 3220.00 | 1610.00 | ppb | 1.25 | 90000.00 | |
| 27 Al | 45 | 1 | 9.81 | 4.91 | ppb | 11.77 | 90000.00 | |
| 27 Al | 45 | 2 | 9.33 | 4.66 | ppb | 3.04 | 90000.00 | |
| 39 K | 45 | 1 | 6944.00 | 3472.00 | ppb | 1.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 30600.00 | 15300.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.63 | ppb | 4.58 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 2.94 | 900.00 | |
| 52 Cr | 45 | 2 | 1.34 | 0.67 | ppb | 1.28 | 900.00 | |
| 55 Mn | 45 | 2 | 6078.00 | 3039.00 | ppb | 1.00 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 7802.00 | 3901.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 15.59 | 7.80 | ppb | 1.08 | 900.00 | |
| 60 Ni | 45 | 2 | 53.32 | 26.66 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 4.26 | 2.13 | ppb | 1.36 | 900.00 | |
| 66 Zn | 72 | 2 | 47.02 | 23.51 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 1.52 | 0.76 | ppb | 1.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 51.90 | 900.00 | |
| 88 Sr | 103 | 1 | 320.80 | 160.40 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 13.03 | 6.51 | ppb | 1.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 15.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.06 | ppb | 15.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.41 | 0.21 | ppb | 4.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.48 | 0.24 | ppb | 0.24 | 900.00 | |
| 137 Ba | 159 | 1 | 44.54 | 22.27 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.06 | ppb | 3.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 17.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 447507 | 1.07 | 1663748 | 26.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2359768 | 1.15 | 2728585 | 86.5 | 70 - 130 | |
| 45 Sc | 2 | 423509 | 0.47 | 406595 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 621753 | 0.57 | 617288 | 100.7 | 70 - | 130 |
| 72 | Ge | 2 | 166019 | 0.40 | 157406 | 105.5 | 70 - | 130 |
| 103 | Rh | 1 | 3981368 | 0.65 | 3944827 | 100.9 | 70 - | 130 |
| 115 | In | 1 | 4486512 | 0.39 | 4162835 | 107.8 | 70 - | 130 |
| 115 | In | 2 | 1274282 | 1.62 | 1319592 | 96.6 | 70 - | 130 |
| 159 | Tb | 1 | 6754991 | 0.47 | 5883852 | 114.8 | 70 - | 130 |
| 175 | Lu | 1 | 6665867 | 0.57 | 5727334 | 116.4 | 70 - | 130 |
| 209 | Bi | 1 | 3619468 | 0.55 | 3404545 | 106.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Apr 24 2013 07:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19884-20F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 193.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 120.00 | 900.00 | |
| 11 B | 6 | 1 | 159.14 | 79.57 | ppb | 1.30 | 900.00 | |
| 11 B | 45 | 2 | 93.96 | 46.98 | ppb | 0.36 | 900.00 | |
| 23 Na | 45 | 1 | 31340.00 | 15670.00 | ppb | 1.56 | 90000.00 | |
| 23 Na | 45 | 2 | 47960.00 | 23980.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 3916.00 | 1958.00 | ppb | 1.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5836.00 | 2918.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 1 | 7.90 | 3.95 | ppb | 5.82 | 90000.00 | |
| 27 Al | 45 | 2 | 10.87 | 5.43 | ppb | 2.36 | 90000.00 | |
| 39 K | 45 | 1 | 4232.00 | 2116.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 51620.00 | 25810.00 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.39 | 0.69 | ppb | 4.32 | 900.00 | |
| 51 V | 45 | 2 | 1.90 | 0.95 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 3.11 | 1.55 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 4348.00 | 2174.00 | ppb | 1.56 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 8136.00 | 4068.00 | ppb | 1.43 | 90000.00 | |
| 59 Co | 45 | 2 | 9.91 | 4.95 | ppb | 1.92 | 900.00 | |
| 60 Ni | 45 | 2 | 21.18 | 10.59 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 3.07 | 1.54 | ppb | 2.25 | 900.00 | |
| 66 Zn | 72 | 2 | 29.30 | 14.65 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 1.86 | 0.93 | ppb | 2.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 173.99 | 900.00 | |
| 88 Sr | 103 | 1 | 410.20 | 205.10 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 6.78 | 3.39 | ppb | 1.00 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 10.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 14.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.46 | 0.23 | ppb | 2.99 | 900.00 | |
| 137 Ba | 159 | 1 | 54.86 | 27.43 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 4.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 12.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 442981 | 0.88 | 1663748 | 26.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2307433 | 1.88 | 2728585 | 84.6 | 70 - 130 | |
| 45 Sc | 2 | 431471 | 0.47 | 406595 | 106.1 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618138 | 1.37 | 617288 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 167290 | 0.83 | 157406 | 106.3 | 70 | - | 130 |
| 103 Rh | 1 | 4020347 | 0.03 | 3944827 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 4594227 | 0.87 | 4162835 | 110.4 | 70 | - | 130 |
| 115 In | 2 | 1291528 | 1.44 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6767341 | 1.02 | 5883852 | 115.0 | 70 | - | 130 |
| 175 Lu | 1 | 6684392 | 0.80 | 5727334 | 116.7 | 70 | - | 130 |
| 209 Bi | 1 | 3684974 | 0.53 | 3404545 | 108.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 24 2013 07:42 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-1F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.26 | -0.03 | ppb | 2.21 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.01 | ppb | 62.00 | 900.00 | |
| 11 B | 6 | 1 | 159.50 | 15.95 | ppb | 5.37 | 900.00 | |
| 11 B | 45 | 2 | 110.40 | 11.04 | ppb | 4.54 | 900.00 | |
| 23 Na | 45 | 1 | 10890.00 | 1089.00 | ppb | 2.23 | 90000.00 | |
| 23 Na | 45 | 2 | 15030.00 | 1503.00 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 1575.00 | 157.50 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 2172.00 | 217.20 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 60.29 | 6.03 | ppb | 4.05 | 90000.00 | |
| 27 Al | 45 | 2 | 63.77 | 6.38 | ppb | 3.69 | 90000.00 | |
| 39 K | 45 | 1 | 5966.00 | 596.60 | ppb | 1.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 16580.00 | 1658.00 | ppb | 1.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 0.24 | ppb | 11.73 | 900.00 | |
| 51 V | 45 | 2 | -2.36 | -0.24 | ppb | 5.91 | 900.00 | |
| 52 Cr | 45 | 2 | -0.68 | -0.07 | ppb | 4.41 | 900.00 | |
| 55 Mn | 45 | 2 | 1916.00 | 191.60 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 38450.00 | 3845.00 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 22.28 | 2.23 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 16.33 | 1.63 | ppb | 1.27 | 900.00 | |
| 63 Cu | 72 | 2 | 2.06 | 0.21 | ppb | 2.61 | 900.00 | |
| 66 Zn | 72 | 2 | 16.06 | 1.61 | ppb | 3.59 | 900.00 | |
| 75 As | 72 | 2 | 288.30 | 28.83 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 1.41 | 0.14 | ppb | 23.85 | 900.00 | |
| 88 Sr | 103 | 1 | 220.90 | 22.09 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 23.61 | 2.36 | ppb | 1.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 11.81 | 180.00 | |
| 111 Cd | 115 | 2 | -0.06 | -0.01 | ppb | 89.21 | 900.00 | |
| 120 Sn | 115 | 1 | -0.12 | -0.01 | ppb | 29.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.05 | ppb | 8.09 | 900.00 | |
| 137 Ba | 159 | 1 | 22.52 | 2.25 | ppb | 1.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.01 | ppb | 17.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.11 | -0.01 | ppb | 5.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 698955 | 4.85 | 1663748 | 42.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2683132 | 2.66 | 2728585 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 445372 | 0.42 | 406595 | 109.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 685546 | 1.23 | 617288 | 111.1 | 70 | - | 130 |
| 72 Ge | 2 | 173367 | 0.26 | 157406 | 110.1 | 70 | - | 130 |
| 103 Rh | 1 | 4355443 | 0.51 | 3944827 | 110.4 | 70 | - | 130 |
| 115 In | 1 | 4816805 | 0.72 | 4162835 | 115.7 | 70 | - | 130 |
| 115 In | 2 | 1372419 | 0.75 | 1319592 | 104.0 | 70 | - | 130 |
| 159 Tb | 1 | 6889975 | 1.40 | 5883852 | 117.1 | 70 | - | 130 |
| 175 Lu | 1 | 6669601 | 1.42 | 5727334 | 116.5 | 70 | - | 130 |
| 209 Bi | 1 | 3792553 | 1.44 | 3404545 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 07:49 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2203 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 63.32 | 63.32 | ppb | 7.48 | 900.00 | |
| 9 Be | 45 | 2 | 47.74 | 47.74 | ppb | 2.80 | 900.00 | |
| 11 B | 6 | 1 | 64.47 | 64.47 | ppb | 8.69 | 900.00 | |
| 11 B | 45 | 2 | 47.14 | 47.14 | ppb | 1.71 | 900.00 | |
| 23 Na | 45 | 1 | 3904.00 | 3904.00 | ppb | 7.87 | 90000.00 | |
| 23 Na | 45 | 2 | 5447.00 | 5447.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 3920.00 | 3920.00 | ppb | 7.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5375.00 | 5375.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 4066.00 | 4066.00 | ppb | 7.60 | 90000.00 | |
| 27 Al | 45 | 2 | 5208.00 | 5208.00 | ppb | 0.41 | 90000.00 | |
| 39 K | 45 | 1 | 4728.00 | 4728.00 | ppb | 7.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5009.00 | 5009.00 | ppb | 7.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 47.01 | 47.01 | ppb | 8.24 | 900.00 | |
| 51 V | 45 | 2 | 50.12 | 50.12 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 49.40 | 49.40 | ppb | 0.22 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5229.00 | 5229.00 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 50.12 | 50.12 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 48.80 | 48.80 | ppb | 0.53 | 900.00 | |
| 63 Cu | 72 | 2 | 48.35 | 48.35 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 48.29 | 48.29 | ppb | 0.08 | 900.00 | |
| 75 As | 72 | 2 | 49.20 | 49.20 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 47.02 | 47.02 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 50.65 | 50.65 | ppb | 7.22 | 900.00 | |
| 98 Mo | 103 | 1 | 49.40 | 49.40 | ppb | 7.31 | 900.00 | |
| 107 Ag | 115 | 1 | 45.78 | 45.78 | ppb | 7.35 | 180.00 | |
| 111 Cd | 115 | 2 | 50.38 | 50.38 | ppb | 0.26 | 900.00 | |
| 120 Sn | 115 | 1 | 50.61 | 50.61 | ppb | 6.07 | 900.00 | |
| 121 Sb | 115 | 1 | 51.26 | 51.26 | ppb | 6.51 | 900.00 | |
| 137 Ba | 159 | 1 | 48.48 | 48.48 | ppb | 7.00 | 900.00 | |
| 205 Tl | 209 | 1 | 48.01 | 48.01 | ppb | 8.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.79 | 48.79 | ppb | 7.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 765174 | 8.22 | 1663748 | 46.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2822524 | 7.53 | 2728585 | 103.4 | 70 - 130 | |
| 45 Sc | 2 | 432495 | 0.37 | 406595 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 687683 | 8.35 | 617288 | 111.4 | 70 | - | 130 |
| 72 | Ge | 2 | 165646 | 0.35 | 157406 | 105.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4436168 | 7.37 | 3944827 | 112.5 | 70 | - | 130 |
| 115 | In | 1 | 4864260 | 6.80 | 4162835 | 116.8 | 70 | - | 130 |
| 115 | In | 2 | 1313803 | 1.27 | 1319592 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 6953515 | 7.23 | 5883852 | 118.2 | 70 | - | 130 |
| 175 | Lu | 1 | 6733001 | 7.29 | 5727334 | 117.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3734125 | 8.00 | 3404545 | 109.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#
**Date Acquired:** Apr 24 2013 07:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2204
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 10.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 93.13 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.33 | ppb | 7.40 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 65.09 | 900.00 | |
| 23 Na | 45 | 1 | 5.44 | 5.44 | ppb | 6.68 | 90000.00 | |
| 23 Na | 45 | 2 | 12.60 | 12.60 | ppb | 3.82 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.59 | 0.59 | ppb | 19.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.58 | 1.58 | ppb | 6.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.33 | 0.33 | ppb | 21.84 | 90000.00 | |
| 27 Al | 45 | 2 | 1.13 | 1.13 | ppb | 14.50 | 90000.00 | |
| 39 K | 45 | 1 | 0.00 | 0.00 | ppb | 37924.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.63 | 11.63 | ppb | 2.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 133.62 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 24.49 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 10.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.27 | ppb | 6.09 | 900.00 | |
| 56 Fe | 45 | 2 | 2.47 | 2.47 | ppb | 2.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 6.18 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 89.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 9.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.36 | 0.36 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 174.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 262.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 46.20 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 11.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 6.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.52 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 39.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 115.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 2.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 11.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 816401 | 1.54 | 1663748 | 49.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2688393 | 0.48 | 2728585 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 436239 | 0.63 | 406595 | 107.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 671409 | 0.52 | 617288 | 108.8 | 70 | - | 130 |
| 72 | Ge | 2 | 168492 | 0.30 | 157406 | 107.0 | 70 | - | 130 |
| 103 | Rh | 1 | 4361799 | 0.79 | 3944827 | 110.6 | 70 | - | 130 |
| 115 | In | 1 | 4710735 | 0.40 | 4162835 | 113.2 | 70 | - | 130 |
| 115 | In | 2 | 1342494 | 1.64 | 1319592 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 6653819 | 0.60 | 5883852 | 113.1 | 70 | - | 130 |
| 175 | Lu | 1 | 6444281 | 0.84 | 5727334 | 112.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3732146 | 0.64 | 3404545 | 109.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 24 2013 08:04 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-2F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 100.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 100.00

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1.89 | -0.02 | ppb | 8.70 | 900.00 | |
| 9 Be | 45 | 2 | 0.23 | 0.00 | ppb | 593.00 | 900.00 | |
| 11 B | 6 | 1 | 225.60 | 2.26 | ppb | 2.65 | 900.00 | |
| 11 B | 45 | 2 | 193.50 | 1.94 | ppb | 13.31 | 900.00 | |
| 23 Na | 45 | 1 | 20200.00 | 202.00 | ppb | 0.04 | 90000.00 | |
| 23 Na | 45 | 2 | 24660.00 | 246.60 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 7550.00 | 75.50 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 8763.00 | 87.63 | ppb | 0.20 | 90000.00 | |
| 27 Al | 45 | 1 | 203.60 | 2.04 | ppb | 2.03 | 90000.00 | |
| 27 Al | 45 | 2 | 267.80 | 2.68 | ppb | 15.90 | 90000.00 | |
| 39 K | 45 | 1 | 11780.00 | 117.80 | ppb | 1.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 44480.00 | 444.80 | ppb | 1.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 13.66 | 0.14 | ppb | 100.07 | 900.00 | |
| 51 V | 45 | 2 | -47.05 | -0.47 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -9.67 | -0.10 | ppb | 1.21 | 900.00 | |
| 55 Mn | 45 | 2 | 1792.00 | 17.92 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 57830.00 | 578.30 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 23.85 | 0.24 | ppb | 2.53 | 900.00 | |
| 60 Ni | 45 | 2 | 32.87 | 0.33 | ppb | 3.22 | 900.00 | |
| 63 Cu | 72 | 2 | 12.98 | 0.13 | ppb | 3.64 | 900.00 | |
| 66 Zn | 72 | 2 | 50.67 | 0.51 | ppb | 4.61 | 900.00 | |
| 75 As | 72 | 2 | 1078.00 | 10.78 | ppb | 1.01 | 900.00 | |
| 78 Se | 72 | 2 | 8.37 | 0.08 | ppb | 107.62 | 900.00 | |
| 88 Sr | 103 | 1 | 842.30 | 8.42 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 19.68 | 0.20 | ppb | 0.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.07 | 0.00 | ppb | 79.96 | 180.00 | |
| 111 Cd | 115 | 2 | -1.41 | -0.01 | ppb | 10.32 | 900.00 | |
| 120 Sn | 115 | 1 | -1.32 | -0.01 | ppb | 8.06 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.00 | ppb | 787.64 | 900.00 | |
| 137 Ba | 159 | 1 | 44.87 | 0.45 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 3.45 | 0.03 | ppb | 9.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.87 | -0.01 | ppb | 15.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1212479 | 0.56 | 1663748 | 72.9 | 70 - 130 | |
| 45 Sc | 1 | 2895873 | 0.84 | 2728585 | 106.1 | 70 - 130 | |
| 45 Sc | 2 | 433979 | 0.29 | 406595 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 701134 | 0.70 | 617288 | 113.6 | 70 - | 130 |
| 72 | Ge | 2 | 167669 | 0.69 | 157406 | 106.5 | 70 - | 130 |
| 103 | Rh | 1 | 4388490 | 0.56 | 3944827 | 111.2 | 70 - | 130 |
| 115 | In | 1 | 4711819 | 0.80 | 4162835 | 113.2 | 70 - | 130 |
| 115 | In | 2 | 1351822 | 0.08 | 1319592 | 102.4 | 70 - | 130 |
| 159 | Tb | 1 | 6452806 | 0.55 | 5883852 | 109.7 | 70 - | 130 |
| 175 | Lu | 1 | 6270458 | 0.16 | 5727334 | 109.5 | 70 - | 130 |
| 209 | Bi | 1 | 3622070 | 0.75 | 3404545 | 106.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 24 2013 08:11 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-3F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.02 | ppb | 10.35 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 317.04 | 900.00 | |
| 11 B | 6 | 1 | 295.20 | 147.60 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 192.10 | 96.05 | ppb | 2.25 | 900.00 | |
| 23 Na | 45 | 1 | 41880.00 | 20940.00 | ppb | 2.05 | 90000.00 | |
| 23 Na | 45 | 2 | 57480.00 | 28740.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 3230.00 | 1615.00 | ppb | 2.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 4400.00 | 2200.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 7.45 | 3.73 | ppb | 4.16 | 90000.00 | |
| 27 Al | 45 | 2 | 10.08 | 5.04 | ppb | 2.79 | 90000.00 | |
| 39 K | 45 | 1 | 8164.00 | 4082.00 | ppb | 2.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 34980.00 | 17490.00 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 0.67 | ppb | 2.30 | 900.00 | |
| 51 V | 45 | 2 | 1.37 | 0.68 | ppb | 4.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.11 | ppb | 3.68 | 900.00 | |
| 55 Mn | 45 | 2 | 4774.00 | 2387.00 | ppb | 1.24 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 56360.00 | 28180.00 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 24.62 | 12.31 | ppb | 0.45 | 900.00 | |
| 60 Ni | 45 | 2 | 127.24 | 63.62 | ppb | 0.33 | 900.00 | |
| 63 Cu | 72 | 2 | 3.59 | 1.80 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 15.41 | 7.70 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 20.62 | 10.31 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 395.08 | 900.00 | |
| 88 Sr | 103 | 1 | 329.40 | 164.70 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 50.72 | 25.36 | ppb | 1.11 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.78 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 58.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.40 | 0.20 | ppb | 2.77 | 900.00 | |
| 121 Sb | 115 | 1 | 1.37 | 0.69 | ppb | 1.89 | 900.00 | |
| 137 Ba | 159 | 1 | 35.82 | 17.91 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 5.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 594897 | 0.24 | 1663748 | 35.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2482153 | 1.00 | 2728585 | 91.0 | 70 - 130 | |
| 45 Sc | 2 | 420566 | 0.96 | 406595 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 644414 | 0.33 | 617288 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 164261 | 0.30 | 157406 | 104.4 | 70 | - | 130 |
| 103 Rh | 1 | 3964508 | 0.85 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4433483 | 0.41 | 4162835 | 106.5 | 70 | - | 130 |
| 115 In | 2 | 1272618 | 3.93 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6507106 | 0.66 | 5883852 | 110.6 | 70 | - | 130 |
| 175 Lu | 1 | 6316891 | 1.07 | 5727334 | 110.3 | 70 | - | 130 |
| 209 Bi | 1 | 3432198 | 0.60 | 3404545 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:18 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20063-4F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2207 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 25.08 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 58.22 | 900.00 | |
| 11 B | 6 | 1 | 1.70 | 0.85 | ppb | 9.04 | 900.00 | |
| 11 B | 45 | 2 | 0.78 | 0.39 | ppb | 27.09 | 900.00 | |
| 23 Na | 45 | 1 | 24.62 | 12.31 | ppb | 2.70 | 90000.00 | |
| 23 Na | 45 | 2 | 38.20 | 19.10 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.63 | 2.81 | ppb | 1.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.85 | 3.92 | ppb | 1.78 | 90000.00 | |
| 27 Al | 45 | 1 | 4.06 | 2.03 | ppb | 3.32 | 90000.00 | |
| 27 Al | 45 | 2 | 5.35 | 2.68 | ppb | 7.23 | 90000.00 | |
| 39 K | 45 | 1 | -6.48 | -3.24 | ppb | 63.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 214.00 | 107.00 | ppb | 1.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.30 | ppb | 19.59 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.86 | ppb | 1.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.75 | 0.38 | ppb | 5.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.49 | ppb | 0.71 | 900.00 | |
| 56 Fe | 45 | 2 | 15.11 | 7.55 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 24.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 47.26 | 900.00 | |
| 63 Cu | 72 | 2 | 1.56 | 0.78 | ppb | 1.11 | 900.00 | |
| 66 Zn | 72 | 2 | 10.43 | 5.22 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 8.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 970.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.21 | 0.10 | ppb | 1.71 | 900.00 | |
| 98 Mo | 103 | 1 | 0.20 | 0.10 | ppb | 3.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 31.19 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 8.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.10 | ppb | 11.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 3.48 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.08 | ppb | 16.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 13.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 24.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 595685 | 1.47 | 1663748 | 35.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2513139 | 0.29 | 2728585 | 92.1 | 70 - 130 | |
| 45 Sc | 2 | 431087 | 0.44 | 406595 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 645096 | 0.98 | 617288 | 104.5 | 70 - | 130 |
| 72 | Ge | 2 | 165820 | 0.69 | 157406 | 105.3 | 70 - | 130 |
| 103 | Rh | 1 | 4251545 | 0.71 | 3944827 | 107.8 | 70 - | 130 |
| 115 | In | 1 | 4635692 | 0.74 | 4162835 | 111.4 | 70 - | 130 |
| 115 | In | 2 | 1312208 | 0.93 | 1319592 | 99.4 | 70 - | 130 |
| 159 | Tb | 1 | 6731914 | 0.55 | 5883852 | 114.4 | 70 - | 130 |
| 175 | Lu | 1 | 6543887 | 0.52 | 5727334 | 114.3 | 70 - | 130 |
| 209 | Bi | 1 | 3743045 | 0.38 | 3404545 | 109.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D#
**Date Acquired:** Apr 24 2013 08:25 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20828-B1
**Misc Info:**
**Vial Number:** 2208
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 582.00 | 29.10 | ppb | 1.77 | 900.00 | |
| 9 Be | 45 | 2 | 484.20 | 24.21 | ppb | 1.00 | 900.00 | |
| 11 B | 6 | 1 | 3.03 | 0.15 | ppb | 4.83 | 900.00 | |
| 11 B | 45 | 2 | 1.53 | 0.08 | ppb | 31.09 | 900.00 | |
| 23 Na | 45 | 1 | 23720.00 | 1186.00 | ppb | 0.89 | 90000.00 | |
| 23 Na | 45 | 2 | 28000.00 | 1400.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 23940.00 | 1197.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 28580.00 | 1429.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 2074.00 | 103.70 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 2 | 2406.00 | 120.30 | ppb | 0.93 | 90000.00 | |
| 39 K | 45 | 1 | 26320.00 | 1316.00 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 27920.00 | 1396.00 | ppb | 1.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 494.00 | 24.70 | ppb | 1.93 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 512.00 | 25.60 | ppb | 0.20 | 900.00 | |
| 55 Mn | 45 | 2 | 521.40 | 26.07 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 2518.00 | 125.90 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 528.80 | 26.44 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 508.60 | 25.43 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 515.60 | 25.78 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 568.40 | 28.42 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 520.60 | 26.03 | ppb | 0.52 | 900.00 | |
| 78 Se | 72 | 2 | 515.60 | 25.78 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 525.40 | 26.27 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.63 | 0.03 | ppb | 3.35 | 900.00 | |
| 107 Ag | 115 | 1 | 212.20 | 10.61 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 525.60 | 26.28 | ppb | 0.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.38 | -0.02 | ppb | 13.82 | 900.00 | |
| 121 Sb | 115 | 1 | 540.60 | 27.03 | ppb | 0.92 | 900.00 | |
| 137 Ba | 159 | 1 | 2116.00 | 105.80 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 522.60 | 26.13 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1041.80 | 52.09 | ppb | 1.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1151533 | 0.89 | 1663748 | 69.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2930985 | 1.22 | 2728585 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 437779 | 0.62 | 406595 | 107.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 696820 | 0.46 | 617288 | 112.9 | 70 | - | 130 |
| 72 Ge | 2 | 167816 | 0.54 | 157406 | 106.6 | 70 | - | 130 |
| 103 Rh | 1 | 4411993 | 0.19 | 3944827 | 111.8 | 70 | - | 130 |
| 115 In | 1 | 4747001 | 0.29 | 4162835 | 114.0 | 70 | - | 130 |
| 115 In | 2 | 1352237 | 0.17 | 1319592 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 6556951 | 0.71 | 5883852 | 111.4 | 70 | - | 130 |
| 175 Lu | 1 | 6265931 | 1.29 | 5727334 | 109.4 | 70 | - | 130 |
| 209 Bi | 1 | 3560440 | 0.37 | 3404545 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 24 2013 08:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20828-S1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 577.80 | 28.89 | ppb | 1.01 | 900.00 | |
| 9 Be | 45 | 2 | 485.60 | 24.28 | ppb | 1.47 | 900.00 | |
| 11 B | 6 | 1 | 53.36 | 2.67 | ppb | 2.40 | 900.00 | |
| 11 B | 45 | 2 | 45.06 | 2.25 | ppb | 11.38 | 900.00 | |
| 23 Na | 45 | 1 | 325200.00 | 16260.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 370600.00 | 18530.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 27960.00 | 1398.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 32100.00 | 1605.00 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 1 | 2102.00 | 105.10 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 2430.00 | 121.50 | ppb | 0.84 | 90000.00 | |
| 39 K | 45 | 1 | 34760.00 | 1738.00 | ppb | 0.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 70620.00 | 3531.00 | ppb | 1.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 24.94 | ppb | 0.55 | 900.00 | |
| 51 V | 45 | 2 | 520.60 | 26.03 | ppb | 1.20 | 900.00 | |
| 52 Cr | 45 | 2 | 499.20 | 24.96 | ppb | 1.76 | 900.00 | |
| 55 Mn | 45 | 2 | 4678.00 | 233.90 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 3494.00 | 174.70 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 521.40 | 26.07 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 508.20 | 25.41 | ppb | 0.53 | 900.00 | |
| 63 Cu | 72 | 2 | 522.20 | 26.11 | ppb | 0.62 | 900.00 | |
| 66 Zn | 72 | 2 | 569.60 | 28.48 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 532.00 | 26.60 | ppb | 1.50 | 900.00 | |
| 78 Se | 72 | 2 | 518.40 | 25.92 | ppb | 1.10 | 900.00 | |
| 88 Sr | 103 | 1 | 1056.60 | 52.83 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 3.40 | 0.17 | ppb | 4.10 | 900.00 | |
| 107 Ag | 115 | 1 | 214.00 | 10.70 | ppb | 1.37 | 180.00 | |
| 111 Cd | 115 | 2 | 531.80 | 26.59 | ppb | 0.25 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 16.36 | 900.00 | |
| 121 Sb | 115 | 1 | 557.80 | 27.89 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 2274.00 | 113.70 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 501.80 | 25.09 | ppb | 1.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 51.95 | ppb | 0.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1186282 | 0.87 | 1663748 | 71.3 | 70 - 130 | |
| 45 Sc | 1 | 2897644 | 0.28 | 2728585 | 106.2 | 70 - 130 | |
| 45 Sc | 2 | 433386 | 0.67 | 406595 | 106.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 685842 | 0.31 | 617288 | 111.1 | 70 | - | 130 |
| 72 Ge | 2 | 163796 | 0.17 | 157406 | 104.1 | 70 | - | 130 |
| 103 Rh | 1 | 4192621 | 0.89 | 3944827 | 106.3 | 70 | - | 130 |
| 115 In | 1 | 4546811 | 1.04 | 4162835 | 109.2 | 70 | - | 130 |
| 115 In | 2 | 1286385 | 0.56 | 1319592 | 97.5 | 70 | - | 130 |
| 159 Tb | 1 | 6381370 | 0.70 | 5883852 | 108.5 | 70 | - | 130 |
| 175 Lu | 1 | 6113435 | 0.34 | 5727334 | 106.7 | 70 | - | 130 |
| 209 Bi | 1 | 3461173 | 0.87 | 3404545 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 24 2013 08:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20828-S2
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 559.80 | 27.99 | ppb | 0.29 | 900.00 | |
| 9 Be | 45 | 2 | 492.60 | 24.63 | ppb | 2.65 | 900.00 | |
| 11 B | 6 | 1 | 50.20 | 2.51 | ppb | 3.13 | 900.00 | |
| 11 B | 45 | 2 | 44.88 | 2.24 | ppb | 7.43 | 900.00 | |
| 23 Na | 45 | 1 | 321000.00 | 16050.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 370800.00 | 18540.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 27600.00 | 1380.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 32020.00 | 1601.00 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 1 | 2112.00 | 105.60 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2418.00 | 120.90 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 34260.00 | 1713.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 69420.00 | 3471.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.60 | 24.78 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 521.80 | 26.09 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 508.80 | 25.44 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 4774.00 | 238.70 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | 3560.00 | 178.00 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 522.60 | 26.13 | ppb | 1.26 | 900.00 | |
| 60 Ni | 45 | 2 | 502.40 | 25.12 | ppb | 1.63 | 900.00 | |
| 63 Cu | 72 | 2 | 503.40 | 25.17 | ppb | 1.30 | 900.00 | |
| 66 Zn | 72 | 2 | 561.60 | 28.08 | ppb | 1.46 | 900.00 | |
| 75 As | 72 | 2 | 520.80 | 26.04 | ppb | 1.09 | 900.00 | |
| 78 Se | 72 | 2 | 495.40 | 24.77 | ppb | 0.93 | 900.00 | |
| 88 Sr | 103 | 1 | 1031.80 | 51.59 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 3.86 | 0.19 | ppb | 2.72 | 900.00 | |
| 107 Ag | 115 | 1 | 209.60 | 10.48 | ppb | 0.98 | 180.00 | |
| 111 Cd | 115 | 2 | 524.40 | 26.22 | ppb | 0.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.36 | -0.02 | ppb | 8.34 | 900.00 | |
| 121 Sb | 115 | 1 | 548.80 | 27.44 | ppb | 0.49 | 900.00 | |
| 137 Ba | 159 | 1 | 2248.00 | 112.40 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 493.80 | 24.69 | ppb | 1.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1021.60 | 51.08 | ppb | 0.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1244800 | 0.77 | 1663748 | 74.8 | 70 - 130 | |
| 45 Sc | 1 | 2909583 | 1.36 | 2728585 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 422379 | 0.49 | 406595 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 683358 | 0.67 | 617288 | 110.7 | 70 | - | 130 |
| 72 Ge | 2 | 163719 | 0.60 | 157406 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 4193010 | 0.11 | 3944827 | 106.3 | 70 | - | 130 |
| 115 In | 1 | 4521290 | 0.15 | 4162835 | 108.6 | 70 | - | 130 |
| 115 In | 2 | 1289873 | 0.66 | 1319592 | 97.7 | 70 | - | 130 |
| 159 Tb | 1 | 6289383 | 0.70 | 5883852 | 106.9 | 70 | - | 130 |
| 175 Lu | 1 | 6028899 | 1.07 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3427118 | 0.26 | 3404545 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 08:46 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20828-SD1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.02 | ppb | 15.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 29.73 | 900.00 | |
| 11 B | 6 | 1 | 52.25 | 5.23 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 45.04 | 4.50 | ppb | 4.00 | 900.00 | |
| 23 Na | 45 | 1 | 294600.00 | 29460.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 333900.00 | 33390.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 3565.00 | 356.50 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 4323.00 | 432.30 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 24.38 | 2.44 | ppb | 7.24 | 90000.00 | |
| 27 Al | 45 | 2 | 30.19 | 3.02 | ppb | 12.41 | 90000.00 | |
| 39 K | 45 | 1 | 8438.00 | 843.80 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 43390.00 | 4339.00 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.15 | ppb | 1.45 | 900.00 | |
| 51 V | 45 | 2 | -1.72 | -0.17 | ppb | 1.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.15 | 0.01 | ppb | 6.65 | 900.00 | |
| 55 Mn | 45 | 2 | 4144.00 | 414.40 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 1217.00 | 121.70 | ppb | 1.02 | 90000.00 | |
| 59 Co | 45 | 2 | 1.43 | 0.14 | ppb | 2.97 | 900.00 | |
| 60 Ni | 45 | 2 | 6.71 | 0.67 | ppb | 7.16 | 900.00 | |
| 63 Cu | 72 | 2 | 3.18 | 0.32 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 22.11 | 2.21 | ppb | 1.84 | 900.00 | |
| 75 As | 72 | 2 | 0.79 | 0.08 | ppb | 6.73 | 900.00 | |
| 78 Se | 72 | 2 | 1.03 | 0.10 | ppb | 40.45 | 900.00 | |
| 88 Sr | 103 | 1 | 509.80 | 50.98 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 3.00 | 0.30 | ppb | 2.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.14 | 0.01 | ppb | 14.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.01 | ppb | 201.88 | 900.00 | |
| 120 Sn | 115 | 1 | -0.11 | -0.01 | ppb | 18.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.03 | ppb | 7.35 | 900.00 | |
| 137 Ba | 159 | 1 | 149.00 | 14.90 | ppb | 1.25 | 900.00 | |
| 205 Tl | 209 | 1 | 1.84 | 0.18 | ppb | 1.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 4.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1154181 | 1.22 | 1663748 | 69.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2818063 | 0.82 | 2728585 | 103.3 | 70 - 130 | |
| 45 Sc | 2 | 420906 | 0.84 | 406595 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 683685 | 0.40 | 617288 | 110.8 | 70 | - | 130 |
| 72 Ge | 2 | 162284 | 0.41 | 157406 | 103.1 | 70 | - | 130 |
| 103 Rh | 1 | 4118725 | 0.71 | 3944827 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 4439482 | 0.33 | 4162835 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 1276166 | 0.70 | 1319592 | 96.7 | 70 | - | 130 |
| 159 Tb | 1 | 6200165 | 0.50 | 5883852 | 105.4 | 70 | - | 130 |
| 175 Lu | 1 | 5954615 | 0.34 | 5727334 | 104.0 | 70 | - | 130 |
| 209 Bi | 1 | 3358085 | 0.81 | 3404545 | 98.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 24 2013 08:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20828-PS1
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 20.12 | 10.06 | ppb | 2.14 | 900.00 | |
| 9 Be | 45 | 2 | 16.08 | 8.04 | ppb | 3.13 | 900.00 | |
| 11 B | 6 | 1 | 69.04 | 34.52 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 55.02 | 27.51 | ppb | 2.54 | 900.00 | |
| 23 Na | 45 | 1 | 223800.00 | 111900.00 | ppb | 0.94 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 278200.00 | 139100.00 | ppb | 0.56 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 2700.00 | 1350.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 3448.00 | 1724.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 23.38 | 11.69 | ppb | 1.87 | 90000.00 | |
| 27 Al | 45 | 2 | 27.92 | 13.96 | ppb | 1.76 | 90000.00 | |
| 39 K | 45 | 1 | 6734.00 | 3367.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 34640.00 | 17320.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.36 | 8.68 | ppb | 2.60 | 900.00 | |
| 51 V | 45 | 2 | 18.74 | 9.37 | ppb | 0.29 | 900.00 | |
| 52 Cr | 45 | 2 | 17.33 | 8.67 | ppb | 0.13 | 900.00 | |
| 55 Mn | 45 | 2 | 3378.00 | 1689.00 | ppb | 0.26 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 957.40 | 478.70 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 17.71 | 8.86 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 20.70 | 10.35 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 17.94 | 8.97 | ppb | 0.85 | 900.00 | |
| 66 Zn | 72 | 2 | 35.70 | 17.85 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 18.07 | 9.03 | ppb | 0.76 | 900.00 | |
| 78 Se | 72 | 2 | 15.50 | 7.75 | ppb | 4.38 | 900.00 | |
| 88 Sr | 103 | 1 | 438.80 | 219.40 | ppb | 1.44 | 900.00 | |
| 98 Mo | 103 | 1 | 21.40 | 10.70 | ppb | 1.70 | 900.00 | |
| 107 Ag | 115 | 1 | 16.93 | 8.47 | ppb | 0.80 | 180.00 | |
| 111 Cd | 115 | 2 | 16.03 | 8.01 | ppb | 3.79 | 900.00 | |
| 120 Sn | 115 | 1 | 18.38 | 9.19 | ppb | 0.13 | 900.00 | |
| 121 Sb | 115 | 1 | 18.40 | 9.20 | ppb | 1.09 | 900.00 | |
| 137 Ba | 159 | 1 | 136.96 | 68.48 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 17.65 | 8.83 | ppb | 0.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 18.13 | 9.07 | ppb | 0.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 899964 | 1.64 | 1663748 | 54.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2628655 | 0.55 | 2728585 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 402010 | 0.70 | 406595 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626566 | 0.09 | 617288 | 101.5 | 70 | - | 130 |
| 72 Ge | 2 | 152690 | 0.85 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3778643 | 0.96 | 3944827 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 4204448 | 0.10 | 4162835 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1255606 | 3.67 | 1319592 | 95.2 | 70 | - | 130 |
| 159 Tb | 1 | 6086958 | 0.74 | 5883852 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 5908546 | 0.39 | 5727334 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 3205826 | 0.52 | 3404545 | 94.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 09:00 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 14.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 1.11 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.09 | ppb | 27.91 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 70.73 | 900.00 | |
| 23 Na | 45 | 1 | 12.09 | 12.09 | ppb | 8.47 | 90000.00 | |
| 23 Na | 45 | 2 | 64.64 | 64.64 | ppb | 25.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 9.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 14.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.41 | 3.41 | ppb | 1.94 | 90000.00 | |
| 27 Al | 45 | 2 | 4.19 | 4.19 | ppb | 1.83 | 90000.00 | |
| 39 K | 45 | 1 | 3.81 | 3.81 | ppb | 12.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.11 | 7.11 | ppb | 9.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 116.69 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 15.12 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 25.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.57 | 0.57 | ppb | 26.72 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 4.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 157.38 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 28.71 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 5.59 | 900.00 | |
| 66 Zn | 72 | 2 | 1.15 | 1.15 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 61.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 41.59 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 13.29 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | -0.01 | ppb | 20.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.59 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 37.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 498.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 38.72 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 22.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 7.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1211434 | 0.50 | 1663748 | 72.8 | 70 - 130 | |
| 45 Sc | 1 | 2876915 | 0.40 | 2728585 | 105.4 | 70 - 130 | |
| 45 Sc | 2 | 426874 | 0.72 | 406595 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689044 | 0.87 | 617288 | 111.6 | 70 | - | 130 |
| 72 Ge | 2 | 165776 | 0.39 | 157406 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 4345256 | 1.24 | 3944827 | 110.2 | 70 | - | 130 |
| 115 In | 1 | 4636434 | 0.12 | 4162835 | 111.4 | 70 | - | 130 |
| 115 In | 2 | 1326297 | 0.24 | 1319592 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 6400255 | 0.79 | 5883852 | 108.8 | 70 | - | 130 |
| 175 Lu | 1 | 6135041 | 0.24 | 5727334 | 107.1 | 70 | - | 130 |
| 209 Bi | 1 | 3574600 | 1.37 | 3404545 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 24 2013 09:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.53 | 0.53 | ppb | 0.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 1.57 | 900.00 | |
| 11 B | 6 | 1 | 5.33 | 5.33 | ppb | 1.36 | 900.00 | |
| 11 B | 45 | 2 | 4.08 | 4.08 | ppb | 7.19 | 900.00 | |
| 23 Na | 45 | 1 | 235.30 | 235.30 | ppb | 1.55 | 90000.00 | |
| 23 Na | 45 | 2 | 290.40 | 290.40 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 235.30 | 235.30 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.90 | 285.90 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 25.06 | 25.06 | ppb | 1.80 | 90000.00 | |
| 27 Al | 45 | 2 | 28.37 | 28.37 | ppb | 0.97 | 90000.00 | |
| 39 K | 45 | 1 | 247.80 | 247.80 | ppb | 2.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 267.20 | 267.20 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.09 | 1.09 | ppb | 1.63 | 900.00 | |
| 51 V | 45 | 2 | 0.89 | 0.89 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 1.03 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 28.74 | 28.74 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.93 | 0.93 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 1.92 | 1.92 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 0.46 | 0.46 | ppb | 1.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 20.10 | 900.00 | |
| 88 Sr | 103 | 1 | 5.20 | 5.20 | ppb | 2.04 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 1.01 | ppb | 2.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 1.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.45 | 0.45 | ppb | 6.79 | 900.00 | |
| 120 Sn | 115 | 1 | 4.83 | 4.83 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.77 | 900.00 | |
| 137 Ba | 159 | 1 | 1.11 | 1.11 | ppb | 2.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.42 | ppb | 2.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1204523 | 1.94 | 1663748 | 72.4 | 70 - 130 | |
| 45 Sc | 1 | 2881765 | 1.30 | 2728585 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 429515 | 0.62 | 406595 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687495 | 0.80 | 617288 | 111.4 | 70 | - | 130 |
| 72 Ge | 2 | 164808 | 0.42 | 157406 | 104.7 | 70 | - | 130 |
| 103 Rh | 1 | 4328517 | 2.27 | 3944827 | 109.7 | 70 | - | 130 |
| 115 In | 1 | 4645386 | 1.66 | 4162835 | 111.6 | 70 | - | 130 |
| 115 In | 2 | 1333156 | 1.07 | 1319592 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 6407741 | 1.70 | 5883852 | 108.9 | 70 | - | 130 |
| 175 Lu | 1 | 6171900 | 1.25 | 5727334 | 107.8 | 70 | - | 130 |
| 209 Bi | 1 | 3540405 | 2.46 | 3404545 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 24 2013 09:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.54 | 55.54 | ppb | 2.36 | 900.00 | |
| 9 Be | 45 | 2 | 48.37 | 48.37 | ppb | 1.71 | 900.00 | |
| 11 B | 6 | 1 | 55.95 | 55.95 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 47.94 | 47.94 | ppb | 1.56 | 900.00 | |
| 23 Na | 45 | 1 | 4717.00 | 4717.00 | ppb | 0.74 | 90000.00 | |
| 23 Na | 45 | 2 | 5305.00 | 5305.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 4707.00 | 4707.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 5315.00 | 5315.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 4741.00 | 4741.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 5233.00 | 5233.00 | ppb | 0.12 | 90000.00 | |
| 39 K | 45 | 1 | 5087.00 | 5087.00 | ppb | 1.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 5308.00 | 5308.00 | ppb | 1.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.42 | 49.42 | ppb | 1.42 | 900.00 | |
| 51 V | 45 | 2 | 49.67 | 49.67 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 49.07 | 49.07 | ppb | 0.06 | 900.00 | |
| 55 Mn | 45 | 2 | 48.53 | 48.53 | ppb | 0.07 | 900.00 | |
| 56 Fe | 45 | 2 | 5174.00 | 5174.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 49.63 | 49.63 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 48.78 | 48.78 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 48.12 | 48.12 | ppb | 0.58 | 900.00 | |
| 66 Zn | 72 | 2 | 50.14 | 50.14 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 49.30 | 49.30 | ppb | 0.31 | 900.00 | |
| 78 Se | 72 | 2 | 47.23 | 47.23 | ppb | 1.10 | 900.00 | |
| 88 Sr | 103 | 1 | 52.85 | 52.85 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 51.65 | 51.65 | ppb | 0.52 | 900.00 | |
| 107 Ag | 115 | 1 | 47.94 | 47.94 | ppb | 1.82 | 180.00 | |
| 111 Cd | 115 | 2 | 50.13 | 50.13 | ppb | 1.31 | 900.00 | |
| 120 Sn | 115 | 1 | 52.58 | 52.58 | ppb | 0.41 | 900.00 | |
| 121 Sb | 115 | 1 | 53.18 | 53.18 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 51.04 | 51.04 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 49.09 | 49.09 | ppb | 1.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.27 | 50.27 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1175983 | 1.21 | 1663748 | 70.7 | 70 - 130 | |
| 45 Sc | 1 | 2808047 | 0.74 | 2728585 | 102.9 | 70 - 130 | |
| 45 Sc | 2 | 413893 | 0.39 | 406595 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 664483 | 0.14 | 617288 | 107.6 | 70 | - | 130 |
| 72 Ge | 2 | 158985 | 0.56 | 157406 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 4112500 | 0.12 | 3944827 | 104.3 | 70 | - | 130 |
| 115 In | 1 | 4436126 | 0.35 | 4162835 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 1263501 | 1.10 | 1319592 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 6298853 | 0.39 | 5883852 | 107.1 | 70 | - | 130 |
| 175 Lu | 1 | 6053445 | 0.67 | 5727334 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 3412830 | 1.41 | 3404545 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D#
**Date Acquired:** Apr 24 2013 09:21 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2304
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.03 | ppb | 5.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 163.21 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 20.85 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 133.60 | 900.00 | |
| 23 Na | 45 | 1 | 2.68 | 2.68 | ppb | 5.01 | 90000.00 | |
| 23 Na | 45 | 2 | 7.15 | 7.15 | ppb | 14.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.62 | 0.62 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.36 | 1.36 | ppb | 15.20 | 90000.00 | |
| 27 Al | 45 | 1 | 0.09 | 0.09 | ppb | 39.61 | 90000.00 | |
| 27 Al | 45 | 2 | 0.80 | 0.80 | ppb | 15.97 | 90000.00 | |
| 39 K | 45 | 1 | -1.27 | -1.27 | ppb | 64.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 32.80 | 32.80 | ppb | 1.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 284.57 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 17.97 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 11.82 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 40.32 | 900.00 | |
| 56 Fe | 45 | 2 | 1.31 | 1.31 | ppb | 21.16 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 2249.60 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 13.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 23.75 | 900.00 | |
| 66 Zn | 72 | 2 | 0.12 | 0.12 | ppb | 4.85 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 92.42 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 74.90 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 17.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 21.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.48 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 28.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 19.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 38.68 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 108.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 10.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1216435 | 0.85 | 1663748 | 73.1 | 70 - 130 | |
| 45 Sc | 1 | 2824447 | 0.80 | 2728585 | 103.5 | 70 - 130 | |
| 45 Sc | 2 | 420935 | 0.53 | 406595 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 680418 | 0.34 | 617288 | 110.2 | 70 | - | 130 |
| 72 Ge | 2 | 162468 | 0.57 | 157406 | 103.2 | 70 | - | 130 |
| 103 Rh | 1 | 4254779 | 0.93 | 3944827 | 107.9 | 70 | - | 130 |
| 115 In | 1 | 4597241 | 0.71 | 4162835 | 110.4 | 70 | - | 130 |
| 115 In | 2 | 1298149 | 0.57 | 1319592 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 6356741 | 0.85 | 5883852 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 6105836 | 0.80 | 5727334 | 106.6 | 70 | - | 130 |
| 209 Bi | 1 | 3524247 | 0.29 | 3404545 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#
**Date Acquired:** Apr 24 2013 09:28 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20756A-MB1
**Misc Info:**
**Vial Number:** 2305
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 15.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 234.80 | 900.00 | |
| 11 B | 6 | 1 | 0.39 | 0.19 | ppb | 16.19 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.12 | ppb | 81.42 | 900.00 | |
| 23 Na | 45 | 1 | 13.87 | 6.94 | ppb | 3.24 | 90000.00 | |
| 23 Na | 45 | 2 | 22.32 | 11.16 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.69 | 0.85 | ppb | 5.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.22 | 1.11 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.40 | 1.70 | ppb | 6.64 | 90000.00 | |
| 27 Al | 45 | 2 | 4.88 | 2.44 | ppb | 2.81 | 90000.00 | |
| 39 K | 45 | 1 | -2.78 | -1.39 | ppb | 87.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 33.12 | 16.56 | ppb | 2.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.54 | 0.27 | ppb | 1.55 | 900.00 | |
| 51 V | 45 | 2 | 2.48 | 1.24 | ppb | 2.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.70 | 0.35 | ppb | 2.88 | 900.00 | |
| 55 Mn | 45 | 2 | 1.03 | 0.52 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 17.99 | 8.99 | ppb | 1.05 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 28.85 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 169.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.36 | 0.68 | ppb | 1.13 | 900.00 | |
| 66 Zn | 72 | 2 | 0.93 | 0.47 | ppb | 4.18 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 11.32 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.01 | ppb | 85.25 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 19.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 5.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 9.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 14.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 9.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 5.01 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 5.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.06 | ppb | 3.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 13.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 898531 | 0.38 | 1663748 | 54.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2650626 | 0.45 | 2728585 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 417047 | 0.20 | 406595 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 656177 | 0.09 | 617288 | 106.3 | 70 | - | 130 |
| 72 Ge | 2 | 159938 | 0.55 | 157406 | 101.6 | 70 | - | 130 |
| 103 Rh | 1 | 4219122 | 0.33 | 3944827 | 107.0 | 70 | - | 130 |
| 115 In | 1 | 4534071 | 0.30 | 4162835 | 108.9 | 70 | - | 130 |
| 115 In | 2 | 1280536 | 1.65 | 1319592 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 6500281 | 0.46 | 5883852 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 6246111 | 0.46 | 5727334 | 109.1 | 70 | - | 130 |
| 209 Bi | 1 | 3627186 | 0.63 | 3404545 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\039SMPL.D\039SMPL.D#
**Date Acquired:** Apr 24 2013 09:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-6
**Misc Info:**
**Vial Number:** 2306
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 25.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 130.56 | 900.00 | |
| 11 B | 6 | 1 | 23.58 | 11.79 | ppb | 2.57 | 900.00 | |
| 11 B | 45 | 2 | 19.13 | 9.57 | ppb | 3.14 | 900.00 | |
| 23 Na | 45 | 1 | 43440.00 | 21720.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 54280.00 | 27140.00 | ppb | 1.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 13902.00 | 6951.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 17148.00 | 8574.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 11.42 | 5.71 | ppb | 1.50 | 90000.00 | |
| 27 Al | 45 | 2 | 14.37 | 7.18 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 3964.00 | 1982.00 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 63380.00 | 31690.00 | ppb | 0.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.60 | 0.80 | ppb | 5.62 | 900.00 | |
| 51 V | 45 | 2 | 3.07 | 1.53 | ppb | 4.19 | 900.00 | |
| 52 Cr | 45 | 2 | 2.54 | 1.27 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | 405.80 | 202.90 | ppb | 1.49 | 900.00 | |
| 56 Fe | 45 | 2 | 1076.00 | 538.00 | ppb | 1.33 | 90000.00 | |
| 59 Co | 45 | 2 | 2.17 | 1.09 | ppb | 2.03 | 900.00 | |
| 60 Ni | 45 | 2 | 4.66 | 2.33 | ppb | 0.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.32 | ppb | 2.21 | 900.00 | |
| 66 Zn | 72 | 2 | 8.90 | 4.45 | ppb | 1.94 | 900.00 | |
| 75 As | 72 | 2 | 14.10 | 7.05 | ppb | 1.17 | 900.00 | |
| 78 Se | 72 | 2 | 1.34 | 0.67 | ppb | 10.43 | 900.00 | |
| 88 Sr | 103 | 1 | 687.40 | 343.70 | ppb | 1.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.51 | ppb | 1.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 16.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 42.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.58 | 0.29 | ppb | 5.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.38 | 0.19 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 61.78 | 30.89 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.09 | ppb | 2.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 9.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 886916 | 0.47 | 1663748 | 53.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2651771 | 0.31 | 2728585 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 408635 | 0.64 | 406595 | 100.5 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 647474 | 0.47 | 617288 | 104.9 | 70 | - | 130 |
| 72 Ge | 2 | 157055 | 0.73 | 157406 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3884812 | 0.40 | 3944827 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 4368908 | 0.10 | 4162835 | 105.0 | 70 | - | 130 |
| 115 In | 2 | 1257248 | 4.13 | 1319592 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 6358048 | 1.52 | 5883852 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 6178312 | 0.85 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3381134 | 1.34 | 3404545 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D#
**Date Acquired:** Apr 24 2013 09:42 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-2
**Misc Info:**
**Vial Number:** 2307
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 173.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 232.29 | 900.00 | |
| 11 B | 6 | 1 | 56.18 | 28.09 | ppb | 1.63 | 900.00 | |
| 11 B | 45 | 2 | 45.08 | 22.54 | ppb | 2.31 | 900.00 | |
| 23 Na | 45 | 1 | 30780.00 | 15390.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 40160.00 | 20080.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 14984.00 | 7492.00 | ppb | 1.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 19106.00 | 9553.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 8.65 | 4.33 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 10.63 | 5.32 | ppb | 1.48 | 90000.00 | |
| 39 K | 45 | 1 | 4646.00 | 2323.00 | ppb | 1.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 65780.00 | 32890.00 | ppb | 0.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.98 | 0.99 | ppb | 4.07 | 900.00 | |
| 51 V | 45 | 2 | 4.65 | 2.32 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.56 | 0.28 | ppb | 1.53 | 900.00 | |
| 55 Mn | 45 | 2 | 1364.00 | 682.00 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 57.56 | 28.78 | ppb | 0.70 | 90000.00 | |
| 59 Co | 45 | 2 | 20.24 | 10.12 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 30.08 | 15.04 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.78 | 0.39 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 43.08 | 21.54 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 1.85 | 0.93 | ppb | 1.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 22.87 | 900.00 | |
| 88 Sr | 103 | 1 | 697.40 | 348.70 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 48.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 19.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.58 | 0.29 | ppb | 8.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 7.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.50 | 900.00 | |
| 137 Ba | 159 | 1 | 40.58 | 20.29 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 22.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 828276 | 1.11 | 1663748 | 49.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2653847 | 0.58 | 2728585 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 412604 | 0.40 | 406595 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 657568 | 0.67 | 617288 | 106.5 | 70 | - | 130 |
| 72 Ge | 2 | 158221 | 0.35 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3952133 | 0.37 | 3944827 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 4417291 | 0.50 | 4162835 | 106.1 | 70 | - | 130 |
| 115 In | 2 | 1272092 | 4.04 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6511856 | 0.68 | 5883852 | 110.7 | 70 | - | 130 |
| 175 Lu | 1 | 6298261 | 0.79 | 5727334 | 110.0 | 70 | - | 130 |
| 209 Bi | 1 | 3471707 | 1.15 | 3404545 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#
**Date Acquired:** Apr 24 2013 09:49 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-3
**Misc Info:**
**Vial Number:** 2308
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 24.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 91.63 | 900.00 | |
| 11 B | 6 | 1 | 7.80 | 3.90 | ppb | 0.40 | 900.00 | |
| 11 B | 45 | 2 | 6.46 | 3.23 | ppb | 7.28 | 900.00 | |
| 23 Na | 45 | 1 | 15240.00 | 7620.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 19454.00 | 9727.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 12236.00 | 6118.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 15430.00 | 7715.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 32.74 | 16.37 | ppb | 1.60 | 90000.00 | |
| 27 Al | 45 | 2 | 39.66 | 19.83 | ppb | 1.24 | 90000.00 | |
| 39 K | 45 | 1 | 4254.00 | 2127.00 | ppb | 1.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 49180.00 | 24590.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.63 | 1.31 | ppb | 3.81 | 900.00 | |
| 51 V | 45 | 2 | 1.61 | 0.81 | ppb | 3.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.06 | ppb | 7.69 | 900.00 | |
| 55 Mn | 45 | 2 | 1010.00 | 505.00 | ppb | 0.95 | 900.00 | |
| 56 Fe | 45 | 2 | 34260.00 | 17130.00 | ppb | 0.57 | 90000.00 | |
| 59 Co | 45 | 2 | 1.80 | 0.90 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 2.44 | 1.22 | ppb | 1.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.52 | 0.26 | ppb | 2.20 | 900.00 | |
| 66 Zn | 72 | 2 | 14.35 | 7.18 | ppb | 0.81 | 900.00 | |
| 75 As | 72 | 2 | 1.11 | 0.56 | ppb | 5.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.02 | ppb | 206.56 | 900.00 | |
| 88 Sr | 103 | 1 | 389.60 | 194.80 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 69.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 29.44 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.01 | ppb | 37.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 10.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 8.30 | 900.00 | |
| 137 Ba | 159 | 1 | 42.32 | 21.16 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 15.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 80.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 832870 | 1.00 | 1663748 | 50.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2590352 | 0.42 | 2728585 | 94.9 | 70 - 130 | |
| 45 Sc | 2 | 404580 | 0.25 | 406595 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 635248 | 0.35 | 617288 | 102.9 | 70 | - | 130 |
| 72 Ge | 2 | 157879 | 0.35 | 157406 | 100.3 | 70 | - | 130 |
| 103 Rh | 1 | 3931632 | 0.44 | 3944827 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4343761 | 0.95 | 4162835 | 104.3 | 70 | - | 130 |
| 115 In | 2 | 1258566 | 4.33 | 1319592 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 6445617 | 0.52 | 5883852 | 109.5 | 70 | - | 130 |
| 175 Lu | 1 | 6272665 | 0.62 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3518034 | 0.45 | 3404545 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#
**Date Acquired:** Apr 24 2013 09:56 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-4
**Misc Info:**
**Vial Number:** 2309
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Pass**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 36.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 192.99 | 900.00 | |
| 11 B | 6 | 1 | 7.64 | 3.82 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 5.76 | 2.88 | ppb | 9.36 | 900.00 | |
| 23 Na | 45 | 1 | 13454.00 | 6727.00 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 17130.00 | 8565.00 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 7576.00 | 3788.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 9564.00 | 4782.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 42.86 | 21.43 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 51.50 | 25.75 | ppb | 2.54 | 90000.00 | |
| 39 K | 45 | 1 | 3328.00 | 1664.00 | ppb | 0.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 30820.00 | 15410.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.54 | 1.27 | ppb | 3.31 | 900.00 | |
| 51 V | 45 | 2 | 2.36 | 1.18 | ppb | 5.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.13 | 0.07 | ppb | 5.74 | 900.00 | |
| 55 Mn | 45 | 2 | 755.20 | 377.60 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 14354.00 | 7177.00 | ppb | 1.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.84 | 0.42 | ppb | 1.39 | 900.00 | |
| 60 Ni | 45 | 2 | 1.46 | 0.73 | ppb | 4.94 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.21 | ppb | 4.44 | 900.00 | |
| 66 Zn | 72 | 2 | 11.82 | 5.91 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 2.45 | 1.22 | ppb | 2.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 77.59 | 900.00 | |
| 88 Sr | 103 | 1 | 257.80 | 128.90 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.06 | ppb | 8.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 20.22 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 24.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.10 | ppb | 5.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 13.37 | 900.00 | |
| 137 Ba | 159 | 1 | 22.82 | 11.41 | ppb | 0.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 71.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 10.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 826955 | 2.03 | 1663748 | 49.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2602395 | 0.18 | 2728585 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 408957 | 0.60 | 406595 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 642145 | 0.92 | 617288 | 104.0 | 70 | - | 130 |
| 72 Ge | 2 | 158136 | 0.35 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 3957759 | 0.37 | 3944827 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 4426078 | 0.44 | 4162835 | 106.3 | 70 | - | 130 |
| 115 In | 2 | 1257880 | 1.47 | 1319592 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 6501899 | 0.69 | 5883852 | 110.5 | 70 | - | 130 |
| 175 Lu | 1 | 6348398 | 1.24 | 5727334 | 110.8 | 70 | - | 130 |
| 209 Bi | 1 | 3561267 | 1.00 | 3404545 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#
**Date Acquired:** Apr 24 2013 10:03 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-7
**Misc Info:**
**Vial Number:** 2310
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 22.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 3.48 | 900.00 | |
| 11 B | 6 | 1 | 24.06 | 12.03 | ppb | 3.30 | 900.00 | |
| 11 B | 45 | 2 | 17.84 | 8.92 | ppb | 10.12 | 900.00 | |
| 23 Na | 45 | 1 | 42800.00 | 21400.00 | ppb | 1.06 | 90000.00 | |
| 23 Na | 45 | 2 | 54300.00 | 27150.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 13678.00 | 6839.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 17108.00 | 8554.00 | ppb | 1.00 | 90000.00 | |
| 27 Al | 45 | 1 | 16.93 | 8.47 | ppb | 1.99 | 90000.00 | |
| 27 Al | 45 | 2 | 20.64 | 10.32 | ppb | 3.50 | 90000.00 | |
| 39 K | 45 | 1 | 3952.00 | 1976.00 | ppb | 1.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 63460.00 | 31730.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.91 | 0.96 | ppb | 7.85 | 900.00 | |
| 51 V | 45 | 2 | 2.71 | 1.36 | ppb | 3.24 | 900.00 | |
| 52 Cr | 45 | 2 | 3.25 | 1.63 | ppb | 0.38 | 900.00 | |
| 55 Mn | 45 | 2 | 400.40 | 200.20 | ppb | 1.59 | 900.00 | |
| 56 Fe | 45 | 2 | 1066.00 | 533.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 2.73 | 1.37 | ppb | 2.12 | 900.00 | |
| 60 Ni | 45 | 2 | 11.67 | 5.83 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.45 | 0.72 | ppb | 2.27 | 900.00 | |
| 66 Zn | 72 | 2 | 9.78 | 4.89 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 14.06 | 7.03 | ppb | 0.89 | 900.00 | |
| 78 Se | 72 | 2 | 0.98 | 0.49 | ppb | 20.66 | 900.00 | |
| 88 Sr | 103 | 1 | 672.00 | 336.00 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.13 | 0.57 | ppb | 3.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 20.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 33.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 2.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.40 | 0.20 | ppb | 5.48 | 900.00 | |
| 137 Ba | 159 | 1 | 61.72 | 30.86 | ppb | 0.08 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 2.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 812350 | 1.18 | 1663748 | 48.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2537018 | 1.16 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 402366 | 1.18 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 620590 | 0.08 | 617288 | 100.5 | 70 | - | 130 |
| 72 Ge | 2 | 155216 | 0.69 | 157406 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 3841516 | 0.92 | 3944827 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 4325406 | 0.67 | 4162835 | 103.9 | 70 | - | 130 |
| 115 In | 2 | 1255142 | 4.24 | 1319592 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 6395629 | 1.24 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6272977 | 1.09 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3434512 | 0.66 | 3404545 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 10:11 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19681-10 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2311 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 192.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 41.99 | 900.00 | |
| 11 B | 6 | 1 | 30.30 | 15.15 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 23.52 | 11.76 | ppb | 3.22 | 900.00 | |
| 23 Na | 45 | 1 | 140240.00 | 70120.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 178560.00 | 89280.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 9346.00 | 4673.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 11666.00 | 5833.00 | ppb | 1.66 | 90000.00 | |
| 27 Al | 45 | 1 | 42.14 | 21.07 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 51.02 | 25.51 | ppb | 2.55 | 90000.00 | |
| 39 K | 45 | 1 | 6284.00 | 3142.00 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 47320.00 | 23660.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.68 | 1.84 | ppb | 1.04 | 900.00 | |
| 51 V | 45 | 2 | 2.71 | 1.35 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.66 | 0.33 | ppb | 0.68 | 900.00 | |
| 55 Mn | 45 | 2 | 1382.80 | 691.40 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 28260.00 | 14130.00 | ppb | 1.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.67 | 0.33 | ppb | 3.98 | 900.00 | |
| 60 Ni | 45 | 2 | 1.31 | 0.66 | ppb | 0.63 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.28 | ppb | 2.01 | 900.00 | |
| 66 Zn | 72 | 2 | 8.77 | 4.39 | ppb | 1.56 | 900.00 | |
| 75 As | 72 | 2 | 7.01 | 3.51 | ppb | 1.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.17 | ppb | 35.38 | 900.00 | |
| 88 Sr | 103 | 1 | 417.40 | 208.70 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 1.11 | 0.55 | ppb | 3.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.87 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 6.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 12.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 3.35 | 900.00 | |
| 137 Ba | 159 | 1 | 55.50 | 27.75 | ppb | 1.70 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 6.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.08 | ppb | 3.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 822042 | 0.49 | 1663748 | 49.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2518341 | 0.96 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 393946 | 1.14 | 406595 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 611492 | 0.25 | 617288 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 151463 | 0.78 | 157406 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 3746053 | 0.17 | 3944827 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 4181462 | 0.38 | 4162835 | 100.4 | 70 | - | 130 |
| 115 In | 2 | 1242395 | 5.43 | 1319592 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 6269912 | 1.29 | 5883852 | 106.6 | 70 | - | 130 |
| 175 Lu | 1 | 6150186 | 0.82 | 5727334 | 107.4 | 70 | - | 130 |
| 209 Bi | 1 | 3324840 | 0.64 | 3404545 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#
**Date Acquired:** Apr 24 2013 10:18 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-10F
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.03 | ppb | 11.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 0.54 | 900.00 | |
| 11 B | 6 | 1 | 30.84 | 15.42 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 23.80 | 11.90 | ppb | 0.81 | 900.00 | |
| 23 Na | 45 | 1 | 140120.00 | 70060.00 | ppb | 1.51 | 90000.00 | |
| 23 Na | 45 | 2 | 180480.00 | 90240.00 | ppb | 0.65 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 9242.00 | 4621.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 11912.00 | 5956.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 3.33 | 1.67 | ppb | 3.10 | 90000.00 | |
| 27 Al | 45 | 2 | 4.46 | 2.23 | ppb | 5.43 | 90000.00 | |
| 39 K | 45 | 1 | 6296.00 | 3148.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 46940.00 | 23470.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.94 | 0.97 | ppb | 4.19 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.22 | ppb | 2.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.08 | ppb | 5.20 | 900.00 | |
| 55 Mn | 45 | 2 | 1375.40 | 687.70 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 274.60 | 137.30 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.26 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 1.52 | 0.76 | ppb | 1.71 | 900.00 | |
| 63 Cu | 72 | 2 | 0.62 | 0.31 | ppb | 2.98 | 900.00 | |
| 66 Zn | 72 | 2 | 11.55 | 5.78 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 1.11 | 0.56 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 261.05 | 900.00 | |
| 88 Sr | 103 | 1 | 414.60 | 207.30 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.42 | 0.21 | ppb | 6.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 12.76 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 5.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 6.44 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 4.20 | 900.00 | |
| 137 Ba | 159 | 1 | 47.76 | 23.88 | ppb | 0.71 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 35.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 50.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 836288 | 1.03 | 1663748 | 50.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2594633 | 0.99 | 2728585 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 397046 | 0.19 | 406595 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623475 | 0.62 | 617288 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 151621 | 0.16 | 157406 | 96.3 | 70 | - | 130 |
| 103 Rh | 1 | 3794717 | 0.80 | 3944827 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 4291434 | 0.59 | 4162835 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1293967 | 0.58 | 1319592 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 6327782 | 0.79 | 5883852 | 107.5 | 70 | - | 130 |
| 175 Lu | 1 | 6181743 | 0.20 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3333873 | 0.86 | 3404545 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#
**Date Acquired:** Apr 24 2013 10:25 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-11
**Misc Info:**
**Vial Number:** 2401
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.02 | ppb | 24.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 150.71 | 900.00 | |
| 11 B | 6 | 1 | 47.82 | 23.91 | ppb | 0.66 | 900.00 | |
| 11 B | 45 | 2 | 39.16 | 19.58 | ppb | 0.90 | 900.00 | |
| 23 Na | 45 | 1 | 78440.00 | 39220.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 99360.00 | 49680.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 4958.00 | 2479.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 6274.00 | 3137.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 9.54 | 4.77 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 2 | 11.51 | 5.75 | ppb | 2.79 | 90000.00 | |
| 39 K | 45 | 1 | 4108.00 | 2054.00 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 26960.00 | 13480.00 | ppb | 0.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.66 | ppb | 4.65 | 900.00 | |
| 51 V | 45 | 2 | 3.81 | 1.90 | ppb | 3.61 | 900.00 | |
| 52 Cr | 45 | 2 | 219.20 | 109.60 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 2.25 | 1.13 | ppb | 7.81 | 900.00 | |
| 56 Fe | 45 | 2 | 24.60 | 12.30 | ppb | 6.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.19 | 0.10 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.91 | 0.46 | ppb | 3.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.55 | 0.27 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 6.97 | 3.49 | ppb | 1.96 | 900.00 | |
| 75 As | 72 | 2 | 1.14 | 0.57 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.35 | 0.18 | ppb | 6.57 | 900.00 | |
| 88 Sr | 103 | 1 | 266.20 | 133.10 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 2.17 | 1.09 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 6.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 35.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 8.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 20.08 | 900.00 | |
| 137 Ba | 159 | 1 | 43.28 | 21.64 | ppb | 0.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 51.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 5.20 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 851690 | 0.41 | 1663748 | 51.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2560689 | 0.81 | 2728585 | 93.8 | 70 - 130 | |
| 45 Sc | 2 | 396642 | 0.74 | 406595 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 634585 | 0.29 | 617288 | 102.8 | 70 - | 130 |
| 72 | Ge | 2 | 153781 | 0.79 | 157406 | 97.7 | 70 - | 130 |
| 103 | Rh | 1 | 3820904 | 0.41 | 3944827 | 96.9 | 70 - | 130 |
| 115 | In | 1 | 4311208 | 0.66 | 4162835 | 103.6 | 70 - | 130 |
| 115 | In | 2 | 1248238 | 3.94 | 1319592 | 94.6 | 70 - | 130 |
| 159 | Tb | 1 | 6389665 | 0.35 | 5883852 | 108.6 | 70 - | 130 |
| 175 | Lu | 1 | 6204393 | 0.64 | 5727334 | 108.3 | 70 - | 130 |
| 209 | Bi | 1 | 3454267 | 0.78 | 3404545 | 101.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\047SMPL.D\047SMPL.D#
**Date Acquired:** Apr 24 2013 10:32 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-12
**Misc Info:**
**Vial Number:** 2402
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 17.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 168.90 | 900.00 | |
| 11 B | 6 | 1 | 36.36 | 18.18 | ppb | 2.60 | 900.00 | |
| 11 B | 45 | 2 | 29.70 | 14.85 | ppb | 8.80 | 900.00 | |
| 23 Na | 45 | 1 | 79640.00 | 39820.00 | ppb | 1.23 | 90000.00 | |
| 23 Na | 45 | 2 | 98520.00 | 49260.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 4504.00 | 2252.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 5642.00 | 2821.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 9.80 | 4.90 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 12.21 | 6.11 | ppb | 4.39 | 90000.00 | |
| 39 K | 45 | 1 | 4124.00 | 2062.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 26300.00 | 13150.00 | ppb | 0.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.41 | 0.71 | ppb | 4.56 | 900.00 | |
| 51 V | 45 | 2 | 4.54 | 2.27 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 177.36 | 88.68 | ppb | 0.64 | 900.00 | |
| 55 Mn | 45 | 2 | 77.18 | 38.59 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 29.60 | 14.80 | ppb | 2.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 2.69 | 900.00 | |
| 60 Ni | 45 | 2 | 1.42 | 0.71 | ppb | 1.86 | 900.00 | |
| 63 Cu | 72 | 2 | 0.50 | 0.25 | ppb | 1.26 | 900.00 | |
| 66 Zn | 72 | 2 | 11.43 | 5.71 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 1.19 | 0.60 | ppb | 0.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.44 | 0.22 | ppb | 23.43 | 900.00 | |
| 88 Sr | 103 | 1 | 244.80 | 122.40 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 12.99 | 6.50 | ppb | 0.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 26.69 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 35.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 19.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 6.91 | 900.00 | |
| 137 Ba | 159 | 1 | 30.70 | 15.35 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 19.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 26.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 873947 | 2.01 | 1663748 | 52.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2531790 | 0.25 | 2728585 | 92.8 | 70 - 130 | |
| 45 Sc | 2 | 396084 | 0.53 | 406595 | 97.4 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 631173 | 0.74 | 617288 | 102.2 | 70 | - | 130 |
| 72 Ge | 2 | 152672 | 0.62 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3827737 | 0.77 | 3944827 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 4288806 | 0.56 | 4162835 | 103.0 | 70 | - | 130 |
| 115 In | 2 | 1246534 | 3.86 | 1319592 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 6349835 | 0.73 | 5883852 | 107.9 | 70 | - | 130 |
| 175 Lu | 1 | 6269847 | 0.64 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3459954 | 0.25 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D#
Date Acquired: Apr 24 2013 10:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.65 | 53.65 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 49.92 | 49.92 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 54.56 | 54.56 | ppb | 0.63 | 900.00 | |
| 11 B | 45 | 2 | 48.39 | 48.39 | ppb | 1.49 | 900.00 | |
| 23 Na | 45 | 1 | 4737.00 | 4737.00 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 5440.00 | 5440.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 4713.00 | 4713.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5371.00 | 5371.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 4760.00 | 4760.00 | ppb | 1.43 | 90000.00 | |
| 27 Al | 45 | 2 | 5268.00 | 5268.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 5022.00 | 5022.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 5202.00 | 5202.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.70 | 49.70 | ppb | 1.58 | 900.00 | |
| 51 V | 45 | 2 | 50.14 | 50.14 | ppb | 0.16 | 900.00 | |
| 52 Cr | 45 | 2 | 49.51 | 49.51 | ppb | 0.59 | 900.00 | |
| 55 Mn | 45 | 2 | 48.89 | 48.89 | ppb | 0.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5196.00 | 5196.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 50.08 | 50.08 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 49.11 | 49.11 | ppb | 0.11 | 900.00 | |
| 63 Cu | 72 | 2 | 48.53 | 48.53 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 49.42 | 49.42 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 49.37 | 49.37 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 47.10 | 47.10 | ppb | 0.49 | 900.00 | |
| 88 Sr | 103 | 1 | 52.68 | 52.68 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 51.53 | 51.53 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 47.87 | 47.87 | ppb | 0.30 | 180.00 | |
| 111 Cd | 115 | 2 | 50.81 | 50.81 | ppb | 2.40 | 900.00 | |
| 120 Sn | 115 | 1 | 52.66 | 52.66 | ppb | 1.45 | 900.00 | |
| 121 Sb | 115 | 1 | 53.30 | 53.30 | ppb | 0.91 | 900.00 | |
| 137 Ba | 159 | 1 | 50.40 | 50.40 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 50.11 | 50.11 | ppb | 1.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.47 | 50.47 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1217366 | 1.10 | 1663748 | 73.2 | 70 - 130 | |
| 45 Sc | 1 | 2764963 | 1.17 | 2728585 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 405145 | 0.50 | 406595 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 648837 | 1.13 | 617288 | 105.1 | 70 | - | 130 |
| 72 Ge | 2 | 156408 | 0.44 | 157406 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 4072146 | 0.25 | 3944827 | 103.2 | 70 | - | 130 |
| 115 In | 1 | 4446061 | 0.47 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1249809 | 1.72 | 1319592 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 6395521 | 1.14 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6205150 | 0.33 | 5727334 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 3486264 | 0.74 | 3404545 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#
Date Acquired: Apr 24 2013 10:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 16.71 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 75.58 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 9.59 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 45.37 | 900.00 | |
| 23 Na | 45 | 1 | 19.46 | 19.46 | ppb | 15.17 | 90000.00 | |
| 23 Na | 45 | 2 | 35.53 | 35.53 | ppb | 6.71 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.70 | 1.70 | ppb | 21.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.05 | 3.05 | ppb | 3.76 | 90000.00 | |
| 27 Al | 45 | 1 | 0.66 | 0.66 | ppb | 21.06 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 1.35 | ppb | 8.93 | 90000.00 | |
| 39 K | 45 | 1 | -0.04 | -0.04 | ppb | 1308.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.28 | 3.28 | ppb | 36.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 162.90 | 900.00 | |
| 51 V | 45 | 2 | 0.11 | 0.11 | ppb | 7.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 311.96 | 900.00 | |
| 55 Mn | 45 | 2 | 0.09 | 0.09 | ppb | 5.28 | 900.00 | |
| 56 Fe | 45 | 2 | 2.28 | 2.28 | ppb | 3.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.16 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 29.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 10.31 | 900.00 | |
| 66 Zn | 72 | 2 | -0.03 | -0.03 | ppb | 12.03 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 411.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 177.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 33.72 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 21.10 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 12.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 30.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 25.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 7.26 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.05 | ppb | 23.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.15 | ppb | 3.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 34.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1233928 | 0.49 | 1663748 | 74.2 | 70 - 130 | |
| 45 Sc | 1 | 2788145 | 0.46 | 2728585 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 419163 | 0.46 | 406595 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 671123 | 0.56 | 617288 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 162848 | 0.53 | 157406 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 4234914 | 0.35 | 3944827 | 107.4 | 70 | - | 130 |
| 115 In | 1 | 4576914 | 0.25 | 4162835 | 109.9 | 70 | - | 130 |
| 115 In | 2 | 1310733 | 0.89 | 1319592 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 6430065 | 0.98 | 5883852 | 109.3 | 70 | - | 130 |
| 175 Lu | 1 | 6160241 | 0.96 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3608806 | 0.36 | 3404545 | 106.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D#
**Date Acquired:** Apr 24 2013 10:53 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-13
**Misc Info:**
**Vial Number:** 2405
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 7.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 90.75 | 900.00 | |
| 11 B | 6 | 1 | 36.12 | 18.06 | ppb | 1.33 | 900.00 | |
| 11 B | 45 | 2 | 30.04 | 15.02 | ppb | 4.75 | 900.00 | |
| 23 Na | 45 | 1 | 78420.00 | 39210.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 96880.00 | 48440.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 4392.00 | 2196.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 2 | 5448.00 | 2724.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 11.21 | 5.61 | ppb | 4.21 | 90000.00 | |
| 27 Al | 45 | 2 | 13.24 | 6.62 | ppb | 2.19 | 90000.00 | |
| 39 K | 45 | 1 | 4032.00 | 2016.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 24400.00 | 12200.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.48 | 0.74 | ppb | 11.85 | 900.00 | |
| 51 V | 45 | 2 | 3.46 | 1.73 | ppb | 4.70 | 900.00 | |
| 52 Cr | 45 | 2 | 172.70 | 86.35 | ppb | 0.32 | 900.00 | |
| 55 Mn | 45 | 2 | 70.68 | 35.34 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 21.10 | 10.55 | ppb | 1.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 1.50 | 900.00 | |
| 60 Ni | 45 | 2 | 1.38 | 0.69 | ppb | 2.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.63 | 0.32 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 13.89 | 6.95 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 1.06 | 0.53 | ppb | 1.53 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.13 | ppb | 30.72 | 900.00 | |
| 88 Sr | 103 | 1 | 237.40 | 118.70 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 13.16 | 6.58 | ppb | 0.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 6.03 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.03 | ppb | 11.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.50 | 0.25 | ppb | 4.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 9.00 | 900.00 | |
| 137 Ba | 159 | 1 | 29.98 | 14.99 | ppb | 0.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.05 | ppb | 3.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 8.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 889374 | 0.71 | 1663748 | 53.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2538600 | 0.92 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 396077 | 0.76 | 406595 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 627044 | 0.37 | 617288 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 152174 | 1.00 | 157406 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 3826437 | 0.62 | 3944827 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 4283479 | 0.61 | 4162835 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1303850 | 0.69 | 1319592 | 98.8 | 70 | - | 130 |
| 159 Tb | 1 | 6288662 | 0.66 | 5883852 | 106.9 | 70 | - | 130 |
| 175 Lu | 1 | 6175815 | 1.02 | 5727334 | 107.8 | 70 | - | 130 |
| 209 Bi | 1 | 3438850 | 0.53 | 3404545 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D#
**Date Acquired:** Apr 24 2013 11:00 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19681-14
**Misc Info:**
**Vial Number:** 2406
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.02 | ppb | 19.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1602.90 | 900.00 | |
| 11 B | 6 | 1 | 20.82 | 10.41 | ppb | 1.35 | 900.00 | |
| 11 B | 45 | 2 | 16.03 | 8.02 | ppb | 6.54 | 900.00 | |
| 23 Na | 45 | 1 | 192760.00 | 96380.00 | ppb | 0.52 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 236000.00 | 118000.00 | ppb | 0.12 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 22260.00 | 11130.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 27000.00 | 13500.00 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 1 | 6.02 | 3.01 | ppb | 3.11 | 90000.00 | |
| 27 Al | 45 | 2 | 7.45 | 3.72 | ppb | 3.34 | 90000.00 | |
| 39 K | 45 | 1 | 7664.00 | 3832.00 | ppb | 0.22 | 90000.00 | |
| 44 Ca | 45 | 1 | 98980.00 | 49490.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.99 | 1.00 | ppb | 2.99 | 900.00 | |
| 51 V | 45 | 2 | 1.71 | 0.86 | ppb | 1.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.11 | ppb | 8.77 | 900.00 | |
| 55 Mn | 45 | 2 | 3482.00 | 1741.00 | ppb | 0.23 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 12010.00 | 6005.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 6.17 | 3.09 | ppb | 0.97 | 900.00 | |
| 60 Ni | 45 | 2 | 4.45 | 2.23 | ppb | 1.05 | 900.00 | |
| 63 Cu | 72 | 2 | 0.71 | 0.35 | ppb | 4.27 | 900.00 | |
| 66 Zn | 72 | 2 | 8.80 | 4.40 | ppb | 2.13 | 900.00 | |
| 75 As | 72 | 2 | 2.38 | 1.19 | ppb | 2.58 | 900.00 | |
| 78 Se | 72 | 2 | 0.30 | 0.15 | ppb | 28.49 | 900.00 | |
| 88 Sr | 103 | 1 | 1000.00 | 500.00 | ppb | 0.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.68 | 0.84 | ppb | 1.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 14.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 19.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.24 | 0.12 | ppb | 6.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 16.27 | 900.00 | |
| 137 Ba | 159 | 1 | 85.52 | 42.76 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 10.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 69.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 917425 | 0.32 | 1663748 | 55.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2534596 | 0.34 | 2728585 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 386537 | 0.63 | 406595 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 605049 | 0.28 | 617288 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 147821 | 0.86 | 157406 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 3653233 | 0.93 | 3944827 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 4085964 | 0.97 | 4162835 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1265382 | 0.54 | 1319592 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 6104460 | 1.18 | 5883852 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 6039096 | 0.72 | 5727334 | 105.4 | 70 | - | 130 |
| 209 Bi | 1 | 3239644 | 0.14 | 3404545 | 95.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:07 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20756A-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2407 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 545.00 | 109.00 | ppb | 1.44 | 900.00 | |
| 9 Be | 45 | 2 | 493.50 | 98.70 | ppb | 1.93 | 900.00 | |
| 11 B | 6 | 1 | 1065.00 | 213.00 | ppb | 0.87 | 900.00 | |
| 11 B | 45 | 2 | 932.50 | 186.50 | ppb | 0.93 | 900.00 | |
| 23 Na | 45 | 1 | 23490.00 | 4698.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 27380.00 | 5476.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 23730.00 | 4746.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 27175.00 | 5435.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 1948.50 | 389.70 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 2 | 2311.00 | 462.20 | ppb | 0.31 | 90000.00 | |
| 39 K | 45 | 1 | 25610.00 | 5122.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 25960.00 | 5192.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.30 | 96.86 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 517.00 | 103.40 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | 491.85 | 98.37 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 485.55 | 97.11 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 2191.00 | 438.20 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 490.20 | 98.04 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 487.25 | 97.45 | ppb | 0.52 | 900.00 | |
| 63 Cu | 72 | 2 | 494.05 | 98.81 | ppb | 1.64 | 900.00 | |
| 66 Zn | 72 | 2 | 515.50 | 103.10 | ppb | 1.21 | 900.00 | |
| 75 As | 72 | 2 | 506.00 | 101.20 | ppb | 0.84 | 900.00 | |
| 78 Se | 72 | 2 | 477.70 | 95.54 | ppb | 1.75 | 900.00 | |
| 88 Sr | 103 | 1 | 500.50 | 100.10 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.44 | 0.09 | ppb | 2.89 | 900.00 | |
| 107 Ag | 115 | 1 | 209.55 | 41.91 | ppb | 1.15 | 180.00 | |
| 111 Cd | 115 | 2 | 503.00 | 100.60 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.04 | ppb | 11.93 | 900.00 | |
| 121 Sb | 115 | 1 | 503.50 | 100.70 | ppb | 0.60 | 900.00 | |
| 137 Ba | 159 | 1 | 1919.50 | 383.90 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 501.00 | 100.20 | ppb | 0.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 984.00 | 196.80 | ppb | 0.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1200552 | 0.66 | 1663748 | 72.2 | 70 - 130 | |
| 45 Sc | 1 | 2798822 | 0.96 | 2728585 | 102.6 | 70 - 130 | |
| 45 Sc | 2 | 412679 | 0.23 | 406595 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 661662 | 0.72 | 617288 | 107.2 | 70 | - | 130 |
| 72 | Ge | 2 | 157135 | 1.22 | 157406 | 99.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4126245 | 0.36 | 3944827 | 104.6 | 70 | - | 130 |
| 115 | In | 1 | 4515195 | 0.58 | 4162835 | 108.5 | 70 | - | 130 |
| 115 | In | 2 | 1281234 | 1.68 | 1319592 | 97.1 | 70 | - | 130 |
| 159 | Tb | 1 | 6450348 | 0.39 | 5883852 | 109.6 | 70 | - | 130 |
| 175 | Lu | 1 | 6221341 | 0.22 | 5727334 | 108.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3457764 | 0.08 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#
Date Acquired: Apr 24 2013 11:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20756A-S1
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 556.50 | 111.30 | ppb | 2.53 | 900.00 | |
| 9 Be | 45 | 2 | 504.00 | 100.80 | ppb | 0.84 | 900.00 | |
| 11 B | 6 | 1 | 1125.50 | 225.10 | ppb | 2.25 | 900.00 | |
| 11 B | 45 | 2 | 990.00 | 198.00 | ppb | 0.23 | 900.00 | |
| 23 Na | 45 | 1 | 70400.00 | 14080.00 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 81550.00 | 16310.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 38510.00 | 7702.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 44630.00 | 8926.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 1957.00 | 391.40 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2345.50 | 469.10 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 29490.00 | 5898.00 | ppb | 1.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 89100.00 | 17820.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.50 | 97.50 | ppb | 0.24 | 900.00 | |
| 51 V | 45 | 2 | 527.50 | 105.50 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 508.00 | 101.60 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 880.50 | 176.10 | ppb | 1.16 | 900.00 | |
| 56 Fe | 45 | 2 | 3241.00 | 648.20 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 496.40 | 99.28 | ppb | 0.26 | 900.00 | |
| 60 Ni | 45 | 2 | 490.00 | 98.00 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 485.70 | 97.14 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 519.00 | 103.80 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 529.00 | 105.80 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 473.85 | 94.77 | ppb | 0.81 | 900.00 | |
| 88 Sr | 103 | 1 | 1192.00 | 238.40 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.27 | ppb | 1.69 | 900.00 | |
| 107 Ag | 115 | 1 | 208.80 | 41.76 | ppb | 0.88 | 180.00 | |
| 111 Cd | 115 | 2 | 504.00 | 100.80 | ppb | 3.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.63 | 0.13 | ppb | 3.41 | 900.00 | |
| 121 Sb | 115 | 1 | 515.00 | 103.00 | ppb | 0.61 | 900.00 | |
| 137 Ba | 159 | 1 | 2000.50 | 400.10 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 509.00 | 101.80 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1000.00 | 200.00 | ppb | 1.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1152659 | 2.01 | 1663748 | 69.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2751809 | 0.75 | 2728585 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 402569 | 0.16 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 648050 | 0.43 | 617288 | 105.0 | 70 | - | 130 |
| 72 Ge | 2 | 154600 | 0.25 | 157406 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 3957614 | 0.78 | 3944827 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 4390645 | 0.88 | 4162835 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1277400 | 3.00 | 1319592 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 6342759 | 0.92 | 5883852 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 6140408 | 0.55 | 5727334 | 107.2 | 70 | - | 130 |
| 209 Bi | 1 | 3357905 | 1.15 | 3404545 | 98.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#
Date Acquired: Apr 24 2013 11:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20756A-S2
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 567.50 | 113.50 | ppb | 0.08 | 900.00 | |
| 9 Be | 45 | 2 | 505.50 | 101.10 | ppb | 0.32 | 900.00 | |
| 11 B | 6 | 1 | 1146.00 | 229.20 | ppb | 0.98 | 900.00 | |
| 11 B | 45 | 2 | 986.00 | 197.20 | ppb | 0.58 | 900.00 | |
| 23 Na | 45 | 1 | 71200.00 | 14240.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 82500.00 | 16500.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 38690.00 | 7738.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 44640.00 | 8928.00 | ppb | 0.03 | 90000.00 | |
| 27 Al | 45 | 1 | 1968.00 | 393.60 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2358.50 | 471.70 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 29315.00 | 5863.00 | ppb | 0.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 89600.00 | 17920.00 | ppb | 0.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.70 | 96.94 | ppb | 0.49 | 900.00 | |
| 51 V | 45 | 2 | 527.50 | 105.50 | ppb | 0.60 | 900.00 | |
| 52 Cr | 45 | 2 | 507.50 | 101.50 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 891.00 | 178.20 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 3240.50 | 648.10 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 492.35 | 98.47 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 491.15 | 98.23 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 489.00 | 97.80 | ppb | 0.08 | 900.00 | |
| 66 Zn | 72 | 2 | 521.00 | 104.20 | ppb | 0.30 | 900.00 | |
| 75 As | 72 | 2 | 530.50 | 106.10 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 480.75 | 96.15 | ppb | 0.69 | 900.00 | |
| 88 Sr | 103 | 1 | 1197.00 | 239.40 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 1.45 | 0.29 | ppb | 2.64 | 900.00 | |
| 107 Ag | 115 | 1 | 208.55 | 41.71 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 498.35 | 99.67 | ppb | 2.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.06 | ppb | 9.31 | 900.00 | |
| 121 Sb | 115 | 1 | 521.00 | 104.20 | ppb | 1.01 | 900.00 | |
| 137 Ba | 159 | 1 | 2003.00 | 400.60 | ppb | 1.00 | 900.00 | |
| 205 Tl | 209 | 1 | 507.00 | 101.40 | ppb | 0.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 992.50 | 198.50 | ppb | 1.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1145049 | 0.56 | 1663748 | 68.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2750560 | 0.17 | 2728585 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 401141 | 0.25 | 406595 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 646394 | 0.89 | 617288 | 104.7 | 70 | - | 130 |
| 72 Ge | 2 | 153347 | 0.24 | 157406 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 3962962 | 0.76 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4388695 | 0.60 | 4162835 | 105.4 | 70 | - | 130 |
| 115 In | 2 | 1271115 | 2.61 | 1319592 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 6359325 | 0.62 | 5883852 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 6179446 | 0.46 | 5727334 | 107.9 | 70 | - | 130 |
| 209 Bi | 1 | 3420646 | 0.39 | 3404545 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D#
Date Acquired: Apr 24 2013 11:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20756A-SD1
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.61 | 0.06 | ppb | 3.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.91 | 0.09 | ppb | 49.70 | 900.00 | |
| 11 B | 6 | 1 | 32.03 | 3.20 | ppb | 1.18 | 900.00 | |
| 11 B | 45 | 2 | 28.02 | 2.80 | ppb | 2.61 | 900.00 | |
| 23 Na | 45 | 1 | 51280.00 | 5128.00 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 56720.00 | 5672.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 16370.00 | 1637.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 18570.00 | 1857.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 28.02 | 2.80 | ppb | 6.20 | 90000.00 | |
| 27 Al | 45 | 2 | 33.61 | 3.36 | ppb | 7.22 | 90000.00 | |
| 39 K | 45 | 1 | 4311.00 | 431.10 | ppb | 1.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 66600.00 | 6660.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.15 | 0.32 | ppb | 5.96 | 900.00 | |
| 51 V | 45 | 2 | 2.04 | 0.20 | ppb | 3.25 | 900.00 | |
| 52 Cr | 45 | 2 | 2.70 | 0.27 | ppb | 3.87 | 900.00 | |
| 55 Mn | 45 | 2 | 444.30 | 44.43 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 1252.00 | 125.20 | ppb | 3.14 | 90000.00 | |
| 59 Co | 45 | 2 | 3.16 | 0.32 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 5.54 | 0.55 | ppb | 1.54 | 900.00 | |
| 63 Cu | 72 | 2 | 2.65 | 0.26 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 11.45 | 1.15 | ppb | 3.77 | 900.00 | |
| 75 As | 72 | 2 | 14.05 | 1.41 | ppb | 3.89 | 900.00 | |
| 78 Se | 72 | 2 | 3.63 | 0.36 | ppb | 14.35 | 900.00 | |
| 88 Sr | 103 | 1 | 695.60 | 69.56 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.80 | 0.08 | ppb | 6.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.39 | 0.04 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.91 | 0.09 | ppb | 33.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.00 | ppb | 63.22 | 900.00 | |
| 121 Sb | 115 | 1 | 1.31 | 0.13 | ppb | 7.74 | 900.00 | |
| 137 Ba | 159 | 1 | 67.09 | 6.71 | ppb | 1.33 | 900.00 | |
| 205 Tl | 209 | 1 | 5.16 | 0.52 | ppb | 2.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.86 | 0.19 | ppb | 9.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1291146 | 1.12 | 1663748 | 77.6 | 70 - 130 | |
| 45 Sc | 1 | 2780532 | 1.50 | 2728585 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 406840 | 0.32 | 406595 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 670756 | 0.55 | 617288 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 159244 | 0.59 | 157406 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 4097239 | 1.43 | 3944827 | 103.9 | 70 | - | 130 |
| 115 In | 1 | 4534302 | 0.78 | 4162835 | 108.9 | 70 | - | 130 |
| 115 In | 2 | 1284597 | 0.20 | 1319592 | 97.3 | 70 | - | 130 |
| 159 Tb | 1 | 6372704 | 0.18 | 5883852 | 108.3 | 70 | - | 130 |
| 175 Lu | 1 | 6159755 | 0.95 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3552336 | 1.18 | 3404545 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D#
Date Acquired: Apr 24 2013 11:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20764A-MB1
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.02 | ppb | 5.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7020.40 | 900.00 | |
| 11 B | 6 | 1 | 1.22 | 0.61 | ppb | 8.92 | 900.00 | |
| 11 B | 45 | 2 | 0.92 | 0.46 | ppb | 16.85 | 900.00 | |
| 23 Na | 45 | 1 | 24.06 | 12.03 | ppb | 6.90 | 90000.00 | |
| 23 Na | 45 | 2 | 32.90 | 16.45 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.09 | 1.55 | ppb | 8.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.45 | 1.72 | ppb | 7.79 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 1.98 | ppb | 8.46 | 90000.00 | |
| 27 Al | 45 | 2 | 5.15 | 2.58 | ppb | 8.37 | 90000.00 | |
| 39 K | 45 | 1 | 9.69 | 4.85 | ppb | 27.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 37.68 | 18.84 | ppb | 3.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.52 | 0.26 | ppb | 15.36 | 900.00 | |
| 51 V | 45 | 2 | 2.94 | 1.47 | ppb | 1.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.10 | 0.05 | ppb | 18.31 | 900.00 | |
| 55 Mn | 45 | 2 | 0.88 | 0.44 | ppb | 3.76 | 900.00 | |
| 56 Fe | 45 | 2 | 13.78 | 6.89 | ppb | 1.38 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 6.77 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 66.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.40 | 0.20 | ppb | 2.61 | 900.00 | |
| 66 Zn | 72 | 2 | 1.52 | 0.76 | ppb | 1.12 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.30 | ppb | 2.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.03 | ppb | 167.39 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 28.59 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | 0.00 | ppb | 9.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 11.20 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 0.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.01 | ppb | 27.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 5.90 | 900.00 | |
| 137 Ba | 159 | 1 | 0.20 | 0.10 | ppb | 16.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.16 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 23.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 957201 | 1.45 | 1663748 | 57.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2575681 | 0.63 | 2728585 | 94.4 | 70 - 130 | |
| 45 Sc | 2 | 402700 | 0.27 | 406595 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 640391 | 0.49 | 617288 | 103.7 | 70 - | 130 |
| 72 | Ge | 2 | 156103 | 0.52 | 157406 | 99.2 | 70 - | 130 |
| 103 | Rh | 1 | 4071909 | 0.25 | 3944827 | 103.2 | 70 - | 130 |
| 115 | In | 1 | 4489682 | 0.30 | 4162835 | 107.9 | 70 - | 130 |
| 115 | In | 2 | 1265458 | 1.65 | 1319592 | 95.9 | 70 - | 130 |
| 159 | Tb | 1 | 6502521 | 1.26 | 5883852 | 110.5 | 70 - | 130 |
| 175 | Lu | 1 | 6338059 | 0.35 | 5727334 | 110.7 | 70 - | 130 |
| 209 | Bi | 1 | 3684707 | 0.67 | 3404545 | 108.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D#
Date Acquired: Apr 24 2013 11:42 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20108-1
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 19.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 85.44 | 900.00 | |
| 11 B | 6 | 1 | 43.46 | 21.73 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 36.76 | 18.38 | ppb | 4.33 | 900.00 | |
| 23 Na | 45 | 1 | 26640.00 | 13320.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 32780.00 | 16390.00 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 7948.00 | 3974.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 9676.00 | 4838.00 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 1 | 20.32 | 10.16 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 2 | 23.84 | 11.92 | ppb | 4.72 | 90000.00 | |
| 39 K | 45 | 1 | 8206.00 | 4103.00 | ppb | 0.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 52100.00 | 26050.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.65 | 2.32 | ppb | 4.66 | 900.00 | |
| 51 V | 45 | 2 | 4.07 | 2.04 | ppb | 2.73 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.48 | ppb | 33.47 | 900.00 | |
| 55 Mn | 45 | 2 | 6.89 | 3.45 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 74.22 | 37.11 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.11 | 0.06 | ppb | 2.83 | 900.00 | |
| 60 Ni | 45 | 2 | 1.33 | 0.66 | ppb | 4.97 | 900.00 | |
| 63 Cu | 72 | 2 | 35.68 | 17.84 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 32.74 | 16.37 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 1.59 | 0.80 | ppb | 2.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.13 | ppb | 39.34 | 900.00 | |
| 88 Sr | 103 | 1 | 200.40 | 100.20 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 1.61 | 0.80 | ppb | 1.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.10 | 0.05 | ppb | 1.53 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 34.49 | 900.00 | |
| 120 Sn | 115 | 1 | 0.46 | 0.23 | ppb | 4.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 3.79 | 900.00 | |
| 137 Ba | 159 | 1 | 14.87 | 7.44 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 6.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.12 | ppb | 1.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 946934 | 1.63 | 1663748 | 56.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2581274 | 0.51 | 2728585 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 397684 | 0.85 | 406595 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 630900 | 0.30 | 617288 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 152964 | 0.24 | 157406 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3889536 | 0.79 | 3944827 | 98.6 | 70 | - | 130 |
| 115 | In | 1 | 4341689 | 0.56 | 4162835 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1324415 | 0.37 | 1319592 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 6413731 | 0.96 | 5883852 | 109.0 | 70 | - | 130 |
| 175 | Lu | 1 | 6288525 | 1.44 | 5727334 | 109.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3486091 | 0.60 | 3404545 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:49 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19712-1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1769.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 21.84 | 900.00 | |
| 11 B | 6 | 1 | 6.88 | 3.44 | ppb | 3.28 | 900.00 | |
| 11 B | 45 | 2 | 5.75 | 2.87 | ppb | 2.84 | 900.00 | |
| 23 Na | 45 | 1 | 8072.00 | 4036.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 9914.00 | 4957.00 | ppb | 0.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 1152.80 | 576.40 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 1485.80 | 742.90 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 204.20 | 102.10 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 2 | 245.80 | 122.90 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 940.40 | 470.20 | ppb | 1.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 4944.00 | 2472.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.79 | 2.39 | ppb | 3.67 | 900.00 | |
| 51 V | 45 | 2 | 4.86 | 2.43 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.80 | 0.40 | ppb | 2.33 | 900.00 | |
| 55 Mn | 45 | 2 | 33.54 | 16.77 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 539.00 | 269.50 | ppb | 0.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.16 | 0.08 | ppb | 3.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.35 | ppb | 6.36 | 900.00 | |
| 63 Cu | 72 | 2 | 1.27 | 0.64 | ppb | 1.44 | 900.00 | |
| 66 Zn | 72 | 2 | 11.12 | 5.56 | ppb | 0.95 | 900.00 | |
| 75 As | 72 | 2 | 1.60 | 0.80 | ppb | 3.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 649.31 | 900.00 | |
| 88 Sr | 103 | 1 | 31.06 | 15.53 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 9.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.60 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 17.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 3.89 | 900.00 | |
| 137 Ba | 159 | 1 | 4.20 | 2.10 | ppb | 0.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.05 | ppb | 5.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.18 | ppb | 3.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 971413 | 0.47 | 1663748 | 58.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2607359 | 0.38 | 2728585 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 403145 | 0.19 | 406595 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 645973 | 0.99 | 617288 | 104.6 | 70 | - | 130 |
| 72 Ge | 2 | 155461 | 0.36 | 157406 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 4057914 | 0.44 | 3944827 | 102.9 | 70 | - | 130 |
| 115 In | 1 | 4449413 | 0.41 | 4162835 | 106.9 | 70 | - | 130 |
| 115 In | 2 | 1271875 | 1.07 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6511358 | 0.73 | 5883852 | 110.7 | 70 | - | 130 |
| 175 Lu | 1 | 6360371 | 0.35 | 5727334 | 111.1 | 70 | - | 130 |
| 209 Bi | 1 | 3653077 | 1.35 | 3404545 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D# | | |
| **Date Acquired:** | Apr 24 2013 11:56 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19712-2 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2502 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 48.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 114.63 | 900.00 | |
| 11 B | 6 | 1 | 6.91 | 3.46 | ppb | 3.04 | 900.00 | |
| 11 B | 45 | 2 | 5.60 | 2.80 | ppb | 13.13 | 900.00 | |
| 23 Na | 45 | 1 | 7948.00 | 3974.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 9760.00 | 4880.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 1170.60 | 585.30 | ppb | 0.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 1472.80 | 736.40 | ppb | 2.37 | 90000.00 | |
| 27 Al | 45 | 1 | 198.98 | 99.49 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 238.60 | 119.30 | ppb | 0.88 | 90000.00 | |
| 39 K | 45 | 1 | 955.20 | 477.60 | ppb | 0.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 4884.00 | 2442.00 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.55 | 2.27 | ppb | 0.67 | 900.00 | |
| 51 V | 45 | 2 | 5.29 | 2.64 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 3.14 | 1.57 | ppb | 2.32 | 900.00 | |
| 55 Mn | 45 | 2 | 37.14 | 18.57 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 564.80 | 282.40 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.19 | 0.09 | ppb | 5.20 | 900.00 | |
| 60 Ni | 45 | 2 | 1.86 | 0.93 | ppb | 10.90 | 900.00 | |
| 63 Cu | 72 | 2 | 2.87 | 1.43 | ppb | 1.76 | 900.00 | |
| 66 Zn | 72 | 2 | 12.87 | 6.43 | ppb | 0.06 | 900.00 | |
| 75 As | 72 | 2 | 1.63 | 0.81 | ppb | 3.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.05 | ppb | 70.11 | 900.00 | |
| 88 Sr | 103 | 1 | 31.60 | 15.80 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 0.24 | 0.12 | ppb | 2.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 5.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 32.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.32 | 0.16 | ppb | 1.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 5.68 | 900.00 | |
| 137 Ba | 159 | 1 | 4.15 | 2.08 | ppb | 2.41 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 10.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.20 | ppb | 1.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 961873 | 1.64 | 1663748 | 57.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2606791 | 0.11 | 2728585 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 402207 | 0.32 | 406595 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 645547 | 0.39 | 617288 | 104.6 | 70 | - | 130 |
| 72 Ge | 2 | 155900 | 0.70 | 157406 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 4048281 | 0.32 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4444728 | 0.99 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1262012 | 1.52 | 1319592 | 95.6 | 70 | - | 130 |
| 159 Tb | 1 | 6475256 | 1.41 | 5883852 | 110.1 | 70 | - | 130 |
| 175 Lu | 1 | 6357201 | 1.44 | 5727334 | 111.0 | 70 | - | 130 |
| 209 Bi | 1 | 3653836 | 0.03 | 3404545 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#
Date Acquired: Apr 25 2013 12:03 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.64 | 53.64 | ppb | 1.82 | 900.00 | |
| 9 Be | 45 | 2 | 49.78 | 49.78 | ppb | 1.77 | 900.00 | |
| 11 B | 6 | 1 | 54.02 | 54.02 | ppb | 1.00 | 900.00 | |
| 11 B | 45 | 2 | 48.91 | 48.91 | ppb | 2.81 | 900.00 | |
| 23 Na | 45 | 1 | 4727.00 | 4727.00 | ppb | 1.24 | 90000.00 | |
| 23 Na | 45 | 2 | 5381.00 | 5381.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 4737.00 | 4737.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5310.00 | 5310.00 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 1 | 4771.00 | 4771.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 5279.00 | 5279.00 | ppb | 1.23 | 90000.00 | |
| 39 K | 45 | 1 | 4996.00 | 4996.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 5158.00 | 5158.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.09 | 49.09 | ppb | 0.21 | 900.00 | |
| 51 V | 45 | 2 | 50.02 | 50.02 | ppb | 0.70 | 900.00 | |
| 52 Cr | 45 | 2 | 49.48 | 49.48 | ppb | 0.21 | 900.00 | |
| 55 Mn | 45 | 2 | 48.72 | 48.72 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 50.05 | 50.05 | ppb | 0.62 | 900.00 | |
| 60 Ni | 45 | 2 | 48.76 | 48.76 | ppb | 0.20 | 900.00 | |
| 63 Cu | 72 | 2 | 48.26 | 48.26 | ppb | 0.65 | 900.00 | |
| 66 Zn | 72 | 2 | 49.28 | 49.28 | ppb | 0.56 | 900.00 | |
| 75 As | 72 | 2 | 49.11 | 49.11 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 47.39 | 47.39 | ppb | 1.26 | 900.00 | |
| 88 Sr | 103 | 1 | 52.81 | 52.81 | ppb | 1.56 | 900.00 | |
| 98 Mo | 103 | 1 | 51.39 | 51.39 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 47.53 | 47.53 | ppb | 1.06 | 180.00 | |
| 111 Cd | 115 | 2 | 50.77 | 50.77 | ppb | 0.63 | 900.00 | |
| 120 Sn | 115 | 1 | 52.47 | 52.47 | ppb | 0.97 | 900.00 | |
| 121 Sb | 115 | 1 | 53.18 | 53.18 | ppb | 0.79 | 900.00 | |
| 137 Ba | 159 | 1 | 50.37 | 50.37 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 49.67 | 49.67 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.78 | 50.78 | ppb | 0.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1258615 | 1.22 | 1663748 | 75.6 | 70 - 130 | |
| 45 Sc | 1 | 2809440 | 0.55 | 2728585 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 403454 | 0.42 | 406595 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 654242 | 0.44 | 617288 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 156285 | 0.60 | 157406 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 4095458 | 1.10 | 3944827 | 103.8 | 70 | - | 130 |
| 115 In | 1 | 4453806 | 0.73 | 4162835 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1254906 | 0.74 | 1319592 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 6375810 | 0.31 | 5883852 | 108.4 | 70 | - | 130 |
| 175 Lu | 1 | 6167783 | 1.10 | 5727334 | 107.7 | 70 | - | 130 |
| 209 Bi | 1 | 3459315 | 0.27 | 3404545 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D# |
| Date Acquired: | Apr 25 2013 12:10 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2504 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 7.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 86.13 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 7.58 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 49.22 | 900.00 | |
| 23 Na | 45 | 1 | 5.87 | 5.87 | ppb | 7.65 | 90000.00 | |
| 23 Na | 45 | 2 | 11.41 | 11.41 | ppb | 3.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.96 | 0.96 | ppb | 11.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.58 | 2.58 | ppb | 15.07 | 90000.00 | |
| 27 Al | 45 | 1 | 0.38 | 0.38 | ppb | 13.58 | 90000.00 | |
| 27 Al | 45 | 2 | 1.85 | 1.85 | ppb | 19.26 | 90000.00 | |
| 39 K | 45 | 1 | 0.60 | 0.60 | ppb | 150.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.29 | 0.29 | ppb | 161.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 328.46 | 900.00 | |
| 51 V | 45 | 2 | 0.11 | 0.11 | ppb | 11.22 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 45.96 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 17.49 | 900.00 | |
| 56 Fe | 45 | 2 | 2.50 | 2.50 | ppb | 12.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 22.35 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 69.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 12.94 | 900.00 | |
| 66 Zn | 72 | 2 | -0.07 | -0.07 | ppb | 9.82 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 95.43 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 751.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 62.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 20.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.36 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 76.79 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 6.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 11.79 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 28.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 4.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 120.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1303403 | 0.50 | 1663748 | 78.3 | 70 - 130 | |
| 45 Sc | 1 | 2805389 | 1.18 | 2728585 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 411317 | 0.29 | 406595 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 667244 | 1.05 | 617288 | 108.1 | 70 | - | 130 |
| 72 Ge | 2 | 159711 | 0.63 | 157406 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 4187563 | 0.65 | 3944827 | 106.2 | 70 | - | 130 |
| 115 In | 1 | 4550421 | 1.05 | 4162835 | 109.3 | 70 | - | 130 |
| 115 In | 2 | 1301691 | 0.59 | 1319592 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 6413796 | 1.09 | 5883852 | 109.0 | 70 | - | 130 |
| 175 Lu | 1 | 6162265 | 0.91 | 5727334 | 107.6 | 70 | - | 130 |
| 209 Bi | 1 | 3581015 | 1.62 | 3404545 | 105.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#
**Date Acquired:** Apr 25 2013 12:18 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-4
**Misc Info:**
**Vial Number:** 2505
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 189.40 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 55.05 | 900.00 | |
| 11 B | 6 | 1 | 56.28 | 28.14 | ppb | 0.36 | 900.00 | |
| 11 B | 45 | 2 | 45.64 | 22.82 | ppb | 0.98 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 436400.00 | 218200.00 | ppb | 0.32 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 9420.00 | 4710.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 11830.00 | 5915.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 465.80 | 232.90 | ppb | 0.12 | 90000.00 | |
| 27 Al | 45 | 2 | 593.80 | 296.90 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 17296.00 | 8648.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 49660.00 | 24830.00 | ppb | 0.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 31.36 | 15.68 | ppb | 2.99 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.22 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 1.93 | 0.97 | ppb | 0.08 | 900.00 | |
| 55 Mn | 45 | 2 | 1791.80 | 895.90 | ppb | 0.29 | 900.00 | |
| 56 Fe | 45 | 2 | 49560.00 | 24780.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 7.87 | 3.94 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 3.78 | 1.89 | ppb | 1.64 | 900.00 | |
| 63 Cu | 72 | 2 | 1.14 | 0.57 | ppb | 1.34 | 900.00 | |
| 66 Zn | 72 | 2 | 12.40 | 6.20 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 163.20 | 81.60 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 241.55 | 900.00 | |
| 88 Sr | 103 | 1 | 546.40 | 273.20 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 4.45 | 2.23 | ppb | 1.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.02 | ppb | 13.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 17.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 4.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.29 | 900.00 | |
| 137 Ba | 159 | 1 | 25.70 | 12.85 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.09 | ppb | 7.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.36 | 0.18 | ppb | 4.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 842680 | 0.81 | 1663748 | 50.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2519186 | 0.75 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 373540 | 0.89 | 406595 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 605972 | 0.92 | 617288 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 145901 | 0.50 | 157406 | 92.7 | 70 | - | 130 |
| 103 Rh | 1 | 3570845 | 0.34 | 3944827 | 90.5 | 70 | - | 130 |
| 115 In | 1 | 4065343 | 0.90 | 4162835 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1223614 | 0.76 | 1319592 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 6040806 | 0.23 | 5883852 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 5918230 | 0.32 | 5727334 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 3167297 | 1.53 | 3404545 | 93.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#
**Date Acquired:** Apr 25 2013 12:25 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-5
**Misc Info:**
**Vial Number:** 2506
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 247.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 75.01 | 900.00 | |
| 11 B | 6 | 1 | 13.06 | 6.53 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 9.14 | 4.57 | ppb | 10.35 | 900.00 | |
| 23 Na | 45 | 1 | 103020.00 | 51510.00 | ppb | 1.27 | 90000.00 | |
| 23 Na | 45 | 2 | 136700.00 | 68350.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 33040.00 | 16520.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 42660.00 | 21330.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 125.46 | 62.73 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 154.24 | 77.12 | ppb | 0.66 | 90000.00 | |
| 39 K | 45 | 1 | 9382.00 | 4691.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 166460.00 | 83230.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.79 | 2.39 | ppb | 6.78 | 900.00 | |
| 51 V | 45 | 2 | 3.38 | 1.69 | ppb | 2.92 | 900.00 | |
| 52 Cr | 45 | 2 | 1.19 | 0.59 | ppb | 1.99 | 900.00 | |
| 55 Mn | 45 | 2 | 3374.00 | 1687.00 | ppb | 0.40 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 2472.00 | 1236.00 | ppb | 0.64 | 90000.00 | |
| 59 Co | 45 | 2 | 5.15 | 2.58 | ppb | 0.82 | 900.00 | |
| 60 Ni | 45 | 2 | 18.35 | 9.18 | ppb | 0.99 | 900.00 | |
| 63 Cu | 72 | 2 | 1.70 | 0.85 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 67.52 | 33.76 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 18.87 | 9.43 | ppb | 1.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.31 | 0.15 | ppb | 8.81 | 900.00 | |
| 88 Sr | 103 | 1 | 1872.00 | 936.00 | ppb | 0.43 | 900.00 | >LDR |
| 98 Mo | 103 | 1 | 2.73 | 1.37 | ppb | 0.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 15.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.28 | 0.14 | ppb | 5.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 5.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.15 | ppb | 1.99 | 900.00 | |
| 137 Ba | 159 | 1 | 65.64 | 32.82 | ppb | 0.77 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.08 | ppb | 2.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.27 | 0.14 | ppb | 2.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 768857 | 2.24 | 1663748 | 46.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2518042 | 1.48 | 2728585 | 92.3 | 70 - 130 | |
| 45 Sc | 2 | 389589 | 0.36 | 406595 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\063SMPL.D\063SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 610245 | 0.46 | 617288 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 149769 | 0.80 | 157406 | 95.1 | 70 | - | 130 |
| 103 Rh | 1 | 3690681 | 0.39 | 3944827 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 4210861 | 0.39 | 4162835 | 101.2 | 70 | - | 130 |
| 115 In | 2 | 1277855 | 0.36 | 1319592 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 6354665 | 0.32 | 5883852 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 6224836 | 0.70 | 5727334 | 108.7 | 70 | - | 130 |
| 209 Bi | 1 | 3337923 | 0.11 | 3404545 | 98.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 12:32 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC19712-6 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2507 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | -0.01 | ppb | 37.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 73.73 | 900.00 | |
| 11 B | 6 | 1 | 9.65 | 4.83 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 7.10 | 3.55 | ppb | 8.19 | 900.00 | |
| 23 Na | 45 | 1 | 25140.00 | 12570.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 32640.00 | 16320.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 9058.00 | 4529.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 11678.00 | 5839.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 161.58 | 80.79 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 2 | 199.94 | 99.97 | ppb | 1.47 | 90000.00 | |
| 39 K | 45 | 1 | 4932.00 | 2466.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 39440.00 | 19720.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 8.72 | 4.36 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | 3.00 | 1.50 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 9.41 | 4.70 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 619.20 | 309.60 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 4634.00 | 2317.00 | ppb | 1.08 | 90000.00 | |
| 59 Co | 45 | 2 | 10.43 | 5.22 | ppb | 0.71 | 900.00 | |
| 60 Ni | 45 | 2 | 53.72 | 26.86 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | 16.35 | 8.18 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 18.51 | 9.26 | ppb | 0.52 | 900.00 | |
| 75 As | 72 | 2 | 7.36 | 3.68 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 113.39 | 900.00 | |
| 88 Sr | 103 | 1 | 321.60 | 160.80 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 2.62 | 1.31 | ppb | 0.99 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 6.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 76.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 3.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 13.59 | 900.00 | |
| 137 Ba | 159 | 1 | 21.54 | 10.77 | ppb | 2.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 2.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.15 | ppb | 4.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 778353 | 2.22 | 1663748 | 46.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2534057 | 1.12 | 2728585 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 393824 | 0.70 | 406595 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\064SMPL.D\064SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626180 | 0.63 | 617288 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 154391 | 0.38 | 157406 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 3875387 | 0.69 | 3944827 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 4387174 | 0.44 | 4162835 | 105.4 | 70 | - | 130 |
| 115 In | 2 | 1260714 | 3.01 | 1319592 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 6614542 | 0.97 | 5883852 | 112.4 | 70 | - | 130 |
| 175 Lu | 1 | 6430658 | 0.91 | 5727334 | 112.3 | 70 | - | 130 |
| 209 Bi | 1 | 3567361 | 0.59 | 3404545 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#
Date Acquired: Apr 25 2013 12:39 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC19712-8
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 24 2013 06:06 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 57.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 61.24 | 900.00 | |
| 11 B | 6 | 1 | 47.58 | 23.79 | ppb | 2.88 | 900.00 | |
| 11 B | 45 | 2 | 33.44 | 16.72 | ppb | 2.31 | 900.00 | |
| 23 Na | 45 | 1 | 239800.00 | 119900.00 | ppb | 0.18 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 318600.00 | 159300.00 | ppb | 0.49 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 125.18 | 62.59 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 163.44 | 81.72 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 1 | 1056.80 | 528.40 | ppb | 1.27 | 90000.00 | |
| 27 Al | 45 | 2 | 1386.00 | 693.00 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 1652.20 | 826.10 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 446.40 | 223.20 | ppb | 0.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 38.04 | 19.02 | ppb | 0.88 | 900.00 | |
| 51 V | 45 | 2 | 11.30 | 5.65 | ppb | 0.73 | 900.00 | |
| 52 Cr | 45 | 2 | 4.55 | 2.28 | ppb | 1.22 | 900.00 | |
| 55 Mn | 45 | 2 | 14.40 | 7.20 | ppb | 0.47 | 900.00 | |
| 56 Fe | 45 | 2 | 1337.00 | 668.50 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.78 | 0.39 | ppb | 1.46 | 900.00 | |
| 60 Ni | 45 | 2 | 6.94 | 3.47 | ppb | 1.12 | 900.00 | |
| 63 Cu | 72 | 2 | 3.22 | 1.61 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 11.71 | 5.85 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 78.34 | 39.17 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.35 | ppb | 20.68 | 900.00 | |
| 88 Sr | 103 | 1 | 4.15 | 2.08 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.70 | 0.85 | ppb | 1.59 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.06 | ppb | 1.85 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 15.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 2.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 3.72 | 900.00 | |
| 137 Ba | 159 | 1 | 4.22 | 2.11 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 15.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.83 | 0.42 | ppb | 2.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 712767 | 3.05 | 1663748 | 42.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2484698 | 0.63 | 2728585 | 91.1 | 70 - 130 | |
| 45 Sc | 2 | 386414 | 0.58 | 406595 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\065SMPL.D\065SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618518 | 0.22 | 617288 | 100.2 | 70 | - | 130 |
| 72 Ge | 2 | 149314 | 0.32 | 157406 | 94.9 | 70 | - | 130 |
| 103 Rh | 1 | 3728507 | 0.57 | 3944827 | 94.5 | 70 | - | 130 |
| 115 In | 1 | 4240812 | 0.94 | 4162835 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 1269449 | 0.91 | 1319592 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 6350640 | 0.41 | 5883852 | 107.9 | 70 | - | 130 |
| 175 Lu | 1 | 6224427 | 0.63 | 5727334 | 108.7 | 70 | - | 130 |
| 209 Bi | 1 | 3361109 | 0.80 | 3404545 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#
**Date Acquired:** Apr 25 2013 12:46 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-9
**Misc Info:**
**Vial Number:** 2509
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.64 | 0.32 | ppb | 4.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.59 | 0.30 | ppb | 1.58 | 900.00 | |
| 11 B | 6 | 1 | 30.64 | 15.32 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 21.58 | 10.79 | ppb | 4.29 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 483000.00 | 241500.00 | ppb | 1.37 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 476.40 | 238.20 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 683.00 | 341.50 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 5270.00 | 2635.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 2 | 6850.00 | 3425.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 1949.00 | 974.50 | ppb | 1.18 | 90000.00 | |
| 44 Ca | 45 | 1 | 741.60 | 370.80 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 235.60 | 117.80 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 69.42 | 34.71 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 19.03 | 9.51 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 39.96 | 19.98 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 7946.00 | 3973.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 5.10 | 2.55 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 13.66 | 6.83 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 14.77 | 7.39 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 24.02 | 12.01 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 571.40 | 285.70 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 1.39 | 0.70 | ppb | 30.95 | 900.00 | |
| 88 Sr | 103 | 1 | 5.57 | 2.79 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 5.48 | 2.74 | ppb | 1.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.25 | ppb | 3.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 65.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.58 | 0.29 | ppb | 1.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.28 | ppb | 2.75 | 900.00 | |
| 137 Ba | 159 | 1 | 27.90 | 13.95 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.08 | ppb | 1.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 6.08 | 3.04 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 709540 | 2.53 | 1663748 | 42.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2591082 | 1.51 | 2728585 | 95.0 | 70 - 130 | |
| 45 Sc | 2 | 383474 | 0.48 | 406595 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 603731 | 1.13 | 617288 | 97.8 | 70 - | 130 |
| 72 | Ge | 2 | 144563 | 0.44 | 157406 | 91.8 | 70 - | 130 |
| 103 | Rh | 1 | 3615309 | 0.72 | 3944827 | 91.6 | 70 - | 130 |
| 115 | In | 1 | 4131379 | 0.52 | 4162835 | 99.2 | 70 - | 130 |
| 115 | In | 2 | 1212371 | 0.24 | 1319592 | 91.9 | 70 - | 130 |
| 159 | Tb | 1 | 6195164 | 0.37 | 5883852 | 105.3 | 70 - | 130 |
| 175 | Lu | 1 | 6141794 | 0.74 | 5727334 | 107.2 | 70 - | 130 |
| 209 | Bi | 1 | 3266341 | 0.33 | 3404545 | 95.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#
**Date Acquired:** Apr 25 2013 12:53 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-10
**Misc Info:**
**Vial Number:** 2510
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1.79 | 0.90 | ppb | 7.96 | 900.00 | |
| 9 Be | 45 | 2 | 1.38 | 0.69 | ppb | 12.12 | 900.00 | |
| 11 B | 6 | 1 | 35.24 | 17.62 | ppb | 5.56 | 900.00 | |
| 11 B | 45 | 2 | 26.42 | 13.21 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 469200.00 | 234600.00 | ppb | 0.89 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 1390.20 | 695.10 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 2054.00 | 1027.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 10216.00 | 5108.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 13214.00 | 6607.00 | ppb | 0.78 | 90000.00 | |
| 39 K | 45 | 1 | 3572.00 | 1786.00 | ppb | 0.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 1329.00 | 664.50 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 576.00 | 288.00 | ppb | 0.24 | 900.00 | |
| 51 V | 45 | 2 | 89.44 | 44.72 | ppb | 0.48 | 900.00 | |
| 52 Cr | 45 | 2 | 42.70 | 21.35 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 121.72 | 60.86 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 23080.00 | 11540.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 14.53 | 7.27 | ppb | 1.60 | 900.00 | |
| 60 Ni | 45 | 2 | 41.16 | 20.58 | ppb | 1.34 | 900.00 | |
| 63 Cu | 72 | 2 | 40.84 | 20.42 | ppb | 0.39 | 900.00 | |
| 66 Zn | 72 | 2 | 52.80 | 26.40 | ppb | 0.41 | 900.00 | |
| 75 As | 72 | 2 | 708.00 | 354.00 | ppb | 0.05 | 900.00 | |
| 78 Se | 72 | 2 | 1.67 | 0.83 | ppb | 5.75 | 900.00 | |
| 88 Sr | 103 | 1 | 14.34 | 7.17 | ppb | 0.33 | 900.00 | |
| 98 Mo | 103 | 1 | 8.18 | 4.09 | ppb | 0.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.82 | 0.41 | ppb | 2.33 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 29.49 | 900.00 | |
| 120 Sn | 115 | 1 | 1.36 | 0.68 | ppb | 0.60 | 900.00 | |
| 121 Sb | 115 | 1 | 1.75 | 0.88 | ppb | 2.06 | 900.00 | |
| 137 Ba | 159 | 1 | 67.32 | 33.66 | ppb | 0.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.38 | 0.19 | ppb | 3.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 19.27 | 9.63 | ppb | 0.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 743626 | 5.56 | 1663748 | 44.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2639803 | 0.68 | 2728585 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 386238 | 1.11 | 406595 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\067SMPL.D\067SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 586895 | 0.69 | 617288 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 144431 | 0.41 | 157406 | 91.8 | 70 | - | 130 |
| 103 Rh | 1 | 3573669 | 0.18 | 3944827 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 4082555 | 0.63 | 4162835 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 1206183 | 0.63 | 1319592 | 91.4 | 70 | - | 130 |
| 159 Tb | 1 | 6137791 | 1.13 | 5883852 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 6030384 | 0.91 | 5727334 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3275903 | 0.58 | 3404545 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#
**Date Acquired:** Apr 25 2013 01:00 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC19712-10F
**Misc Info:**
**Vial Number:** 2511
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.09 | ppb | 9.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.08 | ppb | 22.92 | 900.00 | |
| 11 B | 6 | 1 | 37.80 | 18.90 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 26.68 | 13.34 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 478000.00 | 239000.00 | ppb | 0.59 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 51.44 | 25.72 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 72.18 | 36.09 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 1255.40 | 627.70 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 1758.40 | 879.20 | ppb | 0.41 | 90000.00 | |
| 39 K | 45 | 1 | 955.80 | 477.90 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 586.60 | 293.30 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 172.86 | 86.43 | ppb | 0.28 | 900.00 | |
| 51 V | 45 | 2 | 68.26 | 34.13 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 6.18 | 3.09 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 14.34 | 7.17 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 4976.00 | 2488.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 1.34 | 0.67 | ppb | 1.02 | 900.00 | |
| 60 Ni | 45 | 2 | 5.98 | 2.99 | ppb | 0.68 | 900.00 | |
| 63 Cu | 72 | 2 | 3.88 | 1.94 | ppb | 0.57 | 900.00 | |
| 66 Zn | 72 | 2 | 14.13 | 7.07 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 677.60 | 338.80 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.61 | 0.31 | ppb | 3.02 | 900.00 | |
| 88 Sr | 103 | 1 | 3.99 | 1.99 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 7.77 | 3.88 | ppb | 1.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 16.55 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 33.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.15 | ppb | 5.43 | 900.00 | |
| 121 Sb | 115 | 1 | 1.30 | 0.65 | ppb | 3.77 | 900.00 | |
| 137 Ba | 159 | 1 | 16.90 | 8.45 | ppb | 0.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 6.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 5.24 | 2.62 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 669706 | 0.70 | 1663748 | 40.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2536931 | 0.23 | 2728585 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 376829 | 0.37 | 406595 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\068SMPL.D\068SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578262 | 0.56 | 617288 | 93.7 | 70 | - | 130 |
| 72 Ge | 2 | 143790 | 0.20 | 157406 | 91.3 | 70 | - | 130 |
| 103 Rh | 1 | 3553406 | 0.32 | 3944827 | 90.1 | 70 | - | 130 |
| 115 In | 1 | 4065533 | 0.61 | 4162835 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1206732 | 0.85 | 1319592 | 91.4 | 70 | - | 130 |
| 159 Tb | 1 | 6175420 | 0.73 | 5883852 | 105.0 | 70 | - | 130 |
| 175 Lu | 1 | 6073673 | 0.76 | 5727334 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 3274178 | 1.03 | 3404545 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\069SMPL.D\069SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\069SMPL.D\069SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 01:07 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | **Pass** |
| **Sample Name:** | MP20764A-B1 | **ISTD:** | **Fail** |
| **Misc Info:** | | | |
| **Vial Number:** | 2512 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 587.00 | 117.40 | ppb | 0.94 | 900.00 | |
| 9 Be | 45 | 2 | 515.00 | 103.00 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 3.04 | 0.61 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 2.84 | 0.57 | ppb | 17.65 | 900.00 | |
| 23 Na | 45 | 1 | 22795.00 | 4559.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 28440.00 | 5688.00 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 23015.00 | 4603.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 28180.00 | 5636.00 | ppb | 1.71 | 90000.00 | |
| 27 Al | 45 | 1 | 1920.00 | 384.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 2366.00 | 473.20 | ppb | 0.54 | 90000.00 | |
| 39 K | 45 | 1 | 25270.00 | 5054.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 26090.00 | 5218.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.50 | 98.30 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 535.00 | 107.00 | ppb | 0.58 | 900.00 | |
| 52 Cr | 45 | 2 | 517.00 | 103.40 | ppb | 0.96 | 900.00 | |
| 55 Mn | 45 | 2 | 501.50 | 100.30 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 2257.00 | 451.40 | ppb | 1.27 | 90000.00 | |
| 59 Co | 45 | 2 | 509.00 | 101.80 | ppb | 1.23 | 900.00 | |
| 60 Ni | 45 | 2 | 505.00 | 101.00 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 490.40 | 98.08 | ppb | 1.39 | 900.00 | |
| 66 Zn | 72 | 2 | 621.00 | 124.20 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 509.50 | 101.90 | ppb | 0.91 | 900.00 | |
| 78 Se | 72 | 2 | 469.55 | 93.91 | ppb | 1.96 | 900.00 | |
| 88 Sr | 103 | 1 | 507.50 | 101.50 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 0.53 | 0.11 | ppb | 5.46 | 900.00 | |
| 107 Ag | 115 | 1 | 209.05 | 41.81 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 512.50 | 102.50 | ppb | 2.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 31.69 | 900.00 | |
| 121 Sb | 115 | 1 | 516.50 | 103.30 | ppb | 0.26 | 900.00 | |
| 137 Ba | 159 | 1 | 1895.50 | 379.10 | ppb | 1.03 | 900.00 | |
| 205 Tl | 209 | 1 | 508.50 | 101.70 | ppb | 0.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 993.00 | 198.60 | ppb | 0.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 944022 | 1.24 | 1663748 | 56.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2530858 | 0.72 | 2728585 | 92.8 | 70 - 130 | |
| 45 Sc | 2 | 387022 | 0.73 | 406595 | 95.2 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 618135 | 0.73 | 617288 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 152108 | 0.81 | 157406 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 3901875 | 0.65 | 3944827 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 4365336 | 0.29 | 4162835 | 104.9 | 70 | - | 130 |
| 115 In | 2 | 1244307 | 2.22 | 1319592 | 94.3 | 70 | - | 130 |
| 159 Tb | 1 | 6452127 | 0.28 | 5883852 | 109.7 | 70 | - | 130 |
| 175 Lu | 1 | 6312358 | 0.38 | 5727334 | 110.2 | 70 | - | 130 |
| 209 Bi | 1 | 3525481 | 0.64 | 3404545 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D# |
| Date Acquired: | Apr 25 2013 01:14 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20764A-S1 |
| Misc Info: | |
| Vial Number: | 3101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1614.00 | -322.80 | ppb | 18.05 | 900.00 | |
| 9 Be | 45 | 2 | 505.00 | 101.00 | ppb | 2.11 | 900.00 | |
| 11 B | 6 | 1 | -3274.50 | -654.90 | ppb | 17.97 | 900.00 | |
| 11 B | 45 | 2 | 1007.00 | 201.40 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | 49020.00 | 9804.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 61050.00 | 12210.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 30255.00 | 6051.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 37220.00 | 7444.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 1 | 1885.50 | 377.10 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2343.50 | 468.70 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 33080.00 | 6616.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 77400.00 | 15480.00 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 492.30 | 98.46 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 537.00 | 107.40 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 509.50 | 101.90 | ppb | 0.26 | 900.00 | |
| 55 Mn | 45 | 2 | 497.05 | 99.41 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 2264.50 | 452.90 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 500.50 | 100.10 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 491.35 | 98.27 | ppb | 0.50 | 900.00 | |
| 63 Cu | 72 | 2 | 523.00 | 104.60 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 544.50 | 108.90 | ppb | 0.62 | 900.00 | |
| 75 As | 72 | 2 | 514.00 | 102.80 | ppb | 0.11 | 900.00 | |
| 78 Se | 72 | 2 | 461.60 | 92.32 | ppb | 0.55 | 900.00 | |
| 88 Sr | 103 | 1 | 718.00 | 143.60 | ppb | 1.20 | 900.00 | |
| 98 Mo | 103 | 1 | 2.08 | 0.42 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 208.10 | 41.62 | ppb | 1.22 | 180.00 | |
| 111 Cd | 115 | 2 | 508.00 | 101.60 | ppb | 3.35 | 900.00 | |
| 120 Sn | 115 | 1 | 0.34 | 0.07 | ppb | 4.11 | 900.00 | |
| 121 Sb | 115 | 1 | 523.00 | 104.60 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 1932.50 | 386.50 | ppb | 1.41 | 900.00 | |
| 205 Tl | 209 | 1 | 511.50 | 102.30 | ppb | 0.34 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 994.00 | 198.80 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | -348578 | 20.06 | 1663748 | -21.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2583424 | 0.45 | 2728585 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 392710 | 0.15 | 406595 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\070SMPL.D\070SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 624158 | 1.03 | 617288 | 101.1 | 70 | - | 130 |
| 72 Ge | 2 | 152629 | 0.53 | 157406 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3840533 | 0.43 | 3944827 | 97.4 | 70 | - | 130 |
| 115 In | 1 | 4316413 | 0.90 | 4162835 | 103.7 | 70 | - | 130 |
| 115 In | 2 | 1243222 | 2.87 | 1319592 | 94.2 | 70 | - | 130 |
| 159 Tb | 1 | 6387649 | 1.07 | 5883852 | 108.6 | 70 | - | 130 |
| 175 Lu | 1 | 6231660 | 0.16 | 5727334 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3412500 | 0.61 | 3404545 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D# |
| Date Acquired: | Apr 25 2013 01:21 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20764A-S2 |
| Misc Info: | |
| Vial Number: | 3102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1764.50 | -352.90 | ppb | 8.43 | 900.00 | |
| 9 Be | 45 | 2 | 514.00 | 102.80 | ppb | 0.80 | 900.00 | |
| 11 B | 6 | 1 | -3622.00 | -724.40 | ppb | 7.81 | 900.00 | |
| 11 B | 45 | 2 | 1022.00 | 204.40 | ppb | 1.10 | 900.00 | |
| 23 Na | 45 | 1 | 49655.00 | 9931.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 60850.00 | 12170.00 | ppb | 1.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 31010.00 | 6202.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 37660.00 | 7532.00 | ppb | 0.18 | 90000.00 | |
| 27 Al | 45 | 1 | 1914.50 | 382.90 | ppb | 0.96 | 90000.00 | |
| 27 Al | 45 | 2 | 2341.50 | 468.30 | ppb | 0.29 | 90000.00 | |
| 39 K | 45 | 1 | 33805.00 | 6761.00 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 78400.00 | 15680.00 | ppb | 0.29 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 99.76 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 543.00 | 108.60 | ppb | 0.15 | 900.00 | |
| 52 Cr | 45 | 2 | 515.50 | 103.10 | ppb | 0.71 | 900.00 | |
| 55 Mn | 45 | 2 | 503.00 | 100.60 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 2263.00 | 452.60 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 509.00 | 101.80 | ppb | 0.38 | 900.00 | |
| 60 Ni | 45 | 2 | 497.50 | 99.50 | ppb | 0.10 | 900.00 | |
| 63 Cu | 72 | 2 | 530.50 | 106.10 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 558.50 | 111.70 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 522.50 | 104.50 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 472.80 | 94.56 | ppb | 0.90 | 900.00 | |
| 88 Sr | 103 | 1 | 719.50 | 143.90 | ppb | 1.15 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.41 | ppb | 1.48 | 900.00 | |
| 107 Ag | 115 | 1 | 211.10 | 42.22 | ppb | 0.83 | 180.00 | |
| 111 Cd | 115 | 2 | 511.00 | 102.20 | ppb | 2.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.05 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 528.50 | 105.70 | ppb | 0.62 | 900.00 | |
| 137 Ba | 159 | 1 | 1926.50 | 385.30 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 507.50 | 101.50 | ppb | 1.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 989.50 | 197.90 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | -320440 | 7.52 | 1663748 | -19.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2571872 | 0.24 | 2728585 | 94.3 | 70 - 130 | |
| 45 Sc | 2 | 389357 | 0.54 | 406595 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\071SMPL.D\071SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623032 | 0.60 | 617288 | 100.9 | 70 | - | 130 |
| 72 Ge | 2 | 151054 | 0.27 | 157406 | 96.0 | 70 | - | 130 |
| 103 Rh | 1 | 3850255 | 0.39 | 3944827 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 4282943 | 0.29 | 4162835 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1240220 | 3.10 | 1319592 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 6365198 | 0.38 | 5883852 | 108.2 | 70 | - | 130 |
| 175 Lu | 1 | 6257498 | 0.49 | 5727334 | 109.3 | 70 | - | 130 |
| 209 Bi | 1 | 3451999 | 1.36 | 3404545 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\072SMPL.D\072SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\072SMPL.D\072SMPL.D#
**Date Acquired:** Apr 25 2013 01:28 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCV
**Misc Info:**
**Vial Number:** 3103
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 55.79 | 55.79 | ppb | 2.17 | 900.00 | |
| 9 Be | 45 | 2 | 50.26 | 50.26 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 57.77 | 57.77 | ppb | 1.90 | 900.00 | |
| 11 B | 45 | 2 | 49.36 | 49.36 | ppb | 1.71 | 900.00 | |
| 23 Na | 45 | 1 | 4534.00 | 4534.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 5445.00 | 5445.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 4537.00 | 4537.00 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 5365.00 | 5365.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 4573.00 | 4573.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 5269.00 | 5269.00 | ppb | 0.19 | 90000.00 | |
| 39 K | 45 | 1 | 4936.00 | 4936.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 5168.00 | 5168.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.90 | 48.90 | ppb | 1.57 | 900.00 | |
| 51 V | 45 | 2 | 50.58 | 50.58 | ppb | 0.14 | 900.00 | |
| 52 Cr | 45 | 2 | 49.73 | 49.73 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 48.78 | 48.78 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5184.00 | 5184.00 | ppb | 0.22 | 90000.00 | |
| 59 Co | 45 | 2 | 50.42 | 50.42 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 49.01 | 49.01 | ppb | 1.13 | 900.00 | |
| 63 Cu | 72 | 2 | 48.07 | 48.07 | ppb | 0.84 | 900.00 | |
| 66 Zn | 72 | 2 | 48.62 | 48.62 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 49.35 | 49.35 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 47.30 | 47.30 | ppb | 0.76 | 900.00 | |
| 88 Sr | 103 | 1 | 52.61 | 52.61 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 51.40 | 51.40 | ppb | 0.50 | 900.00 | |
| 107 Ag | 115 | 1 | 47.71 | 47.71 | ppb | 4.19 | 180.00 | |
| 111 Cd | 115 | 2 | 50.32 | 50.32 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | 53.17 | 53.17 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 53.88 | 53.88 | ppb | 1.07 | 900.00 | |
| 137 Ba | 159 | 1 | 49.89 | 49.89 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 50.98 | 50.98 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.00 | 51.00 | ppb | 0.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1036323 | 1.47 | 1663748 | 62.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2625854 | 0.76 | 2728585 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 392662 | 0.16 | 406595 | 96.6 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 623560 | 1.39 | 617288 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 153161 | 0.24 | 157406 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3964544 | 0.33 | 3944827 | 100.5 | 70 | - | 130 |
| 115 In | 1 | 4391045 | 0.59 | 4162835 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1247787 | 0.88 | 1319592 | 94.6 | 70 | - | 130 |
| 159 Tb | 1 | 6425236 | 0.39 | 5883852 | 109.2 | 70 | - | 130 |
| 175 Lu | 1 | 6269566 | 0.49 | 5727334 | 109.5 | 70 | - | 130 |
| 209 Bi | 1 | 3520846 | 0.80 | 3404545 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\073SMPL.D\073SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\073SMPL.D\073SMPL.D#
**Date Acquired:** Apr 25 2013 01:35 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 3104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 55.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 285.92 | 900.00 | |
| 11 B | 6 | 1 | 0.71 | 0.71 | ppb | 2.02 | 900.00 | |
| 11 B | 45 | 2 | 0.56 | 0.56 | ppb | 22.11 | 900.00 | |
| 23 Na | 45 | 1 | 23.32 | 23.32 | ppb | 10.35 | 90000.00 | |
| 23 Na | 45 | 2 | 23.49 | 23.49 | ppb | 4.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.11 | 1.11 | ppb | 14.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.39 | 1.39 | ppb | 39.09 | 90000.00 | |
| 27 Al | 45 | 1 | 0.31 | 0.31 | ppb | 19.06 | 90000.00 | |
| 27 Al | 45 | 2 | 0.77 | 0.77 | ppb | 44.60 | 90000.00 | |
| 39 K | 45 | 1 | 0.21 | 0.21 | ppb | 1054.00 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.10 | -1.10 | ppb | 43.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 42.50 | 900.00 | |
| 51 V | 45 | 2 | 0.25 | 0.25 | ppb | 6.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 181.81 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 33.42 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 16.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 105.99 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 57.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 31.69 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 9.09 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 98.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 67.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 21.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 17.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.64 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 106.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 14.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 9.96 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 19.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 14.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1057956 | 2.12 | 1663748 | 63.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2620055 | 1.64 | 2728585 | 96.0 | 70 - 130 | |
| 45 Sc | 2 | 397113 | 0.39 | 406595 | 97.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 631873 | 0.30 | 617288 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 155533 | 0.37 | 157406 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 4049160 | 0.52 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4468589 | 0.45 | 4162835 | 107.3 | 70 | - | 130 |
| 115 In | 2 | 1273866 | 1.00 | 1319592 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 6394354 | 0.30 | 5883852 | 108.7 | 70 | - | 130 |
| 175 Lu | 1 | 6251579 | 0.41 | 5727334 | 109.2 | 70 | - | 130 |
| 209 Bi | 1 | 3589006 | 0.65 | 3404545 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\074SMPL.D\074SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\074SMPL.D\074SMPL.D#
**Date Acquired:** Apr 25 2013 01:42 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20764A-SD1
**Misc Info:**
**Vial Number:** 3105
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 348.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.34 | 0.03 | ppb | 80.20 | 900.00 | |
| 11 B | 6 | 1 | 40.88 | 4.09 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 33.58 | 3.36 | ppb | 2.44 | 900.00 | |
| 23 Na | 45 | 1 | 29000.00 | 2900.00 | ppb | 0.36 | 90000.00 | |
| 23 Na | 45 | 2 | 33530.00 | 3353.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 8543.00 | 854.30 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 10260.00 | 1026.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 43.56 | 4.36 | ppb | 1.76 | 90000.00 | |
| 27 Al | 45 | 2 | 58.87 | 5.89 | ppb | 2.61 | 90000.00 | |
| 39 K | 45 | 1 | 8470.00 | 847.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 54220.00 | 5422.00 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.98 | 0.50 | ppb | 24.22 | 900.00 | |
| 51 V | 45 | 2 | 4.80 | 0.48 | ppb | 5.18 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.05 | ppb | 33.48 | 900.00 | |
| 55 Mn | 45 | 2 | 10.89 | 1.09 | ppb | 1.89 | 900.00 | |
| 56 Fe | 45 | 2 | 156.00 | 15.60 | ppb | 2.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.40 | 0.04 | ppb | 11.58 | 900.00 | |
| 60 Ni | 45 | 2 | 1.54 | 0.15 | ppb | 4.30 | 900.00 | |
| 63 Cu | 72 | 2 | 37.32 | 3.73 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 36.92 | 3.69 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 1.58 | 0.16 | ppb | 5.99 | 900.00 | |
| 78 Se | 72 | 2 | 0.88 | 0.09 | ppb | 62.90 | 900.00 | |
| 88 Sr | 103 | 1 | 214.60 | 21.46 | ppb | 0.49 | 900.00 | |
| 98 Mo | 103 | 1 | 1.65 | 0.16 | ppb | 3.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.24 | 0.02 | ppb | 14.62 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.02 | ppb | 27.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.53 | 0.05 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.42 | 0.04 | ppb | 3.28 | 900.00 | |
| 137 Ba | 159 | 1 | 16.06 | 1.61 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 1.41 | 0.14 | ppb | 5.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.58 | 0.06 | ppb | 1.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1092125 | 1.07 | 1663748 | 65.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2636578 | 0.40 | 2728585 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 400605 | 0.47 | 406595 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\074SMPL.D\074SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639587 | 0.30 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 158210 | 0.22 | 157406 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 4046558 | 0.59 | 3944827 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4447644 | 0.34 | 4162835 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1272431 | 0.71 | 1319592 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 6420592 | 0.63 | 5883852 | 109.1 | 70 | - | 130 |
| 175 Lu | 1 | 6213204 | 0.22 | 5727334 | 108.5 | 70 | - | 130 |
| 209 Bi | 1 | 3592080 | 1.29 | 3404545 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\075SMPL.D\075SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\075SMPL.D\075SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 01:49 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 3106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 1.67 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 30.74 | 900.00 | |
| 11 B | 6 | 1 | 5.55 | 5.55 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 4.61 | 4.61 | ppb | 3.17 | 900.00 | |
| 23 Na | 45 | 1 | 247.20 | 247.20 | ppb | 0.73 | 90000.00 | |
| 23 Na | 45 | 2 | 308.90 | 308.90 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 239.30 | 239.30 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 292.80 | 292.80 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 24.93 | 24.93 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 2 | 28.64 | 28.64 | ppb | 3.51 | 90000.00 | |
| 39 K | 45 | 1 | 246.60 | 246.60 | ppb | 0.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 267.10 | 267.10 | ppb | 1.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.99 | 0.99 | ppb | 7.15 | 900.00 | |
| 51 V | 45 | 2 | 1.39 | 1.39 | ppb | 0.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.99 | ppb | 1.69 | 900.00 | |
| 56 Fe | 45 | 2 | 29.25 | 29.25 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 2.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 2.53 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 5.29 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.51 | ppb | 7.63 | 900.00 | |
| 88 Sr | 103 | 1 | 5.15 | 5.15 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 1.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.10 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 7.47 | 900.00 | |
| 120 Sn | 115 | 1 | 4.98 | 4.98 | ppb | 0.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 3.27 | 900.00 | |
| 137 Ba | 159 | 1 | 1.11 | 1.11 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 1.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1079842 | 0.84 | 1663748 | 64.9 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2630884 | 0.38 | 2728585 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 398520 | 0.67 | 406595 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\075SMPL.D\075SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 639233 | 0.97 | 617288 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 156875 | 0.52 | 157406 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 4110261 | 0.39 | 3944827 | 104.2 | 70 | - | 130 |
| 115 In | 1 | 4488149 | 0.25 | 4162835 | 107.8 | 70 | - | 130 |
| 115 In | 2 | 1291975 | 0.63 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6450358 | 1.14 | 5883852 | 109.6 | 70 | - | 130 |
| 175 Lu | 1 | 6285173 | 0.97 | 5727334 | 109.7 | 70 | - | 130 |
| 209 Bi | 1 | 3646616 | 0.73 | 3404545 | 107.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\076SMPL.D\076SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D24r00.B\076SMPL.D\076SMPL.D#
**Date Acquired:** Apr 25 2013 01:56 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:**
**Vial Number:** 3107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 24 2013 06:06 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 124.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.62 | 900.00 | |
| 11 B | 6 | 1 | 0.46 | 0.46 | ppb | 8.55 | 900.00 | |
| 11 B | 45 | 2 | 0.37 | 0.37 | ppb | 18.68 | 900.00 | |
| 23 Na | 45 | 1 | 80070.00 | 80070.00 | ppb | 1.92 | 90000.00 | |
| 23 Na | 45 | 2 | 103100.00 | 103100.00 | ppb | 0.44 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 80730.00 | 80730.00 | ppb | 3.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 102200.00 | 102200.00 | ppb | 0.51 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 82800.00 | 82800.00 | ppb | 1.82 | 90000.00 | |
| 27 Al | 45 | 2 | 97370.00 | 97370.00 | ppb | 0.71 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94700.00 | 94700.00 | ppb | 1.18 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96690.00 | 96690.00 | ppb | 0.47 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1928.00 | 1928.00 | ppb | 0.83 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 12.23 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.26 | ppb | 2.64 | 900.00 | |
| 56 Fe | 45 | 2 | 97630.00 | 97630.00 | ppb | 0.39 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 7.78 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 2.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 3.73 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 0.26 | 0.26 | ppb | 5.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.24 | ppb | 34.04 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 2034.00 | 2034.00 | ppb | 0.31 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 6.35 | 180.00 | |
| 111 Cd | 115 | 2 | 1.13 | 1.13 | ppb | 1.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 4.58 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.92 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 2.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 3.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 2.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 723668 | 9.20 | 1663748 | 43.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2439986 | 0.71 | 2728585 | 89.4 | 70 - 130 | |
| 45 Sc | 2 | 381971 | 0.44 | 406595 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\076SMPL.D\076SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626882 | 1.06 | 617288 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 152248 | 0.13 | 157406 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 3542230 | 0.26 | 3944827 | 89.8 | 70 | - | 130 |
| 115 In | 1 | 4043690 | 1.23 | 4162835 | 97.1 | 70 | - | 130 |
| 115 In | 2 | 1202833 | 0.34 | 1319592 | 91.2 | 70 | - | 130 |
| 159 Tb | 1 | 6098702 | 0.54 | 5883852 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 5977623 | 1.56 | 5727334 | 104.4 | 70 | - | 130 |
| 209 Bi | 1 | 3088414 | 1.60 | 3404545 | 90.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D# |
| Date Acquired: | Apr 25 2013 02:03 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 3108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1109.70 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 55.47 | 900.00 | |
| 11 B | 6 | 1 | 0.48 | 0.48 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 0.19 | 0.19 | ppb | 44.53 | 900.00 | |
| 23 Na | 45 | 1 | 69600.00 | 69600.00 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 105000.00 | 105000.00 | ppb | 0.36 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 69620.00 | 69620.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 103200.00 | 103200.00 | ppb | 0.18 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 73670.00 | 73670.00 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 2 | 97970.00 | 97970.00 | ppb | 0.61 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 91640.00 | 91640.00 | ppb | 0.58 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97060.00 | 97060.00 | ppb | 0.27 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1938.00 | 1938.00 | ppb | 0.33 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 14.88 | 900.00 | |
| 52 Cr | 45 | 2 | 20.68 | 20.68 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 19.33 | 19.33 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 99890.00 | 99890.00 | ppb | 1.04 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.66 | 19.66 | ppb | 0.17 | 900.00 | |
| 60 Ni | 45 | 2 | 19.37 | 19.37 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 17.50 | 17.50 | ppb | 0.55 | 900.00 | |
| 66 Zn | 72 | 2 | 19.10 | 19.10 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 19.86 | 19.86 | ppb | 0.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 79.00 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.61 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.05 | 19.05 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 19.80 | 19.80 | ppb | 1.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 6.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.28 | ppb | 4.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 8.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 5.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 415988 | 0.47 | 1663748 | 25.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2191342 | 0.74 | 2728585 | 80.3 | 70 - 130 | |
| 45 Sc | 2 | 378882 | 0.30 | 406595 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\077SMPL.D\077SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595844 | 0.65 | 617288 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 151921 | 0.16 | 157406 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 3537742 | 0.62 | 3944827 | 89.7 | 70 | - | 130 |
| 115 In | 1 | 4127802 | 0.81 | 4162835 | 99.2 | 70 | - | 130 |
| 115 In | 2 | 1195684 | 0.72 | 1319592 | 90.6 | 70 | - | 130 |
| 159 Tb | 1 | 6313714 | 0.77 | 5883852 | 107.3 | 70 | - | 130 |
| 175 Lu | 1 | 6233055 | 0.48 | 5727334 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3205255 | 0.36 | 3404545 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 02:11 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 3109 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 11.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 287.91 | 900.00 | |
| 11 B | 6 | 1 | 0.11 | 0.11 | ppb | 20.96 | 900.00 | |
| 11 B | 45 | 2 | 0.03 | 0.03 | ppb | 311.36 | 900.00 | |
| 23 Na | 45 | 1 | 27.96 | 27.96 | ppb | 6.60 | 90000.00 | |
| 23 Na | 45 | 2 | 99.61 | 99.61 | ppb | 17.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 12.02 | 12.02 | ppb | 15.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 54.81 | 54.81 | ppb | 21.47 | 90000.00 | |
| 27 Al | 45 | 1 | 11.92 | 11.92 | ppb | 16.26 | 90000.00 | |
| 27 Al | 45 | 2 | 46.30 | 46.30 | ppb | 20.30 | 90000.00 | |
| 39 K | 45 | 1 | 11.36 | 11.36 | ppb | 12.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 12.39 | 12.39 | ppb | 21.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.47 | 0.47 | ppb | 18.32 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 26.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 72.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 27.37 | 900.00 | |
| 56 Fe | 45 | 2 | 53.00 | 53.00 | ppb | 19.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 23.01 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 30.86 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 15.41 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 21.12 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 59.52 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 47.41 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 86.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.24 | 1.24 | ppb | 11.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.16 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 254.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 11.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 44.73 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 17.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 16.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 9.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 377081 | 1.45 | 1663748 | 22.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2176499 | 0.81 | 2728585 | 79.8 | 70 - 130 | |
| 45 Sc | 2 | 399911 | 0.49 | 406595 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\078SMPL.D\078SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595191 | 0.71 | 617288 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 161107 | 0.57 | 157406 | 102.4 | 70 | - | 130 |
| 103 Rh | 1 | 4074615 | 0.84 | 3944827 | 103.3 | 70 | - | 130 |
| 115 In | 1 | 4652762 | 0.87 | 4162835 | 111.8 | 70 | - | 130 |
| 115 In | 2 | 1291807 | 0.50 | 1319592 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 6837461 | 0.78 | 5883852 | 116.2 | 70 | - | 130 |
| 175 Lu | 1 | 6758279 | 0.18 | 5727334 | 118.0 | 70 | - | 130 |
| 209 Bi | 1 | 3935583 | 0.72 | 3404545 | 115.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D# |
| Date Acquired: | Apr 25 2013 02:18 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 3110 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 24 2013 06:06 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 79.92 | 79.92 | ppb | 0.56 | 900.00 | |
| 9 Be | 45 | 2 | 47.30 | 47.30 | ppb | 0.46 | 900.00 | |
| 11 B | 6 | 1 | 83.76 | 83.76 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 48.57 | 48.57 | ppb | 2.48 | 900.00 | |
| 23 Na | 45 | 1 | 3428.00 | 3428.00 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 5538.00 | 5538.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 3484.00 | 3484.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 5433.00 | 5433.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 3694.00 | 3694.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 5122.00 | 5122.00 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 4676.00 | 4676.00 | ppb | 0.86 | 90000.00 | |
| 44 Ca | 45 | 1 | 5145.00 | 5145.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.89 | 48.89 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 51.53 | 51.53 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 50.77 | 50.77 | ppb | 0.58 | 900.00 | |
| 55 Mn | 45 | 2 | 48.71 | 48.71 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 5303.00 | 5303.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 51.82 | 51.82 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 50.49 | 50.49 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | 48.51 | 48.51 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 48.62 | 48.62 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 49.37 | 49.37 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 46.15 | 46.15 | ppb | 2.16 | 900.00 | |
| 88 Sr | 103 | 1 | 52.92 | 52.92 | ppb | 0.74 | 900.00 | |
| 98 Mo | 103 | 1 | 51.43 | 51.43 | ppb | 0.26 | 900.00 | |
| 107 Ag | 115 | 1 | 46.68 | 46.68 | ppb | 1.43 | 180.00 | |
| 111 Cd | 115 | 2 | 51.85 | 51.85 | ppb | 0.80 | 900.00 | |
| 120 Sn | 115 | 1 | 53.91 | 53.91 | ppb | 0.43 | 900.00 | |
| 121 Sb | 115 | 1 | 55.09 | 55.09 | ppb | 0.35 | 900.00 | |
| 137 Ba | 159 | 1 | 49.07 | 49.07 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 50.05 | 50.05 | ppb | 0.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.30 | 51.30 | ppb | 1.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 363088 | 1.18 | 1663748 | 21.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2154432 | 0.50 | 2728585 | 79.0 | 70 - 130 | |
| 45 Sc | 2 | 396347 | 0.13 | 406595 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\079SMPL.D\079SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 582950 | 0.44 | 617288 | 94.4 | 70 | - | 130 |
| 72 Ge | 2 | 157481 | 0.47 | 157406 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 3952405 | 0.89 | 3944827 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 4501632 | 0.94 | 4162835 | 108.1 | 70 | - | 130 |
| 115 In | 2 | 1260319 | 1.21 | 1319592 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 6827951 | 1.28 | 5883852 | 116.0 | 70 | - | 130 |
| 175 Lu | 1 | 6788632 | 0.53 | 5727334 | 118.5 | 70 | - | 130 |
| 209 Bi | 1 | 3793123 | 0.76 | 3404545 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 02:25 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 3111 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 24 2013 06:06 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.02 | ppb | 32.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 511.46 | 900.00 | |
| 11 B | 6 | 1 | 0.57 | 0.57 | ppb | 19.18 | 900.00 | |
| 11 B | 45 | 2 | 0.30 | 0.30 | ppb | 33.83 | 900.00 | |
| 23 Na | 45 | 1 | 14.14 | 14.14 | ppb | 4.33 | 90000.00 | |
| 23 Na | 45 | 2 | 25.65 | 25.65 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.02 | 3.02 | ppb | 15.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.10 | 5.10 | ppb | 6.83 | 90000.00 | |
| 27 Al | 45 | 1 | 2.87 | 2.87 | ppb | 16.03 | 90000.00 | |
| 27 Al | 45 | 2 | 4.23 | 4.23 | ppb | 2.50 | 90000.00 | |
| 39 K | 45 | 1 | 1.46 | 1.46 | ppb | 70.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 11.20 | 11.20 | ppb | 4.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 24.94 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 80.74 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 24.27 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 31.92 | 900.00 | |
| 56 Fe | 45 | 2 | 5.55 | 5.55 | ppb | 3.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 67.97 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 20.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.06 | 0.06 | ppb | 2.77 | 900.00 | |
| 66 Zn | 72 | 2 | 0.36 | 0.36 | ppb | 5.27 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 63.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 70.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 79.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.22 | 0.22 | ppb | 2.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.89 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 62.06 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 31.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 58.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 15.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 370091 | 0.57 | 1663748 | 22.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2173333 | 1.12 | 2728585 | 79.7 | 70 - 130 | |
| 45 Sc | 2 | 402879 | 0.27 | 406595 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D24r00.B\080SMPL.D\080SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 593347 | 0.29 | 617288 | 96.1 | 70 - | 130 |
| 72 | Ge | 2 | 161275 | 0.53 | 157406 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 4091624 | 0.30 | 3944827 | 103.7 | 70 - | 130 |
| 115 | In | 1 | 4629755 | 0.38 | 4162835 | 111.2 | 70 - | 130 |
| 115 | In | 2 | 1298085 | 1.37 | 1319592 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 6937803 | 0.33 | 5883852 | 117.9 | 70 - | 130 |
| 175 | Lu | 1 | 6794872 | 0.53 | 5727334 | 118.6 | 70 - | 130 |
| 209 | Bi | 1 | 3944137 | 0.73 | 3404545 | 115.8 | 70 - | 130 |

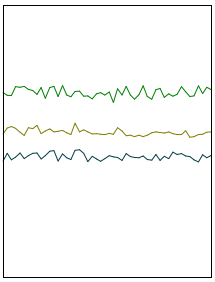
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D24r00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

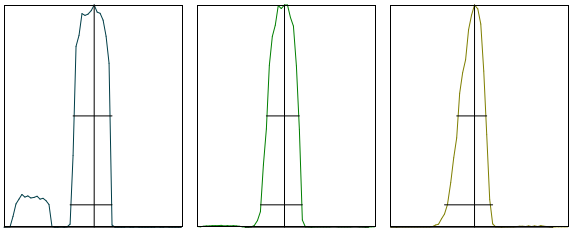
# Tune Report

Tune File : nogas.u
Comment : 042413



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2243.0 | 2220.9 | 2.64 | 2.00 |
| 89 | 10,000 | 6904.0 | 6798.1 | 2.38 | 3.20 |
| 205 | 10,000 | 5352.0 | 5334.8 | 2.11 | 13.40 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.148%
Doubly Charged: 70/140 3.310%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,303 | 6,773 | 5,257 |
| Axis: | 7.05 | 89.00 | 204.95 |
| W-50%: | 0.65 | 0.55 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.6 mm | Omega Lens-ce | : | 0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.8 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.27 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 559.8 | 5.79 | |
| QP Focus: | -8 V | 59 | 1636.1 | 3.05 | |
| Cell Exit: | -34 V | 89 | 1844.2 | 2.80 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 24, 2013 16:11:49
Printed : Apr 24, 2013 16:12:39

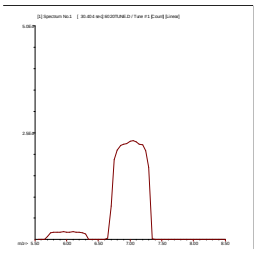
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 24 2013 04:42 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

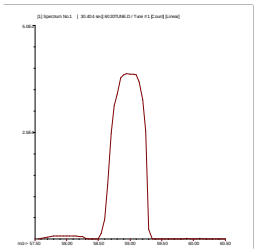
**QC Tune Summary:**
**Pass**

**RSD%**

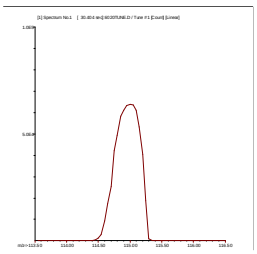
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.11 | 5.00 | 0 |
| 59 Co | 0.41 | 5.00 | |
| 115 In | 0.38 | 5.00 | |
| 205 Tl | 4.10 | 5.00 | |



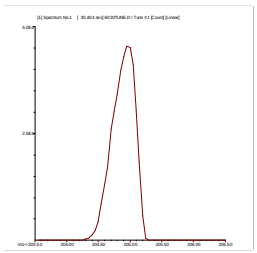
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 24, 2013 06:06 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

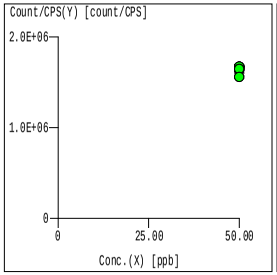
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

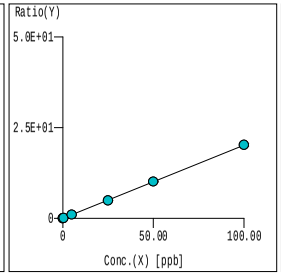
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d24r00.b\002calb.d\002calb.d# | STDA | Apr 24 2013 05:13 pm |
| 2 | c:\icpchem\1\data\13d24r00.b\003cals.d\003cals.d# | STDB | Apr 24 2013 05:20 pm |
| 3 | c:\icpchem\1\data\13d24r00.b\004cals.d\004cals.d# | STDC | Apr 24 2013 05:27 pm |
| 4 | c:\icpchem\1\data\13d24r00.b\005cals.d\005cals.d# | STDD | Apr 24 2013 05:35 pm |
| 5 | c:\icpchem\1\data\13d24r00.b\006cals.d\006cals.d# | STDE | Apr 24 2013 05:42 pm |
| 6 | c:\icpchem\1\data\13d24r00.b\007cals.d\007cals.d# | STDF | Apr 24 2013 05:49 pm |
| 7 | c:\icpchem\1\data\13d24r00.b\008cals.d\008cals.d# | STDG | Apr 24 2013 05:56 pm |
| 8 | c:\icpchem\1\data\13d24r00.b\009cals.d\009cals.d# | STDH | Apr 24 2013 06:03 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

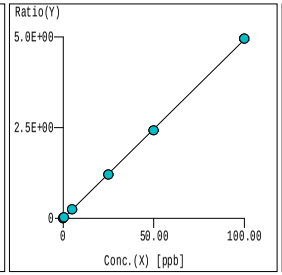
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

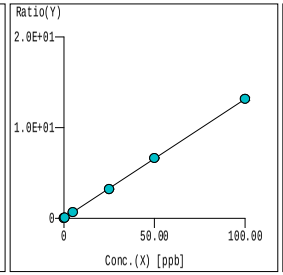
=== Graph Summary ===
Page: 1/4

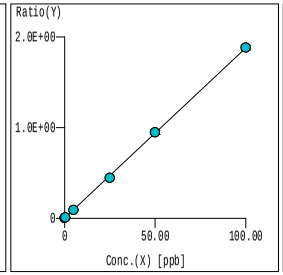
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 1.693E-02 ppb | 1.439E-02 ppb | 2.510E-02 ppb | 4.049E-02 ppb | 9.096E-02 ppb |
| < BEC > | --- ppb | 2.998E-02 ppb | 5.538E-03 ppb | 1.736E-01 ppb | 1.603E-01 ppb | 8.102 ppb |

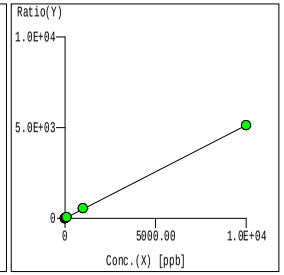




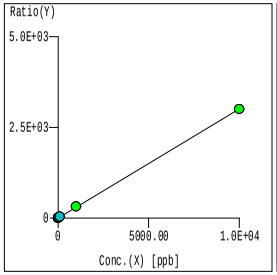


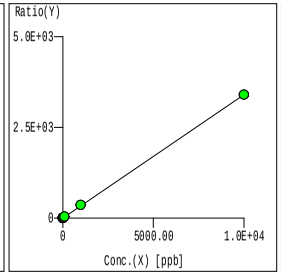


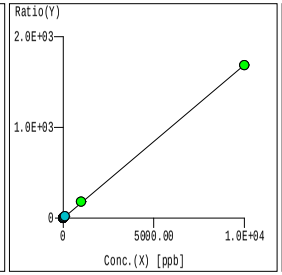


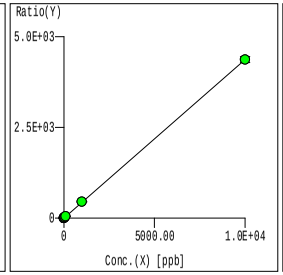


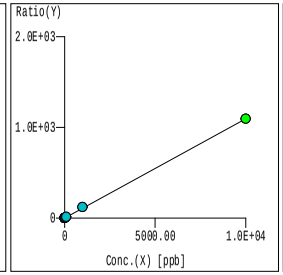

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 2.014E-01 ppb | 1.144E-02 ppb | 7.633E-02 ppb | 1.627E-01 ppb | 2.453E-01 ppb | 4.511E-01 ppb |
| < BEC > | 14.23 ppb | 2.435E-01 ppb | 2.323E-01 ppb | 7.316E-01 ppb | 6.163E-01 ppb | 101.0 ppb |

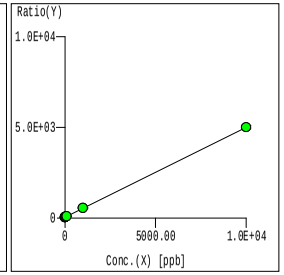








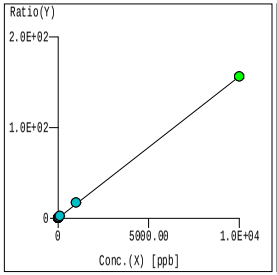


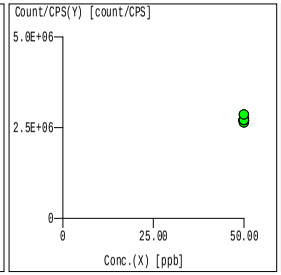


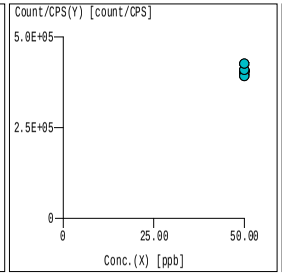
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

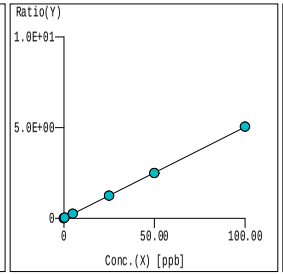
=== Graph Summary ===
Page: 2/4

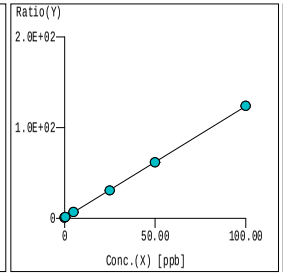
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 7.185E-01 ppb | --- ppb | --- ppb | 5.428E-03 ppb | 3.448E-02 ppb | 1.404E-02 ppb |
| < BEC > | 13.38 ppb | --- ppb | --- ppb | 5.140E-02 ppb | 5.960E-01 ppb | 1.422E-01 ppb |

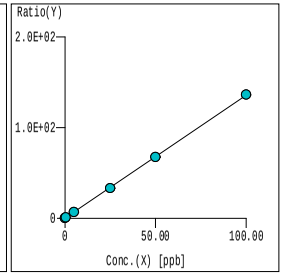


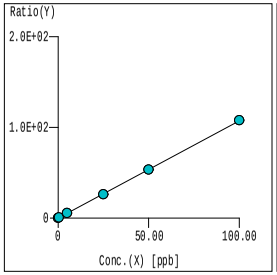



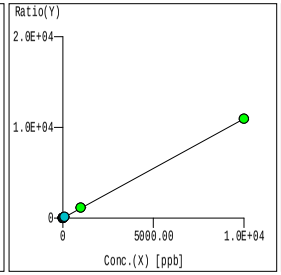



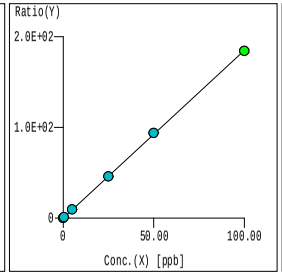



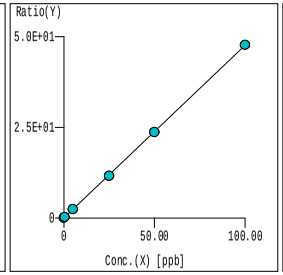



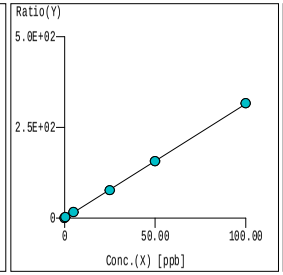

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 3.492E-03 ppb | 1.309E-01 ppb | 4.989E-03 ppb | 1.680E-02 ppb | 1.555E-02 ppb | 1.206E-02 ppb |
| < BEC > | 1.262E-01 ppb | 3.195 ppb | 8.282E-03 ppb | 9.446E-02 ppb | 8.924E-02 ppb | 1.949E-01 ppb |

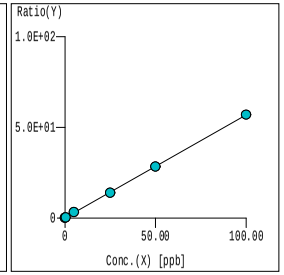


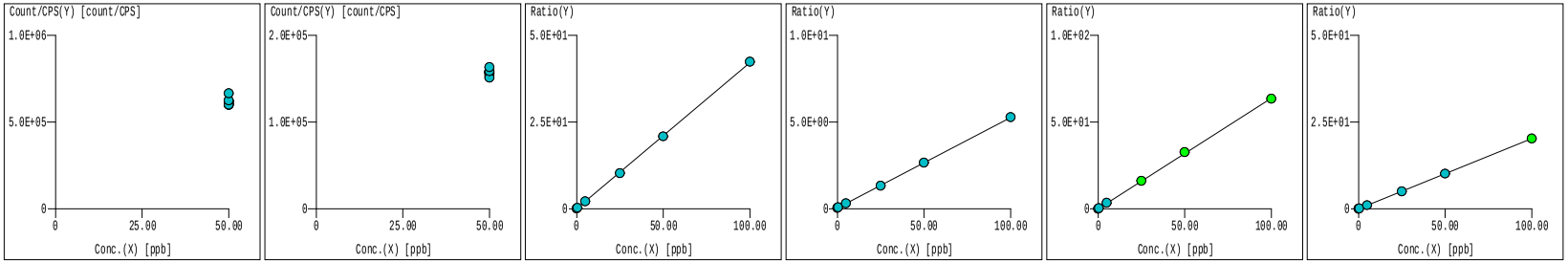



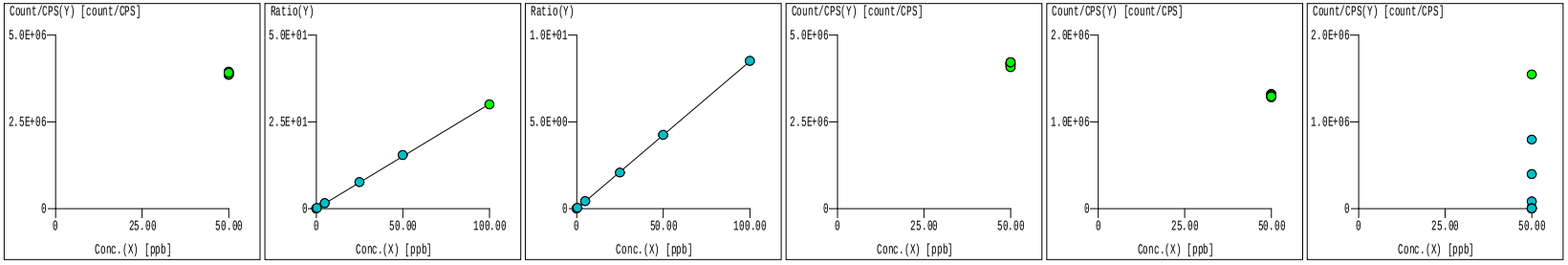
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 6.163E-03 ppb | 1.540E-01 ppb | 9.049E-04 ppb | 1.023E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.641E-01 ppb | 9.731E-01 ppb | 1.899E-02 ppb | 2.097E-02 ppb |



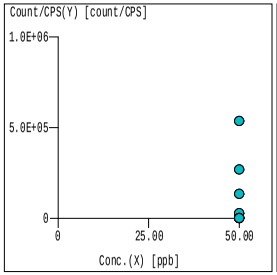

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.786E-03 ppb | 1.746E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.380E-03 ppb | 2.135E-02 ppb | --- ppb | --- ppb | --- ppb |

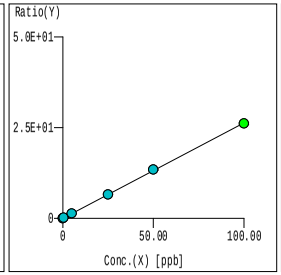


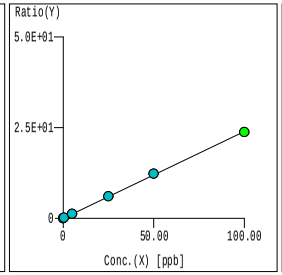
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

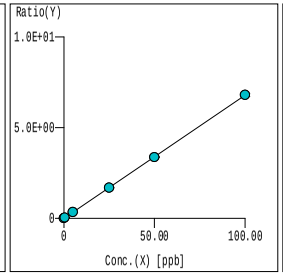
=== Graph Summary ===
Page: 4/4

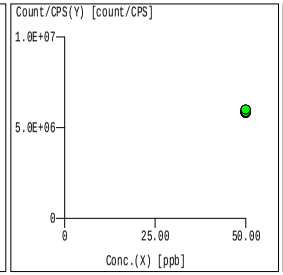
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9998 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.509E-03 ppb | 5.745E-03 ppb | 8.312E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.740E-02 ppb | 1.734E-02 ppb | 9.426E-02 ppb | --- ppb | --- ppb |

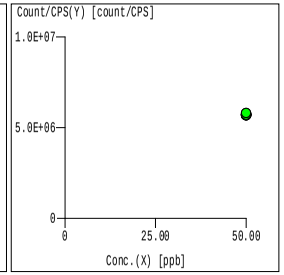


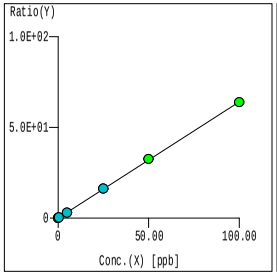



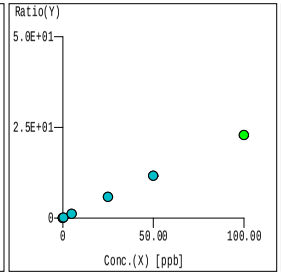



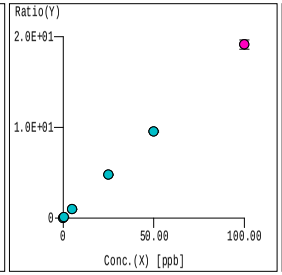



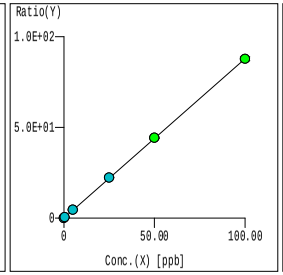



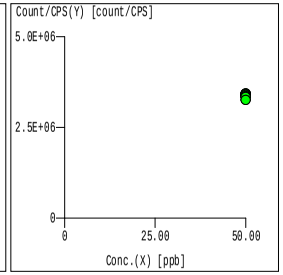

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 6.137E-03 ppb | --- ppb | --- ppb | 7.184E-03 ppb | --- ppb |
| < BEC > | 2.285E-02 ppb | --- ppb | --- ppb | 3.444E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D25k01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\001CAL
Date Acquired: Apr 25 2013 10:44 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 24 2013 06:06 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 907849.38 | A | 8217.00 | 0.91 |
| 7 | (Li) | | P | | |
| 9 | Be | 33.33 | P | 3.33 | 10.00 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 723.38 | P | 57.84 | 8.00 |
| 11 | B | 38.89 | P | 19.53 | 50.22 |
| 23 | Na | 334327.81 | P | 2676.00 | 0.80 |
| 23 | Na | 52768.06 | P | 127.80 | 0.24 |
| 24 | Mg | 6954.09 | P | 111.40 | 1.60 |
| 24 | Mg | 603.37 | P | 40.42 | 6.70 |
| 27 | Al | 34194.64 | P | 838.40 | 2.45 |
| 27 | Al | 1288.99 | P | 75.01 | 5.82 |
| 39 | K | 2657005.00 | A | 10640.00 | 0.40 |
| 44 | Ca | 8813.96 | P | 282.70 | 3.21 |
| 45 | Sc | 2638864.00 | A | 23080.00 | 0.87 |
| 45 | Sc | 362289.41 | P | 712.40 | 0.20 |
| 47 | Ti | 97.78 | P | 22.20 | 22.70 |
| 51 | V | 5066.67 | P | 111.10 | 2.19 |
| 52 | Cr | 1137.39 | P | 16.17 | 1.42 |
| 55 | Mn | 909.37 | P | 38.67 | 4.25 |
| 56 | Fe | 28245.72 | P | 230.50 | 0.82 |
| 59 | Co | 95.56 | P | 12.95 | 13.55 |
| 60 | Ni | 224.45 | P | 30.30 | 13.50 |
| 63 | Cu | 659.58 | P | 53.91 | 8.17 |
| 66 | Zn | 161.34 | P | 4.81 | 2.98 |
| 72 | Ge | 650071.13 | P | 5511.00 | 0.85 |
| 72 | Ge | 145129.59 | P | 499.70 | 0.34 |
| 75 | As | 142.45 | P | 9.90 | 6.95 |
| 78 | Se | 133.56 | P | 11.04 | 8.27 |
| 88 | Sr | 617.81 | P | 54.20 | 8.77 |
| 98 | Mo | 201.12 | P | 13.47 | 6.70 |
| 103 | Rh | 4218995.00 | A | 19670.00 | 0.47 |
| 107 | Ag | 168.90 | P | 21.69 | 12.84 |

C:\ICPCHEM\1\DATA\13D25k01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 30.00 | P | 3.33 | 11.11 |
| 115 | In | 4644805.00 | A | 12840.00 | 0.28 |
| 115 | In | 1257987.00 | P | 8574.00 | 0.68 |
| 118 | (In) | 454.47 | P | 16.44 | 3.62 |
| 118 | (In) | 137.78 | P | 3.85 | 2.79 |
| 120 | Sn | 696.71 | P | 78.82 | 11.31 |
| 121 | Sb | 295.57 | P | 28.35 | 9.59 |
| 137 | Ba | 861.17 | P | 33.72 | 3.92 |
| 159 | Tb | 6612989.00 | A | 61670.00 | 0.93 |
| 175 | Lu | 6400897.00 | A | 14160.00 | 0.22 |
| 205 | Tl | 1510.13 | P | 89.52 | 5.93 |
| 206 | (Pb) | 235.57 | P | 1.92 | 0.82 |
| 207 | (Pb) | 207.79 | P | 20.09 | 9.67 |
| 208 | Pb | 1297.87 | P | 42.22 | 3.25 |
| 209 | Bi | 3810947.00 | A | 22460.00 | 0.59 |

C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\002CAL
Date Acquired: Apr 25 2013 10:51 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 10:48 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 933317.13 | A | 9930.00 | 1.06 |
| 7 | (Li) | | P | | |
| 9 | Be | 55.56 | P | 10.71 | 19.28 |
| 9 | Be | 5.56 | P | 1.93 | 34.65 |
| 11 | B | 706.71 | P | 43.59 | 6.17 |
| 11 | B | 32.22 | P | 13.47 | 41.80 |
| 23 | Na | 343355.31 | P | 2688.00 | 0.78 |
| 23 | Na | 52948.94 | P | 58.24 | 0.11 |
| 24 | Mg | 11580.23 | P | 1168.00 | 10.09 |
| 24 | Mg | 938.95 | P | 112.40 | 11.97 |
| 27 | Al | 39125.73 | P | 1778.00 | 4.54 |
| 27 | Al | 1370.11 | P | 65.67 | 4.79 |
| 39 | K | 2684059.00 | A | 7481.00 | 0.28 |
| 44 | Ca | 9001.81 | P | 105.30 | 1.17 |
| 45 | Sc | 2639197.00 | A | 6685.00 | 0.25 |
| 45 | Sc | 364590.41 | P | 2572.00 | 0.71 |
| 47 | Ti | 157.79 | P | 22.69 | 14.38 |
| 51 | V | 5237.85 | P | 106.90 | 2.04 |
| 52 | Cr | 1185.40 | P | 47.39 | 4.00 |
| 55 | Mn | 965.38 | P | 18.67 | 1.93 |
| 56 | Fe | 30706.13 | P | 669.10 | 2.18 |
| 59 | Co | 108.45 | P | 28.76 | 26.52 |
| 60 | Ni | 220.89 | P | 34.32 | 15.54 |
| 63 | Cu | 698.25 | P | 50.43 | 7.22 |
| 66 | Zn | 184.00 | P | 8.67 | 4.71 |
| 72 | Ge | 649075.63 | P | 1856.00 | 0.29 |
| 72 | Ge | 145621.70 | P | 652.40 | 0.45 |
| 75 | As | 154.45 | P | 3.36 | 2.17 |
| 78 | Se | 139.56 | P | 13.86 | 9.93 |
| 88 | Sr | 762.27 | P | 85.14 | 11.17 |
| 98 | Mo | 342.24 | P | 74.12 | 21.66 |
| 103 | Rh | 4189460.00 | A | 11310.00 | 0.27 |
| 107 | Ag | 127.78 | P | 19.53 | 15.28 |

C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 42.22 | P | 13.47 | 31.90 |
| 115 | In | 4630434.00 | A | 24410.00 | 0.53 |
| 115 | In | 1254271.00 | P | 6114.00 | 0.49 |
| 118 | (In) | 524.47 | P | 45.51 | 8.68 |
| 118 | (In) | 133.34 | P | 23.09 | 17.32 |
| 120 | Sn | 720.05 | P | 34.80 | 4.83 |
| 121 | Sb | 357.79 | P | 27.15 | 7.59 |
| 137 | Ba | 902.28 | P | 44.39 | 4.92 |
| 159 | Tb | 6569468.00 | A | 58580.00 | 0.89 |
| 175 | Lu | 6381799.00 | A | 50030.00 | 0.78 |
| 205 | Tl | 1136.76 | P | 31.80 | 2.80 |
| 206 | (Pb) | 362.24 | P | 64.76 | 17.88 |
| 207 | (Pb) | 250.01 | P | 14.53 | 5.81 |
| 208 | Pb | 1625.67 | P | 103.40 | 6.36 |
| 209 | Bi | 3784338.00 | A | 41880.00 | 1.11 |

C:\ICPCHEM\1\DATA\13D25k01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 25 2013 10:58 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 10:55 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 925457.00 | A | 17660.00 | 1.91 |
| 7 | (Li) | | P | | |
| 9 | Be | 2196.89 | P | 142.30 | 6.48 |
| 9 | Be | 215.56 | P | 30.25 | 14.03 |
| 11 | B | 1983.52 | P | 32.83 | 1.66 |
| 11 | B | 93.34 | P | 20.00 | 21.43 |
| 23 | Na | 356972.00 | P | 1296.00 | 0.36 |
| 23 | Na | 55544.17 | P | 312.20 | 0.56 |
| 24 | Mg | 16501.42 | P | 139.80 | 0.85 |
| 24 | Mg | 1390.11 | P | 82.94 | 5.97 |
| 27 | Al | 47433.95 | P | 1841.00 | 3.88 |
| 27 | Al | 1781.30 | P | 137.90 | 7.74 |
| 39 | K | 2684243.00 | A | 8212.00 | 0.31 |
| 44 | Ca | 9827.88 | P | 126.30 | 1.29 |
| 45 | Sc | 2599479.00 | A | 45710.00 | 1.76 |
| 45 | Sc | 363675.69 | P | 3521.00 | 0.97 |
| 47 | Ti | 1395.67 | P | 71.29 | 5.11 |
| 51 | V | 9927.32 | P | 45.89 | 0.46 |
| 52 | Cr | 6290.25 | P | 100.70 | 1.60 |
| 55 | Mn | 4800.36 | P | 133.70 | 2.79 |
| 56 | Fe | 33071.95 | P | 258.80 | 0.78 |
| 59 | Co | 7411.66 | P | 81.32 | 1.10 |
| 60 | Ni | 2113.51 | P | 63.35 | 3.00 |
| 63 | Cu | 5503.73 | P | 104.90 | 1.91 |
| 66 | Zn | 995.15 | P | 11.48 | 1.15 |
| 72 | Ge | 643253.19 | P | 3348.00 | 0.52 |
| 72 | Ge | 145124.09 | P | 1015.00 | 0.70 |
| 75 | As | 761.14 | P | 23.63 | 3.10 |
| 78 | Se | 199.56 | P | 16.13 | 8.08 |
| 88 | Sr | 29216.97 | P | 369.30 | 1.26 |
| 98 | Mo | 8651.69 | P | 166.40 | 1.92 |
| 103 | Rh | 4148474.00 | A | 73990.00 | 1.78 |
| 107 | Ag | 13973.75 | P | 92.93 | 0.67 |

C:\ICPCHEM\1\DATA\13D25k01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1092.30 | P | 22.20 | 2.03 |
| 115 | In | 4598237.00 | A | 102000.00 | 2.22 |
| 115 | In | 1257338.00 | P | 6776.00 | 0.54 |
| 118 | (In) | 9465.60 | P | 91.48 | 0.97 |
| 118 | (In) | 2678.12 | P | 81.27 | 3.03 |
| 120 | Sn | 13366.51 | P | 301.50 | 2.26 |
| 121 | Sb | 11935.23 | P | 150.70 | 1.26 |
| 137 | Ba | 5516.81 | P | 141.20 | 2.56 |
| 159 | Tb | 6475119.00 | A | 150400.00 | 2.32 |
| 175 | Lu | 6355351.00 | A | 129900.00 | 2.04 |
| 205 | Tl | 21603.09 | P | 241.90 | 1.12 |
| 206 | (Pb) | 8907.62 | P | 82.84 | 0.93 |
| 207 | (Pb) | 7414.48 | P | 211.90 | 2.86 |
| 208 | Pb | 35083.27 | P | 110.40 | 0.31 |
| 209 | Bi | 3765102.00 | A | 75130.00 | 2.00 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 925456.94 | 1.91 | 933317.06 | 99.2 | 70 - 130 | |
| 45 | Sc | 2599479.00 | 1.76 | 2639196.80 | 98.5 | 70 - 130 | |
| 45 | Sc | 363675.66 | 0.97 | 364590.47 | 99.7 | 70 - 130 | |
| 72 | Ge | 643253.25 | 0.52 | 649075.63 | 99.1 | 70 - 130 | |
| 72 | Ge | 145124.11 | 0.70 | 145621.67 | 99.7 | 70 - 130 | |
| 103 | Rh | 4148473.80 | 1.78 | 4189460.00 | 99.0 | 70 - 130 | |
| 115 | In | 4598237.00 | 2.22 | 4630433.50 | 99.3 | 70 - 130 | |
| 115 | In | 1257338.00 | 0.54 | 1254271.40 | 100.2 | 70 - 130 | |
| 159 | Tb | 6475119.50 | 2.32 | 6569468.00 | 98.6 | 70 - 130 | |
| 175 | Lu | 6355351.00 | 2.04 | 6381799.00 | 99.6 | 70 - 130 | |
| 209 | Bi | 3765102.00 | 2.00 | 3784337.80 | 99.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 25 2013 11:05 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:02 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 927368.88 | A | 10190.00 | 1.10 |
| 7 | (Li) | | P | | |
| 9 | Be | 22321.90 | P | 225.60 | 1.01 |
| 9 | Be | 1819.05 | P | 73.52 | 4.04 |
| 11 | B | 15285.61 | P | 152.70 | 1.00 |
| 11 | B | 656.70 | P | 38.44 | 5.85 |
| 23 | Na | 472527.41 | P | 2738.00 | 0.58 |
| 23 | Na | 66286.69 | P | 296.00 | 0.45 |
| 24 | Mg | 97371.61 | P | 1700.00 | 1.75 |
| 24 | Mg | 7886.71 | P | 325.60 | 4.13 |
| 27 | Al | 150399.00 | P | 1652.00 | 1.10 |
| 27 | Al | 5923.63 | P | 73.28 | 1.24 |
| 39 | K | 2823893.00 | A | 9697.00 | 0.34 |
| 44 | Ca | 20238.26 | P | 227.90 | 1.13 |
| 45 | Sc | 2653153.00 | A | 10680.00 | 0.40 |
| 45 | Sc | 365170.81 | P | 2089.00 | 0.57 |
| 47 | Ti | 13150.48 | P | 609.90 | 4.64 |
| 51 | V | 51726.92 | P | 502.60 | 0.97 |
| 52 | Cr | 53426.17 | P | 408.80 | 0.77 |
| 55 | Mn | 39935.42 | P | 375.70 | 0.94 |
| 56 | Fe | 76135.95 | P | 810.60 | 1.06 |
| 59 | Co | 73358.89 | P | 299.30 | 0.41 |
| 60 | Ni | 18869.99 | P | 302.10 | 1.60 |
| 63 | Cu | 49073.24 | P | 83.21 | 0.17 |
| 66 | Zn | 9379.59 | P | 47.39 | 0.51 |
| 72 | Ge | 647615.00 | P | 4107.00 | 0.63 |
| 72 | Ge | 145791.09 | P | 436.10 | 0.30 |
| 75 | As | 6224.64 | P | 94.09 | 1.51 |
| 78 | Se | 809.80 | P | 49.78 | 6.15 |
| 88 | Sr | 284352.59 | P | 3743.00 | 1.32 |
| 98 | Mo | 83979.12 | P | 905.60 | 1.08 |
| 103 | Rh | 4236056.00 | A | 19070.00 | 0.45 |
| 107 | Ag | 139126.00 | P | 2220.00 | 1.60 |

C:\ICPCHEM\1\DATA\13D25k01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10548.58 | P | 213.40 | 2.02 |
| 115 | In | 4678929.00 | A | 31010.00 | 0.66 |
| 115 | In | 1260062.00 | P | 12810.00 | 1.02 |
| 118 | (In) | 90143.20 | P | 640.50 | 0.71 |
| 118 | (In) | 25811.13 | P | 377.90 | 1.46 |
| 120 | Sn | 125360.90 | P | 1778.00 | 1.42 |
| 121 | Sb | 116231.80 | P | 1677.00 | 1.44 |
| 137 | Ba | 45853.44 | P | 196.90 | 0.43 |
| 159 | Tb | 6605609.00 | A | 9849.00 | 0.15 |
| 175 | Lu | 6416480.00 | A | 49190.00 | 0.77 |
| 205 | Tl | 222042.41 | P | 3245.00 | 1.46 |
| 206 | (Pb) | 88739.14 | P | 1226.00 | 1.38 |
| 207 | (Pb) | 72095.00 | P | 1643.00 | 2.28 |
| 208 | Pb | 339899.31 | P | 6760.00 | 1.99 |
| 209 | Bi | 3808118.00 | A | 30610.00 | 0.80 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 927368.94 | 1.10 | 933317.06 | 99.4 | 70 - 130 | |
| 45 | Sc | 2653153.00 | 0.40 | 2639196.80 | 100.5 | 70 - 130 | |
| 45 | Sc | 365170.84 | 0.57 | 364590.47 | 100.2 | 70 - 130 | |
| 72 | Ge | 647615.00 | 0.63 | 649075.63 | 99.8 | 70 - 130 | |
| 72 | Ge | 145791.14 | 0.30 | 145621.67 | 100.1 | 70 - 130 | |
| 103 | Rh | 4236056.00 | 0.45 | 4189460.00 | 101.1 | 70 - 130 | |
| 115 | In | 4678928.50 | 0.66 | 4630433.50 | 101.0 | 70 - 130 | |
| 115 | In | 1260062.40 | 1.02 | 1254271.40 | 100.5 | 70 - 130 | |
| 159 | Tb | 6605609.00 | 0.15 | 6569468.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 6416480.50 | 0.77 | 6381799.00 | 100.5 | 70 - 130 | |
| 209 | Bi | 3808118.30 | 0.80 | 3784337.80 | 100.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 25 2013 11:12 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:09 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 939583.63 | A | 7681.00 | 0.82 |
| 7 | (Li) | | P | | |
| 9 | Be | 110392.60 | P | 448.30 | 0.41 |
| 9 | Be | 8896.13 | P | 88.43 | 0.99 |
| 11 | B | 72574.85 | P | 327.20 | 0.45 |
| 11 | B | 3155.99 | P | 112.40 | 3.56 |
| 23 | Na | 999007.38 | A | 18880.00 | 1.89 |
| 23 | Na | 117457.50 | P | 296.70 | 0.25 |
| 24 | Mg | 435690.69 | P | 5116.00 | 1.17 |
| 24 | Mg | 36140.14 | P | 220.20 | 0.61 |
| 27 | Al | 585939.50 | P | 2828.00 | 0.48 |
| 27 | Al | 22120.69 | P | 313.40 | 1.42 |
| 39 | K | 3349836.00 | A | 9757.00 | 0.29 |
| 44 | Ca | 37129.74 | P | 394.80 | 1.06 |
| 45 | Sc | 2619156.00 | A | 6779.00 | 0.26 |
| 45 | Sc | 358690.09 | P | 428.00 | 0.12 |
| 47 | Ti | 62968.97 | P | 964.90 | 1.53 |
| 51 | V | 231018.59 | P | 1317.00 | 0.57 |
| 52 | Cr | 254192.41 | P | 1024.00 | 0.40 |
| 55 | Mn | 191145.20 | P | 1448.00 | 0.76 |
| 56 | Fe | 260801.30 | P | 2475.00 | 0.95 |
| 59 | Co | 358190.09 | P | 2128.00 | 0.59 |
| 60 | Ni | 91303.02 | P | 274.10 | 0.30 |
| 63 | Cu | 233304.70 | P | 99.81 | 0.04 |
| 66 | Zn | 41345.66 | P | 205.00 | 0.50 |
| 72 | Ge | 631511.38 | P | 2661.00 | 0.42 |
| 72 | Ge | 143165.70 | P | 1168.00 | 0.82 |
| 75 | As | 29668.51 | P | 135.60 | 0.46 |
| 78 | Se | 3503.09 | P | 30.48 | 0.87 |
| 88 | Sr | 1373388.00 | A | 2692.00 | 0.20 |
| 98 | Mo | 406958.19 | P | 422.40 | 0.10 |
| 103 | Rh | 4229785.00 | A | 15130.00 | 0.36 |
| 107 | Ag | 674418.50 | P | 5023.00 | 0.74 |

C:\ICPCHEM\1\DATA\13D25k01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 51480.57 | P | 594.20 | 1.15 |
| 115 | In | 4633797.00 | A | 33960.00 | 0.73 |
| 115 | In | 1239339.00 | P | 5860.00 | 0.47 |
| 118 | (In) | 435878.00 | P | 3321.00 | 0.76 |
| 118 | (In) | 124503.10 | P | 572.00 | 0.46 |
| 120 | Sn | 601045.31 | P | 4058.00 | 0.68 |
| 121 | Sb | 556718.19 | P | 4578.00 | 0.82 |
| 137 | Ba | 218250.80 | P | 2212.00 | 1.01 |
| 159 | Tb | 6562087.00 | A | 60120.00 | 0.92 |
| 175 | Lu | 6401983.00 | A | 7794.00 | 0.12 |
| 205 | Tl | 1190374.00 | P | 4438.00 | 0.37 |
| 206 | (Pb) | 420939.50 | P | 2669.00 | 0.63 |
| 207 | (Pb) | 348420.19 | P | 2438.00 | 0.70 |
| 208 | Pb | 1630259.00 | P | 11190.00 | 0.69 |
| 209 | Bi | 3760812.00 | A | 30230.00 | 0.80 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 939583.63 | 0.82 | 933317.06 | 100.7 | 70 - 130 | |
| 45 | Sc | 2619156.50 | 0.26 | 2639196.80 | 99.2 | 70 - 130 | |
| 45 | Sc | 358690.09 | 0.12 | 364590.47 | 98.4 | 70 - 130 | |
| 72 | Ge | 631511.44 | 0.42 | 649075.63 | 97.3 | 70 - 130 | |
| 72 | Ge | 143165.73 | 0.82 | 145621.67 | 98.3 | 70 - 130 | |
| 103 | Rh | 4229785.50 | 0.36 | 4189460.00 | 101.0 | 70 - 130 | |
| 115 | In | 4633797.00 | 0.73 | 4630433.50 | 100.1 | 70 - 130 | |
| 115 | In | 1239338.90 | 0.47 | 1254271.40 | 98.8 | 70 - 130 | |
| 159 | Tb | 6562087.50 | 0.92 | 6569468.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 6401983.00 | 0.12 | 6381799.00 | 100.3 | 70 - 130 | |
| 209 | Bi | 3760811.50 | 0.80 | 3784337.80 | 99.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 25 2013 11:20 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:16 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 939568.81 | A | 8060.00 | 0.86 |
| 7 | (Li) | | P | | |
| 9 | Be | 226064.41 | P | 1012.00 | 0.45 |
| 9 | Be | 17730.46 | P | 43.66 | 0.25 |
| 11 | B | 148434.50 | P | 556.50 | 0.37 |
| 11 | B | 6597.16 | P | 134.70 | 2.04 |
| 23 | Na | 1665789.00 | A | 17380.00 | 1.04 |
| 23 | Na | 182990.09 | P | 1287.00 | 0.70 |
| 24 | Mg | 879782.88 | P | 5564.00 | 0.63 |
| 24 | Mg | 73120.88 | P | 459.60 | 0.63 |
| 27 | Al | 1167207.00 | A | 10660.00 | 0.91 |
| 27 | Al | 44208.80 | P | 548.40 | 1.24 |
| 39 | K | 4021547.00 | A | 11910.00 | 0.30 |
| 44 | Ca | 67772.45 | P | 1117.00 | 1.65 |
| 45 | Sc | 2620809.00 | A | 5462.00 | 0.21 |
| 45 | Sc | 356520.81 | P | 1213.00 | 0.34 |
| 47 | Ti | 127963.90 | P | 641.10 | 0.50 |
| 51 | V | 461886.41 | P | 2141.00 | 0.46 |
| 52 | Cr | 512313.59 | P | 247.30 | 0.05 |
| 55 | Mn | 383264.81 | P | 999.90 | 0.26 |
| 56 | Fe | 503456.91 | P | 3774.00 | 0.75 |
| 59 | Co | 718882.38 | P | 1400.00 | 0.19 |
| 60 | Ni | 182884.20 | P | 548.50 | 0.30 |
| 63 | Cu | 467499.50 | P | 804.60 | 0.17 |
| 66 | Zn | 82797.63 | P | 252.00 | 0.30 |
| 72 | Ge | 626619.13 | P | 3781.00 | 0.60 |
| 72 | Ge | 142055.70 | P | 200.50 | 0.14 |
| 75 | As | 59320.64 | P | 95.40 | 0.16 |
| 78 | Se | 6988.77 | P | 21.82 | 0.31 |
| 88 | Sr | 2727768.00 | A | 3260.00 | 0.12 |
| 98 | Mo | 823332.19 | P | 6213.00 | 0.75 |
| 103 | Rh | 4178285.00 | A | 38140.00 | 0.91 |
| 107 | Ag | 1321104.00 | A | 12040.00 | 0.91 |

C:\ICPCHEM\1\DATA\13D25k01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 103482.70 | P | 1512.00 | 1.46 |
| 115 | In | 4565157.00 | A | 25490.00 | 0.56 |
| 115 | In | 1231610.00 | P | 9283.00 | 0.75 |
| 118 | (In) | 878176.31 | P | 3489.00 | 0.40 |
| 118 | (In) | 251357.50 | P | 604.60 | 0.24 |
| 120 | Sn | 1217372.00 | P | 8791.00 | 0.72 |
| 121 | Sb | 1122934.00 | P | 6793.00 | 0.60 |
| 137 | Ba | 440745.00 | P | 2311.00 | 0.52 |
| 159 | Tb | 6528605.00 | A | 44730.00 | 0.69 |
| 175 | Lu | 6344007.00 | A | 35390.00 | 0.56 |
| 205 | Tl | 2445195.00 | A | 11010.00 | 0.45 |
| 206 | (Pb) | 855506.13 | P | 3740.00 | 0.44 |
| 207 | (Pb) | 707999.69 | P | 7890.00 | 1.11 |
| 208 | Pb | 3295478.00 | A | 11530.00 | 0.35 |
| 209 | Bi | 3731115.00 | A | 22270.00 | 0.60 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | | Flag |
|---|---|---|---|---|---|---|---|---|
| 6 | Li | 939568.81 | 0.86 | 933317.06 | 100.7 | 70 - | 130 | |
| 45 | Sc | 2620809.30 | 0.21 | 2639196.80 | 99.3 | 70 - | 130 | |
| 45 | Sc | 356520.75 | 0.34 | 364590.47 | 97.8 | 70 - | 130 | |
| 72 | Ge | 626619.13 | 0.60 | 649075.63 | 96.5 | 70 - | 130 | |
| 72 | Ge | 142055.67 | 0.14 | 145621.67 | 97.6 | 70 - | 130 | |
| 103 | Rh | 4178285.30 | 0.91 | 4189460.00 | 99.7 | 70 - | 130 | |
| 115 | In | 4565157.00 | 0.56 | 4630433.50 | 98.6 | 70 - | 130 | |
| 115 | In | 1231609.60 | 0.75 | 1254271.40 | 98.2 | 70 - | 130 | |
| 159 | Tb | 6528605.50 | 0.69 | 6569468.00 | 99.4 | 70 - | 130 | |
| 175 | Lu | 6344007.00 | 0.56 | 6381799.00 | 99.4 | 70 - | 130 | |
| 209 | Bi | 3731115.30 | 0.60 | 3784337.80 | 98.6 | 70 - | 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 25 2013 11:27 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:23 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 950032.63 | A | 4132.00 | 0.43 |
| 7 | (Li) | | P | | |
| 9 | Be | 454107.91 | P | 651.60 | 0.14 |
| 9 | Be | 35320.14 | P | 440.70 | 1.25 |
| 11 | B | 299889.19 | P | 1177.00 | 0.39 |
| 11 | B | 13003.52 | P | 16.44 | 0.13 |
| 23 | Na | 2914909.00 | A | 26180.00 | 0.90 |
| 23 | Na | 309827.31 | P | 1933.00 | 0.62 |
| 24 | Mg | 1775850.00 | A | 19400.00 | 1.09 |
| 24 | Mg | 144312.00 | P | 1197.00 | 0.83 |
| 27 | Al | 2275248.00 | A | 27740.00 | 1.22 |
| 27 | Al | 86172.07 | P | 293.80 | 0.34 |
| 39 | K | 5348811.00 | A | 45050.00 | 0.84 |
| 44 | Ca | 123501.70 | P | 620.70 | 0.50 |
| 45 | Sc | 2605966.00 | A | 2049.00 | 0.08 |
| 45 | Sc | 355293.50 | P | 1030.00 | 0.29 |
| 47 | Ti | 257733.80 | P | 2142.00 | 0.83 |
| 51 | V | 917962.81 | P | 1748.00 | 0.19 |
| 52 | Cr | 1016998.00 | P | 2693.00 | 0.26 |
| 55 | Mn | 761287.19 | P | 861.90 | 0.11 |
| 56 | Fe | 962147.81 | P | 2807.00 | 0.29 |
| 59 | Co | 1413809.00 | A | 1147.00 | 0.08 |
| 60 | Ni | 363194.81 | P | 1534.00 | 0.42 |
| 63 | Cu | 928654.19 | P | 1973.00 | 0.21 |
| 66 | Zn | 163718.50 | P | 682.60 | 0.42 |
| 72 | Ge | 626839.50 | P | 2385.00 | 0.38 |
| 72 | Ge | 141754.00 | P | 218.10 | 0.15 |
| 75 | As | 118701.20 | P | 393.50 | 0.33 |
| 78 | Se | 13710.26 | P | 155.50 | 1.13 |
| 88 | Sr | 5311657.00 | A | 76690.00 | 1.44 |
| 98 | Mo | 1659019.00 | A | 11190.00 | 0.67 |
| 103 | Rh | 4118558.00 | A | 17690.00 | 0.43 |
| 107 | Ag | 2620075.00 | A | 3673.00 | 0.14 |

C:\ICPCHEM\1\DATA\13D25k01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 206893.91 | P | 1404.00 | 0.68 |
| 115 | In | 4544992.00 | A | 41680.00 | 0.92 |
| 115 | In | 1217196.00 | P | 3126.00 | 0.26 |
| 118 | (In) | 1731018.00 | A | 6605.00 | 0.38 |
| 118 | (In) | 505827.19 | P | 1792.00 | 0.35 |
| 120 | Sn | 2382871.00 | A | 8268.00 | 0.35 |
| 121 | Sb | 2184126.00 | A | 855.50 | 0.04 |
| 137 | Ba | 886462.50 | P | 4712.00 | 0.53 |
| 159 | Tb | 6473231.00 | A | 38030.00 | 0.59 |
| 175 | Lu | 6297282.00 | A | 26340.00 | 0.42 |
| 205 | Tl | 4756622.00 | A | 23840.00 | 0.50 |
| 206 | (Pb) | 1695429.00 | A | 13220.00 | 0.78 |
| 207 | (Pb) | 1395583.00 | A | 20790.00 | 1.49 |
| 208 | Pb | 6495990.00 | A | 34360.00 | 0.53 |
| 209 | Bi | 3734917.00 | A | 23210.00 | 0.62 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 950032.56 | 0.43 | 933317.06 | 101.8 | 70 - 130 | |
| 45 | Sc | 2605965.80 | 0.08 | 2639196.80 | 98.7 | 70 - 130 | |
| 45 | Sc | 355293.50 | 0.29 | 364590.47 | 97.5 | 70 - 130 | |
| 72 | Ge | 626839.50 | 0.38 | 649075.63 | 96.6 | 70 - 130 | |
| 72 | Ge | 141753.98 | 0.15 | 145621.67 | 97.3 | 70 - 130 | |
| 103 | Rh | 4118557.80 | 0.43 | 4189460.00 | 98.3 | 70 - 130 | |
| 115 | In | 4544991.50 | 0.92 | 4630433.50 | 98.2 | 70 - 130 | |
| 115 | In | 1217196.50 | 0.26 | 1254271.40 | 97.0 | 70 - 130 | |
| 159 | Tb | 6473231.50 | 0.59 | 6569468.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 6297282.50 | 0.42 | 6381799.00 | 98.7 | 70 - 130 | |
| 209 | Bi | 3734917.00 | 0.62 | 3784337.80 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 25 2013 11:34 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:30 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 956256.38 | A | 17360.00 | 1.82 |
| 7 | (Li) | | P | | |
| 9 | Be | 124.45 | P | 53.89 | 43.30 |
| 9 | Be | 23.33 | P | 14.53 | 62.27 |
| 11 | B | 2196.89 | P | 57.84 | 2.63 |
| 11 | B | 97.78 | P | 5.09 | 5.21 |
| 23 | Na | 24745510.00 | A | 154200.00 | 0.62 |
| 23 | Na | 2495042.00 | A | 15570.00 | 0.62 |
| 24 | Mg | 16479940.00 | A | 37040.00 | 0.22 |
| 24 | Mg | 1389055.00 | A | 13720.00 | 0.99 |
| 27 | Al | 21209150.00 | A | 113400.00 | 0.53 |
| 27 | Al | 855247.69 | P | 8898.00 | 1.04 |
| 39 | K | 28836400.00 | A | 91680.00 | 0.32 |
| 44 | Ca | 900354.50 | P | 3167.00 | 0.35 |
| 45 | Sc | 2626551.00 | A | 125200.00 | 4.77 |
| 45 | Sc | 365473.19 | P | 1873.00 | 0.51 |
| 47 | Ti | 217.79 | P | 20.09 | 9.22 |
| 51 | V | 4848.38 | P | 113.90 | 2.35 |
| 52 | Cr | 1614.78 | P | 84.52 | 5.23 |
| 55 | Mn | 1504.54 | P | 62.51 | 4.15 |
| 56 | Fe | 8679486.00 | A | 39140.00 | 0.45 |
| 59 | Co | 853.37 | P | 36.10 | 4.23 |
| 60 | Ni | 465.79 | P | 17.40 | 3.74 |
| 63 | Cu | 1510.72 | P | 310.60 | 20.56 |
| 66 | Zn | 1017.37 | P | 26.64 | 2.62 |
| 72 | Ge | 648128.81 | P | 22140.00 | 3.42 |
| 72 | Ge | 146666.30 | P | 822.60 | 0.56 |
| 75 | As | 191.11 | P | 17.69 | 9.26 |
| 78 | Se | 152.00 | P | 5.81 | 3.82 |
| 88 | Sr | 3736.16 | P | 339.80 | 9.09 |
| 98 | Mo | 2495.85 | P | 314.00 | 12.58 |
| 103 | Rh | 4173792.00 | A | 183800.00 | 4.40 |
| 107 | Ag | 766.72 | P | 75.14 | 9.80 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 104.45 | P | 1.93 | 1.84 |
| 115 | In | 4613879.00 | A | 137000.00 | 2.97 |
| 115 | In | 1261842.00 | P | 7423.00 | 0.59 |
| 118 | (In) | 3366.07 | P | 349.30 | 10.38 |
| 118 | (In) | 1252.32 | P | 12.62 | 1.01 |
| 120 | Sn | 4417.51 | P | 756.80 | 17.13 |
| 121 | Sb | 3783.97 | P | 331.90 | 8.77 |
| 137 | Ba | 1037.85 | P | 101.00 | 9.73 |
| 159 | Tb | 6528760.00 | A | 318400.00 | 4.88 |
| 175 | Lu | 6357505.00 | A | 203000.00 | 3.19 |
| 205 | Tl | 6781.93 | P | 193.50 | 2.85 |
| 206 | (Pb) | 671.15 | P | 129.60 | 19.31 |
| 207 | (Pb) | 592.26 | P | 63.80 | 10.77 |
| 208 | Pb | 2934.69 | P | 403.20 | 13.74 |
| 209 | Bi | 3707307.00 | A | 135100.00 | 3.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 956256.44 | 1.82 | 933317.06 | 102.5 | 70 - 130 | |
| 45 | Sc | 2626551.30 | 4.77 | 2639196.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 365473.22 | 0.51 | 364590.47 | 100.2 | 70 - 130 | |
| 72 | Ge | 648128.88 | 3.42 | 649075.63 | 99.9 | 70 - 130 | |
| 72 | Ge | 146666.27 | 0.56 | 145621.67 | 100.7 | 70 - 130 | |
| 103 | Rh | 4173792.50 | 4.40 | 4189460.00 | 99.6 | 70 - 130 | |
| 115 | In | 4613878.50 | 2.97 | 4630433.50 | 99.6 | 70 - 130 | |
| 115 | In | 1261841.50 | 0.59 | 1254271.40 | 100.6 | 70 - 130 | |
| 159 | Tb | 6528760.00 | 4.88 | 6569468.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 6357505.50 | 3.19 | 6381799.00 | 99.6 | 70 - 130 | |
| 209 | Bi | 3707307.00 | 3.64 | 3784337.80 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 25 2013 11:41 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 25 2013 11:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 958609.69 | A | 15310.00 | 1.60 |
| 7 | (Li) | | P | | |
| 9 | Be | 71.11 | P | 23.41 | 32.92 |
| 9 | Be | 11.11 | P | 3.85 | 34.64 |
| 11 | B | 1341.22 | P | 58.73 | 4.38 |
| 11 | B | 37.78 | P | 1.93 | 5.10 |
| 23 | Na | 240881500.00 | A | 959600.00 | 0.40 |
| 23 | Na | 23035400.00 | A | 50610.00 | 0.22 |
| 24 | Mg | 160812500.00 | A | 924900.00 | 0.58 |
| 24 | Mg | 12778350.00 | A | 70400.00 | 0.55 |
| 27 | Al | 210800500.00 | A | 1635000.00 | 0.78 |
| 27 | Al | 7870604.00 | A | 51290.00 | 0.65 |
| 39 | K | 261417410.00 | A | 696100.00 | 0.27 |
| 44 | Ca | 8294982.00 | A | 51730.00 | 0.62 |
| 45 | Sc | 2659993.00 | A | 12250.00 | 0.46 |
| 45 | Sc | 363140.59 | P | 1373.00 | 0.38 |
| 47 | Ti | 167.79 | P | 12.62 | 7.52 |
| 51 | V | 4917.29 | P | 88.14 | 1.79 |
| 52 | Cr | 2229.97 | P | 71.84 | 3.22 |
| 55 | Mn | 2399.33 | P | 39.59 | 1.65 |
| 56 | Fe | 83025800.00 | A | 173400.00 | 0.21 |
| 59 | Co | 2182.41 | P | 26.48 | 1.21 |
| 60 | Ni | 819.15 | P | 15.63 | 1.91 |
| 63 | Cu | 990.27 | P | 28.17 | 2.84 |
| 66 | Zn | 624.68 | P | 7.33 | 1.17 |
| 72 | Ge | 655583.69 | P | 3772.00 | 0.58 |
| 72 | Ge | 144916.80 | P | 640.80 | 0.44 |
| 75 | As | 192.67 | P | 6.11 | 3.17 |
| 78 | Se | 131.33 | P | 3.71 | 2.83 |
| 88 | Sr | 22017.97 | P | 633.60 | 2.88 |
| 98 | Mo | 1220.10 | P | 70.96 | 5.82 |
| 103 | Rh | 3983512.00 | A | 9899.00 | 0.25 |
| 107 | Ag | 1516.80 | P | 43.34 | 2.86 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 44.45 | P | 16.44 | 36.99 |
| 115 | In | 4456604.00 | A | 29390.00 | 0.66 |
| 115 | In | 1226206.00 | P | 2059.00 | 0.17 |
| 118 | (In) | 1735.72 | P | 80.31 | 4.63 |
| 118 | (In) | 558.92 | P | 35.64 | 6.38 |
| 120 | Sn | 2429.19 | P | 190.30 | 7.83 |
| 121 | Sb | 2542.53 | P | 179.40 | 7.06 |
| 137 | Ba | 1068.97 | P | 139.20 | 13.02 |
| 159 | Tb | 6428780.00 | A | 25330.00 | 0.39 |
| 175 | Lu | 6258895.00 | A | 31640.00 | 0.51 |
| 205 | Tl | 3532.80 | P | 125.30 | 3.55 |
| 206 | (Pb) | 523.36 | P | 20.28 | 3.87 |
| 207 | (Pb) | 446.69 | P | 56.08 | 12.56 |
| 208 | Pb | 2375.74 | P | 148.70 | 6.26 |
| 209 | Bi | 3508663.00 | A | 44010.00 | 1.25 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 958609.69 | 1.60 | 933317.06 | 102.7 | 70 - 130 | |
| 45 | Sc | 2659993.00 | 0.46 | 2639196.80 | 100.8 | 70 - 130 | |
| 45 | Sc | 363140.63 | 0.38 | 364590.47 | 99.6 | 70 - 130 | |
| 72 | Ge | 655583.75 | 0.58 | 649075.63 | 101.0 | 70 - 130 | |
| 72 | Ge | 144916.81 | 0.44 | 145621.67 | 99.5 | 70 - 130 | |
| 103 | Rh | 3983512.50 | 0.25 | 4189460.00 | 95.1 | 70 - 130 | |
| 115 | In | 4456604.00 | 0.66 | 4630433.50 | 96.2 | 70 - 130 | |
| 115 | In | 1226205.90 | 0.17 | 1254271.40 | 97.8 | 70 - 130 | |
| 159 | Tb | 6428780.50 | 0.39 | 6569468.00 | 97.9 | 70 - 130 | |
| 175 | Lu | 6258895.00 | 0.51 | 6381799.00 | 98.1 | 70 - 130 | |
| 209 | Bi | 3508663.30 | 1.25 | 3784337.80 | 92.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D25k01.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 25 2013 11:48 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.04 | 59.04 | ppb | 0.68 | 900.00 | |
| 9 Be | 45 | 2 | 59.90 | 59.90 | ppb | 2.50 | 900.00 | |
| 11 B | 6 | 1 | 56.55 | 56.55 | ppb | 1.40 | 900.00 | |
| 11 B | 45 | 2 | 57.32 | 57.32 | ppb | 2.93 | 900.00 | |
| 23 Na | 45 | 1 | 5743.00 | 5743.00 | ppb | 0.40 | 90000.00 | |
| 23 Na | 45 | 2 | 5731.00 | 5731.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 5787.00 | 5787.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 5802.00 | 5802.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 5739.00 | 5739.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 2 | 5712.00 | 5712.00 | ppb | 0.28 | 90000.00 | |
| 39 K | 45 | 1 | 5712.00 | 5712.00 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 5718.00 | 5718.00 | ppb | 0.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.88 | 58.88 | ppb | 1.05 | 900.00 | |
| 51 V | 45 | 2 | 59.69 | 59.69 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 58.71 | 58.71 | ppb | 0.51 | 900.00 | |
| 55 Mn | 45 | 2 | 59.12 | 59.12 | ppb | 0.05 | 900.00 | |
| 56 Fe | 45 | 2 | 5734.00 | 5734.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 58.17 | 58.17 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 58.44 | 58.44 | ppb | 0.29 | 900.00 | |
| 63 Cu | 72 | 2 | 56.72 | 56.72 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 58.33 | 58.33 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 59.57 | 59.57 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 58.51 | 58.51 | ppb | 1.00 | 900.00 | |
| 88 Sr | 103 | 1 | 61.16 | 61.16 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 61.56 | 61.56 | ppb | 0.46 | 900.00 | |
| 107 Ag | 115 | 1 | 58.79 | 58.79 | ppb | 0.27 | 180.00 | |
| 111 Cd | 115 | 2 | 58.81 | 58.81 | ppb | 0.40 | 900.00 | |
| 120 Sn | 115 | 1 | 57.83 | 57.83 | ppb | 0.84 | 900.00 | |
| 121 Sb | 115 | 1 | 59.27 | 59.27 | ppb | 2.81 | 900.00 | |
| 137 Ba | 159 | 1 | 58.94 | 58.94 | ppb | 0.63 | 900.00 | |
| 205 Tl | 209 | 1 | 59.48 | 59.48 | ppb | 0.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.62 | 59.62 | ppb | 0.32 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 965817 | 1.29 | 933317 | 103.5 | 70 - 130 | |
| 45 Sc | 1 | 2634982 | 0.65 | 2639197 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 357402 | 0.31 | 364590 | 98.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 629622 | 0.71 | 649076 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 142655 | 0.45 | 145622 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 4028387 | 0.67 | 4189460 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 4465526 | 0.59 | 4630434 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 1205475 | 0.51 | 1254271 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 6430996 | 0.58 | 6569468 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 6256102 | 0.35 | 6381799 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 3568749 | 0.78 | 3784338 | 94.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 25 2013 11:55 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 50.23 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 57.74 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 12.24 | 900.00 | |
| 11 B | 45 | 2 | 0.35 | 0.35 | ppb | 63.91 | 900.00 | |
| 23 Na | 45 | 1 | 0.96 | 0.96 | ppb | 19.89 | 90000.00 | |
| 23 Na | 45 | 2 | 3.50 | 3.50 | ppb | 12.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.91 | 0.91 | ppb | 9.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.81 | 2.81 | ppb | 21.18 | 90000.00 | |
| 27 Al | 45 | 1 | 0.94 | 0.94 | ppb | 9.01 | 90000.00 | |
| 27 Al | 45 | 2 | 2.75 | 2.75 | ppb | 15.79 | 90000.00 | |
| 39 K | 45 | 1 | 3.02 | 3.02 | ppb | 28.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.51 | 3.51 | ppb | 10.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 292.95 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 142.23 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 161.66 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 37.56 | 900.00 | |
| 56 Fe | 45 | 2 | 2.62 | 2.62 | ppb | 17.17 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 14.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.21 | 0.21 | ppb | 3.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 21.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.07 | 0.07 | ppb | 10.06 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 38.77 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.04 | ppb | 265.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 6.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 11.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 6.10 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 278.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 16.25 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 19.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 181.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 977435 | 1.61 | 933317 | 104.7 | 70 - 130 | |
| 45 Sc | 1 | 2647901 | 0.63 | 2639197 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 363789 | 0.06 | 364590 | 99.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 651066 | 0.71 | 649076 | 100.3 | 70 | - | 130 |
| 72 Ge | 2 | 145516 | 0.21 | 145622 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 4181502 | 0.44 | 4189460 | 99.8 | 70 | - | 130 |
| 115 In | 1 | 4587853 | 0.59 | 4630434 | 99.1 | 70 | - | 130 |
| 115 In | 2 | 1265319 | 0.34 | 1254271 | 100.9 | 70 | - | 130 |
| 159 Tb | 1 | 6501629 | 0.27 | 6569468 | 99.0 | 70 | - | 130 |
| 175 Lu | 1 | 6328203 | 0.59 | 6381799 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 3724382 | 0.41 | 3784338 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\012SMPL.D\012SMPL.D#
Date Acquired: Apr 25 2013 12:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.29 | 51.29 | ppb | 1.76 | 900.00 | |
| 9 Be | 45 | 2 | 51.32 | 51.32 | ppb | 1.53 | 900.00 | |
| 11 B | 6 | 1 | 51.64 | 51.64 | ppb | 2.18 | 900.00 | |
| 11 B | 45 | 2 | 51.83 | 51.83 | ppb | 2.87 | 900.00 | |
| 23 Na | 45 | 1 | 5387.00 | 5387.00 | ppb | 1.16 | 90000.00 | |
| 23 Na | 45 | 2 | 5422.00 | 5422.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 5386.00 | 5386.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 5431.00 | 5431.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 5378.00 | 5378.00 | ppb | 0.78 | 90000.00 | |
| 27 Al | 45 | 2 | 5389.00 | 5389.00 | ppb | 0.70 | 90000.00 | |
| 39 K | 45 | 1 | 5363.00 | 5363.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 5435.00 | 5435.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.98 | 51.98 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 51.06 | 51.06 | ppb | 0.08 | 900.00 | |
| 52 Cr | 45 | 2 | 50.41 | 50.41 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 50.58 | 50.58 | ppb | 0.24 | 900.00 | |
| 56 Fe | 45 | 2 | 5395.00 | 5395.00 | ppb | 0.33 | 90000.00 | |
| 59 Co | 45 | 2 | 50.30 | 50.30 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 49.64 | 49.64 | ppb | 0.31 | 900.00 | |
| 63 Cu | 72 | 2 | 49.19 | 49.19 | ppb | 0.72 | 900.00 | |
| 66 Zn | 72 | 2 | 50.00 | 50.00 | ppb | 0.67 | 900.00 | |
| 75 As | 72 | 2 | 51.31 | 51.31 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 50.82 | 50.82 | ppb | 1.18 | 900.00 | |
| 88 Sr | 103 | 1 | 53.62 | 53.62 | ppb | 0.82 | 900.00 | |
| 98 Mo | 103 | 1 | 52.68 | 52.68 | ppb | 0.63 | 900.00 | |
| 107 Ag | 115 | 1 | 50.38 | 50.38 | ppb | 0.59 | 180.00 | |
| 111 Cd | 115 | 2 | 50.55 | 50.55 | ppb | 1.24 | 900.00 | |
| 120 Sn | 115 | 1 | 52.97 | 52.97 | ppb | 0.64 | 900.00 | |
| 121 Sb | 115 | 1 | 53.69 | 53.69 | ppb | 0.83 | 900.00 | |
| 137 Ba | 159 | 1 | 50.80 | 50.80 | ppb | 1.06 | 900.00 | |
| 205 Tl | 209 | 1 | 50.92 | 50.92 | ppb | 1.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.76 | 51.76 | ppb | 0.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 968960 | 1.81 | 933317 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 2606917 | 0.50 | 2639197 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 356704 | 0.27 | 364590 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 626397 | 0.44 | 649076 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 142323 | 0.78 | 145622 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 4003307 | 0.54 | 4189460 | 95.6 | 70 | - | 130 |
| 115 In | 1 | 4470220 | 0.19 | 4630434 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 1198919 | 0.77 | 1254271 | 95.6 | 70 | - | 130 |
| 159 Tb | 1 | 6417255 | 0.39 | 6569468 | 97.7 | 70 | - | 130 |
| 175 Lu | 1 | 6223508 | 0.58 | 6381799 | 97.5 | 70 | - | 130 |
| 209 Bi | 1 | 3575728 | 0.85 | 3784338 | 94.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 25 2013 12:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 24.21 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 192.46 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.24 | ppb | 10.13 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.23 | ppb | 34.75 | 900.00 | |
| 23 Na | 45 | 1 | 1.70 | 1.70 | ppb | 16.22 | 90000.00 | |
| 23 Na | 45 | 2 | 2.23 | 2.23 | ppb | 11.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.91 | 1.91 | ppb | 8.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.24 | 2.24 | ppb | 5.84 | 90000.00 | |
| 27 Al | 45 | 1 | 2.04 | 2.04 | ppb | 6.58 | 90000.00 | |
| 27 Al | 45 | 2 | 2.35 | 2.35 | ppb | 3.30 | 90000.00 | |
| 39 K | 45 | 1 | 4.50 | 4.50 | ppb | 15.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.46 | 4.46 | ppb | 1.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 42.77 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 91.53 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 51.75 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 22.89 | 900.00 | |
| 56 Fe | 45 | 2 | 2.15 | 2.15 | ppb | 5.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 7.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.12 | 0.12 | ppb | 7.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 5.27 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 22.18 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 63.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 5133.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 13.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 9.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.03 | ppb | 11.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 615.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 11.02 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.04 | ppb | 6.40 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 439.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 2.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 3.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 974564 | 0.44 | 933317 | 104.4 | 70 - 130 | |
| 45 Sc | 1 | 2622776 | 0.67 | 2639197 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 363144 | 0.66 | 364590 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 645306 | 0.81 | 649076 | 99.4 | 70 - | 130 |
| 72 | Ge | 2 | 145756 | 0.51 | 145622 | 100.1 | 70 - | 130 |
| 103 | Rh | 1 | 4174278 | 0.35 | 4189460 | 99.6 | 70 - | 130 |
| 115 | In | 1 | 4582076 | 0.23 | 4630434 | 99.0 | 70 - | 130 |
| 115 | In | 2 | 1257921 | 1.02 | 1254271 | 100.3 | 70 - | 130 |
| 159 | Tb | 1 | 6423589 | 0.54 | 6569468 | 97.8 | 70 - | 130 |
| 175 | Lu | 1 | 6312790 | 0.66 | 6381799 | 98.9 | 70 - | 130 |
| 209 | Bi | 1 | 3708962 | 0.26 | 3784338 | 98.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 25 2013 12:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 7.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.53 | ppb | 7.44 | 900.00 | |
| 11 B | 6 | 1 | 4.87 | 4.87 | ppb | 3.45 | 900.00 | |
| 11 B | 45 | 2 | 5.39 | 5.39 | ppb | 10.89 | 900.00 | |
| 23 Na | 45 | 1 | 261.70 | 261.70 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 276.70 | 276.70 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 264.80 | 264.80 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 280.30 | 280.30 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 27.69 | 27.69 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 2 | 28.28 | 28.28 | ppb | 0.97 | 90000.00 | |
| 39 K | 45 | 1 | 254.20 | 254.20 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 270.30 | 270.30 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.99 | 0.99 | ppb | 5.36 | 900.00 | |
| 51 V | 45 | 2 | 0.98 | 0.98 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 1.62 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.99 | ppb | 1.92 | 900.00 | |
| 56 Fe | 45 | 2 | 28.07 | 28.07 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 2.36 | 900.00 | |
| 60 Ni | 45 | 2 | 1.18 | 1.18 | ppb | 1.23 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 0.73 | 900.00 | |
| 66 Zn | 72 | 2 | 2.00 | 2.00 | ppb | 2.90 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 1.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 39.21 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.47 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 1.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 2.99 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 5.60 | 900.00 | |
| 120 Sn | 115 | 1 | 4.89 | 4.89 | ppb | 1.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 2.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 2.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 971359 | 2.14 | 933317 | 104.1 | 70 - 130 | |
| 45 Sc | 1 | 2623886 | 0.20 | 2639197 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 359808 | 0.42 | 364590 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 639334 | 0.85 | 649076 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 144174 | 0.27 | 145622 | 99.0 | 70 - | 130 |
| 103 | Rh | 1 | 4119783 | 0.39 | 4189460 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 4521189 | 0.40 | 4630434 | 97.6 | 70 - | 130 |
| 115 | In | 2 | 1243614 | 0.95 | 1254271 | 99.2 | 70 - | 130 |
| 159 | Tb | 1 | 6374798 | 0.72 | 6569468 | 97.0 | 70 - | 130 |
| 175 | Lu | 1 | 6227416 | 0.23 | 6381799 | 97.6 | 70 - | 130 |
| 209 | Bi | 1 | 3688719 | 1.07 | 3784338 | 97.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D25k01.B\015SMPL.D\015SMPL.D#** | | |
| **Date Acquired:** | **Apr 25 2013 12:23 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSA** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2106** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 25 2013 11:44 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 210.87 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 182.32 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.25 | ppb | 20.86 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 25.68 | 900.00 | |
| 23 Na | 45 | 1 | 88630.00 | 88630.00 | ppb | 1.72 | 90000.00 | |
| 23 Na | 45 | 2 | 99040.00 | 99040.00 | ppb | 0.33 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 89140.00 | 89140.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 97830.00 | 97830.00 | ppb | 0.48 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 89210.00 | 89210.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 2 | 94170.00 | 94170.00 | ppb | 0.38 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94890.00 | 94890.00 | ppb | 0.24 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95400.00 | 95400.00 | ppb | 0.86 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1939.00 | 1939.00 | ppb | 0.93 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 31.21 | 900.00 | |
| 52 Cr | 45 | 2 | 1.03 | 1.03 | ppb | 0.32 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 7.22 | 900.00 | |
| 56 Fe | 45 | 2 | 96040.00 | 96040.00 | ppb | 0.30 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 13.75 | 900.00 | |
| 60 Ni | 45 | 2 | 0.74 | 0.74 | ppb | 3.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.26 | ppb | 3.46 | 900.00 | |
| 66 Zn | 72 | 2 | 1.97 | 1.97 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 6.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 48.09 | 900.00 | |
| 88 Sr | 103 | 1 | 4.92 | 4.92 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 2030.00 | 2030.00 | ppb | 1.07 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.07 | ppb | 9.58 | 180.00 | |
| 111 Cd | 115 | 2 | 1.06 | 1.06 | ppb | 3.25 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 8.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.25 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 7.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 16.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 4.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 662319 | 7.41 | 933317 | 71.0 | 70 - 130 | |
| 45 Sc | 1 | 2373950 | 1.10 | 2639197 | 89.9 | 70 - 130 | |
| 45 Sc | 2 | 340412 | 0.61 | 364590 | 93.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 606890 | 0.56 | 649076 | 93.5 | 70 | - | 130 |
| 72 Ge | 2 | 137043 | 0.62 | 145622 | 94.1 | 70 | - | 130 |
| 103 Rh | 1 | 3498010 | 0.94 | 4189460 | 83.5 | 70 | - | 130 |
| 115 In | 1 | 4017672 | 1.06 | 4630434 | 86.8 | 70 | - | 130 |
| 115 In | 2 | 1077015 | 0.47 | 1254271 | 85.9 | 70 | - | 130 |
| 159 Tb | 1 | 6025741 | 0.77 | 6569468 | 91.7 | 70 | - | 130 |
| 175 Lu | 1 | 5874103 | 0.79 | 6381799 | 92.0 | 70 | - | 130 |
| 209 Bi | 1 | 3121386 | 0.82 | 3784338 | 82.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Apr 25 2013 12:30 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 106.65 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 184.74 | 900.00 | |
| 11 B | 6 | 1 | 0.29 | 0.29 | ppb | 14.96 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 131.53 | 900.00 | |
| 23 Na | 45 | 1 | 78240.00 | 78240.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 102400.00 | 102400.00 | ppb | 0.32 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 79760.00 | 79760.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 101100.00 | 101100.00 | ppb | 0.44 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 81650.00 | 81650.00 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 96520.00 | 96520.00 | ppb | 0.24 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 94940.00 | 94940.00 | ppb | 0.55 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97770.00 | 97770.00 | ppb | 0.20 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1993.00 | 1993.00 | ppb | 0.43 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.04 | -0.04 | ppb | 15.74 | 900.00 | |
| 52 Cr | 45 | 2 | 20.61 | 20.61 | ppb | 0.80 | 900.00 | |
| 55 Mn | 45 | 2 | 19.64 | 19.64 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 99270.00 | 99270.00 | ppb | 0.85 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.26 | 19.26 | ppb | 0.49 | 900.00 | |
| 60 Ni | 45 | 2 | 19.38 | 19.38 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 17.81 | 17.81 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 19.85 | 19.85 | ppb | 0.21 | 900.00 | |
| 75 As | 72 | 2 | 20.41 | 20.41 | ppb | 0.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 66.21 | 900.00 | |
| 88 Sr | 103 | 1 | 5.01 | 5.01 | ppb | 1.12 | 900.00 | |
| 98 Mo | 103 | 1 | 2064.00 | 2064.00 | ppb | 0.63 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.64 | 19.64 | ppb | 0.14 | 180.00 | |
| 111 Cd | 115 | 2 | 20.40 | 20.40 | ppb | 0.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 3.81 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 4.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 7.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 3.04 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 396379 | 2.29 | 933317 | 42.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2105447 | 0.78 | 2639197 | 79.8 | 70 - 130 | |
| 45 Sc | 2 | 336659 | 0.24 | 364590 | 92.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575515 | 1.08 | 649076 | 88.7 | 70 - | 130 |
| 72 | Ge | 2 | 136794 | 0.27 | 145622 | 93.9 | 70 - | 130 |
| 103 | Rh | 1 | 3502024 | 0.57 | 4189460 | 83.6 | 70 - | 130 |
| 115 | In | 1 | 4085430 | 0.53 | 4630434 | 88.2 | 70 - | 130 |
| 115 | In | 2 | 1066085 | 0.19 | 1254271 | 85.0 | 70 - | 130 |
| 159 | Tb | 1 | 6209860 | 0.63 | 6569468 | 94.5 | 70 - | 130 |
| 175 | Lu | 1 | 6125699 | 0.87 | 6381799 | 96.0 | 70 - | 130 |
| 209 | Bi | 1 | 3286527 | 1.19 | 3784338 | 86.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Apr 25 2013 12:38 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** RINSECONF
**Misc Info:**
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 134.29 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 44.46 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 120.27 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 805.67 | 900.00 | |
| 23 Na | 45 | 1 | 29.48 | 29.48 | ppb | 8.22 | 90000.00 | |
| 23 Na | 45 | 2 | 68.53 | 68.53 | ppb | 2.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 19.25 | 19.25 | ppb | 9.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 48.50 | 48.50 | ppb | 4.67 | 90000.00 | |
| 27 Al | 45 | 1 | 18.84 | 18.84 | ppb | 7.86 | 90000.00 | |
| 27 Al | 45 | 2 | 41.60 | 41.60 | ppb | 4.43 | 90000.00 | |
| 39 K | 45 | 1 | 22.05 | 22.05 | ppb | 12.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 24.30 | 24.30 | ppb | 13.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.59 | ppb | 12.70 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 36.69 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 57.72 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 19.58 | 900.00 | |
| 56 Fe | 45 | 2 | 48.54 | 48.54 | ppb | 5.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 26.97 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 8.46 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.15 | ppb | 7.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.13 | 0.13 | ppb | 8.84 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 73.82 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 63.71 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.04 | ppb | 2.85 | 900.00 | |
| 98 Mo | 103 | 1 | 1.37 | 1.37 | ppb | 9.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 8.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 6.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 582.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 272.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 12.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 30.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 360971 | 0.83 | 933317 | 38.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2105014 | 0.39 | 2639197 | 79.8 | 70 - 130 | |
| 45 Sc | 2 | 356519 | 0.46 | 364590 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 581040 | 0.62 | 649076 | 89.5 | 70 - | 130 |
| 72 | Ge | 2 | 145659 | 0.60 | 145622 | 100.0 | 70 - | 130 |
| 103 | Rh | 1 | 4056375 | 0.60 | 4189460 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 4656075 | 1.48 | 4630434 | 100.6 | 70 - | 130 |
| 115 | In | 2 | 1237292 | 0.41 | 1254271 | 98.6 | 70 - | 130 |
| 159 | Tb | 1 | 6837202 | 0.52 | 6569468 | 104.1 | 70 - | 130 |
| 175 | Lu | 1 | 6816848 | 0.33 | 6381799 | 106.8 | 70 - | 130 |
| 209 | Bi | 1 | 4062737 | 0.46 | 3784338 | 107.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\018SMPL.D\018SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 12:45 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20836-MB1 | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2109 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 57.14 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 287.52 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.15 | ppb | 11.19 | 900.00 | |
| 11 B | 45 | 2 | -0.03 | -0.02 | ppb | 240.28 | 900.00 | |
| 23 Na | 45 | 1 | 25.28 | 12.64 | ppb | 15.88 | 90000.00 | |
| 23 Na | 45 | 2 | 29.34 | 14.67 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.08 | 3.04 | ppb | 55.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.26 | 3.13 | ppb | 6.99 | 90000.00 | |
| 27 Al | 45 | 1 | 7.95 | 3.97 | ppb | 45.00 | 90000.00 | |
| 27 Al | 45 | 2 | 9.11 | 4.56 | ppb | 2.96 | 90000.00 | |
| 39 K | 45 | 1 | 3.64 | 1.82 | ppb | 183.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 92.00 | 46.00 | ppb | 5.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.67 | 0.34 | ppb | 6.38 | 900.00 | |
| 51 V | 45 | 2 | 2.44 | 1.22 | ppb | 1.99 | 900.00 | |
| 52 Cr | 45 | 2 | 0.07 | 0.04 | ppb | 20.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1.30 | 0.65 | ppb | 4.77 | 900.00 | |
| 56 Fe | 45 | 2 | 25.74 | 12.87 | ppb | 1.53 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 9.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.54 | 0.27 | ppb | 7.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.66 | 0.33 | ppb | 2.82 | 900.00 | |
| 66 Zn | 72 | 2 | 4.55 | 2.27 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.29 | ppb | 2.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 9097.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.02 | ppb | 8.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.91 | 0.46 | ppb | 6.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 38.96 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 5.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 8.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 2.03 | 900.00 | |
| 137 Ba | 159 | 1 | 0.15 | 0.08 | ppb | 7.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 15.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 4.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 294904 | 0.88 | 933317 | 31.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1935600 | 0.86 | 2639197 | 73.3 | 70 - 130 | |
| 45 Sc | 2 | 350739 | 0.38 | 364590 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 555531 | 0.66 | 649076 | 85.6 | 70 - | 130 |
| 72 | Ge | 2 | 143456 | 0.31 | 145622 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 3945466 | 0.71 | 4189460 | 94.2 | 70 - | 130 |
| 115 | In | 1 | 4511520 | 0.47 | 4630434 | 97.4 | 70 - | 130 |
| 115 | In | 2 | 1207727 | 0.42 | 1254271 | 96.3 | 70 - | 130 |
| 159 | Tb | 1 | 6868896 | 0.54 | 6569468 | 104.6 | 70 - | 130 |
| 175 | Lu | 1 | 6772416 | 0.08 | 6381799 | 106.1 | 70 - | 130 |
| 209 | Bi | 1 | 4047976 | 0.79 | 3784338 | 107.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 25 2013 12:52 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20836-MB2
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 32.41 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 61.23 | 900.00 | |
| 11 B | 6 | 1 | 0.69 | 0.34 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.14 | ppb | 37.83 | 900.00 | |
| 23 Na | 45 | 1 | 48.92 | 24.46 | ppb | 4.23 | 90000.00 | |
| 23 Na | 45 | 2 | 62.80 | 31.40 | ppb | 1.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.20 | 3.60 | ppb | 21.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.58 | 2.79 | ppb | 4.76 | 90000.00 | |
| 27 Al | 45 | 1 | 9.75 | 4.87 | ppb | 17.26 | 90000.00 | |
| 27 Al | 45 | 2 | 8.18 | 4.09 | ppb | 1.26 | 90000.00 | |
| 39 K | 45 | 1 | 8.70 | 4.35 | ppb | 24.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 27.86 | 13.93 | ppb | 10.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.64 | 0.32 | ppb | 3.52 | 900.00 | |
| 51 V | 45 | 2 | 2.60 | 1.30 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 0.70 | 0.35 | ppb | 1.71 | 900.00 | |
| 55 Mn | 45 | 2 | 0.79 | 0.39 | ppb | 1.55 | 900.00 | |
| 56 Fe | 45 | 2 | 20.28 | 10.14 | ppb | 6.02 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.81 | 900.00 | |
| 60 Ni | 45 | 2 | 0.37 | 0.18 | ppb | 4.84 | 900.00 | |
| 63 Cu | 72 | 2 | 1.70 | 0.85 | ppb | 0.98 | 900.00 | |
| 66 Zn | 72 | 2 | 1.58 | 0.79 | ppb | 1.47 | 900.00 | |
| 75 As | 72 | 2 | 0.65 | 0.33 | ppb | 4.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.02 | ppb | 571.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 6.18 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.25 | ppb | 5.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.95 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 5.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 6.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 13.59 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.06 | ppb | 13.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 33.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 4.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 284348 | 1.08 | 933317 | 30.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1919588 | 1.00 | 2639197 | 72.7 | 70 - 130 | |
| 45 Sc | 2 | 351792 | 0.41 | 364590 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 552651 | 0.58 | 649076 | 85.1 | 70 - | 130 |
| 72 | Ge | 2 | 143131 | 0.60 | 145622 | 98.3 | 70 - | 130 |
| 103 | Rh | 1 | 3972337 | 0.13 | 4189460 | 94.8 | 70 - | 130 |
| 115 | In | 1 | 4510256 | 0.87 | 4630434 | 97.4 | 70 - | 130 |
| 115 | In | 2 | 1205621 | 0.31 | 1254271 | 96.1 | 70 - | 130 |
| 159 | Tb | 1 | 6853424 | 0.79 | 6569468 | 104.3 | 70 - | 130 |
| 175 | Lu | 1 | 6786628 | 0.94 | 6381799 | 106.3 | 70 - | 130 |
| 209 | Bi | 1 | 4073735 | 1.21 | 3784338 | 107.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 25 2013 12:59 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-5F
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Pass**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 132.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 663.42 | 900.00 | |
| 11 B | 6 | 1 | 48.62 | 24.31 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 32.74 | 16.37 | ppb | 2.08 | 900.00 | |
| 23 Na | 45 | 1 | 85740.00 | 42870.00 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 119540.00 | 59770.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 653.20 | 326.60 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 918.80 | 459.40 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 6.40 | 3.20 | ppb | 6.22 | 90000.00 | |
| 27 Al | 45 | 2 | 8.16 | 4.08 | ppb | 4.79 | 90000.00 | |
| 39 K | 45 | 1 | 3308.00 | 1654.00 | ppb | 1.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 7288.00 | 3644.00 | ppb | 0.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 0.50 | ppb | 13.04 | 900.00 | |
| 51 V | 45 | 2 | 3.08 | 1.54 | ppb | 3.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.21 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 504.60 | 252.30 | ppb | 1.06 | 900.00 | |
| 56 Fe | 45 | 2 | 837.60 | 418.80 | ppb | 0.14 | 90000.00 | |
| 59 Co | 45 | 2 | 6.85 | 3.42 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 6.29 | 3.15 | ppb | 1.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.33 | ppb | 1.44 | 900.00 | |
| 66 Zn | 72 | 2 | 9.68 | 4.84 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 1.28 | 0.64 | ppb | 5.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 187.01 | 900.00 | |
| 88 Sr | 103 | 1 | 69.46 | 34.73 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 2.71 | 1.36 | ppb | 1.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 58.92 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 11.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 15.74 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 2.57 | 900.00 | |
| 137 Ba | 159 | 1 | 22.30 | 11.15 | ppb | 0.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 15.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 307708 | 0.76 | 933317 | 33.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1937490 | 0.46 | 2639197 | 73.4 | 70 - 130 | |
| 45 Sc | 2 | 343726 | 0.57 | 364590 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 547951 | 0.30 | 649076 | 84.4 | 70 | - | 130 |
| 72 Ge | 2 | 140373 | 0.82 | 145622 | 96.4 | 70 | - | 130 |
| 103 Rh | 1 | 3682847 | 0.15 | 4189460 | 87.9 | 70 | - | 130 |
| 115 In | 1 | 4333964 | 1.20 | 4630434 | 93.6 | 70 | - | 130 |
| 115 In | 2 | 1160213 | 0.92 | 1254271 | 92.5 | 70 | - | 130 |
| 159 Tb | 1 | 6613477 | 0.61 | 6569468 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 6593261 | 0.16 | 6381799 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 3744815 | 1.51 | 3784338 | 99.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Apr 25 2013 01:06 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-6F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 100.44 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 549.47 | 900.00 | |
| 11 B | 6 | 1 | 113.22 | 56.61 | ppb | 1.88 | 900.00 | |
| 11 B | 45 | 2 | 73.76 | 36.88 | ppb | 4.19 | 900.00 | |
| 23 Na | 45 | 1 | 43640.00 | 21820.00 | ppb | 1.65 | 90000.00 | |
| 23 Na | 45 | 2 | 62120.00 | 31060.00 | ppb | 2.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 2528.00 | 1264.00 | ppb | 3.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 3624.00 | 1812.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 10.22 | 5.11 | ppb | 5.62 | 90000.00 | |
| 27 Al | 45 | 2 | 18.45 | 9.23 | ppb | 3.75 | 90000.00 | |
| 39 K | 45 | 1 | 4476.00 | 2238.00 | ppb | 1.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 26200.00 | 13100.00 | ppb | 1.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.11 | 0.56 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 1.65 | 0.82 | ppb | 2.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.84 | 0.42 | ppb | 2.12 | 900.00 | |
| 55 Mn | 45 | 2 | 1904.40 | 952.20 | ppb | 0.49 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 30860.00 | 15430.00 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 26.62 | 13.31 | ppb | 1.30 | 900.00 | |
| 60 Ni | 45 | 2 | 19.03 | 9.51 | ppb | 1.08 | 900.00 | |
| 63 Cu | 72 | 2 | 1.41 | 0.71 | ppb | 1.14 | 900.00 | |
| 66 Zn | 72 | 2 | 12.35 | 6.18 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 146.94 | 73.47 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 47.52 | 900.00 | |
| 88 Sr | 103 | 1 | 178.00 | 89.00 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 15.62 | 7.81 | ppb | 1.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 34.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 39.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 4.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 9.00 | 900.00 | |
| 137 Ba | 159 | 1 | 28.76 | 14.38 | ppb | 0.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.09 | ppb | 3.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 3.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 290534 | 0.69 | 933317 | 31.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1961611 | 1.05 | 2639197 | 74.3 | 70 - 130 | |
| 45 Sc | 2 | 350993 | 1.08 | 364590 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 559717 | 1.01 | 649076 | 86.2 | 70 | - | 130 |
| 72 Ge | 2 | 143283 | 0.50 | 145622 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 3745686 | 1.04 | 4189460 | 89.4 | 70 | - | 130 |
| 115 In | 1 | 4427740 | 1.27 | 4630434 | 95.6 | 70 | - | 130 |
| 115 In | 2 | 1185897 | 1.14 | 1254271 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 6797876 | 0.35 | 6569468 | 103.5 | 70 | - | 130 |
| 175 Lu | 1 | 6789622 | 0.58 | 6381799 | 106.4 | 70 | - | 130 |
| 209 Bi | 1 | 3844145 | 1.54 | 3784338 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\022SMPL.D\022SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 01:13 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC20063-7F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2201 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 569.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 195.60 | 900.00 | |
| 11 B | 6 | 1 | 116.50 | 58.25 | ppb | 1.76 | 900.00 | |
| 11 B | 45 | 2 | 76.30 | 38.15 | ppb | 2.10 | 900.00 | |
| 23 Na | 45 | 1 | 38960.00 | 19480.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 56600.00 | 28300.00 | ppb | 0.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 1540.60 | 770.30 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 2236.00 | 1118.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 6.41 | 3.20 | ppb | 8.51 | 90000.00 | |
| 27 Al | 45 | 2 | 8.52 | 4.26 | ppb | 3.06 | 90000.00 | |
| 39 K | 45 | 1 | 5606.00 | 2803.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 16328.00 | 8164.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 0.51 | ppb | 5.28 | 900.00 | |
| 51 V | 45 | 2 | 1.54 | 0.77 | ppb | 1.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.11 | ppb | 4.95 | 900.00 | |
| 55 Mn | 45 | 2 | 1964.80 | 982.40 | ppb | 0.44 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 25940.00 | 12970.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 18.66 | 9.33 | ppb | 0.05 | 900.00 | |
| 60 Ni | 45 | 2 | 24.82 | 12.41 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 1.24 | 0.62 | ppb | 1.55 | 900.00 | |
| 66 Zn | 72 | 2 | 14.17 | 7.09 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 77.22 | 38.61 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.00 | ppb | 3118.00 | 900.00 | |
| 88 Sr | 103 | 1 | 133.98 | 66.99 | ppb | 1.04 | 900.00 | |
| 98 Mo | 103 | 1 | 15.64 | 7.82 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 20.70 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 18.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 4.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.15 | ppb | 3.63 | 900.00 | |
| 137 Ba | 159 | 1 | 17.05 | 8.53 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 8.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 19.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 291442 | 1.72 | 933317 | 31.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1980429 | 0.56 | 2639197 | 75.0 | 70 - 130 | |
| 45 Sc | 2 | 355968 | 0.14 | 364590 | 97.6 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 562007 | 0.43 | 649076 | 86.6 | 70 - | 130 |
| 72 | Ge | 2 | 145367 | 0.48 | 145622 | 99.8 | 70 - | 130 |
| 103 | Rh | 1 | 3827574 | 1.29 | 4189460 | 91.4 | 70 - | 130 |
| 115 | In | 1 | 4486508 | 0.18 | 4630434 | 96.9 | 70 - | 130 |
| 115 | In | 2 | 1206527 | 0.74 | 1254271 | 96.2 | 70 - | 130 |
| 159 | Tb | 1 | 6838983 | 0.48 | 6569468 | 104.1 | 70 - | 130 |
| 175 | Lu | 1 | 6804397 | 0.31 | 6381799 | 106.6 | 70 - | 130 |
| 209 | Bi | 1 | 3850236 | 0.83 | 3784338 | 101.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Apr 25 2013 01:20 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-8F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 7689.90 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 44.82 | 900.00 | |
| 11 B | 6 | 1 | 114.30 | 57.15 | ppb | 1.52 | 900.00 | |
| 11 B | 45 | 2 | 76.70 | 38.35 | ppb | 3.66 | 900.00 | |
| 23 Na | 45 | 1 | 44420.00 | 22210.00 | ppb | 1.30 | 90000.00 | |
| 23 Na | 45 | 2 | 63440.00 | 31720.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 2588.00 | 1294.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 3672.00 | 1836.00 | ppb | 1.26 | 90000.00 | |
| 27 Al | 45 | 1 | 15.87 | 7.94 | ppb | 1.53 | 90000.00 | |
| 27 Al | 45 | 2 | 14.64 | 7.32 | ppb | 33.19 | 90000.00 | |
| 39 K | 45 | 1 | 4602.00 | 2301.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 26600.00 | 13300.00 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.39 | 0.69 | ppb | 5.65 | 900.00 | |
| 51 V | 45 | 2 | 1.54 | 0.77 | ppb | 1.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 2.87 | 900.00 | |
| 55 Mn | 45 | 2 | 1917.60 | 958.80 | ppb | 0.40 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 30960.00 | 15480.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 27.38 | 13.69 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 19.89 | 9.95 | ppb | 0.68 | 900.00 | |
| 63 Cu | 72 | 2 | 1.48 | 0.74 | ppb | 0.89 | 900.00 | |
| 66 Zn | 72 | 2 | 12.75 | 6.37 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 159.66 | 79.83 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.01 | ppb | 575.31 | 900.00 | |
| 88 Sr | 103 | 1 | 178.72 | 89.36 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 16.67 | 8.34 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.91 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 133.07 | 900.00 | |
| 120 Sn | 115 | 1 | 1.97 | 0.99 | ppb | 0.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.14 | ppb | 3.98 | 900.00 | |
| 137 Ba | 159 | 1 | 29.82 | 14.91 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.09 | ppb | 2.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 2.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 298537 | 1.95 | 933317 | 32.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 1985067 | 1.21 | 2639197 | 75.2 | 70 - 130 | |
| 45 Sc | 2 | 354942 | 0.11 | 364590 | 97.4 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 562498 | 0.47 | 649076 | 86.7 | 70 | - | 130 |
| 72 Ge | 2 | 144892 | 0.27 | 145622 | 99.5 | 70 | - | 130 |
| 103 Rh | 1 | 3801615 | 0.37 | 4189460 | 90.7 | 70 | - | 130 |
| 115 In | 1 | 4456454 | 0.45 | 4630434 | 96.2 | 70 | - | 130 |
| 115 In | 2 | 1191711 | 0.30 | 1254271 | 95.0 | 70 | - | 130 |
| 159 Tb | 1 | 6806375 | 1.06 | 6569468 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 6785509 | 0.34 | 6381799 | 106.3 | 70 | - | 130 |
| 209 Bi | 1 | 3808332 | 0.89 | 3784338 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 25 2013 01:27 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 65.00 | 65.00 | ppb | 1.41 | 900.00 | |
| 9 Be | 45 | 2 | 49.07 | 49.07 | ppb | 0.57 | 900.00 | |
| 11 B | 6 | 1 | 64.73 | 64.73 | ppb | 0.03 | 900.00 | |
| 11 B | 45 | 2 | 48.19 | 48.19 | ppb | 0.96 | 900.00 | |
| 23 Na | 45 | 1 | 4281.00 | 4281.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5306.00 | 5306.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 4292.00 | 4292.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 5242.00 | 5242.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 4391.00 | 4391.00 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 5087.00 | 5087.00 | ppb | 1.30 | 90000.00 | |
| 39 K | 45 | 1 | 4955.00 | 4955.00 | ppb | 1.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 5340.00 | 5340.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.47 | 50.47 | ppb | 0.55 | 900.00 | |
| 51 V | 45 | 2 | 50.30 | 50.30 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 49.95 | 49.95 | ppb | 0.92 | 900.00 | |
| 55 Mn | 45 | 2 | 49.92 | 49.92 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 5288.00 | 5288.00 | ppb | 0.43 | 90000.00 | |
| 59 Co | 45 | 2 | 49.92 | 49.92 | ppb | 1.15 | 900.00 | |
| 60 Ni | 45 | 2 | 49.56 | 49.56 | ppb | 0.75 | 900.00 | |
| 63 Cu | 72 | 2 | 48.63 | 48.63 | ppb | 0.04 | 900.00 | |
| 66 Zn | 72 | 2 | 50.50 | 50.50 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 49.85 | 49.85 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 48.01 | 48.01 | ppb | 1.74 | 900.00 | |
| 88 Sr | 103 | 1 | 52.56 | 52.56 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 51.23 | 51.23 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 49.04 | 49.04 | ppb | 1.07 | 180.00 | |
| 111 Cd | 115 | 2 | 49.90 | 49.90 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | 51.29 | 51.29 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 52.81 | 52.81 | ppb | 1.22 | 900.00 | |
| 137 Ba | 159 | 1 | 48.80 | 48.80 | ppb | 1.12 | 900.00 | |
| 205 Tl | 209 | 1 | 49.80 | 49.80 | ppb | 0.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.53 | 50.53 | ppb | 1.09 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 471692 | 0.63 | 933317 | 50.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2348611 | 0.44 | 2639197 | 89.0 | 70 - 130 | |
| 45 Sc | 2 | 363909 | 0.52 | 364590 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 615918 | 0.86 | 649076 | 94.9 | 70 - | 130 |
| 72 | Ge | 2 | 146811 | 0.33 | 145622 | 100.8 | 70 - | 130 |
| 103 | Rh | 1 | 4109189 | 0.30 | 4189460 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 4679686 | 0.65 | 4630434 | 101.1 | 70 - | 130 |
| 115 | In | 2 | 1231360 | 1.00 | 1254271 | 98.2 | 70 - | 130 |
| 159 | Tb | 1 | 6899683 | 0.28 | 6569468 | 105.0 | 70 - | 130 |
| 175 | Lu | 1 | 6830898 | 0.31 | 6381799 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3889694 | 0.30 | 3784338 | 102.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\025SMPL.D\025SMPL.D#
**Date Acquired:** Apr 25 2013 01:34 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2204
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 71.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 69.73 | 900.00 | |
| 11 B | 6 | 1 | 0.43 | 0.43 | ppb | 8.66 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 39.98 | 900.00 | |
| 23 Na | 45 | 1 | 11.78 | 11.78 | ppb | 4.63 | 90000.00 | |
| 23 Na | 45 | 2 | 19.55 | 19.55 | ppb | 3.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.61 | 1.61 | ppb | 7.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.95 | 3.95 | ppb | 10.07 | 90000.00 | |
| 27 Al | 45 | 1 | 1.43 | 1.43 | ppb | 9.27 | 90000.00 | |
| 27 Al | 45 | 2 | 3.34 | 3.34 | ppb | 13.86 | 90000.00 | |
| 39 K | 45 | 1 | -1.28 | -1.28 | ppb | 91.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.32 | 6.32 | ppb | 8.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 43.74 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 12.90 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 66.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.17 | 0.17 | ppb | 9.14 | 900.00 | |
| 56 Fe | 45 | 2 | 6.02 | 6.02 | ppb | 5.48 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 36.73 | 900.00 | |
| 60 Ni | 45 | 2 | 0.14 | 0.14 | ppb | 7.92 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 6.12 | 900.00 | |
| 66 Zn | 72 | 2 | 0.13 | 0.13 | ppb | 3.03 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 50.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 132.34 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 9.41 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 18.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.77 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 461.13 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 10.27 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 28.20 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 118.17 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 2.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 136.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 524839 | 0.91 | 933317 | 56.2 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2392294 | 0.72 | 2639197 | 90.6 | 70 - 130 | |
| 45 Sc | 2 | 364950 | 0.37 | 364590 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 623490 | 0.80 | 649076 | 96.1 | 70 - | 130 |
| 72 | Ge | 2 | 148317 | 0.56 | 145622 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 4220261 | 0.48 | 4189460 | 100.7 | 70 - | 130 |
| 115 | In | 1 | 4778449 | 0.68 | 4630434 | 103.2 | 70 - | 130 |
| 115 | In | 2 | 1272338 | 0.87 | 1254271 | 101.4 | 70 - | 130 |
| 159 | Tb | 1 | 6866759 | 0.45 | 6569468 | 104.5 | 70 - | 130 |
| 175 | Lu | 1 | 6782919 | 1.15 | 6381799 | 106.3 | 70 - | 130 |
| 209 | Bi | 1 | 3996734 | 0.92 | 3784338 | 105.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 25 2013 01:41 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-9F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 274.15 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 44.90 | 900.00 | |
| 11 B | 6 | 1 | 125.34 | 62.67 | ppb | 1.00 | 900.00 | |
| 11 B | 45 | 2 | 89.00 | 44.50 | ppb | 1.06 | 900.00 | |
| 23 Na | 45 | 1 | 9580.00 | 4790.00 | ppb | 1.55 | 90000.00 | |
| 23 Na | 45 | 2 | 13166.00 | 6583.00 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 1608.20 | 804.10 | ppb | 2.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 2210.00 | 1105.00 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 1 | 4.36 | 2.18 | ppb | 8.45 | 90000.00 | |
| 27 Al | 45 | 2 | 6.45 | 3.22 | ppb | 13.21 | 90000.00 | |
| 39 K | 45 | 1 | 2666.00 | 1333.00 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 17608.00 | 8804.00 | ppb | 1.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.95 | 0.48 | ppb | 5.93 | 900.00 | |
| 51 V | 45 | 2 | 1.66 | 0.83 | ppb | 3.78 | 900.00 | |
| 52 Cr | 45 | 2 | 0.69 | 0.35 | ppb | 2.44 | 900.00 | |
| 55 Mn | 45 | 2 | 1577.40 | 788.70 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 8352.00 | 4176.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 5.20 | 2.60 | ppb | 1.50 | 900.00 | |
| 60 Ni | 45 | 2 | 41.94 | 20.97 | ppb | 0.44 | 900.00 | |
| 63 Cu | 72 | 2 | 2.38 | 1.19 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 66.78 | 33.39 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 4.17 | 2.09 | ppb | 1.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.00 | ppb | 1077.00 | 900.00 | |
| 88 Sr | 103 | 1 | 90.04 | 45.02 | ppb | 1.43 | 900.00 | |
| 98 Mo | 103 | 1 | 11.17 | 5.59 | ppb | 0.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.34 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 105.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.47 | 0.23 | ppb | 4.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.48 | 0.24 | ppb | 2.26 | 900.00 | |
| 137 Ba | 159 | 1 | 7.29 | 3.64 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 3.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 10.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 351539 | 2.02 | 933317 | 37.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2061273 | 0.47 | 2639197 | 78.1 | 70 - 130 | |
| 45 Sc | 2 | 352945 | 0.35 | 364590 | 96.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 574572 | 0.72 | 649076 | 88.5 | 70 | - | 130 |
| 72 Ge | 2 | 144893 | 0.72 | 145622 | 99.5 | 70 | - | 130 |
| 103 Rh | 1 | 3891229 | 0.69 | 4189460 | 92.9 | 70 | - | 130 |
| 115 In | 1 | 4475253 | 0.27 | 4630434 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1221252 | 0.44 | 1254271 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 6788612 | 1.19 | 6569468 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 6830840 | 0.85 | 6381799 | 107.0 | 70 | - | 130 |
| 209 Bi | 1 | 3914250 | 1.44 | 3784338 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 25 2013 01:48 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-10F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 538.80 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 149.21 | 900.00 | |
| 11 B | 6 | 1 | 130.50 | 65.25 | ppb | 0.12 | 900.00 | |
| 11 B | 45 | 2 | 88.72 | 44.36 | ppb | 1.82 | 900.00 | |
| 23 Na | 45 | 1 | 6568.00 | 3284.00 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 9060.00 | 4530.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 1177.20 | 588.60 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 1642.40 | 821.20 | ppb | 0.12 | 90000.00 | |
| 27 Al | 45 | 1 | 5.46 | 2.73 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 2 | 7.30 | 3.65 | ppb | 1.65 | 90000.00 | |
| 39 K | 45 | 1 | 3266.00 | 1633.00 | ppb | 0.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 15198.00 | 7599.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 8.88 | 900.00 | |
| 51 V | 45 | 2 | 1.12 | 0.56 | ppb | 1.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 5.35 | 900.00 | |
| 55 Mn | 45 | 2 | 854.60 | 427.30 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 29120.00 | 14560.00 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 19.52 | 9.76 | ppb | 0.25 | 900.00 | |
| 60 Ni | 45 | 2 | 15.80 | 7.90 | ppb | 0.93 | 900.00 | |
| 63 Cu | 72 | 2 | 1.83 | 0.91 | ppb | 0.46 | 900.00 | |
| 66 Zn | 72 | 2 | 19.12 | 9.56 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 59.50 | 29.75 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | -0.16 | -0.08 | ppb | 70.15 | 900.00 | |
| 88 Sr | 103 | 1 | 132.18 | 66.09 | ppb | 1.65 | 900.00 | |
| 98 Mo | 103 | 1 | 6.25 | 3.13 | ppb | 0.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.14 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 82.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 4.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.14 | ppb | 4.29 | 900.00 | |
| 137 Ba | 159 | 1 | 11.91 | 5.96 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.07 | ppb | 7.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 13.09 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 357078 | 1.05 | 933317 | 38.3 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2145678 | 1.01 | 2639197 | 81.3 | 70 - 130 | |
| 45 Sc | 2 | 365976 | 0.36 | 364590 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588066 | 0.43 | 649076 | 90.6 | 70 - | 130 |
| 72 | Ge | 2 | 148872 | 0.89 | 145622 | 102.2 | 70 - | 130 |
| 103 | Rh | 1 | 3946367 | 0.66 | 4189460 | 94.2 | 70 - | 130 |
| 115 | In | 1 | 4614439 | 0.13 | 4630434 | 99.7 | 70 - | 130 |
| 115 | In | 2 | 1251386 | 1.24 | 1254271 | 99.8 | 70 - | 130 |
| 159 | Tb | 1 | 6962213 | 0.52 | 6569468 | 106.0 | 70 - | 130 |
| 175 | Lu | 1 | 6890012 | 0.97 | 6381799 | 108.0 | 70 - | 130 |
| 209 | Bi | 1 | 3890952 | 0.37 | 3784338 | 102.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Apr 25 2013 01:55 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20063-11F |
| Misc Info: | |
| Vial Number: | 2207 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 66.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 500.70 | 900.00 | |
| 11 B | 6 | 1 | 264.20 | 132.10 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 183.88 | 91.94 | ppb | 3.04 | 900.00 | |
| 23 Na | 45 | 1 | 11702.00 | 5851.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 16462.00 | 8231.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 1 | 2508.00 | 1254.00 | ppb | 1.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 3510.00 | 1755.00 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 1 | 5.08 | 2.54 | ppb | 2.00 | 90000.00 | |
| 27 Al | 45 | 2 | 7.68 | 3.84 | ppb | 3.84 | 90000.00 | |
| 39 K | 45 | 1 | 7522.00 | 3761.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 30440.00 | 15220.00 | ppb | 1.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.25 | 0.63 | ppb | 4.32 | 900.00 | |
| 51 V | 45 | 2 | 1.49 | 0.74 | ppb | 1.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 2.07 | 900.00 | |
| 55 Mn | 45 | 2 | 990.80 | 495.40 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 52920.00 | 26460.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 19.56 | 9.78 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 21.02 | 10.51 | ppb | 0.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.98 | 0.49 | ppb | 1.99 | 900.00 | |
| 66 Zn | 72 | 2 | 24.72 | 12.36 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 12.22 | 6.11 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.05 | ppb | 179.25 | 900.00 | |
| 88 Sr | 103 | 1 | 214.80 | 107.40 | ppb | 1.52 | 900.00 | |
| 98 Mo | 103 | 1 | 14.95 | 7.48 | ppb | 1.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 45.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.11 | ppb | 6.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.27 | ppb | 0.81 | 900.00 | |
| 137 Ba | 159 | 1 | 35.74 | 17.87 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.05 | ppb | 7.87 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 19.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 333691 | 1.07 | 933317 | 35.8 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2101150 | 1.13 | 2639197 | 79.6 | 70 - 130 | |
| 45 Sc | 2 | 359672 | 0.42 | 364590 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 583845 | 1.10 | 649076 | 90.0 | 70 - | 130 |
| 72 | Ge | 2 | 146460 | 0.70 | 145622 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 3877217 | 0.61 | 4189460 | 92.5 | 70 - | 130 |
| 115 | In | 1 | 4516869 | 0.10 | 4630434 | 97.5 | 70 - | 130 |
| 115 | In | 2 | 1207344 | 1.25 | 1254271 | 96.3 | 70 - | 130 |
| 159 | Tb | 1 | 6858907 | 0.36 | 6569468 | 104.4 | 70 - | 130 |
| 175 | Lu | 1 | 6743937 | 1.16 | 6381799 | 105.7 | 70 - | 130 |
| 209 | Bi | 1 | 3812817 | 0.32 | 3784338 | 100.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\029SMPL.D\029SMPL.D#
**Date Acquired:** Apr 25 2013 02:02 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-12F
**Misc Info:**
**Vial Number:** 2208
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 78.67 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 1.93 | 0.96 | ppb | 9.87 | 900.00 | |
| 11 B | 45 | 2 | 1.16 | 0.58 | ppb | 23.34 | 900.00 | |
| 23 Na | 45 | 1 | 16.86 | 8.43 | ppb | 2.10 | 90000.00 | |
| 23 Na | 45 | 2 | 21.06 | 10.53 | ppb | 3.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.48 | 0.74 | ppb | 2.64 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.33 | 1.16 | ppb | 5.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.79 | 1.40 | ppb | 12.73 | 90000.00 | |
| 27 Al | 45 | 2 | 4.79 | 2.39 | ppb | 15.43 | 90000.00 | |
| 39 K | 45 | 1 | -1.15 | -0.57 | ppb | 329.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 19.44 | 9.72 | ppb | 4.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.52 | 0.26 | ppb | 12.13 | 900.00 | |
| 51 V | 45 | 2 | 1.40 | 0.70 | ppb | 1.04 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.09 | ppb | 2.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.70 | 0.35 | ppb | 1.28 | 900.00 | |
| 56 Fe | 45 | 2 | 12.00 | 6.00 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 8.97 | 900.00 | |
| 60 Ni | 45 | 2 | 0.30 | 0.15 | ppb | 3.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.50 | 0.25 | ppb | 1.96 | 900.00 | |
| 66 Zn | 72 | 2 | 7.39 | 3.70 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 0.42 | 0.21 | ppb | 3.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 75.32 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 5.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 141.70 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 14.07 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 8.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 11.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 9.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 11.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 54.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 20.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 358589 | 1.18 | 933317 | 38.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2103297 | 1.62 | 2639197 | 79.7 | 70 - 130 | |
| 45 Sc | 2 | 363011 | 0.41 | 364590 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 581679 | 0.84 | 649076 | 89.6 | 70 | - | 130 |
| 72 Ge | 2 | 146029 | 0.52 | 145622 | 100.3 | 70 | - | 130 |
| 103 Rh | 1 | 4085252 | 0.34 | 4189460 | 97.5 | 70 | - | 130 |
| 115 In | 1 | 4653319 | 0.42 | 4630434 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1249085 | 0.69 | 1254271 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 6880587 | 0.21 | 6569468 | 104.7 | 70 | - | 130 |
| 175 Lu | 1 | 6927276 | 0.08 | 6381799 | 108.5 | 70 | - | 130 |
| 209 Bi | 1 | 4001327 | 0.52 | 3784338 | 105.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 25 2013 02:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20836-B1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 565.80 | 28.29 | ppb | 1.49 | 900.00 | |
| 9 Be | 45 | 2 | 491.20 | 24.56 | ppb | 2.90 | 900.00 | |
| 11 B | 6 | 1 | 3.87 | 0.19 | ppb | 24.83 | 900.00 | |
| 11 B | 45 | 2 | 4.40 | 0.22 | ppb | 32.46 | 900.00 | |
| 23 Na | 45 | 1 | 23120.00 | 1156.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 26720.00 | 1336.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 23660.00 | 1183.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 27140.00 | 1357.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 2050.00 | 102.50 | ppb | 1.18 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.27 | 90000.00 | |
| 39 K | 45 | 1 | 25220.00 | 1261.00 | ppb | 0.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 27260.00 | 1363.00 | ppb | 0.27 | 90000.00 | |
| 47 Ti | 45 | 1 | 477.20 | 23.86 | ppb | 1.01 | 900.00 | |
| 51 V | 45 | 2 | 507.40 | 25.37 | ppb | 0.17 | 900.00 | |
| 52 Cr | 45 | 2 | 500.00 | 25.00 | ppb | 0.29 | 900.00 | |
| 55 Mn | 45 | 2 | 506.00 | 25.30 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 2452.00 | 122.60 | ppb | 0.11 | 90000.00 | |
| 59 Co | 45 | 2 | 512.20 | 25.61 | ppb | 0.25 | 900.00 | |
| 60 Ni | 45 | 2 | 501.80 | 25.09 | ppb | 0.45 | 900.00 | |
| 63 Cu | 72 | 2 | 497.80 | 24.89 | ppb | 0.21 | 900.00 | |
| 66 Zn | 72 | 2 | 567.00 | 28.35 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 513.40 | 25.67 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 497.20 | 24.86 | ppb | 0.19 | 900.00 | |
| 88 Sr | 103 | 1 | 502.80 | 25.14 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.68 | 0.03 | ppb | 15.93 | 900.00 | |
| 107 Ag | 115 | 1 | 204.40 | 10.22 | ppb | 0.98 | 180.00 | |
| 111 Cd | 115 | 2 | 503.60 | 25.18 | ppb | 0.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.00 | ppb | 104.98 | 900.00 | |
| 121 Sb | 115 | 1 | 517.80 | 25.89 | ppb | 0.71 | 900.00 | |
| 137 Ba | 159 | 1 | 1960.60 | 98.03 | ppb | 0.21 | 900.00 | |
| 205 Tl | 209 | 1 | 485.40 | 24.27 | ppb | 1.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 992.40 | 49.62 | ppb | 1.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 671286 | 2.09 | 933317 | 71.9 | 70 - 130 | |
| 45 Sc | 1 | 2532882 | 0.85 | 2639197 | 96.0 | 70 - 130 | |
| 45 Sc | 2 | 368968 | 0.01 | 364590 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 638296 | 0.50 | 649076 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 148989 | 0.22 | 145622 | 102.3 | 70 | - | 130 |
| 103 Rh | 1 | 4256687 | 0.72 | 4189460 | 101.6 | 70 | - | 130 |
| 115 In | 1 | 4763482 | 0.26 | 4630434 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1275736 | 0.43 | 1254271 | 101.7 | 70 | - | 130 |
| 159 Tb | 1 | 6802869 | 0.16 | 6569468 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 6645249 | 0.24 | 6381799 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 3869600 | 0.75 | 3784338 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\031SMPL.D\031SMPL.D# |
| Date Acquired: | Apr 25 2013 02:17 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20836-S1 |
| Misc Info: | |
| Vial Number: | 2210 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 550.60 | 27.53 | ppb | 1.15 | 900.00 | |
| 9 Be | 45 | 2 | 488.00 | 24.40 | ppb | 1.23 | 900.00 | |
| 11 B | 6 | 1 | 36.14 | 1.81 | ppb | 3.22 | 900.00 | |
| 11 B | 45 | 2 | 32.94 | 1.65 | ppb | 13.42 | 900.00 | |
| 23 Na | 45 | 1 | 135160.00 | 6758.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 147220.00 | 7361.00 | ppb | 1.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 25600.00 | 1280.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 28440.00 | 1422.00 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 1 | 2150.00 | 107.50 | ppb | 1.82 | 90000.00 | |
| 27 Al | 45 | 2 | 2280.00 | 114.00 | ppb | 0.92 | 90000.00 | |
| 39 K | 45 | 1 | 29280.00 | 1464.00 | ppb | 0.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 36080.00 | 1804.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 493.80 | 24.69 | ppb | 1.38 | 900.00 | |
| 51 V | 45 | 2 | 514.60 | 25.73 | ppb | 0.77 | 900.00 | |
| 52 Cr | 45 | 2 | 506.20 | 25.31 | ppb | 0.37 | 900.00 | |
| 55 Mn | 45 | 2 | 1048.20 | 52.41 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 3214.00 | 160.70 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 522.00 | 26.10 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 505.80 | 25.29 | ppb | 0.76 | 900.00 | |
| 63 Cu | 72 | 2 | 507.80 | 25.39 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 560.20 | 28.01 | ppb | 1.04 | 900.00 | |
| 75 As | 72 | 2 | 523.40 | 26.17 | ppb | 1.37 | 900.00 | |
| 78 Se | 72 | 2 | 510.20 | 25.51 | ppb | 2.18 | 900.00 | |
| 88 Sr | 103 | 1 | 590.00 | 29.50 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 3.65 | 0.18 | ppb | 2.54 | 900.00 | |
| 107 Ag | 115 | 1 | 208.60 | 10.43 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 511.60 | 25.58 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.00 | ppb | 78.58 | 900.00 | |
| 121 Sb | 115 | 1 | 530.60 | 26.53 | ppb | 1.61 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 500.00 | 25.00 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1016.40 | 50.82 | ppb | 0.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 731575 | 0.23 | 933317 | 78.4 | 70 - 130 | |
| 45 Sc | 1 | 2541237 | 0.38 | 2639197 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 367580 | 0.70 | 364590 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 633283 | 1.01 | 649076 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 147625 | 0.75 | 145622 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 4155975 | 0.64 | 4189460 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 4689040 | 0.59 | 4630434 | 101.3 | 70 | - | 130 |
| 115 In | 2 | 1261723 | 0.17 | 1254271 | 100.6 | 70 | - | 130 |
| 159 Tb | 1 | 6730607 | 1.03 | 6569468 | 102.5 | 70 | - | 130 |
| 175 Lu | 1 | 6601122 | 0.69 | 6381799 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 3764513 | 0.23 | 3784338 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\032SMPL.D\032SMPL.D# |
| Date Acquired: | Apr 25 2013 02:24 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20836-S2 |
| Misc Info: | |
| Vial Number: | 2211 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 559.00 | 27.95 | ppb | 1.47 | 900.00 | |
| 9 Be | 45 | 2 | 503.80 | 25.19 | ppb | 2.29 | 900.00 | |
| 11 B | 6 | 1 | 35.38 | 1.77 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 29.46 | 1.47 | ppb | 16.31 | 900.00 | |
| 23 Na | 45 | 1 | 134980.00 | 6749.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 148560.00 | 7428.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 25540.00 | 1277.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 28840.00 | 1442.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 2120.00 | 106.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 2320.00 | 116.00 | ppb | 1.81 | 90000.00 | |
| 39 K | 45 | 1 | 29360.00 | 1468.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 37980.00 | 1899.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 493.60 | 24.68 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 520.80 | 26.04 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 511.80 | 25.59 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 1056.40 | 52.82 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 3210.00 | 160.50 | ppb | 0.79 | 90000.00 | |
| 59 Co | 45 | 2 | 529.00 | 26.45 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 512.00 | 25.60 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 510.20 | 25.51 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 585.40 | 29.27 | ppb | 1.00 | 900.00 | |
| 75 As | 72 | 2 | 524.60 | 26.23 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 522.00 | 26.10 | ppb | 0.54 | 900.00 | |
| 88 Sr | 103 | 1 | 579.20 | 28.96 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 2.54 | 0.13 | ppb | 3.95 | 900.00 | |
| 107 Ag | 115 | 1 | 208.40 | 10.42 | ppb | 0.61 | 180.00 | |
| 111 Cd | 115 | 2 | 515.80 | 25.79 | ppb | 0.68 | 900.00 | |
| 120 Sn | 115 | 1 | 10.92 | 0.55 | ppb | 1.35 | 900.00 | |
| 121 Sb | 115 | 1 | 528.60 | 26.43 | ppb | 1.04 | 900.00 | |
| 137 Ba | 159 | 1 | 2018.00 | 100.90 | ppb | 1.17 | 900.00 | |
| 205 Tl | 209 | 1 | 506.00 | 25.30 | ppb | 1.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1023.60 | 51.18 | ppb | 0.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 742580 | 1.04 | 933317 | 79.6 | 70 - 130 | |
| 45 Sc | 1 | 2584519 | 0.88 | 2639197 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 364012 | 0.21 | 364590 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 637970 | 0.19 | 649076 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 147427 | 0.29 | 145622 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 4236029 | 1.94 | 4189460 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 4726871 | 1.05 | 4630434 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1261367 | 0.21 | 1254271 | 100.6 | 70 | - | 130 |
| 159 Tb | 1 | 6731947 | 1.62 | 6569468 | 102.5 | 70 | - | 130 |
| 175 Lu | 1 | 6591795 | 1.16 | 6381799 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 3741323 | 0.66 | 3784338 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 25 2013 02:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20836-SD1
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 91.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 68.69 | 900.00 | |
| 11 B | 6 | 1 | 35.76 | 3.58 | ppb | 1.29 | 900.00 | |
| 11 B | 45 | 2 | 33.55 | 3.36 | ppb | 1.64 | 900.00 | |
| 23 Na | 45 | 1 | 107800.00 | 10780.00 | ppb | 1.33 | 90000.00 | |
| 23 Na | 45 | 2 | 119400.00 | 11940.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 870.00 | 87.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 953.90 | 95.39 | ppb | 0.38 | 90000.00 | |
| 27 Al | 45 | 1 | 21.25 | 2.13 | ppb | 8.63 | 90000.00 | |
| 27 Al | 45 | 2 | 27.39 | 2.74 | ppb | 14.88 | 90000.00 | |
| 39 K | 45 | 1 | 3591.00 | 359.10 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 7776.00 | 777.60 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.35 | 0.13 | ppb | 9.76 | 900.00 | |
| 51 V | 45 | 2 | -1.10 | -0.11 | ppb | 4.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.01 | ppb | 59.01 | 900.00 | |
| 55 Mn | 45 | 2 | 544.20 | 54.42 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 959.40 | 95.94 | ppb | 0.94 | 90000.00 | |
| 59 Co | 45 | 2 | 6.95 | 0.70 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 11.16 | 1.12 | ppb | 2.64 | 900.00 | |
| 63 Cu | 72 | 2 | 1.72 | 0.17 | ppb | 1.32 | 900.00 | |
| 66 Zn | 72 | 2 | 14.51 | 1.45 | ppb | 1.68 | 900.00 | |
| 75 As | 72 | 2 | 0.66 | 0.07 | ppb | 15.58 | 900.00 | |
| 78 Se | 72 | 2 | 0.64 | 0.06 | ppb | 130.94 | 900.00 | |
| 88 Sr | 103 | 1 | 70.91 | 7.09 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 2.36 | 0.24 | ppb | 1.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.11 | 0.01 | ppb | 22.57 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 90.43 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.01 | ppb | 78.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.03 | ppb | 2.12 | 900.00 | |
| 137 Ba | 159 | 1 | 23.77 | 2.38 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 1.58 | 0.16 | ppb | 0.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.32 | 0.03 | ppb | 9.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 663175 | 0.34 | 933317 | 71.1 | 70 - 130 | |
| 45 Sc | 1 | 2455619 | 0.36 | 2639197 | 93.0 | 70 - 130 | |
| 45 Sc | 2 | 362365 | 0.34 | 364590 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 627851 | 0.38 | 649076 | 96.7 | 70 - | 130 |
| 72 | Ge | 2 | 147043 | 0.36 | 145622 | 101.0 | 70 - | 130 |
| 103 | Rh | 1 | 4110429 | 0.23 | 4189460 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 4639832 | 0.67 | 4630434 | 100.2 | 70 - | 130 |
| 115 | In | 2 | 1233351 | 3.38 | 1254271 | 98.3 | 70 - | 130 |
| 159 | Tb | 1 | 6642597 | 0.99 | 6569468 | 101.1 | 70 - | 130 |
| 175 | Lu | 1 | 6538256 | 0.50 | 6381799 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 3759675 | 0.47 | 3784338 | 99.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\034SMPL.D\034SMPL.D#
**Date Acquired:** Apr 25 2013 02:39 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20836-PS1
**Misc Info:**
**Vial Number:** 2301
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 21.98 | 10.99 | ppb | 1.03 | 900.00 | |
| 9 Be | 45 | 2 | 16.66 | 8.33 | ppb | 7.32 | 900.00 | |
| 11 B | 6 | 1 | 58.46 | 29.23 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 45.48 | 22.74 | ppb | 2.53 | 900.00 | |
| 23 Na | 45 | 1 | 78320.00 | 39160.00 | ppb | 1.71 | 90000.00 | |
| 23 Na | 45 | 2 | 99480.00 | 49740.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 608.20 | 304.10 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 788.00 | 394.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 19.18 | 9.59 | ppb | 2.06 | 90000.00 | |
| 27 Al | 45 | 2 | 23.46 | 11.73 | ppb | 3.94 | 90000.00 | |
| 39 K | 45 | 1 | 2834.00 | 1417.00 | ppb | 1.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 6076.00 | 3038.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.33 | 8.67 | ppb | 0.44 | 900.00 | |
| 51 V | 45 | 2 | 19.14 | 9.57 | ppb | 0.58 | 900.00 | |
| 52 Cr | 45 | 2 | 17.24 | 8.62 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 441.00 | 220.50 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 718.80 | 359.40 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 22.66 | 11.33 | ppb | 0.21 | 900.00 | |
| 60 Ni | 45 | 2 | 21.90 | 10.95 | ppb | 0.92 | 900.00 | |
| 63 Cu | 72 | 2 | 17.16 | 8.58 | ppb | 0.68 | 900.00 | |
| 66 Zn | 72 | 2 | 24.52 | 12.26 | ppb | 1.22 | 900.00 | |
| 75 As | 72 | 2 | 17.59 | 8.79 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 15.54 | 7.77 | ppb | 2.84 | 900.00 | |
| 88 Sr | 103 | 1 | 75.04 | 37.52 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 19.87 | 9.94 | ppb | 0.64 | 900.00 | |
| 107 Ag | 115 | 1 | 17.05 | 8.53 | ppb | 0.53 | 180.00 | |
| 111 Cd | 115 | 2 | 16.81 | 8.40 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | 18.25 | 9.13 | ppb | 0.87 | 900.00 | |
| 121 Sb | 115 | 1 | 18.25 | 9.12 | ppb | 0.77 | 900.00 | |
| 137 Ba | 159 | 1 | 35.48 | 17.74 | ppb | 0.33 | 900.00 | |
| 205 Tl | 209 | 1 | 17.49 | 8.75 | ppb | 1.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.61 | 8.81 | ppb | 1.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 444867 | 1.02 | 933317 | 47.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2222038 | 0.77 | 2639197 | 84.2 | 70 - 130 | |
| 45 Sc | 2 | 353843 | 0.36 | 364590 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 587103 | 0.39 | 649076 | 90.5 | 70 | - | 130 |
| 72 Ge | 2 | 142670 | 0.78 | 145622 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 3880453 | 0.60 | 4189460 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 4435306 | 0.85 | 4630434 | 95.8 | 70 | - | 130 |
| 115 In | 2 | 1210411 | 0.61 | 1254271 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 6660695 | 0.60 | 6569468 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 6597991 | 0.33 | 6381799 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 3687537 | 1.14 | 3784338 | 97.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\035SMPL.D\035SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 02:46 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20063-6F | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2302 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 40.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1835.40 | 900.00 | |
| 11 B | 6 | 1 | 90.50 | 18.10 | ppb | 8.03 | 900.00 | |
| 11 B | 45 | 2 | 71.80 | 14.36 | ppb | 3.77 | 900.00 | |
| 23 Na | 45 | 1 | 55150.00 | 11030.00 | ppb | 10.47 | 90000.00 | |
| 23 Na | 45 | 2 | 62700.00 | 12540.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 3243.50 | 648.70 | ppb | 9.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 3797.50 | 759.50 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 11.84 | 2.37 | ppb | 22.34 | 90000.00 | |
| 27 Al | 45 | 2 | 13.52 | 2.70 | ppb | 10.65 | 90000.00 | |
| 39 K | 45 | 1 | 5175.00 | 1035.00 | ppb | 12.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 28940.00 | 5788.00 | ppb | 11.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.26 | ppb | 16.87 | 900.00 | |
| 51 V | 45 | 2 | 0.22 | 0.04 | ppb | 24.99 | 900.00 | |
| 52 Cr | 45 | 2 | 0.61 | 0.12 | ppb | 4.30 | 900.00 | |
| 55 Mn | 45 | 2 | 1994.50 | 398.90 | ppb | 1.24 | 900.00 | |
| 56 Fe | 45 | 2 | 31305.00 | 6261.00 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 26.58 | 5.32 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 18.86 | 3.77 | ppb | 1.15 | 900.00 | |
| 63 Cu | 72 | 2 | 1.73 | 0.35 | ppb | 4.99 | 900.00 | |
| 66 Zn | 72 | 2 | 11.37 | 2.27 | ppb | 2.07 | 900.00 | |
| 75 As | 72 | 2 | 151.90 | 30.38 | ppb | 0.08 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.05 | ppb | 87.62 | 900.00 | |
| 88 Sr | 103 | 1 | 195.60 | 39.12 | ppb | 8.84 | 900.00 | |
| 98 Mo | 103 | 1 | 16.05 | 3.21 | ppb | 8.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 12.91 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.01 | ppb | 37.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 4555.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.05 | ppb | 9.50 | 900.00 | |
| 137 Ba | 159 | 1 | 32.13 | 6.43 | ppb | 11.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.32 | 0.06 | ppb | 13.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.01 | ppb | 18.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 535967 | 6.87 | 933317 | 57.4 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2254849 | 9.57 | 2639197 | 85.4 | 70 - 130 | |
| 45 Sc | 2 | 358030 | 0.40 | 364590 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 593852 | 7.82 | 649076 | 91.5 | 70 - | 130 |
| 72 | Ge | 2 | 145419 | 0.87 | 145622 | 99.9 | 70 - | 130 |
| 103 | Rh | 1 | 3809617 | 8.32 | 4189460 | 90.9 | 70 - | 130 |
| 115 | In | 1 | 4345288 | 8.49 | 4630434 | 93.8 | 70 - | 130 |
| 115 | In | 2 | 1238470 | 1.01 | 1254271 | 98.7 | 70 - | 130 |
| 159 | Tb | 1 | 6336298 | 8.45 | 6569468 | 96.5 | 70 - | 130 |
| 175 | Lu | 1 | 6239119 | 8.64 | 6381799 | 97.8 | 70 - | 130 |
| 209 | Bi | 1 | 3606886 | 7.91 | 3784338 | 95.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 25 2013 02:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.97 | 57.97 | ppb | 0.75 | 900.00 | |
| 9 Be | 45 | 2 | 49.75 | 49.75 | ppb | 0.48 | 900.00 | |
| 11 B | 6 | 1 | 58.24 | 58.24 | ppb | 0.11 | 900.00 | |
| 11 B | 45 | 2 | 49.32 | 49.32 | ppb | 0.43 | 900.00 | |
| 23 Na | 45 | 1 | 4627.00 | 4627.00 | ppb | 1.43 | 90000.00 | |
| 23 Na | 45 | 2 | 5195.00 | 5195.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 4633.00 | 4633.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 5180.00 | 5180.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 4685.00 | 4685.00 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 2 | 5142.00 | 5142.00 | ppb | 0.35 | 90000.00 | |
| 39 K | 45 | 1 | 5008.00 | 5008.00 | ppb | 1.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 5219.00 | 5219.00 | ppb | 0.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.22 | 50.22 | ppb | 0.75 | 900.00 | |
| 51 V | 45 | 2 | 49.93 | 49.93 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 49.45 | 49.45 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 49.52 | 49.52 | ppb | 0.18 | 900.00 | |
| 56 Fe | 45 | 2 | 5172.00 | 5172.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 49.33 | 49.33 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 48.88 | 48.88 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 48.27 | 48.27 | ppb | 0.85 | 900.00 | |
| 66 Zn | 72 | 2 | 49.60 | 49.60 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 49.89 | 49.89 | ppb | 0.87 | 900.00 | |
| 78 Se | 72 | 2 | 48.93 | 48.93 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 52.47 | 52.47 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 51.50 | 51.50 | ppb | 0.80 | 900.00 | |
| 107 Ag | 115 | 1 | 49.50 | 49.50 | ppb | 2.25 | 180.00 | |
| 111 Cd | 115 | 2 | 49.76 | 49.76 | ppb | 0.52 | 900.00 | |
| 120 Sn | 115 | 1 | 52.06 | 52.06 | ppb | 1.56 | 900.00 | |
| 121 Sb | 115 | 1 | 52.56 | 52.56 | ppb | 1.05 | 900.00 | |
| 137 Ba | 159 | 1 | 49.60 | 49.60 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 49.99 | 49.99 | ppb | 0.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.56 | 50.56 | ppb | 1.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 640530 | 0.68 | 933317 | 68.6 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2489666 | 0.81 | 2639197 | 94.3 | 70 - 130 | |
| 45 Sc | 2 | 360118 | 0.55 | 364590 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 621688 | 0.67 | 649076 | 95.8 | 70 | - | 130 |
| 72 Ge | 2 | 144092 | 0.63 | 145622 | 98.9 | 70 | - | 130 |
| 103 Rh | 1 | 4069181 | 1.36 | 4189460 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 4556579 | 0.72 | 4630434 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1210107 | 0.65 | 1254271 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 6584568 | 0.96 | 6569468 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 6475855 | 0.83 | 6381799 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 3699093 | 1.27 | 3784338 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\037SMPL.D\037SMPL.D#
Date Acquired: Apr 25 2013 03:00 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 3846.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 74.06 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.24 | ppb | 13.29 | 900.00 | |
| 11 B | 45 | 2 | 0.05 | 0.05 | ppb | 27.03 | 900.00 | |
| 23 Na | 45 | 1 | 9.30 | 9.30 | ppb | 8.19 | 90000.00 | |
| 23 Na | 45 | 2 | 12.44 | 12.44 | ppb | 8.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.28 | 0.28 | ppb | 27.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.10 | 1.10 | ppb | 35.25 | 90000.00 | |
| 27 Al | 45 | 1 | 0.20 | 0.20 | ppb | 33.24 | 90000.00 | |
| 27 Al | 45 | 2 | 1.10 | 1.10 | ppb | 36.45 | 90000.00 | |
| 39 K | 45 | 1 | -0.11 | -0.11 | ppb | 366.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.95 | 1.95 | ppb | 12.94 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 62.38 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 8.26 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 49.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 30.29 | 900.00 | |
| 56 Fe | 45 | 2 | 1.70 | 1.70 | ppb | 28.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 49.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.10 | ppb | 4.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 6.33 | 900.00 | |
| 66 Zn | 72 | 2 | 0.15 | 0.15 | ppb | 8.22 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 767.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 26.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 32.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 15.13 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.01 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 72.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 16.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 37.40 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 70.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 5.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 116.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 667959 | 1.54 | 933317 | 71.6 | 70 - 130 | |
| 45 Sc | 1 | 2478776 | 0.67 | 2639197 | 93.9 | 70 - 130 | |
| 45 Sc | 2 | 361694 | 0.13 | 364590 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 629977 | 0.20 | 649076 | 97.1 | 70 - | 130 |
| 72 | Ge | 2 | 145947 | 0.31 | 145622 | 100.2 | 70 - | 130 |
| 103 | Rh | 1 | 4160024 | 0.76 | 4189460 | 99.3 | 70 - | 130 |
| 115 | In | 1 | 4647149 | 1.20 | 4630434 | 100.4 | 70 - | 130 |
| 115 | In | 2 | 1245805 | 0.21 | 1254271 | 99.3 | 70 - | 130 |
| 159 | Tb | 1 | 6566009 | 1.01 | 6569468 | 99.9 | 70 - | 130 |
| 175 | Lu | 1 | 6362043 | 0.78 | 6381799 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 3765404 | 1.25 | 3784338 | 99.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\038SMPL.D\038SMPL.D# |
| Date Acquired: | Apr 25 2013 03:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20063-8F |
| Misc Info: | |
| Vial Number: | 2305 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 53.63 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | -0.01 | ppb | 58.84 | 900.00 | |
| 11 B | 6 | 1 | 88.00 | 17.60 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 70.70 | 14.14 | ppb | 4.51 | 900.00 | |
| 23 Na | 45 | 1 | 53450.00 | 10690.00 | ppb | 1.40 | 90000.00 | |
| 23 Na | 45 | 2 | 63100.00 | 12620.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 3088.50 | 617.70 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 3805.00 | 761.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 10.05 | 2.01 | ppb | 7.31 | 90000.00 | |
| 27 Al | 45 | 2 | 13.34 | 2.67 | ppb | 3.41 | 90000.00 | |
| 39 K | 45 | 1 | 4934.00 | 986.80 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 27410.00 | 5482.00 | ppb | 1.00 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.20 | 0.24 | ppb | 4.38 | 900.00 | |
| 51 V | 45 | 2 | 0.26 | 0.05 | ppb | 15.01 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | 0.00 | ppb | 28.37 | 900.00 | |
| 55 Mn | 45 | 2 | 1997.00 | 399.40 | ppb | 0.88 | 900.00 | |
| 56 Fe | 45 | 2 | 31030.00 | 6206.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 27.05 | 5.41 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 19.64 | 3.93 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 1.89 | 0.38 | ppb | 1.13 | 900.00 | |
| 66 Zn | 72 | 2 | 13.04 | 2.61 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 165.25 | 33.05 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.03 | ppb | 261.94 | 900.00 | |
| 88 Sr | 103 | 1 | 187.30 | 37.46 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 16.26 | 3.25 | ppb | 1.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 16.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 12072.00 | 900.00 | |
| 120 Sn | 115 | 1 | 1.97 | 0.39 | ppb | 1.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.05 | ppb | 8.66 | 900.00 | |
| 137 Ba | 159 | 1 | 31.44 | 6.29 | ppb | 0.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.06 | ppb | 1.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.01 | ppb | 13.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 564387 | 0.60 | 933317 | 60.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2378644 | 0.16 | 2639197 | 90.1 | 70 - 130 | |
| 45 Sc | 2 | 360421 | 0.42 | 364590 | 98.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 617256 | 0.43 | 649076 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 145047 | 0.36 | 145622 | 99.6 | 70 | - | 130 |
| 103 Rh | 1 | 3972581 | 0.77 | 4189460 | 94.8 | 70 | - | 130 |
| 115 In | 1 | 4510492 | 0.90 | 4630434 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 1218484 | 0.44 | 1254271 | 97.1 | 70 | - | 130 |
| 159 Tb | 1 | 6435596 | 0.52 | 6569468 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 6363139 | 0.56 | 6381799 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3661782 | 0.36 | 3784338 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\039SMPL.D\039SMPL.D#
**Date Acquired:** Apr 25 2013 03:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20061-2F
**Misc Info:**
**Vial Number:** 2306
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 165.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 43.30 | 21.65 | ppb | 1.19 | 900.00 | |
| 11 B | 45 | 2 | 33.26 | 16.63 | ppb | 7.57 | 900.00 | |
| 23 Na | 45 | 1 | 366400.00 | 183200.00 | ppb | 1.07 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 472200.00 | 236100.00 | ppb | 0.58 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 36760.00 | 18380.00 | ppb | 1.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 46100.00 | 23050.00 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 10.54 | 5.27 | ppb | 7.43 | 90000.00 | |
| 27 Al | 45 | 2 | 13.69 | 6.85 | ppb | 3.15 | 90000.00 | |
| 39 K | 45 | 1 | 5320.00 | 2660.00 | ppb | 1.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 124560.00 | 62280.00 | ppb | 0.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.57 | 0.78 | ppb | 3.38 | 900.00 | |
| 51 V | 45 | 2 | 5.23 | 2.61 | ppb | 2.86 | 900.00 | |
| 52 Cr | 45 | 2 | 0.52 | 0.26 | ppb | 2.39 | 900.00 | |
| 55 Mn | 45 | 2 | 14.80 | 7.40 | ppb | 1.57 | 900.00 | |
| 56 Fe | 45 | 2 | 18.67 | 9.33 | ppb | 6.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.06 | 0.03 | ppb | 14.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.48 | 0.24 | ppb | 4.58 | 900.00 | |
| 63 Cu | 72 | 2 | 1.64 | 0.82 | ppb | 3.17 | 900.00 | |
| 66 Zn | 72 | 2 | 38.40 | 19.20 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 2.05 | 1.02 | ppb | 2.99 | 900.00 | |
| 78 Se | 72 | 2 | 0.33 | 0.17 | ppb | 15.29 | 900.00 | |
| 88 Sr | 103 | 1 | 626.80 | 313.40 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 4.93 | 2.46 | ppb | 1.92 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 3.48 | 180.00 | |
| 111 Cd | 115 | 2 | 1.12 | 0.56 | ppb | 7.73 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.11 | ppb | 9.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 3.56 | 900.00 | |
| 137 Ba | 159 | 1 | 103.96 | 51.98 | ppb | 0.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.05 | ppb | 0.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 2.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 436057 | 0.23 | 933317 | 46.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2199957 | 0.83 | 2639197 | 83.4 | 70 - 130 | |
| 45 Sc | 2 | 345485 | 0.23 | 364590 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 570401 | 0.51 | 649076 | 87.9 | 70 | - | 130 |
| 72 Ge | 2 | 133926 | 0.37 | 145622 | 92.0 | 70 | - | 130 |
| 103 Rh | 1 | 3562439 | 0.57 | 4189460 | 85.0 | 70 | - | 130 |
| 115 In | 1 | 4119917 | 0.89 | 4630434 | 89.0 | 70 | - | 130 |
| 115 In | 2 | 1101026 | 0.34 | 1254271 | 87.8 | 70 | - | 130 |
| 159 Tb | 1 | 6121477 | 0.41 | 6569468 | 93.2 | 70 | - | 130 |
| 175 Lu | 1 | 6067720 | 0.40 | 6381799 | 95.1 | 70 | - | 130 |
| 209 Bi | 1 | 3251586 | 1.30 | 3784338 | 85.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\040SMPL.D\040SMPL.D#
**Date Acquired:** Apr 25 2013 03:21 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20061-4F
**Misc Info:**
**Vial Number:** 2307
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 90.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 481.59 | 900.00 | |
| 11 B | 6 | 1 | 74.28 | 37.14 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 54.78 | 27.39 | ppb | 4.22 | 900.00 | |
| 23 Na | 45 | 1 | 275800.00 | 137900.00 | ppb | 4.08 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 337400.00 | 168700.00 | ppb | 0.23 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 58940.00 | 29470.00 | ppb | 5.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 71520.00 | 35760.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 2.60 | 1.30 | ppb | 11.26 | 90000.00 | |
| 27 Al | 45 | 2 | 3.71 | 1.85 | ppb | 6.63 | 90000.00 | |
| 39 K | 45 | 1 | 3924.00 | 1962.00 | ppb | 4.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 202600.00 | 101300.00 | ppb | 4.24 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2.05 | 1.03 | ppb | 8.68 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 1.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.13 | 0.06 | ppb | 8.92 | 900.00 | |
| 55 Mn | 45 | 2 | 20900.00 | 10450.00 | ppb | 0.87 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 6798.00 | 3399.00 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 13.82 | 6.91 | ppb | 1.18 | 900.00 | |
| 60 Ni | 45 | 2 | 21.18 | 10.59 | ppb | 1.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.20 | ppb | 3.48 | 900.00 | |
| 66 Zn | 72 | 2 | 58.30 | 29.15 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 2.76 | 1.38 | ppb | 1.26 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.12 | ppb | 37.43 | 900.00 | |
| 88 Sr | 103 | 1 | 862.20 | 431.10 | ppb | 5.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.05 | ppb | 9.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 14.55 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 16.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 3.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 5.62 | 900.00 | |
| 137 Ba | 159 | 1 | 27.86 | 13.93 | ppb | 6.39 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 9.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.05 | ppb | 15.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 448749 | 2.49 | 933317 | 48.1 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2221014 | 3.82 | 2639197 | 84.2 | 70 - 130 | |
| 45 Sc | 2 | 345148 | 0.49 | 364590 | 94.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 559434 | 3.59 | 649076 | 86.2 | 70 | - | 130 |
| 72 | Ge | 2 | 134917 | 0.10 | 145622 | 92.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3511842 | 5.20 | 4189460 | 83.8 | 70 | - | 130 |
| 115 | In | 1 | 4088623 | 5.32 | 4630434 | 88.3 | 70 | - | 130 |
| 115 | In | 2 | 1123060 | 1.00 | 1254271 | 89.5 | 70 | - | 130 |
| 159 | Tb | 1 | 6144034 | 5.04 | 6569468 | 93.5 | 70 | - | 130 |
| 175 | Lu | 1 | 6126221 | 4.43 | 6381799 | 96.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3234584 | 5.48 | 3784338 | 85.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\041SMPL.D\041SMPL.D# |
| Date Acquired: | Apr 25 2013 03:28 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20061-4F |
| Misc Info: | |
| Vial Number: | 2308 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 500.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 500.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -3.11 | -0.01 | ppb | 82.35 | 900.00 | |
| 9 Be | 45 | 2 | -4.69 | -0.01 | ppb | 54.79 | 900.00 | |
| 11 B | 6 | 1 | 525.50 | 1.05 | ppb | 3.66 | 900.00 | |
| 11 B | 45 | 2 | 489.30 | 0.98 | ppb | 10.21 | 900.00 | |
| 23 Na | 45 | 1 | 3552000.00 | 7104.00 | ppb | 0.84 | 90000.00 | |
| 23 Na | 45 | 2 | 3557000.00 | 7114.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 761000.00 | 1522.00 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 788000.00 | 1576.00 | ppb | 1.58 | 90000.00 | |
| 27 Al | 45 | 1 | 956.00 | 1.91 | ppb | 2.14 | 90000.00 | |
| 27 Al | 45 | 2 | 812.00 | 1.62 | ppb | 20.62 | 90000.00 | |
| 39 K | 45 | 1 | 44245.00 | 88.49 | ppb | 2.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 2179500.00 | 4359.00 | ppb | 1.01 | 90000.00 | |
| 47 Ti | 45 | 1 | 26.93 | 0.05 | ppb | 45.65 | 900.00 | |
| 51 V | 45 | 2 | -213.20 | -0.43 | ppb | 1.17 | 900.00 | |
| 52 Cr | 45 | 2 | 23.23 | 0.05 | ppb | 466.09 | 900.00 | |
| 55 Mn | 45 | 2 | 229250.00 | 458.50 | ppb | 0.75 | 900.00 | |
| 56 Fe | 45 | 2 | 74700.00 | 149.40 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 141.55 | 0.28 | ppb | 0.05 | 900.00 | |
| 60 Ni | 45 | 2 | 240.00 | 0.48 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 68.15 | 0.14 | ppb | 2.59 | 900.00 | |
| 66 Zn | 72 | 2 | 878.00 | 1.76 | ppb | 1.11 | 900.00 | |
| 75 As | 72 | 2 | -23.56 | -0.05 | ppb | 11.86 | 900.00 | |
| 78 Se | 72 | 2 | 15.12 | 0.03 | ppb | 77.37 | 900.00 | |
| 88 Sr | 103 | 1 | 8920.00 | 17.84 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | -1.02 | 0.00 | ppb | 23.55 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.00 | ppb | 24.43 | 180.00 | |
| 111 Cd | 115 | 2 | -7.68 | -0.02 | ppb | 26.01 | 900.00 | |
| 120 Sn | 115 | 1 | 39.69 | 0.08 | ppb | 4.31 | 900.00 | |
| 121 Sb | 115 | 1 | -3.90 | -0.01 | ppb | 17.21 | 900.00 | |
| 137 Ba | 159 | 1 | 299.45 | 0.60 | ppb | 2.30 | 900.00 | |
| 205 Tl | 209 | 1 | 2.83 | 0.01 | ppb | 21.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 3.94 | 0.01 | ppb | 5.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 969230 | 2.01 | 933317 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 2780519 | 0.76 | 2639197 | 105.4 | 70 - 130 | |
| 45 Sc | 2 | 376678 | 0.16 | 364590 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 686261 | 1.04 | 649076 | 105.7 | 70 - | 130 |
| 72 | Ge | 2 | 152583 | 0.08 | 145622 | 104.8 | 70 - | 130 |
| 103 | Rh | 1 | 4305919 | 0.37 | 4189460 | 102.8 | 70 - | 130 |
| 115 | In | 1 | 4816110 | 1.09 | 4630434 | 104.0 | 70 - | 130 |
| 115 | In | 2 | 1300894 | 0.15 | 1254271 | 103.7 | 70 - | 130 |
| 159 | Tb | 1 | 6649281 | 0.43 | 6569468 | 101.2 | 70 - | 130 |
| 175 | Lu | 1 | 6455309 | 0.72 | 6381799 | 101.2 | 70 - | 130 |
| 209 | Bi | 1 | 3754547 | 0.28 | 3784338 | 99.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\042SMPL.D\042SMPL.D#
**Date Acquired:** Apr 25 2013 03:35 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20061-6F
**Misc Info:**
**Vial Number:** 2309
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 300.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 54.22 | 900.00 | |
| 11 B | 6 | 1 | 45.64 | 22.82 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 34.84 | 17.42 | ppb | 3.91 | 900.00 | |
| 23 Na | 45 | 1 | 288400.00 | 144200.00 | ppb | 1.19 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 363200.00 | 181600.00 | ppb | 0.70 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 24160.00 | 12080.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 30120.00 | 15060.00 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 1 | 4.09 | 2.05 | ppb | 2.46 | 90000.00 | |
| 27 Al | 45 | 2 | 5.65 | 2.83 | ppb | 5.96 | 90000.00 | |
| 39 K | 45 | 1 | 3482.00 | 1741.00 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 93540.00 | 46770.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.95 | 0.97 | ppb | 3.02 | 900.00 | |
| 51 V | 45 | 2 | 3.74 | 1.87 | ppb | 2.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.71 | 0.36 | ppb | 4.55 | 900.00 | |
| 55 Mn | 45 | 2 | 738.20 | 369.10 | ppb | 0.87 | 900.00 | |
| 56 Fe | 45 | 2 | 2222.00 | 1111.00 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.13 | 0.06 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 0.37 | 0.19 | ppb | 2.69 | 900.00 | |
| 63 Cu | 72 | 2 | 1.12 | 0.56 | ppb | 0.99 | 900.00 | |
| 66 Zn | 72 | 2 | 8.84 | 4.42 | ppb | 1.43 | 900.00 | |
| 75 As | 72 | 2 | 2.00 | 1.00 | ppb | 2.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.09 | ppb | 14.78 | 900.00 | |
| 88 Sr | 103 | 1 | 512.60 | 256.30 | ppb | 0.91 | 900.00 | |
| 98 Mo | 103 | 1 | 0.28 | 0.14 | ppb | 5.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.59 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.02 | ppb | 18.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 5.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 23.09 | 900.00 | |
| 137 Ba | 159 | 1 | 73.26 | 36.63 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 22.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 1.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 482892 | 1.47 | 933317 | 51.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2315820 | 0.66 | 2639197 | 87.7 | 70 - 130 | |
| 45 Sc | 2 | 350186 | 0.24 | 364590 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586245 | 0.45 | 649076 | 90.3 | 70 - | 130 |
| 72 | Ge | 2 | 136269 | 0.25 | 145622 | 93.6 | 70 - | 130 |
| 103 | Rh | 1 | 3688545 | 0.70 | 4189460 | 88.0 | 70 - | 130 |
| 115 | In | 1 | 4236750 | 1.03 | 4630434 | 91.5 | 70 - | 130 |
| 115 | In | 2 | 1138079 | 0.87 | 1254271 | 90.7 | 70 - | 130 |
| 159 | Tb | 1 | 6387413 | 0.53 | 6569468 | 97.2 | 70 - | 130 |
| 175 | Lu | 1 | 6286360 | 0.81 | 6381799 | 98.5 | 70 - | 130 |
| 209 | Bi | 1 | 3339402 | 0.29 | 3784338 | 88.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D25k01.B\043SMPL.D\043SMPL.D#
**Date Acquired:** Apr 25 2013 03:43 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20061-9F
**Misc Info:**
**Vial Number:** 2310
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 25 2013 11:44 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.77 | 0.38 | ppb | 4.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.54 | 0.27 | ppb | 16.22 | 900.00 | |
| 11 B | 6 | 1 | 47.82 | 23.91 | ppb | 1.50 | 900.00 | |
| 11 B | 45 | 2 | 36.44 | 18.22 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 196380.00 | 98190.00 | ppb | 0.57 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 256800.00 | 128400.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 13348.00 | 6674.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 17036.00 | 8518.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 242.00 | 121.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 299.20 | 149.60 | ppb | 0.88 | 90000.00 | |
| 39 K | 45 | 1 | 9382.00 | 4691.00 | ppb | 0.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 54400.00 | 27200.00 | ppb | 0.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.78 | 1.39 | ppb | 0.93 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 3.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.71 | 0.35 | ppb | 1.97 | 900.00 | |
| 55 Mn | 45 | 2 | 4394.00 | 2197.00 | ppb | 1.25 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 16110.00 | 8055.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 54.98 | 27.49 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 31.88 | 15.94 | ppb | 0.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.49 | ppb | 5.73 | 900.00 | |
| 66 Zn | 72 | 2 | 155.50 | 77.75 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 3.62 | 1.81 | ppb | 1.53 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.23 | ppb | 27.84 | 900.00 | |
| 88 Sr | 103 | 1 | 373.00 | 186.50 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 2.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 19.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.06 | ppb | 12.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 5.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 3.07 | 900.00 | |
| 137 Ba | 159 | 1 | 24.44 | 12.22 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 10.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.27 | ppb | 1.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 435887 | 1.65 | 933317 | 46.7 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2275947 | 1.05 | 2639197 | 86.2 | 70 - 130 | |
| 45 Sc | 2 | 346910 | 0.17 | 364590 | 95.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586056 | 0.48 | 649076 | 90.3 | 70 - | 130 |
| 72 | Ge | 2 | 137427 | 0.34 | 145622 | 94.4 | 70 - | 130 |
| 103 | Rh | 1 | 3725842 | 1.02 | 4189460 | 88.9 | 70 - | 130 |
| 115 | In | 1 | 4344221 | 0.58 | 4630434 | 93.8 | 70 - | 130 |
| 115 | In | 2 | 1144931 | 0.44 | 1254271 | 91.3 | 70 - | 130 |
| 159 | Tb | 1 | 6527263 | 0.77 | 6569468 | 99.4 | 70 - | 130 |
| 175 | Lu | 1 | 6455857 | 1.45 | 6381799 | 101.2 | 70 - | 130 |
| 209 | Bi | 1 | 3540076 | 0.63 | 3784338 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\044SMPL.D\044SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 03:50 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20061-9F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2311 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 500.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 500.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -3.79 | -0.01 | ppb | 18.06 | 900.00 | |
| 9 Be | 45 | 2 | -7.66 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 5.53 | 0.01 | ppb | 166.37 | 900.00 | |
| 11 B | 45 | 2 | -28.19 | -0.06 | ppb | 24.20 | 900.00 | |
| 23 Na | 45 | 1 | 349200.00 | 698.40 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 359650.00 | 719.30 | ppb | 2.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 24075.00 | 48.15 | ppb | 1.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 24095.00 | 48.19 | ppb | 2.15 | 90000.00 | |
| 27 Al | 45 | 1 | 1028.50 | 2.06 | ppb | 5.05 | 90000.00 | |
| 27 Al | 45 | 2 | 1101.50 | 2.20 | ppb | 8.06 | 90000.00 | |
| 39 K | 45 | 1 | 13445.00 | 26.89 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 80950.00 | 161.90 | ppb | 2.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 20.38 | 0.04 | ppb | 45.51 | 900.00 | |
| 51 V | 45 | 2 | -247.00 | -0.49 | ppb | 0.29 | 900.00 | |
| 52 Cr | 45 | 2 | -40.28 | -0.08 | ppb | 0.72 | 900.00 | |
| 55 Mn | 45 | 2 | 6170.00 | 12.34 | ppb | 1.40 | 900.00 | |
| 56 Fe | 45 | 2 | 15770.00 | 31.54 | ppb | 3.12 | 90000.00 | |
| 59 Co | 45 | 2 | 64.40 | 0.13 | ppb | 5.38 | 900.00 | |
| 60 Ni | 45 | 2 | 43.01 | 0.09 | ppb | 8.73 | 900.00 | |
| 63 Cu | 72 | 2 | 70.45 | 0.14 | ppb | 3.39 | 900.00 | |
| 66 Zn | 72 | 2 | 317.95 | 0.64 | ppb | 6.30 | 900.00 | |
| 75 As | 72 | 2 | -43.11 | -0.09 | ppb | 7.89 | 900.00 | |
| 78 Se | 72 | 2 | 38.44 | 0.08 | ppb | 97.71 | 900.00 | |
| 88 Sr | 103 | 1 | 484.00 | 0.97 | ppb | 2.19 | 900.00 | |
| 98 Mo | 103 | 1 | -6.00 | -0.01 | ppb | 13.55 | 900.00 | |
| 107 Ag | 115 | 1 | -0.62 | 0.00 | ppb | 79.92 | 180.00 | |
| 111 Cd | 115 | 2 | -8.93 | -0.02 | ppb | 4.74 | 900.00 | |
| 120 Sn | 115 | 1 | -5.13 | -0.01 | ppb | 35.01 | 900.00 | |
| 121 Sb | 115 | 1 | -5.39 | -0.01 | ppb | 6.09 | 900.00 | |
| 137 Ba | 159 | 1 | 38.41 | 0.08 | ppb | 13.46 | 900.00 | |
| 205 Tl | 209 | 1 | 1.85 | 0.00 | ppb | 68.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 2.22 | 0.00 | ppb | 3.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1047435 | 1.13 | 933317 | 112.2 | 70 - 130 | |
| 45 Sc | 1 | 2845572 | 0.41 | 2639197 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 377034 | 0.26 | 364590 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 693571 | 0.31 | 649076 | 106.9 | 70 | - | 130 |
| 72 Ge | 2 | 152665 | 0.23 | 145622 | 104.8 | 70 | - | 130 |
| 103 Rh | 1 | 4412820 | 0.33 | 4189460 | 105.3 | 70 | - | 130 |
| 115 In | 1 | 4887915 | 0.75 | 4630434 | 105.6 | 70 | - | 130 |
| 115 In | 2 | 1285042 | 2.82 | 1254271 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 6654142 | 0.21 | 6569468 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 6439520 | 0.25 | 6381799 | 100.9 | 70 | - | 130 |
| 209 Bi | 1 | 3822149 | 0.40 | 3784338 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\045SMPL.D\045SMPL.D#
Date Acquired: Apr 25 2013 03:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20061-13F
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 23.37 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 1.18 | 900.00 | |
| 11 B | 6 | 1 | 31.62 | 15.81 | ppb | 2.44 | 900.00 | |
| 11 B | 45 | 2 | 25.92 | 12.96 | ppb | 2.92 | 900.00 | |
| 23 Na | 45 | 1 | 31120.00 | 15560.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 39400.00 | 19700.00 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 1264.40 | 632.20 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 1615.20 | 807.60 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 118.04 | 59.02 | ppb | 2.52 | 90000.00 | |
| 27 Al | 45 | 2 | 133.94 | 66.97 | ppb | 0.95 | 90000.00 | |
| 39 K | 45 | 1 | 2398.00 | 1199.00 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 8676.00 | 4338.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.10 | 1.05 | ppb | 4.29 | 900.00 | |
| 51 V | 45 | 2 | 2.72 | 1.36 | ppb | 1.30 | 900.00 | |
| 52 Cr | 45 | 2 | 0.44 | 0.22 | ppb | 2.47 | 900.00 | |
| 55 Mn | 45 | 2 | 13.00 | 6.50 | ppb | 1.77 | 900.00 | |
| 56 Fe | 45 | 2 | 70.28 | 35.14 | ppb | 1.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.74 | 0.37 | ppb | 1.51 | 900.00 | |
| 60 Ni | 45 | 2 | 1.46 | 0.73 | ppb | 2.70 | 900.00 | |
| 63 Cu | 72 | 2 | 3.71 | 1.85 | ppb | 0.49 | 900.00 | |
| 66 Zn | 72 | 2 | 66.22 | 33.11 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 0.79 | 0.39 | ppb | 4.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.97 | 0.49 | ppb | 23.54 | 900.00 | |
| 88 Sr | 103 | 1 | 50.70 | 25.35 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.02 | ppb | 12.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 13.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 22.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 5.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 1.59 | 900.00 | |
| 137 Ba | 159 | 1 | 18.91 | 9.45 | ppb | 1.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 15.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.36 | 0.18 | ppb | 1.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 476005 | 3.01 | 933317 | 51.0 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2284969 | 0.86 | 2639197 | 86.6 | 70 - 130 | |
| 45 Sc | 2 | 352259 | 0.72 | 364590 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 597252 | 0.27 | 649076 | 92.0 | 70 - | 130 |
| 72 | Ge | 2 | 141865 | 0.34 | 145622 | 97.4 | 70 - | 130 |
| 103 | Rh | 1 | 3926727 | 1.10 | 4189460 | 93.7 | 70 - | 130 |
| 115 | In | 1 | 4486897 | 1.06 | 4630434 | 96.9 | 70 - | 130 |
| 115 | In | 2 | 1204293 | 0.31 | 1254271 | 96.0 | 70 - | 130 |
| 159 | Tb | 1 | 6672052 | 0.22 | 6569468 | 101.6 | 70 - | 130 |
| 175 | Lu | 1 | 6577536 | 0.29 | 6381799 | 103.1 | 70 - | 130 |
| 209 | Bi | 1 | 3776883 | 0.70 | 3784338 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\046SMPL.D\046SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 04:04 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20061-4F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2401 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 500.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 500.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -4.77 | -0.01 | ppb | 4.52 | 900.00 | |
| 9 Be | 45 | 2 | -1.56 | 0.00 | ppb | 170.96 | 900.00 | |
| 11 B | 6 | 1 | -3.88 | -0.01 | ppb | 232.28 | 900.00 | |
| 11 B | 45 | 2 | -21.40 | -0.04 | ppb | 209.58 | 900.00 | |
| 23 Na | 45 | 1 | 385800.00 | 771.60 | ppb | 1.88 | 90000.00 | |
| 23 Na | 45 | 2 | 395200.00 | 790.40 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 80950.00 | 161.90 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 80650.00 | 161.30 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 555.00 | 1.11 | ppb | 5.86 | 90000.00 | |
| 27 Al | 45 | 2 | 770.50 | 1.54 | ppb | 5.45 | 90000.00 | |
| 39 K | 45 | 1 | 7350.00 | 14.70 | ppb | 5.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 229900.00 | 459.80 | ppb | 1.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.67 | 0.01 | ppb | 123.19 | 900.00 | |
| 51 V | 45 | 2 | -243.85 | -0.49 | ppb | 0.97 | 900.00 | |
| 52 Cr | 45 | 2 | -42.82 | -0.09 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 23930.00 | 47.86 | ppb | 0.82 | 900.00 | |
| 56 Fe | 45 | 2 | 7275.00 | 14.55 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 12.57 | 0.03 | ppb | 8.27 | 900.00 | |
| 60 Ni | 45 | 2 | 28.51 | 0.06 | ppb | 3.12 | 900.00 | |
| 63 Cu | 72 | 2 | 52.30 | 0.10 | ppb | 3.31 | 900.00 | |
| 66 Zn | 72 | 2 | 168.75 | 0.34 | ppb | 6.43 | 900.00 | |
| 75 As | 72 | 2 | -46.45 | -0.09 | ppb | 3.70 | 900.00 | |
| 78 Se | 72 | 2 | 20.35 | 0.04 | ppb | 100.96 | 900.00 | |
| 88 Sr | 103 | 1 | 883.50 | 1.77 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | -6.29 | -0.01 | ppb | 15.24 | 900.00 | |
| 107 Ag | 115 | 1 | -0.51 | 0.00 | ppb | 91.54 | 180.00 | |
| 111 Cd | 115 | 2 | -7.60 | -0.02 | ppb | 10.25 | 900.00 | |
| 120 Sn | 115 | 1 | -5.56 | -0.01 | ppb | 10.81 | 900.00 | |
| 121 Sb | 115 | 1 | -5.66 | -0.01 | ppb | 3.99 | 900.00 | |
| 137 Ba | 159 | 1 | 39.65 | 0.08 | ppb | 3.34 | 900.00 | |
| 205 Tl | 209 | 1 | -1.26 | 0.00 | ppb | 65.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.74 | 0.00 | ppb | 247.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1032913 | 1.65 | 933317 | 110.7 | 70 - 130 | |
| 45 Sc | 1 | 2720650 | 1.10 | 2639197 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 366683 | 0.36 | 364590 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 667685 | 0.79 | 649076 | 102.9 | 70 | - | 130 |
| 72 Ge | 2 | 149068 | 0.58 | 145622 | 102.4 | 70 | - | 130 |
| 103 Rh | 1 | 4246039 | 0.72 | 4189460 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 4715150 | 0.34 | 4630434 | 101.8 | 70 | - | 130 |
| 115 In | 2 | 1260986 | 2.11 | 1254271 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 6508061 | 0.22 | 6569468 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 6308606 | 0.54 | 6381799 | 98.9 | 70 | - | 130 |
| 209 Bi | 1 | 3760927 | 0.55 | 3784338 | 99.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\047SMPL.D\047SMPL.D# |
| Date Acquired: | Apr 25 2013 04:14 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20836-MB1 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | -0.01 | ppb | 30.38 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 60.41 | 900.00 | |
| 11 B | 6 | 1 | -0.15 | -0.08 | ppb | 11.74 | 900.00 | |
| 11 B | 45 | 2 | -0.12 | -0.06 | ppb | 124.48 | 900.00 | |
| 23 Na | 45 | 1 | 30.34 | 15.17 | ppb | 2.01 | 90000.00 | |
| 23 Na | 45 | 2 | 37.46 | 18.73 | ppb | 2.92 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.60 | -0.30 | ppb | 4.17 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.20 | -0.10 | ppb | 87.68 | 90000.00 | |
| 27 Al | 45 | 1 | -1.01 | -0.51 | ppb | 7.92 | 90000.00 | |
| 27 Al | 45 | 2 | -0.67 | -0.33 | ppb | 15.47 | 90000.00 | |
| 39 K | 45 | 1 | 11.84 | 5.92 | ppb | 7.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.51 | 0.25 | ppb | 56.58 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.03 | -0.02 | ppb | 113.29 | 900.00 | |
| 51 V | 45 | 2 | -0.14 | -0.07 | ppb | 7.20 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.02 | ppb | 14.59 | 900.00 | |
| 55 Mn | 45 | 2 | 0.10 | 0.05 | ppb | 7.30 | 900.00 | |
| 56 Fe | 45 | 2 | -0.31 | -0.15 | ppb | 43.77 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 3.37 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 7898.80 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.02 | ppb | 31.42 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.01 | ppb | 89.35 | 900.00 | |
| 75 As | 72 | 2 | -0.03 | -0.01 | ppb | 82.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.12 | ppb | 31.30 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | 0.00 | ppb | 47.41 | 900.00 | |
| 98 Mo | 103 | 1 | -0.03 | -0.02 | ppb | 6.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 80.59 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 4.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 180.22 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | -0.01 | ppb | 13.50 | 900.00 | |
| 137 Ba | 159 | 1 | -0.03 | -0.01 | ppb | 32.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 7.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 798628 | 0.87 | 933317 | 85.6 | 70 - 130 | |
| 45 Sc | 1 | 2503133 | 0.30 | 2639197 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 355017 | 0.01 | 364590 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 627008 | 0.56 | 649076 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 142806 | 0.49 | 145622 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 4133333 | 1.15 | 4189460 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 4561042 | 0.91 | 4630434 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1235875 | 0.43 | 1254271 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 6532873 | 0.72 | 6569468 | 99.4 | 70 | - | 130 |
| 175 Lu | 1 | 6355630 | 0.38 | 6381799 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 3774970 | 0.57 | 3784338 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Apr 25 2013 04:26 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2403 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 54.67 | 54.67 | ppb | 1.37 | 900.00 | |
| 9 Be | 45 | 2 | 47.71 | 47.71 | ppb | 4.37 | 900.00 | |
| 11 B | 6 | 1 | 54.37 | 54.37 | ppb | 2.06 | 900.00 | |
| 11 B | 45 | 2 | 48.21 | 48.21 | ppb | 2.81 | 900.00 | |
| 23 Na | 45 | 1 | 4821.00 | 4821.00 | ppb | 1.48 | 90000.00 | |
| 23 Na | 45 | 2 | 5066.00 | 5066.00 | ppb | 4.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 4843.00 | 4843.00 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 5025.00 | 5025.00 | ppb | 4.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4868.00 | 4868.00 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 2 | 5020.00 | 5020.00 | ppb | 4.66 | 90000.00 | |
| 39 K | 45 | 1 | 5048.00 | 5048.00 | ppb | 0.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 5234.00 | 5234.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.94 | 49.94 | ppb | 1.11 | 900.00 | |
| 51 V | 45 | 2 | 47.95 | 47.95 | ppb | 4.36 | 900.00 | |
| 52 Cr | 45 | 2 | 47.40 | 47.40 | ppb | 4.47 | 900.00 | |
| 55 Mn | 45 | 2 | 47.44 | 47.44 | ppb | 4.98 | 900.00 | |
| 56 Fe | 45 | 2 | 4965.00 | 4965.00 | ppb | 5.07 | 90000.00 | |
| 59 Co | 45 | 2 | 47.39 | 47.39 | ppb | 4.66 | 900.00 | |
| 60 Ni | 45 | 2 | 46.59 | 46.59 | ppb | 4.62 | 900.00 | |
| 63 Cu | 72 | 2 | 46.47 | 46.47 | ppb | 3.44 | 900.00 | |
| 66 Zn | 72 | 2 | 47.48 | 47.48 | ppb | 3.02 | 900.00 | |
| 75 As | 72 | 2 | 48.20 | 48.20 | ppb | 3.29 | 900.00 | |
| 78 Se | 72 | 2 | 48.43 | 48.43 | ppb | 3.54 | 900.00 | |
| 88 Sr | 103 | 1 | 52.93 | 52.93 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 51.05 | 51.05 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 49.22 | 49.22 | ppb | 2.09 | 180.00 | |
| 111 Cd | 115 | 2 | 48.14 | 48.14 | ppb | 2.46 | 900.00 | |
| 120 Sn | 115 | 1 | 51.91 | 51.91 | ppb | 0.60 | 900.00 | |
| 121 Sb | 115 | 1 | 52.70 | 52.70 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | 49.57 | 49.57 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 50.37 | 50.37 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.55 | 50.55 | ppb | 0.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 737832 | 1.35 | 933317 | 79.1 | 70 - 130 | |
| 45 Sc | 1 | 2512647 | 0.72 | 2639197 | 95.2 | 70 - 130 | |
| 45 Sc | 2 | 369018 | 4.12 | 364590 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 618128 | 0.51 | 649076 | 95.2 | 70 - | 130 |
| 72 | Ge | 2 | 146483 | 2.51 | 145622 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 4017045 | 0.87 | 4189460 | 95.9 | 70 - | 130 |
| 115 | In | 1 | 4534851 | 0.50 | 4630434 | 97.9 | 70 - | 130 |
| 115 | In | 2 | 1240475 | 1.89 | 1254271 | 98.9 | 70 - | 130 |
| 159 | Tb | 1 | 6597196 | 0.49 | 6569468 | 100.4 | 70 - | 130 |
| 175 | Lu | 1 | 6441993 | 0.53 | 6381799 | 100.9 | 70 - | 130 |
| 209 | Bi | 1 | 3669638 | 0.18 | 3784338 | 97.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\049SMPL.D\049SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 04:34 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2404 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 5119.30 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 524.29 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 5.15 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.11 | ppb | 35.45 | 900.00 | |
| 23 Na | 45 | 1 | 16.58 | 16.58 | ppb | 7.36 | 90000.00 | |
| 23 Na | 45 | 2 | 27.93 | 27.93 | ppb | 26.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.75 | 1.75 | ppb | 14.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.37 | 4.37 | ppb | 33.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.90 | 0.90 | ppb | 9.82 | 90000.00 | |
| 27 Al | 45 | 2 | 2.60 | 2.60 | ppb | 27.15 | 90000.00 | |
| 39 K | 45 | 1 | 3.69 | 3.69 | ppb | 13.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.06 | 6.06 | ppb | 12.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 70.44 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 12.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 672.76 | 900.00 | |
| 55 Mn | 45 | 2 | 0.31 | 0.31 | ppb | 40.87 | 900.00 | |
| 56 Fe | 45 | 2 | 3.43 | 3.43 | ppb | 26.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 38.34 | 900.00 | |
| 60 Ni | 45 | 2 | 0.20 | 0.20 | ppb | 8.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 18.82 | 900.00 | |
| 66 Zn | 72 | 2 | 0.10 | 0.10 | ppb | 22.21 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 77.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 33.25 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 6.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 20.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 25.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 331.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 18.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 46.11 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 1093.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 78.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 790748 | 1.06 | 933317 | 84.7 | 70 - 130 | |
| 45 Sc | 1 | 2517228 | 0.22 | 2639197 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 356639 | 0.68 | 364590 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 628446 | 0.60 | 649076 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 144456 | 0.36 | 145622 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 4170659 | 0.62 | 4189460 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 4619923 | 0.66 | 4630434 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 1254718 | 0.45 | 1254271 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 6591891 | 0.34 | 6569468 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 6445319 | 0.37 | 6381799 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 3805073 | 0.98 | 3784338 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D25k01.B\050SMPL.D\050SMPL.D#
Date Acquired: Apr 25 2013 04:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 25 2013 11:44 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 5.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 11.84 | 900.00 | |
| 11 B | 6 | 1 | 4.92 | 4.92 | ppb | 2.44 | 900.00 | |
| 11 B | 45 | 2 | 5.03 | 5.03 | ppb | 4.81 | 900.00 | |
| 23 Na | 45 | 1 | 263.60 | 263.60 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 288.50 | 288.50 | ppb | 1.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 252.60 | 252.60 | ppb | 0.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.00 | 279.00 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 26.90 | 26.90 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 2 | 29.05 | 29.05 | ppb | 2.52 | 90000.00 | |
| 39 K | 45 | 1 | 252.30 | 252.30 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 272.80 | 272.80 | ppb | 1.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 1.98 | 900.00 | |
| 51 V | 45 | 2 | 0.89 | 0.89 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.94 | 0.94 | ppb | 1.37 | 900.00 | |
| 55 Mn | 45 | 2 | 1.08 | 1.08 | ppb | 3.10 | 900.00 | |
| 56 Fe | 45 | 2 | 28.74 | 28.74 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 2.05 | 900.00 | |
| 60 Ni | 45 | 2 | 1.19 | 1.19 | ppb | 1.24 | 900.00 | |
| 63 Cu | 72 | 2 | 0.99 | 0.99 | ppb | 0.31 | 900.00 | |
| 66 Zn | 72 | 2 | 1.97 | 1.97 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 0.48 | 0.48 | ppb | 1.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 13.81 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 1.01 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.82 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 5.58 | 900.00 | |
| 120 Sn | 115 | 1 | 4.84 | 4.84 | ppb | 0.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 3.33 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.45 | 0.45 | ppb | 3.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 0.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 816471 | 1.99 | 933317 | 87.5 | 70 - 130 | |
| 45 Sc | 1 | 2538411 | 0.66 | 2639197 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 357329 | 0.43 | 364590 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 629980 | 0.50 | 649076 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 144327 | 0.14 | 145622 | 99.1 | 70 | - | 130 |
| 103 Rh | 1 | 4127711 | 0.87 | 4189460 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 4625068 | 0.50 | 4630434 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 1252954 | 0.55 | 1254271 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 6547635 | 0.32 | 6569468 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 6387074 | 0.44 | 6381799 | 100.1 | 70 | - | 130 |
| 209 Bi | 1 | 3779718 | 1.10 | 3784338 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D25k01.B\051SMPL.D\051SMPL.D# | | |
| **Date Acquired:** | Apr 25 2013 04:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2406 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 25 2013 11:44 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 53.86 | 53.86 | ppb | 0.44 | 900.00 | |
| 9 Be | 45 | 2 | 50.21 | 50.21 | ppb | 1.96 | 900.00 | |
| 11 B | 6 | 1 | 53.80 | 53.80 | ppb | 0.31 | 900.00 | |
| 11 B | 45 | 2 | 49.79 | 49.79 | ppb | 1.41 | 900.00 | |
| 23 Na | 45 | 1 | 4813.00 | 4813.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 5270.00 | 5270.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 4862.00 | 4862.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 5233.00 | 5233.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 1 | 4922.00 | 4922.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 5210.00 | 5210.00 | ppb | 0.47 | 90000.00 | |
| 39 K | 45 | 1 | 5048.00 | 5048.00 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 5199.00 | 5199.00 | ppb | 0.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.97 | 49.97 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 50.29 | 50.29 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 49.50 | 49.50 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 49.55 | 49.55 | ppb | 0.46 | 900.00 | |
| 56 Fe | 45 | 2 | 5209.00 | 5209.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 49.63 | 49.63 | ppb | 0.74 | 900.00 | |
| 60 Ni | 45 | 2 | 48.80 | 48.80 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 47.88 | 47.88 | ppb | 0.46 | 900.00 | |
| 66 Zn | 72 | 2 | 49.31 | 49.31 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 50.16 | 50.16 | ppb | 0.35 | 900.00 | |
| 78 Se | 72 | 2 | 49.15 | 49.15 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 52.58 | 52.58 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 51.30 | 51.30 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 49.12 | 49.12 | ppb | 2.31 | 180.00 | |
| 111 Cd | 115 | 2 | 49.42 | 49.42 | ppb | 0.77 | 900.00 | |
| 120 Sn | 115 | 1 | 51.90 | 51.90 | ppb | 1.36 | 900.00 | |
| 121 Sb | 115 | 1 | 52.33 | 52.33 | ppb | 1.39 | 900.00 | |
| 137 Ba | 159 | 1 | 49.99 | 49.99 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 50.01 | 50.01 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.67 | 50.67 | ppb | 1.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 765886 | 0.24 | 933317 | 82.1 | 70 - 130 | |
| 45 Sc | 1 | 2543120 | 0.57 | 2639197 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 353691 | 0.24 | 364590 | 97.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 620687 | 0.40 | 649076 | 95.6 | 70 | - | 130 |
| 72 Ge | 2 | 142125 | 0.21 | 145622 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 4036487 | 1.11 | 4189460 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 4539304 | 0.73 | 4630434 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1208023 | 0.21 | 1254271 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 6507487 | 0.80 | 6569468 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 6421142 | 0.74 | 6381799 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 3644085 | 1.54 | 3784338 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D25k01.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D25k01.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Apr 25 2013 04:55 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2407 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 25 2013 11:44 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 350.98 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 56.09 | 900.00 | |
| 11 B | 6 | 1 | 0.22 | 0.22 | ppb | 2.68 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 20.98 | 900.00 | |
| 23 Na | 45 | 1 | 8.70 | 8.70 | ppb | 2.02 | 90000.00 | |
| 23 Na | 45 | 2 | 8.63 | 8.63 | ppb | 5.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.91 | 0.91 | ppb | 5.09 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.61 | 1.61 | ppb | 22.16 | 90000.00 | |
| 27 Al | 45 | 1 | 2.59 | 2.59 | ppb | 2.51 | 90000.00 | |
| 27 Al | 45 | 2 | 3.70 | 3.70 | ppb | 9.44 | 90000.00 | |
| 39 K | 45 | 1 | 4.31 | 4.31 | ppb | 15.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.68 | 4.68 | ppb | 1.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 97.28 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 8.28 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 30.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 3.27 | 900.00 | |
| 56 Fe | 45 | 2 | 1.78 | 1.78 | ppb | 21.97 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 33.79 | 900.00 | |
| 60 Ni | 45 | 2 | 0.14 | 0.14 | ppb | 1.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 8.00 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 13.80 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 89.41 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 63.87 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 2.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 15.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 9.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 173.26 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 9.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 20.08 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 74.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 3.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 62.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 792866 | 0.62 | 933317 | 85.0 | 70 - 130 | |
| 45 Sc | 1 | 2500432 | 0.43 | 2639197 | 94.7 | 70 - 130 | |
| 45 Sc | 2 | 354738 | 0.44 | 364590 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D25k01.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 631407 | 0.46 | 649076 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 143802 | 0.65 | 145622 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 4126173 | 0.80 | 4189460 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 4602624 | 0.14 | 4630434 | 99.4 | 70 | - | 130 |
| 115 In | 2 | 1255252 | 0.49 | 1254271 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 6538259 | 0.74 | 6569468 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 6387041 | 0.65 | 6381799 | 100.1 | 70 | - | 130 |
| 209 Bi | 1 | 3775585 | 0.83 | 3784338 | 99.8 | 70 | - | 130 |

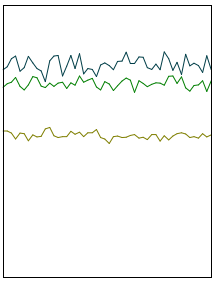
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D25k01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

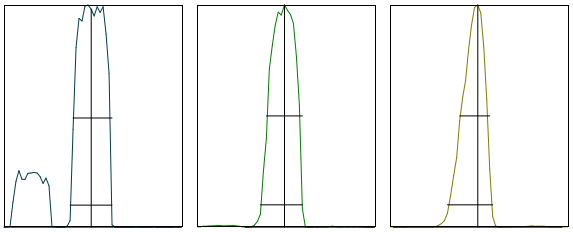
# Tune Report

Tune File : nogas.u
Comment : 042513



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 2,000 | 1529.0 | 1566.5 | 3.28 | 2.30 |
| 89 | 10,000 | 7237.0 | 7129.4 | 2.23 | 1.50 |
| 205 | 10,000 | 5237.0 | 5218.3 | 2.26 | 13.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.149%
Doubly Charged: 70/140 2.571%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 1,543 | 7,188 | 5,262 |
| Axis: | 7.00 | 89.00 | 205.00 |
| W-50%: | 0.65 | 0.60 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 9.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.6 mm | Omega Lens-ce | : | 0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.8 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.27 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 486.2 | 6.17 | |
| QP Focus: | -8 V | 59 | 1498.5 | 2.82 | |
| Cell Exit: | -34 V | 89 | 1597.9 | 3.04 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 25, 2013 09:27:00
Printed : Apr 25, 2013 09:27:50

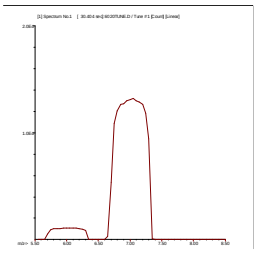
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 25 2013 10:12 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

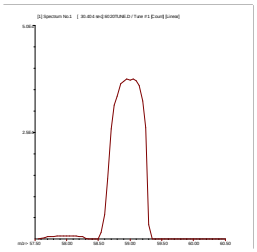
**QC Tune Summary:**
**Pass**

**RSD%**

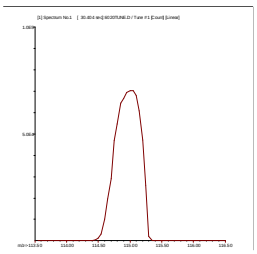
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.72 | 5.00 | 0 |
| 59 Co | 0.85 | 5.00 | |
| 115 In | 0.71 | 5.00 | |
| 205 Tl | 3.45 | 5.00 | |



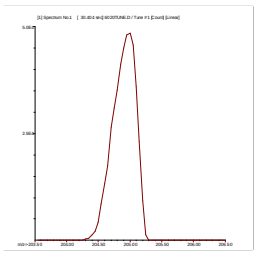
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 25, 2013 05:04 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

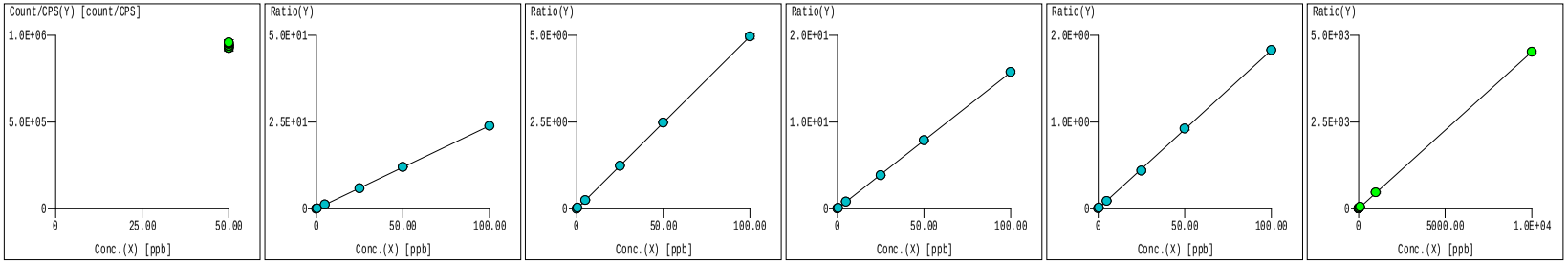
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d25k01.b\002calb.d\002calb.d# | STDA | Apr 25 2013 10:51 am |
| 2 | c:\icpchem\1\data\13d25k01.b\003cals.d\003cals.d# | STDB | Apr 25 2013 10:58 am |
| 3 | c:\icpchem\1\data\13d25k01.b\004cals.d\004cals.d# | STDC | Apr 25 2013 11:05 am |
| 4 | c:\icpchem\1\data\13d25k01.b\005cals.d\005cals.d# | STDD | Apr 25 2013 11:12 am |
| 5 | c:\icpchem\1\data\13d25k01.b\006cals.d\006cals.d# | STDE | Apr 25 2013 11:20 am |
| 6 | c:\icpchem\1\data\13d25k01.b\007cals.d\007cals.d# | STDF | Apr 25 2013 11:27 am |
| 7 | c:\icpchem\1\data\13d25k01.b\008cals.d\008cals.d# | STDG | Apr 25 2013 11:34 am |
| 8 | c:\icpchem\1\data\13d25k01.b\009cals.d\009cals.d# | STDH | Apr 25 2013 11:41 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

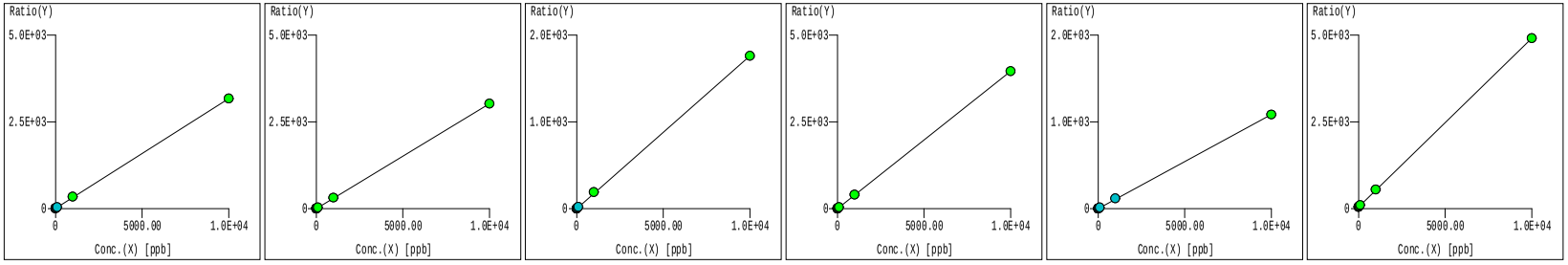
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 7.486E-03 ppb | 1.590E-02 ppb | 3.723E-02 ppb | 3.037E-01 ppb | 4.363E-01 ppb |
| < BEC > | --- ppb | 1.246E-02 ppb | 1.533E-02 ppb | 2.408E-01 ppb | 2.421E-01 ppb | 14.38 ppb |



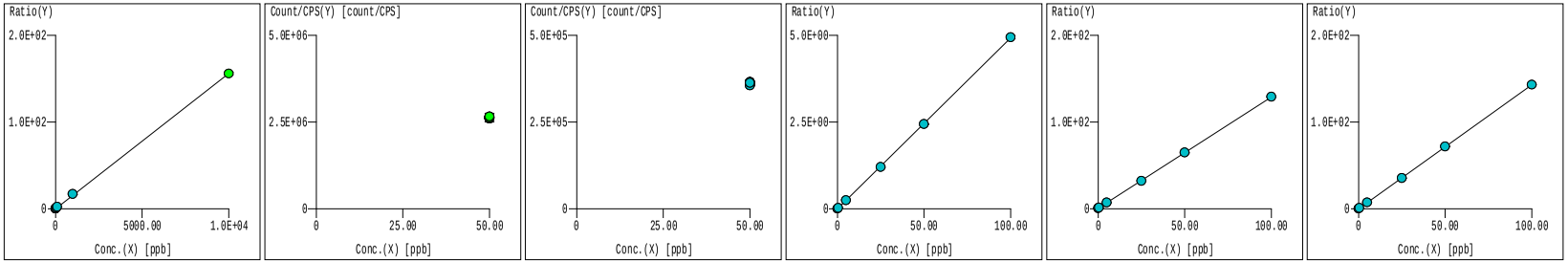

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.937E-01 ppb | 2.247E-01 ppb | 2.768E-01 ppb | 2.646E-01 ppb | 2.849E-01 ppb | 6.902E-01 ppb |
| < BEC > | 22.93 ppb | 7.257E-01 ppb | 7.317E-01 ppb | 1.871 ppb | 1.733 ppb | 104.5 ppb |



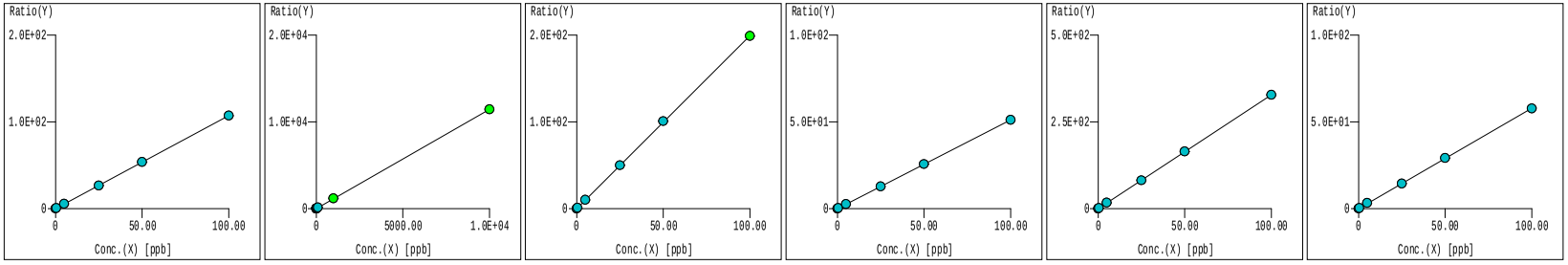
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.524E-01 ppb | --- ppb | --- ppb | 2.669E-02 ppb | 4.459E-02 ppb | 1.567E-02 ppb |
| < BEC > | 10.94 ppb | --- ppb | --- ppb | 6.074E-02 ppb | 5.600E-01 ppb | 1.137E-01 ppb |



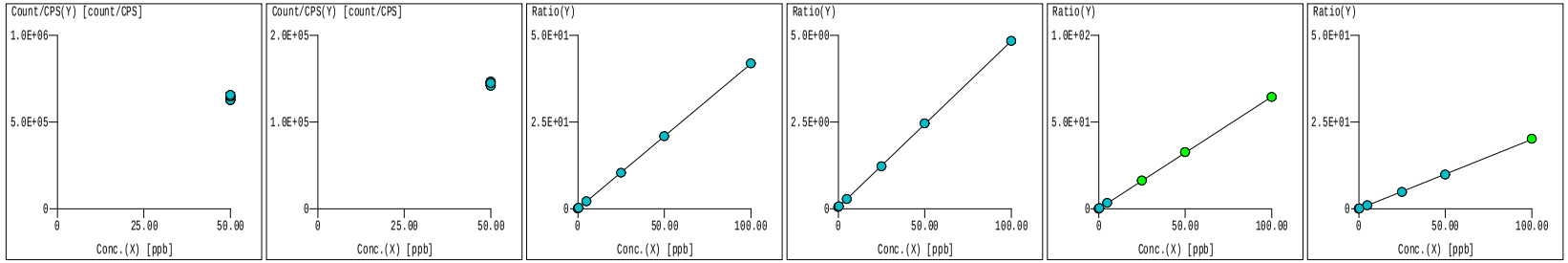

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.771E-03 ppb | 3.156E-01 ppb | 6.062E-03 ppb | 2.873E-02 ppb | 1.677E-02 ppb | 1.686E-02 ppb |
| < BEC > | 1.237E-01 ppb | 3.684 ppb | 7.462E-03 ppb | 5.933E-02 ppb | 7.323E-02 ppb | 1.094E-01 ppb |



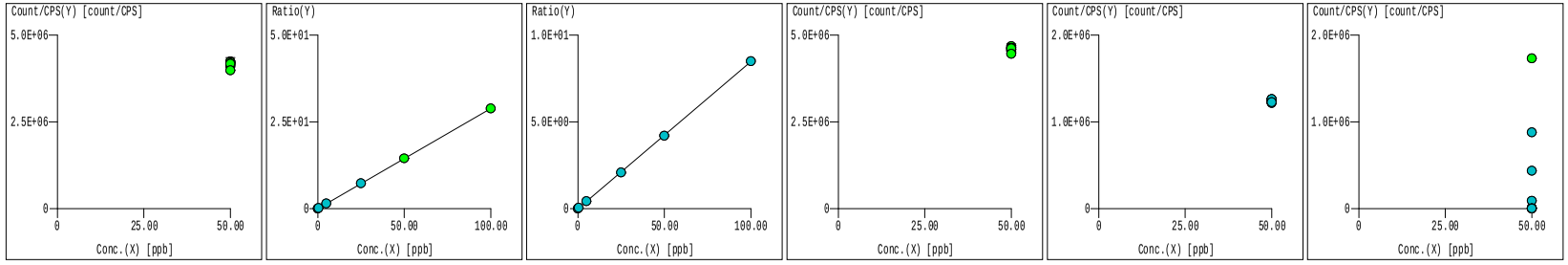
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 8.219E-03 ppb | 3.038E-01 ppb | 4.781E-03 ppb | 1.338E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.270E-01 ppb | 1.000 ppb | 1.407E-02 ppb | 2.042E-02 ppb |



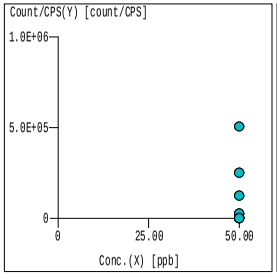

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 2.202E-03 ppb | 1.933E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.781E-03 ppb | 1.989E-02 ppb | --- ppb | --- ppb | --- ppb |

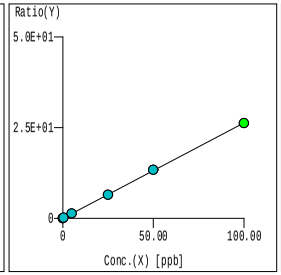


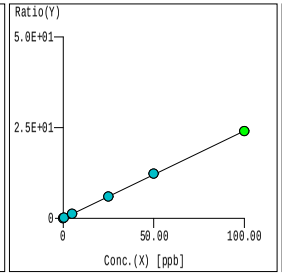
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

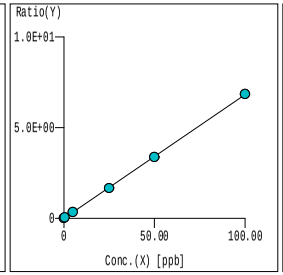
=== Graph Summary ===
Page: 4/4

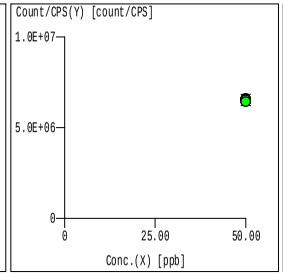
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 0.9999 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.377E-03 ppb | 3.869E-03 ppb | 1.442E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.959E-02 ppb | 1.601E-02 ppb | 1.008E-01 ppb | --- ppb | --- ppb |

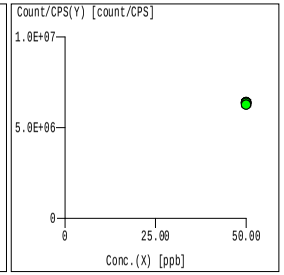


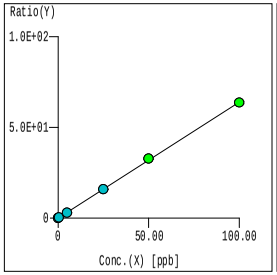



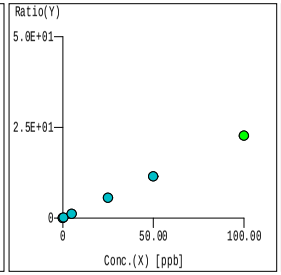



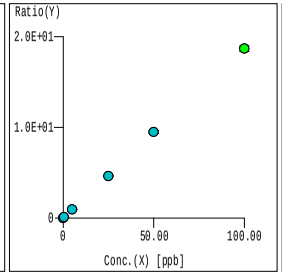



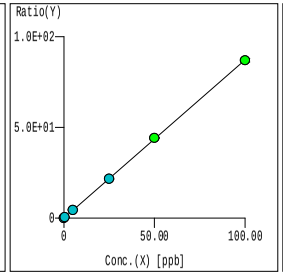



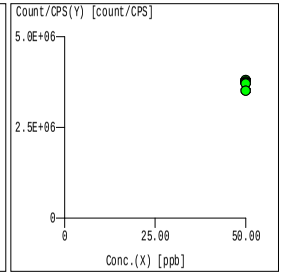

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 2.357E-03 ppb | --- ppb | --- ppb | 4.592E-03 ppb | --- ppb |
| < BEC > | 2.348E-02 ppb | --- ppb | --- ppb | 2.463E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D26s00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\001CAL
Date Acquired: Apr 26 2013 06:04 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 02:36 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1683723.00 | A | 40200.00 | 2.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 21.11 | P | 1.93 | 9.12 |
| 9 | Be | 12.22 | P | 5.09 | 41.66 |
| 11 | B | 1175.64 | P | 1.93 | 0.16 |
| 11 | B | 50.00 | P | 23.33 | 46.66 |
| 23 | Na | 926078.38 | P | 24050.00 | 2.60 |
| 23 | Na | 121491.60 | P | 1060.00 | 0.87 |
| 24 | Mg | 6679.43 | P | 287.60 | 4.31 |
| 24 | Mg | 791.16 | P | 129.00 | 16.31 |
| 27 | Al | 32444.84 | P | 970.40 | 2.99 |
| 27 | Al | 980.07 | P | 31.80 | 3.24 |
| 39 | K | 4285465.00 | A | 46240.00 | 1.08 |
| 44 | Ca | 63648.21 | P | 721.60 | 1.13 |
| 45 | Sc | 4255577.00 | A | 105100.00 | 2.47 |
| 45 | Sc | 452479.91 | P | 2496.00 | 0.55 |
| 47 | Ti | 214.46 | P | 19.54 | 9.11 |
| 51 | V | 3393.31 | P | 52.78 | 1.56 |
| 52 | Cr | 1236.51 | P | 26.21 | 2.12 |
| 55 | Mn | 1226.73 | P | 29.24 | 2.38 |
| 56 | Fe | 35587.78 | P | 308.10 | 0.87 |
| 59 | Co | 73.33 | P | 8.33 | 11.36 |
| 60 | Ni | 310.67 | P | 20.95 | 6.74 |
| 63 | Cu | 6129.75 | P | 107.80 | 1.76 |
| 66 | Zn | 202.23 | P | 2.04 | 1.01 |
| 72 | Ge | 961028.00 | M | 41590.00 | 4.33 |
| 72 | Ge | 191891.80 | P | 608.40 | 0.32 |
| 75 | As | 140.00 | P | 7.05 | 5.04 |
| 78 | Se | 185.11 | P | 12.15 | 6.56 |
| 88 | Sr | 666.71 | P | 43.34 | 6.50 |
| 98 | Mo | 173.34 | P | 20.28 | 11.70 |
| 103 | Rh | 5541599.00 | A | 133200.00 | 2.40 |
| 107 | Ag | 204.45 | P | 26.94 | 13.18 |

C:\ICPCHEM\1\DATA\13D26s00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 14.45 | P | 6.94 | 48.04 |
| 115 | In | 5951997.00 | A | 96250.00 | 1.62 |
| 115 | In | 1508822.00 | A | 6265.00 | 0.42 |
| 118 | (In) | 506.69 | P | 30.55 | 6.03 |
| 118 | (In) | 167.79 | P | 10.18 | 6.07 |
| 120 | Sn | 727.82 | P | 58.25 | 8.00 |
| 121 | Sb | 326.68 | P | 50.00 | 15.31 |
| 137 | Ba | 1279.00 | P | 99.80 | 7.80 |
| 159 | Tb | 7339243.00 | A | 99800.00 | 1.36 |
| 175 | Lu | 6865313.00 | A | 124900.00 | 1.82 |
| 205 | Tl | 1220.10 | P | 33.83 | 2.77 |
| 206 | (Pb) | 213.34 | P | 37.86 | 17.75 |
| 207 | (Pb) | 173.34 | P | 14.53 | 8.38 |
| 208 | Pb | 1424.59 | P | 164.50 | 11.55 |
| 209 | Bi | 3966148.00 | A | 80210.00 | 2.02 |

C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\002CAL
Date Acquired: Apr 26 2013 06:11 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:08 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1669598.00 | A | 28420.00 | 1.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 55.56 | P | 18.36 | 33.05 |
| 9 | Be | 6.67 | P | 6.67 | 100.00 |
| 11 | B | 1033.40 | P | 125.00 | 12.10 |
| 11 | B | 28.89 | P | 6.94 | 24.02 |
| 23 | Na | 926954.38 | P | 11820.00 | 1.28 |
| 23 | Na | 121904.80 | P | 673.40 | 0.55 |
| 24 | Mg | 12583.28 | P | 1178.00 | 9.36 |
| 24 | Mg | 694.48 | P | 71.99 | 10.37 |
| 27 | Al | 39446.71 | P | 1158.00 | 2.94 |
| 27 | Al | 989.00 | P | 48.40 | 4.89 |
| 39 | K | 4307656.00 | A | 35270.00 | 0.82 |
| 44 | Ca | 63470.97 | P | 831.10 | 1.31 |
| 45 | Sc | 4377339.00 | A | 35780.00 | 0.82 |
| 45 | Sc | 454956.41 | P | 3278.00 | 0.72 |
| 47 | Ti | 236.68 | P | 26.67 | 11.27 |
| 51 | V | 3416.87 | P | 103.30 | 3.02 |
| 52 | Cr | 1228.96 | P | 22.36 | 1.82 |
| 55 | Mn | 1219.62 | P | 11.10 | 0.91 |
| 56 | Fe | 35482.12 | P | 139.70 | 0.39 |
| 59 | Co | 66.67 | P | 15.38 | 23.07 |
| 60 | Ni | 304.45 | P | 10.78 | 3.54 |
| 63 | Cu | 6055.05 | P | 41.70 | 0.69 |
| 66 | Zn | 209.78 | P | 13.49 | 6.43 |
| 72 | Ge | 980052.69 | P | 5736.00 | 0.59 |
| 72 | Ge | 192700.59 | P | 30.86 | 0.02 |
| 75 | As | 147.11 | P | 9.25 | 6.29 |
| 78 | Se | 171.56 | P | 10.55 | 6.15 |
| 88 | Sr | 842.28 | P | 30.97 | 3.68 |
| 98 | Mo | 244.46 | P | 16.78 | 6.86 |
| 103 | Rh | 5612562.00 | A | 32810.00 | 0.58 |
| 107 | Ag | 254.46 | P | 20.09 | 7.90 |

C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 16.67 | P | 12.02 | 72.12 |
| 115 | In | 5986270.00 | A | 54320.00 | 0.91 |
| 115 | In | 1511351.00 | A | 7761.00 | 0.51 |
| 118 | (In) | 533.36 | P | 70.24 | 13.17 |
| 118 | (In) | 167.78 | P | 9.62 | 5.73 |
| 120 | Sn | 742.27 | P | 55.01 | 7.41 |
| 121 | Sb | 356.69 | P | 47.26 | 13.25 |
| 137 | Ba | 1303.44 | P | 74.47 | 5.71 |
| 159 | Tb | 7475008.00 | A | 21000.00 | 0.28 |
| 175 | Lu | 7030949.00 | A | 52000.00 | 0.74 |
| 205 | Tl | 1210.10 | P | 73.11 | 6.04 |
| 206 | (Pb) | 196.68 | P | 40.42 | 20.55 |
| 207 | (Pb) | 222.23 | P | 21.43 | 9.64 |
| 208 | Pb | 1520.12 | P | 45.84 | 3.02 |
| 209 | Bi | 4024922.00 | A | 48100.00 | 1.20 |

C:\ICPCHEM\1\DATA\13D26s00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\003CALS.D\003CALS.D#
Date Acquired: Apr 26 2013 06:18 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1669185.00 | A | 22630.00 | 1.36 |
| 7 | (Li) | | P | | |
| 9 | Be | 3513.84 | P | 20.82 | 0.59 |
| 9 | Be | 175.56 | P | 22.69 | 12.92 |
| 11 | B | 2891.46 | P | 138.10 | 4.78 |
| 11 | B | 84.45 | P | 23.65 | 28.01 |
| 23 | Na | 970533.38 | M | 13740.00 | 1.42 |
| 23 | Na | 125492.20 | P | 237.90 | 0.19 |
| 24 | Mg | 22176.47 | P | 569.20 | 2.57 |
| 24 | Mg | 1389.00 | P | 77.28 | 5.56 |
| 27 | Al | 55137.12 | P | 1581.00 | 2.87 |
| 27 | Al | 1410.12 | P | 66.93 | 4.75 |
| 39 | K | 4317846.00 | A | 36970.00 | 0.86 |
| 44 | Ca | 66057.06 | P | 1222.00 | 1.85 |
| 45 | Sc | 4325249.00 | A | 42680.00 | 0.99 |
| 45 | Sc | 452170.91 | P | 1443.00 | 0.32 |
| 47 | Ti | 2282.47 | P | 61.60 | 2.70 |
| 51 | V | 9409.22 | P | 188.50 | 2.00 |
| 52 | Cr | 8013.74 | P | 67.15 | 0.84 |
| 55 | Mn | 6011.92 | P | 129.50 | 2.15 |
| 56 | Fe | 40233.84 | P | 371.10 | 0.92 |
| 59 | Co | 9988.27 | P | 110.50 | 1.11 |
| 60 | Ni | 2831.86 | P | 95.40 | 3.37 |
| 63 | Cu | 8170.28 | P | 40.71 | 0.50 |
| 66 | Zn | 1427.41 | P | 28.85 | 2.02 |
| 72 | Ge | 978773.63 | P | 7792.00 | 0.80 |
| 72 | Ge | 193135.20 | P | 949.60 | 0.49 |
| 75 | As | 948.48 | P | 21.34 | 2.25 |
| 78 | Se | 261.78 | P | 11.71 | 4.47 |
| 88 | Sr | 39787.13 | P | 487.30 | 1.22 |
| 98 | Mo | 11146.78 | P | 185.90 | 1.67 |
| 103 | Rh | 5591257.00 | A | 6900.00 | 0.12 |
| 107 | Ag | 17873.56 | P | 440.10 | 2.46 |

C:\ICPCHEM\1\DATA\13D26s00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1469.02 | P | 46.84 | 3.19 |
| 115 | In | 6002069.00 | A | 39790.00 | 0.66 |
| 115 | In | 1514395.00 | A | 26340.00 | 1.74 |
| 118 | (In) | 12159.91 | P | 302.00 | 2.48 |
| 118 | (In) | 3450.54 | P | 104.00 | 3.01 |
| 120 | Sn | 16649.96 | P | 106.80 | 0.64 |
| 121 | Sb | 14508.75 | P | 265.60 | 1.83 |
| 137 | Ba | 6746.26 | P | 421.90 | 6.25 |
| 159 | Tb | 7468348.00 | A | 33610.00 | 0.45 |
| 175 | Lu | 6967063.00 | A | 6978.00 | 0.10 |
| 205 | Tl | 22820.57 | P | 641.70 | 2.81 |
| 206 | (Pb) | 9135.55 | P | 65.07 | 0.71 |
| 207 | (Pb) | 7845.83 | P | 88.79 | 1.13 |
| 208 | Pb | 36710.57 | P | 346.50 | 0.94 |
| 209 | Bi | 4018308.00 | A | 33120.00 | 0.82 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1669184.60 | 1.36 | 1669598.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 4325249.00 | 0.99 | 4377339.50 | 98.8 | 70 - 130 | |
| 45 | Sc | 452170.88 | 0.32 | 454956.38 | 99.4 | 70 - 130 | |
| 72 | Ge | 978773.63 | 0.80 | 980052.69 | 99.9 | 70 - 130 | |
| 72 | Ge | 193135.17 | 0.49 | 192700.58 | 100.2 | 70 - 130 | |
| 103 | Rh | 5591257.00 | 0.12 | 5612562.50 | 99.6 | 70 - 130 | |
| 115 | In | 6002068.50 | 0.66 | 5986270.00 | 100.3 | 70 - 130 | |
| 115 | In | 1514395.50 | 1.74 | 1511350.80 | 100.2 | 70 - 130 | |
| 159 | Tb | 7468348.00 | 0.45 | 7475008.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 6967063.00 | 0.10 | 7030949.00 | 99.1 | 70 - 130 | |
| 209 | Bi | 4018308.30 | 0.82 | 4024922.00 | 99.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\004CALS.D\004CALS.D#
Date Acquired: Apr 26 2013 06:25 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1656513.00 | A | 17190.00 | 1.04 |
| 7 | (Li) | | P | | |
| 9 | Be | 35598.64 | P | 458.80 | 1.29 |
| 9 | Be | 1601.25 | P | 54.82 | 3.42 |
| 11 | B | 24293.82 | P | 240.50 | 0.99 |
| 11 | B | 648.92 | P | 45.50 | 7.01 |
| 23 | Na | 1158048.00 | A | 6628.00 | 0.57 |
| 23 | Na | 137505.80 | P | 1169.00 | 0.85 |
| 24 | Mg | 153854.00 | P | 1227.00 | 0.80 |
| 24 | Mg | 9144.12 | P | 107.80 | 1.18 |
| 27 | Al | 227073.59 | P | 2701.00 | 1.19 |
| 27 | Al | 5694.63 | P | 92.87 | 1.63 |
| 39 | K | 4492609.00 | A | 29000.00 | 0.65 |
| 44 | Ca | 83774.24 | P | 831.40 | 0.99 |
| 45 | Sc | 4327337.00 | A | 11140.00 | 0.26 |
| 45 | Sc | 455207.19 | P | 2845.00 | 0.62 |
| 47 | Ti | 21353.22 | P | 437.10 | 2.05 |
| 51 | V | 63545.76 | P | 598.10 | 0.94 |
| 52 | Cr | 69814.21 | P | 262.80 | 0.38 |
| 55 | Mn | 50096.22 | P | 255.00 | 0.51 |
| 56 | Fe | 97145.39 | P | 551.80 | 0.57 |
| 59 | Co | 98459.13 | P | 452.10 | 0.46 |
| 60 | Ni | 25591.33 | P | 167.30 | 0.65 |
| 63 | Cu | 66593.61 | P | 357.90 | 0.54 |
| 66 | Zn | 12903.28 | P | 124.60 | 0.97 |
| 72 | Ge | 974436.38 | P | 9813.00 | 1.01 |
| 72 | Ge | 193508.59 | P | 688.50 | 0.36 |
| 75 | As | 8133.55 | P | 106.70 | 1.31 |
| 78 | Se | 1003.82 | P | 27.86 | 2.78 |
| 88 | Sr | 395234.00 | P | 3256.00 | 0.82 |
| 98 | Mo | 110801.90 | P | 539.60 | 0.49 |
| 103 | Rh | 5596032.00 | A | 48490.00 | 0.87 |
| 107 | Ag | 179444.30 | P | 2046.00 | 1.14 |

C:\ICPCHEM\1\DATA\13D26s00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 13747.97 | P | 112.20 | 0.82 |
| 115 | In | 5983478.00 | A | 42540.00 | 0.71 |
| 115 | In | 1524720.00 | A | 14800.00 | 0.97 |
| 118 | (In) | 114312.60 | P | 2256.00 | 1.97 |
| 118 | (In) | 31748.47 | P | 469.50 | 1.48 |
| 120 | Sn | 157475.59 | P | 1143.00 | 0.73 |
| 121 | Sb | 145289.59 | P | 1433.00 | 0.99 |
| 137 | Ba | 54919.52 | P | 406.60 | 0.74 |
| 159 | Tb | 7473362.00 | A | 28370.00 | 0.38 |
| 175 | Lu | 6966166.00 | A | 19540.00 | 0.28 |
| 205 | Tl | 227861.80 | P | 2405.00 | 1.06 |
| 206 | (Pb) | 90230.14 | P | 1719.00 | 1.91 |
| 207 | (Pb) | 75634.16 | P | 1076.00 | 1.42 |
| 208 | Pb | 350992.41 | P | 6239.00 | 1.78 |
| 209 | Bi | 4022450.00 | A | 27060.00 | 0.67 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1656512.90 | 1.04 | 1669598.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 4327337.00 | 0.26 | 4377339.50 | 98.9 | 70 - 130 | |
| 45 | Sc | 455207.22 | 0.62 | 454956.38 | 100.1 | 70 - 130 | |
| 72 | Ge | 974436.44 | 1.01 | 980052.69 | 99.4 | 70 - 130 | |
| 72 | Ge | 193508.64 | 0.36 | 192700.58 | 100.4 | 70 - 130 | |
| 103 | Rh | 5596032.00 | 0.87 | 5612562.50 | 99.7 | 70 - 130 | |
| 115 | In | 5983478.00 | 0.71 | 5986270.00 | 100.0 | 70 - 130 | |
| 115 | In | 1524720.30 | 0.97 | 1511350.80 | 100.9 | 70 - 130 | |
| 159 | Tb | 7473361.50 | 0.38 | 7475008.00 | 100.0 | 70 - 130 | |
| 175 | Lu | 6966165.50 | 0.28 | 7030949.00 | 99.1 | 70 - 130 | |
| 209 | Bi | 4022450.00 | 0.67 | 4024922.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\005CALS.D\005CALS.D#
Date Acquired: Apr 26 2013 06:32 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1667071.00 | A | 18650.00 | 1.12 |
| 7 | (Li) | | P | | |
| 9 | Be | 173267.59 | P | 1561.00 | 0.90 |
| 9 | Be | 8076.78 | P | 108.00 | 1.34 |
| 11 | B | 119686.70 | P | 1344.00 | 1.12 |
| 11 | B | 3356.03 | P | 134.00 | 3.99 |
| 23 | Na | 2032870.00 | A | 12000.00 | 0.59 |
| 23 | Na | 201408.30 | P | 472.90 | 0.23 |
| 24 | Mg | 724440.81 | P | 3710.00 | 0.51 |
| 24 | Mg | 42223.29 | P | 310.70 | 0.74 |
| 27 | Al | 999389.38 | M | 8312.00 | 0.83 |
| 27 | Al | 25127.56 | P | 387.40 | 1.54 |
| 39 | K | 5423188.00 | A | 17870.00 | 0.33 |
| 44 | Ca | 113931.30 | P | 1842.00 | 1.62 |
| 45 | Sc | 4359790.00 | A | 46770.00 | 1.07 |
| 45 | Sc | 451306.69 | P | 4468.00 | 0.99 |
| 47 | Ti | 104797.10 | P | 1219.00 | 1.16 |
| 51 | V | 302159.50 | P | 182.10 | 0.06 |
| 52 | Cr | 339076.91 | P | 1100.00 | 0.32 |
| 55 | Mn | 238889.59 | P | 987.10 | 0.41 |
| 56 | Fe | 334965.41 | P | 1778.00 | 0.53 |
| 59 | Co | 488044.59 | P | 4996.00 | 1.02 |
| 60 | Ni | 125616.90 | P | 1420.00 | 1.13 |
| 63 | Cu | 323988.69 | P | 1180.00 | 0.36 |
| 66 | Zn | 57267.76 | P | 618.40 | 1.08 |
| 72 | Ge | 964657.13 | P | 9704.00 | 1.01 |
| 72 | Ge | 190968.91 | P | 1747.00 | 0.91 |
| 75 | As | 39467.54 | P | 358.50 | 0.91 |
| 78 | Se | 4262.18 | P | 40.34 | 0.95 |
| 88 | Sr | 1928403.00 | A | 12510.00 | 0.65 |
| 98 | Mo | 543385.88 | P | 4113.00 | 0.76 |
| 103 | Rh | 5597978.00 | A | 16330.00 | 0.29 |
| 107 | Ag | 882216.31 | P | 7445.00 | 0.84 |

C:\ICPCHEM\1\DATA\13D26s00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 67640.29 | P | 1066.00 | 1.58 |
| 115 | In | 5959802.00 | A | 46100.00 | 0.77 |
| 115 | In | 1509845.00 | A | 5021.00 | 0.33 |
| 118 | (In) | 554524.13 | P | 3292.00 | 0.59 |
| 118 | (In) | 157453.20 | P | 1254.00 | 0.80 |
| 120 | Sn | 764644.81 | P | 5708.00 | 0.75 |
| 121 | Sb | 705245.81 | P | 2322.00 | 0.33 |
| 137 | Ba | 262180.81 | P | 1263.00 | 0.48 |
| 159 | Tb | 7468591.00 | A | 40040.00 | 0.54 |
| 175 | Lu | 7034665.00 | A | 27780.00 | 0.39 |
| 205 | Tl | 1220379.00 | P | 13380.00 | 1.10 |
| 206 | (Pb) | 440948.00 | P | 9003.00 | 2.04 |
| 207 | (Pb) | 370019.91 | P | 6943.00 | 1.88 |
| 208 | Pb | 1716684.00 | P | 31680.00 | 1.85 |
| 209 | Bi | 3993848.00 | A | 10460.00 | 0.26 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1667071.10 | 1.12 | 1669598.30 | 99.8 | 70 - 130 | |
| 45 | Sc | 4359790.50 | 1.07 | 4377339.50 | 99.6 | 70 - 130 | |
| 45 | Sc | 451306.72 | 0.99 | 454956.38 | 99.2 | 70 - 130 | |
| 72 | Ge | 964657.06 | 1.01 | 980052.69 | 98.4 | 70 - 130 | |
| 72 | Ge | 190968.92 | 0.91 | 192700.58 | 99.1 | 70 - 130 | |
| 103 | Rh | 5597978.00 | 0.29 | 5612562.50 | 99.7 | 70 - 130 | |
| 115 | In | 5959801.50 | 0.77 | 5986270.00 | 99.6 | 70 - 130 | |
| 115 | In | 1509845.00 | 0.33 | 1511350.80 | 99.9 | 70 - 130 | |
| 159 | Tb | 7468591.50 | 0.54 | 7475008.00 | 99.9 | 70 - 130 | |
| 175 | Lu | 7034665.00 | 0.39 | 7030949.00 | 100.1 | 70 - 130 | |
| 209 | Bi | 3993848.30 | 0.26 | 4024922.00 | 99.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\006CALS.D\006CALS.D#
Date Acquired: Apr 26 2013 06:40 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:36 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1649403.00 | A | 11070.00 | 0.67 |
| 7 | (Li) | | P | | |
| 9 | Be | 352336.50 | P | 2291.00 | 0.65 |
| 9 | Be | 16364.59 | P | 288.80 | 1.76 |
| 11 | B | 240945.41 | P | 447.40 | 0.19 |
| 11 | B | 6671.63 | P | 360.00 | 5.40 |
| 23 | Na | 3029815.00 | A | 35250.00 | 1.16 |
| 23 | Na | 275882.00 | P | 311.30 | 0.11 |
| 24 | Mg | 1461751.00 | A | 12830.00 | 0.88 |
| 24 | Mg | 84774.55 | P | 643.20 | 0.76 |
| 27 | Al | 1941439.00 | A | 11460.00 | 0.59 |
| 27 | Al | 47596.60 | P | 356.70 | 0.75 |
| 39 | K | 6558086.00 | A | 30550.00 | 0.47 |
| 44 | Ca | 165675.50 | P | 1038.00 | 0.63 |
| 45 | Sc | 4368029.00 | A | 40640.00 | 0.93 |
| 45 | Sc | 445682.31 | P | 710.10 | 0.16 |
| 47 | Ti | 210370.20 | P | 705.40 | 0.34 |
| 51 | V | 600078.13 | P | 3725.00 | 0.62 |
| 52 | Cr | 676021.31 | P | 3326.00 | 0.49 |
| 55 | Mn | 479796.19 | P | 3720.00 | 0.78 |
| 56 | Fe | 641937.63 | P | 677.90 | 0.11 |
| 59 | Co | 978686.13 | P | 4458.00 | 0.46 |
| 60 | Ni | 252164.59 | P | 1990.00 | 0.79 |
| 63 | Cu | 647368.38 | P | 1775.00 | 0.27 |
| 66 | Zn | 113617.10 | P | 866.50 | 0.76 |
| 72 | Ge | 971313.38 | P | 5188.00 | 0.53 |
| 72 | Ge | 189031.00 | P | 1141.00 | 0.60 |
| 75 | As | 78809.15 | P | 340.20 | 0.43 |
| 78 | Se | 8445.73 | P | 60.88 | 0.72 |
| 88 | Sr | 3861007.00 | A | 7296.00 | 0.19 |
| 98 | Mo | 1108351.00 | P | 877.50 | 0.08 |
| 103 | Rh | 5622410.00 | A | 30760.00 | 0.55 |
| 107 | Ag | 1751254.00 | A | 3745.00 | 0.21 |

C:\ICPCHEM\1\DATA\13D26s00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 135109.50 | P | 416.00 | 0.31 |
| 115 | In | 5959016.00 | A | 30070.00 | 0.50 |
| 115 | In | 1480864.00 | A | 7914.00 | 0.53 |
| 118 | (In) | 1133063.00 | P | 8133.00 | 0.72 |
| 118 | (In) | 314273.69 | P | 3062.00 | 0.97 |
| 120 | Sn | 1536244.00 | A | 11930.00 | 0.78 |
| 121 | Sb | 1408778.00 | A | 9424.00 | 0.67 |
| 137 | Ba | 530427.00 | P | 4497.00 | 0.85 |
| 159 | Tb | 7488662.00 | A | 88990.00 | 1.19 |
| 175 | Lu | 6961455.00 | A | 78010.00 | 1.12 |
| 205 | Tl | 2517322.00 | A | 14460.00 | 0.57 |
| 206 | (Pb) | 893004.31 | P | 9084.00 | 1.02 |
| 207 | (Pb) | 751646.13 | P | 9415.00 | 1.25 |
| 208 | Pb | 3474734.00 | A | 23240.00 | 0.67 |
| 209 | Bi | 4021615.00 | A | 24850.00 | 0.62 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1649402.80 | 0.67 | 1669598.30 | 98.8 | 70 - 130 | |
| 45 | Sc | 4368029.50 | 0.93 | 4377339.50 | 99.8 | 70 - 130 | |
| 45 | Sc | 445682.25 | 0.16 | 454956.38 | 98.0 | 70 - 130 | |
| 72 | Ge | 971313.44 | 0.53 | 980052.69 | 99.1 | 70 - 130 | |
| 72 | Ge | 189031.05 | 0.60 | 192700.58 | 98.1 | 70 - 130 | |
| 103 | Rh | 5622410.00 | 0.55 | 5612562.50 | 100.2 | 70 - 130 | |
| 115 | In | 5959016.00 | 0.50 | 5986270.00 | 99.5 | 70 - 130 | |
| 115 | In | 1480864.10 | 0.53 | 1511350.80 | 98.0 | 70 - 130 | |
| 159 | Tb | 7488662.50 | 1.19 | 7475008.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 6961455.50 | 1.12 | 7030949.00 | 99.0 | 70 - 130 | |
| 209 | Bi | 4021615.30 | 0.62 | 4024922.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\007CALS.D\007CALS.D#
Date Acquired: Apr 26 2013 06:47 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:43 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1655710.00 | A | 32610.00 | 1.97 |
| 7 | (Li) | | P | | |
| 9 | Be | 717617.88 | P | 519.50 | 0.07 |
| 9 | Be | 32956.17 | P | 227.10 | 0.69 |
| 11 | B | 488729.50 | P | 3592.00 | 0.73 |
| 11 | B | 12992.40 | P | 150.80 | 1.16 |
| 23 | Na | 5135075.00 | A | 11190.00 | 0.22 |
| 23 | Na | 438924.91 | P | 1945.00 | 0.44 |
| 24 | Mg | 2910970.00 | A | 46330.00 | 1.59 |
| 24 | Mg | 170274.20 | P | 1817.00 | 1.07 |
| 27 | Al | 3733584.00 | A | 20980.00 | 0.56 |
| 27 | Al | 93989.48 | P | 895.30 | 0.95 |
| 39 | K | 8877492.00 | A | 52970.00 | 0.60 |
| 44 | Ca | 265218.31 | P | 3280.00 | 1.24 |
| 45 | Sc | 4321465.00 | A | 11730.00 | 0.27 |
| 45 | Sc | 445171.91 | P | 1889.00 | 0.42 |
| 47 | Ti | 424821.50 | P | 909.50 | 0.21 |
| 51 | V | 1194642.00 | A | 6185.00 | 0.52 |
| 52 | Cr | 1344304.00 | A | 7999.00 | 0.60 |
| 55 | Mn | 977394.69 | P | 3548.00 | 0.36 |
| 56 | Fe | 1238359.00 | A | 7542.00 | 0.61 |
| 59 | Co | 1943111.00 | A | 20650.00 | 1.06 |
| 60 | Ni | 511893.00 | P | 541.20 | 0.11 |
| 63 | Cu | 1294804.00 | A | 6929.00 | 0.54 |
| 66 | Zn | 229351.00 | P | 573.10 | 0.25 |
| 72 | Ge | 968082.19 | P | 5038.00 | 0.52 |
| 72 | Ge | 189379.20 | P | 716.70 | 0.38 |
| 75 | As | 159766.70 | P | 1069.00 | 0.67 |
| 78 | Se | 16860.11 | P | 140.80 | 0.84 |
| 88 | Sr | 7666056.00 | A | 59770.00 | 0.78 |
| 98 | Mo | 2256507.00 | A | 12630.00 | 0.56 |
| 103 | Rh | 5596127.00 | A | 16390.00 | 0.29 |
| 107 | Ag | 3528907.00 | A | 43910.00 | 1.24 |

C:\ICPCHEM\1\DATA\13D26s00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 272616.09 | P | 849.20 | 0.31 |
| 115 | In | 5969046.00 | A | 26890.00 | 0.45 |
| 115 | In | 1491980.00 | A | 13870.00 | 0.93 |
| 118 | (In) | 2282723.00 | A | 8509.00 | 0.37 |
| 118 | (In) | 637799.50 | P | 3495.00 | 0.55 |
| 120 | Sn | 3064039.00 | A | 8795.00 | 0.29 |
| 121 | Sb | 2801078.00 | A | 10950.00 | 0.39 |
| 137 | Ba | 1078248.00 | P | 9368.00 | 0.87 |
| 159 | Tb | 7428177.00 | A | 56760.00 | 0.76 |
| 175 | Lu | 6964550.00 | A | 48050.00 | 0.69 |
| 205 | Tl | 5049011.00 | A | 28390.00 | 0.56 |
| 206 | (Pb) | 1783907.00 | A | 6212.00 | 0.35 |
| 207 | (Pb) | 1505243.00 | A | 8056.00 | 0.54 |
| 208 | Pb | 6883201.00 | A | 47120.00 | 0.68 |
| 209 | Bi | 4037118.00 | A | 29630.00 | 0.73 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1655710.10 | 1.97 | 1669598.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 4321465.50 | 0.27 | 4377339.50 | 98.7 | 70 - 130 | |
| 45 | Sc | 445171.88 | 0.42 | 454956.38 | 97.8 | 70 - 130 | |
| 72 | Ge | 968082.19 | 0.52 | 980052.69 | 98.8 | 70 - 130 | |
| 72 | Ge | 189379.19 | 0.38 | 192700.58 | 98.3 | 70 - 130 | |
| 103 | Rh | 5596127.00 | 0.29 | 5612562.50 | 99.7 | 70 - 130 | |
| 115 | In | 5969045.50 | 0.45 | 5986270.00 | 99.7 | 70 - 130 | |
| 115 | In | 1491979.50 | 0.93 | 1511350.80 | 98.7 | 70 - 130 | |
| 159 | Tb | 7428176.50 | 0.76 | 7475008.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 6964550.00 | 0.69 | 7030949.00 | 99.1 | 70 - 130 | |
| 209 | Bi | 4037117.80 | 0.73 | 4024922.00 | 100.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\008CALS.D\008CALS.D#
Date Acquired: Apr 26 2013 06:53 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:50 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1599240.00 | A | 52950.00 | 3.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 245.57 | P | 46.71 | 19.02 |
| 9 | Be | 32.22 | P | 24.11 | 74.82 |
| 11 | B | 3431.61 | P | 24.58 | 0.72 |
| 11 | B | 121.12 | P | 22.69 | 18.73 |
| 23 | Na | 39851728.00 | A | 556200.00 | 1.40 |
| 23 | Na | 2972297.00 | A | 14480.00 | 0.49 |
| 24 | Mg | 26647720.00 | A | 488800.00 | 1.83 |
| 24 | Mg | 1595434.00 | A | 23380.00 | 1.47 |
| 27 | Al | 34715880.00 | A | 387700.00 | 1.12 |
| 27 | Al | 922316.88 | P | 3731.00 | 0.40 |
| 39 | K | 48108160.00 | A | 618300.00 | 1.29 |
| 44 | Ca | 1522227.00 | A | 23060.00 | 1.51 |
| 45 | Sc | 4250483.00 | A | 147500.00 | 3.47 |
| 45 | Sc | 454991.19 | P | 3027.00 | 0.67 |
| 47 | Ti | 387.80 | P | 71.21 | 18.36 |
| 51 | V | 3736.95 | P | 126.70 | 3.39 |
| 52 | Cr | 3833.42 | P | 38.29 | 1.00 |
| 55 | Mn | 1817.91 | P | 10.86 | 0.60 |
| 56 | Fe | 11152870.00 | A | 74930.00 | 0.67 |
| 59 | Co | 861.37 | P | 62.50 | 7.26 |
| 60 | Ni | 614.24 | P | 40.03 | 6.52 |
| 63 | Cu | 1633.00 | P | 65.02 | 3.98 |
| 66 | Zn | 2287.74 | P | 50.21 | 2.19 |
| 72 | Ge | 960230.31 | M | 23290.00 | 2.43 |
| 72 | Ge | 194256.70 | P | 662.70 | 0.34 |
| 75 | As | 205.56 | P | 23.10 | 11.24 |
| 78 | Se | 215.34 | P | 43.14 | 20.03 |
| 88 | Sr | 5746.85 | P | 144.40 | 2.51 |
| 98 | Mo | 3982.89 | P | 319.80 | 8.03 |
| 103 | Rh | 5381093.00 | A | 226300.00 | 4.21 |
| 107 | Ag | 1431.23 | P | 87.60 | 6.12 |

C:\ICPCHEM\1\DATA\13D26s00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 111.12 | P | 23.65 | 21.28 |
| 115 | In | 5875585.00 | A | 220900.00 | 3.76 |
| 115 | In | 1489055.00 | A | 27940.00 | 1.88 |
| 118 | (In) | 4297.46 | P | 192.10 | 4.47 |
| 118 | (In) | 1466.79 | P | 86.23 | 5.88 |
| 120 | Sn | 5946.98 | P | 336.60 | 5.66 |
| 121 | Sb | 4527.54 | P | 224.10 | 4.95 |
| 137 | Ba | 1663.49 | P | 61.74 | 3.71 |
| 159 | Tb | 7364177.00 | A | 232300.00 | 3.15 |
| 175 | Lu | 6827500.00 | A | 159100.00 | 2.33 |
| 205 | Tl | 9668.15 | P | 244.90 | 2.53 |
| 206 | (Pb) | 848.95 | P | 51.79 | 6.10 |
| 207 | (Pb) | 725.60 | P | 104.20 | 14.36 |
| 208 | Pb | 3912.64 | P | 203.60 | 5.20 |
| 209 | Bi | 3878407.00 | A | 89890.00 | 2.32 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1599239.80 | 3.31 | 1669598.30 | 95.8 | 70 - 130 | |
| 45 | Sc | 4250483.00 | 3.47 | 4377339.50 | 97.1 | 70 - 130 | |
| 45 | Sc | 454991.16 | 0.67 | 454956.38 | 100.0 | 70 - 130 | |
| 72 | Ge | 960230.31 | 2.43 | 980052.69 | 98.0 | 70 - 130 | |
| 72 | Ge | 194256.73 | 0.34 | 192700.58 | 100.8 | 70 - 130 | |
| 103 | Rh | 5381093.00 | 4.21 | 5612562.50 | 95.9 | 70 - 130 | |
| 115 | In | 5875585.50 | 3.76 | 5986270.00 | 98.2 | 70 - 130 | |
| 115 | In | 1489054.60 | 1.88 | 1511350.80 | 98.5 | 70 - 130 | |
| 159 | Tb | 7364176.50 | 3.15 | 7475008.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 6827500.00 | 2.33 | 7030949.00 | 97.1 | 70 - 130 | |
| 209 | Bi | 3878406.50 | 2.32 | 4024922.00 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\009CALS.D\009CALS.D#
Date Acquired: Apr 26 2013 07:00 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 26 2013 06:57 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1604377.00 | A | 5524.00 | 0.34 |
| 7 | (Li) | | P | | |
| 9 | Be | 125.56 | P | 25.24 | 20.10 |
| 9 | Be | 20.00 | P | 6.67 | 33.33 |
| 11 | B | 1765.72 | P | 94.32 | 5.34 |
| 11 | B | 80.00 | P | 12.02 | 15.02 |
| 23 | Na | 383770820.00 | A | 3938000.00 | 1.03 |
| 23 | Na | 27467900.00 | A | 147400.00 | 0.54 |
| 24 | Mg | 261053200.00 | A | 1050000.00 | 0.40 |
| 24 | Mg | 15091920.00 | A | 88900.00 | 0.59 |
| 27 | Al | 346448900.00 | A | 4938000.00 | 1.43 |
| 27 | Al | 8487282.00 | A | 72580.00 | 0.86 |
| 39 | K | 438456900.00 | A | 6966000.00 | 1.59 |
| 44 | Ca | 13838980.00 | A | 170400.00 | 1.23 |
| 45 | Sc | 4349679.00 | A | 36720.00 | 0.84 |
| 45 | Sc | 455569.81 | P | 2546.00 | 0.56 |
| 47 | Ti | 341.13 | P | 25.02 | 7.33 |
| 51 | V | 3661.38 | P | 68.09 | 1.86 |
| 52 | Cr | 2727.83 | P | 54.08 | 1.98 |
| 55 | Mn | 3021.28 | P | 156.00 | 5.16 |
| 56 | Fe | 107974200.00 | A | 847700.00 | 0.79 |
| 59 | Co | 2928.76 | P | 26.72 | 0.91 |
| 60 | Ni | 1152.06 | P | 12.86 | 1.12 |
| 63 | Cu | 1268.51 | P | 32.29 | 2.55 |
| 66 | Zn | 904.70 | P | 39.11 | 4.32 |
| 72 | Ge | 987389.69 | P | 7133.00 | 0.72 |
| 72 | Ge | 192618.70 | P | 658.90 | 0.34 |
| 75 | As | 187.34 | P | 11.01 | 5.88 |
| 78 | Se | 191.56 | P | 9.34 | 4.88 |
| 88 | Sr | 30921.60 | P | 379.40 | 1.23 |
| 98 | Mo | 1452.35 | P | 125.10 | 8.61 |
| 103 | Rh | 5297945.00 | A | 30260.00 | 0.57 |
| 107 | Ag | 1977.98 | P | 77.07 | 3.90 |

C:\ICPCHEM\1\DATA\13D26s00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 53.34 | P | 15.28 | 28.65 |
| 115 | In | 5771658.00 | A | 3075.00 | 0.05 |
| 115 | In | 1436717.00 | A | 18820.00 | 1.31 |
| 118 | (In) | 1889.09 | P | 176.90 | 9.36 |
| 118 | (In) | 657.82 | P | 50.48 | 7.67 |
| 120 | Sn | 2529.20 | P | 110.90 | 4.38 |
| 121 | Sb | 2650.34 | P | 104.10 | 3.93 |
| 137 | Ba | 1545.70 | P | 86.44 | 5.59 |
| 159 | Tb | 7376421.00 | A | 79970.00 | 1.08 |
| 175 | Lu | 6888489.00 | A | 28190.00 | 0.41 |
| 205 | Tl | 3686.18 | P | 56.22 | 1.53 |
| 206 | (Pb) | 460.03 | P | 75.06 | 16.32 |
| 207 | (Pb) | 466.70 | P | 34.65 | 7.42 |
| 208 | Pb | 2515.77 | P | 179.60 | 7.14 |
| 209 | Bi | 3799039.00 | A | 31680.00 | 0.83 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1604376.50 | 0.34 | 1669598.30 | 96.1 | 70 - 130 | |
| 45 | Sc | 4349678.50 | 0.84 | 4377339.50 | 99.4 | 70 - 130 | |
| 45 | Sc | 455569.78 | 0.56 | 454956.38 | 100.1 | 70 - 130 | |
| 72 | Ge | 987389.69 | 0.72 | 980052.69 | 100.7 | 70 - 130 | |
| 72 | Ge | 192618.70 | 0.34 | 192700.58 | 100.0 | 70 - 130 | |
| 103 | Rh | 5297945.50 | 0.57 | 5612562.50 | 94.4 | 70 - 130 | |
| 115 | In | 5771658.00 | 0.05 | 5986270.00 | 96.4 | 70 - 130 | |
| 115 | In | 1436717.10 | 1.31 | 1511350.80 | 95.1 | 70 - 130 | |
| 159 | Tb | 7376420.50 | 1.08 | 7475008.00 | 98.7 | 70 - 130 | |
| 175 | Lu | 6888489.00 | 0.41 | 7030949.00 | 98.0 | 70 - 130 | |
| 209 | Bi | 3799038.80 | 0.83 | 4024922.00 | 94.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D26s00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 26 2013 07:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.95 | 59.95 | ppb | 0.64 | 900.00 | |
| 9 Be | 45 | 2 | 58.63 | 58.63 | ppb | 1.99 | 900.00 | |
| 11 B | 6 | 1 | 57.53 | 57.53 | ppb | 0.17 | 900.00 | |
| 11 B | 45 | 2 | 55.46 | 55.46 | ppb | 3.12 | 900.00 | |
| 23 Na | 45 | 1 | 5631.00 | 5631.00 | ppb | 1.50 | 90000.00 | |
| 23 Na | 45 | 2 | 5697.00 | 5697.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 5675.00 | 5675.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 5729.00 | 5729.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 5652.00 | 5652.00 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 5722.00 | 5722.00 | ppb | 0.63 | 90000.00 | |
| 39 K | 45 | 1 | 5694.00 | 5694.00 | ppb | 1.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5601.00 | 5601.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.48 | 58.48 | ppb | 1.21 | 900.00 | |
| 51 V | 45 | 2 | 59.77 | 59.77 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 58.36 | 58.36 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 57.74 | 57.74 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5712.00 | 5712.00 | ppb | 0.97 | 90000.00 | |
| 59 Co | 45 | 2 | 57.63 | 57.63 | ppb | 0.70 | 900.00 | |
| 60 Ni | 45 | 2 | 56.88 | 56.88 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 56.17 | 56.17 | ppb | 0.90 | 900.00 | |
| 66 Zn | 72 | 2 | 57.54 | 57.54 | ppb | 0.52 | 900.00 | |
| 75 As | 72 | 2 | 58.59 | 58.59 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | 57.63 | 57.63 | ppb | 0.64 | 900.00 | |
| 88 Sr | 103 | 1 | 60.14 | 60.14 | ppb | 1.48 | 900.00 | |
| 98 Mo | 103 | 1 | 61.48 | 61.48 | ppb | 1.21 | 900.00 | |
| 107 Ag | 115 | 1 | 58.28 | 58.28 | ppb | 1.73 | 180.00 | |
| 111 Cd | 115 | 2 | 58.34 | 58.34 | ppb | 0.53 | 900.00 | |
| 120 Sn | 115 | 1 | 59.43 | 59.43 | ppb | 1.06 | 900.00 | |
| 121 Sb | 115 | 1 | 58.97 | 58.97 | ppb | 1.05 | 900.00 | |
| 137 Ba | 159 | 1 | 57.90 | 57.90 | ppb | 1.32 | 900.00 | |
| 205 Tl | 209 | 1 | 58.17 | 58.17 | ppb | 0.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 58.98 | 58.98 | ppb | 0.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1623920 | 0.19 | 1669598 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 4332349 | 1.42 | 4377340 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 449409 | 0.42 | 454956 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 974369 | 0.48 | 980053 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 190656 | 0.48 | 192701 | 98.9 | 70 | - | 130 |
| 103 Rh | 1 | 5413822 | 0.90 | 5612563 | 96.5 | 70 | - | 130 |
| 115 In | 1 | 5869307 | 0.94 | 5986270 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1452819 | 0.95 | 1511351 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 7448380 | 1.78 | 7475008 | 99.6 | 70 | - | 130 |
| 175 Lu | 1 | 6938749 | 1.20 | 7030949 | 98.7 | 70 | - | 130 |
| 209 Bi | 1 | 3845278 | 0.72 | 4024922 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Apr 26 2013 07:18 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 665.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.04 | ppb | 41.10 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 3.22 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 52.69 | 900.00 | |
| 23 Na | 45 | 1 | -0.15 | -0.15 | ppb | 285.84 | 90000.00 | |
| 23 Na | 45 | 2 | 1.96 | 1.96 | ppb | 28.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.25 | 0.25 | ppb | 63.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.05 | 2.05 | ppb | 24.94 | 90000.00 | |
| 27 Al | 45 | 1 | 1.39 | 1.39 | ppb | 10.23 | 90000.00 | |
| 27 Al | 45 | 2 | 2.72 | 2.72 | ppb | 19.44 | 90000.00 | |
| 39 K | 45 | 1 | -1.28 | -1.28 | ppb | 151.17 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.28 | -1.28 | ppb | 55.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 69.94 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 21.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 51.53 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 5.40 | 900.00 | |
| 56 Fe | 45 | 2 | 7.10 | 7.10 | ppb | 1.26 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 25.98 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 45.05 | 900.00 | |
| 63 Cu | 72 | 2 | -0.28 | -0.28 | ppb | 0.77 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 109.15 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 53.12 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.08 | ppb | 47.34 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 52.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.03 | ppb | 10.93 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 41.68 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 60.10 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 22.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 36.32 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 63.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.10 | ppb | 6.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 3.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1665028 | 0.39 | 1669598 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 4401346 | 1.83 | 4377340 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 459799 | 0.72 | 454956 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 1003088 | 1.30 | 980053 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 196087 | 0.46 | 192701 | 101.8 | 70 | - | 130 |
| 103 | Rh | 1 | 5668080 | 1.63 | 5612563 | 101.0 | 70 | - | 130 |
| 115 | In | 1 | 6121830 | 1.12 | 5986270 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 1527635 | 1.01 | 1511351 | 101.1 | 70 | - | 130 |
| 159 | Tb | 1 | 7523653 | 1.34 | 7475008 | 100.7 | 70 | - | 130 |
| 175 | Lu | 1 | 7026572 | 0.87 | 7030949 | 99.9 | 70 | - | 130 |
| 209 | Bi | 1 | 4053694 | 0.95 | 4024922 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\012SMPL.D\012SMPL.D# |
| Date Acquired: | Apr 26 2013 07:25 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2103 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.27 | 50.27 | ppb | 0.79 | 900.00 | |
| 9 Be | 45 | 2 | 48.68 | 48.68 | ppb | 1.31 | 900.00 | |
| 11 B | 6 | 1 | 50.33 | 50.33 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 50.21 | 50.21 | ppb | 2.26 | 900.00 | |
| 23 Na | 45 | 1 | 5064.00 | 5064.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 5180.00 | 5180.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 5091.00 | 5091.00 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 5110.00 | 5110.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 5012.00 | 5012.00 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 2 | 5143.00 | 5143.00 | ppb | 0.73 | 90000.00 | |
| 39 K | 45 | 1 | 5047.00 | 5047.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 5085.00 | 5085.00 | ppb | 0.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.08 | 49.08 | ppb | 0.67 | 900.00 | |
| 51 V | 45 | 2 | 49.79 | 49.79 | ppb | 0.22 | 900.00 | |
| 52 Cr | 45 | 2 | 49.15 | 49.15 | ppb | 0.69 | 900.00 | |
| 55 Mn | 45 | 2 | 48.21 | 48.21 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 5110.00 | 5110.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 48.59 | 48.59 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 47.40 | 47.40 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 47.70 | 47.70 | ppb | 0.07 | 900.00 | |
| 66 Zn | 72 | 2 | 48.45 | 48.45 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 49.21 | 49.21 | ppb | 0.86 | 900.00 | |
| 78 Se | 72 | 2 | 48.55 | 48.55 | ppb | 0.76 | 900.00 | |
| 88 Sr | 103 | 1 | 51.05 | 51.05 | ppb | 1.55 | 900.00 | |
| 98 Mo | 103 | 1 | 50.95 | 50.95 | ppb | 0.46 | 900.00 | |
| 107 Ag | 115 | 1 | 48.66 | 48.66 | ppb | 0.69 | 180.00 | |
| 111 Cd | 115 | 2 | 49.32 | 49.32 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | 50.81 | 50.81 | ppb | 0.21 | 900.00 | |
| 121 Sb | 115 | 1 | 50.17 | 50.17 | ppb | 0.72 | 900.00 | |
| 137 Ba | 159 | 1 | 49.01 | 49.01 | ppb | 0.69 | 900.00 | |
| 205 Tl | 209 | 1 | 48.63 | 48.63 | ppb | 1.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.78 | 49.78 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1631785 | 0.91 | 1669598 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 4384359 | 0.60 | 4377340 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 455529 | 0.46 | 454956 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 976132 | 0.65 | 980053 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 192071 | 0.40 | 192701 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 5453527 | 0.43 | 5612563 | 97.2 | 70 | - | 130 |
| 115 In | 1 | 5896970 | 0.54 | 5986270 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1477995 | 0.47 | 1511351 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 7405981 | 0.61 | 7475008 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 6955221 | 0.54 | 7030949 | 98.9 | 70 | - | 130 |
| 209 Bi | 1 | 3876670 | 0.28 | 4024922 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\013SMPL.D\013SMPL.D# |
| Date Acquired: | Apr 26 2013 07:34 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 203.61 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 96.01 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 35.31 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 92.76 | 900.00 | |
| 23 Na | 45 | 1 | 1.88 | 1.88 | ppb | 165.57 | 90000.00 | |
| 23 Na | 45 | 2 | -0.24 | -0.24 | ppb | 179.45 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.06 | -0.06 | ppb | 86.94 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.01 | -0.01 | ppb | 1117.50 | 90000.00 | |
| 27 Al | 45 | 1 | 1.20 | 1.20 | ppb | 20.57 | 90000.00 | |
| 27 Al | 45 | 2 | 0.93 | 0.93 | ppb | 21.73 | 90000.00 | |
| 39 K | 45 | 1 | 7.05 | 7.05 | ppb | 162.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.88 | 2.88 | ppb | 212.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 54.42 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 33.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 582.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 7.60 | 900.00 | |
| 56 Fe | 45 | 2 | 5.15 | 5.15 | ppb | 5.39 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 30.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 228.11 | 900.00 | |
| 63 Cu | 72 | 2 | -0.30 | -0.30 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 135.89 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 53.88 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 228.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 216.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 2.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 27.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 534.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 11.48 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 8.75 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 113.58 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 14.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 21.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1539088 | 11.64 | 1669598 | 92.2 | 70 - 130 | |
| 45 Sc | 1 | 4096965 | 10.23 | 4377340 | 93.6 | 70 - 130 | |
| 45 Sc | 2 | 460074 | 0.72 | 454956 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 935320 | 10.76 | 980053 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 196076 | 0.34 | 192701 | 101.8 | 70 | - | 130 |
| 103 Rh | 1 | 5335113 | 11.42 | 5612563 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 5711813 | 10.97 | 5986270 | 95.4 | 70 | - | 130 |
| 115 In | 2 | 1524244 | 0.13 | 1511351 | 100.9 | 70 | - | 130 |
| 159 Tb | 1 | 7010568 | 10.62 | 7475008 | 93.8 | 70 | - | 130 |
| 175 Lu | 1 | 6555170 | 10.93 | 7030949 | 93.2 | 70 | - | 130 |
| 209 Bi | 1 | 3785437 | 10.86 | 4024922 | 94.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 26 2013 07:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 5.98 | 900.00 | |
| 9 Be | 45 | 2 | 0.41 | 0.41 | ppb | 29.18 | 900.00 | |
| 11 B | 6 | 1 | 4.79 | 4.79 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 4.71 | 4.71 | ppb | 1.32 | 900.00 | |
| 23 Na | 45 | 1 | 246.60 | 246.60 | ppb | 1.77 | 90000.00 | |
| 23 Na | 45 | 2 | 272.40 | 272.40 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 251.00 | 251.00 | ppb | 1.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 273.30 | 273.30 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 26.09 | 26.09 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 2 | 26.73 | 26.73 | ppb | 1.17 | 90000.00 | |
| 39 K | 45 | 1 | 246.30 | 246.30 | ppb | 2.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 261.70 | 261.70 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 1.01 | ppb | 1.17 | 900.00 | |
| 51 V | 45 | 2 | 0.99 | 0.99 | ppb | 0.30 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 1.18 | 900.00 | |
| 55 Mn | 45 | 2 | 0.95 | 0.95 | ppb | 2.15 | 900.00 | |
| 56 Fe | 45 | 2 | 27.12 | 27.12 | ppb | 0.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 2.32 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.60 | ppb | 2.65 | 900.00 | |
| 66 Zn | 72 | 2 | 1.95 | 1.95 | ppb | 2.03 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 2.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.51 | ppb | 14.04 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 2.11 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 0.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 0.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 4.31 | 900.00 | |
| 120 Sn | 115 | 1 | 4.82 | 4.82 | ppb | 0.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 3.16 | 900.00 | |
| 137 Ba | 159 | 1 | 0.99 | 0.99 | ppb | 1.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.46 | 0.46 | ppb | 1.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1618690 | 1.15 | 1669598 | 97.0 | 70 - 130 | |
| 45 Sc | 1 | 4389507 | 1.26 | 4377340 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 457296 | 0.21 | 454956 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 990961 | 0.70 | 980053 | 101.1 | 70 | - | 130 |
| 72 Ge | 2 | 194296 | 0.38 | 192701 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 5595461 | 0.82 | 5612563 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 6034331 | 0.82 | 5986270 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 1503932 | 0.68 | 1511351 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 7416572 | 0.91 | 7475008 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 7008842 | 1.12 | 7030949 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3974272 | 1.04 | 4024922 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D26s00.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Apr 26 2013 07:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 26 2013 07:04 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 140.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 113.40 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 6.01 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.22 | ppb | 62.21 | 900.00 | |
| 23 Na | 45 | 1 | 96870.00 | 96870.00 | ppb | 0.42 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 95770.00 | 95770.00 | ppb | 0.33 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96840.00 | 96840.00 | ppb | 1.09 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 94950.00 | 94950.00 | ppb | 0.69 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94510.00 | 94510.00 | ppb | 0.13 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 95470.00 | 95470.00 | ppb | 0.58 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 93610.00 | 93610.00 | ppb | 0.71 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1903.00 | 1903.00 | ppb | 0.59 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 20.69 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.22 | ppb | 1.15 | 900.00 | |
| 56 Fe | 45 | 2 | 95740.00 | 95740.00 | ppb | 0.84 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 4.01 | 900.00 | |
| 60 Ni | 45 | 2 | 0.63 | 0.63 | ppb | 1.32 | 900.00 | |
| 63 Cu | 72 | 2 | -0.16 | -0.16 | ppb | 7.88 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 1.27 | 900.00 | |
| 75 As | 72 | 2 | 0.18 | 0.18 | ppb | 5.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 35.75 | 900.00 | |
| 88 Sr | 103 | 1 | 4.81 | 4.81 | ppb | 2.14 | 900.00 | |
| 98 Mo | 103 | 1 | 2017.00 | 2017.00 | ppb | 0.33 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 6.78 | 180.00 | |
| 111 Cd | 115 | 2 | 0.90 | 0.90 | ppb | 5.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 2.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.71 | 900.00 | |
| 137 Ba | 159 | 1 | 0.21 | 0.21 | ppb | 1.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 1.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1602213 | 1.78 | 1669598 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 4093605 | 0.41 | 4377340 | 93.5 | 70 - 130 | |
| 45 Sc | 2 | 410784 | 0.57 | 454956 | 90.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 922633 | 0.30 | 980053 | 94.1 | 70 - | 130 |
| 72 | Ge | 2 | 174630 | 0.59 | 192701 | 90.6 | 70 - | 130 |
| 103 | Rh | 1 | 4708697 | 1.19 | 5612563 | 83.9 | 70 - | 130 |
| 115 | In | 1 | 5172029 | 0.52 | 5986270 | 86.4 | 70 - | 130 |
| 115 | In | 2 | 1289684 | 2.62 | 1511351 | 85.3 | 70 - | 130 |
| 159 | Tb | 1 | 6862692 | 0.40 | 7475008 | 91.8 | 70 - | 130 |
| 175 | Lu | 1 | 6499767 | 0.93 | 7030949 | 92.4 | 70 - | 130 |
| 209 | Bi | 1 | 3385379 | 1.01 | 4024922 | 84.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Apr 26 2013 07:55 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 80.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 9.41 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 4.26 | 900.00 | |
| 11 B | 45 | 2 | 0.30 | 0.30 | ppb | 44.23 | 900.00 | |
| 23 Na | 45 | 1 | 97340.00 | 97340.00 | ppb | 1.41 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 96320.00 | 96320.00 | ppb | 1.34 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 97710.00 | 97710.00 | ppb | 1.64 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96310.00 | 96310.00 | ppb | 1.08 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 96100.00 | 96100.00 | ppb | 0.71 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 96740.00 | 96740.00 | ppb | 0.68 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 96040.00 | 96040.00 | ppb | 1.04 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94410.00 | 94410.00 | ppb | 0.57 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1929.00 | 1929.00 | ppb | 0.44 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 4.98 | 900.00 | |
| 52 Cr | 45 | 2 | 20.00 | 20.00 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 19.02 | 19.02 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 97210.00 | 97210.00 | ppb | 0.75 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.58 | 18.58 | ppb | 0.79 | 900.00 | |
| 60 Ni | 45 | 2 | 18.41 | 18.41 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 16.93 | 16.93 | ppb | 1.07 | 900.00 | |
| 66 Zn | 72 | 2 | 18.82 | 18.82 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 19.83 | 19.83 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 38.07 | 900.00 | |
| 88 Sr | 103 | 1 | 4.84 | 4.84 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 2034.00 | 2034.00 | ppb | 1.04 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.20 | 19.20 | ppb | 0.80 | 180.00 | |
| 111 Cd | 115 | 2 | 19.32 | 19.32 | ppb | 0.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 1.50 | 900.00 | |
| 137 Ba | 159 | 1 | 0.20 | 0.20 | ppb | 1.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 14.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 3.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1617488 | 0.81 | 1669598 | 96.9 | 70 - 130 | |
| 45 Sc | 1 | 4111782 | 0.76 | 4377340 | 93.9 | 70 - 130 | |
| 45 Sc | 2 | 407258 | 0.95 | 454956 | 89.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 931206 | 0.39 | 980053 | 95.0 | 70 | - | 130 |
| 72 Ge | 2 | 174809 | 0.98 | 192701 | 90.7 | 70 | - | 130 |
| 103 Rh | 1 | 4740077 | 0.45 | 5612563 | 84.5 | 70 | - | 130 |
| 115 In | 1 | 5266453 | 0.84 | 5986270 | 88.0 | 70 | - | 130 |
| 115 In | 2 | 1291847 | 2.07 | 1511351 | 85.5 | 70 | - | 130 |
| 159 Tb | 1 | 6955357 | 0.10 | 7475008 | 93.0 | 70 | - | 130 |
| 175 Lu | 1 | 6617498 | 0.35 | 7030949 | 94.1 | 70 | - | 130 |
| 209 Bi | 1 | 3385253 | 0.63 | 4024922 | 84.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D26s00.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Apr 26 2013 08:03 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:** 2X
**Vial Number:** 2106
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 26 2013 07:04 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 180.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 167.13 | 900.00 | |
| 11 B | 6 | 1 | 0.09 | 0.04 | ppb | 13.66 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.03 | ppb | 90.32 | 900.00 | |
| 23 Na | 45 | 1 | 100020.00 | 50010.00 | ppb | 1.84 | 90000.00 | |
| 23 Na | 45 | 2 | 95700.00 | 47850.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 99900.00 | 49950.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 95800.00 | 47900.00 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 97500.00 | 48750.00 | ppb | 1.91 | 90000.00 | |
| 27 Al | 45 | 2 | 95900.00 | 47950.00 | ppb | 0.73 | 90000.00 | |
| 39 K | 45 | 1 | 98220.00 | 49110.00 | ppb | 2.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 95300.00 | 47650.00 | ppb | 0.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 1958.80 | 979.40 | ppb | 1.09 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.03 | ppb | 20.43 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 0.53 | ppb | 0.86 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 5.40 | 900.00 | |
| 56 Fe | 45 | 2 | 99140.00 | 49570.00 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 4.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.68 | 0.34 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.49 | -0.25 | ppb | 4.12 | 900.00 | |
| 66 Zn | 72 | 2 | 2.36 | 1.18 | ppb | 1.31 | 900.00 | |
| 75 As | 72 | 2 | 0.18 | 0.09 | ppb | 9.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 10.42 | 900.00 | |
| 88 Sr | 103 | 1 | 4.76 | 2.38 | ppb | 1.87 | 900.00 | |
| 98 Mo | 103 | 1 | 1995.40 | 997.70 | ppb | 1.01 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 8.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.88 | 0.44 | ppb | 2.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 3.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 4.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.19 | 0.10 | ppb | 10.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 7.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.07 | ppb | 5.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1678525 | 0.93 | 1669598 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 4160336 | 1.36 | 4377340 | 95.0 | 70 - 130 | |
| 45 Sc | 2 | 413940 | 0.51 | 454956 | 91.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 938970 | 0.83 | 980053 | 95.8 | 70 - | 130 |
| 72 | Ge | 2 | 178720 | 0.08 | 192701 | 92.7 | 70 - | 130 |
| 103 | Rh | 1 | 4938309 | 0.62 | 5612563 | 88.0 | 70 - | 130 |
| 115 | In | 1 | 5466697 | 1.11 | 5986270 | 91.3 | 70 - | 130 |
| 115 | In | 2 | 1363028 | 0.30 | 1511351 | 90.2 | 70 - | 130 |
| 159 | Tb | 1 | 7155764 | 0.17 | 7475008 | 95.7 | 70 - | 130 |
| 175 | Lu | 1 | 6794647 | 0.57 | 7030949 | 96.6 | 70 - | 130 |
| 209 | Bi | 1 | 3637069 | 0.31 | 4024922 | 90.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\018SMPL.D\018SMPL.D# |
| Date Acquired: | Apr 26 2013 08:10 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | 2X |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 174.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 108.18 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.03 | ppb | 8.40 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.09 | ppb | 98.13 | 900.00 | |
| 23 Na | 45 | 1 | 100360.00 | 50180.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 96340.00 | 48170.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 100000.00 | 50000.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 96680.00 | 48340.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 97640.00 | 48820.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 96320.00 | 48160.00 | ppb | 0.50 | 90000.00 | |
| 39 K | 45 | 1 | 97320.00 | 48660.00 | ppb | 1.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 94780.00 | 47390.00 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1955.20 | 977.60 | ppb | 1.23 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.03 | ppb | 14.31 | 900.00 | |
| 52 Cr | 45 | 2 | 20.38 | 10.19 | ppb | 0.29 | 900.00 | |
| 55 Mn | 45 | 2 | 19.35 | 9.68 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 99300.00 | 49650.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 19.09 | 9.55 | ppb | 1.00 | 900.00 | |
| 60 Ni | 45 | 2 | 18.94 | 9.47 | ppb | 0.41 | 900.00 | |
| 63 Cu | 72 | 2 | 17.41 | 8.71 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 21.48 | 10.74 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 20.12 | 10.06 | ppb | 0.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.05 | ppb | 245.19 | 900.00 | |
| 88 Sr | 103 | 1 | 4.85 | 2.43 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 2010.00 | 1005.00 | ppb | 1.80 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.69 | 9.85 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 20.04 | 10.02 | ppb | 1.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 5.52 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 7.23 | 900.00 | |
| 137 Ba | 159 | 1 | 0.20 | 0.10 | ppb | 11.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 15.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.08 | ppb | 4.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1675099 | 0.99 | 1669598 | 100.3 | 70 - 130 | |
| 45 Sc | 1 | 4203686 | 0.93 | 4377340 | 96.0 | 70 - 130 | |
| 45 Sc | 2 | 414822 | 0.37 | 454956 | 91.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 939717 | 0.91 | 980053 | 95.9 | 70 - | 130 |
| 72 | Ge | 2 | 177881 | 0.38 | 192701 | 92.3 | 70 - | 130 |
| 103 | Rh | 1 | 4926953 | 1.55 | 5612563 | 87.8 | 70 - | 130 |
| 115 | In | 1 | 5406746 | 0.93 | 5986270 | 90.3 | 70 - | 130 |
| 115 | In | 2 | 1358525 | 0.76 | 1511351 | 89.9 | 70 - | 130 |
| 159 | Tb | 1 | 7153922 | 0.09 | 7475008 | 95.7 | 70 - | 130 |
| 175 | Lu | 1 | 6818768 | 1.89 | 7030949 | 97.0 | 70 - | 130 |
| 209 | Bi | 1 | 3603136 | 1.23 | 4024922 | 89.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\019SMPL.D\019SMPL.D#
Date Acquired: Apr 26 2013 08:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 36.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 86.51 | 900.00 | |
| 11 B | 6 | 1 | -0.08 | -0.08 | ppb | 18.98 | 900.00 | |
| 11 B | 45 | 2 | 0.09 | 0.09 | ppb | 111.09 | 900.00 | |
| 23 Na | 45 | 1 | 12.71 | 12.71 | ppb | 3.61 | 90000.00 | |
| 23 Na | 45 | 2 | 19.34 | 19.34 | ppb | 5.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.34 | 7.34 | ppb | 4.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 11.28 | 11.28 | ppb | 9.02 | 90000.00 | |
| 27 Al | 45 | 1 | 6.80 | 6.80 | ppb | 3.97 | 90000.00 | |
| 27 Al | 45 | 2 | 9.40 | 9.40 | ppb | 7.94 | 90000.00 | |
| 39 K | 45 | 1 | 3.76 | 3.76 | ppb | 27.47 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.52 | -2.52 | ppb | 10.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.22 | 0.22 | ppb | 2.37 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 2.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 69.71 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 73.45 | 900.00 | |
| 56 Fe | 45 | 2 | 12.29 | 12.29 | ppb | 6.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 224.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 35.48 | 900.00 | |
| 63 Cu | 72 | 2 | -0.37 | -0.37 | ppb | 1.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 15.06 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 20.82 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.12 | ppb | 49.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 65.19 | 900.00 | |
| 98 Mo | 103 | 1 | 1.04 | 1.04 | ppb | 5.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 27.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 247.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 50.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 180.70 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 128.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 41.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 101.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1706042 | 0.39 | 1669598 | 102.2 | 70 - 130 | |
| 45 Sc | 1 | 4349297 | 1.28 | 4377340 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 435124 | 0.42 | 454956 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 973264 | 0.34 | 980053 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 188936 | 0.45 | 192701 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 5613701 | 0.64 | 5612563 | 100.0 | 70 | - | 130 |
| 115 In | 1 | 5956148 | 0.57 | 5986270 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1522484 | 1.46 | 1511351 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 7435621 | 0.41 | 7475008 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 6964813 | 0.92 | 7030949 | 99.1 | 70 | - | 130 |
| 209 Bi | 1 | 4084829 | 1.34 | 4024922 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\020SMPL.D\020SMPL.D#
Date Acquired: Apr 26 2013 08:24 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20844-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 20.55 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 111.81 | 900.00 | |
| 11 B | 6 | 1 | -0.01 | -0.01 | ppb | 122.44 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.07 | ppb | 105.05 | 900.00 | |
| 23 Na | 45 | 1 | 29.14 | 14.57 | ppb | 4.01 | 90000.00 | |
| 23 Na | 45 | 2 | 30.88 | 15.44 | ppb | 3.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 12.41 | 6.20 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 12.76 | 6.38 | ppb | 1.81 | 90000.00 | |
| 27 Al | 45 | 1 | 18.07 | 9.04 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 18.10 | 9.05 | ppb | 2.82 | 90000.00 | |
| 39 K | 45 | 1 | 6.59 | 3.29 | ppb | 24.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 17.77 | 8.88 | ppb | 13.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.75 | 0.37 | ppb | 4.09 | 900.00 | |
| 51 V | 45 | 2 | 1.59 | 0.79 | ppb | 0.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.05 | ppb | 5.06 | 900.00 | |
| 55 Mn | 45 | 2 | 1.05 | 0.52 | ppb | 2.61 | 900.00 | |
| 56 Fe | 45 | 2 | 32.52 | 16.26 | ppb | 1.97 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 17.80 | 900.00 | |
| 60 Ni | 45 | 2 | 0.08 | 0.04 | ppb | 15.28 | 900.00 | |
| 63 Cu | 72 | 2 | -0.36 | -0.18 | ppb | 2.87 | 900.00 | |
| 66 Zn | 72 | 2 | 1.43 | 0.72 | ppb | 1.42 | 900.00 | |
| 75 As | 72 | 2 | 0.37 | 0.18 | ppb | 8.29 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 9458.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 5.99 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.51 | ppb | 7.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 1213.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.38 | 0.19 | ppb | 1.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 17.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.38 | 0.19 | ppb | 2.99 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 36.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 17.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1527066 | 0.83 | 1669598 | 91.5 | 70 - 130 | |
| 45 Sc | 1 | 4244853 | 0.26 | 4377340 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 429551 | 1.00 | 454956 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 965446 | 0.77 | 980053 | 98.5 | 70 | - | 130 |
| 72 Ge | 2 | 185551 | 0.66 | 192701 | 96.3 | 70 | - | 130 |
| 103 Rh | 1 | 5511912 | 0.71 | 5612563 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 5869619 | 0.79 | 5986270 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 1488667 | 0.96 | 1511351 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 7414289 | 0.68 | 7475008 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 7020668 | 0.44 | 7030949 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 4024147 | 0.75 | 4024922 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D26s00.B\021SMPL.D\021SMPL.D# | | |
| **Date Acquired:** | Apr 26 2013 08:31 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC20063-13F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2110 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 26 2013 07:04 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 160.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 63.70 | 900.00 | |
| 11 B | 6 | 1 | 283.20 | 141.60 | ppb | 0.36 | 900.00 | |
| 11 B | 45 | 2 | 258.40 | 129.20 | ppb | 5.17 | 900.00 | |
| 23 Na | 45 | 1 | 23220.00 | 11610.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 24340.00 | 12170.00 | ppb | 2.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 7716.00 | 3858.00 | ppb | 0.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 8072.00 | 4036.00 | ppb | 1.52 | 90000.00 | |
| 27 Al | 45 | 1 | 14.98 | 7.49 | ppb | 2.33 | 90000.00 | |
| 27 Al | 45 | 2 | 15.32 | 7.66 | ppb | 2.74 | 90000.00 | |
| 39 K | 45 | 1 | 8292.00 | 4146.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 58880.00 | 29440.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.45 | 0.73 | ppb | 0.83 | 900.00 | |
| 51 V | 45 | 2 | 1.55 | 0.78 | ppb | 1.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.51 | 0.26 | ppb | 3.16 | 900.00 | |
| 55 Mn | 45 | 2 | 2486.00 | 1243.00 | ppb | 1.72 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 40080.00 | 20040.00 | ppb | 1.40 | 90000.00 | |
| 59 Co | 45 | 2 | 13.26 | 6.63 | ppb | 2.17 | 900.00 | |
| 60 Ni | 45 | 2 | 59.84 | 29.92 | ppb | 2.00 | 900.00 | |
| 63 Cu | 72 | 2 | 1.44 | 0.72 | ppb | 1.91 | 900.00 | |
| 66 Zn | 72 | 2 | 35.50 | 17.75 | ppb | 1.89 | 900.00 | |
| 75 As | 72 | 2 | 9.55 | 4.78 | ppb | 1.59 | 900.00 | |
| 78 Se | 72 | 2 | -0.15 | -0.07 | ppb | 7.44 | 900.00 | |
| 88 Sr | 103 | 1 | 410.20 | 205.10 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 31.30 | 15.65 | ppb | 0.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 12.20 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 16.05 | 900.00 | |
| 120 Sn | 115 | 1 | 3.13 | 1.57 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 2.55 | 1.27 | ppb | 1.18 | 900.00 | |
| 137 Ba | 159 | 1 | 41.74 | 20.87 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 4.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.05 | ppb | 7.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1414336 | 0.48 | 1669598 | 84.7 | 70 - 130 | |
| 45 Sc | 1 | 4141867 | 0.63 | 4377340 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 423796 | 0.49 | 454956 | 93.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 945319 | 0.54 | 980053 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 185629 | 0.85 | 192701 | 96.3 | 70 | - | 130 |
| 103 Rh | 1 | 5126224 | 0.30 | 5612563 | 91.3 | 70 | - | 130 |
| 115 In | 1 | 5616376 | 0.61 | 5986270 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 1423124 | 1.45 | 1511351 | 94.2 | 70 | - | 130 |
| 159 Tb | 1 | 7250526 | 0.83 | 7475008 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 6906397 | 0.53 | 7030949 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 3764949 | 0.56 | 4024922 | 93.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D26s00.B\022SMPL.D\022SMPL.D# | | |
| **Date Acquired:** | Apr 26 2013 08:38 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC20063-14F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2111 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 26 2013 07:04 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1390.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 243.66 | 900.00 | |
| 11 B | 6 | 1 | 281.80 | 140.90 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 253.00 | 126.50 | ppb | 1.56 | 900.00 | |
| 23 Na | 45 | 1 | 35220.00 | 17610.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 36880.00 | 18440.00 | ppb | 1.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 21340.00 | 10670.00 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 21960.00 | 10980.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 11.76 | 5.88 | ppb | 1.29 | 90000.00 | |
| 27 Al | 45 | 2 | 12.09 | 6.05 | ppb | 3.92 | 90000.00 | |
| 39 K | 45 | 1 | 8870.00 | 4435.00 | ppb | 1.26 | 90000.00 | |
| 44 Ca | 45 | 1 | 127760.00 | 63880.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.55 | 0.78 | ppb | 2.49 | 900.00 | |
| 51 V | 45 | 2 | 1.01 | 0.50 | ppb | 2.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 5034.00 | 2517.00 | ppb | 1.71 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 33740.00 | 16870.00 | ppb | 1.45 | 90000.00 | |
| 59 Co | 45 | 2 | 31.12 | 15.56 | ppb | 1.12 | 900.00 | |
| 60 Ni | 45 | 2 | 93.74 | 46.87 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 2.52 | 1.26 | ppb | 2.08 | 900.00 | |
| 66 Zn | 72 | 2 | 17.90 | 8.95 | ppb | 1.66 | 900.00 | |
| 75 As | 72 | 2 | 12.10 | 6.05 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.05 | ppb | 114.49 | 900.00 | |
| 88 Sr | 103 | 1 | 599.00 | 299.50 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 79.48 | 39.74 | ppb | 0.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 27.17 | 180.00 | |
| 111 Cd | 115 | 2 | 0.18 | 0.09 | ppb | 19.44 | 900.00 | |
| 120 Sn | 115 | 1 | 1.41 | 0.71 | ppb | 2.12 | 900.00 | |
| 121 Sb | 115 | 1 | 4.42 | 2.21 | ppb | 0.43 | 900.00 | |
| 137 Ba | 159 | 1 | 45.78 | 22.89 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 2.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 0.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1402828 | 1.32 | 1669598 | 84.0 | 70 - 130 | |
| 45 Sc | 1 | 4180664 | 0.73 | 4377340 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 431232 | 0.09 | 454956 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 942865 | 0.81 | 980053 | 96.2 | 70 - | 130 |
| 72 | Ge | 2 | 183775 | 1.10 | 192701 | 95.4 | 70 - | 130 |
| 103 | Rh | 1 | 5072849 | 0.68 | 5612563 | 90.4 | 70 - | 130 |
| 115 | In | 1 | 5581293 | 0.19 | 5986270 | 93.2 | 70 - | 130 |
| 115 | In | 2 | 1370650 | 0.48 | 1511351 | 90.7 | 70 - | 130 |
| 159 | Tb | 1 | 7221798 | 0.55 | 7475008 | 96.6 | 70 - | 130 |
| 175 | Lu | 1 | 6817885 | 0.38 | 7030949 | 97.0 | 70 - | 130 |
| 209 | Bi | 1 | 3689713 | 0.26 | 4024922 | 91.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D26s00.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Apr 26 2013 08:45 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20063-15F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 26 2013 07:04 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 26.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 33.09 | 900.00 | |
| 11 B | 6 | 1 | 1.95 | 0.98 | ppb | 3.08 | 900.00 | |
| 11 B | 45 | 2 | 1.65 | 0.82 | ppb | 23.53 | 900.00 | |
| 23 Na | 45 | 1 | 27.58 | 13.79 | ppb | 2.01 | 90000.00 | |
| 23 Na | 45 | 2 | 29.36 | 14.68 | ppb | 2.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.38 | 3.69 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.66 | 3.83 | ppb | 2.47 | 90000.00 | |
| 27 Al | 45 | 1 | 5.63 | 2.82 | ppb | 2.40 | 90000.00 | |
| 27 Al | 45 | 2 | 5.67 | 2.84 | ppb | 2.99 | 90000.00 | |
| 39 K | 45 | 1 | 15.96 | 7.98 | ppb | 2.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 69.44 | 34.72 | ppb | 4.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.30 | ppb | 20.75 | 900.00 | |
| 51 V | 45 | 2 | 1.65 | 0.83 | ppb | 3.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.09 | ppb | 3.39 | 900.00 | |
| 55 Mn | 45 | 2 | 1.50 | 0.75 | ppb | 3.10 | 900.00 | |
| 56 Fe | 45 | 2 | 21.54 | 10.77 | ppb | 1.04 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 19.26 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 12.21 | 900.00 | |
| 63 Cu | 72 | 2 | -0.34 | -0.17 | ppb | 1.54 | 900.00 | |
| 66 Zn | 72 | 2 | 7.20 | 3.60 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 0.37 | 0.18 | ppb | 4.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 175.86 | 900.00 | |
| 88 Sr | 103 | 1 | 0.17 | 0.09 | ppb | 2.75 | 900.00 | |
| 98 Mo | 103 | 1 | 0.20 | 0.10 | ppb | 4.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 9.25 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 534.62 | 900.00 | |
| 120 Sn | 115 | 1 | 1.62 | 0.81 | ppb | 0.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 3.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.14 | ppb | 11.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 259.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 9.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1483205 | 2.34 | 1669598 | 88.8 | 70 - 130 | |
| 45 Sc | 1 | 4244306 | 0.36 | 4377340 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 434493 | 0.37 | 454956 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 974759 | 0.61 | 980053 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 187858 | 0.65 | 192701 | 97.5 | 70 | - | 130 |
| 103 Rh | 1 | 5542098 | 0.66 | 5612563 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 5863068 | 0.57 | 5986270 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1478769 | 0.96 | 1511351 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 7488193 | 0.98 | 7475008 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 6913326 | 1.19 | 7030949 | 98.3 | 70 | - | 130 |
| 209 Bi | 1 | 3963682 | 0.68 | 4024922 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\024SMPL.D\024SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\024SMPL.D\024SMPL.D#
Date Acquired: Apr 26 2013 08:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.62 | 49.62 | ppb | 0.33 | 900.00 | |
| 9 Be | 45 | 2 | 48.36 | 48.36 | ppb | 0.36 | 900.00 | |
| 11 B | 6 | 1 | 49.46 | 49.46 | ppb | 1.36 | 900.00 | |
| 11 B | 45 | 2 | 46.24 | 46.24 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 4921.00 | 4921.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5036.00 | 5036.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 4936.00 | 4936.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 5002.00 | 5002.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 4923.00 | 4923.00 | ppb | 1.52 | 90000.00 | |
| 27 Al | 45 | 2 | 5028.00 | 5028.00 | ppb | 0.46 | 90000.00 | |
| 39 K | 45 | 1 | 4989.00 | 4989.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.00 | 49.00 | ppb | 0.43 | 900.00 | |
| 51 V | 45 | 2 | 49.76 | 49.76 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 49.35 | 49.35 | ppb | 0.18 | 900.00 | |
| 55 Mn | 45 | 2 | 48.52 | 48.52 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 5167.00 | 5167.00 | ppb | 0.89 | 90000.00 | |
| 59 Co | 45 | 2 | 49.09 | 49.09 | ppb | 0.77 | 900.00 | |
| 60 Ni | 45 | 2 | 47.92 | 47.92 | ppb | 1.06 | 900.00 | |
| 63 Cu | 72 | 2 | 47.50 | 47.50 | ppb | 0.46 | 900.00 | |
| 66 Zn | 72 | 2 | 47.79 | 47.79 | ppb | 0.25 | 900.00 | |
| 75 As | 72 | 2 | 48.95 | 48.95 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 47.22 | 47.22 | ppb | 1.04 | 900.00 | |
| 88 Sr | 103 | 1 | 50.95 | 50.95 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 50.47 | 50.47 | ppb | 0.14 | 900.00 | |
| 107 Ag | 115 | 1 | 48.59 | 48.59 | ppb | 0.79 | 180.00 | |
| 111 Cd | 115 | 2 | 48.00 | 48.00 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 50.13 | 50.13 | ppb | 0.54 | 900.00 | |
| 121 Sb | 115 | 1 | 50.37 | 50.37 | ppb | 0.97 | 900.00 | |
| 137 Ba | 159 | 1 | 48.34 | 48.34 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 48.49 | 48.49 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.76 | 49.76 | ppb | 1.49 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1556869 | 0.43 | 1669598 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 4304069 | 0.54 | 4377340 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 437361 | 0.87 | 454956 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 954650 | 0.09 | 980053 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 186846 | 0.42 | 192701 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 5384958 | 0.40 | 5612563 | 95.9 | 70 | - | 130 |
| 115 In | 1 | 5823085 | 1.13 | 5986270 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 1478658 | 1.58 | 1511351 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 7342158 | 1.32 | 7475008 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 6918173 | 1.19 | 7030949 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 3843396 | 1.45 | 4024922 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 26 2013 08:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 86.52 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 33.18 | 900.00 | |
| 11 B | 6 | 1 | 0.33 | 0.33 | ppb | 13.73 | 900.00 | |
| 11 B | 45 | 2 | 0.50 | 0.50 | ppb | 5.24 | 900.00 | |
| 23 Na | 45 | 1 | 1.30 | 1.30 | ppb | 34.79 | 90000.00 | |
| 23 Na | 45 | 2 | 5.02 | 5.02 | ppb | 5.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.23 | 0.23 | ppb | 56.09 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.15 | 2.15 | ppb | 27.09 | 90000.00 | |
| 27 Al | 45 | 1 | 1.20 | 1.20 | ppb | 10.57 | 90000.00 | |
| 27 Al | 45 | 2 | 2.37 | 2.37 | ppb | 20.72 | 90000.00 | |
| 39 K | 45 | 1 | 0.25 | 0.25 | ppb | 643.50 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.29 | -7.29 | ppb | 13.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 18.23 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 17.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 28.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.33 | 0.33 | ppb | 0.92 | 900.00 | |
| 56 Fe | 45 | 2 | 7.35 | 7.35 | ppb | 6.85 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 42.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 46.78 | 900.00 | |
| 63 Cu | 72 | 2 | -0.28 | -0.28 | ppb | 0.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.26 | 0.26 | ppb | 5.83 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 59.09 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.07 | ppb | 47.98 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 254.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 18.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 24.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 37.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 19.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 25.45 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 67.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 1.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 53.03 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1606089 | 1.48 | 1669598 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 4374406 | 1.80 | 4377340 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 441845 | 0.39 | 454956 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 977879 | 1.16 | 980053 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 190845 | 1.00 | 192701 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 5653169 | 1.37 | 5612563 | 100.7 | 70 | - | 130 |
| 115 In | 1 | 6048221 | 0.92 | 5986270 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1511691 | 0.93 | 1511351 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 7419924 | 0.92 | 7475008 | 99.3 | 70 | - | 130 |
| 175 Lu | 1 | 6981811 | 0.86 | 7030949 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 4010606 | 1.86 | 4024922 | 99.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Apr 26 2013 09:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20063-16F |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 32.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.08 | ppb | 26.87 | 900.00 | |
| 11 B | 6 | 1 | 62.50 | 31.25 | ppb | 0.23 | 900.00 | |
| 11 B | 45 | 2 | 57.70 | 28.85 | ppb | 3.37 | 900.00 | |
| 23 Na | 45 | 1 | 15088.00 | 7544.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 15644.00 | 7822.00 | ppb | 2.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 3092.00 | 1546.00 | ppb | 0.10 | 90000.00 | |
| 24 Mg | 45 | 2 | 3274.00 | 1637.00 | ppb | 1.20 | 90000.00 | |
| 27 Al | 45 | 1 | 10.95 | 5.47 | ppb | 1.99 | 90000.00 | |
| 27 Al | 45 | 2 | 11.25 | 5.63 | ppb | 7.42 | 90000.00 | |
| 39 K | 45 | 1 | 1327.20 | 663.60 | ppb | 0.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 26780.00 | 13390.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.12 | 0.56 | ppb | 3.79 | 900.00 | |
| 51 V | 45 | 2 | 1.58 | 0.79 | ppb | 1.56 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 3380.00 | 1690.00 | ppb | 1.37 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1350.60 | 675.30 | ppb | 1.28 | 90000.00 | |
| 59 Co | 45 | 2 | 3.00 | 1.50 | ppb | 1.54 | 900.00 | |
| 60 Ni | 45 | 2 | 6.64 | 3.32 | ppb | 1.75 | 900.00 | |
| 63 Cu | 72 | 2 | 0.13 | 0.06 | ppb | 29.34 | 900.00 | |
| 66 Zn | 72 | 2 | 12.53 | 6.26 | ppb | 0.98 | 900.00 | |
| 75 As | 72 | 2 | 0.78 | 0.39 | ppb | 5.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.18 | ppb | 69.27 | 900.00 | |
| 88 Sr | 103 | 1 | 155.14 | 77.57 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 3.58 | 1.79 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 13.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.17 | 0.08 | ppb | 21.97 | 900.00 | |
| 120 Sn | 115 | 1 | 2.49 | 1.25 | ppb | 0.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 6.68 | 900.00 | |
| 137 Ba | 159 | 1 | 12.87 | 6.44 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 2.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 14.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1412188 | 0.48 | 1669598 | 84.6 | 70 - 130 | |
| 45 Sc | 1 | 4168568 | 0.20 | 4377340 | 95.2 | 70 - 130 | |
| 45 Sc | 2 | 428279 | 0.53 | 454956 | 94.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 953882 | 0.55 | 980053 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 185832 | 1.20 | 192701 | 96.4 | 70 | - | 130 |
| 103 Rh | 1 | 5206883 | 0.21 | 5612563 | 92.8 | 70 | - | 130 |
| 115 In | 1 | 5716903 | 0.14 | 5986270 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 1440582 | 2.32 | 1511351 | 95.3 | 70 | - | 130 |
| 159 Tb | 1 | 7309375 | 0.57 | 7475008 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 6830356 | 0.55 | 7030949 | 97.1 | 70 | - | 130 |
| 209 Bi | 1 | 3783300 | 0.50 | 4024922 | 94.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D26s00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 26 2013 09:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-17F
**Misc Info:**
**Vial Number:** 2204
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 26 2013 07:04 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 963.54 | 900.00 | |
| 9 Be | 45 | 2 | 0.12 | 0.06 | ppb | 56.88 | 900.00 | |
| 11 B | 6 | 1 | 122.82 | 61.41 | ppb | 0.72 | 900.00 | |
| 11 B | 45 | 2 | 105.80 | 52.90 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 15214.00 | 7607.00 | ppb | 1.62 | 90000.00 | |
| 23 Na | 45 | 2 | 15762.00 | 7881.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 4306.00 | 2153.00 | ppb | 1.44 | 90000.00 | |
| 24 Mg | 45 | 2 | 4526.00 | 2263.00 | ppb | 1.86 | 90000.00 | |
| 27 Al | 45 | 1 | 9.45 | 4.73 | ppb | 1.86 | 90000.00 | |
| 27 Al | 45 | 2 | 9.56 | 4.78 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 4352.00 | 2176.00 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 42100.00 | 21050.00 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.14 | 0.57 | ppb | 1.78 | 900.00 | |
| 51 V | 45 | 2 | 1.55 | 0.78 | ppb | 2.52 | 900.00 | |
| 52 Cr | 45 | 2 | 0.72 | 0.36 | ppb | 3.83 | 900.00 | |
| 55 Mn | 45 | 2 | 6012.00 | 3006.00 | ppb | 1.16 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 11164.00 | 5582.00 | ppb | 1.12 | 90000.00 | |
| 59 Co | 45 | 2 | 8.98 | 4.49 | ppb | 1.48 | 900.00 | |
| 60 Ni | 45 | 2 | 26.84 | 13.42 | ppb | 1.24 | 900.00 | |
| 63 Cu | 72 | 2 | 1.39 | 0.69 | ppb | 2.81 | 900.00 | |
| 66 Zn | 72 | 2 | 18.45 | 9.23 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 1.63 | 0.81 | ppb | 2.63 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.07 | ppb | 49.69 | 900.00 | |
| 88 Sr | 103 | 1 | 333.80 | 166.90 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 17.69 | 8.84 | ppb | 0.70 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 23.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.26 | 0.13 | ppb | 17.75 | 900.00 | |
| 120 Sn | 115 | 1 | 2.26 | 1.13 | ppb | 1.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.69 | 0.34 | ppb | 0.59 | 900.00 | |
| 137 Ba | 159 | 1 | 36.94 | 18.47 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.11 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 3.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1382894 | 0.95 | 1669598 | 82.8 | 70 - 130 | |
| 45 Sc | 1 | 4205042 | 0.98 | 4377340 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 439424 | 0.57 | 454956 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 960011 | 0.17 | 980053 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 185263 | 0.55 | 192701 | 96.1 | 70 | - | 130 |
| 103 Rh | 1 | 5209873 | 0.55 | 5612563 | 92.8 | 70 | - | 130 |
| 115 In | 1 | 5735343 | 0.90 | 5986270 | 95.8 | 70 | - | 130 |
| 115 In | 2 | 1411797 | 1.04 | 1511351 | 93.4 | 70 | - | 130 |
| 159 Tb | 1 | 7266881 | 1.49 | 7475008 | 97.2 | 70 | - | 130 |
| 175 Lu | 1 | 6826575 | 0.73 | 7030949 | 97.1 | 70 | - | 130 |
| 209 Bi | 1 | 3754728 | 0.45 | 4024922 | 93.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Apr 26 2013 09:21 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20844-B1 |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 491.80 | 24.59 | ppb | 1.17 | 900.00 | |
| 9 Be | 45 | 2 | 484.20 | 24.21 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 5.17 | 0.26 | ppb | 4.59 | 900.00 | |
| 11 B | 45 | 2 | 5.42 | 0.27 | ppb | 32.73 | 900.00 | |
| 23 Na | 45 | 1 | 25240.00 | 1262.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 25720.00 | 1286.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 25700.00 | 1285.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 26340.00 | 1317.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 2154.00 | 107.70 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 2242.00 | 112.10 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 25240.00 | 1262.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 26280.00 | 1314.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 474.80 | 23.74 | ppb | 1.58 | 900.00 | |
| 51 V | 45 | 2 | 515.00 | 25.75 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 503.60 | 25.18 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 522.80 | 26.14 | ppb | 0.84 | 900.00 | |
| 56 Fe | 45 | 2 | 2368.00 | 118.40 | ppb | 1.53 | 90000.00 | |
| 59 Co | 45 | 2 | 509.20 | 25.46 | ppb | 0.15 | 900.00 | |
| 60 Ni | 45 | 2 | 493.00 | 24.65 | ppb | 0.50 | 900.00 | |
| 63 Cu | 72 | 2 | 492.00 | 24.60 | ppb | 0.98 | 900.00 | |
| 66 Zn | 72 | 2 | 532.80 | 26.64 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 508.40 | 25.42 | ppb | 0.99 | 900.00 | |
| 78 Se | 72 | 2 | 503.20 | 25.16 | ppb | 0.77 | 900.00 | |
| 88 Sr | 103 | 1 | 497.80 | 24.89 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.93 | 0.05 | ppb | 5.96 | 900.00 | |
| 107 Ag | 115 | 1 | 201.80 | 10.09 | ppb | 0.89 | 180.00 | |
| 111 Cd | 115 | 2 | 497.60 | 24.88 | ppb | 2.49 | 900.00 | |
| 120 Sn | 115 | 1 | 30.04 | 1.50 | ppb | 1.41 | 900.00 | |
| 121 Sb | 115 | 1 | 510.80 | 25.54 | ppb | 0.45 | 900.00 | |
| 137 Ba | 159 | 1 | 1944.60 | 97.23 | ppb | 0.76 | 900.00 | |
| 205 Tl | 209 | 1 | 466.00 | 23.30 | ppb | 2.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 981.00 | 49.05 | ppb | 0.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1669323 | 1.48 | 1669598 | 100.0 | 70 - 130 | |
| 45 Sc | 1 | 4381036 | 0.37 | 4377340 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 443393 | 0.12 | 454956 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 966907 | 0.67 | 980053 | 98.7 | 70 | - | 130 |
| 72 Ge | 2 | 189873 | 0.56 | 192701 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 5551611 | 0.71 | 5612563 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 5964312 | 0.31 | 5986270 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1492476 | 2.28 | 1511351 | 98.8 | 70 | - | 130 |
| 159 Tb | 1 | 7389929 | 0.44 | 7475008 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 6904747 | 0.46 | 7030949 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 3952543 | 0.87 | 4024922 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 26 2013 09:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20844-S1
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 497.80 | 24.89 | ppb | 1.71 | 900.00 | |
| 9 Be | 45 | 2 | 482.20 | 24.11 | ppb | 8.21 | 900.00 | |
| 11 B | 6 | 1 | 252.40 | 12.62 | ppb | 2.76 | 900.00 | |
| 11 B | 45 | 2 | 241.20 | 12.06 | ppb | 7.86 | 900.00 | |
| 23 Na | 45 | 1 | 52060.00 | 2603.00 | ppb | 1.36 | 90000.00 | |
| 23 Na | 45 | 2 | 48920.00 | 2446.00 | ppb | 8.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 35160.00 | 1758.00 | ppb | 1.37 | 90000.00 | |
| 24 Mg | 45 | 2 | 33680.00 | 1684.00 | ppb | 8.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2230.00 | 111.50 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 2 | 2180.00 | 109.00 | ppb | 8.52 | 90000.00 | |
| 39 K | 45 | 1 | 34600.00 | 1730.00 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 88120.00 | 4406.00 | ppb | 1.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.60 | 24.23 | ppb | 1.12 | 900.00 | |
| 51 V | 45 | 2 | 513.40 | 25.67 | ppb | 7.84 | 900.00 | |
| 52 Cr | 45 | 2 | 500.20 | 25.01 | ppb | 8.24 | 900.00 | |
| 55 Mn | 45 | 2 | 3096.00 | 154.80 | ppb | 7.97 | 900.00 | |
| 56 Fe | 45 | 2 | 41960.00 | 2098.00 | ppb | 9.04 | 90000.00 | |
| 59 Co | 45 | 2 | 509.60 | 25.48 | ppb | 8.92 | 900.00 | |
| 60 Ni | 45 | 2 | 538.40 | 26.92 | ppb | 8.03 | 900.00 | |
| 63 Cu | 72 | 2 | 482.20 | 24.11 | ppb | 5.86 | 900.00 | |
| 66 Zn | 72 | 2 | 603.40 | 30.17 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 506.20 | 25.31 | ppb | 5.90 | 900.00 | |
| 78 Se | 72 | 2 | 491.20 | 24.56 | ppb | 5.96 | 900.00 | |
| 88 Sr | 103 | 1 | 938.60 | 46.93 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 28.18 | 1.41 | ppb | 1.87 | 900.00 | |
| 107 Ag | 115 | 1 | 206.00 | 10.30 | ppb | 0.84 | 180.00 | |
| 111 Cd | 115 | 2 | 484.60 | 24.23 | ppb | 6.51 | 900.00 | |
| 120 Sn | 115 | 1 | 10.08 | 0.50 | ppb | 1.07 | 900.00 | |
| 121 Sb | 115 | 1 | 527.40 | 26.37 | ppb | 1.10 | 900.00 | |
| 137 Ba | 159 | 1 | 2026.00 | 101.30 | ppb | 0.65 | 900.00 | |
| 205 Tl | 209 | 1 | 457.80 | 22.89 | ppb | 2.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1012.00 | 50.60 | ppb | 0.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1693365 | 1.23 | 1669598 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 4348320 | 1.00 | 4377340 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 451458 | 7.66 | 454956 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 961050 | 0.76 | 980053 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 194318 | 4.95 | 192701 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 5404612 | 0.67 | 5612563 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 5863009 | 0.32 | 5986270 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1560173 | 5.04 | 1511351 | 103.2 | 70 | - | 130 |
| 159 Tb | 1 | 7326932 | 0.67 | 7475008 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 6886942 | 0.16 | 7030949 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 3935392 | 0.15 | 4024922 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 26 2013 09:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20844-S2
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 488.60 | 24.43 | ppb | 1.46 | 900.00 | |
| 9 Be | 45 | 2 | 491.80 | 24.59 | ppb | 4.07 | 900.00 | |
| 11 B | 6 | 1 | 246.20 | 12.31 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 241.40 | 12.07 | ppb | 8.96 | 900.00 | |
| 23 Na | 45 | 1 | 52480.00 | 2624.00 | ppb | 0.90 | 90000.00 | |
| 23 Na | 45 | 2 | 50660.00 | 2533.00 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 35460.00 | 1773.00 | ppb | 1.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 35160.00 | 1758.00 | ppb | 1.79 | 90000.00 | |
| 27 Al | 45 | 1 | 2274.00 | 113.70 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 2 | 2324.00 | 116.20 | ppb | 1.98 | 90000.00 | |
| 39 K | 45 | 1 | 34680.00 | 1734.00 | ppb | 0.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 87740.00 | 4387.00 | ppb | 0.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.60 | 24.38 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 516.60 | 25.83 | ppb | 1.08 | 900.00 | |
| 52 Cr | 45 | 2 | 498.00 | 24.90 | ppb | 1.23 | 900.00 | |
| 55 Mn | 45 | 2 | 3068.00 | 153.40 | ppb | 1.13 | 900.00 | |
| 56 Fe | 45 | 2 | 42260.00 | 2113.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 518.20 | 25.91 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 555.80 | 27.79 | ppb | 1.21 | 900.00 | |
| 63 Cu | 72 | 2 | 519.80 | 25.99 | ppb | 1.42 | 900.00 | |
| 66 Zn | 72 | 2 | 571.40 | 28.57 | ppb | 1.07 | 900.00 | |
| 75 As | 72 | 2 | 530.80 | 26.54 | ppb | 1.43 | 900.00 | |
| 78 Se | 72 | 2 | 529.40 | 26.47 | ppb | 1.31 | 900.00 | |
| 88 Sr | 103 | 1 | 927.00 | 46.35 | ppb | 0.29 | 900.00 | |
| 98 Mo | 103 | 1 | 27.52 | 1.38 | ppb | 1.51 | 900.00 | |
| 107 Ag | 115 | 1 | 205.60 | 10.28 | ppb | 0.60 | 180.00 | |
| 111 Cd | 115 | 2 | 506.00 | 25.30 | ppb | 0.96 | 900.00 | |
| 120 Sn | 115 | 1 | 12.17 | 0.61 | ppb | 0.21 | 900.00 | |
| 121 Sb | 115 | 1 | 521.20 | 26.06 | ppb | 1.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2010.00 | 100.50 | ppb | 1.09 | 900.00 | |
| 205 Tl | 209 | 1 | 461.60 | 23.08 | ppb | 2.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1000.20 | 50.01 | ppb | 0.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1721330 | 0.82 | 1669598 | 103.1 | 70 - 130 | |
| 45 Sc | 1 | 4286668 | 0.87 | 4377340 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 440190 | 0.71 | 454956 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 957270 | 0.96 | 980053 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 185691 | 0.84 | 192701 | 96.4 | 70 | - | 130 |
| 103 Rh | 1 | 5389636 | 0.47 | 5612563 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 5850452 | 1.27 | 5986270 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1466813 | 2.32 | 1511351 | 97.1 | 70 | - | 130 |
| 159 Tb | 1 | 7296423 | 0.62 | 7475008 | 97.6 | 70 | - | 130 |
| 175 Lu | 1 | 6831821 | 0.26 | 7030949 | 97.2 | 70 | - | 130 |
| 209 Bi | 1 | 3920193 | 0.27 | 4024922 | 97.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 26 2013 09:42 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20844-PS1
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.38 | 8.69 | ppb | 0.07 | 900.00 | |
| 9 Be | 45 | 2 | 17.07 | 8.54 | ppb | 3.56 | 900.00 | |
| 11 B | 6 | 1 | 245.20 | 122.60 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 230.00 | 115.00 | ppb | 2.10 | 900.00 | |
| 23 Na | 45 | 1 | 18928.00 | 9464.00 | ppb | 0.27 | 90000.00 | |
| 23 Na | 45 | 2 | 20400.00 | 10200.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 1 | 6410.00 | 3205.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 6830.00 | 3415.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 26.12 | 13.06 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 2 | 27.74 | 13.87 | ppb | 1.51 | 90000.00 | |
| 39 K | 45 | 1 | 6822.00 | 3411.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 48060.00 | 24030.00 | ppb | 0.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.30 | 8.65 | ppb | 0.59 | 900.00 | |
| 51 V | 45 | 2 | 18.00 | 9.00 | ppb | 2.01 | 900.00 | |
| 52 Cr | 45 | 2 | 17.07 | 8.54 | ppb | 2.37 | 900.00 | |
| 55 Mn | 45 | 2 | 2042.00 | 1021.00 | ppb | 1.68 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 32840.00 | 16420.00 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 27.36 | 13.68 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 64.96 | 32.48 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 16.90 | 8.45 | ppb | 0.76 | 900.00 | |
| 66 Zn | 72 | 2 | 37.98 | 18.99 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 23.74 | 11.87 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 14.91 | 7.45 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 354.40 | 177.20 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 42.26 | 21.13 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 16.69 | 8.35 | ppb | 1.21 | 180.00 | |
| 111 Cd | 115 | 2 | 16.46 | 8.23 | ppb | 1.52 | 900.00 | |
| 120 Sn | 115 | 1 | 17.97 | 8.98 | ppb | 1.87 | 900.00 | |
| 121 Sb | 115 | 1 | 19.22 | 9.61 | ppb | 1.78 | 900.00 | |
| 137 Ba | 159 | 1 | 49.90 | 24.95 | ppb | 1.03 | 900.00 | |
| 205 Tl | 209 | 1 | 14.92 | 7.46 | ppb | 3.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.01 | 8.50 | ppb | 0.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1433181 | 1.39 | 1669598 | 85.8 | 70 - 130 | |
| 45 Sc | 1 | 4186305 | 1.01 | 4377340 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 421634 | 0.91 | 454956 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 938801 | 0.92 | 980053 | 95.8 | 70 - | 130 |
| 72 | Ge | 2 | 183614 | 0.52 | 192701 | 95.3 | 70 - | 130 |
| 103 | Rh | 1 | 5116625 | 0.59 | 5612563 | 91.2 | 70 - | 130 |
| 115 | In | 1 | 5625428 | 0.86 | 5986270 | 94.0 | 70 - | 130 |
| 115 | In | 2 | 1396079 | 0.10 | 1511351 | 92.4 | 70 - | 130 |
| 159 | Tb | 1 | 7209351 | 0.85 | 7475008 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 6815547 | 0.65 | 7030949 | 96.9 | 70 - | 130 |
| 209 | Bi | 1 | 3743926 | 0.73 | 4024922 | 93.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D26s00.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 26 2013 09:49 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20844-SD1
**Misc Info:**
**Vial Number:** 2209
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 26 2013 07:04 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.14 | 0.01 | ppb | 56.35 | 900.00 | |
| 9 Be | 45 | 2 | 0.86 | 0.09 | ppb | 55.83 | 900.00 | |
| 11 B | 6 | 1 | 261.90 | 26.19 | ppb | 0.94 | 900.00 | |
| 11 B | 45 | 2 | 255.00 | 25.50 | ppb | 6.82 | 900.00 | |
| 23 Na | 45 | 1 | 24730.00 | 2473.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 24960.00 | 2496.00 | ppb | 3.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 8243.00 | 824.30 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 8674.00 | 867.40 | ppb | 2.86 | 90000.00 | |
| 27 Al | 45 | 1 | 23.01 | 2.30 | ppb | 7.18 | 90000.00 | |
| 27 Al | 45 | 2 | 24.13 | 2.41 | ppb | 11.84 | 90000.00 | |
| 39 K | 45 | 1 | 8501.00 | 850.10 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 60420.00 | 6042.00 | ppb | 0.93 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.18 | ppb | 14.81 | 900.00 | |
| 51 V | 45 | 2 | -0.35 | -0.04 | ppb | 16.82 | 900.00 | |
| 52 Cr | 45 | 2 | 0.12 | 0.01 | ppb | 49.65 | 900.00 | |
| 55 Mn | 45 | 2 | 2559.00 | 255.90 | ppb | 3.06 | 900.00 | |
| 56 Fe | 45 | 2 | 40320.00 | 4032.00 | ppb | 3.44 | 90000.00 | |
| 59 Co | 45 | 2 | 13.33 | 1.33 | ppb | 3.55 | 900.00 | |
| 60 Ni | 45 | 2 | 61.48 | 6.15 | ppb | 2.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.01 | ppb | 195.08 | 900.00 | |
| 66 Zn | 72 | 2 | 45.64 | 4.56 | ppb | 3.26 | 900.00 | |
| 75 As | 72 | 2 | 9.71 | 0.97 | ppb | 1.92 | 900.00 | |
| 78 Se | 72 | 2 | 1.73 | 0.17 | ppb | 76.14 | 900.00 | |
| 88 Sr | 103 | 1 | 415.10 | 41.51 | ppb | 0.83 | 900.00 | |
| 98 Mo | 103 | 1 | 28.42 | 2.84 | ppb | 0.35 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.01 | ppb | 15.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.32 | 0.03 | ppb | 36.53 | 900.00 | |
| 120 Sn | 115 | 1 | 22.57 | 2.26 | ppb | 0.25 | 900.00 | |
| 121 Sb | 115 | 1 | 2.67 | 0.27 | ppb | 1.72 | 900.00 | |
| 137 Ba | 159 | 1 | 43.41 | 4.34 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 1.14 | 0.11 | ppb | 1.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.04 | ppb | 12.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1595785 | 0.87 | 1669598 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 4310207 | 0.23 | 4377340 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 442641 | 1.77 | 454956 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 974439 | 1.07 | 980053 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 190653 | 1.07 | 192701 | 98.9 | 70 | - | 130 |
| 103 Rh | 1 | 5402890 | 0.52 | 5612563 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 5853350 | 0.06 | 5986270 | 97.8 | 70 | - | 130 |
| 115 In | 2 | 1465350 | 1.42 | 1511351 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 7295987 | 0.36 | 7475008 | 97.6 | 70 | - | 130 |
| 175 Lu | 1 | 6821196 | 0.98 | 7030949 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 3916752 | 0.87 | 4024922 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D26s00.B\033SMPL.D\033SMPL.D# | | |
| **Date Acquired:** | Apr 26 2013 09:56 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 26 2013 07:04 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.47 | 0.47 | ppb | 2.52 | 900.00 | |
| 9 Be | 45 | 2 | 0.52 | 0.52 | ppb | 4.87 | 900.00 | |
| 11 B | 6 | 1 | 4.98 | 4.98 | ppb | 2.05 | 900.00 | |
| 11 B | 45 | 2 | 4.74 | 4.74 | ppb | 7.37 | 900.00 | |
| 23 Na | 45 | 1 | 254.20 | 254.20 | ppb | 1.95 | 90000.00 | |
| 23 Na | 45 | 2 | 269.50 | 269.50 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 256.80 | 256.80 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 268.10 | 268.10 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 27.09 | 27.09 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.51 | 27.51 | ppb | 1.15 | 90000.00 | |
| 39 K | 45 | 1 | 251.20 | 251.20 | ppb | 1.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 255.70 | 255.70 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 1.02 | ppb | 0.67 | 900.00 | |
| 51 V | 45 | 2 | 0.96 | 0.96 | ppb | 1.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 1.03 | 1.03 | ppb | 1.25 | 900.00 | |
| 56 Fe | 45 | 2 | 29.29 | 29.29 | ppb | 0.61 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 4.00 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 1.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.61 | 0.61 | ppb | 3.54 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 2.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.69 | 0.69 | ppb | 25.88 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 0.95 | 900.00 | |
| 98 Mo | 103 | 1 | 0.99 | 0.99 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 0.55 | 900.00 | |
| 120 Sn | 115 | 1 | 4.76 | 4.76 | ppb | 0.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 2.43 | 900.00 | |
| 137 Ba | 159 | 1 | 1.00 | 1.00 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 4.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 0.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1651850 | 1.58 | 1669598 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 4386445 | 1.07 | 4377340 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 443955 | 0.46 | 454956 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 977459 | 0.26 | 980053 | 99.7 | 70 | - | 130 |
| 72 Ge | 2 | 189935 | 0.63 | 192701 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 5526820 | 0.65 | 5612563 | 98.5 | 70 | - | 130 |
| 115 In | 1 | 6000202 | 0.43 | 5986270 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 1515614 | 0.49 | 1511351 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 7458361 | 1.09 | 7475008 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 6993345 | 1.05 | 7030949 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 3976512 | 0.46 | 4024922 | 98.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D26s00.B\034SMPL.D\034SMPL.D# |
| Date Acquired: | Apr 26 2013 10:03 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2211 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 26 2013 07:04 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.01 | 50.01 | ppb | 0.74 | 900.00 | |
| 9 Be | 45 | 2 | 49.71 | 49.71 | ppb | 0.74 | 900.00 | |
| 11 B | 6 | 1 | 49.93 | 49.93 | ppb | 0.15 | 900.00 | |
| 11 B | 45 | 2 | 49.15 | 49.15 | ppb | 3.73 | 900.00 | |
| 23 Na | 45 | 1 | 5088.00 | 5088.00 | ppb | 0.59 | 90000.00 | |
| 23 Na | 45 | 2 | 5152.00 | 5152.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 5061.00 | 5061.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 5113.00 | 5113.00 | ppb | 1.03 | 90000.00 | |
| 27 Al | 45 | 1 | 5023.00 | 5023.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 5122.00 | 5122.00 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 5055.00 | 5055.00 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 5088.00 | 5088.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.16 | 49.16 | ppb | 0.18 | 900.00 | |
| 51 V | 45 | 2 | 50.05 | 50.05 | ppb | 0.28 | 900.00 | |
| 52 Cr | 45 | 2 | 49.70 | 49.70 | ppb | 0.16 | 900.00 | |
| 55 Mn | 45 | 2 | 48.14 | 48.14 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 5181.00 | 5181.00 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 49.04 | 49.04 | ppb | 0.46 | 900.00 | |
| 60 Ni | 45 | 2 | 47.96 | 47.96 | ppb | 0.94 | 900.00 | |
| 63 Cu | 72 | 2 | 47.71 | 47.71 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 50.47 | 50.47 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 49.24 | 49.24 | ppb | 0.71 | 900.00 | |
| 78 Se | 72 | 2 | 48.14 | 48.14 | ppb | 1.04 | 900.00 | |
| 88 Sr | 103 | 1 | 51.56 | 51.56 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 50.77 | 50.77 | ppb | 0.52 | 900.00 | |
| 107 Ag | 115 | 1 | 47.90 | 47.90 | ppb | 0.63 | 180.00 | |
| 111 Cd | 115 | 2 | 48.94 | 48.94 | ppb | 0.69 | 900.00 | |
| 120 Sn | 115 | 1 | 50.16 | 50.16 | ppb | 0.47 | 900.00 | |
| 121 Sb | 115 | 1 | 50.08 | 50.08 | ppb | 0.27 | 900.00 | |
| 137 Ba | 159 | 1 | 48.37 | 48.37 | ppb | 0.77 | 900.00 | |
| 205 Tl | 209 | 1 | 48.89 | 48.89 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.05 | 50.05 | ppb | 0.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1605047 | 0.69 | 1669598 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 4308651 | 0.49 | 4377340 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 435800 | 0.42 | 454956 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 957665 | 0.07 | 980053 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 185888 | 0.50 | 192701 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 5327541 | 0.87 | 5612563 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 5803127 | 0.59 | 5986270 | 96.9 | 70 | - | 130 |
| 115 In | 2 | 1442539 | 0.94 | 1511351 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 7319826 | 0.23 | 7475008 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 6785439 | 0.98 | 7030949 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 3797337 | 0.28 | 4024922 | 94.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D26s00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D26s00.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 26 2013 10:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 26 2013 07:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 333.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 79.26 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 13.39 | 900.00 | |
| 11 B | 45 | 2 | 0.26 | 0.26 | ppb | 14.23 | 900.00 | |
| 23 Na | 45 | 1 | 2.82 | 2.82 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 2.74 | 2.74 | ppb | 5.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.15 | 0.15 | ppb | 8.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.18 | 0.18 | ppb | 60.05 | 90000.00 | |
| 27 Al | 45 | 1 | 0.99 | 0.99 | ppb | 2.62 | 90000.00 | |
| 27 Al | 45 | 2 | 0.95 | 0.95 | ppb | 9.18 | 90000.00 | |
| 39 K | 45 | 1 | 5.37 | 5.37 | ppb | 1.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.03 | 6.03 | ppb | 17.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 204.71 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 92.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 50.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 26.70 | 900.00 | |
| 56 Fe | 45 | 2 | 0.66 | 0.66 | ppb | 33.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 756.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 18.38 | 900.00 | |
| 63 Cu | 72 | 2 | -0.33 | -0.33 | ppb | 1.36 | 900.00 | |
| 66 Zn | 72 | 2 | 0.48 | 0.48 | ppb | 2.01 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 57.13 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 112.82 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 21.24 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 7.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 32.13 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 176.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 8.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 27.03 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 224.41 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 3.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 47.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1666736 | 2.85 | 1669598 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 4350811 | 0.24 | 4377340 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 441876 | 0.54 | 454956 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D26s00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 974352 | 0.97 | 980053 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 189723 | 0.55 | 192701 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 5523326 | 0.77 | 5612563 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 5973898 | 0.61 | 5986270 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 1498380 | 0.27 | 1511351 | 99.1 | 70 | - | 130 |
| 159 Tb | 1 | 7334211 | 0.93 | 7475008 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 6844146 | 0.29 | 7030949 | 97.3 | 70 | - | 130 |
| 209 Bi | 1 | 3974180 | 1.33 | 4024922 | 98.7 | 70 | - | 130 |

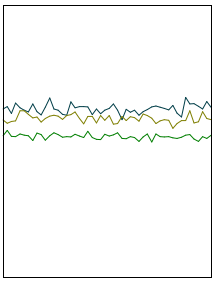
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D26s00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

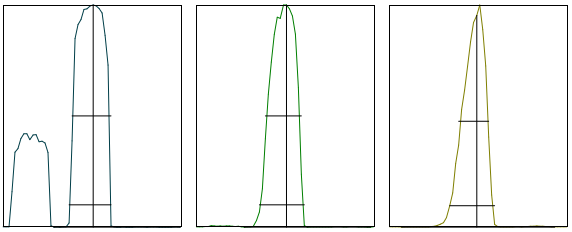
# Tune Report

Tune File : nogas.u
Comment : 042613



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3124.0 | 3101.9 | 2.71 | 5.60 |
| 89 | 20,000 | 10464.0 | 10364.1 | 1.77 | 5.30 |
| 205 | 10,000 | 5796.0 | 5842.6 | 2.51 | 24.90 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.220%
Doubly Charged: 70/140 6.077%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,153 | 10,462 | 5,888 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.65 | 0.60 | 0.50 |
| W-10%: | 0.700 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 373.6 | 7.29 | |
| QP Focus: | -8 V | 59 | 2089.5 | 3.09 | |
| Cell Exit: | -34 V | 89 | 2053.1 | 2.91 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 26, 2013 10:55:29
Printed : Apr 26, 2013 10:56:20

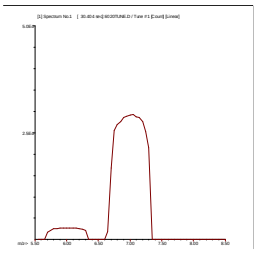
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 26 2013 11:42 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

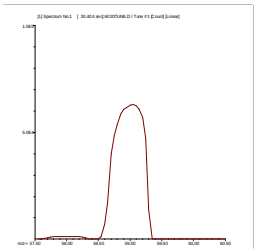
**QC Tune Summary:**
**Pass**

**RSD%**

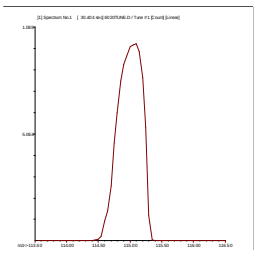
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.45 | 5.00 | 0 |
| 59 Co | 0.76 | 5.00 | |
| 115 In | 1.05 | 5.00 | |
| 205 Tl | 3.59 | 5.00 | |



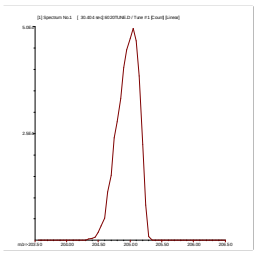
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 29, 2013 11:38 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

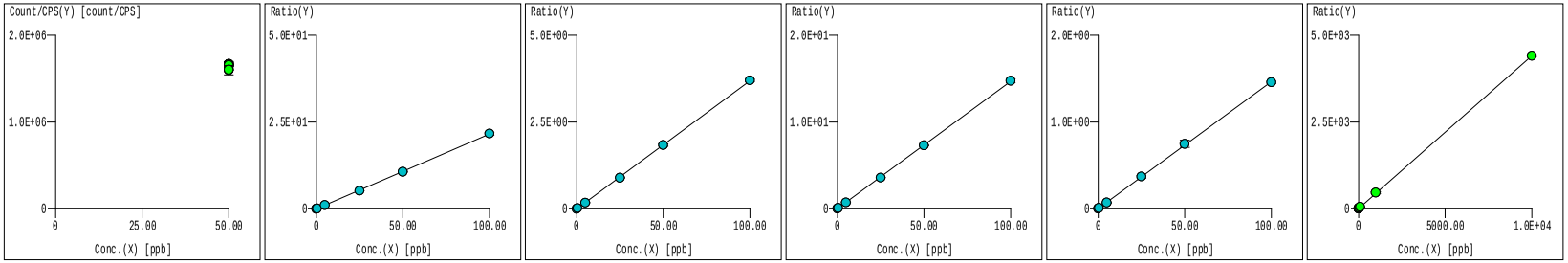
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d26s00.b\002calb.d\002calb.d# | STDA | Apr 26 2013 06:11 pm |
| 2 | c:\icpchem\1\data\13d26s00.b\003cals.d\003cals.d# | STDB | Apr 26 2013 06:18 pm |
| 3 | c:\icpchem\1\data\13d26s00.b\004cals.d\004cals.d# | STDC | Apr 26 2013 06:25 pm |
| 4 | c:\icpchem\1\data\13d26s00.b\005cals.d\005cals.d# | STDD | Apr 26 2013 06:32 pm |
| 5 | c:\icpchem\1\data\13d26s00.b\006cals.d\006cals.d# | STDE | Apr 26 2013 06:40 pm |
| 6 | c:\icpchem\1\data\13d26s00.b\007cals.d\007cals.d# | STDF | Apr 26 2013 06:47 pm |
| 7 | c:\icpchem\1\data\13d26s00.b\008cals.d\008cals.d# | STDG | Apr 26 2013 06:53 pm |
| 8 | c:\icpchem\1\data\13d26s00.b\009cals.d\009cals.d# | STDH | Apr 26 2013 07:00 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

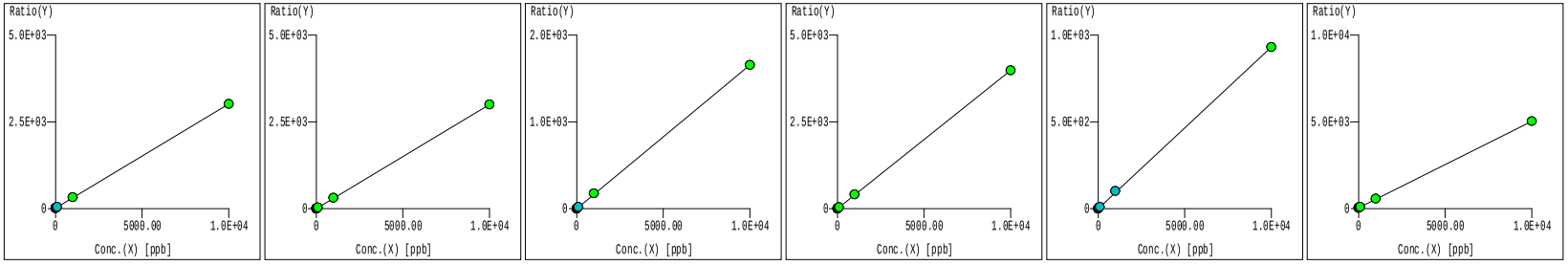
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 7.309E-03 ppb | 5.988E-02 ppb | 7.778E-02 ppb | 1.600E-01 ppb | 5.365E-01 ppb |
| < BEC > | --- ppb | 7.694E-03 ppb | 1.995E-02 ppb | 2.110E-01 ppb | 2.172E-01 ppb | 24.05 ppb |



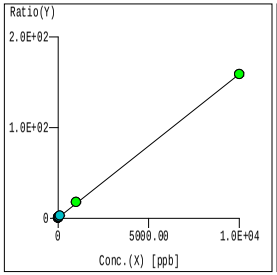

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.577 ppb | 1.451E-01 ppb | 1.506E-01 ppb | 1.225E-01 ppb | 1.514E-01 ppb | 1.699 ppb |
| < BEC > | 44.62 ppb | 4.790E-01 ppb | 4.607E-01 ppb | 1.131 ppb | 1.166 ppb | 98.55 ppb |

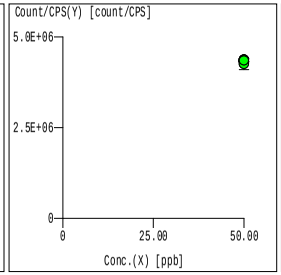


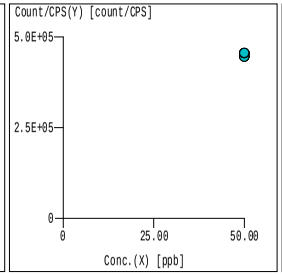
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

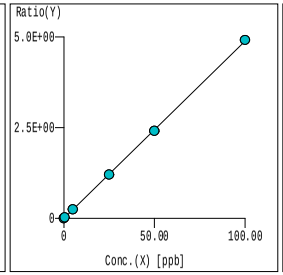
=== Graph Summary ===
Page: 2/4

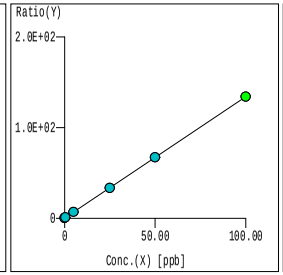
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | 1.875 ppb | --- ppb | --- ppb | 1.976E-02 ppb | 2.791E-02 ppb | 6.135E-03 ppb |
| < BEC > | 45.74 ppb | --- ppb | --- ppb | 5.534E-02 ppb | 2.808E-01 ppb | 8.951E-02 ppb |

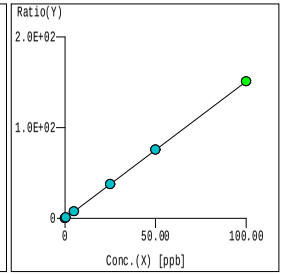


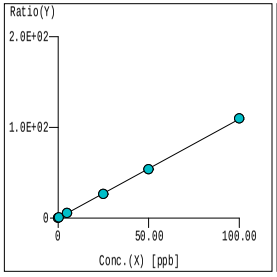



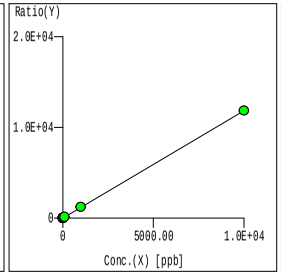



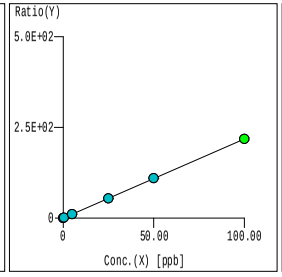



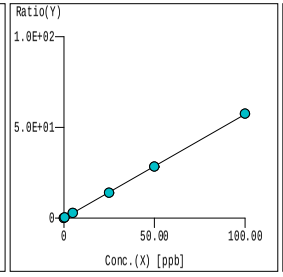



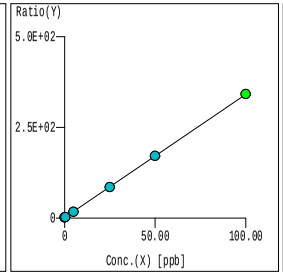

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | 8.349E-04 ppb | 1.085E-01 ppb | 2.382E-03 ppb | 5.815E-03 ppb | 9.353E-03 ppb | 1.737E-02 ppb |
| < BEC > | 1.230E-01 ppb | 3.291 ppb | 3.358E-03 ppb | 5.851E-02 ppb | 4.625E-01 ppb | 9.015E-02 ppb |

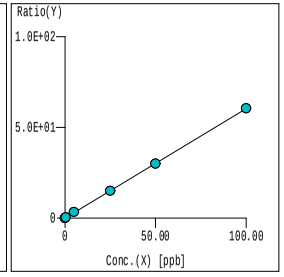


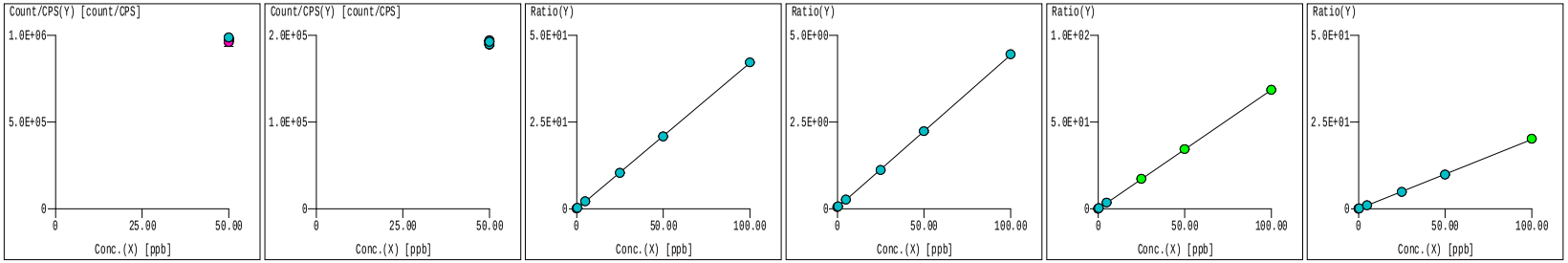



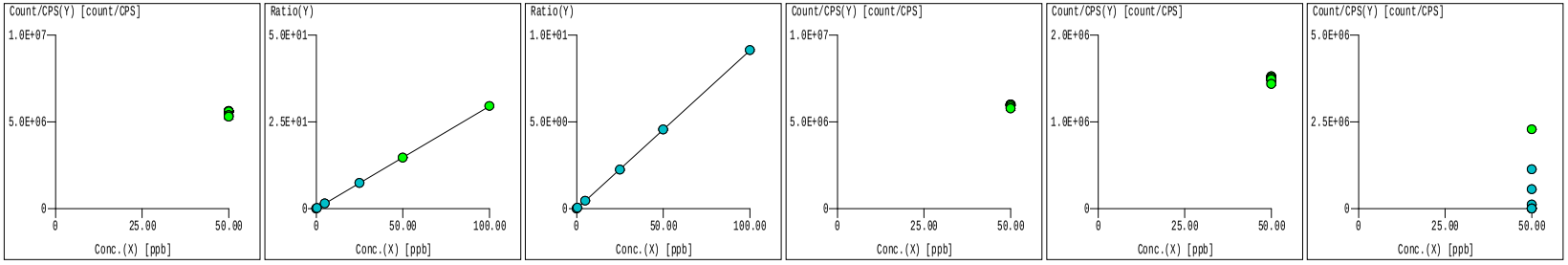
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | --- ppb | --- ppb | 1.718E-02 ppb | 1.869E-01 ppb | 1.350E-03 ppb | 2.410E-03 ppb |
| < BEC > | --- ppb | --- ppb | 9.089E-02 ppb | 1.013 ppb | 1.095E-02 ppb | 1.087E-02 ppb |



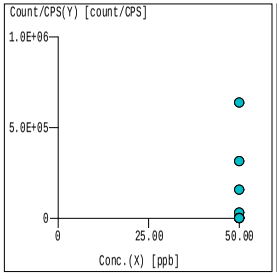

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.803E-03 ppb | 1.319E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 7.200E-03 ppb | 6.058E-03 ppb | --- ppb | --- ppb | --- ppb |

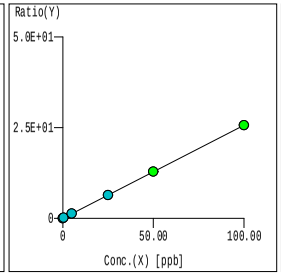


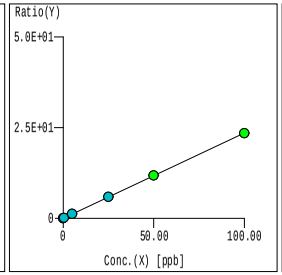
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

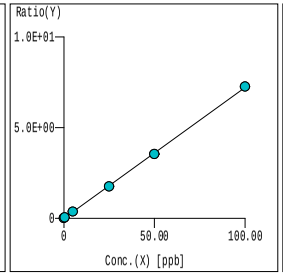
=== Graph Summary ===
Page: 4/4

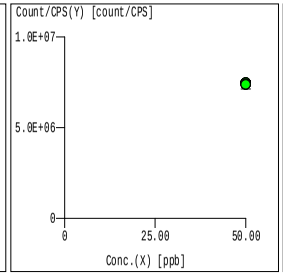
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.025E-03 ppb | 5.394E-03 ppb | 2.107E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.415E-02 ppb | 1.269E-02 ppb | 1.211E-01 ppb | --- ppb | --- ppb |

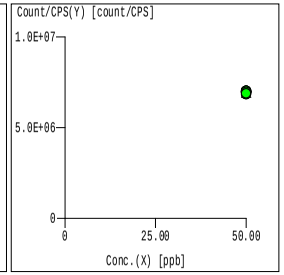


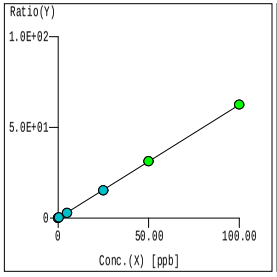



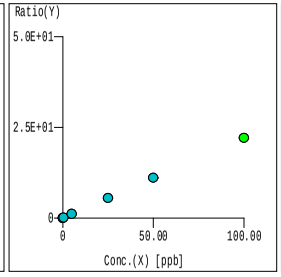



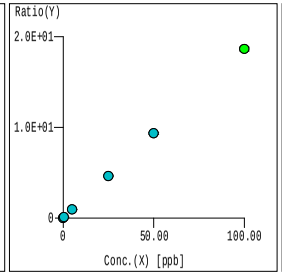



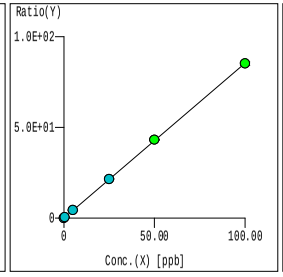



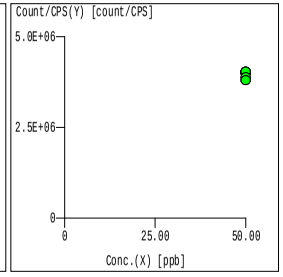

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 5.177E-03 ppb | --- ppb | --- ppb | 1.957E-03 ppb | --- ppb |
| < BEC > | 2.409E-02 ppb | --- ppb | --- ppb | 2.209E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13D27m01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\001CAL
Date Acquired: Apr 27 2013 12:31 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1925043.00 | A | 12620.00 | 0.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 51.11 | P | 13.88 | 27.16 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 714.49 | P | 8.39 | 1.17 |
| 11 | B | 23.33 | P | 17.32 | 74.23 |
| 23 | Na | 824817.31 | P | 12660.00 | 1.53 |
| 23 | Na | 96223.71 | P | 322.10 | 0.33 |
| 24 | Mg | 13493.74 | P | 1256.00 | 9.31 |
| 24 | Mg | 653.37 | P | 75.36 | 11.53 |
| 27 | Al | 77469.00 | P | 2650.00 | 3.42 |
| 27 | Al | 1700.22 | P | 171.80 | 10.11 |
| 39 | K | 4288216.00 | A | 31830.00 | 0.74 |
| 44 | Ca | 58217.12 | P | 1502.00 | 2.58 |
| 45 | Sc | 4200960.00 | A | 29110.00 | 0.69 |
| 45 | Sc | 397968.81 | P | 1760.00 | 0.44 |
| 47 | Ti | 341.14 | P | 22.19 | 6.50 |
| 51 | V | 3102.58 | P | 36.21 | 1.17 |
| 52 | Cr | 1083.61 | P | 45.13 | 4.16 |
| 55 | Mn | 3185.72 | P | 32.75 | 1.03 |
| 56 | Fe | 78208.18 | P | 944.10 | 1.21 |
| 59 | Co | 62.67 | P | 12.72 | 20.30 |
| 60 | Ni | 278.23 | P | 12.60 | 4.53 |
| 63 | Cu | 1921.93 | P | 42.72 | 2.22 |
| 66 | Zn | 141.11 | P | 12.76 | 9.04 |
| 72 | Ge | 949430.13 | P | 8511.00 | 0.90 |
| 72 | Ge | 172779.70 | P | 924.30 | 0.53 |
| 75 | As | 124.00 | P | 3.71 | 2.99 |
| 78 | Se | 146.89 | P | 1.68 | 1.14 |
| 88 | Sr | 764.49 | P | 56.80 | 7.43 |
| 98 | Mo | 411.13 | P | 39.49 | 9.61 |
| 103 | Rh | 5380882.00 | A | 69630.00 | 1.29 |
| 107 | Ag | 316.68 | P | 39.30 | 12.41 |

C:\ICPCHEM\1\DATA\13D27m01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 5673397.00 | A | 61890.00 | 1.09 |
| 115 | In | 1386652.00 | A | 2629.00 | 0.19 |
| 118 | (In) | 467.80 | P | 44.01 | 9.41 |
| 118 | (In) | 132.23 | P | 10.18 | 7.70 |
| 120 | Sn | 646.70 | P | 31.80 | 4.92 |
| 121 | Sb | 178.90 | P | 15.03 | 8.40 |
| 137 | Ba | 1013.41 | P | 72.65 | 7.17 |
| 159 | Tb | 7140793.00 | A | 41130.00 | 0.58 |
| 175 | Lu | 6586531.00 | A | 122200.00 | 1.86 |
| 205 | Tl | 2811.49 | P | 60.51 | 2.15 |
| 206 | (Pb) | 236.68 | P | 32.83 | 13.87 |
| 207 | (Pb) | 234.46 | P | 7.70 | 3.28 |
| 208 | Pb | 1330.08 | P | 49.11 | 3.69 |
| 209 | Bi | 3886432.00 | A | 17730.00 | 0.46 |

C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\002CAL
Date Acquired: Apr 27 2013 12:38 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1927370.00 | A | 39690.00 | 2.06 |
| 7 | (Li) | | P | | |
| 9 | Be | 738.95 | P | 670.10 | 90.68 |
| 9 | Be | 187.79 | P | 276.40 | 147.19 |
| 11 | B | 1457.92 | P | 615.20 | 42.20 |
| 11 | B | 183.34 | P | 251.60 | 137.23 |
| 23 | Na | 814238.31 | P | 10390.00 | 1.28 |
| 23 | Na | 96345.92 | P | 1424.00 | 1.48 |
| 24 | Mg | 13201.15 | P | 497.50 | 3.77 |
| 24 | Mg | 891.20 | P | 234.10 | 26.27 |
| 27 | Al | 73810.34 | P | 2282.00 | 3.09 |
| 27 | Al | 1804.67 | P | 350.00 | 19.39 |
| 39 | K | 4347264.00 | A | 20010.00 | 0.46 |
| 44 | Ca | 58396.52 | P | 594.30 | 1.02 |
| 45 | Sc | 4239129.00 | A | 12990.00 | 0.31 |
| 45 | Sc | 400302.31 | P | 311.50 | 0.08 |
| 47 | Ti | 1049.00 | P | 796.40 | 75.92 |
| 51 | V | 3298.18 | P | 242.60 | 7.36 |
| 52 | Cr | 1203.62 | P | 230.50 | 19.15 |
| 55 | Mn | 3396.00 | P | 210.70 | 6.20 |
| 56 | Fe | 79247.27 | P | 456.70 | 0.58 |
| 59 | Co | 271.12 | P | 299.00 | 110.28 |
| 60 | Ni | 478.24 | P | 267.20 | 55.87 |
| 63 | Cu | 2087.28 | P | 236.70 | 11.34 |
| 66 | Zn | 318.23 | P | 241.20 | 75.79 |
| 72 | Ge | 959644.38 | P | 4794.00 | 0.50 |
| 72 | Ge | 174243.91 | P | 980.10 | 0.56 |
| 75 | As | 300.01 | P | 274.30 | 91.43 |
| 78 | Se | 322.45 | P | 236.50 | 73.34 |
| 88 | Sr | 1485.72 | P | 793.90 | 53.44 |
| 98 | Mo | 892.31 | P | 607.30 | 68.06 |
| 103 | Rh | 5379893.00 | A | 24110.00 | 0.45 |
| 107 | Ag | 916.76 | P | 705.70 | 76.98 |

C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 196.68 | P | 252.40 | 128.33 |
| 115 | In | 5735998.00 | A | 45850.00 | 0.80 |
| 115 | In | 1381769.00 | A | 17760.00 | 1.29 |
| 118 | (In) | 1161.22 | P | 719.10 | 61.93 |
| 118 | (In) | 374.47 | P | 299.10 | 79.87 |
| 120 | Sn | 1292.35 | P | 697.80 | 54.00 |
| 121 | Sb | 848.97 | P | 631.70 | 74.41 |
| 137 | Ba | 1671.30 | P | 794.00 | 47.51 |
| 159 | Tb | 7108936.00 | A | 63900.00 | 0.90 |
| 175 | Lu | 6644012.00 | A | 22380.00 | 0.34 |
| 205 | Tl | 2694.83 | P | 658.30 | 24.43 |
| 206 | (Pb) | 864.52 | P | 603.50 | 69.81 |
| 207 | (Pb) | 846.76 | P | 675.00 | 79.72 |
| 208 | Pb | 3274.79 | P | 1951.00 | 59.58 |
| 209 | Bi | 3907325.00 | A | 15920.00 | 0.41 |

C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 27 2013 12:45 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1967495.00 | A | 27450.00 | 1.40 |
| 7 | (Li) | | P | | |
| 9 | Be | 3971.74 | P | 207.00 | 5.21 |
| 9 | Be | 168.90 | P | 11.71 | 6.93 |
| 11 | B | 3353.81 | P | 47.04 | 1.40 |
| 11 | B | 68.89 | P | 5.09 | 7.39 |
| 23 | Na | 847802.13 | P | 9418.00 | 1.11 |
| 23 | Na | 98134.07 | P | 922.70 | 0.94 |
| 24 | Mg | 28289.40 | P | 1484.00 | 5.25 |
| 24 | Mg | 1352.33 | P | 57.97 | 4.29 |
| 27 | Al | 93602.40 | P | 2746.00 | 2.93 |
| 27 | Al | 2012.58 | P | 195.90 | 9.73 |
| 39 | K | 4356544.00 | A | 14710.00 | 0.34 |
| 44 | Ca | 58716.53 | P | 878.40 | 1.50 |
| 45 | Sc | 4278014.00 | A | 39460.00 | 0.92 |
| 45 | Sc | 403166.91 | P | 1781.00 | 0.44 |
| 47 | Ti | 2372.49 | P | 34.06 | 1.44 |
| 51 | V | 8522.45 | P | 193.60 | 2.27 |
| 52 | Cr | 7155.52 | P | 160.10 | 2.24 |
| 55 | Mn | 7414.84 | P | 234.60 | 3.16 |
| 56 | Fe | 82212.11 | P | 1720.00 | 2.09 |
| 59 | Co | 8937.38 | P | 35.36 | 0.40 |
| 60 | Ni | 2521.58 | P | 46.71 | 1.85 |
| 63 | Cu | 7861.23 | P | 122.90 | 1.56 |
| 66 | Zn | 1209.17 | P | 18.79 | 1.55 |
| 72 | Ge | 979828.38 | P | 1103.00 | 0.11 |
| 72 | Ge | 180183.70 | P | 1292.00 | 0.72 |
| 75 | As | 855.14 | P | 36.88 | 4.31 |
| 78 | Se | 224.89 | P | 26.84 | 11.94 |
| 88 | Sr | 38024.72 | P | 373.40 | 0.98 |
| 98 | Mo | 10663.08 | P | 145.10 | 1.36 |
| 103 | Rh | 5423624.00 | A | 43230.00 | 0.80 |
| 107 | Ag | 16938.01 | P | 163.90 | 0.97 |

C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1298.99 | P | 22.20 | 1.71 |
| 115 | In | 5759538.00 | A | 18050.00 | 0.31 |
| 115 | In | 1414337.00 | A | 11900.00 | 0.84 |
| 118 | (In) | 11043.50 | P | 147.40 | 1.33 |
| 118 | (In) | 3173.80 | P | 108.10 | 3.41 |
| 120 | Sn | 15556.56 | P | 315.50 | 2.03 |
| 121 | Sb | 14019.39 | P | 142.30 | 1.02 |
| 137 | Ba | 6041.48 | P | 236.80 | 3.92 |
| 159 | Tb | 7237381.00 | A | 65300.00 | 0.90 |
| 175 | Lu | 6711020.00 | A | 34510.00 | 0.51 |
| 205 | Tl | 22299.76 | P | 186.60 | 0.84 |
| 206 | (Pb) | 9077.72 | P | 109.40 | 1.21 |
| 207 | (Pb) | 7664.61 | P | 301.90 | 3.94 |
| 208 | Pb | 36157.72 | P | 468.40 | 1.30 |
| 209 | Bi | 3969833.00 | A | 47110.00 | 1.19 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1967494.80 | 1.40 | 1927370.10 | 102.1 | 70 - 130 | |
| 45 | Sc | 4278013.50 | 0.92 | 4239128.50 | 100.9 | 70 - 130 | |
| 45 | Sc | 403166.97 | 0.44 | 400302.28 | 100.7 | 70 - 130 | |
| 72 | Ge | 979828.44 | 0.11 | 959644.38 | 102.1 | 70 - 130 | |
| 72 | Ge | 180183.73 | 0.72 | 174243.94 | 103.4 | 70 - 130 | |
| 103 | Rh | 5423623.50 | 0.80 | 5379893.00 | 100.8 | 70 - 130 | |
| 115 | In | 5759538.00 | 0.31 | 5735998.00 | 100.4 | 70 - 130 | |
| 115 | In | 1414337.00 | 0.84 | 1381769.00 | 102.4 | 70 - 130 | |
| 159 | Tb | 7237380.50 | 0.90 | 7108935.50 | 101.8 | 70 - 130 | |
| 175 | Lu | 6711020.50 | 0.51 | 6644012.50 | 101.0 | 70 - 130 | |
| 209 | Bi | 3969832.80 | 1.19 | 3907325.00 | 101.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 27 2013 12:52 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1890395.00 | A | 95150.00 | 5.03 |
| 7 | (Li) | | P | | |
| 9 | Be | 38692.50 | P | 28.44 | 0.07 |
| 9 | Be | 1472.34 | P | 27.76 | 1.89 |
| 11 | B | 26880.30 | P | 584.10 | 2.17 |
| 11 | B | 593.37 | P | 43.33 | 7.30 |
| 23 | Na | 1060102.00 | A | 5872.00 | 0.55 |
| 23 | Na | 109931.00 | P | 187.20 | 0.17 |
| 24 | Mg | 164065.41 | P | 675.40 | 0.41 |
| 24 | Mg | 7928.93 | P | 109.70 | 1.38 |
| 27 | Al | 270037.69 | P | 2619.00 | 0.97 |
| 27 | Al | 5908.05 | P | 346.20 | 5.86 |
| 39 | K | 4546772.00 | A | 17380.00 | 0.38 |
| 44 | Ca | 71086.97 | P | 1830.00 | 2.57 |
| 45 | Sc | 4057452.00 | A | 176500.00 | 4.35 |
| 45 | Sc | 401490.69 | P | 1990.00 | 0.50 |
| 47 | Ti | 20666.70 | P | 480.20 | 2.32 |
| 51 | V | 56273.46 | P | 329.00 | 0.58 |
| 52 | Cr | 61628.49 | P | 168.80 | 0.27 |
| 55 | Mn | 45920.07 | P | 115.80 | 0.25 |
| 56 | Fe | 132051.30 | P | 193.70 | 0.15 |
| 59 | Co | 88531.73 | P | 455.40 | 0.51 |
| 60 | Ni | 23042.82 | P | 234.90 | 1.02 |
| 63 | Cu | 61228.01 | P | 65.76 | 0.11 |
| 66 | Zn | 10799.20 | P | 22.56 | 0.21 |
| 72 | Ge | 1018959.00 | P | 47250.00 | 4.64 |
| 72 | Ge | 196860.59 | P | 1277.00 | 0.65 |
| 75 | As | 7221.09 | P | 115.30 | 1.60 |
| 78 | Se | 882.92 | P | 41.13 | 4.66 |
| 88 | Sr | 377473.59 | P | 2638.00 | 0.70 |
| 98 | Mo | 104953.10 | P | 392.10 | 0.37 |
| 103 | Rh | 5120220.00 | A | 302600.00 | 5.91 |
| 107 | Ag | 171458.00 | P | 1648.00 | 0.96 |

C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12445.69 | P | 37.13 | 0.30 |
| 115 | In | 5480291.00 | A | 327900.00 | 5.98 |
| 115 | In | 1405129.00 | A | 7367.00 | 0.52 |
| 118 | (In) | 107344.50 | P | 2283.00 | 2.13 |
| 118 | (In) | 29501.57 | P | 375.70 | 1.27 |
| 120 | Sn | 146624.80 | P | 1554.00 | 1.06 |
| 121 | Sb | 133856.59 | P | 1381.00 | 1.03 |
| 137 | Ba | 52102.44 | P | 729.20 | 1.40 |
| 159 | Tb | 6863655.00 | A | 337000.00 | 4.91 |
| 175 | Lu | 6411727.00 | A | 261000.00 | 4.07 |
| 205 | Tl | 242033.20 | P | 2433.00 | 1.01 |
| 206 | (Pb) | 87134.55 | P | 1515.00 | 1.74 |
| 207 | (Pb) | 74481.27 | P | 902.60 | 1.21 |
| 208 | Pb | 343943.41 | P | 3698.00 | 1.08 |
| 209 | Bi | 3828339.00 | A | 193300.00 | 5.05 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1890394.50 | 5.03 | 1927370.10 | 98.1 | 70 - 130 | |
| 45 | Sc | 4057451.50 | 4.35 | 4239128.50 | 95.7 | 70 - 130 | |
| 45 | Sc | 401490.72 | 0.50 | 400302.28 | 100.3 | 70 - 130 | |
| 72 | Ge | 1018959.10 | 4.64 | 959644.38 | 106.2 | 70 - 130 | |
| 72 | Ge | 196860.61 | 0.65 | 174243.94 | 113.0 | 70 - 130 | |
| 103 | Rh | 5120220.50 | 5.91 | 5379893.00 | 95.2 | 70 - 130 | |
| 115 | In | 5480291.50 | 5.98 | 5735998.00 | 95.5 | 70 - 130 | |
| 115 | In | 1405128.90 | 0.52 | 1381769.00 | 101.7 | 70 - 130 | |
| 159 | Tb | 6863655.00 | 4.91 | 7108935.50 | 96.5 | 70 - 130 | |
| 175 | Lu | 6411726.50 | 4.07 | 6644012.50 | 96.5 | 70 - 130 | |
| 209 | Bi | 3828339.50 | 5.05 | 3907325.00 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 27 2013 12:59 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1952304.00 | A | 29760.00 | 1.52 |
| 7 | (Li) | | P | | |
| 9 | Be | 189299.91 | P | 1351.00 | 0.71 |
| 9 | Be | 10312.53 | P | 2485.00 | 24.10 |
| 11 | B | 126412.40 | P | 1559.00 | 1.23 |
| 11 | B | 5649.99 | P | 2798.00 | 49.52 |
| 23 | Na | 1920266.00 | A | 7134.00 | 0.37 |
| 23 | Na | 168244.30 | P | 2611.00 | 1.55 |
| 24 | Mg | 727611.63 | P | 8680.00 | 1.19 |
| 24 | Mg | 38763.16 | P | 2730.00 | 7.04 |
| 27 | Al | 982103.31 | A | 3148.00 | 0.32 |
| 27 | Al | 23945.00 | P | 3444.00 | 14.38 |
| 39 | K | 5401436.00 | A | 38380.00 | 0.71 |
| 44 | Ca | 105290.00 | P | 1585.00 | 1.51 |
| 45 | Sc | 4191559.00 | A | 5748.00 | 0.14 |
| 45 | Sc | 398548.50 | P | 3541.00 | 0.89 |
| 47 | Ti | 100680.30 | P | 599.80 | 0.60 |
| 51 | V | 263727.81 | P | 1681.00 | 0.64 |
| 52 | Cr | 298272.59 | P | 3635.00 | 1.22 |
| 55 | Mn | 213605.30 | P | 3752.00 | 1.76 |
| 56 | Fe | 338691.69 | P | 4370.00 | 1.29 |
| 59 | Co | 431739.50 | P | 6310.00 | 1.46 |
| 60 | Ni | 114473.60 | P | 4819.00 | 4.21 |
| 63 | Cu | 291154.81 | P | 5477.00 | 1.88 |
| 66 | Zn | 52924.94 | P | 4502.00 | 8.51 |
| 72 | Ge | 993416.63 | P | 9868.00 | 0.99 |
| 72 | Ge | 183199.70 | P | 4349.00 | 2.37 |
| 75 | As | 38860.23 | P | 5063.00 | 13.03 |
| 78 | Se | 6503.69 | P | 2709.00 | 41.65 |
| 88 | Sr | 1778760.00 | A | 15390.00 | 0.87 |
| 98 | Mo | 505698.81 | P | 1338.00 | 0.26 |
| 103 | Rh | 5323912.00 | A | 31170.00 | 0.59 |
| 107 | Ag | 815631.88 | P | 7434.00 | 0.91 |

C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 62816.35 | P | 2913.00 | 4.64 |
| 115 | In | 5655571.00 | A | 32210.00 | 0.57 |
| 115 | In | 1372753.00 | A | 8618.00 | 0.63 |
| 118 | (In) | 512194.00 | P | 6198.00 | 1.21 |
| 118 | (In) | 144881.91 | P | 3354.00 | 2.32 |
| 120 | Sn | 707323.19 | P | 8281.00 | 1.17 |
| 121 | Sb | 638566.19 | P | 5603.00 | 0.88 |
| 137 | Ba | 244980.30 | P | 1572.00 | 0.64 |
| 159 | Tb | 7124923.00 | A | 39280.00 | 0.55 |
| 175 | Lu | 6584774.00 | A | 21210.00 | 0.32 |
| 205 | Tl | 1188719.00 | P | 10330.00 | 0.87 |
| 206 | (Pb) | 411186.59 | P | 1139.00 | 0.28 |
| 207 | (Pb) | 350490.41 | P | 2116.00 | 0.60 |
| 208 | Pb | 1623024.00 | P | 10200.00 | 0.63 |
| 209 | Bi | 3855757.00 | A | 42980.00 | 1.11 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1952304.40 | 1.52 | 1927370.10 | 101.3 | 70 - 130 | |
| 45 | Sc | 4191559.00 | 0.14 | 4239128.50 | 98.9 | 70 - 130 | |
| 45 | Sc | 398548.47 | 0.89 | 400302.28 | 99.6 | 70 - 130 | |
| 72 | Ge | 993416.63 | 0.99 | 959644.38 | 103.5 | 70 - 130 | |
| 72 | Ge | 183199.73 | 2.37 | 174243.94 | 105.1 | 70 - 130 | |
| 103 | Rh | 5323911.50 | 0.59 | 5379893.00 | 99.0 | 70 - 130 | |
| 115 | In | 5655570.50 | 0.57 | 5735998.00 | 98.6 | 70 - 130 | |
| 115 | In | 1372752.90 | 0.63 | 1381769.00 | 99.3 | 70 - 130 | |
| 159 | Tb | 7124923.00 | 0.55 | 7108935.50 | 100.2 | 70 - 130 | |
| 175 | Lu | 6584774.50 | 0.32 | 6644012.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 3855756.50 | 1.11 | 3907325.00 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 27 2013 01:07 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1901249.00 | A | 18110.00 | 0.95 |
| 7 | (Li) | | P | | |
| 9 | Be | 374701.41 | P | 1044.00 | 0.28 |
| 9 | Be | 15171.13 | P | 532.20 | 3.51 |
| 11 | B | 250176.80 | P | 3050.00 | 1.22 |
| 11 | B | 5799.05 | P | 125.20 | 2.16 |
| 23 | Na | 2862943.00 | A | 3706.00 | 0.13 |
| 23 | Na | 228080.59 | P | 417.00 | 0.18 |
| 24 | Mg | 1452291.00 | A | 5474.00 | 0.38 |
| 24 | Mg | 72002.19 | P | 887.40 | 1.23 |
| 27 | Al | 1879590.00 | A | 9167.00 | 0.49 |
| 27 | Al | 41080.04 | P | 243.80 | 0.59 |
| 39 | K | 6440315.00 | A | 18220.00 | 0.28 |
| 44 | Ca | 150514.41 | P | 771.40 | 0.51 |
| 45 | Sc | 4131824.00 | A | 6301.00 | 0.15 |
| 45 | Sc | 395343.00 | P | 1982.00 | 0.50 |
| 47 | Ti | 196805.59 | P | 1108.00 | 0.56 |
| 51 | V | 524331.00 | P | 1345.00 | 0.26 |
| 52 | Cr | 591601.50 | P | 1183.00 | 0.20 |
| 55 | Mn | 420187.00 | P | 2796.00 | 0.67 |
| 56 | Fe | 601309.88 | P | 2018.00 | 0.34 |
| 59 | Co | 860194.81 | P | 773.70 | 0.09 |
| 60 | Ni | 222049.91 | P | 485.80 | 0.22 |
| 63 | Cu | 573126.81 | P | 1508.00 | 0.26 |
| 66 | Zn | 98623.28 | P | 374.60 | 0.38 |
| 72 | Ge | 931632.81 | P | 2388.00 | 0.26 |
| 72 | Ge | 170759.41 | P | 580.20 | 0.34 |
| 75 | As | 69383.41 | P | 511.00 | 0.74 |
| 78 | Se | 7280.46 | P | 13.02 | 0.18 |
| 88 | Sr | 3484638.00 | A | 19520.00 | 0.56 |
| 98 | Mo | 1013682.00 | P | 3199.00 | 0.32 |
| 103 | Rh | 5263255.00 | A | 19580.00 | 0.37 |
| 107 | Ag | 1601327.00 | A | 4783.00 | 0.30 |

C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 120676.10 | P | 770.50 | 0.64 |
| 115 | In | 5608166.00 | A | 21010.00 | 0.37 |
| 115 | In | 1367195.00 | A | 6554.00 | 0.48 |
| 118 | (In) | 1032019.00 | P | 3013.00 | 0.29 |
| 118 | (In) | 282961.00 | P | 1481.00 | 0.52 |
| 120 | Sn | 1390035.00 | A | 16090.00 | 1.16 |
| 121 | Sb | 1252366.00 | M | 26760.00 | 2.14 |
| 137 | Ba | 488210.31 | P | 1992.00 | 0.41 |
| 159 | Tb | 6985521.00 | A | 36920.00 | 0.53 |
| 175 | Lu | 6519414.00 | A | 14660.00 | 0.22 |
| 205 | Tl | 2365917.00 | A | 30220.00 | 1.28 |
| 206 | (Pb) | 816320.63 | P | 4314.00 | 0.53 |
| 207 | (Pb) | 699452.13 | P | 624.40 | 0.09 |
| 208 | Pb | 3174492.00 | A | 13650.00 | 0.43 |
| 209 | Bi | 3829350.00 | A | 15110.00 | 0.39 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1901248.80 | 0.95 | 1927370.10 | 98.6 | 70 - 130 | |
| 45 | Sc | 4131823.80 | 0.15 | 4239128.50 | 97.5 | 70 - 130 | |
| 45 | Sc | 395343.00 | 0.50 | 400302.28 | 98.8 | 70 - 130 | |
| 72 | Ge | 931632.81 | 0.26 | 959644.38 | 97.1 | 70 - 130 | |
| 72 | Ge | 170759.44 | 0.34 | 174243.94 | 98.0 | 70 - 130 | |
| 103 | Rh | 5263255.50 | 0.37 | 5379893.00 | 97.8 | 70 - 130 | |
| 115 | In | 5608165.50 | 0.37 | 5735998.00 | 97.8 | 70 - 130 | |
| 115 | In | 1367195.00 | 0.48 | 1381769.00 | 98.9 | 70 - 130 | |
| 159 | Tb | 6985521.50 | 0.53 | 7108935.50 | 98.3 | 70 - 130 | |
| 175 | Lu | 6519414.50 | 0.22 | 6644012.50 | 98.1 | 70 - 130 | |
| 209 | Bi | 3829349.50 | 0.39 | 3907325.00 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 27 2013 01:14 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1855209.00 | A | 35970.00 | 1.94 |
| 7 | (Li) | | P | | |
| 9 | Be | 744915.69 | P | 3674.00 | 0.49 |
| 9 | Be | 30403.19 | P | 173.60 | 0.57 |
| 11 | B | 492488.41 | P | 1227.00 | 0.25 |
| 11 | B | 11238.77 | P | 47.36 | 0.42 |
| 23 | Na | 4802807.00 | A | 15740.00 | 0.33 |
| 23 | Na | 355592.69 | P | 1740.00 | 0.49 |
| 24 | Mg | 2816116.00 | A | 9063.00 | 0.32 |
| 24 | Mg | 143677.20 | P | 916.20 | 0.64 |
| 27 | Al | 3608907.00 | A | 34220.00 | 0.95 |
| 27 | Al | 79863.84 | P | 367.90 | 0.46 |
| 39 | K | 8536062.00 | A | 47740.00 | 0.56 |
| 44 | Ca | 240796.00 | P | 224.00 | 0.09 |
| 45 | Sc | 4144079.00 | A | 34880.00 | 0.84 |
| 45 | Sc | 393466.19 | P | 2018.00 | 0.51 |
| 47 | Ti | 392252.81 | P | 3380.00 | 0.86 |
| 51 | V | 1043424.00 | P | 3130.00 | 0.30 |
| 52 | Cr | 1153406.00 | A | 9229.00 | 0.80 |
| 55 | Mn | 832161.13 | P | 1644.00 | 0.20 |
| 56 | Fe | 1098245.00 | M | 23450.00 | 2.14 |
| 59 | Co | 1658001.00 | A | 4511.00 | 0.27 |
| 60 | Ni | 441153.91 | P | 541.80 | 0.12 |
| 63 | Cu | 1133313.00 | P | 10280.00 | 0.91 |
| 66 | Zn | 195551.80 | P | 657.60 | 0.34 |
| 72 | Ge | 926696.19 | P | 8065.00 | 0.87 |
| 72 | Ge | 169837.20 | P | 960.30 | 0.57 |
| 75 | As | 137948.00 | P | 489.50 | 0.35 |
| 78 | Se | 14371.99 | P | 70.44 | 0.49 |
| 88 | Sr | 6841592.00 | A | 40610.00 | 0.59 |
| 98 | Mo | 2011939.00 | A | 10160.00 | 0.50 |
| 103 | Rh | 5244192.00 | A | 26160.00 | 0.50 |
| 107 | Ag | 3111913.00 | A | 8559.00 | 0.28 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 237801.09 | P | 1600.00 | 0.67 |
| 115 | In | 5552102.00 | A | 61230.00 | 1.10 |
| 115 | In | 1363965.00 | A | 13100.00 | 0.96 |
| 118 | (In) | 2008992.00 | A | 1937.00 | 0.10 |
| 118 | (In) | 560527.31 | P | 920.80 | 0.16 |
| 120 | Sn | 2719966.00 | A | 37640.00 | 1.38 |
| 121 | Sb | 2466791.00 | A | 4030.00 | 0.16 |
| 137 | Ba | 973943.13 | P | 8737.00 | 0.90 |
| 159 | Tb | 6920750.00 | A | 28290.00 | 0.41 |
| 175 | Lu | 6449406.00 | A | 17840.00 | 0.28 |
| 205 | Tl | 4556523.00 | A | 21060.00 | 0.46 |
| 206 | (Pb) | 1583691.00 | A | 30350.00 | 1.92 |
| 207 | (Pb) | 1364615.00 | M | 16870.00 | 1.24 |
| 208 | Pb | 6186271.00 | A | 82140.00 | 1.33 |
| 209 | Bi | 3753930.00 | A | 31070.00 | 0.83 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1855208.90 | 1.94 | 1927370.10 | 96.3 | 70 - 130 | |
| 45 | Sc | 4144079.00 | 0.84 | 4239128.50 | 97.8 | 70 - 130 | |
| 45 | Sc | 393466.22 | 0.51 | 400302.28 | 98.3 | 70 - 130 | |
| 72 | Ge | 926696.25 | 0.87 | 959644.38 | 96.6 | 70 - 130 | |
| 72 | Ge | 169837.17 | 0.57 | 174243.94 | 97.5 | 70 - 130 | |
| 103 | Rh | 5244192.00 | 0.50 | 5379893.00 | 97.5 | 70 - 130 | |
| 115 | In | 5552102.00 | 1.10 | 5735998.00 | 96.8 | 70 - 130 | |
| 115 | In | 1363965.00 | 0.96 | 1381769.00 | 98.7 | 70 - 130 | |
| 159 | Tb | 6920750.50 | 0.41 | 7108935.50 | 97.4 | 70 - 130 | |
| 175 | Lu | 6449406.00 | 0.28 | 6644012.50 | 97.1 | 70 - 130 | |
| 209 | Bi | 3753930.30 | 0.83 | 3907325.00 | 96.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 27 2013 01:21 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1839668.00 | A | 24470.00 | 1.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 191.12 | P | 55.91 | 29.25 |
| 9 | Be | 66.67 | P | 21.86 | 32.79 |
| 11 | B | 3906.18 | P | 136.10 | 3.48 |
| 11 | B | 158.89 | P | 32.89 | 20.70 |
| 23 | Na | 39298432.00 | A | 442000.00 | 1.12 |
| 23 | Na | 2486001.00 | A | 4160.00 | 0.17 |
| 24 | Mg | 26105760.00 | A | 167100.00 | 0.64 |
| 24 | Mg | 1341217.00 | A | 11690.00 | 0.87 |
| 27 | Al | 34097480.00 | A | 116800.00 | 0.34 |
| 27 | Al | 783069.00 | P | 1706.00 | 0.22 |
| 39 | K | 45433808.00 | A | 399000.00 | 0.88 |
| 44 | Ca | 1403643.00 | A | 2275.00 | 0.16 |
| 45 | Sc | 4150085.00 | A | 33780.00 | 0.81 |
| 45 | Sc | 404357.81 | P | 3358.00 | 0.83 |
| 47 | Ti | 512.26 | P | 105.90 | 20.67 |
| 51 | V | 3258.17 | P | 126.50 | 3.88 |
| 52 | Cr | 1311.19 | P | 77.34 | 5.90 |
| 55 | Mn | 3392.43 | P | 68.05 | 2.01 |
| 56 | Fe | 9549687.00 | A | 85260.00 | 0.89 |
| 59 | Co | 372.01 | P | 20.70 | 5.56 |
| 60 | Ni | 429.35 | P | 18.90 | 4.40 |
| 63 | Cu | 2021.94 | P | 26.68 | 1.32 |
| 66 | Zn | 347.12 | P | 3.36 | 0.97 |
| 72 | Ge | 949787.00 | P | 6384.00 | 0.67 |
| 72 | Ge | 174029.50 | P | 1155.00 | 0.66 |
| 75 | As | 198.67 | P | 17.44 | 8.78 |
| 78 | Se | 235.11 | P | 12.34 | 5.25 |
| 88 | Sr | 3591.69 | P | 221.30 | 6.16 |
| 98 | Mo | 3562.78 | P | 358.50 | 10.06 |
| 103 | Rh | 5222863.00 | A | 32870.00 | 0.63 |
| 107 | Ag | 818.94 | P | 54.81 | 6.69 |

C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 67.78 | P | 1.92 | 2.84 |
| 115 | In | 5571874.00 | A | 40080.00 | 0.72 |
| 115 | In | 1365045.00 | A | 11950.00 | 0.88 |
| 118 | (In) | 3429.42 | P | 341.50 | 9.96 |
| 118 | (In) | 1212.32 | P | 23.41 | 1.93 |
| 120 | Sn | 4839.88 | P | 570.50 | 11.79 |
| 121 | Sb | 6226.00 | P | 380.70 | 6.11 |
| 137 | Ba | 1158.98 | P | 57.39 | 4.95 |
| 159 | Tb | 6891352.00 | A | 84030.00 | 1.22 |
| 175 | Lu | 6392091.00 | A | 52600.00 | 0.82 |
| 205 | Tl | 2925.96 | P | 74.28 | 2.54 |
| 206 | (Pb) | 516.70 | P | 40.42 | 7.82 |
| 207 | (Pb) | 461.14 | P | 67.36 | 14.61 |
| 208 | Pb | 2152.37 | P | 95.25 | 4.43 |
| 209 | Bi | 3701562.00 | A | 15530.00 | 0.42 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1839667.90 | 1.33 | 1927370.10 | 95.4 | 70 - 130 | |
| 45 | Sc | 4150085.30 | 0.81 | 4239128.50 | 97.9 | 70 - 130 | |
| 45 | Sc | 404357.78 | 0.83 | 400302.28 | 101.0 | 70 - 130 | |
| 72 | Ge | 949786.94 | 0.67 | 959644.38 | 99.0 | 70 - 130 | |
| 72 | Ge | 174029.52 | 0.66 | 174243.94 | 99.9 | 70 - 130 | |
| 103 | Rh | 5222863.00 | 0.63 | 5379893.00 | 97.1 | 70 - 130 | |
| 115 | In | 5571874.00 | 0.72 | 5735998.00 | 97.1 | 70 - 130 | |
| 115 | In | 1365045.30 | 0.88 | 1381769.00 | 98.8 | 70 - 130 | |
| 159 | Tb | 6891352.00 | 1.22 | 7108935.50 | 96.9 | 70 - 130 | |
| 175 | Lu | 6392090.50 | 0.82 | 6644012.50 | 96.2 | 70 - 130 | |
| 209 | Bi | 3701562.50 | 0.42 | 3907325.00 | 94.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 27 2013 01:28 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1819870.00 | A | 26610.00 | 1.46 |
| 7 | (Li) | | P | | |
| 9 | Be | 155.56 | P | 12.62 | 8.11 |
| 9 | Be | 142.24 | P | 154.10 | 108.34 |
| 11 | B | 2441.38 | P | 18.95 | 0.78 |
| 11 | B | 201.13 | P | 135.80 | 67.52 |
| 23 | Na | 375404000.00 | A | 2959000.00 | 0.79 |
| 23 | Na | 23122100.00 | A | 91020.00 | 0.39 |
| 24 | Mg | 254698900.00 | A | 2160000.00 | 0.85 |
| 24 | Mg | 12767590.00 | A | 136900.00 | 1.07 |
| 27 | Al | 335600380.00 | A | 5646000.00 | 1.68 |
| 27 | Al | 7240871.00 | A | 76180.00 | 1.05 |
| 39 | K | 408246500.00 | A | 1156000.00 | 0.28 |
| 44 | Ca | 12788130.00 | A | 22550.00 | 0.18 |
| 45 | Sc | 4169729.00 | A | 15000.00 | 0.36 |
| 45 | Sc | 404008.91 | P | 3116.00 | 0.77 |
| 47 | Ti | 444.48 | P | 33.41 | 7.52 |
| 51 | V | 3343.53 | P | 250.30 | 7.49 |
| 52 | Cr | 2501.58 | P | 112.20 | 4.49 |
| 55 | Mn | 5043.13 | P | 177.20 | 3.51 |
| 56 | Fe | 93202576.00 | A | 827300.00 | 0.89 |
| 59 | Co | 2641.17 | P | 200.20 | 7.58 |
| 60 | Ni | 1165.41 | P | 248.40 | 21.31 |
| 63 | Cu | 2217.10 | P | 149.70 | 6.75 |
| 66 | Zn | 3754.72 | P | 92.78 | 2.47 |
| 72 | Ge | 945602.69 | P | 8189.00 | 0.87 |
| 72 | Ge | 174076.00 | P | 1857.00 | 1.07 |
| 75 | As | 314.91 | P | 165.40 | 52.52 |
| 78 | Se | 295.13 | P | 137.90 | 46.73 |
| 88 | Sr | 28028.09 | P | 413.00 | 1.47 |
| 98 | Mo | 1766.84 | P | 130.10 | 7.36 |
| 103 | Rh | 4983276.00 | A | 47080.00 | 0.94 |
| 107 | Ag | 1635.70 | P | 62.58 | 3.83 |

C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 172.24 | P | 125.80 | 73.04 |
| 115 | In | 5362734.00 | A | 47040.00 | 0.88 |
| 115 | In | 1322698.00 | A | 15050.00 | 1.14 |
| 118 | (In) | 1909.08 | P | 151.80 | 7.95 |
| 118 | (In) | 820.06 | P | 95.66 | 11.67 |
| 120 | Sn | 2633.67 | P | 313.30 | 11.90 |
| 121 | Sb | 3234.93 | P | 328.60 | 10.16 |
| 137 | Ba | 1543.47 | P | 100.40 | 6.50 |
| 159 | Tb | 6774618.00 | A | 49160.00 | 0.73 |
| 175 | Lu | 6378080.00 | A | 37760.00 | 0.59 |
| 205 | Tl | 2280.28 | P | 96.16 | 4.22 |
| 206 | (Pb) | 616.70 | P | 89.51 | 14.51 |
| 207 | (Pb) | 555.59 | P | 6.94 | 1.25 |
| 208 | Pb | 2666.88 | P | 48.08 | 1.80 |
| 209 | Bi | 3502934.00 | A | 24280.00 | 0.69 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1819870.00 | 1.46 | 1927370.10 | 94.4 | 70 - 130 | |
| 45 | Sc | 4169728.80 | 0.36 | 4239128.50 | 98.4 | 70 - 130 | |
| 45 | Sc | 404008.97 | 0.77 | 400302.28 | 100.9 | 70 - 130 | |
| 72 | Ge | 945602.69 | 0.87 | 959644.38 | 98.5 | 70 - 130 | |
| 72 | Ge | 174076.02 | 1.07 | 174243.94 | 99.9 | 70 - 130 | |
| 103 | Rh | 4983276.50 | 0.94 | 5379893.00 | 92.6 | 70 - 130 | |
| 115 | In | 5362734.00 | 0.88 | 5735998.00 | 93.5 | 70 - 130 | |
| 115 | In | 1322697.60 | 1.14 | 1381769.00 | 95.7 | 70 - 130 | |
| 159 | Tb | 6774618.00 | 0.73 | 7108935.50 | 95.3 | 70 - 130 | |
| 175 | Lu | 6378080.50 | 0.59 | 6644012.50 | 96.0 | 70 - 130 | |
| 209 | Bi | 3502934.00 | 0.69 | 3907325.00 | 89.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 27 2013 01:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.21 | 60.21 | ppb | 2.24 | 900.00 | |
| 9 Be | 45 | 2 | 58.51 | 58.51 | ppb | 1.96 | 900.00 | |
| 11 B | 6 | 1 | 58.36 | 58.36 | ppb | 2.20 | 900.00 | |
| 11 B | 45 | 2 | 56.17 | 56.17 | ppb | 2.41 | 900.00 | |
| 23 Na | 45 | 1 | 5713.00 | 5713.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 5778.00 | 5778.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 5754.00 | 5754.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 5764.00 | 5764.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 5689.00 | 5689.00 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 5771.00 | 5771.00 | ppb | 0.73 | 90000.00 | |
| 39 K | 45 | 1 | 5799.00 | 5799.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 5708.00 | 5708.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.30 | 59.30 | ppb | 1.12 | 900.00 | |
| 51 V | 45 | 2 | 59.68 | 59.68 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 59.38 | 59.38 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 58.71 | 58.71 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 5770.00 | 5770.00 | ppb | 0.13 | 90000.00 | |
| 59 Co | 45 | 2 | 58.91 | 58.91 | ppb | 0.16 | 900.00 | |
| 60 Ni | 45 | 2 | 57.78 | 57.78 | ppb | 0.14 | 900.00 | |
| 63 Cu | 72 | 2 | 56.84 | 56.84 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 58.96 | 58.96 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 59.50 | 59.50 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 57.93 | 57.93 | ppb | 0.34 | 900.00 | |
| 88 Sr | 103 | 1 | 61.91 | 61.91 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 62.89 | 62.89 | ppb | 0.71 | 900.00 | |
| 107 Ag | 115 | 1 | 60.44 | 60.44 | ppb | 0.96 | 180.00 | |
| 111 Cd | 115 | 2 | 60.06 | 60.06 | ppb | 0.74 | 900.00 | |
| 120 Sn | 115 | 1 | 59.42 | 59.42 | ppb | 0.93 | 900.00 | |
| 121 Sb | 115 | 1 | 60.69 | 60.69 | ppb | 0.23 | 900.00 | |
| 137 Ba | 159 | 1 | 59.19 | 59.19 | ppb | 1.46 | 900.00 | |
| 205 Tl | 209 | 1 | 57.54 | 57.54 | ppb | 1.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.98 | 59.98 | ppb | 0.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1879883 | 1.75 | 1927370 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 4261396 | 0.64 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 403352 | 0.10 | 400302 | 100.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 944035 | 0.82 | 959644 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 173088 | 0.65 | 174244 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 5178639 | 0.45 | 5379893 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 5546174 | 1.19 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1346531 | 0.86 | 1381769 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 7047358 | 0.88 | 7108936 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 6574705 | 0.20 | 6644013 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 3724317 | 0.63 | 3907325 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Apr 27 2013 01:41 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | -0.09 | ppb | 1.94 | 900.00 | |
| 9 Be | 45 | 2 | -0.53 | -0.53 | ppb | 4.98 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 23.60 | 900.00 | |
| 11 B | 45 | 2 | -0.93 | -0.93 | ppb | 10.98 | 900.00 | |
| 23 Na | 45 | 1 | 1.40 | 1.40 | ppb | 32.01 | 90000.00 | |
| 23 Na | 45 | 2 | 4.25 | 4.25 | ppb | 19.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.07 | 0.07 | ppb | 64.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.90 | 1.90 | ppb | 39.65 | 90000.00 | |
| 27 Al | 45 | 1 | 0.09 | 0.09 | ppb | 75.90 | 90000.00 | |
| 27 Al | 45 | 2 | 1.53 | 1.53 | ppb | 35.17 | 90000.00 | |
| 39 K | 45 | 1 | -1.01 | -1.01 | ppb | 117.72 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.19 | -0.19 | ppb | 623.42 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.19 | -0.19 | ppb | 6.83 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 253.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 217.41 | 900.00 | |
| 55 Mn | 45 | 2 | -0.24 | -0.24 | ppb | 4.79 | 900.00 | |
| 56 Fe | 45 | 2 | -2.71 | -2.71 | ppb | 22.31 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 99.41 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 33.70 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 4.91 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 81.36 | 900.00 | |
| 75 As | 72 | 2 | -0.10 | -0.10 | ppb | 10.75 | 900.00 | |
| 78 Se | 72 | 2 | -1.04 | -1.04 | ppb | 4.48 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | -0.01 | ppb | 6.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 8.82 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 12.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.04 | ppb | 17.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 19.48 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 53.64 | 900.00 | |
| 137 Ba | 159 | 1 | -0.07 | -0.07 | ppb | 6.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 3.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 2.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1883620 | 0.77 | 1927370 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 4209938 | 0.92 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 404714 | 0.60 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 953439 | 0.75 | 959644 | 99.4 | 70 - | 130 |
| 72 | Ge | 2 | 175116 | 0.45 | 174244 | 100.5 | 70 - | 130 |
| 103 | Rh | 1 | 5308065 | 0.80 | 5379893 | 98.7 | 70 - | 130 |
| 115 | In | 1 | 5681136 | 0.53 | 5735998 | 99.0 | 70 - | 130 |
| 115 | In | 2 | 1389193 | 0.23 | 1381769 | 100.5 | 70 - | 130 |
| 159 | Tb | 1 | 7039133 | 1.42 | 7108936 | 99.0 | 70 - | 130 |
| 175 | Lu | 1 | 6547641 | 0.17 | 6644013 | 98.5 | 70 - | 130 |
| 209 | Bi | 1 | 3843040 | 0.69 | 3907325 | 98.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D# |
| Date Acquired: | Apr 27 2013 01:49 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2103 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.49 | 51.49 | ppb | 3.18 | 900.00 | |
| 9 Be | 45 | 2 | 50.05 | 50.05 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 51.97 | 51.97 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 49.83 | 49.83 | ppb | 5.65 | 900.00 | |
| 23 Na | 45 | 1 | 5198.00 | 5198.00 | ppb | 2.96 | 90000.00 | |
| 23 Na | 45 | 2 | 5250.00 | 5250.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5205.00 | 5205.00 | ppb | 1.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5205.00 | 5205.00 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 1 | 5209.00 | 5209.00 | ppb | 2.63 | 90000.00 | |
| 27 Al | 45 | 2 | 5271.00 | 5271.00 | ppb | 2.09 | 90000.00 | |
| 39 K | 45 | 1 | 5252.00 | 5252.00 | ppb | 2.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 5235.00 | 5235.00 | ppb | 1.92 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.02 | 51.02 | ppb | 2.61 | 900.00 | |
| 51 V | 45 | 2 | 50.07 | 50.07 | ppb | 1.70 | 900.00 | |
| 52 Cr | 45 | 2 | 50.09 | 50.09 | ppb | 1.81 | 900.00 | |
| 55 Mn | 45 | 2 | 49.23 | 49.23 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5236.00 | 5236.00 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 49.99 | 49.99 | ppb | 1.73 | 900.00 | |
| 60 Ni | 45 | 2 | 48.55 | 48.55 | ppb | 1.66 | 900.00 | |
| 63 Cu | 72 | 2 | 48.17 | 48.17 | ppb | 1.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.17 | 49.17 | ppb | 1.03 | 900.00 | |
| 75 As | 72 | 2 | 50.44 | 50.44 | ppb | 1.29 | 900.00 | |
| 78 Se | 72 | 2 | 49.38 | 49.38 | ppb | 2.76 | 900.00 | |
| 88 Sr | 103 | 1 | 52.87 | 52.87 | ppb | 2.10 | 900.00 | |
| 98 Mo | 103 | 1 | 52.75 | 52.75 | ppb | 2.49 | 900.00 | |
| 107 Ag | 115 | 1 | 50.98 | 50.98 | ppb | 1.77 | 180.00 | |
| 111 Cd | 115 | 2 | 50.68 | 50.68 | ppb | 2.22 | 900.00 | |
| 120 Sn | 115 | 1 | 52.43 | 52.43 | ppb | 2.61 | 900.00 | |
| 121 Sb | 115 | 1 | 53.14 | 53.14 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 50.82 | 50.82 | ppb | 2.71 | 900.00 | |
| 205 Tl | 209 | 1 | 49.87 | 49.87 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.25 | 51.25 | ppb | 2.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1775234 | 1.97 | 1927370 | 92.1 | 70 - 130 | |
| 45 Sc | 1 | 4103348 | 2.00 | 4239129 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 398728 | 1.58 | 400302 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 911385 | 0.76 | 959644 | 95.0 | 70 | - | 130 |
| 72 Ge | 2 | 171369 | 1.15 | 174244 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 5018135 | 1.64 | 5379893 | 93.3 | 70 | - | 130 |
| 115 In | 1 | 5339344 | 1.42 | 5735998 | 93.1 | 70 | - | 130 |
| 115 In | 2 | 1313087 | 1.50 | 1381769 | 95.0 | 70 | - | 130 |
| 159 Tb | 1 | 6735870 | 1.37 | 7108936 | 94.8 | 70 | - | 130 |
| 175 Lu | 1 | 6248991 | 1.01 | 6644013 | 94.1 | 70 | - | 130 |
| 209 Bi | 1 | 3537948 | 1.66 | 3907325 | 90.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 27 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 178.41 | 900.00 | |
| 9 Be | 45 | 2 | 3.39 | 3.39 | ppb | 20.45 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 10.38 | 900.00 | |
| 11 B | 45 | 2 | 9.54 | 9.54 | ppb | 24.01 | 900.00 | |
| 23 Na | 45 | 1 | 1.77 | 1.77 | ppb | 19.52 | 90000.00 | |
| 23 Na | 45 | 2 | 3.34 | 3.34 | ppb | 7.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.68 | 0.68 | ppb | 6.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.50 | 1.50 | ppb | 16.99 | 90000.00 | |
| 27 Al | 45 | 1 | 0.10 | 0.10 | ppb | 31.17 | 90000.00 | |
| 27 Al | 45 | 2 | 1.61 | 1.61 | ppb | 18.39 | 90000.00 | |
| 39 K | 45 | 1 | 0.79 | 0.79 | ppb | 42.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.85 | 0.85 | ppb | 140.96 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.04 | -0.04 | ppb | 143.82 | 900.00 | |
| 51 V | 45 | 2 | 0.10 | 0.10 | ppb | 19.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.09 | ppb | 17.69 | 900.00 | |
| 55 Mn | 45 | 2 | -0.07 | -0.07 | ppb | 39.19 | 900.00 | |
| 56 Fe | 45 | 2 | -3.92 | -3.92 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 0.06 | 0.06 | ppb | 19.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.25 | ppb | 24.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 56.80 | 900.00 | |
| 66 Zn | 72 | 2 | 0.62 | 0.62 | ppb | 18.33 | 900.00 | |
| 75 As | 72 | 2 | 0.79 | 0.79 | ppb | 21.84 | 900.00 | |
| 78 Se | 72 | 2 | 7.61 | 7.61 | ppb | 19.13 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 703.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 17.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 152.63 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.46 | ppb | 23.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 14.78 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 44.86 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 128.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 4.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 962.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1793323 | 0.48 | 1927370 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 4147727 | 0.08 | 4239129 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 407785 | 0.36 | 400302 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 944667 | 0.84 | 959644 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 176732 | 0.46 | 174244 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 5206351 | 0.75 | 5379893 | 96.8 | 70 | - | 130 |
| 115 In | 1 | 5551611 | 0.53 | 5735998 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 1360493 | 0.72 | 1381769 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 6829616 | 0.34 | 7108936 | 96.1 | 70 | - | 130 |
| 175 Lu | 1 | 6326008 | 0.73 | 6644013 | 95.2 | 70 | - | 130 |
| 209 Bi | 1 | 3673446 | 1.01 | 3907325 | 94.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 27 2013 02:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 2.53 | 900.00 | |
| 9 Be | 45 | 2 | -0.41 | -0.41 | ppb | 11.73 | 900.00 | |
| 11 B | 6 | 1 | -0.05 | -0.05 | ppb | 38.60 | 900.00 | |
| 11 B | 45 | 2 | -0.85 | -0.85 | ppb | 12.58 | 900.00 | |
| 23 Na | 45 | 1 | 1.70 | 1.70 | ppb | 20.01 | 90000.00 | |
| 23 Na | 45 | 2 | 2.73 | 2.73 | ppb | 8.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.67 | 0.67 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.61 | 0.61 | ppb | 14.33 | 90000.00 | |
| 27 Al | 45 | 1 | 0.47 | 0.47 | ppb | 10.95 | 90000.00 | |
| 27 Al | 45 | 2 | 0.29 | 0.29 | ppb | 47.46 | 90000.00 | |
| 39 K | 45 | 1 | 0.24 | 0.24 | ppb | 415.53 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.60 | -2.60 | ppb | 10.83 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.17 | -0.17 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 602.82 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 31.64 | 900.00 | |
| 55 Mn | 45 | 2 | -0.17 | -0.17 | ppb | 3.93 | 900.00 | |
| 56 Fe | 45 | 2 | -2.99 | -2.99 | ppb | 2.04 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 16.52 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 24.77 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 132.82 | 900.00 | |
| 75 As | 72 | 2 | -0.09 | -0.09 | ppb | 6.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.85 | -0.85 | ppb | 3.50 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 14.29 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | -0.01 | ppb | 28.83 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 3.60 | 180.00 | |
| 111 Cd | 115 | 2 | -0.05 | -0.05 | ppb | 19.13 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 38.68 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | -0.01 | ppb | 17.47 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 7.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 10.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 6.55 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1828848 | 1.75 | 1927370 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 4189701 | 0.77 | 4239129 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 409344 | 0.42 | 400302 | 102.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 945028 | 0.70 | 959644 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 176498 | 0.54 | 174244 | 101.3 | 70 - | 130 |
| 103 | Rh | 1 | 5288606 | 0.53 | 5379893 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 5616076 | 0.41 | 5735998 | 97.9 | 70 - | 130 |
| 115 | In | 2 | 1377362 | 0.36 | 1381769 | 99.7 | 70 - | 130 |
| 159 | Tb | 1 | 6929399 | 0.49 | 7108936 | 97.5 | 70 - | 130 |
| 175 | Lu | 1 | 6329382 | 1.39 | 6644013 | 95.3 | 70 - | 130 |
| 209 | Bi | 1 | 3714681 | 0.49 | 3907325 | 95.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#
Date Acquired: Apr 27 2013 02:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.42 | 0.42 | ppb | 4.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.07 | ppb | 109.62 | 900.00 | |
| 11 B | 6 | 1 | 4.83 | 4.83 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 3.82 | 3.82 | ppb | 11.94 | 900.00 | |
| 23 Na | 45 | 1 | 255.40 | 255.40 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 279.70 | 279.70 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.80 | 257.80 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 278.70 | 278.70 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 25.84 | 25.84 | ppb | 1.45 | 90000.00 | |
| 27 Al | 45 | 2 | 26.20 | 26.20 | ppb | 0.63 | 90000.00 | |
| 39 K | 45 | 1 | 255.00 | 255.00 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 262.60 | 262.60 | ppb | 1.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.85 | ppb | 6.64 | 900.00 | |
| 51 V | 45 | 2 | 0.98 | 0.98 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 1.44 | 900.00 | |
| 55 Mn | 45 | 2 | 0.69 | 0.69 | ppb | 3.81 | 900.00 | |
| 56 Fe | 45 | 2 | 22.43 | 22.43 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.03 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 1.76 | 900.00 | |
| 63 Cu | 72 | 2 | 0.90 | 0.90 | ppb | 1.23 | 900.00 | |
| 66 Zn | 72 | 2 | 1.97 | 1.97 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 0.42 | 0.42 | ppb | 5.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.11 | -0.11 | ppb | 99.45 | 900.00 | |
| 88 Sr | 103 | 1 | 5.19 | 5.19 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 1.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 3.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 3.33 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 2.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 0.98 | 900.00 | |
| 137 Ba | 159 | 1 | 0.96 | 0.96 | ppb | 2.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.41 | 0.41 | ppb | 2.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.49 | 0.49 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1830689 | 0.52 | 1927370 | 95.0 | 70 - 130 | |
| 45 Sc | 1 | 4252286 | 0.52 | 4239129 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 409290 | 0.40 | 400302 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 951344 | 0.47 | 959644 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 176681 | 0.07 | 174244 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 5289581 | 0.43 | 5379893 | 98.3 | 70 | - | 130 |
| 115 In | 1 | 5649349 | 0.79 | 5735998 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1395463 | 0.76 | 1381769 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 6952469 | 0.64 | 7108936 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 6427983 | 0.40 | 6644013 | 96.7 | 70 | - | 130 |
| 209 Bi | 1 | 3751214 | 0.37 | 3907325 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D#
Date Acquired: Apr 27 2013 02:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 4.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.32 | 0.32 | ppb | 174.01 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 12.18 | 900.00 | |
| 11 B | 45 | 2 | 1.52 | 1.52 | ppb | 116.77 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97810.00 | 97810.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96820.00 | 96820.00 | ppb | 1.39 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97160.00 | 97160.00 | ppb | 0.62 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95690.00 | 95690.00 | ppb | 0.31 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97460.00 | 97460.00 | ppb | 0.57 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98210.00 | 98210.00 | ppb | 1.08 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96690.00 | 96690.00 | ppb | 0.72 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1956.00 | 1956.00 | ppb | 0.44 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 67.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.17 | 0.17 | ppb | 31.23 | 900.00 | |
| 56 Fe | 45 | 2 | 96530.00 | 96530.00 | ppb | 0.39 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 32.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 4.66 | 900.00 | |
| 63 Cu | 72 | 2 | 0.20 | 0.20 | ppb | 7.92 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 4.20 | 900.00 | |
| 75 As | 72 | 2 | 0.29 | 0.29 | ppb | 56.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.25 | 1.25 | ppb | 114.06 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 2071.00 | 2071.00 | ppb | 0.53 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.04 | 0.04 | ppb | 10.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.95 | 0.95 | ppb | 9.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 8.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.19 | 0.19 | ppb | 5.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 121.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1703768 | 1.02 | 1927370 | 88.4 | 70 - 130 | |
| 45 Sc | 1 | 3978115 | 1.35 | 4239129 | 93.8 | 70 - 130 | |
| 45 Sc | 2 | 385031 | 0.36 | 400302 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 912402 | 0.31 | 959644 | 95.1 | 70 | - | 130 |
| 72 Ge | 2 | 165634 | 0.21 | 174244 | 95.1 | 70 | - | 130 |
| 103 Rh | 1 | 4522086 | 0.66 | 5379893 | 84.1 | 70 | - | 130 |
| 115 In | 1 | 4977352 | 0.27 | 5735998 | 86.8 | 70 | - | 130 |
| 115 In | 2 | 1256879 | 0.38 | 1381769 | 91.0 | 70 | - | 130 |
| 159 Tb | 1 | 6520756 | 0.77 | 7108936 | 91.7 | 70 | - | 130 |
| 175 Lu | 1 | 6162048 | 0.53 | 6644013 | 92.7 | 70 | - | 130 |
| 209 Bi | 1 | 3228198 | 1.11 | 3907325 | 82.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\017SMPL.D\017SMPL.D#
Date Acquired: Apr 27 2013 02:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | -0.09 | ppb | 1.78 | 900.00 | |
| 9 Be | 45 | 2 | 2.30 | 2.30 | ppb | 148.54 | 900.00 | |
| 11 B | 6 | 1 | 0.15 | 0.15 | ppb | 7.11 | 900.00 | |
| 11 B | 45 | 2 | 6.42 | 6.42 | ppb | 144.69 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98130.00 | 98130.00 | ppb | 1.25 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96130.00 | 96130.00 | ppb | 0.58 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97600.00 | 97600.00 | ppb | 1.08 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95320.00 | 95320.00 | ppb | 0.53 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97750.00 | 97750.00 | ppb | 0.11 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96610.00 | 96610.00 | ppb | 0.79 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1965.00 | 1965.00 | ppb | 0.48 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 93.61 | 900.00 | |
| 52 Cr | 45 | 2 | 20.14 | 20.14 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 19.08 | 19.08 | ppb | 0.70 | 900.00 | |
| 56 Fe | 45 | 2 | 97290.00 | 97290.00 | ppb | 1.00 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.79 | 18.79 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 18.50 | 18.50 | ppb | 1.75 | 900.00 | |
| 63 Cu | 72 | 2 | 17.40 | 17.40 | ppb | 0.28 | 900.00 | |
| 66 Zn | 72 | 2 | 19.92 | 19.92 | ppb | 2.22 | 900.00 | |
| 75 As | 72 | 2 | 20.78 | 20.78 | ppb | 3.52 | 900.00 | |
| 78 Se | 72 | 2 | 4.85 | 4.85 | ppb | 140.44 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 2094.00 | 2094.00 | ppb | 0.86 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.97 | 19.97 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 20.82 | 20.82 | ppb | 3.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.64 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.17 | ppb | 5.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 110.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.10 | ppb | 4.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1691416 | 1.01 | 1927370 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 4085038 | 0.26 | 4239129 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 396138 | 0.21 | 400302 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 938176 | 1.01 | 959644 | 97.8 | 70 | - | 130 |
| 72 Ge | 2 | 169747 | 0.13 | 174244 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 4673046 | 0.60 | 5379893 | 86.9 | 70 | - | 130 |
| 115 In | 1 | 5163371 | 0.55 | 5735998 | 90.0 | 70 | - | 130 |
| 115 In | 2 | 1228531 | 1.35 | 1381769 | 88.9 | 70 | - | 130 |
| 159 Tb | 1 | 6834979 | 0.66 | 7108936 | 96.1 | 70 | - | 130 |
| 175 Lu | 1 | 6419857 | 0.39 | 6644013 | 96.6 | 70 | - | 130 |
| 209 Bi | 1 | 3342229 | 0.90 | 3907325 | 85.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\018SMPL.D\018SMPL.D#
Date Acquired: Apr 27 2013 02:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info: 2X
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 1.97 | 900.00 | |
| 9 Be | 45 | 2 | -1.15 | -0.57 | ppb | 4.03 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.07 | ppb | 22.98 | 900.00 | |
| 11 B | 45 | 2 | -2.45 | -1.22 | ppb | 10.74 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 196800.00 | 98400.00 | ppb | 0.63 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 193580.00 | 96790.00 | ppb | 0.82 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 194460.00 | 97230.00 | ppb | 0.33 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 192160.00 | 96080.00 | ppb | 0.60 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 194820.00 | 97410.00 | ppb | 0.35 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 193180.00 | 96590.00 | ppb | 0.76 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 3922.00 | 1961.00 | ppb | 0.59 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.03 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | 2.08 | 1.04 | ppb | 0.54 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 12.44 | 900.00 | |
| 56 Fe | 45 | 2 | 193960.00 | 96980.00 | ppb | 0.23 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.03 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 1.22 | 0.61 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.35 | 0.17 | ppb | 1.86 | 900.00 | |
| 66 Zn | 72 | 2 | 3.83 | 1.91 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.14 | 0.07 | ppb | 10.62 | 900.00 | |
| 78 Se | 72 | 2 | -1.91 | -0.95 | ppb | 2.83 | 900.00 | |
| 88 Sr | 103 | 1 | 10.12 | 5.06 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 4166.00 | 2083.00 | ppb | 0.66 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.04 | ppb | 6.86 | 180.00 | |
| 111 Cd | 115 | 2 | 1.68 | 0.84 | ppb | 7.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 6.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.26 | ppb | 0.38 | 900.00 | |
| 137 Ba | 159 | 1 | 0.35 | 0.17 | ppb | 6.15 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 3.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.12 | ppb | 3.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1705663 | 1.09 | 1927370 | 88.5 | 70 - 130 | |
| 45 Sc | 1 | 4010543 | 1.07 | 4239129 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 385118 | 0.47 | 400302 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 913876 | 0.81 | 959644 | 95.2 | 70 | - | 130 |
| 72 Ge | 2 | 166125 | 0.54 | 174244 | 95.3 | 70 | - | 130 |
| 103 Rh | 1 | 4596808 | 0.62 | 5379893 | 85.4 | 70 | - | 130 |
| 115 In | 1 | 5107256 | 0.14 | 5735998 | 89.0 | 70 | - | 130 |
| 115 In | 2 | 1241119 | 2.83 | 1381769 | 89.8 | 70 | - | 130 |
| 159 Tb | 1 | 6708938 | 0.75 | 7108936 | 94.4 | 70 | - | 130 |
| 175 Lu | 1 | 6401525 | 0.15 | 6644013 | 96.4 | 70 | - | 130 |
| 209 Bi | 1 | 3350700 | 0.80 | 3907325 | 85.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 27 2013 02:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:** 2X
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 3524.40 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 5.78 | 900.00 | |
| 11 B | 6 | 1 | 0.64 | 0.32 | ppb | 79.65 | 900.00 | |
| 11 B | 45 | 2 | -2.04 | -1.02 | ppb | 10.35 | 900.00 | |
| 23 Na | 45 | 1 | 99380.00 | 49690.00 | ppb | 0.18 | 90000.00 | |
| 23 Na | 45 | 2 | 98500.00 | 49250.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 98900.00 | 49450.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 98400.00 | 49200.00 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 97740.00 | 48870.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 98380.00 | 49190.00 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 100040.00 | 50020.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 98240.00 | 49120.00 | ppb | 0.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 1988.80 | 994.40 | ppb | 0.81 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.08 | -0.04 | ppb | 25.62 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | -0.09 | -0.04 | ppb | 14.42 | 900.00 | |
| 56 Fe | 45 | 2 | 98880.00 | 49440.00 | ppb | 0.21 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 14.65 | 900.00 | |
| 60 Ni | 45 | 2 | 0.62 | 0.31 | ppb | 3.50 | 900.00 | |
| 63 Cu | 72 | 2 | 0.12 | 0.06 | ppb | 11.25 | 900.00 | |
| 66 Zn | 72 | 2 | 2.22 | 1.11 | ppb | 3.68 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.02 | ppb | 49.01 | 900.00 | |
| 78 Se | 72 | 2 | -1.75 | -0.87 | ppb | 14.01 | 900.00 | |
| 88 Sr | 103 | 1 | 5.07 | 2.53 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 2038.00 | 1019.00 | ppb | 0.18 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.04 | ppb | 137.48 | 180.00 | |
| 111 Cd | 115 | 2 | 0.83 | 0.42 | ppb | 10.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 89.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.16 | ppb | 39.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.36 | 0.18 | ppb | 121.22 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 221.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.07 | ppb | 76.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1796843 | 0.88 | 1927370 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 4147556 | 0.13 | 4239129 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 400428 | 0.58 | 400302 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 947812 | 0.56 | 959644 | 98.8 | 70 | - | 130 |
| 72 Ge | 2 | 174229 | 0.56 | 174244 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 4841002 | 0.53 | 5379893 | 90.0 | 70 | - | 130 |
| 115 In | 1 | 5284345 | 0.55 | 5735998 | 92.1 | 70 | - | 130 |
| 115 In | 2 | 1307042 | 1.01 | 1381769 | 94.6 | 70 | - | 130 |
| 159 Tb | 1 | 6928879 | 1.04 | 7108936 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 6483875 | 1.37 | 6644013 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 3487873 | 0.65 | 3907325 | 89.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 27 2013 03:02 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:** 2X
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 3.05 | 900.00 | |
| 9 Be | 45 | 2 | -1.05 | -0.52 | ppb | 7.22 | 900.00 | |
| 11 B | 6 | 1 | -0.08 | -0.04 | ppb | 31.18 | 900.00 | |
| 11 B | 45 | 2 | -2.34 | -1.17 | ppb | 11.22 | 900.00 | |
| 23 Na | 45 | 1 | 101040.00 | 50520.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 99720.00 | 49860.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 101280.00 | 50640.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 99600.00 | 49800.00 | ppb | 0.13 | 90000.00 | |
| 27 Al | 45 | 1 | 99600.00 | 49800.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 100140.00 | 50070.00 | ppb | 0.40 | 90000.00 | |
| 39 K | 45 | 1 | 101960.00 | 50980.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 99760.00 | 49880.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 2038.00 | 1019.00 | ppb | 0.71 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.10 | -0.05 | ppb | 17.67 | 900.00 | |
| 52 Cr | 45 | 2 | 20.70 | 10.35 | ppb | 0.17 | 900.00 | |
| 55 Mn | 45 | 2 | 19.70 | 9.85 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 101020.00 | 50510.00 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 19.56 | 9.78 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 19.08 | 9.54 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 18.07 | 9.03 | ppb | 1.00 | 900.00 | |
| 66 Zn | 72 | 2 | 21.70 | 10.85 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 20.30 | 10.15 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | -1.48 | -0.74 | ppb | 7.79 | 900.00 | |
| 88 Sr | 103 | 1 | 5.10 | 2.55 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 2084.00 | 1042.00 | ppb | 0.26 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 20.52 | 10.26 | ppb | 0.67 | 180.00 | |
| 111 Cd | 115 | 2 | 21.00 | 10.50 | ppb | 1.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 15.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 2.49 | 900.00 | |
| 205 Tl | 209 | 1 | -0.06 | -0.03 | ppb | 12.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 7.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1824329 | 0.68 | 1927370 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 4171436 | 0.85 | 4239129 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 399914 | 0.27 | 400302 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 942917 | 0.43 | 959644 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 172923 | 0.58 | 174244 | 99.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4844566 | 0.09 | 5379893 | 90.0 | 70 | - | 130 |
| 115 | In | 1 | 5342662 | 0.55 | 5735998 | 93.1 | 70 | - | 130 |
| 115 | In | 2 | 1303217 | 0.45 | 1381769 | 94.3 | 70 | - | 130 |
| 159 | Tb | 1 | 6995959 | 0.19 | 7108936 | 98.4 | 70 | - | 130 |
| 175 | Lu | 1 | 6610111 | 0.39 | 6644013 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3567932 | 0.07 | 3907325 | 91.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#
Date Acquired: Apr 27 2013 03:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 2.81 | 900.00 | |
| 9 Be | 45 | 2 | -0.46 | -0.46 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 27.68 | 900.00 | |
| 11 B | 45 | 2 | -0.96 | -0.96 | ppb | 7.65 | 900.00 | |
| 23 Na | 45 | 1 | 7.24 | 7.24 | ppb | 2.85 | 90000.00 | |
| 23 Na | 45 | 2 | 8.14 | 8.14 | ppb | 4.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.54 | 1.54 | ppb | 6.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.37 | 1.37 | ppb | 2.73 | 90000.00 | |
| 27 Al | 45 | 1 | 0.93 | 0.93 | ppb | 17.41 | 90000.00 | |
| 27 Al | 45 | 2 | 0.65 | 0.65 | ppb | 15.62 | 90000.00 | |
| 39 K | 45 | 1 | -3.05 | -3.05 | ppb | 32.77 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.96 | -6.96 | ppb | 13.05 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.06 | -0.06 | ppb | 8.14 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 101.41 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 17.53 | 900.00 | |
| 55 Mn | 45 | 2 | -0.17 | -0.17 | ppb | 4.07 | 900.00 | |
| 56 Fe | 45 | 2 | 0.12 | 0.12 | ppb | 46.42 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 21.77 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 21.90 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 3.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 233.97 | 900.00 | |
| 75 As | 72 | 2 | -0.08 | -0.08 | ppb | 15.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.49 | -0.49 | ppb | 17.95 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 42.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.99 | 0.99 | ppb | 4.73 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 17.18 | 180.00 | |
| 111 Cd | 115 | 2 | -0.05 | -0.05 | ppb | 15.34 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | -0.01 | ppb | 13.00 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | -0.02 | ppb | 3.23 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 15.47 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.04 | ppb | 5.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.03 | ppb | 5.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1835887 | 0.88 | 1927370 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 4210026 | 0.45 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 404551 | 0.63 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 948482 | 0.98 | 959644 | 98.8 | 70 | - | 130 |
| 72 Ge | 2 | 177924 | 0.43 | 174244 | 102.1 | 70 | - | 130 |
| 103 Rh | 1 | 5348184 | 0.94 | 5379893 | 99.4 | 70 | - | 130 |
| 115 In | 1 | 5665596 | 0.80 | 5735998 | 98.8 | 70 | - | 130 |
| 115 In | 2 | 1423430 | 0.13 | 1381769 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 7065564 | 0.94 | 7108936 | 99.4 | 70 | - | 130 |
| 175 Lu | 1 | 6623136 | 0.54 | 6644013 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3877501 | 0.83 | 3907325 | 99.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D# |
| Date Acquired: | Apr 27 2013 03:16 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.45 | 51.45 | ppb | 1.15 | 900.00 | |
| 9 Be | 45 | 2 | 48.83 | 48.83 | ppb | 0.34 | 900.00 | |
| 11 B | 6 | 1 | 51.13 | 51.13 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 48.00 | 48.00 | ppb | 1.89 | 900.00 | |
| 23 Na | 45 | 1 | 5073.00 | 5073.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 5160.00 | 5160.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 5058.00 | 5058.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5150.00 | 5150.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 5036.00 | 5036.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.26 | 90000.00 | |
| 39 K | 45 | 1 | 5136.00 | 5136.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5121.00 | 5121.00 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.73 | 49.73 | ppb | 0.85 | 900.00 | |
| 51 V | 45 | 2 | 49.85 | 49.85 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 49.52 | 49.52 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 48.87 | 48.87 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 5239.00 | 5239.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 49.71 | 49.71 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 47.93 | 47.93 | ppb | 0.57 | 900.00 | |
| 63 Cu | 72 | 2 | 47.09 | 47.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 48.38 | 48.38 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 50.02 | 50.02 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 50.18 | 50.18 | ppb | 0.55 | 900.00 | |
| 88 Sr | 103 | 1 | 52.22 | 52.22 | ppb | 0.41 | 900.00 | |
| 98 Mo | 103 | 1 | 51.80 | 51.80 | ppb | 0.35 | 900.00 | |
| 107 Ag | 115 | 1 | 50.09 | 50.09 | ppb | 0.88 | 180.00 | |
| 111 Cd | 115 | 2 | 49.34 | 49.34 | ppb | 1.44 | 900.00 | |
| 120 Sn | 115 | 1 | 51.35 | 51.35 | ppb | 0.26 | 900.00 | |
| 121 Sb | 115 | 1 | 51.77 | 51.77 | ppb | 1.30 | 900.00 | |
| 137 Ba | 159 | 1 | 49.77 | 49.77 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | 48.60 | 48.60 | ppb | 0.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.23 | 50.23 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1731981 | 0.95 | 1927370 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 4209978 | 0.69 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 399733 | 0.19 | 400302 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 933274 | 0.46 | 959644 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 174338 | 0.45 | 174244 | 100.1 | 70 | - | 130 |
| 103 Rh | 1 | 5154339 | 0.27 | 5379893 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 5547701 | 0.22 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1372106 | 0.82 | 1381769 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 6997249 | 0.72 | 7108936 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 6525952 | 1.51 | 6644013 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 3708888 | 0.11 | 3907325 | 94.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 03:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.05 | ppb | 28.84 | 900.00 | |
| 9 Be | 45 | 2 | 2.34 | 2.34 | ppb | 46.96 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 20.60 | 900.00 | |
| 11 B | 45 | 2 | 6.48 | 6.48 | ppb | 42.02 | 900.00 | |
| 23 Na | 45 | 1 | 3.36 | 3.36 | ppb | 18.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5.62 | 5.62 | ppb | 8.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.66 | 0.66 | ppb | 9.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.33 | 1.33 | ppb | 23.84 | 90000.00 | |
| 27 Al | 45 | 1 | 0.33 | 0.33 | ppb | 49.35 | 90000.00 | |
| 27 Al | 45 | 2 | 1.49 | 1.49 | ppb | 35.22 | 90000.00 | |
| 39 K | 45 | 1 | -1.52 | -1.52 | ppb | 110.01 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.12 | -7.12 | ppb | 13.50 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.09 | -0.09 | ppb | 42.04 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 40.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.06 | ppb | 50.34 | 900.00 | |
| 55 Mn | 45 | 2 | 0.11 | 0.11 | ppb | 38.15 | 900.00 | |
| 56 Fe | 45 | 2 | 1.17 | 1.17 | ppb | 4.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 45.12 | 900.00 | |
| 60 Ni | 45 | 2 | 0.35 | 0.35 | ppb | 21.50 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 55.09 | 900.00 | |
| 66 Zn | 72 | 2 | 0.41 | 0.41 | ppb | 36.86 | 900.00 | |
| 75 As | 72 | 2 | 0.56 | 0.56 | ppb | 43.44 | 900.00 | |
| 78 Se | 72 | 2 | 5.70 | 5.70 | ppb | 44.01 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 66.97 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 5.23 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 25.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.32 | 0.32 | ppb | 53.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 16.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 106.51 | 900.00 | |
| 137 Ba | 159 | 1 | -0.04 | -0.04 | ppb | 25.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.15 | ppb | 5.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 34.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1747028 | 1.69 | 1927370 | 90.6 | 70 - 130 | |
| 45 Sc | 1 | 4128438 | 1.20 | 4239129 | 97.4 | 70 - 130 | |
| 45 Sc | 2 | 400928 | 0.59 | 400302 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 933957 | 0.81 | 959644 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 175958 | 0.79 | 174244 | 101.0 | 70 - | 130 |
| 103 | Rh | 1 | 5249530 | 0.48 | 5379893 | 97.6 | 70 - | 130 |
| 115 | In | 1 | 5604335 | 0.97 | 5735998 | 97.7 | 70 - | 130 |
| 115 | In | 2 | 1400467 | 1.34 | 1381769 | 101.4 | 70 - | 130 |
| 159 | Tb | 1 | 6953441 | 0.52 | 7108936 | 97.8 | 70 - | 130 |
| 175 | Lu | 1 | 6448776 | 0.67 | 6644013 | 97.1 | 70 - | 130 |
| 209 | Bi | 1 | 3812090 | 0.29 | 3907325 | 97.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 03:30 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | -0.07 | ppb | 8.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.09 | -0.09 | ppb | 168.85 | 900.00 | |
| 11 B | 6 | 1 | -0.03 | -0.03 | ppb | 71.95 | 900.00 | |
| 11 B | 45 | 2 | -0.11 | -0.11 | ppb | 87.28 | 900.00 | |
| 23 Na | 45 | 1 | 9.49 | 9.49 | ppb | 5.89 | 90000.00 | |
| 23 Na | 45 | 2 | 13.65 | 13.65 | ppb | 5.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.10 | 7.10 | ppb | 2.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 8.33 | 8.33 | ppb | 3.70 | 90000.00 | |
| 27 Al | 45 | 1 | 6.19 | 6.19 | ppb | 2.45 | 90000.00 | |
| 27 Al | 45 | 2 | 6.96 | 6.96 | ppb | 3.19 | 90000.00 | |
| 39 K | 45 | 1 | 2.70 | 2.70 | ppb | 81.98 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.90 | -2.90 | ppb | 29.02 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 76.86 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 18.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 96.64 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 14.90 | 900.00 | |
| 56 Fe | 45 | 2 | 4.51 | 4.51 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 27.24 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 112.86 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 7.29 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 36.00 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 263.81 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 369.57 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 61.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 8.17 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 17.28 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 86.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 91.88 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | -0.01 | ppb | 14.11 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 6.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 9.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 7.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1730117 | 2.18 | 1927370 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 4264108 | 1.82 | 4239129 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 406116 | 0.36 | 400302 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 955785 | 1.54 | 959644 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 178542 | 0.44 | 174244 | 102.5 | 70 | - | 130 |
| 103 Rh | 1 | 5401161 | 2.46 | 5379893 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 5731771 | 2.14 | 5735998 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 1407578 | 1.91 | 1381769 | 101.9 | 70 | - | 130 |
| 159 Tb | 1 | 7117318 | 2.33 | 7108936 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 6603428 | 2.50 | 6644013 | 99.4 | 70 | - | 130 |
| 209 Bi | 1 | 3850085 | 1.06 | 3907325 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D#
Date Acquired: Apr 27 2013 03:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20853-MB1
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.19 | -0.09 | ppb | 0.91 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 5.05 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.01 | ppb | 136.26 | 900.00 | |
| 11 B | 45 | 2 | -2.64 | -1.32 | ppb | 7.53 | 900.00 | |
| 23 Na | 45 | 1 | 13.19 | 6.60 | ppb | 2.50 | 90000.00 | |
| 23 Na | 45 | 2 | 16.02 | 8.01 | ppb | 6.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.53 | 1.26 | ppb | 5.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.14 | 1.07 | ppb | 7.87 | 90000.00 | |
| 27 Al | 45 | 1 | 1.98 | 0.99 | ppb | 10.01 | 90000.00 | |
| 27 Al | 45 | 2 | 1.43 | 0.71 | ppb | 15.01 | 90000.00 | |
| 39 K | 45 | 1 | 3.37 | 1.69 | ppb | 11.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 10.25 | 5.12 | ppb | 4.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.16 | 0.08 | ppb | 14.06 | 900.00 | |
| 51 V | 45 | 2 | 1.83 | 0.92 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.02 | ppb | 12.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.23 | 0.11 | ppb | 5.71 | 900.00 | |
| 56 Fe | 45 | 2 | 5.12 | 2.56 | ppb | 3.75 | 90000.00 | |
| 59 Co | 45 | 2 | -0.02 | -0.01 | ppb | 3.06 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 107.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.08 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.84 | 1.42 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.08 | ppb | 8.13 | 900.00 | |
| 78 Se | 72 | 2 | -2.01 | -1.00 | ppb | 5.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.00 | ppb | 20.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.30 | 0.15 | ppb | 11.15 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 5.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.16 | -0.08 | ppb | 3.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.01 | ppb | 35.61 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.03 | ppb | 23.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 24.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.01 | ppb | 14.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1633726 | 2.17 | 1927370 | 84.8 | 70 - 130 | |
| 45 Sc | 1 | 4114598 | 0.36 | 4239129 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 400604 | 0.39 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 933940 | 1.16 | 959644 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 176288 | 0.56 | 174244 | 101.2 | 70 - | 130 |
| 103 | Rh | 1 | 5233276 | 1.16 | 5379893 | 97.3 | 70 - | 130 |
| 115 | In | 1 | 5549933 | 1.30 | 5735998 | 96.8 | 70 - | 130 |
| 115 | In | 2 | 1399835 | 1.30 | 1381769 | 101.3 | 70 - | 130 |
| 159 | Tb | 1 | 7005894 | 0.56 | 7108936 | 98.6 | 70 - | 130 |
| 175 | Lu | 1 | 6491766 | 0.56 | 6644013 | 97.7 | 70 - | 130 |
| 209 | Bi | 1 | 3822888 | 1.03 | 3907325 | 97.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 27 2013 03:45 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20199-2F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 0.60 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 0.03 | 900.00 | |
| 11 B | 6 | 1 | 361.20 | 180.60 | ppb | 0.55 | 900.00 | |
| 11 B | 45 | 2 | 312.80 | 156.40 | ppb | 2.15 | 900.00 | |
| 23 Na | 45 | 1 | 39040.00 | 19520.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 42260.00 | 21130.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 16742.00 | 8371.00 | ppb | 1.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 18000.00 | 9000.00 | ppb | 1.38 | 90000.00 | |
| 27 Al | 45 | 1 | 3.16 | 1.58 | ppb | 1.93 | 90000.00 | |
| 27 Al | 45 | 2 | 2.96 | 1.48 | ppb | 3.96 | 90000.00 | |
| 39 K | 45 | 1 | 8950.00 | 4475.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 125320.00 | 62660.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.15 | 0.57 | ppb | 3.46 | 900.00 | |
| 51 V | 45 | 2 | 1.45 | 0.72 | ppb | 1.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.56 | 0.28 | ppb | 4.05 | 900.00 | |
| 55 Mn | 45 | 2 | 5696.00 | 2848.00 | ppb | 0.64 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 49940.00 | 24970.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 22.28 | 11.14 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 102.88 | 51.44 | ppb | 0.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.01 | ppb | 11.55 | 900.00 | |
| 66 Zn | 72 | 2 | 13.22 | 6.61 | ppb | 1.31 | 900.00 | |
| 75 As | 72 | 2 | 3.02 | 1.51 | ppb | 3.48 | 900.00 | |
| 78 Se | 72 | 2 | -1.85 | -0.92 | ppb | 7.96 | 900.00 | |
| 88 Sr | 103 | 1 | 724.60 | 362.30 | ppb | 1.63 | 900.00 | |
| 98 Mo | 103 | 1 | 38.60 | 19.30 | ppb | 1.53 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 7.53 | 180.00 | |
| 111 Cd | 115 | 2 | -0.09 | -0.04 | ppb | 21.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.10 | ppb | 8.52 | 900.00 | |
| 121 Sb | 115 | 1 | 1.87 | 0.93 | ppb | 1.80 | 900.00 | |
| 137 Ba | 159 | 1 | 47.30 | 23.65 | ppb | 0.17 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 55.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 18.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1488652 | 0.31 | 1927370 | 77.2 | 70 - 130 | |
| 45 Sc | 1 | 4079038 | 0.54 | 4239129 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 397877 | 0.35 | 400302 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 926402 | 0.64 | 959644 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 174858 | 1.14 | 174244 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 4833875 | 1.84 | 5379893 | 89.9 | 70 | - | 130 |
| 115 In | 1 | 5310575 | 1.28 | 5735998 | 92.6 | 70 | - | 130 |
| 115 In | 2 | 1327400 | 0.12 | 1381769 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 6890809 | 0.98 | 7108936 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 6454238 | 0.36 | 6644013 | 97.1 | 70 | - | 130 |
| 209 Bi | 1 | 3545863 | 0.90 | 3907325 | 90.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Apr 27 2013 03:52 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-18F
**Misc Info:**
**Vial Number:** 2203
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 4.43 | 900.00 | |
| 9 Be | 45 | 2 | -1.11 | -0.56 | ppb | 4.48 | 900.00 | |
| 11 B | 6 | 1 | 208.60 | 104.30 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 176.08 | 88.04 | ppb | 1.27 | 900.00 | |
| 23 Na | 45 | 1 | 16844.00 | 8422.00 | ppb | 0.30 | 90000.00 | |
| 23 Na | 45 | 2 | 17980.00 | 8990.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 6018.00 | 3009.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 6410.00 | 3205.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 7.82 | 3.91 | ppb | 1.41 | 90000.00 | |
| 27 Al | 45 | 2 | 7.51 | 3.75 | ppb | 5.24 | 90000.00 | |
| 39 K | 45 | 1 | 7780.00 | 3890.00 | ppb | 1.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 63520.00 | 31760.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.82 | 0.41 | ppb | 2.81 | 900.00 | |
| 51 V | 45 | 2 | 1.66 | 0.83 | ppb | 2.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.48 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | 2754.00 | 1377.00 | ppb | 0.12 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61280.00 | 30640.00 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 17.10 | 8.55 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 79.10 | 39.55 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.44 | 0.22 | ppb | 3.06 | 900.00 | |
| 66 Zn | 72 | 2 | 17.77 | 8.89 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 12.49 | 6.24 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | -1.97 | -0.98 | ppb | 6.76 | 900.00 | |
| 88 Sr | 103 | 1 | 522.20 | 261.10 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 35.08 | 17.54 | ppb | 0.53 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 10.12 | 180.00 | |
| 111 Cd | 115 | 2 | -0.08 | -0.04 | ppb | 30.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 5.46 | 900.00 | |
| 121 Sb | 115 | 1 | 2.50 | 1.25 | ppb | 1.67 | 900.00 | |
| 137 Ba | 159 | 1 | 45.46 | 22.73 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 13.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.09 | ppb | 1.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1501495 | 0.56 | 1927370 | 77.9 | 70 - 130 | |
| 45 Sc | 1 | 4107295 | 0.86 | 4239129 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 400777 | 0.48 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943854 | 0.42 | 959644 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 178381 | 0.40 | 174244 | 102.4 | 70 - | 130 |
| 103 | Rh | 1 | 4969516 | 0.66 | 5379893 | 92.4 | 70 - | 130 |
| 115 | In | 1 | 5449785 | 0.45 | 5735998 | 95.0 | 70 - | 130 |
| 115 | In | 2 | 1348995 | 0.90 | 1381769 | 97.6 | 70 - | 130 |
| 159 | Tb | 1 | 6987825 | 0.44 | 7108936 | 98.3 | 70 - | 130 |
| 175 | Lu | 1 | 6547736 | 0.81 | 6644013 | 98.6 | 70 - | 130 |
| 209 | Bi | 1 | 3651753 | 0.21 | 3907325 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D#
Date Acquired: Apr 27 2013 03:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20063-19F
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 1.72 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 3.79 | 900.00 | |
| 11 B | 6 | 1 | 212.00 | 106.00 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 173.46 | 86.73 | ppb | 0.62 | 900.00 | |
| 23 Na | 45 | 1 | 17102.00 | 8551.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 18284.00 | 9142.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 6078.00 | 3039.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 6472.00 | 3236.00 | ppb | 0.06 | 90000.00 | |
| 27 Al | 45 | 1 | 9.85 | 4.92 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 2 | 9.15 | 4.58 | ppb | 4.22 | 90000.00 | |
| 39 K | 45 | 1 | 7810.00 | 3905.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 63680.00 | 31840.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 0.50 | ppb | 3.07 | 900.00 | |
| 51 V | 45 | 2 | 1.86 | 0.93 | ppb | 0.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.44 | ppb | 0.93 | 900.00 | |
| 55 Mn | 45 | 2 | 2694.00 | 1347.00 | ppb | 0.90 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 57980.00 | 28990.00 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 16.61 | 8.30 | ppb | 0.68 | 900.00 | |
| 60 Ni | 45 | 2 | 76.16 | 38.08 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.21 | ppb | 2.89 | 900.00 | |
| 66 Zn | 72 | 2 | 15.62 | 7.81 | ppb | 0.37 | 900.00 | |
| 75 As | 72 | 2 | 14.65 | 7.32 | ppb | 0.41 | 900.00 | |
| 78 Se | 72 | 2 | -2.09 | -1.05 | ppb | 2.90 | 900.00 | |
| 88 Sr | 103 | 1 | 524.80 | 262.40 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 35.36 | 17.68 | ppb | 0.57 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 12.43 | 180.00 | |
| 111 Cd | 115 | 2 | -0.07 | -0.03 | ppb | 35.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.74 | 900.00 | |
| 121 Sb | 115 | 1 | 2.69 | 1.35 | ppb | 1.62 | 900.00 | |
| 137 Ba | 159 | 1 | 45.62 | 22.81 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 17.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1481931 | 1.01 | 1927370 | 76.9 | 70 - 130 | |
| 45 Sc | 1 | 4123807 | 0.40 | 4239129 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 404294 | 0.53 | 400302 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 943622 | 0.43 | 959644 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 178673 | 0.71 | 174244 | 102.5 | 70 | - | 130 |
| 103 Rh | 1 | 4981229 | 0.43 | 5379893 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 5443730 | 0.86 | 5735998 | 94.9 | 70 | - | 130 |
| 115 In | 2 | 1351997 | 1.32 | 1381769 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 6932579 | 0.54 | 7108936 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 6458877 | 0.51 | 6644013 | 97.2 | 70 | - | 130 |
| 209 Bi | 1 | 3570263 | 0.71 | 3907325 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#
**Date Acquired:** Apr 27 2013 04:06 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20063-20F
**Misc Info:**
**Vial Number:** 2205
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 1.72 | 900.00 | |
| 9 Be | 45 | 2 | -1.09 | -0.55 | ppb | 1.18 | 900.00 | |
| 11 B | 6 | 1 | 384.00 | 192.00 | ppb | 3.83 | 900.00 | |
| 11 B | 45 | 2 | 313.00 | 156.50 | ppb | 1.48 | 900.00 | |
| 23 Na | 45 | 1 | 32020.00 | 16010.00 | ppb | 0.74 | 90000.00 | |
| 23 Na | 45 | 2 | 34340.00 | 17170.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 10514.00 | 5257.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 11252.00 | 5626.00 | ppb | 0.24 | 90000.00 | |
| 27 Al | 45 | 1 | 7.74 | 3.87 | ppb | 2.22 | 90000.00 | |
| 27 Al | 45 | 2 | 7.78 | 3.89 | ppb | 5.46 | 90000.00 | |
| 39 K | 45 | 1 | 11958.00 | 5979.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 87520.00 | 43760.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.86 | 0.43 | ppb | 9.09 | 900.00 | |
| 51 V | 45 | 2 | 1.80 | 0.90 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | 1.17 | 0.58 | ppb | 1.37 | 900.00 | |
| 55 Mn | 45 | 2 | 3966.00 | 1983.00 | ppb | 0.30 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 70400.00 | 35200.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 18.04 | 9.02 | ppb | 0.84 | 900.00 | |
| 60 Ni | 45 | 2 | 88.12 | 44.06 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 1.30 | 0.65 | ppb | 1.12 | 900.00 | |
| 66 Zn | 72 | 2 | 28.56 | 14.28 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 17.46 | 8.73 | ppb | 1.26 | 900.00 | |
| 78 Se | 72 | 2 | -1.91 | -0.96 | ppb | 7.08 | 900.00 | |
| 88 Sr | 103 | 1 | 1088.20 | 544.10 | ppb | 0.63 | 900.00 | |
| 98 Mo | 103 | 1 | 34.42 | 17.21 | ppb | 1.06 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 13.73 | 180.00 | |
| 111 Cd | 115 | 2 | -0.11 | -0.05 | ppb | 7.45 | 900.00 | |
| 120 Sn | 115 | 1 | 0.32 | 0.16 | ppb | 3.04 | 900.00 | |
| 121 Sb | 115 | 1 | 4.17 | 2.09 | ppb | 1.70 | 900.00 | |
| 137 Ba | 159 | 1 | 72.00 | 36.00 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 133.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.06 | ppb | 10.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1484735 | 0.82 | 1927370 | 77.0 | 70 - 130 | |
| 45 Sc | 1 | 4062311 | 0.29 | 4239129 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 396784 | 0.66 | 400302 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943215 | 0.11 | 959644 | 98.3 | 70 - | 130 |
| 72 | Ge | 2 | 177296 | 0.42 | 174244 | 101.8 | 70 - | 130 |
| 103 | Rh | 1 | 4842362 | 0.92 | 5379893 | 90.0 | 70 - | 130 |
| 115 | In | 1 | 5290921 | 1.24 | 5735998 | 92.2 | 70 - | 130 |
| 115 | In | 2 | 1318832 | 1.23 | 1381769 | 95.4 | 70 - | 130 |
| 159 | Tb | 1 | 6824004 | 0.67 | 7108936 | 96.0 | 70 - | 130 |
| 175 | Lu | 1 | 6404654 | 0.86 | 6644013 | 96.4 | 70 - | 130 |
| 209 | Bi | 1 | 3477907 | 0.32 | 3907325 | 89.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 27 2013 04:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20063-21F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 1.95 | 900.00 | |
| 9 Be | 45 | 2 | -1.14 | -0.57 | ppb | 1.07 | 900.00 | |
| 11 B | 6 | 1 | 2.50 | 1.25 | ppb | 3.05 | 900.00 | |
| 11 B | 45 | 2 | -0.67 | -0.33 | ppb | 25.21 | 900.00 | |
| 23 Na | 45 | 1 | 12.24 | 6.12 | ppb | 9.39 | 90000.00 | |
| 23 Na | 45 | 2 | 14.80 | 7.40 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.54 | 1.27 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.48 | 1.24 | ppb | 3.56 | 90000.00 | |
| 27 Al | 45 | 1 | 1.98 | 0.99 | ppb | 6.16 | 90000.00 | |
| 27 Al | 45 | 2 | 1.64 | 0.82 | ppb | 36.40 | 90000.00 | |
| 39 K | 45 | 1 | 12.87 | 6.44 | ppb | 18.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.04 | 2.02 | ppb | 37.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.13 | 0.06 | ppb | 37.20 | 900.00 | |
| 51 V | 45 | 2 | 1.57 | 0.79 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.10 | ppb | 7.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.12 | ppb | 55.47 | 900.00 | |
| 56 Fe | 45 | 2 | 2.87 | 1.43 | ppb | 10.27 | 90000.00 | |
| 59 Co | 45 | 2 | -0.02 | -0.01 | ppb | 3.54 | 900.00 | |
| 60 Ni | 45 | 2 | 0.26 | 0.13 | ppb | 4.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 8.09 | 900.00 | |
| 66 Zn | 72 | 2 | 5.79 | 2.90 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 0.10 | 0.05 | ppb | 22.50 | 900.00 | |
| 78 Se | 72 | 2 | -1.81 | -0.91 | ppb | 5.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 12.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 18.49 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | -0.02 | ppb | 7.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.15 | -0.08 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 3.09 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | 0.00 | ppb | 32.06 | 900.00 | |
| 137 Ba | 159 | 1 | -0.10 | -0.05 | ppb | 31.17 | 900.00 | |
| 205 Tl | 209 | 1 | -0.06 | -0.03 | ppb | 4.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.04 | -0.02 | ppb | 4.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1496323 | 0.69 | 1927370 | 77.6 | 70 - 130 | |
| 45 Sc | 1 | 4087080 | 0.84 | 4239129 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 405121 | 0.27 | 400302 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 936262 | 0.66 | 959644 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 176382 | 0.10 | 174244 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 5187163 | 0.69 | 5379893 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 5509061 | 0.80 | 5735998 | 96.0 | 70 | - | 130 |
| 115 In | 2 | 1388500 | 0.92 | 1381769 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 6966536 | 0.68 | 7108936 | 98.0 | 70 | - | 130 |
| 175 Lu | 1 | 6432005 | 0.67 | 6644013 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 3696278 | 1.07 | 3907325 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 27 2013 04:20 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20199-1F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 2.70 | 900.00 | |
| 9 Be | 45 | 2 | -1.16 | -0.58 | ppb | 2.10 | 900.00 | |
| 11 B | 6 | 1 | 407.80 | 203.90 | ppb | 4.13 | 900.00 | |
| 11 B | 45 | 2 | 323.20 | 161.60 | ppb | 0.45 | 900.00 | |
| 23 Na | 45 | 1 | 32300.00 | 16150.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 34720.00 | 17360.00 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 11730.00 | 5865.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 12402.00 | 6201.00 | ppb | 0.14 | 90000.00 | |
| 27 Al | 45 | 1 | 4.75 | 2.37 | ppb | 6.15 | 90000.00 | |
| 27 Al | 45 | 2 | 4.20 | 2.10 | ppb | 4.43 | 90000.00 | |
| 39 K | 45 | 1 | 10516.00 | 5258.00 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 86960.00 | 43480.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 3.51 | 900.00 | |
| 51 V | 45 | 2 | 1.58 | 0.79 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 0.69 | 0.35 | ppb | 0.99 | 900.00 | |
| 55 Mn | 45 | 2 | 5226.00 | 2613.00 | ppb | 0.77 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 28560.00 | 14280.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 5.63 | 2.82 | ppb | 0.72 | 900.00 | |
| 60 Ni | 45 | 2 | 51.98 | 25.99 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 1.07 | 0.54 | ppb | 1.41 | 900.00 | |
| 66 Zn | 72 | 2 | 12.65 | 6.33 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 3.88 | 1.94 | ppb | 1.59 | 900.00 | |
| 78 Se | 72 | 2 | -1.89 | -0.94 | ppb | 7.12 | 900.00 | |
| 88 Sr | 103 | 1 | 898.60 | 449.30 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 23.92 | 11.96 | ppb | 0.98 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 7.00 | 180.00 | |
| 111 Cd | 115 | 2 | -0.10 | -0.05 | ppb | 13.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 5.20 | 900.00 | |
| 121 Sb | 115 | 1 | 1.78 | 0.89 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | 53.94 | 26.97 | ppb | 0.15 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 9.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 8.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1477222 | 2.10 | 1927370 | 76.6 | 70 - 130 | |
| 45 Sc | 1 | 4132940 | 0.70 | 4239129 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 406436 | 0.16 | 400302 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943644 | 0.57 | 959644 | 98.3 | 70 - | 130 |
| 72 | Ge | 2 | 177310 | 0.64 | 174244 | 101.8 | 70 - | 130 |
| 103 | Rh | 1 | 4941820 | 0.96 | 5379893 | 91.9 | 70 - | 130 |
| 115 | In | 1 | 5412814 | 0.38 | 5735998 | 94.4 | 70 - | 130 |
| 115 | In | 2 | 1337759 | 0.64 | 1381769 | 96.8 | 70 - | 130 |
| 159 | Tb | 1 | 6850190 | 0.99 | 7108936 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 6377291 | 1.08 | 6644013 | 96.0 | 70 - | 130 |
| 209 | Bi | 1 | 3497288 | 0.63 | 3907325 | 89.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 27 2013 04:27 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20199-3F
**Misc Info:**
**Vial Number:** 2208
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 2.33 | 900.00 | |
| 9 Be | 45 | 2 | -1.17 | -0.59 | ppb | 2.81 | 900.00 | |
| 11 B | 6 | 1 | 398.60 | 199.30 | ppb | 1.45 | 900.00 | |
| 11 B | 45 | 2 | 323.40 | 161.70 | ppb | 1.62 | 900.00 | |
| 23 Na | 45 | 1 | 40020.00 | 20010.00 | ppb | 0.40 | 90000.00 | |
| 23 Na | 45 | 2 | 42660.00 | 21330.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 16374.00 | 8187.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 17384.00 | 8692.00 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 5.03 | 2.52 | ppb | 5.76 | 90000.00 | |
| 27 Al | 45 | 2 | 5.05 | 2.53 | ppb | 5.84 | 90000.00 | |
| 39 K | 45 | 1 | 10104.00 | 5052.00 | ppb | 1.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 120680.00 | 60340.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.58 | ppb | 7.77 | 900.00 | |
| 51 V | 45 | 2 | 1.43 | 0.72 | ppb | 2.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.22 | ppb | 1.81 | 900.00 | |
| 55 Mn | 45 | 2 | 5640.00 | 2820.00 | ppb | 0.47 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 52440.00 | 26220.00 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 21.32 | 10.66 | ppb | 0.83 | 900.00 | |
| 60 Ni | 45 | 2 | 122.42 | 61.21 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.24 | 0.12 | ppb | 3.25 | 900.00 | |
| 66 Zn | 72 | 2 | 13.13 | 6.57 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 2.92 | 1.46 | ppb | 1.37 | 900.00 | |
| 78 Se | 72 | 2 | -1.93 | -0.97 | ppb | 7.34 | 900.00 | |
| 88 Sr | 103 | 1 | 746.60 | 373.30 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 43.52 | 21.76 | ppb | 0.95 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 9.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.08 | -0.04 | ppb | 12.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 2.08 | 900.00 | |
| 121 Sb | 115 | 1 | 1.65 | 0.83 | ppb | 1.29 | 900.00 | |
| 137 Ba | 159 | 1 | 51.56 | 25.78 | ppb | 0.08 | 900.00 | |
| 205 Tl | 209 | 1 | -0.05 | -0.02 | ppb | 9.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 47.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1523761 | 0.32 | 1927370 | 79.1 | 70 - 130 | |
| 45 Sc | 1 | 4096017 | 0.90 | 4239129 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 400768 | 0.95 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 934298 | 0.78 | 959644 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 175342 | 0.53 | 174244 | 100.6 | 70 | - | 130 |
| 103 Rh | 1 | 4876475 | 1.06 | 5379893 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 5352197 | 0.77 | 5735998 | 93.3 | 70 | - | 130 |
| 115 In | 2 | 1323001 | 0.49 | 1381769 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 6925802 | 0.44 | 7108936 | 97.4 | 70 | - | 130 |
| 175 Lu | 1 | 6472034 | 0.07 | 6644013 | 97.4 | 70 | - | 130 |
| 209 Bi | 1 | 3511133 | 0.49 | 3907325 | 89.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 27 2013 04:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20199-4F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 2.21 | 900.00 | |
| 9 Be | 45 | 2 | -1.17 | -0.59 | ppb | 3.82 | 900.00 | |
| 11 B | 6 | 1 | 273.60 | 136.80 | ppb | 0.18 | 900.00 | |
| 11 B | 45 | 2 | 236.60 | 118.30 | ppb | 1.16 | 900.00 | |
| 23 Na | 45 | 1 | 42300.00 | 21150.00 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 45220.00 | 22610.00 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 25700.00 | 12850.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 27500.00 | 13750.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 6.09 | 3.04 | ppb | 5.75 | 90000.00 | |
| 27 Al | 45 | 2 | 5.35 | 2.68 | ppb | 8.02 | 90000.00 | |
| 39 K | 45 | 1 | 11922.00 | 5961.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 155780.00 | 77890.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.48 | 0.74 | ppb | 0.35 | 900.00 | |
| 51 V | 45 | 2 | 1.11 | 0.55 | ppb | 1.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.49 | ppb | 0.06 | 900.00 | |
| 55 Mn | 45 | 2 | 3792.00 | 1896.00 | ppb | 0.53 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 51260.00 | 25630.00 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 15.02 | 7.51 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 66.54 | 33.27 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.09 | ppb | 2.43 | 900.00 | |
| 66 Zn | 72 | 2 | 14.24 | 7.12 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 5.80 | 2.90 | ppb | 1.92 | 900.00 | |
| 78 Se | 72 | 2 | -1.92 | -0.96 | ppb | 8.79 | 900.00 | |
| 88 Sr | 103 | 1 | 727.40 | 363.70 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 40.02 | 20.01 | ppb | 0.25 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 14.84 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 31.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.17 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 4.29 | 2.14 | ppb | 0.65 | 900.00 | |
| 137 Ba | 159 | 1 | 76.78 | 38.39 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 10.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 11.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1554379 | 0.13 | 1927370 | 80.6 | 70 - 130 | |
| 45 Sc | 1 | 4196433 | 0.33 | 4239129 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 400149 | 0.65 | 400302 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 944993 | 0.83 | 959644 | 98.5 | 70 | - | 130 |
| 72 Ge | 2 | 176162 | 0.16 | 174244 | 101.1 | 70 | - | 130 |
| 103 Rh | 1 | 4935368 | 0.49 | 5379893 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 5420638 | 0.49 | 5735998 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 1326303 | 0.53 | 1381769 | 96.0 | 70 | - | 130 |
| 159 Tb | 1 | 6986963 | 0.89 | 7108936 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 6547403 | 1.18 | 6644013 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 3549704 | 0.94 | 3907325 | 90.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D#** | | |
| **Date Acquired:** | **Apr 27 2013 04:42 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MP20853-B1** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2210** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 29 2013 10:37 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **20.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **20.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 518.80 | 25.94 | ppb | 1.58 | 900.00 | |
| 9 Be | 45 | 2 | 484.20 | 24.21 | ppb | 0.59 | 900.00 | |
| 11 B | 6 | 1 | 13.03 | 0.65 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | -15.17 | -0.76 | ppb | 13.38 | 900.00 | |
| 23 Na | 45 | 1 | 26300.00 | 1315.00 | ppb | 1.56 | 90000.00 | |
| 23 Na | 45 | 2 | 27220.00 | 1361.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 26700.00 | 1335.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 27860.00 | 1393.00 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 1 | 2178.00 | 108.90 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 2318.00 | 115.90 | ppb | 0.36 | 90000.00 | |
| 39 K | 45 | 1 | 26460.00 | 1323.00 | ppb | 1.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 27400.00 | 1370.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.80 | 24.39 | ppb | 1.88 | 900.00 | |
| 51 V | 45 | 2 | 512.40 | 25.62 | ppb | 0.87 | 900.00 | |
| 52 Cr | 45 | 2 | 510.20 | 25.51 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 549.60 | 27.48 | ppb | 0.80 | 900.00 | |
| 56 Fe | 45 | 2 | 2648.00 | 132.40 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 515.00 | 25.75 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | 493.40 | 24.67 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 493.60 | 24.68 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 539.60 | 26.98 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 515.40 | 25.77 | ppb | 1.53 | 900.00 | |
| 78 Se | 72 | 2 | 508.60 | 25.43 | ppb | 2.37 | 900.00 | |
| 88 Sr | 103 | 1 | 525.40 | 26.27 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 0.29 | 0.01 | ppb | 38.13 | 900.00 | |
| 107 Ag | 115 | 1 | 213.60 | 10.68 | ppb | 2.61 | 180.00 | |
| 111 Cd | 115 | 2 | 505.80 | 25.29 | ppb | 0.77 | 900.00 | |
| 120 Sn | 115 | 1 | -0.64 | -0.03 | ppb | 1.40 | 900.00 | |
| 121 Sb | 115 | 1 | 529.80 | 26.49 | ppb | 3.17 | 900.00 | |
| 137 Ba | 159 | 1 | 2032.00 | 101.60 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 482.40 | 24.12 | ppb | 1.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1025.80 | 51.29 | ppb | 2.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1835080 | 0.69 | 1927370 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 4322392 | 1.28 | 4239129 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 412112 | 0.75 | 400302 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 959034 | 1.38 | 959644 | 99.9 | 70 | - | 130 |
| 72 Ge | 2 | 179668 | 0.46 | 174244 | 103.1 | 70 | - | 130 |
| 103 Rh | 1 | 5424580 | 0.95 | 5379893 | 100.8 | 70 | - | 130 |
| 115 In | 1 | 5865840 | 2.50 | 5735998 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 1448642 | 0.89 | 1381769 | 104.8 | 70 | - | 130 |
| 159 Tb | 1 | 7256246 | 0.92 | 7108936 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 6818841 | 1.92 | 6644013 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 3935434 | 2.01 | 3907325 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 27 2013 04:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.55 | 51.55 | ppb | 0.59 | 900.00 | |
| 9 Be | 45 | 2 | 48.31 | 48.31 | ppb | 2.41 | 900.00 | |
| 11 B | 6 | 1 | 52.37 | 52.37 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 48.93 | 48.93 | ppb | 2.23 | 900.00 | |
| 23 Na | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 5228.00 | 5228.00 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 5088.00 | 5088.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 5181.00 | 5181.00 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 1 | 5048.00 | 5048.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 2 | 5224.00 | 5224.00 | ppb | 1.09 | 90000.00 | |
| 39 K | 45 | 1 | 5166.00 | 5166.00 | ppb | 0.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 5155.00 | 5155.00 | ppb | 1.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.52 | 49.52 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 49.30 | 49.30 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 49.26 | 49.26 | ppb | 0.56 | 900.00 | |
| 55 Mn | 45 | 2 | 49.24 | 49.24 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 5191.00 | 5191.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 49.26 | 49.26 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 47.66 | 47.66 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | 46.67 | 46.67 | ppb | 0.33 | 900.00 | |
| 66 Zn | 72 | 2 | 48.16 | 48.16 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 49.55 | 49.55 | ppb | 0.36 | 900.00 | |
| 78 Se | 72 | 2 | 49.94 | 49.94 | ppb | 0.40 | 900.00 | |
| 88 Sr | 103 | 1 | 53.01 | 53.01 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 51.62 | 51.62 | ppb | 0.78 | 900.00 | |
| 107 Ag | 115 | 1 | 49.76 | 49.76 | ppb | 0.25 | 180.00 | |
| 111 Cd | 115 | 2 | 49.10 | 49.10 | ppb | 0.61 | 900.00 | |
| 120 Sn | 115 | 1 | 51.30 | 51.30 | ppb | 1.58 | 900.00 | |
| 121 Sb | 115 | 1 | 52.16 | 52.16 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 49.66 | 49.66 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 48.28 | 48.28 | ppb | 1.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.31 | 50.31 | ppb | 0.69 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1729110 | 0.75 | 1927370 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 4181901 | 0.84 | 4239129 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 398781 | 0.31 | 400302 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 920359 | 0.48 | 959644 | 95.9 | 70 | - | 130 |
| 72 Ge | 2 | 173680 | 0.70 | 174244 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 5110842 | 0.65 | 5379893 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 5541581 | 0.34 | 5735998 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1388262 | 0.11 | 1381769 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 7076013 | 0.43 | 7108936 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 6669919 | 0.91 | 6644013 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 3791396 | 1.21 | 3907325 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D#
Date Acquired: Apr 27 2013 05:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.04 | ppb | 35.03 | 900.00 | |
| 9 Be | 45 | 2 | -0.19 | -0.19 | ppb | 79.24 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 26.04 | 900.00 | |
| 11 B | 45 | 2 | -0.34 | -0.34 | ppb | 142.82 | 900.00 | |
| 23 Na | 45 | 1 | 7.23 | 7.23 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 8.33 | 8.33 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.07 | 5.07 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.35 | 5.35 | ppb | 4.54 | 90000.00 | |
| 27 Al | 45 | 1 | 4.85 | 4.85 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 2 | 5.05 | 5.05 | ppb | 3.48 | 90000.00 | |
| 39 K | 45 | 1 | 6.04 | 6.04 | ppb | 13.74 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.16 | -2.16 | ppb | 28.95 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 442.74 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 38.86 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 576.37 | 900.00 | |
| 55 Mn | 45 | 2 | -0.04 | -0.04 | ppb | 56.05 | 900.00 | |
| 56 Fe | 45 | 2 | 3.73 | 3.73 | ppb | 9.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 764.26 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 93.14 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 8.18 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 63.32 | 900.00 | |
| 75 As | 72 | 2 | -0.05 | -0.05 | ppb | 47.57 | 900.00 | |
| 78 Se | 72 | 2 | -0.32 | -0.32 | ppb | 80.78 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 40.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 2.57 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 64.21 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.03 | ppb | 14.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 31.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 311.85 | 900.00 | |
| 137 Ba | 159 | 1 | -0.03 | -0.03 | ppb | 33.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 44.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1751590 | 1.05 | 1927370 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 4117620 | 1.37 | 4239129 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 402508 | 0.25 | 400302 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 931298 | 1.69 | 959644 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 176823 | 0.91 | 174244 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 5188041 | 1.50 | 5379893 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 5589810 | 0.66 | 5735998 | 97.5 | 70 | - | 130 |
| 115 In | 2 | 1407747 | 1.42 | 1381769 | 101.9 | 70 | - | 130 |
| 159 Tb | 1 | 6933791 | 2.00 | 7108936 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 6485105 | 1.78 | 6644013 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 3805867 | 1.50 | 3907325 | 97.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 05:11 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20853-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 519.80 | 25.99 | ppb | 1.43 | 900.00 | |
| 9 Be | 45 | 2 | 508.00 | 25.40 | ppb | 1.14 | 900.00 | |
| 11 B | 6 | 1 | 320.20 | 16.01 | ppb | 1.32 | 900.00 | |
| 11 B | 45 | 2 | 313.40 | 15.67 | ppb | 3.74 | 900.00 | |
| 23 Na | 45 | 1 | 70760.00 | 3538.00 | ppb | 1.23 | 90000.00 | |
| 23 Na | 45 | 2 | 71100.00 | 3555.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 45640.00 | 2282.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 46320.00 | 2316.00 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2316.00 | 115.80 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2452.00 | 122.60 | ppb | 0.47 | 90000.00 | |
| 39 K | 45 | 1 | 36420.00 | 1821.00 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 160120.00 | 8006.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.60 | 24.78 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 515.80 | 25.79 | ppb | 0.14 | 900.00 | |
| 52 Cr | 45 | 2 | 509.00 | 25.45 | ppb | 0.70 | 900.00 | |
| 55 Mn | 45 | 2 | 6688.00 | 334.40 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 54080.00 | 2704.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 533.80 | 26.69 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 603.80 | 30.19 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 487.00 | 24.35 | ppb | 1.30 | 900.00 | |
| 66 Zn | 72 | 2 | 568.00 | 28.40 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 524.40 | 26.22 | ppb | 0.61 | 900.00 | |
| 78 Se | 72 | 2 | 529.80 | 26.49 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 1251.20 | 62.56 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 34.12 | 1.71 | ppb | 0.29 | 900.00 | |
| 107 Ag | 115 | 1 | 216.40 | 10.82 | ppb | 0.38 | 180.00 | |
| 111 Cd | 115 | 2 | 506.40 | 25.32 | ppb | 0.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.26 | -0.01 | ppb | 17.50 | 900.00 | |
| 121 Sb | 115 | 1 | 546.60 | 27.33 | ppb | 0.53 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 484.80 | 24.24 | ppb | 1.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1040.00 | 52.00 | ppb | 0.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795627 | 1.75 | 1927370 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 4152081 | 0.28 | 4239129 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 402632 | 0.30 | 400302 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 927899 | 0.14 | 959644 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 175359 | 0.90 | 174244 | 100.6 | 70 | - | 130 |
| 103 Rh | 1 | 5138432 | 0.17 | 5379893 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 5547961 | 0.20 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1387425 | 1.04 | 1381769 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 6976595 | 0.44 | 7108936 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 6512734 | 0.77 | 6644013 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 3750998 | 0.79 | 3907325 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 27 2013 05:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20853-S2
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 512.00 | 25.60 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 494.40 | 24.72 | ppb | 2.58 | 900.00 | |
| 11 B | 6 | 1 | 313.20 | 15.66 | ppb | 1.23 | 900.00 | |
| 11 B | 45 | 2 | 284.60 | 14.23 | ppb | 8.19 | 900.00 | |
| 23 Na | 45 | 1 | 69760.00 | 3488.00 | ppb | 0.98 | 90000.00 | |
| 23 Na | 45 | 2 | 69660.00 | 3483.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 44760.00 | 2238.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 46220.00 | 2311.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2202.00 | 110.10 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 2 | 2328.00 | 116.40 | ppb | 0.08 | 90000.00 | |
| 39 K | 45 | 1 | 36140.00 | 1807.00 | ppb | 0.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 155580.00 | 7779.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.60 | 24.58 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 511.80 | 25.59 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 504.60 | 25.23 | ppb | 0.22 | 900.00 | |
| 55 Mn | 45 | 2 | 6504.00 | 325.20 | ppb | 0.84 | 900.00 | |
| 56 Fe | 45 | 2 | 52680.00 | 2634.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 532.00 | 26.60 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 594.80 | 29.74 | ppb | 1.02 | 900.00 | |
| 63 Cu | 72 | 2 | 488.40 | 24.42 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 554.60 | 27.73 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 520.40 | 26.02 | ppb | 0.23 | 900.00 | |
| 78 Se | 72 | 2 | 509.20 | 25.46 | ppb | 2.28 | 900.00 | |
| 88 Sr | 103 | 1 | 1248.80 | 62.44 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 33.06 | 1.65 | ppb | 1.28 | 900.00 | |
| 107 Ag | 115 | 1 | 213.00 | 10.65 | ppb | 0.19 | 180.00 | |
| 111 Cd | 115 | 2 | 504.60 | 25.23 | ppb | 1.29 | 900.00 | |
| 120 Sn | 115 | 1 | -0.33 | -0.02 | ppb | 13.15 | 900.00 | |
| 121 Sb | 115 | 1 | 537.60 | 26.88 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 2070.00 | 103.50 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 486.40 | 24.32 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.80 | 50.89 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1816753 | 0.82 | 1927370 | 94.3 | 70 - 130 | |
| 45 Sc | 1 | 4173648 | 1.02 | 4239129 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 404619 | 0.15 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 928662 | 0.84 | 959644 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 176542 | 0.49 | 174244 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 5117775 | 0.73 | 5379893 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 5624428 | 0.10 | 5735998 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 1406791 | 1.06 | 1381769 | 101.8 | 70 | - | 130 |
| 159 Tb | 1 | 7016608 | 0.27 | 7108936 | 98.7 | 70 | - | 130 |
| 175 Lu | 1 | 6546146 | 0.90 | 6644013 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 3792383 | 0.21 | 3907325 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#
Date Acquired: Apr 27 2013 05:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20853-PS1
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.90 | 8.95 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 13.98 | 6.99 | ppb | 8.41 | 900.00 | |
| 11 B | 6 | 1 | 311.00 | 155.50 | ppb | 0.26 | 900.00 | |
| 11 B | 45 | 2 | 269.80 | 134.90 | ppb | 2.92 | 900.00 | |
| 23 Na | 45 | 1 | 33500.00 | 16750.00 | ppb | 1.18 | 90000.00 | |
| 23 Na | 45 | 2 | 35300.00 | 17650.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 14182.00 | 7091.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 15134.00 | 7567.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 21.00 | 10.50 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 2 | 22.18 | 11.09 | ppb | 1.14 | 90000.00 | |
| 39 K | 45 | 1 | 7594.00 | 3797.00 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 105620.00 | 52810.00 | ppb | 0.74 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.81 | 8.91 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 17.75 | 8.88 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 17.07 | 8.54 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 4750.00 | 2375.00 | ppb | 0.42 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 41180.00 | 20590.00 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 34.66 | 17.33 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 100.86 | 50.43 | ppb | 0.23 | 900.00 | |
| 63 Cu | 72 | 2 | 15.46 | 7.73 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 26.12 | 13.06 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 18.78 | 9.39 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 14.10 | 7.05 | ppb | 2.90 | 900.00 | |
| 88 Sr | 103 | 1 | 620.80 | 310.40 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 49.82 | 24.91 | ppb | 0.50 | 900.00 | |
| 107 Ag | 115 | 1 | 17.12 | 8.56 | ppb | 0.63 | 180.00 | |
| 111 Cd | 115 | 2 | 16.58 | 8.29 | ppb | 2.57 | 900.00 | |
| 120 Sn | 115 | 1 | 18.12 | 9.06 | ppb | 0.37 | 900.00 | |
| 121 Sb | 115 | 1 | 19.75 | 9.88 | ppb | 0.93 | 900.00 | |
| 137 Ba | 159 | 1 | 56.22 | 28.11 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 16.16 | 8.08 | ppb | 0.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.51 | 8.76 | ppb | 1.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1550265 | 0.15 | 1927370 | 80.4 | 70 - 130 | |
| 45 Sc | 1 | 4044739 | 0.29 | 4239129 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 400116 | 0.42 | 400302 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 909045 | 0.25 | 959644 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 174253 | 0.58 | 174244 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 4810173 | 0.31 | 5379893 | 89.4 | 70 | - | 130 |
| 115 In | 1 | 5304471 | 0.06 | 5735998 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 1334170 | 2.63 | 1381769 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 6811380 | 0.39 | 7108936 | 95.8 | 70 | - | 130 |
| 175 Lu | 1 | 6361465 | 0.71 | 6644013 | 95.7 | 70 | - | 130 |
| 209 Bi | 1 | 3540324 | 0.35 | 3907325 | 90.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D# |
| Date Acquired: | Apr 27 2013 05:32 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20853-SD1 |
| Misc Info: | |
| Vial Number: | 2304 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.73 | -0.07 | ppb | 0.72 | 900.00 | |
| 9 Be | 45 | 2 | -4.77 | -0.48 | ppb | 14.17 | 900.00 | |
| 11 B | 6 | 1 | 332.60 | 33.26 | ppb | 1.24 | 900.00 | |
| 11 B | 45 | 2 | 287.60 | 28.76 | ppb | 2.46 | 900.00 | |
| 23 Na | 45 | 1 | 42620.00 | 4262.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 42780.00 | 4278.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 18170.00 | 1817.00 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 18640.00 | 1864.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 9.20 | 0.92 | ppb | 7.73 | 90000.00 | |
| 27 Al | 45 | 2 | 8.60 | 0.86 | ppb | 9.23 | 90000.00 | |
| 39 K | 45 | 1 | 9363.00 | 936.30 | ppb | 0.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 130200.00 | 13020.00 | ppb | 0.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 9604.00 | 900.00 | |
| 51 V | 45 | 2 | -0.74 | -0.07 | ppb | 12.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.13 | 0.01 | ppb | 30.61 | 900.00 | |
| 55 Mn | 45 | 2 | 5824.00 | 582.40 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 50140.00 | 5014.00 | ppb | 0.57 | 90000.00 | |
| 59 Co | 45 | 2 | 22.15 | 2.22 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 110.10 | 11.01 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 0.17 | 0.02 | ppb | 10.32 | 900.00 | |
| 66 Zn | 72 | 2 | 15.30 | 1.53 | ppb | 2.32 | 900.00 | |
| 75 As | 72 | 2 | 1.75 | 0.17 | ppb | 8.56 | 900.00 | |
| 78 Se | 72 | 2 | -8.53 | -0.85 | ppb | 28.15 | 900.00 | |
| 88 Sr | 103 | 1 | 715.90 | 71.59 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 35.42 | 3.54 | ppb | 0.65 | 900.00 | |
| 107 Ag | 115 | 1 | -0.11 | -0.01 | ppb | 10.74 | 180.00 | |
| 111 Cd | 115 | 2 | -0.43 | -0.04 | ppb | 23.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.06 | -0.01 | ppb | 29.30 | 900.00 | |
| 121 Sb | 115 | 1 | 1.74 | 0.17 | ppb | 2.30 | 900.00 | |
| 137 Ba | 159 | 1 | 48.38 | 4.84 | ppb | 0.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.93 | 0.09 | ppb | 5.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | -0.01 | ppb | 20.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1728646 | 0.85 | 1927370 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 4208254 | 0.76 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 418961 | 0.41 | 400302 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 957193 | 0.52 | 959644 | 99.7 | 70 - | 130 |
| 72 | Ge | 2 | 182001 | 0.67 | 174244 | 104.5 | 70 - | 130 |
| 103 | Rh | 1 | 5204842 | 0.48 | 5379893 | 96.7 | 70 - | 130 |
| 115 | In | 1 | 5664421 | 0.14 | 5735998 | 98.8 | 70 - | 130 |
| 115 | In | 2 | 1426333 | 1.10 | 1381769 | 103.2 | 70 - | 130 |
| 159 | Tb | 1 | 7045846 | 1.17 | 7108936 | 99.1 | 70 - | 130 |
| 175 | Lu | 1 | 6568208 | 0.32 | 6644013 | 98.9 | 70 - | 130 |
| 209 | Bi | 1 | 3816678 | 0.53 | 3907325 | 97.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D#
Date Acquired: Apr 27 2013 05:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.40 | 0.40 | ppb | 2.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 51.44 | 900.00 | |
| 11 B | 6 | 1 | 5.27 | 5.27 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 4.02 | 4.02 | ppb | 9.73 | 900.00 | |
| 23 Na | 45 | 1 | 256.90 | 256.90 | ppb | 0.33 | 90000.00 | |
| 23 Na | 45 | 2 | 289.90 | 289.90 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 255.20 | 255.20 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.40 | 279.40 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 25.64 | 25.64 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 26.51 | 26.51 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 256.90 | 256.90 | ppb | 1.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 263.70 | 263.70 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.80 | 0.80 | ppb | 0.47 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 1.38 | 900.00 | |
| 52 Cr | 45 | 2 | 0.95 | 0.95 | ppb | 2.02 | 900.00 | |
| 55 Mn | 45 | 2 | 1.78 | 1.78 | ppb | 12.96 | 900.00 | |
| 56 Fe | 45 | 2 | 32.20 | 32.20 | ppb | 5.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 2.80 | 900.00 | |
| 63 Cu | 72 | 2 | 0.88 | 0.88 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 0.43 | 0.43 | ppb | 6.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 171.16 | 900.00 | |
| 88 Sr | 103 | 1 | 5.18 | 5.18 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.02 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.46 | ppb | 6.37 | 900.00 | |
| 120 Sn | 115 | 1 | 4.90 | 4.90 | ppb | 0.75 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 0.43 | 900.00 | |
| 137 Ba | 159 | 1 | 0.94 | 0.94 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.40 | 0.40 | ppb | 3.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.48 | ppb | 1.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1778361 | 1.47 | 1927370 | 92.3 | 70 - 130 | |
| 45 Sc | 1 | 4258584 | 0.55 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 413249 | 0.60 | 400302 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 945595 | 1.00 | 959644 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 179495 | 0.38 | 174244 | 103.0 | 70 - | 130 |
| 103 | Rh | 1 | 5321973 | 0.22 | 5379893 | 98.9 | 70 - | 130 |
| 115 | In | 1 | 5767027 | 0.94 | 5735998 | 100.5 | 70 - | 130 |
| 115 | In | 2 | 1438668 | 0.14 | 1381769 | 104.1 | 70 - | 130 |
| 159 | Tb | 1 | 7106074 | 0.55 | 7108936 | 100.0 | 70 - | 130 |
| 175 | Lu | 1 | 6648251 | 0.30 | 6644013 | 100.1 | 70 - | 130 |
| 209 | Bi | 1 | 3931793 | 0.39 | 3907325 | 100.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D# |
| Date Acquired: | Apr 27 2013 05:46 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2306 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.66 | 51.66 | ppb | 1.25 | 900.00 | |
| 9 Be | 45 | 2 | 47.31 | 47.31 | ppb | 1.53 | 900.00 | |
| 11 B | 6 | 1 | 52.27 | 52.27 | ppb | 0.94 | 900.00 | |
| 11 B | 45 | 2 | 47.98 | 47.98 | ppb | 0.53 | 900.00 | |
| 23 Na | 45 | 1 | 5101.00 | 5101.00 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 5223.00 | 5223.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 5055.00 | 5055.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 5204.00 | 5204.00 | ppb | 0.76 | 90000.00 | |
| 27 Al | 45 | 1 | 5064.00 | 5064.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 5300.00 | 5300.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5189.00 | 5189.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5149.00 | 5149.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.52 | 49.52 | ppb | 0.88 | 900.00 | |
| 51 V | 45 | 2 | 48.95 | 48.95 | ppb | 0.13 | 900.00 | |
| 52 Cr | 45 | 2 | 48.88 | 48.88 | ppb | 0.30 | 900.00 | |
| 55 Mn | 45 | 2 | 48.93 | 48.93 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 5197.00 | 5197.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 48.69 | 48.69 | ppb | 0.56 | 900.00 | |
| 60 Ni | 45 | 2 | 47.19 | 47.19 | ppb | 0.08 | 900.00 | |
| 63 Cu | 72 | 2 | 46.45 | 46.45 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 48.08 | 48.08 | ppb | 0.39 | 900.00 | |
| 75 As | 72 | 2 | 49.26 | 49.26 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 48.47 | 48.47 | ppb | 0.91 | 900.00 | |
| 88 Sr | 103 | 1 | 53.50 | 53.50 | ppb | 0.08 | 900.00 | |
| 98 Mo | 103 | 1 | 51.77 | 51.77 | ppb | 0.30 | 900.00 | |
| 107 Ag | 115 | 1 | 49.83 | 49.83 | ppb | 0.91 | 180.00 | |
| 111 Cd | 115 | 2 | 49.17 | 49.17 | ppb | 2.26 | 900.00 | |
| 120 Sn | 115 | 1 | 51.08 | 51.08 | ppb | 1.31 | 900.00 | |
| 121 Sb | 115 | 1 | 51.89 | 51.89 | ppb | 1.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.54 | 49.54 | ppb | 0.34 | 900.00 | |
| 205 Tl | 209 | 1 | 48.47 | 48.47 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.76 | 50.76 | ppb | 0.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1730559 | 0.98 | 1927370 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 4193400 | 0.47 | 4239129 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 410033 | 0.26 | 400302 | 102.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 929213 | 0.50 | 959644 | 96.8 | 70 - | 130 |
| 72 | Ge | 2 | 177469 | 0.24 | 174244 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 5101843 | 0.16 | 5379893 | 94.8 | 70 - | 130 |
| 115 | In | 1 | 5540211 | 1.44 | 5735998 | 96.6 | 70 - | 130 |
| 115 | In | 2 | 1403066 | 1.90 | 1381769 | 101.5 | 70 - | 130 |
| 159 | Tb | 1 | 7029048 | 0.77 | 7108936 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 6615636 | 0.27 | 6644013 | 99.6 | 70 - | 130 |
| 209 | Bi | 1 | 3727313 | 0.08 | 3907325 | 95.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D# |
| Date Acquired: | Apr 27 2013 05:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2307 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 4.27 | 900.00 | |
| 9 Be | 45 | 2 | -0.57 | -0.57 | ppb | 1.81 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 8.32 | 900.00 | |
| 11 B | 45 | 2 | -1.10 | -1.10 | ppb | 14.95 | 900.00 | |
| 23 Na | 45 | 1 | 8.99 | 8.99 | ppb | 7.36 | 90000.00 | |
| 23 Na | 45 | 2 | 9.43 | 9.43 | ppb | 4.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.42 | 6.42 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.31 | 6.31 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 1 | 5.99 | 5.99 | ppb | 2.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5.86 | 5.86 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 4.93 | 4.93 | ppb | 23.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.82 | 1.82 | ppb | 39.58 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.05 | -0.05 | ppb | 10.60 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 30.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 105.55 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 177.04 | 900.00 | |
| 56 Fe | 45 | 2 | 5.24 | 5.24 | ppb | 2.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 30.32 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 14.07 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 8.09 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 37.64 | 900.00 | |
| 75 As | 72 | 2 | -0.12 | -0.12 | ppb | 6.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.98 | -0.98 | ppb | 8.22 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 3.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 2.05 | 180.00 | |
| 111 Cd | 115 | 2 | -0.06 | -0.06 | ppb | 7.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 6.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 1253.00 | 900.00 | |
| 137 Ba | 159 | 1 | -0.04 | -0.04 | ppb | 16.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.07 | ppb | 11.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 10.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1792370 | 1.89 | 1927370 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 4261190 | 0.63 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 417839 | 0.35 | 400302 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 951236 | 0.72 | 959644 | 99.1 | 70 - | 130 |
| 72 | Ge | 2 | 181472 | 0.34 | 174244 | 104.1 | 70 - | 130 |
| 103 | Rh | 1 | 5334914 | 0.60 | 5379893 | 99.2 | 70 - | 130 |
| 115 | In | 1 | 5737081 | 0.90 | 5735998 | 100.0 | 70 - | 130 |
| 115 | In | 2 | 1452430 | 0.39 | 1381769 | 105.1 | 70 - | 130 |
| 159 | Tb | 1 | 7161356 | 0.56 | 7108936 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 6743133 | 0.83 | 6644013 | 101.5 | 70 - | 130 |
| 209 | Bi | 1 | 3924099 | 1.16 | 3907325 | 100.4 | 70 - | 130 |

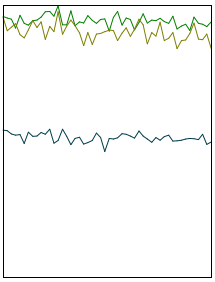
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

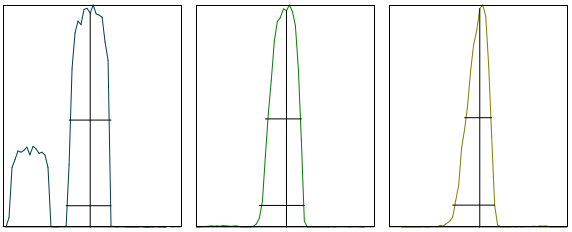
# Tune Report

Tune File : nogas.u
Comment : 042713



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2487.0 | 2569.5 | 3.21 | 56.00 |
| 89 | 10,000 | 9405.0 | 9451.2 | 2.23 | 51.00 |
| 205 | 5,000 | 4207.0 | 4511.9 | 3.34 | 64.80 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.247%
Doubly Charged: 70/140 6.459%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,558 | 9,427 | 5,086 |
| Axis: | 7.00 | 89.05 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 288.3 | 6.82 |
| 59 | 1820.8 | 3.73 |
| 89 | 1783.0 | 2.69 |

Integration Time: 0.1000sec



Generated : Apr 27, 2013 11:56:20
Printed : Apr 27, 2013 11:57:10

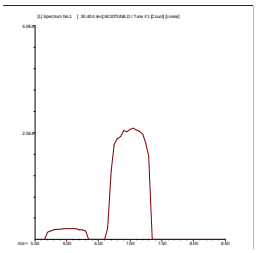
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 27 2013 12:09 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

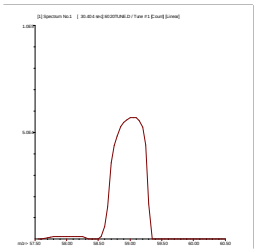
**QC Tune Summary:**
**Pass**

**RSD%**

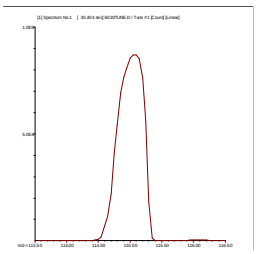
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.48 | 5.00 | 0 |
| 59 Co | 0.65 | 5.00 | |
| 115 In | 0.35 | 5.00 | |
| 205 Tl | 2.75 | 5.00 | |



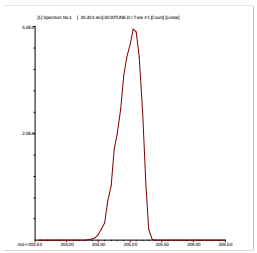
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 29, 2013 09:55 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

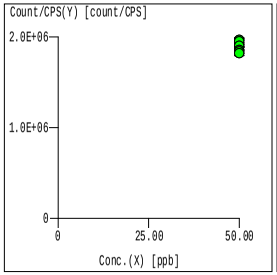
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

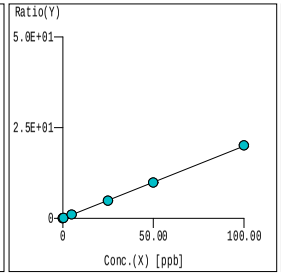
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13d27m01.b\002calb.d\002calb.d# | STDA | Apr 27 2013 12:38 pm |
| 2 | c:\icpchem\1\data\13d27m01.b\003cals.d\003cals.d# | STDB | Apr 27 2013 12:45 pm |
| 3 | c:\icpchem\1\data\13d27m01.b\004cals.d\004cals.d# | STDC | Apr 27 2013 12:52 pm |
| 4 | c:\icpchem\1\data\13d27m01.b\005cals.d\005cals.d# | STDD | Apr 27 2013 12:59 pm |
| 5 | c:\icpchem\1\data\13d27m01.b\006cals.d\006cals.d# | STDE | Apr 27 2013 01:07 pm |
| 6 | c:\icpchem\1\data\13d27m01.b\007cals.d\007cals.d# | STDF | Apr 27 2013 01:14 pm |
| 7 | c:\icpchem\1\data\13d27m01.b\008cals.d\008cals.d# | STDG | Apr 27 2013 01:21 pm |
| 8 | c:\icpchem\1\data\13d27m01.b\009cals.d\009cals.d# | STDH | Apr 27 2013 01:28 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

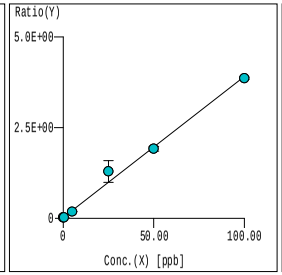
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

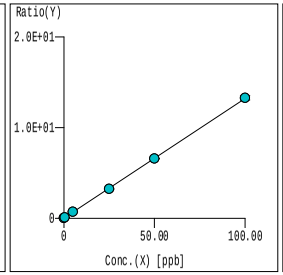
=== Graph Summary ===
Page: 1/4

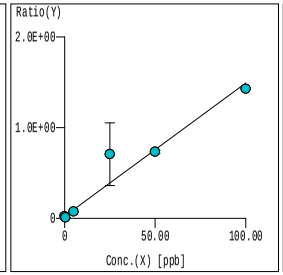
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9961 | 1.0000 | 0.9695 | 1.0000 |
| < DL > | --- ppb | 2.682E-01 ppb | 2.663 ppb | 3.814E-01 ppb | 6.407 ppb | 7.043E-01 ppb |
| < BEC > | --- ppb | 9.716E-02 ppb | 6.030E-01 ppb | 2.883E-01 ppb | 1.556 ppb | 21.37 ppb |

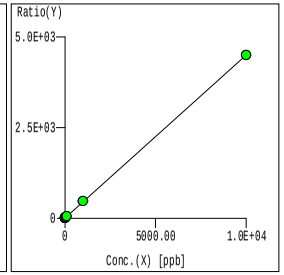




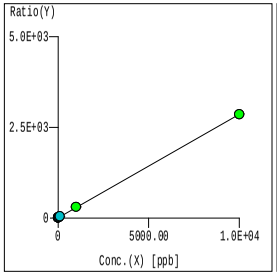


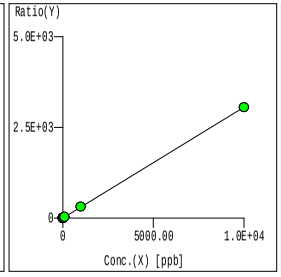


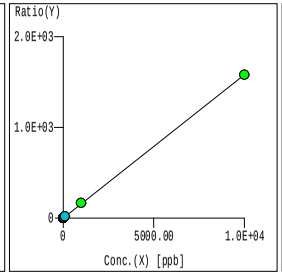


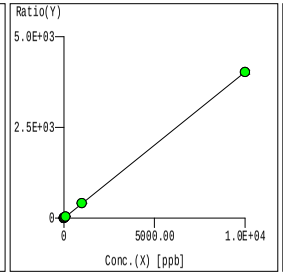


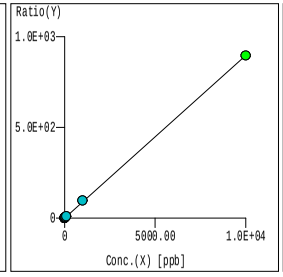

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.904 ppb | 6.221E-02 ppb | 5.536E-01 ppb | 2.191E-01 ppb | 1.458 ppb | 1.178 ppb |
| < BEC > | 42.21 ppb | 5.097E-01 ppb | 7.041E-01 ppb | 2.164 ppb | 2.514 ppb | 105.8 ppb |

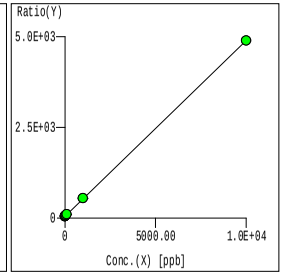








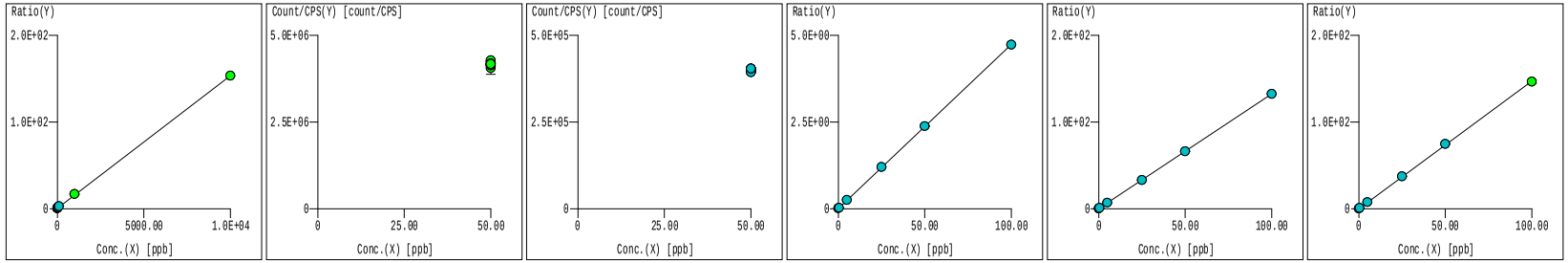




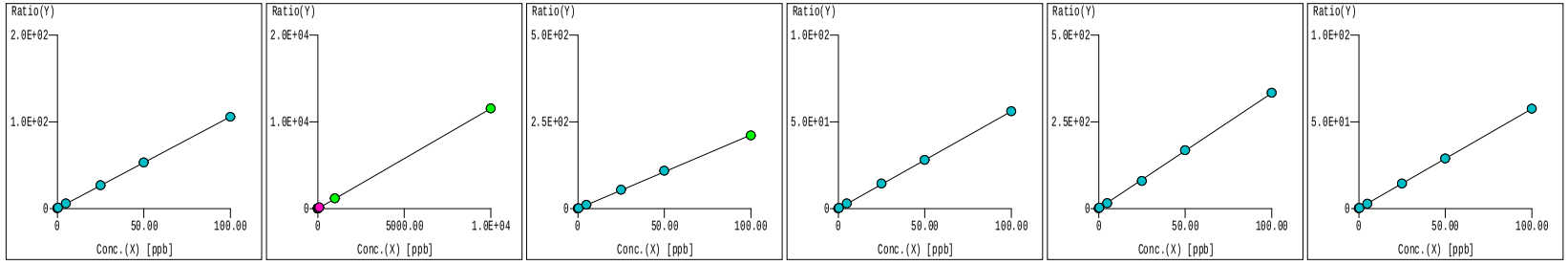
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.509 ppb | --- ppb | --- ppb | 5.984E-01 ppb | 6.832E-02 ppb | 5.855E-02 ppb |
| < BEC > | 45.09 ppb | --- ppb | --- ppb | 2.622E-01 ppb | 3.120E-01 ppb | 1.022E-01 ppb |



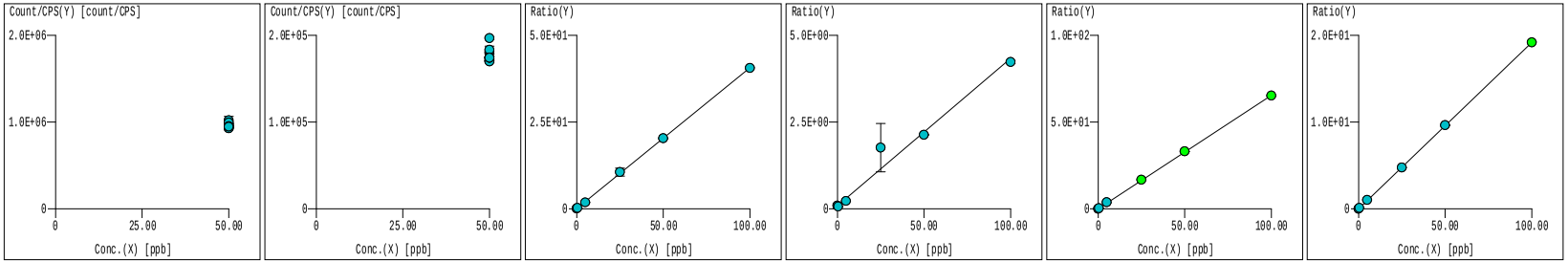

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | 7.438E-02 ppb | 1.685E-01 ppb | 5.275E-02 ppb | 1.784E-01 ppb | 5.939E-02 ppb | 3.590E-01 ppb |
| < BEC > | 4.026E-01 ppb | 8.587 ppb | 1.595E-02 ppb | 1.065E-01 ppb | 1.801E-01 ppb | 1.586E-01 ppb |



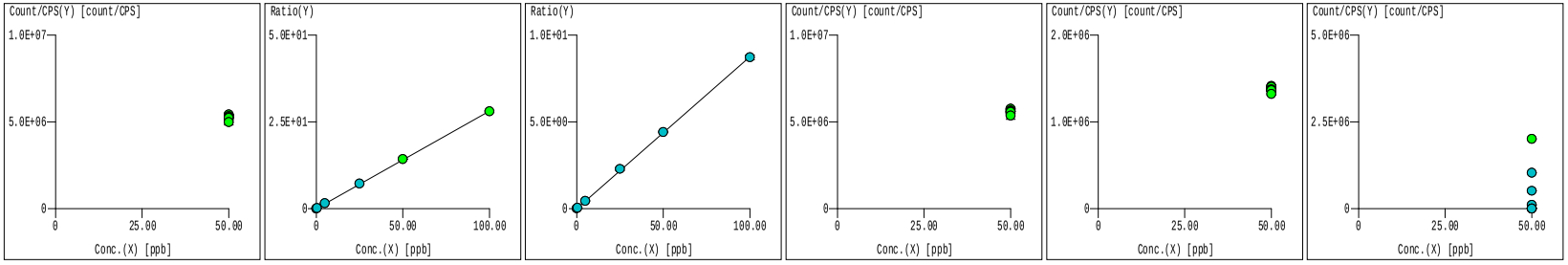
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 0.9860 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 5.789E-01 ppb | 4.765 ppb | 3.352E-02 ppb | 8.780E-02 ppb |
| < BEC > | --- ppb | --- ppb | 2.117E-01 ppb | 2.176 ppb | 2.106E-02 ppb | 4.319E-02 ppb |



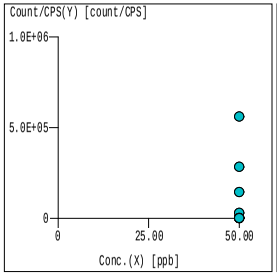

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.523E-02 ppb | 3.186E-01 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.837E-02 ppb | 8.223E-02 ppb | --- ppb | --- ppb | --- ppb |

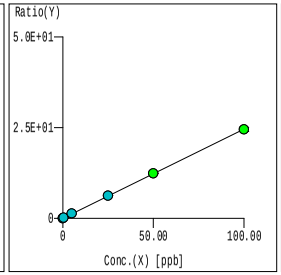


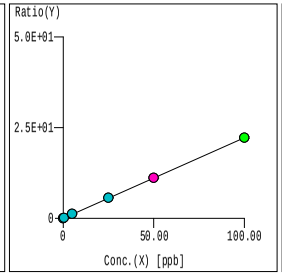
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

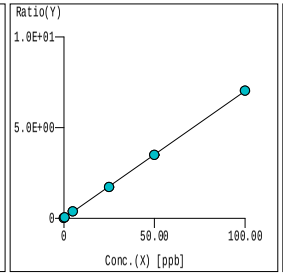
=== Graph Summary ===
Page: 4/4

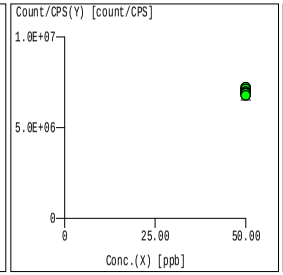
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.393E-02 ppb | 7.400E-02 ppb | 2.345E-01 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.585E-02 ppb | 3.327E-02 ppb | 1.673E-01 ppb | --- ppb | --- ppb |

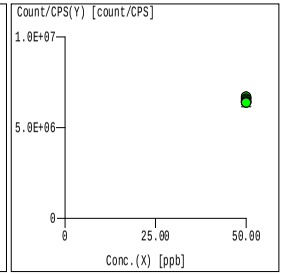


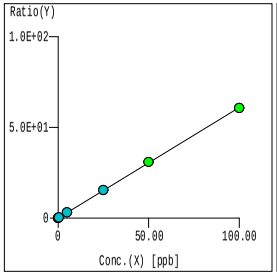



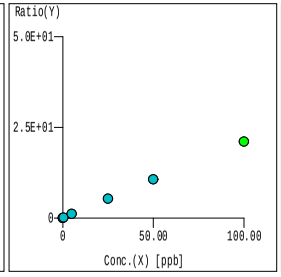



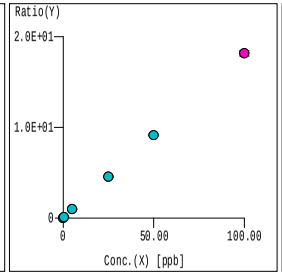



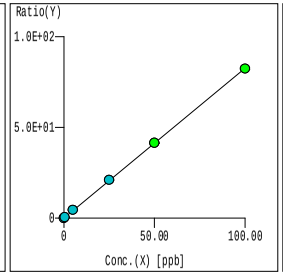



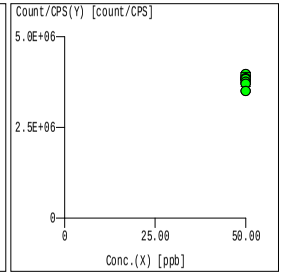

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 4.126E-02 ppb | --- ppb | --- ppb | 9.038E-02 ppb | --- ppb |
| < BEC > | 5.661E-02 ppb | --- ppb | --- ppb | 5.076E-02 ppb | --- ppb |



Prep QC: MP20828

ACCUTEST

| Date: | 04/23/13 |
|---|---|
| Time | 17:40 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20828 |
| QC Sample ID: | MC19884-17F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35301-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MF21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20828-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20828-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20828-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-17F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC19884-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-4F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/25/13

**(Format edits must be done by dept. Manager)**

7.5.1 7

ACCUTEST

| Date: | 04/24/13 |
|---|---|
| Time | 16:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20836 |
| QC Sample ID: | MC20063-5F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35301-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35205-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20836-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20836-B1 | 50 | 50 | | | | 3 | 5 | | |
| 2 | MP20836-S1 | 50 | 50 | | | | 3 | 5 | | |
| 2 | MP20836-SD1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20836-MB2 | 50 | 50 | | | | 3 | 5 | | FB @ 04/22/13 |
| 2 | MP20836-S2 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC20061-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC20061-2F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC20061-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC20061-6F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC20061-9F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-10F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-12F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC20063-5F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-7F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-8F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-9F | 50 | 50 | | | | 3 | 5 | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/25/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 04/25/13 |
|---|---|
| Time | 15:50 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20844 |
| QC Sample ID: | MC20063-13F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35301-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35322-METALS |
| 0.5 | RGT-35218-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20844-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20844-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20844-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20844-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20844-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-14F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-15F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-16F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-17F | 50 | 50 | | | | 3 | 5 | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/26/13

**(Format edits must be done by dept. Manager)**

Prep QC: MP20853

ACCUTEST

| Date: | 04/26/13 |
|---|---|
| Time | 15:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20853 |
| QC Sample ID: | MC20199-2F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35312-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35322-METALS |
| 0.5 | RGT-35341-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20853-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20853-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-21F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC20199-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-4F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/29/13

**(Format edits must be done by dept. Manager)**

7.5.4

7

New England ACCUTEST LABORATORIES

04/29/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC20199

Sampling Date: 04/25/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **129**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC20199

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC20199-1F | 04/25/13 | 11:50 | SHSJ | 04/25/13 | AQ | Groundwater Filtered | GP-13-10-065 |
| MC20199-2F | 04/25/13 | 13:00 | SHSJ | 04/25/13 | AQ | Groundwater Filtered | GP-13-10-075 |
| MC20199-2FD | 04/25/13 | 13:00 | SHSJ | 04/25/13 | AQ | Water Dup/MSD | GP-13-10-075 |
| MC20199-2FS | 04/25/13 | 13:00 | SHSJ | 04/25/13 | AQ | Water Matrix Spike | GP-13-10-075 |
| MC20199-3F | 04/25/13 | 00:00 | SHSJ | 04/25/13 | AQ | Groundwater Filtered | DUP-042413A-F |
| MC20199-4F | 04/25/13 | 14:25 | SHSJ | 04/25/13 | AQ | Groundwater Filtered | GP-13-10-083 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC20199 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 4/29/2013 3:02:50 PM |

4 Sample(s) were collected on 04/25/2013 and were received at Accutest on 04/25/2013 properly preserved, at 0.5 Deg. C and intact. These Samples received an Accutest job number of MC20199. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP20853

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20199-2FMS, MC20199-2FMSD, MC20199-2FPS, MC20199-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20853-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC20199).

# Summary of Hits



**Job Number:** MC20199
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 04/25/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC20199-1F** | **GP-13-10-065** | | | | | |
| Arsenic | | 3.9 | 1.0 | | ug/l | SW846 6020A |
| **MC20199-2F** | **GP-13-10-075** | | | | | |
| Arsenic | | 3.0 | 1.0 | | ug/l | SW846 6020A |
| **MC20199-3F** | **DUP-042413A-F** | | | | | |
| Arsenic | | 2.9 | 1.0 | | ug/l | SW846 6020A |
| **MC20199-4F** | **GP-13-10-083** | | | | | |
| Arsenic | | 5.8 | 1.0 | | ug/l | SW846 6020A |

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-065 | | |
| **Lab Sample ID:** | MC20199-1F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.9 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-075 | | |
| **Lab Sample ID:** | MC20199-2F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.0 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-042413A-F | | |
| **Lab Sample ID:** | MC20199-3F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.9 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | GP-13-10-083 | | |
| **Lab Sample ID:** | MC20199-4F | **Date Sampled:** | 04/25/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 04/25/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 5.8 | 1.0 | ug/l | 2 | 04/26/13 | 04/27/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15509
(2) Prep QC Batch: MP20853

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC20199

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): CMH SSR Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - OI; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | GP-13-10-015 | 1 : A | 4-25-13 | 1150 | SSR | GW | 1 | | | X | | | | | | X | |
| -2SD | GP-13-10-075 | 1 : A | 4-25-13 | 1300 | CMH | GW | 3 | | | X | | | | | | X | MS/MSD |
| -3F | DUP-042413A-E | 1 : A | 4-25-13 | — | CMH | GW | 1 | | | X | | | | | | X | |
| -4F | GP-13-10-053 | 1 : A | 4-25-13 | 1425 | CMH | GW | 1 | | | X | | | | | | X | |
| | | | | | | | | | | | | | | | | | 5C |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements.
As sample were field filtered.
48 hr TAT
RUSH!
SDG # 5 - Closed
Custody Seal # 042413-1 042413-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 4-25-13 1530 | 1 | 2 | 16:00 4/25/13 | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 0.2 °C

## MC20199: Chain of Custody
## Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC20199 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 4/25/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL-DEVENS / SDG#5 **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

**MC20199: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20199

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20199-1F | Collected: 25-APR-13 11:50 By: SHSJ GP-13-10-065 | | | Received: 25-APR-13 | By: | |
| MC20199-1S | SW846 6020A | 27-APR-13 16:20 | PY | 26-APR-13 | DA | ASMS |
| MC20199-2F | Collected: 25-APR-13 13:00 By: SHSJ GP-13-10-075 | | | Received: 25-APR-13 | By: | |
| MC20199-2S | SW846 6020A | 27-APR-13 15:45 | PY | 26-APR-13 | DA | ASMS |
| MC20199-3F | Collected: 25-APR-13 00:00 By: SHSJ DUP-042413A-F | | | Received: 25-APR-13 | By: | |
| MC20199-3S | SW846 6020A | 27-APR-13 16:27 | PY | 26-APR-13 | DA | ASMS |
| MC20199-4F | Collected: 25-APR-13 14:25 By: SHSJ GP-13-10-083 | | | Received: 25-APR-13 | By: | |
| MC20199-4S | SW846 6020A | 27-APR-13 16:34 | PY | 26-APR-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC20199
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 04/25/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC20199-1F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20199-1F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20199-2F.3 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20199-2F.3 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20199-3F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20199-3F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |
| MC20199-4F.1 | Walk In Ref #5 | Dorina Antonovici | 04/26/13 13:18 | Retrieve from Storage |
| MC20199-4F.1 | Dorina Antonovici | Walk In Ref #5 | 04/26/13 16:42 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:38 | MA15509-STD1 | 1 | | STDA |
| 12:45 | MA15509-STD2 | 1 | | STDB |
| 12:52 | MA15509-STD3 | 1 | | STDC |
| 12:59 | MA15509-STD4 | 1 | | STDD |
| 13:07 | MA15509-STD5 | 1 | | STDE |
| 13:14 | MA15509-STD6 | 1 | | STDF |
| 13:21 | MA15509-STD7 | 1 | | STDG |
| 13:28 | MA15509-STD8 | 1 | | STDH |
| 13:35 | MA15509-ICV1 | 1 | | |
| 13:41 | MA15509-ICB1 | 1 | | |
| 13:49 | MA15509-CCV1 | 1 | | |
| 13:55 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCB. |
| 14:04 | MA15509-CCB1 | 1 | | |
| 14:12 | MA15509-CRI1 | 1 | | |
| 14:19 | MA15509-ICSA1 | 1 | | NA SATURATED, SEE RERUN @ 1:2. |
| 14:26 | MA15509-ICSAB1 | 1 | | NA AND K SATURATED, SEE RERUN @ 1:2. |
| 14:33 | ZZZZZZ | 2 | | DNR: WRONG DILUTION, SEE RERUN. |
| 14:54 | MA15509-ICSA2 | 2 | | |
| 15:02 | MA15509-ICSAB2 | 2 | | |
| 15:09 | ZZZZZZ | 1 | | RINSECONF |
| 15:16 | MA15509-CCV2 | 1 | | |
| 15:23 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCB. |
| 15:30 | MA15509-CCB2 | 1 | | |
| 15:38 | MP20853-MB1 | 2 | | |
| 15:45 | MC20199-2F | 2 | | |
| 15:52 | ZZZZZZ | 2 | | |
| 15:59 | ZZZZZZ | 2 | | |
| 16:06 | ZZZZZZ | 2 | | |
| 16:13 | ZZZZZZ | 2 | | |
| 16:20 | MC20199-1F | 2 | | |
| 16:27 | MC20199-3F | 2 | | |
| 16:34 | MC20199-4F | 2 | | |
| 16:42 | MP20853-B1 | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:49 | MA15509-CCV3 | 1 | | |
| 17:04 | MA15509-CCB3 | 1 | | |
| 17:11 | MP20853-S1 | 20 | | |
| 17:18 | MP20853-S2 | 20 | | |
| 17:25 | MP20853-PS1 | 2 | | |
| 17:32 | MP20853-SD1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC20199 | | | |
| 17:39 | MA15509-CRI2 | 1 | | |
| 17:46 | MA15509-CCV4 | 1 | | |
| 17:59 | MA15509-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC20199 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 12:38 | MA15509-STD1 | 1927370 R | 4239129 R | 400302 R | 959644 R | 174244 R | 5379893 R | 5735998 R | 1381769 R |
| 12:45 | MA15509-STD2 | 1967495 | 4278014 | 403167 | 979828 | 180184 | 5423624 | 5759538 | 1414337 |
| 12:52 | MA15509-STD3 | 1890395 | 4057452 | 401491 | 1018959 | 196861 | 5120220 | 5480291 | 1405129 |
| 12:59 | MA15509-STD4 | 1952304 | 4191559 | 398549 | 993417 | 183200 | 5323912 | 5655571 | 1372753 |
| 13:07 | MA15509-STD5 | 1901249 | 4131824 | 395343 | 931633 | 170759 | 5263255 | 5608166 | 1367195 |
| 13:14 | MA15509-STD6 | 1855209 | 4144079 | 393466 | 926696 | 169837 | 5244192 | 5552102 | 1363965 |
| 13:21 | MA15509-STD7 | 1839668 | 4150085 | 404358 | 949787 | 174030 | 5222863 | 5571874 | 1365045 |
| 13:28 | MA15509-STD8 | 1819870 | 4169729 | 404009 | 945603 | 174076 | 4983276 | 5362734 | 1322698 |
| 13:35 | MA15509-ICV1 | 1879883 | 4261395 | 403352 | 944035 | 173088 | 5178639 | 5546173 | 1346531 |
| 13:41 | MA15509-ICB1 | 1883620 | 4209937 | 404714 | 953439 | 175116 | 5308065 | 5681136 | 1389193 |
| 13:49 | MA15509-CCV1 | 1775234 | 4103348 | 398728 | 911385 | 171369 | 5018135 | 5339344 | 1313087 |
| 13:55 | ZZZZZZ | 1793323 | 4147727 | 407785 | 944667 | 176732 | 5206351 | 5551611 | 1360493 |
| 14:04 | MA15509-CCB1 | 1828848 | 4189701 | 409344 | 945028 | 176498 | 5288605 | 5616076 | 1377362 |
| 14:12 | MA15509-CRI1 | 1830689 | 4252286 | 409290 | 951344 | 176681 | 5289581 | 5649349 | 1395463 |
| 14:19 | MA15509-ICSA1 | 1703768 | 3978115 | 385031 | 912402 | 165634 | 4522086 | 4977352 | 1256879 |
| 14:26 | MA15509-ICSAB1 | 1691416 | 4085038 | 396138 | 938176 | 169747 | 4673046 | 5163370 | 1228531 |
| 14:33 | ZZZZZZ | 1705663 | 4010543 | 385118 | 913876 | 166125 | 4596807 | 5107256 | 1241119 |
| 14:54 | MA15509-ICSA2 | 1796843 | 4147556 | 400428 | 947812 | 174229 | 4841002 | 5284345 | 1307042 |
| 15:02 | MA15509-ICSAB2 | 1824329 | 4171436 | 399914 | 942917 | 172923 | 4844566 | 5342662 | 1303217 |
| 15:09 | ZZZZZZ | 1835887 | 4210026 | 404551 | 948482 | 177924 | 5348184 | 5665596 | 1423429 |
| 15:16 | MA15509-CCV2 | 1731980 | 4209977 | 399733 | 933274 | 174338 | 5154339 | 5547700 | 1372106 |
| 15:23 | ZZZZZZ | 1747028 | 4128438 | 400928 | 933957 | 175958 | 5249530 | 5604335 | 1400467 |
| 15:30 | MA15509-CCB2 | 1730117 | 4264107 | 406116 | 955785 | 178543 | 5401160 | 5731770 | 1407578 |
| 15:38 | MP20853-MB1 | 1633726 | 4114597 | 400604 | 933940 | 176288 | 5233276 | 5549933 | 1399835 |
| 15:45 | MC20199-2F | 1488652 | 4079037 | 397877 | 926402 | 174858 | 4833875 | 5310575 | 1327400 |
| 15:52 | ZZZZZZ | 1501495 | 4107295 | 400777 | 943854 | 178381 | 4969515 | 5449785 | 1348995 |
| 15:59 | ZZZZZZ | 1481931 | 4123807 | 404294 | 943622 | 178673 | 4981229 | 5443729 | 1351997 |
| 16:06 | ZZZZZZ | 1484735 | 4062311 | 396784 | 943215 | 177296 | 4842362 | 5290920 | 1318831 |
| 16:13 | ZZZZZZ | 1496323 | 4087079 | 405121 | 936262 | 176382 | 5187162 | 5509061 | 1388500 |
| 16:20 | MC20199-1F | 1477222 | 4132940 | 406436 | 943644 | 177310 | 4941820 | 5412814 | 1337759 |
| 16:27 | MC20199-3F | 1523760 | 4096017 | 400768 | 934298 | 175342 | 4876475 | 5352196 | 1323001 |
| 16:34 | MC20199-4F | 1554379 | 4196433 | 400149 | 944993 | 176162 | 4935368 | 5420638 | 1326303 |
| 16:42 | MP20853-B1 | 1835080 | 4322392 | 412112 | 959034 | 179668 | 5424580 | 5865840 | 1448642 |

INTERNAL STANDARD SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 16:49 | MA15509-CCV3 | 1729110 | 4181901 | 398781 | 920359 | 173680 | 5110842 | 5541580 | 1388262 |
| 17:04 | MA15509-CCB3 | 1751590 | 4117620 | 402508 | 931298 | 176823 | 5188040 | 5589810 | 1407747 |
| 17:11 | MP20853-S1 | 1795627 | 4152081 | 402632 | 927899 | 175359 | 5138432 | 5547960 | 1387425 |
| 17:18 | MP20853-S2 | 1816752 | 4173648 | 404619 | 928662 | 176542 | 5117775 | 5624428 | 1406791 |
| 17:25 | MP20853-PS1 | 1550265 | 4044739 | 400116 | 909045 | 174253 | 4810173 | 5304470 | 1334170 |
| 17:32 | MP20853-SD1 | 1728646 | 4208253 | 418961 | 957193 | 182001 | 5204841 | 5664421 | 1426333 |
| 17:39 | MA15509-CRI2 | 1778361 | 4258584 | 413249 | 945595 | 179495 | 5321973 | 5767027 | 1438668 |
| 17:46 | MA15509-CCV4 | 1730559 | 4193400 | 410033 | 929213 | 177469 | 5101843 | 5540211 | 1403066 |
| 17:59 | MA15509-CCB4 | 1792370 | 4261190 | 417839 | 951236 | 181472 | 5334913 | 5737080 | 1452429 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 12:38 | MA15509-STD1 | 7108936 R | 3907325 R |
| 12:45 | MA15509-STD2 | 7237381 | 3969833 |
| 12:52 | MA15509-STD3 | 6863655 | 3828339 |
| 12:59 | MA15509-STD4 | 7124923 | 3855757 |
| 13:07 | MA15509-STD5 | 6985521 | 3829350 |
| 13:14 | MA15509-STD6 | 6920750 | 3753930 |
| 13:21 | MA15509-STD7 | 6891352 | 3701562 |
| 13:28 | MA15509-STD8 | 6774618 | 3502934 |
| 13:35 | MA15509-ICV1 | 7047358 | 3724317 |
| 13:41 | MA15509-ICB1 | 7039133 | 3843040 |
| 13:49 | MA15509-CCV1 | 6735869 | 3537947 |
| 13:55 | ZZZZZZ | 6829615 | 3673446 |
| 14:04 | MA15509-CCB1 | 6929399 | 3714681 |
| 14:12 | MA15509-CRI1 | 6952469 | 3751214 |
| 14:19 | MA15509-ICSA1 | 6520755 | 3228198 |
| 14:26 | MA15509-ICSAB1 | 6834979 | 3342229 |
| 14:33 | ZZZZZZ | 6708938 | 3350700 |
| 14:54 | MA15509-ICSA2 | 6928879 | 3487873 |
| 15:02 | MA15509-ICSAB2 | 6995959 | 3567932 |
| 15:09 | ZZZZZZ | 7065564 | 3877501 |
| 15:16 | MA15509-CCV2 | 6997249 | 3708888 |
| 15:23 | ZZZZZZ | 6953441 | 3812090 |
| 15:30 | MA15509-CCB2 | 7117318 | 3850085 |
| 15:38 | MP20853-MB1 | 7005894 | 3822888 |
| 15:45 | MC20199-2F | 6890809 | 3545862 |
| 15:52 | ZZZZZZ | 6987825 | 3651753 |
| 15:59 | ZZZZZZ | 6932579 | 3570263 |
| 16:06 | ZZZZZZ | 6824004 | 3477907 |
| 16:13 | ZZZZZZ | 6966536 | 3696278 |
| 16:20 | MC20199-1F | 6850190 | 3497287 |
| 16:27 | MC20199-3F | 6925802 | 3511132 |
| 16:34 | MC20199-4F | 6986963 | 3549704 |
| 16:42 | MP20853-B1 | 7256246 | 3935434 |

INTERNAL STANDARD SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15509
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 16:49 | MA15509-CCV3 | 7076012 | 3791396 |
| 17:04 | MA15509-CCB3 | 6933790 | 3805867 |
| 17:11 | MP20853-S1 | 6976595 | 3750998 |
| 17:18 | MP20853-S2 | 7016607 | 3792382 |
| 17:25 | MP20853-PS1 | 6811380 | 3540324 |
| 17:32 | MP20853-SD1 | 7045846 | 3816678 |
| 17:39 | MA15509-CRI2 | 7106074 | 3931792 |
| 17:46 | MA15509-CCV4 | 7029047 | 3727313 |
| 17:59 | MA15509-CCB4 | 7161356 | 3924099 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15509  Units: ug/l

| Time: / Sample ID: | | | | 13:41 ICB1 | | 14:04 CCB1 | | 15:30 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.10 | <0.50 | -0.089 | <0.50 | -0.0075 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15509  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 17:04 CCB3 raw | final | 17:59 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.054 | <0.50 | -0.12 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | 13:35 | | | 13:49 | | | 15:16 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.5 | 99.2 | 50 | 50.4 | 100.8 | 50 | 50.0 | 100.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | 16:49 | | | 17:46 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 49.6 | 99.2 | 50 | 49.3 | 98.6 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | | 14:12 | | 17:39 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.42 | 84.0 | 0.43 | 86.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA042713W1L.AGF  Date Analyzed: 04/27/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15509  Units: ug/l

| Time: | | | 14:19 | | 14:26 | | 14:54 | | 15:02 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95700 | 95.7 | 95300 | 95.3 | | | | |
| Antimony | | | 0.27* | | 0.28* | | | | | |
| Arsenic | | 20 | | | | | -0.040 | | 20.3 | 101.5 |
| Barium | | | 0.19 | | 0.17 | | | | | |
| Beryllium | | | -0.083 | | -0.086 | | | | | |
| Boron | | | 0.14 | | 0.15 | | | | | |
| Cadmium | | 20 | 0.95* | | 20.8 | 104.0 | | | | |
| Calcium | 100000 | 100000 | 96700 | 96.7 | 96600 | 96.6 | | | | |
| Chromium | | 20 | 1.1* | | 20.1 | 100.5 | | | | |
| Cobalt | | 20 | 0.040 | | 18.8 | 94.0 | | | | |
| Copper | | 20 | 0.20 | | 17.4 | 87.0 | | | | |
| Iron | 100000 | 100000 | 96500 | 96.5 | 97300 | 97.3 | | | | |
| Lead | | | 0.12 | | 0.10 | | | | | |
| Magnesium | 100000 | 100000 | 96800 | 96.8 | 96100 | 96.1 | | | | |
| Manganese | | 20 | 0.17 | | 19.1 | 95.5 | | | | |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2090 | 104.5 | | | | |
| Nickel | | 20 | 0.67* | | 18.5 | 92.5 | | | | |
| Potassium | 100000 | 100000 | | | | | 100000 | 100.0 | 102000 | 102.0 |
| Selenium | | | 1.2* | | 4.9* | | | | | |
| Silver | | 20 | 0.040 | | 20.0 | 100.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 99400 | 99.4 | 101000 | 101.0 |
| Strontium | | | 5.1* | | 5.1* | | | | | |
| Thallium | | | 0.0013 | | -0.0032 | | | | | |
| Tin | | | 0.090 | | 0.097 | | | | | |
| Titanium | 2000 | 2000 | 1960 | 98.0 | 1970 | 98.5 | | | | |
| Vanadium | | | 0.032 | | 0.093 | | | | | |
| Zinc | | 20 | 2.0* | | 19.9 | 99.5 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.17 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 3.0 | 525 | 500 | 104.4 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 3.0 | 520 | 500 | 103.4 | 1.0 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 04/26/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 515 | 500 | 103.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | MC20199-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 3.02 | 1.75 | 42.1 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20199
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20853 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 04/26/13

| Metal | Sample ml | Final ml | MC20199-2F Raw | MC20199-2F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 3.015 | 2.5125 | 18.78 | 2 | .1 | 16.66667 | 97.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20853: MC20199-1F, MC20199-2F, MC20199-3F, MC20199-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13D27m01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\001CAL
Date Acquired: Apr 27 2013 12:31 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1925043.00 | A | 12620.00 | 0.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 51.11 | P | 13.88 | 27.16 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 714.49 | P | 8.39 | 1.17 |
| 11 | B | 23.33 | P | 17.32 | 74.23 |
| 23 | Na | 824817.31 | P | 12660.00 | 1.53 |
| 23 | Na | 96223.71 | P | 322.10 | 0.33 |
| 24 | Mg | 13493.74 | P | 1256.00 | 9.31 |
| 24 | Mg | 653.37 | P | 75.36 | 11.53 |
| 27 | Al | 77469.00 | P | 2650.00 | 3.42 |
| 27 | Al | 1700.22 | P | 171.80 | 10.11 |
| 39 | K | 4288216.00 | A | 31830.00 | 0.74 |
| 44 | Ca | 58217.12 | P | 1502.00 | 2.58 |
| 45 | Sc | 4200960.00 | A | 29110.00 | 0.69 |
| 45 | Sc | 397968.81 | P | 1760.00 | 0.44 |
| 47 | Ti | 341.14 | P | 22.19 | 6.50 |
| 51 | V | 3102.58 | P | 36.21 | 1.17 |
| 52 | Cr | 1083.61 | P | 45.13 | 4.16 |
| 55 | Mn | 3185.72 | P | 32.75 | 1.03 |
| 56 | Fe | 78208.18 | P | 944.10 | 1.21 |
| 59 | Co | 62.67 | P | 12.72 | 20.30 |
| 60 | Ni | 278.23 | P | 12.60 | 4.53 |
| 63 | Cu | 1921.93 | P | 42.72 | 2.22 |
| 66 | Zn | 141.11 | P | 12.76 | 9.04 |
| 72 | Ge | 949430.13 | P | 8511.00 | 0.90 |
| 72 | Ge | 172779.70 | P | 924.30 | 0.53 |
| 75 | As | 124.00 | P | 3.71 | 2.99 |
| 78 | Se | 146.89 | P | 1.68 | 1.14 |
| 88 | Sr | 764.49 | P | 56.80 | 7.43 |
| 98 | Mo | 411.13 | P | 39.49 | 9.61 |
| 103 | Rh | 5380882.00 | A | 69630.00 | 1.29 |
| 107 | Ag | 316.68 | P | 39.30 | 12.41 |

C:\ICPCHEM\1\DATA\13D27m01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 5673397.00 | A | 61890.00 | 1.09 |
| 115 | In | 1386652.00 | A | 2629.00 | 0.19 |
| 118 | (In) | 467.80 | P | 44.01 | 9.41 |
| 118 | (In) | 132.23 | P | 10.18 | 7.70 |
| 120 | Sn | 646.70 | P | 31.80 | 4.92 |
| 121 | Sb | 178.90 | P | 15.03 | 8.40 |
| 137 | Ba | 1013.41 | P | 72.65 | 7.17 |
| 159 | Tb | 7140793.00 | A | 41130.00 | 0.58 |
| 175 | Lu | 6586531.00 | A | 122200.00 | 1.86 |
| 205 | Tl | 2811.49 | P | 60.51 | 2.15 |
| 206 | (Pb) | 236.68 | P | 32.83 | 13.87 |
| 207 | (Pb) | 234.46 | P | 7.70 | 3.28 |
| 208 | Pb | 1330.08 | P | 49.11 | 3.69 |
| 209 | Bi | 3886432.00 | A | 17730.00 | 0.46 |

C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\002CAL
Date Acquired: Apr 27 2013 12:38 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1927370.00 | A | 39690.00 | 2.06 |
| 7 | (Li) | | P | | |
| 9 | Be | 738.95 | P | 670.10 | 90.68 |
| 9 | Be | 187.79 | P | 276.40 | 147.19 |
| 11 | B | 1457.92 | P | 615.20 | 42.20 |
| 11 | B | 183.34 | P | 251.60 | 137.23 |
| 23 | Na | 814238.31 | P | 10390.00 | 1.28 |
| 23 | Na | 96345.92 | P | 1424.00 | 1.48 |
| 24 | Mg | 13201.15 | P | 497.50 | 3.77 |
| 24 | Mg | 891.20 | P | 234.10 | 26.27 |
| 27 | Al | 73810.34 | P | 2282.00 | 3.09 |
| 27 | Al | 1804.67 | P | 350.00 | 19.39 |
| 39 | K | 4347264.00 | A | 20010.00 | 0.46 |
| 44 | Ca | 58396.52 | P | 594.30 | 1.02 |
| 45 | Sc | 4239129.00 | A | 12990.00 | 0.31 |
| 45 | Sc | 400302.31 | P | 311.50 | 0.08 |
| 47 | Ti | 1049.00 | P | 796.40 | 75.92 |
| 51 | V | 3298.18 | P | 242.60 | 7.36 |
| 52 | Cr | 1203.62 | P | 230.50 | 19.15 |
| 55 | Mn | 3396.00 | P | 210.70 | 6.20 |
| 56 | Fe | 79247.27 | P | 456.70 | 0.58 |
| 59 | Co | 271.12 | P | 299.00 | 110.28 |
| 60 | Ni | 478.24 | P | 267.20 | 55.87 |
| 63 | Cu | 2087.28 | P | 236.70 | 11.34 |
| 66 | Zn | 318.23 | P | 241.20 | 75.79 |
| 72 | Ge | 959644.38 | P | 4794.00 | 0.50 |
| 72 | Ge | 174243.91 | P | 980.10 | 0.56 |
| 75 | As | 300.01 | P | 274.30 | 91.43 |
| 78 | Se | 322.45 | P | 236.50 | 73.34 |
| 88 | Sr | 1485.72 | P | 793.90 | 53.44 |
| 98 | Mo | 892.31 | P | 607.30 | 68.06 |
| 103 | Rh | 5379893.00 | A | 24110.00 | 0.45 |
| 107 | Ag | 916.76 | P | 705.70 | 76.98 |

C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 196.68 | P | 252.40 | 128.33 |
| 115 | In | 5735998.00 | A | 45850.00 | 0.80 |
| 115 | In | 1381769.00 | A | 17760.00 | 1.29 |
| 118 | (In) | 1161.22 | P | 719.10 | 61.93 |
| 118 | (In) | 374.47 | P | 299.10 | 79.87 |
| 120 | Sn | 1292.35 | P | 697.80 | 54.00 |
| 121 | Sb | 848.97 | P | 631.70 | 74.41 |
| 137 | Ba | 1671.30 | P | 794.00 | 47.51 |
| 159 | Tb | 7108936.00 | A | 63900.00 | 0.90 |
| 175 | Lu | 6644012.00 | A | 22380.00 | 0.34 |
| 205 | Tl | 2694.83 | P | 658.30 | 24.43 |
| 206 | (Pb) | 864.52 | P | 603.50 | 69.81 |
| 207 | (Pb) | 846.76 | P | 675.00 | 79.72 |
| 208 | Pb | 3274.79 | P | 1951.00 | 59.58 |
| 209 | Bi | 3907325.00 | A | 15920.00 | 0.41 |

C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#
Date Acquired: Apr 27 2013 12:45 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1967495.00 | A | 27450.00 | 1.40 |
| 7 | (Li) | | P | | |
| 9 | Be | 3971.74 | P | 207.00 | 5.21 |
| 9 | Be | 168.90 | P | 11.71 | 6.93 |
| 11 | B | 3353.81 | P | 47.04 | 1.40 |
| 11 | B | 68.89 | P | 5.09 | 7.39 |
| 23 | Na | 847802.13 | P | 9418.00 | 1.11 |
| 23 | Na | 98134.07 | P | 922.70 | 0.94 |
| 24 | Mg | 28289.40 | P | 1484.00 | 5.25 |
| 24 | Mg | 1352.33 | P | 57.97 | 4.29 |
| 27 | Al | 93602.40 | P | 2746.00 | 2.93 |
| 27 | Al | 2012.58 | P | 195.90 | 9.73 |
| 39 | K | 4356544.00 | A | 14710.00 | 0.34 |
| 44 | Ca | 58716.53 | P | 878.40 | 1.50 |
| 45 | Sc | 4278014.00 | A | 39460.00 | 0.92 |
| 45 | Sc | 403166.91 | P | 1781.00 | 0.44 |
| 47 | Ti | 2372.49 | P | 34.06 | 1.44 |
| 51 | V | 8522.45 | P | 193.60 | 2.27 |
| 52 | Cr | 7155.52 | P | 160.10 | 2.24 |
| 55 | Mn | 7414.84 | P | 234.60 | 3.16 |
| 56 | Fe | 82212.11 | P | 1720.00 | 2.09 |
| 59 | Co | 8937.38 | P | 35.36 | 0.40 |
| 60 | Ni | 2521.58 | P | 46.71 | 1.85 |
| 63 | Cu | 7861.23 | P | 122.90 | 1.56 |
| 66 | Zn | 1209.17 | P | 18.79 | 1.55 |
| 72 | Ge | 979828.38 | P | 1103.00 | 0.11 |
| 72 | Ge | 180183.70 | P | 1292.00 | 0.72 |
| 75 | As | 855.14 | P | 36.88 | 4.31 |
| 78 | Se | 224.89 | P | 26.84 | 11.94 |
| 88 | Sr | 38024.72 | P | 373.40 | 0.98 |
| 98 | Mo | 10663.08 | P | 145.10 | 1.36 |
| 103 | Rh | 5423624.00 | A | 43230.00 | 0.80 |
| 107 | Ag | 16938.01 | P | 163.90 | 0.97 |

C:\ICPCHEM\1\DATA\13D27m01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1298.99 | P | 22.20 | 1.71 |
| 115 | In | 5759538.00 | A | 18050.00 | 0.31 |
| 115 | In | 1414337.00 | A | 11900.00 | 0.84 |
| 118 | (In) | 11043.50 | P | 147.40 | 1.33 |
| 118 | (In) | 3173.80 | P | 108.10 | 3.41 |
| 120 | Sn | 15556.56 | P | 315.50 | 2.03 |
| 121 | Sb | 14019.39 | P | 142.30 | 1.02 |
| 137 | Ba | 6041.48 | P | 236.80 | 3.92 |
| 159 | Tb | 7237381.00 | A | 65300.00 | 0.90 |
| 175 | Lu | 6711020.00 | A | 34510.00 | 0.51 |
| 205 | Tl | 22299.76 | P | 186.60 | 0.84 |
| 206 | (Pb) | 9077.72 | P | 109.40 | 1.21 |
| 207 | (Pb) | 7664.61 | P | 301.90 | 3.94 |
| 208 | Pb | 36157.72 | P | 468.40 | 1.30 |
| 209 | Bi | 3969833.00 | A | 47110.00 | 1.19 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1967494.80 | 1.40 | 1927370.10 | 102.1 | 70 - 130 | |
| 45 | Sc | 4278013.50 | 0.92 | 4239128.50 | 100.9 | 70 - 130 | |
| 45 | Sc | 403166.97 | 0.44 | 400302.28 | 100.7 | 70 - 130 | |
| 72 | Ge | 979828.44 | 0.11 | 959644.38 | 102.1 | 70 - 130 | |
| 72 | Ge | 180183.73 | 0.72 | 174243.94 | 103.4 | 70 - 130 | |
| 103 | Rh | 5423623.50 | 0.80 | 5379893.00 | 100.8 | 70 - 130 | |
| 115 | In | 5759538.00 | 0.31 | 5735998.00 | 100.4 | 70 - 130 | |
| 115 | In | 1414337.00 | 0.84 | 1381769.00 | 102.4 | 70 - 130 | |
| 159 | Tb | 7237380.50 | 0.90 | 7108935.50 | 101.8 | 70 - 130 | |
| 175 | Lu | 6711020.50 | 0.51 | 6644012.50 | 101.0 | 70 - 130 | |
| 209 | Bi | 3969832.80 | 1.19 | 3907325.00 | 101.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#
Date Acquired: Apr 27 2013 12:52 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1890395.00 | A | 95150.00 | 5.03 |
| 7 | (Li) | | P | | |
| 9 | Be | 38692.50 | P | 28.44 | 0.07 |
| 9 | Be | 1472.34 | P | 27.76 | 1.89 |
| 11 | B | 26880.30 | P | 584.10 | 2.17 |
| 11 | B | 593.37 | P | 43.33 | 7.30 |
| 23 | Na | 1060102.00 | A | 5872.00 | 0.55 |
| 23 | Na | 109931.00 | P | 187.20 | 0.17 |
| 24 | Mg | 164065.41 | P | 675.40 | 0.41 |
| 24 | Mg | 7928.93 | P | 109.70 | 1.38 |
| 27 | Al | 270037.69 | P | 2619.00 | 0.97 |
| 27 | Al | 5908.05 | P | 346.20 | 5.86 |
| 39 | K | 4546772.00 | A | 17380.00 | 0.38 |
| 44 | Ca | 71086.97 | P | 1830.00 | 2.57 |
| 45 | Sc | 4057452.00 | A | 176500.00 | 4.35 |
| 45 | Sc | 401490.69 | P | 1990.00 | 0.50 |
| 47 | Ti | 20666.70 | P | 480.20 | 2.32 |
| 51 | V | 56273.46 | P | 329.00 | 0.58 |
| 52 | Cr | 61628.49 | P | 168.80 | 0.27 |
| 55 | Mn | 45920.07 | P | 115.80 | 0.25 |
| 56 | Fe | 132051.30 | P | 193.70 | 0.15 |
| 59 | Co | 88531.73 | P | 455.40 | 0.51 |
| 60 | Ni | 23042.82 | P | 234.90 | 1.02 |
| 63 | Cu | 61228.01 | P | 65.76 | 0.11 |
| 66 | Zn | 10799.20 | P | 22.56 | 0.21 |
| 72 | Ge | 1018959.00 | P | 47250.00 | 4.64 |
| 72 | Ge | 196860.59 | P | 1277.00 | 0.65 |
| 75 | As | 7221.09 | P | 115.30 | 1.60 |
| 78 | Se | 882.92 | P | 41.13 | 4.66 |
| 88 | Sr | 377473.59 | P | 2638.00 | 0.70 |
| 98 | Mo | 104953.10 | P | 392.10 | 0.37 |
| 103 | Rh | 5120220.00 | A | 302600.00 | 5.91 |
| 107 | Ag | 171458.00 | P | 1648.00 | 0.96 |

C:\ICPCHEM\1\DATA\13D27m01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12445.69 | P | 37.13 | 0.30 |
| 115 | In | 5480291.00 | A | 327900.00 | 5.98 |
| 115 | In | 1405129.00 | A | 7367.00 | 0.52 |
| 118 | (In) | 107344.50 | P | 2283.00 | 2.13 |
| 118 | (In) | 29501.57 | P | 375.70 | 1.27 |
| 120 | Sn | 146624.80 | P | 1554.00 | 1.06 |
| 121 | Sb | 133856.59 | P | 1381.00 | 1.03 |
| 137 | Ba | 52102.44 | P | 729.20 | 1.40 |
| 159 | Tb | 6863655.00 | A | 337000.00 | 4.91 |
| 175 | Lu | 6411727.00 | A | 261000.00 | 4.07 |
| 205 | Tl | 242033.20 | P | 2433.00 | 1.01 |
| 206 | (Pb) | 87134.55 | P | 1515.00 | 1.74 |
| 207 | (Pb) | 74481.27 | P | 902.60 | 1.21 |
| 208 | Pb | 343943.41 | P | 3698.00 | 1.08 |
| 209 | Bi | 3828339.00 | A | 193300.00 | 5.05 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1890394.50 | 5.03 | 1927370.10 | 98.1 | 70 - 130 | |
| 45 | Sc | 4057451.50 | 4.35 | 4239128.50 | 95.7 | 70 - 130 | |
| 45 | Sc | 401490.72 | 0.50 | 400302.28 | 100.3 | 70 - 130 | |
| 72 | Ge | 1018959.10 | 4.64 | 959644.38 | 106.2 | 70 - 130 | |
| 72 | Ge | 196860.61 | 0.65 | 174243.94 | 113.0 | 70 - 130 | |
| 103 | Rh | 5120220.50 | 5.91 | 5379893.00 | 95.2 | 70 - 130 | |
| 115 | In | 5480291.50 | 5.98 | 5735998.00 | 95.5 | 70 - 130 | |
| 115 | In | 1405128.90 | 0.52 | 1381769.00 | 101.7 | 70 - 130 | |
| 159 | Tb | 6863655.00 | 4.91 | 7108935.50 | 96.5 | 70 - 130 | |
| 175 | Lu | 6411726.50 | 4.07 | 6644012.50 | 96.5 | 70 - 130 | |
| 209 | Bi | 3828339.50 | 5.05 | 3907325.00 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#
Date Acquired: Apr 27 2013 12:59 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1952304.00 | A | 29760.00 | 1.52 |
| 7 | (Li) | | P | | |
| 9 | Be | 189299.91 | P | 1351.00 | 0.71 |
| 9 | Be | 10312.53 | P | 2485.00 | 24.10 |
| 11 | B | 126412.40 | P | 1559.00 | 1.23 |
| 11 | B | 5649.99 | P | 2798.00 | 49.52 |
| 23 | Na | 1920266.00 | A | 7134.00 | 0.37 |
| 23 | Na | 168244.30 | P | 2611.00 | 1.55 |
| 24 | Mg | 727611.63 | P | 8680.00 | 1.19 |
| 24 | Mg | 38763.16 | P | 2730.00 | 7.04 |
| 27 | Al | 982103.31 | A | 3148.00 | 0.32 |
| 27 | Al | 23945.00 | P | 3444.00 | 14.38 |
| 39 | K | 5401436.00 | A | 38380.00 | 0.71 |
| 44 | Ca | 105290.00 | P | 1585.00 | 1.51 |
| 45 | Sc | 4191559.00 | A | 5748.00 | 0.14 |
| 45 | Sc | 398548.50 | P | 3541.00 | 0.89 |
| 47 | Ti | 100680.30 | P | 599.80 | 0.60 |
| 51 | V | 263727.81 | P | 1681.00 | 0.64 |
| 52 | Cr | 298272.59 | P | 3635.00 | 1.22 |
| 55 | Mn | 213605.30 | P | 3752.00 | 1.76 |
| 56 | Fe | 338691.69 | P | 4370.00 | 1.29 |
| 59 | Co | 431739.50 | P | 6310.00 | 1.46 |
| 60 | Ni | 114473.60 | P | 4819.00 | 4.21 |
| 63 | Cu | 291154.81 | P | 5477.00 | 1.88 |
| 66 | Zn | 52924.94 | P | 4502.00 | 8.51 |
| 72 | Ge | 993416.63 | P | 9868.00 | 0.99 |
| 72 | Ge | 183199.70 | P | 4349.00 | 2.37 |
| 75 | As | 38860.23 | P | 5063.00 | 13.03 |
| 78 | Se | 6503.69 | P | 2709.00 | 41.65 |
| 88 | Sr | 1778760.00 | A | 15390.00 | 0.87 |
| 98 | Mo | 505698.81 | P | 1338.00 | 0.26 |
| 103 | Rh | 5323912.00 | A | 31170.00 | 0.59 |
| 107 | Ag | 815631.88 | P | 7434.00 | 0.91 |

C:\ICPCHEM\1\DATA\13D27m01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 62816.35 | P | 2913.00 | 4.64 |
| 115 | In | 5655571.00 | A | 32210.00 | 0.57 |
| 115 | In | 1372753.00 | A | 8618.00 | 0.63 |
| 118 | (In) | 512194.00 | P | 6198.00 | 1.21 |
| 118 | (In) | 144881.91 | P | 3354.00 | 2.32 |
| 120 | Sn | 707323.19 | P | 8281.00 | 1.17 |
| 121 | Sb | 638566.19 | P | 5603.00 | 0.88 |
| 137 | Ba | 244980.30 | P | 1572.00 | 0.64 |
| 159 | Tb | 7124923.00 | A | 39280.00 | 0.55 |
| 175 | Lu | 6584774.00 | A | 21210.00 | 0.32 |
| 205 | Tl | 1188719.00 | P | 10330.00 | 0.87 |
| 206 | (Pb) | 411186.59 | P | 1139.00 | 0.28 |
| 207 | (Pb) | 350490.41 | P | 2116.00 | 0.60 |
| 208 | Pb | 1623024.00 | P | 10200.00 | 0.63 |
| 209 | Bi | 3855757.00 | A | 42980.00 | 1.11 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1952304.40 | 1.52 | 1927370.10 | 101.3 | 70 - 130 | |
| 45 | Sc | 4191559.00 | 0.14 | 4239128.50 | 98.9 | 70 - 130 | |
| 45 | Sc | 398548.47 | 0.89 | 400302.28 | 99.6 | 70 - 130 | |
| 72 | Ge | 993416.63 | 0.99 | 959644.38 | 103.5 | 70 - 130 | |
| 72 | Ge | 183199.73 | 2.37 | 174243.94 | 105.1 | 70 - 130 | |
| 103 | Rh | 5323911.50 | 0.59 | 5379893.00 | 99.0 | 70 - 130 | |
| 115 | In | 5655570.50 | 0.57 | 5735998.00 | 98.6 | 70 - 130 | |
| 115 | In | 1372752.90 | 0.63 | 1381769.00 | 99.3 | 70 - 130 | |
| 159 | Tb | 7124923.00 | 0.55 | 7108935.50 | 100.2 | 70 - 130 | |
| 175 | Lu | 6584774.50 | 0.32 | 6644012.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 3855756.50 | 1.11 | 3907325.00 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#
Date Acquired: Apr 27 2013 01:07 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1901249.00 | A | 18110.00 | 0.95 |
| 7 | (Li) | | P | | |
| 9 | Be | 374701.41 | P | 1044.00 | 0.28 |
| 9 | Be | 15171.13 | P | 532.20 | 3.51 |
| 11 | B | 250176.80 | P | 3050.00 | 1.22 |
| 11 | B | 5799.05 | P | 125.20 | 2.16 |
| 23 | Na | 2862943.00 | A | 3706.00 | 0.13 |
| 23 | Na | 228080.59 | P | 417.00 | 0.18 |
| 24 | Mg | 1452291.00 | A | 5474.00 | 0.38 |
| 24 | Mg | 72002.19 | P | 887.40 | 1.23 |
| 27 | Al | 1879590.00 | A | 9167.00 | 0.49 |
| 27 | Al | 41080.04 | P | 243.80 | 0.59 |
| 39 | K | 6440315.00 | A | 18220.00 | 0.28 |
| 44 | Ca | 150514.41 | P | 771.40 | 0.51 |
| 45 | Sc | 4131824.00 | A | 6301.00 | 0.15 |
| 45 | Sc | 395343.00 | P | 1982.00 | 0.50 |
| 47 | Ti | 196805.59 | P | 1108.00 | 0.56 |
| 51 | V | 524331.00 | P | 1345.00 | 0.26 |
| 52 | Cr | 591601.50 | P | 1183.00 | 0.20 |
| 55 | Mn | 420187.00 | P | 2796.00 | 0.67 |
| 56 | Fe | 601309.88 | P | 2018.00 | 0.34 |
| 59 | Co | 860194.81 | P | 773.70 | 0.09 |
| 60 | Ni | 222049.91 | P | 485.80 | 0.22 |
| 63 | Cu | 573126.81 | P | 1508.00 | 0.26 |
| 66 | Zn | 98623.28 | P | 374.60 | 0.38 |
| 72 | Ge | 931632.81 | P | 2388.00 | 0.26 |
| 72 | Ge | 170759.41 | P | 580.20 | 0.34 |
| 75 | As | 69383.41 | P | 511.00 | 0.74 |
| 78 | Se | 7280.46 | P | 13.02 | 0.18 |
| 88 | Sr | 3484638.00 | A | 19520.00 | 0.56 |
| 98 | Mo | 1013682.00 | P | 3199.00 | 0.32 |
| 103 | Rh | 5263255.00 | A | 19580.00 | 0.37 |
| 107 | Ag | 1601327.00 | A | 4783.00 | 0.30 |

C:\ICPCHEM\1\DATA\13D27m01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 120676.10 | P | 770.50 | 0.64 |
| 115 | In | 5608166.00 | A | 21010.00 | 0.37 |
| 115 | In | 1367195.00 | A | 6554.00 | 0.48 |
| 118 | (In) | 1032019.00 | P | 3013.00 | 0.29 |
| 118 | (In) | 282961.00 | P | 1481.00 | 0.52 |
| 120 | Sn | 1390035.00 | A | 16090.00 | 1.16 |
| 121 | Sb | 1252366.00 | M | 26760.00 | 2.14 |
| 137 | Ba | 488210.31 | P | 1992.00 | 0.41 |
| 159 | Tb | 6985521.00 | A | 36920.00 | 0.53 |
| 175 | Lu | 6519414.00 | A | 14660.00 | 0.22 |
| 205 | Tl | 2365917.00 | A | 30220.00 | 1.28 |
| 206 | (Pb) | 816320.63 | P | 4314.00 | 0.53 |
| 207 | (Pb) | 699452.13 | P | 624.40 | 0.09 |
| 208 | Pb | 3174492.00 | A | 13650.00 | 0.43 |
| 209 | Bi | 3829350.00 | A | 15110.00 | 0.39 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1901248.80 | 0.95 | 1927370.10 | 98.6 | 70 - 130 | |
| 45 | Sc | 4131823.80 | 0.15 | 4239128.50 | 97.5 | 70 - 130 | |
| 45 | Sc | 395343.00 | 0.50 | 400302.28 | 98.8 | 70 - 130 | |
| 72 | Ge | 931632.81 | 0.26 | 959644.38 | 97.1 | 70 - 130 | |
| 72 | Ge | 170759.44 | 0.34 | 174243.94 | 98.0 | 70 - 130 | |
| 103 | Rh | 5263255.50 | 0.37 | 5379893.00 | 97.8 | 70 - 130 | |
| 115 | In | 5608165.50 | 0.37 | 5735998.00 | 97.8 | 70 - 130 | |
| 115 | In | 1367195.00 | 0.48 | 1381769.00 | 98.9 | 70 - 130 | |
| 159 | Tb | 6985521.50 | 0.53 | 7108935.50 | 98.3 | 70 - 130 | |
| 175 | Lu | 6519414.50 | 0.22 | 6644012.50 | 98.1 | 70 - 130 | |
| 209 | Bi | 3829349.50 | 0.39 | 3907325.00 | 98.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\007CALS.D\007CALS.D#
Date Acquired: Apr 27 2013 01:14 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1855209.00 | A | 35970.00 | 1.94 |
| 7 | (Li) | | P | | |
| 9 | Be | 744915.69 | P | 3674.00 | 0.49 |
| 9 | Be | 30403.19 | P | 173.60 | 0.57 |
| 11 | B | 492488.41 | P | 1227.00 | 0.25 |
| 11 | B | 11238.77 | P | 47.36 | 0.42 |
| 23 | Na | 4802807.00 | A | 15740.00 | 0.33 |
| 23 | Na | 355592.69 | P | 1740.00 | 0.49 |
| 24 | Mg | 2816116.00 | A | 9063.00 | 0.32 |
| 24 | Mg | 143677.20 | P | 916.20 | 0.64 |
| 27 | Al | 3608907.00 | A | 34220.00 | 0.95 |
| 27 | Al | 79863.84 | P | 367.90 | 0.46 |
| 39 | K | 8536062.00 | A | 47740.00 | 0.56 |
| 44 | Ca | 240796.00 | P | 224.00 | 0.09 |
| 45 | Sc | 4144079.00 | A | 34880.00 | 0.84 |
| 45 | Sc | 393466.19 | P | 2018.00 | 0.51 |
| 47 | Ti | 392252.81 | P | 3380.00 | 0.86 |
| 51 | V | 1043424.00 | P | 3130.00 | 0.30 |
| 52 | Cr | 1153406.00 | A | 9229.00 | 0.80 |
| 55 | Mn | 832161.13 | P | 1644.00 | 0.20 |
| 56 | Fe | 1098245.00 | M | 23450.00 | 2.14 |
| 59 | Co | 1658001.00 | A | 4511.00 | 0.27 |
| 60 | Ni | 441153.91 | P | 541.80 | 0.12 |
| 63 | Cu | 1133313.00 | P | 10280.00 | 0.91 |
| 66 | Zn | 195551.80 | P | 657.60 | 0.34 |
| 72 | Ge | 926696.19 | P | 8065.00 | 0.87 |
| 72 | Ge | 169837.20 | P | 960.30 | 0.57 |
| 75 | As | 137948.00 | P | 489.50 | 0.35 |
| 78 | Se | 14371.99 | P | 70.44 | 0.49 |
| 88 | Sr | 6841592.00 | A | 40610.00 | 0.59 |
| 98 | Mo | 2011939.00 | A | 10160.00 | 0.50 |
| 103 | Rh | 5244192.00 | A | 26160.00 | 0.50 |
| 107 | Ag | 3111913.00 | A | 8559.00 | 0.28 |

C:\ICPCHEM\1\DATA\13D27m01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 237801.09 | P | 1600.00 | 0.67 |
| 115 | In | 5552102.00 | A | 61230.00 | 1.10 |
| 115 | In | 1363965.00 | A | 13100.00 | 0.96 |
| 118 | (In) | 2008992.00 | A | 1937.00 | 0.10 |
| 118 | (In) | 560527.31 | P | 920.80 | 0.16 |
| 120 | Sn | 2719966.00 | A | 37640.00 | 1.38 |
| 121 | Sb | 2466791.00 | A | 4030.00 | 0.16 |
| 137 | Ba | 973943.13 | P | 8737.00 | 0.90 |
| 159 | Tb | 6920750.00 | A | 28290.00 | 0.41 |
| 175 | Lu | 6449406.00 | A | 17840.00 | 0.28 |
| 205 | Tl | 4556523.00 | A | 21060.00 | 0.46 |
| 206 | (Pb) | 1583691.00 | A | 30350.00 | 1.92 |
| 207 | (Pb) | 1364615.00 | M | 16870.00 | 1.24 |
| 208 | Pb | 6186271.00 | A | 82140.00 | 1.33 |
| 209 | Bi | 3753930.00 | A | 31070.00 | 0.83 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1855208.90 | 1.94 | 1927370.10 | 96.3 | 70 - 130 | |
| 45 | Sc | 4144079.00 | 0.84 | 4239128.50 | 97.8 | 70 - 130 | |
| 45 | Sc | 393466.22 | 0.51 | 400302.28 | 98.3 | 70 - 130 | |
| 72 | Ge | 926696.25 | 0.87 | 959644.38 | 96.6 | 70 - 130 | |
| 72 | Ge | 169837.17 | 0.57 | 174243.94 | 97.5 | 70 - 130 | |
| 103 | Rh | 5244192.00 | 0.50 | 5379893.00 | 97.5 | 70 - 130 | |
| 115 | In | 5552102.00 | 1.10 | 5735998.00 | 96.8 | 70 - 130 | |
| 115 | In | 1363965.00 | 0.96 | 1381769.00 | 98.7 | 70 - 130 | |
| 159 | Tb | 6920750.50 | 0.41 | 7108935.50 | 97.4 | 70 - 130 | |
| 175 | Lu | 6449406.00 | 0.28 | 6644012.50 | 97.1 | 70 - 130 | |
| 209 | Bi | 3753930.30 | 0.83 | 3907325.00 | 96.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#
Date Acquired: Apr 27 2013 01:21 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1839668.00 | A | 24470.00 | 1.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 191.12 | P | 55.91 | 29.25 |
| 9 | Be | 66.67 | P | 21.86 | 32.79 |
| 11 | B | 3906.18 | P | 136.10 | 3.48 |
| 11 | B | 158.89 | P | 32.89 | 20.70 |
| 23 | Na | 39298432.00 | A | 442000.00 | 1.12 |
| 23 | Na | 2486001.00 | A | 4160.00 | 0.17 |
| 24 | Mg | 26105760.00 | A | 167100.00 | 0.64 |
| 24 | Mg | 1341217.00 | A | 11690.00 | 0.87 |
| 27 | Al | 34097480.00 | A | 116800.00 | 0.34 |
| 27 | Al | 783069.00 | P | 1706.00 | 0.22 |
| 39 | K | 45433808.00 | A | 399000.00 | 0.88 |
| 44 | Ca | 1403643.00 | A | 2275.00 | 0.16 |
| 45 | Sc | 4150085.00 | A | 33780.00 | 0.81 |
| 45 | Sc | 404357.81 | P | 3358.00 | 0.83 |
| 47 | Ti | 512.26 | P | 105.90 | 20.67 |
| 51 | V | 3258.17 | P | 126.50 | 3.88 |
| 52 | Cr | 1311.19 | P | 77.34 | 5.90 |
| 55 | Mn | 3392.43 | P | 68.05 | 2.01 |
| 56 | Fe | 9549687.00 | A | 85260.00 | 0.89 |
| 59 | Co | 372.01 | P | 20.70 | 5.56 |
| 60 | Ni | 429.35 | P | 18.90 | 4.40 |
| 63 | Cu | 2021.94 | P | 26.68 | 1.32 |
| 66 | Zn | 347.12 | P | 3.36 | 0.97 |
| 72 | Ge | 949787.00 | P | 6384.00 | 0.67 |
| 72 | Ge | 174029.50 | P | 1155.00 | 0.66 |
| 75 | As | 198.67 | P | 17.44 | 8.78 |
| 78 | Se | 235.11 | P | 12.34 | 5.25 |
| 88 | Sr | 3591.69 | P | 221.30 | 6.16 |
| 98 | Mo | 3562.78 | P | 358.50 | 10.06 |
| 103 | Rh | 5222863.00 | A | 32870.00 | 0.63 |
| 107 | Ag | 818.94 | P | 54.81 | 6.69 |

C:\ICPCHEM\1\DATA\13D27m01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 67.78 | P | 1.92 | 2.84 |
| 115 | In | 5571874.00 | A | 40080.00 | 0.72 |
| 115 | In | 1365045.00 | A | 11950.00 | 0.88 |
| 118 | (In) | 3429.42 | P | 341.50 | 9.96 |
| 118 | (In) | 1212.32 | P | 23.41 | 1.93 |
| 120 | Sn | 4839.88 | P | 570.50 | 11.79 |
| 121 | Sb | 6226.00 | P | 380.70 | 6.11 |
| 137 | Ba | 1158.98 | P | 57.39 | 4.95 |
| 159 | Tb | 6891352.00 | A | 84030.00 | 1.22 |
| 175 | Lu | 6392091.00 | A | 52600.00 | 0.82 |
| 205 | Tl | 2925.96 | P | 74.28 | 2.54 |
| 206 | (Pb) | 516.70 | P | 40.42 | 7.82 |
| 207 | (Pb) | 461.14 | P | 67.36 | 14.61 |
| 208 | Pb | 2152.37 | P | 95.25 | 4.43 |
| 209 | Bi | 3701562.00 | A | 15530.00 | 0.42 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1839667.90 | 1.33 | 1927370.10 | 95.4 | 70 - 130 | |
| 45 | Sc | 4150085.30 | 0.81 | 4239128.50 | 97.9 | 70 - 130 | |
| 45 | Sc | 404357.78 | 0.83 | 400302.28 | 101.0 | 70 - 130 | |
| 72 | Ge | 949786.94 | 0.67 | 959644.38 | 99.0 | 70 - 130 | |
| 72 | Ge | 174029.52 | 0.66 | 174243.94 | 99.9 | 70 - 130 | |
| 103 | Rh | 5222863.00 | 0.63 | 5379893.00 | 97.1 | 70 - 130 | |
| 115 | In | 5571874.00 | 0.72 | 5735998.00 | 97.1 | 70 - 130 | |
| 115 | In | 1365045.30 | 0.88 | 1381769.00 | 98.8 | 70 - 130 | |
| 159 | Tb | 6891352.00 | 1.22 | 7108935.50 | 96.9 | 70 - 130 | |
| 175 | Lu | 6392090.50 | 0.82 | 6644012.50 | 96.2 | 70 - 130 | |
| 209 | Bi | 3701562.50 | 0.42 | 3907325.00 | 94.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#
Date Acquired: Apr 27 2013 01:28 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Apr 29 2013 10:37 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1819870.00 | A | 26610.00 | 1.46 |
| 7 | (Li) | | P | | |
| 9 | Be | 155.56 | P | 12.62 | 8.11 |
| 9 | Be | 142.24 | P | 154.10 | 108.34 |
| 11 | B | 2441.38 | P | 18.95 | 0.78 |
| 11 | B | 201.13 | P | 135.80 | 67.52 |
| 23 | Na | 375404000.00 | A | 2959000.00 | 0.79 |
| 23 | Na | 23122100.00 | A | 91020.00 | 0.39 |
| 24 | Mg | 254698900.00 | A | 2160000.00 | 0.85 |
| 24 | Mg | 12767590.00 | A | 136900.00 | 1.07 |
| 27 | Al | 335600380.00 | A | 5646000.00 | 1.68 |
| 27 | Al | 7240871.00 | A | 76180.00 | 1.05 |
| 39 | K | 408246500.00 | A | 1156000.00 | 0.28 |
| 44 | Ca | 12788130.00 | A | 22550.00 | 0.18 |
| 45 | Sc | 4169729.00 | A | 15000.00 | 0.36 |
| 45 | Sc | 404008.91 | P | 3116.00 | 0.77 |
| 47 | Ti | 444.48 | P | 33.41 | 7.52 |
| 51 | V | 3343.53 | P | 250.30 | 7.49 |
| 52 | Cr | 2501.58 | P | 112.20 | 4.49 |
| 55 | Mn | 5043.13 | P | 177.20 | 3.51 |
| 56 | Fe | 93202576.00 | A | 827300.00 | 0.89 |
| 59 | Co | 2641.17 | P | 200.20 | 7.58 |
| 60 | Ni | 1165.41 | P | 248.40 | 21.31 |
| 63 | Cu | 2217.10 | P | 149.70 | 6.75 |
| 66 | Zn | 3754.72 | P | 92.78 | 2.47 |
| 72 | Ge | 945602.69 | P | 8189.00 | 0.87 |
| 72 | Ge | 174076.00 | P | 1857.00 | 1.07 |
| 75 | As | 314.91 | P | 165.40 | 52.52 |
| 78 | Se | 295.13 | P | 137.90 | 46.73 |
| 88 | Sr | 28028.09 | P | 413.00 | 1.47 |
| 98 | Mo | 1766.84 | P | 130.10 | 7.36 |
| 103 | Rh | 4983276.00 | A | 47080.00 | 0.94 |
| 107 | Ag | 1635.70 | P | 62.58 | 3.83 |

C:\ICPCHEM\1\DATA\13D27m01.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 172.24 | P | 125.80 | 73.04 |
| 115 | In | 5362734.00 | A | 47040.00 | 0.88 |
| 115 | In | 1322698.00 | A | 15050.00 | 1.14 |
| 118 | (In) | 1909.08 | P | 151.80 | 7.95 |
| 118 | (In) | 820.06 | P | 95.66 | 11.67 |
| 120 | Sn | 2633.67 | P | 313.30 | 11.90 |
| 121 | Sb | 3234.93 | P | 328.60 | 10.16 |
| 137 | Ba | 1543.47 | P | 100.40 | 6.50 |
| 159 | Tb | 6774618.00 | A | 49160.00 | 0.73 |
| 175 | Lu | 6378080.00 | A | 37760.00 | 0.59 |
| 205 | Tl | 2280.28 | P | 96.16 | 4.22 |
| 206 | (Pb) | 616.70 | P | 89.51 | 14.51 |
| 207 | (Pb) | 555.59 | P | 6.94 | 1.25 |
| 208 | Pb | 2666.88 | P | 48.08 | 1.80 |
| 209 | Bi | 3502934.00 | A | 24280.00 | 0.69 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1819870.00 | 1.46 | 1927370.10 | 94.4 | 70 - 130 | |
| 45 | Sc | 4169728.80 | 0.36 | 4239128.50 | 98.4 | 70 - 130 | |
| 45 | Sc | 404008.97 | 0.77 | 400302.28 | 100.9 | 70 - 130 | |
| 72 | Ge | 945602.69 | 0.87 | 959644.38 | 98.5 | 70 - 130 | |
| 72 | Ge | 174076.02 | 1.07 | 174243.94 | 99.9 | 70 - 130 | |
| 103 | Rh | 4983276.50 | 0.94 | 5379893.00 | 92.6 | 70 - 130 | |
| 115 | In | 5362734.00 | 0.88 | 5735998.00 | 93.5 | 70 - 130 | |
| 115 | In | 1322697.60 | 1.14 | 1381769.00 | 95.7 | 70 - 130 | |
| 159 | Tb | 6774618.00 | 0.73 | 7108935.50 | 95.3 | 70 - 130 | |
| 175 | Lu | 6378080.50 | 0.59 | 6644012.50 | 96.0 | 70 - 130 | |
| 209 | Bi | 3502934.00 | 0.69 | 3907325.00 | 89.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13D27m01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\010SMPL.D\010SMPL.D#
Date Acquired: Apr 27 2013 01:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.21 | 60.21 | ppb | 2.24 | 900.00 | |
| 9 Be | 45 | 2 | 58.51 | 58.51 | ppb | 1.96 | 900.00 | |
| 11 B | 6 | 1 | 58.36 | 58.36 | ppb | 2.20 | 900.00 | |
| 11 B | 45 | 2 | 56.17 | 56.17 | ppb | 2.41 | 900.00 | |
| 23 Na | 45 | 1 | 5713.00 | 5713.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 5778.00 | 5778.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 5754.00 | 5754.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 5764.00 | 5764.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 5689.00 | 5689.00 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 5771.00 | 5771.00 | ppb | 0.73 | 90000.00 | |
| 39 K | 45 | 1 | 5799.00 | 5799.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 5708.00 | 5708.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.30 | 59.30 | ppb | 1.12 | 900.00 | |
| 51 V | 45 | 2 | 59.68 | 59.68 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 59.38 | 59.38 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 58.71 | 58.71 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 5770.00 | 5770.00 | ppb | 0.13 | 90000.00 | |
| 59 Co | 45 | 2 | 58.91 | 58.91 | ppb | 0.16 | 900.00 | |
| 60 Ni | 45 | 2 | 57.78 | 57.78 | ppb | 0.14 | 900.00 | |
| 63 Cu | 72 | 2 | 56.84 | 56.84 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 58.96 | 58.96 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 59.50 | 59.50 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 57.93 | 57.93 | ppb | 0.34 | 900.00 | |
| 88 Sr | 103 | 1 | 61.91 | 61.91 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 62.89 | 62.89 | ppb | 0.71 | 900.00 | |
| 107 Ag | 115 | 1 | 60.44 | 60.44 | ppb | 0.96 | 180.00 | |
| 111 Cd | 115 | 2 | 60.06 | 60.06 | ppb | 0.74 | 900.00 | |
| 120 Sn | 115 | 1 | 59.42 | 59.42 | ppb | 0.93 | 900.00 | |
| 121 Sb | 115 | 1 | 60.69 | 60.69 | ppb | 0.23 | 900.00 | |
| 137 Ba | 159 | 1 | 59.19 | 59.19 | ppb | 1.46 | 900.00 | |
| 205 Tl | 209 | 1 | 57.54 | 57.54 | ppb | 1.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.98 | 59.98 | ppb | 0.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1879883 | 1.75 | 1927370 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 4261396 | 0.64 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 403352 | 0.10 | 400302 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 944035 | 0.82 | 959644 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 173088 | 0.65 | 174244 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 5178639 | 0.45 | 5379893 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 5546174 | 1.19 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1346531 | 0.86 | 1381769 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 7047358 | 0.88 | 7108936 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 6574705 | 0.20 | 6644013 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 3724317 | 0.63 | 3907325 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D#
Date Acquired: Apr 27 2013 01:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | -0.09 | ppb | 1.94 | 900.00 | |
| 9 Be | 45 | 2 | -0.53 | -0.53 | ppb | 4.98 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 23.60 | 900.00 | |
| 11 B | 45 | 2 | -0.93 | -0.93 | ppb | 10.98 | 900.00 | |
| 23 Na | 45 | 1 | 1.40 | 1.40 | ppb | 32.01 | 90000.00 | |
| 23 Na | 45 | 2 | 4.25 | 4.25 | ppb | 19.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.07 | 0.07 | ppb | 64.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.90 | 1.90 | ppb | 39.65 | 90000.00 | |
| 27 Al | 45 | 1 | 0.09 | 0.09 | ppb | 75.90 | 90000.00 | |
| 27 Al | 45 | 2 | 1.53 | 1.53 | ppb | 35.17 | 90000.00 | |
| 39 K | 45 | 1 | -1.01 | -1.01 | ppb | 117.72 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.19 | -0.19 | ppb | 623.42 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.19 | -0.19 | ppb | 6.83 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 253.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 217.41 | 900.00 | |
| 55 Mn | 45 | 2 | -0.24 | -0.24 | ppb | 4.79 | 900.00 | |
| 56 Fe | 45 | 2 | -2.71 | -2.71 | ppb | 22.31 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 99.41 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 33.70 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 4.91 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 81.36 | 900.00 | |
| 75 As | 72 | 2 | -0.10 | -0.10 | ppb | 10.75 | 900.00 | |
| 78 Se | 72 | 2 | -1.04 | -1.04 | ppb | 4.48 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | -0.01 | ppb | 6.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 8.82 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 12.69 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.04 | ppb | 17.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 19.48 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 53.64 | 900.00 | |
| 137 Ba | 159 | 1 | -0.07 | -0.07 | ppb | 6.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 3.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 2.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1883620 | 0.77 | 1927370 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 4209938 | 0.92 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 404714 | 0.60 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 953439 | 0.75 | 959644 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 175116 | 0.45 | 174244 | 100.5 | 70 | - | 130 |
| 103 Rh | 1 | 5308065 | 0.80 | 5379893 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 5681136 | 0.53 | 5735998 | 99.0 | 70 | - | 130 |
| 115 In | 2 | 1389193 | 0.23 | 1381769 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 7039133 | 1.42 | 7108936 | 99.0 | 70 | - | 130 |
| 175 Lu | 1 | 6547641 | 0.17 | 6644013 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 3843040 | 0.69 | 3907325 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D# |
| Date Acquired: | Apr 27 2013 01:49 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2103 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.49 | 51.49 | ppb | 3.18 | 900.00 | |
| 9 Be | 45 | 2 | 50.05 | 50.05 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 51.97 | 51.97 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 49.83 | 49.83 | ppb | 5.65 | 900.00 | |
| 23 Na | 45 | 1 | 5198.00 | 5198.00 | ppb | 2.96 | 90000.00 | |
| 23 Na | 45 | 2 | 5250.00 | 5250.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5205.00 | 5205.00 | ppb | 1.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5205.00 | 5205.00 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 1 | 5209.00 | 5209.00 | ppb | 2.63 | 90000.00 | |
| 27 Al | 45 | 2 | 5271.00 | 5271.00 | ppb | 2.09 | 90000.00 | |
| 39 K | 45 | 1 | 5252.00 | 5252.00 | ppb | 2.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 5235.00 | 5235.00 | ppb | 1.92 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.02 | 51.02 | ppb | 2.61 | 900.00 | |
| 51 V | 45 | 2 | 50.07 | 50.07 | ppb | 1.70 | 900.00 | |
| 52 Cr | 45 | 2 | 50.09 | 50.09 | ppb | 1.81 | 900.00 | |
| 55 Mn | 45 | 2 | 49.23 | 49.23 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5236.00 | 5236.00 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 49.99 | 49.99 | ppb | 1.73 | 900.00 | |
| 60 Ni | 45 | 2 | 48.55 | 48.55 | ppb | 1.66 | 900.00 | |
| 63 Cu | 72 | 2 | 48.17 | 48.17 | ppb | 1.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.17 | 49.17 | ppb | 1.03 | 900.00 | |
| 75 As | 72 | 2 | 50.44 | 50.44 | ppb | 1.29 | 900.00 | |
| 78 Se | 72 | 2 | 49.38 | 49.38 | ppb | 2.76 | 900.00 | |
| 88 Sr | 103 | 1 | 52.87 | 52.87 | ppb | 2.10 | 900.00 | |
| 98 Mo | 103 | 1 | 52.75 | 52.75 | ppb | 2.49 | 900.00 | |
| 107 Ag | 115 | 1 | 50.98 | 50.98 | ppb | 1.77 | 180.00 | |
| 111 Cd | 115 | 2 | 50.68 | 50.68 | ppb | 2.22 | 900.00 | |
| 120 Sn | 115 | 1 | 52.43 | 52.43 | ppb | 2.61 | 900.00 | |
| 121 Sb | 115 | 1 | 53.14 | 53.14 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 50.82 | 50.82 | ppb | 2.71 | 900.00 | |
| 205 Tl | 209 | 1 | 49.87 | 49.87 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.25 | 51.25 | ppb | 2.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1775234 | 1.97 | 1927370 | 92.1 | 70 - 130 | |
| 45 Sc | 1 | 4103348 | 2.00 | 4239129 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 398728 | 1.58 | 400302 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 911385 | 0.76 | 959644 | 95.0 | 70 | - | 130 |
| 72 Ge | 2 | 171369 | 1.15 | 174244 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 5018135 | 1.64 | 5379893 | 93.3 | 70 | - | 130 |
| 115 In | 1 | 5339344 | 1.42 | 5735998 | 93.1 | 70 | - | 130 |
| 115 In | 2 | 1313087 | 1.50 | 1381769 | 95.0 | 70 | - | 130 |
| 159 Tb | 1 | 6735870 | 1.37 | 7108936 | 94.8 | 70 | - | 130 |
| 175 Lu | 1 | 6248991 | 1.01 | 6644013 | 94.1 | 70 | - | 130 |
| 209 Bi | 1 | 3537948 | 1.66 | 3907325 | 90.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#
Date Acquired: Apr 27 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 178.41 | 900.00 | |
| 9 Be | 45 | 2 | 3.39 | 3.39 | ppb | 20.45 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 10.38 | 900.00 | |
| 11 B | 45 | 2 | 9.54 | 9.54 | ppb | 24.01 | 900.00 | |
| 23 Na | 45 | 1 | 1.77 | 1.77 | ppb | 19.52 | 90000.00 | |
| 23 Na | 45 | 2 | 3.34 | 3.34 | ppb | 7.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.68 | 0.68 | ppb | 6.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.50 | 1.50 | ppb | 16.99 | 90000.00 | |
| 27 Al | 45 | 1 | 0.10 | 0.10 | ppb | 31.17 | 90000.00 | |
| 27 Al | 45 | 2 | 1.61 | 1.61 | ppb | 18.39 | 90000.00 | |
| 39 K | 45 | 1 | 0.79 | 0.79 | ppb | 42.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.85 | 0.85 | ppb | 140.96 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.04 | -0.04 | ppb | 143.82 | 900.00 | |
| 51 V | 45 | 2 | 0.10 | 0.10 | ppb | 19.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.09 | ppb | 17.69 | 900.00 | |
| 55 Mn | 45 | 2 | -0.07 | -0.07 | ppb | 39.19 | 900.00 | |
| 56 Fe | 45 | 2 | -3.92 | -3.92 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 0.06 | 0.06 | ppb | 19.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.25 | ppb | 24.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 56.80 | 900.00 | |
| 66 Zn | 72 | 2 | 0.62 | 0.62 | ppb | 18.33 | 900.00 | |
| 75 As | 72 | 2 | 0.79 | 0.79 | ppb | 21.84 | 900.00 | |
| 78 Se | 72 | 2 | 7.61 | 7.61 | ppb | 19.13 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 703.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 17.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 152.63 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.46 | ppb | 23.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 14.78 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 44.86 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 128.80 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 4.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 962.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1793323 | 0.48 | 1927370 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 4147727 | 0.08 | 4239129 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 407785 | 0.36 | 400302 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 944667 | 0.84 | 959644 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 176732 | 0.46 | 174244 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 5206351 | 0.75 | 5379893 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 5551611 | 0.53 | 5735998 | 96.8 | 70 - | 130 |
| 115 | In | 2 | 1360493 | 0.72 | 1381769 | 98.5 | 70 - | 130 |
| 159 | Tb | 1 | 6829616 | 0.34 | 7108936 | 96.1 | 70 - | 130 |
| 175 | Lu | 1 | 6326008 | 0.73 | 6644013 | 95.2 | 70 - | 130 |
| 209 | Bi | 1 | 3673446 | 1.01 | 3907325 | 94.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#
Date Acquired: Apr 27 2013 02:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 2.53 | 900.00 | |
| 9 Be | 45 | 2 | -0.41 | -0.41 | ppb | 11.73 | 900.00 | |
| 11 B | 6 | 1 | -0.05 | -0.05 | ppb | 38.60 | 900.00 | |
| 11 B | 45 | 2 | -0.85 | -0.85 | ppb | 12.58 | 900.00 | |
| 23 Na | 45 | 1 | 1.70 | 1.70 | ppb | 20.01 | 90000.00 | |
| 23 Na | 45 | 2 | 2.73 | 2.73 | ppb | 8.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.67 | 0.67 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.61 | 0.61 | ppb | 14.33 | 90000.00 | |
| 27 Al | 45 | 1 | 0.47 | 0.47 | ppb | 10.95 | 90000.00 | |
| 27 Al | 45 | 2 | 0.29 | 0.29 | ppb | 47.46 | 90000.00 | |
| 39 K | 45 | 1 | 0.24 | 0.24 | ppb | 415.53 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.60 | -2.60 | ppb | 10.83 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.17 | -0.17 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 602.82 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 31.64 | 900.00 | |
| 55 Mn | 45 | 2 | -0.17 | -0.17 | ppb | 3.93 | 900.00 | |
| 56 Fe | 45 | 2 | -2.99 | -2.99 | ppb | 2.04 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 16.52 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 24.77 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 132.82 | 900.00 | |
| 75 As | 72 | 2 | -0.09 | -0.09 | ppb | 6.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.85 | -0.85 | ppb | 3.50 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 14.29 | 900.00 | |
| 98 Mo | 103 | 1 | -0.01 | -0.01 | ppb | 28.83 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 3.60 | 180.00 | |
| 111 Cd | 115 | 2 | -0.05 | -0.05 | ppb | 19.13 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 38.68 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | -0.01 | ppb | 17.47 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 7.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 10.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 6.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1828848 | 1.75 | 1927370 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 4189701 | 0.77 | 4239129 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 409344 | 0.42 | 400302 | 102.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 945028 | 0.70 | 959644 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 176498 | 0.54 | 174244 | 101.3 | 70 - | 130 |
| 103 | Rh | 1 | 5288606 | 0.53 | 5379893 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 5616076 | 0.41 | 5735998 | 97.9 | 70 - | 130 |
| 115 | In | 2 | 1377362 | 0.36 | 1381769 | 99.7 | 70 - | 130 |
| 159 | Tb | 1 | 6929399 | 0.49 | 7108936 | 97.5 | 70 - | 130 |
| 175 | Lu | 1 | 6329382 | 1.39 | 6644013 | 95.3 | 70 - | 130 |
| 209 | Bi | 1 | 3714681 | 0.49 | 3907325 | 95.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#
**Date Acquired:** Apr 27 2013 02:12 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** CRI
**Misc Info:**
**Vial Number:** 2105
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.42 | 0.42 | ppb | 4.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.07 | ppb | 109.62 | 900.00 | |
| 11 B | 6 | 1 | 4.83 | 4.83 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 3.82 | 3.82 | ppb | 11.94 | 900.00 | |
| 23 Na | 45 | 1 | 255.40 | 255.40 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 279.70 | 279.70 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.80 | 257.80 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 278.70 | 278.70 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 25.84 | 25.84 | ppb | 1.45 | 90000.00 | |
| 27 Al | 45 | 2 | 26.20 | 26.20 | ppb | 0.63 | 90000.00 | |
| 39 K | 45 | 1 | 255.00 | 255.00 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 262.60 | 262.60 | ppb | 1.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.85 | ppb | 6.64 | 900.00 | |
| 51 V | 45 | 2 | 0.98 | 0.98 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 1.44 | 900.00 | |
| 55 Mn | 45 | 2 | 0.69 | 0.69 | ppb | 3.81 | 900.00 | |
| 56 Fe | 45 | 2 | 22.43 | 22.43 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.03 | 900.00 | |
| 60 Ni | 45 | 2 | 0.96 | 0.96 | ppb | 1.76 | 900.00 | |
| 63 Cu | 72 | 2 | 0.90 | 0.90 | ppb | 1.23 | 900.00 | |
| 66 Zn | 72 | 2 | 1.97 | 1.97 | ppb | 0.99 | 900.00 | |
| 75 As | 72 | 2 | 0.42 | 0.42 | ppb | 5.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.11 | -0.11 | ppb | 99.45 | 900.00 | |
| 88 Sr | 103 | 1 | 5.19 | 5.19 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 1.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 3.88 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 3.33 | 900.00 | |
| 120 Sn | 115 | 1 | 4.95 | 4.95 | ppb | 2.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 0.98 | 900.00 | |
| 137 Ba | 159 | 1 | 0.96 | 0.96 | ppb | 2.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.41 | 0.41 | ppb | 2.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.49 | 0.49 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1830689 | 0.52 | 1927370 | 95.0 | 70 - 130 | |
| 45 Sc | 1 | 4252286 | 0.52 | 4239129 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 409290 | 0.40 | 400302 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 951344 | 0.47 | 959644 | 99.1 | 70 - | 130 |
| 72 | Ge | 2 | 176681 | 0.07 | 174244 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 5289581 | 0.43 | 5379893 | 98.3 | 70 - | 130 |
| 115 | In | 1 | 5649349 | 0.79 | 5735998 | 98.5 | 70 - | 130 |
| 115 | In | 2 | 1395463 | 0.76 | 1381769 | 101.0 | 70 - | 130 |
| 159 | Tb | 1 | 6952469 | 0.64 | 7108936 | 97.8 | 70 - | 130 |
| 175 | Lu | 1 | 6427983 | 0.40 | 6644013 | 96.7 | 70 - | 130 |
| 209 | Bi | 1 | 3751214 | 0.37 | 3907325 | 96.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 02:19 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 4.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.32 | 0.32 | ppb | 174.01 | 900.00 | |
| 11 B | 6 | 1 | 0.14 | 0.14 | ppb | 12.18 | 900.00 | |
| 11 B | 45 | 2 | 1.52 | 1.52 | ppb | 116.77 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97810.00 | 97810.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96820.00 | 96820.00 | ppb | 1.39 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97160.00 | 97160.00 | ppb | 0.62 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95690.00 | 95690.00 | ppb | 0.31 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97460.00 | 97460.00 | ppb | 0.57 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98210.00 | 98210.00 | ppb | 1.08 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96690.00 | 96690.00 | ppb | 0.72 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1956.00 | 1956.00 | ppb | 0.44 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 67.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.17 | 0.17 | ppb | 31.23 | 900.00 | |
| 56 Fe | 45 | 2 | 96530.00 | 96530.00 | ppb | 0.39 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 32.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 4.66 | 900.00 | |
| 63 Cu | 72 | 2 | 0.20 | 0.20 | ppb | 7.92 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 4.20 | 900.00 | |
| 75 As | 72 | 2 | 0.29 | 0.29 | ppb | 56.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.25 | 1.25 | ppb | 114.06 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 2071.00 | 2071.00 | ppb | 0.53 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.04 | 0.04 | ppb | 10.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.95 | 0.95 | ppb | 9.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 8.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.67 | 900.00 | |
| 137 Ba | 159 | 1 | 0.19 | 0.19 | ppb | 5.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 121.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1703768 | 1.02 | 1927370 | 88.4 | 70 - 130 | |
| 45 Sc | 1 | 3978115 | 1.35 | 4239129 | 93.8 | 70 - 130 | |
| 45 Sc | 2 | 385031 | 0.36 | 400302 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 912402 | 0.31 | 959644 | 95.1 | 70 - | 130 |
| 72 | Ge | 2 | 165634 | 0.21 | 174244 | 95.1 | 70 - | 130 |
| 103 | Rh | 1 | 4522086 | 0.66 | 5379893 | 84.1 | 70 - | 130 |
| 115 | In | 1 | 4977352 | 0.27 | 5735998 | 86.8 | 70 - | 130 |
| 115 | In | 2 | 1256879 | 0.38 | 1381769 | 91.0 | 70 - | 130 |
| 159 | Tb | 1 | 6520756 | 0.77 | 7108936 | 91.7 | 70 - | 130 |
| 175 | Lu | 1 | 6162048 | 0.53 | 6644013 | 92.7 | 70 - | 130 |
| 209 | Bi | 1 | 3228198 | 1.11 | 3907325 | 82.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13D27m01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D27m01.B\017SMPL.D\017SMPL.D#** | | |
| **Date Acquired:** | **Apr 27 2013 02:26 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSAB** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2107** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 29 2013 10:37 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | -0.09 | ppb | 1.78 | 900.00 | |
| 9 Be | 45 | 2 | 2.30 | 2.30 | ppb | 148.54 | 900.00 | |
| 11 B | 6 | 1 | 0.15 | 0.15 | ppb | 7.11 | 900.00 | |
| 11 B | 45 | 2 | 6.42 | 6.42 | ppb | 144.69 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98130.00 | 98130.00 | ppb | 1.25 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96130.00 | 96130.00 | ppb | 0.58 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97600.00 | 97600.00 | ppb | 1.08 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95320.00 | 95320.00 | ppb | 0.53 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97750.00 | 97750.00 | ppb | 0.11 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96610.00 | 96610.00 | ppb | 0.79 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1965.00 | 1965.00 | ppb | 0.48 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 93.61 | 900.00 | |
| 52 Cr | 45 | 2 | 20.14 | 20.14 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 19.08 | 19.08 | ppb | 0.70 | 900.00 | |
| 56 Fe | 45 | 2 | 97290.00 | 97290.00 | ppb | 1.00 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.79 | 18.79 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 18.50 | 18.50 | ppb | 1.75 | 900.00 | |
| 63 Cu | 72 | 2 | 17.40 | 17.40 | ppb | 0.28 | 900.00 | |
| 66 Zn | 72 | 2 | 19.92 | 19.92 | ppb | 2.22 | 900.00 | |
| 75 As | 72 | 2 | 20.78 | 20.78 | ppb | 3.52 | 900.00 | |
| 78 Se | 72 | 2 | 4.85 | 4.85 | ppb | 140.44 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 2094.00 | 2094.00 | ppb | 0.86 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.97 | 19.97 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 20.82 | 20.82 | ppb | 3.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.64 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.17 | ppb | 5.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 110.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.10 | ppb | 4.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1691416 | 1.01 | 1927370 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 4085038 | 0.26 | 4239129 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 396138 | 0.21 | 400302 | 99.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 938176 | 1.01 | 959644 | 97.8 | 70 - | 130 |
| 72 | Ge | 2 | 169747 | 0.13 | 174244 | 97.4 | 70 - | 130 |
| 103 | Rh | 1 | 4673046 | 0.60 | 5379893 | 86.9 | 70 - | 130 |
| 115 | In | 1 | 5163371 | 0.55 | 5735998 | 90.0 | 70 - | 130 |
| 115 | In | 2 | 1228531 | 1.35 | 1381769 | 88.9 | 70 - | 130 |
| 159 | Tb | 1 | 6834979 | 0.66 | 7108936 | 96.1 | 70 - | 130 |
| 175 | Lu | 1 | 6419857 | 0.39 | 6644013 | 96.6 | 70 - | 130 |
| 209 | Bi | 1 | 3342229 | 0.90 | 3907325 | 85.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

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C:\ICPCHEM\1\DATA\13D27m01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13D27m01.B\018SMPL.D\018SMPL.D#** | | |
| **Date Acquired:** | **Apr 27 2013 02:33 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSA** | **ISTD:** | **Pass** |
| **Misc Info:** | **2X** | | |
| **Vial Number:** | **2106** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Apr 29 2013 10:37 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **2.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **2.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 1.97 | 900.00 | |
| 9 Be | 45 | 2 | -1.15 | -0.57 | ppb | 4.03 | 900.00 | |
| 11 B | 6 | 1 | 0.13 | 0.07 | ppb | 22.98 | 900.00 | |
| 11 B | 45 | 2 | -2.45 | -1.22 | ppb | 10.74 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 196800.00 | 98400.00 | ppb | 0.63 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 193580.00 | 96790.00 | ppb | 0.82 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 194460.00 | 97230.00 | ppb | 0.33 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 192160.00 | 96080.00 | ppb | 0.60 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 194820.00 | 97410.00 | ppb | 0.35 | 90000.00 | >LDR |
| 39 K | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 193180.00 | 96590.00 | ppb | 0.76 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 3922.00 | 1961.00 | ppb | 0.59 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.03 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | 2.08 | 1.04 | ppb | 0.54 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 12.44 | 900.00 | |
| 56 Fe | 45 | 2 | 193960.00 | 96980.00 | ppb | 0.23 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.03 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 1.22 | 0.61 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.35 | 0.17 | ppb | 1.86 | 900.00 | |
| 66 Zn | 72 | 2 | 3.83 | 1.91 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.14 | 0.07 | ppb | 10.62 | 900.00 | |
| 78 Se | 72 | 2 | -1.91 | -0.95 | ppb | 2.83 | 900.00 | |
| 88 Sr | 103 | 1 | 10.12 | 5.06 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 4166.00 | 2083.00 | ppb | 0.66 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.04 | ppb | 6.86 | 180.00 | |
| 111 Cd | 115 | 2 | 1.68 | 0.84 | ppb | 7.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 6.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.26 | ppb | 0.38 | 900.00 | |
| 137 Ba | 159 | 1 | 0.35 | 0.17 | ppb | 6.15 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 3.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.12 | ppb | 3.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1705663 | 1.09 | 1927370 | 88.5 | 70 - 130 | |
| 45 Sc | 1 | 4010543 | 1.07 | 4239129 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 385118 | 0.47 | 400302 | 96.2 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 913876 | 0.81 | 959644 | 95.2 | 70 - | 130 |
| 72 | Ge | 2 | 166125 | 0.54 | 174244 | 95.3 | 70 - | 130 |
| 103 | Rh | 1 | 4596808 | 0.62 | 5379893 | 85.4 | 70 - | 130 |
| 115 | In | 1 | 5107256 | 0.14 | 5735998 | 89.0 | 70 - | 130 |
| 115 | In | 2 | 1241119 | 2.83 | 1381769 | 89.8 | 70 - | 130 |
| 159 | Tb | 1 | 6708938 | 0.75 | 7108936 | 94.4 | 70 - | 130 |
| 175 | Lu | 1 | 6401525 | 0.15 | 6644013 | 96.4 | 70 - | 130 |
| 209 | Bi | 1 | 3350700 | 0.80 | 3907325 | 85.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Apr 27 2013 02:54 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:** 2X
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 3524.40 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 5.78 | 900.00 | |
| 11 B | 6 | 1 | 0.64 | 0.32 | ppb | 79.65 | 900.00 | |
| 11 B | 45 | 2 | -2.04 | -1.02 | ppb | 10.35 | 900.00 | |
| 23 Na | 45 | 1 | 99380.00 | 49690.00 | ppb | 0.18 | 90000.00 | |
| 23 Na | 45 | 2 | 98500.00 | 49250.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 98900.00 | 49450.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 98400.00 | 49200.00 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 97740.00 | 48870.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 98380.00 | 49190.00 | ppb | 0.30 | 90000.00 | |
| 39 K | 45 | 1 | 100040.00 | 50020.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 98240.00 | 49120.00 | ppb | 0.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 1988.80 | 994.40 | ppb | 0.81 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.08 | -0.04 | ppb | 25.62 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | -0.09 | -0.04 | ppb | 14.42 | 900.00 | |
| 56 Fe | 45 | 2 | 98880.00 | 49440.00 | ppb | 0.21 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 14.65 | 900.00 | |
| 60 Ni | 45 | 2 | 0.62 | 0.31 | ppb | 3.50 | 900.00 | |
| 63 Cu | 72 | 2 | 0.12 | 0.06 | ppb | 11.25 | 900.00 | |
| 66 Zn | 72 | 2 | 2.22 | 1.11 | ppb | 3.68 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.02 | ppb | 49.01 | 900.00 | |
| 78 Se | 72 | 2 | -1.75 | -0.87 | ppb | 14.01 | 900.00 | |
| 88 Sr | 103 | 1 | 5.07 | 2.53 | ppb | 1.54 | 900.00 | |
| 98 Mo | 103 | 1 | 2038.00 | 1019.00 | ppb | 0.18 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.07 | 0.04 | ppb | 137.48 | 180.00 | |
| 111 Cd | 115 | 2 | 0.83 | 0.42 | ppb | 10.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 89.61 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.16 | ppb | 39.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.36 | 0.18 | ppb | 121.22 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 221.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.07 | ppb | 76.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1796843 | 0.88 | 1927370 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 4147556 | 0.13 | 4239129 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 400428 | 0.58 | 400302 | 100.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 947812 | 0.56 | 959644 | 98.8 | 70 | - | 130 |
| 72 Ge | 2 | 174229 | 0.56 | 174244 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 4841002 | 0.53 | 5379893 | 90.0 | 70 | - | 130 |
| 115 In | 1 | 5284345 | 0.55 | 5735998 | 92.1 | 70 | - | 130 |
| 115 In | 2 | 1307042 | 1.01 | 1381769 | 94.6 | 70 | - | 130 |
| 159 Tb | 1 | 6928879 | 1.04 | 7108936 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 6483875 | 1.37 | 6644013 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 3487873 | 0.65 | 3907325 | 89.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Apr 27 2013 03:02 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:** 2X
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 3.05 | 900.00 | |
| 9 Be | 45 | 2 | -1.05 | -0.52 | ppb | 7.22 | 900.00 | |
| 11 B | 6 | 1 | -0.08 | -0.04 | ppb | 31.18 | 900.00 | |
| 11 B | 45 | 2 | -2.34 | -1.17 | ppb | 11.22 | 900.00 | |
| 23 Na | 45 | 1 | 101040.00 | 50520.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 99720.00 | 49860.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 101280.00 | 50640.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 99600.00 | 49800.00 | ppb | 0.13 | 90000.00 | |
| 27 Al | 45 | 1 | 99600.00 | 49800.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 100140.00 | 50070.00 | ppb | 0.40 | 90000.00 | |
| 39 K | 45 | 1 | 101960.00 | 50980.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 99760.00 | 49880.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 2038.00 | 1019.00 | ppb | 0.71 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.10 | -0.05 | ppb | 17.67 | 900.00 | |
| 52 Cr | 45 | 2 | 20.70 | 10.35 | ppb | 0.17 | 900.00 | |
| 55 Mn | 45 | 2 | 19.70 | 9.85 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 101020.00 | 50510.00 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 19.56 | 9.78 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 19.08 | 9.54 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 18.07 | 9.03 | ppb | 1.00 | 900.00 | |
| 66 Zn | 72 | 2 | 21.70 | 10.85 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 20.30 | 10.15 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | -1.48 | -0.74 | ppb | 7.79 | 900.00 | |
| 88 Sr | 103 | 1 | 5.10 | 2.55 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 2084.00 | 1042.00 | ppb | 0.26 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 20.52 | 10.26 | ppb | 0.67 | 180.00 | |
| 111 Cd | 115 | 2 | 21.00 | 10.50 | ppb | 1.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 15.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 2.49 | 900.00 | |
| 205 Tl | 209 | 1 | -0.06 | -0.03 | ppb | 12.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 7.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1824329 | 0.68 | 1927370 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 4171436 | 0.85 | 4239129 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 399914 | 0.27 | 400302 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 942917 | 0.43 | 959644 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 172923 | 0.58 | 174244 | 99.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4844566 | 0.09 | 5379893 | 90.0 | 70 | - | 130 |
| 115 | In | 1 | 5342662 | 0.55 | 5735998 | 93.1 | 70 | - | 130 |
| 115 | In | 2 | 1303217 | 0.45 | 1381769 | 94.3 | 70 | - | 130 |
| 159 | Tb | 1 | 6995959 | 0.19 | 7108936 | 98.4 | 70 | - | 130 |
| 175 | Lu | 1 | 6610111 | 0.39 | 6644013 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3567932 | 0.07 | 3907325 | 91.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#
Date Acquired: Apr 27 2013 03:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 2.81 | 900.00 | |
| 9 Be | 45 | 2 | -0.46 | -0.46 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 27.68 | 900.00 | |
| 11 B | 45 | 2 | -0.96 | -0.96 | ppb | 7.65 | 900.00 | |
| 23 Na | 45 | 1 | 7.24 | 7.24 | ppb | 2.85 | 90000.00 | |
| 23 Na | 45 | 2 | 8.14 | 8.14 | ppb | 4.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.54 | 1.54 | ppb | 6.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.37 | 1.37 | ppb | 2.73 | 90000.00 | |
| 27 Al | 45 | 1 | 0.93 | 0.93 | ppb | 17.41 | 90000.00 | |
| 27 Al | 45 | 2 | 0.65 | 0.65 | ppb | 15.62 | 90000.00 | |
| 39 K | 45 | 1 | -3.05 | -3.05 | ppb | 32.77 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.96 | -6.96 | ppb | 13.05 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.06 | -0.06 | ppb | 8.14 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 101.41 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 17.53 | 900.00 | |
| 55 Mn | 45 | 2 | -0.17 | -0.17 | ppb | 4.07 | 900.00 | |
| 56 Fe | 45 | 2 | 0.12 | 0.12 | ppb | 46.42 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | -0.01 | ppb | 21.77 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 21.90 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 3.04 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 233.97 | 900.00 | |
| 75 As | 72 | 2 | -0.08 | -0.08 | ppb | 15.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.49 | -0.49 | ppb | 17.95 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 42.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.99 | 0.99 | ppb | 4.73 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 17.18 | 180.00 | |
| 111 Cd | 115 | 2 | -0.05 | -0.05 | ppb | 15.34 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | -0.01 | ppb | 13.00 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | -0.02 | ppb | 3.23 | 900.00 | |
| 137 Ba | 159 | 1 | -0.06 | -0.06 | ppb | 15.47 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.04 | ppb | 5.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.03 | ppb | 5.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1835887 | 0.88 | 1927370 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 4210026 | 0.45 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 404551 | 0.63 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 948482 | 0.98 | 959644 | 98.8 | 70 - | 130 |
| 72 | Ge | 2 | 177924 | 0.43 | 174244 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 5348184 | 0.94 | 5379893 | 99.4 | 70 - | 130 |
| 115 | In | 1 | 5665596 | 0.80 | 5735998 | 98.8 | 70 - | 130 |
| 115 | In | 2 | 1423430 | 0.13 | 1381769 | 103.0 | 70 - | 130 |
| 159 | Tb | 1 | 7065564 | 0.94 | 7108936 | 99.4 | 70 - | 130 |
| 175 | Lu | 1 | 6623136 | 0.54 | 6644013 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 3877501 | 0.83 | 3907325 | 99.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D#
Date Acquired: Apr 27 2013 03:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.45 | 51.45 | ppb | 1.15 | 900.00 | |
| 9 Be | 45 | 2 | 48.83 | 48.83 | ppb | 0.34 | 900.00 | |
| 11 B | 6 | 1 | 51.13 | 51.13 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 48.00 | 48.00 | ppb | 1.89 | 900.00 | |
| 23 Na | 45 | 1 | 5073.00 | 5073.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 5160.00 | 5160.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 5058.00 | 5058.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5150.00 | 5150.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 5036.00 | 5036.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.26 | 90000.00 | |
| 39 K | 45 | 1 | 5136.00 | 5136.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5121.00 | 5121.00 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.73 | 49.73 | ppb | 0.85 | 900.00 | |
| 51 V | 45 | 2 | 49.85 | 49.85 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 49.52 | 49.52 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 48.87 | 48.87 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 5239.00 | 5239.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 49.71 | 49.71 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 47.93 | 47.93 | ppb | 0.57 | 900.00 | |
| 63 Cu | 72 | 2 | 47.09 | 47.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 48.38 | 48.38 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 50.02 | 50.02 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 50.18 | 50.18 | ppb | 0.55 | 900.00 | |
| 88 Sr | 103 | 1 | 52.22 | 52.22 | ppb | 0.41 | 900.00 | |
| 98 Mo | 103 | 1 | 51.80 | 51.80 | ppb | 0.35 | 900.00 | |
| 107 Ag | 115 | 1 | 50.09 | 50.09 | ppb | 0.88 | 180.00 | |
| 111 Cd | 115 | 2 | 49.34 | 49.34 | ppb | 1.44 | 900.00 | |
| 120 Sn | 115 | 1 | 51.35 | 51.35 | ppb | 0.26 | 900.00 | |
| 121 Sb | 115 | 1 | 51.77 | 51.77 | ppb | 1.30 | 900.00 | |
| 137 Ba | 159 | 1 | 49.77 | 49.77 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | 48.60 | 48.60 | ppb | 0.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.23 | 50.23 | ppb | 0.53 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1731981 | 0.95 | 1927370 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 4209978 | 0.69 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 399733 | 0.19 | 400302 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 933274 | 0.46 | 959644 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 174338 | 0.45 | 174244 | 100.1 | 70 | - | 130 |
| 103 Rh | 1 | 5154339 | 0.27 | 5379893 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 5547701 | 0.22 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1372106 | 0.82 | 1381769 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 6997249 | 0.72 | 7108936 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 6525952 | 1.51 | 6644013 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 3708888 | 0.11 | 3907325 | 94.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D#
Date Acquired: Apr 27 2013 03:23 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | -0.05 | ppb | 28.84 | 900.00 | |
| 9 Be | 45 | 2 | 2.34 | 2.34 | ppb | 46.96 | 900.00 | |
| 11 B | 6 | 1 | 0.18 | 0.18 | ppb | 20.60 | 900.00 | |
| 11 B | 45 | 2 | 6.48 | 6.48 | ppb | 42.02 | 900.00 | |
| 23 Na | 45 | 1 | 3.36 | 3.36 | ppb | 18.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5.62 | 5.62 | ppb | 8.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.66 | 0.66 | ppb | 9.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.33 | 1.33 | ppb | 23.84 | 90000.00 | |
| 27 Al | 45 | 1 | 0.33 | 0.33 | ppb | 49.35 | 90000.00 | |
| 27 Al | 45 | 2 | 1.49 | 1.49 | ppb | 35.22 | 90000.00 | |
| 39 K | 45 | 1 | -1.52 | -1.52 | ppb | 110.01 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.12 | -7.12 | ppb | 13.50 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.09 | -0.09 | ppb | 42.04 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 40.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.06 | ppb | 50.34 | 900.00 | |
| 55 Mn | 45 | 2 | 0.11 | 0.11 | ppb | 38.15 | 900.00 | |
| 56 Fe | 45 | 2 | 1.17 | 1.17 | ppb | 4.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 45.12 | 900.00 | |
| 60 Ni | 45 | 2 | 0.35 | 0.35 | ppb | 21.50 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 55.09 | 900.00 | |
| 66 Zn | 72 | 2 | 0.41 | 0.41 | ppb | 36.86 | 900.00 | |
| 75 As | 72 | 2 | 0.56 | 0.56 | ppb | 43.44 | 900.00 | |
| 78 Se | 72 | 2 | 5.70 | 5.70 | ppb | 44.01 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 66.97 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 5.23 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 25.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.32 | 0.32 | ppb | 53.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 16.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 106.51 | 900.00 | |
| 137 Ba | 159 | 1 | -0.04 | -0.04 | ppb | 25.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.15 | ppb | 5.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 34.31 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1747028 | 1.69 | 1927370 | 90.6 | 70 - 130 | |
| 45 Sc | 1 | 4128438 | 1.20 | 4239129 | 97.4 | 70 - 130 | |
| 45 Sc | 2 | 400928 | 0.59 | 400302 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 933957 | 0.81 | 959644 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 175958 | 0.79 | 174244 | 101.0 | 70 - | 130 |
| 103 | Rh | 1 | 5249530 | 0.48 | 5379893 | 97.6 | 70 - | 130 |
| 115 | In | 1 | 5604335 | 0.97 | 5735998 | 97.7 | 70 - | 130 |
| 115 | In | 2 | 1400467 | 1.34 | 1381769 | 101.4 | 70 - | 130 |
| 159 | Tb | 1 | 6953441 | 0.52 | 7108936 | 97.8 | 70 - | 130 |
| 175 | Lu | 1 | 6448776 | 0.67 | 6644013 | 97.1 | 70 - | 130 |
| 209 | Bi | 1 | 3812090 | 0.29 | 3907325 | 97.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 03:30 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | -0.07 | ppb | 8.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.09 | -0.09 | ppb | 168.85 | 900.00 | |
| 11 B | 6 | 1 | -0.03 | -0.03 | ppb | 71.95 | 900.00 | |
| 11 B | 45 | 2 | -0.11 | -0.11 | ppb | 87.28 | 900.00 | |
| 23 Na | 45 | 1 | 9.49 | 9.49 | ppb | 5.89 | 90000.00 | |
| 23 Na | 45 | 2 | 13.65 | 13.65 | ppb | 5.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.10 | 7.10 | ppb | 2.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 8.33 | 8.33 | ppb | 3.70 | 90000.00 | |
| 27 Al | 45 | 1 | 6.19 | 6.19 | ppb | 2.45 | 90000.00 | |
| 27 Al | 45 | 2 | 6.96 | 6.96 | ppb | 3.19 | 90000.00 | |
| 39 K | 45 | 1 | 2.70 | 2.70 | ppb | 81.98 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.90 | -2.90 | ppb | 29.02 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 76.86 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 18.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 96.64 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 14.90 | 900.00 | |
| 56 Fe | 45 | 2 | 4.51 | 4.51 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 27.24 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 112.86 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 7.29 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 36.00 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 263.81 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 369.57 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 61.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 8.17 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 17.28 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 86.96 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 91.88 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | -0.01 | ppb | 14.11 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.05 | ppb | 6.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 9.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 7.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1730117 | 2.18 | 1927370 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 4264108 | 1.82 | 4239129 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 406116 | 0.36 | 400302 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 955785 | 1.54 | 959644 | 99.6 | 70 - | 130 |
| 72 | Ge | 2 | 178542 | 0.44 | 174244 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 5401161 | 2.46 | 5379893 | 100.4 | 70 - | 130 |
| 115 | In | 1 | 5731771 | 2.14 | 5735998 | 99.9 | 70 - | 130 |
| 115 | In | 2 | 1407578 | 1.91 | 1381769 | 101.9 | 70 - | 130 |
| 159 | Tb | 1 | 7117318 | 2.33 | 7108936 | 100.1 | 70 - | 130 |
| 175 | Lu | 1 | 6603428 | 2.50 | 6644013 | 99.4 | 70 - | 130 |
| 209 | Bi | 1 | 3850085 | 1.06 | 3907325 | 98.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 03:38 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20853-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2201 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.19 | -0.09 | ppb | 0.91 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 5.05 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.01 | ppb | 136.26 | 900.00 | |
| 11 B | 45 | 2 | -2.64 | -1.32 | ppb | 7.53 | 900.00 | |
| 23 Na | 45 | 1 | 13.19 | 6.60 | ppb | 2.50 | 90000.00 | |
| 23 Na | 45 | 2 | 16.02 | 8.01 | ppb | 6.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.53 | 1.26 | ppb | 5.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.14 | 1.07 | ppb | 7.87 | 90000.00 | |
| 27 Al | 45 | 1 | 1.98 | 0.99 | ppb | 10.01 | 90000.00 | |
| 27 Al | 45 | 2 | 1.43 | 0.71 | ppb | 15.01 | 90000.00 | |
| 39 K | 45 | 1 | 3.37 | 1.69 | ppb | 11.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 10.25 | 5.12 | ppb | 4.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.16 | 0.08 | ppb | 14.06 | 900.00 | |
| 51 V | 45 | 2 | 1.83 | 0.92 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.02 | ppb | 12.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.23 | 0.11 | ppb | 5.71 | 900.00 | |
| 56 Fe | 45 | 2 | 5.12 | 2.56 | ppb | 3.75 | 90000.00 | |
| 59 Co | 45 | 2 | -0.02 | -0.01 | ppb | 3.06 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 107.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.08 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.84 | 1.42 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.08 | ppb | 8.13 | 900.00 | |
| 78 Se | 72 | 2 | -2.01 | -1.00 | ppb | 5.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.00 | ppb | 20.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.30 | 0.15 | ppb | 11.15 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 5.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.16 | -0.08 | ppb | 3.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.01 | ppb | 35.61 | 900.00 | |
| 137 Ba | 159 | 1 | -0.05 | -0.03 | ppb | 23.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 24.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | -0.01 | ppb | 14.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1633726 | 2.17 | 1927370 | 84.8 | 70 - 130 | |
| 45 Sc | 1 | 4114598 | 0.36 | 4239129 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 400604 | 0.39 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 933940 | 1.16 | 959644 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 176288 | 0.56 | 174244 | 101.2 | 70 - | 130 |
| 103 | Rh | 1 | 5233276 | 1.16 | 5379893 | 97.3 | 70 - | 130 |
| 115 | In | 1 | 5549933 | 1.30 | 5735998 | 96.8 | 70 - | 130 |
| 115 | In | 2 | 1399835 | 1.30 | 1381769 | 101.3 | 70 - | 130 |
| 159 | Tb | 1 | 7005894 | 0.56 | 7108936 | 98.6 | 70 - | 130 |
| 175 | Lu | 1 | 6491766 | 0.56 | 6644013 | 97.7 | 70 - | 130 |
| 209 | Bi | 1 | 3822888 | 1.03 | 3907325 | 97.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#
**Date Acquired:** Apr 27 2013 03:45 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20199-2F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 0.60 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 0.03 | 900.00 | |
| 11 B | 6 | 1 | 361.20 | 180.60 | ppb | 0.55 | 900.00 | |
| 11 B | 45 | 2 | 312.80 | 156.40 | ppb | 2.15 | 900.00 | |
| 23 Na | 45 | 1 | 39040.00 | 19520.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 42260.00 | 21130.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 16742.00 | 8371.00 | ppb | 1.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 18000.00 | 9000.00 | ppb | 1.38 | 90000.00 | |
| 27 Al | 45 | 1 | 3.16 | 1.58 | ppb | 1.93 | 90000.00 | |
| 27 Al | 45 | 2 | 2.96 | 1.48 | ppb | 3.96 | 90000.00 | |
| 39 K | 45 | 1 | 8950.00 | 4475.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 125320.00 | 62660.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.15 | 0.57 | ppb | 3.46 | 900.00 | |
| 51 V | 45 | 2 | 1.45 | 0.72 | ppb | 1.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.56 | 0.28 | ppb | 4.05 | 900.00 | |
| 55 Mn | 45 | 2 | 5696.00 | 2848.00 | ppb | 0.64 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 49940.00 | 24970.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 22.28 | 11.14 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 102.88 | 51.44 | ppb | 0.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.01 | ppb | 11.55 | 900.00 | |
| 66 Zn | 72 | 2 | 13.22 | 6.61 | ppb | 1.31 | 900.00 | |
| 75 As | 72 | 2 | 3.02 | 1.51 | ppb | 3.48 | 900.00 | |
| 78 Se | 72 | 2 | -1.85 | -0.92 | ppb | 7.96 | 900.00 | |
| 88 Sr | 103 | 1 | 724.60 | 362.30 | ppb | 1.63 | 900.00 | |
| 98 Mo | 103 | 1 | 38.60 | 19.30 | ppb | 1.53 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 7.53 | 180.00 | |
| 111 Cd | 115 | 2 | -0.09 | -0.04 | ppb | 21.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.10 | ppb | 8.52 | 900.00 | |
| 121 Sb | 115 | 1 | 1.87 | 0.93 | ppb | 1.80 | 900.00 | |
| 137 Ba | 159 | 1 | 47.30 | 23.65 | ppb | 0.17 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 55.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.01 | ppb | 18.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1488652 | 0.31 | 1927370 | 77.2 | 70 - 130 | |
| 45 Sc | 1 | 4079038 | 0.54 | 4239129 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 397877 | 0.35 | 400302 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 926402 | 0.64 | 959644 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 174858 | 1.14 | 174244 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 4833875 | 1.84 | 5379893 | 89.9 | 70 | - | 130 |
| 115 In | 1 | 5310575 | 1.28 | 5735998 | 92.6 | 70 | - | 130 |
| 115 In | 2 | 1327400 | 0.12 | 1381769 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 6890809 | 0.98 | 7108936 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 6454238 | 0.36 | 6644013 | 97.1 | 70 | - | 130 |
| 209 Bi | 1 | 3545863 | 0.90 | 3907325 | 90.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#
Date Acquired: Apr 27 2013 03:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20063-18F
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 4.43 | 900.00 | |
| 9 Be | 45 | 2 | -1.11 | -0.56 | ppb | 4.48 | 900.00 | |
| 11 B | 6 | 1 | 208.60 | 104.30 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 176.08 | 88.04 | ppb | 1.27 | 900.00 | |
| 23 Na | 45 | 1 | 16844.00 | 8422.00 | ppb | 0.30 | 90000.00 | |
| 23 Na | 45 | 2 | 17980.00 | 8990.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 6018.00 | 3009.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 6410.00 | 3205.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 7.82 | 3.91 | ppb | 1.41 | 90000.00 | |
| 27 Al | 45 | 2 | 7.51 | 3.75 | ppb | 5.24 | 90000.00 | |
| 39 K | 45 | 1 | 7780.00 | 3890.00 | ppb | 1.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 63520.00 | 31760.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.82 | 0.41 | ppb | 2.81 | 900.00 | |
| 51 V | 45 | 2 | 1.66 | 0.83 | ppb | 2.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.48 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | 2754.00 | 1377.00 | ppb | 0.12 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61280.00 | 30640.00 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 17.10 | 8.55 | ppb | 0.75 | 900.00 | |
| 60 Ni | 45 | 2 | 79.10 | 39.55 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.44 | 0.22 | ppb | 3.06 | 900.00 | |
| 66 Zn | 72 | 2 | 17.77 | 8.89 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 12.49 | 6.24 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | -1.97 | -0.98 | ppb | 6.76 | 900.00 | |
| 88 Sr | 103 | 1 | 522.20 | 261.10 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 35.08 | 17.54 | ppb | 0.53 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 10.12 | 180.00 | |
| 111 Cd | 115 | 2 | -0.08 | -0.04 | ppb | 30.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 5.46 | 900.00 | |
| 121 Sb | 115 | 1 | 2.50 | 1.25 | ppb | 1.67 | 900.00 | |
| 137 Ba | 159 | 1 | 45.46 | 22.73 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 13.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.09 | ppb | 1.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1501495 | 0.56 | 1927370 | 77.9 | 70 - 130 | |
| 45 Sc | 1 | 4107295 | 0.86 | 4239129 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 400777 | 0.48 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943854 | 0.42 | 959644 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 178381 | 0.40 | 174244 | 102.4 | 70 - | 130 |
| 103 | Rh | 1 | 4969516 | 0.66 | 5379893 | 92.4 | 70 - | 130 |
| 115 | In | 1 | 5449785 | 0.45 | 5735998 | 95.0 | 70 - | 130 |
| 115 | In | 2 | 1348995 | 0.90 | 1381769 | 97.6 | 70 - | 130 |
| 159 | Tb | 1 | 6987825 | 0.44 | 7108936 | 98.3 | 70 - | 130 |
| 175 | Lu | 1 | 6547736 | 0.81 | 6644013 | 98.6 | 70 - | 130 |
| 209 | Bi | 1 | 3651753 | 0.21 | 3907325 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 03:59 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC20063-19F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2204 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 1.72 | 900.00 | |
| 9 Be | 45 | 2 | -1.12 | -0.56 | ppb | 3.79 | 900.00 | |
| 11 B | 6 | 1 | 212.00 | 106.00 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 173.46 | 86.73 | ppb | 0.62 | 900.00 | |
| 23 Na | 45 | 1 | 17102.00 | 8551.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 18284.00 | 9142.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 6078.00 | 3039.00 | ppb | 1.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 6472.00 | 3236.00 | ppb | 0.06 | 90000.00 | |
| 27 Al | 45 | 1 | 9.85 | 4.92 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 2 | 9.15 | 4.58 | ppb | 4.22 | 90000.00 | |
| 39 K | 45 | 1 | 7810.00 | 3905.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 63680.00 | 31840.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 0.50 | ppb | 3.07 | 900.00 | |
| 51 V | 45 | 2 | 1.86 | 0.93 | ppb | 0.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.44 | ppb | 0.93 | 900.00 | |
| 55 Mn | 45 | 2 | 2694.00 | 1347.00 | ppb | 0.90 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 57980.00 | 28990.00 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 16.61 | 8.30 | ppb | 0.68 | 900.00 | |
| 60 Ni | 45 | 2 | 76.16 | 38.08 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.21 | ppb | 2.89 | 900.00 | |
| 66 Zn | 72 | 2 | 15.62 | 7.81 | ppb | 0.37 | 900.00 | |
| 75 As | 72 | 2 | 14.65 | 7.32 | ppb | 0.41 | 900.00 | |
| 78 Se | 72 | 2 | -2.09 | -1.05 | ppb | 2.90 | 900.00 | |
| 88 Sr | 103 | 1 | 524.80 | 262.40 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 35.36 | 17.68 | ppb | 0.57 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 12.43 | 180.00 | |
| 111 Cd | 115 | 2 | -0.07 | -0.03 | ppb | 35.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.74 | 900.00 | |
| 121 Sb | 115 | 1 | 2.69 | 1.35 | ppb | 1.62 | 900.00 | |
| 137 Ba | 159 | 1 | 45.62 | 22.81 | ppb | 1.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 17.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1481931 | 1.01 | 1927370 | 76.9 | 70 - 130 | |
| 45 Sc | 1 | 4123807 | 0.40 | 4239129 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 404294 | 0.53 | 400302 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 943622 | 0.43 | 959644 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 178673 | 0.71 | 174244 | 102.5 | 70 | - | 130 |
| 103 Rh | 1 | 4981229 | 0.43 | 5379893 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 5443730 | 0.86 | 5735998 | 94.9 | 70 | - | 130 |
| 115 In | 2 | 1351997 | 1.32 | 1381769 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 6932579 | 0.54 | 7108936 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 6458877 | 0.51 | 6644013 | 97.2 | 70 | - | 130 |
| 209 Bi | 1 | 3570263 | 0.71 | 3907325 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#
Date Acquired: Apr 27 2013 04:06 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20063-20F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.08 | ppb | 1.72 | 900.00 | |
| 9 Be | 45 | 2 | -1.09 | -0.55 | ppb | 1.18 | 900.00 | |
| 11 B | 6 | 1 | 384.00 | 192.00 | ppb | 3.83 | 900.00 | |
| 11 B | 45 | 2 | 313.00 | 156.50 | ppb | 1.48 | 900.00 | |
| 23 Na | 45 | 1 | 32020.00 | 16010.00 | ppb | 0.74 | 90000.00 | |
| 23 Na | 45 | 2 | 34340.00 | 17170.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 10514.00 | 5257.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 11252.00 | 5626.00 | ppb | 0.24 | 90000.00 | |
| 27 Al | 45 | 1 | 7.74 | 3.87 | ppb | 2.22 | 90000.00 | |
| 27 Al | 45 | 2 | 7.78 | 3.89 | ppb | 5.46 | 90000.00 | |
| 39 K | 45 | 1 | 11958.00 | 5979.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 87520.00 | 43760.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.86 | 0.43 | ppb | 9.09 | 900.00 | |
| 51 V | 45 | 2 | 1.80 | 0.90 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | 1.17 | 0.58 | ppb | 1.37 | 900.00 | |
| 55 Mn | 45 | 2 | 3966.00 | 1983.00 | ppb | 0.30 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 70400.00 | 35200.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 18.04 | 9.02 | ppb | 0.84 | 900.00 | |
| 60 Ni | 45 | 2 | 88.12 | 44.06 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 1.30 | 0.65 | ppb | 1.12 | 900.00 | |
| 66 Zn | 72 | 2 | 28.56 | 14.28 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 17.46 | 8.73 | ppb | 1.26 | 900.00 | |
| 78 Se | 72 | 2 | -1.91 | -0.96 | ppb | 7.08 | 900.00 | |
| 88 Sr | 103 | 1 | 1088.20 | 544.10 | ppb | 0.63 | 900.00 | |
| 98 Mo | 103 | 1 | 34.42 | 17.21 | ppb | 1.06 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.02 | ppb | 13.73 | 180.00 | |
| 111 Cd | 115 | 2 | -0.11 | -0.05 | ppb | 7.45 | 900.00 | |
| 120 Sn | 115 | 1 | 0.32 | 0.16 | ppb | 3.04 | 900.00 | |
| 121 Sb | 115 | 1 | 4.17 | 2.09 | ppb | 1.70 | 900.00 | |
| 137 Ba | 159 | 1 | 72.00 | 36.00 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 133.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.06 | ppb | 10.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1484735 | 0.82 | 1927370 | 77.0 | 70 - 130 | |
| 45 Sc | 1 | 4062311 | 0.29 | 4239129 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 396784 | 0.66 | 400302 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943215 | 0.11 | 959644 | 98.3 | 70 - | 130 |
| 72 | Ge | 2 | 177296 | 0.42 | 174244 | 101.8 | 70 - | 130 |
| 103 | Rh | 1 | 4842362 | 0.92 | 5379893 | 90.0 | 70 - | 130 |
| 115 | In | 1 | 5290921 | 1.24 | 5735998 | 92.2 | 70 - | 130 |
| 115 | In | 2 | 1318832 | 1.23 | 1381769 | 95.4 | 70 - | 130 |
| 159 | Tb | 1 | 6824004 | 0.67 | 7108936 | 96.0 | 70 - | 130 |
| 175 | Lu | 1 | 6404654 | 0.86 | 6644013 | 96.4 | 70 - | 130 |
| 209 | Bi | 1 | 3477907 | 0.32 | 3907325 | 89.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#
Date Acquired: Apr 27 2013 04:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20063-21F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 1.95 | 900.00 | |
| 9 Be | 45 | 2 | -1.14 | -0.57 | ppb | 1.07 | 900.00 | |
| 11 B | 6 | 1 | 2.50 | 1.25 | ppb | 3.05 | 900.00 | |
| 11 B | 45 | 2 | -0.67 | -0.33 | ppb | 25.21 | 900.00 | |
| 23 Na | 45 | 1 | 12.24 | 6.12 | ppb | 9.39 | 90000.00 | |
| 23 Na | 45 | 2 | 14.80 | 7.40 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.54 | 1.27 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.48 | 1.24 | ppb | 3.56 | 90000.00 | |
| 27 Al | 45 | 1 | 1.98 | 0.99 | ppb | 6.16 | 90000.00 | |
| 27 Al | 45 | 2 | 1.64 | 0.82 | ppb | 36.40 | 90000.00 | |
| 39 K | 45 | 1 | 12.87 | 6.44 | ppb | 18.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.04 | 2.02 | ppb | 37.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.13 | 0.06 | ppb | 37.20 | 900.00 | |
| 51 V | 45 | 2 | 1.57 | 0.79 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.10 | ppb | 7.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.12 | ppb | 55.47 | 900.00 | |
| 56 Fe | 45 | 2 | 2.87 | 1.43 | ppb | 10.27 | 90000.00 | |
| 59 Co | 45 | 2 | -0.02 | -0.01 | ppb | 3.54 | 900.00 | |
| 60 Ni | 45 | 2 | 0.26 | 0.13 | ppb | 4.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 8.09 | 900.00 | |
| 66 Zn | 72 | 2 | 5.79 | 2.90 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 0.10 | 0.05 | ppb | 22.50 | 900.00 | |
| 78 Se | 72 | 2 | -1.81 | -0.91 | ppb | 5.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 12.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 18.49 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | -0.02 | ppb | 7.77 | 180.00 | |
| 111 Cd | 115 | 2 | -0.15 | -0.08 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 3.09 | 900.00 | |
| 121 Sb | 115 | 1 | -0.01 | 0.00 | ppb | 32.06 | 900.00 | |
| 137 Ba | 159 | 1 | -0.10 | -0.05 | ppb | 31.17 | 900.00 | |
| 205 Tl | 209 | 1 | -0.06 | -0.03 | ppb | 4.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.04 | -0.02 | ppb | 4.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1496323 | 0.69 | 1927370 | 77.6 | 70 - 130 | |
| 45 Sc | 1 | 4087080 | 0.84 | 4239129 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 405121 | 0.27 | 400302 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 936262 | 0.66 | 959644 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 176382 | 0.10 | 174244 | 101.2 | 70 - | 130 |
| 103 | Rh | 1 | 5187163 | 0.69 | 5379893 | 96.4 | 70 - | 130 |
| 115 | In | 1 | 5509061 | 0.80 | 5735998 | 96.0 | 70 - | 130 |
| 115 | In | 2 | 1388500 | 0.92 | 1381769 | 100.5 | 70 - | 130 |
| 159 | Tb | 1 | 6966536 | 0.68 | 7108936 | 98.0 | 70 - | 130 |
| 175 | Lu | 1 | 6432005 | 0.67 | 6644013 | 96.8 | 70 - | 130 |
| 209 | Bi | 1 | 3696278 | 1.07 | 3907325 | 94.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#
Date Acquired: Apr 27 2013 04:20 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20199-1F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 2.70 | 900.00 | |
| 9 Be | 45 | 2 | -1.16 | -0.58 | ppb | 2.10 | 900.00 | |
| 11 B | 6 | 1 | 407.80 | 203.90 | ppb | 4.13 | 900.00 | |
| 11 B | 45 | 2 | 323.20 | 161.60 | ppb | 0.45 | 900.00 | |
| 23 Na | 45 | 1 | 32300.00 | 16150.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 34720.00 | 17360.00 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 11730.00 | 5865.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 12402.00 | 6201.00 | ppb | 0.14 | 90000.00 | |
| 27 Al | 45 | 1 | 4.75 | 2.37 | ppb | 6.15 | 90000.00 | |
| 27 Al | 45 | 2 | 4.20 | 2.10 | ppb | 4.43 | 90000.00 | |
| 39 K | 45 | 1 | 10516.00 | 5258.00 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 86960.00 | 43480.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 3.51 | 900.00 | |
| 51 V | 45 | 2 | 1.58 | 0.79 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 0.69 | 0.35 | ppb | 0.99 | 900.00 | |
| 55 Mn | 45 | 2 | 5226.00 | 2613.00 | ppb | 0.77 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 28560.00 | 14280.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 5.63 | 2.82 | ppb | 0.72 | 900.00 | |
| 60 Ni | 45 | 2 | 51.98 | 25.99 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 1.07 | 0.54 | ppb | 1.41 | 900.00 | |
| 66 Zn | 72 | 2 | 12.65 | 6.33 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 3.88 | 1.94 | ppb | 1.59 | 900.00 | |
| 78 Se | 72 | 2 | -1.89 | -0.94 | ppb | 7.12 | 900.00 | |
| 88 Sr | 103 | 1 | 898.60 | 449.30 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 23.92 | 11.96 | ppb | 0.98 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 7.00 | 180.00 | |
| 111 Cd | 115 | 2 | -0.10 | -0.05 | ppb | 13.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 5.20 | 900.00 | |
| 121 Sb | 115 | 1 | 1.78 | 0.89 | ppb | 0.87 | 900.00 | |
| 137 Ba | 159 | 1 | 53.94 | 26.97 | ppb | 0.15 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 9.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 8.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1477222 | 2.10 | 1927370 | 76.6 | 70 - 130 | |
| 45 Sc | 1 | 4132940 | 0.70 | 4239129 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 406436 | 0.16 | 400302 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 943644 | 0.57 | 959644 | 98.3 | 70 - | 130 |
| 72 | Ge | 2 | 177310 | 0.64 | 174244 | 101.8 | 70 - | 130 |
| 103 | Rh | 1 | 4941820 | 0.96 | 5379893 | 91.9 | 70 - | 130 |
| 115 | In | 1 | 5412814 | 0.38 | 5735998 | 94.4 | 70 - | 130 |
| 115 | In | 2 | 1337759 | 0.64 | 1381769 | 96.8 | 70 - | 130 |
| 159 | Tb | 1 | 6850190 | 0.99 | 7108936 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 6377291 | 1.08 | 6644013 | 96.0 | 70 - | 130 |
| 209 | Bi | 1 | 3497288 | 0.63 | 3907325 | 89.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Apr 27 2013 04:27 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC20199-3F
**Misc Info:**
**Vial Number:** 2208
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | -0.09 | ppb | 2.33 | 900.00 | |
| 9 Be | 45 | 2 | -1.17 | -0.59 | ppb | 2.81 | 900.00 | |
| 11 B | 6 | 1 | 398.60 | 199.30 | ppb | 1.45 | 900.00 | |
| 11 B | 45 | 2 | 323.40 | 161.70 | ppb | 1.62 | 900.00 | |
| 23 Na | 45 | 1 | 40020.00 | 20010.00 | ppb | 0.40 | 90000.00 | |
| 23 Na | 45 | 2 | 42660.00 | 21330.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 16374.00 | 8187.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 17384.00 | 8692.00 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 5.03 | 2.52 | ppb | 5.76 | 90000.00 | |
| 27 Al | 45 | 2 | 5.05 | 2.53 | ppb | 5.84 | 90000.00 | |
| 39 K | 45 | 1 | 10104.00 | 5052.00 | ppb | 1.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 120680.00 | 60340.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.58 | ppb | 7.77 | 900.00 | |
| 51 V | 45 | 2 | 1.43 | 0.72 | ppb | 2.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.22 | ppb | 1.81 | 900.00 | |
| 55 Mn | 45 | 2 | 5640.00 | 2820.00 | ppb | 0.47 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 52440.00 | 26220.00 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 21.32 | 10.66 | ppb | 0.83 | 900.00 | |
| 60 Ni | 45 | 2 | 122.42 | 61.21 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.24 | 0.12 | ppb | 3.25 | 900.00 | |
| 66 Zn | 72 | 2 | 13.13 | 6.57 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 2.92 | 1.46 | ppb | 1.37 | 900.00 | |
| 78 Se | 72 | 2 | -1.93 | -0.97 | ppb | 7.34 | 900.00 | |
| 88 Sr | 103 | 1 | 746.60 | 373.30 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 43.52 | 21.76 | ppb | 0.95 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 9.26 | 180.00 | |
| 111 Cd | 115 | 2 | -0.08 | -0.04 | ppb | 12.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.08 | ppb | 2.08 | 900.00 | |
| 121 Sb | 115 | 1 | 1.65 | 0.83 | ppb | 1.29 | 900.00 | |
| 137 Ba | 159 | 1 | 51.56 | 25.78 | ppb | 0.08 | 900.00 | |
| 205 Tl | 209 | 1 | -0.05 | -0.02 | ppb | 9.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 47.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1523761 | 0.32 | 1927370 | 79.1 | 70 - 130 | |
| 45 Sc | 1 | 4096017 | 0.90 | 4239129 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 400768 | 0.95 | 400302 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 934298 | 0.78 | 959644 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 175342 | 0.53 | 174244 | 100.6 | 70 | - | 130 |
| 103 Rh | 1 | 4876475 | 1.06 | 5379893 | 90.6 | 70 | - | 130 |
| 115 In | 1 | 5352197 | 0.77 | 5735998 | 93.3 | 70 | - | 130 |
| 115 In | 2 | 1323001 | 0.49 | 1381769 | 95.7 | 70 | - | 130 |
| 159 Tb | 1 | 6925802 | 0.44 | 7108936 | 97.4 | 70 | - | 130 |
| 175 Lu | 1 | 6472034 | 0.07 | 6644013 | 97.4 | 70 | - | 130 |
| 209 Bi | 1 | 3511133 | 0.49 | 3907325 | 89.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#
Date Acquired: Apr 27 2013 04:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20199-4F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | -0.09 | ppb | 2.21 | 900.00 | |
| 9 Be | 45 | 2 | -1.17 | -0.59 | ppb | 3.82 | 900.00 | |
| 11 B | 6 | 1 | 273.60 | 136.80 | ppb | 0.18 | 900.00 | |
| 11 B | 45 | 2 | 236.60 | 118.30 | ppb | 1.16 | 900.00 | |
| 23 Na | 45 | 1 | 42300.00 | 21150.00 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 45220.00 | 22610.00 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 25700.00 | 12850.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 27500.00 | 13750.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 6.09 | 3.04 | ppb | 5.75 | 90000.00 | |
| 27 Al | 45 | 2 | 5.35 | 2.68 | ppb | 8.02 | 90000.00 | |
| 39 K | 45 | 1 | 11922.00 | 5961.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 155780.00 | 77890.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.48 | 0.74 | ppb | 0.35 | 900.00 | |
| 51 V | 45 | 2 | 1.11 | 0.55 | ppb | 1.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.49 | ppb | 0.06 | 900.00 | |
| 55 Mn | 45 | 2 | 3792.00 | 1896.00 | ppb | 0.53 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 51260.00 | 25630.00 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 15.02 | 7.51 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 66.54 | 33.27 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.09 | ppb | 2.43 | 900.00 | |
| 66 Zn | 72 | 2 | 14.24 | 7.12 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 5.80 | 2.90 | ppb | 1.92 | 900.00 | |
| 78 Se | 72 | 2 | -1.92 | -0.96 | ppb | 8.79 | 900.00 | |
| 88 Sr | 103 | 1 | 727.40 | 363.70 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 40.02 | 20.01 | ppb | 0.25 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | -0.01 | ppb | 14.84 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | -0.02 | ppb | 31.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.17 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 4.29 | 2.14 | ppb | 0.65 | 900.00 | |
| 137 Ba | 159 | 1 | 76.78 | 38.39 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.02 | ppb | 10.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 11.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1554379 | 0.13 | 1927370 | 80.6 | 70 - 130 | |
| 45 Sc | 1 | 4196433 | 0.33 | 4239129 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 400149 | 0.65 | 400302 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 944993 | 0.83 | 959644 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 176162 | 0.16 | 174244 | 101.1 | 70 - | 130 |
| 103 | Rh | 1 | 4935368 | 0.49 | 5379893 | 91.7 | 70 - | 130 |
| 115 | In | 1 | 5420638 | 0.49 | 5735998 | 94.5 | 70 - | 130 |
| 115 | In | 2 | 1326303 | 0.53 | 1381769 | 96.0 | 70 - | 130 |
| 159 | Tb | 1 | 6986963 | 0.89 | 7108936 | 98.3 | 70 - | 130 |
| 175 | Lu | 1 | 6547403 | 1.18 | 6644013 | 98.5 | 70 - | 130 |
| 209 | Bi | 1 | 3549704 | 0.94 | 3907325 | 90.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 04:42 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20853-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 518.80 | 25.94 | ppb | 1.58 | 900.00 | |
| 9 Be | 45 | 2 | 484.20 | 24.21 | ppb | 0.59 | 900.00 | |
| 11 B | 6 | 1 | 13.03 | 0.65 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | -15.17 | -0.76 | ppb | 13.38 | 900.00 | |
| 23 Na | 45 | 1 | 26300.00 | 1315.00 | ppb | 1.56 | 90000.00 | |
| 23 Na | 45 | 2 | 27220.00 | 1361.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 26700.00 | 1335.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 27860.00 | 1393.00 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 1 | 2178.00 | 108.90 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 2318.00 | 115.90 | ppb | 0.36 | 90000.00 | |
| 39 K | 45 | 1 | 26460.00 | 1323.00 | ppb | 1.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 27400.00 | 1370.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.80 | 24.39 | ppb | 1.88 | 900.00 | |
| 51 V | 45 | 2 | 512.40 | 25.62 | ppb | 0.87 | 900.00 | |
| 52 Cr | 45 | 2 | 510.20 | 25.51 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 549.60 | 27.48 | ppb | 0.80 | 900.00 | |
| 56 Fe | 45 | 2 | 2648.00 | 132.40 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 515.00 | 25.75 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | 493.40 | 24.67 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 493.60 | 24.68 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 539.60 | 26.98 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 515.40 | 25.77 | ppb | 1.53 | 900.00 | |
| 78 Se | 72 | 2 | 508.60 | 25.43 | ppb | 2.37 | 900.00 | |
| 88 Sr | 103 | 1 | 525.40 | 26.27 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 0.29 | 0.01 | ppb | 38.13 | 900.00 | |
| 107 Ag | 115 | 1 | 213.60 | 10.68 | ppb | 2.61 | 180.00 | |
| 111 Cd | 115 | 2 | 505.80 | 25.29 | ppb | 0.77 | 900.00 | |
| 120 Sn | 115 | 1 | -0.64 | -0.03 | ppb | 1.40 | 900.00 | |
| 121 Sb | 115 | 1 | 529.80 | 26.49 | ppb | 3.17 | 900.00 | |
| 137 Ba | 159 | 1 | 2032.00 | 101.60 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 482.40 | 24.12 | ppb | 1.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1025.80 | 51.29 | ppb | 2.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1835080 | 0.69 | 1927370 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 4322392 | 1.28 | 4239129 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 412112 | 0.75 | 400302 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 959034 | 1.38 | 959644 | 99.9 | 70 - | 130 |
| 72 | Ge | 2 | 179668 | 0.46 | 174244 | 103.1 | 70 - | 130 |
| 103 | Rh | 1 | 5424580 | 0.95 | 5379893 | 100.8 | 70 - | 130 |
| 115 | In | 1 | 5865840 | 2.50 | 5735998 | 102.3 | 70 - | 130 |
| 115 | In | 2 | 1448642 | 0.89 | 1381769 | 104.8 | 70 - | 130 |
| 159 | Tb | 1 | 7256246 | 0.92 | 7108936 | 102.1 | 70 - | 130 |
| 175 | Lu | 1 | 6818841 | 1.92 | 6644013 | 102.6 | 70 - | 130 |
| 209 | Bi | 1 | 3935434 | 2.01 | 3907325 | 100.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#
Date Acquired: Apr 27 2013 04:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.55 | 51.55 | ppb | 0.59 | 900.00 | |
| 9 Be | 45 | 2 | 48.31 | 48.31 | ppb | 2.41 | 900.00 | |
| 11 B | 6 | 1 | 52.37 | 52.37 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 48.93 | 48.93 | ppb | 2.23 | 900.00 | |
| 23 Na | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 5228.00 | 5228.00 | ppb | 0.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 5088.00 | 5088.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 5181.00 | 5181.00 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 1 | 5048.00 | 5048.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 2 | 5224.00 | 5224.00 | ppb | 1.09 | 90000.00 | |
| 39 K | 45 | 1 | 5166.00 | 5166.00 | ppb | 0.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 5155.00 | 5155.00 | ppb | 1.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.52 | 49.52 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 49.30 | 49.30 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 49.26 | 49.26 | ppb | 0.56 | 900.00 | |
| 55 Mn | 45 | 2 | 49.24 | 49.24 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 5191.00 | 5191.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 49.26 | 49.26 | ppb | 0.24 | 900.00 | |
| 60 Ni | 45 | 2 | 47.66 | 47.66 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | 46.67 | 46.67 | ppb | 0.33 | 900.00 | |
| 66 Zn | 72 | 2 | 48.16 | 48.16 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 49.55 | 49.55 | ppb | 0.36 | 900.00 | |
| 78 Se | 72 | 2 | 49.94 | 49.94 | ppb | 0.40 | 900.00 | |
| 88 Sr | 103 | 1 | 53.01 | 53.01 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 51.62 | 51.62 | ppb | 0.78 | 900.00 | |
| 107 Ag | 115 | 1 | 49.76 | 49.76 | ppb | 0.25 | 180.00 | |
| 111 Cd | 115 | 2 | 49.10 | 49.10 | ppb | 0.61 | 900.00 | |
| 120 Sn | 115 | 1 | 51.30 | 51.30 | ppb | 1.58 | 900.00 | |
| 121 Sb | 115 | 1 | 52.16 | 52.16 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 49.66 | 49.66 | ppb | 0.89 | 900.00 | |
| 205 Tl | 209 | 1 | 48.28 | 48.28 | ppb | 1.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.31 | 50.31 | ppb | 0.69 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1729110 | 0.75 | 1927370 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 4181901 | 0.84 | 4239129 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 398781 | 0.31 | 400302 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 920359 | 0.48 | 959644 | 95.9 | 70 | - | 130 |
| 72 Ge | 2 | 173680 | 0.70 | 174244 | 99.7 | 70 | - | 130 |
| 103 Rh | 1 | 5110842 | 0.65 | 5379893 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 5541581 | 0.34 | 5735998 | 96.6 | 70 | - | 130 |
| 115 In | 2 | 1388262 | 0.11 | 1381769 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 7076013 | 0.43 | 7108936 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 6669919 | 0.91 | 6644013 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 3791396 | 1.21 | 3907325 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D# |
| Date Acquired: | Apr 27 2013 05:04 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | -0.04 | ppb | 35.03 | 900.00 | |
| 9 Be | 45 | 2 | -0.19 | -0.19 | ppb | 79.24 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 26.04 | 900.00 | |
| 11 B | 45 | 2 | -0.34 | -0.34 | ppb | 142.82 | 900.00 | |
| 23 Na | 45 | 1 | 7.23 | 7.23 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 8.33 | 8.33 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.07 | 5.07 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.35 | 5.35 | ppb | 4.54 | 90000.00 | |
| 27 Al | 45 | 1 | 4.85 | 4.85 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 2 | 5.05 | 5.05 | ppb | 3.48 | 90000.00 | |
| 39 K | 45 | 1 | 6.04 | 6.04 | ppb | 13.74 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.16 | -2.16 | ppb | 28.95 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 442.74 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 38.86 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 576.37 | 900.00 | |
| 55 Mn | 45 | 2 | -0.04 | -0.04 | ppb | 56.05 | 900.00 | |
| 56 Fe | 45 | 2 | 3.73 | 3.73 | ppb | 9.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 764.26 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 93.14 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 8.18 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 63.32 | 900.00 | |
| 75 As | 72 | 2 | -0.05 | -0.05 | ppb | 47.57 | 900.00 | |
| 78 Se | 72 | 2 | -0.32 | -0.32 | ppb | 80.78 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 40.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.10 | 0.10 | ppb | 2.57 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 64.21 | 180.00 | |
| 111 Cd | 115 | 2 | -0.03 | -0.03 | ppb | 14.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 31.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 311.85 | 900.00 | |
| 137 Ba | 159 | 1 | -0.03 | -0.03 | ppb | 33.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 44.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1751590 | 1.05 | 1927370 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 4117620 | 1.37 | 4239129 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 402508 | 0.25 | 400302 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 931298 | 1.69 | 959644 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 176823 | 0.91 | 174244 | 101.5 | 70 - | 130 |
| 103 | Rh | 1 | 5188041 | 1.50 | 5379893 | 96.4 | 70 - | 130 |
| 115 | In | 1 | 5589810 | 0.66 | 5735998 | 97.5 | 70 - | 130 |
| 115 | In | 2 | 1407747 | 1.42 | 1381769 | 101.9 | 70 - | 130 |
| 159 | Tb | 1 | 6933791 | 2.00 | 7108936 | 97.5 | 70 - | 130 |
| 175 | Lu | 1 | 6485105 | 1.78 | 6644013 | 97.6 | 70 - | 130 |
| 209 | Bi | 1 | 3805867 | 1.50 | 3907325 | 97.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D# |
| Date Acquired: | Apr 27 2013 05:11 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP20853-S1 |
| Misc Info: | |
| Vial Number: | 2301 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 519.80 | 25.99 | ppb | 1.43 | 900.00 | |
| 9 Be | 45 | 2 | 508.00 | 25.40 | ppb | 1.14 | 900.00 | |
| 11 B | 6 | 1 | 320.20 | 16.01 | ppb | 1.32 | 900.00 | |
| 11 B | 45 | 2 | 313.40 | 15.67 | ppb | 3.74 | 900.00 | |
| 23 Na | 45 | 1 | 70760.00 | 3538.00 | ppb | 1.23 | 90000.00 | |
| 23 Na | 45 | 2 | 71100.00 | 3555.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 45640.00 | 2282.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 46320.00 | 2316.00 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2316.00 | 115.80 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 2 | 2452.00 | 122.60 | ppb | 0.47 | 90000.00 | |
| 39 K | 45 | 1 | 36420.00 | 1821.00 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 160120.00 | 8006.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 495.60 | 24.78 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 515.80 | 25.79 | ppb | 0.14 | 900.00 | |
| 52 Cr | 45 | 2 | 509.00 | 25.45 | ppb | 0.70 | 900.00 | |
| 55 Mn | 45 | 2 | 6688.00 | 334.40 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 54080.00 | 2704.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 533.80 | 26.69 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 603.80 | 30.19 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 487.00 | 24.35 | ppb | 1.30 | 900.00 | |
| 66 Zn | 72 | 2 | 568.00 | 28.40 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 524.40 | 26.22 | ppb | 0.61 | 900.00 | |
| 78 Se | 72 | 2 | 529.80 | 26.49 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 1251.20 | 62.56 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 34.12 | 1.71 | ppb | 0.29 | 900.00 | |
| 107 Ag | 115 | 1 | 216.40 | 10.82 | ppb | 0.38 | 180.00 | |
| 111 Cd | 115 | 2 | 506.40 | 25.32 | ppb | 0.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.26 | -0.01 | ppb | 17.50 | 900.00 | |
| 121 Sb | 115 | 1 | 546.60 | 27.33 | ppb | 0.53 | 900.00 | |
| 137 Ba | 159 | 1 | 2104.00 | 105.20 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 484.80 | 24.24 | ppb | 1.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1040.00 | 52.00 | ppb | 0.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795627 | 1.75 | 1927370 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 4152081 | 0.28 | 4239129 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 402632 | 0.30 | 400302 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 927899 | 0.14 | 959644 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 175359 | 0.90 | 174244 | 100.6 | 70 | - | 130 |
| 103 Rh | 1 | 5138432 | 0.17 | 5379893 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 5547961 | 0.20 | 5735998 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1387425 | 1.04 | 1381769 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 6976595 | 0.44 | 7108936 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 6512734 | 0.77 | 6644013 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 3750998 | 0.79 | 3907325 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#
Date Acquired: Apr 27 2013 05:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20853-S2
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 512.00 | 25.60 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 494.40 | 24.72 | ppb | 2.58 | 900.00 | |
| 11 B | 6 | 1 | 313.20 | 15.66 | ppb | 1.23 | 900.00 | |
| 11 B | 45 | 2 | 284.60 | 14.23 | ppb | 8.19 | 900.00 | |
| 23 Na | 45 | 1 | 69760.00 | 3488.00 | ppb | 0.98 | 90000.00 | |
| 23 Na | 45 | 2 | 69660.00 | 3483.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 44760.00 | 2238.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 46220.00 | 2311.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2202.00 | 110.10 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 2 | 2328.00 | 116.40 | ppb | 0.08 | 90000.00 | |
| 39 K | 45 | 1 | 36140.00 | 1807.00 | ppb | 0.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 155580.00 | 7779.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.60 | 24.58 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 511.80 | 25.59 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 504.60 | 25.23 | ppb | 0.22 | 900.00 | |
| 55 Mn | 45 | 2 | 6504.00 | 325.20 | ppb | 0.84 | 900.00 | |
| 56 Fe | 45 | 2 | 52680.00 | 2634.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 532.00 | 26.60 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 594.80 | 29.74 | ppb | 1.02 | 900.00 | |
| 63 Cu | 72 | 2 | 488.40 | 24.42 | ppb | 0.40 | 900.00 | |
| 66 Zn | 72 | 2 | 554.60 | 27.73 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 520.40 | 26.02 | ppb | 0.23 | 900.00 | |
| 78 Se | 72 | 2 | 509.20 | 25.46 | ppb | 2.28 | 900.00 | |
| 88 Sr | 103 | 1 | 1248.80 | 62.44 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 33.06 | 1.65 | ppb | 1.28 | 900.00 | |
| 107 Ag | 115 | 1 | 213.00 | 10.65 | ppb | 0.19 | 180.00 | |
| 111 Cd | 115 | 2 | 504.60 | 25.23 | ppb | 1.29 | 900.00 | |
| 120 Sn | 115 | 1 | -0.33 | -0.02 | ppb | 13.15 | 900.00 | |
| 121 Sb | 115 | 1 | 537.60 | 26.88 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 2070.00 | 103.50 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 486.40 | 24.32 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.80 | 50.89 | ppb | 0.78 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1816753 | 0.82 | 1927370 | 94.3 | 70 - 130 | |
| 45 Sc | 1 | 4173648 | 1.02 | 4239129 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 404619 | 0.15 | 400302 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 928662 | 0.84 | 959644 | 96.8 | 70 - | 130 |
| 72 | Ge | 2 | 176542 | 0.49 | 174244 | 101.3 | 70 - | 130 |
| 103 | Rh | 1 | 5117775 | 0.73 | 5379893 | 95.1 | 70 - | 130 |
| 115 | In | 1 | 5624428 | 0.10 | 5735998 | 98.1 | 70 - | 130 |
| 115 | In | 2 | 1406791 | 1.06 | 1381769 | 101.8 | 70 - | 130 |
| 159 | Tb | 1 | 7016608 | 0.27 | 7108936 | 98.7 | 70 - | 130 |
| 175 | Lu | 1 | 6546146 | 0.90 | 6644013 | 98.5 | 70 - | 130 |
| 209 | Bi | 1 | 3792383 | 0.21 | 3907325 | 97.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#
Date Acquired: Apr 27 2013 05:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20853-PS1
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.90 | 8.95 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 13.98 | 6.99 | ppb | 8.41 | 900.00 | |
| 11 B | 6 | 1 | 311.00 | 155.50 | ppb | 0.26 | 900.00 | |
| 11 B | 45 | 2 | 269.80 | 134.90 | ppb | 2.92 | 900.00 | |
| 23 Na | 45 | 1 | 33500.00 | 16750.00 | ppb | 1.18 | 90000.00 | |
| 23 Na | 45 | 2 | 35300.00 | 17650.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 14182.00 | 7091.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 15134.00 | 7567.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 21.00 | 10.50 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 2 | 22.18 | 11.09 | ppb | 1.14 | 90000.00 | |
| 39 K | 45 | 1 | 7594.00 | 3797.00 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 105620.00 | 52810.00 | ppb | 0.74 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.81 | 8.91 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 17.75 | 8.88 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 17.07 | 8.54 | ppb | 0.89 | 900.00 | |
| 55 Mn | 45 | 2 | 4750.00 | 2375.00 | ppb | 0.42 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 41180.00 | 20590.00 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 34.66 | 17.33 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 100.86 | 50.43 | ppb | 0.23 | 900.00 | |
| 63 Cu | 72 | 2 | 15.46 | 7.73 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 26.12 | 13.06 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 18.78 | 9.39 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 14.10 | 7.05 | ppb | 2.90 | 900.00 | |
| 88 Sr | 103 | 1 | 620.80 | 310.40 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 49.82 | 24.91 | ppb | 0.50 | 900.00 | |
| 107 Ag | 115 | 1 | 17.12 | 8.56 | ppb | 0.63 | 180.00 | |
| 111 Cd | 115 | 2 | 16.58 | 8.29 | ppb | 2.57 | 900.00 | |
| 120 Sn | 115 | 1 | 18.12 | 9.06 | ppb | 0.37 | 900.00 | |
| 121 Sb | 115 | 1 | 19.75 | 9.88 | ppb | 0.93 | 900.00 | |
| 137 Ba | 159 | 1 | 56.22 | 28.11 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 16.16 | 8.08 | ppb | 0.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.51 | 8.76 | ppb | 1.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1550265 | 0.15 | 1927370 | 80.4 | 70 - 130 | |
| 45 Sc | 1 | 4044739 | 0.29 | 4239129 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 400116 | 0.42 | 400302 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 909045 | 0.25 | 959644 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 174253 | 0.58 | 174244 | 100.0 | 70 | - | 130 |
| 103 Rh | 1 | 4810173 | 0.31 | 5379893 | 89.4 | 70 | - | 130 |
| 115 In | 1 | 5304471 | 0.06 | 5735998 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 1334170 | 2.63 | 1381769 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 6811380 | 0.39 | 7108936 | 95.8 | 70 | - | 130 |
| 175 Lu | 1 | 6361465 | 0.71 | 6644013 | 95.7 | 70 | - | 130 |
| 209 Bi | 1 | 3540324 | 0.35 | 3907325 | 90.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D#
**Date Acquired:** Apr 27 2013 05:32 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP20853-SD1
**Misc Info:**
**Vial Number:** 2304
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Apr 29 2013 10:37 am
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.73 | -0.07 | ppb | 0.72 | 900.00 | |
| 9 Be | 45 | 2 | -4.77 | -0.48 | ppb | 14.17 | 900.00 | |
| 11 B | 6 | 1 | 332.60 | 33.26 | ppb | 1.24 | 900.00 | |
| 11 B | 45 | 2 | 287.60 | 28.76 | ppb | 2.46 | 900.00 | |
| 23 Na | 45 | 1 | 42620.00 | 4262.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 42780.00 | 4278.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 18170.00 | 1817.00 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 18640.00 | 1864.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 9.20 | 0.92 | ppb | 7.73 | 90000.00 | |
| 27 Al | 45 | 2 | 8.60 | 0.86 | ppb | 9.23 | 90000.00 | |
| 39 K | 45 | 1 | 9363.00 | 936.30 | ppb | 0.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 130200.00 | 13020.00 | ppb | 0.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 9604.00 | 900.00 | |
| 51 V | 45 | 2 | -0.74 | -0.07 | ppb | 12.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.13 | 0.01 | ppb | 30.61 | 900.00 | |
| 55 Mn | 45 | 2 | 5824.00 | 582.40 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 50140.00 | 5014.00 | ppb | 0.57 | 90000.00 | |
| 59 Co | 45 | 2 | 22.15 | 2.22 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 110.10 | 11.01 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 0.17 | 0.02 | ppb | 10.32 | 900.00 | |
| 66 Zn | 72 | 2 | 15.30 | 1.53 | ppb | 2.32 | 900.00 | |
| 75 As | 72 | 2 | 1.75 | 0.17 | ppb | 8.56 | 900.00 | |
| 78 Se | 72 | 2 | -8.53 | -0.85 | ppb | 28.15 | 900.00 | |
| 88 Sr | 103 | 1 | 715.90 | 71.59 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 35.42 | 3.54 | ppb | 0.65 | 900.00 | |
| 107 Ag | 115 | 1 | -0.11 | -0.01 | ppb | 10.74 | 180.00 | |
| 111 Cd | 115 | 2 | -0.43 | -0.04 | ppb | 23.95 | 900.00 | |
| 120 Sn | 115 | 1 | -0.06 | -0.01 | ppb | 29.30 | 900.00 | |
| 121 Sb | 115 | 1 | 1.74 | 0.17 | ppb | 2.30 | 900.00 | |
| 137 Ba | 159 | 1 | 48.38 | 4.84 | ppb | 0.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.93 | 0.09 | ppb | 5.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | -0.01 | ppb | 20.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1728646 | 0.85 | 1927370 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 4208254 | 0.76 | 4239129 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 418961 | 0.41 | 400302 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 957193 | 0.52 | 959644 | 99.7 | 70 - | 130 |
| 72 | Ge | 2 | 182001 | 0.67 | 174244 | 104.5 | 70 - | 130 |
| 103 | Rh | 1 | 5204842 | 0.48 | 5379893 | 96.7 | 70 - | 130 |
| 115 | In | 1 | 5664421 | 0.14 | 5735998 | 98.8 | 70 - | 130 |
| 115 | In | 2 | 1426333 | 1.10 | 1381769 | 103.2 | 70 - | 130 |
| 159 | Tb | 1 | 7045846 | 1.17 | 7108936 | 99.1 | 70 - | 130 |
| 175 | Lu | 1 | 6568208 | 0.32 | 6644013 | 98.9 | 70 - | 130 |
| 209 | Bi | 1 | 3816678 | 0.53 | 3907325 | 97.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Apr 27 2013 05:39 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2305 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Apr 29 2013 10:37 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.40 | 0.40 | ppb | 2.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 51.44 | 900.00 | |
| 11 B | 6 | 1 | 5.27 | 5.27 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 4.02 | 4.02 | ppb | 9.73 | 900.00 | |
| 23 Na | 45 | 1 | 256.90 | 256.90 | ppb | 0.33 | 90000.00 | |
| 23 Na | 45 | 2 | 289.90 | 289.90 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 255.20 | 255.20 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.40 | 279.40 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 25.64 | 25.64 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 26.51 | 26.51 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 256.90 | 256.90 | ppb | 1.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 263.70 | 263.70 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.80 | 0.80 | ppb | 0.47 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 1.38 | 900.00 | |
| 52 Cr | 45 | 2 | 0.95 | 0.95 | ppb | 2.02 | 900.00 | |
| 55 Mn | 45 | 2 | 1.78 | 1.78 | ppb | 12.96 | 900.00 | |
| 56 Fe | 45 | 2 | 32.20 | 32.20 | ppb | 5.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.97 | 0.97 | ppb | 2.80 | 900.00 | |
| 63 Cu | 72 | 2 | 0.88 | 0.88 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 1.96 | 1.96 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 0.43 | 0.43 | ppb | 6.35 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 171.16 | 900.00 | |
| 88 Sr | 103 | 1 | 5.18 | 5.18 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.02 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.46 | ppb | 6.37 | 900.00 | |
| 120 Sn | 115 | 1 | 4.90 | 4.90 | ppb | 0.75 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 0.43 | 900.00 | |
| 137 Ba | 159 | 1 | 0.94 | 0.94 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.40 | 0.40 | ppb | 3.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.48 | ppb | 1.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1778361 | 1.47 | 1927370 | 92.3 | 70 - 130 | |
| 45 Sc | 1 | 4258584 | 0.55 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 413249 | 0.60 | 400302 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 945595 | 1.00 | 959644 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 179495 | 0.38 | 174244 | 103.0 | 70 - | 130 |
| 103 | Rh | 1 | 5321973 | 0.22 | 5379893 | 98.9 | 70 - | 130 |
| 115 | In | 1 | 5767027 | 0.94 | 5735998 | 100.5 | 70 - | 130 |
| 115 | In | 2 | 1438668 | 0.14 | 1381769 | 104.1 | 70 - | 130 |
| 159 | Tb | 1 | 7106074 | 0.55 | 7108936 | 100.0 | 70 - | 130 |
| 175 | Lu | 1 | 6648251 | 0.30 | 6644013 | 100.1 | 70 - | 130 |
| 209 | Bi | 1 | 3931793 | 0.39 | 3907325 | 100.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D#
Date Acquired: Apr 27 2013 05:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Apr 29 2013 10:37 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.66 | 51.66 | ppb | 1.25 | 900.00 | |
| 9 Be | 45 | 2 | 47.31 | 47.31 | ppb | 1.53 | 900.00 | |
| 11 B | 6 | 1 | 52.27 | 52.27 | ppb | 0.94 | 900.00 | |
| 11 B | 45 | 2 | 47.98 | 47.98 | ppb | 0.53 | 900.00 | |
| 23 Na | 45 | 1 | 5101.00 | 5101.00 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 5223.00 | 5223.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 5055.00 | 5055.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 5204.00 | 5204.00 | ppb | 0.76 | 90000.00 | |
| 27 Al | 45 | 1 | 5064.00 | 5064.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 5300.00 | 5300.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 5189.00 | 5189.00 | ppb | 0.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 5149.00 | 5149.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.52 | 49.52 | ppb | 0.88 | 900.00 | |
| 51 V | 45 | 2 | 48.95 | 48.95 | ppb | 0.13 | 900.00 | |
| 52 Cr | 45 | 2 | 48.88 | 48.88 | ppb | 0.30 | 900.00 | |
| 55 Mn | 45 | 2 | 48.93 | 48.93 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 5197.00 | 5197.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 48.69 | 48.69 | ppb | 0.56 | 900.00 | |
| 60 Ni | 45 | 2 | 47.19 | 47.19 | ppb | 0.08 | 900.00 | |
| 63 Cu | 72 | 2 | 46.45 | 46.45 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 48.08 | 48.08 | ppb | 0.39 | 900.00 | |
| 75 As | 72 | 2 | 49.26 | 49.26 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 48.47 | 48.47 | ppb | 0.91 | 900.00 | |
| 88 Sr | 103 | 1 | 53.50 | 53.50 | ppb | 0.08 | 900.00 | |
| 98 Mo | 103 | 1 | 51.77 | 51.77 | ppb | 0.30 | 900.00 | |
| 107 Ag | 115 | 1 | 49.83 | 49.83 | ppb | 0.91 | 180.00 | |
| 111 Cd | 115 | 2 | 49.17 | 49.17 | ppb | 2.26 | 900.00 | |
| 120 Sn | 115 | 1 | 51.08 | 51.08 | ppb | 1.31 | 900.00 | |
| 121 Sb | 115 | 1 | 51.89 | 51.89 | ppb | 1.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.54 | 49.54 | ppb | 0.34 | 900.00 | |
| 205 Tl | 209 | 1 | 48.47 | 48.47 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.76 | 50.76 | ppb | 0.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1730559 | 0.98 | 1927370 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 4193400 | 0.47 | 4239129 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 410033 | 0.26 | 400302 | 102.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 929213 | 0.50 | 959644 | 96.8 | 70 - | 130 |
| 72 | Ge | 2 | 177469 | 0.24 | 174244 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 5101843 | 0.16 | 5379893 | 94.8 | 70 - | 130 |
| 115 | In | 1 | 5540211 | 1.44 | 5735998 | 96.6 | 70 - | 130 |
| 115 | In | 2 | 1403066 | 1.90 | 1381769 | 101.5 | 70 - | 130 |
| 159 | Tb | 1 | 7029048 | 0.77 | 7108936 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 6615636 | 0.27 | 6644013 | 99.6 | 70 - | 130 |
| 209 | Bi | 1 | 3727313 | 0.08 | 3907325 | 95.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D# |
| Date Acquired: | Apr 27 2013 05:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2307 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Apr 29 2013 10:37 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.08 | -0.08 | ppb | 4.27 | 900.00 | |
| 9 Be | 45 | 2 | -0.57 | -0.57 | ppb | 1.81 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 8.32 | 900.00 | |
| 11 B | 45 | 2 | -1.10 | -1.10 | ppb | 14.95 | 900.00 | |
| 23 Na | 45 | 1 | 8.99 | 8.99 | ppb | 7.36 | 90000.00 | |
| 23 Na | 45 | 2 | 9.43 | 9.43 | ppb | 4.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.42 | 6.42 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.31 | 6.31 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 1 | 5.99 | 5.99 | ppb | 2.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5.86 | 5.86 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 4.93 | 4.93 | ppb | 23.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.82 | 1.82 | ppb | 39.58 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.05 | -0.05 | ppb | 10.60 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 30.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 105.55 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 177.04 | 900.00 | |
| 56 Fe | 45 | 2 | 5.24 | 5.24 | ppb | 2.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 30.32 | 900.00 | |
| 60 Ni | 45 | 2 | -0.03 | -0.03 | ppb | 14.07 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 8.09 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 37.64 | 900.00 | |
| 75 As | 72 | 2 | -0.12 | -0.12 | ppb | 6.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.98 | -0.98 | ppb | 8.22 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 3.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | -0.01 | ppb | 2.05 | 180.00 | |
| 111 Cd | 115 | 2 | -0.06 | -0.06 | ppb | 7.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 6.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 1253.00 | 900.00 | |
| 137 Ba | 159 | 1 | -0.04 | -0.04 | ppb | 16.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.07 | ppb | 11.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 10.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1792370 | 1.89 | 1927370 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 4261190 | 0.63 | 4239129 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 417839 | 0.35 | 400302 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13D27m01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 951236 | 0.72 | 959644 | 99.1 | 70 - | 130 |
| 72 | Ge | 2 | 181472 | 0.34 | 174244 | 104.1 | 70 - | 130 |
| 103 | Rh | 1 | 5334914 | 0.60 | 5379893 | 99.2 | 70 - | 130 |
| 115 | In | 1 | 5737081 | 0.90 | 5735998 | 100.0 | 70 - | 130 |
| 115 | In | 2 | 1452430 | 0.39 | 1381769 | 105.1 | 70 - | 130 |
| 159 | Tb | 1 | 7161356 | 0.56 | 7108936 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 6743133 | 0.83 | 6644013 | 101.5 | 70 - | 130 |
| 209 | Bi | 1 | 3924099 | 1.16 | 3907325 | 100.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13D27m01.B\002CALB.D\002CALB.D#

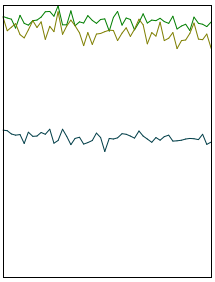
0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

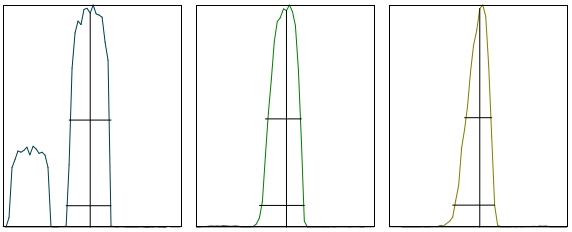
# Tune Report

Tune File : nogas.u
Comment : 042713



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2487.0 | 2569.5 | 3.21 | 56.00 |
| 89 | 10,000 | 9405.0 | 9451.2 | 2.23 | 51.00 |
| 205 | 5,000 | 4207.0 | 4511.9 | 3.34 | 64.80 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.247%
Doubly Charged: 70/140 6.459%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,558 | 9,427 | 5,086 |
| Axis: | 7.00 | 89.05 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 288.3 | 6.82 | |
| QP Focus: | -8 V | 59 | 1820.8 | 3.73 | |
| Cell Exit: | -34 V | 89 | 1783.0 | 2.69 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Apr 27, 2013 11:56:20
Printed : Apr 27, 2013 11:57:10

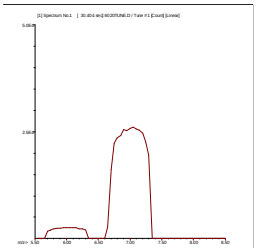
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Apr 27 2013 12:09 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

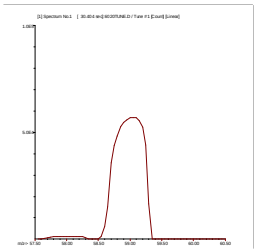
**QC Tune Summary:**
**Pass**

**RSD%**

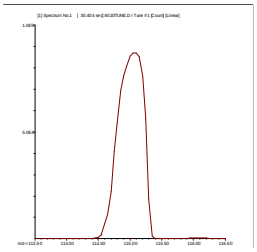
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.48 | 5.00 | 0 |
| 59 Co | 0.65 | 5.00 | |
| 115 In | 0.35 | 5.00 | |
| 205 Tl | 2.75 | 5.00 | |



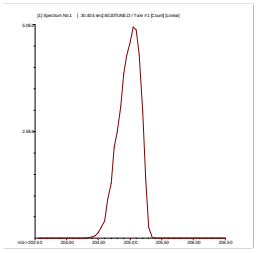
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Apr 29, 2013 09:55 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

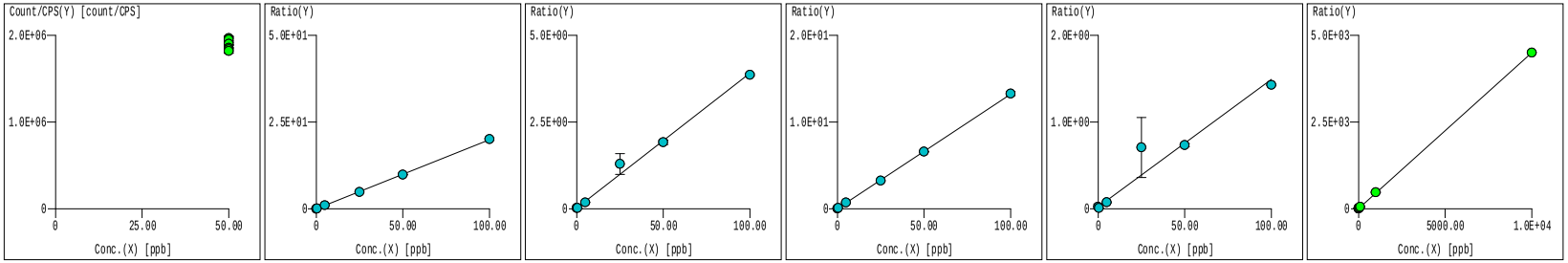
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
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| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
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| 2 | c:\icpchem\1\data\13d27m01.b\003cals.d\003cals.d# | STDB | Apr 27 2013 12:45 pm |
| 3 | c:\icpchem\1\data\13d27m01.b\004cals.d\004cals.d# | STDC | Apr 27 2013 12:52 pm |
| 4 | c:\icpchem\1\data\13d27m01.b\005cals.d\005cals.d# | STDD | Apr 27 2013 12:59 pm |
| 5 | c:\icpchem\1\data\13d27m01.b\006cals.d\006cals.d# | STDE | Apr 27 2013 01:07 pm |
| 6 | c:\icpchem\1\data\13d27m01.b\007cals.d\007cals.d# | STDF | Apr 27 2013 01:14 pm |
| 7 | c:\icpchem\1\data\13d27m01.b\008cals.d\008cals.d# | STDG | Apr 27 2013 01:21 pm |
| 8 | c:\icpchem\1\data\13d27m01.b\009cals.d\009cals.d# | STDH | Apr 27 2013 01:28 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
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| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

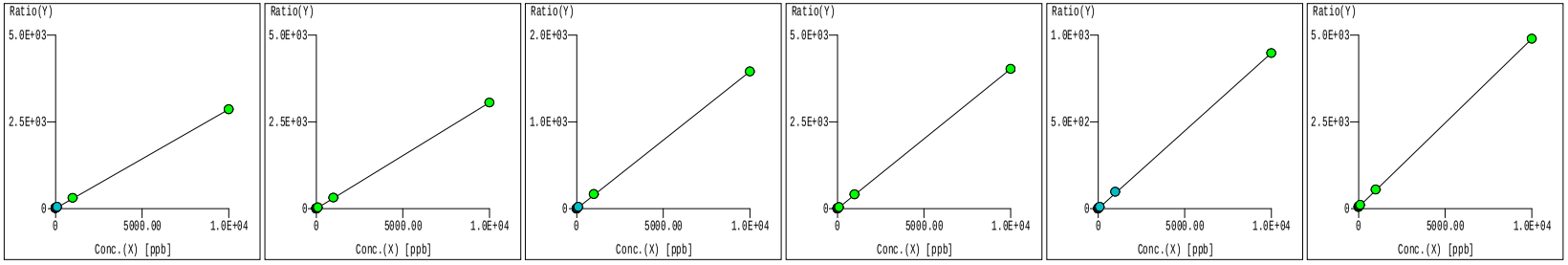
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9961 | 1.0000 | 0.9695 | 1.0000 |
| < DL > | --- ppb | 2.682E-01 ppb | 2.663 ppb | 3.814E-01 ppb | 6.407 ppb | 7.043E-01 ppb |
| < BEC > | --- ppb | 9.716E-02 ppb | 6.030E-01 ppb | 2.883E-01 ppb | 1.556 ppb | 21.37 ppb |



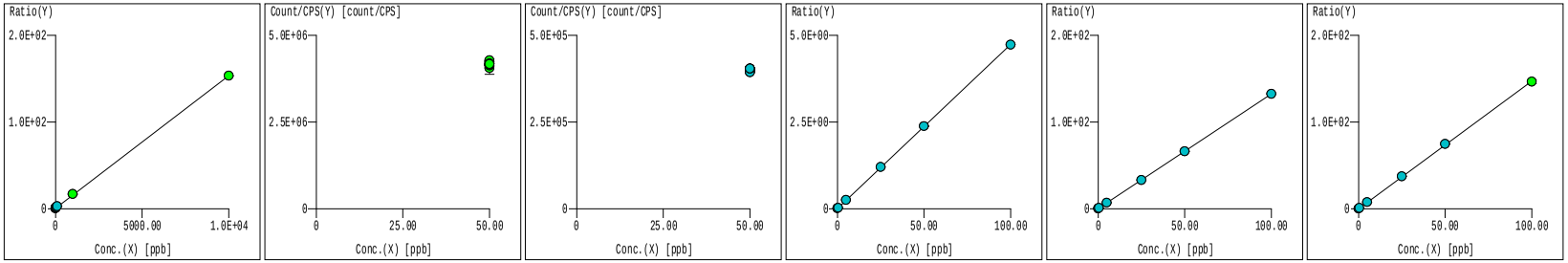

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.904 ppb | 6.221E-02 ppb | 5.536E-01 ppb | 2.191E-01 ppb | 1.458 ppb | 1.178 ppb |
| < BEC > | 42.21 ppb | 5.097E-01 ppb | 7.041E-01 ppb | 2.164 ppb | 2.514 ppb | 105.8 ppb |



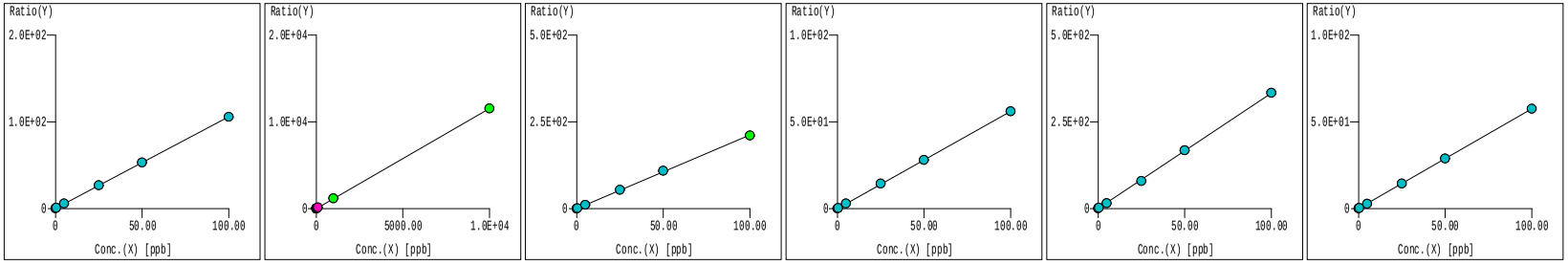
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.509 ppb | --- ppb | --- ppb | 5.984E-01 ppb | 6.832E-02 ppb | 5.855E-02 ppb |
| < BEC > | 45.09 ppb | --- ppb | --- ppb | 2.622E-01 ppb | 3.120E-01 ppb | 1.022E-01 ppb |



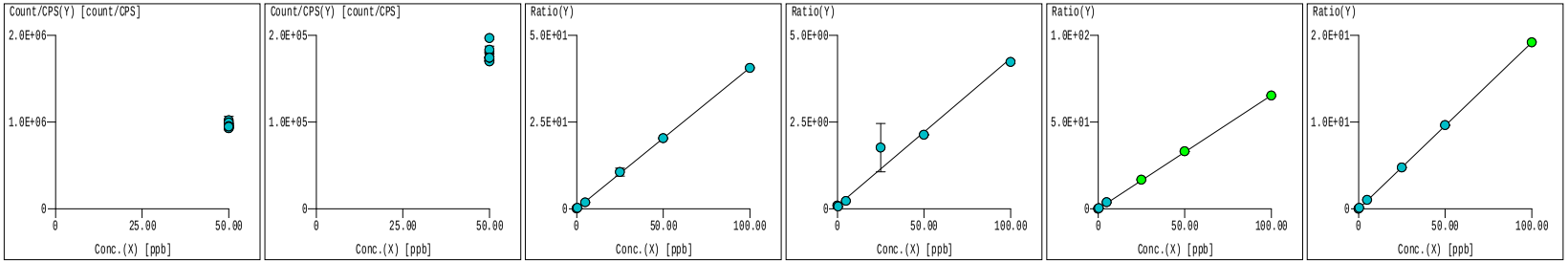

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | 7.438E-02 ppb | 1.685E-01 ppb | 5.275E-02 ppb | 1.784E-01 ppb | 5.939E-02 ppb | 3.590E-01 ppb |
| < BEC > | 4.026E-01 ppb | 8.587 ppb | 1.595E-02 ppb | 1.065E-01 ppb | 1.801E-01 ppb | 1.586E-01 ppb |



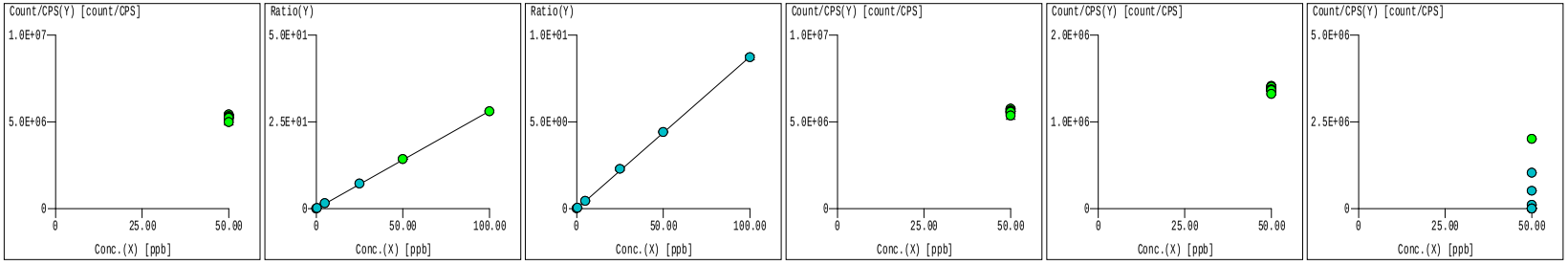
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 0.9860 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 5.789E-01 ppb | 4.765 ppb | 3.352E-02 ppb | 8.780E-02 ppb |
| < BEC > | --- ppb | --- ppb | 2.117E-01 ppb | 2.176 ppb | 2.106E-02 ppb | 4.319E-02 ppb |



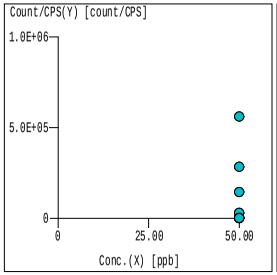

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.523E-02 ppb | 3.186E-01 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.837E-02 ppb | 8.223E-02 ppb | --- ppb | --- ppb | --- ppb |

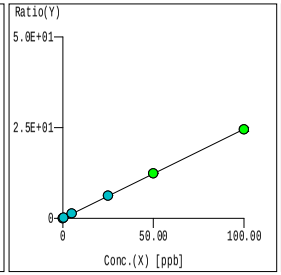


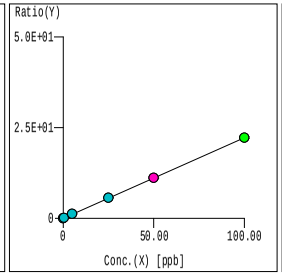
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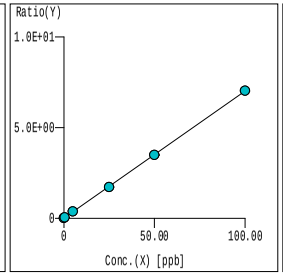
=== Graph Summary ===
Page: 4/4

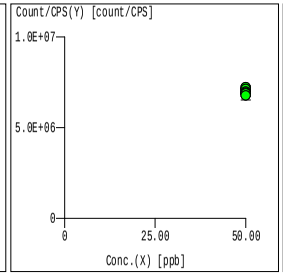
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.393E-02 ppb | 7.400E-02 ppb | 2.345E-01 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.585E-02 ppb | 3.327E-02 ppb | 1.673E-01 ppb | --- ppb | --- ppb |

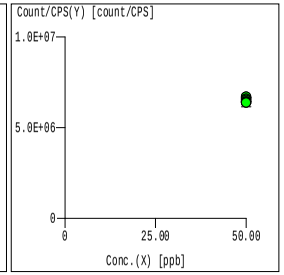


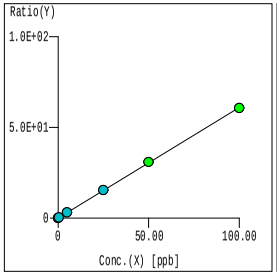



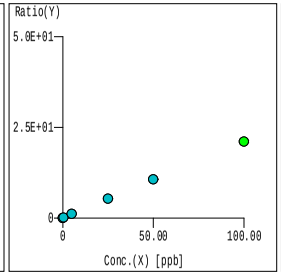



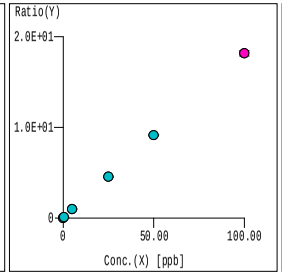



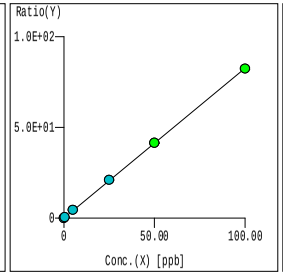



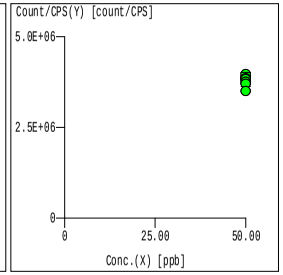

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 4.126E-02 ppb | --- ppb | --- ppb | 9.038E-02 ppb | --- ppb |
| < BEC > | 5.661E-02 ppb | --- ppb | --- ppb | 5.076E-02 ppb | --- ppb |



ACCUTEST

| Date: | 04/26/13 |
|---|---|
| Time | 15:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20853 |
| QC Sample ID: | MC20199-2F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35312-METALS |
| Conc HNO3 | VENDOR-13444 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35322-METALS |
| 0.5 | RGT-35341-METALS |
| 0.5 | RGT-35277-METALS |
| 0.5 | RGT-35278-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20853-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20853-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP20853-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-18F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-19F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-20F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20063-21F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC20199-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20199-4F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 04/29/13

**(Format edits must be done by dept. Manager)**

7.7.1

7

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1307778 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 250<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02F-01 |
| Report Date: | 05/08/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F-01

**Lab Number:** L1307778
**Report Date:** 05/08/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1307778-01 | EFF-050113 | FORT DEVENS, MA | 05/01/13 08:24 |

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

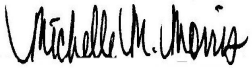
Metals

WG605666: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 05/08/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1307778
**Project Number:** AC001.02F-01
**Report Date:** 05/08/13

## SAMPLE RESULTS

Lab ID: L1307778-01
Client ID: EFF-050113
Sample Location: FORT DEVENS, MA
Matrix: Water

Date Collected: 05/01/13 08:24
Date Received: 05/02/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0139 | | mg/l | 0.0005 | 0.0005 | 1 | 05/03/13 08:18 | 05/04/13 18:41 | EPA 3005A | 97,6020A | AK |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F-01
**Lab Number:** L1307778
**Report Date:** 05/08/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG605666-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 05/03/13 08:18 | 05/04/13 17:44 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02F-01

**Lab Number:** L1307778

**Report Date:** 05/08/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG605666-2 WG605666-3 | | | | | | | | |
| Arsenic, Total | 114 | | 116 | | 80-120 | 2 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F-01

**Lab Number:** L1307778
**Report Date:** 05/08/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1307778-01A | Plastic 250ml HNO3 preserved | A | <2 | 3.8 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1307778 |
| **Project Number:** | AC001.02F-01 | **Report Date:** | 05/08/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/2/13

ALPHA Job #: L1307778

## Client Information

Client: Sovereign Consulting Inc
Address: 16 Chestnut St. Foxborough MA 02035
Phone: 508 339 3200
Fax: 508 339 3248
Email: THevner@esource.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATF
Project Location: Ft. Devens MA
Project #: AC001.02.F01
Project Manager: Tom Hevner
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 5/9/13 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As. 3ppb detection limit

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total As | SAMPLE HANDLING: Filtration ☐ Done ☒ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below) | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 07778 -01 | EFF-050113 | 5/1/13 | 0824 | EFF | ASW | X | | | 1 |

Container Type: P
Preservative: C

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 5.1-13 1400 | Sovereign Secure Fridge | 5/1/13 1400 |
| Paul Chastenay | 5-2-13 1030 | MSW | 5/2/13 1030 |
| MSW | 5/2/13 1202 | In Box | 5/2/13 12:02 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

New England ACCUTEST LABORATORIES

05/14/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.08

Accutest Job Number: MC20556

Sampling Dates: 05/07/13 - 05/09/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **340**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC20556

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC20556-1F | 05/07/13 | 11:00 | PJV | 05/07/13 | AQ | Groundwater Filtered | SHM-13-01-015 |
| MC20556-2F | 05/07/13 | 12:05 | PJV | 05/07/13 | AQ | Groundwater Filtered | SHM-13-01-025 |
| MC20556-3F | 05/07/13 | 13:05 | PJV | 05/07/13 | AQ | Groundwater Filtered | SHM-13-01-035 |
| MC20556-4F | 05/07/13 | 14:05 | PJV | 05/07/13 | AQ | Groundwater Filtered | SHM-13-01-045 |
| MC20556-5F | 05/07/13 | 15:05 | PJV | 05/07/13 | AQ | Groundwater Filtered | SHM-13-01-051 |
| MC20556-6F | 05/07/13 | 00:00 | PJV | 05/07/13 | AQ | Groundwater Filtered | DUP-050713-F |
| MC20556-7F | 05/07/13 | 16:00 | PJV | 05/07/13 | AQ | Equip Blank Filtered | RB-050713-U |
| MC20556-8F | 05/08/13 | 10:27 | PJV | 05/08/13 | AQ | Groundwater Filtered | SHM-13-11-025 |
| MC20556-8FD | 05/08/13 | 10:27 | PJV | 05/08/13 | AQ | Water Dup/MSD | SHM-13-11-025 |
| MC20556-8FS | 05/08/13 | 10:27 | PJV | 05/08/13 | AQ | Water Matrix Spike | SHM-13-11-025 |
| MC20556-9F | 05/08/13 | 12:26 | PJV | 05/08/13 | AQ | Groundwater Filtered | SHM-13-11-035 |
| MC20556-10F | 05/08/13 | 00:00 | PJV | 05/08/13 | AQ | Groundwater Filtered | DUP-050813-F |
| MC20556-11F | 05/08/13 | 15:52 | PJV | 05/08/13 | AQ | Groundwater Filtered | SHM-13-11-045 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC20556

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC20556-12F | 05/08/13 | 15:08 | PJV | 05/08/13 | AQ | Groundwater Filtered | SHM-13-11-055 |
| MC20556-13F | 05/08/13 | 13:10 | PJV | 05/08/13 | AQ | Equip Blank Filtered | RB-050813-U |
| MC20556-14F | 05/09/13 | 10:05 | PJV | 05/09/13 | AQ | Groundwater Filtered | SHM-13-13-025 |
| MC20556-15F | 05/09/13 | 11:05 | PJV | 05/09/13 | AQ | Groundwater Filtered | SHM-13-13-035 |
| MC20556-16F | 05/09/13 | 12:32 | PJV | 05/09/13 | AQ | Groundwater Filtered | SHM-13-13-041 |
| MC20556-17F | 05/09/13 | 13:15 | PJV | 05/09/13 | AQ | Equip Blank Filtered | RB-050813-U |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC20556 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 5/14/2013 9:53:50 AM |

17 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 05/07/2013 and 05/09/2013 and were received at Accutest between 05/07/2013 and 05/09/2013 properly preserved, at 0.6 Deg. C and intact. These Samples received an Accutest job number of MC20556. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP20915

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20556-2FMS, MC20556-2FMSD, MC20556-2FPS, MC20556-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20915-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20926

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20556-8FMS, MC20556-8FMSD, MC20556-8FPS, MC20556-8FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20926-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** AQ **Batch ID:** MP20937

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC20556-14FMS, MC20556-14FMSD, MC20556-14FPS, MC20556-14FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP20937-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC20556).

# Summary of Hits



**Job Number:** MC20556
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/07/13 thru 05/09/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC20556-1F** | **SHM-13-01-015** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-2F** | **SHM-13-01-025** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-3F** | **SHM-13-01-035** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-4F** | **SHM-13-01-045** | | | | | |
| Arsenic | | 1.1 | 1.0 | | ug/l | SW846 6020A |
| **MC20556-5F** | **SHM-13-01-051** | | | | | |
| Arsenic | | 1.3 | 1.0 | | ug/l | SW846 6020A |
| **MC20556-6F** | **DUP-050713-F** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-7F** | **RB-050713-U** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-8F** | **SHM-13-11-025** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-9F** | **SHM-13-11-035** | | | | | |
| Arsenic | | 1.0 | 1.0 | | ug/l | SW846 6020A |
| **MC20556-10F** | **DUP-050813-F** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-11F** | **SHM-13-11-045** | | | | | |
| No hits reported in this sample. | | | | | | |

# Summary of Hits

**Job Number:** MC20556
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/07/13 thru 05/09/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC20556-12F** | **SHM-13-11-055** | | | | | |
| Arsenic | | 1.6 | 1.0 | | ug/l | SW846 6020A |
| **MC20556-13F** | **RB-050813-U** | | | | | |
| Arsenic | | 3.3 | 1.0 | | ug/l | SW846 6020A |
| **MC20556-14F** | **SHM-13-13-025** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-15F** | **SHM-13-13-035** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-16F** | **SHM-13-13-041** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC20556-17F** | **RB-050813-U** | | | | | |
| No hits reported in this sample. | | | | | | |

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-015 | | |
| **Lab Sample ID:** | MC20556-1F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-025 | | |
| **Lab Sample ID:** | MC20556-2F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-035 | | |
| **Lab Sample ID:** | MC20556-3F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-045 | | |
| **Lab Sample ID:** | MC20556-4F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.1 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-051 | | |
| **Lab Sample ID:** | MC20556-5F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.3 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-050713-F | | |
| **Lab Sample ID:** | MC20556-6F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-050713-U | | |
| **Lab Sample ID:** | MC20556-7F | **Date Sampled:** | 05/07/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 05/07/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/08/13 | 05/09/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15559
(2) Prep QC Batch: MP20915

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-11-025 | | |
| **Lab Sample ID:** | MC20556-8F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-11-035 | | |
| **Lab Sample ID:** | MC20556-9F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.0 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-050813-F | | |
| **Lab Sample ID:** | MC20556-10F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-11-045 | | |
| **Lab Sample ID:** | MC20556-11F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-11-055 | | |
| **Lab Sample ID:** | MC20556-12F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.6 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-050813-U | | |
| **Lab Sample ID:** | MC20556-13F | **Date Sampled:** | 05/08/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 05/08/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.3 | 1.0 | ug/l | 2 | 05/09/13 | 05/10/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15566
(2) Prep QC Batch: MP20926

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-13-025 | | |
| **Lab Sample ID:** | MC20556-14F | **Date Sampled:** | 05/09/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/10/13 | 05/13/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15582
(2) Prep QC Batch: MP20937

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-13-035 | | |
| **Lab Sample ID:** | MC20556-15F | **Date Sampled:** | 05/09/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/10/13 | 05/13/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15582
(2) Prep QC Batch: MP20937

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-13-041 | | |
| **Lab Sample ID:** | MC20556-16F | **Date Sampled:** | 05/09/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/10/13 | 05/13/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15582
(2) Prep QC Batch: MP20937

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-050813-U | | |
| **Lab Sample ID:** | MC20556-17F | **Date Sampled:** | 05/09/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 05/09/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Arsenic | < 1.0 | 1.0 | ug/l | 2 | 05/10/13 | 05/13/13 | PY | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA15582
(2) Prep QC Batch: MP20937

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC20556

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHM-13-01-015 | NA | 5/7/13 | 1100 | PJV | GW | 1 | | | X | | | | | | X | |
| -2F | SHM-13-01-025 | NA | 5/7/13 | 1205 | PJV | GW | 1 | | | X | | | | | | X | |
| -3F | SHM-13-01-035 | NA | 5/7/13 | 1305 | PJV | GW | 1 | | | X | | | | | | X | |
| -4F | SHM-13-01-045 | NA | 5/7/13 | 1405 | PJV | GW | 1 | | | X | | | | | | X | |
| -5F | SHM-13-01-051 | NA | 5/7/13 | 1505 | PJV | GW | 1 | | | X | | | | | | X | |
| -6F | DUP-050713-F | NA | 5/7/13 | — | PJV | GW | 1 | | | X | | | | | | X | |
| -7F | RB-050713-U | NA | 5/7/13 | 1600 | PJV | AQ | 1 | | | X | | | | | | X | 6B |

**Turnaround Time ( Business days)**

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: RUSH!

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT
SDG #6 Open
Custody Seal 050713-1 050713-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished By Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5/7/13 1610 | | | 5/7/13 1735 | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Custody Seal # ☐ Intact ☐ Not intact | Preserved where applicable ☐ | On Ice ☑ | Cooler Temp. 0.6°C

5.1 5

**MC20556: Chain of Custody**
**Page 1 of 4**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 1

FED-EX Tracking # | Bottle Order Control # 5/8/13 BC
Accutest Quote # | Accutest Job # MC20556

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phil Villeneuve, Julie Gobeil Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Time | Sampled by | Matrix | # of bottles | Preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -8 | SHM-13-11-025 | | 5/8/13 | 1027 | JAG | GW | 3 | | | X | | | | | | X | MS/MSD |
| -9 | SHM-13-11-035 | | 5/8/13 | 1226 | JAG | | 1 | | | X | | | | | | X | |
| -10 | DUP-050813-F | | 5/8/13 | — | JAG | | 1 | | | X | | | | | | X | |
| -11 | SHM-13-11-045 | | 5/8/13 | 1302 | JAG | | 1 | | | X | | | | | | X | |
| -12 | SHM-13-11-055 | | 5/8/13 | 1508 | JAG | | 1 | | | X | | | | | | X | |
| -13 | RB-050813-W | | 5/8/13 | 1310 | JAG | | 1 | | | X | | | | | | X | |

Turnaround Time ( Business days)

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**RUSH!**

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

See Project QAPP for all specific project requirements
As sample were field filtered.
48 hr TAT Loc 6C
SDG#6 -
Custody Seal 050813-1 050813-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 5/8/13 1610 | 1 | 2 | | 2 |
| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 3 | | 3 | 4 | | 4 |
| Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable | On Ice | Cooler Temp. |
| 5 | | 5 | | | | | |

5.1.5

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE ___ OF ___

FED-EX Tracking # | Bottle Order Control # MC20556
Accutest Quote # | Accutest Job # ~~MA620673~~ MC

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): PJV Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.08
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -14F | SHM-13-13-025 | -14E | NA | 5/9/13 | 1005 | PJV | GW | 1 | | | X | | | | | X | |
| -15F | SHM-13-13-035 | -15E | | | 1105 | | | 1 | | | X | | | | | X | |
| -16F | SHM-13-13-041 | -16E | | | 1232 | | | 1 | | | X | | | | | X | |
| -17F | RB-050913-1 | -17E | | | 1315 | | AQ | 1 | | | X | | | | | X | |

Turnaround Time ( Business days)

- [ ] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtlink

Approved by:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

RUSH!

See Project QAPP for specific project requirements.
As sample were field filtered.
48 hr TAT
SDG#6 - Closed
Custody Seal # 050913-1 050913-2

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5/9/13 1610 | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Custody Seal # [X] Intact [ ] Not Intact — Preserved where applicable [ ] — On Ice [X] — Cooler Temp. 1.2C

**MC20556: Chain of Custody**
**Page 3 of 4**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC20556 **Client:** SOV **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/9/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL-DEVENS/AC001.02C.08 **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | Infared gun | |
| 3. Cooler media: | Ice (bag) | |

| Quality Control Preservation | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC20556: Chain of Custody**
**Page 4 of 4**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20556

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20556-1F | Collected: 07-MAY-13 11:00 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| SHM-13-01-015 | | | | | | |
| MC20556-1S | SW846 6020A | 09-MAY-13 19:06 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-2F | Collected: 07-MAY-13 12:05 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| SHM-13-01-025 | | | | | | |
| MC20556-2S | SW846 6020A | 09-MAY-13 18:59 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-3F | Collected: 07-MAY-13 13:05 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| SHM-13-01-035 | | | | | | |
| MC20556-3S | SW846 6020A | 09-MAY-13 19:14 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-4F | Collected: 07-MAY-13 14:05 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| SHM-13-01-045 | | | | | | |
| MC20556-4S | SW846 6020A | 09-MAY-13 19:35 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-5F | Collected: 07-MAY-13 15:05 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| SHM-13-01-051 | | | | | | |
| MC20556-5S | SW846 6020A | 09-MAY-13 19:42 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-6F | Collected: 07-MAY-13 00:00 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| DUP-050713-F | | | | | | |
| MC20556-6S | SW846 6020A | 09-MAY-13 19:49 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-7F | Collected: 07-MAY-13 16:00 By: PJV | | | Received: 07-MAY-13 | By: BA | |
| RB-050713-U | | | | | | |
| MC20556-7S | SW846 6020A | 09-MAY-13 19:56 | PY | 08-MAY-13 | DA | ASMS |
| MC20556-8F | Collected: 08-MAY-13 10:27 By: PJV | | | Received: 08-MAY-13 | By: SAP | |
| SHM-13-11-025 | | | | | | |
| MC20556-8S | SW846 6020A | 10-MAY-13 16:43 | PY | 09-MAY-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20556

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20556-9 | Collected: 08-MAY-13 12:26 By: PJV<br>SHM-13-11-035 | | | Received: 08-MAY-13 | By: SAP | |
| MC20556-9 | SW846 6020A | 10-MAY-13 17:11 | PY | 09-MAY-13 | DA | ASMS |
| MC20556-10 | Collected: 08-MAY-13 00:00 By: PJV<br>DUP-050813-F | | | Received: 08-MAY-13 | By: SAP | |
| MC20556-10 | SW846 6020A | 10-MAY-13 17:18 | PY | 09-MAY-13 | DA | ASMS |
| MC20556-11 | Collected: 08-MAY-13 15:52 By: PJV<br>SHM-13-11-045 | | | Received: 08-MAY-13 | By: SAP | |
| MC20556-11 | SW846 6020A | 10-MAY-13 17:25 | PY | 09-MAY-13 | DA | ASMS |
| MC20556-12 | Collected: 08-MAY-13 15:08 By: PJV<br>SHM-13-11-055 | | | Received: 08-MAY-13 | By: SAP | |
| MC20556-12 | SW846 6020A | 10-MAY-13 17:32 | PY | 09-MAY-13 | DA | ASMS |
| MC20556-13 | Collected: 08-MAY-13 13:10 By: PJV<br>RB-050813-U | | | Received: 08-MAY-13 | By: SAP | |
| MC20556-13 | SW846 6020A | 10-MAY-13 17:39 | PY | 09-MAY-13 | DA | ASMS |
| MC20556-14 | Collected: 09-MAY-13 10:05 By: PJV<br>SHM-13-13-025 | | | Received: 09-MAY-13 | By: BA | |
| MC20556-14 | SW846 6020A | 13-MAY-13 13:48 | PY | 10-MAY-13 | SA | ASMS |
| MC20556-15 | Collected: 09-MAY-13 11:05 By: PJV<br>SHM-13-13-035 | | | Received: 09-MAY-13 | By: BA | |
| MC20556-15 | SW846 6020A | 13-MAY-13 13:55 | PY | 10-MAY-13 | SA | ASMS |
| MC20556-16 | Collected: 09-MAY-13 12:32 By: PJV<br>SHM-13-13-041 | | | Received: 09-MAY-13 | By: BA | |
| MC20556-16 | SW846 6020A | 13-MAY-13 14:02 | PY | 10-MAY-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC20556

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC20556-17 | Collected: 09-MAY-13 13:15 By: PJV | | | Received: 09-MAY-13 By: BA | | |
| RB-050813-U | | | | | | |
| MC20556-17B | SW846 6020A | 13-MAY-13 14:23 | PY | 10-MAY-13 | SA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC20556
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/07/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC20556-1F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-1F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-2F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-2F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-3F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-3F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-4F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-4F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-5F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-5F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-6F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-6F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-7F.1 | Walk In Ref #5 | Dorina Antonovici | 05/08/13 15:29 | Retrieve from Storage |
| MC20556-7F.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 08:24 | Return to Storage |
| MC20556-8.2 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-8.2 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-9.1 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-9.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-10.1 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-10.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-11.1 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-11.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-12.1 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-12.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-13.1 | Walk In Ref #5 | Dorina Antonovici | 05/09/13 15:57 | Retrieve from Storage |
| MC20556-13.1 | Dorina Antonovici | Walk In Ref #5 | 05/09/13 17:20 | Return to Storage |
| MC20556-14F.1 | Walk In Ref #5 | Sarah Ayaz | 05/10/13 15:57 | Retrieve from Storage |
| MC20556-14F.1 | Sarah Ayaz | Walk In Ref #5 | 05/10/13 17:23 | Return to Storage |
| MC20556-15F.1 | Walk In Ref #5 | Sarah Ayaz | 05/10/13 15:57 | Retrieve from Storage |
| MC20556-15F.1 | Sarah Ayaz | Walk In Ref #5 | 05/10/13 17:23 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC20556
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/07/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC20556-16F.1 | Walk In Ref #5 | Sarah Ayaz | 05/10/13 15:57 | Retrieve from Storage |
| MC20556-16F.1 | Sarah Ayaz | Walk In Ref #5 | 05/10/13 17:23 | Return to Storage |
| MC20556-17F.1 | Walk In Ref #5 | Sarah Ayaz | 05/10/13 15:57 | Retrieve from Storage |
| MC20556-17F.1 | Sarah Ayaz | Walk In Ref #5 | 05/10/13 17:23 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:43 | MA15559-STD1 | 1 | | STDA |
| 16:50 | MA15559-STD2 | 1 | | STDB |
| 16:57 | MA15559-STD3 | 1 | | STDC |
| 17:04 | MA15559-STD4 | 1 | | STDD |
| 17:11 | MA15559-STD5 | 1 | | STDE |
| 17:19 | MA15559-STD6 | 1 | | STDF |
| 17:25 | MA15559-STD7 | 1 | | STDG |
| 17:33 | MA15559-STD8 | 1 | | STDH |
| 17:39 | MA15559-ICV1 | 1 | | |
| 17:48 | MA15559-ICB1 | 1 | | |
| 17:55 | MA15559-CCV1 | 1 | | |
| 18:02 | MA15559-CCB1 | 1 | | |
| 18:09 | MA15559-CRI1 | 1 | | |
| 18:16 | MA15559-ICSA1 | 1 | | |
| 18:23 | MA15559-ICSAB1 | 1 | | |
| 18:30 | MA15559-ICSA2 | 2 | | |
| 18:38 | MA15559-ICSAB2 | 2 | | |
| 18:45 | ZZZZZZ | 1 | | RINSECONF |
| 18:52 | MP20915-MB1 | 2 | | |
| 18:59 | MC20556-2F | 2 | | |
| 19:06 | MC20556-1F | 2 | | |
| 19:14 | MC20556-3F | 2 | | |
| 19:21 | MA15559-CCV2 | 1 | | |
| 19:28 | MA15559-CCB2 | 1 | | |
| 19:35 | MC20556-4F | 2 | | |
| 19:42 | MC20556-5F | 2 | | |
| 19:49 | MC20556-6F | 2 | | |
| 19:56 | MC20556-7F | 2 | | |
| 20:03 | MP20865-B2 | 5 | | |
| 20:10 | MP20915-B1 | 20 | | |
| 20:17 | MP20915-S1 | 20 | | |
| 20:24 | MP20915-S2 | 20 | | |
| 20:31 | MP20915-SD1 | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:38 | MP20915-PS1 | 2 | | |
| -----------> | Last reportable sample/prep for job MC20556 | | | |
| 20:45 | MA15559-CCV3 | 1 | | |
| 20:52 | MA15559-CCB3 | 1 | | |
| 20:59 | MA15559-CRI2 | 1 | | |
| 21:07 | MA15559-CCV4 | 1 | | |
| 21:14 | MA15559-CCB4 | 1 | | |
| -----------> | Last reportable CCB for job MC20556 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 16:43 | MA15559-STD1 | 3507263 R | 3065851 R | 319124 R | 602719 R | 129782 R | 3487536 R | 3784659 R | 1144814 R |
| 16:50 | MA15559-STD2 | 3549019 | 3003964 | 322450 | 604851 | 129904 | 3459915 | 3797827 | 1122849 |
| 16:57 | MA15559-STD3 | 3557526 | 3050425 | 318932 | 611943 | 128268 | 3460527 | 3786569 | 1130621 |
| 17:04 | MA15559-STD4 | 3548232 | 3041693 | 316039 | 587432 | 126854 | 3469262 | 3686223 | 1106784 |
| 17:11 | MA15559-STD5 | 3490825 | 3140589 | 318959 | 592434 | 127476 | 3496402 | 3764499 | 1116297 |
| 17:19 | MA15559-STD6 | 3538727 | 3039564 | 315806 | 611504 | 127689 | 3466386 | 3760884 | 1106162 |
| 17:25 | MA15559-STD7 | 3593809 | 3140222 | 319962 | 606139 | 130589 | 3513450 | 3730360 | 1136178 |
| 17:33 | MA15559-STD8 | 3453372 | 3084850 | 312061 | 625277 | 129654 | 3286409 | 3650015 | 1056353 |
| 17:39 | MA15559-ICV1 | 3435173 | 3042344 | 312820 | 601314 | 128367 | 3313307 | 3715348 | 1072751 |
| 17:48 | MA15559-ICB1 | 3476668 | 3002070 | 316486 | 596680 | 127059 | 3420097 | 3746398 | 1111827 |
| 17:55 | MA15559-CCV1 | 3428805 | 3003384 | 311794 | 596566 | 127370 | 3306327 | 3624628 | 1058461 |
| 18:02 | MA15559-CCB1 | 3467784 | 3021244 | 315948 | 599965 | 127168 | 3316932 | 3769077 | 1100611 |
| 18:09 | MA15559-CRI1 | 3478554 | 2994858 | 311041 | 590650 | 126537 | 3404567 | 3716670 | 1101791 |
| 18:16 | MA15559-ICSA1 | 3079861 | 2863032 | 306470 | 786970 !a | 169988 !a | 2925238 | 3305367 | 980042 |
| 18:23 | MA15559-ICSAB1 | 3057067 | 2855013 | 301259 | 777488 | 168884 !a | 2945028 | 3334842 | 976568 |
| 18:30 | MA15559-ICSA2 | 3183923 | 2991953 | 310624 | 696288 | 148874 | 3083645 | 3456154 | 1033707 |
| 18:38 | MA15559-ICSAB2 | 3147195 | 2889923 | 304983 | 696316 | 148064 | 3068101 | 3487779 | 1025155 |
| 18:45 | ZZZZZZ | 3335412 | 3021680 | 311267 | 597852 | 126852 | 3402169 | 3816145 | 1121498 |
| 18:52 | MP20915-MB1 | 3300020 | 2940277 | 303244 | 586380 | 122496 | 3354883 | 3708667 | 1094179 |
| 18:59 | MC20556-2F | 3078949 | 2899811 | 295580 | 569760 | 120262 | 3080626 | 3509774 | 1038147 |
| 19:06 | MC20556-1F | 3130306 | 2898079 | 303276 | 582410 | 123016 | 3068769 | 3501761 | 1045566 |
| 19:14 | MC20556-3F | 3170059 | 2877244 | 300428 | 569416 | 120216 | 3146107 | 3563857 | 1043691 |
| 19:21 | MA15559-CCV2 | 3263300 | 2961930 | 309866 | 596431 | 125396 | 3278759 | 3650007 | 1085722 |
| 19:28 | MA15559-CCB2 | 3305584 | 2979211 | 311149 | 597635 | 126727 | 3371261 | 3694561 | 1078431 |
| 19:35 | MC20556-4F | 3098277 | 2886385 | 298974 | 587561 | 123042 | 3077976 | 3489743 | 1060115 |
| 19:42 | MC20556-5F | 3122167 | 2990204 | 299096 | 577609 | 119755 | 3169842 | 3577327 | 1072094 |
| 19:49 | MC20556-6F | 3174709 | 2916145 | 297840 | 566877 | 118936 | 3137563 | 3411732 | 1023627 |
| 19:56 | MC20556-7F | 3388624 | 2916245 | 305048 | 568048 | 122951 | 3319575 | 3588155 | 1067769 |
| 20:03 | MP20865-B2 | 3360186 | 2946400 | 303429 | 570044 | 122658 | 3308056 | 3582371 | 1069664 |
| 20:10 | MP20915-B1 | 3501958 | 2941202 | 312155 | 593212 | 125585 | 3321289 | 3711162 | 1098024 |
| 20:17 | MP20915-S1 | 3387420 | 3048928 | 313782 | 592681 | 126322 | 3249302 | 3804294 | 1093090 |
| 20:24 | MP20915-S2 | 3371930 | 3003886 | 306729 | 581327 | 124913 | 3301222 | 3628404 | 1075265 |
| 20:31 | MP20915-SD1 | 3391048 | 2946567 | 310092 | 583411 | 125551 | 3274056 | 3637234 | 1073254 |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 20:38 | MP20915-PS1 | 3224124 | 2905101 | 294805 | 560836 | 119111 | 3048890 | 3603015 | 1039182 |
| 20:45 | MA15559-CCV3 | 3449482 | 2999014 | 306192 | 600660 | 126824 | 3211865 | 3661247 | 1060485 |
| 20:52 | MA15559-CCB3 | 3411272 | 2990654 | 312373 | 594276 | 125044 | 3401132 | 3862201 | 1086314 |
| 20:59 | MA15559-CRI2 | 3435229 | 3057326 | 306444 | 595541 | 124145 | 3392131 | 3802661 | 1061806 |
| 21:07 | MA15559-CCV4 | 3358767 | 2927575 | 306591 | 590313 | 125089 | 3278791 | 3651179 | 1064790 |
| 21:14 | MA15559-CCB4 | 3439868 | 2987111 | 310596 | 585111 | 125410 | 3417301 | 3767302 | 1127482 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No samples reported for this element bracketed by this QC.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 16:43 | MA15559-STD1 | 5123501 R | 3098864 R |
| 16:50 | MA15559-STD2 | 5344219 | 3081042 |
| 16:57 | MA15559-STD3 | 5241541 | 3140098 |
| 17:04 | MA15559-STD4 | 5181456 | 3009593 |
| 17:11 | MA15559-STD5 | 5075208 | 3079021 |
| 17:19 | MA15559-STD6 | 5291153 | 3130388 |
| 17:25 | MA15559-STD7 | 5324339 | 2988918 |
| 17:33 | MA15559-STD8 | 5092395 | 2841320 |
| 17:39 | MA15559-ICV1 | 5148707 | 2879661 |
| 17:48 | MA15559-ICB1 | 5177486 | 3007381 |
| 17:55 | MA15559-CCV1 | 5061642 | 2871073 |
| 18:02 | MA15559-CCB1 | 5131654 | 2999902 |
| 18:09 | MA15559-CRI1 | 5154971 | 3009700 |
| 18:16 | MA15559-ICSA1 | 4888910 | 2618497 |
| 18:23 | MA15559-ICSAB1 | 4918036 | 2585467 |
| 18:30 | MA15559-ICSA2 | 5051390 | 2747640 |
| 18:38 | MA15559-ICSAB2 | 5087520 | 2746007 |
| 18:45 | ZZZZZZ | 5229525 | 3112315 |
| 18:52 | MP20915-MB1 | 5223667 | 2993476 |
| 18:59 | MC20556-2F | 4960832 | 2788632 |
| 19:06 | MC20556-1F | 5061151 | 2824475 |
| 19:14 | MC20556-3F | 5099750 | 2836328 |
| 19:21 | MA15559-CCV2 | 5204821 | 2990592 |
| 19:28 | MA15559-CCB2 | 5165748 | 3096332 |
| 19:35 | MC20556-4F | 4932251 | 2885402 |
| 19:42 | MC20556-5F | 5113342 | 2938317 |
| 19:49 | MC20556-6F | 5028838 | 2820196 |
| 19:56 | MC20556-7F | 5186716 | 3030140 |
| 20:03 | MP20865-B2 | 5057632 | 2937280 |
| 20:10 | MP20915-B1 | 5210947 | 3005355 |
| 20:17 | MP20915-S1 | 4986782 | 2987117 |
| 20:24 | MP20915-S2 | 5113596 | 3016585 |
| 20:31 | MP20915-SD1 | 5083372 | 2970213 |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15559
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 20:38 | MP20915-PS1 | 5037934 | 2810513 |
| 20:45 | MA15559-CCV3 | 5180260 | 2962141 |
| 20:52 | MA15559-CCB3 | 5206285 | 3113480 |
| 20:59 | MA15559-CRI2 | 4984829 | 2949163 |
| 21:07 | MA15559-CCV4 | 5209522 | 2944647 |
| 21:14 | MA15559-CCB4 | 5257865 | 3069885 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15559  Units: ug/l

| Time: / Sample ID: | | | | 17:48 ICB1 | | 18:02 CCB1 | | 19:28 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.036 | <0.50 | 0.012 | <0.50 | 0.0088 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15559  Units: ug/l

| Time: / Sample ID: | | | | 20:52 CCB3 | | 21:14 CCB4 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0063 | <0.50 | 0.0024 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | |
| Calcium | 250 | 1.7 | 50 | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | |
| Iron | 25 | .52 | 13 | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | |
| Magnesium | 250 | .12 | 50 | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | |
| Potassium | 250 | 1.8 | 50 | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | |
| Sodium | 250 | 1.6 | 50 | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15559  Units: ug/l

| Time: | | 17:39 | | | 17:55 | | | 19:21 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 58.8 | 98.0 | 50 | 48.9 | 97.8 | 50 | 49.7 | 99.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15559  Units: ug/l

| | | | | | | |
|---|---|---|---|---|---|---|
| Time: | | 20:45 | | | 21:07 | |
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 48.4 | 96.8 | 50 | 49.5 | 99.0 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | anr | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15559  Units: ug/l

| Time: | | | 18:09 | | 20:59 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.54 | 108.0 | 0.53 | 106.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | anr | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA050913W2L.AGF  Date Analyzed: 05/09/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15559  Units: ug/l

| Time: | | | 18:16 | | 18:23 | | 18:30 | | 18:38 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95500 | 95.5 | 96200 | 96.2 | | | | |
| Antimony | | | 0.29* | | 0.28* | | | | | |
| Arsenic | | 20 | | | | | 0.098 | | 16.6 | 83.0 |
| Barium | | | 0.22 | | 0.22 | | | | | |
| Beryllium | | | 0.0040 | | 0.0020 | | | | | |
| Boron | | | -0.14 | | -0.21 | | | | | |
| Cadmium | | 20 | 3.0* | | 21.6 | 108.0 | | | | |
| Calcium | 100000 | 100000 | 95000 | 95.0 | 95800 | 95.8 | | | | |
| Chromium | | 20 | 1.0* | | 19.9 | 99.5 | | | | |
| Cobalt | | 20 | 0.042 | | 18.6 | 93.0 | | | | |
| Copper | | 20 | | | | | 0.14 | | 14.6 | 73.0* |
| Iron | 100000 | 100000 | 92700 | 92.7 | 93700 | 93.7 | | | | |
| Lead | | | 0.12 | | 0.12 | | | | | |
| Magnesium | 100000 | 100000 | 95500 | 95.5 | 96400 | 96.4 | | | | |
| Manganese | | 20 | 0.20 | | 19.0 | 95.0 | | | | |
| Molybdenum | 2000 | 2000 | 2050 | 102.5 | 2070 | 103.5 | | | | |
| Nickel | | 20 | 0.55* | | 17.9 | 89.5 | | | | |
| Potassium | 100000 | 100000 | 97500 | 97.5 | 97400 | 97.4 | | | | |
| Selenium | | | -0.21 | | -0.13 | | | | | |
| Silver | | 20 | 0.055 | | 19.4 | 97.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 93900 | 93.9 | 96200 | 96.2 |
| Strontium | | | 4.9* | | 4.9* | | | | | |
| Thallium | | | 0.044 | | 0.026 | | | | | |
| Tin | | | 0.11 | | 0.11 | | | | | |
| Titanium | 2000 | 2000 | 2020 | 101.0 | 2010 | 100.5 | | | | |
| Vanadium | | | 0.026 | | 0.040 | | | | | |
| Zinc | | 20 | | | | | -3.8* | | 12.5 | 62.5* |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:20 | MA15566-STD1 | 1 | | STDA |
| 14:27 | MA15566-STD2 | 1 | | STDB |
| 14:35 | MA15566-STD3 | 1 | | STDC |
| 14:42 | MA15566-STD4 | 1 | | STDD |
| 14:49 | MA15566-STD5 | 1 | | STDE |
| 14:56 | MA15566-STD6 | 1 | | STDF |
| 15:03 | MA15566-STD7 | 1 | | STDG |
| 15:10 | MA15566-STD8 | 1 | | STDH |
| 15:17 | MA15566-ICV1 | 1 | | |
| 15:24 | MA15566-ICB1 | 1 | | |
| 15:31 | MA15566-CCV1 | 1 | | |
| 15:38 | MA15566-CCB1 | 1 | | |
| 15:45 | MA15566-CRI1 | 1 | | |
| 15:52 | MA15566-ICSA1 | 1 | | NA SATURATED. |
| 15:59 | MA15566-ICSAB1 | 1 | | NA SATURATED. |
| 16:07 | MA15566-ICSA2 | 2 | | |
| 16:14 | MA15566-ICSAB2 | 2 | | |
| 16:21 | ZZZZZZ | 1 | | RINSECONF |
| 16:28 | MP20915-MB1 | 2 | | |
| 16:35 | MP20926-MB1 | 2 | | |
| 16:43 | MC20556-8F | 2 | | |
| 16:50 | MP20926-SD1 | 10 | | |
| 16:57 | MA15566-CCV2 | 1 | | |
| 17:04 | MA15566-CCB2 | 1 | | |
| 17:11 | MC20556-9F | 2 | | |
| 17:18 | MC20556-10F | 2 | | |
| 17:25 | MC20556-11F | 2 | | |
| 17:32 | MC20556-12F | 2 | | |
| 17:39 | MC20556-13F | 2 | | |
| 17:46 | MP20926-B1 | 20 | | |
| 17:53 | MP20926-S1 | 20 | | |
| 18:00 | MP20926-S2 | 20 | | |
| 18:07 | MP20926-PS1 | 2 | | |

----------> Last reportable sample/prep for job MC20556

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:22 | MA15566-CRI2 | 1 | | |
| 18:29 | MA15566-CCV3 | 1 | | |
| 18:36 | MA15566-CCB3 | 1 | | |

----------> Last reportable CCB for job MC20556
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:20 | MA15566-STD1 | 3213560 R | 3419607 R | 348169 R | 681918 R | 139394 R | 3886609 R | 4134240 R | 1199034 R |
| 14:27 | MA15566-STD2 | 3208420 | 3402727 | 350352 | 685749 | 140489 | 3872277 | 4145393 | 1189447 |
| 14:35 | MA15566-STD3 | 3245857 | 3392610 | 348195 | 683287 | 139495 | 3872859 | 4139364 | 1195489 |
| 14:42 | MA15566-STD4 | 3235412 | 3368041 | 344311 | 668472 | 136886 | 3839902 | 4137478 | 1173750 |
| 14:49 | MA15566-STD5 | 3204645 | 3369793 | 342439 | 667249 | 136725 | 3815572 | 4074650 | 1162402 |
| 14:56 | MA15566-STD6 | 3189655 | 3382885 | 345106 | 674848 | 137056 | 3851053 | 4101323 | 1169757 |
| 15:03 | MA15566-STD7 | 3214745 | 3370642 | 347499 | 688087 | 140455 | 3804347 | 4102400 | 1182329 |
| 15:10 | MA15566-STD8 | 3198339 | 3422169 | 349711 | 711284 | 145027 | 3675343 | 3986038 | 1159432 |
| 15:17 | MA15566-ICV1 | 3223825 | 3427358 | 347769 | 688532 | 140745 | 3735850 | 4010684 | 1155766 |
| 15:24 | MA15566-ICB1 | 3276439 | 3410549 | 352079 | 687601 | 140613 | 3830001 | 4104752 | 1206148 |
| 15:31 | MA15566-CCV1 | 3215054 | 3415895 | 348819 | 686355 | 141852 | 3731662 | 4050869 | 1156728 |
| 15:38 | MA15566-CCB1 | 3286078 | 3389214 | 346228 | 678611 | 139080 | 3808057 | 4085758 | 1168329 |
| 15:45 | MA15566-CRI1 | 3242379 | 3461760 | 352941 | 688490 | 141143 | 3869393 | 4115804 | 1199928 |
| 15:52 | MA15566-ICSA1 | 2885113 | 3231422 | 334913 | 890796 !a | 189346 !a | 3293371 | 3684746 | 1052577 |
| 15:59 | MA15566-ICSAB1 | 2859744 | 3275655 | 328653 | 877130 | 186500 !a | 3347200 | 3751420 | 1041248 |
| 16:07 | MA15566-ICSA2 | 2889771 | 3242177 | 335529 | 774612 | 163701 | 3426859 | 3798755 | 1096934 |
| 16:14 | MA15566-ICSAB2 | 2871573 | 3254757 | 332584 | 774577 | 162933 | 3401023 | 3819967 | 1090520 |
| 16:21 | ZZZZZZ | 3085444 | 3389594 | 343154 | 682582 | 139709 | 3875725 | 4173230 | 1192522 |
| 16:28 | MP20915-MB1 | 3005289 | 3330611 | 336524 | 665493 | 136225 | 3787259 | 4090249 | 1177082 |
| 16:35 | MP20926-MB1 | 3012385 | 3340986 | 336557 | 667088 | 136618 | 3802099 | 4072774 | 1175840 |
| 16:43 | MC20556-8F | 2871675 | 3274367 | 329930 | 660046 | 134473 | 3581616 | 3978679 | 1155401 |
| 16:50 | MP20926-SD1 | 3020018 | 3388122 | 339834 | 682775 | 139739 | 3812743 | 4144429 | 1190940 |
| 16:57 | MA15566-CCV2 | 2999128 | 3327408 | 333504 | 663214 | 138186 | 3667965 | 3994050 | 1148354 |
| 17:04 | MA15566-CCB2 | 3092123 | 3349332 | 337497 | 665799 | 137365 | 3807857 | 4091890 | 1185373 |
| 17:11 | MC20556-9F | 2893827 | 3279152 | 332110 | 658853 | 134194 | 3561739 | 3948792 | 1148612 |
| 17:18 | MC20556-10F | 2932566 | 3328281 | 334847 | 661576 | 134883 | 3589406 | 3978308 | 1151863 |
| 17:25 | MC20556-11F | 2885498 | 3297241 | 333229 | 661895 | 134874 | 3551859 | 3983338 | 1151213 |
| 17:32 | MC20556-12F | 2918795 | 3302162 | 328298 | 664331 | 133363 | 3579652 | 4009516 | 1148959 |
| 17:39 | MC20556-13F | 3014934 | 3252986 | 328775 | 663622 | 134012 | 3705776 | 4011575 | 1151097 |
| 17:46 | MP20926-B1 | 3123027 | 3291431 | 334199 | 659420 | 136317 | 3709950 | 4051255 | 1159408 |
| 17:53 | MP20926-S1 | 3058238 | 3305036 | 333915 | 659365 | 135847 | 3692934 | 4024219 | 1163203 |
| 18:00 | MP20926-S2 | 3129213 | 3309071 | 332961 | 655707 | 135895 | 3696760 | 4022335 | 1159571 |
| 18:07 | MP20926-PS1 | 2940627 | 3244353 | 326196 | 647084 | 132128 | 3538629 | 3922223 | 1134068 |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:22 | MA15566-CRI2 | 3125015 | 3302027 | 332948 | 665323 | 134778 | 3717757 | 4058670 | 1164723 |
| 18:29 | MA15566-CCV3 | 3064429 | 3319541 | 333274 | 662914 | 136549 | 3633626 | 3955588 | 1128710 |
| 18:36 | MA15566-CCB3 | 3110161 | 3314873 | 334191 | 660729 | 135540 | 3780266 | 4088290 | 1173369 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:20 | MA15566-STD1 | 5535081 R | 3216145 R |
| 14:27 | MA15566-STD2 | 5543609 | 3218786 |
| 14:35 | MA15566-STD3 | 5515421 | 3201803 |
| 14:42 | MA15566-STD4 | 5485241 | 3171331 |
| 14:49 | MA15566-STD5 | 5404305 | 3147064 |
| 14:56 | MA15566-STD6 | 5491954 | 3187573 |
| 15:03 | MA15566-STD7 | 5516694 | 3137450 |
| 15:10 | MA15566-STD8 | 5428768 | 3032005 |
| 15:17 | MA15566-ICV1 | 5444457 | 3066249 |
| 15:24 | MA15566-ICB1 | 5462299 | 3147330 |
| 15:31 | MA15566-CCV1 | 5456302 | 3024710 |
| 15:38 | MA15566-CCB1 | 5440414 | 3165976 |
| 15:45 | MA15566-CRI1 | 5549122 | 3162711 |
| 15:52 | MA15566-ICSA1 | 5149465 | 2716128 |
| 15:59 | MA15566-ICSAB1 | 5256990 | 2741507 |
| 16:07 | MA15566-ICSA2 | 5319549 | 2823438 |
| 16:14 | MA15566-ICSAB2 | 5266832 | 2831402 |
| 16:21 | ZZZZZZ | 5579190 | 3208270 |
| 16:28 | MP20915-MB1 | 5527890 | 3215098 |
| 16:35 | MP20926-MB1 | 5594739 | 3233465 |
| 16:43 | MC20556-8F | 5442292 | 3048440 |
| 16:50 | MP20926-SD1 | 5523763 | 3218905 |
| 16:57 | MA15566-CCV2 | 5478383 | 3110293 |
| 17:04 | MA15566-CCB2 | 5463515 | 3190762 |
| 17:11 | MC20556-9F | 5401315 | 3017786 |
| 17:18 | MC20556-10F | 5453255 | 3032527 |
| 17:25 | MC20556-11F | 5422791 | 3039561 |
| 17:32 | MC20556-12F | 5443286 | 3086973 |
| 17:39 | MC20556-13F | 5457873 | 3180069 |
| 17:46 | MP20926-B1 | 5429423 | 3143273 |
| 17:53 | MP20926-S1 | 5424768 | 3103744 |
| 18:00 | MP20926-S2 | 5421077 | 3100098 |
| 18:07 | MP20926-PS1 | 5378698 | 3008407 |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15566
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:22 | MA15566-CRI2 | 5473808 | 3182710 |
| 18:29 | MA15566-CCV3 | 5400071 | 3046029 |
| 18:36 | MA15566-CCB3 | 5416378 | 3170632 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15566  Units: ug/l

| Time: / Sample ID: | | | | 15:24 ICB1 | | 15:38 CCB1 | | 17:04 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0013 | <0.50 | 0.074 | <0.50 | 0.0041 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15566  Units: ug/l

| Time: | | | | 18:36 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.013 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15566  Units: ug/l

| Time: | | 15:17 | | | 15:31 | | | 16:57 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 58.7 | 97.8 | 50 | 48.6 | 97.2 | 50 | 48.8 | 97.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15566  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 18:29 | |
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 48.5 | 97.0 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15566  Units: ug/l

| Time: | | | 15:45 | | 18:22 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.49 | 98.0 | 0.59 | 118.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051013W1L.AGF  Date Analyzed: 05/10/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15566  Units: ug/l

| Time: | | | 15:52 | | 15:59 | | 16:07 | | 16:14 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95400 | 95.4 | 94400 | 94.4 | | | | |
| Antimony | | | 0.30* | | 0.28* | | | | | |
| Arsenic | | 20 | | | | | 0.028 | | 16.4 | 82.0 |
| Barium | | | 0.25 | | 0.23 | | | | | |
| Beryllium | | | 0.00033 | | 0.0016 | | | | | |
| Boron | | | 0.27 | | 0.23 | | | | | |
| Cadmium | | 20 | 2.9* | | 22.2 | 111.0 | | | | |
| Calcium | 100000 | 100000 | 95400 | 95.4 | 95700 | 95.7 | | | | |
| Chromium | | 20 | 1.0* | | 20.3 | 101.5 | | | | |
| Cobalt | | 20 | 0.036 | | 18.7 | 93.5 | | | | |
| Copper | | 20 | | | | | -0.032 | | 14.4 | 72.0* |
| Iron | 100000 | 100000 | 94500 | 94.5 | 96100 | 96.1 | | | | |
| Lead | | | 0.13 | | 0.12 | | | | | |
| Magnesium | 100000 | 100000 | 96000 | 96.0 | 94200 | 94.2 | | | | |
| Manganese | | 20 | 0.086 | | 19.3 | 96.5 | | | | |
| Molybdenum | 2000 | 2000 | 2080 | 104.0 | 2050 | 102.5 | | | | |
| Nickel | | 20 | 0.70* | | 18.6 | 93.0 | | | | |
| Potassium | 100000 | 100000 | 97800 | 97.8 | 96900 | 96.9 | | | | |
| Selenium | | | -0.31* | | -0.31* | | | | | |
| Silver | | 20 | 0.056 | | 19.3 | 96.5 | | | | |
| Sodium | 100000 | 100000 | | | | | 96600 | 96.6 | 96800 | 96.8 |
| Strontium | | | 5.0* | | 5.0* | | | | | |
| Thallium | | | 0.029 | | 0.0063 | | | | | |
| Tin | | | 0.16 | | 0.15 | | | | | |
| Titanium | 2000 | 2000 | 2010 | 100.5 | 1990 | 99.5 | | | | |
| Vanadium | | | 0.030 | | 0.043 | | | | | |
| Zinc | | 20 | | | | | 2.8* | | 18.3 | 91.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15582
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:14 | MA15582-STD1 | 1 | | STDA |
| 11:21 | MA15582-STD2 | 1 | | STDB |
| 11:28 | MA15582-STD3 | 1 | | STDC |
| 11:36 | MA15582-STD4 | 1 | | STDD |
| 11:43 | MA15582-STD5 | 1 | | STDE |
| 11:50 | MA15582-STD6 | 1 | | STDF |
| 11:57 | MA15582-STD7 | 1 | | STDG |
| 12:04 | MA15582-STD8 | 1 | | STDH |
| 12:11 | MA15582-ICV1 | 1 | | |
| 12:36 | MA15582-ICB1 | 1 | | |
| 12:43 | MA15582-CCV1 | 1 | | |
| 12:50 | MA15582-CCB1 | 1 | | |
| 12:57 | MA15582-CRI1 | 1 | | |
| 13:05 | MA15582-ICSA1 | 1 | | NA SATURATED. |
| 13:12 | MA15582-ICSAB1 | 1 | | NA SATURATED. |
| 13:19 | MA15582-ICSA2 | 2 | | |
| 13:26 | MA15582-ICSAB2 | 2 | | |
| 13:33 | ZZZZZZ | 1 | | RINSECONF |
| 13:41 | MP20937-MB1 | 2 | | |
| 13:48 | MC20556-14F | 2 | | |
| 13:55 | MC20556-15F | 2 | | |
| 14:02 | MC20556-16F | 2 | | |
| 14:09 | MA15582-CCV2 | 1 | | |
| 14:16 | MA15582-CCB2 | 1 | | |
| 14:23 | MC20556-17F | 2 | | |
| 14:30 | MP20937-SD1 | 10 | | |
| 14:37 | MP20937-B1 | 20 | | |
| 14:44 | MP20937-S1 | 20 | | |
| 14:51 | MP20937-S2 | 20 | | |
| 14:58 | MP20937-PS1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC20556 | | | |
| 15:05 | MA15582-CRI2 | 1 | | |
| 15:13 | MA15582-CCV3 | 1 | | |
| 15:26 | MA15582-CCB3 | 1 | | |
| ----------> | Last reportable CCB for job MC20556 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15582
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:14 | MA15582-STD1 | 3232907 R | 3437387 R | 336744 R | 696405 R | 134419 R | 3907550 R | 4145778 R | 1149344 R |
| 11:21 | MA15582-STD2 | 3238136 | 3432201 | 334676 | 691650 | 134914 | 3864792 | 4134922 | 1141903 |
| 11:28 | MA15582-STD3 | 3213584 | 3378103 | 333631 | 683335 | 134438 | 3842561 | 4101471 | 1144050 |
| 11:36 | MA15582-STD4 | 3180586 | 3435649 | 331621 | 682275 | 133776 | 3805913 | 4043732 | 1134546 |
| 11:43 | MA15582-STD5 | 3214233 | 3366159 | 331814 | 677109 | 133408 | 3835432 | 4066071 | 1128749 |
| 11:50 | MA15582-STD6 | 3230160 | 3379128 | 330169 | 681441 | 132840 | 3847409 | 4056081 | 1123997 |
| 11:57 | MA15582-STD7 | 3209802 | 3391879 | 336348 | 695227 | 136407 | 3829622 | 4079255 | 1156035 |
| 12:04 | MA15582-STD8 | 3145829 | 3375037 | 335138 | 717302 | 140320 | 3627340 | 3913255 | 1112551 |
| 12:11 | MA15582-ICV1 | 3162495 | 3400737 | 330443 | 689477 | 135495 | 3690063 | 3958856 | 1105612 |
| 12:36 | MA15582-ICB1 | 3269577 | 3410263 | 338342 | 694551 | 136166 | 3881987 | 4157943 | 1174420 |
| 12:43 | MA15582-CCV1 | 3178879 | 3416877 | 336104 | 690353 | 137299 | 3726780 | 4009543 | 1133488 |
| 12:50 | MA15582-CCB1 | 3277421 | 3429698 | 342847 | 692522 | 137220 | 3867037 | 4102280 | 1176105 |
| 12:57 | MA15582-CRI1 | 3298308 | 3438074 | 342935 | 690159 | 138174 | 3875198 | 4181677 | 1176023 |
| 13:05 | MA15582-ICSA1 | 2778956 | 3151826 | 314919 | 896953 | 180871 !a | 3241604 | 3604514 | 1013191 |
| 13:12 | MA15582-ICSAB1 | 2731955 | 3193430 | 314711 | 874373 | 179314 !a | 3283144 | 3665549 | 1003991 |
| 13:19 | MA15582-ICSA2 | 2835262 | 3285430 | 325735 | 781127 | 158862 | 3437434 | 3829123 | 1071227 |
| 13:26 | MA15582-ICSAB2 | 2796229 | 3286761 | 324945 | 783795 | 159041 | 3463989 | 3856988 | 1073700 |
| 13:33 | ZZZZZZ | 3009286 | 3417544 | 334259 | 689658 | 138094 | 3892458 | 4188596 | 1171969 |
| 13:41 | MP20937-MB1 | 2933731 | 3404596 | 329802 | 682446 | 135561 | 3875528 | 4111470 | 1157142 |
| 13:48 | MC20556-14F | 2740932 | 3318147 | 319598 | 663372 | 131058 | 3529200 | 3880688 | 1089536 |
| 13:55 | MC20556-15F | 2801442 | 3307139 | 321906 | 667324 | 132478 | 3569900 | 3959185 | 1111452 |
| 14:02 | MC20556-16F | 2787503 | 3344404 | 322521 | 672507 | 132607 | 3598632 | 3998782 | 1117928 |
| 14:09 | MA15582-CCV2 | 2923741 | 3434485 | 325603 | 678623 | 135630 | 3742861 | 4074259 | 1107775 |
| 14:16 | MA15582-CCB2 | 3002752 | 3388778 | 333078 | 682354 | 136312 | 3825448 | 4144275 | 1164843 |
| 14:23 | MC20556-17F | 2944674 | 3378501 | 328935 | 679588 | 134300 | 3784933 | 4065150 | 1146212 |
| 14:30 | MP20937-SD1 | 2954572 | 3373121 | 333638 | 685346 | 137693 | 3765081 | 4074830 | 1154982 |
| 14:37 | MP20937-B1 | 3060951 | 3382787 | 331483 | 672451 | 135900 | 3801352 | 4083816 | 1148350 |
| 14:44 | MP20937-S1 | 3050556 | 3402404 | 332624 | 673221 | 135657 | 3741656 | 4103645 | 1148236 |
| 14:51 | MP20937-S2 | 3079317 | 3378791 | 332086 | 675195 | 136642 | 3745667 | 4086441 | 1152933 |
| 14:58 | MP20937-PS1 | 2837481 | 3303052 | 324751 | 656187 | 131148 | 3522787 | 3887098 | 1099609 |
| 15:05 | MA15582-CRI2 | 3060767 | 3403417 | 335620 | 682160 | 136706 | 3819525 | 4112647 | 1166436 |
| 15:13 | MA15582-CCV3 | 2968063 | 3394021 | 333935 | 672452 | 138223 | 3677366 | 4015192 | 1125419 |
| 15:26 | MA15582-CCB3 | 3081716 | 3402817 | 336041 | 681371 | 136766 | 3829926 | 4127444 | 1160783 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15582
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15582
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:14 | MA15582-STD1 | 5482146 R | 3218293 R |
| 11:21 | MA15582-STD2 | 5475922 | 3221587 |
| 11:28 | MA15582-STD3 | 5417677 | 3175668 |
| 11:36 | MA15582-STD4 | 5474578 | 3178576 |
| 11:43 | MA15582-STD5 | 5409464 | 3196814 |
| 11:50 | MA15582-STD6 | 5453423 | 3185396 |
| 11:57 | MA15582-STD7 | 5429236 | 3172983 |
| 12:04 | MA15582-STD8 | 5387387 | 2965507 |
| 12:11 | MA15582-ICV1 | 5377804 | 3041984 |
| 12:36 | MA15582-ICB1 | 5515257 | 3260104 |
| 12:43 | MA15582-CCV1 | 5454898 | 3082697 |
| 12:50 | MA15582-CCB1 | 5500288 | 3216035 |
| 12:57 | MA15582-CRI1 | 5542306 | 3195608 |
| 13:05 | MA15582-ICSA1 | 5099830 | 2728361 |
| 13:12 | MA15582-ICSAB1 | 5153146 | 2735008 |
| 13:19 | MA15582-ICSA2 | 5352679 | 2916549 |
| 13:26 | MA15582-ICSAB2 | 5347682 | 2902447 |
| 13:33 | ZZZZZZ | 5583177 | 3292699 |
| 13:41 | MP20937-MB1 | 5582710 | 3290078 |
| 13:48 | MC20556-14F | 5421590 | 3009076 |
| 13:55 | MC20556-15F | 5441046 | 3099015 |
| 14:02 | MC20556-16F | 5484703 | 3086949 |
| 14:09 | MA15582-CCV2 | 5584055 | 3174952 |
| 14:16 | MA15582-CCB2 | 5505256 | 3285385 |
| 14:23 | MC20556-17F | 5537989 | 3221407 |
| 14:30 | MP20937-SD1 | 5487198 | 3184713 |
| 14:37 | MP20937-B1 | 5466883 | 3206348 |
| 14:44 | MP20937-S1 | 5457861 | 3149075 |
| 14:51 | MP20937-S2 | 5503736 | 3165942 |
| 14:58 | MP20937-PS1 | 5355384 | 2965304 |
| 15:05 | MA15582-CRI2 | 5513005 | 3188200 |
| 15:13 | MA15582-CCV3 | 5449563 | 3093803 |
| 15:26 | MA15582-CCB3 | 5460704 | 3206440 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15582
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15582  Units: ug/l

| Time: / Sample ID: | | | | 12:36 ICB1 | | 12:50 CCB1 | | 14:16 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.010 | <0.50 | 0.0070 | <0.50 | 0.026 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15582  Units: ug/l

| Time: | | | | 15:26 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0087 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15582  Units: ug/l

| Time: | | 12:11 | | | 12:43 | | | 14:09 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 58.8 | 98.0 | 50 | 48.8 | 97.6 | 50 | 48.8 | 97.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15582  Units: ug/l

| Time: | | 15:13 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 48.2 | 96.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15582  Units: ug/l

| Time: | | | 12:57 | | 15:05 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA051313W1L.AGF  Date Analyzed: 05/13/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15582  Units: ug/l

| Time: | | | 13:05 | | 13:12 | | 13:19 | | 13:26 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94900 | 94.9 | 94700 | 94.7 | | | | |
| Antimony | | | 0.28* | | 0.28* | | | | | |
| Arsenic | | 20 | | | | | 0.068 | | 16.8 | 84.0 |
| Barium | | | 0.23 | | 0.23 | | | | | |
| Beryllium | | | 0.0025 | | 0.0019 | | | | | |
| Boron | | | 0.068 | | 0.047 | | | | | |
| Cadmium | | 20 | 2.8* | | 22.1 | 110.5 | | | | |
| Calcium | 100000 | 100000 | 95400 | 95.4 | 95800 | 95.8 | | | | |
| Chromium | | 20 | 0.96* | | 19.9 | 99.5 | | | | |
| Cobalt | | 20 | 0.039 | | 19.0 | 95.0 | | | | |
| Copper | | 20 | | | | | 0.088 | | 14.8 | 74.0* |
| Iron | 100000 | 100000 | 95600 | 95.6 | 96900 | 96.9 | | | | |
| Lead | | | 0.13 | | 0.13 | | | | | |
| Magnesium | 100000 | 100000 | 95700 | 95.7 | 94800 | 94.8 | | | | |
| Manganese | | 20 | 0.017 | | 19.1 | 95.5 | | | | |
| Molybdenum | 2000 | 2000 | 2040 | 102.0 | 2050 | 102.5 | | | | |
| Nickel | | 20 | 0.67* | | 18.8 | 94.0 | | | | |
| Potassium | 100000 | 100000 | 97500 | 97.5 | 97600 | 97.6 | | | | |
| Selenium | | | | | | | 0.045 | | -0.22 | |
| Silver | | 20 | 0.060 | | 19.5 | 97.5 | | | | |
| Sodium | 100000 | 100000 | | | | | 95800 | 95.8 | 95700 | 95.7 |
| Strontium | | | 5.0* | | 5.0* | | | | | |
| Thallium | | | 0.028 | | 0.013 | | | | | |
| Tin | | | 0.12 | | 0.13 | | | | | |
| Titanium | 2000 | 2000 | 1970 | 98.5 | 1980 | 99.0 | | | | |
| Vanadium | | | 0.057 | | 0.060 | | | | | |
| Zinc | | 20 | | | | | 1.5* | | 16.9 | 84.5 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/08/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.35 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/08/13

| Metal | MC20556-2F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.84 | 522 | 500 | 104.2 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/08/13

| Metal | MC20556-2F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.84 | 530 | 500 | 105.8 | 1.5 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/08/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 519 | 500 | 103.8 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/08/13

| Metal | MC20556-2F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.840 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20915 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/08/13

| Metal | Sample ml | Final ml | MC20556-2F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.8396 | 0.699666 | 716.95 | 2 | .1 | 16.66667 | 97.5 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20915: MC20556-1F, MC20556-2F, MC20556-3F, MC20556-4F, MC20556-5F, MC20556-6F, MC20556-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/09/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.42 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/09/13

| Metal | MC20556-8F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.72 | 513 | 500 | 102.5 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/09/13

| Metal | MC20556-8F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.72 | 507 | 500 | 101.3 | 1.2 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/09/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 528 | 500 | 105.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/09/13

| Metal | MC20556-8F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.722 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20926 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/09/13

| Metal | Sample ml | Final ml | MC20556-8F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.7222 | 0.601833 | 316.87 | 2 | .1 | 16.66667 | 97.6 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20926: MC20556-8F, MC20556-9F, MC20556-10F, MC20556-11F, MC20556-12F, MC20556-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/10/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.34 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/10/13

| Metal | MC20556-14F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.81 | 517 | 500 | 103.2 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/10/13

| Metal | MC20556-14F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.81 | 527 | 500 | 105.2 | 1.9 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/10/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 512 | 500 | 102.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/10/13

| Metal | MC20556-14F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.812 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC20556
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP20937 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/10/13

| Metal | Sample ml | Final ml | MC20556-14F Raw | MC20556-14F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.8123 | 0.676916716.7 | | 2 | .1 | 16.66667 | 96.1 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP20937: MC20556-14F, MC20556-15F, MC20556-16F, MC20556-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13E09q00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\001CAL
Date Acquired: May 9 2013 04:36 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 02:55 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3610640.00 | A | 133200.00 | 3.69 |
| 7 | (Li) | | P | | |
| 9 | Be | 38.89 | P | 19.25 | 49.50 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 16698.59 | P | 870.20 | 5.21 |
| 11 | B | 355.57 | P | 32.38 | 9.11 |
| 23 | Na | 1183970.00 | A | 22910.00 | 1.94 |
| 23 | Na | 115814.60 | P | 1017.00 | 0.88 |
| 24 | Mg | 50181.30 | P | 1602.00 | 3.19 |
| 24 | Mg | 2348.05 | P | 115.60 | 4.92 |
| 27 | Al | 46582.82 | P | 2090.00 | 4.49 |
| 27 | Al | 1075.67 | P | 70.76 | 6.58 |
| 39 | K | 4980460.00 | A | 31830.00 | 0.64 |
| 44 | Ca | 113617.40 | P | 4350.00 | 3.83 |
| 45 | Sc | 3136037.00 | A | 123800.00 | 3.95 |
| 45 | Sc | 318145.09 | P | 2876.00 | 0.90 |
| 47 | Ti | 345.57 | P | 58.73 | 17.00 |
| 51 | V | 3949.00 | P | 72.68 | 1.84 |
| 52 | Cr | 1358.31 | P | 17.40 | 1.28 |
| 55 | Mn | 1256.52 | P | 7.34 | 0.58 |
| 56 | Fe | 37873.87 | P | 969.40 | 2.56 |
| 59 | Co | 45.78 | P | 8.88 | 19.39 |
| 60 | Ni | 566.69 | P | 13.53 | 2.39 |
| 63 | Cu | 1846.36 | P | 42.93 | 2.33 |
| 66 | Zn | 4623.18 | P | 43.39 | 0.94 |
| 72 | Ge | 605376.31 | P | 22980.00 | 3.80 |
| 72 | Ge | 128842.10 | P | 1087.00 | 0.84 |
| 75 | As | 120.00 | P | 2.67 | 2.22 |
| 78 | Se | 108.45 | P | 12.01 | 11.08 |
| 88 | Sr | 1831.30 | P | 52.11 | 2.85 |
| 98 | Mo | 1242.32 | P | 47.89 | 3.85 |
| 103 | Rh | 3495649.00 | A | 27980.00 | 0.80 |
| 107 | Ag | 264.46 | P | 7.70 | 2.91 |

C:\ICPCHEM\1\DATA\13E09q00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 6.94 | 56.77 |
| 115 | In | 3776142.00 | A | 26080.00 | 0.69 |
| 115 | In | 1109109.00 | M | 15870.00 | 1.43 |
| 118 | (In) | 793.39 | P | 53.65 | 6.76 |
| 118 | (In) | 306.68 | P | 20.00 | 6.52 |
| 120 | Sn | 1127.86 | P | 78.63 | 6.97 |
| 121 | Sb | 246.68 | P | 29.63 | 12.01 |
| 137 | Ba | 790.05 | P | 50.45 | 6.39 |
| 159 | Tb | 5240414.00 | A | 67350.00 | 1.29 |
| 175 | Lu | 5253406.00 | A | 109700.00 | 2.09 |
| 205 | Tl | 427.80 | P | 36.57 | 8.55 |
| 206 | (Pb) | 310.01 | P | 40.42 | 13.04 |
| 207 | (Pb) | 251.12 | P | 6.94 | 2.76 |
| 208 | Pb | 3449.45 | P | 274.30 | 7.95 |
| 209 | Bi | 3138260.00 | A | 103900.00 | 3.31 |

C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\002CAL
Date Acquired: May 9 2013 04:43 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 04:40 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3507263.00 | A | 62130.00 | 1.77 |
| 7 | (Li) | | P | | |
| 9 | Be | 36.67 | P | 17.64 | 48.11 |
| 9 | Be | 6.67 | P | 3.33 | 49.99 |
| 11 | B | 16451.66 | P | 138.10 | 0.84 |
| 11 | B | 350.02 | P | 37.86 | 10.82 |
| 23 | Na | 1200117.00 | A | 11270.00 | 0.94 |
| 23 | Na | 116124.50 | P | 769.70 | 0.66 |
| 24 | Mg | 62028.43 | P | 1711.00 | 2.76 |
| 24 | Mg | 2791.47 | P | 138.50 | 4.96 |
| 27 | Al | 61195.10 | P | 1135.00 | 1.85 |
| 27 | Al | 1251.23 | P | 79.90 | 6.39 |
| 39 | K | 4997657.00 | A | 30010.00 | 0.60 |
| 44 | Ca | 114913.20 | P | 1192.00 | 1.04 |
| 45 | Sc | 3065851.00 | A | 66560.00 | 2.17 |
| 45 | Sc | 319123.50 | P | 1955.00 | 0.61 |
| 47 | Ti | 378.97 | P | 107.90 | 28.47 |
| 51 | V | 3921.00 | P | 56.10 | 1.43 |
| 52 | Cr | 1377.86 | P | 62.35 | 4.53 |
| 55 | Mn | 1297.85 | P | 18.20 | 1.40 |
| 56 | Fe | 39883.55 | P | 680.40 | 1.71 |
| 59 | Co | 44.89 | P | 4.29 | 9.55 |
| 60 | Ni | 560.91 | P | 49.75 | 8.87 |
| 63 | Cu | 1865.03 | P | 84.15 | 4.51 |
| 66 | Zn | 4704.76 | P | 42.78 | 0.91 |
| 72 | Ge | 602719.00 | P | 2594.00 | 0.43 |
| 72 | Ge | 129782.10 | P | 1482.00 | 1.14 |
| 75 | As | 121.78 | P | 6.54 | 5.37 |
| 78 | Se | 113.33 | P | 8.35 | 7.37 |
| 88 | Sr | 1840.19 | P | 28.86 | 1.57 |
| 98 | Mo | 1008.96 | P | 90.76 | 9.00 |
| 103 | Rh | 3487536.00 | A | 56090.00 | 1.61 |
| 107 | Ag | 256.68 | P | 32.83 | 12.79 |

C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 11.11 | P | 7.70 | 69.28 |
| 115 | In | 3784659.00 | A | 72450.00 | 1.91 |
| 115 | In | 1144814.00 | P | 14660.00 | 1.28 |
| 118 | (In) | 783.39 | P | 35.28 | 4.50 |
| 118 | (In) | 301.13 | P | 23.41 | 7.77 |
| 120 | Sn | 1162.32 | P | 43.51 | 3.74 |
| 121 | Sb | 277.79 | P | 30.97 | 11.15 |
| 137 | Ba | 712.27 | P | 41.68 | 5.85 |
| 159 | Tb | 5123501.00 | A | 61980.00 | 1.21 |
| 175 | Lu | 5192412.00 | A | 50320.00 | 0.97 |
| 205 | Tl | 378.91 | P | 26.94 | 7.11 |
| 206 | (Pb) | 288.90 | P | 40.33 | 13.96 |
| 207 | (Pb) | 257.79 | P | 5.09 | 1.98 |
| 208 | Pb | 3360.54 | P | 346.90 | 10.32 |
| 209 | Bi | 3098864.00 | A | 4881.00 | 0.16 |

C:\ICPCHEM\1\DATA\13E09q00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\003CALS.D\003CALS.D#
Date Acquired: May 9 2013 04:50 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 04:47 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3549019.00 | A | 80660.00 | 2.27 |
| 7 | (Li) | | P | | |
| 9 | Be | 5285.52 | P | 209.30 | 3.96 |
| 9 | Be | 231.12 | P | 10.19 | 4.41 |
| 11 | B | 19650.17 | P | 562.20 | 2.86 |
| 11 | B | 434.47 | P | 25.89 | 5.96 |
| 23 | Na | 708242.19 | P | 14340.00 | 2.02 |
| 23 | Na | 88806.47 | P | 257.80 | 0.29 |
| 24 | Mg | 38379.73 | P | 2304.00 | 6.00 |
| 24 | Mg | 1787.98 | P | 42.46 | 2.37 |
| 27 | Al | 116850.20 | P | 8322.00 | 7.12 |
| 27 | Al | 2597.00 | P | 35.29 | 1.36 |
| 39 | K | 3442605.00 | A | 47280.00 | 1.37 |
| 44 | Ca | 88681.39 | P | 2094.00 | 2.36 |
| 45 | Sc | 3003964.00 | A | 51340.00 | 1.71 |
| 45 | Sc | 322449.91 | P | 1399.00 | 0.43 |
| 47 | Ti | 1734.62 | P | 139.60 | 8.05 |
| 51 | V | 7829.64 | P | 176.90 | 2.26 |
| 52 | Cr | 6213.79 | P | 41.87 | 0.67 |
| 55 | Mn | 5926.57 | P | 45.64 | 0.77 |
| 56 | Fe | 67549.73 | P | 1060.00 | 1.57 |
| 59 | Co | 6404.55 | P | 36.10 | 0.56 |
| 60 | Ni | 1884.15 | P | 42.98 | 2.28 |
| 63 | Cu | 6039.06 | P | 109.90 | 1.82 |
| 66 | Zn | 948.70 | P | 18.34 | 1.93 |
| 72 | Ge | 604851.38 | P | 4692.00 | 0.78 |
| 72 | Ge | 129904.30 | P | 620.30 | 0.48 |
| 75 | As | 635.35 | P | 23.79 | 3.74 |
| 78 | Se | 180.67 | P | 9.68 | 5.36 |
| 88 | Sr | 24016.14 | P | 861.90 | 3.59 |
| 98 | Mo | 7133.10 | P | 212.70 | 2.98 |
| 103 | Rh | 3459915.00 | A | 44190.00 | 1.28 |
| 107 | Ag | 10986.79 | P | 234.40 | 2.13 |

C:\ICPCHEM\1\DATA\13E09q00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 932.29 | P | 84.62 | 9.08 |
| 115 | In | 3797827.00 | A | 52770.00 | 1.39 |
| 115 | In | 1122849.00 | P | 16450.00 | 1.47 |
| 118 | (In) | 7413.31 | P | 171.60 | 2.31 |
| 118 | (In) | 2459.19 | P | 151.30 | 6.15 |
| 120 | Sn | 10570.98 | P | 293.10 | 2.77 |
| 121 | Sb | 9062.03 | P | 178.50 | 1.97 |
| 137 | Ba | 3961.81 | P | 102.20 | 2.58 |
| 159 | Tb | 5344219.00 | A | 36510.00 | 0.68 |
| 175 | Lu | 5289240.00 | A | 35250.00 | 0.67 |
| 205 | Tl | 15354.90 | P | 434.80 | 2.83 |
| 206 | (Pb) | 6874.23 | P | 130.30 | 1.90 |
| 207 | (Pb) | 5795.92 | P | 73.79 | 1.27 |
| 208 | Pb | 28909.42 | P | 866.20 | 3.00 |
| 209 | Bi | 3081042.00 | A | 38070.00 | 1.24 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3549018.80 | 2.27 | 3507262.80 | 101.2 | 70 - 130 | |
| 45 | Sc | 3003964.50 | 1.71 | 3065850.80 | 98.0 | 70 - 130 | |
| 45 | Sc | 322449.91 | 0.43 | 319123.53 | 101.0 | 70 - 130 | |
| 72 | Ge | 604851.38 | 0.78 | 602719.06 | 100.4 | 70 - 130 | |
| 72 | Ge | 129904.27 | 0.48 | 129782.05 | 100.1 | 70 - 130 | |
| 103 | Rh | 3459914.80 | 1.28 | 3487536.00 | 99.2 | 70 - 130 | |
| 115 | In | 3797826.50 | 1.39 | 3784658.80 | 100.3 | 70 - 130 | |
| 115 | In | 1122848.80 | 1.47 | 1144814.00 | 98.1 | 70 - 130 | |
| 159 | Tb | 5344218.50 | 0.68 | 5123501.00 | 104.3 | 70 - 130 | |
| 175 | Lu | 5289240.00 | 0.67 | 5192412.50 | 101.9 | 70 - 130 | |
| 209 | Bi | 3081041.80 | 1.24 | 3098863.80 | 99.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\004CALS.D\004CALS.D#
Date Acquired: May 9 2013 04:57 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 04:54 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3557526.00 | A | 114300.00 | 3.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 54641.35 | P | 709.10 | 1.30 |
| 9 | Be | 2023.54 | P | 55.49 | 2.74 |
| 11 | B | 50834.30 | P | 842.50 | 1.66 |
| 11 | B | 1017.85 | P | 67.45 | 6.63 |
| 23 | Na | 905553.69 | A | 22160.00 | 2.45 |
| 23 | Na | 99095.15 | P | 508.70 | 0.51 |
| 24 | Mg | 170556.09 | P | 1441.00 | 0.84 |
| 24 | Mg | 8101.30 | P | 122.60 | 1.51 |
| 27 | Al | 241108.41 | P | 4683.00 | 1.94 |
| 27 | Al | 5454.52 | P | 227.60 | 4.17 |
| 39 | K | 3597245.00 | A | 27230.00 | 0.76 |
| 44 | Ca | 96233.14 | P | 2854.00 | 2.97 |
| 45 | Sc | 3050425.00 | A | 30290.00 | 0.99 |
| 45 | Sc | 318932.00 | P | 1247.00 | 0.39 |
| 47 | Ti | 14398.40 | P | 404.40 | 2.81 |
| 51 | V | 43704.40 | P | 389.20 | 0.89 |
| 52 | Cr | 46213.55 | P | 697.10 | 1.51 |
| 55 | Mn | 35661.60 | P | 433.40 | 1.22 |
| 56 | Fe | 104890.80 | P | 898.30 | 0.86 |
| 59 | Co | 62620.90 | P | 581.10 | 0.93 |
| 60 | Ni | 16826.96 | P | 573.60 | 3.41 |
| 63 | Cu | 43610.22 | P | 338.20 | 0.78 |
| 66 | Zn | 8055.54 | P | 62.57 | 0.78 |
| 72 | Ge | 611943.00 | P | 16290.00 | 2.66 |
| 72 | Ge | 128267.90 | P | 981.50 | 0.77 |
| 75 | As | 5360.54 | P | 63.16 | 1.18 |
| 78 | Se | 714.02 | P | 25.75 | 3.61 |
| 88 | Sr | 240366.80 | P | 2328.00 | 0.97 |
| 98 | Mo | 65662.73 | P | 697.20 | 1.06 |
| 103 | Rh | 3460527.00 | A | 30290.00 | 0.88 |
| 107 | Ag | 110108.70 | P | 2151.00 | 1.95 |

C:\ICPCHEM\1\DATA\13E09q00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9461.18 | P | 248.30 | 2.62 |
| 115 | In | 3786569.00 | A | 49720.00 | 1.31 |
| 115 | In | 1130621.00 | P | 7029.00 | 0.62 |
| 118 | (In) | 69648.29 | P | 629.40 | 0.90 |
| 118 | (In) | 22509.30 | P | 349.10 | 1.55 |
| 120 | Sn | 96513.64 | P | 3012.00 | 3.12 |
| 121 | Sb | 88723.49 | P | 1964.00 | 2.21 |
| 137 | Ba | 34502.29 | P | 340.50 | 0.99 |
| 159 | Tb | 5241541.00 | A | 73880.00 | 1.41 |
| 175 | Lu | 5169371.00 | A | 115300.00 | 2.23 |
| 205 | Tl | 165724.20 | P | 1419.00 | 0.86 |
| 206 | (Pb) | 66631.65 | P | 1410.00 | 2.12 |
| 207 | (Pb) | 55278.31 | P | 252.70 | 0.46 |
| 208 | Pb | 261185.00 | P | 1679.00 | 0.64 |
| 209 | Bi | 3140098.00 | A | 64730.00 | 2.06 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3557525.80 | 3.21 | 3507262.80 | 101.4 | 70 - 130 | |
| 45 | Sc | 3050425.50 | 0.99 | 3065850.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 318931.97 | 0.39 | 319123.53 | 99.9 | 70 - 130 | |
| 72 | Ge | 611943.00 | 2.66 | 602719.06 | 101.5 | 70 - 130 | |
| 72 | Ge | 128267.85 | 0.77 | 129782.05 | 98.8 | 70 - 130 | |
| 103 | Rh | 3460527.00 | 0.88 | 3487536.00 | 99.2 | 70 - 130 | |
| 115 | In | 3786568.80 | 1.31 | 3784658.80 | 100.1 | 70 - 130 | |
| 115 | In | 1130621.30 | 0.62 | 1144814.00 | 98.8 | 70 - 130 | |
| 159 | Tb | 5241541.00 | 1.41 | 5123501.00 | 102.3 | 70 - 130 | |
| 175 | Lu | 5169371.50 | 2.23 | 5192412.50 | 99.6 | 70 - 130 | |
| 209 | Bi | 3140097.80 | 2.06 | 3098863.80 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\005CALS.D\005CALS.D#
Date Acquired: May 9 2013 05:04 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 05:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3548232.00 | A | 23650.00 | 0.67 |
| 7 | (Li) | | P | | |
| 9 | Be | 272136.81 | P | 8102.00 | 2.98 |
| 9 | Be | 9853.47 | P | 196.30 | 1.99 |
| 11 | B | 196514.41 | P | 5795.00 | 2.95 |
| 11 | B | 3974.00 | P | 107.50 | 2.71 |
| 23 | Na | 1797826.00 | A | 19940.00 | 1.11 |
| 23 | Na | 152432.50 | P | 1190.00 | 0.78 |
| 24 | Mg | 722094.13 | M | 14840.00 | 2.06 |
| 24 | Mg | 35617.60 | P | 534.20 | 1.50 |
| 27 | Al | 924893.63 | M | 51500.00 | 5.57 |
| 27 | Al | 20976.02 | P | 410.20 | 1.96 |
| 39 | K | 4257241.00 | A | 14100.00 | 0.33 |
| 44 | Ca | 121734.90 | P | 1610.00 | 1.32 |
| 45 | Sc | 3041693.00 | A | 30380.00 | 1.00 |
| 45 | Sc | 316039.31 | P | 2390.00 | 0.76 |
| 47 | Ti | 68960.49 | P | 1809.00 | 2.62 |
| 51 | V | 198711.41 | P | 1655.00 | 0.83 |
| 52 | Cr | 220590.50 | P | 2169.00 | 0.98 |
| 55 | Mn | 164239.80 | P | 2561.00 | 1.56 |
| 56 | Fe | 257122.59 | P | 2425.00 | 0.94 |
| 59 | Co | 311550.41 | P | 2245.00 | 0.72 |
| 60 | Ni | 80143.55 | P | 1037.00 | 1.29 |
| 63 | Cu | 204286.41 | P | 1185.00 | 0.58 |
| 66 | Zn | 36329.19 | P | 233.20 | 0.64 |
| 72 | Ge | 587431.69 | P | 5846.00 | 1.00 |
| 72 | Ge | 126853.70 | P | 529.40 | 0.42 |
| 75 | As | 25018.97 | P | 210.70 | 0.84 |
| 78 | Se | 3113.46 | P | 12.67 | 0.41 |
| 88 | Sr | 1140795.00 | A | 5634.00 | 0.49 |
| 98 | Mo | 325416.59 | P | 9397.00 | 2.89 |
| 103 | Rh | 3469262.00 | A | 12060.00 | 0.35 |
| 107 | Ag | 520746.31 | P | 12530.00 | 2.41 |

C:\ICPCHEM\1\DATA\13E09q00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 47055.39 | P | 1371.00 | 2.91 |
| 115 | In | 3686223.00 | A | 127700.00 | 3.46 |
| 115 | In | 1106784.00 | P | 22130.00 | 2.00 |
| 118 | (In) | 339307.59 | P | 8019.00 | 2.36 |
| 118 | (In) | 111370.10 | P | 1415.00 | 1.27 |
| 120 | Sn | 471881.00 | P | 8518.00 | 1.81 |
| 121 | Sb | 425911.59 | P | 7187.00 | 1.69 |
| 137 | Ba | 163124.09 | P | 2000.00 | 1.23 |
| 159 | Tb | 5181456.00 | A | 61700.00 | 1.19 |
| 175 | Lu | 5139550.00 | A | 51310.00 | 1.00 |
| 205 | Tl | 896658.63 | P | 9336.00 | 1.04 |
| 206 | (Pb) | 331418.81 | P | 3398.00 | 1.03 |
| 207 | (Pb) | 268063.41 | P | 4969.00 | 1.85 |
| 208 | Pb | 1238179.00 | P | 19580.00 | 1.58 |
| 209 | Bi | 3009593.00 | A | 95520.00 | 3.17 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3548231.50 | 0.67 | 3507262.80 | 101.2 | 70 - 130 | |
| 45 | Sc | 3041692.80 | 1.00 | 3065850.80 | 99.2 | 70 - 130 | |
| 45 | Sc | 316039.31 | 0.76 | 319123.53 | 99.0 | 70 - 130 | |
| 72 | Ge | 587431.69 | 1.00 | 602719.06 | 97.5 | 70 - 130 | |
| 72 | Ge | 126853.72 | 0.42 | 129782.05 | 97.7 | 70 - 130 | |
| 103 | Rh | 3469261.50 | 0.35 | 3487536.00 | 99.5 | 70 - 130 | |
| 115 | In | 3686223.30 | 3.46 | 3784658.80 | 97.4 | 70 - 130 | |
| 115 | In | 1106784.50 | 2.00 | 1144814.00 | 96.7 | 70 - 130 | |
| 159 | Tb | 5181456.00 | 1.19 | 5123501.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 5139550.00 | 1.00 | 5192412.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 3009592.80 | 3.17 | 3098863.80 | 97.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\006CALS.D\006CALS.D#
Date Acquired: May 9 2013 05:11 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 05:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3490825.00 | A | 108200.00 | 3.10 |
| 7 | (Li) | | P | | |
| 9 | Be | 546146.69 | P | 14490.00 | 2.65 |
| 9 | Be | 20477.56 | P | 396.70 | 1.94 |
| 11 | B | 387011.59 | P | 4660.00 | 1.20 |
| 11 | B | 8145.92 | P | 82.55 | 1.01 |
| 23 | Na | 2761372.00 | A | 10690.00 | 0.39 |
| 23 | Na | 209633.41 | P | 1750.00 | 0.83 |
| 24 | Mg | 1441888.00 | A | 15340.00 | 1.06 |
| 24 | Mg | 71541.20 | P | 1347.00 | 1.88 |
| 27 | Al | 1753867.00 | A | 40530.00 | 2.31 |
| 27 | Al | 40874.59 | P | 1672.00 | 4.09 |
| 39 | K | 5110491.00 | A | 10380.00 | 0.20 |
| 44 | Ca | 158259.09 | P | 1323.00 | 0.84 |
| 45 | Sc | 3140589.00 | A | 44910.00 | 1.43 |
| 45 | Sc | 318959.41 | P | 2022.00 | 0.63 |
| 47 | Ti | 142482.41 | P | 3526.00 | 2.47 |
| 51 | V | 399590.09 | P | 2003.00 | 0.50 |
| 52 | Cr | 439290.69 | P | 5996.00 | 1.36 |
| 55 | Mn | 329687.19 | P | 7654.00 | 2.32 |
| 56 | Fe | 468437.19 | P | 2218.00 | 0.47 |
| 59 | Co | 628826.31 | P | 13070.00 | 2.08 |
| 60 | Ni | 160666.59 | P | 3748.00 | 2.33 |
| 63 | Cu | 407267.00 | P | 6896.00 | 1.69 |
| 66 | Zn | 73406.87 | P | 601.60 | 0.82 |
| 72 | Ge | 592434.38 | P | 8999.00 | 1.52 |
| 72 | Ge | 127476.00 | P | 92.17 | 0.07 |
| 75 | As | 50483.78 | P | 186.40 | 0.37 |
| 78 | Se | 6098.87 | P | 20.19 | 0.33 |
| 88 | Sr | 2248700.00 | A | 93000.00 | 4.14 |
| 98 | Mo | 647477.69 | P | 18020.00 | 2.78 |
| 103 | Rh | 3496402.00 | A | 58930.00 | 1.69 |
| 107 | Ag | 1081214.00 | P | 29130.00 | 2.69 |

C:\ICPCHEM\1\DATA\13E09q00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 91198.52 | P | 1161.00 | 1.27 |
| 115 | In | 3764499.00 | A | 108400.00 | 2.88 |
| 115 | In | 1116297.00 | P | 17990.00 | 1.61 |
| 118 | (In) | 680553.81 | P | 17550.00 | 2.58 |
| 118 | (In) | 221446.20 | P | 3137.00 | 1.42 |
| 120 | Sn | 952698.81 | P | 10310.00 | 1.08 |
| 121 | Sb | 876034.13 | P | 16480.00 | 1.88 |
| 137 | Ba | 331446.69 | P | 2720.00 | 0.82 |
| 159 | Tb | 5075208.00 | A | 102400.00 | 2.02 |
| 175 | Lu | 4983439.00 | A | 75870.00 | 1.52 |
| 205 | Tl | 1852329.00 | A | 7661.00 | 0.41 |
| 206 | (Pb) | 665651.69 | P | 15510.00 | 2.33 |
| 207 | (Pb) | 553074.88 | P | 19760.00 | 3.57 |
| 208 | Pb | 2589669.00 | A | 47510.00 | 1.83 |
| 209 | Bi | 3079021.00 | A | 15110.00 | 0.49 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3490825.00 | 3.10 | 3507262.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 3140589.00 | 1.43 | 3065850.80 | 102.4 | 70 - 130 | |
| 45 | Sc | 318959.41 | 0.63 | 319123.53 | 99.9 | 70 - 130 | |
| 72 | Ge | 592434.38 | 1.52 | 602719.06 | 98.3 | 70 - 130 | |
| 72 | Ge | 127475.99 | 0.07 | 129782.05 | 98.2 | 70 - 130 | |
| 103 | Rh | 3496402.00 | 1.69 | 3487536.00 | 100.3 | 70 - 130 | |
| 115 | In | 3764499.50 | 2.88 | 3784658.80 | 99.5 | 70 - 130 | |
| 115 | In | 1116296.50 | 1.61 | 1144814.00 | 97.5 | 70 - 130 | |
| 159 | Tb | 5075208.50 | 2.02 | 5123501.00 | 99.1 | 70 - 130 | |
| 175 | Lu | 4983439.00 | 1.52 | 5192412.50 | 96.0 | 70 - 130 | |
| 209 | Bi | 3079021.00 | 0.49 | 3098863.80 | 99.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\007CALS.D\007CALS.D#
Date Acquired: May 9 2013 05:19 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 05:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3538727.00 | A | 106400.00 | 3.01 |
| 7 | (Li) | | P | | |
| 9 | Be | 1102722.00 | A | 18260.00 | 1.66 |
| 9 | Be | 40538.35 | P | 631.70 | 1.56 |
| 11 | B | 828797.31 | A | 57930.00 | 6.99 |
| 11 | B | 15812.45 | P | 599.60 | 3.79 |
| 23 | Na | 4894144.00 | A | 178900.00 | 3.66 |
| 23 | Na | 336862.59 | P | 3477.00 | 1.03 |
| 24 | Mg | 2906616.00 | A | 62920.00 | 2.16 |
| 24 | Mg | 142768.70 | P | 1260.00 | 0.88 |
| 27 | Al | 3482568.00 | A | 62130.00 | 1.78 |
| 27 | Al | 79286.84 | P | 1417.00 | 1.79 |
| 39 | K | 6786256.00 | A | 22010.00 | 0.32 |
| 44 | Ca | 226808.41 | P | 3041.00 | 1.34 |
| 45 | Sc | 3039564.00 | A | 56380.00 | 1.85 |
| 45 | Sc | 315805.91 | P | 3744.00 | 1.19 |
| 47 | Ti | 288079.31 | P | 6380.00 | 2.21 |
| 51 | V | 800667.88 | P | 1444.00 | 0.18 |
| 52 | Cr | 870520.50 | M | 9922.00 | 1.14 |
| 55 | Mn | 660162.19 | P | 13100.00 | 1.98 |
| 56 | Fe | 862203.88 | M | 22110.00 | 2.56 |
| 59 | Co | 1225881.00 | A | 16670.00 | 1.36 |
| 60 | Ni | 324798.31 | P | 690.60 | 0.21 |
| 63 | Cu | 818197.81 | P | 6295.00 | 0.77 |
| 66 | Zn | 147349.20 | P | 523.90 | 0.36 |
| 72 | Ge | 611503.81 | P | 13730.00 | 2.25 |
| 72 | Ge | 127689.40 | P | 1377.00 | 1.08 |
| 75 | As | 101718.20 | P | 286.10 | 0.28 |
| 78 | Se | 12124.87 | P | 109.20 | 0.90 |
| 88 | Sr | 4542621.00 | A | 174200.00 | 3.83 |
| 98 | Mo | 1332723.00 | A | 19540.00 | 1.47 |
| 103 | Rh | 3466386.00 | A | 69180.00 | 2.00 |
| 107 | Ag | 2102657.00 | A | 63780.00 | 3.03 |

C:\ICPCHEM\1\DATA\13E09q00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 186203.59 | P | 2820.00 | 1.51 |
| 115 | In | 3760884.00 | A | 162100.00 | 4.31 |
| 115 | In | 1106162.00 | P | 37140.00 | 3.36 |
| 118 | (In) | 1374936.00 | A | 36020.00 | 2.62 |
| 118 | (In) | 448774.41 | P | 11800.00 | 2.63 |
| 120 | Sn | 1894759.00 | A | 21810.00 | 1.15 |
| 121 | Sb | 1731947.00 | A | 24280.00 | 1.40 |
| 137 | Ba | 673592.88 | P | 16270.00 | 2.42 |
| 159 | Tb | 5291153.00 | A | 72740.00 | 1.37 |
| 175 | Lu | 5233007.00 | A | 183100.00 | 3.50 |
| 205 | Tl | 3728804.00 | A | 102500.00 | 2.75 |
| 206 | (Pb) | 1298454.00 | M | 16820.00 | 1.30 |
| 207 | (Pb) | 1067835.00 | P | 4055.00 | 0.38 |
| 208 | Pb | 5054878.00 | A | 46930.00 | 0.93 |
| 209 | Bi | 3130388.00 | A | 91440.00 | 2.92 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3538727.50 | 3.01 | 3507262.80 | 100.9 | 70 - 130 | |
| 45 | Sc | 3039564.00 | 1.85 | 3065850.80 | 99.1 | 70 - 130 | |
| 45 | Sc | 315805.91 | 1.19 | 319123.53 | 99.0 | 70 - 130 | |
| 72 | Ge | 611503.88 | 2.25 | 602719.06 | 101.5 | 70 - 130 | |
| 72 | Ge | 127689.41 | 1.08 | 129782.05 | 98.4 | 70 - 130 | |
| 103 | Rh | 3466386.30 | 2.00 | 3487536.00 | 99.4 | 70 - 130 | |
| 115 | In | 3760883.80 | 4.31 | 3784658.80 | 99.4 | 70 - 130 | |
| 115 | In | 1106162.60 | 3.36 | 1144814.00 | 96.6 | 70 - 130 | |
| 159 | Tb | 5291153.00 | 1.37 | 5123501.00 | 103.3 | 70 - 130 | |
| 175 | Lu | 5233007.00 | 3.50 | 5192412.50 | 100.8 | 70 - 130 | |
| 209 | Bi | 3130388.00 | 2.92 | 3098863.80 | 101.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\008CALS.D\008CALS.D#
Date Acquired: May 9 2013 05:25 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 05:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3593809.00 | A | 40510.00 | 1.13 |
| 7 | (Li) | | P | | |
| 9 | Be | 150.01 | P | 14.53 | 9.69 |
| 9 | Be | 8.89 | P | 5.09 | 57.28 |
| 11 | B | 23072.52 | P | 692.40 | 3.00 |
| 11 | B | 512.25 | P | 16.78 | 3.28 |
| 23 | Na | 39812640.00 | A | 749900.00 | 1.88 |
| 23 | Na | 2376351.00 | A | 22320.00 | 0.94 |
| 24 | Mg | 26407740.00 | A | 336500.00 | 1.27 |
| 24 | Mg | 1312175.00 | A | 6179.00 | 0.47 |
| 27 | Al | 32429200.00 | A | 237000.00 | 0.73 |
| 27 | Al | 778260.13 | P | 10450.00 | 1.34 |
| 39 | K | 35857032.00 | A | 453900.00 | 1.27 |
| 44 | Ca | 1126927.00 | A | 14180.00 | 1.26 |
| 45 | Sc | 3140222.00 | A | 48980.00 | 1.56 |
| 45 | Sc | 319961.59 | P | 1589.00 | 0.50 |
| 47 | Ti | 467.80 | P | 64.76 | 13.84 |
| 51 | V | 3821.41 | P | 10.69 | 0.28 |
| 52 | Cr | 1889.92 | P | 81.95 | 4.34 |
| 55 | Mn | 2768.73 | P | 76.76 | 2.77 |
| 56 | Fe | 7387327.00 | A | 71460.00 | 0.97 |
| 59 | Co | 362.23 | P | 49.25 | 13.60 |
| 60 | Ni | 282.67 | P | 23.59 | 8.35 |
| 63 | Cu | 1835.69 | P | 66.70 | 3.63 |
| 66 | Zn | 299.78 | P | 13.67 | 4.56 |
| 72 | Ge | 606139.00 | P | 9418.00 | 1.55 |
| 72 | Ge | 130588.80 | P | 816.00 | 0.62 |
| 75 | As | 140.67 | P | 4.16 | 2.96 |
| 78 | Se | 110.22 | P | 2.78 | 2.52 |
| 88 | Sr | 2760.35 | P | 68.90 | 2.50 |
| 98 | Mo | 2408.06 | P | 234.10 | 9.72 |
| 103 | Rh | 3513450.00 | A | 6580.00 | 0.19 |
| 107 | Ag | 413.35 | P | 20.82 | 5.04 |

C:\ICPCHEM\1\DATA\13E09q00.B\008CALS.D\008CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 14.44 | P | 6.94 | 48.04 | |
| 115 | In | 3730360.00 | A | 17930.00 | 0.48 | |
| 115 | In | 1136178.00 | P | 19300.00 | 1.70 | |
| 118 | (In) | 3258.27 | P | 402.30 | 12.35 | |
| 118 | (In) | 1322.33 | P | 18.37 | 1.39 | |
| 120 | Sn | 4670.95 | P | 320.20 | 6.86 | |
| 121 | Sb | 3653.93 | P | 156.20 | 4.27 | |
| 137 | Ba | 752.27 | P | 59.76 | 7.94 | |
| 159 | Tb | 5324339.00 | A | 61690.00 | 1.16 | |
| 175 | Lu | 5247218.00 | A | 29000.00 | 0.55 | |
| 205 | Tl | 5512.44 | P | 84.65 | 1.54 | |
| 206 | (Pb) | 348.91 | P | 18.36 | 5.26 | |
| 207 | (Pb) | 307.79 | P | 38.92 | 12.65 | |
| 208 | Pb | 4419.81 | P | 337.70 | 7.64 | |
| 209 | Bi | 2988918.00 | A | 28940.00 | 0.97 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3593809.00 | 1.13 | 3507262.80 | 102.5 | 70 - 130 | |
| 45 | Sc | 3140222.00 | 1.56 | 3065850.80 | 102.4 | 70 - 130 | |
| 45 | Sc | 319961.63 | 0.50 | 319123.53 | 100.3 | 70 - 130 | |
| 72 | Ge | 606139.00 | 1.55 | 602719.06 | 100.6 | 70 - 130 | |
| 72 | Ge | 130588.76 | 0.62 | 129782.05 | 100.6 | 70 - 130 | |
| 103 | Rh | 3513449.50 | 0.19 | 3487536.00 | 100.7 | 70 - 130 | |
| 115 | In | 3730359.50 | 0.48 | 3784658.80 | 98.6 | 70 - 130 | |
| 115 | In | 1136178.40 | 1.70 | 1144814.00 | 99.2 | 70 - 130 | |
| 159 | Tb | 5324339.00 | 1.16 | 5123501.00 | 103.9 | 70 - 130 | |
| 175 | Lu | 5247218.50 | 0.55 | 5192412.50 | 101.1 | 70 - 130 | |
| 209 | Bi | 2988918.00 | 0.97 | 3098863.80 | 96.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\009CALS.D\009CALS.D#
Date Acquired: May 9 2013 05:33 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 09 2013 05:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3453372.00 | A | 10010.00 | 0.29 |
| 7 | (Li) | | P | | |
| 9 | Be | 88.89 | P | 31.68 | 35.64 |
| 9 | Be | 7.78 | P | 3.85 | 49.49 |
| 11 | B | 17419.32 | P | 827.50 | 4.75 |
| 11 | B | 345.57 | P | 39.06 | 11.30 |
| 23 | Na | 389254690.00 | A | 5012000.00 | 1.29 |
| 23 | Na | 22015690.00 | A | 163500.00 | 0.74 |
| 24 | Mg | 257983390.00 | A | 988100.00 | 0.38 |
| 24 | Mg | 12249170.00 | A | 73690.00 | 0.60 |
| 27 | Al | 316609600.00 | A | 1826000.00 | 0.58 |
| 27 | Al | 7221386.00 | A | 65610.00 | 0.91 |
| 39 | K | 320633410.00 | A | 4785000.00 | 1.49 |
| 44 | Ca | 9543010.00 | A | 185300.00 | 1.94 |
| 45 | Sc | 3084850.00 | A | 60690.00 | 1.97 |
| 45 | Sc | 312061.00 | P | 14990.00 | 4.80 |
| 47 | Ti | 395.58 | P | 40.33 | 10.20 |
| 51 | V | 3795.63 | P | 18.74 | 0.49 |
| 52 | Cr | 2650.04 | P | 35.09 | 1.32 |
| 55 | Mn | 3840.53 | P | 36.30 | 0.95 |
| 56 | Fe | 71592792.00 | A | 698900.00 | 0.98 |
| 59 | Co | 1907.26 | P | 44.67 | 2.34 |
| 60 | Ni | 735.14 | P | 46.12 | 6.27 |
| 63 | Cu | 1923.71 | P | 60.74 | 3.16 |
| 66 | Zn | 650.24 | P | 5.75 | 0.88 |
| 72 | Ge | 625276.50 | P | 12850.00 | 2.06 |
| 72 | Ge | 129654.20 | P | 5542.00 | 4.27 |
| 75 | As | 147.34 | P | 18.41 | 12.50 |
| 78 | Se | 112.89 | P | 16.67 | 14.77 |
| 88 | Sr | 18115.10 | P | 248.00 | 1.37 |
| 98 | Mo | 1008.96 | P | 76.05 | 7.54 |
| 103 | Rh | 3286409.00 | A | 8977.00 | 0.27 |
| 107 | Ag | 1071.19 | P | 68.10 | 6.36 |

C:\ICPCHEM\1\DATA\13E09q00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 17.78 | P | 9.62 | 54.13 |
| 115 | In | 3650015.00 | A | 19180.00 | 0.53 |
| 115 | In | 1056353.00 | P | 67260.00 | 6.37 |
| 118 | (In) | 1395.67 | P | 144.70 | 10.37 |
| 118 | (In) | 575.59 | P | 16.78 | 2.92 |
| 120 | Sn | 1935.76 | P | 106.30 | 5.49 |
| 121 | Sb | 1989.10 | P | 77.28 | 3.89 |
| 137 | Ba | 1022.30 | P | 39.77 | 3.89 |
| 159 | Tb | 5092395.00 | A | 88740.00 | 1.74 |
| 175 | Lu | 5108683.00 | A | 140000.00 | 2.74 |
| 205 | Tl | 1891.31 | P | 18.37 | 0.97 |
| 206 | (Pb) | 465.58 | P | 31.68 | 6.80 |
| 207 | (Pb) | 376.69 | P | 34.80 | 9.24 |
| 208 | Pb | 4908.75 | P | 230.00 | 4.69 |
| 209 | Bi | 2841320.00 | A | 61590.00 | 2.17 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3453372.00 | 0.29 | 3507262.80 | 98.5 | 70 - 130 | |
| 45 | Sc | 3084850.30 | 1.97 | 3065850.80 | 100.6 | 70 - 130 | |
| 45 | Sc | 312060.97 | 4.80 | 319123.53 | 97.8 | 70 - 130 | |
| 72 | Ge | 625276.50 | 2.06 | 602719.06 | 103.7 | 70 - 130 | |
| 72 | Ge | 129654.22 | 4.27 | 129782.05 | 99.9 | 70 - 130 | |
| 103 | Rh | 3286409.00 | 0.27 | 3487536.00 | 94.2 | 70 - 130 | |
| 115 | In | 3650015.30 | 0.53 | 3784658.80 | 96.4 | 70 - 130 | |
| 115 | In | 1056353.50 | 6.37 | 1144814.00 | 92.3 | 70 - 130 | |
| 159 | Tb | 5092394.50 | 1.74 | 5123501.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 5108683.00 | 2.74 | 5192412.50 | 98.4 | 70 - 130 | |
| 209 | Bi | 2841319.80 | 2.17 | 3098863.80 | 91.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E09q00.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\010SMPL.D\010SMPL.D#
Date Acquired: May 9 2013 05:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.54 | 60.54 | ppb | 0.66 | 900.00 | |
| 9 Be | 45 | 2 | 60.28 | 60.28 | ppb | 1.32 | 900.00 | |
| 11 B | 6 | 1 | 52.45 | 52.45 | ppb | 1.69 | 900.00 | |
| 11 B | 45 | 2 | 56.85 | 56.85 | ppb | 0.98 | 900.00 | |
| 23 Na | 45 | 1 | 5464.00 | 5464.00 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 5359.00 | 5359.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 5577.00 | 5577.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 5448.00 | 5448.00 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 5720.00 | 5720.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 5596.00 | 5596.00 | ppb | 0.95 | 90000.00 | |
| 39 K | 45 | 1 | 5444.00 | 5444.00 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 5408.00 | 5408.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.85 | 58.85 | ppb | 0.93 | 900.00 | |
| 51 V | 45 | 2 | 60.06 | 60.06 | ppb | 0.72 | 900.00 | |
| 52 Cr | 45 | 2 | 59.70 | 59.70 | ppb | 0.77 | 900.00 | |
| 55 Mn | 45 | 2 | 58.83 | 58.83 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 5433.00 | 5433.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 59.65 | 59.65 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 57.31 | 57.31 | ppb | 0.54 | 900.00 | |
| 63 Cu | 72 | 2 | 56.41 | 56.41 | ppb | 0.78 | 900.00 | |
| 66 Zn | 72 | 2 | 56.08 | 56.08 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 58.82 | 58.82 | ppb | 0.80 | 900.00 | |
| 78 Se | 72 | 2 | 57.64 | 57.64 | ppb | 0.69 | 900.00 | |
| 88 Sr | 103 | 1 | 61.45 | 61.45 | ppb | 1.94 | 900.00 | |
| 98 Mo | 103 | 1 | 60.88 | 60.88 | ppb | 0.52 | 900.00 | |
| 107 Ag | 115 | 1 | 59.81 | 59.81 | ppb | 1.10 | 180.00 | |
| 111 Cd | 115 | 2 | 59.53 | 59.53 | ppb | 1.05 | 900.00 | |
| 120 Sn | 115 | 1 | 59.59 | 59.59 | ppb | 1.52 | 900.00 | |
| 121 Sb | 115 | 1 | 59.61 | 59.61 | ppb | 0.60 | 900.00 | |
| 137 Ba | 159 | 1 | 58.90 | 58.90 | ppb | 0.20 | 900.00 | |
| 205 Tl | 209 | 1 | 61.12 | 61.12 | ppb | 2.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 61.29 | 61.29 | ppb | 0.49 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3435173 | 1.23 | 3507263 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 3042344 | 1.12 | 3065851 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 312820 | 0.42 | 319124 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 601314 | 0.63 | 602719 | 99.8 | 70 | - | 130 |
| 72 | Ge | 2 | 128367 | 0.68 | 129782 | 98.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3313307 | 1.32 | 3487536 | 95.0 | 70 | - | 130 |
| 115 | In | 1 | 3715348 | 1.17 | 3784659 | 98.2 | 70 | - | 130 |
| 115 | In | 2 | 1072751 | 0.41 | 1144814 | 93.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5148707 | 1.45 | 5123501 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5150074 | 2.02 | 5192413 | 99.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2879661 | 0.50 | 3098864 | 92.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | May 9 2013 05:48 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 17.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.05 | ppb | 44.15 | 900.00 | |
| 11 B | 6 | 1 | -0.07 | -0.07 | ppb | 76.69 | 900.00 | |
| 11 B | 45 | 2 | 0.03 | 0.03 | ppb | 607.24 | 900.00 | |
| 23 Na | 45 | 1 | -11.92 | -11.92 | ppb | 2.66 | 90000.00 | |
| 23 Na | 45 | 2 | -12.21 | -12.21 | ppb | 1.95 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.89 | -0.89 | ppb | 2.48 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.69 | -0.69 | ppb | 3.39 | 90000.00 | |
| 27 Al | 45 | 1 | -0.14 | -0.14 | ppb | 109.29 | 90000.00 | |
| 27 Al | 45 | 2 | 0.18 | 0.18 | ppb | 78.14 | 90000.00 | |
| 39 K | 45 | 1 | -43.14 | -43.14 | ppb | 2.34 | 90000.00 | |
| 44 Ca | 45 | 1 | -11.83 | -11.83 | ppb | 21.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 461.07 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 14476.00 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 47.13 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 112.86 | 900.00 | |
| 56 Fe | 45 | 2 | 0.36 | 0.36 | ppb | 21.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 8.38 | 900.00 | |
| 60 Ni | 45 | 2 | -0.08 | -0.08 | ppb | 7.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.03 | ppb | 38.45 | 900.00 | |
| 66 Zn | 72 | 2 | -1.97 | -1.97 | ppb | 2.13 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 29.37 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.16 | ppb | 44.58 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | -0.01 | ppb | 31.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 94.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.54 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 31.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 9.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 22.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 400.26 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.16 | ppb | 0.87 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 105.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3476669 | 0.49 | 3507263 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 3002070 | 0.61 | 3065851 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 316486 | 0.17 | 319124 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596680 | 0.50 | 602719 | 99.0 | 70 - | 130 |
| 72 | Ge | 2 | 127059 | 0.09 | 129782 | 97.9 | 70 - | 130 |
| 103 | Rh | 1 | 3420097 | 0.62 | 3487536 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 3746398 | 0.80 | 3784659 | 99.0 | 70 - | 130 |
| 115 | In | 2 | 1111827 | 0.54 | 1144814 | 97.1 | 70 - | 130 |
| 159 | Tb | 1 | 5177486 | 0.68 | 5123501 | 101.1 | 70 - | 130 |
| 175 | Lu | 1 | 5123676 | 1.05 | 5192413 | 98.7 | 70 - | 130 |
| 209 | Bi | 1 | 3007382 | 0.42 | 3098864 | 97.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13E09q00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\012SMPL.D\012SMPL.D#
Date Acquired: May 9 2013 05:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.76 | 49.76 | ppb | 0.99 | 900.00 | |
| 9 Be | 45 | 2 | 50.40 | 50.40 | ppb | 1.28 | 900.00 | |
| 11 B | 6 | 1 | 45.12 | 45.12 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 47.96 | 47.96 | ppb | 3.33 | 900.00 | |
| 23 Na | 45 | 1 | 5138.00 | 5138.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 4986.00 | 4986.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 5158.00 | 5158.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 5019.00 | 5019.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 1 | 5096.00 | 5096.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 5050.00 | 5050.00 | ppb | 0.68 | 90000.00 | |
| 39 K | 45 | 1 | 5047.00 | 5047.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 5070.00 | 5070.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.85 | 49.85 | ppb | 1.80 | 900.00 | |
| 51 V | 45 | 2 | 49.37 | 49.37 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 49.28 | 49.28 | ppb | 1.03 | 900.00 | |
| 55 Mn | 45 | 2 | 48.65 | 48.65 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 5034.00 | 5034.00 | ppb | 0.88 | 90000.00 | |
| 59 Co | 45 | 2 | 49.60 | 49.60 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 47.63 | 47.63 | ppb | 1.21 | 900.00 | |
| 63 Cu | 72 | 2 | 47.36 | 47.36 | ppb | 0.54 | 900.00 | |
| 66 Zn | 72 | 2 | 46.43 | 46.43 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 48.87 | 48.87 | ppb | 0.80 | 900.00 | |
| 78 Se | 72 | 2 | 47.81 | 47.81 | ppb | 1.70 | 900.00 | |
| 88 Sr | 103 | 1 | 51.19 | 51.19 | ppb | 1.76 | 900.00 | |
| 98 Mo | 103 | 1 | 50.11 | 50.11 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 49.83 | 49.83 | ppb | 0.11 | 180.00 | |
| 111 Cd | 115 | 2 | 49.92 | 49.92 | ppb | 0.96 | 900.00 | |
| 120 Sn | 115 | 1 | 50.79 | 50.79 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 50.62 | 50.62 | ppb | 1.21 | 900.00 | |
| 137 Ba | 159 | 1 | 49.28 | 49.28 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 51.06 | 51.06 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.21 | 50.21 | ppb | 0.90 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3428805 | 0.99 | 3507263 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 3003384 | 0.54 | 3065851 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 311794 | 0.40 | 319124 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596566 | 1.90 | 602719 | 99.0 | 70 | - | 130 |
| 72 | Ge | 2 | 127370 | 0.30 | 129782 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3306327 | 0.16 | 3487536 | 94.8 | 70 | - | 130 |
| 115 | In | 1 | 3624628 | 0.84 | 3784659 | 95.8 | 70 | - | 130 |
| 115 | In | 2 | 1058461 | 0.15 | 1144814 | 92.5 | 70 | - | 130 |
| 159 | Tb | 1 | 5061642 | 0.39 | 5123501 | 98.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5059859 | 0.89 | 5192413 | 97.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2871073 | 1.69 | 3098864 | 92.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\013SMPL.D\013SMPL.D# |
| Date Acquired: | May 9 2013 06:02 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 15.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 180.84 | 900.00 | |
| 11 B | 6 | 1 | -0.09 | -0.09 | ppb | 72.84 | 900.00 | |
| 11 B | 45 | 2 | -0.19 | -0.19 | ppb | 109.52 | 900.00 | |
| 23 Na | 45 | 1 | -13.10 | -13.10 | ppb | 3.11 | 90000.00 | |
| 23 Na | 45 | 2 | -12.96 | -12.96 | ppb | 2.72 | 90000.00 | |
| 24 Mg | 45 | 1 | -1.02 | -1.02 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.78 | -0.78 | ppb | 4.97 | 90000.00 | |
| 27 Al | 45 | 1 | -0.20 | -0.20 | ppb | 22.69 | 90000.00 | |
| 27 Al | 45 | 2 | 0.02 | 0.02 | ppb | 468.86 | 90000.00 | |
| 39 K | 45 | 1 | -46.00 | -46.00 | ppb | 3.71 | 90000.00 | |
| 44 Ca | 45 | 1 | -20.95 | -20.95 | ppb | 14.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 152.39 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 244.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 186.13 | 900.00 | |
| 55 Mn | 45 | 2 | -0.03 | -0.03 | ppb | 22.18 | 900.00 | |
| 56 Fe | 45 | 2 | 0.58 | 0.58 | ppb | 9.86 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.02 | 900.00 | |
| 60 Ni | 45 | 2 | -0.10 | -0.10 | ppb | 1.45 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.05 | ppb | 5.05 | 900.00 | |
| 66 Zn | 72 | 2 | -2.58 | -2.58 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 38.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 16718.00 | 900.00 | |
| 88 Sr | 103 | 1 | -0.02 | -0.02 | ppb | 6.50 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 25.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 42.05 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 83.05 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 12.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 22.99 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 48.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.16 | ppb | 9.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 323.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3467784 | 1.29 | 3507263 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 3021244 | 0.87 | 3065851 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 315948 | 0.59 | 319124 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 599965 | 2.09 | 602719 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 127168 | 0.36 | 129782 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 3316932 | 0.84 | 3487536 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 3769077 | 1.21 | 3784659 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1100611 | 0.82 | 1144814 | 96.1 | 70 | - | 130 |
| 159 Tb | 1 | 5131654 | 1.21 | 5123501 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 5054394 | 1.11 | 5192413 | 97.3 | 70 | - | 130 |
| 209 Bi | 1 | 2999903 | 1.43 | 3098864 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\014SMPL.D\014SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\014SMPL.D\014SMPL.D#
Date Acquired: May 9 2013 06:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 3.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.53 | ppb | 20.98 | 900.00 | |
| 11 B | 6 | 1 | 4.34 | 4.34 | ppb | 2.91 | 900.00 | |
| 11 B | 45 | 2 | 4.92 | 4.92 | ppb | 6.06 | 900.00 | |
| 23 Na | 45 | 1 | 255.30 | 255.30 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 266.30 | 266.30 | ppb | 3.56 | 90000.00 | |
| 24 Mg | 45 | 1 | 268.60 | 268.60 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.10 | 279.10 | ppb | 3.48 | 90000.00 | |
| 27 Al | 45 | 1 | 27.03 | 27.03 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 2 | 26.91 | 26.91 | ppb | 2.50 | 90000.00 | |
| 39 K | 45 | 1 | 210.70 | 210.70 | ppb | 1.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 248.80 | 248.80 | ppb | 1.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 2.99 | 900.00 | |
| 51 V | 45 | 2 | 1.00 | 1.00 | ppb | 3.42 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 1.00 | ppb | 4.67 | 900.00 | |
| 55 Mn | 45 | 2 | 0.98 | 0.98 | ppb | 5.25 | 900.00 | |
| 56 Fe | 45 | 2 | 28.50 | 28.50 | ppb | 1.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 2.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.90 | 0.90 | ppb | 6.58 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 1.74 | 900.00 | |
| 66 Zn | 72 | 2 | -0.84 | -0.84 | ppb | 12.14 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.54 | ppb | 5.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 4.92 | 900.00 | |
| 88 Sr | 103 | 1 | 4.99 | 4.99 | ppb | 2.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.00 | 1.00 | ppb | 2.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 0.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 0.90 | 900.00 | |
| 120 Sn | 115 | 1 | 4.83 | 4.83 | ppb | 2.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 2.54 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 5.47 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 3.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 3.62 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3478554 | 0.51 | 3507263 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 2994858 | 0.37 | 3065851 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 311040 | 3.20 | 319124 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 590650 | 1.27 | 602719 | 98.0 | 70 | - | 130 |
| 72 | Ge | 2 | 126537 | 1.65 | 129782 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3404568 | 0.60 | 3487536 | 97.6 | 70 | - | 130 |
| 115 | In | 1 | 3716670 | 1.48 | 3784659 | 98.2 | 70 | - | 130 |
| 115 | In | 2 | 1101791 | 3.38 | 1144814 | 96.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5154971 | 1.27 | 5123501 | 100.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5107329 | 2.01 | 5192413 | 98.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3009700 | 1.20 | 3098864 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\015SMPL.D\015SMPL.D#
Date Acquired: May 9 2013 06:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 21.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 459.44 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 50.66 | 900.00 | |
| 11 B | 45 | 2 | -0.44 | -0.44 | ppb | 63.52 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 91700.00 | 91700.00 | ppb | 1.73 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 95510.00 | 95510.00 | ppb | 2.92 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 92250.00 | 92250.00 | ppb | 1.30 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95530.00 | 95530.00 | ppb | 2.00 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92680.00 | 92680.00 | ppb | 1.12 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97540.00 | 97540.00 | ppb | 2.59 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94960.00 | 94960.00 | ppb | 0.32 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2016.00 | 2016.00 | ppb | 1.11 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 12.30 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 2.91 | 900.00 | |
| 55 Mn | 45 | 2 | 0.20 | 0.20 | ppb | 2.51 | 900.00 | |
| 56 Fe | 45 | 2 | 92660.00 | 92660.00 | ppb | 0.30 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 5.84 | 900.00 | |
| 60 Ni | 45 | 2 | 0.55 | 0.55 | ppb | 4.23 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 6.05 | 900.00 | |
| 66 Zn | 72 | 2 | -1.20 | -1.20 | ppb | 2.04 | 900.00 | |
| 75 As | 72 | 2 | 0.15 | 0.15 | ppb | 4.67 | 900.00 | |
| 78 Se | 72 | 2 | -0.21 | -0.21 | ppb | 58.80 | 900.00 | |
| 88 Sr | 103 | 1 | 4.86 | 4.86 | ppb | 0.63 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 4.90 | 180.00 | |
| 111 Cd | 115 | 2 | 2.97 | 2.97 | ppb | 3.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 10.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 1.26 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 2.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 2.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3079861 | 0.84 | 3507263 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 2863032 | 2.93 | 3065851 | 93.4 | 70 - 130 | |
| 45 Sc | 2 | 306470 | 0.46 | 319124 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 786970 | 0.73 | 602719 | 130.6 | 70 | - 130 | IS Fail |
| 72 | Ge | 2 | 169988 | 0.42 | 129782 | 131.0 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 2925238 | 0.60 | 3487536 | 83.9 | 70 | - 130 | |
| 115 | In | 1 | 3305367 | 0.30 | 3784659 | 87.3 | 70 | - 130 | |
| 115 | In | 2 | 980042 | 2.66 | 1144814 | 85.6 | 70 | - 130 | |
| 159 | Tb | 1 | 4888911 | 0.83 | 5123501 | 95.4 | 70 | - 130 | |
| 175 | Lu | 1 | 4899276 | 0.37 | 5192413 | 94.4 | 70 | - 130 | |
| 209 | Bi | 1 | 2618497 | 1.86 | 3098864 | 84.5 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\016SMPL.D\016SMPL.D# | | |
| **Date Acquired:** | May 9 2013 06:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSAB | **ISTD:** | Fail |
| **Misc Info:** | | | |
| **Vial Number:** | 2107 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 49.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 85.25 | 900.00 | |
| 11 B | 6 | 1 | -0.21 | -0.21 | ppb | 26.24 | 900.00 | |
| 11 B | 45 | 2 | -0.41 | -0.41 | ppb | 14.96 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 94090.00 | 94090.00 | ppb | 0.46 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96390.00 | 96390.00 | ppb | 2.01 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 94120.00 | 94120.00 | ppb | 0.65 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 96210.00 | 96210.00 | ppb | 1.69 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 94580.00 | 94580.00 | ppb | 0.92 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97410.00 | 97410.00 | ppb | 1.75 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95790.00 | 95790.00 | ppb | 0.42 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2005.00 | 2005.00 | ppb | 0.79 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 18.02 | 900.00 | |
| 52 Cr | 45 | 2 | 19.93 | 19.93 | ppb | 1.18 | 900.00 | |
| 55 Mn | 45 | 2 | 19.01 | 19.01 | ppb | 0.10 | 900.00 | |
| 56 Fe | 45 | 2 | 93720.00 | 93720.00 | ppb | 0.53 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.64 | 18.64 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 17.89 | 17.89 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 12.29 | 12.29 | ppb | 1.37 | 900.00 | |
| 66 Zn | 72 | 2 | 11.46 | 11.46 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 14.19 | 14.19 | ppb | 0.56 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.13 | ppb | 38.72 | 900.00 | |
| 88 Sr | 103 | 1 | 4.90 | 4.90 | ppb | 1.65 | 900.00 | |
| 98 Mo | 103 | 1 | 2066.00 | 2066.00 | ppb | 0.97 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.38 | 19.38 | ppb | 1.74 | 180.00 | |
| 111 Cd | 115 | 2 | 21.62 | 21.62 | ppb | 1.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 1.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 13.48 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 13.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 2.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3057067 | 0.44 | 3507263 | 87.2 | 70 - 130 | |
| 45 Sc | 1 | 2855013 | 1.33 | 3065851 | 93.1 | 70 - 130 | |
| 45 Sc | 2 | 301259 | 0.22 | 319124 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 777488 | 1.44 | 602719 | 129.0 | 70 | - 130 | |
| 72 | Ge | 2 | 168884 | 0.39 | 129782 | 130.1 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 2945028 | 0.90 | 3487536 | 84.4 | 70 | - 130 | |
| 115 | In | 1 | 3334842 | 0.05 | 3784659 | 88.1 | 70 | - 130 | |
| 115 | In | 2 | 976568 | 1.09 | 1144814 | 85.3 | 70 | - 130 | |
| 159 | Tb | 1 | 4918036 | 0.79 | 5123501 | 96.0 | 70 | - 130 | |
| 175 | Lu | 1 | 4922219 | 1.38 | 5192413 | 94.8 | 70 | - 130 | |
| 209 | Bi | 1 | 2585467 | 0.80 | 3098864 | 83.4 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13E09q00.B\017SMPL.D\017SMPL.D#
**Date Acquired:** May 9 2013 06:30 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:** 2X
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** May 09 2013 05:36 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 51.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 61.90 | 900.00 | |
| 11 B | 6 | 1 | -0.74 | -0.37 | ppb | 12.93 | 900.00 | |
| 11 B | 45 | 2 | -0.87 | -0.44 | ppb | 55.36 | 900.00 | |
| 23 Na | 45 | 1 | 93900.00 | 46950.00 | ppb | 0.79 | 90000.00 | |
| 23 Na | 45 | 2 | 92480.00 | 46240.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 93460.00 | 46730.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 93040.00 | 46520.00 | ppb | 0.28 | 90000.00 | |
| 27 Al | 45 | 1 | 95340.00 | 47670.00 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 2 | 93100.00 | 46550.00 | ppb | 2.11 | 90000.00 | |
| 39 K | 45 | 1 | 94040.00 | 47020.00 | ppb | 1.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 95580.00 | 47790.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 2024.00 | 1012.00 | ppb | 0.53 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.31 | -0.16 | ppb | 7.30 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 0.50 | ppb | 2.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.45 | 0.22 | ppb | 2.29 | 900.00 | |
| 56 Fe | 45 | 2 | 92880.00 | 46440.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 0.06 | 0.03 | ppb | 11.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.48 | 0.24 | ppb | 4.83 | 900.00 | |
| 63 Cu | 72 | 2 | 0.14 | 0.07 | ppb | 15.56 | 900.00 | |
| 66 Zn | 72 | 2 | -3.79 | -1.89 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 0.10 | 0.05 | ppb | 18.79 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.02 | ppb | 286.67 | 900.00 | |
| 88 Sr | 103 | 1 | 4.81 | 2.41 | ppb | 1.73 | 900.00 | |
| 98 Mo | 103 | 1 | 2006.00 | 1003.00 | ppb | 1.40 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 8.11 | 180.00 | |
| 111 Cd | 115 | 2 | 2.81 | 1.40 | ppb | 5.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 3.58 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.12 | ppb | 3.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 12.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.07 | ppb | 10.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3183923 | 0.69 | 3507263 | 90.8 | 70 - 130 | |
| 45 Sc | 1 | 2991954 | 0.84 | 3065851 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 310624 | 0.42 | 319124 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 696288 | 0.54 | 602719 | 115.5 | 70 - | 130 |
| 72 | Ge | 2 | 148874 | 0.28 | 129782 | 114.7 | 70 - | 130 |
| 103 | Rh | 1 | 3083646 | 1.04 | 3487536 | 88.4 | 70 - | 130 |
| 115 | In | 1 | 3456154 | 0.64 | 3784659 | 91.3 | 70 - | 130 |
| 115 | In | 2 | 1033707 | 1.21 | 1144814 | 90.3 | 70 - | 130 |
| 159 | Tb | 1 | 5051390 | 0.36 | 5123501 | 98.6 | 70 - | 130 |
| 175 | Lu | 1 | 5059674 | 1.37 | 5192413 | 97.4 | 70 - | 130 |
| 209 | Bi | 1 | 2747640 | 1.05 | 3098864 | 88.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\018SMPL.D\018SMPL.D# | | |
| **Date Acquired:** | May 9 2013 06:38 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSAB | **ISTD:** | Pass |
| **Misc Info:** | 2X | | |
| **Vial Number:** | 2109 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 42.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1158.90 | 900.00 | |
| 11 B | 6 | 1 | -0.82 | -0.41 | ppb | 5.68 | 900.00 | |
| 11 B | 45 | 2 | -1.09 | -0.55 | ppb | 16.28 | 900.00 | |
| 23 Na | 45 | 1 | 96240.00 | 48120.00 | ppb | 0.96 | 90000.00 | |
| 23 Na | 45 | 2 | 92400.00 | 46200.00 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 96320.00 | 48160.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 93720.00 | 46860.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 95740.00 | 47870.00 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 92900.00 | 46450.00 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 97420.00 | 48710.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 95580.00 | 47790.00 | ppb | 1.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 2050.00 | 1025.00 | ppb | 0.31 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.31 | -0.15 | ppb | 7.02 | 900.00 | |
| 52 Cr | 45 | 2 | 20.00 | 10.00 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 19.38 | 9.69 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 94000.00 | 47000.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 18.76 | 9.38 | ppb | 0.31 | 900.00 | |
| 60 Ni | 45 | 2 | 18.47 | 9.23 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 14.61 | 7.30 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 12.45 | 6.23 | ppb | 1.49 | 900.00 | |
| 75 As | 72 | 2 | 16.55 | 8.28 | ppb | 0.69 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.01 | ppb | 511.85 | 900.00 | |
| 88 Sr | 103 | 1 | 4.84 | 2.42 | ppb | 1.30 | 900.00 | |
| 98 Mo | 103 | 1 | 1999.20 | 999.60 | ppb | 2.30 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.45 | 9.72 | ppb | 1.43 | 180.00 | |
| 111 Cd | 115 | 2 | 21.78 | 10.89 | ppb | 2.43 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.43 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 4.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.12 | ppb | 10.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 18.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 12.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3147195 | 1.43 | 3507263 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 2889924 | 0.67 | 3065851 | 94.3 | 70 - 130 | |
| 45 Sc | 2 | 304983 | 0.25 | 319124 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 696316 | 1.57 | 602719 | 115.5 | 70 | - | 130 |
| 72 Ge | 2 | 148064 | 0.27 | 129782 | 114.1 | 70 | - | 130 |
| 103 Rh | 1 | 3068101 | 1.85 | 3487536 | 88.0 | 70 | - | 130 |
| 115 In | 1 | 3487780 | 2.38 | 3784659 | 92.2 | 70 | - | 130 |
| 115 In | 2 | 1025155 | 0.40 | 1144814 | 89.5 | 70 | - | 130 |
| 159 Tb | 1 | 5087521 | 2.02 | 5123501 | 99.3 | 70 | - | 130 |
| 175 Lu | 1 | 5083949 | 2.22 | 5192413 | 97.9 | 70 | - | 130 |
| 209 Bi | 1 | 2746007 | 0.69 | 3098864 | 88.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\019SMPL.D\019SMPL.D# | | |
| **Date Acquired:** | May 9 2013 06:45 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2110 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 23.05 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 1.27 | 900.00 | |
| 11 B | 6 | 1 | -0.52 | -0.52 | ppb | 6.34 | 900.00 | |
| 11 B | 45 | 2 | -0.50 | -0.50 | ppb | 56.43 | 900.00 | |
| 23 Na | 45 | 1 | -6.27 | -6.27 | ppb | 10.17 | 90000.00 | |
| 23 Na | 45 | 2 | -6.10 | -6.10 | ppb | 1.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.25 | 0.25 | ppb | 53.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.77 | 0.77 | ppb | 19.35 | 90000.00 | |
| 27 Al | 45 | 1 | 0.62 | 0.62 | ppb | 14.18 | 90000.00 | |
| 27 Al | 45 | 2 | 1.18 | 1.18 | ppb | 16.12 | 90000.00 | |
| 39 K | 45 | 1 | -47.34 | -47.34 | ppb | 8.60 | 90000.00 | |
| 44 Ca | 45 | 1 | -18.11 | -18.11 | ppb | 24.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.14 | 0.14 | ppb | 27.27 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 19.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 55.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 17.17 | 900.00 | |
| 56 Fe | 45 | 2 | 4.69 | 4.69 | ppb | 2.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.74 | 900.00 | |
| 60 Ni | 45 | 2 | -0.09 | -0.09 | ppb | 2.72 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.03 | ppb | 26.19 | 900.00 | |
| 66 Zn | 72 | 2 | -2.00 | -2.00 | ppb | 1.46 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 48.94 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 139.48 | 900.00 | |
| 88 Sr | 103 | 1 | -0.01 | -0.01 | ppb | 2.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.84 | 0.84 | ppb | 8.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.16 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 76.83 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 6.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.83 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 475.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 19.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 677.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3335412 | 1.00 | 3507263 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 3021680 | 3.52 | 3065851 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 311267 | 1.21 | 319124 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 597852 | 1.38 | 602719 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 126852 | 0.26 | 129782 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3402169 | 0.55 | 3487536 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 3816145 | 0.55 | 3784659 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 1121498 | 0.92 | 1144814 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 5229525 | 1.98 | 5123501 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 5150576 | 0.77 | 5192413 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 3112315 | 0.24 | 3098864 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\020SMPL.D\020SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\020SMPL.D\020SMPL.D#
Date Acquired: May 9 2013 06:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-MB1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 45.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 142.58 | 900.00 | |
| 11 B | 6 | 1 | -0.06 | -0.03 | ppb | 298.44 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.13 | ppb | 154.27 | 900.00 | |
| 23 Na | 45 | 1 | -3.47 | -1.74 | ppb | 38.75 | 90000.00 | |
| 23 Na | 45 | 2 | -4.65 | -2.33 | ppb | 17.04 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.84 | -0.42 | ppb | 25.32 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.75 | -0.37 | ppb | 20.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2.12 | 1.06 | ppb | 11.95 | 90000.00 | |
| 27 Al | 45 | 2 | 2.27 | 1.13 | ppb | 6.35 | 90000.00 | |
| 39 K | 45 | 1 | -93.34 | -46.67 | ppb | 4.71 | 90000.00 | |
| 44 Ca | 45 | 1 | -43.00 | -21.50 | ppb | 20.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 0.50 | ppb | 7.06 | 900.00 | |
| 51 V | 45 | 2 | 2.42 | 1.21 | ppb | 2.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.11 | ppb | 6.91 | 900.00 | |
| 55 Mn | 45 | 2 | 0.49 | 0.25 | ppb | 1.17 | 900.00 | |
| 56 Fe | 45 | 2 | 9.88 | 4.94 | ppb | 8.21 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 7.37 | 900.00 | |
| 60 Ni | 45 | 2 | -0.15 | -0.08 | ppb | 17.72 | 900.00 | |
| 63 Cu | 72 | 2 | 0.18 | 0.09 | ppb | 8.89 | 900.00 | |
| 66 Zn | 72 | 2 | -5.39 | -2.70 | ppb | 0.52 | 900.00 | |
| 75 As | 72 | 2 | 0.64 | 0.32 | ppb | 5.89 | 900.00 | |
| 78 Se | 72 | 2 | 0.21 | 0.10 | ppb | 101.43 | 900.00 | |
| 88 Sr | 103 | 1 | -0.02 | -0.01 | ppb | 26.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.84 | 0.42 | ppb | 7.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 105.12 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 65.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.25 | 0.12 | ppb | 1.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 4.23 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 15.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 1.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 20.70 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3300020 | 1.81 | 3507263 | 94.1 | 70 - 130 | |
| 45 Sc | 1 | 2940277 | 1.70 | 3065851 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 303244 | 0.67 | 319124 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586380 | 1.18 | 602719 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 122496 | 0.55 | 129782 | 94.4 | 70 - | 130 |
| 103 | Rh | 1 | 3354883 | 0.22 | 3487536 | 96.2 | 70 - | 130 |
| 115 | In | 1 | 3708667 | 1.88 | 3784659 | 98.0 | 70 - | 130 |
| 115 | In | 2 | 1094180 | 0.29 | 1144814 | 95.6 | 70 - | 130 |
| 159 | Tb | 1 | 5223668 | 0.87 | 5123501 | 102.0 | 70 - | 130 |
| 175 | Lu | 1 | 5200409 | 0.48 | 5192413 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 2993476 | 1.27 | 3098864 | 96.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13E09q00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\021SMPL.D\021SMPL.D#
Date Acquired: May 9 2013 06:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-2F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 20.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 217.59 | 900.00 | |
| 11 B | 6 | 1 | 13.24 | 6.62 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 12.93 | 6.47 | ppb | 8.83 | 900.00 | |
| 23 Na | 45 | 1 | 112020.00 | 56010.00 | ppb | 1.63 | 90000.00 | |
| 23 Na | 45 | 2 | 113240.00 | 56620.00 | ppb | 1.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 3038.00 | 1519.00 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 3172.00 | 1586.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 7.12 | 3.56 | ppb | 2.19 | 90000.00 | |
| 27 Al | 45 | 2 | 7.09 | 3.55 | ppb | 4.20 | 90000.00 | |
| 39 K | 45 | 1 | 2738.00 | 1369.00 | ppb | 1.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 31320.00 | 15660.00 | ppb | 0.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.53 | 0.77 | ppb | 3.88 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.18 | ppb | 2.07 | 900.00 | |
| 52 Cr | 45 | 2 | 0.47 | 0.24 | ppb | 1.60 | 900.00 | |
| 55 Mn | 45 | 2 | 432.80 | 216.40 | ppb | 0.97 | 900.00 | |
| 56 Fe | 45 | 2 | 1388.20 | 694.10 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 4.12 | 2.06 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 10.05 | 5.02 | ppb | 1.62 | 900.00 | |
| 63 Cu | 72 | 2 | 0.53 | 0.26 | ppb | 3.42 | 900.00 | |
| 66 Zn | 72 | 2 | 1.73 | 0.87 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 0.84 | 0.42 | ppb | 4.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 114.11 | 900.00 | |
| 88 Sr | 103 | 1 | 279.80 | 139.90 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 3.69 | 1.84 | ppb | 2.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 245.92 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 6.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 6.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 5.79 | 900.00 | |
| 137 Ba | 159 | 1 | 29.38 | 14.69 | ppb | 1.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 8.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 18.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3078949 | 1.02 | 3507263 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 2899811 | 1.12 | 3065851 | 94.6 | 70 - 130 | |
| 45 Sc | 2 | 295580 | 0.31 | 319124 | 92.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 569760 | 1.06 | 602719 | 94.5 | 70 | - | 130 |
| 72 Ge | 2 | 120262 | 0.34 | 129782 | 92.7 | 70 | - | 130 |
| 103 Rh | 1 | 3080626 | 0.80 | 3487536 | 88.3 | 70 | - | 130 |
| 115 In | 1 | 3509775 | 1.44 | 3784659 | 92.7 | 70 | - | 130 |
| 115 In | 2 | 1038147 | 0.10 | 1144814 | 90.7 | 70 | - | 130 |
| 159 Tb | 1 | 4960832 | 1.43 | 5123501 | 96.8 | 70 | - | 130 |
| 175 Lu | 1 | 5000206 | 0.11 | 5192413 | 96.3 | 70 | - | 130 |
| 209 Bi | 1 | 2788632 | 1.18 | 3098864 | 90.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\022SMPL.D\022SMPL.D# | | |
| **Date Acquired:** | May 9 2013 07:06 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20556-1F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2201 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 16.01 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 159.67 | 900.00 | |
| 11 B | 6 | 1 | 28.50 | 14.25 | ppb | 0.82 | 900.00 | |
| 11 B | 45 | 2 | 28.16 | 14.08 | ppb | 5.05 | 900.00 | |
| 23 Na | 45 | 1 | 95720.00 | 47860.00 | ppb | 2.84 | 90000.00 | |
| 23 Na | 45 | 2 | 95040.00 | 47520.00 | ppb | 4.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 4962.00 | 2481.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 4922.00 | 2461.00 | ppb | 4.48 | 90000.00 | |
| 27 Al | 45 | 1 | 32.66 | 16.33 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 2 | 31.98 | 15.99 | ppb | 4.28 | 90000.00 | |
| 39 K | 45 | 1 | 4462.00 | 2231.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 36720.00 | 18360.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.96 | 0.98 | ppb | 4.91 | 900.00 | |
| 51 V | 45 | 2 | 1.77 | 0.89 | ppb | 6.56 | 900.00 | |
| 52 Cr | 45 | 2 | 3.89 | 1.95 | ppb | 3.21 | 900.00 | |
| 55 Mn | 45 | 2 | 199.08 | 99.54 | ppb | 3.99 | 900.00 | |
| 56 Fe | 45 | 2 | 3110.00 | 1555.00 | ppb | 2.77 | 90000.00 | |
| 59 Co | 45 | 2 | 3.55 | 1.78 | ppb | 2.89 | 900.00 | |
| 60 Ni | 45 | 2 | 13.34 | 6.67 | ppb | 3.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.64 | 0.32 | ppb | 2.98 | 900.00 | |
| 66 Zn | 72 | 2 | 10.75 | 5.37 | ppb | 4.13 | 900.00 | |
| 75 As | 72 | 2 | 0.80 | 0.40 | ppb | 9.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 29.64 | 900.00 | |
| 88 Sr | 103 | 1 | 395.60 | 197.80 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 7.95 | 3.97 | ppb | 1.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 156.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 26.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.11 | ppb | 3.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.08 | ppb | 4.73 | 900.00 | |
| 137 Ba | 159 | 1 | 79.64 | 39.82 | ppb | 1.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 2.87 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 25.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3130307 | 0.51 | 3507263 | 89.3 | 70 - 130 | |
| 45 Sc | 1 | 2898079 | 0.58 | 3065851 | 94.5 | 70 - 130 | |
| 45 Sc | 2 | 303276 | 3.15 | 319124 | 95.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 582410 | 1.64 | 602719 | 96.6 | 70 - | 130 |
| 72 | Ge | 2 | 123016 | 1.49 | 129782 | 94.8 | 70 - | 130 |
| 103 | Rh | 1 | 3068769 | 0.92 | 3487536 | 88.0 | 70 - | 130 |
| 115 | In | 1 | 3501761 | 0.89 | 3784659 | 92.5 | 70 - | 130 |
| 115 | In | 2 | 1045566 | 1.16 | 1144814 | 91.3 | 70 - | 130 |
| 159 | Tb | 1 | 5061151 | 1.45 | 5123501 | 98.8 | 70 - | 130 |
| 175 | Lu | 1 | 5075240 | 1.24 | 5192413 | 97.7 | 70 - | 130 |
| 209 | Bi | 1 | 2824475 | 2.16 | 3098864 | 91.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\023SMPL.D\023SMPL.D#
Date Acquired: May 9 2013 07:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-3F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 7.40 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 112.79 | 900.00 | |
| 11 B | 6 | 1 | 8.70 | 4.35 | ppb | 4.48 | 900.00 | |
| 11 B | 45 | 2 | 8.28 | 4.14 | ppb | 9.79 | 900.00 | |
| 23 Na | 45 | 1 | 70080.00 | 35040.00 | ppb | 1.18 | 90000.00 | |
| 23 Na | 45 | 2 | 66960.00 | 33480.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 1747.60 | 873.80 | ppb | 2.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 1758.60 | 879.30 | ppb | 2.24 | 90000.00 | |
| 27 Al | 45 | 1 | 3.03 | 1.51 | ppb | 11.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2.89 | 1.44 | ppb | 16.14 | 90000.00 | |
| 39 K | 45 | 1 | 2262.00 | 1131.00 | ppb | 2.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 16292.00 | 8146.00 | ppb | 1.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.51 | 0.75 | ppb | 4.37 | 900.00 | |
| 51 V | 45 | 2 | 2.41 | 1.20 | ppb | 0.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.39 | 0.20 | ppb | 3.12 | 900.00 | |
| 55 Mn | 45 | 2 | 379.60 | 189.80 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 561.40 | 280.70 | ppb | 1.56 | 90000.00 | |
| 59 Co | 45 | 2 | 4.96 | 2.48 | ppb | 1.87 | 900.00 | |
| 60 Ni | 45 | 2 | 8.96 | 4.48 | ppb | 0.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.64 | 0.32 | ppb | 3.37 | 900.00 | |
| 66 Zn | 72 | 2 | 1.98 | 0.99 | ppb | 9.42 | 900.00 | |
| 75 As | 72 | 2 | 0.78 | 0.39 | ppb | 4.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 505.34 | 900.00 | |
| 88 Sr | 103 | 1 | 203.20 | 101.60 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2.52 | 1.26 | ppb | 1.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 2375.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 36.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.09 | ppb | 4.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 12.73 | 900.00 | |
| 137 Ba | 159 | 1 | 8.81 | 4.41 | ppb | 1.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 15.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 33.48 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3170059 | 1.66 | 3507263 | 90.4 | 70 - 130 | |
| 45 Sc | 1 | 2877244 | 0.22 | 3065851 | 93.8 | 70 - 130 | |
| 45 Sc | 2 | 300428 | 0.34 | 319124 | 94.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569416 | 2.33 | 602719 | 94.5 | 70 | - | 130 |
| 72 | Ge | 2 | 120216 | 1.13 | 129782 | 92.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3146107 | 0.35 | 3487536 | 90.2 | 70 | - | 130 |
| 115 | In | 1 | 3563857 | 0.70 | 3784659 | 94.2 | 70 | - | 130 |
| 115 | In | 2 | 1043691 | 1.15 | 1144814 | 91.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5099750 | 0.44 | 5123501 | 99.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5090844 | 1.15 | 5192413 | 98.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2836329 | 3.44 | 3098864 | 91.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\024SMPL.D\024SMPL.D#
Date Acquired: May 9 2013 07:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.00 | 51.00 | ppb | 3.52 | 900.00 | |
| 9 Be | 45 | 2 | 49.01 | 49.01 | ppb | 5.10 | 900.00 | |
| 11 B | 6 | 1 | 47.67 | 47.67 | ppb | 4.63 | 900.00 | |
| 11 B | 45 | 2 | 47.79 | 47.79 | ppb | 7.72 | 900.00 | |
| 23 Na | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.23 | 90000.00 | |
| 23 Na | 45 | 2 | 4888.00 | 4888.00 | ppb | 2.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 5102.00 | 5102.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 4879.00 | 4879.00 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 1 | 5084.00 | 5084.00 | ppb | 1.26 | 90000.00 | |
| 27 Al | 45 | 2 | 4910.00 | 4910.00 | ppb | 0.51 | 90000.00 | |
| 39 K | 45 | 1 | 5022.00 | 5022.00 | ppb | 1.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 5091.00 | 5091.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.92 | 49.92 | ppb | 1.87 | 900.00 | |
| 51 V | 45 | 2 | 49.59 | 49.59 | ppb | 2.88 | 900.00 | |
| 52 Cr | 45 | 2 | 49.00 | 49.00 | ppb | 1.45 | 900.00 | |
| 55 Mn | 45 | 2 | 48.52 | 48.52 | ppb | 1.05 | 900.00 | |
| 56 Fe | 45 | 2 | 5135.00 | 5135.00 | ppb | 1.62 | 90000.00 | |
| 59 Co | 45 | 2 | 50.37 | 50.37 | ppb | 3.63 | 900.00 | |
| 60 Ni | 45 | 2 | 46.86 | 46.86 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 47.61 | 47.61 | ppb | 1.79 | 900.00 | |
| 66 Zn | 72 | 2 | 47.19 | 47.19 | ppb | 2.10 | 900.00 | |
| 75 As | 72 | 2 | 49.67 | 49.67 | ppb | 2.37 | 900.00 | |
| 78 Se | 72 | 2 | 48.32 | 48.32 | ppb | 2.02 | 900.00 | |
| 88 Sr | 103 | 1 | 52.30 | 52.30 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 49.79 | 49.79 | ppb | 0.36 | 900.00 | |
| 107 Ag | 115 | 1 | 50.24 | 50.24 | ppb | 2.05 | 180.00 | |
| 111 Cd | 115 | 2 | 49.17 | 49.17 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 51.55 | 51.55 | ppb | 1.68 | 900.00 | |
| 121 Sb | 115 | 1 | 50.31 | 50.31 | ppb | 2.39 | 900.00 | |
| 137 Ba | 159 | 1 | 47.90 | 47.90 | ppb | 1.35 | 900.00 | |
| 205 Tl | 209 | 1 | 49.68 | 49.68 | ppb | 2.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.31 | 51.31 | ppb | 0.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3263300 | 1.44 | 3507263 | 93.0 | 70 - 130 | |
| 45 Sc | 1 | 2961930 | 0.32 | 3065851 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 309866 | 1.46 | 319124 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 596431 | 2.26 | 602719 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 125396 | 1.07 | 129782 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 3278759 | 0.84 | 3487536 | 94.0 | 70 | - | 130 |
| 115 In | 1 | 3650007 | 1.17 | 3784659 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 1085722 | 1.50 | 1144814 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 5204821 | 3.60 | 5123501 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 5175444 | 2.96 | 5192413 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 2990592 | 0.90 | 3098864 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\025SMPL.D\025SMPL.D#
Date Acquired: May 9 2013 07:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 23.58 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 106.49 | 900.00 | |
| 11 B | 6 | 1 | -0.38 | -0.38 | ppb | 40.78 | 900.00 | |
| 11 B | 45 | 2 | -0.57 | -0.57 | ppb | 42.39 | 900.00 | |
| 23 Na | 45 | 1 | -9.80 | -9.80 | ppb | 9.01 | 90000.00 | |
| 23 Na | 45 | 2 | -9.30 | -9.30 | ppb | 5.54 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.76 | -0.76 | ppb | 3.73 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.61 | -0.61 | ppb | 10.77 | 90000.00 | |
| 27 Al | 45 | 1 | -0.13 | -0.13 | ppb | 163.59 | 90000.00 | |
| 27 Al | 45 | 2 | 0.00 | 0.00 | ppb | 1331.50 | 90000.00 | |
| 39 K | 45 | 1 | -47.67 | -47.67 | ppb | 7.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -21.79 | -21.79 | ppb | 28.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 881.20 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 54.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 28.95 | 900.00 | |
| 55 Mn | 45 | 2 | -0.03 | -0.03 | ppb | 23.53 | 900.00 | |
| 56 Fe | 45 | 2 | 0.71 | 0.71 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 13.80 | 900.00 | |
| 60 Ni | 45 | 2 | -0.10 | -0.10 | ppb | 5.48 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | -2.88 | -2.88 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 75.86 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 96.76 | 900.00 | |
| 88 Sr | 103 | 1 | -0.02 | -0.02 | ppb | 9.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 11.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 72.95 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 84.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 15.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 15.19 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.02 | ppb | 40.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.14 | ppb | 6.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | -0.02 | ppb | 31.95 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3305584 | 2.45 | 3507263 | 94.2 | 70 - 130 | |
| 45 Sc | 1 | 2979211 | 2.23 | 3065851 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 311149 | 0.85 | 319124 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 597635 | 4.05 | 602719 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 126727 | 0.61 | 129782 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 3371261 | 1.96 | 3487536 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3694561 | 1.10 | 3784659 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 1078431 | 2.96 | 1144814 | 94.2 | 70 | - | 130 |
| 159 Tb | 1 | 5165748 | 1.51 | 5123501 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 5061354 | 1.35 | 5192413 | 97.5 | 70 | - | 130 |
| 209 Bi | 1 | 3096332 | 2.76 | 3098864 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | May 9 2013 07:35 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20556-4F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 51.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 12.26 | 900.00 | |
| 11 B | 6 | 1 | 10.35 | 5.18 | ppb | 13.33 | 900.00 | |
| 11 B | 45 | 2 | 10.18 | 5.09 | ppb | 7.56 | 900.00 | |
| 23 Na | 45 | 1 | 49020.00 | 24510.00 | ppb | 3.43 | 90000.00 | |
| 23 Na | 45 | 2 | 47640.00 | 23820.00 | ppb | 2.44 | 90000.00 | |
| 24 Mg | 45 | 1 | 2626.00 | 1313.00 | ppb | 6.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 2706.00 | 1353.00 | ppb | 3.16 | 90000.00 | |
| 27 Al | 45 | 1 | 3.51 | 1.75 | ppb | 15.37 | 90000.00 | |
| 27 Al | 45 | 2 | 3.85 | 1.93 | ppb | 11.99 | 90000.00 | |
| 39 K | 45 | 1 | 2612.00 | 1306.00 | ppb | 3.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 20740.00 | 10370.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.77 | 0.89 | ppb | 4.99 | 900.00 | |
| 51 V | 45 | 2 | 2.34 | 1.17 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.22 | ppb | 2.64 | 900.00 | |
| 55 Mn | 45 | 2 | 1246.20 | 623.10 | ppb | 2.20 | 900.00 | |
| 56 Fe | 45 | 2 | 1861.20 | 930.60 | ppb | 1.31 | 90000.00 | |
| 59 Co | 45 | 2 | 18.04 | 9.02 | ppb | 0.73 | 900.00 | |
| 60 Ni | 45 | 2 | 21.16 | 10.58 | ppb | 1.19 | 900.00 | |
| 63 Cu | 72 | 2 | 0.86 | 0.43 | ppb | 2.97 | 900.00 | |
| 66 Zn | 72 | 2 | 6.27 | 3.13 | ppb | 2.79 | 900.00 | |
| 75 As | 72 | 2 | 1.11 | 0.56 | ppb | 2.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 135.23 | 900.00 | |
| 88 Sr | 103 | 1 | 141.86 | 70.93 | ppb | 4.25 | 900.00 | |
| 98 Mo | 103 | 1 | 7.41 | 3.70 | ppb | 3.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 95.48 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 14.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.31 | 0.16 | ppb | 18.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 9.01 | 900.00 | |
| 137 Ba | 159 | 1 | 7.68 | 3.84 | ppb | 1.62 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.08 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 21.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3098277 | 2.82 | 3507263 | 88.3 | 70 - 130 | |
| 45 Sc | 1 | 2886385 | 3.84 | 3065851 | 94.1 | 70 - 130 | |
| 45 Sc | 2 | 298974 | 0.76 | 319124 | 93.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 587561 | 1.42 | 602719 | 97.5 | 70 - | 130 |
| 72 | Ge | 2 | 123042 | 0.55 | 129782 | 94.8 | 70 - | 130 |
| 103 | Rh | 1 | 3077976 | 2.32 | 3487536 | 88.3 | 70 - | 130 |
| 115 | In | 1 | 3489743 | 2.61 | 3784659 | 92.2 | 70 - | 130 |
| 115 | In | 2 | 1060115 | 1.10 | 1144814 | 92.6 | 70 - | 130 |
| 159 | Tb | 1 | 4932251 | 1.43 | 5123501 | 96.3 | 70 - | 130 |
| 175 | Lu | 1 | 4958604 | 1.90 | 5192413 | 95.5 | 70 - | 130 |
| 209 | Bi | 1 | 2885402 | 2.02 | 3098864 | 93.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\027SMPL.D\027SMPL.D# |
| Date Acquired: | May 9 2013 07:42 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20556-5F |
| Misc Info: | |
| Vial Number: | 2206 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 65.86 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 555.89 | 900.00 | |
| 11 B | 6 | 1 | 13.95 | 6.98 | ppb | 9.29 | 900.00 | |
| 11 B | 45 | 2 | 13.91 | 6.96 | ppb | 8.71 | 900.00 | |
| 23 Na | 45 | 1 | 21320.00 | 10660.00 | ppb | 3.46 | 90000.00 | |
| 23 Na | 45 | 2 | 21920.00 | 10960.00 | ppb | 3.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 6152.00 | 3076.00 | ppb | 2.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 6414.00 | 3207.00 | ppb | 5.28 | 90000.00 | |
| 27 Al | 45 | 1 | 12.33 | 6.16 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 12.89 | 6.45 | ppb | 6.96 | 90000.00 | |
| 39 K | 45 | 1 | 4558.00 | 2279.00 | ppb | 2.47 | 90000.00 | |
| 44 Ca | 45 | 1 | 47900.00 | 23950.00 | ppb | 2.72 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.83 | ppb | 3.58 | 900.00 | |
| 51 V | 45 | 2 | 2.42 | 1.21 | ppb | 5.24 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.18 | ppb | 4.63 | 900.00 | |
| 55 Mn | 45 | 2 | 553.20 | 276.60 | ppb | 2.14 | 900.00 | |
| 56 Fe | 45 | 2 | 137.46 | 68.73 | ppb | 2.46 | 90000.00 | |
| 59 Co | 45 | 2 | 2.63 | 1.32 | ppb | 3.67 | 900.00 | |
| 60 Ni | 45 | 2 | 14.29 | 7.15 | ppb | 4.33 | 900.00 | |
| 63 Cu | 72 | 2 | 0.44 | 0.22 | ppb | 3.73 | 900.00 | |
| 66 Zn | 72 | 2 | 6.26 | 3.13 | ppb | 3.04 | 900.00 | |
| 75 As | 72 | 2 | 1.34 | 0.67 | ppb | 3.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 55.58 | 900.00 | |
| 88 Sr | 103 | 1 | 173.80 | 86.90 | ppb | 3.69 | 900.00 | |
| 98 Mo | 103 | 1 | 21.90 | 10.95 | ppb | 2.01 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 48.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 25.15 | 900.00 | |
| 120 Sn | 115 | 1 | 0.63 | 0.31 | ppb | 4.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.15 | ppb | 8.44 | 900.00 | |
| 137 Ba | 159 | 1 | 8.61 | 4.31 | ppb | 0.69 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 3.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 18.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3122167 | 1.24 | 3507263 | 89.0 | 70 - 130 | |
| 45 Sc | 1 | 2990204 | 2.17 | 3065851 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 299096 | 1.96 | 319124 | 93.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 577609 | 2.99 | 602719 | 95.8 | 70 - | 130 |
| 72 | Ge | 2 | 119755 | 0.64 | 129782 | 92.3 | 70 - | 130 |
| 103 | Rh | 1 | 3169842 | 0.60 | 3487536 | 90.9 | 70 - | 130 |
| 115 | In | 1 | 3577328 | 2.23 | 3784659 | 94.5 | 70 - | 130 |
| 115 | In | 2 | 1072094 | 1.81 | 1144814 | 93.6 | 70 - | 130 |
| 159 | Tb | 1 | 5113342 | 0.87 | 5123501 | 99.8 | 70 - | 130 |
| 175 | Lu | 1 | 5242105 | 1.49 | 5192413 | 101.0 | 70 - | 130 |
| 209 | Bi | 1 | 2938317 | 2.65 | 3098864 | 94.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13E09q00.B\028SMPL.D\028SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\028SMPL.D\028SMPL.D#
Date Acquired: May 9 2013 07:49 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-6F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 6.63 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 177.46 | 900.00 | |
| 11 B | 6 | 1 | 12.77 | 6.38 | ppb | 15.90 | 900.00 | |
| 11 B | 45 | 2 | 12.04 | 6.02 | ppb | 10.03 | 900.00 | |
| 23 Na | 45 | 1 | 114680.00 | 57340.00 | ppb | 3.37 | 90000.00 | |
| 23 Na | 45 | 2 | 112640.00 | 56320.00 | ppb | 1.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 2982.00 | 1491.00 | ppb | 1.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 3142.00 | 1571.00 | ppb | 1.61 | 90000.00 | |
| 27 Al | 45 | 1 | 7.78 | 3.89 | ppb | 3.11 | 90000.00 | |
| 27 Al | 45 | 2 | 7.95 | 3.98 | ppb | 10.43 | 90000.00 | |
| 39 K | 45 | 1 | 2816.00 | 1408.00 | ppb | 1.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 32020.00 | 16010.00 | ppb | 1.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.89 | ppb | 8.19 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.12 | ppb | 1.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.21 | ppb | 5.48 | 900.00 | |
| 55 Mn | 45 | 2 | 441.80 | 220.90 | ppb | 1.38 | 900.00 | |
| 56 Fe | 45 | 2 | 1369.00 | 684.50 | ppb | 1.64 | 90000.00 | |
| 59 Co | 45 | 2 | 4.13 | 2.06 | ppb | 1.23 | 900.00 | |
| 60 Ni | 45 | 2 | 10.10 | 5.05 | ppb | 2.77 | 900.00 | |
| 63 Cu | 72 | 2 | 1.76 | 0.88 | ppb | 0.93 | 900.00 | |
| 66 Zn | 72 | 2 | 6.06 | 3.03 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.44 | ppb | 2.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 411.68 | 900.00 | |
| 88 Sr | 103 | 1 | 280.80 | 140.40 | ppb | 3.98 | 900.00 | |
| 98 Mo | 103 | 1 | 3.47 | 1.73 | ppb | 3.60 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 549.47 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 23.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 13.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 5.87 | 900.00 | |
| 137 Ba | 159 | 1 | 30.66 | 15.33 | ppb | 4.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 13.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 10.79 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3174709 | 4.67 | 3507263 | 90.5 | 70 - 130 | |
| 45 Sc | 1 | 2916145 | 2.08 | 3065851 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 297840 | 0.61 | 319124 | 93.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 566877 | 0.25 | 602719 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 118936 | 1.17 | 129782 | 91.6 | 70 | - | 130 |
| 103 Rh | 1 | 3137564 | 1.42 | 3487536 | 90.0 | 70 | - | 130 |
| 115 In | 1 | 3411732 | 2.59 | 3784659 | 90.1 | 70 | - | 130 |
| 115 In | 2 | 1023627 | 2.10 | 1144814 | 89.4 | 70 | - | 130 |
| 159 Tb | 1 | 5028838 | 1.78 | 5123501 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 4980926 | 3.51 | 5192413 | 95.9 | 70 | - | 130 |
| 209 Bi | 1 | 2820196 | 0.85 | 3098864 | 91.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\029SMPL.D\029SMPL.D# | | |
| **Date Acquired:** | May 9 2013 07:56 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC20556-7F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2208 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 57.22 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.01 | ppb | 36.35 | 900.00 | |
| 11 B | 6 | 1 | -0.85 | -0.42 | ppb | 19.20 | 900.00 | |
| 11 B | 45 | 2 | -0.75 | -0.37 | ppb | 22.44 | 900.00 | |
| 23 Na | 45 | 1 | 3.14 | 1.57 | ppb | 20.84 | 90000.00 | |
| 23 Na | 45 | 2 | 2.21 | 1.10 | ppb | 47.46 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.41 | -0.20 | ppb | 34.25 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.17 | -0.09 | ppb | 89.57 | 90000.00 | |
| 27 Al | 45 | 1 | 2.88 | 1.44 | ppb | 3.92 | 90000.00 | |
| 27 Al | 45 | 2 | 3.05 | 1.53 | ppb | 9.12 | 90000.00 | |
| 39 K | 45 | 1 | -87.72 | -43.86 | ppb | 3.34 | 90000.00 | |
| 44 Ca | 45 | 1 | -22.66 | -11.33 | ppb | 9.37 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.74 | 0.37 | ppb | 7.71 | 900.00 | |
| 51 V | 45 | 2 | 2.38 | 1.19 | ppb | 1.68 | 900.00 | |
| 52 Cr | 45 | 2 | 0.48 | 0.24 | ppb | 1.23 | 900.00 | |
| 55 Mn | 45 | 2 | 0.48 | 0.24 | ppb | 16.26 | 900.00 | |
| 56 Fe | 45 | 2 | 6.72 | 3.36 | ppb | 2.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 32.91 | 900.00 | |
| 60 Ni | 45 | 2 | -0.12 | -0.06 | ppb | 9.51 | 900.00 | |
| 63 Cu | 72 | 2 | 0.57 | 0.28 | ppb | 0.72 | 900.00 | |
| 66 Zn | 72 | 2 | 2.32 | 1.16 | ppb | 9.49 | 900.00 | |
| 75 As | 72 | 2 | 0.62 | 0.31 | ppb | 1.25 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.04 | ppb | 166.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 103.31 | 900.00 | |
| 98 Mo | 103 | 1 | -0.03 | -0.01 | ppb | 35.37 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 54.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 2196.60 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 16.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 16.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.17 | 0.09 | ppb | 4.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 12.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 17.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3388624 | 2.87 | 3507263 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 2916245 | 1.41 | 3065851 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 305048 | 0.55 | 319124 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 568048 | 0.64 | 602719 | 94.2 | 70 | - | 130 |
| 72 Ge | 2 | 122951 | 0.96 | 129782 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 3319575 | 0.08 | 3487536 | 95.2 | 70 | - | 130 |
| 115 In | 1 | 3588155 | 2.44 | 3784659 | 94.8 | 70 | - | 130 |
| 115 In | 2 | 1067769 | 1.53 | 1144814 | 93.3 | 70 | - | 130 |
| 159 Tb | 1 | 5186716 | 2.62 | 5123501 | 101.2 | 70 | - | 130 |
| 175 Lu | 1 | 5178811 | 2.37 | 5192413 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 3030140 | 0.90 | 3098864 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\030SMPL.D\030SMPL.D#
Date Acquired: May 9 2013 08:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20865-B2
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 497.55 | 99.51 | ppb | 4.16 | 900.00 | |
| 9 Be | 45 | 2 | 487.85 | 97.57 | ppb | 1.13 | 900.00 | |
| 11 B | 6 | 1 | -2.61 | -0.52 | ppb | 17.72 | 900.00 | |
| 11 B | 45 | 2 | -2.64 | -0.53 | ppb | 27.76 | 900.00 | |
| 23 Na | 45 | 1 | 25425.00 | 5085.00 | ppb | 3.09 | 90000.00 | |
| 23 Na | 45 | 2 | 25355.00 | 5071.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 25670.00 | 5134.00 | ppb | 4.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 25655.00 | 5131.00 | ppb | 2.38 | 90000.00 | |
| 27 Al | 45 | 1 | 2149.00 | 429.80 | ppb | 4.29 | 90000.00 | |
| 27 Al | 45 | 2 | 2199.00 | 439.80 | ppb | 2.69 | 90000.00 | |
| 39 K | 45 | 1 | 25895.00 | 5179.00 | ppb | 3.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 25620.00 | 5124.00 | ppb | 1.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 478.60 | 95.72 | ppb | 0.51 | 900.00 | |
| 51 V | 45 | 2 | 509.50 | 101.90 | ppb | 1.17 | 900.00 | |
| 52 Cr | 45 | 2 | 496.15 | 99.23 | ppb | 1.03 | 900.00 | |
| 55 Mn | 45 | 2 | 479.30 | 95.86 | ppb | 1.07 | 900.00 | |
| 56 Fe | 45 | 2 | 2154.50 | 430.90 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 511.50 | 102.30 | ppb | 2.59 | 900.00 | |
| 60 Ni | 45 | 2 | 488.60 | 97.72 | ppb | 1.69 | 900.00 | |
| 63 Cu | 72 | 2 | 480.00 | 96.00 | ppb | 0.70 | 900.00 | |
| 66 Zn | 72 | 2 | 515.00 | 103.00 | ppb | 0.72 | 900.00 | |
| 75 As | 72 | 2 | 502.50 | 100.50 | ppb | 2.10 | 900.00 | |
| 78 Se | 72 | 2 | 483.00 | 96.60 | ppb | 0.99 | 900.00 | |
| 88 Sr | 103 | 1 | 488.85 | 97.77 | ppb | 7.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.24 | 0.05 | ppb | 14.40 | 900.00 | |
| 107 Ag | 115 | 1 | 210.35 | 42.07 | ppb | 2.38 | 180.00 | |
| 111 Cd | 115 | 2 | 494.15 | 98.83 | ppb | 3.36 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.03 | ppb | 17.56 | 900.00 | |
| 121 Sb | 115 | 1 | 497.20 | 99.44 | ppb | 3.65 | 900.00 | |
| 137 Ba | 159 | 1 | 1964.00 | 392.80 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 509.00 | 101.80 | ppb | 1.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1020.50 | 204.10 | ppb | 2.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3360187 | 2.21 | 3507263 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 2946400 | 0.95 | 3065851 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 303429 | 0.33 | 319124 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570044 | 2.67 | 602719 | 94.6 | 70 | - | 130 |
| 72 | Ge | 2 | 122658 | 1.18 | 129782 | 94.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3308056 | 2.70 | 3487536 | 94.9 | 70 | - | 130 |
| 115 | In | 1 | 3582371 | 2.52 | 3784659 | 94.7 | 70 | - | 130 |
| 115 | In | 2 | 1069664 | 2.25 | 1144814 | 93.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5057633 | 1.44 | 5123501 | 98.7 | 70 | - | 130 |
| 175 | Lu | 1 | 5055868 | 2.44 | 5192413 | 97.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2937280 | 1.74 | 3098864 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\031SMPL.D\031SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\031SMPL.D\031SMPL.D#
Date Acquired: May 9 2013 08:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-B1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 479.40 | 23.97 | ppb | 3.49 | 900.00 | |
| 9 Be | 45 | 2 | 514.40 | 25.72 | ppb | 2.06 | 900.00 | |
| 11 B | 6 | 1 | -20.10 | -1.01 | ppb | 4.76 | 900.00 | |
| 11 B | 45 | 2 | -22.46 | -1.12 | ppb | 3.81 | 900.00 | |
| 23 Na | 45 | 1 | 26580.00 | 1329.00 | ppb | 7.23 | 90000.00 | |
| 23 Na | 45 | 2 | 25560.00 | 1278.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 27440.00 | 1372.00 | ppb | 6.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 26460.00 | 1323.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 2276.00 | 113.80 | ppb | 4.82 | 90000.00 | |
| 27 Al | 45 | 2 | 2184.00 | 109.20 | ppb | 1.53 | 90000.00 | |
| 39 K | 45 | 1 | 25640.00 | 1282.00 | ppb | 2.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 26620.00 | 1331.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.20 | 24.36 | ppb | 4.87 | 900.00 | |
| 51 V | 45 | 2 | 500.40 | 25.02 | ppb | 1.17 | 900.00 | |
| 52 Cr | 45 | 2 | 501.20 | 25.06 | ppb | 1.39 | 900.00 | |
| 55 Mn | 45 | 2 | 496.20 | 24.81 | ppb | 1.32 | 900.00 | |
| 56 Fe | 45 | 2 | 2202.00 | 110.10 | ppb | 2.13 | 90000.00 | |
| 59 Co | 45 | 2 | 519.80 | 25.99 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 486.60 | 24.33 | ppb | 2.46 | 900.00 | |
| 63 Cu | 72 | 2 | 499.00 | 24.95 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 503.60 | 25.18 | ppb | 1.03 | 900.00 | |
| 75 As | 72 | 2 | 519.00 | 25.95 | ppb | 0.91 | 900.00 | |
| 78 Se | 72 | 2 | 528.00 | 26.40 | ppb | 2.27 | 900.00 | |
| 88 Sr | 103 | 1 | 515.20 | 25.76 | ppb | 2.51 | 900.00 | |
| 98 Mo | 103 | 1 | -0.60 | -0.03 | ppb | 12.84 | 900.00 | |
| 107 Ag | 115 | 1 | 203.80 | 10.19 | ppb | 3.04 | 180.00 | |
| 111 Cd | 115 | 2 | 508.40 | 25.42 | ppb | 0.21 | 900.00 | |
| 120 Sn | 115 | 1 | 1.13 | 0.06 | ppb | 7.99 | 900.00 | |
| 121 Sb | 115 | 1 | 502.20 | 25.11 | ppb | 3.51 | 900.00 | |
| 137 Ba | 159 | 1 | 1985.00 | 99.25 | ppb | 2.54 | 900.00 | |
| 205 Tl | 209 | 1 | 495.60 | 24.78 | ppb | 2.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.80 | 51.99 | ppb | 0.49 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3501958 | 2.22 | 3507263 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2941202 | 3.71 | 3065851 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 312155 | 1.25 | 319124 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 593212 | 3.23 | 602719 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 125585 | 0.18 | 129782 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 3321289 | 2.12 | 3487536 | 95.2 | 70 | - | 130 |
| 115 In | 1 | 3711162 | 3.07 | 3784659 | 98.1 | 70 | - | 130 |
| 115 In | 2 | 1098024 | 1.34 | 1144814 | 95.9 | 70 | - | 130 |
| 159 Tb | 1 | 5210947 | 3.17 | 5123501 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 5091510 | 4.07 | 5192413 | 98.1 | 70 | - | 130 |
| 209 Bi | 1 | 3005355 | 0.89 | 3098864 | 97.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\032SMPL.D\032SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\032SMPL.D\032SMPL.D#
Date Acquired: May 9 2013 08:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-S1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.20 | 25.41 | ppb | 2.99 | 900.00 | |
| 9 Be | 45 | 2 | 486.40 | 24.32 | ppb | 3.84 | 900.00 | |
| 11 B | 6 | 1 | -5.82 | -0.29 | ppb | 47.72 | 900.00 | |
| 11 B | 45 | 2 | -8.95 | -0.45 | ppb | 66.87 | 900.00 | |
| 23 Na | 45 | 1 | 146440.00 | 7322.00 | ppb | 2.40 | 90000.00 | |
| 23 Na | 45 | 2 | 143860.00 | 7193.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 28760.00 | 1438.00 | ppb | 2.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 29240.00 | 1462.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 2120.00 | 106.00 | ppb | 4.77 | 90000.00 | |
| 27 Al | 45 | 2 | 2164.00 | 108.20 | ppb | 1.57 | 90000.00 | |
| 39 K | 45 | 1 | 26980.00 | 1349.00 | ppb | 3.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 58360.00 | 2918.00 | ppb | 1.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 484.40 | 24.22 | ppb | 0.74 | 900.00 | |
| 51 V | 45 | 2 | 490.00 | 24.50 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 499.20 | 24.96 | ppb | 0.57 | 900.00 | |
| 55 Mn | 45 | 2 | 945.60 | 47.28 | ppb | 2.12 | 900.00 | |
| 56 Fe | 45 | 2 | 3590.00 | 179.50 | ppb | 2.00 | 90000.00 | |
| 59 Co | 45 | 2 | 516.20 | 25.81 | ppb | 1.25 | 900.00 | |
| 60 Ni | 45 | 2 | 491.80 | 24.59 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 495.60 | 24.78 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 511.60 | 25.58 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 521.60 | 26.08 | ppb | 2.23 | 900.00 | |
| 78 Se | 72 | 2 | 528.00 | 26.40 | ppb | 0.65 | 900.00 | |
| 88 Sr | 103 | 1 | 813.20 | 40.66 | ppb | 2.12 | 900.00 | |
| 98 Mo | 103 | 1 | 2.35 | 0.12 | ppb | 5.52 | 900.00 | |
| 107 Ag | 115 | 1 | 201.40 | 10.07 | ppb | 2.59 | 180.00 | |
| 111 Cd | 115 | 2 | 511.20 | 25.56 | ppb | 1.34 | 900.00 | |
| 120 Sn | 115 | 1 | -0.77 | -0.04 | ppb | 7.00 | 900.00 | |
| 121 Sb | 115 | 1 | 494.20 | 24.71 | ppb | 4.49 | 900.00 | |
| 137 Ba | 159 | 1 | 2060.00 | 103.00 | ppb | 0.76 | 900.00 | |
| 205 Tl | 209 | 1 | 493.00 | 24.65 | ppb | 3.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1023.80 | 51.19 | ppb | 1.30 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3387420 | 2.44 | 3507263 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 3048928 | 1.79 | 3065851 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 313782 | 0.17 | 319124 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 592681 | 1.61 | 602719 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 126321 | 0.97 | 129782 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3249302 | 1.97 | 3487536 | 93.2 | 70 | - | 130 |
| 115 In | 1 | 3804294 | 2.19 | 3784659 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1093090 | 3.54 | 1144814 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 4986782 | 2.12 | 5123501 | 97.3 | 70 | - | 130 |
| 175 Lu | 1 | 5010968 | 1.36 | 5192413 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 2987117 | 1.37 | 3098864 | 96.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E09q00.B\033SMPL.D\033SMPL.D# | | |
| **Date Acquired:** | May 9 2013 08:24 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP20915-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2212 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 09 2013 05:36 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 510.40 | 25.52 | ppb | 0.67 | 900.00 | |
| 9 Be | 45 | 2 | 500.20 | 25.01 | ppb | 1.76 | 900.00 | |
| 11 B | 6 | 1 | -6.58 | -0.33 | ppb | 25.93 | 900.00 | |
| 11 B | 45 | 2 | -9.91 | -0.50 | ppb | 39.75 | 900.00 | |
| 23 Na | 45 | 1 | 147200.00 | 7360.00 | ppb | 3.59 | 90000.00 | |
| 23 Na | 45 | 2 | 146300.00 | 7315.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 29240.00 | 1462.00 | ppb | 2.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 30040.00 | 1502.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 2170.00 | 108.50 | ppb | 1.83 | 90000.00 | |
| 27 Al | 45 | 2 | 2298.00 | 114.90 | ppb | 0.95 | 90000.00 | |
| 39 K | 45 | 1 | 27760.00 | 1388.00 | ppb | 2.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 59280.00 | 2964.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 491.60 | 24.58 | ppb | 1.98 | 900.00 | |
| 51 V | 45 | 2 | 505.40 | 25.27 | ppb | 2.38 | 900.00 | |
| 52 Cr | 45 | 2 | 519.60 | 25.98 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 975.20 | 48.76 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 3676.00 | 183.80 | ppb | 0.92 | 90000.00 | |
| 59 Co | 45 | 2 | 521.60 | 26.08 | ppb | 1.88 | 900.00 | |
| 60 Ni | 45 | 2 | 501.40 | 25.07 | ppb | 0.91 | 900.00 | |
| 63 Cu | 72 | 2 | 507.20 | 25.36 | ppb | 1.99 | 900.00 | |
| 66 Zn | 72 | 2 | 518.20 | 25.91 | ppb | 1.23 | 900.00 | |
| 75 As | 72 | 2 | 530.20 | 26.51 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 529.80 | 26.49 | ppb | 1.17 | 900.00 | |
| 88 Sr | 103 | 1 | 808.00 | 40.40 | ppb | 1.84 | 900.00 | |
| 98 Mo | 103 | 1 | 2.63 | 0.13 | ppb | 1.07 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 1.01 | 180.00 | |
| 111 Cd | 115 | 2 | 522.20 | 26.11 | ppb | 5.07 | 900.00 | |
| 120 Sn | 115 | 1 | -0.68 | -0.03 | ppb | 1.48 | 900.00 | |
| 121 Sb | 115 | 1 | 532.00 | 26.60 | ppb | 4.95 | 900.00 | |
| 137 Ba | 159 | 1 | 2090.00 | 104.50 | ppb | 2.49 | 900.00 | |
| 205 Tl | 209 | 1 | 489.60 | 24.48 | ppb | 5.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1028.80 | 51.44 | ppb | 2.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3371930 | 2.17 | 3507263 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3003886 | 2.73 | 3065851 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 306728 | 0.63 | 319124 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 581327 | 1.15 | 602719 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 124913 | 0.79 | 129782 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 3301222 | 0.49 | 3487536 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 3628405 | 2.07 | 3784659 | 95.9 | 70 | - | 130 |
| 115 In | 2 | 1075265 | 3.60 | 1144814 | 93.9 | 70 | - | 130 |
| 159 Tb | 1 | 5113597 | 3.30 | 5123501 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 5045825 | 1.26 | 5192413 | 97.2 | 70 | - | 130 |
| 209 Bi | 1 | 3016585 | 3.26 | 3098864 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\034SMPL.D\034SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\034SMPL.D\034SMPL.D#
Date Acquired: May 9 2013 08:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-SD1
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.07 | 0.01 | ppb | 54.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.20 | 0.02 | ppb | 86.74 | 900.00 | |
| 11 B | 6 | 1 | 3.19 | 0.32 | ppb | 74.26 | 900.00 | |
| 11 B | 45 | 2 | 3.89 | 0.39 | ppb | 43.70 | 900.00 | |
| 23 Na | 45 | 1 | 119400.00 | 11940.00 | ppb | 15.57 | 90000.00 | |
| 23 Na | 45 | 2 | 113400.00 | 11340.00 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 3254.00 | 325.40 | ppb | 14.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 3267.00 | 326.70 | ppb | 1.78 | 90000.00 | |
| 27 Al | 45 | 1 | 8.86 | 0.89 | ppb | 47.32 | 90000.00 | |
| 27 Al | 45 | 2 | 13.00 | 1.30 | ppb | 13.78 | 90000.00 | |
| 39 K | 45 | 1 | 2536.00 | 253.60 | ppb | 25.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 33640.00 | 3364.00 | ppb | 16.12 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.88 | 0.19 | ppb | 34.17 | 900.00 | |
| 51 V | 45 | 2 | -0.73 | -0.07 | ppb | 7.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.12 | 0.01 | ppb | 45.12 | 900.00 | |
| 55 Mn | 45 | 2 | 450.90 | 45.09 | ppb | 1.09 | 900.00 | |
| 56 Fe | 45 | 2 | 1444.00 | 144.40 | ppb | 2.29 | 90000.00 | |
| 59 Co | 45 | 2 | 4.22 | 0.42 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 9.32 | 0.93 | ppb | 2.66 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.05 | ppb | 14.78 | 900.00 | |
| 66 Zn | 72 | 2 | -18.43 | -1.84 | ppb | 0.34 | 900.00 | |
| 75 As | 72 | 2 | 0.18 | 0.02 | ppb | 49.45 | 900.00 | |
| 78 Se | 72 | 2 | 1.42 | 0.14 | ppb | 28.47 | 900.00 | |
| 88 Sr | 103 | 1 | 289.70 | 28.97 | ppb | 17.77 | 900.00 | |
| 98 Mo | 103 | 1 | 2.84 | 0.28 | ppb | 20.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 84.35 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.01 | ppb | 54.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.29 | -0.03 | ppb | 2.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.02 | ppb | 36.47 | 900.00 | |
| 137 Ba | 159 | 1 | 30.25 | 3.03 | ppb | 22.43 | 900.00 | |
| 205 Tl | 209 | 1 | 1.46 | 0.15 | ppb | 15.05 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 398.28 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3391048 | 10.82 | 3507263 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 2946567 | 15.72 | 3065851 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 310092 | 0.58 | 319124 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 583411 | 10.14 | 602719 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 125551 | 0.45 | 129782 | 96.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3274056 | 16.89 | 3487536 | 93.9 | 70 | - | 130 |
| 115 | In | 1 | 3637235 | 11.57 | 3784659 | 96.1 | 70 | - | 130 |
| 115 | In | 2 | 1073254 | 0.63 | 1144814 | 93.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5083373 | 16.22 | 5123501 | 99.2 | 70 | - | 130 |
| 175 | Lu | 1 | 5167472 | 18.51 | 5192413 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2970213 | 13.32 | 3098864 | 95.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\035SMPL.D\035SMPL.D#
Date Acquired: May 9 2013 08:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-PS1
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.73 | 8.37 | ppb | 3.32 | 900.00 | |
| 9 Be | 45 | 2 | 16.79 | 8.40 | ppb | 3.48 | 900.00 | |
| 11 B | 6 | 1 | 27.24 | 13.62 | ppb | 5.55 | 900.00 | |
| 11 B | 45 | 2 | 26.16 | 13.08 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 96940.00 | 48470.00 | ppb | 3.45 | 90000.00 | |
| 23 Na | 45 | 2 | 94400.00 | 47200.00 | ppb | 4.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 2572.00 | 1286.00 | ppb | 2.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 2640.00 | 1320.00 | ppb | 4.13 | 90000.00 | |
| 27 Al | 45 | 1 | 24.64 | 12.32 | ppb | 5.69 | 90000.00 | |
| 27 Al | 45 | 2 | 24.54 | 12.27 | ppb | 6.10 | 90000.00 | |
| 39 K | 45 | 1 | 2306.00 | 1153.00 | ppb | 3.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 26540.00 | 13270.00 | ppb | 1.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.73 | 8.86 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 18.93 | 9.46 | ppb | 4.18 | 900.00 | |
| 52 Cr | 45 | 2 | 17.12 | 8.56 | ppb | 0.82 | 900.00 | |
| 55 Mn | 45 | 2 | 371.40 | 185.70 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | 1155.80 | 577.90 | ppb | 1.50 | 90000.00 | |
| 59 Co | 45 | 2 | 20.46 | 10.23 | ppb | 2.81 | 900.00 | |
| 60 Ni | 45 | 2 | 24.44 | 12.22 | ppb | 4.09 | 900.00 | |
| 63 Cu | 72 | 2 | 16.63 | 8.32 | ppb | 1.46 | 900.00 | |
| 66 Zn | 72 | 2 | 19.27 | 9.63 | ppb | 3.04 | 900.00 | |
| 75 As | 72 | 2 | 16.95 | 8.48 | ppb | 1.32 | 900.00 | |
| 78 Se | 72 | 2 | 15.76 | 7.88 | ppb | 6.27 | 900.00 | |
| 88 Sr | 103 | 1 | 252.60 | 126.30 | ppb | 0.50 | 900.00 | |
| 98 Mo | 103 | 1 | 20.74 | 10.37 | ppb | 1.48 | 900.00 | |
| 107 Ag | 115 | 1 | 16.47 | 8.24 | ppb | 1.60 | 180.00 | |
| 111 Cd | 115 | 2 | 16.30 | 8.15 | ppb | 1.98 | 900.00 | |
| 120 Sn | 115 | 1 | 17.04 | 8.52 | ppb | 3.85 | 900.00 | |
| 121 Sb | 115 | 1 | 16.68 | 8.34 | ppb | 3.85 | 900.00 | |
| 137 Ba | 159 | 1 | 40.26 | 20.13 | ppb | 3.27 | 900.00 | |
| 205 Tl | 209 | 1 | 16.80 | 8.40 | ppb | 4.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.36 | 8.68 | ppb | 0.38 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3224124 | 1.52 | 3507263 | 91.9 | 70 - 130 | |
| 45 Sc | 1 | 2905102 | 1.20 | 3065851 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 294804 | 1.67 | 319124 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 560836 | 2.29 | 602719 | 93.1 | 70 | - | 130 |
| 72 | Ge | 2 | 119111 | 1.67 | 129782 | 91.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3048890 | 0.36 | 3487536 | 87.4 | 70 | - | 130 |
| 115 | In | 1 | 3603015 | 1.19 | 3784659 | 95.2 | 70 | - | 130 |
| 115 | In | 2 | 1039182 | 1.17 | 1144814 | 90.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5037934 | 4.11 | 5123501 | 98.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5132883 | 3.69 | 5192413 | 98.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2810514 | 1.89 | 3098864 | 90.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\036SMPL.D\036SMPL.D# |
| Date Acquired: | May 9 2013 08:45 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2303 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 47.60 | 47.60 | ppb | 0.38 | 900.00 | |
| 9 Be | 45 | 2 | 50.71 | 50.71 | ppb | 4.20 | 900.00 | |
| 11 B | 6 | 1 | 43.04 | 43.04 | ppb | 1.35 | 900.00 | |
| 11 B | 45 | 2 | 47.34 | 47.34 | ppb | 7.56 | 900.00 | |
| 23 Na | 45 | 1 | 5007.00 | 5007.00 | ppb | 4.77 | 90000.00 | |
| 23 Na | 45 | 2 | 4896.00 | 4896.00 | ppb | 2.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 5029.00 | 5029.00 | ppb | 4.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 4900.00 | 4900.00 | ppb | 2.41 | 90000.00 | |
| 27 Al | 45 | 1 | 5072.00 | 5072.00 | ppb | 3.78 | 90000.00 | |
| 27 Al | 45 | 2 | 4882.00 | 4882.00 | ppb | 2.57 | 90000.00 | |
| 39 K | 45 | 1 | 5053.00 | 5053.00 | ppb | 2.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 5137.00 | 5137.00 | ppb | 1.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.42 | 49.42 | ppb | 2.68 | 900.00 | |
| 51 V | 45 | 2 | 48.71 | 48.71 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | 49.75 | 49.75 | ppb | 2.09 | 900.00 | |
| 55 Mn | 45 | 2 | 48.93 | 48.93 | ppb | 0.92 | 900.00 | |
| 56 Fe | 45 | 2 | 5023.00 | 5023.00 | ppb | 2.07 | 90000.00 | |
| 59 Co | 45 | 2 | 49.82 | 49.82 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 47.95 | 47.95 | ppb | 1.74 | 900.00 | |
| 63 Cu | 72 | 2 | 46.80 | 46.80 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 46.25 | 46.25 | ppb | 1.25 | 900.00 | |
| 75 As | 72 | 2 | 48.35 | 48.35 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 48.40 | 48.40 | ppb | 2.93 | 900.00 | |
| 88 Sr | 103 | 1 | 54.07 | 54.07 | ppb | 6.87 | 900.00 | |
| 98 Mo | 103 | 1 | 51.04 | 51.04 | ppb | 4.13 | 900.00 | |
| 107 Ag | 115 | 1 | 48.53 | 48.53 | ppb | 3.70 | 180.00 | |
| 111 Cd | 115 | 2 | 50.24 | 50.24 | ppb | 1.82 | 900.00 | |
| 120 Sn | 115 | 1 | 51.13 | 51.13 | ppb | 1.81 | 900.00 | |
| 121 Sb | 115 | 1 | 50.47 | 50.47 | ppb | 3.01 | 900.00 | |
| 137 Ba | 159 | 1 | 48.72 | 48.72 | ppb | 1.13 | 900.00 | |
| 205 Tl | 209 | 1 | 50.20 | 50.20 | ppb | 2.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.54 | 49.54 | ppb | 1.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3449482 | 1.08 | 3507263 | 98.4 | 70 - 130 | |
| 45 Sc | 1 | 2999014 | 3.11 | 3065851 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 306192 | 0.42 | 319124 | 95.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 600660 | 1.59 | 602719 | 99.7 | 70 | - | 130 |
| 72 Ge | 2 | 126824 | 0.70 | 129782 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3211865 | 2.56 | 3487536 | 92.1 | 70 | - | 130 |
| 115 In | 1 | 3661247 | 1.87 | 3784659 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1060485 | 2.49 | 1144814 | 92.6 | 70 | - | 130 |
| 159 Tb | 1 | 5180260 | 0.98 | 5123501 | 101.1 | 70 | - | 130 |
| 175 Lu | 1 | 5154001 | 1.98 | 5192413 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2962142 | 2.06 | 3098864 | 95.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\037SMPL.D\037SMPL.D#
Date Acquired: May 9 2013 08:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 46.52 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 104.46 | 900.00 | |
| 11 B | 6 | 1 | -0.70 | -0.70 | ppb | 10.61 | 900.00 | |
| 11 B | 45 | 2 | -0.95 | -0.95 | ppb | 9.40 | 900.00 | |
| 23 Na | 45 | 1 | -9.63 | -9.63 | ppb | 5.68 | 90000.00 | |
| 23 Na | 45 | 2 | -9.71 | -9.71 | ppb | 4.90 | 90000.00 | |
| 24 Mg | 45 | 1 | -1.50 | -1.50 | ppb | 6.79 | 90000.00 | |
| 24 Mg | 45 | 2 | -1.35 | -1.35 | ppb | 2.98 | 90000.00 | |
| 27 Al | 45 | 1 | -0.59 | -0.59 | ppb | 30.40 | 90000.00 | |
| 27 Al | 45 | 2 | -0.49 | -0.49 | ppb | 9.48 | 90000.00 | |
| 39 K | 45 | 1 | -49.80 | -49.80 | ppb | 4.90 | 90000.00 | |
| 44 Ca | 45 | 1 | -26.95 | -26.95 | ppb | 10.70 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.03 | -0.03 | ppb | 29.08 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 200.75 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 46.02 | 900.00 | |
| 55 Mn | 45 | 2 | -0.03 | -0.03 | ppb | 6.54 | 900.00 | |
| 56 Fe | 45 | 2 | 0.01 | 0.01 | ppb | 110.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 14.10 | 900.00 | |
| 60 Ni | 45 | 2 | -0.11 | -0.11 | ppb | 2.14 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 6.60 | 900.00 | |
| 66 Zn | 72 | 2 | -3.20 | -3.20 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 128.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 81.81 | 900.00 | |
| 88 Sr | 103 | 1 | -0.03 | -0.03 | ppb | 7.56 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 100.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 35.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 175.27 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 101.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 23.07 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.02 | ppb | 84.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 4.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 37.65 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3411272 | 3.27 | 3507263 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 2990654 | 1.63 | 3065851 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 312373 | 1.06 | 319124 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 594276 | 0.79 | 602719 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 125044 | 1.23 | 129782 | 96.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3401132 | 4.16 | 3487536 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3862201 | 3.81 | 3784659 | 102.0 | 70 | - | 130 |
| 115 | In | 2 | 1086314 | 1.39 | 1144814 | 94.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5206285 | 2.00 | 5123501 | 101.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5105199 | 1.86 | 5192413 | 98.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3113480 | 4.26 | 3098864 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E09q00.B\038SMPL.D\038SMPL.D# |
| Date Acquired: | May 9 2013 08:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2305 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 09 2013 05:36 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 5.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.57 | 0.57 | ppb | 10.78 | 900.00 | |
| 11 B | 6 | 1 | 3.84 | 3.84 | ppb | 11.86 | 900.00 | |
| 11 B | 45 | 2 | 3.71 | 3.71 | ppb | 4.87 | 900.00 | |
| 23 Na | 45 | 1 | 248.20 | 248.20 | ppb | 2.95 | 90000.00 | |
| 23 Na | 45 | 2 | 268.60 | 268.60 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 259.10 | 259.10 | ppb | 3.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 275.20 | 275.20 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 1 | 25.78 | 25.78 | ppb | 6.27 | 90000.00 | |
| 27 Al | 45 | 2 | 25.27 | 25.27 | ppb | 1.05 | 90000.00 | |
| 39 K | 45 | 1 | 194.40 | 194.40 | ppb | 6.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 236.70 | 236.70 | ppb | 2.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 1.00 | ppb | 4.38 | 900.00 | |
| 51 V | 45 | 2 | 0.98 | 0.98 | ppb | 1.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 0.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.99 | 0.99 | ppb | 3.13 | 900.00 | |
| 56 Fe | 45 | 2 | 29.29 | 29.29 | ppb | 2.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 0.88 | 0.88 | ppb | 1.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 2.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.81 | -0.81 | ppb | 2.73 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 1.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.59 | 0.59 | ppb | 12.64 | 900.00 | |
| 88 Sr | 103 | 1 | 5.01 | 5.01 | ppb | 2.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.95 | 0.95 | ppb | 2.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 3.39 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 7.17 | 900.00 | |
| 120 Sn | 115 | 1 | 4.72 | 4.72 | ppb | 2.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 3.10 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 2.72 | 900.00 | |
| 205 Tl | 209 | 1 | 0.49 | 0.49 | ppb | 1.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 1.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3435229 | 3.80 | 3507263 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 3057326 | 1.83 | 3065851 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 306444 | 0.70 | 319124 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595541 | 3.39 | 602719 | 98.8 | 70 | - | 130 |
| 72 Ge | 2 | 124145 | 0.46 | 129782 | 95.7 | 70 | - | 130 |
| 103 Rh | 1 | 3392131 | 0.91 | 3487536 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 3802661 | 3.26 | 3784659 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1061806 | 1.87 | 1144814 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 4984829 | 3.75 | 5123501 | 97.3 | 70 | - | 130 |
| 175 Lu | 1 | 5069609 | 3.44 | 5192413 | 97.6 | 70 | - | 130 |
| 209 Bi | 1 | 2949163 | 1.41 | 3098864 | 95.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\039SMPL.D\039SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\039SMPL.D\039SMPL.D#
Date Acquired: May 9 2013 09:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.90 | 50.90 | ppb | 7.00 | 900.00 | |
| 9 Be | 45 | 2 | 49.96 | 49.96 | ppb | 3.48 | 900.00 | |
| 11 B | 6 | 1 | 49.15 | 49.15 | ppb | 7.69 | 900.00 | |
| 11 B | 45 | 2 | 46.20 | 46.20 | ppb | 7.20 | 900.00 | |
| 23 Na | 45 | 1 | 5403.00 | 5403.00 | ppb | 6.02 | 90000.00 | |
| 23 Na | 45 | 2 | 5094.00 | 5094.00 | ppb | 7.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 5356.00 | 5356.00 | ppb | 6.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5100.00 | 5100.00 | ppb | 5.18 | 90000.00 | |
| 27 Al | 45 | 1 | 5255.00 | 5255.00 | ppb | 5.43 | 90000.00 | |
| 27 Al | 45 | 2 | 5092.00 | 5092.00 | ppb | 3.12 | 90000.00 | |
| 39 K | 45 | 1 | 5106.00 | 5106.00 | ppb | 3.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5117.00 | 5117.00 | ppb | 1.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.46 | 49.46 | ppb | 1.27 | 900.00 | |
| 51 V | 45 | 2 | 49.12 | 49.12 | ppb | 2.11 | 900.00 | |
| 52 Cr | 45 | 2 | 50.50 | 50.50 | ppb | 2.13 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 2.08 | 900.00 | |
| 56 Fe | 45 | 2 | 4997.00 | 4997.00 | ppb | 2.48 | 90000.00 | |
| 59 Co | 45 | 2 | 50.23 | 50.23 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 48.25 | 48.25 | ppb | 3.11 | 900.00 | |
| 63 Cu | 72 | 2 | 47.76 | 47.76 | ppb | 1.59 | 900.00 | |
| 66 Zn | 72 | 2 | 46.78 | 46.78 | ppb | 1.19 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 2.05 | 900.00 | |
| 78 Se | 72 | 2 | 48.69 | 48.69 | ppb | 1.89 | 900.00 | |
| 88 Sr | 103 | 1 | 52.16 | 52.16 | ppb | 2.82 | 900.00 | |
| 98 Mo | 103 | 1 | 50.51 | 50.51 | ppb | 0.80 | 900.00 | |
| 107 Ag | 115 | 1 | 49.36 | 49.36 | ppb | 4.68 | 180.00 | |
| 111 Cd | 115 | 2 | 50.18 | 50.18 | ppb | 4.97 | 900.00 | |
| 120 Sn | 115 | 1 | 50.67 | 50.67 | ppb | 2.38 | 900.00 | |
| 121 Sb | 115 | 1 | 50.04 | 50.04 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 48.11 | 48.11 | ppb | 1.44 | 900.00 | |
| 205 Tl | 209 | 1 | 51.10 | 51.10 | ppb | 0.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.14 | 50.14 | ppb | 2.95 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3358767 | 3.41 | 3507263 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 2927575 | 2.12 | 3065851 | 95.5 | 70 - 130 | |
| 45 Sc | 2 | 306591 | 1.34 | 319124 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 590313 | 1.60 | 602719 | 97.9 | 70 - | 130 |
| 72 | Ge | 2 | 125089 | 1.05 | 129782 | 96.4 | 70 - | 130 |
| 103 | Rh | 1 | 3278791 | 1.25 | 3487536 | 94.0 | 70 - | 130 |
| 115 | In | 1 | 3651179 | 1.96 | 3784659 | 96.5 | 70 - | 130 |
| 115 | In | 2 | 1064790 | 3.38 | 1144814 | 93.0 | 70 - | 130 |
| 159 | Tb | 1 | 5209522 | 1.21 | 5123501 | 101.7 | 70 - | 130 |
| 175 | Lu | 1 | 5201938 | 1.23 | 5192413 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 2944648 | 0.87 | 3098864 | 95.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E09q00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E09q00.B\040SMPL.D\040SMPL.D#
Date Acquired: May 9 2013 09:14 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 09 2013 05:36 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 71.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 148.10 | 900.00 | |
| 11 B | 6 | 1 | -0.73 | -0.73 | ppb | 5.93 | 900.00 | |
| 11 B | 45 | 2 | -0.75 | -0.75 | ppb | 23.73 | 900.00 | |
| 23 Na | 45 | 1 | -10.97 | -10.97 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | -11.06 | -11.06 | ppb | 4.11 | 90000.00 | |
| 24 Mg | 45 | 1 | -1.44 | -1.44 | ppb | 4.91 | 90000.00 | |
| 24 Mg | 45 | 2 | -1.26 | -1.26 | ppb | 5.60 | 90000.00 | |
| 27 Al | 45 | 1 | -0.54 | -0.54 | ppb | 20.03 | 90000.00 | |
| 27 Al | 45 | 2 | -0.31 | -0.31 | ppb | 49.87 | 90000.00 | |
| 39 K | 45 | 1 | -51.25 | -51.25 | ppb | 2.91 | 90000.00 | |
| 44 Ca | 45 | 1 | -30.09 | -30.09 | ppb | 4.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 52.68 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 257.65 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 27.62 | 900.00 | |
| 55 Mn | 45 | 2 | -0.03 | -0.03 | ppb | 21.82 | 900.00 | |
| 56 Fe | 45 | 2 | -0.05 | -0.05 | ppb | 308.04 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 53.12 | 900.00 | |
| 60 Ni | 45 | 2 | -0.10 | -0.10 | ppb | 6.28 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 5.04 | 900.00 | |
| 66 Zn | 72 | 2 | -3.22 | -3.22 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 69.25 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.06 | ppb | 179.28 | 900.00 | |
| 88 Sr | 103 | 1 | -0.03 | -0.03 | ppb | 2.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 47.67 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 19.56 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 170.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 46.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 25.00 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.02 | ppb | 24.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 5.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | -0.01 | ppb | 36.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3439868 | 2.60 | 3507263 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2987111 | 0.96 | 3065851 | 97.4 | 70 - 130 | |
| 45 Sc | 2 | 310595 | 1.25 | 319124 | 97.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E09q00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 585111 | 0.89 | 602719 | 97.1 | 70 - | 130 |
| 72 | Ge | 2 | 125410 | 0.99 | 129782 | 96.6 | 70 - | 130 |
| 103 | Rh | 1 | 3417301 | 2.90 | 3487536 | 98.0 | 70 - | 130 |
| 115 | In | 1 | 3767302 | 2.35 | 3784659 | 99.5 | 70 - | 130 |
| 115 | In | 2 | 1127482 | 1.36 | 1144814 | 98.5 | 70 - | 130 |
| 159 | Tb | 1 | 5257865 | 4.83 | 5123501 | 102.6 | 70 - | 130 |
| 175 | Lu | 1 | 5266451 | 4.44 | 5192413 | 101.4 | 70 - | 130 |
| 209 | Bi | 1 | 3069885 | 2.21 | 3098864 | 99.1 | 70 - | 130 |

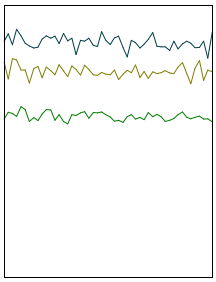
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E09q00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

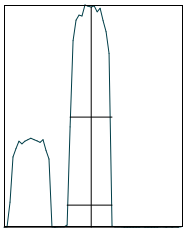
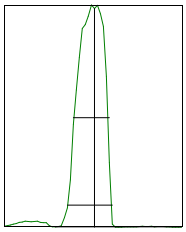
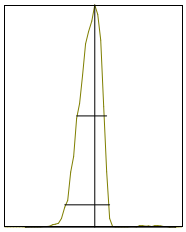
# Tune Report

Tune File : nogas.u
Comment : 050913



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 4508.0 | 4323.5 | 2.66 | 4.10 |
| 89 | 10,000 | 5728.0 | 5920.7 | 2.41 | 4.30 |
| 205 | 5,000 | 3783.0 | 3789.3 | 2.76 | 18.40 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.867%
Doubly Charged: 70/140 5.019%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 4,227 | 5,907 | 4,123 |
| Axis: | 7.00 | 89.05 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 317.9 | 7.17 |
| 59 | 1339.5 | 3.26 |
| 89 | 1300.0 | 3.35 |

Integration Time: 0.1000sec



Generated : May 09, 2013 08:55:46
Printed : May 09, 2013 08:56:36

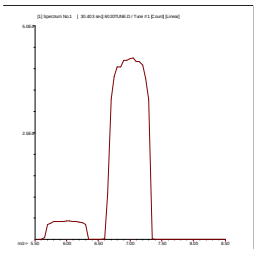
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** May 9 2013 09:08 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

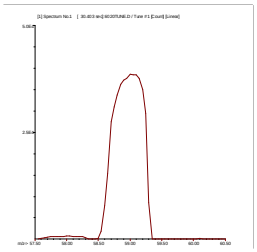
**QC Tune Summary:**
**Pass**

**RSD%**

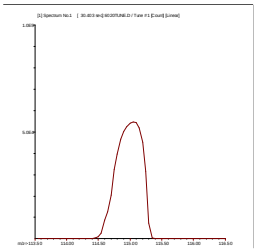
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.91 | 5.00 | 0 |
| 59 Co | 0.66 | 5.00 | |
| 115 In | 0.76 | 5.00 | |
| 205 Tl | 1.51 | 5.00 | |



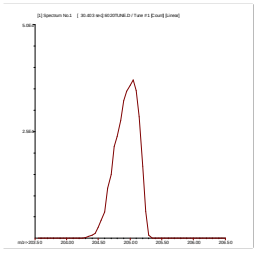
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

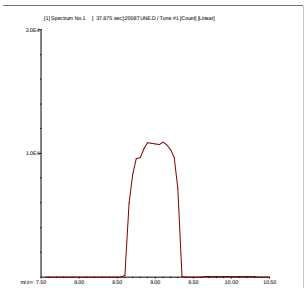
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13E09j00.B\2008TUNE.D
**Date Acquired:** May 9 2013 09:13 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

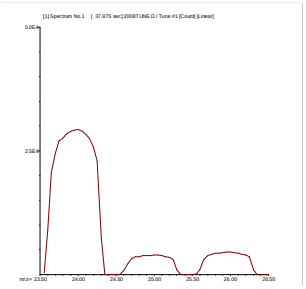


**RSD (%)**

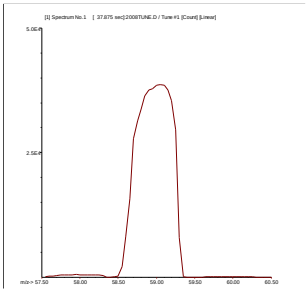
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 67844 | 67128 | 67771 | 67525 | 68130 | 68667 | **1.10** | 5.00 | |
| 24 Mg | 182842 | 182137 | 182682 | 181264 | 182563 | 185562 | **1.06** | 5.00 | |
| 59 Co | 228560 | 227884 | 229309 | 228210 | 228009 | 229386 | **0.73** | 5.00 | |
| 115 In | 283380 | 282458 | 282164 | 284127 | 283405 | 284747 | **0.61** | 5.00 | |
| 208 Pb | 126815 | 126534 | 125886 | 127256 | 126875 | 127525 | **1.60** | 5.00 | |



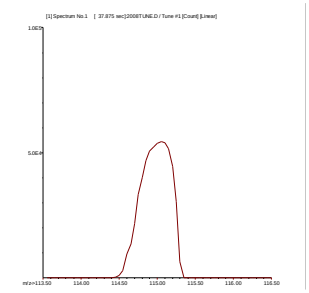
**9 Be**
**Mass Calib.**
Actual: 9.00
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



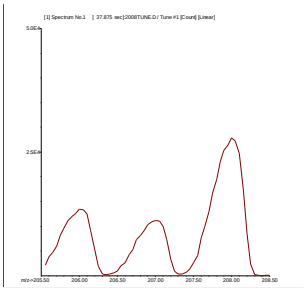
**24 Mg**
**Mass Calib.**
Actual: 23.95
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: May 09, 2013 05:36 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

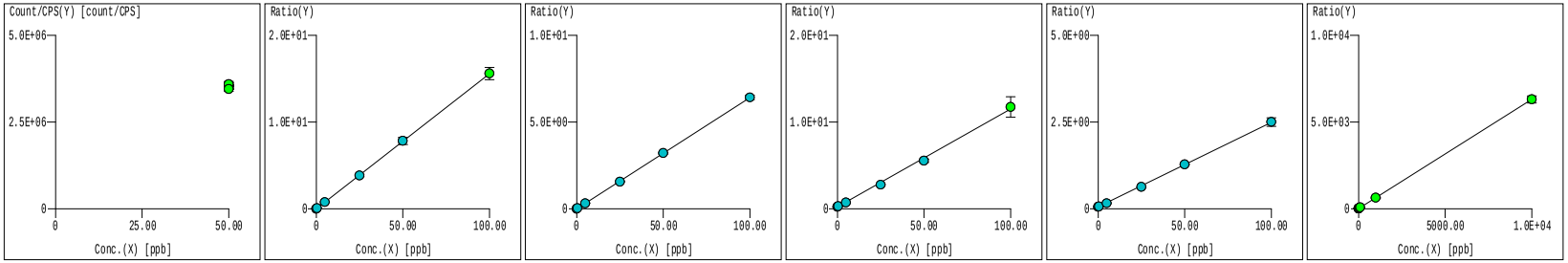
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13e09g00.b\002calb.d\002calb.d# | STDA | May 9 2013 04:43 pm |
| 2 | c:\icpchem\1\data\13e09g00.b\003cals.d\003cals.d# | STDB | May 9 2013 04:50 pm |
| 3 | c:\icpchem\1\data\13e09g00.b\004cals.d\004cals.d# | STDC | May 9 2013 04:57 pm |
| 4 | c:\icpchem\1\data\13e09g00.b\005cals.d\005cals.d# | STDD | May 9 2013 05:04 pm |
| 5 | c:\icpchem\1\data\13e09g00.b\006cals.d\006cals.d# | STDE | May 9 2013 05:11 pm |
| 6 | c:\icpchem\1\data\13e09g00.b\007cals.d\007cals.d# | STDF | May 9 2013 05:19 pm |
| 7 | c:\icpchem\1\data\13e09g00.b\008cals.d\008cals.d# | STDG | May 9 2013 05:25 pm |
| 8 | c:\icpchem\1\data\13e09g00.b\009cals.d\009cals.d# | STDH | May 9 2013 05:33 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

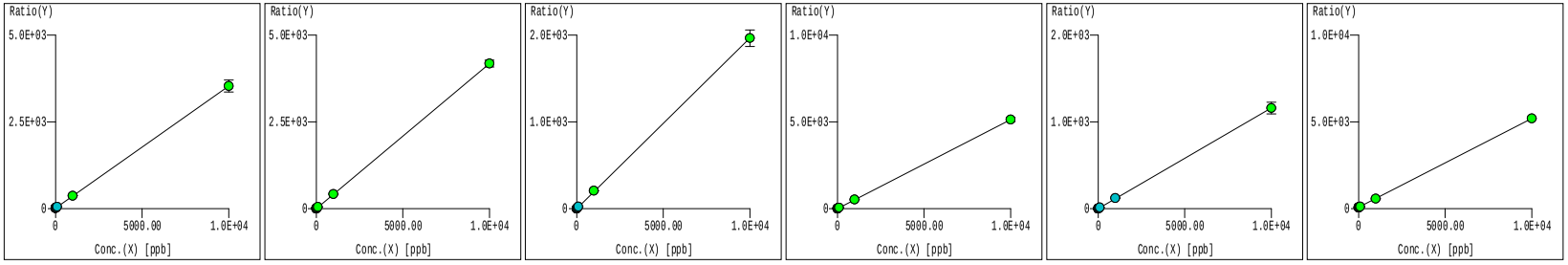
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9991 | 0.9999 | 1.0000 |
| < DL > | --- ppb | 5.062E-03 ppb | 2.457E-02 ppb | 1.639E-01 ppb | 7.325E-01 ppb | 1.520 ppb |
| < BEC > | --- ppb | 3.372E-03 ppb | 1.632E-02 ppb | 2.083 ppb | 2.247 ppb | 31.12 ppb |



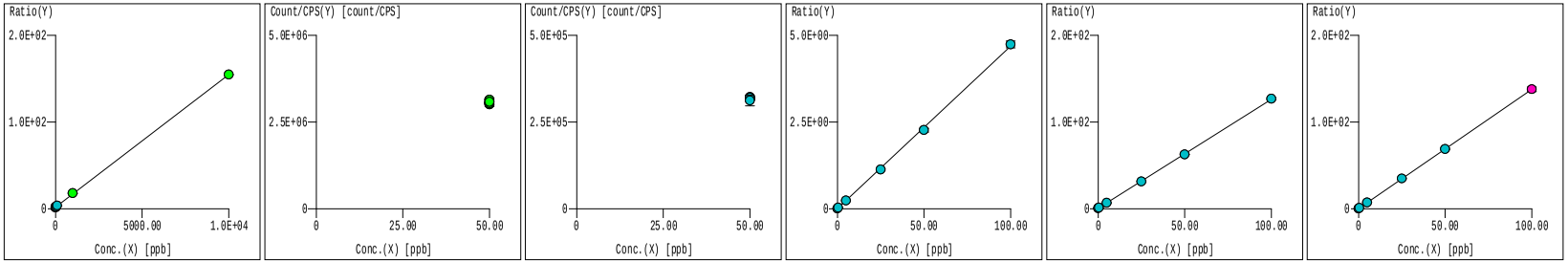

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.440E-01 ppb | 8.610E-02 ppb | 3.561E-01 ppb | 5.370E-02 ppb | 3.309E-01 ppb | 9.391 ppb |
| < BEC > | 51.76 ppb | 2.419 ppb | 2.225 ppb | 1.945 ppb | 1.691 ppb | 159.4 ppb |



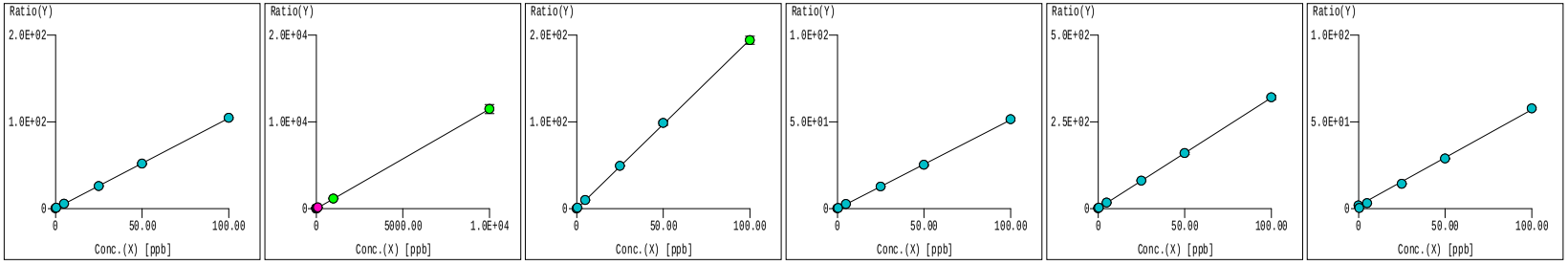
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9997 | 1.0000 | 1.0000 |
| < DL > | 6.704 ppb | --- ppb | --- ppb | 1.211E-01 ppb | 2.528E-02 ppb | 2.023E-02 ppb |
| < BEC > | 122.6 ppb | --- ppb | --- ppb | 1.325E-01 ppb | 4.891E-01 ppb | 1.569E-01 ppb |



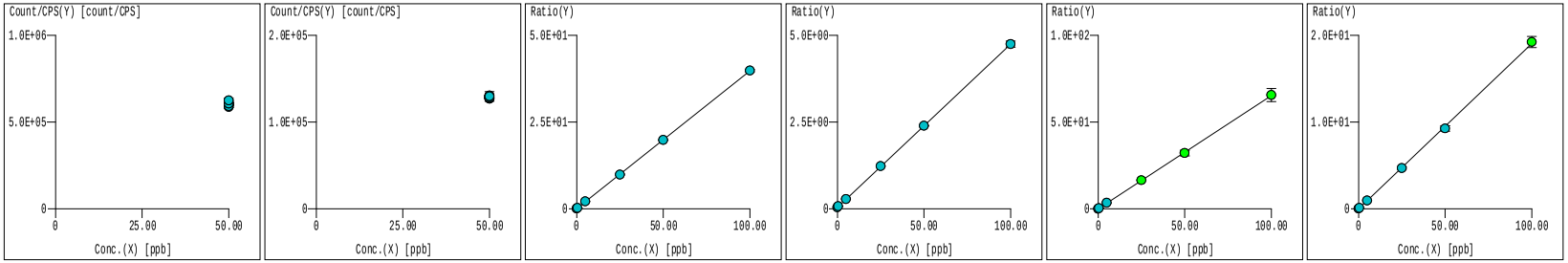

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9996 |
| < DL > | 9.140E-03 ppb | 1.810E-01 ppb | 1.015E-03 ppb | 4.823E-02 ppb | 2.265E-02 ppb | 1.848E-01 ppb |
| < BEC > | 1.955E-01 ppb | 5.443 ppb | 3.609E-03 ppb | 1.721E-01 ppb | 2.249E-01 ppb | 3.285 ppb |



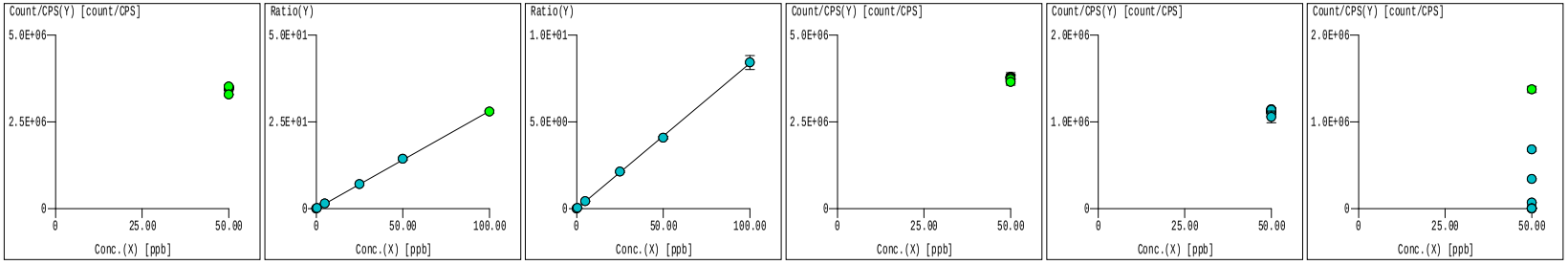
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9998 |
| < DL > | --- ppb | --- ppb | 1.507E-02 ppb | 2.148E-01 ppb | 2.283E-03 ppb | 1.771E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.181E-01 ppb | 9.283E-01 ppb | 4.039E-02 ppb | 7.587E-02 ppb |



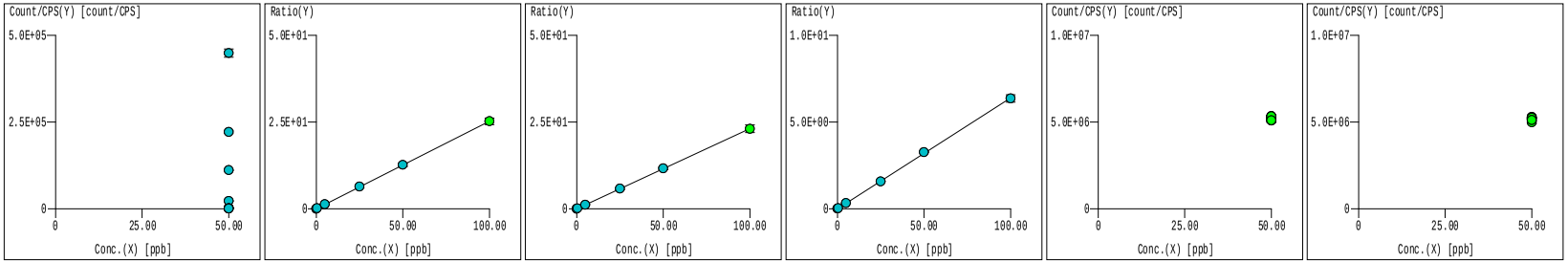

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.097E-03 ppb | 1.179E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 1.205E-02 ppb | 5.764E-03 ppb | --- ppb | --- ppb | --- ppb |



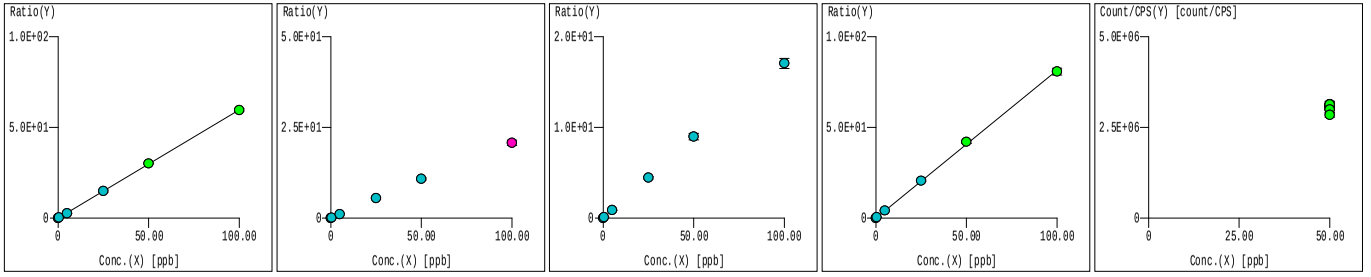
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 4/4

| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 9.799E-03 ppb | 4.712E-03 ppb | 1.828E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.088E-02 ppb | 1.588E-02 ppb | 1.088E-01 ppb | --- ppb | --- ppb |




| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 0.9997 | 0.9997 | 0.9998 | 0.0000 |
| < DL > | 2.147E-03 ppb | --- ppb | --- ppb | 2.093E-02 ppb | --- ppb |
| < BEC > | 1.025E-02 ppb | --- ppb | --- ppb | 6.661E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13E10o00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\001CAL
Date Acquired: May 10 2013 02:13 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 11:33 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3242387.00 | A | 90350.00 | 2.79 |
| 7 | (Li) | | P | | |
| 9 | Be | 70.00 | P | 13.33 | 19.04 |
| 9 | Be | 67.78 | P | 30.97 | 45.69 |
| 11 | B | 950.07 | P | 18.57 | 1.95 |
| 11 | B | 67.78 | P | 18.95 | 27.96 |
| 23 | Na | 892859.81 | M | 6943.00 | 0.78 |
| 23 | Na | 100600.30 | P | 468.60 | 0.47 |
| 24 | Mg | 12577.36 | P | 761.00 | 6.05 |
| 24 | Mg | 645.59 | P | 61.95 | 9.60 |
| 27 | Al | 59640.83 | P | 1089.00 | 1.83 |
| 27 | Al | 1353.46 | P | 66.92 | 4.94 |
| 39 | K | 4026434.00 | A | 12100.00 | 0.30 |
| 44 | Ca | 113047.30 | P | 2132.00 | 1.89 |
| 45 | Sc | 3478859.00 | A | 86450.00 | 2.49 |
| 45 | Sc | 347490.00 | P | 138.60 | 0.04 |
| 47 | Ti | 434.47 | P | 38.92 | 8.96 |
| 51 | V | 4877.28 | P | 96.31 | 1.97 |
| 52 | Cr | 1531.21 | P | 26.68 | 1.74 |
| 55 | Mn | 2560.26 | P | 63.81 | 2.49 |
| 56 | Fe | 53289.42 | P | 1163.00 | 2.18 |
| 59 | Co | 136.89 | P | 50.48 | 36.88 |
| 60 | Ni | 313.79 | P | 23.90 | 7.62 |
| 63 | Cu | 3049.68 | P | 51.46 | 1.69 |
| 66 | Zn | 194.89 | P | 35.61 | 18.27 |
| 72 | Ge | 693175.63 | P | 18330.00 | 2.64 |
| 72 | Ge | 139056.09 | P | 822.70 | 0.59 |
| 75 | As | 198.22 | P | 22.05 | 11.12 |
| 78 | Se | 186.89 | P | 21.75 | 11.64 |
| 88 | Sr | 702.26 | P | 50.04 | 7.13 |
| 98 | Mo | 365.57 | P | 8.39 | 2.30 |
| 103 | Rh | 3946439.00 | A | 86500.00 | 2.19 |
| 107 | Ag | 196.68 | P | 12.02 | 6.11 |

C:\ICPCHEM\1\DATA\13E10o00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 55.56 | P | 35.95 | 64.71 |
| 115 | In | 4215857.00 | A | 88570.00 | 2.10 |
| 115 | In | 1184562.00 | P | 8205.00 | 0.69 |
| 118 | (In) | 703.38 | P | 40.41 | 5.75 |
| 118 | (In) | 313.35 | P | 55.48 | 17.71 |
| 120 | Sn | 926.73 | P | 49.33 | 5.32 |
| 121 | Sb | 233.34 | P | 31.80 | 13.63 |
| 137 | Ba | 764.52 | P | 92.31 | 12.07 |
| 159 | Tb | 5636497.00 | A | 215000.00 | 3.81 |
| 175 | Lu | 5490001.00 | A | 166800.00 | 3.04 |
| 205 | Tl | 2461.42 | P | 32.89 | 1.34 |
| 206 | (Pb) | 251.12 | P | 25.46 | 10.14 |
| 207 | (Pb) | 230.01 | P | 23.33 | 10.14 |
| 208 | Pb | 2450.29 | P | 167.40 | 6.83 |
| 209 | Bi | 3277100.00 | A | 103000.00 | 3.14 |

C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\002CAL
Date Acquired: May 10 2013 02:20 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:17 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3213560.00 | A | 17430.00 | 0.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 86.67 | P | 40.42 | 46.64 |
| 9 | Be | 11.11 | P | 10.18 | 91.62 |
| 11 | B | 850.07 | P | 104.80 | 12.33 |
| 11 | B | 27.78 | P | 10.71 | 38.56 |
| 23 | Na | 890708.00 | M | 10700.00 | 1.20 |
| 23 | Na | 99921.85 | P | 285.10 | 0.29 |
| 24 | Mg | 14869.34 | P | 116.10 | 0.78 |
| 24 | Mg | 746.71 | P | 28.48 | 3.81 |
| 27 | Al | 62890.91 | P | 3499.00 | 5.56 |
| 27 | Al | 1464.57 | P | 93.84 | 6.41 |
| 39 | K | 4027016.00 | A | 20670.00 | 0.51 |
| 44 | Ca | 113079.10 | P | 3019.00 | 2.67 |
| 45 | Sc | 3419607.00 | A | 16600.00 | 0.49 |
| 45 | Sc | 348169.31 | P | 1766.00 | 0.51 |
| 47 | Ti | 430.02 | P | 67.42 | 15.68 |
| 51 | V | 4705.22 | P | 41.25 | 0.88 |
| 52 | Cr | 1493.43 | P | 6.67 | 0.45 |
| 55 | Mn | 2635.86 | P | 89.74 | 3.40 |
| 56 | Fe | 54444.05 | P | 240.50 | 0.44 |
| 59 | Co | 126.67 | P | 10.67 | 8.42 |
| 60 | Ni | 275.12 | P | 18.15 | 6.60 |
| 63 | Cu | 3015.00 | P | 47.47 | 1.57 |
| 66 | Zn | 150.00 | P | 1.16 | 0.77 |
| 72 | Ge | 681918.13 | P | 8864.00 | 1.30 |
| 72 | Ge | 139394.30 | P | 523.80 | 0.38 |
| 75 | As | 149.34 | P | 9.82 | 6.58 |
| 78 | Se | 158.45 | P | 19.00 | 11.99 |
| 88 | Sr | 742.27 | P | 62.04 | 8.36 |
| 98 | Mo | 331.13 | P | 47.42 | 14.32 |
| 103 | Rh | 3886609.00 | A | 23290.00 | 0.60 |
| 107 | Ag | 183.34 | P | 15.28 | 8.33 |

C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 32.22 | P | 16.44 | 51.02 |
| 115 | In | 4134240.00 | A | 26470.00 | 0.64 |
| 115 | In | 1199034.00 | P | 1156.00 | 0.10 |
| 118 | (In) | 695.61 | P | 43.53 | 6.26 |
| 118 | (In) | 243.34 | P | 35.28 | 14.50 |
| 120 | Sn | 854.50 | P | 52.32 | 6.12 |
| 121 | Sb | 264.46 | P | 58.53 | 22.13 |
| 137 | Ba | 722.27 | P | 39.77 | 5.51 |
| 159 | Tb | 5535081.00 | A | 43100.00 | 0.78 |
| 175 | Lu | 5374750.00 | A | 24080.00 | 0.45 |
| 205 | Tl | 1402.35 | P | 120.30 | 8.58 |
| 206 | (Pb) | 325.57 | P | 48.12 | 14.78 |
| 207 | (Pb) | 272.24 | P | 67.69 | 24.86 |
| 208 | Pb | 2742.54 | P | 302.20 | 11.02 |
| 209 | Bi | 3216145.00 | A | 27460.00 | 0.85 |

C:\ICPCHEM\1\DATA\13E10o00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\003CALS.D\003CALS.D#
Date Acquired: May 10 2013 02:27 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3208420.00 | A | 59120.00 | 1.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 5796.80 | P | 135.20 | 2.33 |
| 9 | Be | 202.23 | P | 23.41 | 11.58 |
| 11 | B | 4695.31 | P | 173.90 | 3.70 |
| 11 | B | 104.45 | P | 19.25 | 18.43 |
| 23 | Na | 925170.38 | A | 13760.00 | 1.49 |
| 23 | Na | 101045.60 | P | 1132.00 | 1.12 |
| 24 | Mg | 35085.61 | P | 280.90 | 0.80 |
| 24 | Mg | 1711.26 | P | 23.65 | 1.38 |
| 27 | Al | 130074.20 | P | 1770.00 | 1.36 |
| 27 | Al | 2899.28 | P | 128.20 | 4.42 |
| 39 | K | 4090276.00 | A | 9934.00 | 0.24 |
| 44 | Ca | 111851.20 | P | 1612.00 | 1.44 |
| 45 | Sc | 3402727.00 | A | 5609.00 | 0.16 |
| 45 | Sc | 350351.69 | P | 349.10 | 0.10 |
| 47 | Ti | 2104.67 | P | 79.06 | 3.76 |
| 51 | V | 9594.64 | P | 77.67 | 0.81 |
| 52 | Cr | 7048.37 | P | 90.12 | 1.28 |
| 55 | Mn | 7011.47 | P | 138.30 | 1.97 |
| 56 | Fe | 79136.19 | P | 1060.00 | 1.34 |
| 59 | Co | 7608.20 | P | 169.60 | 2.23 |
| 60 | Ni | 2250.87 | P | 5.81 | 0.26 |
| 63 | Cu | 7650.44 | P | 201.30 | 2.63 |
| 66 | Zn | 1189.17 | P | 29.11 | 2.45 |
| 72 | Ge | 685748.50 | P | 1061.00 | 0.15 |
| 72 | Ge | 140489.41 | P | 649.60 | 0.46 |
| 75 | As | 756.25 | P | 41.00 | 5.42 |
| 78 | Se | 220.89 | P | 5.43 | 2.46 |
| 88 | Sr | 29086.82 | P | 370.30 | 1.27 |
| 98 | Mo | 8208.11 | P | 171.40 | 2.09 |
| 103 | Rh | 3872277.00 | A | 17850.00 | 0.46 |
| 107 | Ag | 13142.90 | P | 183.00 | 1.39 |

C:\ICPCHEM\1\DATA\13E10o00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1047.85 | P | 34.70 | 3.31 |
| 115 | In | 4145393.00 | A | 19820.00 | 0.48 |
| 115 | In | 1189447.00 | M | 19620.00 | 1.65 |
| 118 | (In) | 9003.13 | P | 168.00 | 1.87 |
| 118 | (In) | 2669.24 | P | 115.60 | 4.33 |
| 120 | Sn | 11973.09 | P | 232.10 | 1.94 |
| 121 | Sb | 10654.23 | P | 67.49 | 0.63 |
| 137 | Ba | 4697.60 | P | 274.50 | 5.84 |
| 159 | Tb | 5543609.00 | A | 11600.00 | 0.21 |
| 175 | Lu | 5397957.00 | A | 63180.00 | 1.17 |
| 205 | Tl | 18834.52 | P | 219.10 | 1.16 |
| 206 | (Pb) | 7869.19 | P | 314.50 | 4.00 |
| 207 | (Pb) | 6665.17 | P | 124.30 | 1.86 |
| 208 | Pb | 32260.76 | P | 527.60 | 1.64 |
| 209 | Bi | 3218786.00 | A | 7527.00 | 0.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3208419.50 | 1.84 | 3213560.30 | 99.8 | 70 - 130 | |
| 45 | Sc | 3402727.00 | 0.16 | 3419606.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 350351.66 | 0.10 | 348169.28 | 100.6 | 70 - 130 | |
| 72 | Ge | 685748.50 | 0.15 | 681918.13 | 100.6 | 70 - 130 | |
| 72 | Ge | 140489.39 | 0.46 | 139394.30 | 100.8 | 70 - 130 | |
| 103 | Rh | 3872277.00 | 0.46 | 3886609.00 | 99.6 | 70 - 130 | |
| 115 | In | 4145392.80 | 0.48 | 4134240.30 | 100.3 | 70 - 130 | |
| 115 | In | 1189446.60 | 1.65 | 1199034.00 | 99.2 | 70 - 130 | |
| 159 | Tb | 5543609.00 | 0.21 | 5535081.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 5397956.50 | 1.17 | 5374749.50 | 100.4 | 70 - 130 | |
| 209 | Bi | 3218785.50 | 0.23 | 3216145.30 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\004CALS.D\004CALS.D#
Date Acquired: May 10 2013 02:35 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:31 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3245857.00 | A | 20870.00 | 0.64 |
| 7 | (Li) | | P | | |
| 9 | Be | 57290.79 | P | 545.40 | 0.95 |
| 9 | Be | 2012.42 | P | 159.00 | 7.90 |
| 11 | B | 38108.98 | P | 372.80 | 0.98 |
| 11 | B | 744.49 | P | 15.03 | 2.02 |
| 23 | Na | 1128989.00 | A | 17420.00 | 1.54 |
| 23 | Na | 113520.00 | P | 225.80 | 0.20 |
| 24 | Mg | 181968.50 | P | 2571.00 | 1.41 |
| 24 | Mg | 8682.69 | P | 296.30 | 3.41 |
| 27 | Al | 269525.81 | P | 5355.00 | 1.99 |
| 27 | Al | 5854.63 | P | 95.34 | 1.63 |
| 39 | K | 4246549.00 | A | 27060.00 | 0.64 |
| 44 | Ca | 122210.60 | P | 2039.00 | 1.67 |
| 45 | Sc | 3392610.00 | A | 6742.00 | 0.20 |
| 45 | Sc | 348195.09 | P | 665.30 | 0.19 |
| 47 | Ti | 17619.46 | P | 264.00 | 1.50 |
| 51 | V | 51494.68 | P | 65.01 | 0.13 |
| 52 | Cr | 54021.51 | P | 475.30 | 0.88 |
| 55 | Mn | 41596.30 | P | 361.40 | 0.87 |
| 56 | Fe | 120458.90 | P | 767.70 | 0.64 |
| 59 | Co | 75043.92 | P | 168.40 | 0.22 |
| 60 | Ni | 19387.99 | P | 59.07 | 0.30 |
| 63 | Cu | 51834.27 | P | 264.00 | 0.51 |
| 66 | Zn | 9337.56 | P | 36.39 | 0.39 |
| 72 | Ge | 683287.19 | P | 6174.00 | 0.90 |
| 72 | Ge | 139495.41 | P | 166.40 | 0.12 |
| 75 | As | 6150.39 | P | 74.72 | 1.21 |
| 78 | Se | 821.36 | P | 50.77 | 6.18 |
| 88 | Sr | 284434.91 | P | 1390.00 | 0.49 |
| 98 | Mo | 79687.96 | P | 792.00 | 0.99 |
| 103 | Rh | 3872859.00 | A | 20580.00 | 0.53 |
| 107 | Ag | 131576.70 | P | 1678.00 | 1.28 |

C:\ICPCHEM\1\DATA\13E10o00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10699.78 | P | 124.40 | 1.16 |
| 115 | In | 4139364.00 | A | 16730.00 | 0.40 |
| 115 | In | 1195489.00 | P | 7675.00 | 0.64 |
| 118 | (In) | 82574.32 | P | 402.80 | 0.49 |
| 118 | (In) | 25721.04 | P | 408.60 | 1.59 |
| 120 | Sn | 114214.40 | P | 1214.00 | 1.06 |
| 121 | Sb | 103728.10 | P | 666.10 | 0.64 |
| 137 | Ba | 39870.17 | P | 328.10 | 0.82 |
| 159 | Tb | 5515421.00 | A | 43980.00 | 0.80 |
| 175 | Lu | 5344567.00 | A | 39580.00 | 0.74 |
| 205 | Tl | 191059.91 | P | 1795.00 | 0.94 |
| 206 | (Pb) | 74936.82 | P | 890.20 | 1.19 |
| 207 | (Pb) | 62268.14 | P | 141.20 | 0.23 |
| 208 | Pb | 290987.41 | P | 1716.00 | 0.59 |
| 209 | Bi | 3201803.00 | A | 16700.00 | 0.52 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3245856.80 | 0.64 | 3213560.30 | 101.0 | 70 - 130 | |
| 45 | Sc | 3392610.00 | 0.20 | 3419606.80 | 99.2 | 70 - 130 | |
| 45 | Sc | 348195.13 | 0.19 | 348169.28 | 100.0 | 70 - 130 | |
| 72 | Ge | 683287.25 | 0.90 | 681918.13 | 100.2 | 70 - 130 | |
| 72 | Ge | 139495.36 | 0.12 | 139394.30 | 100.1 | 70 - 130 | |
| 103 | Rh | 3872859.00 | 0.53 | 3886609.00 | 99.6 | 70 - 130 | |
| 115 | In | 4139363.80 | 0.40 | 4134240.30 | 100.1 | 70 - 130 | |
| 115 | In | 1195489.30 | 0.64 | 1199034.00 | 99.7 | 70 - 130 | |
| 159 | Tb | 5515421.00 | 0.80 | 5535081.00 | 99.6 | 70 - 130 | |
| 175 | Lu | 5344567.00 | 0.74 | 5374749.50 | 99.4 | 70 - 130 | |
| 209 | Bi | 3201803.50 | 0.52 | 3216145.30 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\005CALS.D\005CALS.D#
Date Acquired: May 10 2013 02:42 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3235412.00 | A | 27890.00 | 0.86 |
| 7 | (Li) | | P | | |
| 9 | Be | 280054.31 | P | 3195.00 | 1.14 |
| 9 | Be | 10080.23 | P | 283.70 | 2.81 |
| 11 | B | 183818.91 | P | 2131.00 | 1.16 |
| 11 | B | 3750.58 | P | 87.20 | 2.33 |
| 23 | Na | 2159998.00 | A | 18000.00 | 0.83 |
| 23 | Na | 171920.59 | P | 1017.00 | 0.59 |
| 24 | Mg | 808668.31 | P | 7199.00 | 0.89 |
| 24 | Mg | 38646.23 | P | 244.00 | 0.63 |
| 27 | Al | 1025118.00 | A | 15490.00 | 1.51 |
| 27 | Al | 23113.29 | P | 262.20 | 1.13 |
| 39 | K | 4979711.00 | A | 15580.00 | 0.31 |
| 44 | Ca | 151236.09 | P | 1540.00 | 1.02 |
| 45 | Sc | 3368041.00 | A | 1850.00 | 0.05 |
| 45 | Sc | 344310.50 | P | 1331.00 | 0.39 |
| 47 | Ti | 83690.36 | P | 1051.00 | 1.26 |
| 51 | V | 230386.50 | P | 794.10 | 0.34 |
| 52 | Cr | 255641.70 | P | 857.50 | 0.34 |
| 55 | Mn | 189958.91 | P | 472.80 | 0.25 |
| 56 | Fe | 307518.31 | P | 775.70 | 0.25 |
| 59 | Co | 363669.19 | P | 826.90 | 0.23 |
| 60 | Ni | 92737.93 | P | 92.99 | 0.10 |
| 63 | Cu | 240062.91 | P | 796.70 | 0.33 |
| 66 | Zn | 44352.51 | P | 266.00 | 0.60 |
| 72 | Ge | 668472.19 | P | 6590.00 | 0.99 |
| 72 | Ge | 136886.30 | P | 589.00 | 0.43 |
| 75 | As | 29129.20 | P | 141.10 | 0.48 |
| 78 | Se | 3485.53 | P | 49.48 | 1.42 |
| 88 | Sr | 1365786.00 | A | 9325.00 | 0.68 |
| 98 | Mo | 383347.59 | P | 741.00 | 0.19 |
| 103 | Rh | 3839902.00 | A | 66490.00 | 1.73 |
| 107 | Ag | 632928.63 | P | 1853.00 | 0.29 |

C:\ICPCHEM\1\DATA\13E10o00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 51476.19 | P | 1026.00 | 1.99 |
| 115 | In | 4137478.00 | A | 47070.00 | 1.14 |
| 115 | In | 1173750.00 | P | 6000.00 | 0.51 |
| 118 | (In) | 397076.31 | P | 695.70 | 0.18 |
| 118 | (In) | 123517.60 | P | 575.70 | 0.47 |
| 120 | Sn | 546399.31 | P | 3291.00 | 0.60 |
| 121 | Sb | 497533.19 | P | 4379.00 | 0.88 |
| 137 | Ba | 190934.59 | P | 3574.00 | 1.87 |
| 159 | Tb | 5485241.00 | A | 28040.00 | 0.51 |
| 175 | Lu | 5299386.00 | A | 56870.00 | 1.07 |
| 205 | Tl | 992830.88 | P | 7254.00 | 0.73 |
| 206 | (Pb) | 355284.81 | P | 6675.00 | 1.88 |
| 207 | (Pb) | 296523.81 | P | 4908.00 | 1.66 |
| 208 | Pb | 1385254.00 | P | 23910.00 | 1.73 |
| 209 | Bi | 3171331.00 | A | 22060.00 | 0.70 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3235412.50 | 0.86 | 3213560.30 | 100.7 | 70 - 130 | |
| 45 | Sc | 3368041.00 | 0.05 | 3419606.80 | 98.5 | 70 - 130 | |
| 45 | Sc | 344310.47 | 0.39 | 348169.28 | 98.9 | 70 - 130 | |
| 72 | Ge | 668472.25 | 0.99 | 681918.13 | 98.0 | 70 - 130 | |
| 72 | Ge | 136886.33 | 0.43 | 139394.30 | 98.2 | 70 - 130 | |
| 103 | Rh | 3839902.00 | 1.73 | 3886609.00 | 98.8 | 70 - 130 | |
| 115 | In | 4137478.30 | 1.14 | 4134240.30 | 100.1 | 70 - 130 | |
| 115 | In | 1173750.50 | 0.51 | 1199034.00 | 97.9 | 70 - 130 | |
| 159 | Tb | 5485241.50 | 0.51 | 5535081.00 | 99.1 | 70 - 130 | |
| 175 | Lu | 5299386.00 | 1.07 | 5374749.50 | 98.6 | 70 - 130 | |
| 209 | Bi | 3171330.80 | 0.70 | 3216145.30 | 98.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\006CALS.D\006CALS.D#
Date Acquired: May 10 2013 02:49 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:45 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3204645.00 | A | 18980.00 | 0.59 |
| 7 | (Li) | | P | | |
| 9 | Be | 560341.13 | P | 3086.00 | 0.55 |
| 9 | Be | 20566.14 | P | 279.90 | 1.36 |
| 11 | B | 364367.81 | P | 5144.00 | 1.41 |
| 11 | B | 7533.15 | P | 134.30 | 1.78 |
| 23 | Na | 3158490.00 | A | 11110.00 | 0.35 |
| 23 | Na | 230695.59 | P | 1759.00 | 0.76 |
| 24 | Mg | 1604185.00 | A | 15700.00 | 0.98 |
| 24 | Mg | 76520.08 | P | 1224.00 | 1.60 |
| 27 | Al | 2034052.00 | A | 20780.00 | 1.02 |
| 27 | Al | 45566.04 | P | 551.90 | 1.21 |
| 39 | K | 5969556.00 | A | 17230.00 | 0.29 |
| 44 | Ca | 190323.50 | P | 2136.00 | 1.12 |
| 45 | Sc | 3369793.00 | A | 41390.00 | 1.23 |
| 45 | Sc | 342439.31 | P | 2205.00 | 0.64 |
| 47 | Ti | 169811.41 | P | 1752.00 | 1.03 |
| 51 | V | 461956.59 | P | 882.90 | 0.19 |
| 52 | Cr | 513950.00 | P | 1603.00 | 0.31 |
| 55 | Mn | 380700.09 | P | 594.30 | 0.16 |
| 56 | Fe | 537372.88 | P | 2599.00 | 0.48 |
| 59 | Co | 732204.31 | P | 1783.00 | 0.24 |
| 60 | Ni | 185794.50 | P | 241.70 | 0.13 |
| 63 | Cu | 476893.50 | P | 871.70 | 0.18 |
| 66 | Zn | 83342.76 | P | 426.60 | 0.51 |
| 72 | Ge | 667249.38 | P | 1088.00 | 0.16 |
| 72 | Ge | 136725.30 | P | 799.30 | 0.58 |
| 75 | As | 58424.52 | P | 335.50 | 0.57 |
| 78 | Se | 6869.82 | P | 122.40 | 1.78 |
| 88 | Sr | 2704551.00 | A | 27800.00 | 1.03 |
| 98 | Mo | 771134.69 | P | 1447.00 | 0.19 |
| 103 | Rh | 3815572.00 | A | 19900.00 | 0.52 |
| 107 | Ag | 1231454.00 | A | 5287.00 | 0.43 |

C:\ICPCHEM\1\DATA\13E10o00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 103938.50 | P | 899.40 | 0.87 |
| 115 | In | 4074650.00 | A | 29330.00 | 0.72 |
| 115 | In | 1162402.00 | P | 7797.00 | 0.67 |
| 118 | (In) | 792946.69 | P | 3493.00 | 0.44 |
| 118 | (In) | 248317.80 | P | 832.80 | 0.34 |
| 120 | Sn | 1096234.00 | P | 4104.00 | 0.37 |
| 121 | Sb | 996082.38 | P | 5516.00 | 0.55 |
| 137 | Ba | 382929.00 | P | 3281.00 | 0.86 |
| 159 | Tb | 5404305.00 | A | 36970.00 | 0.68 |
| 175 | Lu | 5291337.00 | A | 28670.00 | 0.54 |
| 205 | Tl | 2085599.00 | A | 26610.00 | 1.28 |
| 206 | (Pb) | 722580.63 | P | 9322.00 | 1.29 |
| 207 | (Pb) | 604470.81 | P | 11450.00 | 1.89 |
| 208 | Pb | 2808105.00 | A | 24160.00 | 0.86 |
| 209 | Bi | 3147064.00 | A | 13150.00 | 0.42 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3204645.00 | 0.59 | 3213560.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 3369793.30 | 1.23 | 3419606.80 | 98.5 | 70 - 130 | |
| 45 | Sc | 342439.28 | 0.64 | 348169.28 | 98.4 | 70 - 130 | |
| 72 | Ge | 667249.38 | 0.16 | 681918.13 | 97.8 | 70 - 130 | |
| 72 | Ge | 136725.27 | 0.58 | 139394.30 | 98.1 | 70 - 130 | |
| 103 | Rh | 3815572.50 | 0.52 | 3886609.00 | 98.2 | 70 - 130 | |
| 115 | In | 4074650.00 | 0.72 | 4134240.30 | 98.6 | 70 - 130 | |
| 115 | In | 1162401.80 | 0.67 | 1199034.00 | 96.9 | 70 - 130 | |
| 159 | Tb | 5404305.00 | 0.68 | 5535081.00 | 97.6 | 70 - 130 | |
| 175 | Lu | 5291337.50 | 0.54 | 5374749.50 | 98.4 | 70 - 130 | |
| 209 | Bi | 3147064.50 | 0.42 | 3216145.30 | 97.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\007CALS.D\007CALS.D#
Date Acquired: May 10 2013 02:56 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:52 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3189655.00 | A | 9729.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 1147113.00 | A | 14350.00 | 1.25 |
| 9 | Be | 41271.28 | P | 437.10 | 1.06 |
| 11 | B | 782795.69 | A | 12920.00 | 1.65 |
| 11 | B | 14939.75 | P | 539.00 | 3.61 |
| 23 | Na | 5481581.00 | A | 34640.00 | 0.63 |
| 23 | Na | 371299.50 | P | 2587.00 | 0.70 |
| 24 | Mg | 3102775.00 | A | 34400.00 | 1.11 |
| 24 | Mg | 151948.70 | P | 298.20 | 0.20 |
| 27 | Al | 3822254.00 | A | 19910.00 | 0.52 |
| 27 | Al | 87892.46 | P | 495.80 | 0.56 |
| 39 | K | 7830112.00 | A | 41490.00 | 0.53 |
| 44 | Ca | 270055.00 | P | 2468.00 | 0.91 |
| 45 | Sc | 3382885.00 | A | 22250.00 | 0.66 |
| 45 | Sc | 345105.50 | P | 1167.00 | 0.34 |
| 47 | Ti | 337199.31 | P | 1916.00 | 0.57 |
| 51 | V | 918973.69 | P | 2706.00 | 0.29 |
| 52 | Cr | 1016395.00 | M | 16180.00 | 1.59 |
| 55 | Mn | 759044.38 | P | 2798.00 | 0.37 |
| 56 | Fe | 1004957.00 | P | 5077.00 | 0.51 |
| 59 | Co | 1449959.00 | A | 10550.00 | 0.73 |
| 60 | Ni | 373744.91 | P | 1329.00 | 0.36 |
| 63 | Cu | 956866.31 | P | 2746.00 | 0.29 |
| 66 | Zn | 166788.20 | P | 231.10 | 0.14 |
| 72 | Ge | 674847.50 | P | 6437.00 | 0.95 |
| 72 | Ge | 137056.20 | P | 512.20 | 0.37 |
| 75 | As | 117607.10 | P | 714.90 | 0.61 |
| 78 | Se | 13574.13 | P | 66.40 | 0.49 |
| 88 | Sr | 5282190.00 | A | 28960.00 | 0.55 |
| 98 | Mo | 1573256.00 | A | 12140.00 | 0.77 |
| 103 | Rh | 3851053.00 | A | 26420.00 | 0.69 |
| 107 | Ag | 2441888.00 | A | 4274.00 | 0.18 |

C:\ICPCHEM\1\DATA\13E10o00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 206950.70 | P | 2087.00 | 1.01 |
| 115 | In | 4101323.00 | A | 4878.00 | 0.12 |
| 115 | In | 1169757.00 | P | 8524.00 | 0.73 |
| 118 | (In) | 1581293.00 | A | 12840.00 | 0.81 |
| 118 | (In) | 501642.69 | P | 1367.00 | 0.27 |
| 120 | Sn | 2163105.00 | A | 12870.00 | 0.59 |
| 121 | Sb | 1968007.00 | A | 11790.00 | 0.60 |
| 137 | Ba | 775564.13 | P | 5005.00 | 0.65 |
| 159 | Tb | 5491954.00 | A | 32730.00 | 0.60 |
| 175 | Lu | 5311604.00 | A | 42850.00 | 0.81 |
| 205 | Tl | 4062787.00 | A | 45740.00 | 1.13 |
| 206 | (Pb) | 1458504.00 | A | 5887.00 | 0.40 |
| 207 | (Pb) | 1212939.00 | P | 11260.00 | 0.93 |
| 208 | Pb | 5603326.00 | A | 35850.00 | 0.64 |
| 209 | Bi | 3187573.00 | A | 18270.00 | 0.57 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3189655.30 | 0.31 | 3213560.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 3382884.80 | 0.66 | 3419606.80 | 98.9 | 70 - 130 | |
| 45 | Sc | 345105.50 | 0.34 | 348169.28 | 99.1 | 70 - 130 | |
| 72 | Ge | 674847.50 | 0.95 | 681918.13 | 99.0 | 70 - 130 | |
| 72 | Ge | 137056.16 | 0.37 | 139394.30 | 98.3 | 70 - 130 | |
| 103 | Rh | 3851053.30 | 0.69 | 3886609.00 | 99.1 | 70 - 130 | |
| 115 | In | 4101322.80 | 0.12 | 4134240.30 | 99.2 | 70 - 130 | |
| 115 | In | 1169757.00 | 0.73 | 1199034.00 | 97.6 | 70 - 130 | |
| 159 | Tb | 5491953.50 | 0.60 | 5535081.00 | 99.2 | 70 - 130 | |
| 175 | Lu | 5311604.50 | 0.81 | 5374749.50 | 98.8 | 70 - 130 | |
| 209 | Bi | 3187572.80 | 0.57 | 3216145.30 | 99.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\008CALS.D\008CALS.D#
Date Acquired: May 10 2013 03:03 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 02:59 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3214745.00 | A | 6064.00 | 0.19 |
| 7 | (Li) | | P | | |
| 9 | Be | 197.79 | P | 23.41 | 11.84 |
| 9 | Be | 30.00 | P | 5.77 | 19.25 |
| 11 | B | 6599.37 | P | 209.20 | 3.17 |
| 11 | B | 173.34 | P | 20.28 | 11.70 |
| 23 | Na | 44351808.00 | A | 446100.00 | 1.01 |
| 23 | Na | 2564391.00 | A | 15840.00 | 0.62 |
| 24 | Mg | 29148660.00 | A | 291900.00 | 1.00 |
| 24 | Mg | 1417627.00 | A | 9629.00 | 0.68 |
| 27 | Al | 36415568.00 | A | 58660.00 | 0.16 |
| 27 | Al | 858471.88 | P | 3016.00 | 0.35 |
| 39 | K | 41797640.00 | A | 397700.00 | 0.95 |
| 44 | Ca | 1285309.00 | A | 7427.00 | 0.58 |
| 45 | Sc | 3370642.00 | A | 32570.00 | 0.97 |
| 45 | Sc | 347499.31 | P | 1464.00 | 0.42 |
| 47 | Ti | 570.03 | P | 44.10 | 7.74 |
| 51 | V | 4589.19 | P | 130.80 | 2.85 |
| 52 | Cr | 2008.16 | P | 61.21 | 3.05 |
| 55 | Mn | 3390.19 | P | 29.74 | 0.88 |
| 56 | Fe | 8619961.00 | A | 23040.00 | 0.27 |
| 59 | Co | 409.79 | P | 9.65 | 2.35 |
| 60 | Ni | 382.23 | P | 22.56 | 5.90 |
| 63 | Cu | 2706.05 | P | 56.49 | 2.09 |
| 66 | Zn | 349.12 | P | 18.53 | 5.31 |
| 72 | Ge | 688086.88 | P | 1975.00 | 0.29 |
| 72 | Ge | 140455.09 | P | 786.30 | 0.56 |
| 75 | As | 167.11 | P | 5.00 | 2.99 |
| 78 | Se | 173.78 | P | 17.00 | 9.78 |
| 88 | Sr | 3132.67 | P | 37.92 | 1.21 |
| 98 | Mo | 2171.36 | P | 262.60 | 12.09 |
| 103 | Rh | 3804347.00 | A | 12410.00 | 0.33 |
| 107 | Ag | 518.92 | P | 41.68 | 8.03 |

C:\ICPCHEM\1\DATA\13E10o00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 68.89 | P | 28.74 | 41.72 |
| 115 | In | 4102400.00 | A | 44420.00 | 1.08 |
| 115 | In | 1182329.00 | M | 11490.00 | 0.97 |
| 118 | (In) | 3233.81 | P | 436.60 | 13.50 |
| 118 | (In) | 1336.78 | P | 117.90 | 8.82 |
| 120 | Sn | 4371.92 | P | 466.40 | 10.67 |
| 121 | Sb | 3181.58 | P | 438.80 | 13.79 |
| 137 | Ba | 931.17 | P | 23.41 | 2.51 |
| 159 | Tb | 5516694.00 | A | 25460.00 | 0.46 |
| 175 | Lu | 5366927.00 | A | 22480.00 | 0.42 |
| 205 | Tl | 5660.25 | P | 184.20 | 3.25 |
| 206 | (Pb) | 391.13 | P | 42.21 | 10.79 |
| 207 | (Pb) | 341.13 | P | 6.94 | 2.03 |
| 208 | Pb | 3165.95 | P | 63.80 | 2.02 |
| 209 | Bi | 3137450.00 | A | 23210.00 | 0.74 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3214744.80 | 0.19 | 3213560.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 3370642.50 | 0.97 | 3419606.80 | 98.6 | 70 - 130 | |
| 45 | Sc | 347499.28 | 0.42 | 348169.28 | 99.8 | 70 - 130 | |
| 72 | Ge | 688086.88 | 0.29 | 681918.13 | 100.9 | 70 - 130 | |
| 72 | Ge | 140455.05 | 0.56 | 139394.30 | 100.8 | 70 - 130 | |
| 103 | Rh | 3804347.00 | 0.33 | 3886609.00 | 97.9 | 70 - 130 | |
| 115 | In | 4102400.30 | 1.08 | 4134240.30 | 99.2 | 70 - 130 | |
| 115 | In | 1182328.90 | 0.97 | 1199034.00 | 98.6 | 70 - 130 | |
| 159 | Tb | 5516694.50 | 0.46 | 5535081.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 5366927.00 | 0.42 | 5374749.50 | 99.9 | 70 - 130 | |
| 209 | Bi | 3137450.30 | 0.74 | 3216145.30 | 97.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\009CALS.D\009CALS.D#
Date Acquired: May 10 2013 03:10 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 03:06 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3198339.00 | A | 4787.00 | 0.15 |
| 7 | (Li) | | P | | |
| 9 | Be | 118.89 | P | 32.72 | 27.52 |
| 9 | Be | 11.11 | P | 13.47 | 121.23 |
| 11 | B | 3153.75 | P | 123.40 | 3.91 |
| 11 | B | 72.22 | P | 18.95 | 26.24 |
| 23 | Na | 433402820.00 | A | 5633000.00 | 1.30 |
| 23 | Na | 24379500.00 | A | 203200.00 | 0.83 |
| 24 | Mg | 288252510.00 | A | 2446000.00 | 0.85 |
| 24 | Mg | 13499910.00 | A | 41410.00 | 0.31 |
| 27 | Al | 361171810.00 | A | 3459000.00 | 0.96 |
| 27 | Al | 7994141.00 | A | 70790.00 | 0.89 |
| 39 | K | 376106110.00 | A | 3311000.00 | 0.88 |
| 44 | Ca | 11247700.00 | A | 52320.00 | 0.47 |
| 45 | Sc | 3422169.00 | A | 8929.00 | 0.26 |
| 45 | Sc | 349710.91 | P | 1472.00 | 0.42 |
| 47 | Ti | 468.91 | P | 35.02 | 7.47 |
| 51 | V | 4558.96 | P | 81.46 | 1.79 |
| 52 | Cr | 2926.98 | P | 48.01 | 1.64 |
| 55 | Mn | 4609.64 | P | 50.09 | 1.09 |
| 56 | Fe | 84018512.00 | A | 305900.00 | 0.36 |
| 59 | Co | 2151.74 | P | 78.69 | 3.66 |
| 60 | Ni | 934.71 | P | 8.33 | 0.89 |
| 63 | Cu | 2556.25 | P | 46.73 | 1.83 |
| 66 | Zn | 811.58 | P | 30.55 | 3.76 |
| 72 | Ge | 711284.00 | P | 5934.00 | 0.83 |
| 72 | Ge | 145027.30 | P | 561.30 | 0.39 |
| 75 | As | 174.89 | P | 5.00 | 2.86 |
| 78 | Se | 148.67 | P | 16.04 | 10.79 |
| 88 | Sr | 21629.65 | P | 390.50 | 1.81 |
| 98 | Mo | 1135.64 | P | 93.84 | 8.26 |
| 103 | Rh | 3675343.00 | A | 8997.00 | 0.24 |
| 107 | Ag | 1200.10 | P | 98.22 | 8.18 |

C:\ICPCHEM\1\DATA\13E10o00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 36.67 | P | 16.67 | 45.46 |
| 115 | In | 3986038.00 | A | 27050.00 | 0.68 |
| 115 | In | 1159432.00 | P | 6292.00 | 0.54 |
| 118 | (In) | 1647.93 | P | 205.80 | 12.49 |
| 118 | (In) | 612.26 | P | 75.82 | 12.38 |
| 120 | Sn | 2168.02 | P | 47.31 | 2.18 |
| 121 | Sb | 1862.41 | P | 69.96 | 3.76 |
| 137 | Ba | 1143.42 | P | 50.01 | 4.37 |
| 159 | Tb | 5428768.00 | A | 29080.00 | 0.54 |
| 175 | Lu | 5325289.00 | A | 32680.00 | 0.61 |
| 205 | Tl | 2600.34 | P | 140.10 | 5.39 |
| 206 | (Pb) | 568.92 | P | 12.62 | 2.22 |
| 207 | (Pb) | 411.13 | P | 40.05 | 9.74 |
| 208 | Pb | 3790.49 | P | 232.30 | 6.13 |
| 209 | Bi | 3032005.00 | A | 10260.00 | 0.34 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3198339.00 | 0.15 | 3213560.30 | 99.5 | 70 - 130 | |
| 45 | Sc | 3422169.00 | 0.26 | 3419606.80 | 100.1 | 70 - 130 | |
| 45 | Sc | 349710.91 | 0.42 | 348169.28 | 100.4 | 70 - 130 | |
| 72 | Ge | 711284.00 | 0.83 | 681918.13 | 104.3 | 70 - 130 | |
| 72 | Ge | 145027.30 | 0.39 | 139394.30 | 104.0 | 70 - 130 | |
| 103 | Rh | 3675342.80 | 0.24 | 3886609.00 | 94.6 | 70 - 130 | |
| 115 | In | 3986037.80 | 0.68 | 4134240.30 | 96.4 | 70 - 130 | |
| 115 | In | 1159431.60 | 0.54 | 1199034.00 | 96.7 | 70 - 130 | |
| 159 | Tb | 5428768.00 | 0.54 | 5535081.00 | 98.1 | 70 - 130 | |
| 175 | Lu | 5325289.00 | 0.61 | 5374749.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 3032005.00 | 0.34 | 3216145.30 | 94.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E10o00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\010SMPL.D\010SMPL.D#
Date Acquired: May 10 2013 03:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.94 | 59.94 | ppb | 0.36 | 900.00 | |
| 9 Be | 45 | 2 | 61.00 | 61.00 | ppb | 1.90 | 900.00 | |
| 11 B | 6 | 1 | 55.86 | 55.86 | ppb | 1.56 | 900.00 | |
| 11 B | 45 | 2 | 59.47 | 59.47 | ppb | 2.10 | 900.00 | |
| 23 Na | 45 | 1 | 5496.00 | 5496.00 | ppb | 0.23 | 90000.00 | |
| 23 Na | 45 | 2 | 5494.00 | 5494.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 5573.00 | 5573.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 5603.00 | 5603.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 5658.00 | 5658.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 5717.00 | 5717.00 | ppb | 0.17 | 90000.00 | |
| 39 K | 45 | 1 | 5571.00 | 5571.00 | ppb | 1.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 5473.00 | 5473.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.91 | 59.91 | ppb | 0.55 | 900.00 | |
| 51 V | 45 | 2 | 61.09 | 61.09 | ppb | 0.59 | 900.00 | |
| 52 Cr | 45 | 2 | 59.57 | 59.57 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 59.44 | 59.44 | ppb | 0.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5529.00 | 5529.00 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 58.83 | 58.83 | ppb | 0.14 | 900.00 | |
| 60 Ni | 45 | 2 | 58.75 | 58.75 | ppb | 0.23 | 900.00 | |
| 63 Cu | 72 | 2 | 56.24 | 56.24 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 57.20 | 57.20 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 58.67 | 58.67 | ppb | 0.96 | 900.00 | |
| 78 Se | 72 | 2 | 58.90 | 58.90 | ppb | 0.89 | 900.00 | |
| 88 Sr | 103 | 1 | 62.79 | 62.79 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 62.73 | 62.73 | ppb | 0.23 | 900.00 | |
| 107 Ag | 115 | 1 | 62.14 | 62.14 | ppb | 0.74 | 180.00 | |
| 111 Cd | 115 | 2 | 59.58 | 59.58 | ppb | 0.82 | 900.00 | |
| 120 Sn | 115 | 1 | 60.94 | 60.94 | ppb | 1.90 | 900.00 | |
| 121 Sb | 115 | 1 | 61.33 | 61.33 | ppb | 1.83 | 900.00 | |
| 137 Ba | 159 | 1 | 59.87 | 59.87 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 60.47 | 60.47 | ppb | 1.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.40 | 60.40 | ppb | 0.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3223825 | 0.58 | 3213560 | 100.3 | 70 - 130 | |
| 45 Sc | 1 | 3427359 | 0.78 | 3419607 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 347769 | 0.37 | 348169 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 688532 | 1.05 | 681918 | 101.0 | 70 | - | 130 |
| 72 | Ge | 2 | 140745 | 0.11 | 139394 | 101.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3735850 | 0.45 | 3886609 | 96.1 | 70 | - | 130 |
| 115 | In | 1 | 4010684 | 0.74 | 4134240 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 1155766 | 0.24 | 1199034 | 96.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5444458 | 0.50 | 5535081 | 98.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5332249 | 0.40 | 5374750 | 99.2 | 70 | - | 130 |
| 209 | Bi | 1 | 3066249 | 1.05 | 3216145 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E10o00.B\011SMPL.D\011SMPL.D# | | |
| **Date Acquired:** | May 10 2013 03:24 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 10 2013 03:13 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 76.89 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 58.32 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.40 | ppb | 4.27 | 900.00 | |
| 11 B | 45 | 2 | 0.50 | 0.50 | ppb | 29.80 | 900.00 | |
| 23 Na | 45 | 1 | 7.30 | 7.30 | ppb | 3.92 | 90000.00 | |
| 23 Na | 45 | 2 | 7.60 | 7.60 | ppb | 6.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.57 | 1.57 | ppb | 2.59 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.79 | 1.79 | ppb | 6.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.44 | 0.44 | ppb | 3.15 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 41.84 | 90000.00 | |
| 39 K | 45 | 1 | 27.91 | 27.91 | ppb | 4.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 33.84 | 33.84 | ppb | 1.81 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 168.53 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 418.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 58.16 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 9.39 | 900.00 | |
| 56 Fe | 45 | 2 | 0.57 | 0.57 | ppb | 21.35 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 21.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.08 | 0.08 | ppb | 7.04 | 900.00 | |
| 63 Cu | 72 | 2 | -0.06 | -0.06 | ppb | 11.59 | 900.00 | |
| 66 Zn | 72 | 2 | 3.18 | 3.18 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 581.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 446.51 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.04 | ppb | 6.17 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 10.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.02 | ppb | 11.51 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 17.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.13 | ppb | 12.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 8.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 13.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 4.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 57.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3276439 | 0.54 | 3213560 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 3410549 | 1.28 | 3419607 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 352079 | 0.09 | 348169 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 687601 | 1.29 | 681918 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 140613 | 0.31 | 139394 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3830001 | 1.53 | 3886609 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 4104752 | 0.52 | 4134240 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1206148 | 0.44 | 1199034 | 100.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5462299 | 0.61 | 5535081 | 98.7 | 70 | - | 130 |
| 175 | Lu | 1 | 5299157 | 0.73 | 5374750 | 98.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3147330 | 0.93 | 3216145 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\012SMPL.D\012SMPL.D#
Date Acquired: May 10 2013 03:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.87 | 49.87 | ppb | 0.91 | 900.00 | |
| 9 Be | 45 | 2 | 50.29 | 50.29 | ppb | 0.59 | 900.00 | |
| 11 B | 6 | 1 | 48.16 | 48.16 | ppb | 1.79 | 900.00 | |
| 11 B | 45 | 2 | 50.74 | 50.74 | ppb | 3.62 | 900.00 | |
| 23 Na | 45 | 1 | 5139.00 | 5139.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 5161.00 | 5161.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 5133.00 | 5133.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 5191.00 | 5191.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 5092.00 | 5092.00 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 5208.00 | 5208.00 | ppb | 0.88 | 90000.00 | |
| 39 K | 45 | 1 | 5110.00 | 5110.00 | ppb | 0.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 5120.00 | 5120.00 | ppb | 0.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.66 | 50.66 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 50.21 | 50.21 | ppb | 0.63 | 900.00 | |
| 52 Cr | 45 | 2 | 49.84 | 49.84 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 49.23 | 49.23 | ppb | 0.30 | 900.00 | |
| 56 Fe | 45 | 2 | 5101.00 | 5101.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 49.14 | 49.14 | ppb | 0.23 | 900.00 | |
| 60 Ni | 45 | 2 | 48.92 | 48.92 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 46.83 | 46.83 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 48.04 | 48.04 | ppb | 0.32 | 900.00 | |
| 75 As | 72 | 2 | 48.63 | 48.63 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 48.49 | 48.49 | ppb | 0.58 | 900.00 | |
| 88 Sr | 103 | 1 | 52.44 | 52.44 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 51.32 | 51.32 | ppb | 0.70 | 900.00 | |
| 107 Ag | 115 | 1 | 48.94 | 48.94 | ppb | 1.01 | 180.00 | |
| 111 Cd | 115 | 2 | 49.98 | 49.98 | ppb | 0.36 | 900.00 | |
| 120 Sn | 115 | 1 | 51.55 | 51.55 | ppb | 0.74 | 900.00 | |
| 121 Sb | 115 | 1 | 51.68 | 51.68 | ppb | 0.30 | 900.00 | |
| 137 Ba | 159 | 1 | 49.55 | 49.55 | ppb | 0.34 | 900.00 | |
| 205 Tl | 209 | 1 | 50.79 | 50.79 | ppb | 1.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.93 | 50.93 | ppb | 0.80 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3215054 | 0.79 | 3213560 | 100.0 | 70 - 130 | |
| 45 Sc | 1 | 3415895 | 0.33 | 3419607 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 348819 | 0.46 | 348169 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 686355 | 0.06 | 681918 | 100.7 | 70 - | 130 |
| 72 | Ge | 2 | 141852 | 0.26 | 139394 | 101.8 | 70 - | 130 |
| 103 | Rh | 1 | 3731662 | 0.56 | 3886609 | 96.0 | 70 - | 130 |
| 115 | In | 1 | 4050869 | 0.92 | 4134240 | 98.0 | 70 - | 130 |
| 115 | In | 2 | 1156728 | 0.33 | 1199034 | 96.5 | 70 - | 130 |
| 159 | Tb | 1 | 5456303 | 0.27 | 5535081 | 98.6 | 70 - | 130 |
| 175 | Lu | 1 | 5288675 | 1.24 | 5374750 | 98.4 | 70 - | 130 |
| 209 | Bi | 1 | 3024710 | 0.57 | 3216145 | 94.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\013SMPL.D\013SMPL.D#
Date Acquired: May 10 2013 03:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 25.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 83.99 | 900.00 | |
| 11 B | 6 | 1 | 0.37 | 0.37 | ppb | 7.79 | 900.00 | |
| 11 B | 45 | 2 | 0.84 | 0.84 | ppb | 53.16 | 900.00 | |
| 23 Na | 45 | 1 | 0.08 | 0.08 | ppb | 281.54 | 90000.00 | |
| 23 Na | 45 | 2 | 0.07 | 0.07 | ppb | 647.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.76 | 0.76 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.77 | 0.77 | ppb | 17.83 | 90000.00 | |
| 27 Al | 45 | 1 | -0.10 | -0.10 | ppb | 69.46 | 90000.00 | |
| 27 Al | 45 | 2 | 0.03 | 0.03 | ppb | 376.56 | 90000.00 | |
| 39 K | 45 | 1 | 5.75 | 5.75 | ppb | 14.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.86 | 2.86 | ppb | 34.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.23 | 0.23 | ppb | 27.27 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 45.41 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 85.36 | 900.00 | |
| 55 Mn | 45 | 2 | -0.15 | -0.15 | ppb | 9.04 | 900.00 | |
| 56 Fe | 45 | 2 | -0.10 | -0.10 | ppb | 456.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 68.12 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.04 | ppb | 52.46 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 2.39 | 900.00 | |
| 66 Zn | 72 | 2 | 0.85 | 0.85 | ppb | 4.12 | 900.00 | |
| 75 As | 72 | 2 | 0.07 | 0.07 | ppb | 58.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.63 | 0.63 | ppb | 74.85 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 4.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 15.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 58.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 7.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 5.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 42.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 0.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 29.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3286079 | 0.40 | 3213560 | 102.3 | 70 - 130 | |
| 45 Sc | 1 | 3389214 | 0.89 | 3419607 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 346228 | 1.12 | 348169 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 678611 | 0.39 | 681918 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 139080 | 0.99 | 139394 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3808058 | 0.38 | 3886609 | 98.0 | 70 | - | 130 |
| 115 In | 1 | 4085758 | 0.69 | 4134240 | 98.8 | 70 | - | 130 |
| 115 In | 2 | 1168329 | 1.35 | 1199034 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 5440414 | 0.24 | 5535081 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 5269786 | 0.23 | 5374750 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 3165977 | 0.55 | 3216145 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\014SMPL.D\014SMPL.D#
Date Acquired: May 10 2013 03:45 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 2.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 4.90 | 900.00 | |
| 11 B | 6 | 1 | 4.89 | 4.89 | ppb | 1.46 | 900.00 | |
| 11 B | 45 | 2 | 5.40 | 5.40 | ppb | 4.57 | 900.00 | |
| 23 Na | 45 | 1 | 260.30 | 260.30 | ppb | 2.54 | 90000.00 | |
| 23 Na | 45 | 2 | 276.10 | 276.10 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 266.20 | 266.20 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 283.00 | 283.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 26.52 | 26.52 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 27.16 | 27.16 | ppb | 3.39 | 90000.00 | |
| 39 K | 45 | 1 | 255.70 | 255.70 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 268.10 | 268.10 | ppb | 1.72 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.13 | 1.13 | ppb | 3.63 | 900.00 | |
| 51 V | 45 | 2 | 1.02 | 1.02 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 0.48 | 900.00 | |
| 55 Mn | 45 | 2 | 0.83 | 0.83 | ppb | 1.25 | 900.00 | |
| 56 Fe | 45 | 2 | 26.84 | 26.84 | ppb | 1.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.72 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.93 | 0.93 | ppb | 2.57 | 900.00 | |
| 66 Zn | 72 | 2 | 2.13 | 2.13 | ppb | 0.98 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 1.54 | 900.00 | |
| 78 Se | 72 | 2 | 0.34 | 0.34 | ppb | 24.06 | 900.00 | |
| 88 Sr | 103 | 1 | 5.18 | 5.18 | ppb | 1.41 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 1.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.53 | 0.53 | ppb | 4.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 2.88 | 900.00 | |
| 120 Sn | 115 | 1 | 5.00 | 5.00 | ppb | 1.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.94 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 2.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 4.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 1.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3242379 | 0.63 | 3213560 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3461760 | 1.66 | 3419607 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 352941 | 0.58 | 348169 | 101.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 688490 | 1.26 | 681918 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 141143 | 0.43 | 139394 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 3869393 | 0.79 | 3886609 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 4115804 | 1.08 | 4134240 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1199928 | 1.68 | 1199034 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 5549122 | 0.70 | 5535081 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 5373947 | 0.58 | 5374750 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 3162711 | 1.26 | 3216145 | 98.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\015SMPL.D\015SMPL.D#
Date Acquired: May 10 2013 03:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 158.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 388.17 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 3.43 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 30.98 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 95490.00 | 95490.00 | ppb | 0.38 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 95950.00 | 95950.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96200.00 | 96200.00 | ppb | 0.85 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95350.00 | 95350.00 | ppb | 0.67 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 95650.00 | 95650.00 | ppb | 0.75 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97820.00 | 97820.00 | ppb | 0.19 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95420.00 | 95420.00 | ppb | 0.59 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2007.00 | 2007.00 | ppb | 0.34 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 88.32 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 1.04 | ppb | 1.80 | 900.00 | |
| 55 Mn | 45 | 2 | 0.09 | 0.09 | ppb | 4.42 | 900.00 | |
| 56 Fe | 45 | 2 | 94510.00 | 94510.00 | ppb | 0.14 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 5.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.70 | ppb | 3.19 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 28.73 | 900.00 | |
| 66 Zn | 72 | 2 | 1.71 | 1.71 | ppb | 0.69 | 900.00 | |
| 75 As | 72 | 2 | 0.11 | 0.11 | ppb | 4.10 | 900.00 | |
| 78 Se | 72 | 2 | -0.31 | -0.31 | ppb | 29.15 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.71 | 900.00 | |
| 98 Mo | 103 | 1 | 2083.00 | 2083.00 | ppb | 0.42 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 1.95 | 180.00 | |
| 111 Cd | 115 | 2 | 2.93 | 2.93 | ppb | 2.36 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.16 | ppb | 0.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 1.58 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.25 | ppb | 8.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 9.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 2.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2885113 | 0.39 | 3213560 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 3231422 | 0.32 | 3419607 | 94.5 | 70 - 130 | |
| 45 Sc | 2 | 334913 | 0.13 | 348169 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 890796 | 2.10 | 681918 | 130.6 | 70 | - 130 | IS Fail |
| 72 | Ge | 2 | 189346 | 0.54 | 139394 | 135.8 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 3293371 | 0.48 | 3886609 | 84.7 | 70 | - 130 | |
| 115 | In | 1 | 3684746 | 0.75 | 4134240 | 89.1 | 70 | - 130 | |
| 115 | In | 2 | 1052578 | 0.44 | 1199034 | 87.8 | 70 | - 130 | |
| 159 | Tb | 1 | 5149466 | 0.32 | 5535081 | 93.0 | 70 | - 130 | |
| 175 | Lu | 1 | 5078972 | 0.48 | 5374750 | 94.5 | 70 | - 130 | |
| 209 | Bi | 1 | 2716128 | 0.66 | 3216145 | 84.5 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E10o00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | May 10 2013 03:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 10 2013 03:13 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 120.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 716.95 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 11.75 | 900.00 | |
| 11 B | 45 | 2 | 0.25 | 0.25 | ppb | 51.95 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97810.00 | 97810.00 | ppb | 0.90 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94230.00 | 94230.00 | ppb | 2.40 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 98520.00 | 98520.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94350.00 | 94350.00 | ppb | 2.06 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 97630.00 | 97630.00 | ppb | 1.76 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 96860.00 | 96860.00 | ppb | 2.15 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95720.00 | 95720.00 | ppb | 2.24 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1994.00 | 1994.00 | ppb | 2.63 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 42.94 | 900.00 | |
| 52 Cr | 45 | 2 | 20.25 | 20.25 | ppb | 1.54 | 900.00 | |
| 55 Mn | 45 | 2 | 19.34 | 19.34 | ppb | 2.00 | 900.00 | |
| 56 Fe | 45 | 2 | 96140.00 | 96140.00 | ppb | 2.42 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.68 | 18.68 | ppb | 1.62 | 900.00 | |
| 60 Ni | 45 | 2 | 18.60 | 18.60 | ppb | 1.00 | 900.00 | |
| 63 Cu | 72 | 2 | 12.06 | 12.06 | ppb | 0.80 | 900.00 | |
| 66 Zn | 72 | 2 | 13.86 | 13.86 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 14.07 | 14.07 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.31 | -0.31 | ppb | 27.49 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 2.19 | 900.00 | |
| 98 Mo | 103 | 1 | 2049.00 | 2049.00 | ppb | 2.92 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.34 | 19.34 | ppb | 2.16 | 180.00 | |
| 111 Cd | 115 | 2 | 22.19 | 22.19 | ppb | 1.55 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.15 | ppb | 2.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.74 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 8.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 59.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 2.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2859744 | 1.73 | 3213560 | 89.0 | 70 - 130 | |
| 45 Sc | 1 | 3275655 | 2.03 | 3419607 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 328653 | 1.63 | 348169 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 877130 | 3.24 | 681918 | 128.6 | 70 | - 130 | |
| 72 | Ge | 2 | 186500 | 0.63 | 139394 | 133.8 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 3347200 | 2.41 | 3886609 | 86.1 | 70 | - 130 | |
| 115 | In | 1 | 3751420 | 2.64 | 4134240 | 90.7 | 70 | - 130 | |
| 115 | In | 2 | 1041248 | 2.16 | 1199034 | 86.8 | 70 | - 130 | |
| 159 | Tb | 1 | 5256990 | 2.28 | 5535081 | 95.0 | 70 | - 130 | |
| 175 | Lu | 1 | 5193493 | 2.71 | 5374750 | 96.6 | 70 | - 130 | |
| 209 | Bi | 1 | 2741508 | 2.39 | 3216145 | 85.2 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E10o00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | May 10 2013 04:07 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICSA |
| Misc Info: | 2X |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 10 2013 03:13 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 88.80 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.02 | ppb | 30.92 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.13 | ppb | 2.32 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.10 | ppb | 113.99 | 900.00 | |
| 23 Na | 45 | 1 | 96640.00 | 48320.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 97240.00 | 48620.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 97440.00 | 48720.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 97540.00 | 48770.00 | ppb | 0.24 | 90000.00 | |
| 27 Al | 45 | 1 | 96780.00 | 48390.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 97500.00 | 48750.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 99420.00 | 49710.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 97360.00 | 48680.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 2058.00 | 1029.00 | ppb | 1.49 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.36 | -0.18 | ppb | 5.53 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 0.51 | ppb | 1.98 | 900.00 | |
| 55 Mn | 45 | 2 | 0.23 | 0.12 | ppb | 3.89 | 900.00 | |
| 56 Fe | 45 | 2 | 97980.00 | 48990.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 13.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.71 | 0.35 | ppb | 1.79 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.02 | ppb | 43.16 | 900.00 | |
| 66 Zn | 72 | 2 | 2.81 | 1.41 | ppb | 1.89 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.01 | ppb | 16.45 | 900.00 | |
| 78 Se | 72 | 2 | -0.49 | -0.24 | ppb | 10.40 | 900.00 | |
| 88 Sr | 103 | 1 | 4.95 | 2.48 | ppb | 0.78 | 900.00 | |
| 98 Mo | 103 | 1 | 2026.00 | 1013.00 | ppb | 0.35 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 10.03 | 180.00 | |
| 111 Cd | 115 | 2 | 3.00 | 1.50 | ppb | 1.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.08 | ppb | 1.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.14 | ppb | 8.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.13 | ppb | 5.65 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 66.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 4.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2889771 | 1.21 | 3213560 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 3242177 | 0.27 | 3419607 | 94.8 | 70 - 130 | |
| 45 Sc | 2 | 335529 | 0.26 | 348169 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 774612 | 1.30 | 681918 | 113.6 | 70 - | 130 |
| 72 | Ge | 2 | 163701 | 0.34 | 139394 | 117.4 | 70 - | 130 |
| 103 | Rh | 1 | 3426860 | 0.40 | 3886609 | 88.2 | 70 - | 130 |
| 115 | In | 1 | 3798755 | 0.23 | 4134240 | 91.9 | 70 - | 130 |
| 115 | In | 2 | 1096934 | 0.55 | 1199034 | 91.5 | 70 - | 130 |
| 159 | Tb | 1 | 5319549 | 0.69 | 5535081 | 96.1 | 70 - | 130 |
| 175 | Lu | 1 | 5247149 | 0.91 | 5374750 | 97.6 | 70 - | 130 |
| 209 | Bi | 1 | 2823438 | 0.67 | 3216145 | 87.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13E10o00.B\018SMPL.D\018SMPL.D#
**Date Acquired:** May 10 2013 04:14 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:** 2X
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** May 10 2013 03:13 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 248.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 518.43 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.13 | ppb | 7.40 | 900.00 | |
| 11 B | 45 | 2 | 0.40 | 0.20 | ppb | 57.99 | 900.00 | |
| 23 Na | 45 | 1 | 96840.00 | 48420.00 | ppb | 0.77 | 90000.00 | |
| 23 Na | 45 | 2 | 97720.00 | 48860.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 98020.00 | 49010.00 | ppb | 0.72 | 90000.00 | |
| 24 Mg | 45 | 2 | 97840.00 | 48920.00 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 96420.00 | 48210.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 2 | 97500.00 | 48750.00 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 99800.00 | 49900.00 | ppb | 1.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 97320.00 | 48660.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 2056.00 | 1028.00 | ppb | 0.63 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.34 | -0.17 | ppb | 6.47 | 900.00 | |
| 52 Cr | 45 | 2 | 20.32 | 10.16 | ppb | 0.38 | 900.00 | |
| 55 Mn | 45 | 2 | 19.66 | 9.83 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 98000.00 | 49000.00 | ppb | 0.05 | 90000.00 | |
| 59 Co | 45 | 2 | 19.08 | 9.54 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 19.38 | 9.69 | ppb | 0.48 | 900.00 | |
| 63 Cu | 72 | 2 | 14.40 | 7.20 | ppb | 0.70 | 900.00 | |
| 66 Zn | 72 | 2 | 18.30 | 9.15 | ppb | 0.58 | 900.00 | |
| 75 As | 72 | 2 | 16.43 | 8.22 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.30 | -0.15 | ppb | 33.19 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 2.55 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 2056.00 | 1028.00 | ppb | 1.28 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.87 | 9.93 | ppb | 1.35 | 180.00 | |
| 111 Cd | 115 | 2 | 22.00 | 11.00 | ppb | 1.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 6.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 1.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.13 | ppb | 6.14 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 7.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.07 | ppb | 6.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2871574 | 0.85 | 3213560 | 89.4 | 70 - 130 | |
| 45 Sc | 1 | 3254757 | 0.51 | 3419607 | 95.2 | 70 - 130 | |
| 45 Sc | 2 | 332584 | 0.10 | 348169 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 774577 | 1.05 | 681918 | 113.6 | 70 - | 130 |
| 72 | Ge | 2 | 162933 | 0.40 | 139394 | 116.9 | 70 - | 130 |
| 103 | Rh | 1 | 3401023 | 0.99 | 3886609 | 87.5 | 70 - | 130 |
| 115 | In | 1 | 3819967 | 0.26 | 4134240 | 92.4 | 70 - | 130 |
| 115 | In | 2 | 1090520 | 0.42 | 1199034 | 90.9 | 70 - | 130 |
| 159 | Tb | 1 | 5266832 | 0.92 | 5535081 | 95.2 | 70 - | 130 |
| 175 | Lu | 1 | 5243006 | 0.47 | 5374750 | 97.5 | 70 - | 130 |
| 209 | Bi | 1 | 2831402 | 0.90 | 3216145 | 88.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\019SMPL.D\019SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\019SMPL.D\019SMPL.D#
Date Acquired: May 10 2013 04:21 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 81.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 605.63 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 25.03 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 227.20 | 900.00 | |
| 23 Na | 45 | 1 | 5.51 | 5.51 | ppb | 5.32 | 90000.00 | |
| 23 Na | 45 | 2 | 5.94 | 5.94 | ppb | 13.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.89 | 3.89 | ppb | 0.72 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.54 | 4.54 | ppb | 9.24 | 90000.00 | |
| 27 Al | 45 | 1 | 2.57 | 2.57 | ppb | 1.29 | 90000.00 | |
| 27 Al | 45 | 2 | 3.07 | 3.07 | ppb | 19.49 | 90000.00 | |
| 39 K | 45 | 1 | 3.07 | 3.07 | ppb | 17.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.59 | 3.59 | ppb | 63.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.18 | 0.18 | ppb | 14.81 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 10.20 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 49.51 | 900.00 | |
| 55 Mn | 45 | 2 | -0.16 | -0.16 | ppb | 3.86 | 900.00 | |
| 56 Fe | 45 | 2 | 5.80 | 5.80 | ppb | 6.41 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 186.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 128.52 | 900.00 | |
| 63 Cu | 72 | 2 | -0.12 | -0.12 | ppb | 1.39 | 900.00 | |
| 66 Zn | 72 | 2 | 0.96 | 0.96 | ppb | 2.98 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 501.95 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.08 | ppb | 164.51 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 21.29 | 900.00 | |
| 98 Mo | 103 | 1 | 0.90 | 0.90 | ppb | 9.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 4.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 423.67 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 6.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.18 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 478.07 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 31.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 147.08 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3085444 | 0.51 | 3213560 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 3389594 | 0.47 | 3419607 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 343154 | 0.27 | 348169 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 682582 | 0.38 | 681918 | 100.1 | 70 | - | 130 |
| 72 Ge | 2 | 139709 | 0.65 | 139394 | 100.2 | 70 | - | 130 |
| 103 Rh | 1 | 3875725 | 0.49 | 3886609 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 4173230 | 0.48 | 4134240 | 100.9 | 70 | - | 130 |
| 115 In | 2 | 1192523 | 1.31 | 1199034 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 5579191 | 0.49 | 5535081 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 5403168 | 0.68 | 5374750 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 3208270 | 0.90 | 3216145 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\020SMPL.D\020SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\020SMPL.D\020SMPL.D#
Date Acquired: May 10 2013 04:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20915-MB1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 11.74 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 131.21 | 900.00 | |
| 11 B | 6 | 1 | 0.37 | 0.18 | ppb | 8.41 | 900.00 | |
| 11 B | 45 | 2 | 0.39 | 0.20 | ppb | 40.36 | 900.00 | |
| 23 Na | 45 | 1 | 9.94 | 4.97 | ppb | 11.89 | 90000.00 | |
| 23 Na | 45 | 2 | 9.42 | 4.71 | ppb | 5.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.05 | 1.03 | ppb | 3.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.21 | 1.11 | ppb | 6.54 | 90000.00 | |
| 27 Al | 45 | 1 | 1.39 | 0.69 | ppb | 10.13 | 90000.00 | |
| 27 Al | 45 | 2 | 1.14 | 0.57 | ppb | 16.92 | 90000.00 | |
| 39 K | 45 | 1 | -0.61 | -0.30 | ppb | 500.83 | 90000.00 | |
| 44 Ca | 45 | 1 | -23.36 | -11.68 | ppb | 19.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.71 | 0.35 | ppb | 3.60 | 900.00 | |
| 51 V | 45 | 2 | 1.99 | 0.99 | ppb | 2.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.10 | 0.05 | ppb | 10.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.08 | ppb | 11.85 | 900.00 | |
| 56 Fe | 45 | 2 | 5.69 | 2.85 | ppb | 5.70 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 12.55 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 94.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.02 | ppb | 8.52 | 900.00 | |
| 66 Zn | 72 | 2 | 0.54 | 0.27 | ppb | 3.18 | 900.00 | |
| 75 As | 72 | 2 | 0.35 | 0.18 | ppb | 10.20 | 900.00 | |
| 78 Se | 72 | 2 | -0.16 | -0.08 | ppb | 62.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 15.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.70 | 0.35 | ppb | 6.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.39 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | -0.01 | ppb | 39.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.10 | ppb | 2.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 7.68 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 17.76 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 7.57 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 6.46 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3005289 | 1.41 | 3213560 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 3330612 | 0.84 | 3419607 | 97.4 | 70 - 130 | |
| 45 Sc | 2 | 336524 | 0.25 | 348169 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 665493 | 0.27 | 681918 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 136225 | 0.15 | 139394 | 97.7 | 70 - | 130 |
| 103 | Rh | 1 | 3787259 | 0.51 | 3886609 | 97.4 | 70 - | 130 |
| 115 | In | 1 | 4090249 | 1.51 | 4134240 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 1177082 | 0.63 | 1199034 | 98.2 | 70 - | 130 |
| 159 | Tb | 1 | 5527891 | 0.96 | 5535081 | 99.9 | 70 - | 130 |
| 175 | Lu | 1 | 5384306 | 1.35 | 5374750 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 3215099 | 0.97 | 3216145 | 100.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\021SMPL.D\021SMPL.D#
Date Acquired: May 10 2013 04:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-MB1
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 296.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2934.00 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.13 | ppb | 12.25 | 900.00 | |
| 11 B | 45 | 2 | 0.38 | 0.19 | ppb | 48.33 | 900.00 | |
| 23 Na | 45 | 1 | 6.60 | 3.30 | ppb | 11.34 | 90000.00 | |
| 23 Na | 45 | 2 | 8.18 | 4.09 | ppb | 6.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.39 | 1.19 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.41 | 1.20 | ppb | 9.91 | 90000.00 | |
| 27 Al | 45 | 1 | 4.22 | 2.11 | ppb | 2.79 | 90000.00 | |
| 27 Al | 45 | 2 | 4.09 | 2.04 | ppb | 4.69 | 90000.00 | |
| 39 K | 45 | 1 | -0.74 | -0.37 | ppb | 375.10 | 90000.00 | |
| 44 Ca | 45 | 1 | -26.52 | -13.26 | ppb | 5.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.66 | 0.33 | ppb | 10.14 | 900.00 | |
| 51 V | 45 | 2 | 2.13 | 1.06 | ppb | 1.78 | 900.00 | |
| 52 Cr | 45 | 2 | 0.14 | 0.07 | ppb | 5.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.08 | ppb | 3.92 | 900.00 | |
| 56 Fe | 45 | 2 | 4.79 | 2.40 | ppb | 10.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 48.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 7.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 10.48 | 900.00 | |
| 66 Zn | 72 | 2 | 0.62 | 0.31 | ppb | 5.20 | 900.00 | |
| 75 As | 72 | 2 | 0.42 | 0.21 | ppb | 13.14 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 443.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 3.04 | 900.00 | |
| 98 Mo | 103 | 1 | 0.30 | 0.15 | ppb | 15.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.12 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 106.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 12.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 8.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.28 | 0.14 | ppb | 8.31 | 900.00 | |
| 205 Tl | 209 | 1 | -0.03 | -0.01 | ppb | 12.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 328.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3012385 | 0.67 | 3213560 | 93.7 | 70 - 130 | |
| 45 Sc | 1 | 3340987 | 1.62 | 3419607 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 336557 | 0.45 | 348169 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 667088 | 0.52 | 681918 | 97.8 | 70 | - | 130 |
| 72 | Ge | 2 | 136618 | 0.31 | 139394 | 98.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3802099 | 1.12 | 3886609 | 97.8 | 70 | - | 130 |
| 115 | In | 1 | 4072774 | 0.82 | 4134240 | 98.5 | 70 | - | 130 |
| 115 | In | 2 | 1175840 | 0.59 | 1199034 | 98.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5594739 | 0.36 | 5535081 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5441219 | 0.49 | 5374750 | 101.2 | 70 | - | 130 |
| 209 | Bi | 1 | 3233465 | 0.98 | 3216145 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\022SMPL.D\022SMPL.D#
Date Acquired: May 10 2013 04:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-8F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 73.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2040.70 | 900.00 | |
| 11 B | 6 | 1 | 56.98 | 28.49 | ppb | 1.55 | 900.00 | |
| 11 B | 45 | 2 | 57.88 | 28.94 | ppb | 3.46 | 900.00 | |
| 23 Na | 45 | 1 | 40300.00 | 20150.00 | ppb | 1.09 | 90000.00 | |
| 23 Na | 45 | 2 | 41320.00 | 20660.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 2408.00 | 1204.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 2538.00 | 1269.00 | ppb | 0.24 | 90000.00 | |
| 27 Al | 45 | 1 | 3.19 | 1.60 | ppb | 5.24 | 90000.00 | |
| 27 Al | 45 | 2 | 3.32 | 1.66 | ppb | 8.82 | 90000.00 | |
| 39 K | 45 | 1 | 3572.00 | 1786.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 28760.00 | 14380.00 | ppb | 0.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.31 | 0.65 | ppb | 6.92 | 900.00 | |
| 51 V | 45 | 2 | 2.65 | 1.32 | ppb | 1.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.19 | ppb | 7.93 | 900.00 | |
| 55 Mn | 45 | 2 | 98.08 | 49.04 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 456.00 | 228.00 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 2.02 | 1.01 | ppb | 0.95 | 900.00 | |
| 60 Ni | 45 | 2 | 3.24 | 1.62 | ppb | 1.03 | 900.00 | |
| 63 Cu | 72 | 2 | 0.33 | 0.17 | ppb | 4.46 | 900.00 | |
| 66 Zn | 72 | 2 | 8.17 | 4.09 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 0.72 | 0.36 | ppb | 2.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.28 | ppb | 14.99 | 900.00 | |
| 88 Sr | 103 | 1 | 209.40 | 104.70 | ppb | 0.97 | 900.00 | |
| 98 Mo | 103 | 1 | 1.49 | 0.74 | ppb | 0.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 236.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 8.90 | 900.00 | |
| 137 Ba | 159 | 1 | 4.76 | 2.38 | ppb | 1.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 85.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 14.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2871675 | 0.82 | 3213560 | 89.4 | 70 - 130 | |
| 45 Sc | 1 | 3274367 | 0.27 | 3419607 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 329930 | 0.30 | 348169 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 660046 | 0.92 | 681918 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 134473 | 0.42 | 139394 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3581616 | 0.71 | 3886609 | 92.2 | 70 | - | 130 |
| 115 | In | 1 | 3978679 | 0.84 | 4134240 | 96.2 | 70 | - | 130 |
| 115 | In | 2 | 1155401 | 0.13 | 1199034 | 96.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5442292 | 0.61 | 5535081 | 98.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5347837 | 0.78 | 5374750 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3048440 | 1.11 | 3216145 | 94.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\023SMPL.D\023SMPL.D#
Date Acquired: May 10 2013 04:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-SD1
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 351.23 | 900.00 | |
| 9 Be | 45 | 2 | 0.17 | 0.02 | ppb | 55.85 | 900.00 | |
| 11 B | 6 | 1 | 53.77 | 5.38 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 53.32 | 5.33 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 41280.00 | 4128.00 | ppb | 0.84 | 90000.00 | |
| 23 Na | 45 | 2 | 41390.00 | 4139.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 2478.00 | 247.80 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 2651.00 | 265.10 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 3.59 | 0.36 | ppb | 25.32 | 90000.00 | |
| 27 Al | 45 | 2 | 6.36 | 0.64 | ppb | 42.67 | 90000.00 | |
| 39 K | 45 | 1 | 3592.00 | 359.20 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 29880.00 | 2988.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.32 | 0.13 | ppb | 13.15 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.01 | ppb | 135.43 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | 0.00 | ppb | 51.88 | 900.00 | |
| 55 Mn | 45 | 2 | 99.69 | 9.97 | ppb | 1.22 | 900.00 | |
| 56 Fe | 45 | 2 | 481.50 | 48.15 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 2.00 | 0.20 | ppb | 0.96 | 900.00 | |
| 60 Ni | 45 | 2 | 3.24 | 0.32 | ppb | 3.36 | 900.00 | |
| 63 Cu | 72 | 2 | -0.41 | -0.04 | ppb | 18.34 | 900.00 | |
| 66 Zn | 72 | 2 | 9.24 | 0.92 | ppb | 2.12 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.00 | ppb | 962.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.01 | ppb | 341.29 | 900.00 | |
| 88 Sr | 103 | 1 | 213.60 | 21.36 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 1.51 | 0.15 | ppb | 5.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 1281.30 | 180.00 | |
| 111 Cd | 115 | 2 | -0.07 | -0.01 | ppb | 42.01 | 900.00 | |
| 120 Sn | 115 | 1 | -0.08 | -0.01 | ppb | 43.75 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.00 | ppb | 56.37 | 900.00 | |
| 137 Ba | 159 | 1 | 4.63 | 0.46 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | -0.17 | -0.02 | ppb | 7.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.00 | ppb | 78.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3020018 | 0.43 | 3213560 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 3388122 | 1.03 | 3419607 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 339834 | 0.42 | 348169 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 682775 | 1.00 | 681918 | 100.1 | 70 | - | 130 |
| 72 | Ge | 2 | 139739 | 0.38 | 139394 | 100.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3812743 | 0.30 | 3886609 | 98.1 | 70 | - | 130 |
| 115 | In | 1 | 4144429 | 0.42 | 4134240 | 100.2 | 70 | - | 130 |
| 115 | In | 2 | 1190940 | 1.62 | 1199034 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5523764 | 0.57 | 5535081 | 99.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5401931 | 0.61 | 5374750 | 100.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3218905 | 0.91 | 3216145 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\024SMPL.D\024SMPL.D#
Date Acquired: May 10 2013 04:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.79 | 50.79 | ppb | 0.74 | 900.00 | |
| 9 Be | 45 | 2 | 49.21 | 49.21 | ppb | 0.52 | 900.00 | |
| 11 B | 6 | 1 | 48.88 | 48.88 | ppb | 1.14 | 900.00 | |
| 11 B | 45 | 2 | 50.29 | 50.29 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 5140.00 | 5140.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 5081.00 | 5081.00 | ppb | 1.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5191.00 | 5191.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 5076.00 | 5076.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 5153.00 | 5153.00 | ppb | 0.45 | 90000.00 | |
| 39 K | 45 | 1 | 5164.00 | 5164.00 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 5155.00 | 5155.00 | ppb | 1.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.15 | 50.15 | ppb | 0.63 | 900.00 | |
| 51 V | 45 | 2 | 50.77 | 50.77 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 50.23 | 50.23 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 49.43 | 49.43 | ppb | 0.55 | 900.00 | |
| 56 Fe | 45 | 2 | 5181.00 | 5181.00 | ppb | 0.44 | 90000.00 | |
| 59 Co | 45 | 2 | 50.03 | 50.03 | ppb | 0.68 | 900.00 | |
| 60 Ni | 45 | 2 | 49.47 | 49.47 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 46.68 | 46.68 | ppb | 0.62 | 900.00 | |
| 66 Zn | 72 | 2 | 47.69 | 47.69 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 48.80 | 48.80 | ppb | 0.36 | 900.00 | |
| 78 Se | 72 | 2 | 48.73 | 48.73 | ppb | 0.53 | 900.00 | |
| 88 Sr | 103 | 1 | 52.69 | 52.69 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 51.40 | 51.40 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 50.14 | 50.14 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 50.42 | 50.42 | ppb | 0.30 | 900.00 | |
| 120 Sn | 115 | 1 | 52.30 | 52.30 | ppb | 0.42 | 900.00 | |
| 121 Sb | 115 | 1 | 52.44 | 52.44 | ppb | 0.49 | 900.00 | |
| 137 Ba | 159 | 1 | 49.49 | 49.49 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 50.43 | 50.43 | ppb | 2.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 0.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2999129 | 0.71 | 3213560 | 93.3 | 70 - 130 | |
| 45 Sc | 1 | 3327408 | 1.24 | 3419607 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 333503 | 0.25 | 348169 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 663214 | 1.13 | 681918 | 97.3 | 70 - | 130 |
| 72 | Ge | 2 | 138186 | 0.16 | 139394 | 99.1 | 70 - | 130 |
| 103 | Rh | 1 | 3667965 | 0.50 | 3886609 | 94.4 | 70 - | 130 |
| 115 | In | 1 | 3994050 | 0.36 | 4134240 | 96.6 | 70 - | 130 |
| 115 | In | 2 | 1148354 | 0.49 | 1199034 | 95.8 | 70 - | 130 |
| 159 | Tb | 1 | 5478383 | 1.17 | 5535081 | 99.0 | 70 - | 130 |
| 175 | Lu | 1 | 5385796 | 1.12 | 5374750 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 3110293 | 1.31 | 3216145 | 96.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\025SMPL.D\025SMPL.D#
Date Acquired: May 10 2013 05:04 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2014.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 122.12 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 8.26 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.36 | ppb | 28.08 | 900.00 | |
| 23 Na | 45 | 1 | -4.17 | -4.17 | ppb | 8.92 | 90000.00 | |
| 23 Na | 45 | 2 | -3.71 | -3.71 | ppb | 2.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.36 | 0.36 | ppb | 3.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.40 | 0.40 | ppb | 19.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.08 | 0.08 | ppb | 219.79 | 90000.00 | |
| 27 Al | 45 | 2 | -0.13 | -0.13 | ppb | 107.48 | 90000.00 | |
| 39 K | 45 | 1 | -1.61 | -1.61 | ppb | 88.79 | 90000.00 | |
| 44 Ca | 45 | 1 | -14.30 | -14.30 | ppb | 11.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 243.40 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 47.30 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 66.97 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 257.62 | 900.00 | |
| 56 Fe | 45 | 2 | 1.05 | 1.05 | ppb | 22.39 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 18.52 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 102.57 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 9.50 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 66.22 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 64.63 | 900.00 | |
| 78 Se | 72 | 2 | -0.09 | -0.09 | ppb | 75.53 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 199.72 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 6.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 13.34 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 104.07 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 6.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 19.04 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 3876.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.13 | ppb | 2.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 84.09 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3092123 | 0.60 | 3213560 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3349332 | 0.85 | 3419607 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 337497 | 0.53 | 348169 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 665799 | 0.68 | 681918 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 137365 | 0.66 | 139394 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 3807858 | 1.03 | 3886609 | 98.0 | 70 - | 130 |
| 115 | In | 1 | 4091890 | 1.27 | 4134240 | 99.0 | 70 - | 130 |
| 115 | In | 2 | 1185373 | 0.23 | 1199034 | 98.9 | 70 - | 130 |
| 159 | Tb | 1 | 5463516 | 0.45 | 5535081 | 98.7 | 70 - | 130 |
| 175 | Lu | 1 | 5348238 | 0.53 | 5374750 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 3190763 | 0.61 | 3216145 | 99.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\026SMPL.D\026SMPL.D#
Date Acquired: May 10 2013 05:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-9F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 20.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 60.35 | 900.00 | |
| 11 B | 6 | 1 | 46.74 | 23.37 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 47.68 | 23.84 | ppb | 6.47 | 900.00 | |
| 23 Na | 45 | 1 | 19826.00 | 9913.00 | ppb | 1.32 | 90000.00 | |
| 23 Na | 45 | 2 | 20480.00 | 10240.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 2804.00 | 1402.00 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 2946.00 | 1473.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 3.33 | 1.66 | ppb | 3.85 | 90000.00 | |
| 27 Al | 45 | 2 | 3.23 | 1.61 | ppb | 7.68 | 90000.00 | |
| 39 K | 45 | 1 | 7028.00 | 3514.00 | ppb | 1.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 40180.00 | 20090.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.21 | 0.60 | ppb | 10.94 | 900.00 | |
| 51 V | 45 | 2 | 2.58 | 1.29 | ppb | 1.58 | 900.00 | |
| 52 Cr | 45 | 2 | 0.38 | 0.19 | ppb | 2.56 | 900.00 | |
| 55 Mn | 45 | 2 | 42.06 | 21.03 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 67.06 | 33.53 | ppb | 0.33 | 90000.00 | |
| 59 Co | 45 | 2 | 0.94 | 0.47 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 2.28 | 1.14 | ppb | 2.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.33 | 0.17 | ppb | 1.72 | 900.00 | |
| 66 Zn | 72 | 2 | 7.51 | 3.76 | ppb | 0.42 | 900.00 | |
| 75 As | 72 | 2 | 1.00 | 0.50 | ppb | 2.50 | 900.00 | |
| 78 Se | 72 | 2 | 1.09 | 0.54 | ppb | 5.88 | 900.00 | |
| 88 Sr | 103 | 1 | 304.00 | 152.00 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 1.50 | 0.75 | ppb | 1.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 194.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.10 | ppb | 8.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 9.97 | 900.00 | |
| 137 Ba | 159 | 1 | 8.54 | 4.27 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 4.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 141.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2893827 | 1.13 | 3213560 | 90.1 | 70 - 130 | |
| 45 Sc | 1 | 3279152 | 1.24 | 3419607 | 95.9 | 70 - 130 | |
| 45 Sc | 2 | 332110 | 0.43 | 348169 | 95.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 658853 | 0.11 | 681918 | 96.6 | 70 | - | 130 |
| 72 | Ge | 2 | 134194 | 0.36 | 139394 | 96.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3561739 | 0.56 | 3886609 | 91.6 | 70 | - | 130 |
| 115 | In | 1 | 3948792 | 0.77 | 4134240 | 95.5 | 70 | - | 130 |
| 115 | In | 2 | 1148613 | 0.71 | 1199034 | 95.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5401316 | 0.15 | 5535081 | 97.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5281606 | 1.00 | 5374750 | 98.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3017786 | 0.43 | 3216145 | 93.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\027SMPL.D\027SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\027SMPL.D\027SMPL.D#
Date Acquired: May 10 2013 05:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-10F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 3016.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.07 | ppb | 130.80 | 900.00 | |
| 11 B | 6 | 1 | 46.16 | 23.08 | ppb | 1.39 | 900.00 | |
| 11 B | 45 | 2 | 46.50 | 23.25 | ppb | 1.33 | 900.00 | |
| 23 Na | 45 | 1 | 19644.00 | 9822.00 | ppb | 0.97 | 90000.00 | |
| 23 Na | 45 | 2 | 20160.00 | 10080.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 2760.00 | 1380.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2938.00 | 1469.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 1 | 3.34 | 1.67 | ppb | 2.71 | 90000.00 | |
| 27 Al | 45 | 2 | 3.32 | 1.66 | ppb | 10.52 | 90000.00 | |
| 39 K | 45 | 1 | 6890.00 | 3445.00 | ppb | 0.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 39400.00 | 19700.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.63 | ppb | 9.60 | 900.00 | |
| 51 V | 45 | 2 | 2.23 | 1.12 | ppb | 2.18 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 8.23 | 900.00 | |
| 55 Mn | 45 | 2 | 42.28 | 21.14 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 61.54 | 30.77 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 0.93 | 0.47 | ppb | 0.27 | 900.00 | |
| 60 Ni | 45 | 2 | 2.32 | 1.16 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.24 | ppb | 2.12 | 900.00 | |
| 66 Zn | 72 | 2 | 7.80 | 3.90 | ppb | 0.35 | 900.00 | |
| 75 As | 72 | 2 | 0.96 | 0.48 | ppb | 4.98 | 900.00 | |
| 78 Se | 72 | 2 | 1.43 | 0.71 | ppb | 35.79 | 900.00 | |
| 88 Sr | 103 | 1 | 298.00 | 149.00 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 1.48 | 0.74 | ppb | 0.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 36.66 | 180.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.03 | ppb | 83.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 7.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 4.26 | 900.00 | |
| 137 Ba | 159 | 1 | 9.06 | 4.53 | ppb | 2.24 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 4.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 88.04 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2932567 | 0.68 | 3213560 | 91.3 | 70 - 130 | |
| 45 Sc | 1 | 3328281 | 0.39 | 3419607 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 334847 | 0.33 | 348169 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 661576 | 0.56 | 681918 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 134883 | 1.07 | 139394 | 96.8 | 70 - | 130 |
| 103 | Rh | 1 | 3589406 | 0.32 | 3886609 | 92.4 | 70 - | 130 |
| 115 | In | 1 | 3978308 | 0.40 | 4134240 | 96.2 | 70 - | 130 |
| 115 | In | 2 | 1151863 | 0.48 | 1199034 | 96.1 | 70 - | 130 |
| 159 | Tb | 1 | 5453255 | 0.90 | 5535081 | 98.5 | 70 - | 130 |
| 175 | Lu | 1 | 5350672 | 0.28 | 5374750 | 99.6 | 70 - | 130 |
| 209 | Bi | 1 | 3032527 | 0.91 | 3216145 | 94.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\028SMPL.D\028SMPL.D#
Date Acquired: May 10 2013 05:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-11F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 188.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 351.51 | 900.00 | |
| 11 B | 6 | 1 | 39.14 | 19.57 | ppb | 2.11 | 900.00 | |
| 11 B | 45 | 2 | 39.34 | 19.67 | ppb | 5.83 | 900.00 | |
| 23 Na | 45 | 1 | 22920.00 | 11460.00 | ppb | 1.08 | 90000.00 | |
| 23 Na | 45 | 2 | 23680.00 | 11840.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 3062.00 | 1531.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 3212.00 | 1606.00 | ppb | 1.05 | 90000.00 | |
| 27 Al | 45 | 1 | 3.05 | 1.52 | ppb | 5.42 | 90000.00 | |
| 27 Al | 45 | 2 | 3.38 | 1.69 | ppb | 14.19 | 90000.00 | |
| 39 K | 45 | 1 | 2120.00 | 1060.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 38660.00 | 19330.00 | ppb | 1.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.52 | 0.76 | ppb | 6.86 | 900.00 | |
| 51 V | 45 | 2 | 2.66 | 1.33 | ppb | 1.69 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.17 | ppb | 3.52 | 900.00 | |
| 55 Mn | 45 | 2 | 42.38 | 21.19 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 114.38 | 57.19 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 1.09 | 0.55 | ppb | 1.45 | 900.00 | |
| 60 Ni | 45 | 2 | 3.36 | 1.68 | ppb | 2.34 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 6.42 | 900.00 | |
| 66 Zn | 72 | 2 | 9.46 | 4.73 | ppb | 0.35 | 900.00 | |
| 75 As | 72 | 2 | 0.90 | 0.45 | ppb | 1.78 | 900.00 | |
| 78 Se | 72 | 2 | 0.75 | 0.37 | ppb | 30.46 | 900.00 | |
| 88 Sr | 103 | 1 | 187.90 | 93.95 | ppb | 0.63 | 900.00 | |
| 98 Mo | 103 | 1 | 1.06 | 0.53 | ppb | 2.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 68.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 232.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 16.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 8.97 | 900.00 | |
| 137 Ba | 159 | 1 | 7.18 | 3.59 | ppb | 1.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 470.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 51.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2885498 | 1.42 | 3213560 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 3297242 | 0.47 | 3419607 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 333229 | 0.79 | 348169 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 661895 | 0.44 | 681918 | 97.1 | 70 - | 130 |
| 72 | Ge | 2 | 134874 | 0.46 | 139394 | 96.8 | 70 - | 130 |
| 103 | Rh | 1 | 3551860 | 0.73 | 3886609 | 91.4 | 70 - | 130 |
| 115 | In | 1 | 3983338 | 0.51 | 4134240 | 96.3 | 70 - | 130 |
| 115 | In | 2 | 1151213 | 0.18 | 1199034 | 96.0 | 70 - | 130 |
| 159 | Tb | 1 | 5422792 | 0.58 | 5535081 | 98.0 | 70 - | 130 |
| 175 | Lu | 1 | 5345187 | 0.78 | 5374750 | 99.4 | 70 - | 130 |
| 209 | Bi | 1 | 3039561 | 0.55 | 3216145 | 94.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\029SMPL.D\029SMPL.D#
Date Acquired: May 10 2013 05:32 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-12F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 107.15 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 201.20 | 900.00 | |
| 11 B | 6 | 1 | 14.60 | 7.30 | ppb | 1.42 | 900.00 | |
| 11 B | 45 | 2 | 15.21 | 7.60 | ppb | 8.13 | 900.00 | |
| 23 Na | 45 | 1 | 7124.00 | 3562.00 | ppb | 0.22 | 90000.00 | |
| 23 Na | 45 | 2 | 7452.00 | 3726.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 1836.40 | 918.20 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 1956.20 | 978.10 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 6.35 | 3.17 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 6.43 | 3.22 | ppb | 9.93 | 90000.00 | |
| 39 K | 45 | 1 | 1798.20 | 899.10 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 18518.00 | 9259.00 | ppb | 0.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.71 | 0.85 | ppb | 2.45 | 900.00 | |
| 51 V | 45 | 2 | 3.00 | 1.50 | ppb | 1.40 | 900.00 | |
| 52 Cr | 45 | 2 | 0.49 | 0.24 | ppb | 2.92 | 900.00 | |
| 55 Mn | 45 | 2 | 157.34 | 78.67 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 543.20 | 271.60 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 3.99 | 1.99 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 3.98 | 1.99 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.04 | ppb | 9.45 | 900.00 | |
| 66 Zn | 72 | 2 | 8.13 | 4.07 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 1.61 | 0.81 | ppb | 0.41 | 900.00 | |
| 78 Se | 72 | 2 | -0.19 | -0.09 | ppb | 32.00 | 900.00 | |
| 88 Sr | 103 | 1 | 89.04 | 44.52 | ppb | 1.97 | 900.00 | |
| 98 Mo | 103 | 1 | 1.34 | 0.67 | ppb | 0.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 59.98 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 340.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 11.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 3.36 | 900.00 | |
| 137 Ba | 159 | 1 | 3.00 | 1.50 | ppb | 3.97 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 20.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 118.95 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2918795 | 0.49 | 3213560 | 90.8 | 70 - 130 | |
| 45 Sc | 1 | 3302162 | 0.50 | 3419607 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 328298 | 0.08 | 348169 | 94.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 664331 | 0.29 | 681918 | 97.4 | 70 - | 130 |
| 72 | Ge | 2 | 133362 | 0.39 | 139394 | 95.7 | 70 - | 130 |
| 103 | Rh | 1 | 3579652 | 0.65 | 3886609 | 92.1 | 70 - | 130 |
| 115 | In | 1 | 4009516 | 0.73 | 4134240 | 97.0 | 70 - | 130 |
| 115 | In | 2 | 1148959 | 0.44 | 1199034 | 95.8 | 70 - | 130 |
| 159 | Tb | 1 | 5443286 | 1.06 | 5535081 | 98.3 | 70 - | 130 |
| 175 | Lu | 1 | 5330833 | 1.04 | 5374750 | 99.2 | 70 - | 130 |
| 209 | Bi | 1 | 3086973 | 0.98 | 3216145 | 96.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\030SMPL.D\030SMPL.D#
Date Acquired: May 10 2013 05:39 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-13F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.30 | 0.15 | ppb | 6.19 | 900.00 | |
| 9 Be | 45 | 2 | 7.51 | 3.76 | ppb | 6.21 | 900.00 | |
| 11 B | 6 | 1 | 1.35 | 0.67 | ppb | 3.66 | 900.00 | |
| 11 B | 45 | 2 | 21.34 | 10.67 | ppb | 3.30 | 900.00 | |
| 23 Na | 45 | 1 | 17.07 | 8.54 | ppb | 6.22 | 90000.00 | |
| 23 Na | 45 | 2 | 20.44 | 10.22 | ppb | 2.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.70 | 3.35 | ppb | 1.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 9.05 | 4.52 | ppb | 2.19 | 90000.00 | |
| 27 Al | 45 | 1 | 34.56 | 17.28 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 2 | 37.82 | 18.91 | ppb | 0.48 | 90000.00 | |
| 39 K | 45 | 1 | 18.77 | 9.38 | ppb | 17.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.87 | 0.94 | ppb | 212.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.00 | 1.50 | ppb | 1.20 | 900.00 | |
| 51 V | 45 | 2 | 3.45 | 1.72 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.36 | ppb | 2.69 | 900.00 | |
| 55 Mn | 45 | 2 | 0.46 | 0.23 | ppb | 4.06 | 900.00 | |
| 56 Fe | 45 | 2 | 11.71 | 5.85 | ppb | 1.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.22 | 0.11 | ppb | 2.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.93 | 0.46 | ppb | 8.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.84 | 0.42 | ppb | 4.38 | 900.00 | |
| 66 Zn | 72 | 2 | 9.03 | 4.52 | ppb | 1.11 | 900.00 | |
| 75 As | 72 | 2 | 3.26 | 1.63 | ppb | 3.19 | 900.00 | |
| 78 Se | 72 | 2 | 22.52 | 11.26 | ppb | 2.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.18 | 0.09 | ppb | 7.78 | 900.00 | |
| 98 Mo | 103 | 1 | 0.26 | 0.13 | ppb | 5.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.14 | 0.07 | ppb | 5.73 | 180.00 | |
| 111 Cd | 115 | 2 | 1.40 | 0.70 | ppb | 4.05 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.14 | ppb | 4.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.73 | 0.36 | ppb | 3.24 | 900.00 | |
| 137 Ba | 159 | 1 | 0.73 | 0.36 | ppb | 4.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 9.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.11 | ppb | 4.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3014934 | 0.75 | 3213560 | 93.8 | 70 - 130 | |
| 45 Sc | 1 | 3252986 | 0.90 | 3419607 | 95.1 | 70 - 130 | |
| 45 Sc | 2 | 328775 | 0.10 | 348169 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 663622 | 0.62 | 681918 | 97.3 | 70 | - | 130 |
| 72 Ge | 2 | 134012 | 0.38 | 139394 | 96.1 | 70 | - | 130 |
| 103 Rh | 1 | 3705776 | 0.41 | 3886609 | 95.3 | 70 | - | 130 |
| 115 In | 1 | 4011575 | 0.46 | 4134240 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1151097 | 0.20 | 1199034 | 96.0 | 70 | - | 130 |
| 159 Tb | 1 | 5457873 | 0.40 | 5535081 | 98.6 | 70 | - | 130 |
| 175 Lu | 1 | 5338970 | 0.31 | 5374750 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 3180069 | 1.08 | 3216145 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\031SMPL.D\031SMPL.D#
Date Acquired: May 10 2013 05:46 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-B1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 502.20 | 25.11 | ppb | 0.87 | 900.00 | |
| 9 Be | 45 | 2 | 569.00 | 28.45 | ppb | 7.16 | 900.00 | |
| 11 B | 6 | 1 | 8.90 | 0.45 | ppb | 11.00 | 900.00 | |
| 11 B | 45 | 2 | 158.18 | 7.91 | ppb | 72.03 | 900.00 | |
| 23 Na | 45 | 1 | 26080.00 | 1304.00 | ppb | 0.22 | 90000.00 | |
| 23 Na | 45 | 2 | 26260.00 | 1313.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 26480.00 | 1324.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 27300.00 | 1365.00 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 1 | 2158.00 | 107.90 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2254.00 | 112.70 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 26220.00 | 1311.00 | ppb | 1.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 27100.00 | 1355.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.00 | 25.40 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 513.80 | 25.69 | ppb | 0.40 | 900.00 | |
| 52 Cr | 45 | 2 | 510.60 | 25.53 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 500.40 | 25.02 | ppb | 0.18 | 900.00 | |
| 56 Fe | 45 | 2 | 2216.00 | 110.80 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 517.40 | 25.87 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 506.20 | 25.31 | ppb | 1.27 | 900.00 | |
| 63 Cu | 72 | 2 | 491.00 | 24.55 | ppb | 0.12 | 900.00 | |
| 66 Zn | 72 | 2 | 550.60 | 27.53 | ppb | 1.52 | 900.00 | |
| 75 As | 72 | 2 | 527.80 | 26.39 | ppb | 2.21 | 900.00 | |
| 78 Se | 72 | 2 | 676.80 | 33.84 | ppb | 16.47 | 900.00 | |
| 88 Sr | 103 | 1 | 515.60 | 25.78 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 4.14 | 0.21 | ppb | 14.34 | 900.00 | |
| 107 Ag | 115 | 1 | 212.40 | 10.62 | ppb | 1.56 | 180.00 | |
| 111 Cd | 115 | 2 | 514.00 | 25.70 | ppb | 2.24 | 900.00 | |
| 120 Sn | 115 | 1 | 2.34 | 0.12 | ppb | 14.04 | 900.00 | |
| 121 Sb | 115 | 1 | 518.80 | 25.94 | ppb | 1.00 | 900.00 | |
| 137 Ba | 159 | 1 | 1978.80 | 98.94 | ppb | 1.11 | 900.00 | |
| 205 Tl | 209 | 1 | 492.80 | 24.64 | ppb | 0.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1003.20 | 50.16 | ppb | 0.71 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3123027 | 0.41 | 3213560 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 3291431 | 0.48 | 3419607 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 334199 | 0.40 | 348169 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 659420 | 0.67 | 681918 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 136317 | 0.36 | 139394 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 3709950 | 0.51 | 3886609 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 4051255 | 0.72 | 4134240 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1159408 | 0.21 | 1199034 | 96.7 | 70 | - | 130 |
| 159 Tb | 1 | 5429424 | 1.00 | 5535081 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 5273344 | 0.25 | 5374750 | 98.1 | 70 | - | 130 |
| 209 Bi | 1 | 3143273 | 0.33 | 3216145 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\032SMPL.D\032SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\032SMPL.D\032SMPL.D#
Date Acquired: May 10 2013 05:53 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-S1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 507.00 | 25.35 | ppb | 0.56 | 900.00 | |
| 9 Be | 45 | 2 | 506.40 | 25.32 | ppb | 2.48 | 900.00 | |
| 11 B | 6 | 1 | 52.08 | 2.60 | ppb | 1.63 | 900.00 | |
| 11 B | 45 | 2 | 53.92 | 2.70 | ppb | 5.94 | 900.00 | |
| 23 Na | 45 | 1 | 67720.00 | 3386.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 68380.00 | 3419.00 | ppb | 0.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 28720.00 | 1436.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 29540.00 | 1477.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 2138.00 | 106.90 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 2 | 2234.00 | 111.70 | ppb | 1.06 | 90000.00 | |
| 39 K | 45 | 1 | 29760.00 | 1488.00 | ppb | 1.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 56400.00 | 2820.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 492.20 | 24.61 | ppb | 1.17 | 900.00 | |
| 51 V | 45 | 2 | 510.40 | 25.52 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 505.20 | 25.26 | ppb | 0.56 | 900.00 | |
| 55 Mn | 45 | 2 | 598.20 | 29.91 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 2606.00 | 130.30 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 515.40 | 25.77 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 500.00 | 25.00 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 487.20 | 24.36 | ppb | 0.67 | 900.00 | |
| 66 Zn | 72 | 2 | 552.60 | 27.63 | ppb | 0.41 | 900.00 | |
| 75 As | 72 | 2 | 512.80 | 25.64 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 508.00 | 25.40 | ppb | 3.89 | 900.00 | |
| 88 Sr | 103 | 1 | 725.60 | 36.28 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 1.57 | 0.08 | ppb | 8.87 | 900.00 | |
| 107 Ag | 115 | 1 | 207.40 | 10.37 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 497.00 | 24.85 | ppb | 1.76 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.01 | ppb | 27.13 | 900.00 | |
| 121 Sb | 115 | 1 | 520.60 | 26.03 | ppb | 0.84 | 900.00 | |
| 137 Ba | 159 | 1 | 1982.20 | 99.11 | ppb | 1.24 | 900.00 | |
| 205 Tl | 209 | 1 | 493.00 | 24.65 | ppb | 0.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1003.00 | 50.15 | ppb | 0.30 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3058239 | 0.63 | 3213560 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 3305036 | 1.16 | 3419607 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 333915 | 0.47 | 348169 | 95.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 659365 | 1.05 | 681918 | 96.7 | 70 | - | 130 |
| 72 | Ge | 2 | 135847 | 0.40 | 139394 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3692934 | 0.51 | 3886609 | 95.0 | 70 | - | 130 |
| 115 | In | 1 | 4024219 | 0.26 | 4134240 | 97.3 | 70 | - | 130 |
| 115 | In | 2 | 1163203 | 0.35 | 1199034 | 97.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5424768 | 0.89 | 5535081 | 98.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5317911 | 0.32 | 5374750 | 98.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3103745 | 0.69 | 3216145 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\033SMPL.D\033SMPL.D#
Date Acquired: May 10 2013 06:00 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-S2
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 491.00 | 24.55 | ppb | 1.45 | 900.00 | |
| 9 Be | 45 | 2 | 497.00 | 24.85 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 50.56 | 2.53 | ppb | 1.30 | 900.00 | |
| 11 B | 45 | 2 | 53.92 | 2.70 | ppb | 5.76 | 900.00 | |
| 23 Na | 45 | 1 | 67160.00 | 3358.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 67480.00 | 3374.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 28420.00 | 1421.00 | ppb | 0.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 29200.00 | 1460.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 2112.00 | 105.60 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 2 | 2206.00 | 110.30 | ppb | 0.79 | 90000.00 | |
| 39 K | 45 | 1 | 29280.00 | 1464.00 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 55340.00 | 2767.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 479.60 | 23.98 | ppb | 0.43 | 900.00 | |
| 51 V | 45 | 2 | 505.80 | 25.29 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 499.00 | 24.95 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 589.80 | 29.49 | ppb | 0.43 | 900.00 | |
| 56 Fe | 45 | 2 | 2574.00 | 128.70 | ppb | 1.26 | 90000.00 | |
| 59 Co | 45 | 2 | 509.40 | 25.47 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 495.20 | 24.76 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 480.00 | 24.00 | ppb | 0.98 | 900.00 | |
| 66 Zn | 72 | 2 | 535.20 | 26.76 | ppb | 0.75 | 900.00 | |
| 75 As | 72 | 2 | 507.00 | 25.35 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | 500.40 | 25.02 | ppb | 1.25 | 900.00 | |
| 88 Sr | 103 | 1 | 716.60 | 35.83 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 1.38 | 0.07 | ppb | 13.37 | 900.00 | |
| 107 Ag | 115 | 1 | 206.40 | 10.32 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 498.20 | 24.91 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.42 | -0.02 | ppb | 10.98 | 900.00 | |
| 121 Sb | 115 | 1 | 513.80 | 25.69 | ppb | 0.24 | 900.00 | |
| 137 Ba | 159 | 1 | 1969.40 | 98.47 | ppb | 0.57 | 900.00 | |
| 205 Tl | 209 | 1 | 490.00 | 24.50 | ppb | 0.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 999.00 | 49.95 | ppb | 1.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3129213 | 1.15 | 3213560 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 3309071 | 0.37 | 3419607 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 332961 | 0.27 | 348169 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 655707 | 0.42 | 681918 | 96.2 | 70 - | 130 |
| 72 | Ge | 2 | 135895 | 0.56 | 139394 | 97.5 | 70 - | 130 |
| 103 | Rh | 1 | 3696760 | 0.50 | 3886609 | 95.1 | 70 - | 130 |
| 115 | In | 1 | 4022335 | 0.71 | 4134240 | 97.3 | 70 - | 130 |
| 115 | In | 2 | 1159571 | 1.07 | 1199034 | 96.7 | 70 - | 130 |
| 159 | Tb | 1 | 5421078 | 0.06 | 5535081 | 97.9 | 70 - | 130 |
| 175 | Lu | 1 | 5265663 | 0.77 | 5374750 | 98.0 | 70 - | 130 |
| 209 | Bi | 1 | 3100098 | 1.21 | 3216145 | 96.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\034SMPL.D\034SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\034SMPL.D\034SMPL.D#
Date Acquired: May 10 2013 06:07 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20926-PS1
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.01 | 8.50 | ppb | 1.03 | 900.00 | |
| 9 Be | 45 | 2 | 16.90 | 8.45 | ppb | 4.12 | 900.00 | |
| 11 B | 6 | 1 | 63.86 | 31.93 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 66.34 | 33.17 | ppb | 2.35 | 900.00 | |
| 23 Na | 45 | 1 | 34240.00 | 17120.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 34760.00 | 17380.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 2064.00 | 1032.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2180.00 | 1090.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 21.18 | 10.59 | ppb | 0.20 | 90000.00 | |
| 27 Al | 45 | 2 | 21.34 | 10.67 | ppb | 1.25 | 90000.00 | |
| 39 K | 45 | 1 | 3044.00 | 1522.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 24380.00 | 12190.00 | ppb | 0.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.92 | 8.96 | ppb | 1.04 | 900.00 | |
| 51 V | 45 | 2 | 19.32 | 9.66 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 17.16 | 8.58 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 98.70 | 49.35 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 401.20 | 200.60 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 18.43 | 9.22 | ppb | 0.59 | 900.00 | |
| 60 Ni | 45 | 2 | 19.20 | 9.60 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 16.45 | 8.22 | ppb | 1.16 | 900.00 | |
| 66 Zn | 72 | 2 | 23.68 | 11.84 | ppb | 0.75 | 900.00 | |
| 75 As | 72 | 2 | 16.86 | 8.43 | ppb | 1.19 | 900.00 | |
| 78 Se | 72 | 2 | 15.97 | 7.99 | ppb | 2.04 | 900.00 | |
| 88 Sr | 103 | 1 | 192.58 | 96.29 | ppb | 0.48 | 900.00 | |
| 98 Mo | 103 | 1 | 18.67 | 9.33 | ppb | 0.77 | 900.00 | |
| 107 Ag | 115 | 1 | 16.89 | 8.45 | ppb | 0.72 | 180.00 | |
| 111 Cd | 115 | 2 | 16.03 | 8.02 | ppb | 0.88 | 900.00 | |
| 120 Sn | 115 | 1 | 17.70 | 8.85 | ppb | 0.45 | 900.00 | |
| 121 Sb | 115 | 1 | 17.42 | 8.71 | ppb | 0.82 | 900.00 | |
| 137 Ba | 159 | 1 | 20.60 | 10.30 | ppb | 0.39 | 900.00 | |
| 205 Tl | 209 | 1 | 17.14 | 8.57 | ppb | 0.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.16 | 8.58 | ppb | 0.85 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2940627 | 0.50 | 3213560 | 91.5 | 70 - 130 | |
| 45 Sc | 1 | 3244353 | 0.52 | 3419607 | 94.9 | 70 - 130 | |
| 45 Sc | 2 | 326196 | 0.43 | 348169 | 93.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 647084 | 0.63 | 681918 | 94.9 | 70 - | 130 |
| 72 | Ge | 2 | 132128 | 0.25 | 139394 | 94.8 | 70 - | 130 |
| 103 | Rh | 1 | 3538630 | 0.75 | 3886609 | 91.0 | 70 - | 130 |
| 115 | In | 1 | 3922223 | 1.01 | 4134240 | 94.9 | 70 - | 130 |
| 115 | In | 2 | 1134068 | 1.09 | 1199034 | 94.6 | 70 - | 130 |
| 159 | Tb | 1 | 5378699 | 0.87 | 5535081 | 97.2 | 70 - | 130 |
| 175 | Lu | 1 | 5266070 | 0.41 | 5374750 | 98.0 | 70 - | 130 |
| 209 | Bi | 1 | 3008407 | 0.36 | 3216145 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\035SMPL.D\035SMPL.D#
Date Acquired: May 10 2013 06:22 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 2.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.68 | 0.68 | ppb | 20.67 | 900.00 | |
| 11 B | 6 | 1 | 4.71 | 4.71 | ppb | 1.03 | 900.00 | |
| 11 B | 45 | 2 | 5.32 | 5.32 | ppb | 11.31 | 900.00 | |
| 23 Na | 45 | 1 | 256.30 | 256.30 | ppb | 1.30 | 90000.00 | |
| 23 Na | 45 | 2 | 276.50 | 276.50 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 264.40 | 264.40 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 281.80 | 281.80 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 26.19 | 26.19 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 26.78 | 26.78 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 258.70 | 258.70 | ppb | 1.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 260.00 | 260.00 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.99 | 0.99 | ppb | 6.09 | 900.00 | |
| 51 V | 45 | 2 | 1.08 | 1.08 | ppb | 1.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 1.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.83 | 0.83 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 26.64 | 26.64 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 2.10 | 900.00 | |
| 60 Ni | 45 | 2 | 1.02 | 1.02 | ppb | 0.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.88 | 0.88 | ppb | 2.28 | 900.00 | |
| 66 Zn | 72 | 2 | 2.17 | 2.17 | ppb | 1.50 | 900.00 | |
| 75 As | 72 | 2 | 0.59 | 0.59 | ppb | 8.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.95 | 0.95 | ppb | 35.06 | 900.00 | |
| 88 Sr | 103 | 1 | 5.24 | 5.24 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 1.13 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 1.82 | 180.00 | |
| 111 Cd | 115 | 2 | 0.53 | 0.53 | ppb | 6.81 | 900.00 | |
| 120 Sn | 115 | 1 | 4.92 | 4.92 | ppb | 2.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 2.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 2.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.77 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3125015 | 0.57 | 3213560 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 3302027 | 0.13 | 3419607 | 96.6 | 70 - 130 | |
| 45 Sc | 2 | 332948 | 0.22 | 348169 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 665323 | 1.20 | 681918 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 134778 | 0.04 | 139394 | 96.7 | 70 - | 130 |
| 103 | Rh | 1 | 3717757 | 0.47 | 3886609 | 95.7 | 70 - | 130 |
| 115 | In | 1 | 4058670 | 1.47 | 4134240 | 98.2 | 70 - | 130 |
| 115 | In | 2 | 1164723 | 0.61 | 1199034 | 97.1 | 70 - | 130 |
| 159 | Tb | 1 | 5473808 | 1.06 | 5535081 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 5301268 | 1.03 | 5374750 | 98.6 | 70 - | 130 |
| 209 | Bi | 1 | 3182710 | 0.69 | 3216145 | 99.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\036SMPL.D\036SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\036SMPL.D\036SMPL.D#
Date Acquired: May 10 2013 06:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.37 | 50.37 | ppb | 2.34 | 900.00 | |
| 9 Be | 45 | 2 | 50.75 | 50.75 | ppb | 1.41 | 900.00 | |
| 11 B | 6 | 1 | 48.41 | 48.41 | ppb | 3.23 | 900.00 | |
| 11 B | 45 | 2 | 52.02 | 52.02 | ppb | 1.30 | 900.00 | |
| 23 Na | 45 | 1 | 5068.00 | 5068.00 | ppb | 0.91 | 90000.00 | |
| 23 Na | 45 | 2 | 5181.00 | 5181.00 | ppb | 0.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 5069.00 | 5069.00 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 5138.00 | 5138.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 5097.00 | 5097.00 | ppb | 1.18 | 90000.00 | |
| 27 Al | 45 | 2 | 5163.00 | 5163.00 | ppb | 0.26 | 90000.00 | |
| 39 K | 45 | 1 | 5147.00 | 5147.00 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 5099.00 | 5099.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.00 | 51.00 | ppb | 4.65 | 900.00 | |
| 51 V | 45 | 2 | 50.26 | 50.26 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | 49.98 | 49.98 | ppb | 0.46 | 900.00 | |
| 55 Mn | 45 | 2 | 49.04 | 49.04 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 5141.00 | 5141.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 49.38 | 49.38 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 48.83 | 48.83 | ppb | 0.51 | 900.00 | |
| 63 Cu | 72 | 2 | 46.75 | 46.75 | ppb | 0.47 | 900.00 | |
| 66 Zn | 72 | 2 | 47.76 | 47.76 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 48.52 | 48.52 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 48.93 | 48.93 | ppb | 0.99 | 900.00 | |
| 88 Sr | 103 | 1 | 53.12 | 53.12 | ppb | 1.10 | 900.00 | |
| 98 Mo | 103 | 1 | 51.47 | 51.47 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 50.25 | 50.25 | ppb | 2.06 | 180.00 | |
| 111 Cd | 115 | 2 | 49.92 | 49.92 | ppb | 1.23 | 900.00 | |
| 120 Sn | 115 | 1 | 52.08 | 52.08 | ppb | 0.58 | 900.00 | |
| 121 Sb | 115 | 1 | 52.27 | 52.27 | ppb | 1.06 | 900.00 | |
| 137 Ba | 159 | 1 | 49.95 | 49.95 | ppb | 1.48 | 900.00 | |
| 205 Tl | 209 | 1 | 50.77 | 50.77 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.59 | 50.59 | ppb | 1.51 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3064429 | 0.29 | 3213560 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3319542 | 1.00 | 3419607 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 333274 | 0.08 | 348169 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 662914 | 1.16 | 681918 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 136549 | 0.17 | 139394 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 3633626 | 0.47 | 3886609 | 93.5 | 70 | - | 130 |
| 115 In | 1 | 3955588 | 0.87 | 4134240 | 95.7 | 70 | - | 130 |
| 115 In | 2 | 1128711 | 0.46 | 1199034 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 5400071 | 0.12 | 5535081 | 97.6 | 70 | - | 130 |
| 175 Lu | 1 | 5290548 | 1.35 | 5374750 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 3046029 | 0.74 | 3216145 | 94.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E10o00.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E10o00.B\037SMPL.D\037SMPL.D#
Date Acquired: May 10 2013 06:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 10 2013 03:13 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 208.55 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 106.93 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 6.39 | 900.00 | |
| 11 B | 45 | 2 | 0.16 | 0.16 | ppb | 98.45 | 900.00 | |
| 23 Na | 45 | 1 | -4.05 | -4.05 | ppb | 7.64 | 90000.00 | |
| 23 Na | 45 | 2 | -3.03 | -3.03 | ppb | 16.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.09 | 0.09 | ppb | 13.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.33 | 0.33 | ppb | 63.22 | 90000.00 | |
| 27 Al | 45 | 1 | 0.00 | 0.00 | ppb | 13924.00 | 90000.00 | |
| 27 Al | 45 | 2 | 0.08 | 0.08 | ppb | 237.37 | 90000.00 | |
| 39 K | 45 | 1 | -0.95 | -0.95 | ppb | 115.60 | 90000.00 | |
| 44 Ca | 45 | 1 | -14.34 | -14.34 | ppb | 18.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 101.83 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 155.23 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 50.81 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 48.74 | 900.00 | |
| 56 Fe | 45 | 2 | 1.18 | 1.18 | ppb | 6.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 66.49 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 81.51 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 11.49 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 81.99 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 24.92 | 900.00 | |
| 78 Se | 72 | 2 | -0.11 | -0.11 | ppb | 18.31 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 29.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 8.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 30.47 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 65.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 9.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 14.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 264.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 3.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 134.06 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3110161 | 1.60 | 3213560 | 96.8 | 70 - 130 | |
| 45 Sc | 1 | 3314873 | 0.54 | 3419607 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 334191 | 0.43 | 348169 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E10o00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 660729 | 0.94 | 681918 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 135540 | 0.08 | 139394 | 97.2 | 70 - | 130 |
| 103 | Rh | 1 | 3780266 | 1.17 | 3886609 | 97.3 | 70 - | 130 |
| 115 | In | 1 | 4088290 | 0.90 | 4134240 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 1173369 | 0.43 | 1199034 | 97.9 | 70 - | 130 |
| 159 | Tb | 1 | 5416379 | 0.83 | 5535081 | 97.9 | 70 - | 130 |
| 175 | Lu | 1 | 5333679 | 0.08 | 5374750 | 99.2 | 70 - | 130 |
| 209 | Bi | 1 | 3170633 | 0.74 | 3216145 | 98.6 | 70 - | 130 |

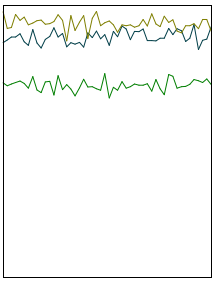
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E10o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

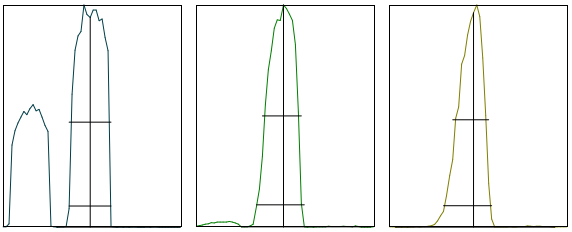
# Tune Report

Tune File : nogas.u
Comment : 051013A



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 4612.0 | 4422.6 | 2.62 | 4.90 |
| 89 | 10,000 | 7089.0 | 7070.0 | 2.86 | 5.70 |
| 205 | 5,000 | 4524.0 | 4674.2 | 2.45 | 19.40 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.902%
Doubly Charged: 70/140 5.162%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 4,446 | 7,329 | 4,626 |
| Axis: | 7.00 | 89.00 | 204.95 |
| W-50%: | 0.70 | 0.65 | 0.60 |
| W-10%: | 0.700 | 0.800 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 462.2 | 6.49 | |
| QP Focus: | -8 V | 59 | 1581.5 | 3.42 | |
| Cell Exit: | -34 V | 89 | 1570.3 | 4.27 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : May 10, 2013 13:30:48
Printed : May 10, 2013 13:31:38

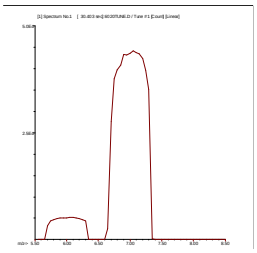
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** May 10 2013 02:00 pm
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

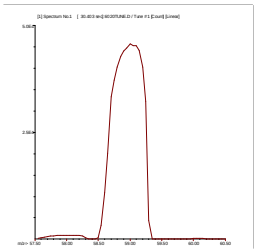
**QC Tune Summary:**
**Pass**

**RSD%**

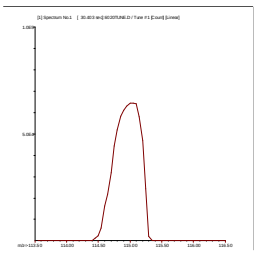
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.60 | 5.00 | 0 |
| 59 Co | 0.67 | 5.00 | |
| 115 In | 1.08 | 5.00 | |
| 205 Tl | 2.76 | 5.00 | |



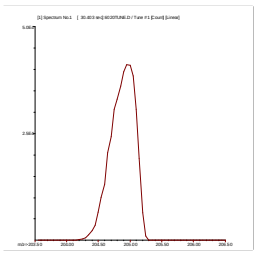
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 204.95
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: May 13, 2013 03:57 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

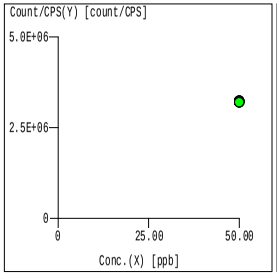
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

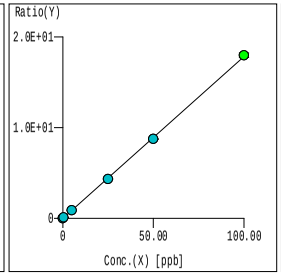
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13e10o00.b\002calb.d\002calb.d# | STDA | May 10 2013 02:20 pm |
| 2 | c:\icpchem\1\data\13e10o00.b\003cals.d\003cals.d# | STDB | May 10 2013 02:27 pm |
| 3 | c:\icpchem\1\data\13e10o00.b\004cals.d\004cals.d# | STDC | May 10 2013 02:35 pm |
| 4 | c:\icpchem\1\data\13e10o00.b\005cals.d\005cals.d# | STDD | May 10 2013 02:42 pm |
| 5 | c:\icpchem\1\data\13e10o00.b\006cals.d\006cals.d# | STDE | May 10 2013 02:49 pm |
| 6 | c:\icpchem\1\data\13e10o00.b\007cals.d\007cals.d# | STDF | May 10 2013 02:56 pm |
| 7 | c:\icpchem\1\data\13e10o00.b\008cals.d\008cals.d# | STDG | May 10 2013 03:03 pm |
| 8 | c:\icpchem\1\data\13e10o00.b\009cals.d\009cals.d# | STDH | May 10 2013 03:10 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

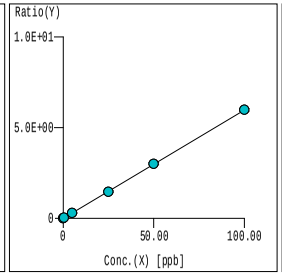
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

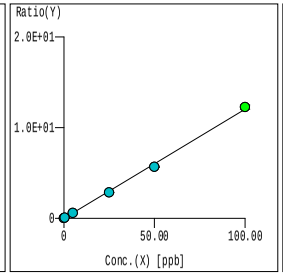
=== Graph Summary ===
Page: 1/4

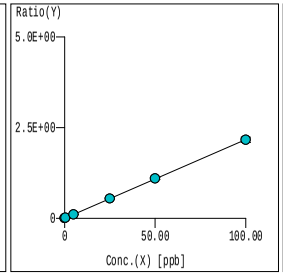
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.9993 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 1.049E-02 ppb | 7.347E-02 ppb | 3.913E-02 ppb | 2.139E-01 ppb | 1.040 ppb |
| < BEC > | --- ppb | 7.545E-03 ppb | 2.667E-02 ppb | 1.098E-01 ppb | 1.842E-01 ppb | 20.61 ppb |

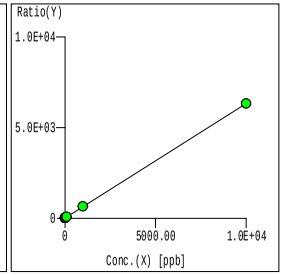




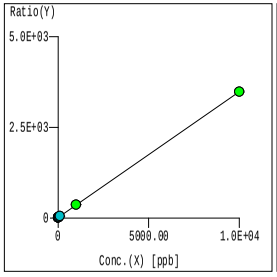


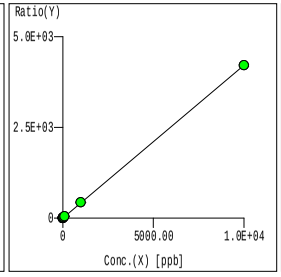


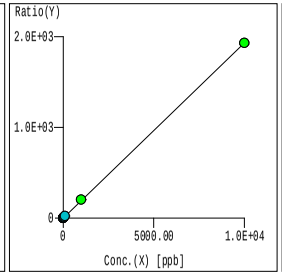


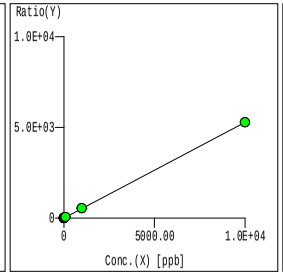


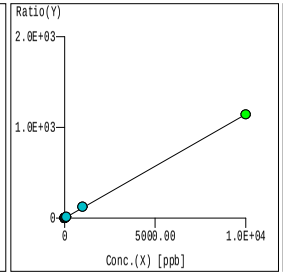

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 3.382E-01 ppb | 1.894E-02 ppb | 6.929E-02 ppb | 2.831E-01 ppb | 3.719E-01 ppb | 3.240 ppb |
| < BEC > | 41.33 ppb | 5.161E-01 ppb | 5.553E-01 ppb | 1.742 ppb | 1.839 ppb | 108.3 ppb |

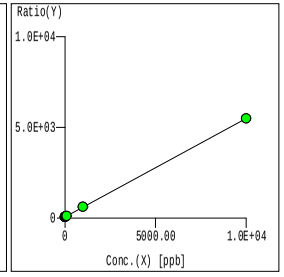








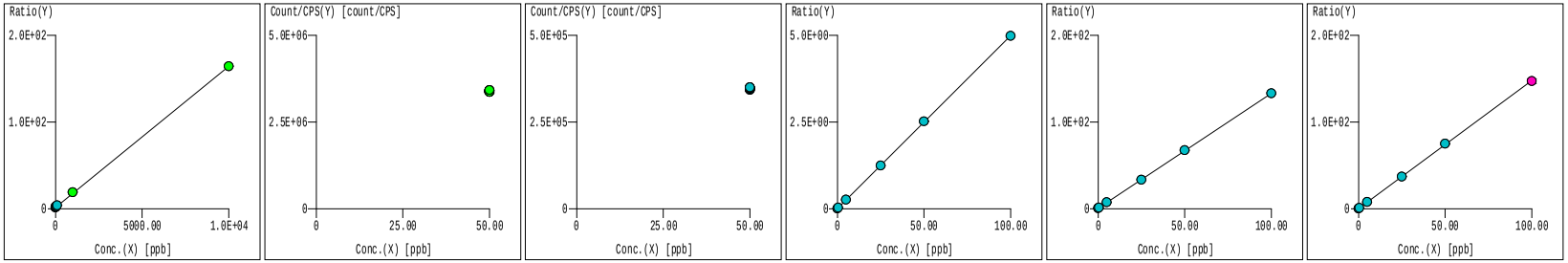




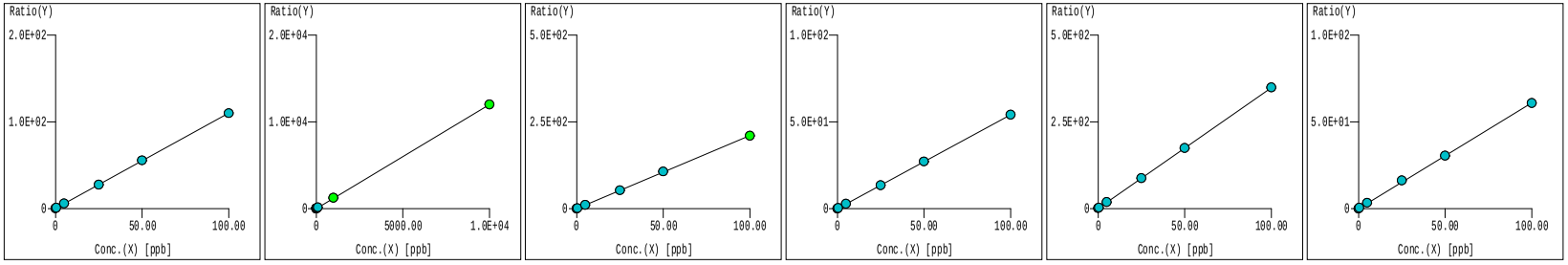
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
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| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 9.540 ppb | --- ppb | --- ppb | 6.099E-02 ppb | 1.933E-02 ppb | 2.600E-03 ppb |
| < BEC > | 101.6 ppb | --- ppb | --- ppb | 1.262E-01 ppb | 5.095E-01 ppb | 1.453E-01 ppb |



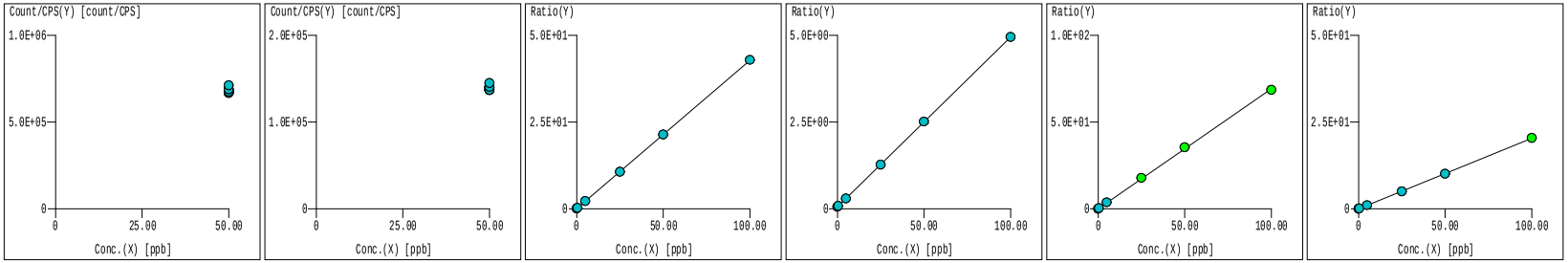

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 3.795E-02 ppb | 1.471E-01 ppb | 2.303E-03 ppb | 1.542E-02 ppb | 1.155E-02 ppb | 1.430E-03 ppb |
| < BEC > | 3.450E-01 ppb | 6.511 ppb | 8.631E-03 ppb | 7.304E-02 ppb | 3.111E-01 ppb | 8.821E-02 ppb |



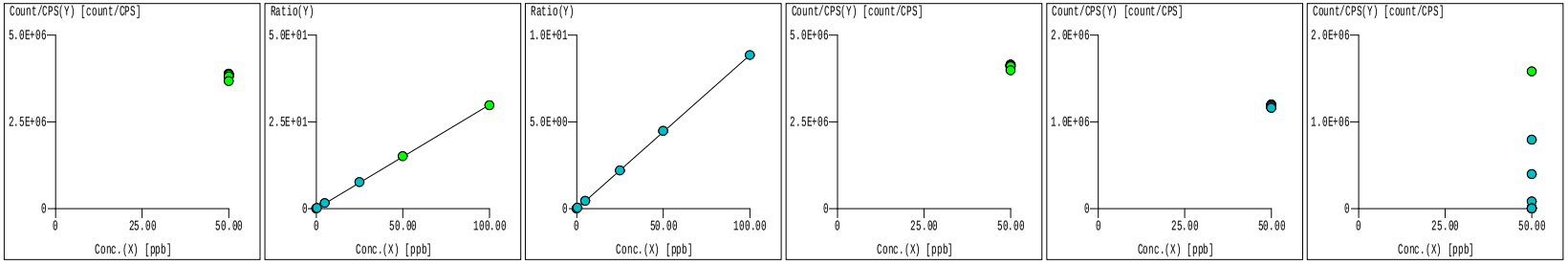
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 2.495E-02 ppb | 4.088E-01 ppb | 3.680E-03 ppb | 8.875E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.252E-01 ppb | 1.160 ppb | 1.382E-02 ppb | 2.092E-02 ppb |



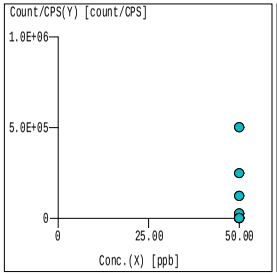

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.982E-03 ppb | 2.325E-02 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 7.419E-03 ppb | 1.517E-02 ppb | --- ppb | --- ppb | --- ppb |

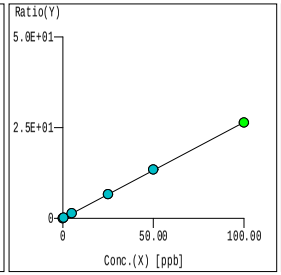


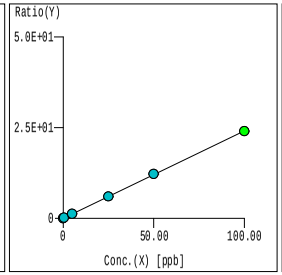
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

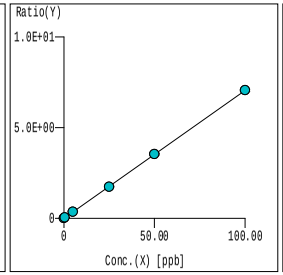
=== Graph Summary ===
Page: 4/4

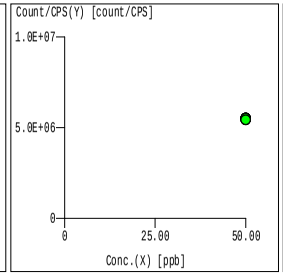
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 6.548E-03 ppb | 9.064E-03 ppb | 1.641E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 3.905E-02 ppb | 1.330E-02 ppb | 9.253E-02 ppb | --- ppb | --- ppb |

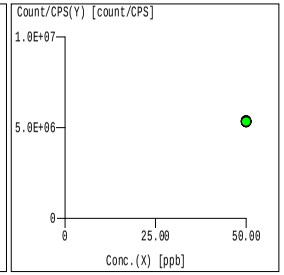


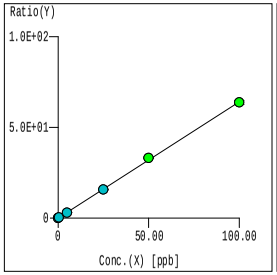



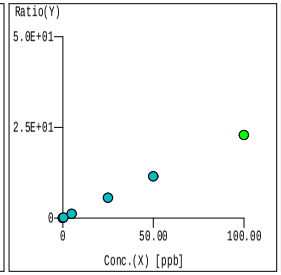



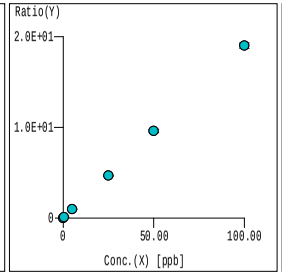



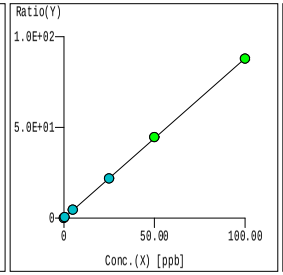



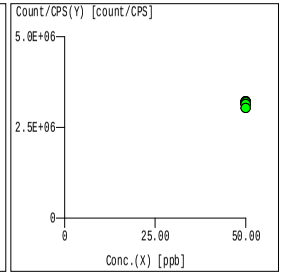

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9998 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 8.849E-03 ppb | --- ppb | --- ppb | 1.482E-02 ppb | --- ppb |
| < BEC > | 3.400E-02 ppb | --- ppb | --- ppb | 4.838E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13E13l00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\001CAL
Date Acquired: May 13 2013 11:07 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 10 2013 03:13 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3220390.00 | A | 9937.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 80.00 | P | 20.82 | 26.02 |
| 9 | Be | 18.89 | P | 7.70 | 40.75 |
| 11 | B | 3157.10 | P | 85.14 | 2.70 |
| 11 | B | 63.34 | P | 12.02 | 18.98 |
| 23 | Na | 595446.00 | P | 17270.00 | 2.90 |
| 23 | Na | 74755.65 | P | 274.00 | 0.37 |
| 24 | Mg | 14768.52 | P | 163.90 | 1.11 |
| 24 | Mg | 727.82 | P | 19.53 | 2.68 |
| 27 | Al | 62796.65 | P | 1374.00 | 2.19 |
| 27 | Al | 1262.35 | P | 127.00 | 10.06 |
| 39 | K | 4113413.00 | A | 42600.00 | 1.04 |
| 44 | Ca | 115193.30 | P | 2917.00 | 2.53 |
| 45 | Sc | 3396074.00 | A | 12020.00 | 0.35 |
| 45 | Sc | 328311.31 | P | 697.20 | 0.21 |
| 47 | Ti | 716.71 | P | 63.51 | 8.86 |
| 51 | V | 3698.27 | P | 154.00 | 4.16 |
| 52 | Cr | 2330.88 | P | 69.41 | 2.98 |
| 55 | Mn | 2873.20 | P | 63.19 | 2.20 |
| 56 | Fe | 67458.10 | P | 266.50 | 0.40 |
| 59 | Co | 118.22 | P | 18.20 | 15.39 |
| 60 | Ni | 262.67 | P | 9.33 | 3.55 |
| 63 | Cu | 1835.69 | P | 39.88 | 2.17 |
| 66 | Zn | 623.13 | P | 7.90 | 1.27 |
| 72 | Ge | 692360.13 | P | 11700.00 | 1.69 |
| 72 | Ge | 132233.20 | P | 905.90 | 0.69 |
| 75 | As | 112.22 | P | 18.04 | 16.08 |
| 78 | Se | 130.22 | P | 13.89 | 10.67 |
| 88 | Sr | 861.17 | P | 53.99 | 6.27 |
| 98 | Mo | 148.90 | P | 15.40 | 10.34 |
| 103 | Rh | 3857690.00 | A | 29220.00 | 0.76 |
| 107 | Ag | 211.12 | P | 40.05 | 18.97 |

C:\ICPCHEM\1\DATA\13E13l00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 33.33 | P | 14.53 | 43.59 |
| 115 | In | 4100260.00 | A | 39720.00 | 0.97 |
| 115 | In | 1129386.00 | P | 5666.00 | 0.50 |
| 118 | (In) | 468.91 | P | 21.43 | 4.57 |
| 118 | (In) | 180.01 | P | 13.33 | 7.41 |
| 120 | Sn | 602.26 | P | 56.41 | 9.37 |
| 121 | Sb | 113.34 | P | 38.44 | 33.92 |
| 137 | Ba | 740.05 | P | 105.90 | 14.31 |
| 159 | Tb | 5453960.00 | A | 49270.00 | 0.90 |
| 175 | Lu | 5237739.00 | A | 36270.00 | 0.69 |
| 205 | Tl | 1723.51 | P | 81.73 | 4.74 |
| 206 | (Pb) | 227.79 | P | 10.71 | 4.70 |
| 207 | (Pb) | 256.68 | P | 37.12 | 14.46 |
| 208 | Pb | 1953.51 | P | 124.90 | 6.39 |
| 209 | Bi | 3184538.00 | A | 21460.00 | 0.67 |

C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\002CAL
Date Acquired: May 13 2013 11:14 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:11 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3232907.00 | A | 65820.00 | 2.04 |
| 7 | (Li) | | P | | |
| 9 | Be | 77.78 | P | 8.39 | 10.79 |
| 9 | Be | 16.67 | P | 5.77 | 34.64 |
| 11 | B | 3117.09 | P | 92.46 | 2.97 |
| 11 | B | 65.56 | P | 23.65 | 36.08 |
| 23 | Na | 592779.69 | P | 12060.00 | 2.03 |
| 23 | Na | 74408.59 | P | 652.30 | 0.88 |
| 24 | Mg | 15831.96 | P | 333.00 | 2.10 |
| 24 | Mg | 793.40 | P | 94.54 | 11.92 |
| 27 | Al | 65681.63 | P | 2184.00 | 3.33 |
| 27 | Al | 1434.58 | P | 91.69 | 6.39 |
| 39 | K | 4118837.00 | A | 38340.00 | 0.93 |
| 44 | Ca | 113927.60 | P | 2810.00 | 2.47 |
| 45 | Sc | 3437387.00 | A | 25490.00 | 0.74 |
| 45 | Sc | 336743.91 | P | 870.00 | 0.26 |
| 47 | Ti | 842.29 | P | 34.72 | 4.12 |
| 51 | V | 3756.96 | P | 6.71 | 0.18 |
| 52 | Cr | 2168.19 | P | 103.40 | 4.77 |
| 55 | Mn | 2934.10 | P | 99.88 | 3.40 |
| 56 | Fe | 67667.76 | P | 51.50 | 0.08 |
| 59 | Co | 116.00 | P | 6.67 | 5.75 |
| 60 | Ni | 310.23 | P | 26.21 | 8.45 |
| 63 | Cu | 1829.02 | P | 36.21 | 1.98 |
| 66 | Zn | 667.58 | P | 2.14 | 0.32 |
| 72 | Ge | 696404.88 | P | 5658.00 | 0.81 |
| 72 | Ge | 134418.59 | P | 838.90 | 0.62 |
| 75 | As | 115.78 | P | 14.05 | 12.14 |
| 78 | Se | 127.33 | P | 5.29 | 4.16 |
| 88 | Sr | 895.62 | P | 95.78 | 10.69 |
| 98 | Mo | 125.56 | P | 23.41 | 18.64 |
| 103 | Rh | 3907550.00 | A | 23560.00 | 0.60 |
| 107 | Ag | 164.45 | P | 5.09 | 3.10 |

C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 22.22 | P | 5.09 | 22.91 |
| 115 | In | 4145778.00 | A | 22910.00 | 0.55 |
| 115 | In | 1149344.00 | P | 2205.00 | 0.19 |
| 118 | (In) | 443.36 | P | 20.28 | 4.57 |
| 118 | (In) | 128.89 | P | 28.74 | 22.30 |
| 120 | Sn | 605.59 | P | 35.64 | 5.89 |
| 121 | Sb | 130.01 | P | 26.46 | 20.35 |
| 137 | Ba | 762.27 | P | 16.44 | 2.16 |
| 159 | Tb | 5482146.00 | A | 45100.00 | 0.82 |
| 175 | Lu | 5341495.00 | A | 13300.00 | 0.25 |
| 205 | Tl | 1152.31 | P | 72.75 | 6.31 |
| 206 | (Pb) | 277.79 | P | 51.79 | 18.64 |
| 207 | (Pb) | 236.68 | P | 31.80 | 13.44 |
| 208 | Pb | 2057.97 | P | 266.50 | 12.95 |
| 209 | Bi | 3218293.00 | A | 11980.00 | 0.37 |

C:\ICPCHEM\1\DATA\13E13l00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\003CALS.D\003CALS.D#
Date Acquired: May 13 2013 11:21 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:18 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3238136.00 | A | 22760.00 | 0.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 5840.12 | P | 76.79 | 1.31 |
| 9 | Be | 184.45 | P | 11.71 | 6.35 |
| 11 | B | 5936.85 | P | 113.30 | 1.91 |
| 11 | B | 143.34 | P | 14.53 | 10.14 |
| 23 | Na | 639908.31 | P | 10460.00 | 1.63 |
| 23 | Na | 76932.81 | P | 349.90 | 0.45 |
| 24 | Mg | 28188.51 | P | 178.00 | 0.63 |
| 24 | Mg | 1296.76 | P | 10.00 | 0.77 |
| 27 | Al | 88296.68 | P | 1756.00 | 1.99 |
| 27 | Al | 1846.88 | P | 67.45 | 3.65 |
| 39 | K | 4059831.00 | A | 18830.00 | 0.46 |
| 44 | Ca | 111162.80 | P | 2242.00 | 2.02 |
| 45 | Sc | 3432201.00 | A | 13370.00 | 0.39 |
| 45 | Sc | 334676.00 | P | 708.80 | 0.21 |
| 47 | Ti | 2480.29 | P | 100.40 | 4.05 |
| 51 | V | 8299.24 | P | 104.70 | 1.26 |
| 52 | Cr | 6780.69 | P | 123.80 | 1.83 |
| 55 | Mn | 6608.62 | P | 162.10 | 2.45 |
| 56 | Fe | 62043.87 | P | 606.60 | 0.98 |
| 59 | Co | 7485.94 | P | 136.20 | 1.82 |
| 60 | Ni | 2117.51 | P | 68.76 | 3.25 |
| 63 | Cu | 7116.41 | P | 66.85 | 0.94 |
| 66 | Zn | 1134.05 | P | 15.68 | 1.38 |
| 72 | Ge | 691650.13 | P | 6172.00 | 0.89 |
| 72 | Ge | 134913.59 | P | 423.50 | 0.31 |
| 75 | As | 723.80 | P | 5.55 | 0.77 |
| 78 | Se | 225.78 | P | 11.18 | 4.95 |
| 88 | Sr | 29402.93 | P | 340.90 | 1.16 |
| 98 | Mo | 8121.41 | P | 160.90 | 1.98 |
| 103 | Rh | 3864792.00 | A | 14050.00 | 0.36 |
| 107 | Ag | 12928.31 | P | 48.62 | 0.38 |

C:\ICPCHEM\1\DATA\13E13l00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1064.52 | P | 50.48 | 4.74 |
| 115 | In | 4134922.00 | A | 7702.00 | 0.19 |
| 115 | In | 1141903.00 | P | 7138.00 | 0.63 |
| 118 | (In) | 8898.54 | P | 225.80 | 2.54 |
| 118 | (In) | 2654.79 | P | 87.02 | 3.28 |
| 120 | Sn | 12264.40 | P | 178.70 | 1.46 |
| 121 | Sb | 10660.90 | P | 324.40 | 3.04 |
| 137 | Ba | 4792.07 | P | 68.84 | 1.44 |
| 159 | Tb | 5475922.00 | A | 8427.00 | 0.15 |
| 175 | Lu | 5321614.00 | A | 31050.00 | 0.58 |
| 205 | Tl | 19243.97 | P | 468.30 | 2.43 |
| 206 | (Pb) | 7789.13 | P | 32.19 | 0.41 |
| 207 | (Pb) | 6582.92 | P | 112.10 | 1.70 |
| 208 | Pb | 31450.95 | P | 496.70 | 1.58 |
| 209 | Bi | 3221587.00 | A | 16520.00 | 0.51 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3238136.30 | 0.70 | 3232907.30 | 100.2 | 70 - 130 | |
| 45 | Sc | 3432200.50 | 0.39 | 3437386.50 | 99.8 | 70 - 130 | |
| 45 | Sc | 334675.97 | 0.21 | 336743.88 | 99.4 | 70 - 130 | |
| 72 | Ge | 691650.13 | 0.89 | 696404.94 | 99.3 | 70 - 130 | |
| 72 | Ge | 134913.55 | 0.31 | 134418.56 | 100.4 | 70 - 130 | |
| 103 | Rh | 3864791.50 | 0.36 | 3907549.50 | 98.9 | 70 - 130 | |
| 115 | In | 4134921.50 | 0.19 | 4145777.80 | 99.7 | 70 - 130 | |
| 115 | In | 1141903.00 | 0.63 | 1149343.60 | 99.4 | 70 - 130 | |
| 159 | Tb | 5475922.00 | 0.15 | 5482146.50 | 99.9 | 70 - 130 | |
| 175 | Lu | 5321614.50 | 0.58 | 5341495.00 | 99.6 | 70 - 130 | |
| 209 | Bi | 3221586.80 | 0.51 | 3218292.80 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\004CALS.D\004CALS.D#
Date Acquired: May 13 2013 11:28 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:25 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3213584.00 | A | 15730.00 | 0.49 |
| 7 | (Li) | | P | | |
| 9 | Be | 56539.07 | P | 325.80 | 0.58 |
| 9 | Be | 1945.74 | P | 12.63 | 0.65 |
| 11 | B | 38882.95 | P | 403.10 | 1.04 |
| 11 | B | 737.82 | P | 40.05 | 5.43 |
| 23 | Na | 813462.63 | P | 12710.00 | 1.56 |
| 23 | Na | 86954.54 | P | 905.20 | 1.04 |
| 24 | Mg | 172496.00 | P | 579.90 | 0.34 |
| 24 | Mg | 7753.29 | P | 71.31 | 0.92 |
| 27 | Al | 261367.30 | P | 1769.00 | 0.68 |
| 27 | Al | 5635.66 | P | 178.50 | 3.17 |
| 39 | K | 4221676.00 | A | 5684.00 | 0.13 |
| 44 | Ca | 121629.20 | P | 1839.00 | 1.51 |
| 45 | Sc | 3378103.00 | A | 15650.00 | 0.46 |
| 45 | Sc | 333630.69 | P | 2542.00 | 0.76 |
| 47 | Ti | 17984.50 | P | 88.84 | 0.49 |
| 51 | V | 48807.77 | P | 52.60 | 0.11 |
| 52 | Cr | 52138.19 | P | 406.60 | 0.78 |
| 55 | Mn | 39816.88 | P | 458.70 | 1.15 |
| 56 | Fe | 103534.20 | P | 984.00 | 0.95 |
| 59 | Co | 72681.33 | P | 426.10 | 0.59 |
| 60 | Ni | 19037.32 | P | 57.57 | 0.30 |
| 63 | Cu | 50611.98 | P | 587.70 | 1.16 |
| 66 | Zn | 8711.86 | P | 23.45 | 0.27 |
| 72 | Ge | 683335.38 | P | 4420.00 | 0.65 |
| 72 | Ge | 134437.80 | P | 1353.00 | 1.01 |
| 75 | As | 5946.53 | P | 78.73 | 1.32 |
| 78 | Se | 771.36 | P | 17.30 | 2.24 |
| 88 | Sr | 278964.41 | P | 3425.00 | 1.23 |
| 98 | Mo | 77832.27 | P | 424.60 | 0.55 |
| 103 | Rh | 3842561.00 | A | 1246.00 | 0.03 |
| 107 | Ag | 128096.60 | P | 528.20 | 0.41 |

C:\ICPCHEM\1\DATA\13E13l00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10316.18 | P | 293.60 | 2.85 |
| 115 | In | 4101471.00 | A | 31740.00 | 0.77 |
| 115 | In | 1144050.00 | P | 4416.00 | 0.39 |
| 118 | (In) | 82261.68 | P | 377.20 | 0.46 |
| 118 | (In) | 24622.45 | P | 582.20 | 2.36 |
| 120 | Sn | 111942.80 | P | 1099.00 | 0.98 |
| 121 | Sb | 101213.90 | P | 647.20 | 0.64 |
| 137 | Ba | 38932.15 | P | 516.50 | 1.33 |
| 159 | Tb | 5417677.00 | A | 33880.00 | 0.63 |
| 175 | Lu | 5237032.00 | A | 8284.00 | 0.16 |
| 205 | Tl | 192352.70 | P | 1795.00 | 0.93 |
| 206 | (Pb) | 74436.30 | P | 451.20 | 0.61 |
| 207 | (Pb) | 61931.73 | P | 1105.00 | 1.78 |
| 208 | Pb | 290024.81 | P | 3225.00 | 1.11 |
| 209 | Bi | 3175668.00 | A | 48870.00 | 1.54 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3213584.00 | 0.49 | 3232907.30 | 99.4 | 70 - 130 | |
| 45 | Sc | 3378103.50 | 0.46 | 3437386.50 | 98.3 | 70 - 130 | |
| 45 | Sc | 333630.72 | 0.76 | 336743.88 | 99.1 | 70 - 130 | |
| 72 | Ge | 683335.44 | 0.65 | 696404.94 | 98.1 | 70 - 130 | |
| 72 | Ge | 134437.80 | 1.01 | 134418.56 | 100.0 | 70 - 130 | |
| 103 | Rh | 3842560.80 | 0.03 | 3907549.50 | 98.3 | 70 - 130 | |
| 115 | In | 4101471.30 | 0.77 | 4145777.80 | 98.9 | 70 - 130 | |
| 115 | In | 1144050.30 | 0.39 | 1149343.60 | 99.5 | 70 - 130 | |
| 159 | Tb | 5417677.50 | 0.63 | 5482146.50 | 98.8 | 70 - 130 | |
| 175 | Lu | 5237032.00 | 0.16 | 5341495.00 | 98.0 | 70 - 130 | |
| 209 | Bi | 3175668.00 | 1.54 | 3218292.80 | 98.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\005CALS.D\005CALS.D#
Date Acquired: May 13 2013 11:36 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:32 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3180586.00 | A | 84450.00 | 2.66 |
| 7 | (Li) | | P | | |
| 9 | Be | 278869.41 | P | 1935.00 | 0.69 |
| 9 | Be | 9845.61 | P | 191.60 | 1.95 |
| 11 | B | 182442.59 | P | 2036.00 | 1.12 |
| 11 | B | 3572.75 | P | 52.98 | 1.48 |
| 23 | Na | 1809831.00 | A | 24340.00 | 1.34 |
| 23 | Na | 140265.70 | P | 1384.00 | 0.99 |
| 24 | Mg | 806732.38 | P | 13510.00 | 1.67 |
| 24 | Mg | 36154.57 | P | 643.10 | 1.78 |
| 27 | Al | 1040261.00 | A | 13980.00 | 1.34 |
| 27 | Al | 21568.82 | P | 164.10 | 0.76 |
| 39 | K | 4968156.00 | A | 5386.00 | 0.11 |
| 44 | Ca | 150036.80 | P | 786.40 | 0.52 |
| 45 | Sc | 3435649.00 | A | 39960.00 | 1.16 |
| 45 | Sc | 331621.00 | P | 2472.00 | 0.75 |
| 47 | Ti | 86057.95 | P | 992.70 | 1.15 |
| 51 | V | 227905.59 | P | 1361.00 | 0.60 |
| 52 | Cr | 254404.30 | P | 1553.00 | 0.61 |
| 55 | Mn | 186950.00 | P | 865.10 | 0.46 |
| 56 | Fe | 288919.69 | P | 4916.00 | 1.70 |
| 59 | Co | 363376.19 | P | 900.40 | 0.25 |
| 60 | Ni | 93403.42 | P | 18.32 | 0.02 |
| 63 | Cu | 240007.80 | P | 915.90 | 0.38 |
| 66 | Zn | 41333.23 | P | 15.03 | 0.04 |
| 72 | Ge | 682274.69 | P | 3214.00 | 0.47 |
| 72 | Ge | 133776.20 | P | 662.40 | 0.50 |
| 75 | As | 28544.78 | P | 123.20 | 0.43 |
| 78 | Se | 3336.83 | P | 41.76 | 1.25 |
| 88 | Sr | 1375804.00 | A | 5865.00 | 0.43 |
| 98 | Mo | 386721.31 | P | 2932.00 | 0.76 |
| 103 | Rh | 3805913.00 | A | 27720.00 | 0.73 |
| 107 | Ag | 625597.63 | P | 2946.00 | 0.47 |

C:\ICPCHEM\1\DATA\13E13l00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 51107.12 | P | 579.60 | 1.13 |
| 115 | In | 4043732.00 | A | 39220.00 | 0.97 |
| 115 | In | 1134546.00 | P | 5502.00 | 0.48 |
| 118 | (In) | 393234.69 | P | 6386.00 | 1.62 |
| 118 | (In) | 121653.70 | P | 1209.00 | 0.99 |
| 120 | Sn | 546615.00 | P | 13080.00 | 2.39 |
| 121 | Sb | 498005.09 | P | 7733.00 | 1.55 |
| 137 | Ba | 190889.80 | P | 3878.00 | 2.03 |
| 159 | Tb | 5474578.00 | A | 76370.00 | 1.40 |
| 175 | Lu | 5324177.00 | A | 85680.00 | 1.61 |
| 205 | Tl | 1031378.00 | P | 9775.00 | 0.95 |
| 206 | (Pb) | 366090.41 | P | 4555.00 | 1.24 |
| 207 | (Pb) | 305377.19 | P | 602.90 | 0.20 |
| 208 | Pb | 1420565.00 | P | 4116.00 | 0.29 |
| 209 | Bi | 3178576.00 | A | 13910.00 | 0.44 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3180586.30 | 2.66 | 3232907.30 | 98.4 | 70 - 130 | |
| 45 | Sc | 3435649.30 | 1.16 | 3437386.50 | 99.9 | 70 - 130 | |
| 45 | Sc | 331621.00 | 0.75 | 336743.88 | 98.5 | 70 - 130 | |
| 72 | Ge | 682274.69 | 0.47 | 696404.94 | 98.0 | 70 - 130 | |
| 72 | Ge | 133776.16 | 0.50 | 134418.56 | 99.5 | 70 - 130 | |
| 103 | Rh | 3805912.80 | 0.73 | 3907549.50 | 97.4 | 70 - 130 | |
| 115 | In | 4043732.50 | 0.97 | 4145777.80 | 97.5 | 70 - 130 | |
| 115 | In | 1134546.00 | 0.48 | 1149343.60 | 98.7 | 70 - 130 | |
| 159 | Tb | 5474578.50 | 1.40 | 5482146.50 | 99.9 | 70 - 130 | |
| 175 | Lu | 5324176.50 | 1.61 | 5341495.00 | 99.7 | 70 - 130 | |
| 209 | Bi | 3178575.50 | 0.44 | 3218292.80 | 98.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\006CALS.D\006CALS.D#
Date Acquired: May 13 2013 11:43 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:39 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3214233.00 | A | 19000.00 | 0.59 |
| 7 | (Li) | | P | | |
| 9 | Be | 563778.31 | P | 2230.00 | 0.40 |
| 9 | Be | 19851.86 | P | 254.90 | 1.28 |
| 11 | B | 370407.69 | P | 1879.00 | 0.51 |
| 11 | B | 7308.60 | P | 230.80 | 3.16 |
| 23 | Na | 2905869.00 | A | 18490.00 | 0.64 |
| 23 | Na | 201722.00 | P | 2296.00 | 1.14 |
| 24 | Mg | 1578418.00 | A | 7519.00 | 0.48 |
| 24 | Mg | 71784.58 | P | 211.90 | 0.30 |
| 27 | Al | 1981767.00 | A | 9330.00 | 0.47 |
| 27 | Al | 41682.98 | P | 170.70 | 0.41 |
| 39 | K | 5959852.00 | A | 31900.00 | 0.54 |
| 44 | Ca | 190497.41 | P | 1234.00 | 0.65 |
| 45 | Sc | 3366159.00 | A | 8489.00 | 0.25 |
| 45 | Sc | 331813.50 | P | 2430.00 | 0.73 |
| 47 | Ti | 172620.50 | P | 868.70 | 0.50 |
| 51 | V | 453442.91 | P | 2692.00 | 0.59 |
| 52 | Cr | 506674.91 | P | 4446.00 | 0.88 |
| 55 | Mn | 368786.00 | P | 2175.00 | 0.59 |
| 56 | Fe | 516799.00 | P | 2824.00 | 0.55 |
| 59 | Co | 723571.13 | P | 3501.00 | 0.48 |
| 60 | Ni | 185591.91 | P | 840.40 | 0.45 |
| 63 | Cu | 476975.50 | P | 1630.00 | 0.34 |
| 66 | Zn | 82459.73 | P | 619.40 | 0.75 |
| 72 | Ge | 677108.88 | P | 6184.00 | 0.91 |
| 72 | Ge | 133408.41 | P | 959.20 | 0.72 |
| 75 | As | 57313.63 | P | 353.30 | 0.62 |
| 78 | Se | 6593.70 | P | 18.21 | 0.28 |
| 88 | Sr | 2711298.00 | A | 24780.00 | 0.91 |
| 98 | Mo | 781913.19 | P | 4791.00 | 0.61 |
| 103 | Rh | 3835432.00 | A | 25610.00 | 0.67 |
| 107 | Ag | 1233544.00 | A | 16930.00 | 1.37 |

C:\ICPCHEM\1\DATA\13E13l00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 101669.40 | P | 850.40 | 0.84 |
| 115 | In | 4066071.00 | A | 31010.00 | 0.76 |
| 115 | In | 1128749.00 | P | 18190.00 | 1.61 |
| 118 | (In) | 803377.00 | P | 1716.00 | 0.21 |
| 118 | (In) | 244728.50 | P | 2718.00 | 1.11 |
| 120 | Sn | 1106305.00 | P | 6002.00 | 0.54 |
| 121 | Sb | 993397.31 | P | 4680.00 | 0.47 |
| 137 | Ba | 382934.81 | P | 4632.00 | 1.21 |
| 159 | Tb | 5409464.00 | A | 37590.00 | 0.69 |
| 175 | Lu | 5239463.00 | A | 58720.00 | 1.12 |
| 205 | Tl | 2078375.00 | A | 17110.00 | 0.82 |
| 206 | (Pb) | 725884.63 | P | 6956.00 | 0.96 |
| 207 | (Pb) | 610384.69 | P | 4990.00 | 0.82 |
| 208 | Pb | 2826051.00 | A | 10320.00 | 0.37 |
| 209 | Bi | 3196814.00 | A | 10070.00 | 0.32 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3214233.00 | 0.59 | 3232907.30 | 99.4 | 70 - 130 | |
| 45 | Sc | 3366159.30 | 0.25 | 3437386.50 | 97.9 | 70 - 130 | |
| 45 | Sc | 331813.53 | 0.73 | 336743.88 | 98.5 | 70 - 130 | |
| 72 | Ge | 677108.88 | 0.91 | 696404.94 | 97.2 | 70 - 130 | |
| 72 | Ge | 133408.39 | 0.72 | 134418.56 | 99.2 | 70 - 130 | |
| 103 | Rh | 3835432.00 | 0.67 | 3907549.50 | 98.2 | 70 - 130 | |
| 115 | In | 4066070.80 | 0.76 | 4145777.80 | 98.1 | 70 - 130 | |
| 115 | In | 1128748.60 | 1.61 | 1149343.60 | 98.2 | 70 - 130 | |
| 159 | Tb | 5409463.50 | 0.69 | 5482146.50 | 98.7 | 70 - 130 | |
| 175 | Lu | 5239463.50 | 1.12 | 5341495.00 | 98.1 | 70 - 130 | |
| 209 | Bi | 3196814.00 | 0.32 | 3218292.80 | 99.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\007CALS.D\007CALS.D#
Date Acquired: May 13 2013 11:50 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:46 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3230160.00 | A | 29070.00 | 0.90 |
| 7 | (Li) | | P | | |
| 9 | Be | 1144839.00 | A | 1160.00 | 0.10 |
| 9 | Be | 39442.04 | P | 591.30 | 1.50 |
| 11 | B | 776374.50 | M | 34490.00 | 4.44 |
| 11 | B | 14267.97 | P | 148.90 | 1.04 |
| 23 | Na | 5105976.00 | A | 63450.00 | 1.24 |
| 23 | Na | 326908.91 | P | 1533.00 | 0.47 |
| 24 | Mg | 3088756.00 | A | 9708.00 | 0.31 |
| 24 | Mg | 142308.09 | P | 460.40 | 0.32 |
| 27 | Al | 3796325.00 | A | 28240.00 | 0.74 |
| 27 | Al | 81841.61 | P | 863.70 | 1.06 |
| 39 | K | 7819717.00 | A | 21300.00 | 0.27 |
| 44 | Ca | 269449.09 | P | 3304.00 | 1.23 |
| 45 | Sc | 3379128.00 | A | 35120.00 | 1.04 |
| 45 | Sc | 330169.00 | P | 677.90 | 0.21 |
| 47 | Ti | 346612.09 | P | 1847.00 | 0.53 |
| 51 | V | 902338.88 | P | 2386.00 | 0.26 |
| 52 | Cr | 1012460.00 | P | 3328.00 | 0.33 |
| 55 | Mn | 735697.81 | P | 3626.00 | 0.49 |
| 56 | Fe | 976779.13 | P | 5292.00 | 0.54 |
| 59 | Co | 1415235.00 | A | 8434.00 | 0.60 |
| 60 | Ni | 372052.00 | P | 1196.00 | 0.32 |
| 63 | Cu | 949562.69 | P | 903.30 | 0.10 |
| 66 | Zn | 163892.30 | P | 523.70 | 0.32 |
| 72 | Ge | 681440.81 | P | 8386.00 | 1.23 |
| 72 | Ge | 132839.80 | P | 698.00 | 0.53 |
| 75 | As | 113993.50 | P | 194.20 | 0.17 |
| 78 | Se | 13105.05 | P | 145.80 | 1.11 |
| 88 | Sr | 5353191.00 | A | 20090.00 | 0.38 |
| 98 | Mo | 1597359.00 | A | 801.80 | 0.05 |
| 103 | Rh | 3847409.00 | A | 57750.00 | 1.50 |
| 107 | Ag | 2459474.00 | A | 7149.00 | 0.29 |

C:\ICPCHEM\1\DATA\13E13l00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 204321.09 | P | 586.20 | 0.29 |
| 115 | In | 4056081.00 | A | 53910.00 | 1.33 |
| 115 | In | 1123997.00 | P | 1877.00 | 0.17 |
| 118 | (In) | 1586241.00 | A | 21380.00 | 1.35 |
| 118 | (In) | 488443.19 | P | 958.60 | 0.20 |
| 120 | Sn | 2164988.00 | A | 23900.00 | 1.10 |
| 121 | Sb | 1951838.00 | A | 21980.00 | 1.13 |
| 137 | Ba | 768884.69 | P | 2909.00 | 0.38 |
| 159 | Tb | 5453423.00 | A | 67310.00 | 1.23 |
| 175 | Lu | 5307330.00 | A | 91990.00 | 1.73 |
| 205 | Tl | 4122371.00 | A | 50780.00 | 1.23 |
| 206 | (Pb) | 1454845.00 | A | 5766.00 | 0.40 |
| 207 | (Pb) | 1229596.00 | P | 16730.00 | 1.36 |
| 208 | Pb | 5621383.00 | A | 16540.00 | 0.29 |
| 209 | Bi | 3185396.00 | A | 30390.00 | 0.95 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3230160.30 | 0.90 | 3232907.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 3379128.50 | 1.04 | 3437386.50 | 98.3 | 70 - 130 | |
| 45 | Sc | 330168.97 | 0.21 | 336743.88 | 98.0 | 70 - 130 | |
| 72 | Ge | 681440.81 | 1.23 | 696404.94 | 97.9 | 70 - 130 | |
| 72 | Ge | 132839.80 | 0.53 | 134418.56 | 98.8 | 70 - 130 | |
| 103 | Rh | 3847409.50 | 1.50 | 3907549.50 | 98.5 | 70 - 130 | |
| 115 | In | 4056080.80 | 1.33 | 4145777.80 | 97.8 | 70 - 130 | |
| 115 | In | 1123997.00 | 0.17 | 1149343.60 | 97.8 | 70 - 130 | |
| 159 | Tb | 5453423.00 | 1.23 | 5482146.50 | 99.5 | 70 - 130 | |
| 175 | Lu | 5307330.00 | 1.73 | 5341495.00 | 99.4 | 70 - 130 | |
| 209 | Bi | 3185396.00 | 0.95 | 3218292.80 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\008CALS.D\008CALS.D#
Date Acquired: May 13 2013 11:57 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 11:53 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3209802.00 | A | 15690.00 | 0.49 |
| 7 | (Li) | | P | | |
| 9 | Be | 265.57 | P | 36.57 | 13.77 |
| 9 | Be | 16.67 | P | 6.67 | 40.00 |
| 11 | B | 5954.80 | P | 449.90 | 7.56 |
| 11 | B | 101.11 | P | 6.94 | 6.86 |
| 23 | Na | 44265780.00 | A | 463000.00 | 1.05 |
| 23 | Na | 2428270.00 | A | 21380.00 | 0.88 |
| 24 | Mg | 29465040.00 | A | 367100.00 | 1.25 |
| 24 | Mg | 1346789.00 | A | 13610.00 | 1.01 |
| 27 | Al | 36625440.00 | A | 77660.00 | 0.21 |
| 27 | Al | 808295.38 | P | 2850.00 | 0.35 |
| 39 | K | 41769540.00 | A | 140500.00 | 0.34 |
| 44 | Ca | 1288683.00 | A | 9438.00 | 0.73 |
| 45 | Sc | 3391879.00 | A | 6518.00 | 0.19 |
| 45 | Sc | 336347.69 | P | 784.30 | 0.23 |
| 47 | Ti | 932.29 | P | 83.83 | 8.99 |
| 51 | V | 3840.98 | P | 52.97 | 1.38 |
| 52 | Cr | 1592.11 | P | 36.84 | 2.31 |
| 55 | Mn | 3075.90 | P | 21.68 | 0.70 |
| 56 | Fe | 8544360.00 | A | 2335.00 | 0.03 |
| 59 | Co | 558.24 | P | 46.96 | 8.41 |
| 60 | Ni | 424.01 | P | 28.94 | 6.83 |
| 63 | Cu | 2476.68 | P | 128.80 | 5.20 |
| 66 | Zn | 320.01 | P | 12.06 | 3.77 |
| 72 | Ge | 695227.31 | P | 7851.00 | 1.13 |
| 72 | Ge | 136406.59 | P | 213.50 | 0.16 |
| 75 | As | 143.56 | P | 14.02 | 9.77 |
| 78 | Se | 132.45 | P | 8.70 | 6.57 |
| 88 | Sr | 3485.00 | P | 135.00 | 3.87 |
| 98 | Mo | 2650.33 | P | 158.20 | 5.97 |
| 103 | Rh | 3829622.00 | A | 20340.00 | 0.53 |
| 107 | Ag | 646.70 | P | 29.06 | 4.49 |

C:\ICPCHEM\1\DATA\13E13l00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 60.00 | P | 6.67 | 11.11 |
| 115 | In | 4079255.00 | A | 47630.00 | 1.17 |
| 115 | In | 1156035.00 | P | 1011.00 | 0.09 |
| 118 | (In) | 3459.43 | P | 327.10 | 9.46 |
| 118 | (In) | 1292.33 | P | 61.50 | 4.76 |
| 120 | Sn | 4909.95 | P | 387.20 | 7.89 |
| 121 | Sb | 3121.56 | P | 281.70 | 9.02 |
| 137 | Ba | 898.95 | P | 74.57 | 8.30 |
| 159 | Tb | 5429236.00 | A | 49000.00 | 0.90 |
| 175 | Lu | 5295639.00 | A | 29560.00 | 0.56 |
| 205 | Tl | 5270.10 | P | 106.40 | 2.02 |
| 206 | (Pb) | 536.70 | P | 53.65 | 10.00 |
| 207 | (Pb) | 453.36 | P | 41.64 | 9.18 |
| 208 | Pb | 3311.48 | P | 306.30 | 9.25 |
| 209 | Bi | 3172983.00 | A | 17310.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3209802.00 | 0.49 | 3232907.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 3391879.00 | 0.19 | 3437386.50 | 98.7 | 70 - 130 | |
| 45 | Sc | 336347.69 | 0.23 | 336743.88 | 99.9 | 70 - 130 | |
| 72 | Ge | 695227.31 | 1.13 | 696404.94 | 99.8 | 70 - 130 | |
| 72 | Ge | 136406.64 | 0.16 | 134418.56 | 101.5 | 70 - 130 | |
| 103 | Rh | 3829621.50 | 0.53 | 3907549.50 | 98.0 | 70 - 130 | |
| 115 | In | 4079255.00 | 1.17 | 4145777.80 | 98.4 | 70 - 130 | |
| 115 | In | 1156035.00 | 0.09 | 1149343.60 | 100.6 | 70 - 130 | |
| 159 | Tb | 5429236.00 | 0.90 | 5482146.50 | 99.0 | 70 - 130 | |
| 175 | Lu | 5295639.00 | 0.56 | 5341495.00 | 99.1 | 70 - 130 | |
| 209 | Bi | 3172983.30 | 0.55 | 3218292.80 | 98.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13E13l00.B\009CALS.D\009CALS.D#
Date Acquired: May 13 2013 12:04 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: May 13 2013 12:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 3145829.00 | A | 10520.00 | 0.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 195.56 | P | 18.36 | 9.39 |
| 9 | Be | 21.11 | P | 7.70 | 36.46 |
| 11 | B | 4027.31 | P | 172.20 | 4.28 |
| 11 | B | 93.34 | P | 5.77 | 6.19 |
| 23 | Na | 427922820.00 | A | 2772000.00 | 0.65 |
| 23 | Na | 22654500.00 | A | 98480.00 | 0.43 |
| 24 | Mg | 283631200.00 | A | 1044000.00 | 0.37 |
| 24 | Mg | 12612470.00 | A | 74640.00 | 0.59 |
| 27 | Al | 354832510.00 | A | 110600.00 | 0.03 |
| 27 | Al | 7357078.00 | A | 64320.00 | 0.87 |
| 39 | K | 371422690.00 | A | 600600.00 | 0.16 |
| 44 | Ca | 11113660.00 | A | 54760.00 | 0.49 |
| 45 | Sc | 3375037.00 | A | 16740.00 | 0.50 |
| 45 | Sc | 335137.91 | P | 996.90 | 0.30 |
| 47 | Ti | 654.49 | P | 30.97 | 4.73 |
| 51 | V | 3823.19 | P | 21.17 | 0.55 |
| 52 | Cr | 2506.46 | P | 32.12 | 1.28 |
| 55 | Mn | 4224.64 | P | 123.40 | 2.92 |
| 56 | Fe | 81674384.00 | A | 570100.00 | 0.70 |
| 59 | Co | 2132.18 | P | 75.78 | 3.55 |
| 60 | Ni | 865.81 | P | 41.45 | 4.79 |
| 63 | Cu | 2469.56 | P | 25.34 | 1.03 |
| 66 | Zn | 765.36 | P | 17.14 | 2.24 |
| 72 | Ge | 717301.69 | P | 6562.00 | 0.91 |
| 72 | Ge | 140320.30 | P | 648.10 | 0.46 |
| 75 | As | 164.45 | P | 3.91 | 2.38 |
| 78 | Se | 119.78 | P | 3.01 | 2.51 |
| 88 | Sr | 21746.40 | P | 83.01 | 0.38 |
| 98 | Mo | 1177.87 | P | 149.10 | 12.66 |
| 103 | Rh | 3627340.00 | A | 10940.00 | 0.30 |
| 107 | Ag | 1296.77 | P | 106.90 | 8.24 |

C:\ICPCHEM\1\DATA\13E13l00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37.78 | P | 11.71 | 31.00 |
| 115 | In | 3913255.00 | A | 25520.00 | 0.65 |
| 115 | In | 1112551.00 | P | 2309.00 | 0.21 |
| 118 | (In) | 1753.50 | P | 85.06 | 4.85 |
| 118 | (In) | 571.14 | P | 27.96 | 4.90 |
| 120 | Sn | 2318.05 | P | 172.80 | 7.45 |
| 121 | Sb | 1814.62 | P | 205.10 | 11.30 |
| 137 | Ba | 1103.42 | P | 23.33 | 2.11 |
| 159 | Tb | 5387387.00 | A | 10350.00 | 0.19 |
| 175 | Lu | 5221049.00 | A | 33910.00 | 0.65 |
| 205 | Tl | 2492.54 | P | 48.35 | 1.94 |
| 206 | (Pb) | 533.36 | P | 32.83 | 6.16 |
| 207 | (Pb) | 471.14 | P | 41.14 | 8.73 |
| 208 | Pb | 3193.68 | P | 274.80 | 8.60 |
| 209 | Bi | 2965507.00 | A | 31950.00 | 1.08 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 3145829.30 | 0.33 | 3232907.30 | 97.3 | 70 - 130 | |
| 45 | Sc | 3375037.30 | 0.50 | 3437386.50 | 98.2 | 70 - 130 | |
| 45 | Sc | 335137.84 | 0.30 | 336743.88 | 99.5 | 70 - 130 | |
| 72 | Ge | 717301.69 | 0.91 | 696404.94 | 103.0 | 70 - 130 | |
| 72 | Ge | 140320.30 | 0.46 | 134418.56 | 104.4 | 70 - 130 | |
| 103 | Rh | 3627339.50 | 0.30 | 3907549.50 | 92.8 | 70 - 130 | |
| 115 | In | 3913255.30 | 0.65 | 4145777.80 | 94.4 | 70 - 130 | |
| 115 | In | 1112551.30 | 0.21 | 1149343.60 | 96.8 | 70 - 130 | |
| 159 | Tb | 5387387.50 | 0.19 | 5482146.50 | 98.3 | 70 - 130 | |
| 175 | Lu | 5221049.00 | 0.65 | 5341495.00 | 97.7 | 70 - 130 | |
| 209 | Bi | 2965507.00 | 1.08 | 3218292.80 | 92.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13E13l00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E13l00.B\010SMPL.D\010SMPL.D# | | |
| **Date Acquired:** | May 13 2013 12:11 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2101 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 13 2013 12:07 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.67 | 60.67 | ppb | 0.71 | 900.00 | |
| 9 Be | 45 | 2 | 60.90 | 60.90 | ppb | 0.79 | 900.00 | |
| 11 B | 6 | 1 | 56.35 | 56.35 | ppb | 1.46 | 900.00 | |
| 11 B | 45 | 2 | 57.37 | 57.37 | ppb | 2.89 | 900.00 | |
| 23 Na | 45 | 1 | 5437.00 | 5437.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 5568.00 | 5568.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5530.00 | 5530.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 5615.00 | 5615.00 | ppb | 0.12 | 90000.00 | |
| 27 Al | 45 | 1 | 5624.00 | 5624.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 5741.00 | 5741.00 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 5497.00 | 5497.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 5506.00 | 5506.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 58.39 | 58.39 | ppb | 0.62 | 900.00 | |
| 51 V | 45 | 2 | 60.31 | 60.31 | ppb | 0.18 | 900.00 | |
| 52 Cr | 45 | 2 | 58.74 | 58.74 | ppb | 0.23 | 900.00 | |
| 55 Mn | 45 | 2 | 59.10 | 59.10 | ppb | 0.10 | 900.00 | |
| 56 Fe | 45 | 2 | 5583.00 | 5583.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 58.97 | 58.97 | ppb | 0.43 | 900.00 | |
| 60 Ni | 45 | 2 | 58.14 | 58.14 | ppb | 0.47 | 900.00 | |
| 63 Cu | 72 | 2 | 55.79 | 55.79 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 56.86 | 56.86 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 58.80 | 58.80 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 57.82 | 57.82 | ppb | 2.01 | 900.00 | |
| 88 Sr | 103 | 1 | 61.47 | 61.47 | ppb | 0.10 | 900.00 | |
| 98 Mo | 103 | 1 | 61.69 | 61.69 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 61.09 | 61.09 | ppb | 0.92 | 180.00 | |
| 111 Cd | 115 | 2 | 59.05 | 59.05 | ppb | 0.77 | 900.00 | |
| 120 Sn | 115 | 1 | 58.75 | 58.75 | ppb | 1.77 | 900.00 | |
| 121 Sb | 115 | 1 | 61.52 | 61.52 | ppb | 2.33 | 900.00 | |
| 137 Ba | 159 | 1 | 59.52 | 59.52 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 59.57 | 59.57 | ppb | 0.19 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.20 | 60.20 | ppb | 1.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3162495 | 0.60 | 3232907 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 3400737 | 0.11 | 3437387 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 330443 | 0.34 | 336744 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13l00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689477 | 0.84 | 696405 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 135495 | 0.59 | 134419 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 3690063 | 0.07 | 3907550 | 94.4 | 70 | - | 130 |
| 115 In | 1 | 3958856 | 1.48 | 4145778 | 95.5 | 70 | - | 130 |
| 115 In | 2 | 1105612 | 0.67 | 1149344 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 5377805 | 0.64 | 5482147 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 5245543 | 0.21 | 5341495 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 3041984 | 0.56 | 3218293 | 94.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\001SMPL.D\001SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E13m02.B\001SMPL.D\001SMPL.D# | | |
| **Date Acquired:** | May 13 2013 12:36 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 13 2013 12:07 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 995.61 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.02 | ppb | 64.93 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 8.95 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 148.07 | 900.00 | |
| 23 Na | 45 | 1 | 0.10 | 0.10 | ppb | 260.31 | 90000.00 | |
| 23 Na | 45 | 2 | 0.42 | 0.42 | ppb | 43.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.08 | 0.08 | ppb | 54.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.18 | 0.18 | ppb | 20.46 | 90000.00 | |
| 27 Al | 45 | 1 | 0.27 | 0.27 | ppb | 14.40 | 90000.00 | |
| 27 Al | 45 | 2 | 0.29 | 0.29 | ppb | 55.48 | 90000.00 | |
| 39 K | 45 | 1 | -2.68 | -2.68 | ppb | 29.94 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.48 | -3.48 | ppb | 71.93 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.86 | 900.00 | |
| 51 V | 45 | 2 | 0.08 | 0.08 | ppb | 7.67 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 14.54 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 259.63 | 900.00 | |
| 56 Fe | 45 | 2 | 0.49 | 0.49 | ppb | 12.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 1035.20 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 102.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 1951.20 | 900.00 | |
| 66 Zn | 72 | 2 | 0.08 | 0.08 | ppb | 12.89 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 100.00 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 3087.90 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 40.78 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 17.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 21.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 167.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 13.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 20.47 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 78.39 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 5.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 207.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3269577 | 0.98 | 3232907 | 101.1 | 70 - 130 | |
| 45 Sc | 1 | 3410263 | 1.15 | 3437387 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 338342 | 0.04 | 336744 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\001SMPL.D\001SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 694551 | 1.24 | 696405 | 99.7 | 70 | - | 130 |
| 72 | Ge | 2 | 136166 | 0.55 | 134419 | 101.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3881988 | 0.21 | 3907550 | 99.3 | 70 | - | 130 |
| 115 | In | 1 | 4157943 | 0.94 | 4145778 | 100.3 | 70 | - | 130 |
| 115 | In | 2 | 1174420 | 0.97 | 1149344 | 102.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5515257 | 0.24 | 5482147 | 100.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5365934 | 0.40 | 5341495 | 100.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3260104 | 0.64 | 3218293 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\002SMPL.D\002SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\002SMPL.D\002SMPL.D#
Date Acquired: May 13 2013 12:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.72 | 50.72 | ppb | 0.52 | 900.00 | |
| 9 Be | 45 | 2 | 50.88 | 50.88 | ppb | 1.29 | 900.00 | |
| 11 B | 6 | 1 | 48.85 | 48.85 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 50.13 | 50.13 | ppb | 2.04 | 900.00 | |
| 23 Na | 45 | 1 | 5111.00 | 5111.00 | ppb | 0.95 | 90000.00 | |
| 23 Na | 45 | 2 | 5133.00 | 5133.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 5128.00 | 5128.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 5130.00 | 5130.00 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 5124.00 | 5124.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 2 | 5176.00 | 5176.00 | ppb | 0.76 | 90000.00 | |
| 39 K | 45 | 1 | 5132.00 | 5132.00 | ppb | 0.95 | 90000.00 | |
| 44 Ca | 45 | 1 | 5117.00 | 5117.00 | ppb | 1.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.40 | 49.40 | ppb | 0.35 | 900.00 | |
| 51 V | 45 | 2 | 49.71 | 49.71 | ppb | 0.28 | 900.00 | |
| 52 Cr | 45 | 2 | 48.93 | 48.93 | ppb | 0.43 | 900.00 | |
| 55 Mn | 45 | 2 | 48.79 | 48.79 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 5089.00 | 5089.00 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 49.14 | 49.14 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 47.98 | 47.98 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 46.71 | 46.71 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 47.58 | 47.58 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 48.82 | 48.82 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 48.39 | 48.39 | ppb | 1.00 | 900.00 | |
| 88 Sr | 103 | 1 | 52.00 | 52.00 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 50.64 | 50.64 | ppb | 0.86 | 900.00 | |
| 107 Ag | 115 | 1 | 48.75 | 48.75 | ppb | 0.64 | 180.00 | |
| 111 Cd | 115 | 2 | 48.88 | 48.88 | ppb | 0.62 | 900.00 | |
| 120 Sn | 115 | 1 | 51.53 | 51.53 | ppb | 0.32 | 900.00 | |
| 121 Sb | 115 | 1 | 52.31 | 52.31 | ppb | 0.33 | 900.00 | |
| 137 Ba | 159 | 1 | 49.71 | 49.71 | ppb | 0.33 | 900.00 | |
| 205 Tl | 209 | 1 | 49.71 | 49.71 | ppb | 1.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.39 | 50.39 | ppb | 1.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3178879 | 0.35 | 3232907 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 3416878 | 0.15 | 3437387 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 336104 | 0.20 | 336744 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\002SMPL.D\002SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 690353 | 0.82 | 696405 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 137299 | 0.46 | 134419 | 102.1 | 70 | - | 130 |
| 103 Rh | 1 | 3726780 | 0.69 | 3907550 | 95.4 | 70 | - | 130 |
| 115 In | 1 | 4009543 | 0.72 | 4145778 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1133488 | 0.42 | 1149344 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 5454898 | 0.61 | 5482147 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 5275747 | 0.18 | 5341495 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 3082697 | 1.52 | 3218293 | 95.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\003SMPL.D\003SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E13m02.B\003SMPL.D\003SMPL.D# | | |
| **Date Acquired:** | May 13 2013 12:50 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2104 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 13 2013 12:07 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 38.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 92.77 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 6.85 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 28.63 | 900.00 | |
| 23 Na | 45 | 1 | 1.04 | 1.04 | ppb | 40.51 | 90000.00 | |
| 23 Na | 45 | 2 | 0.68 | 0.68 | ppb | 30.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.23 | 0.23 | ppb | 4.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.21 | 0.21 | ppb | 20.03 | 90000.00 | |
| 27 Al | 45 | 1 | 0.21 | 0.21 | ppb | 28.68 | 90000.00 | |
| 27 Al | 45 | 2 | 0.32 | 0.32 | ppb | 38.07 | 90000.00 | |
| 39 K | 45 | 1 | 0.75 | 0.75 | ppb | 217.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.47 | 6.47 | ppb | 46.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 47.65 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 20.95 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 111.25 | 900.00 | |
| 56 Fe | 45 | 2 | 1.13 | 1.13 | ppb | 4.16 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 331.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 356.07 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 250.64 | 900.00 | |
| 66 Zn | 72 | 2 | 0.48 | 0.48 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 46.41 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 162.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 17.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 5.64 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.32 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 203.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 5.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 593.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 5.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 69.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3277421 | 0.15 | 3232907 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 3429698 | 0.68 | 3437387 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 342847 | 0.62 | 336744 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\003SMPL.D\003SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 692522 | 0.93 | 696405 | 99.4 | 70 - | 130 |
| 72 | Ge | 2 | 137219 | 0.10 | 134419 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 3867038 | 0.50 | 3907550 | 99.0 | 70 - | 130 |
| 115 | In | 1 | 4102280 | 0.41 | 4145778 | 99.0 | 70 - | 130 |
| 115 | In | 2 | 1176105 | 0.44 | 1149344 | 102.3 | 70 - | 130 |
| 159 | Tb | 1 | 5500289 | 0.14 | 5482147 | 100.3 | 70 - | 130 |
| 175 | Lu | 1 | 5342773 | 1.54 | 5341495 | 100.0 | 70 - | 130 |
| 209 | Bi | 1 | 3216035 | 0.49 | 3218293 | 99.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\004SMPL.D\004SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13E13m02.B\004SMPL.D\004SMPL.D# | | |
| **Date Acquired:** | May 13 2013 12:57 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CRI | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2105 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | May 13 2013 12:07 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 1.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 18.65 | 900.00 | |
| 11 B | 6 | 1 | 4.75 | 4.75 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 5.01 | 5.01 | ppb | 6.62 | 900.00 | |
| 23 Na | 45 | 1 | 262.70 | 262.70 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 278.60 | 278.60 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 266.90 | 266.90 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 281.20 | 281.20 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 26.95 | 26.95 | ppb | 2.21 | 90000.00 | |
| 27 Al | 45 | 2 | 27.01 | 27.01 | ppb | 1.37 | 90000.00 | |
| 39 K | 45 | 1 | 255.20 | 255.20 | ppb | 1.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 269.20 | 269.20 | ppb | 2.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 1.02 | ppb | 4.90 | 900.00 | |
| 51 V | 45 | 2 | 1.04 | 1.04 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 0.90 | 0.90 | ppb | 0.34 | 900.00 | |
| 55 Mn | 45 | 2 | 0.78 | 0.78 | ppb | 2.88 | 900.00 | |
| 56 Fe | 45 | 2 | 24.55 | 24.55 | ppb | 1.33 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.10 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.98 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.98 | 0.98 | ppb | 1.46 | 900.00 | |
| 66 Zn | 72 | 2 | 1.80 | 1.80 | ppb | 0.95 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 3.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.48 | 0.48 | ppb | 12.83 | 900.00 | |
| 88 Sr | 103 | 1 | 5.10 | 5.10 | ppb | 1.92 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 3.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.52 | 0.52 | ppb | 1.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 6.04 | 900.00 | |
| 120 Sn | 115 | 1 | 4.98 | 4.98 | ppb | 2.28 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 2.85 | 900.00 | |
| 205 Tl | 209 | 1 | 0.49 | 0.49 | ppb | 3.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 1.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3298309 | 1.16 | 3232907 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 3438074 | 1.42 | 3437387 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 342935 | 0.25 | 336744 | 101.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\004SMPL.D\004SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 690159 | 2.15 | 696405 | 99.1 | 70 - | 130 |
| 72 | Ge | 2 | 138174 | 0.56 | 134419 | 102.8 | 70 - | 130 |
| 103 | Rh | 1 | 3875198 | 1.01 | 3907550 | 99.2 | 70 - | 130 |
| 115 | In | 1 | 4181677 | 0.29 | 4145778 | 100.9 | 70 - | 130 |
| 115 | In | 2 | 1176023 | 0.22 | 1149344 | 102.3 | 70 - | 130 |
| 159 | Tb | 1 | 5542306 | 1.23 | 5482147 | 101.1 | 70 - | 130 |
| 175 | Lu | 1 | 5323844 | 0.60 | 5341495 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 3195608 | 2.43 | 3218293 | 99.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\005SMPL.D\005SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\005SMPL.D\005SMPL.D#
Date Acquired: May 13 2013 01:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 92.18 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.02 | ppb | 64.74 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 48.06 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 210.46 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 96790.00 | 96790.00 | ppb | 0.62 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 95680.00 | 95680.00 | ppb | 0.64 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96320.00 | 96320.00 | ppb | 0.43 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94900.00 | 94900.00 | ppb | 0.92 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 96290.00 | 96290.00 | ppb | 0.62 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97540.00 | 97540.00 | ppb | 0.40 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95390.00 | 95390.00 | ppb | 0.48 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1970.00 | 1970.00 | ppb | 0.55 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 19.99 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 14.34 | 900.00 | |
| 56 Fe | 45 | 2 | 95590.00 | 95590.00 | ppb | 0.47 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 7.01 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.67 | ppb | 3.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.08 | ppb | 8.12 | 900.00 | |
| 66 Zn | 72 | 2 | 1.47 | 1.47 | ppb | 4.26 | 900.00 | |
| 75 As | 72 | 2 | 0.12 | 0.12 | ppb | 9.56 | 900.00 | |
| 78 Se | 72 | 2 | -0.14 | -0.14 | ppb | 16.14 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 0.83 | 900.00 | |
| 98 Mo | 103 | 1 | 2039.00 | 2039.00 | ppb | 0.50 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 2.65 | 180.00 | |
| 111 Cd | 115 | 2 | 2.84 | 2.84 | ppb | 3.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 1.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.83 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 2.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 13.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 0.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2778956 | 1.09 | 3232907 | 86.0 | 70 - 130 | |
| 45 Sc | 1 | 3151826 | 0.19 | 3437387 | 91.7 | 70 - 130 | |
| 45 Sc | 2 | 314919 | 0.37 | 336744 | 93.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\005SMPL.D\005SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 896953 | 2.31 | 696405 | 128.8 | 70 | - 130 | |
| 72 | Ge | 2 | 180871 | 0.36 | 134419 | 134.6 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 3241604 | 0.24 | 3907550 | 83.0 | 70 | - 130 | |
| 115 | In | 1 | 3604514 | 0.90 | 4145778 | 86.9 | 70 | - 130 | |
| 115 | In | 2 | 1013191 | 0.62 | 1149344 | 88.2 | 70 | - 130 | |
| 159 | Tb | 1 | 5099830 | 0.34 | 5482147 | 93.0 | 70 | - 130 | |
| 175 | Lu | 1 | 5035376 | 0.22 | 5341495 | 94.3 | 70 | - 130 | |
| 209 | Bi | 1 | 2728361 | 0.56 | 3218293 | 84.8 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\006SMPL.D\006SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\006SMPL.D\006SMPL.D#
Date Acquired: May 13 2013 01:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Fail

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 73.36 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 39246.00 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 23.66 | 900.00 | |
| 11 B | 45 | 2 | 0.13 | 0.13 | ppb | 147.30 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98010.00 | 98010.00 | ppb | 0.33 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94840.00 | 94840.00 | ppb | 0.35 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 97860.00 | 97860.00 | ppb | 0.11 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94710.00 | 94710.00 | ppb | 0.92 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 96200.00 | 96200.00 | ppb | 0.39 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97590.00 | 97590.00 | ppb | 0.16 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95750.00 | 95750.00 | ppb | 0.84 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1982.00 | 1982.00 | ppb | 0.35 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 6.90 | 900.00 | |
| 52 Cr | 45 | 2 | 19.94 | 19.94 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 19.07 | 19.07 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 96910.00 | 96910.00 | ppb | 0.94 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.01 | 19.01 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 18.83 | 18.83 | ppb | 0.64 | 900.00 | |
| 63 Cu | 72 | 2 | 12.22 | 12.22 | ppb | 0.76 | 900.00 | |
| 66 Zn | 72 | 2 | 13.77 | 13.77 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 14.39 | 14.39 | ppb | 0.88 | 900.00 | |
| 78 Se | 72 | 2 | -0.21 | -0.21 | ppb | 20.33 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.26 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.52 | 19.52 | ppb | 1.76 | 180.00 | |
| 111 Cd | 115 | 2 | 22.06 | 22.06 | ppb | 1.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.13 | ppb | 4.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.98 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 7.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 14.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 2.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2731955 | 0.97 | 3232907 | 84.5 | 70 - 130 | |
| 45 Sc | 1 | 3193430 | 0.63 | 3437387 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 314711 | 0.17 | 336744 | 93.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\006SMPL.D\006SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 874373 | 1.98 | 696405 | 125.6 | 70 | - 130 | |
| 72 | Ge | 2 | 179314 | 0.44 | 134419 | 133.4 | 70 | - 130 | IS Fail |
| 103 | Rh | 1 | 3283144 | 0.66 | 3907550 | 84.0 | 70 | - 130 | |
| 115 | In | 1 | 3665549 | 0.89 | 4145778 | 88.4 | 70 | - 130 | |
| 115 | In | 2 | 1003991 | 0.07 | 1149344 | 87.4 | 70 | - 130 | |
| 159 | Tb | 1 | 5153146 | 0.47 | 5482147 | 94.0 | 70 | - 130 | |
| 175 | Lu | 1 | 5106060 | 0.36 | 5341495 | 95.6 | 70 | - 130 | |
| 209 | Bi | 1 | 2735008 | 0.04 | 3218293 | 85.0 | 70 | - 130 | |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\007SMPL.D\007SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\007SMPL.D\007SMPL.D#
Date Acquired: May 13 2013 01:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 257.72 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2178.40 | 900.00 | |
| 11 B | 6 | 1 | -0.10 | -0.05 | ppb | 33.81 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.11 | ppb | 87.40 | 900.00 | |
| 23 Na | 45 | 1 | 95820.00 | 47910.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 97280.00 | 48640.00 | ppb | 0.11 | 90000.00 | |
| 24 Mg | 45 | 1 | 96420.00 | 48210.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 96920.00 | 48460.00 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 1 | 95740.00 | 47870.00 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 2 | 95120.00 | 47560.00 | ppb | 0.99 | 90000.00 | |
| 39 K | 45 | 1 | 98680.00 | 49340.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 96900.00 | 48450.00 | ppb | 0.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 2018.00 | 1009.00 | ppb | 0.80 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.26 | -0.13 | ppb | 5.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.86 | 0.43 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | -0.24 | -0.12 | ppb | 5.47 | 900.00 | |
| 56 Fe | 45 | 2 | 97080.00 | 48540.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 4.77 | 900.00 | |
| 60 Ni | 45 | 2 | 0.67 | 0.33 | ppb | 6.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.04 | ppb | 8.88 | 900.00 | |
| 66 Zn | 72 | 2 | 1.52 | 0.76 | ppb | 2.51 | 900.00 | |
| 75 As | 72 | 2 | 0.07 | 0.03 | ppb | 7.84 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 234.04 | 900.00 | |
| 88 Sr | 103 | 1 | 4.93 | 2.46 | ppb | 0.97 | 900.00 | |
| 98 Mo | 103 | 1 | 2010.00 | 1005.00 | ppb | 0.36 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 6.10 | 180.00 | |
| 111 Cd | 115 | 2 | 2.87 | 1.43 | ppb | 3.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.08 | ppb | 4.39 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.14 | ppb | 5.09 | 900.00 | |
| 137 Ba | 159 | 1 | 0.21 | 0.11 | ppb | 0.76 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 54.31 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 6.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2835262 | 0.93 | 3232907 | 87.7 | 70 - 130 | |
| 45 Sc | 1 | 3285430 | 0.18 | 3437387 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 325735 | 0.05 | 336744 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\007SMPL.D\007SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 781127 | 0.85 | 696405 | 112.2 | 70 - | 130 |
| 72 | Ge | 2 | 158862 | 0.32 | 134419 | 118.2 | 70 - | 130 |
| 103 | Rh | 1 | 3437434 | 0.12 | 3907550 | 88.0 | 70 - | 130 |
| 115 | In | 1 | 3829123 | 0.35 | 4145778 | 92.4 | 70 - | 130 |
| 115 | In | 2 | 1071227 | 0.42 | 1149344 | 93.2 | 70 - | 130 |
| 159 | Tb | 1 | 5352679 | 0.78 | 5482147 | 97.6 | 70 - | 130 |
| 175 | Lu | 1 | 5256269 | 0.58 | 5341495 | 98.4 | 70 - | 130 |
| 209 | Bi | 1 | 2916549 | 0.52 | 3218293 | 90.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\008SMPL.D\008SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\008SMPL.D\008SMPL.D#
Date Acquired: May 13 2013 01:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 59.19 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 26.98 | 900.00 | |
| 11 B | 6 | 1 | -0.12 | -0.06 | ppb | 33.83 | 900.00 | |
| 11 B | 45 | 2 | -0.19 | -0.09 | ppb | 132.67 | 900.00 | |
| 23 Na | 45 | 1 | 95660.00 | 47830.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 97600.00 | 48800.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 96220.00 | 48110.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 97580.00 | 48790.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 95740.00 | 47870.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 96320.00 | 48160.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 98280.00 | 49140.00 | ppb | 0.77 | 90000.00 | |
| 44 Ca | 45 | 1 | 96820.00 | 48410.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 1997.40 | 998.70 | ppb | 0.86 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.24 | -0.12 | ppb | 8.41 | 900.00 | |
| 52 Cr | 45 | 2 | 20.00 | 10.00 | ppb | 0.34 | 900.00 | |
| 55 Mn | 45 | 2 | 19.00 | 9.50 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 97200.00 | 48600.00 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 19.24 | 9.62 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 19.13 | 9.56 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 14.80 | 7.40 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 16.88 | 8.44 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 16.84 | 8.42 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | -0.22 | -0.11 | ppb | 92.18 | 900.00 | |
| 88 Sr | 103 | 1 | 4.88 | 2.44 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1988.20 | 994.10 | ppb | 0.75 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.58 | 9.79 | ppb | 0.51 | 180.00 | |
| 111 Cd | 115 | 2 | 22.16 | 11.08 | ppb | 0.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 4.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 3.19 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.12 | ppb | 3.02 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 49.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 4.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2796229 | 0.86 | 3232907 | 86.5 | 70 - 130 | |
| 45 Sc | 1 | 3286761 | 0.29 | 3437387 | 95.6 | 70 - 130 | |
| 45 Sc | 2 | 324945 | 0.18 | 336744 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\008SMPL.D\008SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 783795 | 1.51 | 696405 | 112.5 | 70 - | 130 |
| 72 | Ge | 2 | 159041 | 0.33 | 134419 | 118.3 | 70 - | 130 |
| 103 | Rh | 1 | 3463990 | 0.34 | 3907550 | 88.6 | 70 - | 130 |
| 115 | In | 1 | 3856988 | 0.86 | 4145778 | 93.0 | 70 - | 130 |
| 115 | In | 2 | 1073700 | 0.51 | 1149344 | 93.4 | 70 - | 130 |
| 159 | Tb | 1 | 5347682 | 0.62 | 5482147 | 97.5 | 70 - | 130 |
| 175 | Lu | 1 | 5256934 | 0.43 | 5341495 | 98.4 | 70 - | 130 |
| 209 | Bi | 1 | 2902447 | 0.64 | 3218293 | 90.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\009SMPL.D\009SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\009SMPL.D\009SMPL.D#
Date Acquired: May 13 2013 01:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 168.76 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.02 | ppb | 50.71 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 12.50 | 900.00 | |
| 11 B | 45 | 2 | -0.25 | -0.25 | ppb | 26.80 | 900.00 | |
| 23 Na | 45 | 1 | 9.71 | 9.71 | ppb | 3.30 | 90000.00 | |
| 23 Na | 45 | 2 | 11.78 | 11.78 | ppb | 3.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.85 | 2.85 | ppb | 2.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.49 | 3.49 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 2.54 | 2.54 | ppb | 4.32 | 90000.00 | |
| 27 Al | 45 | 2 | 2.93 | 2.93 | ppb | 3.74 | 90000.00 | |
| 39 K | 45 | 1 | -2.55 | -2.55 | ppb | 45.00 | 90000.00 | |
| 44 Ca | 45 | 1 | -12.04 | -12.04 | ppb | 12.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 48.89 | 900.00 | |
| 51 V | 45 | 2 | 0.06 | 0.06 | ppb | 10.98 | 900.00 | |
| 52 Cr | 45 | 2 | -0.09 | -0.09 | ppb | 1.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 63.03 | 900.00 | |
| 56 Fe | 45 | 2 | 5.36 | 5.36 | ppb | 2.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 17.85 | 900.00 | |
| 60 Ni | 45 | 2 | -0.01 | -0.01 | ppb | 29.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.04 | 0.04 | ppb | 22.75 | 900.00 | |
| 66 Zn | 72 | 2 | -0.27 | -0.27 | ppb | 2.25 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 46.19 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 345.65 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 13.48 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 4.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 25.02 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 84.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 10.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 9.81 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 51.52 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 14.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 14.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3009286 | 1.01 | 3232907 | 93.1 | 70 - 130 | |
| 45 Sc | 1 | 3417544 | 0.55 | 3437387 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 334259 | 0.22 | 336744 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\009SMPL.D\009SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689658 | 0.95 | 696405 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 138094 | 0.32 | 134419 | 102.7 | 70 | - | 130 |
| 103 Rh | 1 | 3892458 | 0.15 | 3907550 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 4188596 | 0.06 | 4145778 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1171969 | 0.19 | 1149344 | 102.0 | 70 | - | 130 |
| 159 Tb | 1 | 5583178 | 0.24 | 5482147 | 101.8 | 70 | - | 130 |
| 175 Lu | 1 | 5478806 | 1.17 | 5341495 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 3292699 | 0.35 | 3218293 | 102.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\010SMPL.D\010SMPL.D#
Date Acquired: May 13 2013 01:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-MB1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 35.16 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.02 | ppb | 160.64 | 900.00 | |
| 11 B | 6 | 1 | 0.59 | 0.29 | ppb | 3.08 | 900.00 | |
| 11 B | 45 | 2 | 0.47 | 0.24 | ppb | 46.87 | 900.00 | |
| 23 Na | 45 | 1 | 20.50 | 10.25 | ppb | 3.70 | 90000.00 | |
| 23 Na | 45 | 2 | 25.90 | 12.95 | ppb | 4.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.96 | 1.48 | ppb | 2.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.90 | 1.45 | ppb | 16.27 | 90000.00 | |
| 27 Al | 45 | 1 | 0.68 | 0.34 | ppb | 12.07 | 90000.00 | |
| 27 Al | 45 | 2 | 0.56 | 0.28 | ppb | 69.22 | 90000.00 | |
| 39 K | 45 | 1 | -4.64 | -2.32 | ppb | 34.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 19.38 | 9.69 | ppb | 26.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.34 | 0.17 | ppb | 6.18 | 900.00 | |
| 51 V | 45 | 2 | 1.78 | 0.89 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.00 | ppb | 237.20 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.06 | ppb | 12.48 | 900.00 | |
| 56 Fe | 45 | 2 | -0.83 | -0.42 | ppb | 61.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 54.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 28.92 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.04 | ppb | 15.12 | 900.00 | |
| 66 Zn | 72 | 2 | 0.45 | 0.23 | ppb | 6.18 | 900.00 | |
| 75 As | 72 | 2 | 0.34 | 0.17 | ppb | 9.50 | 900.00 | |
| 78 Se | 72 | 2 | -0.12 | -0.06 | ppb | 106.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 6.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.97 | 0.49 | ppb | 9.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 27.62 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 76.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.11 | ppb | 4.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 6.22 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 23.35 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 38.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 12.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2933732 | 0.33 | 3232907 | 90.7 | 70 - 130 | |
| 45 Sc | 1 | 3404597 | 0.83 | 3437387 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 329802 | 0.65 | 336744 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 682446 | 0.70 | 696405 | 98.0 | 70 | - | 130 |
| 72 | Ge | 2 | 135561 | 0.34 | 134419 | 100.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3875528 | 0.98 | 3907550 | 99.2 | 70 | - | 130 |
| 115 | In | 1 | 4111470 | 1.01 | 4145778 | 99.2 | 70 | - | 130 |
| 115 | In | 2 | 1157142 | 0.79 | 1149344 | 100.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5582710 | 0.57 | 5482147 | 101.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5462731 | 0.95 | 5341495 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3290078 | 0.81 | 3218293 | 102.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\011SMPL.D\011SMPL.D#
Date Acquired: May 13 2013 01:48 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-14F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 79.21 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 283.98 | 900.00 | |
| 11 B | 6 | 1 | 41.18 | 20.59 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 37.84 | 18.92 | ppb | 5.15 | 900.00 | |
| 23 Na | 45 | 1 | 104240.00 | 52120.00 | ppb | 0.36 | 90000.00 | |
| 23 Na | 45 | 2 | 111060.00 | 55530.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 4064.00 | 2032.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4340.00 | 2170.00 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 1 | 10.00 | 5.00 | ppb | 102.72 | 90000.00 | |
| 27 Al | 45 | 2 | 3.44 | 1.72 | ppb | 2.57 | 90000.00 | |
| 39 K | 45 | 1 | 6546.00 | 3273.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 40500.00 | 20250.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.59 | ppb | 14.73 | 900.00 | |
| 51 V | 45 | 2 | 2.37 | 1.19 | ppb | 2.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 3.90 | 900.00 | |
| 55 Mn | 45 | 2 | 140.22 | 70.11 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 1245.60 | 622.80 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 2.18 | 1.09 | ppb | 0.93 | 900.00 | |
| 60 Ni | 45 | 2 | 5.52 | 2.76 | ppb | 0.45 | 900.00 | |
| 63 Cu | 72 | 2 | 1.36 | 0.68 | ppb | 0.86 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.20 | ppb | 1.12 | 900.00 | |
| 75 As | 72 | 2 | 0.81 | 0.41 | ppb | 4.73 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.08 | ppb | 116.99 | 900.00 | |
| 88 Sr | 103 | 1 | 306.20 | 153.10 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 4.56 | 2.28 | ppb | 3.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 33.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 23.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.15 | ppb | 2.04 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.11 | ppb | 7.45 | 900.00 | |
| 137 Ba | 159 | 1 | 102.28 | 51.14 | ppb | 0.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 6.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 22.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2740932 | 0.50 | 3232907 | 84.8 | 70 - 130 | |
| 45 Sc | 1 | 3318148 | 0.47 | 3437387 | 96.5 | 70 - 130 | |
| 45 Sc | 2 | 319598 | 0.02 | 336744 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 663372 | 0.53 | 696405 | 95.3 | 70 - | 130 |
| 72 | Ge | 2 | 131058 | 0.14 | 134419 | 97.5 | 70 - | 130 |
| 103 | Rh | 1 | 3529200 | 0.22 | 3907550 | 90.3 | 70 - | 130 |
| 115 | In | 1 | 3880688 | 0.65 | 4145778 | 93.6 | 70 - | 130 |
| 115 | In | 2 | 1089536 | 0.45 | 1149344 | 94.8 | 70 - | 130 |
| 159 | Tb | 1 | 5421591 | 0.33 | 5482147 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 5303475 | 1.34 | 5341495 | 99.3 | 70 - | 130 |
| 209 | Bi | 1 | 3009077 | 0.54 | 3218293 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\012SMPL.D\012SMPL.D#
Date Acquired: May 13 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-15F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 80.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 743.02 | 900.00 | |
| 11 B | 6 | 1 | 24.00 | 12.00 | ppb | 0.95 | 900.00 | |
| 11 B | 45 | 2 | 22.96 | 11.48 | ppb | 0.85 | 900.00 | |
| 23 Na | 45 | 1 | 54340.00 | 27170.00 | ppb | 1.20 | 90000.00 | |
| 23 Na | 45 | 2 | 56800.00 | 28400.00 | ppb | 0.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 1604.40 | 802.20 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 1726.00 | 863.00 | ppb | 0.28 | 90000.00 | |
| 27 Al | 45 | 1 | 2.08 | 1.04 | ppb | 2.41 | 90000.00 | |
| 27 Al | 45 | 2 | 1.70 | 0.85 | ppb | 7.30 | 90000.00 | |
| 39 K | 45 | 1 | 3496.00 | 1748.00 | ppb | 0.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 14952.00 | 7476.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.95 | 0.48 | ppb | 1.41 | 900.00 | |
| 51 V | 45 | 2 | 2.34 | 1.17 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.14 | ppb | 14.44 | 900.00 | |
| 55 Mn | 45 | 2 | 587.00 | 293.50 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 1660.80 | 830.40 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 9.82 | 4.91 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | 14.10 | 7.05 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.38 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 12.10 | 6.05 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 0.61 | 0.30 | ppb | 6.78 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 245.48 | 900.00 | |
| 88 Sr | 103 | 1 | 241.20 | 120.60 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 3.65 | 1.83 | ppb | 0.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 40.58 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 29.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.33 | 0.17 | ppb | 2.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 2.65 | 900.00 | |
| 137 Ba | 159 | 1 | 12.96 | 6.48 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 3.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 9.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2801442 | 0.82 | 3232907 | 86.7 | 70 - 130 | |
| 45 Sc | 1 | 3307139 | 0.92 | 3437387 | 96.2 | 70 - 130 | |
| 45 Sc | 2 | 321906 | 0.35 | 336744 | 95.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 667324 | 0.80 | 696405 | 95.8 | 70 - | 130 |
| 72 | Ge | 2 | 132478 | 0.42 | 134419 | 98.6 | 70 - | 130 |
| 103 | Rh | 1 | 3569900 | 0.87 | 3907550 | 91.4 | 70 - | 130 |
| 115 | In | 1 | 3959185 | 1.18 | 4145778 | 95.5 | 70 - | 130 |
| 115 | In | 2 | 1111453 | 0.41 | 1149344 | 96.7 | 70 - | 130 |
| 159 | Tb | 1 | 5441046 | 1.17 | 5482147 | 99.3 | 70 - | 130 |
| 175 | Lu | 1 | 5350260 | 1.15 | 5341495 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 3099015 | 0.37 | 3218293 | 96.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\013SMPL.D\013SMPL.D#
Date Acquired: May 13 2013 02:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC20556-16F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 734.98 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | -0.03 | ppb | 18.34 | 900.00 | |
| 11 B | 6 | 1 | 20.56 | 10.28 | ppb | 0.73 | 900.00 | |
| 11 B | 45 | 2 | 20.00 | 10.00 | ppb | 1.32 | 900.00 | |
| 23 Na | 45 | 1 | 29840.00 | 14920.00 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 31380.00 | 15690.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 3280.00 | 1640.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 3488.00 | 1744.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 1 | 8.99 | 4.49 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 2 | 8.90 | 4.45 | ppb | 4.38 | 90000.00 | |
| 39 K | 45 | 1 | 3388.00 | 1694.00 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 26820.00 | 13410.00 | ppb | 0.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.21 | 0.60 | ppb | 3.62 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.13 | ppb | 1.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.42 | 0.21 | ppb | 3.32 | 900.00 | |
| 55 Mn | 45 | 2 | 322.60 | 161.30 | ppb | 0.54 | 900.00 | |
| 56 Fe | 45 | 2 | 1483.20 | 741.60 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 3.67 | 1.84 | ppb | 1.13 | 900.00 | |
| 60 Ni | 45 | 2 | 10.63 | 5.31 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.15 | 0.57 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 15.26 | 7.63 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.83 | 0.41 | ppb | 4.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.10 | ppb | 105.83 | 900.00 | |
| 88 Sr | 103 | 1 | 164.16 | 82.08 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 8.54 | 4.27 | ppb | 0.63 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 29.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 74.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.14 | ppb | 8.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 2.20 | 900.00 | |
| 137 Ba | 159 | 1 | 6.76 | 3.38 | ppb | 1.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 71.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 9.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2787503 | 1.63 | 3232907 | 86.2 | 70 - 130 | |
| 45 Sc | 1 | 3344404 | 0.61 | 3437387 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 322521 | 0.40 | 336744 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 672507 | 0.73 | 696405 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 132607 | 0.59 | 134419 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 3598632 | 0.46 | 3907550 | 92.1 | 70 | - | 130 |
| 115 In | 1 | 3998782 | 0.48 | 4145778 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 1117928 | 0.63 | 1149344 | 97.3 | 70 | - | 130 |
| 159 Tb | 1 | 5484703 | 1.39 | 5482147 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 5348358 | 1.17 | 5341495 | 100.1 | 70 | - | 130 |
| 209 Bi | 1 | 3086949 | 0.67 | 3218293 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\014SMPL.D\014SMPL.D#
Date Acquired: May 13 2013 02:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.38 | 51.38 | ppb | 0.38 | 900.00 | |
| 9 Be | 45 | 2 | 49.17 | 49.17 | ppb | 0.34 | 900.00 | |
| 11 B | 6 | 1 | 49.76 | 49.76 | ppb | 0.51 | 900.00 | |
| 11 B | 45 | 2 | 48.51 | 48.51 | ppb | 2.09 | 900.00 | |
| 23 Na | 45 | 1 | 4875.00 | 4875.00 | ppb | 1.91 | 90000.00 | |
| 23 Na | 45 | 2 | 5178.00 | 5178.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 4954.00 | 4954.00 | ppb | 1.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 5150.00 | 5150.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 1 | 4915.00 | 4915.00 | ppb | 2.18 | 90000.00 | |
| 27 Al | 45 | 2 | 5111.00 | 5111.00 | ppb | 1.29 | 90000.00 | |
| 39 K | 45 | 1 | 5005.00 | 5005.00 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 5039.00 | 5039.00 | ppb | 1.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 47.73 | 47.73 | ppb | 1.43 | 900.00 | |
| 51 V | 45 | 2 | 50.55 | 50.55 | ppb | 0.90 | 900.00 | |
| 52 Cr | 45 | 2 | 49.43 | 49.43 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 49.04 | 49.04 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 5184.00 | 5184.00 | ppb | 0.14 | 90000.00 | |
| 59 Co | 45 | 2 | 50.30 | 50.30 | ppb | 0.84 | 900.00 | |
| 60 Ni | 45 | 2 | 48.97 | 48.97 | ppb | 0.62 | 900.00 | |
| 63 Cu | 72 | 2 | 46.98 | 46.98 | ppb | 1.04 | 900.00 | |
| 66 Zn | 72 | 2 | 47.38 | 47.38 | ppb | 1.13 | 900.00 | |
| 75 As | 72 | 2 | 48.75 | 48.75 | ppb | 1.24 | 900.00 | |
| 78 Se | 72 | 2 | 47.14 | 47.14 | ppb | 0.54 | 900.00 | |
| 88 Sr | 103 | 1 | 51.89 | 51.89 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 49.94 | 49.94 | ppb | 1.81 | 900.00 | |
| 107 Ag | 115 | 1 | 48.52 | 48.52 | ppb | 1.44 | 180.00 | |
| 111 Cd | 115 | 2 | 49.51 | 49.51 | ppb | 0.65 | 900.00 | |
| 120 Sn | 115 | 1 | 50.74 | 50.74 | ppb | 1.72 | 900.00 | |
| 121 Sb | 115 | 1 | 51.87 | 51.87 | ppb | 1.28 | 900.00 | |
| 137 Ba | 159 | 1 | 48.92 | 48.92 | ppb | 1.51 | 900.00 | |
| 205 Tl | 209 | 1 | 48.88 | 48.88 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.74 | 49.74 | ppb | 1.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2923741 | 0.73 | 3232907 | 90.4 | 70 - 130 | |
| 45 Sc | 1 | 3434485 | 1.15 | 3437387 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 325603 | 0.54 | 336744 | 96.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 678623 | 0.44 | 696405 | 97.4 | 70 - | 130 |
| 72 | Ge | 2 | 135630 | 0.80 | 134419 | 100.9 | 70 - | 130 |
| 103 | Rh | 1 | 3742861 | 1.38 | 3907550 | 95.8 | 70 - | 130 |
| 115 | In | 1 | 4074259 | 1.28 | 4145778 | 98.3 | 70 - | 130 |
| 115 | In | 2 | 1107775 | 1.15 | 1149344 | 96.4 | 70 - | 130 |
| 159 | Tb | 1 | 5584056 | 1.11 | 5482147 | 101.9 | 70 - | 130 |
| 175 | Lu | 1 | 5464868 | 1.61 | 5341495 | 102.3 | 70 - | 130 |
| 209 | Bi | 1 | 3174952 | 1.19 | 3218293 | 98.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\015SMPL.D\015SMPL.D#
Date Acquired: May 13 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 15.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 88.29 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 2.51 | 900.00 | |
| 11 B | 45 | 2 | 0.34 | 0.34 | ppb | 63.22 | 900.00 | |
| 23 Na | 45 | 1 | 3.68 | 3.68 | ppb | 18.08 | 90000.00 | |
| 23 Na | 45 | 2 | 6.57 | 6.57 | ppb | 11.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.14 | 1.14 | ppb | 25.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.44 | 1.44 | ppb | 32.76 | 90000.00 | |
| 27 Al | 45 | 1 | 0.73 | 0.73 | ppb | 43.05 | 90000.00 | |
| 27 Al | 45 | 2 | 0.91 | 0.91 | ppb | 34.52 | 90000.00 | |
| 39 K | 45 | 1 | -1.03 | -1.03 | ppb | 153.55 | 90000.00 | |
| 44 Ca | 45 | 1 | -13.01 | -13.01 | ppb | 25.07 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.07 | -0.07 | ppb | 21.18 | 900.00 | |
| 51 V | 45 | 2 | 0.05 | 0.05 | ppb | 12.19 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 8.67 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 256.86 | 900.00 | |
| 56 Fe | 45 | 2 | 1.88 | 1.88 | ppb | 24.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 80.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 1209.50 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 39.67 | 900.00 | |
| 66 Zn | 72 | 2 | -0.03 | -0.03 | ppb | 25.21 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 36.04 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.02 | ppb | 377.02 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 42.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 6.94 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.31 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 91.90 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 5.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 20.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 221.92 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 4.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 33.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3002753 | 1.13 | 3232907 | 92.9 | 70 - 130 | |
| 45 Sc | 1 | 3388779 | 0.79 | 3437387 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 333078 | 0.21 | 336744 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 682354 | 1.07 | 696405 | 98.0 | 70 | - | 130 |
| 72 | Ge | 2 | 136312 | 0.40 | 134419 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3825448 | 0.33 | 3907550 | 97.9 | 70 | - | 130 |
| 115 | In | 1 | 4144275 | 0.56 | 4145778 | 100.0 | 70 | - | 130 |
| 115 | In | 2 | 1164844 | 0.80 | 1149344 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5505256 | 0.29 | 5482147 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5411791 | 0.59 | 5341495 | 101.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3285385 | 0.10 | 3218293 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13E13m02.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | May 13 2013 02:23 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC20556-17F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | May 13 2013 12:07 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 67.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 66.60 | 900.00 | |
| 11 B | 6 | 1 | 0.63 | 0.31 | ppb | 9.38 | 900.00 | |
| 11 B | 45 | 2 | 0.30 | 0.15 | ppb | 55.49 | 900.00 | |
| 23 Na | 45 | 1 | 21.88 | 10.94 | ppb | 1.77 | 90000.00 | |
| 23 Na | 45 | 2 | 27.72 | 13.86 | ppb | 2.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 6.95 | 3.48 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 7.14 | 3.57 | ppb | 3.90 | 90000.00 | |
| 27 Al | 45 | 1 | 0.57 | 0.29 | ppb | 33.53 | 90000.00 | |
| 27 Al | 45 | 2 | 0.21 | 0.10 | ppb | 34.60 | 90000.00 | |
| 39 K | 45 | 1 | 3.00 | 1.50 | ppb | 24.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 173.26 | 86.63 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.37 | 0.18 | ppb | 8.74 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.10 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 0.15 | 0.08 | ppb | 11.05 | 900.00 | |
| 55 Mn | 45 | 2 | -0.33 | -0.17 | ppb | 4.14 | 900.00 | |
| 56 Fe | 45 | 2 | -6.18 | -3.09 | ppb | 4.97 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 88.89 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.03 | ppb | 38.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.16 | ppb | 4.85 | 900.00 | |
| 66 Zn | 72 | 2 | 5.18 | 2.59 | ppb | 1.91 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 4.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.03 | ppb | 435.98 | 900.00 | |
| 88 Sr | 103 | 1 | 0.21 | 0.11 | ppb | 2.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.07 | ppb | 9.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 31.45 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 26.16 | 900.00 | |
| 120 Sn | 115 | 1 | 0.32 | 0.16 | ppb | 10.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 8.36 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 13.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.07 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.04 | ppb | 4.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2944674 | 0.97 | 3232907 | 91.1 | 70 - 130 | |
| 45 Sc | 1 | 3378501 | 0.86 | 3437387 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 328934 | 0.61 | 336744 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 679588 | 1.20 | 696405 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 134300 | 0.35 | 134419 | 99.9 | 70 - | 130 |
| 103 | Rh | 1 | 3784933 | 0.59 | 3907550 | 96.9 | 70 - | 130 |
| 115 | In | 1 | 4065150 | 1.05 | 4145778 | 98.1 | 70 - | 130 |
| 115 | In | 2 | 1146212 | 0.59 | 1149344 | 99.7 | 70 - | 130 |
| 159 | Tb | 1 | 5537989 | 0.41 | 5482147 | 101.0 | 70 - | 130 |
| 175 | Lu | 1 | 5438146 | 0.72 | 5341495 | 101.8 | 70 - | 130 |
| 209 | Bi | 1 | 3221407 | 0.59 | 3218293 | 100.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\017SMPL.D\017SMPL.D#
Date Acquired: May 13 2013 02:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-SD1
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 60.61 | 900.00 | |
| 9 Be | 45 | 2 | -0.22 | -0.02 | ppb | 21.94 | 900.00 | |
| 11 B | 6 | 1 | 37.32 | 3.73 | ppb | 1.48 | 900.00 | |
| 11 B | 45 | 2 | 34.27 | 3.43 | ppb | 11.58 | 900.00 | |
| 23 Na | 45 | 1 | 110100.00 | 11010.00 | ppb | 1.07 | 90000.00 | |
| 23 Na | 45 | 2 | 111700.00 | 11170.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 4316.00 | 431.60 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 4623.00 | 462.30 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | -0.13 | -0.01 | ppb | 1754.00 | 90000.00 | |
| 27 Al | 45 | 2 | 0.74 | 0.07 | ppb | 504.28 | 90000.00 | |
| 39 K | 45 | 1 | 6734.00 | 673.40 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 41910.00 | 4191.00 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.23 | -0.02 | ppb | 23.90 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.02 | ppb | 49.47 | 900.00 | |
| 52 Cr | 45 | 2 | -0.71 | -0.07 | ppb | 5.37 | 900.00 | |
| 55 Mn | 45 | 2 | 139.20 | 13.92 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 1267.00 | 126.70 | ppb | 2.07 | 90000.00 | |
| 59 Co | 45 | 2 | 2.17 | 0.22 | ppb | 0.94 | 900.00 | |
| 60 Ni | 45 | 2 | 5.35 | 0.54 | ppb | 0.52 | 900.00 | |
| 63 Cu | 72 | 2 | 1.47 | 0.15 | ppb | 6.19 | 900.00 | |
| 66 Zn | 72 | 2 | 5.11 | 0.51 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 0.19 | 0.02 | ppb | 16.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.65 | 0.06 | ppb | 152.54 | 900.00 | |
| 88 Sr | 103 | 1 | 307.80 | 30.78 | ppb | 2.33 | 900.00 | |
| 98 Mo | 103 | 1 | 3.79 | 0.38 | ppb | 4.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 35.36 | 180.00 | |
| 111 Cd | 115 | 2 | -0.02 | 0.00 | ppb | 244.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.71 | 0.07 | ppb | 4.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.02 | ppb | 3.26 | 900.00 | |
| 137 Ba | 159 | 1 | 104.30 | 10.43 | ppb | 1.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.02 | ppb | 15.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.01 | ppb | 32.59 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2954572 | 1.31 | 3232907 | 91.4 | 70 - 130 | |
| 45 Sc | 1 | 3373122 | 0.04 | 3437387 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 333638 | 0.11 | 336744 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 685346 | 0.81 | 696405 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 137693 | 0.37 | 134419 | 102.4 | 70 - | 130 |
| 103 | Rh | 1 | 3765081 | 1.26 | 3907550 | 96.4 | 70 - | 130 |
| 115 | In | 1 | 4074830 | 0.35 | 4145778 | 98.3 | 70 - | 130 |
| 115 | In | 2 | 1154982 | 0.96 | 1149344 | 100.5 | 70 - | 130 |
| 159 | Tb | 1 | 5487198 | 0.79 | 5482147 | 100.1 | 70 - | 130 |
| 175 | Lu | 1 | 5390705 | 0.70 | 5341495 | 100.9 | 70 - | 130 |
| 209 | Bi | 1 | 3184714 | 0.38 | 3218293 | 99.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\018SMPL.D\018SMPL.D#
Date Acquired: May 13 2013 02:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-B1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.40 | 25.22 | ppb | 0.37 | 900.00 | |
| 9 Be | 45 | 2 | 492.80 | 24.64 | ppb | 2.22 | 900.00 | |
| 11 B | 6 | 1 | -1.08 | -0.05 | ppb | 7.91 | 900.00 | |
| 11 B | 45 | 2 | 0.45 | 0.02 | ppb | 532.09 | 900.00 | |
| 23 Na | 45 | 1 | 25600.00 | 1280.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 26620.00 | 1331.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 26100.00 | 1305.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 27460.00 | 1373.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 2100.00 | 105.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 2 | 2204.00 | 110.20 | ppb | 0.72 | 90000.00 | |
| 39 K | 45 | 1 | 25840.00 | 1292.00 | ppb | 0.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 28060.00 | 1403.00 | ppb | 0.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 472.40 | 23.62 | ppb | 0.73 | 900.00 | |
| 51 V | 45 | 2 | 511.20 | 25.56 | ppb | 0.13 | 900.00 | |
| 52 Cr | 45 | 2 | 501.80 | 25.09 | ppb | 0.13 | 900.00 | |
| 55 Mn | 45 | 2 | 490.60 | 24.53 | ppb | 0.06 | 900.00 | |
| 56 Fe | 45 | 2 | 2122.00 | 106.10 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 519.20 | 25.96 | ppb | 0.49 | 900.00 | |
| 60 Ni | 45 | 2 | 495.40 | 24.77 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 487.60 | 24.38 | ppb | 0.56 | 900.00 | |
| 66 Zn | 72 | 2 | 531.80 | 26.59 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 512.00 | 25.60 | ppb | 0.96 | 900.00 | |
| 78 Se | 72 | 2 | 503.40 | 25.17 | ppb | 2.68 | 900.00 | |
| 88 Sr | 103 | 1 | 508.60 | 25.43 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.78 | 0.04 | ppb | 2.38 | 900.00 | |
| 107 Ag | 115 | 1 | 208.40 | 10.42 | ppb | 0.51 | 180.00 | |
| 111 Cd | 115 | 2 | 500.00 | 25.00 | ppb | 1.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.51 | 0.03 | ppb | 11.23 | 900.00 | |
| 121 Sb | 115 | 1 | 521.80 | 26.09 | ppb | 0.26 | 900.00 | |
| 137 Ba | 159 | 1 | 1988.60 | 99.43 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 488.80 | 24.44 | ppb | 0.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1000.20 | 50.01 | ppb | 0.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3060951 | 0.59 | 3232907 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3382787 | 0.23 | 3437387 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 331483 | 0.15 | 336744 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 672451 | 1.42 | 696405 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 135900 | 0.43 | 134419 | 101.1 | 70 | - | 130 |
| 103 Rh | 1 | 3801353 | 0.21 | 3907550 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 4083816 | 0.43 | 4145778 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1148350 | 0.68 | 1149344 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 5466883 | 0.37 | 5482147 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 5330883 | 0.67 | 5341495 | 99.8 | 70 | - | 130 |
| 209 Bi | 1 | 3206349 | 0.98 | 3218293 | 99.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\019SMPL.D\019SMPL.D#
Date Acquired: May 13 2013 02:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-S1
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 516.20 | 25.81 | ppb | 0.62 | 900.00 | |
| 9 Be | 45 | 2 | 507.60 | 25.38 | ppb | 0.86 | 900.00 | |
| 11 B | 6 | 1 | 34.04 | 1.70 | ppb | 1.12 | 900.00 | |
| 11 B | 45 | 2 | 34.84 | 1.74 | ppb | 17.04 | 900.00 | |
| 23 Na | 45 | 1 | 136280.00 | 6814.00 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 138960.00 | 6948.00 | ppb | 0.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 30380.00 | 1519.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 31740.00 | 1587.00 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2098.00 | 104.90 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2224.00 | 111.20 | ppb | 0.31 | 90000.00 | |
| 39 K | 45 | 1 | 32800.00 | 1640.00 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 68180.00 | 3409.00 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 480.80 | 24.04 | ppb | 1.02 | 900.00 | |
| 51 V | 45 | 2 | 513.40 | 25.67 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 501.80 | 25.09 | ppb | 0.60 | 900.00 | |
| 55 Mn | 45 | 2 | 632.40 | 31.62 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 3316.00 | 165.80 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 522.60 | 26.13 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 503.80 | 25.19 | ppb | 0.20 | 900.00 | |
| 63 Cu | 72 | 2 | 500.00 | 25.00 | ppb | 0.31 | 900.00 | |
| 66 Zn | 72 | 2 | 544.40 | 27.22 | ppb | 0.36 | 900.00 | |
| 75 As | 72 | 2 | 517.20 | 25.86 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 513.60 | 25.68 | ppb | 0.71 | 900.00 | |
| 88 Sr | 103 | 1 | 824.00 | 41.20 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 4.06 | 0.20 | ppb | 2.53 | 900.00 | |
| 107 Ag | 115 | 1 | 207.60 | 10.38 | ppb | 0.51 | 180.00 | |
| 111 Cd | 115 | 2 | 498.40 | 24.92 | ppb | 1.15 | 900.00 | |
| 120 Sn | 115 | 1 | 0.43 | 0.02 | ppb | 10.51 | 900.00 | |
| 121 Sb | 115 | 1 | 527.20 | 26.36 | ppb | 0.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2112.00 | 105.60 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | 494.60 | 24.73 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1012.20 | 50.61 | ppb | 0.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3050557 | 0.24 | 3232907 | 94.4 | 70 - 130 | |
| 45 Sc | 1 | 3402404 | 1.01 | 3437387 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 332624 | 0.39 | 336744 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 673221 | 0.36 | 696405 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 135657 | 0.27 | 134419 | 100.9 | 70 | - | 130 |
| 103 Rh | 1 | 3741656 | 0.45 | 3907550 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 4103645 | 0.84 | 4145778 | 99.0 | 70 | - | 130 |
| 115 In | 2 | 1148236 | 0.20 | 1149344 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 5457861 | 1.24 | 5482147 | 99.6 | 70 | - | 130 |
| 175 Lu | 1 | 5352102 | 1.01 | 5341495 | 100.2 | 70 | - | 130 |
| 209 Bi | 1 | 3149075 | 1.08 | 3218293 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\020SMPL.D\020SMPL.D#
Date Acquired: May 13 2013 02:51 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-S2
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 517.00 | 25.85 | ppb | 0.49 | 900.00 | |
| 9 Be | 45 | 2 | 502.80 | 25.14 | ppb | 1.42 | 900.00 | |
| 11 B | 6 | 1 | 33.72 | 1.69 | ppb | 2.87 | 900.00 | |
| 11 B | 45 | 2 | 30.70 | 1.54 | ppb | 12.22 | 900.00 | |
| 23 Na | 45 | 1 | 138220.00 | 6911.00 | ppb | 0.82 | 90000.00 | |
| 23 Na | 45 | 2 | 141900.00 | 7095.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 30440.00 | 1522.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 31780.00 | 1589.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 2136.00 | 106.80 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.91 | 90000.00 | |
| 39 K | 45 | 1 | 32900.00 | 1645.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 69400.00 | 3470.00 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 483.60 | 24.18 | ppb | 0.97 | 900.00 | |
| 51 V | 45 | 2 | 519.00 | 25.95 | ppb | 0.11 | 900.00 | |
| 52 Cr | 45 | 2 | 505.40 | 25.27 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 638.20 | 31.91 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 3364.00 | 168.20 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 527.40 | 26.37 | ppb | 0.30 | 900.00 | |
| 60 Ni | 45 | 2 | 504.40 | 25.22 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 497.20 | 24.86 | ppb | 0.10 | 900.00 | |
| 66 Zn | 72 | 2 | 548.40 | 27.42 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 526.60 | 26.33 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 518.40 | 25.92 | ppb | 1.68 | 900.00 | |
| 88 Sr | 103 | 1 | 823.20 | 41.16 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 4.07 | 0.20 | ppb | 2.02 | 900.00 | |
| 107 Ag | 115 | 1 | 209.40 | 10.47 | ppb | 0.37 | 180.00 | |
| 111 Cd | 115 | 2 | 504.40 | 25.22 | ppb | 0.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.01 | ppb | 37.64 | 900.00 | |
| 121 Sb | 115 | 1 | 533.80 | 26.69 | ppb | 0.25 | 900.00 | |
| 137 Ba | 159 | 1 | 2116.00 | 105.80 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 492.40 | 24.62 | ppb | 1.14 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1015.20 | 50.76 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3079317 | 0.58 | 3232907 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 3378792 | 0.96 | 3437387 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 332086 | 0.36 | 336744 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 675195 | 0.76 | 696405 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 136642 | 0.22 | 134419 | 101.7 | 70 - | 130 |
| 103 | Rh | 1 | 3745668 | 0.83 | 3907550 | 95.9 | 70 - | 130 |
| 115 | In | 1 | 4086441 | 0.63 | 4145778 | 98.6 | 70 - | 130 |
| 115 | In | 2 | 1152933 | 0.59 | 1149344 | 100.3 | 70 - | 130 |
| 159 | Tb | 1 | 5503736 | 0.75 | 5482147 | 100.4 | 70 - | 130 |
| 175 | Lu | 1 | 5358548 | 0.60 | 5341495 | 100.3 | 70 - | 130 |
| 209 | Bi | 1 | 3165943 | 0.42 | 3218293 | 98.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\021SMPL.D\021SMPL.D#
Date Acquired: May 13 2013 02:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP20937-PS1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.11 | 8.56 | ppb | 0.86 | 900.00 | |
| 9 Be | 45 | 2 | 16.57 | 8.29 | ppb | 2.17 | 900.00 | |
| 11 B | 6 | 1 | 50.52 | 25.26 | ppb | 1.05 | 900.00 | |
| 11 B | 45 | 2 | 48.94 | 24.47 | ppb | 2.79 | 900.00 | |
| 23 Na | 45 | 1 | 88360.00 | 44180.00 | ppb | 1.27 | 90000.00 | |
| 23 Na | 45 | 2 | 91520.00 | 45760.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 3424.00 | 1712.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 3646.00 | 1823.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 20.62 | 10.31 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 20.74 | 10.37 | ppb | 2.98 | 90000.00 | |
| 39 K | 45 | 1 | 5490.00 | 2745.00 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 33520.00 | 16760.00 | ppb | 0.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 17.12 | 8.56 | ppb | 1.46 | 900.00 | |
| 51 V | 45 | 2 | 18.40 | 9.20 | ppb | 1.01 | 900.00 | |
| 52 Cr | 45 | 2 | 16.37 | 8.18 | ppb | 0.40 | 900.00 | |
| 55 Mn | 45 | 2 | 131.22 | 65.61 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 1034.80 | 517.40 | ppb | 0.54 | 90000.00 | |
| 59 Co | 45 | 2 | 18.10 | 9.05 | ppb | 0.13 | 900.00 | |
| 60 Ni | 45 | 2 | 20.46 | 10.23 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 17.13 | 8.57 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 23.76 | 11.88 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 16.70 | 8.35 | ppb | 0.42 | 900.00 | |
| 78 Se | 72 | 2 | 15.38 | 7.69 | ppb | 3.92 | 900.00 | |
| 88 Sr | 103 | 1 | 268.80 | 134.40 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 20.80 | 10.40 | ppb | 1.30 | 900.00 | |
| 107 Ag | 115 | 1 | 16.22 | 8.11 | ppb | 0.32 | 180.00 | |
| 111 Cd | 115 | 2 | 15.90 | 7.95 | ppb | 2.85 | 900.00 | |
| 120 Sn | 115 | 1 | 17.71 | 8.86 | ppb | 0.46 | 900.00 | |
| 121 Sb | 115 | 1 | 17.50 | 8.75 | ppb | 0.34 | 900.00 | |
| 137 Ba | 159 | 1 | 101.08 | 50.54 | ppb | 0.07 | 900.00 | |
| 205 Tl | 209 | 1 | 16.68 | 8.34 | ppb | 0.31 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.11 | 8.56 | ppb | 0.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2837481 | 0.48 | 3232907 | 87.8 | 70 - 130 | |
| 45 Sc | 1 | 3303053 | 1.07 | 3437387 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 324751 | 0.48 | 336744 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 656187 | 0.67 | 696405 | 94.2 | 70 - | 130 |
| 72 | Ge | 2 | 131148 | 0.52 | 134419 | 97.6 | 70 - | 130 |
| 103 | Rh | 1 | 3522787 | 0.61 | 3907550 | 90.2 | 70 - | 130 |
| 115 | In | 1 | 3887098 | 0.52 | 4145778 | 93.8 | 70 - | 130 |
| 115 | In | 2 | 1099609 | 0.54 | 1149344 | 95.7 | 70 - | 130 |
| 159 | Tb | 1 | 5355384 | 0.43 | 5482147 | 97.7 | 70 - | 130 |
| 175 | Lu | 1 | 5232363 | 0.55 | 5341495 | 98.0 | 70 - | 130 |
| 209 | Bi | 1 | 2965304 | 0.16 | 3218293 | 92.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\022SMPL.D\022SMPL.D#
Date Acquired: May 13 2013 03:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.52 | 0.52 | ppb | 0.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.42 | 0.42 | ppb | 14.90 | 900.00 | |
| 11 B | 6 | 1 | 4.62 | 4.62 | ppb | 1.55 | 900.00 | |
| 11 B | 45 | 2 | 4.53 | 4.53 | ppb | 9.86 | 900.00 | |
| 23 Na | 45 | 1 | 262.90 | 262.90 | ppb | 2.18 | 90000.00 | |
| 23 Na | 45 | 2 | 298.20 | 298.20 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 258.70 | 258.70 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.90 | 279.90 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 26.03 | 26.03 | ppb | 2.09 | 90000.00 | |
| 27 Al | 45 | 2 | 26.35 | 26.35 | ppb | 0.95 | 90000.00 | |
| 39 K | 45 | 1 | 256.90 | 256.90 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 257.60 | 257.60 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.88 | 0.88 | ppb | 1.70 | 900.00 | |
| 51 V | 45 | 2 | 1.03 | 1.03 | ppb | 1.54 | 900.00 | |
| 52 Cr | 45 | 2 | 0.88 | 0.88 | ppb | 0.58 | 900.00 | |
| 55 Mn | 45 | 2 | 0.79 | 0.79 | ppb | 2.90 | 900.00 | |
| 56 Fe | 45 | 2 | 24.64 | 24.64 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.46 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 0.98 | 0.98 | ppb | 1.20 | 900.00 | |
| 66 Zn | 72 | 2 | 1.79 | 1.79 | ppb | 0.95 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 3.94 | 900.00 | |
| 78 Se | 72 | 2 | 0.60 | 0.60 | ppb | 13.50 | 900.00 | |
| 88 Sr | 103 | 1 | 5.14 | 5.14 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 1.01 | 1.01 | ppb | 0.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 2.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 2.52 | 900.00 | |
| 120 Sn | 115 | 1 | 4.90 | 4.90 | ppb | 1.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.56 | 0.56 | ppb | 1.16 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 3.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 2.33 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3060768 | 1.33 | 3232907 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3403417 | 1.32 | 3437387 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 335620 | 0.36 | 336744 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 682160 | 0.94 | 696405 | 98.0 | 70 - | 130 |
| 72 | Ge | 2 | 136706 | 0.59 | 134419 | 101.7 | 70 - | 130 |
| 103 | Rh | 1 | 3819525 | 0.43 | 3907550 | 97.7 | 70 - | 130 |
| 115 | In | 1 | 4112647 | 0.57 | 4145778 | 99.2 | 70 - | 130 |
| 115 | In | 2 | 1166437 | 0.18 | 1149344 | 101.5 | 70 - | 130 |
| 159 | Tb | 1 | 5513005 | 0.69 | 5482147 | 100.6 | 70 - | 130 |
| 175 | Lu | 1 | 5397052 | 1.32 | 5341495 | 101.0 | 70 - | 130 |
| 209 | Bi | 1 | 3188200 | 1.38 | 3218293 | 99.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\023SMPL.D\023SMPL.D#
Date Acquired: May 13 2013 03:13 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.43 | 51.43 | ppb | 0.58 | 900.00 | |
| 9 Be | 45 | 2 | 49.12 | 49.12 | ppb | 3.21 | 900.00 | |
| 11 B | 6 | 1 | 49.31 | 49.31 | ppb | 0.17 | 900.00 | |
| 11 B | 45 | 2 | 47.25 | 47.25 | ppb | 2.42 | 900.00 | |
| 23 Na | 45 | 1 | 5006.00 | 5006.00 | ppb | 1.60 | 90000.00 | |
| 23 Na | 45 | 2 | 5178.00 | 5178.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 5016.00 | 5016.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 5138.00 | 5138.00 | ppb | 0.12 | 90000.00 | |
| 27 Al | 45 | 1 | 5021.00 | 5021.00 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 2 | 5151.00 | 5151.00 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 5061.00 | 5061.00 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 5081.00 | 5081.00 | ppb | 1.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.37 | 48.37 | ppb | 1.46 | 900.00 | |
| 51 V | 45 | 2 | 49.72 | 49.72 | ppb | 0.09 | 900.00 | |
| 52 Cr | 45 | 2 | 48.69 | 48.69 | ppb | 0.57 | 900.00 | |
| 55 Mn | 45 | 2 | 48.37 | 48.37 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 5093.00 | 5093.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 49.26 | 49.26 | ppb | 0.42 | 900.00 | |
| 60 Ni | 45 | 2 | 47.96 | 47.96 | ppb | 0.51 | 900.00 | |
| 63 Cu | 72 | 2 | 45.96 | 45.96 | ppb | 0.49 | 900.00 | |
| 66 Zn | 72 | 2 | 46.91 | 46.91 | ppb | 0.48 | 900.00 | |
| 75 As | 72 | 2 | 48.24 | 48.24 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 47.15 | 47.15 | ppb | 0.64 | 900.00 | |
| 88 Sr | 103 | 1 | 52.23 | 52.23 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 50.11 | 50.11 | ppb | 1.14 | 900.00 | |
| 107 Ag | 115 | 1 | 49.58 | 49.58 | ppb | 0.87 | 180.00 | |
| 111 Cd | 115 | 2 | 48.99 | 48.99 | ppb | 0.99 | 900.00 | |
| 120 Sn | 115 | 1 | 50.77 | 50.77 | ppb | 0.94 | 900.00 | |
| 121 Sb | 115 | 1 | 51.84 | 51.84 | ppb | 0.67 | 900.00 | |
| 137 Ba | 159 | 1 | 49.36 | 49.36 | ppb | 0.18 | 900.00 | |
| 205 Tl | 209 | 1 | 49.01 | 49.01 | ppb | 1.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.78 | 49.78 | ppb | 0.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2968063 | 0.47 | 3232907 | 91.8 | 70 - 130 | |
| 45 Sc | 1 | 3394021 | 0.24 | 3437387 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 333935 | 0.45 | 336744 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 672452 | 0.69 | 696405 | 96.6 | 70 - | 130 |
| 72 | Ge | 2 | 138223 | 0.29 | 134419 | 102.8 | 70 - | 130 |
| 103 | Rh | 1 | 3677366 | 0.63 | 3907550 | 94.1 | 70 - | 130 |
| 115 | In | 1 | 4015192 | 0.51 | 4145778 | 96.9 | 70 - | 130 |
| 115 | In | 2 | 1125419 | 0.58 | 1149344 | 97.9 | 70 - | 130 |
| 159 | Tb | 1 | 5449563 | 0.24 | 5482147 | 99.4 | 70 - | 130 |
| 175 | Lu | 1 | 5306672 | 0.89 | 5341495 | 99.3 | 70 - | 130 |
| 209 | Bi | 1 | 3093804 | 0.69 | 3218293 | 96.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13E13m02.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13E13m02.B\024SMPL.D\024SMPL.D#
Date Acquired: May 13 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: May 13 2013 12:07 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 79.75 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.03 | ppb | 46.05 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 21.95 | 900.00 | |
| 11 B | 45 | 2 | -0.03 | -0.03 | ppb | 559.36 | 900.00 | |
| 23 Na | 45 | 1 | 3.04 | 3.04 | ppb | 6.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5.44 | 5.44 | ppb | 3.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.75 | 0.75 | ppb | 10.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.98 | 0.98 | ppb | 13.50 | 90000.00 | |
| 27 Al | 45 | 1 | 0.51 | 0.51 | ppb | 19.29 | 90000.00 | |
| 27 Al | 45 | 2 | 0.48 | 0.48 | ppb | 8.99 | 90000.00 | |
| 39 K | 45 | 1 | 1.82 | 1.82 | ppb | 5.63 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.28 | -7.28 | ppb | 32.73 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.09 | -0.09 | ppb | 7.18 | 900.00 | |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 27.63 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 5.89 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 2757.90 | 900.00 | |
| 56 Fe | 45 | 2 | 0.99 | 0.99 | ppb | 2.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 350.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 577.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 88.02 | 900.00 | |
| 66 Zn | 72 | 2 | 0.46 | 0.46 | ppb | 4.51 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 23.89 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 1354.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 24.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.03 | ppb | 14.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 139.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 3.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 14.03 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 49.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 5.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 11.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 3081716 | 0.77 | 3232907 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 3402817 | 0.53 | 3437387 | 99.0 | 70 - 130 | |
| 45 Sc | 2 | 336041 | 0.13 | 336744 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13E13m02.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 681371 | 1.43 | 696405 | 97.8 | 70 - | 130 |
| 72 | Ge | 2 | 136766 | 0.29 | 134419 | 101.7 | 70 - | 130 |
| 103 | Rh | 1 | 3829926 | 0.60 | 3907550 | 98.0 | 70 - | 130 |
| 115 | In | 1 | 4127444 | 0.31 | 4145778 | 99.6 | 70 - | 130 |
| 115 | In | 2 | 1160783 | 0.68 | 1149344 | 101.0 | 70 - | 130 |
| 159 | Tb | 1 | 5460704 | 0.78 | 5482147 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 5352783 | 0.73 | 5341495 | 100.2 | 70 - | 130 |
| 209 | Bi | 1 | 3206440 | 0.42 | 3218293 | 99.6 | 70 - | 130 |

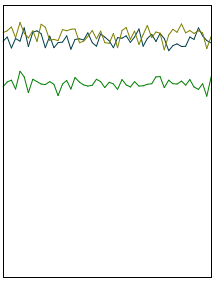
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13E13l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

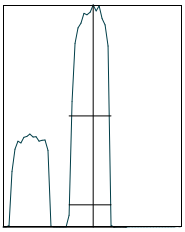
# Tune Report

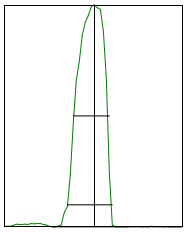
Tune File : nogas.u
Comment : 051313

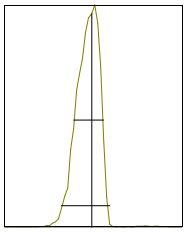


| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 4313.0 | 4372.2 | 2.41 | 26.90 |
| 89 | 10,000 | 7389.0 | 7127.1 | 2.46 | 26.90 |
| 205 | 5,000 | 4440.0 | 4469.2 | 2.67 | 36.50 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.907%
Doubly Charged: 70/140 6.245%







| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 4,480 | 7,267 | 4,497 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.700 | 0.7500 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 114 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9976 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.02 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 382.8 | 6.78 |
| 59 | 1531.6 | 3.16 |
| 89 | 1484.9 | 3.38 |

Integration Time: 0.1000sec



Generated : May 13, 2013 10:15:46
Printed : May 13, 2013 10:16:36

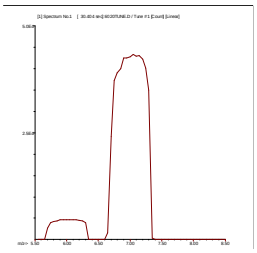
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** May 13 2013 10:48 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

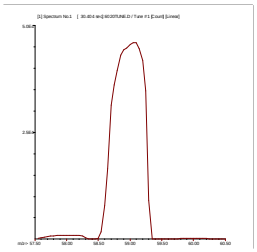
**QC Tune Summary:**
**Pass**

**RSD%**

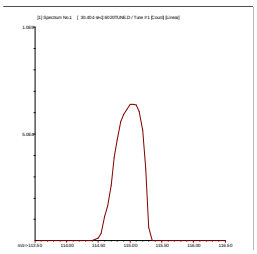
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.70 | 5.00 | 0 |
| 59 Co | 1.68 | 5.00 | |
| 115 In | 0.91 | 5.00 | |
| 205 Tl | 1.64 | 5.00 | |



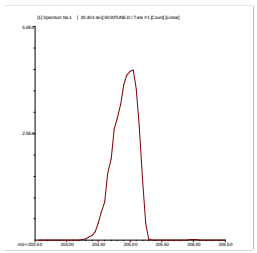
**7 Li**
**Mass Calib.**
Actual: 7.05
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: May 13, 2013 12:07 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

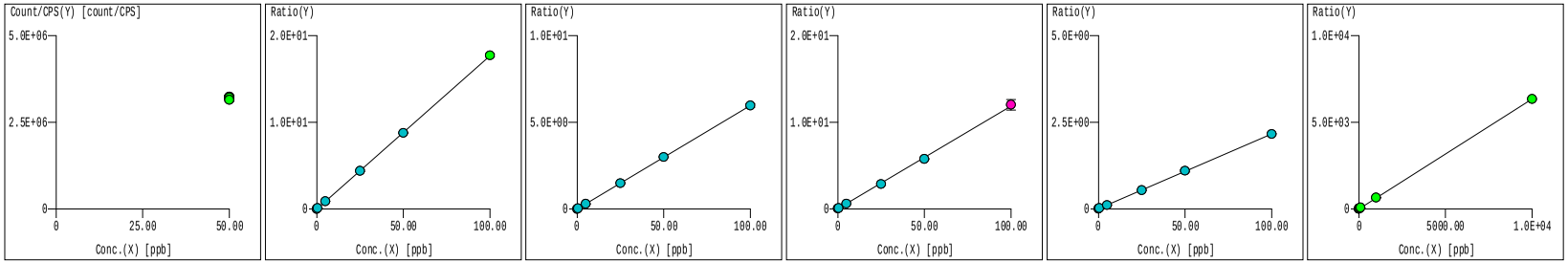
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13e13l00.b\002calb.d\002calb.d# | STDA | May 13 2013 11:14 am |
| 2 | c:\icpchem\1\data\13e13l00.b\003cals.d\003cals.d# | STDB | May 13 2013 11:21 am |
| 3 | c:\icpchem\1\data\13e13l00.b\004cals.d\004cals.d# | STDC | May 13 2013 11:28 am |
| 4 | c:\icpchem\1\data\13e13l00.b\005cals.d\005cals.d# | STDD | May 13 2013 11:36 am |
| 5 | c:\icpchem\1\data\13e13l00.b\006cals.d\006cals.d# | STDE | May 13 2013 11:43 am |
| 6 | c:\icpchem\1\data\13e13l00.b\007cals.d\007cals.d# | STDF | May 13 2013 11:50 am |
| 7 | c:\icpchem\1\data\13e13l00.b\008cals.d\008cals.d# | STDG | May 13 2013 11:57 am |
| 8 | c:\icpchem\1\data\13e13l00.b\009cals.d\009cals.d# | STDH | May 13 2013 12:04 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

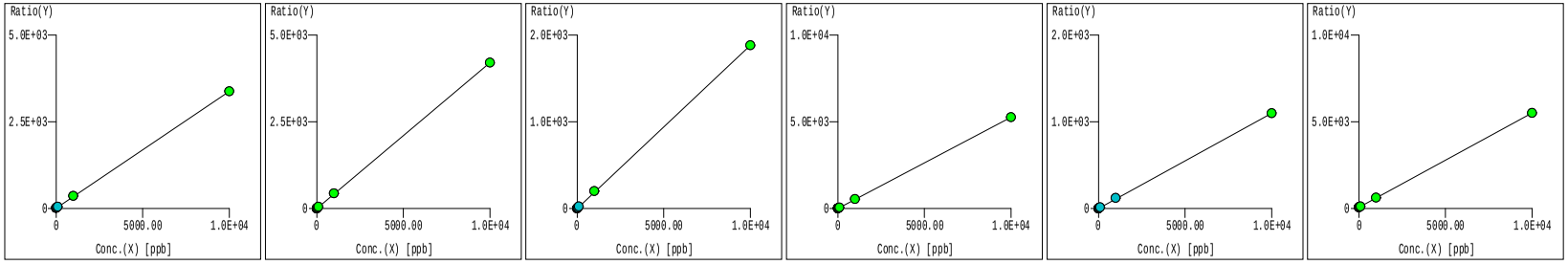
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9997 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 1.928E-03 ppb | 4.289E-02 ppb | 5.886E-02 ppb | 4.908E-01 ppb | 5.340E-01 ppb |
| < BEC > | --- ppb | 6.800E-03 ppb | 4.144E-02 ppb | 4.076E-01 ppb | 4.519E-01 ppb | 13.62 ppb |



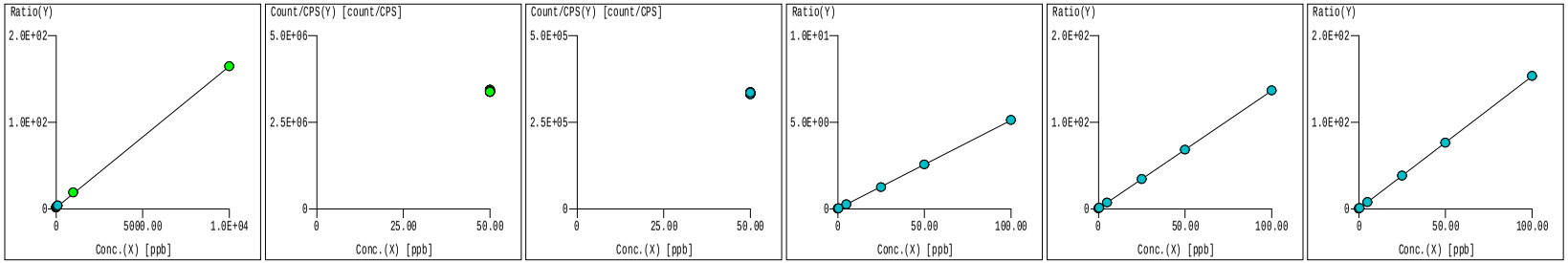

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.336E-01 ppb | 3.038E-02 ppb | 2.195E-01 ppb | 1.405E-01 ppb | 3.865E-01 ppb | 6.699E-01 ppb |
| < BEC > | 32.78 ppb | 5.479E-01 ppb | 6.256E-01 ppb | 1.817 ppb | 1.939 ppb | 110.1 ppb |



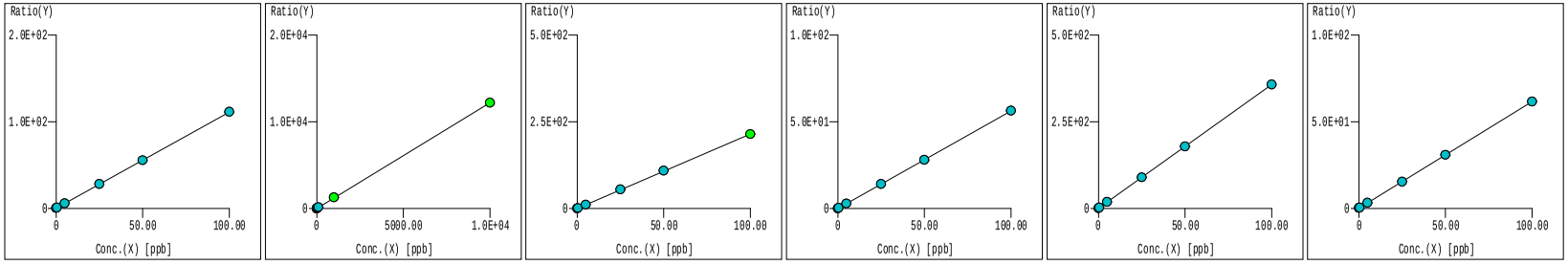
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.340 ppb | --- ppb | --- ppb | 2.853E-02 ppb | 5.373E-03 ppb | 3.174E-02 ppb |
| < BEC > | 101.6 ppb | --- ppb | --- ppb | 2.399E-01 ppb | 4.103E-01 ppb | 2.107E-01 ppb |



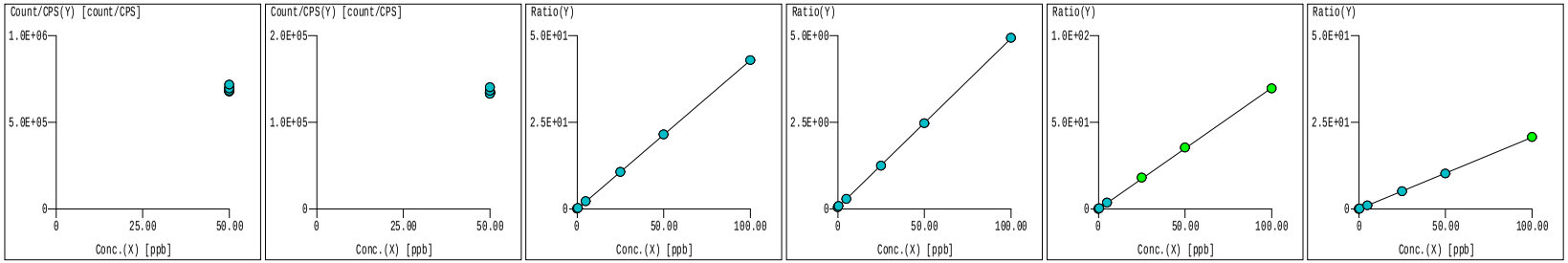

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 4.175E-02 ppb | 5.346E-02 ppb | 1.318E-03 ppb | 2.012E-02 ppb | 8.436E-03 ppb | 4.330E-03 ppb |
| < BEC > | 3.930E-01 ppb | 8.249 ppb | 8.001E-03 ppb | 8.195E-02 ppb | 1.908E-01 ppb | 4.045E-01 ppb |



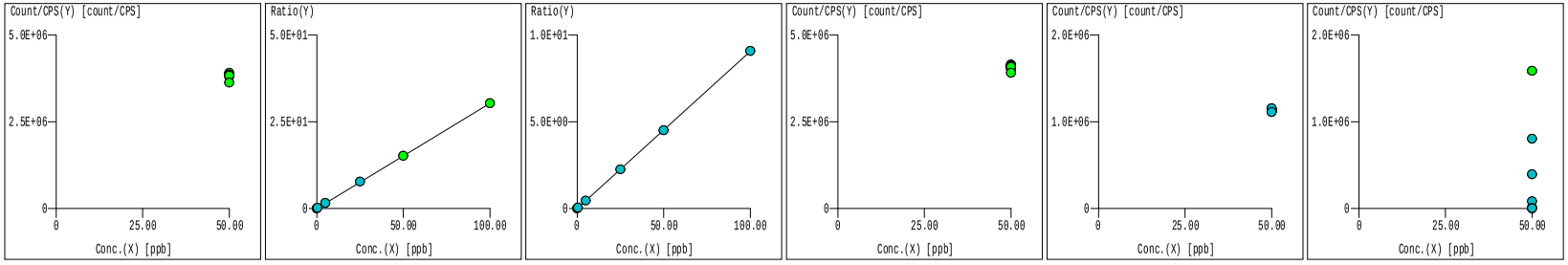
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 3.852E-02 ppb | 1.041E-01 ppb | 5.408E-03 ppb | 4.261E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.006E-01 ppb | 9.717E-01 ppb | 1.640E-02 ppb | 7.770E-03 ppb |



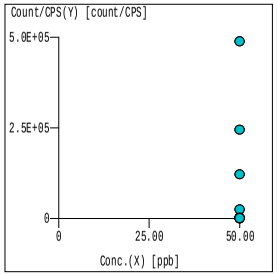

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 5.080E-04 ppb | 7.278E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.534E-03 ppb | 1.066E-02 ppb | --- ppb | --- ppb | --- ppb |

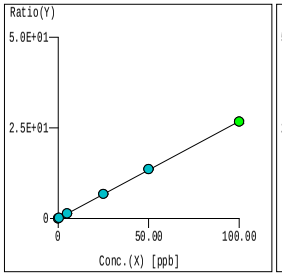


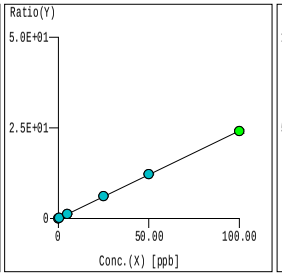
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

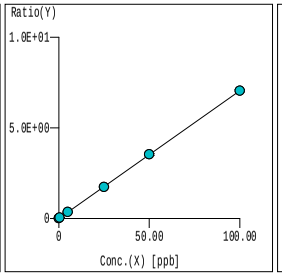
=== Graph Summary ===
Page: 4/4

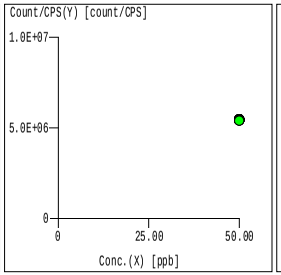
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 4.350E-03 ppb | 4.001E-03 ppb | 6.809E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 2.725E-02 ppb | 6.491E-03 ppb | 9.872E-02 ppb | --- ppb | --- ppb |

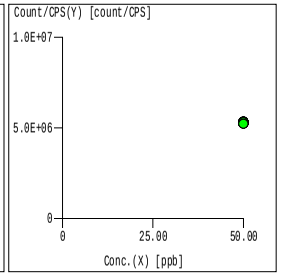


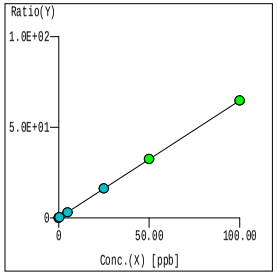



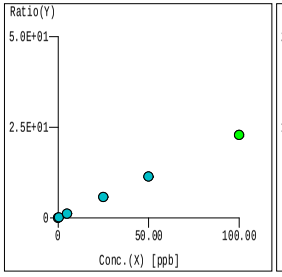



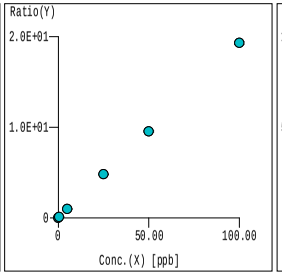



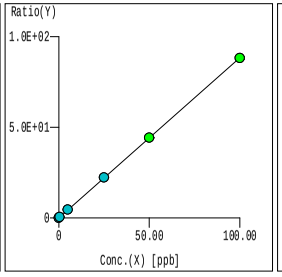



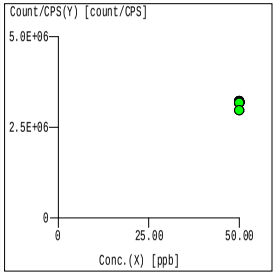

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 5.536E-03 ppb | --- ppb | --- ppb | 1.367E-02 ppb | --- ppb |
| < BEC > | 2.766E-02 ppb | --- ppb | --- ppb | 3.620E-02 ppb | --- ppb |



ACCUTEST

| Date: | 05/08/13 |
|---|---|
| Time | 16:00 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20915 |
| QC Sample ID: | MC20556-2F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35500-METALS |
| Conc HNO3 | VENDOR-13486 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35443-METALS |
| 0.5 | RGT-35447-METALS |
| 0.5 | RGT-35397-METALS |
| 0.5 | RGT-35413-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 94 | Factor | -1.5 | Corrected Temp C | 92.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20915-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20915-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20915-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20915-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20915-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-2F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-3F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-5F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-7F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 05/09/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 05/09/13 |
|---|---|
| Time | 16:20 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP20926 |
| QC Sample ID: | MC20556-8F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35527-METALS |
| Conc HNO3 | VENDOR-13486 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35443-METALS |
| 0.5 | RGT-35477-METALS |
| 0.5 | RGT-35516-METALS |
| 0.5 | RGT-35413-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20926-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20926-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20926-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20926-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20926-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-10F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-12F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-8F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-9F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 05/10/13

(Format edits must be done by dept. Manager)

ACCUTEST

| Date: | 05/10/13 |
|---|---|
| Time | 17:00 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP20937 |
| QC Sample ID: | MC20556-14F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35527-METALS |
| Conc HNO3 | VENDOR-13486 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35443-METALS |
| 0.5 | RGT-35477-METALS |
| 0.5 | RGT-35516-METALS |
| 0.5 | RGT-35550-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP20937-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP20937-B1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20937-S1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20937-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MP20937-S2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-14F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-15F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-16F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC20556-17F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 05/13/13

**(Format edits must be done by dept. Manager)**

7.4.3

7

New England ACCUTEST LABORATORIES

05/29/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.06

Accutest Job Number: MC21059

Sampling Dates: 05/20/13 - 05/21/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **28**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC21059

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21059-1 | 05/20/13 | 10:05 | GW | 05/21/13 | AQ | Ground Water | PZ-12-06-052013 |
| MC21059-2 | 05/20/13 | 10:25 | GW | 05/21/13 | AQ | Ground Water | PZ-12-04-052013 |
| MC21059-3 | 05/20/13 | 00:00 | GW | 05/21/13 | AQ | Ground Water | DUP-052013 |
| MC21059-4 | 05/20/13 | 10:20 | GW | 05/21/13 | AQ | Ground Water | SHM-10-03-052013 |
| MC21059-5 | 05/20/13 | 11:10 | GW | 05/21/13 | AQ | Ground Water | SHL-9-052013 |
| MC21059-6 | 05/20/13 | 10:45 | GW | 05/21/13 | AQ | Ground Water | SHL-22-052013 |
| MC21059-7 | 05/20/13 | 13:35 | GW | 05/21/13 | AQ | Ground Water | SHM-10-04-052013 |
| MC21059-8 | 05/20/13 | 13:10 | GW | 05/21/13 | AQ | Ground Water | SHM-93-22B-052013 |
| MC21059-9 | 05/20/13 | 13:10 | GW | 05/21/13 | AQ | Ground Water | PZ-12-08-052013 |
| MC21059-10 | 05/20/13 | 13:15 | GW | 05/21/13 | AQ | Ground Water | PZ-12-03-052013 |
| MC21059-10D | 05/20/13 | 13:15 | GW | 05/21/13 | AQ | Water Dup/MSD | PZ-12-03-052013 |
| MC21059-10S | 05/20/13 | 13:15 | GW | 05/21/13 | AQ | Water Matrix Spike | PZ-12-03-052013 |
| MC21059-12 | 05/20/13 | 14:30 | GW | 05/21/13 | AQ | Ground Water | SHM-93-22C-052013 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21059

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21059-13 | 05/21/13 | 09:30 | GW | 05/21/13 | AQ | Ground Water | PZ-12-07-052113 |
| MC21059-14 | 05/21/13 | 10:07 | GW | 05/21/13 | AQ | Ground Water | PZ-12-01-052113 |
| MC21059-15 | 05/21/13 | 09:40 | GW | 05/21/13 | AQ | Ground Water | SHM-10-02-052113 |
| MC21059-16 | 05/21/13 | 00:00 | GW | 05/21/13 | AQ | Ground Water | DUP-052113 |
| MC21059-17 | 05/21/13 | 09:20 | GW | 05/21/13 | AQ | Ground Water | SHL-85-052113 |
| MC21059-18 | 05/21/13 | 09:25 | GW | 05/21/13 | AQ | Ground Water | SHM-96-5C-052113 |

# Summary of Hits



**Job Number:** MC21059
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/20/13 thru 05/21/13

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **MC21059-1** | **PZ-12-06-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-2** | **PZ-12-04-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-3** | **DUP-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-4** | **SHM-10-03-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-5** | **SHL-9-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-6** | **SHL-22-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-7** | **SHM-10-04-052013** | | | | | |
| Nitrogen, Nitrite | | 0.022 | 0.010 | | mg/l | SM 21 4500 NO2 B |
| **MC21059-8** | **SHM-93-22B-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-9** | **PZ-12-08-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-10** | **PZ-12-03-052013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21059-12** | **SHM-93-22C-052013** | | | | | |
| No hits reported in this sample. | | | | | | |

# Summary of Hits

**Job Number:** MC21059
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/20/13 thru 05/21/13

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|

**MC21059-13** **PZ-12-07-052113**

No hits reported in this sample.

**MC21059-14** **PZ-12-01-052113**

No hits reported in this sample.

**MC21059-15** **SHM-10-02-052113**

No hits reported in this sample.

**MC21059-16** **DUP-052113**

No hits reported in this sample.

**MC21059-17** **SHL-85-052113**

No hits reported in this sample.

**MC21059-18** **SHM-96-5C-052113**

No hits reported in this sample.

New England ACCUTEST LABORATORIES



## Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-06-052013 | | |
| **Lab Sample ID:** | MC21059-1 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:38 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-04-052013 | | |
| **Lab Sample ID:** | MC21059-2 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:38 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052013 | | |
| **Lab Sample ID:** | MC21059-3 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:38 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-03-052013 | | |
| **Lab Sample ID:** | MC21059-4 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:38 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-9-052013 | | |
| **Lab Sample ID:** | MC21059-5 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-22-052013 | | |
| **Lab Sample ID:** | MC21059-6 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-04-052013 | | |
| **Lab Sample ID:** | MC21059-7 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | 0.022 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-93-22B-052013 | | |
| **Lab Sample ID:** | MC21059-8 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-08-052013 | | |
| **Lab Sample ID:** | MC21059-9 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-03-052013 | | |
| **Lab Sample ID:** | MC21059-10 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:38 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-93-22C-052013 | | |
| **Lab Sample ID:** | MC21059-12 | **Date Sampled:** | 05/20/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-07-052113 | | |
| **Lab Sample ID:** | MC21059-13 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-01-052113 | | |
| **Lab Sample ID:** | MC21059-14 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-02-052113 | | |
| **Lab Sample ID:** | MC21059-15 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052113 | | |
| **Lab Sample ID:** | MC21059-16 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:42 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-85-052113 | | |
| **Lab Sample ID:** | MC21059-17 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:44 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-96-5C-052113 | | |
| **Lab Sample ID:** | MC21059-18 | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Nitrogen, Nitrite | < 0.010 | 0.010 | mg/l | 1 | 05/21/13 17:44 | CF | SM 21 4500 NO2 B |

RL = Reporting Limit

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

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495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FD-2013-119 | Accutest Job # MC21059

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Time | Sampled by | Matrix | # of bottles | HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Pres. | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | PZ-12-06-052013 | | 5-20-13 | 1005 | EF | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -2F | PZ-12-04-052013 | | 5-20-13 | 1025 | MM | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -3F | DUP-052013 | | 5-20-13 | — | EF | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -4F | SHM-10-03-052013 | | 5-20-13 | 1020 | JG | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -5F | SHL-9-052013 | | 5-20-13 | 1110 | LP | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -6F | SHL-22-052013 | | 5-20-13 | 1045 | DC | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | 15A, |
| -7F | SHM-10-04-052013 | | 5-20-13 | 1335 | JG | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | 613 |
| -8F | SHM-93-22B-052013 | | 5-20-13 | 1310 | LP | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |
| -9F | PZ-12-08-052013 | | 5-20-13 | 1310 | EF | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | 41L, |
| -10F | PZ-12-03-052013 MS+D | | 5-20-13 | 1315 | MM | GW | 24 | | X | X | X | | | | | X | X | X | X | X | X | X | | | 41.2 |
| -11F | RB-052013 | | 5-20-13 | 1400 | JG | RB | 2 | | | X | | | | | | | X | X | | | | | | | |
| -12F | SHM-93-22C-052013 | | 5-20-13 | 1430 | DC | GW | 8 | | X | X | X | | | | | X | X | X | X | X | X | X | X | X | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labiink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
All samples were field filtered. ⇒ (metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG # 001 : OPEN
Extra Volume on PZ-12-03 for MS/MSD

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-21-13 1325 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished By: | Date Time: | Received By: 5 | Custody Seal # | Intact / Not Intact | Preserved where applicable |

On Ice | Cooler Temp: 7.2°C, 13.6°C, 11.7°C

**MC21059: Chain of Custody**
**Page 1 of 3**

# CHAIN OF CUSTODY

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PAGE 2 OF 2

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FD3-203-19 | Accutest Job # MC21059

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Jonathan Chesler Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Filtered | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -13F | PZ-12-07-052113 | | 5-21-13 | 0930 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -14F | PZ-12-01-052113 | | 5-21-13 | 1007 | MM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -15F | SHM-10-02-052113 | | 5-21-13 | 0940 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -16F | ~~DUP-10-02~~ DUP-052113 | | 5-21-13 | — | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -17F | SHL-85-052113 | | 5-21-13 | 0920 | DC | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -18F | SHM-96-SC-052113 | | 5-21-13 | 0925 | XP | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | 15B |
| | | | | | | | | | | | | | | | | | | | | | | | | | | SB |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 4L1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 4L2 |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
samples were field filtered (Metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #00's Closed

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-21-13/1325 | 1 | 2 | | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # ☐ Intact ☐ Not Intact | Preserved where applicable ☐ | On Ice ☑ | Cooler Temp: 7.2°C 13.6°C 11.7°C

**MC21059: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21059 **Client:** SC **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/21/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SC **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21059: Chain of Custody**
**Page 3 of 3**

New England ACCUTEST LABORATORIES

06/18/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.06

Accutest Job Number: MC21083

Sampling Dates: 05/21/13 - 05/22/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **405**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21083-1 | 05/21/13 | 10:45 | DCKP | 05/22/13 | AQ | Ground Water | SHL-8D-052113 |
| MC21083-1F | 05/21/13 | 10:45 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHL-8D-052113 |
| MC21083-2 | 05/21/13 | 11:05 | DCKP | 05/22/13 | AQ | Ground Water | SHM-96-5B-052113 |
| MC21083-2F | 05/21/13 | 11:05 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-96-5B-052113 |
| MC21083-3 | 05/21/13 | 12:40 | DCKP | 05/22/13 | AQ | Ground Water | PZ-12-09-052113 |
| MC21083-3F | 05/21/13 | 12:40 | DCKP | 05/22/13 | AQ | Groundwater Filtered | PZ-12-09-052113 |
| MC21083-4 | 05/21/13 | 13:27 | DCKP | 05/22/13 | AQ | Ground Water | PZ-12-02-052113 |
| MC21083-4F | 05/21/13 | 13:27 | DCKP | 05/22/13 | AQ | Groundwater Filtered | PZ-12-02-052113 |
| MC21083-5 | 05/21/13 | 13:35 | DCKP | 05/22/13 | AQ | Ground Water | SHM-10-08-052113 |
| MC21083-5F | 05/21/13 | 13:35 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-10-08-052113 |
| MC21083-6 | 05/21/13 | 13:20 | DCKP | 05/22/13 | AQ | Ground Water | SHL-5-052113 |
| MC21083-6F | 05/21/13 | 13:20 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHL-5-052113 |
| MC21083-7F | 05/21/13 | 13:30 | DCKP | 05/22/13 | AQ | Equip Blank Filtered | RB-052113 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21083-8 | 05/21/13 | 13:15 | DCKP | 05/22/13 | AQ | Ground Water | SHM-05-41C-052113 |
| MC21083-8F | 05/21/13 | 13:15 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-05-41C-052113 |
| MC21083-9 | 05/22/13 | 09:55 | DCKP | 05/22/13 | AQ | Ground Water | SHM-05-41B-052213 |
| MC21083-9F | 05/22/13 | 09:55 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-05-41B-052213 |
| MC21083-10 | 05/22/13 | 09:40 | DCKP | 05/22/13 | AQ | Ground Water | SHM-05-42A-052213 |
| MC21083-10F | 05/22/13 | 09:40 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-05-42A-052213 |
| MC21083-11 | 05/22/13 | 09:58 | DCKP | 05/22/13 | AQ | Ground Water | PZ-12-05-052213 |
| MC21083-11F | 05/22/13 | 09:58 | DCKP | 05/22/13 | AQ | Groundwater Filtered | PZ-12-05-052213 |
| MC21083-12 | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Ground Water | PZ-12-10-052213 |
| MC21083-12D | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Water Dup/MSD | PZ-12-10-052213 |
| MC21083-12F | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Groundwater Filtered | PZ-12-10-052213 |
| MC21083-12FD | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Water Dup/MSD | PZ-12-10-052213 |
| MC21083-12FS | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Water Matrix Spike | PZ-12-10-052213 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21083-12S | 05/22/13 | 09:35 | DCKP | 05/22/13 | AQ | Water Matrix Spike | PZ-12-10-052213 |
| MC21083-13 | 05/22/13 | 10:05 | DCKP | 05/22/13 | AQ | Ground Water | SHM-10-05A-052213 |
| MC21083-13F | 05/22/13 | 10:05 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-10-05A-052213 |
| MC21083-14 | 05/22/13 | 00:00 | DCKP | 05/22/13 | AQ | Ground Water | DUP-052213 |
| MC21083-14F | 05/22/13 | 00:00 | DCKP | 05/22/13 | AQ | Groundwater Filtered | DUP-052213 |
| MC21083-15 | 05/22/13 | 11:30 | DCKP | 05/22/13 | AQ | Ground Water | SHM-05-41A-052213 |
| MC21083-15F | 05/22/13 | 11:30 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-05-41A-052213 |
| MC21083-16 | 05/22/13 | 11:15 | DCKP | 05/22/13 | AQ | Ground Water | SHM-05-42B-052213 |
| MC21083-16F | 05/22/13 | 11:15 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHM-05-42B-052213 |
| MC21083-17 | 05/22/13 | 12:05 | DCKP | 05/22/13 | AQ | Ground Water | SHL-10-052213 |
| MC21083-17F | 05/22/13 | 12:05 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHL-10-052213 |
| MC21083-18 | 05/22/13 | 13:00 | DCKP | 05/22/13 | AQ | Ground Water | SHL-20-052213 |
| MC21083-18F | 05/22/13 | 13:00 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHL-20-052213 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21083-19 | 05/22/13 | 13:20 | DCKP | 05/22/13 | AQ | Ground Water | SHL-10-06A-052213 |
| MC21083-19F | 05/22/13 | 13:20 | DCKP | 05/22/13 | AQ | Groundwater Filtered | SHL-10-06A-052213 |
| MC21083-20F | 05/22/13 | 14:00 | DCKP | 05/22/13 | AQ | Equip Blank Filtered | RB-052213 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC21083

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 6/18/2013 2:55:45 PM

20 Sample(s) were collected on between 05/21/2013 and 05/22/2013 and were received at Accutest on 05/22/2013 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of MC21083. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix:** AQ **Batch ID:** MP21072

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12FMS, MC21083-12FMSD, MC21083-12FPS, MC21083-12FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Manganese, Potassium are outside control limits for sample MP21072-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP21072-SD1 for Sodium: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP21072A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12FMS, MC21083-12FMSD, MC21083-12FPS, MC21083-12FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP21072A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

## Wet Chemistry By Method ASTM516-90,02

**Matrix:** AQ **Batch ID:** GN43093

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-3DUP, MC21083-3MS were used as the QC samples for Sulfate.

**Matrix:** AQ **Batch ID:** GN43094

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Sulfate.

## Wet Chemistry By Method EPA 353.2

**Matrix:** AQ **Batch ID:** GP16082

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-1DUP, MC21083-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix:** AQ **Batch ID:** GP16083

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Refer to spike blank.

**Matrix:** AQ **Batch ID:** R32975

- MC21083-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32976

- MC21083-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32977

- MC21083-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32978

- MC21083-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32979

- MC21083-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32980

- MC21083-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32981

- MC21083-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32982

- MC21083-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32983

- MC21083-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32984

- MC21083-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32985

- MC21083-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32986

- MC21083-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32987

- MC21083-14 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32988

- MC21083-15 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32989

## Wet Chemistry By Method EPA 353.2

**Matrix:** AQ **Batch ID:** R32989

- MC21083-16 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32990

- MC21083-17 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32991

- MC21083-19 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R32992

- MC21083-18 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix:** AQ **Batch ID:** GP16074

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

**Matrix:** AQ **Batch ID:** GP16148

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

**Matrix:** AQ **Batch ID:** GN43080

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-1DUP, MC21083-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

**Matrix:** AQ **Batch ID:** GN43081

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

**Matrix:** AQ **Batch ID:** GN42987

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Sulfide.

**Matrix:** AQ **Batch ID:** GN42988

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-1DUP, MC21156-1MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

**Matrix:** AQ **Batch ID:** GN43052

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12DUP, MC21083-12MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

**Matrix:** AQ **Batch ID:** GN42944

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21083-12FMS, MC21083-12FDUP were used as the QC samples for Dissolved Organic Carbon.
- RPD(s) for Duplicate for Dissolved Organic Carbon are outside control limits for sample GN42944-D1. RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC21083).

# Summary of Hits



**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21083-1** | **SHL-8D-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 27.6 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 30.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.089 J | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.089 J | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.2 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-1F** | **SHL-8D-052113** | | | | | |
| Arsenic | | 0.72 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 9730 | 5000 | 150 | ug/l | SW846 6010C |
| Magnesium | | 1490 J | 5000 | 200 | ug/l | SW846 6010C |
| Potassium | | 1070 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 14800 | 10000 | 400 | ug/l | SW846 6010C |
| **MC21083-2** | **SHM-96-5B-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 315 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 18.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.3 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Sulfate | | 5.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-2F** | **SHM-96-5B-052113** | | | | | |
| Arsenic | | 1400 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 75300 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 20000 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 12700 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 9670 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 7970 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 23700 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.7 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-3** | **PZ-12-09-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 55.3 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 4.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.34 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.34 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 27.0 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-3F** | **PZ-12-09-052113** | | | | | |
| Arsenic | | 1.1 | 1.0 | 0.50 | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Calcium | | 20000 | 15000 | 450 | ug/l | SW846 6010C |
| Magnesium | | 2550 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 176 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 2460 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 11200 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-4** | **PZ-12-02-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 213 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 42.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 12.1 | 1.0 | 0.81 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.46 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.46 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-4F** | **PZ-12-02-052113** | | | | | |
| Arsenic | | 627 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 50900 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 58600 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 5760 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1330 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 11100 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 20500 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-5** | **SHM-10-08-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 499 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 55.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.18 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 10.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-5F** | **SHM-10-08-052113** | | | | | |
| Arsenic | | 1.9 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 152000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 42.8 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 19500 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 242 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 4800 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 40200 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21083-6** | **SHL-5-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 23.2 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 16.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.18 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| **MC21083-6F** | **SHL-5-052113** | | | | | |
| Arsenic | | 3.7 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 10900 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 999 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1500 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 286 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1390 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 3140 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-7F** | **RB-052113** | | | | | |
| Arsenic | | 0.58 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| **MC21083-8** | **SHM-05-41C-052113** | | | | | |
| Alkalinity, Total as CaCO3 | | 375 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 153 | 10 | 7.5 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.45 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.45 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-8F** | **SHM-05-41C-052113** | | | | | |
| Arsenic | | 709 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 102000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 14700 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 13400 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 2530 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 3490 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 118000 | 100000 | 4000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-9** | **SHM-05-41B-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 97.2 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 5.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.16 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.40 | 0.11 | 0.079 | mg/l | EPA 353.2 |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate + Nitrite | | 0.40 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 8.7 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-9F** | **SHM-05-41B-052213** | | | | | |
| Arsenic | | 812 | 13 | 6.3 | ug/l | SW846 6020A |
| Calcium | | 18400 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 32300 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 3450 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 780 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 9330 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 5150 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-10** | **SHM-05-42A-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 23.2 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 2.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Sulfate | | 5.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-10F** | **SHM-05-42A-052213** | | | | | |
| Arsenic | | 0.89 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 6420 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 224 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 981 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 103 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 2060 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2350 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 0.65 J | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-11** | **PZ-12-05-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 188 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 31.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.34 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.34 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-11F** | **PZ-12-05-052213** | | | | | |
| Arsenic | | 741 | 13 | 6.3 | ug/l | SW846 6020A |
| Calcium | | 47000 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 67700 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 5140 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1710 | 15 | 2.5 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|
| Potassium | 9110 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | 16500 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | 2.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-12 PZ-12-10-052213** | | | | | |
| Alkalinity, Total as CaCO3 | 15.5 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | 1.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.19 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.19 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-12F PZ-12-10-052213** | | | | | |
| Arsenic | 0.69 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | 5370 | 5000 | 150 | ug/l | SW846 6010C |
| Magnesium | 845 J | 5000 | 200 | ug/l | SW846 6010C |
| Potassium | 1490 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | 1060 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | 2.0 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-13 SHM-10-05A-052213** | | | | | |
| Alkalinity, Total as CaCO3 | 38.7 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | 30.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.62 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.62 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | 7.2 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-13F SHM-10-05A-052213** | | | | | |
| Arsenic | 3.1 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | 13800 | 10000 | 300 | ug/l | SW846 6010C |
| Magnesium | 1720 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | 16.1 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | 1610 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | 18900 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | 0.79 J | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-14 DUP-052213** | | | | | |
| Alkalinity, Total as CaCO3 | 38.7 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | 30.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.64 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.64 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | 7.3 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21083-14F** | **DUP-052213** | | | | | |
| Arsenic | | 3.1 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 14100 | 10000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 1720 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 15.4 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1580 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 19400 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 0.69 J | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-15** | **SHM-05-41A-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 33.2 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 3.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Sulfate | | 7.9 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-15F** | **SHM-05-41A-052213** | | | | | |
| Arsenic | | 12.3 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 9930 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 5530 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1440 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 569 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1630 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2610 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-16** | **SHM-05-42B-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 318 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 27.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 9.5 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.28 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.28 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-16F** | **SHM-05-42B-052213** | | | | | |
| Arsenic | | 238 | 5.0 | 2.5 | ug/l | SW846 6020A |
| Calcium | | 66000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 51100 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 11300 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 2900 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 9310 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 28000 | 25000 | 1000 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | | 3.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-17** | **SHL-10-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 24.3 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 5.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.18 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.18 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 4.6 J | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-17F** | **SHL-10-052213** | | | | | |
| Arsenic | | 1.2 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 8260 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 30.0 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 887 J | 5000 | 200 | ug/l | SW846 6010C |
| Potassium | | 1320 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 1220 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.6 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-18** | **SHL-20-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 111 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 35.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 5.3 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.37 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.37 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 30.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21083-18F** | **SHL-20-052213** | | | | | |
| Arsenic | | 621 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 32700 | 20000 | 600 | ug/l | SW846 6010C |
| Iron | | 17700 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 3890 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2150 | 45 | 7.5 | ug/l | SW846 6010C |
| Potassium | | 7240 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 24900 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-19** | **SHL-10-06A-052213** | | | | | |
| Alkalinity, Total as CaCO3 | | 48.6 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 1.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.5 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |

# Summary of Hits

**Job Number:** MC21083
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/21/13 thru 05/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate [a] | | 0.52 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.52 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21083-19F** | **SHL-10-06A-052213** | | | | | |
| Arsenic | | 72.8 | 2.5 | 1.3 | ug/l | SW846 6020A |
| Calcium | | 9380 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 11400 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 1700 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1430 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3060 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 3860 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21083-20F** | **RB-052213** | | | | | |
| Arsenic | | 0.52 J | 1.0 | 0.50 | ug/l | SW846 6020A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHL-8D-052113
**Lab Sample ID:** MC21083-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 27.6 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 30.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.089 J | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:46 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.089 J | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:46 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:48 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.2 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-8D-052113
**Lab Sample ID:** MC21083-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.72 J | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 9730 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 1490 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 1070 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 14800 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-8D-052113
**Lab Sample ID:** MC21083-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.64 U | 1.0 | 0.64 | mg/l | 1 | 05/23/13 13:13 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5B-052113
**Lab Sample ID:** MC21083-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 315 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 18.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.3 | 0.20 | 0.16 | mg/l | 2 | 06/05/13 13:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:47 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:47 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:48 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.4 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5B-052113
**Lab Sample ID:** MC21083-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1400 | 25 | 13 | ug/l | 50 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 75300 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 20000 | 500 | 150 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 12700 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 9670 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 7970 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 23700 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-96-5B-052113 | | |
| **Lab Sample ID:** | MC21083-2F | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.7 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 13:24 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-09-052113
**Lab Sample ID:** MC21083-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 55.3 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 4.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.34 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:49 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.34 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:49 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:48 | CF | SM 21 4500 NO2 B |
| Sulfate | 27.0 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-09-052113
**Lab Sample ID:** MC21083-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.1 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 20000 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 2550 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 176 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 2460 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 11200 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-09-052113
**Lab Sample ID:** MC21083-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.1 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 13:39 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-02-052113
**Lab Sample ID:** MC21083-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 213 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 42.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 12.1 | 1.0 | 0.81 | mg/l | 10 | 06/05/13 13:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.46 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:50 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.46 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:50 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:48 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-02-052113
**Lab Sample ID:** MC21083-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 627 | 10 | 5.0 | ug/l | 20 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 50900 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 58600 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 5760 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1330 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 11100 | 10000 | 1000 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 20500 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-02-052113 | | |
| **Lab Sample ID:** | MC21083-4F | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 14:14 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-08-052113
**Lab Sample ID:** MC21083-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 499 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 55.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.18 | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:51 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:51 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 10.4 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-08-052113
**Lab Sample ID:** MC21083-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.9 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 152000 | 100000 | 3000 | ug/l | 20 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 42.8 J | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 19500 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 242 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 4800 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 40200 | 25000 | 1000 | ug/l | 5 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-08-052113 | | |
| **Lab Sample ID:** | MC21083-5F | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.2 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 14:29 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-5-052113
**Lab Sample ID:** MC21083-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 23.2 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 16.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.18 | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:55 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:55 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-5-052113
**Lab Sample ID:** MC21083-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.7 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 10900 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 999 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1500 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 286 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1390 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 3140 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-5-052113
**Lab Sample ID:** MC21083-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.1 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 14:42 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052113
**Lab Sample ID:** MC21083-7F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.58 J | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41C-052113
**Lab Sample ID:** MC21083-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 375 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 153 | 10 | 7.5 | mg/l | 10 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.45 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:56 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.45 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:56 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41C-052113
**Lab Sample ID:** MC21083-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/21/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 709 | 10 | 5.0 | ug/l | 20 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 102000 | 100000 | 3000 | ug/l | 20 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 14700 | 500 | 150 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 13400 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 2530 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 3490 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 118000 | 100000 | 4000 | ug/l | 20 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-05-41C-052113 | | |
| **Lab Sample ID:** | MC21083-8F | **Date Sampled:** | 05/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.9 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 14:55 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41B-052213
**Lab Sample ID:** MC21083-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 97.2 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 5.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.16 | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.40 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:57 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.40 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:57 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 8.7 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41B-052213
**Lab Sample ID:** MC21083-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 812 | 13 | 6.3 | ug/l | 25 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 18400 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 32300 | 500 | 150 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 3450 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 780 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 9330 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 5150 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-05-41B-052213 | | |
| **Lab Sample ID:** | MC21083-9F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 15:08 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42A-052213
**Lab Sample ID:** MC21083-10
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 23.2 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 2.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 05/23/13 15:58 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 05/23/13 15:58 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.6 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42A-052213
**Lab Sample ID:** MC21083-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.89 J | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 6420 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 224 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 981 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 103 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 2060 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 2350 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-05-42A-052213 | | |
| **Lab Sample ID:** | MC21083-10F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.65 J | 1.0 | 0.64 | mg/l | 1 | 05/23/13 15:21 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-05-052213
**Lab Sample ID:** MC21083-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 188 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 31.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.34 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:00 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.34 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:00 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-05-052213
**Lab Sample ID:** MC21083-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 741 | 13 | 6.3 | ug/l | 25 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 47000 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 67700 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 5140 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1710 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 9110 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 16500 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-05-052213
**Lab Sample ID:** MC21083-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.4 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 15:34 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-10-052213
**Lab Sample ID:** MC21083-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 15.5 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 1.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.19 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:15 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.19 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:15 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:48 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-10-052213
**Lab Sample ID:** MC21083-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.69 J | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 5370 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 845 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1490 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 1060 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-10-052213
**Lab Sample ID:** MC21083-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.0 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 13:00 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-05A-052213
**Lab Sample ID:** MC21083-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 38.7 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 30.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.62 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:16 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.62 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:16 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.2 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-05A-052213
**Lab Sample ID:** MC21083-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.1 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 13800 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1720 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 16.1 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1610 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 18900 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-05A-052213 | | |
| **Lab Sample ID:** | MC21083-13F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.79 J | 1.0 | 0.64 | mg/l | 1 | 05/23/13 15:47 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052213
**Lab Sample ID:** MC21083-14
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 38.7 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 30.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.64 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:17 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.64 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:17 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.3 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052213
**Lab Sample ID:** MC21083-14F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.1 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 14100 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1720 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 15.4 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1580 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 19400 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052213 | | |
| **Lab Sample ID:** | MC21083-14F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.69 J | 1.0 | 0.64 | mg/l | 1 | 05/23/13 16:00 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41A-052213
**Lab Sample ID:** MC21083-15
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 33.2 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 3.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:18 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:18 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.9 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41A-052213
**Lab Sample ID:** MC21083-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 12.3 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 9930 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 5530 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1440 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 569 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1630 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 2610 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-05-41A-052213 | | |
| **Lab Sample ID:** | MC21083-15F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.2 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 16:13 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42B-052213
**Lab Sample ID:** MC21083-16
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 318 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 27.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 9.5 | 0.50 | 0.41 | mg/l | 5 | 06/05/13 13:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.28 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:20 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.28 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:20 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42B-052213
**Lab Sample ID:** MC21083-16F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 238 | 5.0 | 2.5 | ug/l | 10 | 05/29/13 | 06/05/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 66000 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 51100 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 11300 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/04/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 2900 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 9310 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 28000 | 25000 | 1000 | ug/l | 5 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15701
(3) Instrument QC Batch: MA15706
(4) Prep QC Batch: MP21072
(5) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-05-42B-052213 | | |
| **Lab Sample ID:** | MC21083-16F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.4 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 16:50 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-10-052213
**Lab Sample ID:** MC21083-17
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 24.3 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 5.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.18 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:23 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.18 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:23 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:55 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.6 J | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-10-052213
**Lab Sample ID:** MC21083-17F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.2 | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 8260 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30.0 J | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 887 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1320 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 1220 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-10-052213
**Lab Sample ID:** MC21083-17F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.6 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 17:03 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-20-052213
**Lab Sample ID:** MC21083-18
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 111 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 35.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 5.3 | 0.50 | 0.41 | mg/l | 5 | 06/05/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.37 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:25 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.37 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:25 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:55 | CF | SM 21 4500 NO2 B |
| Sulfate | 30.5 | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-20-052213
**Lab Sample ID:** MC21083-18F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 621 | 10 | 5.0 | ug/l | 20 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 32700 | 20000 | 600 | ug/l | 4 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 17700 | 300 | 90 | ug/l | 3 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 3890 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2150 | 45 | 7.5 | ug/l | 3 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 7240 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 24900 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-20-052213 | | |
| **Lab Sample ID:** | MC21083-18F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.4 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 17:16 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-10-06A-052213
**Lab Sample ID:** MC21083-19
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 48.6 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 1.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.5 | 0.10 | 0.081 | mg/l | 1 | 06/05/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.52 | 0.11 | 0.079 | mg/l | 1 | 05/23/13 16:26 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.52 | 0.10 | 0.075 | mg/l | 1 | 05/23/13 16:26 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/22/13 19:55 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/01/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-10-06A-052213
**Lab Sample ID:** MC21083-19F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 72.8 | 2.5 | 1.3 | ug/l | 5 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 9380 | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 11400 | 200 | 60 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1700 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 1430 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 3060 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 3860 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-10-06A-052213 | | |
| **Lab Sample ID:** | MC21083-19F | **Date Sampled:** | 05/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.9 | 1.0 | 0.64 | mg/l | 1 | 05/23/13 17:29 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052213
**Lab Sample ID:** MC21083-20F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/22/13
**Date Received:** 05/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.52 J | 1.0 | 0.50 | ug/l | 2 | 05/29/13 | 06/05/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15706
(3) Prep QC Batch: MP21072
(4) Prep QC Batch: MP21072A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com



FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FDS_2013_119 | Accutest Job # MC21083

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHL-8D-052113 | | 5-21-13 | 1045 | DC | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -2F | SHM-9B-5B-052113 | | | 1105 | KP | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -3F | PZ-12-09-052113 | | | 1240 | EF | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -4F | PZ-12-02-052113 | | | 1327 | MM | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -5F | SHM-10-08-052113 | | | 1335 | JG | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -6F | SHL-5-052113 | | | 1320 | KP | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -7F | RB-052113 | | | 1330 | DC | RB | 2 | | | X | | | | | | X | X | | | | | | | | |
| -8F | SHM-05-41C-052113 | | | 1315 | DC | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -9F | SHM-05-41B-052213 | | 5-22-13 | 0955 | KP | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -10F | SHM-05-42A-052213 | | 5-22-13 | 0940 | DC | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | 15C, SC |
| -11F | PZ-12-05-052213 | | 5-22-13 | 0958 | MM | GW | 8 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -12F | PZ-12-10-052213 | | 5-22-13 | 0935 | EF | GW | 24 | | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |

Turnaround Time ( Business days)

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

See Project QAPP for all specific project requirements
samples were field filtered. (Metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
Extra Volume Collected for PZ-12-10-052213 for MS/MSD SDG #002: Open

Sample Custody must be documented below each time samples change possession, including courier delivery.

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 5-22-13/1510 | 1 | 2 | | 2 |
| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 3 | | 3 | 4 | | 4 |
| Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable / On Ice / Cooler Temp. |
| 5 | | 5 | | | |

Cooler Temp: 2°C, 3.6°C, 3.2°C

5.1 5

**MC21083: Chain of Custody**
**Page 1 of 3**

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES
*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FD_2013_119 | Accutest Job # MC21083

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -13 | SHM-10-05A-052213 | | 5-22-13 | 1005 | JG | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -14 | DUP-052213 | | | — | JG | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -15 | SHM-05-41A-052213 | | | 1130 | KP | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -16 | SHM-05-42B-052213 | | | 1115 | QC | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -17 | SHL-10-052213 | | | 1205 | EF | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -18 | SHL-20-052213 | | | 1300 | MM | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -19 | SHM-10-06A-052213 | | | 1320 | JG | GW | 8 | X | X | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -20 | RB-052213 | | | 1400 | JG | RB | 2 | | X | | | X | | | X | X | X | | | | | | | | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
All samples were field filtered ⇒ (metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG # : 002 Closed

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-22-13/1510 | 1 | 2 | | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] |

On Ice [✓] Cooler Temp. 3.1°C 3.6°C 3.1°C

**MC21083: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21083 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/22/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** DEVENS **No. Coolers:** 3 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21083: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-1 Collected: 21-MAY-13 10:45 By: DCKP Received: 22-MAY-13 By: BA SHL-8D-052113 | | | | | | |
| MC21083-1 | SM 21 4500 NO2 B | 22-MAY-13 19:48 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-1 | EPA 353.2 | 23-MAY-13 15:46 | CF | | | NO3O |
| MC21083-1 | EPA 353.2 | 23-MAY-13 15:46 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-1 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-1 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-1 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-1 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-1 | SM18 4500NH3-C | 05-JUN-13 13:20 | BF | 05-JUN-13 | BF | AMN |
| MC21083-2 Collected: 21-MAY-13 11:05 By: DCKP Received: 22-MAY-13 By: BA SHM-96-5B-052113 | | | | | | |
| MC21083-2 | SM 21 4500 NO2 B | 22-MAY-13 19:48 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-2 | EPA 353.2 | 23-MAY-13 15:47 | CF | | | NO3O |
| MC21083-2 | EPA 353.2 | 23-MAY-13 15:47 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-2 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-2 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-2 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-2 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-2 | SM18 4500NH3-C | 05-JUN-13 13:20 | BF | 05-JUN-13 | BF | AMN |
| MC21083-3 Collected: 21-MAY-13 12:40 By: DCKP Received: 22-MAY-13 By: BA PZ-12-09-052113 | | | | | | |
| MC21083-3 | SM 21 4500 NO2 B | 22-MAY-13 19:48 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-3 | EPA 353.2 | 23-MAY-13 15:49 | CF | | | NO3O |
| MC21083-3 | EPA 353.2 | 23-MAY-13 15:49 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-3 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-3 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-3 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-3 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-3 | SM18 4500NH3-C | 05-JUN-13 13:20 | BF | 05-JUN-13 | BF | AMN |
| MC21083-4 Collected: 21-MAY-13 13:27 By: DCKP Received: 22-MAY-13 By: BA PZ-12-02-052113 | | | | | | |
| MC21083-4 | SM 21 4500 NO2 B | 22-MAY-13 19:48 | CF | 22-MAY-13 | CF | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-4 | EPA 353.2 | 23-MAY-13 15:50 | CF | | | NO3O |
| MC21083-4 | EPA 353.2 | 23-MAY-13 15:50 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-4 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-4 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-4 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-4 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-4 | SM18 4500NH3-C | 05-JUN-13 13:20 | BF | 05-JUN-13 | BF | AMN |
| MC21083-5 Collected: 21-MAY-13 13:35 By: DCKP Received: 22-MAY-13 By: BA<br>SHM-10-08-052113 | | | | | | |
| MC21083-5 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-5 | EPA 353.2 | 23-MAY-13 15:51 | CF | | | NO3O |
| MC21083-5 | EPA 353.2 | 23-MAY-13 15:51 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-5 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-5 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-5 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-5 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-5 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-6 Collected: 21-MAY-13 13:20 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-5-052113 | | | | | | |
| MC21083-6 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-6 | EPA 353.2 | 23-MAY-13 15:55 | CF | | | NO3O |
| MC21083-6 | EPA 353.2 | 23-MAY-13 15:55 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-6 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-6 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-6 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-6 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-6 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-8 Collected: 21-MAY-13 13:15 By: DCKP Received: 22-MAY-13 By: BA<br>SHM-05-41C-052113 | | | | | | |
| MC21083-8 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-8 | EPA 353.2 | 23-MAY-13 15:56 | CF | | | NO3O |
| MC21083-8 | EPA 353.2 | 23-MAY-13 15:56 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-8 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-8 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-8 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-8 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-8 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-9 | Collected: 22-MAY-13 09:55 By: DCKP Received: 22-MAY-13 By: BA | | | | | |
| SHM-05-41B-052213 | | | | | | |
| MC21083-9 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-9 | EPA 353.2 | 23-MAY-13 15:57 | CF | | | NO3O |
| MC21083-9 | EPA 353.2 | 23-MAY-13 15:57 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-9 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-9 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-9 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-9 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-9 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-10 | Collected: 22-MAY-13 09:40 By: DCKP Received: 22-MAY-13 By: BA | | | | | |
| SHM-05-42A-052213 | | | | | | |
| MC21083-10 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-10 | EPA 353.2 | 23-MAY-13 15:58 | CF | | | NO3O |
| MC21083-10 | EPA 353.2 | 23-MAY-13 15:58 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-10 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-10 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-10 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-10 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-10 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-11 | Collected: 22-MAY-13 09:58 By: DCKP Received: 22-MAY-13 By: BA | | | | | |
| PZ-12-05-052213 | | | | | | |
| MC21083-11 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-11 | EPA 353.2 | 23-MAY-13 16:00 | CF | | | NO3O |
| MC21083-11 | EPA 353.2 | 23-MAY-13 16:00 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-11 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-11 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-11 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-11 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-11 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-12 | Collected: 22-MAY-13 09:35 By: DCKP | | Received: 22-MAY-13 | By: BA | | |
| PZ-12-10-052213 | | | | | | |
| MC21083-12 | SM 21 4500 NO2 B | 22-MAY-13 19:48 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-12 | EPA 353.2 | 23-MAY-13 16:15 | CF | | | NO3O |
| MC21083-12 | EPA 353.2 | 23-MAY-13 16:15 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-12 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-12 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-12 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-12 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-12 | SM18 4500NH3-C | 05-JUN-13 13:20 | BF | 05-JUN-13 | BF | AMN |
| MC21083-13 | Collected: 22-MAY-13 10:05 By: DCKP | | Received: 22-MAY-13 | By: BA | | |
| SHM-10-05A-052213 | | | | | | |
| MC21083-13 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-13 | EPA 353.2 | 23-MAY-13 16:16 | CF | | | NO3O |
| MC21083-13 | EPA 353.2 | 23-MAY-13 16:16 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-13 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-13 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-13 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-13 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-13 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-14 | Collected: 22-MAY-13 00:00 By: DCKP | | Received: 22-MAY-13 | By: BA | | |
| DUP-052213 | | | | | | |
| MC21083-14 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-14 | EPA 353.2 | 23-MAY-13 16:17 | CF | | | NO3O |
| MC21083-14 | EPA 353.2 | 23-MAY-13 16:17 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-14 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-14 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-14 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-14 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-14 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-15 | Collected: 22-MAY-13 11:30 By: DCKP | | Received: 22-MAY-13 | By: BA | | |
| SHM-05-41A-052213 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-15 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-15 | EPA 353.2 | 23-MAY-13 16:18 | CF | | | NO3O |
| MC21083-15 | EPA 353.2 | 23-MAY-13 16:18 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-15 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-15 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-15 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-15 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-15 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-16 | Collected: 22-MAY-13 11:15 By: DCKP Received: 22-MAY-13 By: BA<br>SHM-05-42B-052213 | | | | | |
| MC21083-16 | SM 21 4500 NO2 B | 22-MAY-13 19:52 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-16 | EPA 353.2 | 23-MAY-13 16:20 | CF | | | NO3O |
| MC21083-16 | EPA 353.2 | 23-MAY-13 16:20 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-16 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-16 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-16 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-16 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-16 | SM18 4500NH3-C | 05-JUN-13 13:30 | BF | 05-JUN-13 | BF | AMN |
| MC21083-17 | Collected: 22-MAY-13 12:05 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-10-052213 | | | | | |
| MC21083-17 | SM 21 4500 NO2 B | 22-MAY-13 19:55 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-17 | EPA 353.2 | 23-MAY-13 16:23 | CF | | | NO3O |
| MC21083-17 | EPA 353.2 | 23-MAY-13 16:23 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-17 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-17 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-17 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-17 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-17 | SM18 4500NH3-C | 05-JUN-13 13:40 | BF | 05-JUN-13 | BF | AMN |
| MC21083-18 | Collected: 22-MAY-13 13:00 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-20-052213 | | | | | |
| MC21083-18 | SM 21 4500 NO2 B | 22-MAY-13 19:55 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-18 | EPA 353.2 | 23-MAY-13 16:25 | CF | | | NO3O |
| MC21083-18 | EPA 353.2 | 23-MAY-13 16:25 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-18 | SM21 4500 S F | 28-MAY-13 | BF | | | S |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-18 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-18 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-18 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-18 | SM18 4500NH3-C | 05-JUN-13 13:40 | BF | 05-JUN-13 | BF | AMN |
| MC21083-19 | Collected: 22-MAY-13 13:20 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-10-06A-052213 | | | | | |
| MC21083-19 | SM 21 4500 NO2 B | 22-MAY-13 19:55 | CF | 22-MAY-13 | CF | NO2 |
| MC21083-19 | EPA 353.2 | 23-MAY-13 16:26 | CF | | | NO3O |
| MC21083-19 | EPA 353.2 | 23-MAY-13 16:26 | CF | 23-MAY-13 | CF | NO32 |
| MC21083-19 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21083-19 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21083-19 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21083-19 | ASTM516-90,02 | 01-JUN-13 | MC | | | SO4 |
| MC21083-19 | SM18 4500NH3-C | 05-JUN-13 13:40 | BF | 05-JUN-13 | BF | AMN |
| MC21083-1F | Collected: 21-MAY-13 10:45 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-8D-052113 | | | | | |
| MC21083-1F | SM21 5310 B | 23-MAY-13 13:13 | MA | | | DOC |
| MC21083-1F | SW846 6010C | 03-JUN-13 10:47 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN |
| MC21083-1F | SW846 6010C | 04-JUN-13 16:12 | EAL | 29-MAY-13 | DA | NA |
| MC21083-1F | SW846 6020A | 05-JUN-13 17:01 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-2F | Collected: 21-MAY-13 11:05 By: DCKP Received: 22-MAY-13 By: BA<br>SHM-96-5B-052113 | | | | | |
| MC21083-2F | SM21 5310 B | 23-MAY-13 13:24 | MA | | | DOC |
| MC21083-2F | SW846 6010C | 03-JUN-13 11:08 | EAL | 29-MAY-13 | DA | K |
| MC21083-2F | SW846 6010C | 03-JUN-13 15:36 | EAL | 29-MAY-13 | DA | CA,FE,MN |
| MC21083-2F | SW846 6010C | 04-JUN-13 16:17 | EAL | 29-MAY-13 | DA | MG |
| MC21083-2F | SW846 6010C | 04-JUN-13 16:21 | EAL | 29-MAY-13 | DA | NA |
| MC21083-2F | SW846 6020A | 05-JUN-13 17:08 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-3F | Collected: 21-MAY-13 12:40 By: DCKP Received: 22-MAY-13 By: BA<br>PZ-12-09-052113 | | | | | |
| MC21083-3F | SM21 5310 B | 23-MAY-13 13:39 | MA | | | DOC |
| MC21083-3F | SW846 6010C | 03-JUN-13 11:12 | EAL | 29-MAY-13 | DA | FE,K,MG,MN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-3F | SW846 6010C | 04-JUN-13 16:26 | EAL | 29-MAY-13 | DA | NA |
| MC21083-3F | SW846 6010C | 04-JUN-13 16:30 | EAL | 29-MAY-13 | DA | CA |
| MC21083-3F | SW846 6020A | 05-JUN-13 17:15 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-4F | Collected: 21-MAY-13 13:27 By: DCKP Received: 22-MAY-13 By: BA<br>PZ-12-02-052113 | | | | | |
| MC21083-4F | SM21 5310 B | 23-MAY-13 14:14 | MA | | | DOC |
| MC21083-4F | SW846 6010C | 03-JUN-13 11:16 | EAL | 29-MAY-13 | DA | MG,MN |
| MC21083-4F | SW846 6010C | 03-JUN-13 15:59 | EAL | 29-MAY-13 | DA | CA,FE |
| MC21083-4F | SW846 6010C | 04-JUN-13 16:34 | EAL | 29-MAY-13 | DA | K |
| MC21083-4F | SW846 6010C | 04-JUN-13 16:39 | EAL | 29-MAY-13 | DA | NA |
| MC21083-4F | SW846 6020A | 05-JUN-13 17:36 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-5F | Collected: 21-MAY-13 13:35 By: DCKP Received: 22-MAY-13 By: BA<br>SHM-10-08-052113 | | | | | |
| MC21083-5F | SM21 5310 B | 23-MAY-13 14:29 | MA | | | DOC |
| MC21083-5F | SW846 6010C | 03-JUN-13 11:21 | EAL | 29-MAY-13 | DA | FE,K,MN |
| MC21083-5F | SW846 6010C | 03-JUN-13 16:08 | EAL | 29-MAY-13 | DA | CA |
| MC21083-5F | SW846 6010C | 04-JUN-13 16:43 | EAL | 29-MAY-13 | DA | MG |
| MC21083-5F | SW846 6010C | 04-JUN-13 16:47 | EAL | 29-MAY-13 | DA | NA |
| MC21083-5F | SW846 6020A | 05-JUN-13 17:43 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-6F | Collected: 21-MAY-13 13:20 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-5-052113 | | | | | |
| MC21083-6F | SM21 5310 B | 23-MAY-13 14:42 | MA | | | DOC |
| MC21083-6F | SW846 6010C | 03-JUN-13 11:25 | EAL | 29-MAY-13 | DA | FE,K,MG,MN,NA |
| MC21083-6F | SW846 6010C | 03-JUN-13 16:12 | EAL | 29-MAY-13 | DA | CA |
| MC21083-6F | SW846 6020A | 05-JUN-13 17:50 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-7F | Collected: 21-MAY-13 13:30 By: DCKP Received: 22-MAY-13 By: BA<br>RB-052113 | | | | | |
| MC21083-7F | SW846 6010C | 03-JUN-13 11:29 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-7F | SW846 6020A | 05-JUN-13 17:57 | PY | 29-MAY-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-8E | Collected: 21-MAY-13 13:15 By: DCKP | | Received: 22-MAY-13 By: BA | | | |
| SHM-05-41C-052113 | | | | | | |
| MC21083-8E | SM21 5310 B | 23-MAY-13 14:55 | MA | | | DOC |
| MC21083-8E | SW846 6010C | 03-JUN-13 11:34 | EAL | 29-MAY-13 | DA | K |
| MC21083-8E | SW846 6010C | 03-JUN-13 16:17 | EAL | 29-MAY-13 | DA | FE,MN |
| MC21083-8E | SW846 6010C | 03-JUN-13 16:21 | EAL | 29-MAY-13 | DA | CA,NA |
| MC21083-8E | SW846 6010C | 04-JUN-13 17:01 | EAL | 29-MAY-13 | DA | MG |
| MC21083-8E | SW846 6020A | 05-JUN-13 18:05 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-9F | Collected: 22-MAY-13 09:55 By: DCKP | | Received: 22-MAY-13 By: BA | | | |
| SHM-05-41B-052213 | | | | | | |
| MC21083-9E | SM21 5310 B | 23-MAY-13 15:08 | MA | | | DOC |
| MC21083-9E | SW846 6010C | 03-JUN-13 11:38 | EAL | 29-MAY-13 | DA | K,MG,MN,NA |
| MC21083-9E | SW846 6010C | 03-JUN-13 16:25 | EAL | 29-MAY-13 | DA | FE |
| MC21083-9E | SW846 6010C | 04-JUN-13 17:06 | EAL | 29-MAY-13 | DA | CA |
| MC21083-9E | SW846 6020A | 05-JUN-13 18:12 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-10 | Collected: 22-MAY-13 09:40 By: DCKP | | Received: 22-MAY-13 By: BA | | | |
| SHM-05-42A-052213 | | | | | | |
| MC21083-10 | SM21 5310 B | 23-MAY-13 15:21 | MA | | | DOC |
| MC21083-10 | SW846 6010C | 03-JUN-13 11:42 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-10 | SW846 6020A | 05-JUN-13 18:19 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-11 | Collected: 22-MAY-13 09:58 By: DCKP | | Received: 22-MAY-13 By: BA | | | |
| PZ-12-05-052213 | | | | | | |
| MC21083-11 | SM21 5310 B | 23-MAY-13 15:34 | MA | | | DOC |
| MC21083-11 | SW846 6010C | 03-JUN-13 11:47 | EAL | 29-MAY-13 | DA | K,MG,MN |
| MC21083-11 | SW846 6010C | 03-JUN-13 16:30 | EAL | 29-MAY-13 | DA | NA |
| MC21083-11 | SW846 6010C | 03-JUN-13 16:34 | EAL | 29-MAY-13 | DA | FE |
| MC21083-11 | SW846 6010C | 04-JUN-13 17:10 | EAL | 29-MAY-13 | DA | CA |
| MC21083-11 | SW846 6020A | 05-JUN-13 18:26 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-12 | Collected: 22-MAY-13 09:35 By: DCKP | | Received: 22-MAY-13 By: BA | | | |
| PZ-12-10-052213 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-12 | SM21 5310 B | 23-MAY-13 13:00 | MA | | | DOC |
| MC21083-12 | SW846 6010C | 03-JUN-13 10:39 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-12 | SW846 6020A | 05-JUN-13 16:47 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-13 | Collected: 22-MAY-13 10:05 By: DCKP Received: 22-MAY-13 By: BA SHM-10-05A-052213 | | | | | |
| MC21083-13 | SM21 5310 B | 23-MAY-13 15:47 | MA | | | DOC |
| MC21083-13 | SW846 6010C | 03-JUN-13 12:03 | EAL | 29-MAY-13 | DA | FE,K,MG,MN |
| MC21083-13 | SW846 6010C | 03-JUN-13 16:47 | EAL | 29-MAY-13 | DA | CA,NA |
| MC21083-13 | SW846 6020A | 05-JUN-13 18:33 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-14 | Collected: 22-MAY-13 00:00 By: DCKP Received: 22-MAY-13 By: BA DUP-052213 | | | | | |
| MC21083-14 | SM21 5310 B | 23-MAY-13 16:00 | MA | | | DOC |
| MC21083-14 | SW846 6010C | 03-JUN-13 12:07 | EAL | 29-MAY-13 | DA | FE,K,MG,MN |
| MC21083-14 | SW846 6010C | 03-JUN-13 16:51 | EAL | 29-MAY-13 | DA | CA,NA |
| MC21083-14 | SW846 6020A | 05-JUN-13 18:40 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-15 | Collected: 22-MAY-13 11:30 By: DCKP Received: 22-MAY-13 By: BA SHM-05-41A-052213 | | | | | |
| MC21083-15 | SM21 5310 B | 23-MAY-13 16:13 | MA | | | DOC |
| MC21083-15 | SW846 6010C | 03-JUN-13 12:11 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-15 | SW846 6020A | 05-JUN-13 19:01 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-16 | Collected: 22-MAY-13 11:15 By: DCKP Received: 22-MAY-13 By: BA SHM-05-42B-052213 | | | | | |
| MC21083-16 | SM21 5310 B | 23-MAY-13 16:50 | MA | | | DOC |
| MC21083-16 | SW846 6010C | 03-JUN-13 12:16 | EAL | 29-MAY-13 | DA | K |
| MC21083-16 | SW846 6010C | 03-JUN-13 16:56 | EAL | 29-MAY-13 | DA | MN,NA |
| MC21083-16 | SW846 6010C | 03-JUN-13 17:00 | EAL | 29-MAY-13 | DA | CA,FE |
| MC21083-16 | SW846 6010C | 04-JUN-13 17:14 | EAL | 29-MAY-13 | DA | MG |
| MC21083-16 | SW846 6020A | 05-JUN-13 19:08 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-17 | Collected: 22-MAY-13 12:05 By: DCKP Received: 22-MAY-13 By: BA SHL-10-052213 | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21083

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21083-17.5 | SM21 5310 B | 23-MAY-13 17:03 | MA | | | DOC |
| MC21083-17.5 | SW846 6010C | 03-JUN-13 12:20 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-17.5 | SW846 6020A | 05-JUN-13 19:15 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-18.0 | Collected: 22-MAY-13 13:00 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-20-052213 | | | | | |
| MC21083-18.0 | SM21 5310 B | 23-MAY-13 17:16 | MA | | | DOC |
| MC21083-18.0 | SW846 6010C | 03-JUN-13 12:25 | EAL | 29-MAY-13 | DA | K,MG |
| MC21083-18.0 | SW846 6010C | 03-JUN-13 17:04 | EAL | 29-MAY-13 | DA | FE,MN,NA |
| MC21083-18.0 | SW846 6010C | 03-JUN-13 17:09 | EAL | 29-MAY-13 | DA | CA |
| MC21083-18.0 | SW846 6020A | 05-JUN-13 19:22 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-19.0 | Collected: 22-MAY-13 13:20 By: DCKP Received: 22-MAY-13 By: BA<br>SHL-10-06A-052213 | | | | | |
| MC21083-19.0 | SM21 5310 B | 23-MAY-13 17:29 | MA | | | DOC |
| MC21083-19.0 | SW846 6010C | 03-JUN-13 12:29 | EAL | 29-MAY-13 | DA | CA,K,MG,MN,NA |
| MC21083-19.0 | SW846 6010C | 03-JUN-13 17:13 | EAL | 29-MAY-13 | DA | FE |
| MC21083-19.0 | SW846 6020A | 05-JUN-13 19:29 | PY | 29-MAY-13 | DA | ASMS |
| MC21083-20.0 | Collected: 22-MAY-13 14:00 By: DCKP Received: 22-MAY-13 By: BA<br>RB-052213 | | | | | |
| MC21083-20.0 | SW846 6010C | 03-JUN-13 12:33 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21083-20.0 | SW846 6020A | 05-JUN-13 19:36 | PY | 29-MAY-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-1.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-1.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-1.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-1.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-1.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-1.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-1.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-1.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-1.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-1.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-1.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-1.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-1F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-1F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-1F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-1F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-1F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-1F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-2.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-2.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-2.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-2.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-2.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-2.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-2.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-2.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-2.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-2.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-2.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-2.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-2F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-2F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-2F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-2F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-2F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-2F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-3.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-3.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-3.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-3.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-3.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-3.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-3.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-3.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-3.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-3.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-3.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-3.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-3F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-3F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-3F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-3F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-3F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-3F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-4.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-4.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-4.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-4.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-4.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-4.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-4.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-4.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-4.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-4.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-4.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-4.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-4F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-4F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-4F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-4F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-4F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-4F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-5.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-5.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-5.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-5.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-5.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-5.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-5.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-5.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-5.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-5.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-5.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-5.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-5F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-5F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-5F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-5F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-5F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-5F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-6.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-6.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-6.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-6.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-6.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-6.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-6.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-6.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-6.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-6.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-6.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-6.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-6F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-6F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-6F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-6F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-6F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-6F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-7F.2 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-7F.2 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-8.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-8.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-8.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-8.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-8.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-8.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-8.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-8.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-8.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-8.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-8.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-8.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-8F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-8F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-8F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-8F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-8F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-8F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-9.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-9.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-9.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-9.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-9.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-9.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-9.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-9.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-9.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-9.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-9.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-9.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-9F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-9F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-9F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-9F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-9F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-9F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-9F.7 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-9F.7 | Mehdi Abdolrahim | Walk In Ref #9 | 05/23/13 08:30 | Return to Storage |
| MC21083-10.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-10.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-10.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-10.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-10.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-10.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-10.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-10.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-10.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-10.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-10.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-10.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-10F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-10F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-10F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-10F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-10F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-10F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-11.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-11.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-11.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-11.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-11.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-11.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-11.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-11.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-11.5 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-11.5 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-11.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-11.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-11F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-11F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-11F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-11F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-11F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-11F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-12.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-12.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-12.2 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-12.2 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-12.2 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-12.2 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-12.4 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-12.4 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-12.4 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-12.4 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-12.5 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-12.5 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-12.6 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-12.6 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-12.13 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-12.13 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-12.14 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-12.14 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-12.15 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:02 | Retrieve from Storage |
| MC21083-12.15 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-12F.7 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-12F.7 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-12F.16 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:21 | Retrieve from Storage |
| MC21083-12F.16 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-12F.16 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-12F.16 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-12F.17 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-12F.17 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-12F.17 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-12F.17 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-12F.18 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:21 | Retrieve from Storage |
| MC21083-12F.18 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-12F.18 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-12F.18 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-12F.19 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:21 | Retrieve from Storage |
| MC21083-12F.19 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-12F.19 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-12F.19 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-13.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-13.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-13.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-13.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-13.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-13.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-13.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-13.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-13.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-13.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-13.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-13.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-13F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-13F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-13F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-13F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-13F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-13F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-14.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-14.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-14.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-14.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-14.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-14.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-14.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-14.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-14.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-14.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-14.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-14.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-14F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-14F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-14F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-14F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-14F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-14F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-15.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-15.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-15.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-15.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-15.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-15.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-15.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-15.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-15.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-15.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-15.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-15.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-15F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-15F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-15F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-15F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-15F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-15F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-16.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-16.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-16.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-16.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-16.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-16.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-16.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-16.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-16.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-16.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-16.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-16.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-16F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-16F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-16F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-16F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-16F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-16F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-17.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-17.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-17.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-17.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-17.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-17.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-17.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-17.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-17.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-17.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-17.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-17.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-17F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-17F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-17F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-17F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-17F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-17F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-18.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-18.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-18.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-18.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-18.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-18.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-18.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-18.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-18.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-18.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-18.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-18.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21083-18F.3 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-18F.3 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-18F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-18F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-18F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-18F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-19.1 | Walk In Ref #9 | Crystall Woodruff | 05/22/13 18:49 | Retrieve from Storage |
| MC21083-19.1 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-19.1 | Walk In Ref #9 | Miranda Cardullo | 05/31/13 09:04 | Retrieve from Storage |
| MC21083-19.1 | Miranda Cardullo | Walk In Ref #9 | 05/31/13 17:24 | Return to Storage |
| MC21083-19.1 | Walk In Ref #9 | Miranda Cardullo | 06/01/13 12:46 | Retrieve from Storage |
| MC21083-19.1 | Miranda Cardullo | Walk In Ref #9 | 06/01/13 17:01 | Return to Storage |
| MC21083-19.2 | Walk In Ref #9 | Crystall Woodruff | 05/23/13 10:45 | Retrieve from Storage |
| MC21083-19.2 | Crystall Woodruff | Walk In Ref #9 | 05/23/13 14:39 | Return to Storage |
| MC21083-19.2 | Walk In Ref #9 | Bijan Firowznin | 06/05/13 06:26 | Retrieve from Storage |
| MC21083-19.2 | Bijan Firowznin | Walk In Ref #9 | 06/05/13 06:27 | Return to Storage |
| MC21083-19.5 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21083-19.5 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |

# Accutest Internal Chain of Custody



**Job Number:** MC21083
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21083-19F.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-19F.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21083-19F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 05/23/13 07:20 | Retrieve from Storage |
| MC21083-19F.6 | Mehdi Abdolrahim | TOC1 | 05/23/13 08:30 | Load on Instrument |
| MC21083-19F.6 | TOC1 | Mehdi Abdolrahim | 05/24/13 13:58 | Unload from Instrument |
| MC21083-19F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 05/24/13 13:59 | Return to Storage |
| MC21083-20F.1 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 09:43 | Retrieve from Storage |
| MC21083-20F.1 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 1 | | STD1 |
| 09:19 | MA15693-STD2 | 1 | | STD2 |
| 09:23 | MA15693-STD3 | 1 | | STD3 |
| 09:28 | MA15693-STD4 | 1 | | STD4 |
| 09:32 | MA15693-ICV1 | 1 | | |
| 09:42 | MA15693-ICB1 | 1 | | |
| 09:50 | MA15693-CCV1 | 1 | | |
| 09:58 | MA15693-CCB1 | 1 | | |
| 10:04 | MA15693-CRI1 | 1 | | |
| 10:13 | MA15693-ICSA1 | 1 | | |
| 10:17 | MA15693-ICSAB1 | 1 | | |
| 10:22 | MP21072-B1 | 1 | | |
| 10:26 | MP21072-MB1 | 1 | | |
| 10:30 | MP21072-S1 | 1 | | |
| 10:34 | MP21072-S2 | 1 | | |
| 10:39 | MC21083-12F | 1 | | |
| 10:43 | MP21072-SD1 | 5 | | |
| 10:47 | MC21083-1F | 1 | | |
| 10:52 | MA15693-CCV2 | 1 | | |
| 10:58 | MA15693-CCB2 | 1 | | |
| 11:08 | MC21083-2F | 1 | | |
| 11:12 | MC21083-3F | 1 | | |
| 11:16 | MC21083-4F | 1 | | |
| 11:21 | MC21083-5F | 1 | | |
| 11:25 | MC21083-6F | 1 | | |
| 11:29 | MC21083-7F | 1 | | |
| 11:34 | MC21083-8F | 1 | | |
| 11:38 | MC21083-9F | 1 | | |
| 11:42 | MC21083-10F | 1 | | |
| 11:47 | MC21083-11F | 1 | | |
| 11:51 | MA15693-CCV3 | 1 | | |
| 11:58 | MA15693-CCB3 | 1 | | |
| 12:03 | MC21083-13F | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:07 | MC21083-14F | 1 | | |
| 12:11 | MC21083-15F | 1 | | |
| 12:16 | MC21083-16F | 1 | | |
| 12:20 | MC21083-17F | 1 | | |
| 12:25 | MC21083-18F | 1 | | |
| 12:29 | MC21083-19F | 1 | | |
| 12:33 | MC21083-20F | 1 | | |
| 12:38 | MP21072-PS1 | 1 | | |
| 12:42 | MP21073-B1 | 1 | | |
| 12:46 | MA15693-CCV4 | 1 | | |
| 12:54 | MA15693-CCB4 | 1 | | |
| 13:00 | MP21073-MB1 | 1 | | |
| 13:04 | MP21073-S1 | 1 | | |
| 13:08 | MP21073-S2 | 1 | | |
| 13:12 | MC21156-7F | 1 | | (sample used for QC only; not part of login MC21083) |
| 13:17 | MP21073-SD1 | 5 | | |
| 13:21 | ZZZZZZ | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:34 | ZZZZZZ | 1 | | |
| 13:38 | ZZZZZZ | 1 | | |
| 13:43 | MA15693-CCV5 | 1 | | |
| 13:48 | MA15693-CCB5 | 1 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:07 | ZZZZZZ | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:24 | ZZZZZZ | 1 | | |
| 14:29 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 1 | | |
| 14:42 | MA15693-CCB6 | 1 | | |
| 14:52 | ZZZZZZ | 1 | | |
| 14:56 | ZZZZZZ | 1 | | |
| 15:01 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:10 | MP21073-PS1 | 1 | | |
| 15:18 | MP21072-B1 | 5 | | |
| 15:23 | MP21072-S1 | 5 | | |
| 15:27 | MP21072-S2 | 5 | | |
| 15:32 | MC21083-1F | 5 | | |
| 15:36 | MC21083-2F | 5 | | |
| 15:44 | MA15693-CCV7 | 1 | | |
| 15:50 | MA15693-CCB7 | 1 | | |
| 15:55 | MC21083-3F | 5 | | |
| 15:59 | MC21083-4F | 10 | | |
| 16:04 | MC21083-5F | 10 | | |
| 16:08 | MC21083-5F | 20 | | |
| 16:12 | MC21083-6F | 2 | | |
| 16:17 | MC21083-8F | 5 | | |
| 16:21 | MC21083-8F | 20 | | |
| 16:25 | MC21083-9F | 5 | | |
| 16:30 | MC21083-11F | 2 | | |
| 16:34 | MC21083-11F | 10 | | |
| 16:38 | MA15693-CCV8 | 1 | | |
| 16:43 | MA15693-CCB8 | 1 | | |
| 16:47 | MC21083-13F | 2 | | |
| 16:51 | MC21083-14F | 2 | | |
| 16:56 | MC21083-16F | 5 | | |
| 17:00 | MC21083-16F | 10 | | |
| 17:04 | MC21083-18F | 3 | | |
| 17:09 | MC21083-18F | 4 | | |
| 17:13 | MC21083-19F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 5 | | |
| ----------> | Last reportable sample/prep for job MC21083 | | | |
| 17:22 | MP21073-B1 | 5 | | |
| 17:26 | MP21073-S1 | 5 | | |
| 17:30 | MA15693-CCV9 | 1 | | |
| 17:34 | MA15693-CCB9 | 1 | | |
| 17:39 | MP21073-S2 | 5 | | |
| 17:43 | MP21073-S1 | 10 | | |
| 17:47 | MP21073-S2 | 10 | | |
| 17:52 | MC21156-7F | 2 | | (sample used for QC only; not part of login MC21083) |
| 17:56 | MC21156-7F | 10 | | (sample used for QC only; not part of login MC21083) |
| 18:00 | MP21073-SD1 | 10 | | |
| 18:05 | MP21073-SD1 | 50 | | |
| 18:09 | MA15693-CRI2 | 1 | | |
| 18:13 | MA15693-CCV10 | 1 | | |
| 18:18 | MA15693-CCB10 | 1 | | |
| ----------> | Last reportable CCB for job MC21083 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 2222 R | 53476 R | 14049 R |
| 09:19 | MA15693-STD2 | 2242 | 52643 | 12571 |
| 09:23 | MA15693-STD3 | | | 12965 |
| 09:28 | MA15693-STD4 | 2292 | 54672 | 13231 |
| 09:32 | MA15693-ICV1 | 2245 | 53542 | 13105 |
| 09:42 | MA15693-ICB1 | 2245 | 54467 | 13169 |
| 09:50 | MA15693-CCV1 | 2228 | 54081 | 13266 |
| 09:58 | MA15693-CCB1 | 2245 | 54666 | 13274 |
| 10:04 | MA15693-CRI1 | 2250 | 54745 | 13399 |
| 10:13 | MA15693-ICSA1 | 2062 | 51119 | 13017 |
| 10:17 | MA15693-ICSAB1 | 2061 | 51001 | 13045 |
| 10:22 | MP21072-B1 | 2217 | 54611 | 13509 |
| 10:26 | MP21072-MB1 | 2228 | 55199 | 13356 |
| 10:30 | MP21072-S1 | 2214 | 54593 | 13401 |
| 10:34 | MP21072-S2 | 2231 | 54533 | 13365 |
| 10:39 | MC21083-12F | 2240 | 55273 | 13361 |
| 10:43 | MP21072-SD1 | 2238 | 54990 | 13359 |
| 10:47 | MC21083-1F | 2237 | 55315 | 13440 |
| 10:52 | MA15693-CCV2 | 2247 | 54504 | 13396 |
| 10:58 | MA15693-CCB2 | 2234 | 54828 | 13314 |
| 11:08 | MC21083-2F | 2212 | 54809 | 13616 |
| 11:12 | MC21083-3F | 2242 | 55067 | 13473 |
| 11:16 | MC21083-4F | 2226 | 55276 | 13530 |
| 11:21 | MC21083-5F | 2193 | 54366 | 13409 |
| 11:25 | MC21083-6F | 2236 | 54775 | 13380 |
| 11:29 | MC21083-7F | 2253 | 55028 | 13364 |
| 11:34 | MC21083-8F | 2208 | 54768 | 13463 |
| 11:38 | MC21083-9F | 2240 | 54672 | 13518 |
| 11:42 | MC21083-10F | 2263 | 54642 | 13436 |
| 11:47 | MC21083-11F | 2219 | 54549 | 13326 |
| 11:51 | MA15693-CCV3 | 2261 | 54370 | 13239 |
| 11:58 | MA15693-CCB3 | 2273 | 55412 | 13238 |
| 12:03 | MC21083-13F | 2260 | 54805 | 13444 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:07 | MC21083-14F | 2268 | 55124 | 13592 |
| 12:11 | MC21083-15F | 2254 | 54690 | 13538 |
| 12:16 | MC21083-16F | 2221 | 54530 | 13525 |
| 12:20 | MC21083-17F | 2261 | 54746 | 13537 |
| 12:25 | MC21083-18F | 2238 | 54889 | 13469 |
| 12:29 | MC21083-19F | 2240 | 55327 | 13704 |
| 12:33 | MC21083-20F | 2245 | 54900 | 13340 |
| 12:38 | MP21072-PS1 | 2219 | 54948 | 13629 |
| 12:42 | MP21073-B1 | 2227 | 54750 | 13618 |
| 12:46 | MA15693-CCV4 | 2243 | 54323 | 13694 |
| 12:54 | MA15693-CCB4 | 2224 | 54631 | 13420 |
| 13:00 | MP21073-MB1 | 2221 | 55398 | 13657 |
| 13:04 | MP21073-S1 | 2171 | 54877 | 13620 |
| 13:08 | MP21073-S2 | 2176 | 54496 | 13584 |
| 13:12 | MC21156-7F | 2194 | 54734 | 13815 |
| 13:17 | MP21073-SD1 | 2232 | 55020 | 13629 |
| 13:21 | ZZZZZZ | 2232 | 55206 | 13840 |
| 13:25 | ZZZZZZ | 2194 | 54685 | 13737 |
| 13:30 | ZZZZZZ | 2209 | 54774 | 13796 |
| 13:34 | ZZZZZZ | 2198 | 55155 | 13734 |
| 13:38 | ZZZZZZ | 2182 | 54772 | 13621 |
| 13:43 | MA15693-CCV5 | 2220 | 54467 | 13603 |
| 13:48 | MA15693-CCB5 | 2216 | 55052 | 13445 |
| 13:54 | ZZZZZZ | 2211 | 55303 | 13553 |
| 13:58 | ZZZZZZ | 2193 | 54490 | 13494 |
| 14:03 | ZZZZZZ | 2215 | 54854 | 13437 |
| 14:07 | ZZZZZZ | 2222 | 54642 | 13505 |
| 14:11 | ZZZZZZ | 2233 | 54718 | 13502 |
| 14:16 | ZZZZZZ | 2229 | 54683 | 13579 |
| 14:20 | ZZZZZZ | 2261 | 54936 | 13491 |
| 14:24 | ZZZZZZ | 2262 | 54717 | 13479 |
| 14:29 | ZZZZZZ | 2244 | 54567 | 13445 |
| 14:33 | ZZZZZZ | 2247 | 54607 | 13527 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 2266 | 54530 | 13586 |
| 14:42 | MA15693-CCB6 | 2267 | 55360 | 13485 |
| 14:52 | ZZZZZZ | 2224 | 55403 | 13596 |
| 14:56 | ZZZZZZ | 2157 | 54521 | 13371 |
| 15:01 | ZZZZZZ | 2159 | 54512 | 13507 |
| 15:05 | ZZZZZZ | 2248 | 55137 | 13481 |
| 15:10 | MP21073-PS1 | 2204 | 54715 | 13577 |
| 15:18 | MP21072-B1 | 2257 | 55271 | 13593 |
| 15:23 | MP21072-S1 | 2259 | 54795 | 13511 |
| 15:27 | MP21072-S2 | 2268 | 54947 | 13604 |
| 15:32 | MC21083-1F | 2271 | 54927 | 13433 |
| 15:36 | MC21083-2F | 2276 | 54865 | 13580 |
| 15:44 | MA15693-CCV7 | 2262 | 54617 | 13824 |
| 15:50 | MA15693-CCB7 | 2263 | 55406 | 13057 |
| 15:55 | MC21083-3F | 2267 | 55210 | 13626 |
| 15:59 | MC21083-4F | 2261 | 54978 | 13606 |
| 16:04 | MC21083-5F | 2269 | 54936 | 13514 |
| 16:08 | MC21083-5F | 2267 | 54659 | 13547 |
| 16:12 | MC21083-6F | 2267 | 55194 | 13500 |
| 16:17 | MC21083-8F | 2266 | 55002 | 13529 |
| 16:21 | MC21083-8F | 2267 | 54978 | 13589 |
| 16:25 | MC21083-9F | 2279 | 54793 | 13426 |
| 16:30 | MC21083-11F | 2267 | 54625 | 13632 |
| 16:34 | MC21083-11F | 2285 | 54855 | 13442 |
| 16:38 | MA15693-CCV8 | 2273 | 54324 | 13533 |
| 16:43 | MA15693-CCB8 | 2276 | 55005 | 13447 |
| 16:47 | MC21083-13F | 2282 | 55271 | 13533 |
| 16:51 | MC21083-14F | 2271 | 54996 | 13525 |
| 16:56 | MC21083-16F | 2272 | 54867 | 13490 |
| 17:00 | MC21083-16F | 2255 | 54653 | 13449 |
| 17:04 | MC21083-18F | 2265 | 54762 | 13586 |
| 17:09 | MC21083-18F | 2274 | 55420 | 13453 |
| 17:13 | MC21083-19F | 2264 | 55461 | 13516 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 2284 | 55180 | 13525 |
| 17:22 | MP21073-B1 | 2284 | 54775 | 13551 |
| 17:26 | MP21073-S1 | 2267 | 54707 | 13666 |
| 17:30 | MA15693-CCV9 | 2268 | 54527 | 13483 |
| 17:34 | MA15693-CCB9 | 2278 | 55420 | 13668 |
| 17:39 | MP21073-S2 | 2256 | 54856 | 13653 |
| 17:43 | MP21073-S1 | 2262 | 54842 | 13513 |
| 17:47 | MP21073-S2 | 2270 | 54878 | 13616 |
| 17:52 | MC21156-7F | 2256 | 55010 | 13618 |
| 17:56 | MC21156-7F | 2279 | 55268 | 13562 |
| 18:00 | MP21073-SD1 | 2276 | 54890 | 13474 |
| 18:05 | MP21073-SD1 | 2274 | 55194 | 13563 |
| 18:09 | MA15693-CRI2 | 2283 | 55170 | 13495 |
| 18:13 | MA15693-CCV10 | 2271 | 55006 | 13420 |
| 18:18 | MA15693-CCB10 | 2272 | 54937 | 13557 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 09:42 ICB1 | | 09:58 CCB1 | | 10:58 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 3.5 | <5000 | 1.7 | <5000 | 12.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 1.6 | <100 | -0.30 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -9.9 | <5000 | 0.70 | <5000 | 3.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.10 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | -27 | <5000 | -2.8 | <5000 | -16 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -25 | <5000 | -36 | <5000 | -36 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | | | | 11:58 | | 12:54 | | 13:48 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | | CCB4 | | CCB5 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 8.1 | <5000 | 15.9 | <5000 | 4.7 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 2.4 | <100 | 0.0 | <100 | 5.2 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -3.9 | <5000 | -6.6 | <5000 | 0.0 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 17.7 | <5000 | 39.5 | <5000 | 18.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -41 | <5000 | -37 | <5000 | -40 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 14:42 CCB6 | | 15:50 CCB7 | | 16:43 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.5 | <5000 | -1.9 | <5000 | 1.2 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 5.1 | <100 | 2.9 | <100 | 6.8 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 11.1 | <5000 | 2.6 | <5000 | 0.50 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.30 | <15 | 0.30 | <15 | 0.90 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 27.5 | <5000 | 27.3 | <5000 | 12.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -30 | <5000 | -14 | <5000 | -37 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 17:34 CCB9 | | 18:18 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | -0.20 | <5000 | -3.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 6.4 | <100 | 4.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 0.70 | <5000 | 10.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.60 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 0.50 | <5000 | 4.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | -28 | <5000 | -38 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 09:32 | | | 09:50 | | | 10:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18200 | 101.1 | 10000 | 9950 | 99.5 | 10000 | 9860 | 98.6 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 10000 | 100.0 | 10000 | 9930 | 99.3 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18400 | 102.2 | 10000 | 9720 | 97.2 | 10000 | 9610 | 96.1 |
| Manganese | 3000 | 2970 | 99.0 | 2000 | 1910 | 95.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9940 | 99.4 | 10000 | 9910 | 99.1 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15700 | 104.7 | 10000 | 10000 | 100.0 | 10000 | 9950 | 99.5 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 11:51 | | | 12:46 | | | 13:43 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9840 | 98.4 | 10000 | 9790 | 97.9 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9850 | 98.5 | 10000 | 9980 | 99.8 | 10000 | 9980 | 99.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9690 | 96.9 | 10000 | 9330 | 93.3 | 10000 | 9310 | 93.1 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1880 | 94.0 | 2000 | 1850 | 92.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9830 | 98.3 | 10000 | 9820 | 98.2 | 10000 | 9700 | 97.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9880 | 98.8 | 10000 | 9990 | 99.9 | 10000 | 9990 | 99.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 14:37 | | | 15:44 | | | 16:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9760 | 97.6 | 10000 | 9500 | 95.0 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9870 | 98.7 | 10000 | 9650 | 96.5 | 10000 | 9790 | 97.9 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9210 | 92.1 | 10000 | 9480 | 94.8 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9740 | 97.4 | 10000 | 9490 | 94.9 | 10000 | 9720 | 97.2 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9680 | 96.8 | 10000 | 9810 | 98.1 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 17:30 | | | 18:13 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9790 | 97.9 | 10000 | 9790 | 97.9 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9880 | 98.8 | 10000 | 9830 | 98.3 |
| Lead | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9530 | 95.3 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9720 | 97.2 | 10000 | 9770 | 97.7 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15693  Units: ug/l

| Time: | | | 10:04 | | 18:09 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5010 | 100.2 | 4940 | 98.8 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 99.9 | 99.9 | 103 | 103.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4840 | 96.8 | 4800 | 96.0 |
| Manganese | 15 | 15 | 15.1 | 100.7 | 15.0 | 100.0 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5000 | 100.0 | 4930 | 98.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4980 | 99.6 | 4920 | 98.4 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | | 10:13 | | 10:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 511000 | 102.2 | 520000 | 104.0 |
| Antimony | | 2000 | 1.9 | | 2130 | 106.5 |
| Arsenic | | 2000 | 0.0 | | 2070 | 103.5 |
| Barium | | 500 | -0.20 | | 508 | 101.6 |
| Beryllium | | 500 | 0.0 | | 462 | 92.4 |
| Boron | | 1000 | 4.5 | | 1020 | 102.0 |
| Cadmium | | 1000 | -0.30 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 462000 | 92.4 | 465000 | 93.0 |
| Chromium | | 500 | -0.30 | | 480 | 96.0 |
| Cobalt | | 500 | -0.20 | | 484 | 96.8 |
| Copper | | 500 | 3.5 | | 512 | 102.4 |
| Gold | | 500 | 7.2 | | 493 | 98.6 |
| Iron | 200000 | 200000 | 189000 | 94.5 | 189000 | 94.5 |
| Lead | | 1000 | -0.80 | | 913 | 91.3 |
| Magnesium | 500000 | 500000 | 485000 | 97.0 | 482000 | 96.4 |
| Manganese | | 500 | 0.50 | | 467 | 93.4 |
| Molybdenum | | 1000 | -0.40 | | 976 | 97.6 |
| Nickel | | 1000 | -0.60 | | 911 | 91.1 |
| Palladium | | 500 | -34* | | 503 | 100.6 |
| Platinum | | 500 | -15 | | 478 | 95.6 |
| Potassium | | | 31.4 | | 62.8 | |
| Selenium | | 2000 | -0.80 | | 2030 | 101.5 |
| Silicon | | 2000 | 36.5 | | 2230 | 111.5 |
| Silver | | 1000 | 1.1 | | 1030 | 103.0 |
| Sodium | | | 46.4 | | 37.1 | |
| Strontium | | 1000 | 1.0* | | 975 | 97.5 |
| Thallium | | 2000 | 0.70 | | 1900 | 95.0 |
| Tin | | 1000 | -0.50 | | 994 | 99.4 |
| Titanium | | 500 | 8.9* | | 515 | 103.0 |
| Tungsten | | 2000 | -39* | | 1830 | 91.5 |
| Vanadium | | 500 | 0.30 | | 505 | 101.0 |
| Zinc | | 1000 | -0.80 | | 894 | 89.4 |
| Zirconium | | 500 | 1.9 | | 461 | 92.2 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 1 | | STD1 |
| 12:35 | MA15701-STD2 | 1 | | STD2 |
| 12:39 | MA15701-STD3 | 1 | | STD3 |
| 12:43 | MA15701-STD4 | 1 | | STD4 |
| 12:48 | MA15701-ICV1 | 1 | | |
| 12:54 | MA15701-ICB1 | 1 | | |
| 13:01 | MA15701-CCV1 | 1 | | |
| 13:07 | MA15701-CCB1 | 1 | | |
| 13:12 | MA15701-CRI1 | 1 | | |
| 13:20 | MA15701-ICSA1 | 1 | | |
| 13:24 | MA15701-ICSAB1 | 1 | | |
| 13:28 | MP21097-B1 | 1 | | |
| 13:32 | MP21097-MB1 | 1 | | |
| 13:37 | MP21097-S1 | 1 | | |
| 13:41 | MP21097-S2 | 1 | | |
| 13:45 | MC21202-14F | 1 | | (sample used for QC only; not part of login MC21083) |
| 13:50 | MP21097-SD1 | 5 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:58 | MA15701-CCV2 | 1 | | |
| 14:06 | MA15701-CCB2 | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:15 | ZZZZZZ | 1 | | |
| 14:19 | ZZZZZZ | 1 | | |
| 14:23 | ZZZZZZ | 1 | | |
| 14:28 | ZZZZZZ | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |
| 14:36 | ZZZZZZ | 1 | | |
| 14:41 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:49 | ZZZZZZ | 1 | | |
| 14:54 | MA15701-CCV3 | 1 | | |
| 15:00 | MA15701-CCB3 | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:09 | ZZZZZZ | 1 | | |
| 15:14 | ZZZZZZ | 1 | | |
| 15:18 | ZZZZZZ | 1 | | |
| 15:23 | ZZZZZZ | 1 | | |
| 15:27 | ZZZZZZ | 1 | | |
| 15:31 | ZZZZZZ | 1 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:49 | MP21097-PS1 | 1 | | |
| 15:53 | MP21097-B1 | 5 | | |
| 15:58 | MA15701-CCV4 | 1 | | |
| 16:03 | MA15701-CCB4 | 1 | | |
| 16:08 | MP21072-PS1 | 1 | | |
| 16:12 | MC21083-1F | 2 | | |
| 16:17 | MC21083-2F | 2 | | |
| 16:21 | MC21083-2F | 3 | | |
| 16:26 | MC21083-3F | 2 | | |
| 16:30 | MC21083-3F | 3 | | |
| 16:34 | MC21083-4F | 2 | | |
| 16:39 | MC21083-4F | 3 | | |
| 16:43 | MC21083-5F | 2 | | |
| 16:47 | MC21083-5F | 5 | | |
| 16:52 | MA15701-CCV5 | 1 | | |
| 16:57 | MA15701-CCB5 | 1 | | |
| 17:01 | MC21083-8F | 2 | | |
| 17:06 | MC21083-9F | 3 | | |
| 17:10 | MC21083-11F | 5 | | |
| 17:14 | MC21083-16F | 2 | | |
| ----------> | Last reportable sample/prep for job MC21083 | | | |
| 17:19 | MA15701-CRI2 | 1 | | |
| 17:23 | MA15701-CCV6 | 1 | | |
| 17:30 | MA15701-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC21083 | | | |
| 17:34 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 17:39 | ZZZZZZ | 1 | | DNR: NOT NEEDED. |
| 17:52 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 10 | | |
| 18:03 | ZZZZZZ | 2 | | |
| 18:08 | ZZZZZZ | 3 | | |
| 18:12 | ZZZZZZ | 10 | | |
| 18:16 | ZZZZZZ | 5 | | |
| 18:21 | ZZZZZZ | 10 | | |
| 18:25 | ZZZZZZ | 3 | | |
| 18:29 | MA15701-CCV7 | 1 | | |
| 18:33 | MA15701-CCB7 | 1 | | |
| 18:38 | ZZZZZZ | 10 | | |
| 18:42 | ZZZZZZ | 2 | | |
| 18:46 | ZZZZZZ | 2 | | |
| 18:51 | ZZZZZZ | 3 | | |
| 18:55 | ZZZZZZ | 10 | | |
| 18:59 | ZZZZZZ | 2 | | |
| 19:04 | ZZZZZZ | 5 | | |
| 19:08 | ZZZZZZ | 10 | | |
| 19:12 | ZZZZZZ | 3 | | |
| 19:17 | ZZZZZZ | 10 | | |
| 19:21 | MA15701-CCV8 | 1 | | |
| 19:25 | MA15701-CCB8 | 1 | | |
| 19:30 | MA15701-CRI3 | 1 | | |
| 19:34 | MA15701-CCV9 | 1 | | |
| 19:38 | MA15701-CCB9 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 2200 R | 58015 R | 13767 R |
| 12:35 | MA15701-STD2 | 2185 | 57495 | 13748 |
| 12:39 | MA15701-STD3 | | | 13805 |
| 12:43 | MA15701-STD4 | 2201 | 57208 | 13734 |
| 12:48 | MA15701-ICV1 | 2190 | 56672 | 13783 |
| 12:54 | MA15701-ICB1 | 2217 | 57161 | 13583 |
| 13:01 | MA15701-CCV1 | 2214 | 56212 | 13633 |
| 13:07 | MA15701-CCB1 | 2240 | 57042 | 13578 |
| 13:12 | MA15701-CRI1 | 2243 | 56880 | 13556 |
| 13:20 | MA15701-ICSA1 | 2087 | 53118 | 13355 |
| 13:24 | MA15701-ICSAB1 | 2083 | 53328 | 13425 |
| 13:28 | MP21097-B1 | 2241 | 57454 | 13982 |
| 13:32 | MP21097-MB1 | 2242 | 57667 | 13979 |
| 13:37 | MP21097-S1 | 2195 | 56426 | 13810 |
| 13:41 | MP21097-S2 | 2214 | 56934 | 13714 |
| 13:45 | MC21202-14F | 2212 | 57161 | 13728 |
| 13:50 | MP21097-SD1 | 2262 | 57389 | 13592 |
| 13:54 | ZZZZZZ | 2220 | 57427 | 13811 |
| 13:58 | MA15701-CCV2 | 2261 | 56403 | 13555 |
| 14:06 | MA15701-CCB2 | 2273 | 56639 | 13461 |
| 14:10 | ZZZZZZ | 2247 | 56548 | 13694 |
| 14:15 | ZZZZZZ | 2269 | 57321 | 13826 |
| 14:19 | ZZZZZZ | 2230 | 56716 | 13777 |
| 14:23 | ZZZZZZ | 2279 | 57457 | 13712 |
| 14:28 | ZZZZZZ | 2240 | 56859 | 13836 |
| 14:32 | ZZZZZZ | 2277 | 56936 | 13606 |
| 14:36 | ZZZZZZ | 2254 | 56903 | 13834 |
| 14:41 | ZZZZZZ | 2247 | 57202 | 13920 |
| 14:45 | ZZZZZZ | 2239 | 56889 | 13766 |
| 14:49 | ZZZZZZ | 2231 | 56881 | 13670 |
| 14:54 | MA15701-CCV3 | 2279 | 57118 | 13613 |
| 15:00 | MA15701-CCB3 | 2280 | 57150 | 13537 |
| 15:05 | ZZZZZZ | 2244 | 57191 | 13751 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:09 | ZZZZZZ | 2279 | 57233 | 13632 |
| 15:14 | ZZZZZZ | 2240 | 56855 | 13692 |
| 15:18 | ZZZZZZ | 2277 | 56939 | 13643 |
| 15:23 | ZZZZZZ | 2295 | 57322 | 13683 |
| 15:27 | ZZZZZZ | 2273 | 56395 | 13768 |
| 15:31 | ZZZZZZ | 2271 | 56817 | 13776 |
| 15:36 | ZZZZZZ | 2277 | 56843 | 13732 |
| 15:49 | MP21097-PS1 | 2236 | 57180 | 13713 |
| 15:53 | MP21097-B1 | 2279 | 56941 | 13730 |
| 15:58 | MA15701-CCV4 | 2289 | 57396 | 13710 |
| 16:03 | MA15701-CCB4 | 2285 | 57350 | 13582 |
| 16:08 | MP21072-PS1 | 2268 | 57478 | 13847 |
| 16:12 | MC21083-1F | 2287 | 56781 | 13596 |
| 16:17 | MC21083-2F | 2281 | 56793 | 13609 |
| 16:21 | MC21083-2F | 2285 | 57438 | 13660 |
| 16:26 | MC21083-3F | 2310 | 56899 | 13643 |
| 16:30 | MC21083-3F | 2285 | 56967 | 13675 |
| 16:34 | MC21083-4F | 2296 | 56462 | 13520 |
| 16:39 | MC21083-4F | 2310 | 56694 | 13816 |
| 16:43 | MC21083-5F | 2253 | 56378 | 13695 |
| 16:47 | MC21083-5F | 2297 | 57019 | 13712 |
| 16:52 | MA15701-CCV5 | 2291 | 56908 | 13755 |
| 16:57 | MA15701-CCB5 | 2308 | 57508 | 13676 |
| 17:01 | MC21083-8F | 2280 | 57146 | 13757 |
| 17:06 | MC21083-9F | 2301 | 56529 | 13698 |
| 17:10 | MC21083-11F | 2317 | 57410 | 13558 |
| 17:14 | MC21083-16F | 2282 | 56653 | 13677 |
| 17:19 | MA15701-CRI2 | 2314 | 57200 | 13439 |
| 17:23 | MA15701-CCV6 | 2295 | 56235 | 13836 |
| 17:30 | MA15701-CCB6 | 2316 | 57590 | 13649 |
| 17:34 | ZZZZZZ | 2301 | 57343 | 13746 |
| 17:39 | ZZZZZZ | 2247 | 56787 | 13684 |
| 17:52 | ZZZZZZ | 2275 | 57048 | 13801 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 2278 | 56975 | 13648 |
| 18:03 | ZZZZZZ | 2270 | 57247 | 13654 |
| 18:08 | ZZZZZZ | 2285 | 58073 | 13770 |
| 18:12 | ZZZZZZ | 2289 | 57285 | 13728 |
| 18:16 | ZZZZZZ | 2257 | 57086 | 13740 |
| 18:21 | ZZZZZZ | 2275 | 57584 | 13748 |
| 18:25 | ZZZZZZ | 2286 | 57525 | 13827 |
| 18:29 | MA15701-CCV7 | 2266 | 56810 | 13714 |
| 18:33 | MA15701-CCB7 | 2296 | 57554 | 13706 |
| 18:38 | ZZZZZZ | 2296 | 57386 | 13816 |
| 18:42 | ZZZZZZ | 2256 | 57175 | 13887 |
| 18:46 | ZZZZZZ | 2252 | 57486 | 13702 |
| 18:51 | ZZZZZZ | 2273 | 57492 | 13614 |
| 18:55 | ZZZZZZ | 2269 | 57598 | 13764 |
| 18:59 | ZZZZZZ | 2257 | 57216 | 13704 |
| 19:04 | ZZZZZZ | 2280 | 57560 | 13739 |
| 19:08 | ZZZZZZ | 2273 | 57081 | 13700 |
| 19:12 | ZZZZZZ | 2261 | 56913 | 13643 |
| 19:17 | ZZZZZZ | 2285 | 57482 | 13582 |
| 19:21 | MA15701-CCV8 | 2285 | 56684 | 13902 |
| 19:25 | MA15701-CCB8 | 2267 | 56973 | 13606 |
| 19:30 | MA15701-CRI3 | 2283 | 57006 | 13613 |
| 19:34 | MA15701-CCV9 | 2284 | 57286 | 13828 |
| 19:38 | MA15701-CCB9 | 2276 | 57344 | 13713 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 12:54 ICB1 | | 13:07 CCB1 | | 14:06 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 1.8 | <5000 | 59.8 | <5000 | -2.5 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | | | | | | |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -11 | <5000 | -4.0 | <5000 | -25 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.40 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.9 | <5000 | 12.9 | <5000 | 30.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 4.6 | <5000 | 0.30 | <5000 | 8.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 15:00 CCB3 | | 16:03 CCB4 | | 16:57 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 2.1 | <5000 | 1.0 | <5000 | 0.60 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | | | | | | |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -21 | <5000 | -19 | <5000 | -6.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.70 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.0 | <5000 | 72.7 | <5000 | 32.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 15.7 | <5000 | 22.8 | <5000 | 11.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: | | | | 17:30 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 12 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | |
| Barium | 50 | .32 | 2.5 | | |
| Beryllium | 4.0 | .1 | 0.90 | | |
| Boron | 100 | 1.1 | 5.0 | | |
| Cadmium | 4.0 | .25 | 1.9 | | |
| Calcium | 5000 | 21 | 150 | -13 | <5000 |
| Chromium | 10 | .48 | 5.0 | | |
| Cobalt | 50 | .29 | 1.5 | | |
| Copper | 25 | .93 | 8.0 | | |
| Gold | 50 | 1.5 | 8.0 | | |
| Iron | 100 | 3.5 | 30 | | |
| Lead | 5.0 | 1.2 | 2.5 | | |
| Magnesium | 5000 | 30 | 200 | 3.9 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2.2 | 30 | | |
| Platinum | 50 | 6.4 | 30 | | |
| Potassium | 5000 | 54 | 500 | 25.7 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | |
| Silicon | 100 | 2 | 50 | | |
| Silver | 5.0 | .81 | 3.5 | | |
| Sodium | 5000 | 16 | 200 | 8.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 5.0 | | |
| Titanium | 50 | .66 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .82 | 8.0 | | |
| Zinc | 20 | .45 | 1.5 | | |
| Zirconium | 50 | .45 | 8.0 | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 12:48 | | | 13:01 | | | 13:58 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9940 | 99.4 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18600 | 103.3 | 10000 | 9990 | 99.9 | 10000 | 10200 | 102.0 |
| Manganese | 3000 | 2950 | 98.3 | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9990 | 99.9 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15300 | 102.0 | 10000 | 9780 | 97.8 | 10000 | 9690 | 96.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 14:54 | | | 15:58 | | | 16:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 10000 | 100.0 | 10000 | 9900 | 99.0 | 10000 | 9980 | 99.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 10300 | 103.0 | 10000 | 10200 | 102.0 | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1940 | 97.0 | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 10200 | 102.0 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9630 | 96.3 | 10000 | 9720 | 97.2 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 17:23 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | | | |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | 10000 | 9980 | 99.8 |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Gold | | | |
| Iron | anr | | |
| Lead | | | |
| Magnesium | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1970 | 98.5 |
| Molybdenum | | | |
| Nickel | | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 10100 | 101.0 |
| Selenium | | | |
| Silicon | | | |
| Silver | | | |
| Sodium | 10000 | 9720 | 97.2 |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | | | |
| Zirconium | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15701  Units: ug/l

| Time: | | | 13:12 | | 17:19 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5020 | 100.4 | 5100 | 102.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | anr | | | |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 5080 | 101.6 | 5270 | 105.4 |
| Manganese | 15 | 15 | 15.3 | 102.0 | 16.1 | 107.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5150 | 103.0 | 5250 | 105.0 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4890 | 97.8 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | | 13:20 | | 13:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 515000 | 103.0 | 511000 | 102.2 |
| Antimony | | 2000 | -0.30 | | 2020 | 101.0 |
| Arsenic | | 2000 | 1.3 | | 2040 | 102.0 |
| Barium | | 500 | 0.0 | | 515 | 103.0 |
| Beryllium | | 500 | 0.10 | | 493 | 98.6 |
| Boron | | 1000 | 5.6* | | 1010 | 101.0 |
| Cadmium | | 1000 | -0.60 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 468000 | 93.6 | 469000 | 93.8 |
| Chromium | | 500 | -0.80 | | 503 | 100.6 |
| Cobalt | | 500 | -0.60 | | 478 | 95.6 |
| Copper | | 500 | -0.70 | | 534 | 106.8 |
| Gold | | 500 | 5.6 | | 512 | 102.4 |
| Iron | 200000 | 200000 | 191000 | 95.5 | 190000 | 95.0 |
| Lead | | 1000 | 2.5* | | 898 | 89.8 |
| Magnesium | 500000 | 500000 | 516000 | 103.2 | 511000 | 102.2 |
| Manganese | | 500 | 0.60 | | 487 | 97.4 |
| Molybdenum | | 1000 | -0.50 | | 957 | 95.7 |
| Nickel | | 1000 | -1.4 | | 861 | 86.1 |
| Palladium | | 500 | -36* | | 493 | 98.6 |
| Platinum | | 500 | -25 | | 480 | 96.0 |
| Potassium | | | 61.0 | | 67.6 | |
| Selenium | | 2000 | -2.3 | | 1940 | 97.0 |
| Silicon | | 2000 | 40.5 | | 2160 | 108.0 |
| Silver | | 1000 | -0.90 | | 1080 | 108.0 |
| Sodium | | | 79.0 | | 81.9 | |
| Strontium | | 1000 | 1.4* | | 1010 | 101.0 |
| Thallium | | 2000 | -0.80 | | 1900 | 95.0 |
| Tin | | 1000 | -0.40 | | 950 | 95.0 |
| Titanium | | 500 | 9.6* | | 522 | 104.4 |
| Tungsten | | 2000 | -43* | | 1930 | 96.5 |
| Vanadium | | 500 | -0.40 | | 522 | 104.4 |
| Zinc | | 1000 | 1.4 | | 909 | 90.9 |
| Zirconium | | 500 | 0.30 | | 455 | 91.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF Date Analyzed: 06/05/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15706
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:22 | MA15706-STD1 | 1 | | STDA |
| 14:29 | MA15706-STD2 | 1 | | STDB |
| 14:36 | MA15706-STD3 | 1 | | STDC |
| 14:43 | MA15706-STD4 | 1 | | STDD |
| 14:50 | MA15706-STD5 | 1 | | STDE |
| 14:57 | MA15706-STD6 | 1 | | STDF |
| 15:04 | MA15706-STD7 | 1 | | STDG |
| 15:11 | MA15706-STD8 | 1 | | STDH |
| 15:32 | MA15706-ICV1 | 1 | | |
| 15:43 | MA15706-ICB1 | 1 | | |
| 15:50 | MA15706-CCV1 | 1 | | |
| 15:57 | MA15706-CCB1 | 1 | | |
| 16:04 | MA15706-CRI1 | 1 | | |
| 16:11 | MA15706-ICSA1 | 1 | | |
| 16:22 | MA15706-ICSAB1 | 1 | | |
| 16:31 | ZZZZZZ | 1 | | RINSECONF |
| 16:40 | ZZZZZZ | 2 | | DNR: SEE RERUN. |
| 16:47 | MC21083-12F | 2 | | |
| 16:54 | MP21072A-SD1 | 10 | | |
| 17:01 | MC21083-1F | 2 | | |
| 17:08 | MC21083-2F | 50 | | |
| 17:15 | MC21083-3F | 2 | | |
| 17:22 | MA15706-CCV2 | 1 | | |
| 17:29 | MA15706-CCB2 | 1 | | |
| 17:36 | MC21083-4F | 20 | | |
| 17:43 | MC21083-5F | 2 | | |
| 17:50 | MC21083-6F | 2 | | |
| 17:57 | MC21083-7F | 2 | | |
| 18:05 | MC21083-8F | 20 | | |
| 18:12 | MC21083-9F | 25 | | |
| 18:19 | MC21083-10F | 2 | | |
| 18:26 | MC21083-11F | 25 | | |
| 18:33 | MC21083-13F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15706
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:40 | MC21083-14F | 2 | | |
| 18:47 | MA15706-CCV3 | 1 | | |
| 18:54 | MA15706-CCB3 | 1 | | |
| 19:01 | MC21083-15F | 2 | | |
| 19:08 | MC21083-16F | 10 | | |
| 19:15 | MC21083-17F | 2 | | |
| 19:22 | MC21083-18F | 20 | | |
| 19:29 | MC21083-19F | 5 | | |
| 19:36 | MC21083-20F | 2 | | |
| 19:44 | MP21072A-PS1 | 2 | | |
| 19:51 | MP21072A-S1 | 20 | | |
| 19:58 | MP21072A-S2 | 20 | | |
| 20:05 | MP21072A-B1 | 20 | | |
| 20:12 | MA15706-CCV4 | 1 | | |
| 20:19 | MA15706-CCB4 | 1 | | |
| 20:26 | MP21072A-MB1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC21083 | | | |
| 20:33 | MA15706-CRI2 | 1 | | |
| 20:40 | MA15706-CCV5 | 1 | | |
| 20:47 | MA15706-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC21083 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF Date Analyzed: 06/05/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15706
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:22 | MA15706-STD1 | 1844737 R | 2585224 R | 293772 R | 539176 R | 121552 R | 3126195 R | 3451173 R | 1091382 R |
| 14:29 | MA15706-STD2 | 1836025 | 2580352 | 296397 | 531982 | 123168 | 3112877 | 3425321 | 1093654 |
| 14:36 | MA15706-STD3 | 1825014 | 2583399 | 300750 | 530420 | 124130 | 3108947 | 3418713 | 1109054 |
| 14:43 | MA15706-STD4 | 1831067 | 2570585 | 308290 | 520077 | 126753 | 3077836 | 3397593 | 1122113 |
| 14:50 | MA15706-STD5 | 1840436 | 2591966 | 302379 | 521319 | 124669 | 3109343 | 3389412 | 1095144 |
| 14:57 | MA15706-STD6 | 1829654 | 2598796 | 300744 | 525006 | 123584 | 3097675 | 3412650 | 1090422 |
| 15:04 | MA15706-STD7 | 1845112 | 2608560 | 307055 | 539398 | 126929 | 3079506 | 3444761 | 1120082 |
| 15:11 | MA15706-STD8 | 1815165 | 2627798 | 308185 | 556991 | 129675 | 2985376 | 3328191 | 1101569 |
| 15:32 | MA15706-ICV1 | 1857966 | 2659145 | 307246 | 541087 | 126928 | 3057900 | 3382190 | 1087314 |
| 15:43 | MA15706-ICB1 | 1864523 | 2589404 | 307484 | 540576 | 127650 | 3127091 | 3460005 | 1135023 |
| 15:50 | MA15706-CCV1 | 1850759 | 2641701 | 306464 | 540834 | 126604 | 3053740 | 3414197 | 1087534 |
| 15:57 | MA15706-CCB1 | 1908410 | 2681035 | 303750 | 553494 | 125974 | 3213206 | 3535399 | 1116567 |
| 16:04 | MA15706-CRI1 | 1883094 | 2658027 | 309167 | 546110 | 127402 | 3147149 | 3475755 | 1132057 |
| 16:11 | MA15706-ICSA1 | 1662166 | 2493376 | 288612 | 654078 | 140615 | 2743237 | 3172586 | 1003284 |
| 16:22 | MA15706-ICSAB1 | 1794311 | 2599412 | 289698 | 658068 | 139184 | 2822735 | 3290835 | 985323 |
| 16:31 | ZZZZZZ | 2042256 | 2794406 | 311428 | 578679 | 131098 | 3351096 | 3734868 | 1143435 |
| 16:40 | ZZZZZZ | 2200364 | 2854780 | 309087 | 580012 | 128169 | 3291758 | 3656565 | 1091586 |
| 16:47 | MC21083-12F | 2269275 | 2905048 | 307301 | 584381 | 127946 | 3251297 | 3671837 | 1083335 |
| 16:54 | MP21072A-SD1 | 2200057 | 2859355 | 312650 | 586297 | 129444 | 3346875 | 3722837 | 1120370 |
| 17:01 | MC21083-1F | 2252124 | 2920205 | 311914 | 587761 | 128444 | 3197622 | 3644806 | 1093319 |
| 17:08 | MC21083-2F | 2114549 | 2877063 | 299788 | 587162 | 127511 | 3353828 | 3725188 | 1088660 |
| 17:15 | MC21083-3F | 2248818 | 2888162 | 312098 | 588277 | 128309 | 3194199 | 3676986 | 1083500 |
| 17:22 | MA15706-CCV2 | 2055365 | 2794702 | 304246 | 563333 | 126037 | 3163290 | 3554712 | 1069691 |
| 17:29 | MA15706-CCB2 | 2165202 | 2902463 | 310166 | 593950 | 128025 | 3408329 | 3799294 | 1121744 |
| 17:36 | MC21083-4F | 2047987 | 2808182 | 308475 | 584733 | 129083 | 3267264 | 3662559 | 1118546 |
| 17:43 | MC21083-5F | 2116800 | 2798062 | 304822 | 545819 | 122977 | 2942594 | 3386005 | 1031020 |
| 17:50 | MC21083-6F | 2252751 | 2851648 | 306948 | 580730 | 126389 | 3158954 | 3567622 | 1074767 |
| 17:57 | MC21083-7F | 2266004 | 2849678 | 298553 | 574477 | 123390 | 3245143 | 3613330 | 1030011 |
| 18:05 | MC21083-8F | 1975325 | 2743529 | 303071 | 562796 | 126548 | 3173822 | 3582489 | 1107869 |
| 18:12 | MC21083-9F | 1944030 | 2661490 | 305397 | 557361 | 127675 | 3163361 | 3567511 | 1110628 |
| 18:19 | MC21083-10F | 2180301 | 2794486 | 305469 | 566546 | 125629 | 3161612 | 3578858 | 1077306 |
| 18:26 | MC21083-11F | 1913161 | 2697333 | 303831 | 560170 | 127572 | 3146378 | 3526981 | 1111833 |
| 18:33 | MC21083-13F | 2162393 | 2784686 | 304119 | 568912 | 125432 | 3113949 | 3550130 | 1069916 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15706
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:40 | MC21083-14F | 2153704 | 2795610 | 304878 | 570611 | 125750 | 3109633 | 3533420 | 1074153 |
| 18:47 | MA15706-CCV3 | 1939049 | 2715191 | 301973 | 551537 | 124973 | 3131676 | 3511404 | 1076221 |
| 18:54 | MA15706-CCB3 | 1967904 | 2703700 | 305801 | 557221 | 126343 | 3231932 | 3567471 | 1121281 |
| 19:01 | MC21083-15F | 2202525 | 2822699 | 305714 | 578407 | 127321 | 3154003 | 3599435 | 1083101 |
| 19:08 | MC21083-16F | 1951154 | 2701339 | 301265 | 567851 | 127213 | 3126760 | 3547998 | 1087485 |
| 19:15 | MC21083-17F | 2173026 | 2813978 | 307124 | 572243 | 127038 | 3185715 | 3626401 | 1103079 |
| 19:22 | MC21083-18F | 1901515 | 2696191 | 305128 | 560755 | 127847 | 3175942 | 3569787 | 1124869 |
| 19:29 | MC21083-19F | 2026992 | 2723456 | 303943 | 564140 | 126609 | 3178119 | 3553624 | 1102844 |
| 19:36 | MC21083-20F | 2102464 | 2645245 | 301755 | 542357 | 125265 | 3068279 | 3412590 | 1073323 |
| 19:44 | MP21072A-PS1 | 2145462 | 2772025 | 304330 | 561261 | 125854 | 3184632 | 3557806 | 1093122 |
| 19:51 | MP21072A-S1 | 1933594 | 2703987 | 306088 | 551594 | 127163 | 3223278 | 3578689 | 1123793 |
| 19:58 | MP21072A-S2 | 1913701 | 2681098 | 305454 | 545353 | 126717 | 3183193 | 3546282 | 1120473 |
| 20:05 | MP21072A-B1 | 1889766 | 2662632 | 306958 | 543048 | 126947 | 3189810 | 3524342 | 1119579 |
| 20:12 | MA15706-CCV4 | 1913265 | 2680913 | 301463 | 546294 | 125018 | 3087519 | 3464081 | 1078210 |
| 20:19 | MA15706-CCB4 | 1929460 | 2663896 | 305838 | 548752 | 126489 | 3198496 | 3498655 | 1122040 |
| 20:26 | MP21072A-MB1 | 2101451 | 2739350 | 305447 | 560994 | 125871 | 3220458 | 3542237 | 1097894 |
| 20:33 | MA15706-CRI2 | 1923044 | 2694466 | 305699 | 551006 | 126779 | 3189172 | 3548774 | 1125948 |
| 20:40 | MA15706-CCV5 | 1913955 | 2689087 | 301245 | 550659 | 125718 | 3131810 | 3485387 | 1083567 |
| 20:47 | MA15706-CCB5 | 1941460 | 2677417 | 305127 | 555095 | 127104 | 3208524 | 3547895 | 1136702 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF Date Analyzed: 06/05/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15706
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:22 | MA15706-STD1 | 4754284 R | 2965498 R |
| 14:29 | MA15706-STD2 | 4704294 | 2902049 |
| 14:36 | MA15706-STD3 | 4678427 | 2896136 |
| 14:43 | MA15706-STD4 | 4648229 | 2832141 |
| 14:50 | MA15706-STD5 | 4644077 | 2834008 |
| 14:57 | MA15706-STD6 | 4665422 | 2827320 |
| 15:04 | MA15706-STD7 | 4712869 | 2857501 |
| 15:11 | MA15706-STD8 | 4736220 | 2775990 |
| 15:32 | MA15706-ICV1 | 4736664 | 2827860 |
| 15:43 | MA15706-ICB1 | 4677552 | 2878172 |
| 15:50 | MA15706-CCV1 | 4727723 | 2794129 |
| 15:57 | MA15706-CCB1 | 4845936 | 2951238 |
| 16:04 | MA15706-CRI1 | 4761257 | 2890602 |
| 16:11 | MA15706-ICSA1 | 4533589 | 2529511 |
| 16:22 | MA15706-ICSAB1 | 4751670 | 2618487 |
| 16:31 | ZZZZZZ | 5123026 | 3105403 |
| 16:40 | ZZZZZZ | 5101907 | 3111958 |
| 16:47 | MC21083-12F | 5152190 | 3086498 |
| 16:54 | MP21072A-SD1 | 5029193 | 3153603 |
| 17:01 | MC21083-1F | 5093464 | 3036024 |
| 17:08 | MC21083-2F | 5126337 | 3107673 |
| 17:15 | MC21083-3F | 5103626 | 3047031 |
| 17:22 | MA15706-CCV2 | 4980638 | 2947641 |
| 17:29 | MA15706-CCB2 | 5230592 | 3190030 |
| 17:36 | MC21083-4F | 5029094 | 3055380 |
| 17:43 | MC21083-5F | 4807874 | 2747191 |
| 17:50 | MC21083-6F | 4999413 | 2999929 |
| 17:57 | MC21083-7F | 5006369 | 3027443 |
| 18:05 | MC21083-8F | 4905565 | 2945207 |
| 18:12 | MC21083-9F | 4823487 | 2897130 |
| 18:19 | MC21083-10F | 4917681 | 2970403 |
| 18:26 | MC21083-11F | 4797961 | 2923431 |
| 18:33 | MC21083-13F | 4906496 | 2909988 |

INTERNAL STANDARD SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15706
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:40 | MC21083-14F | 4901596 | 2911516 |
| 18:47 | MA15706-CCV3 | 4858452 | 2862294 |
| 18:54 | MA15706-CCB3 | 4852008 | 2935845 |
| 19:01 | MC21083-15F | 4950622 | 2970181 |
| 19:08 | MC21083-16F | 4940754 | 2966856 |
| 19:15 | MC21083-17F | 5031637 | 3061850 |
| 19:22 | MC21083-18F | 4881210 | 2998098 |
| 19:29 | MC21083-19F | 4914074 | 2992776 |
| 19:36 | MC21083-20F | 4746539 | 2948176 |
| 19:44 | MP21072A-PS1 | 4924663 | 3000069 |
| 19:51 | MP21072A-S1 | 4903226 | 3000961 |
| 19:58 | MP21072A-S2 | 4873283 | 2969617 |
| 20:05 | MP21072A-B1 | 4859302 | 2957007 |
| 20:12 | MA15706-CCV4 | 4834606 | 2866810 |
| 20:19 | MA15706-CCB4 | 4830436 | 2954654 |
| 20:26 | MP21072A-MB1 | 4912864 | 3019750 |
| 20:33 | MA15706-CRI2 | 4917472 | 2971748 |
| 20:40 | MA15706-CCV5 | 4899139 | 2927360 |
| 20:47 | MA15706-CCB5 | 4899000 | 3026386 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15706  Units: ug/l

| Time: / Sample ID: | | | | 15:43 ICB1 | | 15:57 CCB1 | | 17:29 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.013 | <0.50 | 0.0052 | <0.50 | 0.0054 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15706  Units: ug/l

| Time: / Sample ID: | | | | 18:54 CCB3 | | 20:19 CCB4 | | 20:47 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.010 | <0.50 | 0.0074 | <0.50 | 0.0038 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15706  Units: ug/l

| Time: | | 15:32 | | | 15:50 | | | 17:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.0 | 100.0 | 50 | 50.4 | 100.8 | 50 | 50.6 | 101.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15706  Units: ug/l

| Time: | | 18:47 | | | 20:12 | | | 20:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 50.3 | 100.6 | 50 | 50.4 | 100.8 | 50 | 50.8 | 101.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15706  Units: ug/l

| Time: | | | 16:04 | | 20:33 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060513W2L.AGF  Date Analyzed: 06/05/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15706  Units: ug/l

| Time: | | | 16:11 | | 16:22 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 92800 | 92.8 | 94000 | 94.0 |
| Antimony | | | 0.30* | | 0.30* | |
| Arsenic | | 20 | 0.20 | | 17.7 | 88.5 |
| Barium | | | 0.23 | | 0.58* | |
| Beryllium | | | 0.0040 | | 0.0039 | |
| Boron | | | 0.25 | | 0.26 | |
| Cadmium | | 20 | 1.8* | | 21.5 | 107.5 |
| Calcium | 100000 | 100000 | 94200 | 94.2 | 96100 | 96.1 |
| Chromium | | 20 | 0.94* | | 20.4 | 102.0 |
| Cobalt | | 20 | 0.078 | | 19.4 | 97.0 |
| Copper | | 20 | 0.60* | | 16.3 | 81.5 |
| Iron | 100000 | 100000 | 94600 | 94.6 | 97300 | 97.3 |
| Lead | | | 0.13 | | 0.14 | |
| Magnesium | 100000 | 100000 | 93200 | 93.2 | 94800 | 94.8 |
| Manganese | | 20 | 0.30 | | 19.5 | 97.5 |
| Molybdenum | 2000 | 2000 | 2110 | 105.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.72* | | 19.5 | 97.5 |
| Potassium | 100000 | 100000 | 96100 | 96.1 | 98000 | 98.0 |
| Selenium | | | 0.034 | | 0.096 | |
| Silver | | 20 | 0.057 | | 19.6 | 98.0 |
| Sodium | 100000 | 100000 | 92700 | 92.7 | 94600 | 94.6 |
| Strontium | | | 4.9* | | 5.0* | |
| Thallium | | | 0.075 | | 0.039 | |
| Tin | | | -0.0066 | | -0.034 | |
| Titanium | 2000 | 2000 | 2050 | 102.5 | 2080 | 104.0 |
| Vanadium | | | -0.011 | | -0.013 | |
| Zinc | | 20 | 0.91 | | 16.8 | 84.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 38.4 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 9.5 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 32.3 | <5000 |
| Manganese | 15 | .16 | .81 | 0.30 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 6.3 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | -29 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 5370 | 30400 | 25000 | 100.1 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 0.0 | 2070 | 2000 | 103.5 | 75-125 |
| Lead | | | | | |
| Magnesium | 845 | 25900 | 25000 | 100.2 | 75-125 |
| Manganese | 1.5 | 483 | 500 | 96.3 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 1490 | 27200 | 25000 | 102.8 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 1060 | 26700 | 25000 | 102.6 | 75-125 |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |
| Zirconium | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 5370 | 30400 | 25000 | 100.1 | 0.0 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 0.0 | 2060 | 2000 | 103.0 | 0.5 | 20 |
| Lead | | | | | | |
| Magnesium | 845 | 25800 | 25000 | 99.8 | 0.4 | 20 |
| Manganese | 1.5 | 486 | 500 | 96.9 | 0.6 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 1490 | 27300 | 25000 | 103.2 | 0.4 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 1060 | 26700 | 25000 | 102.6 | 0.0 | 20 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 24900 | 25000 | 99.6 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2130 | 2000 | 106.5 | 80-120 |
| Lead | | | | |
| Magnesium | 24500 | 25000 | 98.0 | 80-120 |
| Manganese | 476 | 500 | 95.2 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25700 | 25000 | 102.8 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25500 | 25000 | 102.0 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 5370 | 5360 | 0.2 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 0.00 | 0.00 | NC | 0-10 |
| Lead | | | | |
| Magnesium | 845 | 860 | 1.8 | 0-10 |
| Manganese | 1.50 | 2.10 | 40.0 (a) | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 1490 | 1720 | 15.3 (a) | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 1060 | 919 | 13.1 (b) | 0-10 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | Sample ml | Final ml | MC21083-12F Raw | MC21083-12F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11 | 5371 | 4882.727 | 48560 | 1 | 500 | 45454.55 | 96.1 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11 | 0 | 0 | 919.6 | 1 | 10 | 909.0909 | 101.2 | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11 | 845 | 768.1818 | 45650 | 1 | 500 | 45454.55 | 98.7 | 80-120 |
| Manganese | 10 | 10.5 | 1.5 | 1.428571 | 680.5 | .5 | 15 | 714.2857 | 95.1 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11 | 1488 | 1352.727 | 46380 | 1 | 500 | 45454.55 | 99.1 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11 | 1058 | 961.8182 | 45360 | 1 | 500 | 45454.55 | 97.7 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21072: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.39 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.69 | 529 | 500 | 105.7 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.69 | 527 | 500 | 105.3 | 0.4 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 520 | 500 | 104.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21083-12F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 0.686 | 0.00 | 100.0(a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21072A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/29/13

| Metal | Sample ml | Final ml | MC21083-12F Raw | MC21083-12F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 0.6861 | 0.57175 | 17.24 | 2 | .1 | 16.66667 | 100.0 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21072A: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-7F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F, MC21083-20F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0006 | .0009 | .0006 | .0002 | .0013 | .0088 | .0002 | .0055 | .0028 |
| Stddev | .0000 | .0005 | .0000 | .0000 | .0000 | .0002 | .0002 | .0000 | .0000 |
| %RSD | 5.772 | 52.09 | 6.587 | 12.17 | 2.990 | 1.919 | 129.6 | .4489 | .6633 |
| #1 | -.0006 | .0013 | .0006 | .0002 | .0013 | .0087 | .0003 | .0056 | .0028 |
| #2 | -.0007 | .0006 | .0005 | .0002 | .0013 | .0089 | .0000 | .0055 | .0029 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0000 | .0001 | .0127 | .0007 | .0008 | .0000 | .0010 | .0001 | .0076 |
| Stddev | .0004 | .0002 | .0001 | .0001 | .0008 | .000 | .0000 | .0000 | .0007 |
| %RSD | 20300. | 161.8 | .4917 | 9.250 | 93.82 | 1135. | 3.435 | 34.34 | 9.387 |
| #1 | -.0003 | .0002 | .0126 | .0006 | .0003 | -.0002 | .0010 | .0001 | .0071 |
| #2 | .0003 | .0000 | .0127 | .0007 | .0014 | .0002 | .0010 | .0002 | .0081 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0013 | .0006 | .0001 | .0000 | .0001 | .0001 | .0340 | -.0001 | .0046 |
| Stddev | .0004 | .0013 | .0002 | .0000 | .0004 | .0002 | .0002 | .0000 | .0001 |
| %RSD | 29.12 | 204.7 | 367.4 | 638.4 | 597.9 | 119.0 | .5552 | 70.94 | 2.474 |
| #1 | -.0016 | -.0003 | -.0001 | .0000 | .0004 | .0000 | .0342 | -.0001 | .0047 |
| #2 | -.0011 | .0016 | .0002 | .0000 | -.0002 | .0002 | .0339 | .0000 | .0045 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0011 | .0004 | -.0002 | .0003 | .0002 |
| Stddev | .0001 | .0002 | .0000 | .0000 | .0002 | .0002 |
| %RSD | 27.26 | 17.22 | 1.921 | 3.077 | 49.47 | 92.61 |
| #1 | -.0003 | -.0010 | .0004 | -.0002 | .0002 | .0003 |
| #2 | -.0002 | -.0012 | .0004 | -.0002 | .0004 | .0001 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2221.5 | 53476. | 14049. |
| Stddev | 6.6 | 556. | 195. |
| %RSD | .29693 | 1.0390 | 1.3913 |
| #1 | 2216.9 | 53869. | 14187. |
| #2 | 2226.2 | 53083. | 13910. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/3/2013 9:19:35 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1813 | .6143 | 2.125 | 16.02 | 16.20 | 10.35 | 9.460 | 1.146 | 2.213 | 6.179 |
| Stddev | .0005 | .0007 | .004 | .01 | .00 | .01 | .010 | .002 | .003 | .051 |
| %RSD | .2829 | .1160 | .1797 | .0871 | .0072 | .1141 | .1012 | .1462 | .1321 | .8182 |
| #1 | .1816 | .6138 | 2.122 | 16.01 | 16.20 | 10.34 | 9.454 | 1.147 | 2.211 | 6.214 |
| #2 | .1809 | .6148 | 2.128 | 16.03 | 16.20 | 10.36 | 9.467 | 1.145 | 2.215 | 6.143 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.972 | 7.379 | 3.130 | 1.642 | .8221 | 1.182 | 12.52 |
| Stddev | .012 | .010 | .001 | .001 | .0015 | .001 | .01 |
| %RSD | .1452 | .1323 | .0460 | .0668 | .1840 | .0926 | .0583 |
| #1 | 7.963 | 7.372 | 3.129 | 1.641 | .8210 | 1.181 | 12.52 |
| #2 | 7.980 | 7.385 | 3.131 | 1.643 | .8231 | 1.183 | 12.53 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2242.4 | 52643. | 12571. |
| Stddev | 1.6 | 338. | 76. |
| %RSD | .07009 | .64299 | .60096 |
| #1 | 2243.6 | 52403. | 12518. |
| #2 | 2241.3 | 52882. | 12625. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/3/2013 9:23:56 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.465 | 2.848 | 1.698 | .7594 | .2410 | 2.504 |
| Stddev | .006 | .006 | .008 | .0008 | .0005 | .008 |
| %RSD | .4191 | .2157 | .4751 | .1105 | .2124 | .3072 |
| #1 | 1.460 | 2.844 | 1.692 | .7600 | .2406 | 2.499 |
| #2 | 1.469 | 2.853 | 1.704 | .7588 | .2413 | 2.510 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 12965. |
| Stddev | 106. |
| %RSD | .81601 |
| #1 | 12890. |
| #2 | 13040. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/3/2013 9:28:16 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3292 | .5132 | .0848 | 2.146 | 1.870 | 27.79 | 1.685 | 1.454 | .0805 | 3.114 |
| Stddev | .0005 | .0004 | .0002 | .008 | .005 | .09 | .001 | .000 | .0000 | .007 |
| %RSD | .1391 | .0712 | .2853 | .3608 | .2598 | .3232 | .0362 | .0274 | .0476 | .2335 |
| #1 | .3289 | .5129 | .0846 | 2.141 | 1.866 | 27.73 | 1.686 | 1.453 | .0805 | 3.109 |
| #2 | .3295 | .5134 | .0850 | 2.152 | 1.873 | 27.85 | 1.685 | 1.454 | .0805 | 3.119 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2292.1 | 54672. | 13231. |
| Stddev | 5.6 | 123. | 56. |
| %RSD | .24622 | .22554 | .42460 |
| #1 | 2296.1 | 54759. | 13192. |
| #2 | 2288.1 | 54585. | 13271. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/3/2013 9:32:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5122 | 15.84 | 3.080 | 3.022 | 3.117 | 3.083 | 2.997 | 18.23 | 3.052 | 3.019 |
| Stddev | .0016 | .03 | .005 | .008 | .004 | .001 | .000 | .01 | .001 | .000 |
| %RSD | .3060 | .1595 | .1794 | .2631 | .1202 | .0323 | .0124 | .0772 | .0202 | .0139 |
| #1 | .5133 | 15.82 | 3.084 | 3.028 | 3.120 | 3.084 | 2.996 | 18.22 | 3.052 | 3.020 |
| #2 | .5111 | 15.86 | 3.076 | 3.016 | 3.115 | 3.082 | 2.997 | 18.24 | 3.053 | 3.019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.042 | 2.955 | 18.53 | 15.56 | 18.42 | 2.967 | 2.924 | 15.65 | 2.968 | 2.978 |
| Stddev | .004 | .008 | .00 | .00 | .06 | .034 | .002 | .02 | .002 | .001 |
| %RSD | .1261 | .2734 | .0208 | .0060 | .3396 | 1.131 | .0580 | .1433 | .0614 | .0391 |
| #1 | 3.045 | 2.961 | 18.53 | 15.56 | 18.38 | 2.990 | 2.925 | 15.67 | 2.967 | 2.979 |
| #2 | 3.040 | 2.949 | 18.53 | 15.56 | 18.46 | 2.943 | 2.923 | 15.64 | 2.970 | 2.977 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.079 | 3.037 | 3.025 | 3.050 | 3.081 | 3.110 | 3.080 | 3.043 | 2.970 | 2.994 |
| Stddev | .011 | .003 | .003 | .001 | .001 | .004 | .003 | .004 | .002 | .006 |
| %RSD | .3544 | .0992 | .0850 | .0461 | .0419 | .1183 | .1056 | .1441 | .0716 | .1970 |
| #1 | 3.087 | 3.039 | 3.027 | 3.049 | 3.082 | 3.113 | 3.077 | 3.046 | 2.971 | 2.998 |
| #2 | 3.072 | 3.035 | 3.023 | 3.051 | 3.080 | 3.108 | 3.082 | 3.040 | 2.968 | 2.990 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.001 | 2.892 | 3.310 |
| Stddev | .006 | .003 | .015 |
| %RSD | .1961 | .1105 | .4654 |
| #1 | 3.006 | 2.894 | 3.321 |
| #2 | 2.997 | 2.890 | 3.299 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 53542. | 13105. |
| Stddev | 3.4 | 77. | 2. |
| %RSD | .15292 | .14311 | .01415 |
| #1 | 2242.8 | 53488. | 13103. |
| #2 | 2247.7 | 53596. | 13106. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/3/2013 9:42:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0012 | .0017 | .0004 | .0019 | .0004 | .0001 | .0035 | .0001 | .0000 |
| Stddev | .0006 | .0052 | .0012 | .0008 | .0005 | .0001 | .0000 | .0007 | .0001 | .000 |
| %RSD | 200.2 | 433.4 | 71.02 | 190.1 | 27.59 | 25.49 | 59.11 | 20.53 | 84.12 | 63.23 |
| #1 | -.0008 | -.0025 | .0026 | .0010 | .0023 | .0003 | .0000 | .0040 | .0000 | .0000 |
| #2 | .0001 | .0049 | .0009 | -.0001 | .0016 | .0004 | .0001 | .0030 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0009 | .0016 | -.0269 | -.0099 | .0001 | .0003 | -.0249 | .0003 | -.0006 |
| Stddev | .0002 | .0001 | .0021 | .0031 | .0088 | .0000 | .0000 | .0024 | .0002 | .0006 |
| %RSD | 68.73 | 14.87 | 135.1 | 11.57 | 89.32 | 14.36 | 15.72 | 9.781 | 55.40 | 109.0 |
| #1 | .0004 | .0008 | .0031 | -.0247 | -.0036 | .0002 | .0003 | -.0232 | .0004 | -.0010 |
| #2 | .0001 | .0010 | .0001 | -.0291 | -.0161 | .0001 | .0003 | -.0266 | .0002 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0015 | .0007 | .0006 | .0020 | -.0002 | .0001 | -.0003 | .0006 | .0003 |
| Stddev | .0031 | .0008 | .0007 | .0003 | .0001 | .0000 | .0000 | .0000 | .0000 | .0002 |
| %RSD | 366.8 | 53.51 | 96.64 | 63.14 | 6.305 | 9.126 | 15.58 | .2699 | 2.445 | 54.09 |
| #1 | -.0013 | -.0020 | .0002 | .0008 | .0019 | -.0002 | .0001 | -.0003 | .0006 | .0004 |
| #2 | .0030 | -.0009 | .0012 | .0003 | .0021 | -.0002 | .0001 | -.0003 | .0006 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0002 | .0015 |
| Stddev | .0021 | .0001 | .0003 |
| %RSD | 83.75 | 75.96 | 18.22 |
| #1 | .0010 | .0002 | .0017 |
| #2 | .0040 | .0001 | .0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.8 | 54467. | 13169. |
| Stddev | 4.6 | 571. | 107. |
| %RSD | .20383 | 1.0490 | .81595 |
| #1 | 2241.5 | 54871. | 13093. |
| #2 | 2248.0 | 54063. | 13245. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 9:50:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2474 | 10.00 | 2.005 | .0002 | 2.010 | 1.991 | 1.949 | 9.953 | 2.003 | 2.074 |
| Stddev | .0001 | .01 | .005 | .0017 | .000 | .001 | .003 | .019 | .001 | .001 |
| %RSD | .0521 | .0959 | .2580 | 796.5 | .0185 | .0529 | .1276 | .1947 | .0651 | .0412 |
| #1 | .2475 | 9.996 | 2.002 | .0014 | 2.011 | 1.991 | 1.950 | 9.967 | 2.004 | 2.074 |
| #2 | .2473 | 10.01 | 2.009 | -.0010 | 2.010 | 1.992 | 1.947 | 9.940 | 2.002 | 2.073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.954 | 1.950 | 9.995 | 9.939 | 9.720 | 1.913 | 1.997 | 9.999 | 2.021 | 1.968 |
| Stddev | .005 | .001 | .018 | .024 | .039 | .002 | .002 | .008 | .001 | .001 |
| %RSD | .2514 | .0304 | .1778 | .2431 | .4008 | .1132 | .1050 | .0789 | .0617 | .0721 |
| #1 | 1.951 | 1.951 | 9.982 | 9.957 | 9.748 | 1.912 | 1.998 | 10.00 | 2.021 | 1.969 |
| #2 | 1.958 | 1.950 | 10.01 | 9.922 | 9.693 | 1.915 | 1.995 | 9.993 | 2.020 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0019 | 2.046 | 2.035 | .0401 | 1.999 | 1.947 | 1.969 | 1.977 | 1.943 |
| Stddev | .0003 | .0001 | .001 | .001 | .0007 | .001 | .000 | .001 | .002 | .002 |
| %RSD | 11.19 | 7.726 | .0672 | .0680 | 1.815 | .0510 | .0177 | .0332 | .0764 | .1003 |
| #1 | .0033 | .0018 | 2.047 | 2.036 | .0395 | 2.000 | 1.947 | 1.969 | 1.978 | 1.941 |
| #2 | .0028 | .0020 | 2.045 | 2.034 | .0406 | 1.999 | 1.947 | 1.968 | 1.976 | 1.944 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0091 | 1.939 | .0023 |
| Stddev | .0050 | .002 | .0001 |
| %RSD | 55.22 | .0873 | 2.584 |
| #1 | -.0055 | 1.940 | .0023 |
| #2 | -.0126 | 1.938 | .0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.0 | 54081. | 13266. |
| Stddev | 2.8 | 91. | 104. |
| %RSD | .12590 | .16916 | .78541 |
| #1 | 2230.0 | 54146. | 13192. |
| #2 | 2226.0 | 54016. | 13340. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 9:58:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0006 | .0021 | .0007 | .0016 | .0004 | .0001 | .0017 | .0001 | .0000 |
| Stddev | .0003 | .0027 | .0013 | .0000 | .0001 | .0001 | .0000 | .0033 | .0000 | .0000 |
| %RSD | 80.56 | 440.0 | 63.99 | 1.559 | 8.998 | 14.87 | 37.24 | 191.3 | 28.92 | 364.2 |
| #1 | -.0002 | .0025 | .0011 | .0007 | .0015 | .0004 | .0001 | -.0006 | .0001 | .0000 |
| #2 | -.0006 | -.0013 | .0030 | .0007 | .0017 | .0003 | .0001 | .0040 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | -.0003 | -.0028 | .0007 | .0002 | .0003 | -.0357 | .0002 | -.0006 |
| Stddev | .0002 | .0000 | .0020 | .0042 | .0124 | .0000 | .0000 | .0165 | .0001 | .0001 |
| %RSD | 288.3 | 1.408 | 775.3 | 150.4 | 1663. | 2.728 | 7.561 | 46.31 | 66.17 | 16.73 |
| #1 | .0002 | .0005 | .0011 | -.0058 | -.0080 | .0002 | .0003 | -.0473 | .0003 | -.0007 |
| #2 | -.0001 | .0005 | -.0017 | .0002 | .0095 | .0002 | .0003 | -.0240 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0032 | .0008 | .0014 | .0020 | .0000 | .0000 | .0000 | .0008 | .0005 |
| Stddev | .0015 | .0039 | .0007 | .0006 | .0013 | .0004 | .0000 | .000 | .0004 | .0001 |
| %RSD | 205.3 | 122.6 | 86.31 | 40.56 | 63.92 | 12280. | 67.18 | 920.6 | 56.00 | 16.72 |
| #1 | -.0003 | -.0060 | .0003 | .0018 | .0029 | .0003 | .0000 | .0001 | .0005 | .0005 |
| #2 | .0018 | -.0004 | .0013 | .0010 | .0011 | -.0002 | .0001 | -.0002 | .0011 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | .0003 | .0008 |
| Stddev | .0032 | .0001 | .0001 |
| %RSD | 3047. | 34.52 | 11.73 |
| #1 | -.0024 | .0003 | .0008 |
| #2 | .0022 | .0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.9 | 54666. | 13274. |
| Stddev | .1 | 295. | 43. |
| %RSD | .00290 | .53920 | .32302 |
| #1 | 2244.9 | 54874. | 13243. |
| #2 | 2245.0 | 54457. | 13304. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 10:04:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .2096 | .0045 | .0007 | .1037 | .0514 | .0042 | 5.007 | .0042 | .0531 |
| Stddev | .0006 | .0031 | .0000 | .0008 | .0001 | .0004 | .0001 | .008 | .0000 | .0001 |
| %RSD | 10.96 | 1.466 | .9231 | 128.0 | .1266 | .6980 | 1.869 | .1553 | 1.004 | .1311 |
| #1 | .0057 | .2117 | .0045 | .0001 | .1036 | .0511 | .0043 | 5.013 | .0043 | .0531 |
| #2 | .0049 | .2074 | .0045 | .0013 | .1038 | .0516 | .0042 | 5.002 | .0042 | .0532 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0248 | .0999 | 5.002 | 4.841 | .0151 | .1034 | 4.981 | .0423 | .0055 |
| Stddev | .0001 | .0000 | .0004 | .010 | .018 | .0001 | .0003 | .013 | .0001 | .0002 |
| %RSD | 1.228 | .1658 | .3862 | .2021 | .3741 | .7035 | .3258 | .2621 | .1617 | 4.016 |
| #1 | .0101 | .0248 | .1002 | 4.995 | 4.854 | .0151 | .1036 | 4.990 | .0422 | .0054 |
| #2 | .0103 | .0248 | .0996 | 5.009 | 4.828 | .0152 | .1032 | 4.972 | .0423 | .0057 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0010 | .0068 | .0112 | -.0021 | .1020 | .0101 | .0517 | .0059 | .0106 |
| Stddev | .0004 | .0019 | .0002 | .0002 | .0001 | .0005 | .0001 | .0001 | .0007 | .0003 |
| %RSD | 19.67 | 195.3 | 3.257 | 1.710 | 5.048 | .4546 | 1.187 | .1931 | 11.41 | 3.217 |
| #1 | .0024 | .0023 | .0070 | .0113 | -.0020 | .1023 | .0102 | .0518 | .0064 | .0108 |
| #2 | .0018 | -.0004 | .0066 | .0110 | -.0022 | .1017 | .0100 | .0517 | .0054 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0211 | .0006 |
| Stddev | .0040 | .0001 | .0000 |
| %RSD | 90.46 | .6144 | 2.619 |
| #1 | .0016 | .0210 | .0006 |
| #2 | .0073 | .0212 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2249.6 | 54745. | 13399. |
| Stddev | 1.8 | 85. | 100. |
| %RSD | .08073 | .15516 | .74787 |
| #1 | 2250.9 | 54685. | 13329. |
| #2 | 2248.3 | 54805. | 13470. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/3/2013 10:13:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | 510.7 | .0000 | .0072 | .0045 | -.0002 | .0000 | 461.7 | -.0003 | -.0002 |
| Stddev | .0000 | 1.0 | .0028 | .0003 | .0007 | .0001 | .0000 | 11.2 | .0001 | .0000 |
| %RSD | 3.039 | .2000 | 7314. | 4.786 | 14.89 | 50.06 | 67.13 | 2.424 | 47.30 | .9146 |
| #1 | .0010 | 511.4 | .0020 | .0075 | .0050 | -.0002 | .0000 | 469.6 | -.0002 | -.0002 |
| #2 | .0011 | 509.9 | -.0019 | .0070 | .0040 | -.0001 | .0000 | 453.8 | -.0004 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0035 | 189.0 | .0314 | 484.7 | .0005 | -.0004 | .0464 | -.0006 | -.0008 |
| Stddev | .0001 | .0003 | .0 | .0207 | .2 | .0000 | .0000 | .0006 | .0002 | .0002 |
| %RSD | 29.83 | 9.409 | .0144 | 66.04 | .0509 | 5.846 | 5.671 | 1.370 | 33.03 | 25.58 |
| #1 | -.0003 | .0033 | 189.0 | .0167 | 484.5 | .0006 | -.0004 | .0468 | -.0004 | -.0009 |
| #2 | -.0002 | .0038 | 189.0 | .0460 | 484.8 | .0005 | -.0004 | .0459 | -.0007 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0339 | -.0147 | .0019 | -.0008 | .0365 | -.0005 | .0010 | .0089 | .0007 | .0003 |
| Stddev | .0042 | .0041 | .0003 | .0025 | .0003 | .0002 | .0003 | .0007 | .0011 | .0001 |
| %RSD | 12.25 | 27.73 | 13.78 | 322.2 | .6880 | 40.03 | 25.98 | 8.062 | 160.2 | 32.50 |
| #1 | -.0310 | -.0118 | .0021 | -.0025 | .0364 | -.0004 | .0008 | .0094 | .0014 | .0002 |
| #2 | -.0369 | -.0176 | .0017 | .0010 | .0367 | -.0007 | .0012 | .0084 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0391 | -.0008 | .0019 |
| Stddev | .0012 | .0001 | .0000 |
| %RSD | 3.165 | 7.767 | .8641 |
| #1 | -.0382 | -.0008 | .0018 |
| #2 | -.0400 | -.0007 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2062.4 | 51119. | 13017. |
| Stddev | 4.2 | 270. | 75. |
| %RSD | .20417 | .52802 | .57681 |
| #1 | 2059.5 | 50928. | 12963. |
| #2 | 2065.4 | 51310. | 13070. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/3/2013 10:17:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.034 | 520.1 | 2.073 | .4929 | 1.023 | .5076 | .4619 | 464.9 | 1.034 | .4840 |
| Stddev | .001 | 13.3 | .003 | .0035 | .002 | .0020 | .0014 | 4.4 | .001 | .0005 |
| %RSD | .1327 | 2.552 | .1479 | .7076 | .1893 | .3893 | .3111 | .9432 | .0604 | .0958 |
| #1 | 1.035 | 510.8 | 2.075 | .4954 | 1.024 | .5090 | .4629 | 461.8 | 1.035 | .4843 |
| #2 | 1.033 | 529.5 | 2.071 | .4904 | 1.022 | .5062 | .4609 | 468.0 | 1.034 | .4837 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4803 | .5118 | 189.3 | .0628 | 482.4 | .4669 | .9763 | .0371 | .9107 | .9130 |
| Stddev | .0003 | .0021 | .5 | .0054 | 1.1 | .0012 | .0001 | .0050 | .0008 | .0008 |
| %RSD | .0614 | .4038 | .2839 | 8.603 | .2324 | .2503 | .0140 | 13.43 | .0891 | .0871 |
| #1 | .4805 | .5104 | 189.7 | .0666 | 483.2 | .4677 | .9764 | .0406 | .9113 | .9135 |
| #2 | .4801 | .5133 | 188.9 | .0590 | 481.6 | .4660 | .9762 | .0336 | .9101 | .9124 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5025 | .4777 | 2.129 | 2.025 | 2.232 | .9943 | .9747 | .5147 | 1.896 | .5052 |
| Stddev | .0007 | .0046 | .003 | .002 | .001 | .0001 | .0045 | .0001 | .002 | .0010 |
| %RSD | .1351 | .9733 | .1299 | .0860 | .0451 | .0067 | .4616 | .0192 | .0893 | .1989 |
| #1 | .5030 | .4810 | 2.127 | 2.026 | 2.232 | .9942 | .9779 | .5147 | 1.895 | .5059 |
| #2 | .5021 | .4744 | 2.131 | 2.024 | 2.233 | .9943 | .9716 | .5146 | 1.898 | .5045 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.830 | .8937 | .4610 |
| Stddev | .004 | .0014 | .0024 |
| %RSD | .2071 | .1527 | .5168 |
| #1 | 1.828 | .8946 | .4594 |
| #2 | 1.833 | .8927 | .4627 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2061.3 | 51001. | 13045. |
| Stddev | 3.7 | 327. | 11. |
| %RSD | .17735 | .64150 | .08295 |
| #1 | 2058.8 | 50769. | 13037. |
| #2 | 2063.9 | 51232. | 13052. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 10:22:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2051 | 2.256 | .5229 | .0007 | .0025 | 2.022 | .5053 | 24.76 | .5194 | .5219 |
| Stddev | .0016 | .004 | .0002 | .0002 | .0001 | .004 | .0020 | .11 | .0014 | .0016 |
| %RSD | .8014 | .1634 | .0434 | 31.66 | 4.900 | .2195 | .3997 | .4437 | .2712 | .3076 |
| #1 | .2039 | 2.254 | .5227 | .0006 | .0025 | 2.019 | .5039 | 24.68 | .5184 | .5207 |
| #2 | .2063 | 2.259 | .5230 | .0009 | .0026 | 2.025 | .5068 | 24.84 | .5204 | .5230 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5189 | .4817 | 2.125 | 25.23 | 24.71 | .4764 | .0008 | 25.43 | .5079 | 1.007 |
| Stddev | .0004 | .0008 | .013 | .05 | .07 | .0003 | .0002 | .03 | .0012 | .002 |
| %RSD | .0838 | .1626 | .6113 | .2160 | .2826 | .0575 | 19.53 | .1243 | .2389 | .2378 |
| #1 | .5186 | .4812 | 2.116 | 25.19 | 24.66 | .4766 | .0009 | 25.41 | .5071 | 1.005 |
| #2 | .5192 | .4823 | 2.134 | 25.27 | 24.75 | .4762 | .0007 | 25.46 | .5088 | 1.009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0029 | .5321 | .5176 | .0243 | -.0020 | .4902 | .5009 | .5101 | .5097 |
| Stddev | .0022 | .0033 | .0005 | .0020 | .0004 | .0001 | .0012 | .0007 | .0010 | .0009 |
| %RSD | 352.4 | 115.9 | .0887 | .3938 | 1.620 | 7.353 | .2462 | .1422 | .1903 | .1819 |
| #1 | .0009 | .0005 | .5317 | .5162 | .0240 | -.0021 | .4893 | .5004 | .5094 | .5104 |
| #2 | -.0022 | .0053 | .5324 | .5190 | .0246 | -.0019 | .4910 | .5014 | .5108 | .5091 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0061 | .5107 | .0179 |
| Stddev | .0020 | .0007 | .0021 |
| %RSD | 33.36 | .1383 | 11.56 |
| #1 | .0047 | .5102 | .0194 |
| #2 | .0076 | .5112 | .0165 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.7 | 54611. | 13509. |
| Stddev | 10.9 | 7. | 46. |
| %RSD | .49092 | .01353 | .33798 |
| #1 | 2224.4 | 54606. | 13541. |
| #2 | 2209.0 | 54616. | 13477. |



Zoom In Zoom Out

Sample Name: MP21072-MB1 Acquired: 6/3/2013 10:26:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0221 | .0016 | -.0003 | .0004 | .0004 | .0001 | .0384 | .0001 | -.0002 |
| Stddev | .0005 | .0057 | .0005 | .0003 | .0004 | .0000 | .0000 | .0039 | .0000 | .0000 |
| %RSD | 1449. | 25.79 | 30.87 | 91.33 | 93.69 | 10.29 | 9.480 | 10.19 | 5.201 | 17.63 |
| #1 | .0004 | .0181 | .0012 | -.0001 | .0001 | .0004 | .0001 | .0356 | .0001 | -.0002 |
| #2 | -.0003 | .0261 | .0019 | -.0005 | .0007 | .0005 | .0001 | .0412 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0095 | .0063 | .0323 | .0003 | .0000 | -.0291 | .0000 | -.0004 |
| Stddev | .0000 | .0002 | .0002 | .0236 | .0103 | .0000 | .0000 | .0044 | .000 | .0004 |
| %RSD | 98.09 | 40.09 | 1.710 | 374.8 | 31.76 | 8.096 | 84.47 | 15.26 | 297.7 | 94.16 |
| #1 | .0000 | .0004 | .0094 | .0230 | .0396 | .0003 | .0000 | -.0322 | .0000 | -.0001 |
| #2 | .0001 | .0008 | .0096 | -.0104 | .0250 | .0003 | .0000 | -.0259 | .0000 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0006 | .0009 | .0013 | .0240 | -.0007 | .0001 | .0000 | .0010 | -.0003 |
| Stddev | .0009 | .0085 | .0000 | .0003 | .0000 | .0001 | .0000 | .000 | .0004 | .0002 |
| %RSD | 65.22 | 1312. | 2.090 | 20.63 | .0288 | 13.50 | 68.81 | 7.603 | 40.00 | 87.23 |
| #1 | .0007 | -.0053 | .0009 | .0011 | .0240 | -.0007 | .0000 | .0000 | .0007 | -.0001 |
| #2 | .0020 | .0066 | .0009 | .0015 | .0240 | -.0006 | .0001 | .0000 | .0013 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0029 | .0003 | .0028 |
| Stddev | .0004 | .0000 | .0002 |
| %RSD | 12.37 | 6.454 | 9.001 |
| #1 | .0032 | .0003 | .0029 |
| #2 | .0027 | .0003 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.3 | 55199. | 13356. |
| Stddev | 3.3 | 186. | 25. |
| %RSD | .14962 | .33741 | .18392 |
| #1 | 2225.9 | 55068. | 13339. |
| #2 | 2230.6 | 55331. | 13374. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 10:30:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2080 | 2.125 | .5257 | .0012 | .0046 | 2.062 | .5149 | 30.44 | .5244 | .5260 |
| Stddev | .0006 | .011 | .0031 | .0001 | .0000 | .003 | .0004 | .01 | .0003 | .0001 |
| %RSD | .3037 | .5012 | .5920 | 9.714 | .6872 | .1579 | .0818 | .0352 | .0533 | .0132 |
| #1 | .2076 | 2.117 | .5235 | .0012 | .0046 | 2.064 | .5146 | 30.43 | .5246 | .5260 |
| #2 | .2084 | 2.132 | .5279 | .0013 | .0045 | 2.060 | .5152 | 30.45 | .5242 | .5261 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5224 | .4907 | 2.074 | 27.22 | 26.06 | .4831 | .0005 | 26.96 | .5097 | 1.011 |
| Stddev | .0022 | .0010 | .004 | .03 | .03 | .0006 | .0001 | .04 | .0002 | .001 |
| %RSD | .4166 | .2054 | .2019 | .1070 | .1110 | .1187 | 11.19 | .1581 | .0340 | .0574 |
| #1 | .5209 | .4914 | 2.071 | 27.20 | 26.03 | .4827 | .0006 | 26.99 | .5098 | 1.012 |
| #2 | .5240 | .4899 | 2.077 | 27.24 | 26.08 | .4835 | .0005 | 26.93 | .5095 | 1.011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0061 | .5353 | .5197 | 3.285 | -.0017 | .5436 | .5051 | .5105 | .5152 |
| Stddev | .0005 | .0044 | .0020 | .0002 | .001 | .0002 | .0006 | .0004 | .0008 | .0008 |
| %RSD | 292.3 | 72.22 | .3717 | .0391 | .0320 | 10.90 | .1048 | .0720 | .1650 | .1638 |
| #1 | -.0002 | .0030 | .5367 | .5198 | 3.285 | -.0016 | .5440 | .5048 | .5099 | .5146 |
| #2 | .0005 | .0092 | .5339 | .5196 | 3.284 | -.0019 | .5432 | .5054 | .5110 | .5158 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .5208 | .0019 |
| Stddev | .0037 | .0004 | .0002 |
| %RSD | 49.42 | .0854 | 9.248 |
| #1 | .0049 | .5211 | .0020 |
| #2 | .0101 | .5204 | .0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.4 | 54593. | 13401. |
| Stddev | 1.9 | 279. | 81. |
| %RSD | .08366 | .51128 | .60139 |
| #1 | 2213.1 | 54395. | 13458. |
| #2 | 2215.7 | 54790. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 10:34:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2082 | 2.125 | .5221 | -.0011 | .0046 | 2.058 | .5165 | 30.37 | .5223 | .5228 |
| Stddev | .0006 | .000 | .0005 | .0006 | .0001 | .004 | .0009 | .04 | .0004 | .0001 |
| %RSD | .2837 | .0121 | .0973 | 49.34 | 2.549 | .2062 | .1702 | .1434 | .0839 | .0250 |
| #1 | .2086 | 2.125 | .5217 | -.0015 | .0047 | 2.061 | .5171 | 30.40 | .5220 | .5229 |
| #2 | .2077 | 2.125 | .5225 | -.0007 | .0045 | 2.055 | .5159 | 30.34 | .5226 | .5227 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5213 | .4903 | 2.063 | 27.19 | 26.07 | .4862 | .0004 | 26.91 | .5053 | 1.006 |
| Stddev | .0044 | .0017 | .010 | .08 | .07 | .0022 | .0001 | .07 | .0011 | .002 |
| %RSD | .8423 | .3495 | .4904 | .2843 | .2709 | .4622 | 20.27 | .2640 | .2177 | .1730 |
| #1 | .5182 | .4890 | 2.055 | 27.24 | 26.12 | .4846 | .0004 | 26.96 | .5045 | 1.004 |
| #2 | .5244 | .4915 | 2.070 | 27.13 | 26.02 | .4878 | .0003 | 26.86 | .5061 | 1.007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0032 | .5323 | .5180 | 3.260 | -.0019 | .5451 | .5052 | .5094 | .5166 |
| Stddev | .0006 | .0063 | .0012 | .0021 | .007 | .0000 | .0012 | .0014 | .0003 | .0030 |
| %RSD | 75.76 | 194.4 | .2229 | .4038 | .2144 | 1.467 | .2264 | .2736 | .0602 | .5877 |
| #1 | -.0004 | -.0012 | .5331 | .5194 | 3.255 | -.0019 | .5460 | .5042 | .5096 | .5144 |
| #2 | -.0012 | .0077 | .5314 | .5165 | 3.265 | -.0020 | .5443 | .5061 | .5092 | .5187 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .5185 | .0002 |
| Stddev | .0043 | .0004 | .0002 |
| %RSD | 172.4 | .0685 | 121.6 |
| #1 | -.0005 | .5183 | .0003 |
| #2 | .0055 | .5188 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.6 | 54533. | 13365. |
| Stddev | 1.6 | 317. | 66. |
| %RSD | .07171 | .58150 | .49059 |
| #1 | 2229.4 | 54758. | 13319. |
| #2 | 2231.7 | 54309. | 13412. |

Zoom In Zoom Out

Sample Name: MC21083-12F Acquired: 6/3/2013 10:39:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0022 | .0019 | -.0001 | .0027 | .0074 | .0001 | 5.371 | -.0001 | -.0001 |
| Stddev | .0004 | .0002 | .0009 | .0001 | .0004 | .0001 | .0000 | .024 | .0000 | .0001 |
| %RSD | 227.3 | 10.49 | 47.56 | 256.0 | 13.95 | .8082 | 23.23 | .4476 | 43.22 | 212.6 |
| #1 | -.0005 | .0024 | .0025 | .0000 | .0029 | .0074 | .0001 | 5.354 | -.0001 | .0000 |
| #2 | .0001 | .0021 | .0012 | -.0002 | .0024 | .0075 | .0001 | 5.388 | -.0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .0011 | 1.488 | .8450 | .0015 | .0001 | 1.058 | .0004 | .0005 |
| Stddev | .0003 | .0001 | .0014 | .035 | .0131 | .0000 | .0000 | .007 | .0002 | .0008 |
| %RSD | 180.9 | 11.10 | 128.3 | 2.366 | 1.552 | .6938 | 28.43 | .6994 | 35.69 | 148.1 |
| #1 | .0004 | .0007 | .0020 | 1.463 | .8542 | .0015 | .0001 | 1.052 | .0003 | .0011 |
| #2 | .0000 | .0008 | .0001 | 1.512 | .8357 | .0015 | .0001 | 1.063 | .0005 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | .0003 | .0026 | 3.205 | -.0008 | .0455 | -.0001 | .0005 | .0001 |
| Stddev | .0016 | .0001 | .0004 | .0011 | .003 | .0001 | .0001 | .0006 | .0007 | .0002 |
| %RSD | 377.0 | 2.499 | 116.6 | 40.60 | .0770 | 7.647 | .1251 | 448.6 | 164.3 | 189.4 |
| #1 | .0007 | -.0036 | .0006 | .0019 | 3.206 | -.0007 | .0455 | .0003 | -.0001 | .0003 |
| #2 | -.0016 | -.0037 | .0001 | .0034 | 3.203 | -.0008 | .0455 | -.0006 | .0010 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0084 | .0064 | .0006 |
| Stddev | .0039 | .0001 | .0002 |
| %RSD | 46.30 | 1.888 | 29.17 |
| #1 | .0057 | .0065 | .0005 |
| #2 | .0112 | .0063 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.0 | 55273. | 13361. |
| Stddev | 2.6 | 11. | 38. |
| %RSD | .11550 | .02022 | .28487 |
| #1 | 2238.2 | 55281. | 13334. |
| #2 | 2241.8 | 55265. | 13388. |



Zoom In Zoom Out

Sample Name: MP21072-SD1 Acquired: 6/3/2013 10:43:29 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0453 | .0080 | .0006 | .0012 | .0070 | -.0001 | 5.358 | .0003 | -.0014 |
| Stddev | .0019 | .0148 | .0045 | .0014 | .0018 | .0006 | .0000 | .029 | .0002 | .0001 |
| %RSD | 187.3 | 32.61 | 56.50 | 236.6 | 146.3 | 8.113 | 68.44 | .5393 | 68.34 | 9.058 |
| #1 | .0023 | .0557 | .0048 | -.0004 | .0025 | .0074 | -.0001 | 5.338 | .0004 | -.0013 |
| #2 | -.0003 | .0348 | .0112 | .0015 | .0000 | .0066 | .0000 | 5.378 | .0001 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0041 | .0028 | 1.716 | .8601 | .0021 | -.0001 | .9191 | .0006 | .0007 |
| Stddev | .0009 | .0007 | .0025 | .042 | .0708 | .0000 | .0002 | .0189 | .0002 | .0027 |
| %RSD | 61.66 | 17.25 | 89.63 | 2.448 | 8.237 | 1.604 | 209.0 | 2.053 | 33.48 | 354.8 |
| #1 | -.0020 | .0046 | .0046 | 1.686 | .9102 | .0020 | -.0002 | .9057 | .0007 | .0026 |
| #2 | -.0008 | .0036 | .0010 | 1.746 | .8100 | .0021 | .0000 | .9324 | .0005 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0126 | .0028 | .0045 | 3.216 | -.0030 | .0443 | -.0004 | .0041 | .0006 |
| Stddev | .0056 | .0021 | .0029 | .0017 | .004 | .0035 | .0005 | .0010 | .0025 | .0027 |
| %RSD | 128.9 | 16.56 | 104.5 | 36.74 | .1196 | 119.6 | 1.180 | 249.5 | 59.27 | 465.4 |
| #1 | -.0004 | .0112 | .0007 | .0057 | 3.219 | -.0005 | .0439 | .0003 | .0024 | .0025 |
| #2 | -.0082 | .0141 | .0048 | .0033 | 3.214 | -.0055 | .0446 | -.0011 | .0059 | -.0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0307 | .0092 | .0010 |
| Stddev | .0268 | .0001 | .0004 |
| %RSD | 87.30 | 1.025 | 36.25 |
| #1 | .0117 | .0092 | .0007 |
| #2 | .0496 | .0091 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.2 | 54990. | 13359. |
| Stddev | 2.9 | 23. | 27. |
| %RSD | .12829 | .04201 | .20368 |
| #1 | 2240.2 | 55006. | 13378. |
| #2 | 2236.2 | 54974. | 13340. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 10:47:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0056 | .0001 | .0005 | .0102 | .0117 | -.0001 | 9.729 | -.0001 | -.0002 |
| Stddev | .0002 | .0035 | .0009 | .0012 | .0000 | .0002 | .0000 | .030 | .0001 | .0001 |
| %RSD | 140.2 | 62.16 | 640.7 | 239.2 | .4771 | 1.915 | 22.73 | .3053 | 68.34 | 21.36 |
| #1 | .0003 | .0031 | -.0005 | -.0003 | .0102 | .0118 | -.0001 | 9.708 | .0000 | -.0002 |
| #2 | .0000 | .0080 | .0008 | .0013 | .0102 | .0115 | -.0001 | 9.750 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .0013 | 1.066 | 1.492 | .0009 | .0001 | 15.08 | -.0003 | .0006 |
| Stddev | .0001 | .0004 | .0012 | .033 | .011 | .0001 | .0001 | .06 | .0002 | .0005 |
| %RSD | 31.39 | 111.3 | 88.21 | 3.112 | .7608 | 6.414 | 101.1 | .3816 | 75.01 | 77.51 |
| #1 | .0005 | .0006 | .0022 | 1.042 | 1.484 | .0009 | .0002 | 15.04 | -.0001 | .0003 |
| #2 | .0003 | .0001 | .0005 | 1.089 | 1.500 | .0010 | .0000 | 15.12 | -.0004 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | .0003 | .0017 | 6.656 | -.0007 | .0942 | .0002 | .0002 | .0005 |
| Stddev | .0015 | .0022 | .0003 | .0002 | .005 | .0002 | .0004 | .0002 | .0001 | .0009 |
| %RSD | 126.7 | 4074. | 120.7 | 11.82 | .0759 | 30.51 | .3778 | 85.77 | 33.79 | 170.4 |
| #1 | .0001 | -.0016 | .0000 | .0016 | 6.652 | -.0008 | .0939 | .0004 | .0002 | .0012 |
| #2 | .0023 | .0015 | .0005 | .0019 | 6.659 | -.0005 | .0944 | .0001 | .0001 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0078 | .0064 | -.0001 |
| Stddev | .0056 | .0000 | .0001 |
| %RSD | 71.40 | .6503 | 45.11 |
| #1 | .0039 | .0065 | -.0001 |
| #2 | .0118 | .0064 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2237.2 | 55315. | 13440. |
| Stddev | 5.2 | 363. | 95. |
| %RSD | .23347 | .65594 | .70396 |
| #1 | 2240.9 | 55571. | 13507. |
| #2 | 2233.5 | 55058. | 13373. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 10:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2471 | 9.939 | 1.990 | -.0001 | 1.999 | 1.973 | 1.932 | 9.862 | 1.987 | 2.059 |
| Stddev | .0002 | .009 | .003 | .0004 | .003 | .002 | .005 | .011 | .004 | .002 |
| %RSD | .0719 | .0942 | .1263 | 343.6 | .1584 | .1045 | .2692 | .1122 | .1934 | .1171 |
| #1 | .2473 | 9.933 | 1.992 | .0002 | 2.001 | 1.974 | 1.928 | 9.854 | 1.990 | 2.061 |
| #2 | .2470 | 9.946 | 1.988 | -.0004 | 1.997 | 1.971 | 1.935 | 9.870 | 1.984 | 2.057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.937 | 9.927 | 9.912 | 9.605 | 1.904 | 1.986 | 9.952 | 1.999 | 1.953 |
| Stddev | .006 | .001 | .004 | .053 | .037 | .006 | .003 | .005 | .006 | .006 |
| %RSD | .3305 | .0536 | .0454 | .5357 | .3851 | .3274 | .1656 | .0513 | .3106 | .3342 |
| #1 | 1.936 | 1.937 | 9.924 | 9.875 | 9.579 | 1.900 | 1.989 | 9.956 | 2.004 | 1.957 |
| #2 | 1.945 | 1.938 | 9.930 | 9.950 | 9.631 | 1.909 | 1.984 | 9.948 | 1.995 | 1.948 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0030 | 2.032 | 2.018 | .0310 | 1.981 | 1.933 | 1.954 | 1.961 | 1.931 |
| Stddev | .0008 | .0009 | .000 | .002 | .0018 | .004 | .000 | .003 | .005 | .005 |
| %RSD | 92.93 | 31.02 | .0213 | .0984 | 5.718 | .1838 | .0192 | .1526 | .2436 | .2870 |
| #1 | .0014 | .0037 | 2.032 | 2.019 | .0322 | 1.984 | 1.932 | 1.952 | 1.965 | 1.927 |
| #2 | .0003 | .0024 | 2.032 | 2.016 | .0297 | 1.978 | 1.933 | 1.956 | 1.958 | 1.935 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0093 | 1.925 | -.0027 |
| Stddev | .0052 | .005 | .0001 |
| %RSD | 56.47 | .2681 | 4.083 |
| #1 | -.0129 | 1.929 | -.0028 |
| #2 | -.0056 | 1.922 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.5 | 54504. | 13396. |
| Stddev | 5.2 | 411. | 41. |
| %RSD | .23034 | .75326 | .30680 |
| #1 | 2242.9 | 54795. | 13425. |
| #2 | 2250.2 | 54214. | 13367. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 10:58:56 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0103 | .0019 | -.0003 | .0015 | .0004 | .0002 | .0129 | .0000 | .0001 |
| Stddev | .0005 | .0045 | .0015 | .0012 | .0001 | .0001 | .0000 | .0005 | .0002 | .0002 |
| %RSD | 269.7 | 43.59 | 80.73 | 423.5 | 5.631 | 33.24 | 16.35 | 3.805 | 508.1 | 121.1 |
| #1 | .0002 | .0135 | .0029 | -.0011 | .0015 | .0005 | .0002 | .0126 | -.0001 | .0000 |
| #2 | -.0006 | .0071 | .0008 | .0006 | .0014 | .0003 | .0002 | .0133 | .0002 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0029 | -.0161 | .0034 | .0002 | .0004 | -.0360 | .0001 | .0003 |
| Stddev | .0002 | .0002 | .0021 | .0009 | .0140 | .0001 | .0001 | .0051 | .0001 | .0001 |
| %RSD | 269.6 | 33.67 | 73.25 | 5.666 | 415.6 | 26.68 | 33.16 | 14.18 | 114.0 | 42.65 |
| #1 | .0002 | .0009 | .0044 | -.0154 | -.0065 | .0002 | .0005 | -.0324 | .0000 | .0004 |
| #2 | -.0001 | .0005 | .0014 | -.0167 | .0133 | .0002 | .0003 | -.0396 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0028 | .0003 | .0013 | -.0002 | -.0003 | .0001 | .0003 | .0000 | .0000 |
| Stddev | .0004 | .0031 | .0001 | .0002 | .0005 | .0003 | .0000 | .0001 | .0004 | .000 |
| %RSD | 104.9 | 109.5 | 32.09 | 18.57 | 228.1 | 84.19 | 25.83 | 27.25 | 1275. | 1159. |
| #1 | .0006 | -.0051 | .0004 | .0014 | .0001 | -.0005 | .0001 | .0002 | -.0002 | -.0003 |
| #2 | .0001 | -.0006 | .0003 | .0011 | -.0006 | -.0001 | .0002 | .0003 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0045 | .0003 | .0007 |
| Stddev | .0039 | .0002 | .0001 |
| %RSD | 86.08 | 47.14 | 12.74 |
| #1 | .0073 | .0004 | .0008 |
| #2 | .0018 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.6 | 54828. | 13314. |
| Stddev | 1.5 | 293. | 139. |
| %RSD | .06892 | .53439 | 1.0417 |
| #1 | 2234.7 | 55035. | 13216. |
| #2 | 2232.5 | 54621. | 13412. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0513 | 1.366 | -.0005 | .1627 | .0384 | .0000 | 75.31 |
| Stddev | .0003 | .0023 | .002 | .0008 | .0004 | .0002 | .000 | .11 |
| %RSD | 163.4 | 4.459 | .1173 | 149.5 | .2258 | .5248 | 104.7 | .1440 |
| #1 | .0004 | -.0497 | 1.365 | .0000 | .1625 | .0382 | .0000 | 75.23 |
| #2 | .0000 | -.0529 | 1.367 | -.0011 | .1630 | .0385 | -.0001 | 75.39 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0122 | .0137 | -.0001 | .0013 | 19.58 | 7.969 | 11.63 | 9.235 |
| Stddev | .0002 | .0000 | .0001 | .0004 | .03 | .100 | .06 | .025 |
| %RSD | 1.696 | .0754 | 109.7 | 32.25 | .1575 | 1.256 | .4901 | .2656 |
| #1 | .0124 | .0137 | -.0001 | .0010 | 19.60 | 7.898 | 11.59 | 9.252 |
| #2 | .0121 | .0137 | .0000 | .0015 | 19.56 | 8.040 | 11.67 | 9.217 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 24.41 | .0077 | .0006 | -.0055 | .0335 | .0016 | .0032 |
| Stddev | .0002 | .01 | .0001 | .0001 | .0007 | .0053 | .0002 | .0001 |
| %RSD | 6.887 | .0214 | 1.462 | 15.76 | 12.09 | 15.80 | 10.41 | 3.119 |
| #1 | .0022 | 24.42 | .0076 | .0007 | -.0059 | .0373 | .0017 | .0033 |
| #2 | .0025 | 24.41 | .0078 | .0006 | -.0050 | .0298 | .0015 | .0031 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 12.84 | -.0008 | .7524 | .0008 | F-.0080 | .0007 | .0045 | .0117 |
| Stddev | .03 | .0001 | .0002 | .0001 | .0014 | .0006 | .0010 | .0000 |
| %RSD | .2359 | 9.006 | .0226 | 6.427 | 17.38 | 81.32 | 23.16 | .0374 |
| #1 | 12.82 | -.0008 | .7525 | .0009 | -.0089 | .0003 | .0053 | .0117 |
| #2 | 12.87 | -.0009 | .7523 | .0008 | -.0070 | .0012 | .0038 | .0117 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0017 |
| Stddev | .0001 |
| %RSD | 6.190 |
| #1 | -.0016 |
| #2 | -.0018 |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2212.0 | 54809. | 13616. |
| Stddev | 1.4 | 294. | 14. |
| %RSD | .06483 | .53719 | .10281 |
| #1 | 2213.0 | 54601. | 13606. |
| #2 | 2211.0 | 55018. | 13626. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/3/2013 11:12:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0011 | .0024 | -.0008 | .0275 | .0112 | .0000 | 19.69 | .0001 | -.0002 |
| Stddev | .0004 | .0048 | .0004 | .0006 | .0003 | .0002 | .000 | .04 | .0001 | .0000 |
| %RSD | 138.7 | 424.7 | 18.21 | 69.68 | 1.130 | 2.098 | 191.2 | .2253 | 135.2 | 1.373 |
| #1 | .0000 | .0045 | .0021 | -.0004 | .0277 | .0111 | .0000 | 19.72 | .0002 | -.0002 |
| #2 | .0006 | -.0023 | .0027 | -.0012 | .0273 | .0114 | -.0001 | 19.66 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0010 | .0101 | 2.459 | 2.545 | .1759 | .0002 | 11.48 | .0003 | .0002 |
| Stddev | .000 | .0008 | .0023 | .013 | .000 | .0004 | .0000 | .02 | .0000 | .0004 |
| %RSD | 548.5 | 87.72 | 22.27 | .5347 | .0055 | .2291 | 26.94 | .1891 | 1.230 | 275.5 |
| #1 | .0001 | .0004 | .0117 | 2.468 | 2.545 | .1756 | .0002 | 11.50 | .0003 | .0005 |
| #2 | -.0001 | .0016 | .0085 | 2.450 | 2.545 | .1762 | .0001 | 11.47 | .0003 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0053 | .0013 | .0017 | 4.219 | -.0009 | .1099 | -.0004 | -.0007 | .0001 |
| Stddev | .0024 | .0012 | .0001 | .0003 | .002 | .0000 | .0004 | .0005 | .0001 | .0004 |
| %RSD | 351.0 | 22.92 | 10.03 | 19.59 | .0533 | 3.706 | .4016 | 118.0 | 11.47 | 494.1 |
| #1 | .0023 | -.0044 | .0012 | .0019 | 4.220 | -.0010 | .1102 | -.0001 | -.0007 | -.0002 |
| #2 | -.0010 | -.0061 | .0014 | .0014 | 4.217 | -.0009 | .1096 | -.0007 | -.0006 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0055 | -.0001 |
| Stddev | .0026 | .0001 | .0000 |
| %RSD | 169.4 | 1.110 | 3.944 |
| #1 | .0033 | .0055 | -.0001 |
| #2 | -.0003 | .0054 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.9 | 55067. | 13473. |
| Stddev | 3.5 | 449. | 31. |
| %RSD | .15829 | .81529 | .22836 |
| #1 | 2244.4 | 55384. | 13451. |
| #2 | 2239.4 | 54750. | 13495. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 11:16:57 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0011 | .6319 | .0011 | .1718 | .0506 | .0000 | 49.58 | .0053 | .0108 |
| Stddev | .0003 | .0113 | .0032 | .0003 | .0014 | .0004 | .0002 | .12 | .0003 | .0001 |
| %RSD | 43.01 | 1015. | .5008 | 24.14 | .7971 | .8084 | 2892. | .2341 | 5.031 | .7913 |
| #1 | .0004 | .0069 | .6297 | .0009 | .1708 | .0509 | -.0001 | 49.66 | .0051 | .0109 |
| #2 | .0008 | -.0091 | .6341 | .0012 | .1728 | .0504 | .0001 | 49.50 | .0055 | .0108 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0004 | 56.86 | 10.72 | 5.759 | 1.326 | -.0001 | 20.99 | .0067 | .0006 |
| Stddev | .0001 | .0003 | .20 | .03 | .028 | .004 | .0002 | .04 | .0001 | .0001 |
| %RSD | 31.21 | 93.39 | .3566 | .2758 | .4857 | .2990 | 341.8 | .1758 | .8882 | 25.54 |
| #1 | -.0002 | .0006 | 57.00 | 10.70 | 5.739 | 1.329 | -.0002 | 21.02 | .0067 | .0005 |
| #2 | -.0004 | .0001 | 56.72 | 10.74 | 5.778 | 1.323 | .0001 | 20.97 | .0067 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0086 | .0005 | .0015 | 10.89 | -.0007 | .4386 | .0005 | -.0012 | .0000 |
| Stddev | .0009 | .0028 | .0011 | .0014 | .03 | .0001 | .0015 | .0002 | .0004 | .0001 |
| %RSD | 252.2 | 32.16 | 211.2 | 88.67 | .2956 | 15.10 | .3488 | 50.74 | 33.42 | 1059. |
| #1 | -.0010 | .0067 | -.0003 | .0025 | 10.86 | -.0008 | .4397 | .0003 | -.0015 | .0001 |
| #2 | .0003 | .0106 | .0013 | .0006 | 10.91 | -.0007 | .4375 | .0006 | -.0009 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0003 | .0057 | -.0017 |
| Stddev | .0059 | .0000 | .0002 |
| %RSD | 2208. | .0808 | 9.403 |
| #1 | .0044 | .0057 | -.0018 |
| #2 | -.0039 | .0057 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2226.3 | 55276. | 13530. |
| Stddev | 10.2 | 297. | 29. |
| %RSD | .46018 | .53810 | .21316 |
| #1 | 2233.5 | 55066. | 13550. |
| #2 | 2219.0 | 55487. | 13509. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 11:21:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0037 | .0021 | -.0004 | .2076 | .0270 | .0000 | 149.4 | .0001 | .0001 |
| Stddev | .0002 | .0041 | .0008 | .0010 | .0016 | .0001 | .000 | .4 | .0000 | .0002 |
| %RSD | 61.80 | 110.0 | 36.37 | 256.2 | .7826 | .2473 | 294.2 | .2474 | 12.60 | 141.8 |
| #1 | .0004 | -.0008 | .0015 | -.0011 | .2064 | .0271 | .0000 | 149.7 | .0002 | .0002 |
| #2 | .0002 | -.0066 | .0026 | .0003 | .2087 | .0270 | .0000 | 149.2 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0015 | .0428 | 4.797 | 18.43 | .2423 | .0011 | 41.56 | .0045 | .0007 |
| Stddev | .0003 | .0007 | .0005 | .014 | .01 | .0009 | .0000 | .14 | .0001 | .0003 |
| %RSD | 49.68 | 49.43 | 1.183 | .2933 | .0730 | .3631 | 2.463 | .3401 | 3.094 | 43.11 |
| #1 | .0004 | .0010 | .0432 | 4.807 | 18.42 | .2417 | .0011 | 41.66 | .0045 | .0005 |
| #2 | .0009 | .0020 | .0425 | 4.787 | 18.43 | .2429 | .0012 | 41.46 | .0044 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0109 | .0014 | .0010 | .0019 | 8.916 | -.0014 | .4908 | .0015 | -.0012 | .0001 |
| Stddev | .0020 | .0054 | .0011 | .0006 | .061 | .0002 | .0010 | .0003 | .0004 | .0001 |
| %RSD | 17.94 | 379.0 | 115.4 | 29.94 | .6839 | 13.01 | .2138 | 17.67 | 29.63 | 153.2 |
| #1 | -.0123 | -.0024 | .0018 | .0023 | 8.873 | -.0012 | .4916 | .0013 | -.0014 | .0000 |
| #2 | -.0095 | .0053 | .0002 | .0015 | 8.959 | -.0015 | .4901 | .0017 | -.0009 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | .0090 | -.0012 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 3.488 | 1.220 | 12.38 |
| #1 | .0052 | .0089 | -.0013 |
| #2 | .0050 | .0091 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54366. | 13409. |
| Stddev | 14.5 | 252. | 1. |
| %RSD | .66194 | .46382 | .00481 |
| #1 | 2203.3 | 54544. | 13409. |
| #2 | 2182.7 | 54187. | 13408. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 11:25:31 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1457 | .0050 | -.0002 | .0067 | .0105 | .0000 | 10.79 | .0000 | .0007 |
| Stddev | .0003 | .0098 | .0014 | .0006 | .0002 | .0005 | .000 | .06 | .000 | .0001 |
| %RSD | 153.7 | 6.761 | 28.47 | 272.5 | 2.629 | 4.458 | 369.4 | .5319 | 38.02 | 9.723 |
| #1 | -.0004 | .1526 | .0040 | -.0006 | .0066 | .0108 | .0000 | 10.83 | -.0001 | .0007 |
| #2 | .0000 | .1387 | .0060 | .0002 | .0068 | .0102 | -.0001 | 10.75 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .9988 | 1.387 | 1.500 | .2859 | .0002 | 3.142 | .0005 | .0002 |
| Stddev | .0005 | .0005 | .0002 | .035 | .007 | .0010 | .0000 | .019 | .0000 | .0002 |
| %RSD | 150.0 | 182.4 | .0227 | 2.511 | .4934 | .3591 | .9836 | .6066 | 6.922 | 94.10 |
| #1 | .0000 | .0006 | .9986 | 1.411 | 1.505 | .2867 | .0002 | 3.155 | .0006 | .0001 |
| #2 | .0007 | -.0001 | .9989 | 1.362 | 1.495 | .2852 | .0002 | 3.128 | .0005 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0003 | .0009 | .0018 | 2.441 | -.0008 | .0670 | .0018 | -.0001 | .0011 |
| Stddev | .0014 | .0015 | .0006 | .0003 | .001 | .0003 | .0002 | .0004 | .0003 | .0002 |
| %RSD | 186.0 | 559.5 | 65.75 | 19.35 | .0247 | 38.59 | .3241 | 23.15 | 346.9 | 19.12 |
| #1 | .0002 | -.0008 | .0013 | .0020 | 2.441 | -.0006 | .0672 | .0015 | .0001 | .0013 |
| #2 | -.0018 | .0013 | .0005 | .0015 | 2.441 | -.0011 | .0669 | .0021 | -.0003 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0085 | .0004 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 626.7 | .0457 | 26.87 |
| #1 | -.0048 | .0085 | .0003 |
| #2 | .0030 | .0085 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 54775. | 13380. |
| Stddev | 1.0 | 467. | 50. |
| %RSD | .04554 | .85275 | .37003 |
| #1 | 2236.9 | 54445. | 13345. |
| #2 | 2235.4 | 55106. | 13415. |



Zoom In Zoom Out

Sample Name: MC21083-7F Acquired: 6/3/2013 11:29:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0094 | .0009 | .0002 | .0005 | .0002 | .0000 | .0177 | .0000 | .0002 |
| Stddev | .001 | .0060 | .0002 | .0007 | .0000 | .0001 | .000 | .0030 | .0001 | .0002 |
| %RSD | 8937. | 64.05 | 16.39 | 306.2 | 6.517 | 82.09 | 16.89 | 17.00 | 254.0 | 91.10 |
| #1 | -.0006 | .0051 | .0010 | .0008 | .0005 | .0001 | .0000 | .0198 | .0001 | .0001 |
| #2 | .0005 | .0136 | .0008 | -.0003 | .0004 | .0002 | .0000 | .0156 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | -.0002 | .0190 | -.0064 | -.0001 | .0000 | -.0293 | .0000 | -.0003 |
| Stddev | .0004 | .0002 | .0018 | .0058 | .0137 | .0001 | .0001 | .0091 | .000 | .0008 |
| %RSD | 1081. | 86.19 | 950.8 | 30.41 | 214.3 | 82.53 | 432.2 | 30.97 | 228.4 | 243.4 |
| #1 | .0003 | .0003 | .0011 | .0230 | .0033 | .0000 | .0001 | -.0358 | -.0001 | .0003 |
| #2 | -.0002 | .0001 | -.0014 | .0149 | -.0160 | -.0001 | .0000 | -.0229 | .0000 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0027 | .0004 | .0008 | .0154 | -.0005 | .0000 | -.0001 | -.0002 | .0004 |
| Stddev | .0020 | .0023 | .0005 | .0000 | .0005 | .0000 | .000 | .0003 | .0002 | .0001 |
| %RSD | 362.3 | 84.32 | 128.3 | 2.221 | 3.296 | 8.054 | 314.5 | 236.1 | 107.9 | 28.74 |
| #1 | -.0009 | .0044 | .0000 | .0008 | .0158 | -.0005 | -.0001 | -.0004 | -.0004 | .0005 |
| #2 | .0020 | .0011 | .0008 | .0008 | .0151 | -.0005 | .0000 | .0001 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0040 | .0059 | .0002 |
| Stddev | .0033 | .0000 | .0004 |
| %RSD | 84.07 | .3326 | 179.2 |
| #1 | .0016 | .0059 | -.0001 |
| #2 | .0063 | .0059 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2252.8 | 55028. | 13364. |
| Stddev | 9.2 | 355. | 5. |
| %RSD | .40870 | .64502 | .03648 |
| #1 | 2246.3 | 54777. | 13361. |
| #2 | 2259.4 | 55279. | 13368. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 11:34:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0176 | .7136 | -.0013 | .1046 | .0139 | .0000 | 97.66 | .0060 | .0062 |
| Stddev | .0003 | .0038 | .0011 | .0019 | .0014 | .0000 | .000 | .14 | .0000 | .0002 |
| %RSD | 104.2 | 21.57 | .1602 | 139.3 | 1.361 | .0997 | 97.45 | .1448 | .0590 | 2.908 |
| #1 | -.0001 | -.0203 | .7128 | -.0027 | .1036 | .0139 | .0000 | 97.76 | .0060 | .0061 |
| #2 | -.0004 | -.0149 | .7144 | .0000 | .1056 | .0138 | .0000 | 97.56 | .0060 | .0064 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | 14.36 | 3.491 | 12.46 | 2.500 | .0052 | 116.9 | .0046 | .0018 |
| Stddev | .0003 | .0004 | .02 | .043 | .02 | .000 | .0001 | .2 | .0001 | .0003 |
| %RSD | 106.8 | 53.52 | .1123 | 1.226 | .1756 | .0058 | 1.100 | .1657 | 1.677 | 16.64 |
| #1 | .0004 | .0005 | 14.37 | 3.461 | 12.47 | 2.500 | .0051 | 117.1 | .0047 | .0016 |
| #2 | .0001 | .0010 | 14.34 | 3.521 | 12.44 | 2.501 | .0052 | 116.8 | .0046 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0103 | .0011 | .0035 | 16.85 | -.0011 | .4336 | .0009 | -.0025 | .0004 |
| Stddev | .0017 | .0015 | .0017 | .0010 | .02 | .0000 | .0006 | .0007 | .0010 | .0002 |
| %RSD | 27.18 | 14.37 | 144.1 | 28.24 | .0966 | .2393 | .1390 | 74.48 | 41.63 | 42.49 |
| #1 | -.0051 | .0114 | .0023 | .0028 | 16.84 | -.0011 | .4341 | .0004 | -.0032 | .0003 |
| #2 | -.0076 | .0093 | .0000 | .0042 | 16.87 | -.0011 | .4332 | .0013 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0062 | .0094 | -.0028 |
| Stddev | .0069 | .0000 | .0000 |
| %RSD | 112.1 | .1425 | 1.551 |
| #1 | .0013 | .0095 | -.0028 |
| #2 | .0111 | .0094 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2207.7 | 54768. | 13463. |
| Stddev | 3.8 | 128. | 26. |
| %RSD | .17047 | .23413 | .19130 |
| #1 | 2210.4 | 54858. | 13444. |
| #2 | 2205.1 | 54677. | 13481. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 11:38:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0134 | .8101 | .0016 | .0636 | .0329 | .0000 | 17.70 | .0065 | .0135 |
| Stddev | .0003 | .0002 | .0003 | .0002 | .0003 | .0001 | .000 | .01 | .0001 | .0003 |
| %RSD | 62.76 | 1.412 | .0393 | 14.71 | .4818 | .1801 | 76.22 | .0476 | 2.127 | 2.232 |
| #1 | .0003 | -.0133 | .8099 | .0018 | .0638 | .0329 | .0000 | 17.69 | .0066 | .0133 |
| #2 | .0007 | -.0135 | .8103 | .0014 | .0634 | .0330 | -.0001 | 17.70 | .0064 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0003 | 31.40 | 9.326 | 3.453 | .7798 | .0034 | 5.150 | .0039 | .0006 |
| Stddev | .0001 | .0003 | .08 | .068 | .014 | .0012 | .0000 | .019 | .0000 | .0003 |
| %RSD | 257.6 | 108.4 | .2638 | .7306 | .4070 | .1528 | .2798 | .3675 | .0056 | 43.27 |
| #1 | .0000 | .0001 | 31.34 | 9.277 | 3.443 | .7790 | .0034 | 5.137 | .0039 | .0004 |
| #2 | .0001 | .0006 | 31.46 | 9.374 | 3.463 | .7807 | .0034 | 5.164 | .0039 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0026 | .0017 | .0011 | 6.948 | -.0005 | .2062 | -.0002 | -.0011 | .0001 |
| Stddev | .0033 | .0007 | .0002 | .0011 | .001 | .0002 | .0001 | .0003 | .0000 | .0002 |
| %RSD | 206.0 | 27.76 | 13.27 | 99.09 | .0095 | 48.84 | .0268 | 162.6 | 2.040 | 212.8 |
| #1 | -.0007 | .0032 | .0019 | .0003 | 6.948 | -.0003 | .2062 | .0000 | -.0011 | .0003 |
| #2 | .0040 | .0021 | .0016 | .0019 | 6.947 | -.0007 | .2063 | -.0004 | -.0011 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0076 | .0090 | -.0006 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 72.56 | .3287 | 20.25 |
| #1 | .0114 | .0090 | -.0007 |
| #2 | .0037 | .0090 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.1 | 54672. | 13518. |
| Stddev | .4 | 261. | 36. |
| %RSD | .01905 | .47804 | .26268 |
| #1 | 2240.4 | 54857. | 13544. |
| #2 | 2239.8 | 54487. | 13493. |



Zoom In Zoom Out

Sample Name: MC21083-10F Acquired: 6/3/2013 11:42:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0071 | .0006 | -.0004 | .0161 | .0095 | -.0001 | 6.422 | .0000 | .0007 |
| Stddev | .0006 | .0058 | .0010 | .0000 | .0001 | .0001 | .0000 | .007 | .000 | .0001 |
| %RSD | 452.7 | 81.84 | 176.1 | .7616 | .3797 | .8436 | 24.34 | .1072 | 577.0 | 17.27 |
| #1 | .0003 | .0112 | .0013 | -.0004 | .0161 | .0094 | -.0001 | 6.417 | .0000 | .0006 |
| #2 | -.0006 | .0030 | -.0001 | -.0004 | .0160 | .0096 | -.0001 | 6.427 | .0000 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | .2239 | 2.058 | .9812 | .1034 | .0001 | 2.345 | .0004 | -.0001 |
| Stddev | .0003 | .0003 | .0015 | .014 | .0038 | .0000 | .0001 | .012 | .0002 | .0007 |
| %RSD | 204.9 | 67.46 | .6852 | .6765 | .3823 | .0044 | 77.13 | .5307 | 61.93 | 1001. |
| #1 | .0003 | .0006 | .2228 | 2.048 | .9785 | .1034 | .0001 | 2.336 | .0002 | -.0006 |
| #2 | -.0001 | .0002 | .2250 | 2.068 | .9839 | .1034 | .0000 | 2.354 | .0006 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0016 | .0010 | .0014 | 3.368 | -.0004 | .0537 | -.0001 | .0000 | .0009 |
| Stddev | .0001 | .0020 | .0011 | .0009 | .006 | .0002 | .0000 | .0000 | .0006 | .0003 |
| %RSD | 10.37 | 126.3 | 114.1 | 65.27 | .1779 | 44.94 | .0893 | 8.973 | 15390. | 30.71 |
| #1 | -.0005 | .0002 | .0018 | .0008 | 3.372 | -.0003 | .0536 | -.0001 | -.0004 | .0007 |
| #2 | -.0006 | .0031 | .0002 | .0020 | 3.364 | -.0006 | .0537 | -.0001 | .0004 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0162 | .0077 | -.0001 |
| Stddev | .0014 | .0001 | .0000 |
| %RSD | 8.842 | .7718 | .5135 |
| #1 | .0151 | .0077 | -.0001 |
| #2 | .0172 | .0077 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.7 | 54642. | 13436. |
| Stddev | 2.4 | 31. | 68. |
| %RSD | .10777 | .05687 | .50790 |
| #1 | 2260.9 | 54620. | 13484. |
| #2 | 2264.4 | 54664. | 13388. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 11:47:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0156 | .7472 | .0010 | .1299 | .1108 | -.0001 | 45.92 | .0058 | .0012 |
| Stddev | .0001 | .0017 | .0015 | .0006 | .0002 | .0009 | .0001 | .06 | .0001 | .0000 |
| %RSD | 42.45 | 10.77 | .2036 | 56.20 | .1661 | .8383 | 97.73 | .1335 | 1.939 | 2.179 |
| #1 | -.0004 | -.0167 | .7461 | .0014 | .1300 | .1101 | .0000 | 45.88 | .0059 | .0012 |
| #2 | -.0002 | -.0144 | .7483 | .0006 | .1297 | .1114 | -.0001 | 45.97 | .0057 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0016 | 67.12 | 9.107 | 5.140 | 1.708 | -.0001 | 16.62 | .0022 | .0003 |
| Stddev | .0000 | .0006 | .08 | .091 | .050 | .002 | .0001 | .01 | .0001 | .0005 |
| %RSD | 15.55 | 39.27 | .1171 | 1.001 | .9642 | .1411 | 112.9 | .0558 | 3.121 | 204.2 |
| #1 | -.0002 | .0012 | 67.06 | 9.043 | 5.105 | 1.709 | -.0001 | 16.63 | .0021 | .0006 |
| #2 | -.0003 | .0021 | 67.18 | 9.172 | 5.175 | 1.706 | .0000 | 16.61 | .0022 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0038 | .0018 | .0031 | 14.31 | -.0005 | .4175 | -.0001 | -.0016 | -.0001 |
| Stddev | .0002 | .0009 | .0002 | .0002 | .04 | .0002 | .0002 | .0002 | .0001 | .0000 |
| %RSD | 10.77 | 24.68 | 8.985 | 5.261 | .3055 | 31.45 | .0550 | 290.8 | 9.336 | 42.41 |
| #1 | .0019 | .0045 | .0020 | .0032 | 14.28 | -.0007 | .4173 | .0001 | -.0014 | -.0001 |
| #2 | .0016 | .0031 | .0017 | .0029 | 14.34 | -.0004 | .4176 | -.0002 | -.0017 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0089 | .0048 | -.0024 |
| Stddev | .0012 | .0000 | .0001 |
| %RSD | 13.37 | .4625 | 2.523 |
| #1 | .0081 | .0048 | -.0025 |
| #2 | .0098 | .0048 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2218.9 | 54549. | 13326. |
| Stddev | 8.4 | 15. | 112. |
| %RSD | .37858 | .02681 | .83938 |
| #1 | 2224.8 | 54538. | 13405. |
| #2 | 2212.9 | 54559. | 13247. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 11:51:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.876 | 1.974 | -.0005 | 1.985 | 1.963 | 1.943 | 9.842 | 1.980 | 2.045 |
| Stddev | .0008 | .040 | .001 | .0012 | .000 | .002 | .005 | .019 | .004 | .003 |
| %RSD | .3425 | .4092 | .0318 | 245.5 | .0197 | .0770 | .2505 | .1894 | .1941 | .1338 |
| #1 | .2471 | 9.847 | 1.974 | .0004 | 1.985 | 1.962 | 1.940 | 9.829 | 1.982 | 2.046 |
| #2 | .2483 | 9.904 | 1.975 | -.0014 | 1.985 | 1.964 | 1.946 | 9.855 | 1.977 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.932 | 1.942 | 9.852 | 9.831 | 9.686 | 1.918 | 1.966 | 9.875 | 1.969 | 1.934 |
| Stddev | .001 | .004 | .021 | .030 | .001 | .005 | .002 | .022 | .004 | .003 |
| %RSD | .0621 | .1840 | .2087 | .3009 | .0100 | .2683 | .0896 | .2249 | .1996 | .1622 |
| #1 | 1.931 | 1.940 | 9.838 | 9.810 | 9.685 | 1.915 | 1.968 | 9.859 | 1.971 | 1.936 |
| #2 | 1.933 | 1.945 | 9.867 | 9.852 | 9.686 | 1.922 | 1.965 | 9.890 | 1.966 | 1.932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0058 | 2.007 | 1.996 | .0212 | 1.943 | 1.937 | 1.940 | 1.955 | 1.930 |
| Stddev | .0034 | .0016 | .005 | .004 | .0024 | .001 | .003 | .002 | .003 | .002 |
| %RSD | 236.0 | 27.59 | .2339 | .2120 | 11.22 | .0306 | .1649 | .1115 | .1585 | .0810 |
| #1 | -.0010 | .0070 | 2.010 | 1.999 | .0229 | 1.944 | 1.934 | 1.939 | 1.957 | 1.929 |
| #2 | .0039 | .0047 | 2.004 | 1.993 | .0195 | 1.943 | 1.939 | 1.942 | 1.952 | 1.931 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.916 | -.0043 |
| Stddev | .0012 | .002 | .0000 |
| %RSD | 14.24 | .1249 | 1.120 |
| #1 | -.0091 | 1.918 | -.0044 |
| #2 | -.0074 | 1.915 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.9 | 54370. | 13239. |
| Stddev | 6.8 | 36. | 24. |
| %RSD | .30171 | .06579 | .18383 |
| #1 | 2256.1 | 54345. | 13222. |
| #2 | 2265.7 | 54395. | 13256. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 11:58:02 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0057 | .0011 | -.0003 | .0014 | .0001 | .0000 | .0081 | .0001 | .0001 |
| Stddev | .0011 | .0055 | .0003 | .0004 | .0002 | .0001 | .0001 | .0029 | .0001 | .0001 |
| %RSD | 385.3 | 96.10 | 24.69 | 112.0 | 16.56 | 77.80 | 380.8 | 35.56 | 118.1 | 152.7 |
| #1 | .0010 | .0096 | .0009 | -.0006 | .0012 | .0001 | .0000 | .0060 | .0002 | .0000 |
| #2 | -.0005 | .0018 | .0013 | -.0001 | .0015 | .0002 | .0001 | .0101 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0002 | .0024 | .0177 | -.0039 | .0002 | .0004 | -.0405 | .0001 | -.0002 |
| Stddev | .0008 | .0001 | .0002 | .0125 | .0001 | .0001 | .0001 | .0041 | .0001 | .0002 |
| %RSD | 246.9 | 90.39 | 10.06 | 70.68 | 2.077 | 31.49 | 24.89 | 10.02 | 98.28 | 81.16 |
| #1 | .0009 | -.0001 | .0025 | .0266 | -.0040 | .0002 | .0004 | -.0376 | .0000 | -.0001 |
| #2 | -.0002 | -.0003 | .0022 | .0089 | -.0039 | .0001 | .0003 | -.0434 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0039 | .0008 | .0021 | -.0024 | -.0004 | .0001 | .0003 | .0006 | .0001 |
| Stddev | .0017 | .0065 | .0000 | .0011 | .0001 | .0001 | .0000 | .0003 | .0003 | .0001 |
| %RSD | 136.9 | 167.8 | .7492 | 51.40 | 3.880 | 23.88 | 52.13 | 107.2 | 46.72 | 53.87 |
| #1 | .0025 | .0084 | .0008 | .0013 | -.0023 | -.0004 | .0000 | .0005 | .0004 | .0001 |
| #2 | .0000 | -.0007 | .0008 | .0028 | -.0024 | -.0003 | .0001 | .0001 | .0008 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | .0002 | .0005 |
| Stddev | .0014 | .0000 | .0002 |
| %RSD | 28.10 | 1.324 | 46.99 |
| #1 | -.0061 | .0002 | .0003 |
| #2 | -.0041 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 55412. | 13238. |
| Stddev | 8.1 | 193. | 77. |
| %RSD | .35470 | .34886 | .58034 |
| #1 | 2279.0 | 55276. | 13184. |
| #2 | 2267.6 | 55549. | 13293. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 12:03:18 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0044 | .0035 | .0008 | .0130 | .0096 | .0001 | 13.84 | .0000 | -.0003 |
| Stddev | .0004 | .0029 | .0003 | .0002 | .0007 | .0001 | .0000 | .07 | .000 | .0001 |
| %RSD | 145.8 | 66.04 | 7.597 | 22.23 | 5.303 | .9464 | 27.43 | .4822 | 348.9 | 29.29 |
| #1 | .0000 | .0064 | .0034 | .0006 | .0126 | .0097 | .0001 | 13.89 | .0000 | -.0002 |
| #2 | .0006 | .0023 | .0037 | .0009 | .0135 | .0096 | .0000 | 13.80 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0017 | 1.613 | 1.717 | .0161 | .0004 | 19.11 | .0003 | .0001 |
| Stddev | .0002 | .0004 | .0018 | .004 | .003 | .0000 | .0000 | .11 | .0003 | .0002 |
| %RSD | 45.36 | 195.1 | 107.8 | .2338 | .1850 | .2842 | 8.149 | .5970 | 123.4 | 158.2 |
| #1 | .0006 | .0005 | .0004 | 1.610 | 1.715 | .0160 | .0004 | 19.19 | .0000 | .0000 |
| #2 | .0003 | -.0001 | .0030 | 1.615 | 1.719 | .0161 | .0005 | 19.03 | .0005 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .0006 | .0017 | 3.770 | -.0007 | .0822 | -.0002 | -.0004 | .0005 |
| Stddev | .0011 | .0052 | .0006 | .0002 | .003 | .0005 | .0006 | .0002 | .0006 | .0003 |
| %RSD | 220.4 | 302.3 | 105.8 | 9.813 | .0749 | 68.72 | .6797 | 76.89 | 140.9 | 55.89 |
| #1 | -.0003 | .0054 | .0010 | .0015 | 3.768 | -.0003 | .0826 | -.0003 | .0000 | .0007 |
| #2 | .0013 | -.0019 | .0001 | .0018 | 3.772 | -.0010 | .0818 | -.0001 | -.0008 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0081 | -.0002 |
| Stddev | .0010 | .0000 | .0001 |
| %RSD | 150.8 | .5286 | 57.41 |
| #1 | .0000 | .0081 | -.0001 |
| #2 | .0013 | .0081 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.3 | 54805. | 13444. |
| Stddev | 3.1 | 46. | 22. |
| %RSD | .13740 | .08362 | .16345 |
| #1 | 2262.5 | 54837. | 13459. |
| #2 | 2258.1 | 54773. | 13428. |



Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 12:07:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0063 | .0042 | -.0008 | .0130 | .0101 | .0000 | 13.98 | .0002 | -.0002 |
| Stddev | .0005 | .0067 | .0013 | .0013 | .0006 | .0000 | .000 | .06 | .0001 | .0000 |
| %RSD | 691.8 | 106.4 | 30.94 | 160.5 | 4.329 | .3906 | 224.2 | .4166 | 30.03 | 6.477 |
| #1 | .0003 | .0110 | .0051 | .0001 | .0134 | .0101 | -.0001 | 13.94 | .0002 | -.0002 |
| #2 | -.0004 | .0016 | .0033 | -.0017 | .0126 | .0101 | .0000 | 14.02 | .0002 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0008 | .0059 | 1.579 | 1.720 | .0154 | .0003 | 19.43 | .0001 | .0004 |
| Stddev | .0004 | .0001 | .0016 | .025 | .018 | .0000 | .0000 | .04 | .0001 | .0003 |
| %RSD | 144.8 | 12.36 | 27.91 | 1.569 | 1.076 | .2070 | 1.251 | .2110 | 45.25 | 59.07 |
| #1 | .0000 | .0007 | .0047 | 1.597 | 1.707 | .0154 | .0003 | 19.40 | .0002 | .0006 |
| #2 | .0005 | .0009 | .0070 | 1.562 | 1.733 | .0154 | .0003 | 19.46 | .0001 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0020 | -.0001 | .0010 | 3.801 | -.0007 | .0831 | .0004 | .0001 | .0007 |
| Stddev | .0005 | .0050 | .0001 | .0005 | .005 | .0003 | .0003 | .0004 | .0009 | .0004 |
| %RSD | 555.3 | 248.2 | 61.91 | 45.64 | .1284 | 41.44 | .3876 | 106.0 | 1654. | 54.05 |
| #1 | -.0004 | -.0015 | -.0001 | .0014 | 3.805 | -.0009 | .0829 | .0001 | -.0006 | .0010 |
| #2 | .0003 | .0055 | -.0002 | .0007 | 3.798 | -.0005 | .0834 | .0006 | .0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0070 | -.0005 |
| Stddev | .0009 | .0000 | .0001 |
| %RSD | 45.38 | .0298 | 23.96 |
| #1 | .0013 | .0070 | -.0004 |
| #2 | .0025 | .0070 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.5 | 55124. | 13592. |
| Stddev | 2.3 | 9. | 21. |
| %RSD | .10295 | .01557 | .15567 |
| #1 | 2265.8 | 55118. | 13577. |
| #2 | 2269.1 | 55130. | 13607. |

Zoom In Zoom Out

Sample Name: MC21083-15F Acquired: 6/3/2013 12:11:59 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | .0135 | .0006 | .0149 | .0090 | -.0001 | 9.932 | .0003 | .0039 |
| Stddev | .0005 | .0050 | .0010 | .0007 | .0003 | .0000 | .0000 | .159 | .0001 | .0000 |
| %RSD | 539.1 | 244.1 | 7.354 | 116.2 | 2.184 | .4125 | 51.30 | 1.600 | 16.74 | .1423 |
| #1 | -.0004 | -.0015 | .0142 | .0011 | .0147 | .0089 | -.0001 | 9.820 | .0003 | .0039 |
| #2 | .0003 | .0056 | .0128 | .0001 | .0151 | .0090 | -.0001 | 10.04 | .0004 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0012 | 5.528 | 1.629 | 1.435 | .5691 | .0006 | 2.606 | .0003 | .0001 |
| Stddev | .0003 | .0003 | .083 | .015 | .017 | .0031 | .0001 | .041 | .0000 | .0000 |
| %RSD | 110.9 | 21.76 | 1.496 | .8907 | 1.180 | .5511 | 14.08 | 1.581 | 11.79 | 48.55 |
| #1 | .0005 | .0013 | 5.469 | 1.619 | 1.423 | .5713 | .0006 | 2.577 | .0003 | .0000 |
| #2 | .0001 | .0010 | 5.586 | 1.640 | 1.447 | .5669 | .0005 | 2.635 | .0002 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0067 | .0009 | .0017 | 4.319 | -.0004 | .0673 | .0001 | -.0015 | .0005 |
| Stddev | .0017 | .0008 | .0007 | .0006 | .009 | .0001 | .0010 | .0001 | .0005 | .0000 |
| %RSD | 1190. | 11.39 | 78.02 | 35.59 | .2118 | 24.32 | 1.480 | 87.42 | 30.88 | 8.274 |
| #1 | -.0014 | .0072 | .0004 | .0013 | 4.326 | -.0005 | .0666 | .0002 | -.0012 | .0005 |
| #2 | .0011 | .0061 | .0014 | .0021 | 4.313 | -.0003 | .0680 | .0000 | -.0018 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0121 | -.0004 |
| Stddev | .0043 | .0002 | .0002 |
| %RSD | 676.7 | 1.462 | 46.47 |
| #1 | -.0037 | .0122 | -.0005 |
| #2 | .0024 | .0120 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.5 | 54690. | 13538. |
| Stddev | 1.7 | 290. | 164. |
| %RSD | .07631 | .52957 | 1.2119 |
| #1 | 2252.2 | 54485. | 13654. |
| #2 | 2254.7 | 54895. | 13422. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 12:16:17 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0170 | .2408 | -.0002 | .2988 | .0503 | .0000 | 65.61 | .0021 | .0160 |
| Stddev | .0010 | .0008 | .0007 | .0011 | .0003 | .0002 | .000 | .09 | .0000 | .0002 |
| %RSD | 934.9 | 4.817 | .2716 | 457.7 | .0928 | .3219 | 491.3 | .1427 | 1.848 | 1.261 |
| #1 | .0006 | -.0164 | .2413 | .0005 | .2986 | .0504 | .0000 | 65.68 | .0021 | .0161 |
| #2 | -.0008 | -.0176 | .2404 | -.0010 | .2990 | .0502 | -.0001 | 65.55 | .0020 | .0158 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0016 | 49.97 | 9.307 | 10.47 | 2.861 | .0011 | 28.19 | .0031 | -.0004 |
| Stddev | .0002 | .0007 | .09 | .014 | .02 | .000 | .0003 | .03 | .0001 | .0002 |
| %RSD | 76.38 | 43.12 | .1755 | .1457 | .2174 | .0081 | 29.05 | .0925 | 2.136 | 55.89 |
| #1 | -.0001 | .0021 | 50.04 | 9.317 | 10.45 | 2.861 | .0008 | 28.21 | .0032 | -.0002 |
| #2 | -.0003 | .0011 | 49.91 | 9.297 | 10.49 | 2.861 | .0013 | 28.17 | .0031 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0085 | .0009 | .0031 | 7.741 | -.0007 | .3981 | .0005 | -.0031 | .0001 |
| Stddev | .0011 | .0057 | .0005 | .0000 | .003 | .0001 | .0015 | .0002 | .0002 | .0006 |
| %RSD | 56.91 | 66.87 | 55.45 | .8595 | .0363 | 19.35 | .3718 | 35.67 | 7.515 | 402.9 |
| #1 | -.0026 | .0125 | .0012 | .0031 | 7.739 | -.0006 | .3992 | .0006 | -.0033 | -.0003 |
| #2 | -.0011 | .0045 | .0005 | .0031 | 7.743 | -.0008 | .3971 | .0004 | -.0030 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0100 | .0103 | -.0013 |
| Stddev | .0006 | .0001 | .0005 |
| %RSD | 6.413 | 1.228 | 35.88 |
| #1 | .0096 | .0104 | -.0010 |
| #2 | .0105 | .0102 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2221.1 | 54530. | 13525. |
| Stddev | 3.5 | 30. | 66. |
| %RSD | .15842 | .05559 | .48929 |
| #1 | 2223.5 | 54508. | 13478. |
| #2 | 2218.6 | 54551. | 13572. |



Zoom In Zoom Out

Sample Name: MC21083-17F Acquired: 6/3/2013 12:20:41 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0016 | .0028 | .0001 | .0051 | .0052 | -.0001 | 8.264 | .0000 | -.0003 |
| Stddev | .0003 | .0013 | .0004 | .0005 | .0000 | .0001 | .0001 | .006 | .0001 | .0001 |
| %RSD | 348.2 | 79.21 | 14.46 | 613.9 | .5118 | 1.688 | 95.05 | .0744 | 261.2 | 24.73 |
| #1 | .0003 | .0025 | .0031 | .0005 | .0051 | .0052 | .0000 | 8.260 | .0001 | -.0003 |
| #2 | -.0001 | .0007 | .0025 | -.0003 | .0051 | .0053 | -.0001 | 8.268 | .0000 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0009 | .0300 | 1.322 | .8869 | .0009 | .0002 | 1.222 | -.0001 | .0002 |
| Stddev | .0003 | .0005 | .0006 | .052 | .0107 | .0002 | .0000 | .013 | .0001 | .0004 |
| %RSD | 89.29 | 58.03 | 1.836 | 3.957 | 1.201 | 18.09 | 16.98 | 1.090 | 136.6 | 230.7 |
| #1 | .0001 | .0005 | .0296 | 1.359 | .8794 | .0010 | .0003 | 1.213 | -.0001 | -.0001 |
| #2 | .0006 | .0013 | .0303 | 1.285 | .8944 | .0008 | .0002 | 1.231 | .0000 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0020 | .0007 | .0007 | 3.021 | -.0006 | .0366 | .0001 | -.0002 | .0004 |
| Stddev | .0033 | .0080 | .0000 | .0007 | .005 | .0002 | .0001 | .0002 | .0001 | .0001 |
| %RSD | 146.4 | 404.4 | 2.142 | 98.80 | .1616 | 26.07 | .1382 | 123.1 | 41.87 | 25.28 |
| #1 | -.0046 | .0076 | .0007 | .0002 | 3.017 | -.0005 | .0367 | .0003 | -.0002 | .0004 |
| #2 | .0001 | -.0037 | .0007 | .0013 | 3.024 | -.0007 | .0366 | .0000 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0092 | .0057 | -.0003 |
| Stddev | .0004 | .0000 | .0001 |
| %RSD | 4.198 | .0807 | 27.48 |
| #1 | .0089 | .0057 | -.0004 |
| #2 | .0095 | .0057 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54746. | 13537. |
| Stddev | 2.6 | 225. | 89. |
| %RSD | .11558 | .41155 | .65677 |
| #1 | 2263.2 | 54906. | 13600. |
| #2 | 2259.5 | 54587. | 13474. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 12:25:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0146 | .6297 | -.0006 | .0587 | .0855 | -.0001 | 32.58 | .0057 | .0055 |
| Stddev | .0001 | .0045 | .0018 | .0009 | .0003 | .0002 | .0000 | .11 | .0001 | .0001 |
| %RSD | 20.46 | 31.10 | .2862 | 150.8 | .5682 | .2103 | 10.61 | .3255 | 2.359 | 1.786 |
| #1 | .0003 | -.0178 | .6310 | -.0012 | .0589 | .0854 | -.0001 | 32.65 | .0058 | .0056 |
| #2 | .0005 | -.0114 | .6284 | .0000 | .0585 | .0856 | -.0001 | 32.50 | .0056 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0012 | 17.72 | 7.240 | 3.888 | 2.143 | .0027 | 25.16 | .0046 | .0002 |
| Stddev | .0003 | .0002 | .06 | .004 | .056 | .001 | .0001 | .11 | .0001 | .0001 |
| %RSD | 262.6 | 19.57 | .3444 | .0584 | 1.434 | .0614 | 5.484 | .4262 | 2.751 | 88.71 |
| #1 | .0003 | .0011 | 17.76 | 7.237 | 3.927 | 2.144 | .0028 | 25.24 | .0047 | .0001 |
| #2 | -.0001 | .0014 | 17.68 | 7.243 | 3.848 | 2.142 | .0026 | 25.08 | .0045 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0096 | .0008 | .0025 | 12.68 | -.0005 | .2751 | .0001 | -.0026 | .0005 |
| Stddev | .0008 | .0018 | .0002 | .0007 | .00 | .0001 | .0011 | .0002 | .0003 | .0000 |
| %RSD | 34.96 | 18.73 | 30.53 | 27.12 | .0215 | 17.28 | .4106 | 141.1 | 11.86 | 4.311 |
| #1 | -.0027 | .0084 | .0009 | .0021 | 12.68 | -.0005 | .2759 | .0000 | -.0028 | .0005 |
| #2 | -.0016 | .0109 | .0006 | .0030 | 12.68 | -.0004 | .2743 | .0003 | -.0023 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0457 | -.0022 |
| Stddev | .0005 | .0000 | .0001 |
| %RSD | 7.810 | .0526 | 5.093 |
| #1 | .0056 | .0457 | -.0021 |
| #2 | .0063 | .0457 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.3 | 54889. | 13469. |
| Stddev | 2.8 | 220. | 8. |
| %RSD | .12592 | .40138 | .06171 |
| #1 | 2236.3 | 54733. | 13475. |
| #2 | 2240.3 | 55045. | 13463. |

Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 12:29:19 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0053 | .0757 | -.0003 | .0486 | .0157 | -.0001 | 9.379 | .0008 | .0031 |
| Stddev | .0002 | .0015 | .0014 | .0005 | .0003 | .0001 | .0001 | .016 | .0001 | .0002 |
| %RSD | 47.48 | 28.75 | 1.853 | 153.6 | .6482 | .7128 | 87.70 | .1652 | 9.316 | 6.843 |
| #1 | -.0002 | .0064 | .0748 | -.0007 | .0488 | .0158 | .0000 | 9.368 | .0008 | .0029 |
| #2 | -.0005 | .0042 | .0767 | .0000 | .0484 | .0156 | -.0001 | 9.390 | .0007 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0022 | 11.32 | 3.063 | 1.699 | 1.425 | .0007 | 3.859 | .0013 | -.0001 |
| Stddev | .0000 | .0003 | .02 | .026 | .003 | .001 | .0000 | .012 | .0001 | .0006 |
| %RSD | 1.671 | 11.62 | .1952 | .8536 | .1740 | .0952 | 2.155 | .3144 | 6.843 | 613.7 |
| #1 | .0005 | .0020 | 11.33 | 3.044 | 1.697 | 1.424 | .0007 | 3.851 | .0014 | .0003 |
| #2 | .0004 | .0024 | 11.30 | 3.081 | 1.701 | 1.426 | .0007 | 3.868 | .0012 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0069 | .0006 | .0013 | 4.506 | -.0010 | .0877 | -.0002 | -.0017 | .0001 |
| Stddev | .0000 | .0053 | .0012 | .0006 | .001 | .0003 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 2.928 | 76.93 | 221.8 | 41.76 | .0218 | 26.41 | .1569 | 57.68 | 20.42 | 3.385 |
| #1 | -.0015 | .0106 | -.0003 | .0009 | 4.507 | -.0008 | .0878 | -.0002 | -.0015 | .0001 |
| #2 | -.0015 | .0031 | .0014 | .0017 | 4.506 | -.0012 | .0876 | -.0001 | -.0020 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0296 | .0154 | -.0005 |
| Stddev | .0025 | .0001 | .0001 |
| %RSD | 8.339 | .4576 | 11.40 |
| #1 | .0314 | .0153 | -.0005 |
| #2 | .0279 | .0154 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.9 | 55327. | 13704. |
| Stddev | 5.2 | 18. | 96. |
| %RSD | .23364 | .03203 | .70143 |
| #1 | 2236.2 | 55314. | 13636. |
| #2 | 2243.6 | 55339. | 13772. |



Zoom In Zoom Out

Sample Name: MC21083-20F Acquired: 6/3/2013 12:33:38 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0054 | .0014 | -.0009 | .0004 | .0001 | .0000 | .0080 | -.0001 | -.0001 |
| Stddev | .0000 | .0119 | .0011 | .0001 | .0001 | .0001 | .000 | .0005 | .0001 | .0001 |
| %RSD | .3154 | 219.3 | 78.40 | 14.11 | 31.87 | 76.52 | 137.8 | 5.718 | 109.0 | 58.58 |
| #1 | .0002 | -.0030 | .0022 | -.0008 | .0003 | .0001 | .0000 | .0077 | -.0002 | -.0001 |
| #2 | .0002 | .0139 | .0006 | -.0010 | .0005 | .0002 | .0000 | .0083 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0014 | .0032 | -.0277 | .0074 | .0001 | .0001 | -.0479 | .0001 | -.0005 |
| Stddev | .0001 | .0005 | .0027 | .0004 | .0064 | .0000 | .0002 | .0055 | .0000 | .0004 |
| %RSD | 51.87 | 37.48 | 84.42 | 1.362 | 85.94 | 44.13 | 139.2 | 11.45 | 1.925 | 76.42 |
| #1 | .0003 | .0011 | .0052 | -.0274 | .0029 | .0001 | .0003 | -.0518 | .0001 | -.0008 |
| #2 | .0001 | .0018 | .0013 | -.0280 | .0120 | .0000 | .0000 | -.0440 | .0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0042 | .0007 | .0015 | .0139 | -.0005 | .0000 | -.0006 | .0003 | .0000 |
| Stddev | .0020 | .0014 | .0008 | .0005 | .0004 | .0000 | .000 | .0002 | .0001 | .0001 |
| %RSD | 674.4 | 33.29 | 114.5 | 31.40 | 2.858 | 8.524 | 134.7 | 31.80 | 44.38 | 392.0 |
| #1 | -.0017 | -.0052 | .0013 | .0019 | .0142 | -.0005 | -.0001 | -.0007 | .0002 | .0001 |
| #2 | .0011 | -.0032 | .0001 | .0012 | .0136 | -.0005 | .0000 | -.0005 | .0004 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0068 | .0001 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 72.32 | .2032 | 81.91 |
| #1 | .0121 | .0068 | .0001 |
| #2 | .0039 | .0068 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 54900. | 13340. |
| Stddev | 1.4 | 361. | 4. |
| %RSD | .06110 | .65800 | .03277 |
| #1 | 2246.3 | 55155. | 13337. |
| #2 | 2244.3 | 54644. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 12:38:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 1.894 | .0026 | .0006 | .0038 | .0070 | .0000 | 48.19 | .0003 | .0004 |
| Stddev | .0002 | .020 | .0002 | .0009 | .0004 | .0002 | .0001 | .16 | .0001 | .0000 |
| %RSD | 60.89 | 1.038 | 8.686 | 164.1 | 10.93 | 3.268 | 197.3 | .3306 | 16.70 | 5.102 |
| #1 | .0002 | 1.908 | .0028 | .0012 | .0041 | .0071 | .0000 | 48.30 | .0003 | .0004 |
| #2 | .0004 | 1.880 | .0025 | -.0001 | .0035 | .0068 | .0001 | 48.08 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0019 | .9196 | 45.20 | 45.10 | .0017 | .0007 | 45.97 | .0008 | .0010 |
| Stddev | .0001 | .0010 | .0074 | .11 | .09 | .0001 | .0001 | .17 | .0000 | .0005 |
| %RSD | 24.95 | 50.36 | .8079 | .2534 | .1932 | 3.351 | 13.41 | .3635 | 6.116 | 54.72 |
| #1 | .0003 | .0026 | .9249 | 45.28 | 45.16 | .0017 | .0008 | 46.08 | .0008 | .0013 |
| #2 | .0002 | .0013 | .9144 | 45.12 | 45.04 | .0018 | .0006 | 45.85 | .0008 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0023 | .0012 | .0025 | 2.927 | -.0001 | .0393 | .0008 | -.0002 | -.0002 |
| Stddev | .0004 | .0022 | .0010 | .0006 | .002 | .0001 | .0002 | .0008 | .0002 | .0000 |
| %RSD | 26.01 | 96.73 | 81.10 | 24.45 | .0503 | 115.4 | .5474 | 94.52 | 86.71 | 3.242 |
| #1 | -.0012 | .0039 | .0005 | .0021 | 2.926 | -.0002 | .0392 | .0014 | -.0004 | -.0002 |
| #2 | -.0017 | .0007 | .0020 | .0029 | 2.928 | .0000 | .0395 | .0003 | -.0001 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0030 | .0066 | .0001 |
| Stddev | .0009 | .0001 | .0000 |
| %RSD | 28.72 | 1.173 | 17.37 |
| #1 | .0024 | .0065 | .0001 |
| #2 | .0037 | .0066 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2219.1 | 54948. | 13629. |
| Stddev | 3.4 | 59. | 207. |
| %RSD | .15293 | .10728 | 1.5195 |
| #1 | 2221.5 | 54907. | 13482. |
| #2 | 2216.7 | 54990. | 13775. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 12:42:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.064 | .5173 | -.0003 | .0007 | 1.978 | .4953 | 24.22 | .5121 | .5174 |
| Stddev | .0002 | .013 | .0014 | .0012 | .0001 | .002 | .0001 | .02 | .0011 | .0011 |
| %RSD | .1114 | .6175 | .2700 | 387.1 | 14.42 | .1161 | .0168 | .0699 | .2203 | .2106 |
| #1 | .2011 | 2.073 | .5183 | .0005 | .0007 | 1.979 | .4953 | 24.23 | .5113 | .5166 |
| #2 | .2008 | 2.055 | .5163 | -.0012 | .0006 | 1.976 | .4954 | 24.20 | .5129 | .5182 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5136 | .4747 | 2.032 | 24.80 | 23.96 | .4687 | .0003 | 25.21 | .5046 | .9890 |
| Stddev | .0023 | .0010 | .012 | .04 | .03 | .0009 | .0002 | .05 | .0009 | .0023 |
| %RSD | .4391 | .2205 | .5985 | .1814 | .1370 | .2000 | 50.90 | .1844 | .1823 | .2308 |
| #1 | .5120 | .4754 | 2.023 | 24.83 | 23.93 | .4680 | .0004 | 25.25 | .5039 | .9874 |
| #2 | .5152 | .4739 | 2.040 | 24.77 | 23.98 | .4693 | .0002 | 25.18 | .5052 | .9906 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0008 | .5298 | .5144 | .0217 | -.0020 | .4831 | .4964 | .5031 | .5031 |
| Stddev | .0016 | .0043 | .0003 | .0010 | .0003 | .0004 | .0010 | .0012 | .0010 | .0013 |
| %RSD | 394.5 | 554.6 | .0536 | .1889 | 1.566 | 19.10 | .2067 | .2329 | .2006 | .2517 |
| #1 | -.0007 | -.0038 | .5296 | .5151 | .0220 | -.0023 | .4838 | .4972 | .5024 | .5022 |
| #2 | .0015 | .0023 | .5300 | .5137 | .0215 | -.0017 | .4824 | .4955 | .5038 | .5040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .5053 | -.0016 |
| Stddev | .0006 | .0006 | .0004 |
| %RSD | 31.35 | .1250 | 27.37 |
| #1 | .0022 | .5049 | -.0013 |
| #2 | .0014 | .5058 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2227.1 | 54750. | 13618. |
| Stddev | 4.8 | 284. | 2. |
| %RSD | .21769 | .51899 | .01744 |
| #1 | 2230.5 | 54951. | 13617. |
| #2 | 2223.6 | 54549. | 13620. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 12:46:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2433 | 9.936 | 1.998 | -.0011 | 1.991 | 1.948 | 1.902 | 9.788 | 1.980 | 2.066 |
| Stddev | .0010 | .020 | .012 | .0006 | .004 | .005 | .005 | .021 | .003 | .004 |
| %RSD | .4020 | .2007 | .6012 | 56.10 | .2238 | .2495 | .2635 | .2103 | .1500 | .2006 |
| #1 | .2426 | 9.922 | 1.989 | -.0007 | 1.988 | 1.945 | 1.898 | 9.773 | 1.978 | 2.063 |
| #2 | .2440 | 9.950 | 2.006 | -.0015 | 1.994 | 1.952 | 1.905 | 9.802 | 1.982 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.927 | 1.904 | 9.982 | 9.817 | 9.331 | 1.880 | 1.996 | 9.986 | 2.018 | 1.954 |
| Stddev | .002 | .003 | .052 | .005 | .027 | .000 | .004 | .027 | .003 | .004 |
| %RSD | .1222 | .1321 | .5225 | .0488 | .2905 | .0200 | .2007 | .2678 | .1676 | .1792 |
| #1 | 1.929 | 1.902 | 9.945 | 9.820 | 9.312 | 1.880 | 1.993 | 9.967 | 2.015 | 1.951 |
| #2 | 1.926 | 1.906 | 10.02 | 9.814 | 9.350 | 1.879 | 1.999 | 10.00 | 2.020 | 1.956 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0054 | 2.046 | 2.026 | .0258 | 2.021 | 1.916 | 1.952 | 1.964 | 1.916 |
| Stddev | .0005 | .0119 | .003 | .004 | .0006 | .001 | .005 | .003 | .001 | .001 |
| %RSD | 50.97 | 222.3 | .1225 | .2240 | 2.443 | .0445 | .2425 | .1755 | .0340 | .0243 |
| #1 | .0013 | -.0031 | 2.044 | 2.023 | .0262 | 2.021 | 1.913 | 1.955 | 1.964 | 1.916 |
| #2 | .0006 | .0138 | 2.048 | 2.029 | .0254 | 2.020 | 1.919 | 1.950 | 1.965 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.926 | -.0047 |
| Stddev | .0014 | .004 | .0002 |
| %RSD | 11.84 | .2128 | 3.485 |
| #1 | -.0131 | 1.923 | -.0045 |
| #2 | -.0111 | 1.929 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.9 | 54323. | 13694. |
| Stddev | 3.9 | 307. | 30. |
| %RSD | .17216 | .56534 | .22272 |
| #1 | 2245.6 | 54106. | 13672. |
| #2 | 2240.1 | 54540. | 13716. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 12:54:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0072 | .0020 | -.0004 | .0011 | .0002 | .0001 | .0159 | .0002 | .0002 |
| Stddev | .0001 | .0006 | .0005 | .0005 | .0001 | .0000 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 138.9 | 8.488 | 23.24 | 142.0 | 12.18 | 12.12 | 48.02 | 2.701 | 39.22 | 33.50 |
| #1 | .0000 | .0068 | .0017 | .0000 | .0012 | .0002 | .0001 | .0162 | .0002 | .0003 |
| #2 | -.0002 | .0077 | .0024 | -.0007 | .0011 | .0002 | .0000 | .0156 | .0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0013 | .0000 | .0395 | -.0066 | .0002 | .0005 | -.0369 | .0001 | .0004 |
| Stddev | .0001 | .0001 | .0007 | .0104 | .0089 | .0001 | .0001 | .0016 | .0000 | .0003 |
| %RSD | 61.85 | 5.494 | 3089. | 26.30 | 136.5 | 60.16 | 16.66 | 4.472 | 10.46 | 83.01 |
| #1 | .0000 | .0013 | -.0005 | .0322 | -.0002 | .0003 | .0006 | -.0380 | .0002 | .0002 |
| #2 | .0001 | .0014 | .0005 | .0469 | -.0129 | .0001 | .0005 | -.0357 | .0001 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0031 | .0005 | .0013 | -.0026 | -.0001 | .0000 | .0001 | .0003 | .0001 |
| Stddev | .0017 | .0029 | .0009 | .0002 | .0004 | .0003 | .0001 | .0003 | .0006 | .0005 |
| %RSD | 67.18 | 94.54 | 200.0 | 12.41 | 15.56 | 276.9 | 748.0 | 387.3 | 167.5 | 346.5 |
| #1 | -.0013 | -.0010 | .0011 | .0012 | -.0023 | -.0003 | -.0001 | .0003 | .0007 | -.0002 |
| #2 | -.0037 | -.0052 | -.0002 | .0014 | -.0029 | .0001 | .0001 | -.0001 | -.0001 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0004 | .0002 |
| Stddev | .0010 | .0000 | .0002 |
| %RSD | 25.82 | 10.31 | 76.46 |
| #1 | .0046 | .0004 | .0001 |
| #2 | .0032 | .0004 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2224.1 | 54631. | 13420. |
| Stddev | 1.8 | 237. | 54. |
| %RSD | .08132 | .43463 | .40235 |
| #1 | 2225.4 | 54799. | 13382. |
| #2 | 2222.8 | 54463. | 13458. |



Zoom In Zoom Out

Sample Name: MP21073-MB1 Acquired: 6/3/2013 13:00:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0080 | .0014 | -.0005 | .0005 | .0003 | .0000 | .0000 | .0002 | .0000 |
| Stddev | .0000 | .0012 | .0010 | .0000 | .0002 | .0001 | .0000 | .000 | .0000 | .0001 |
| %RSD | 6.019 | 15.57 | 76.98 | 1.007 | 44.71 | 38.00 | 33.00 | 612.4 | 17.03 | 130.1 |
| #1 | .0001 | .0089 | .0021 | -.0005 | .0003 | .0002 | .0000 | -.0002 | .0002 | .0001 |
| #2 | .0001 | .0071 | .0006 | -.0005 | .0006 | .0004 | .0001 | .0001 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0019 | .0001 | .0068 | .0004 | .0002 | -.0402 | .0001 | -.0004 |
| Stddev | .0002 | .0002 | .0012 | .0088 | .0226 | .0001 | .0001 | .0012 | .0001 | .0012 |
| %RSD | 273.9 | 13.95 | 65.63 | 12480. | 332.3 | 17.97 | 65.29 | 2.968 | 200.1 | 287.6 |
| #1 | -.0003 | .0011 | .0028 | -.0061 | -.0092 | .0005 | .0003 | -.0410 | .0000 | -.0013 |
| #2 | .0001 | .0013 | .0010 | .0063 | .0228 | .0003 | .0001 | -.0393 | .0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0004 | .0006 | .0009 | .0245 | -.0008 | .0000 | -.0004 | -.0003 | .0000 |
| Stddev | .0013 | .0060 | .0007 | .0012 | .0003 | .0001 | .0001 | .0004 | .0002 | .0001 |
| %RSD | 139.8 | 1396. | 119.6 | 127.9 | 1.325 | 6.720 | 483.3 | 116.9 | 72.53 | 169.7 |
| #1 | .0000 | -.0046 | .0001 | .0001 | .0243 | -.0008 | .0001 | -.0007 | -.0004 | .0000 |
| #2 | -.0018 | .0038 | .0011 | .0018 | .0247 | -.0008 | -.0001 | -.0001 | -.0001 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0016 | .0002 | .0003 |
| Stddev | .0042 | .0000 | .0003 |
| %RSD | 263.3 | 20.08 | 94.64 |
| #1 | .0014 | .0003 | .0001 |
| #2 | -.0045 | .0002 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.7 | 55398. | 13657. |
| Stddev | 5.7 | 407. | 113. |
| %RSD | .25609 | .73542 | .83021 |
| #1 | 2224.7 | 55686. | 13737. |
| #2 | 2216.7 | 55110. | 13577. |



Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 13:04:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1999 | 2.056 | 1.101 | .0005 | .2551 | 2.113 | .4873 | 87.70 | .5199 | .5158 |
| Stddev | .0010 | .015 | .000 | .0002 | .0011 | .001 | .0003 | .03 | .0002 | .0004 |
| %RSD | .5208 | .7314 | .0176 | 31.62 | .4349 | .0494 | .0623 | .0395 | .0349 | .0834 |
| #1 | .1992 | 2.046 | 1.101 | .0004 | .2558 | 2.112 | .4871 | 87.73 | .5200 | .5161 |
| #2 | .2006 | 2.067 | 1.101 | .0006 | .2543 | 2.114 | .4875 | 87.68 | .5197 | .5155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5050 | .4731 | 84.48 | 36.04 | 32.36 | 1.567 | .0003 | 40.07 | .5096 | .9907 |
| Stddev | .0018 | .0005 | .07 | .05 | .08 | .000 | .0000 | .01 | .0006 | .0006 |
| %RSD | .3469 | .0970 | .0802 | .1499 | .2345 | .0159 | 5.031 | .0163 | .1174 | .0624 |
| #1 | .5063 | .4734 | 84.43 | 36.08 | 32.41 | 1.567 | .0003 | 40.07 | .5101 | .9911 |
| #2 | .5038 | .4728 | 84.52 | 36.00 | 32.30 | 1.566 | .0003 | 40.08 | .5092 | .9903 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0019 | .5373 | .5185 | 14.00 | -.0015 | 1.205 | .4916 | .4983 | .4958 |
| Stddev | .0007 | .0039 | .0019 | .0035 | .01 | .0002 | .002 | .0010 | .0018 | .0002 |
| %RSD | 24.07 | 202.0 | .3513 | .6756 | .0995 | 11.56 | .1486 | .2052 | .3640 | .0354 |
| #1 | -.0036 | .0046 | .5386 | .5210 | 14.01 | -.0016 | 1.204 | .4923 | .4996 | .4957 |
| #2 | -.0026 | -.0008 | .5359 | .5161 | 13.99 | -.0013 | 1.206 | .4909 | .4970 | .4959 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0078 | .5021 | -.0039 |
| Stddev | .0087 | .0007 | .0001 |
| %RSD | 112.2 | .1445 | 2.307 |
| #1 | -.0016 | .5026 | -.0040 |
| #2 | -.0139 | .5016 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2170.6 | 54877. | 13620. |
| Stddev | 1.1 | 259. | 48. |
| %RSD | .05210 | .47150 | .35419 |
| #1 | 2169.8 | 54695. | 13586. |
| #2 | 2171.4 | 55060. | 13654. |

Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 13:08:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2015 | 2.075 | 1.107 | .0012 | .2578 | 2.122 | .4888 | 88.72 | .5203 | .5173 |
| Stddev | .0007 | .009 | .003 | .0012 | .0002 | .005 | .0020 | .27 | .0009 | .0009 |
| %RSD | .3460 | .4297 | .2225 | 101.2 | .0969 | .2216 | .4134 | .3089 | .1691 | .1781 |
| #1 | .2020 | 2.082 | 1.105 | .0020 | .2579 | 2.125 | .4902 | 88.91 | .5197 | .5167 |
| #2 | .2010 | 2.069 | 1.109 | .0003 | .2576 | 2.119 | .4874 | 88.52 | .5209 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5071 | .4769 | 85.62 | 36.49 | 32.64 | 1.593 | .0002 | 40.45 | .5088 | .9917 |
| Stddev | .0017 | .0014 | .35 | .12 | .24 | .002 | .0000 | .14 | .0004 | .0015 |
| %RSD | .3400 | .2862 | .4055 | .3394 | .7250 | .0991 | 15.30 | .3361 | .0731 | .1552 |
| #1 | .5083 | .4778 | 85.87 | 36.57 | 32.80 | 1.591 | .0003 | 40.54 | .5085 | .9907 |
| #2 | .5059 | .4759 | 85.38 | 36.40 | 32.47 | 1.594 | .0002 | 40.35 | .5090 | .9928 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0006 | .5383 | .5154 | 14.13 | -.0015 | 1.218 | .4956 | .4987 | .4971 |
| Stddev | .0001 | .0102 | .0004 | .0013 | .00 | .0002 | .005 | .0007 | .0005 | .0020 |
| %RSD | 9.577 | 1801. | .0701 | .2498 | .0164 | 13.58 | .3886 | .1507 | .1100 | .4021 |
| #1 | -.0014 | -.0067 | .5380 | .5163 | 14.13 | -.0016 | 1.221 | .4950 | .4991 | .4957 |
| #2 | -.0016 | .0078 | .5385 | .5145 | 14.13 | -.0013 | 1.215 | .4961 | .4983 | .4985 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0082 | .5025 | -.0041 |
| Stddev | .0108 | .0008 | .0004 |
| %RSD | 131.6 | .1608 | 8.581 |
| #1 | -.0159 | .5020 | -.0043 |
| #2 | -.0006 | .5031 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2175.8 | 54496. | 13584. |
| Stddev | .4 | 233. | 8. |
| %RSD | .01911 | .42691 | .06073 |
| #1 | 2175.5 | 54661. | 13590. |
| #2 | 2176.1 | 54332. | 13578. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 13:12:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0078 | .5844 | .0003 | .2563 | .1424 | .0000 | 64.54 | .0052 | -.0007 |
| Stddev | .0001 | .0066 | .0010 | .0011 | .0011 | .0014 | .0000 | .09 | .0001 | .0002 |
| %RSD | 20.19 | 85.27 | .1691 | 409.1 | .4202 | .9977 | 216.2 | .1453 | 1.178 | 23.11 |
| #1 | .0007 | -.0031 | .5837 | .0010 | .2556 | .1434 | .0000 | 64.61 | .0053 | -.0009 |
| #2 | .0005 | -.0125 | .5851 | -.0005 | .2571 | .1414 | .0000 | 64.48 | .0052 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0023 | 83.83 | 11.81 | 8.957 | 1.132 | -.0001 | 14.95 | .0018 | .0003 |
| Stddev | .0001 | .0000 | .17 | .00 | .108 | .001 | .0001 | .04 | .0001 | .0001 |
| %RSD | 27.76 | 1.981 | .1981 | .0327 | 1.210 | .0990 | 123.7 | .2411 | 2.968 | 31.36 |
| #1 | -.0003 | .0024 | 83.94 | 11.82 | 8.880 | 1.131 | -.0001 | 14.98 | .0018 | .0003 |
| #2 | -.0002 | .0023 | 83.71 | 11.81 | 9.034 | 1.133 | .0000 | 14.93 | .0018 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0038 | .0014 | .0026 | 14.04 | -.0003 | .7370 | .0008 | -.0001 | -.0002 |
| Stddev | .0014 | .0006 | .0002 | .0014 | .02 | .0000 | .0013 | .0002 | .0008 | .0015 |
| %RSD | 36.85 | 14.69 | 12.84 | 54.36 | .1396 | 2.818 | .1811 | 26.82 | 1421. | 877.9 |
| #1 | -.0028 | -.0042 | .0015 | .0036 | 14.02 | -.0003 | .7380 | .0006 | .0005 | -.0013 |
| #2 | -.0048 | -.0034 | .0012 | .0016 | 14.05 | -.0003 | .7361 | .0009 | -.0006 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0037 | -.0022 |
| Stddev | .0103 | .0000 | .0001 |
| %RSD | 1333. | 1.110 | 4.944 |
| #1 | -.0065 | .0037 | -.0023 |
| #2 | .0080 | .0037 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.4 | 54734. | 13815. |
| Stddev | 2.6 | 343. | 43. |
| %RSD | .12020 | .62635 | .31382 |
| #1 | 2196.3 | 54976. | 13784. |
| #2 | 2192.6 | 54492. | 13846. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 13:17:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0095 | .5854 | -.0006 | .2547 | .1414 | .0003 | 64.37 | .0052 | -.0018 |
| Stddev | .0011 | .0393 | .0020 | .0011 | .0007 | .0003 | .0001 | .11 | .0006 | .0015 |
| %RSD | 39.14 | 414.9 | .3465 | 169.3 | .2833 | .2239 | 43.15 | .1653 | 12.53 | 83.76 |
| #1 | .0035 | -.0183 | .5839 | -.0014 | .2542 | .1412 | .0003 | 64.29 | .0056 | -.0007 |
| #2 | .0020 | .0373 | .5868 | .0001 | .2552 | .1416 | .0002 | 64.44 | .0047 | -.0028 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0092 | 84.02 | 12.05 | 8.981 | 1.136 | -.0001 | 15.04 | .0023 | .0011 |
| Stddev | .0017 | .0015 | .38 | .22 | .003 | .000 | .0007 | .07 | .0006 | .0019 |
| %RSD | 698.3 | 16.07 | .4539 | 1.833 | .0295 | .0128 | 1147. | .4361 | 23.67 | 172.3 |
| #1 | .0014 | .0103 | 83.75 | 12.20 | 8.983 | 1.136 | .0005 | 14.99 | .0027 | .0025 |
| #2 | -.0009 | .0082 | 84.29 | 11.89 | 8.979 | 1.136 | -.0006 | 15.08 | .0019 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0031 | .0032 | .0054 | 13.63 | -.0027 | .7301 | .0012 | .0027 | .0009 |
| Stddev | .0061 | .0518 | .0024 | .0065 | .03 | .0015 | .0027 | .0000 | .0031 | .0019 |
| %RSD | 125.2 | 1668. | 76.74 | 120.2 | .2036 | 58.12 | .3756 | 2.388 | 113.5 | 212.4 |
| #1 | .0006 | .0397 | .0049 | .0008 | 13.61 | -.0037 | .7282 | .0012 | .0005 | .0022 |
| #2 | .0093 | -.0335 | .0015 | .0101 | 13.65 | -.0016 | .7321 | .0012 | .0049 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0048 | .0050 | -.0009 |
| Stddev | .0114 | .0006 | .0003 |
| %RSD | 237.7 | 12.28 | 38.95 |
| #1 | .0129 | .0055 | -.0007 |
| #2 | -.0033 | .0046 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2231.9 | 55020. | 13629. |
| Stddev | 1.2 | 116. | 6. |
| %RSD | .05459 | .21107 | .04227 |
| #1 | 2232.8 | 55102. | 13634. |
| #2 | 2231.1 | 54938. | 13625. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/3/2013 13:21:33 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0074 | .0009 | .0002 | .0007 | .0001 | .0000 | .0245 | .0001 | -.0002 |
| Stddev | .0003 | .0010 | .0001 | .0004 | .0000 | .0002 | .000 | .0046 | .0000 | .0002 |
| %RSD | 82.79 | 13.99 | 7.219 | 162.8 | 3.822 | 152.7 | 180.0 | 18.79 | 24.61 | 159.7 |
| #1 | .0007 | .0067 | .0010 | .0000 | .0007 | .0000 | -.0001 | .0278 | .0001 | -.0003 |
| #2 | .0002 | .0082 | .0009 | .0005 | .0006 | .0003 | .0000 | .0212 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0018 | .0159 | .0650 | .0102 | .0000 | .0001 | -.0211 | -.0001 | -.0003 |
| Stddev | .0001 | .0008 | .0001 | .0189 | .0123 | .000 | .0001 | .0052 | .0001 | .0012 |
| %RSD | 35.22 | 42.52 | .3360 | 29.04 | 119.8 | 28.32 | 154.0 | 24.67 | 163.3 | 366.6 |
| #1 | .0004 | .0023 | .0160 | .0517 | .0016 | .0000 | .0000 | -.0248 | .0000 | .0005 |
| #2 | .0002 | .0013 | .0159 | .0784 | .0189 | .0000 | .0002 | -.0174 | -.0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0034 | .0006 | .0012 | .0195 | -.0004 | .0001 | -.0007 | -.0005 | -.0002 |
| Stddev | .0023 | .0036 | .0001 | .0007 | .0007 | .0005 | .0001 | .0003 | .0001 | .0007 |
| %RSD | 557.2 | 103.2 | 15.40 | 54.91 | 3.754 | 129.7 | 104.6 | 39.00 | 32.63 | 321.4 |
| #1 | .0012 | .0009 | .0005 | .0008 | .0200 | .0000 | .0000 | -.0009 | -.0004 | .0003 |
| #2 | -.0020 | .0060 | .0007 | .0017 | .0190 | -.0007 | .0001 | -.0005 | -.0006 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0067 | .0005 |
| Stddev | .0013 | .0001 | .0003 |
| %RSD | 83.36 | 1.084 | 60.73 |
| #1 | .0024 | .0068 | .0003 |
| #2 | .0006 | .0067 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2232.0 | 55206. | 13840. |
| Stddev | 2.7 | 17. | 13. |
| %RSD | .12094 | .03011 | .09280 |
| #1 | 2233.9 | 55218. | 13831. |
| #2 | 2230.1 | 55195. | 13849. |

Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/3/2013 13:25:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0078 | .4661 | -.0006 | .0461 | .0421 | .0001 | 22.55 | .0044 | .0077 |
| Stddev | .0007 | .0003 | .0040 | .0001 | .0003 | .0005 | .0000 | .04 | .0001 | .0001 |
| %RSD | 448.7 | 4.267 | .8613 | 21.12 | .6959 | 1.222 | 44.26 | .1896 | 2.825 | 1.085 |
| #1 | -.0006 | -.0081 | .4690 | -.0007 | .0459 | .0417 | .0000 | 22.58 | .0045 | .0076 |
| #2 | .0003 | -.0076 | .4633 | -.0005 | .0463 | .0424 | .0001 | 22.52 | .0043 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0033 | 65.02 | 4.839 | 2.878 | 2.394 | -.0001 | 14.77 | .0069 | -.0011 |
| Stddev | .0004 | .0005 | .06 | .017 | .013 | .001 | .0001 | .01 | .0000 | .0001 |
| %RSD | 52.25 | 14.33 | .0895 | .3527 | .4557 | .0434 | 123.9 | .0930 | .7146 | 7.133 |
| #1 | -.0005 | .0030 | 65.06 | 4.827 | 2.869 | 2.395 | -.0001 | 14.78 | .0070 | -.0011 |
| #2 | -.0010 | .0036 | 64.97 | 4.851 | 2.887 | 2.393 | .0000 | 14.76 | .0069 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0049 | .0012 | .0027 | 10.15 | -.0006 | .0907 | -.0002 | -.0017 | .0002 |
| Stddev | .0005 | .0059 | .0002 | .0011 | .01 | .0001 | .0001 | .0000 | .0000 | .0004 |
| %RSD | 90.75 | 122.2 | 19.48 | 40.93 | .0822 | 10.02 | .1216 | 12.34 | .6318 | 251.4 |
| #1 | .0010 | .0090 | .0011 | .0019 | 10.16 | -.0007 | .0906 | -.0002 | -.0017 | -.0001 |
| #2 | .0002 | .0007 | .0014 | .0034 | 10.15 | -.0006 | .0908 | -.0002 | -.0017 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0078 | -.0009 |
| Stddev | .0069 | .0001 | .0002 |
| %RSD | 123.6 | .6739 | 26.76 |
| #1 | .0007 | .0078 | -.0011 |
| #2 | .0105 | .0077 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.2 | 54685. | 13737. |
| Stddev | 6.0 | 8. | 8. |
| %RSD | .27319 | .01478 | .05530 |
| #1 | 2189.9 | 54690. | 13742. |
| #2 | 2198.4 | 54679. | 13731. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/3/2013 13:30:14 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0109 | .4600 | .0012 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |
| Stddev | .0002 | .0057 | .0006 | .0011 | .0000 | .0001 | .000 | .00 | .0000 | .0000 |
| %RSD | 1258. | 51.82 | .1209 | 95.25 | .0218 | .3216 | 135.6 | .0070 | .1585 | .2140 |
| #1 | .0002 | -.0069 | .4596 | .0004 | .0454 | .0408 | -.0001 | 22.18 | .0043 | .0074 |
| #2 | -.0001 | -.0149 | .4604 | .0020 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0025 | 64.21 | 4.743 | 2.880 | 2.372 | -.0001 | 14.14 | .0066 | .0003 |
| Stddev | .0005 | .0003 | .01 | .020 | .007 | .001 | .0001 | .01 | .0002 | .0005 |
| %RSD | 82.58 | 12.09 | .0166 | .4143 | .2374 | .0383 | 145.8 | .0937 | 2.901 | 163.5 |
| #1 | -.0009 | .0027 | 64.22 | 4.729 | 2.875 | 2.373 | -.0001 | 14.13 | .0067 | .0006 |
| #2 | -.0002 | .0023 | 64.21 | 4.757 | 2.885 | 2.372 | .0000 | 14.15 | .0064 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0073 | .0011 | .0013 | 9.905 | -.0005 | .0892 | .0000 | -.0029 | .0001 |
| Stddev | .0006 | .0007 | .0001 | .0005 | .020 | .0002 | .0001 | .0003 | .0012 | .0001 |
| %RSD | 95.80 | 10.14 | 12.46 | 40.29 | .2013 | 39.67 | .0881 | 1024. | 40.76 | 76.87 |
| #1 | .0010 | .0078 | .0010 | .0017 | 9.891 | -.0007 | .0891 | .0002 | -.0021 | .0002 |
| #2 | .0002 | .0068 | .0011 | .0009 | 9.919 | -.0004 | .0893 | -.0002 | -.0037 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0080 | -.0016 |
| Stddev | .0022 | .0000 | .0003 |
| %RSD | 137.8 | .5316 | 18.20 |
| #1 | .0032 | .0080 | -.0018 |
| #2 | .0000 | .0079 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2209.3 | 54774. | 13796. |
| Stddev | 1.6 | 27. | 73. |
| %RSD | .07295 | .04943 | .52554 |
| #1 | 2208.2 | 54755. | 13745. |
| #2 | 2210.4 | 54794. | 13848. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/3/2013 13:34:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0207 | 5.524 | -.0007 | .0892 | .0253 | .0000 | 44.82 | .0512 | .0200 |
| Stddev | .0004 | .0074 | .011 | .0012 | .0010 | .0002 | .0000 | .05 | .0001 | .0000 |
| %RSD | 226.0 | 35.57 | .1945 | 168.0 | 1.161 | .8460 | 186.2 | .1036 | .2360 | .1661 |
| #1 | -.0005 | -.0155 | 5.517 | -.0015 | .0885 | .0252 | .0001 | 44.85 | .0513 | .0201 |
| #2 | .0001 | -.0260 | 5.532 | .0001 | .0900 | .0255 | .0000 | 44.79 | .0511 | .0200 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0024 | 84.72 | 7.063 | 3.345 | 2.712 | .0005 | 5.654 | .0060 | -.0013 |
| Stddev | .0003 | .0000 | .09 | .042 | .012 | .001 | .0001 | .009 | .0001 | .0001 |
| %RSD | 48.57 | .8763 | .1024 | .5869 | .3576 | .0234 | 23.20 | .1614 | 1.247 | 5.158 |
| #1 | -.0003 | .0024 | 84.78 | 7.034 | 3.337 | 2.712 | .0005 | 5.647 | .0061 | -.0012 |
| #2 | -.0007 | .0025 | 84.66 | 7.093 | 3.354 | 2.712 | .0004 | 5.660 | .0060 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0055 | .0009 | .0018 | 8.906 | -.0006 | .2280 | .0001 | -.0027 | .0002 |
| Stddev | .0008 | .0012 | .0005 | .0007 | .003 | .0002 | .0002 | .0001 | .0006 | .0008 |
| %RSD | 113.1 | 21.42 | 55.65 | 36.01 | .0304 | 35.57 | .0941 | 62.66 | 22.00 | 329.2 |
| #1 | -.0001 | .0047 | .0006 | .0023 | 8.908 | -.0005 | .2282 | .0001 | -.0031 | -.0003 |
| #2 | -.0013 | .0063 | .0013 | .0014 | 8.904 | -.0008 | .2279 | .0001 | -.0023 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0068 | -.0015 |
| Stddev | .0065 | .0001 | .0001 |
| %RSD | 79.70 | 1.076 | 9.148 |
| #1 | .0128 | .0068 | -.0016 |
| #2 | .0036 | .0069 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2198.3 | 55155. | 13734. |
| Stddev | 2.9 | 50. | 54. |
| %RSD | .13051 | .09047 | .38985 |
| #1 | 2200.3 | 55120. | 13696. |
| #2 | 2196.3 | 55190. | 13772. |



Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/3/2013 13:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0086 | .8919 | .0004 | .1216 | .0863 | -.0001 | 51.60 | .0081 | .0000 |
| Stddev | .0007 | .0031 | .0016 | .0006 | .0005 | .0002 | .0001 | .02 | .0000 | .0002 |
| %RSD | 1288. | 35.64 | .1797 | 153.3 | .3898 | .1875 | 143.6 | .0481 | .5914 | 695.3 |
| #1 | .0004 | -.0065 | .8908 | .0009 | .1219 | .0862 | .0000 | 51.61 | .0081 | -.0001 |
| #2 | -.0005 | -.0108 | .8930 | .0000 | .1213 | .0864 | -.0001 | 51.58 | .0082 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0018 | 47.73 | 9.343 | 8.058 | 2.132 | .0007 | 24.15 | .0034 | .0008 |
| Stddev | .0001 | .0001 | .03 | .093 | .003 | .002 | .0000 | .02 | .0000 | .0005 |
| %RSD | 203.0 | 4.766 | .0523 | 1.000 | .0397 | .0793 | 1.886 | .1015 | .1065 | 57.28 |
| #1 | .0000 | .0017 | 47.75 | 9.277 | 8.056 | 2.134 | .0007 | 24.17 | .0034 | .0012 |
| #2 | -.0002 | .0019 | 47.71 | 9.409 | 8.060 | 2.131 | .0007 | 24.14 | .0034 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0051 | .0001 | .0027 | 14.39 | -.0006 | .5587 | .0006 | -.0023 | .0003 |
| Stddev | .0005 | .0006 | .0003 | .0001 | .00 | .0001 | .0005 | .0001 | .0000 | .0000 |
| %RSD | 12.39 | 10.95 | 287.1 | 3.102 | .0026 | 15.42 | .0819 | 17.19 | .5011 | 11.21 |
| #1 | -.0040 | .0055 | -.0001 | .0028 | 14.39 | -.0007 | .5590 | .0007 | -.0023 | .0003 |
| #2 | -.0034 | .0047 | .0003 | .0026 | 14.39 | -.0006 | .5583 | .0006 | -.0023 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0020 | .0047 | -.0023 |
| Stddev | .0035 | .0001 | .0003 |
| %RSD | 172.8 | 1.930 | 11.27 |
| #1 | .0045 | .0048 | -.0022 |
| #2 | -.0005 | .0047 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2181.5 | 54772. | 13621. |
| Stddev | 6.2 | 68. | 64. |
| %RSD | .28207 | .12489 | .47158 |
| #1 | 2185.8 | 54723. | 13666. |
| #2 | 2177.1 | 54820. | 13575. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 13:43:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2422 | 9.930 | 1.996 | -.0002 | 1.990 | 1.941 | 1.882 | 9.752 | 1.978 | 2.060 |
| Stddev | .0002 | .013 | .001 | .0009 | .001 | .004 | .002 | .032 | .001 | .002 |
| %RSD | .0918 | .1333 | .0514 | 454.3 | .0254 | .1868 | .0926 | .3232 | .0358 | .0888 |
| #1 | .2424 | 9.939 | 1.997 | -.0009 | 1.990 | 1.938 | 1.881 | 9.729 | 1.979 | 2.059 |
| #2 | .2420 | 9.921 | 1.995 | .0004 | 1.990 | 1.944 | 1.883 | 9.774 | 1.978 | 2.061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.912 | 1.889 | 9.976 | 9.700 | 9.312 | 1.854 | 1.992 | 9.988 | 2.026 | 1.955 |
| Stddev | .005 | .002 | .007 | .006 | .023 | .004 | .003 | .037 | .000 | .001 |
| %RSD | .2586 | .1180 | .0714 | .0653 | .2488 | .2287 | .1316 | .3665 | .0085 | .0591 |
| #1 | 1.915 | 1.887 | 9.971 | 9.704 | 9.328 | 1.857 | 1.990 | 9.962 | 2.026 | 1.956 |
| #2 | 1.908 | 1.890 | 9.981 | 9.695 | 9.295 | 1.851 | 1.994 | 10.01 | 2.026 | 1.954 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0054 | 2.046 | 2.029 | .0793 | 2.022 | 1.898 | 1.938 | 1.957 | 1.896 |
| Stddev | .0010 | .0051 | .002 | .003 | .0004 | .001 | .000 | .004 | .004 | .000 |
| %RSD | 76.37 | 94.14 | .1109 | .1588 | .5450 | .0434 | .0186 | .1929 | .1855 | .0008 |
| #1 | .0006 | .0018 | 2.045 | 2.031 | .0796 | 2.022 | 1.898 | 1.941 | 1.954 | 1.896 |
| #2 | .0019 | .0090 | 2.048 | 2.027 | .0790 | 2.023 | 1.898 | 1.935 | 1.959 | 1.896 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0140 | 1.916 | -.0049 |
| Stddev | .0045 | .001 | .0002 |
| %RSD | 32.36 | .0286 | 3.808 |
| #1 | -.0108 | 1.916 | -.0047 |
| #2 | -.0172 | 1.916 | -.0050 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.3 | 54467. | 13603. |
| Stddev | .2 | 347. | 79. |
| %RSD | .00995 | .63711 | .57719 |
| #1 | 2220.1 | 54222. | 13659. |
| #2 | 2220.4 | 54712. | 13548. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 13:48:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0132 | F.0028 | -.0006 | .0014 | .0002 | .0001 | .0047 | .0003 |
| Stddev | .0002 | .0020 | .0003 | .0000 | .0007 | .0001 | .0000 | .0006 | .0002 |
| %RSD | 150.4 | 14.89 | 11.27 | .5272 | 48.32 | 50.14 | 7.720 | 12.73 | 69.78 |
| #1 | .0003 | .0146 | .0025 | -.0006 | .0018 | .0003 | .0001 | .0051 | .0001 |
| #2 | .0000 | .0118 | .0030 | -.0006 | .0009 | .0001 | .0001 | .0043 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0003 | .0012 | .0052 | .0183 | .0000 | .0002 | .0006 | -.0398 |
| Stddev | .0001 | .0002 | .0002 | .0005 | .0461 | .002 | .0000 | .0002 | .0027 |
| %RSD | 66.09 | 82.49 | 15.38 | 8.804 | 252.3 | 4081. | 3.219 | 30.67 | 6.670 |
| #1 | .0001 | .0005 | .0013 | .0048 | -.0143 | -.0012 | .0002 | .0007 | -.0417 |
| #2 | .0003 | .0001 | .0010 | .0055 | .0509 | .0011 | .0002 | .0005 | -.0380 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0004 | -.0001 | .0017 | .0025 | -.0038 | .0000 | .0001 |
| Stddev | .0002 | .0004 | .0022 | .0020 | .0013 | .0012 | .0004 | .000 | .0001 |
| %RSD | 47.27 | 53.90 | 501.9 | 2353. | 77.26 | 48.21 | 10.10 | 594.7 | 175.5 |
| #1 | .0005 | .0009 | .0020 | -.0015 | .0026 | .0033 | -.0041 | .0001 | .0000 |
| #2 | .0002 | .0004 | -.0011 | .0013 | .0008 | .0016 | -.0036 | -.0001 | .0001 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0002 | .0013 | .0004 | -.0024 | .0003 | .0006 |
| Stddev | .0003 | .0001 | .0000 | .0070 | .0000 | .0000 |
| %RSD | 139.6 | 4.954 | 10.49 | 295.0 | 4.720 | 5.722 |
| #1 | .0000 | .0013 | .0003 | -.0073 | .0003 | .0006 |
| #2 | .0004 | .0012 | .0004 | .0026 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.4 | 55052. | 13445. |
| Stddev | 2.1 | 146. | 13. |
| %RSD | .09582 | .26588 | .09366 |
| #1 | 2217.9 | 55155. | 13436. |
| #2 | 2214.9 | 54948. | 13454. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/3/2013 13:54:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .4128 | .0002 | .0479 | .0275 | .0000 | 11.46 | .0037 | -.0002 |
| Stddev | .0005 | .0014 | .0000 | .0016 | .0006 | .0001 | .000 | .03 | .0002 | .0001 |
| %RSD | 129.8 | 144.0 | .0020 | 974.6 | 1.161 | .5344 | 130.3 | .2306 | 5.229 | 32.45 |
| #1 | .0008 | .0020 | .4128 | -.0009 | .0483 | .0276 | .0000 | 11.48 | .0036 | -.0002 |
| #2 | .0000 | .0000 | .4128 | .0013 | .0475 | .0274 | -.0001 | 11.45 | .0039 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0013 | 10.12 | 4.389 | 1.222 | .2385 | .0009 | 8.342 | .0153 | .0006 |
| Stddev | .0000 | .0003 | .03 | .061 | .009 | .0005 | .0001 | .006 | .0002 | .0007 |
| %RSD | 5.879 | 25.26 | .2631 | 1.399 | .7347 | .1952 | 7.375 | .0694 | 1.478 | 121.6 |
| #1 | .0005 | .0011 | 10.14 | 4.345 | 1.228 | .2388 | .0009 | 8.346 | .0151 | .0011 |
| #2 | .0005 | .0016 | 10.10 | 4.432 | 1.216 | .2382 | .0008 | 8.338 | .0154 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0053 | .0016 | .0029 | 8.550 | -.0006 | .0911 | .0005 | -.0009 | .0007 |
| Stddev | .0013 | .0038 | .0005 | .0009 | .008 | .0003 | .0002 | .0007 | .0004 | .0005 |
| %RSD | 604.6 | 72.17 | 30.82 | 31.47 | .0940 | 44.35 | .2634 | 143.5 | 40.91 | 75.87 |
| #1 | .0007 | .0026 | .0012 | .0022 | 8.555 | -.0008 | .0913 | .0009 | -.0011 | .0010 |
| #2 | -.0012 | .0079 | .0019 | .0035 | 8.544 | -.0004 | .0909 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0079 | -.0013 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 10.92 | .0430 | 4.248 |
| #1 | .0182 | .0079 | -.0014 |
| #2 | .0156 | .0079 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.2 | 55303. | 13553. |
| Stddev | 3.0 | 65. | 1. |
| %RSD | .13345 | .11791 | .00683 |
| #1 | 2213.3 | 55349. | 13554. |
| #2 | 2209.1 | 55257. | 13552. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/3/2013 13:58:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0108 | 1.164 | .0008 | .2115 | .0974 | .0000 | 53.19 | .0099 | .0032 |
| Stddev | .0002 | .0050 | .000 | .0006 | .0001 | .0007 | .0000 | .19 | .0001 | .0000 |
| %RSD | 1068. | 46.52 | .0373 | 76.05 | .0685 | .7520 | 5.720 | .3631 | .5397 | .6325 |
| #1 | .0001 | -.0143 | 1.165 | .0004 | .2114 | .0969 | .0000 | 53.05 | .0099 | .0032 |
| #2 | -.0001 | -.0072 | 1.164 | .0012 | .2116 | .0979 | .0000 | 53.32 | .0100 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0019 | 93.03 | 13.09 | 6.581 | 2.551 | .0009 | 28.84 | .0052 | -.0002 |
| Stddev | .0004 | .0002 | .32 | .16 | .081 | .009 | .0000 | .08 | .0000 | .0000 |
| %RSD | 66.76 | 8.695 | .3482 | 1.243 | 1.231 | .3464 | 2.508 | .2607 | .4873 | 2.418 |
| #1 | -.0003 | .0021 | 92.80 | 12.98 | 6.524 | 2.545 | .0008 | 28.78 | .0052 | -.0002 |
| #2 | -.0010 | .0018 | 93.26 | 13.21 | 6.638 | 2.557 | .0009 | 28.89 | .0052 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0047 | .0011 | .0021 | 15.71 | -.0008 | .6095 | .0000 | -.0028 | -.0002 |
| Stddev | .002 | .0066 | .0007 | .0001 | .02 | .0000 | .0030 | .0005 | .0012 | .0008 |
| %RSD | 7776. | 140.2 | 68.91 | 3.900 | .1475 | 1.813 | .4850 | 1497. | 43.31 | 495.6 |
| #1 | .0015 | .0000 | .0016 | .0020 | 15.73 | -.0008 | .6074 | -.0003 | -.0019 | -.0008 |
| #2 | -.0016 | .0093 | .0006 | .0021 | 15.69 | -.0008 | .6116 | .0004 | -.0037 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0060 | -.0029 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 177.1 | .3856 | 3.839 |
| #1 | -.0008 | .0060 | -.0030 |
| #2 | .0074 | .0060 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54490. | 13494. |
| Stddev | 2.3 | 136. | 106. |
| %RSD | .10296 | .24924 | .78386 |
| #1 | 2194.6 | 54586. | 13569. |
| #2 | 2191.4 | 54394. | 13420. |

Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/3/2013 14:03:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0096 | 1.939 | .0016 | .1547 | .0742 | -.0001 | 35.61 | .0163 | .0271 |
| Stddev | .0005 | .0064 | .002 | .0001 | .0003 | .0004 | .0000 | .04 | .0001 | .0002 |
| %RSD | 167.7 | 67.27 | .1179 | 4.926 | .1927 | .4814 | 80.84 | .1236 | .6107 | .9146 |
| #1 | -.0001 | -.0050 | 1.937 | .0017 | .1549 | .0744 | -.0001 | 35.64 | .0164 | .0273 |
| #2 | .0006 | -.0141 | 1.940 | .0016 | .1545 | .0739 | .0000 | 35.58 | .0162 | .0269 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0023 | 104.1 | 11.51 | 6.516 | 1.807 | .0033 | 17.28 | .0067 | -.0004 |
| Stddev | .0003 | .0002 | .2 | .04 | .013 | .002 | .0002 | .02 | .0000 | .0001 |
| %RSD | 33.16 | 8.723 | .1459 | .3854 | .1975 | .0975 | 6.769 | .1113 | .1907 | 16.34 |
| #1 | -.0006 | .0025 | 104.2 | 11.54 | 6.525 | 1.806 | .0031 | 17.29 | .0067 | -.0005 |
| #2 | -.0010 | .0022 | 104.0 | 11.48 | 6.507 | 1.808 | .0034 | 17.27 | .0067 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0040 | .0011 | .0029 | 12.25 | -.0003 | .4727 | .0004 | -.0016 | .0000 |
| Stddev | .0008 | .0068 | .0008 | .0011 | .01 | .0003 | .0011 | .0002 | .0002 | .0001 |
| %RSD | 46.79 | 169.1 | 69.40 | 36.32 | .0946 | 97.14 | .2238 | 46.11 | 12.45 | 241.6 |
| #1 | .0022 | -.0008 | .0006 | .0022 | 12.25 | -.0005 | .4735 | .0003 | -.0015 | .0000 |
| #2 | .0011 | .0088 | .0017 | .0037 | 12.24 | -.0001 | .4720 | .0006 | -.0017 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0094 | -.0022 |
| Stddev | .0015 | .0001 | .0002 |
| %RSD | 5.633 | .5709 | 7.899 |
| #1 | .0286 | .0094 | -.0023 |
| #2 | .0264 | .0094 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.5 | 54854. | 13437. |
| Stddev | 4.3 | 57. | 43. |
| %RSD | .19240 | .10400 | .32095 |
| #1 | 2211.5 | 54895. | 13467. |
| #2 | 2217.5 | 54814. | 13406. |



Zoom In Zoom Out

Sample Name: MC21156-10F Acquired: 6/3/2013 14:07:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0058 | .4920 | .0008 | .0908 | .0823 | .0000 | 46.62 | .0042 | .0030 |
| Stddev | .0004 | .0055 | .0028 | .0003 | .0005 | .0005 | .000 | .13 | .0002 | .0002 |
| %RSD | 136.0 | 93.96 | .5667 | 34.84 | .5858 | .6528 | 142.3 | .2757 | 5.090 | 6.807 |
| #1 | .0000 | -.0019 | .4939 | .0011 | .0912 | .0819 | .0000 | 46.53 | .0041 | .0029 |
| #2 | .0006 | -.0097 | .4900 | .0006 | .0904 | .0827 | -.0001 | 46.71 | .0044 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0012 | 19.40 | 6.460 | 6.375 | 2.355 | .0029 | 24.60 | .0044 | .0004 |
| Stddev | .000 | .0008 | .01 | .093 | .102 | .004 | .0001 | .04 | .0000 | .0009 |
| %RSD | 852.4 | 67.82 | .0667 | 1.435 | 1.597 | .1582 | 2.993 | .1490 | .9237 | 248.5 |
| #1 | .0001 | .0017 | 19.39 | 6.394 | 6.303 | 2.352 | .0030 | 24.57 | .0044 | -.0003 |
| #2 | -.0001 | .0006 | 19.41 | 6.525 | 6.447 | 2.357 | .0029 | 24.62 | .0044 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0054 | .0010 | .0014 | 12.53 | -.0010 | .3320 | .0003 | -.0025 | .0004 |
| Stddev | .0009 | .0018 | .0014 | .0006 | .02 | .0003 | .0002 | .0004 | .0010 | .0002 |
| %RSD | 215.8 | 33.68 | 135.9 | 40.92 | .1604 | 25.91 | .0559 | 126.0 | 38.19 | 49.01 |
| #1 | .0011 | .0042 | .0020 | .0010 | 12.54 | -.0011 | .3321 | .0006 | -.0018 | .0003 |
| #2 | -.0002 | .0067 | .0000 | .0018 | 12.51 | -.0008 | .3319 | .0000 | -.0032 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0108 | .0071 | -.0022 |
| Stddev | .0017 | .0000 | .0001 |
| %RSD | 15.99 | .2398 | 5.797 |
| #1 | .0120 | .0071 | -.0023 |
| #2 | .0096 | .0071 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2222.2 | 54642. | 13505. |
| Stddev | 1.2 | 374. | 107. |
| %RSD | .05426 | .68503 | .79036 |
| #1 | 2223.0 | 54906. | 13580. |
| #2 | 2221.3 | 54377. | 13429. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0319 | 3.402 | .0011 | .0345 | .0176 | .0000 | 28.05 |
| Stddev | .0001 | .0058 | .005 | .0002 | .0003 | .0000 | .0001 | .02 |
| %RSD | 19.34 | 18.25 | .1502 | 17.38 | .7607 | .0414 | 217.8 | .0688 |
| #1 | .0004 | -.0360 | 3.399 | .0012 | .0347 | .0176 | .0000 | 28.03 |
| #2 | .0005 | -.0278 | 3.406 | .0010 | .0344 | .0176 | .0001 | 28.06 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0284 | .0061 | -.0001 | .0014 | 55.09 | 3.633 | 2.722 | 5.927 |
| Stddev | .0003 | .0002 | .0001 | .0009 | .01 | .023 | .005 | .054 |
| %RSD | .9013 | 2.731 | 154.0 | 64.40 | .0212 | .6269 | .1975 | .9162 |
| #1 | .0282 | .0060 | .0000 | .0021 | 55.10 | 3.649 | 2.718 | 5.889 |
| #2 | .0286 | .0062 | -.0002 | .0008 | 55.09 | 3.617 | 2.726 | 5.965 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 5.436 | .0090 | -.0006 | .0014 | .0207 | .0008 | .0033 |
| Stddev | .0000 | .017 | .0001 | .0003 | .0002 | .0002 | .0002 | .0011 |
| %RSD | 19.95 | .3189 | 1.152 | 48.73 | 10.92 | .7672 | 21.53 | 32.69 |
| #1 | -.0002 | 5.424 | .0090 | -.0004 | .0013 | .0206 | .0009 | .0025 |
| #2 | -.0001 | 5.448 | .0091 | -.0008 | .0015 | .0208 | .0007 | .0041 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 8.326 | -.0005 | .0946 | .0001 | F-.0053 | .0001 | .0005 | .0100 |
| Stddev | .002 | .0001 | .0001 | .0001 | .0008 | .0007 | .0083 | .0001 |
| %RSD | .0259 | 24.54 | .0739 | 91.93 | 15.21 | 860.5 | 1695. | 1.117 |
| #1 | 8.324 | -.0005 | .0946 | .0000 | -.0048 | -.0004 | .0064 | .0099 |
| #2 | 8.327 | -.0004 | .0945 | .0002 | -.0059 | .0006 | -.0054 | .0100 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0011 |
| Stddev | .0005 |
| %RSD | 47.53 |
| #1 | -.0007 |
| #2 | -.0014 |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.4 | 54718. | 13502. |
| Stddev | 1.4 | 70. | 98. |
| %RSD | .06218 | .12708 | .72470 |
| #1 | 2232.4 | 54669. | 13571. |
| #2 | 2234.3 | 54767. | 13432. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/3/2013 14:16:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0173 | .6605 | -.0004 | .1464 | .0477 | .0000 | 56.00 | .0054 | -.0001 |
| Stddev | .0000 | .0021 | .0002 | .0007 | .0006 | .0002 | .0001 | .06 | .0000 | .0001 |
| %RSD | 40.07 | 11.98 | .0233 | 160.8 | .4018 | .5235 | 372.5 | .0997 | .0874 | 72.29 |
| #1 | .0000 | -.0187 | .6606 | -.0009 | .1460 | .0475 | .0000 | 56.04 | .0054 | -.0001 |
| #2 | .0000 | -.0158 | .6604 | .0001 | .1469 | .0478 | .0001 | 55.96 | .0054 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0011 | 40.52 | 8.337 | 8.107 | 2.788 | .0004 | 45.96 | .0009 | .0006 |
| Stddev | .0003 | .0008 | .05 | .025 | .007 | .013 | .0002 | .10 | .0002 | .0002 |
| %RSD | 111.7 | 75.03 | .1329 | .3010 | .0881 | .4745 | 36.22 | .2238 | 27.29 | 31.96 |
| #1 | -.0005 | .0017 | 40.56 | 8.319 | 8.112 | 2.797 | .0006 | 46.03 | .0010 | .0005 |
| #2 | -.0001 | .0005 | 40.48 | 8.355 | 8.102 | 2.778 | .0003 | 45.89 | .0007 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0080 | .0007 | .0021 | 13.90 | -.0008 | .3085 | .0006 | -.0030 | .0002 |
| Stddev | .0006 | .0025 | .0007 | .0002 | .01 | .0001 | .0004 | .0004 | .0008 | .0001 |
| %RSD | 31.70 | 31.75 | 95.38 | 7.898 | .0524 | 12.95 | .1135 | 66.36 | 26.81 | 58.77 |
| #1 | -.0024 | .0062 | .0011 | .0020 | 13.90 | -.0007 | .3088 | .0003 | -.0035 | .0004 |
| #2 | -.0015 | .0097 | .0002 | .0023 | 13.91 | -.0008 | .3083 | .0009 | -.0024 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0067 | -.0021 |
| Stddev | .0028 | .0001 | .0002 |
| %RSD | 49.15 | 2.028 | 11.54 |
| #1 | .0077 | .0066 | -.0019 |
| #2 | .0038 | .0068 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.3 | 54683. | 13579. |
| Stddev | 1.5 | 781. | 7. |
| %RSD | .06707 | 1.4285 | .04809 |
| #1 | 2228.3 | 54130. | 13584. |
| #2 | 2230.4 | 55235. | 13575. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/3/2013 14:20:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0096 | .0030 | -.0004 | .0256 | .0321 | .0000 | 13.55 | .0002 | .0007 |
| Stddev | .0000 | .0102 | .0005 | .0004 | .0002 | .0000 | .0000 | .01 | .0001 | .0001 |
| %RSD | 10.06 | 106.4 | 17.72 | 101.2 | .9166 | .1433 | 75.59 | .0811 | 37.51 | 16.12 |
| #1 | .0001 | .0168 | .0034 | -.0001 | .0254 | .0321 | .0000 | 13.56 | .0002 | .0008 |
| #2 | .0001 | .0024 | .0026 | -.0006 | .0258 | .0322 | .0001 | 13.55 | .0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0026 | .1740 | 2.813 | 2.570 | .3606 | .0001 | 6.583 | .0029 | .0006 |
| Stddev | .0001 | .0008 | .0017 | .045 | .017 | .0009 | .0001 | .018 | .0001 | .0003 |
| %RSD | 49.70 | 32.22 | .9510 | 1.595 | .6411 | .2572 | 157.4 | .2738 | 2.821 | 60.30 |
| #1 | .0003 | .0031 | .1752 | 2.782 | 2.559 | .3613 | .0000 | 6.596 | .0030 | .0003 |
| #2 | .0002 | .0020 | .1728 | 2.845 | 2.582 | .3600 | .0002 | 6.570 | .0029 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0008 | .0008 | .0005 | 3.222 | -.0003 | .0916 | -.0001 | .0003 | .0006 |
| Stddev | .0016 | .0033 | .0004 | .0001 | .004 | .0003 | .0002 | .0006 | .0010 | .0001 |
| %RSD | 345.1 | 426.0 | 45.75 | 28.57 | .1158 | 103.6 | .2169 | 523.0 | 368.5 | 17.73 |
| #1 | -.0015 | -.0016 | .0006 | .0006 | 3.219 | -.0001 | .0915 | .0003 | .0010 | .0006 |
| #2 | .0006 | .0031 | .0011 | .0004 | 3.224 | -.0005 | .0918 | -.0005 | -.0004 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .0083 | -.0003 |
| Stddev | .0035 | .0001 | .0001 |
| %RSD | 192.6 | .6961 | 27.76 |
| #1 | -.0007 | .0084 | -.0003 |
| #2 | .0043 | .0083 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54936. | 13491. |
| Stddev | 1.0 | 49. | 19. |
| %RSD | .04485 | .08925 | .14158 |
| #1 | 2262.1 | 54901. | 13478. |
| #2 | 2260.7 | 54971. | 13505. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/3/2013 14:24:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0102 | .0038 | .0002 | .0648 | .0612 | .0000 | 29.92 | .0001 | .0004 |
| Stddev | .0002 | .0055 | .0001 | .0002 | .0003 | .0009 | .0001 | .09 | .0002 | .0000 |
| %RSD | 481.0 | 53.64 | 3.025 | 98.16 | .3980 | 1.408 | 223.1 | .2996 | 314.0 | .6683 |
| #1 | -.0001 | .0063 | .0039 | .0003 | .0646 | .0606 | .0001 | 29.86 | -.0001 | .0004 |
| #2 | .0002 | .0141 | .0037 | .0001 | .0650 | .0618 | .0000 | 29.99 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0023 | .0578 | 4.464 | 4.299 | .4808 | .0003 | 18.29 | .0032 | .0006 |
| Stddev | .0001 | .0005 | .0017 | .006 | .076 | .0005 | .0001 | .05 | .0002 | .0002 |
| %RSD | 29.66 | 21.30 | 3.003 | .1326 | 1.761 | .1042 | 30.63 | .2500 | 6.709 | 25.37 |
| #1 | -.0003 | .0020 | .0590 | 4.468 | 4.245 | .4804 | .0003 | 18.26 | .0034 | .0007 |
| #2 | -.0002 | .0027 | .0566 | 4.460 | 4.352 | .4811 | .0002 | 18.33 | .0031 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | .0009 | .0014 | .0017 | 5.185 | -.0006 | .2062 | -.0002 | -.0012 | .0007 |
| Stddev | .0006 | .0072 | .0002 | .0011 | .002 | .0007 | .0002 | .0000 | .0000 | .0004 |
| %RSD | 25.84 | 823.4 | 15.66 | 67.34 | .0465 | 106.1 | .1209 | 22.21 | 3.473 | 60.93 |
| #1 | -.0027 | -.0042 | .0013 | .0009 | 5.183 | -.0011 | .2060 | -.0002 | -.0012 | .0010 |
| #2 | -.0019 | .0060 | .0016 | .0024 | 5.186 | -.0002 | .2064 | -.0002 | -.0013 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0073 | -.0006 |
| Stddev | .0029 | .0000 | .0002 |
| %RSD | 154.8 | .1926 | 25.04 |
| #1 | .0039 | .0073 | -.0007 |
| #2 | -.0002 | .0074 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.9 | 54717. | 13479. |
| Stddev | 1.5 | 226. | 226. |
| %RSD | .06819 | .41378 | 1.6769 |
| #1 | 2260.8 | 54557. | 13638. |
| #2 | 2263.0 | 54877. | 13319. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/3/2013 14:29:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0039 | .0026 | -.0009 | .0645 | .0616 | .0000 | 29.68 | .0002 | .0007 |
| Stddev | .0003 | .0022 | .0009 | .0006 | .0002 | .0004 | .000 | .04 | .0001 | .0000 |
| %RSD | 185.7 | 58.35 | 36.80 | 72.31 | .3016 | .7158 | 125.6 | .1510 | 59.84 | .7104 |
| #1 | .0000 | .0023 | .0032 | -.0004 | .0644 | .0612 | .0000 | 29.65 | .0003 | .0007 |
| #2 | .0003 | .0054 | .0019 | -.0013 | .0647 | .0619 | -.0001 | 29.71 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0020 | .0596 | 4.437 | 4.299 | .4782 | .0004 | 18.36 | .0034 | -.0004 |
| Stddev | .0004 | .0004 | .0002 | .031 | .002 | .0002 | .0000 | .02 | .0000 | .0004 |
| %RSD | 70.68 | 17.90 | .4125 | .6974 | .0455 | .0460 | .5666 | .0945 | .6005 | 90.99 |
| #1 | .0002 | .0023 | .0594 | 4.415 | 4.298 | .4784 | .0004 | 18.34 | .0034 | -.0001 |
| #2 | .0007 | .0018 | .0598 | 4.458 | 4.301 | .4780 | .0004 | 18.37 | .0034 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0054 | .0011 | .0027 | 5.170 | -.0005 | .2046 | .0002 | -.0008 | .0011 |
| Stddev | .0018 | .0045 | .0002 | .0005 | .010 | .0005 | .0005 | .0003 | .0003 | .0008 |
| %RSD | 141.9 | 82.81 | 18.01 | 20.03 | .1958 | 103.5 | .2649 | 128.8 | 30.11 | 74.26 |
| #1 | .0000 | .0022 | .0010 | .0031 | 5.163 | -.0001 | .2050 | .0000 | -.0010 | .0005 |
| #2 | -.0025 | .0086 | .0013 | .0023 | 5.177 | -.0008 | .2042 | .0004 | -.0007 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0112 | -.0007 |
| Stddev | .0070 | .0000 | .0003 |
| %RSD | 28.61 | .1816 | 42.46 |
| #1 | .0194 | .0112 | -.0005 |
| #2 | .0292 | .0112 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.0 | 54567. | 13445. |
| Stddev | 8.8 | 58. | 96. |
| %RSD | .39280 | .10597 | .71065 |
| #1 | 2250.2 | 54526. | 13513. |
| #2 | 2237.8 | 54608. | 13378. |

Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/3/2013 14:33:26 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0166 | .4798 | .0000 | .0325 | .0369 | .0000 | 23.75 | .0041 | .0008 |
| Stddev | .000 | .0127 | .0028 | .000 | .0004 | .0001 | .000 | .09 | .0001 | .0001 |
| %RSD | 209.9 | 76.29 | .5826 | 204.3 | 1.310 | .3679 | 177.2 | .3746 | 2.025 | 10.56 |
| #1 | .0000 | -.0256 | .4818 | -.0001 | .0328 | .0368 | -.0001 | 23.68 | .0040 | .0007 |
| #2 | -.0001 | -.0076 | .4778 | .0000 | .0322 | .0370 | .0000 | 23.81 | .0041 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0014 | 29.26 | 3.299 | 2.976 | 1.620 | .0001 | 9.642 | .0025 | -.0001 |
| Stddev | .0004 | .0002 | .10 | .030 | .018 | .001 | .0001 | .058 | .0002 | .0001 |
| %RSD | 453.4 | 10.66 | .3435 | .9256 | .6137 | .0366 | 103.3 | .6023 | 6.151 | 194.7 |
| #1 | .0004 | .0015 | 29.19 | 3.277 | 2.963 | 1.620 | .0002 | 9.601 | .0024 | -.0001 |
| #2 | -.0002 | .0013 | 29.33 | 3.320 | 2.989 | 1.619 | .0000 | 9.683 | .0026 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0029 | .0009 | .0020 | 8.773 | -.0010 | .2440 | .0003 | -.0022 | -.0004 |
| Stddev | .0017 | .0025 | .0007 | .0006 | .017 | .0001 | .0013 | .0002 | .0008 | .0008 |
| %RSD | 228.4 | 86.11 | 78.51 | 29.84 | .1973 | 11.81 | .5148 | 58.35 | 35.98 | 191.9 |
| #1 | .0005 | .0011 | .0004 | .0016 | 8.786 | -.0009 | .2431 | .0004 | -.0016 | .0001 |
| #2 | -.0020 | .0046 | .0014 | .0024 | 8.761 | -.0011 | .2449 | .0002 | -.0028 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0089 | -.0014 |
| Stddev | .0050 | .0000 | .0002 |
| %RSD | 307.4 | .4122 | 11.54 |
| #1 | .0052 | .0090 | -.0015 |
| #2 | -.0019 | .0089 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.4 | 54607. | 13527. |
| Stddev | 9.0 | 70. | 45. |
| %RSD | .40218 | .12770 | .33547 |
| #1 | 2241.0 | 54558. | 13495. |
| #2 | 2253.8 | 54657. | 13559. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 14:37:45 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.853 | 1.973 | -.0015 | 1.973 | 1.941 | 1.909 | 9.764 | 1.959 | 2.038 |
| Stddev | .0004 | .025 | .001 | .0007 | .001 | .003 | .002 | .040 | .001 | .001 |
| %RSD | .1559 | .2521 | .0639 | 50.46 | .0353 | .1302 | .0822 | .4057 | .0629 | .0553 |
| #1 | .2434 | 9.836 | 1.974 | -.0020 | 1.973 | 1.939 | 1.908 | 9.736 | 1.959 | 2.038 |
| #2 | .2440 | 9.871 | 1.972 | -.0009 | 1.972 | 1.942 | 1.911 | 9.792 | 1.958 | 2.039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.926 | 1.909 | 9.865 | 9.744 | 9.426 | 1.894 | 1.967 | 9.861 | 1.980 | 1.931 |
| Stddev | .005 | .003 | .004 | .042 | .014 | .006 | .001 | .026 | .001 | .001 |
| %RSD | .2412 | .1454 | .0432 | .4306 | .1446 | .2977 | .0496 | .2675 | .0307 | .0435 |
| #1 | 1.923 | 1.911 | 9.862 | 9.774 | 9.436 | 1.890 | 1.966 | 9.843 | 1.981 | 1.932 |
| #2 | 1.929 | 1.907 | 9.868 | 9.714 | 9.417 | 1.898 | 1.968 | 9.880 | 1.980 | 1.931 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0093 | 2.012 | 1.999 | .0165 | 1.972 | 1.913 | 1.939 | 1.942 | 1.916 |
| Stddev | .0021 | .0011 | .003 | .003 | .0009 | .001 | .003 | .003 | .001 | .006 |
| %RSD | 98.22 | 11.44 | .1470 | .1481 | 5.548 | .0613 | .1737 | .1679 | .0275 | .2926 |
| #1 | .0007 | .0086 | 2.010 | 2.001 | .0159 | 1.973 | 1.911 | 1.937 | 1.941 | 1.912 |
| #2 | .0037 | .0101 | 2.014 | 1.997 | .0172 | 1.971 | 1.916 | 1.942 | 1.942 | 1.920 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | 1.910 | -.0049 |
| Stddev | .0001 | .000 | .0005 |
| %RSD | 1.235 | .0118 | 9.289 |
| #1 | -.0073 | 1.910 | -.0052 |
| #2 | -.0074 | 1.910 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.2 | 54530. | 13586. |
| Stddev | 1.8 | 473. | 34. |
| %RSD | .07853 | .86755 | .24861 |
| #1 | 2267.4 | 54865. | 13562. |
| #2 | 2264.9 | 54196. | 13610. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 14:42:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0108 | F.0032 | -.0003 | .0018 | .0003 | .0002 | .0105 | -.0001 |
| Stddev | .0002 | .0094 | .0003 | .0016 | .0004 | .0002 | .0000 | .0011 | .0001 |
| %RSD | 667.9 | 87.37 | 9.264 | 515.7 | 21.02 | 71.24 | 12.81 | 10.63 | 179.2 |
| #1 | -.0001 | .0174 | .0030 | .0008 | .0020 | .0005 | .0002 | .0097 | .0000 |
| #2 | .0001 | .0041 | .0035 | -.0015 | .0015 | .0002 | .0002 | .0113 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0010 | .0051 | .0275 | .0111 | .0003 | .0006 | -.0304 |
| Stddev | .000 | .0000 | .0002 | .0003 | .0133 | .0062 | .0001 | .0001 | .0123 |
| %RSD | 2412. | 3.341 | 19.53 | 6.467 | 48.42 | 55.62 | 32.90 | 19.70 | 40.60 |
| #1 | .0001 | .0006 | .0009 | .0053 | .0369 | .0155 | .0002 | .0007 | -.0217 |
| #2 | -.0002 | .0006 | .0012 | .0048 | .0181 | .0068 | .0003 | .0006 | -.0391 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | .0015 | -.0036 | .0005 | .0020 | -.0048 | .0001 | .0002 |
| Stddev | .0001 | .0006 | .0004 | .0002 | .0005 | .0001 | .0006 | .0004 | .0000 |
| %RSD | 110.0 | 269.0 | 30.59 | 6.562 | 97.59 | 3.937 | 12.58 | 332.9 | 10.25 |
| #1 | .0002 | -.0002 | .0011 | -.0037 | .0002 | .0020 | -.0052 | .0004 | .0002 |
| #2 | .0000 | .0006 | .0018 | -.0034 | .0009 | .0019 | -.0044 | -.0002 | .0002 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0008 | -.0021 | .0001 | .0005 |
| Stddev | .0003 | .0000 | .0006 | .0023 | .0000 | .0000 |
| %RSD | 89.36 | 3.349 | 71.44 | 109.9 | 35.22 | 9.199 |
| #1 | .0006 | .0009 | .0012 | -.0005 | .0001 | .0005 |
| #2 | .0001 | .0009 | .0004 | -.0038 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55360. | 13485. |
| Stddev | 8.1 | 398. | 90. |
| %RSD | .35935 | .71932 | .66939 |
| #1 | 2273.1 | 55078. | 13421. |
| #2 | 2261.6 | 55642. | 13548. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/3/2013 14:52:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .6101 | -.0018 | .1223 | .0663 | .0000 | 40.06 | .0053 | .0015 |
| Stddev | .0000 | .0031 | .0002 | .0017 | .0003 | .0024 | .000 | 1.29 | .0000 | .0000 |
| %RSD | 4.508 | 459.7 | .0335 | 93.71 | .2229 | 3.687 | 20.55 | 3.223 | .0951 | .0577 |
| #1 | .0001 | .0029 | .6100 | -.0006 | .1221 | .0646 | .0000 | 39.15 | .0053 | .0015 |
| #2 | .0002 | -.0015 | .6103 | -.0029 | .1225 | .0680 | .0000 | 40.97 | .0053 | .0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0019 | 55.88 | 10.28 | 5.157 | 1.312 | .0001 | 26.00 | .0023 | .0000 |
| Stddev | .000 | .0002 | 1.87 | .24 | .164 | .009 | .0000 | .80 | .0001 | .0001 |
| %RSD | 1376. | 10.54 | 3.351 | 2.315 | 3.174 | .6801 | 20.82 | 3.080 | 4.141 | 241.1 |
| #1 | -.0003 | .0017 | 54.56 | 10.11 | 5.041 | 1.318 | .0001 | 25.43 | .0024 | .0000 |
| #2 | .0002 | .0020 | 57.21 | 10.45 | 5.273 | 1.306 | .0001 | 26.56 | .0023 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0022 | .0011 | .0025 | 12.30 | -.0008 | .2938 | .0000 | -.0012 | .0003 |
| Stddev | .0022 | .0012 | .0001 | .0010 | .01 | .0001 | .0100 | .0001 | .0010 | .0004 |
| %RSD | 623.9 | 54.20 | 9.198 | 38.86 | .0808 | 8.453 | 3.404 | 1320. | 84.11 | 174.6 |
| #1 | -.0019 | .0031 | .0012 | .0032 | 12.30 | -.0007 | .2868 | -.0001 | -.0019 | .0006 |
| #2 | .0012 | .0014 | .0011 | .0018 | 12.31 | -.0008 | .3009 | .0001 | -.0005 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0023 | -.0020 |
| Stddev | .0067 | .0000 | .0000 |
| %RSD | 365.1 | 2.146 | .5421 |
| #1 | -.0065 | .0024 | -.0020 |
| #2 | .0029 | .0023 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2223.5 | 55403. | 13596. |
| Stddev | 1.6 | 396. | 282. |
| %RSD | .07088 | .71522 | 2.0746 |
| #1 | 2224.6 | 55123. | 13795. |
| #2 | 2222.4 | 55683. | 13396. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/3/2013 14:56:58 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0009 | .0029 | -.0010 | .0489 | .1691 | .0000 | 139.2 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0010 | .0017 | .0001 | .0009 | .0000 | .7 | .0000 | .0002 |
| %RSD | 92.76 | 102.8 | 35.07 | 158.6 | .1838 | .5210 | 92.11 | .5228 | 4.596 | 165.6 |
| #1 | .0005 | -.0016 | .0022 | -.0022 | .0488 | .1685 | .0001 | 138.6 | .0001 | -.0003 |
| #2 | .0001 | -.0002 | .0036 | .0001 | .0490 | .1697 | .0000 | 139.7 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0019 | .0506 | 6.271 | 16.22 | .0370 | .0005 | 434.6 | .0025 | .0005 |
| Stddev | .0001 | .0000 | .0066 | .016 | .20 | .0001 | .0001 | 1.9 | .0001 | .0002 |
| %RSD | 37.89 | .3991 | 13.14 | .2588 | 1.229 | .2002 | 24.09 | .4482 | 3.993 | 43.94 |
| #1 | .0005 | .0019 | .0553 | 6.260 | 16.08 | .0370 | .0006 | 433.2 | .0024 | .0006 |
| #2 | .0003 | .0018 | .0459 | 6.283 | 16.36 | .0369 | .0004 | 436.0 | .0026 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0007 | .0006 | .0034 | 6.602 | -.0010 | .8010 | .0012 | -.0026 | .0003 |
| Stddev | .0002 | .0012 | .0002 | .0009 | .004 | .0006 | .0063 | .0003 | .0001 | .0001 |
| %RSD | 2.512 | 176.1 | 33.60 | 24.84 | .0602 | 61.07 | .7823 | 26.60 | 5.564 | 48.29 |
| #1 | -.0094 | -.0002 | .0005 | .0040 | 6.599 | -.0014 | .7965 | .0010 | -.0027 | .0004 |
| #2 | -.0090 | .0016 | .0008 | .0028 | 6.605 | -.0006 | .8054 | .0015 | -.0025 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0007 | .0078 | -.0011 |
| Stddev | .0094 | .0002 | .0001 |
| %RSD | 1303. | 2.131 | 10.90 |
| #1 | -.0073 | .0077 | -.0010 |
| #2 | .0059 | .0079 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2156.6 | 54521. | 13371. |
| Stddev | .2 | 352. | 33. |
| %RSD | .00833 | .64515 | .24415 |
| #1 | 2156.7 | 54272. | 13348. |
| #2 | 2156.5 | 54769. | 13395. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/3/2013 15:01:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0027 | -.0005 | .0468 | .1584 | -.0001 | 128.3 | .0001 | .0006 |
| Stddev | .0001 | .0137 | .0005 | .0003 | .0006 | .0020 | .0000 | .3 | .0000 | .0000 |
| %RSD | 82.24 | 1155. | 17.88 | 47.91 | 1.260 | 1.281 | 36.52 | .2172 | 29.10 | 2.439 |
| #1 | .0000 | .0109 | .0024 | -.0007 | .0464 | .1598 | -.0001 | 128.1 | .0001 | .0006 |
| #2 | -.0002 | -.0085 | .0031 | -.0004 | .0472 | .1570 | -.0001 | 128.5 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .1307 | 6.191 | 15.11 | .1944 | .0017 | 397.8 | .0034 | -.0001 |
| Stddev | .0001 | .0003 | .0014 | .021 | .09 | .0000 | .0000 | 5.3 | .0002 | .0003 |
| %RSD | 19.55 | 16.40 | 1.102 | .3423 | .5903 | .0049 | .6871 | 1.325 | 6.121 | 407.0 |
| #1 | .0006 | .0019 | .1317 | 6.206 | 15.04 | .1944 | .0017 | 401.5 | .0033 | .0002 |
| #2 | .0005 | .0015 | .1297 | 6.176 | 15.17 | .1945 | .0017 | 394.0 | .0036 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0023 | .0017 | .0035 | 6.275 | -.0009 | .7400 | .0014 | -.0029 | .0002 |
| Stddev | .0015 | .0013 | .0002 | .0005 | .010 | .0001 | .0011 | .0003 | .0006 | .0004 |
| %RSD | 20.07 | 57.92 | 9.386 | 13.60 | .1577 | 11.78 | .1525 | 21.83 | 20.22 | 157.7 |
| #1 | -.0064 | -.0013 | .0016 | .0031 | 6.268 | -.0008 | .7392 | .0012 | -.0033 | .0005 |
| #2 | -.0085 | -.0032 | .0018 | .0038 | 6.282 | -.0010 | .7408 | .0016 | -.0025 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0458 | .0090 | -.0009 |
| Stddev | .0009 | .0001 | .0001 |
| %RSD | 2.021 | .6570 | 5.970 |
| #1 | .0451 | .0089 | -.0010 |
| #2 | .0464 | .0090 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2159.3 | 54512. | 13507. |
| Stddev | 2.5 | 163. | 61. |
| %RSD | .11377 | .29877 | .45260 |
| #1 | 2157.6 | 54627. | 13551. |
| #2 | 2161.1 | 54396. | 13464. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/3/2013 15:05:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0016 | .0035 | .0003 | .0173 | .0136 | .0000 | 17.96 | .0003 | .0022 |
| Stddev | .0008 | .0088 | .0001 | .0012 | .0001 | .0001 | .0000 | .02 | .0001 | .0000 |
| %RSD | 465.1 | 550.1 | 1.445 | 441.8 | .4628 | .4657 | 189.2 | .1031 | 18.83 | 1.575 |
| #1 | .0008 | -.0046 | .0035 | -.0006 | .0173 | .0135 | .0001 | 17.98 | .0003 | .0022 |
| #2 | -.0004 | .0078 | .0036 | .0011 | .0172 | .0136 | .0000 | 17.95 | .0003 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0018 | 1.458 | 2.708 | 3.145 | .5795 | .0001 | 2.928 | .0043 | .0005 |
| Stddev | .0001 | .0001 | .000 | .005 | .004 | .0012 | .0001 | .049 | .0000 | .0006 |
| %RSD | 64.22 | 6.649 | .0041 | .2003 | .1363 | .2097 | 76.49 | 1.675 | .2610 | 131.0 |
| #1 | .0003 | .0017 | 1.458 | 2.704 | 3.148 | .5804 | .0000 | 2.962 | .0043 | .0000 |
| #2 | .0001 | .0019 | 1.458 | 2.712 | 3.142 | .5787 | .0001 | 2.893 | .0043 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0011 | .0002 | .0018 | 6.028 | -.0005 | .1115 | -.0002 | -.0004 | .0002 |
| Stddev | .0005 | .0003 | .0003 | .0005 | .010 | .0002 | .0001 | .0003 | .0003 | .0002 |
| %RSD | 17.78 | 32.06 | 165.9 | 26.87 | .1598 | 34.30 | .0794 | 138.4 | 79.49 | 72.05 |
| #1 | -.0027 | .0013 | .0004 | .0022 | 6.022 | -.0007 | .1114 | -.0005 | -.0002 | .0001 |
| #2 | -.0035 | .0008 | .0000 | .0015 | 6.035 | -.0004 | .1115 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0120 | -.0012 |
| Stddev | .0018 | .0001 | .0002 |
| %RSD | 22.13 | 1.105 | 19.03 |
| #1 | .0069 | .0121 | -.0010 |
| #2 | .0095 | .0119 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.5 | 55137. | 13481. |
| Stddev | 3.9 | 397. | 3. |
| %RSD | .17201 | .71938 | .01956 |
| #1 | 2244.8 | 54857. | 13483. |
| #2 | 2250.3 | 55418. | 13479. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/3/2013 15:10:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 1.849 | .5090 | .0014 | .2257 | .1260 | .0000 | 99.74 | .0044 | .0000 |
| Stddev | .0003 | .006 | .0014 | .0004 | .0004 | .0000 | .000 | .11 | .0001 | .0001 |
| %RSD | 248.3 | .3196 | .2832 | 30.67 | .1834 | .0316 | 3.803 | .1068 | 1.465 | 451.0 |
| #1 | .0003 | 1.845 | .5079 | .0011 | .2254 | .1260 | .0000 | 99.81 | .0044 | .0001 |
| #2 | -.0001 | 1.853 | .5100 | .0017 | .2260 | .1260 | .0000 | 99.66 | .0043 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0024 | 73.38 | 54.10 | 52.24 | 1.006 | .0006 | 57.71 | .0022 | .0003 |
| Stddev | .0000 | .0000 | .03 | .11 | .23 | .000 | .0001 | .04 | .0000 | .0002 |
| %RSD | 19.50 | 1.778 | .0436 | .1989 | .4391 | .0033 | 18.04 | .0673 | 1.946 | 77.79 |
| #1 | -.0002 | .0023 | 73.40 | 54.18 | 52.07 | 1.006 | .0005 | 57.74 | .0022 | .0004 |
| #2 | -.0002 | .0024 | 73.36 | 54.03 | 52.40 | 1.006 | .0006 | 57.68 | .0022 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0007 | .0009 | .0023 | 12.19 | .0002 | .6500 | .0022 | -.0014 | .0001 |
| Stddev | .0016 | .0067 | .0001 | .0003 | .00 | .0001 | .0010 | .0000 | .0000 | .0007 |
| %RSD | 32.32 | 1019. | 5.895 | 11.84 | .0369 | 59.59 | .1582 | 1.363 | 2.255 | 1130. |
| #1 | -.0038 | -.0041 | .0008 | .0021 | 12.19 | .0003 | .6508 | .0022 | -.0014 | -.0004 |
| #2 | -.0060 | .0054 | .0009 | .0025 | 12.20 | .0001 | .6493 | .0023 | -.0015 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0047 | -.0020 |
| Stddev | .0021 | .0001 | .0002 |
| %RSD | 38.97 | 2.904 | 12.20 |
| #1 | -.0039 | .0047 | -.0018 |
| #2 | -.0069 | .0046 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2204.3 | 54715. | 13577. |
| Stddev | 1.8 | 349. | 3. |
| %RSD | .08248 | .63827 | .02213 |
| #1 | 2205.6 | 54962. | 13579. |
| #2 | 2203.0 | 54468. | 13575. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 15:18:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.106 | .5235 | -.0025 | -.0002 | 1.995 | .5037 | 24.86 | .5175 | .5230 |
| Stddev | .0005 | .013 | .0006 | .0031 | .0011 | .000 | .0039 | .20 | .0005 | .0013 |
| %RSD | .2695 | .6044 | .1163 | 125.7 | 704.4 | .0176 | .7657 | .7937 | .1061 | .2466 |
| #1 | .2014 | 2.115 | .5230 | -.0003 | .0006 | 1.994 | .5065 | 25.00 | .5172 | .5221 |
| #2 | .2006 | 2.097 | .5239 | -.0047 | -.0009 | 1.995 | .5010 | 24.72 | .5179 | .5239 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5141 | .4858 | 2.069 | 25.66 | 24.49 | .4830 | .0008 | 25.51 | .5085 | 1.005 |
| Stddev | .0000 | .0008 | .012 | .16 | .11 | .0006 | .0003 | .06 | .0014 | .004 |
| %RSD | .0051 | .1667 | .5930 | .6165 | .4378 | .1152 | 35.02 | .2389 | .2658 | .4515 |
| #1 | .5140 | .4852 | 2.060 | 25.55 | 24.57 | .4834 | .0010 | 25.47 | .5076 | 1.001 |
| #2 | .5141 | .4863 | 2.078 | 25.77 | 24.42 | .4826 | .0006 | 25.55 | .5095 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | -.0070 | .5277 | .5160 | -.0244 | -.0029 | .4874 | .5019 | .5075 | .5133 |
| Stddev | .0006 | .0003 | .0008 | .0052 | .0022 | .0001 | .0007 | .0022 | .0044 | .0017 |
| %RSD | 21.66 | 4.767 | .1427 | 1.013 | 8.921 | 2.318 | .1456 | .4453 | .8577 | .3388 |
| #1 | .0030 | -.0072 | .5272 | .5197 | -.0229 | -.0029 | .4868 | .5035 | .5044 | .5146 |
| #2 | .0022 | -.0067 | .5283 | .5123 | -.0259 | -.0028 | .4879 | .5004 | .5106 | .5121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0336 | .5167 | .0003 |
| Stddev | .0081 | .0006 | .0003 |
| %RSD | 24.11 | .1129 | 95.26 |
| #1 | .0279 | .5163 | .0005 |
| #2 | .0394 | .5171 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2257.0 | 55271. | 13593. |
| Stddev | 2.5 | 346. | 76. |
| %RSD | .11075 | .62593 | .56061 |
| #1 | 2258.8 | 55026. | 13647. |
| #2 | 2255.2 | 55515. | 13539. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 15:23:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2041 | 2.118 | .5232 | .0028 | .0034 | 2.010 | .5067 | 30.41 | .5190 | .5246 |
| Stddev | .0005 | .061 | .0025 | .0021 | .0008 | .000 | .0013 | .03 | .0011 | .0011 |
| %RSD | .2230 | 2.869 | .4816 | 74.17 | 24.30 | .0193 | .2575 | .1073 | .2154 | .2030 |
| #1 | .2038 | 2.161 | .5249 | .0043 | .0039 | 2.010 | .5057 | 30.43 | .5198 | .5254 |
| #2 | .2045 | 2.075 | .5214 | .0014 | .0028 | 2.011 | .5076 | 30.39 | .5182 | .5238 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5172 | .4898 | 2.051 | 27.22 | 25.85 | .4888 | .0006 | 26.73 | .5097 | 1.010 |
| Stddev | .0022 | .0055 | .002 | .04 | .11 | .0027 | .0004 | .00 | .0011 | .003 |
| %RSD | .4227 | 1.120 | .0805 | .1385 | .4347 | .5548 | 64.59 | .0008 | .2244 | .2825 |
| #1 | .5187 | .4937 | 2.052 | 27.25 | 25.93 | .4907 | .0009 | 26.73 | .5105 | 1.012 |
| #2 | .5156 | .4860 | 2.050 | 27.19 | 25.77 | .4869 | .0003 | 26.73 | .5089 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0110 | .5265 | .5204 | 3.178 | -.0052 | .5348 | .5058 | .5087 | .5143 |
| Stddev | .0007 | .0523 | .0024 | .0060 | .015 | .0007 | .0013 | .0028 | .0002 | .0003 |
| %RSD | 38.58 | 474.8 | .4550 | 1.147 | .4833 | 13.16 | .2348 | .5597 | .0464 | .0662 |
| #1 | .0014 | .0480 | .5248 | .5246 | 3.189 | -.0047 | .5357 | .5078 | .5089 | .5141 |
| #2 | .0024 | -.0260 | .5282 | .5162 | 3.168 | -.0056 | .5339 | .5038 | .5086 | .5146 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5264 | -.0009 |
| Stddev | .0020 | .0023 | .0001 |
| %RSD | 15.13 | .4298 | 13.90 |
| #1 | .0117 | .5280 | -.0008 |
| #2 | .0145 | .5248 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2258.6 | 54795. | 13511. |
| Stddev | 6.8 | 309. | 81. |
| %RSD | .30307 | .56452 | .60188 |
| #1 | 2253.8 | 55013. | 13454. |
| #2 | 2263.5 | 54576. | 13569. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 15:27:53 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2035 | 2.098 | .5265 | .0019 | .0039 | 2.017 | .5096 | 30.39 | .5213 | .5245 |
| Stddev | .0009 | .040 | .0009 | .0001 | .0004 | .010 | .0036 | .27 | .0013 | .0016 |
| %RSD | .4199 | 1.899 | .1738 | 2.663 | 10.07 | .4751 | .7094 | .9021 | .2561 | .3083 |
| #1 | .2029 | 2.070 | .5258 | .0020 | .0042 | 2.024 | .5071 | 30.20 | .5222 | .5257 |
| #2 | .2041 | 2.126 | .5271 | .0019 | .0037 | 2.011 | .5122 | 30.59 | .5203 | .5234 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5203 | .4919 | 2.077 | 27.30 | 25.81 | .4923 | .0003 | 26.67 | .5078 | 1.007 |
| Stddev | .0019 | .0010 | .011 | .07 | .16 | .0001 | .0010 | .05 | .0003 | .003 |
| %RSD | .3658 | .1934 | .5280 | .2478 | .6255 | .0180 | 350.3 | .1691 | .0542 | .2509 |
| #1 | .5217 | .4926 | 2.084 | 27.35 | 25.93 | .4922 | .0010 | 26.71 | .5080 | 1.009 |
| #2 | .5190 | .4912 | 2.069 | 27.26 | 25.70 | .4924 | -.0004 | 26.64 | .5076 | 1.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0082 | .5315 | .5150 | 3.176 | -.0034 | .5348 | .5105 | .5101 | .5183 |
| Stddev | .0078 | .0063 | .0021 | .0011 | .003 | .0017 | .0005 | .0021 | .0037 | .0042 |
| %RSD | 166.0 | 77.26 | .3884 | .2190 | .0774 | 49.73 | .0916 | .4197 | .7244 | .8098 |
| #1 | .0008 | .0037 | .5300 | .5158 | 3.178 | -.0046 | .5351 | .5120 | .5127 | .5154 |
| #2 | -.0102 | .0127 | .5329 | .5142 | 3.175 | -.0022 | .5344 | .5090 | .5075 | .5213 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5280 | -.0004 |
| Stddev | .0136 | .0012 | .0027 |
| %RSD | 175.7 | .2214 | 746.2 |
| #1 | -.0174 | .5289 | -.0023 |
| #2 | .0019 | .5272 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 54947. | 13604. |
| Stddev | 2.7 | 200. | 114. |
| %RSD | .11857 | .36378 | .83842 |
| #1 | 2269.5 | 54805. | 13524. |
| #2 | 2265.7 | 55088. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 15:32:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .0046 | .0010 | .0082 | .0187 | -.0004 | 10.17 | .0000 | -.0013 |
| Stddev | .0012 | .0164 | .0022 | .0018 | .0003 | .0001 | .0005 | .01 | .001 | .0007 |
| %RSD | 122.6 | 81.70 | 48.48 | 170.1 | 4.075 | .7545 | 121.0 | .1480 | 1378. | 50.62 |
| #1 | -.0019 | .0316 | .0062 | .0023 | .0080 | .0186 | -.0001 | 10.18 | .0004 | -.0009 |
| #2 | -.0001 | .0085 | .0030 | -.0002 | .0085 | .0188 | -.0007 | 10.16 | -.0005 | -.0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0046 | -.0033 | 1.389 | 1.508 | .0007 | .0001 | 15.51 | .0019 | .0033 |
| Stddev | .0005 | .0007 | .0168 | .187 | .129 | .0000 | .0000 | .06 | .0008 | .0009 |
| %RSD | 65.83 | 14.42 | 514.1 | 13.47 | 8.570 | .9219 | 28.47 | .3580 | 40.76 | 28.43 |
| #1 | .0012 | .0050 | .0086 | 1.256 | 1.599 | .0007 | .0001 | 15.47 | .0025 | .0026 |
| #2 | .0004 | .0041 | -.0151 | 1.521 | 1.416 | .0007 | .0001 | 15.55 | .0014 | .0040 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0067 | .0006 | .0022 | 6.501 | -.0022 | .0962 | -.0007 | -.0016 | .0007 |
| Stddev | .0127 | .0124 | .0007 | .0021 | .001 | .0015 | .0001 | .0012 | .0021 | .0002 |
| %RSD | 440.7 | 186.6 | 115.6 | 92.71 | .0208 | 65.00 | .1436 | 171.6 | 128.7 | 24.40 |
| #1 | .0061 | .0021 | .0011 | .0037 | 6.500 | -.0012 | .0963 | .0002 | -.0001 | .0008 |
| #2 | -.0118 | -.0155 | .0001 | .0008 | 6.502 | -.0033 | .0961 | -.0016 | -.0031 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | .0294 | .0006 |
| Stddev | .0153 | .0002 | .0006 |
| %RSD | 303.9 | .5800 | 99.34 |
| #1 | .0159 | .0296 | .0002 |
| #2 | -.0058 | .0293 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.5 | 54927. | 13433. |
| Stddev | .6 | 218. | 142. |
| %RSD | .02784 | .39768 | 1.0537 |
| #1 | 2270.0 | 55082. | 13333. |
| #2 | 2270.9 | 54773. | 13533. |

Sample Name: MC21083-2F Acquired: 6/3/2013 15:36:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0591 | 1.362 | -.0056 | .1595 | .0403 | -.0001 | 75.33 | .0121 | .0124 |
| Stddev | .0012 | .0014 | .005 | .0014 | .0004 | .0005 | .0003 | .07 | .0005 | .0007 |
| %RSD | 804.6 | 2.330 | .3695 | 25.13 | .2407 | 1.127 | 243.4 | .0964 | 3.927 | 5.886 |
| #1 | -.0007 | -.0600 | 1.365 | -.0066 | .1598 | .0406 | .0001 | 75.39 | .0118 | .0129 |
| #2 | .0010 | -.0581 | 1.358 | -.0046 | .1592 | .0400 | -.0004 | 75.28 | .0124 | .0119 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0045 | 20.02 | 8.059 | 11.68 | 9.673 | .0021 | 24.27 | .0085 | -.0022 |
| Stddev | .0000 | .0011 | .05 | .076 | .01 | .005 | .0004 | .01 | .0001 | .0020 |
| %RSD | 5.018 | 24.77 | .2662 | .9395 | .0517 | .0477 | 18.26 | .0548 | 1.676 | 89.88 |
| #1 | -.0007 | .0053 | 19.98 | 8.112 | 11.68 | 9.669 | .0024 | 24.28 | .0084 | -.0036 |
| #2 | -.0008 | .0037 | 20.06 | 8.005 | 11.69 | 9.676 | .0018 | 24.26 | .0086 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0496 | .0016 | .0094 | 12.42 | -.0041 | .7485 | -.0022 | -.0095 | .0001 |
| Stddev | .0029 | .0354 | .0011 | .0035 | .02 | .0026 | .0017 | .0005 | .0020 | .0004 |
| %RSD | 46.25 | 71.44 | 69.03 | 36.84 | .1427 | 64.31 | .2209 | 23.47 | 21.25 | 328.8 |
| #1 | -.0083 | .0246 | .0024 | .0070 | 12.40 | -.0022 | .7473 | -.0018 | -.0109 | .0004 |
| #2 | -.0042 | .0747 | .0008 | .0119 | 12.43 | -.0060 | .7497 | -.0026 | -.0081 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0150 | .0000 |
| Stddev | .0080 | .0001 | .0017 |
| %RSD | 72.21 | .5600 | 9997. |
| #1 | -.0054 | .0150 | .0012 |
| #2 | -.0167 | .0149 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.1 | 54865. | 13580. |
| Stddev | .7 | 278. | 130. |
| %RSD | .02943 | .50754 | .95497 |
| #1 | 2276.5 | 55062. | 13488. |
| #2 | 2275.6 | 54668. | 13672. |





Sample Name: CCV Acquired: 6/3/2013 15:44:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.632 | 1.976 | -.0013 | 1.975 | 1.893 | 1.866 | 9.503 | 1.966 | 2.041 |
| Stddev | .0020 | .225 | .007 | .0008 | .003 | .039 | .040 | .222 | .002 | .003 |
| %RSD | .8318 | 2.335 | .3693 | 59.68 | .1484 | 2.083 | 2.148 | 2.332 | .0880 | .1347 |
| #1 | .2451 | 9.473 | 1.971 | -.0018 | 1.972 | 1.865 | 1.838 | 9.346 | 1.964 | 2.039 |
| #2 | .2422 | 9.791 | 1.982 | -.0007 | 1.977 | 1.921 | 1.894 | 9.660 | 1.967 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.911 | 9.645 | 9.493 | 9.206 | 1.888 | 1.972 | 9.679 | 1.982 | 1.931 |
| Stddev | .006 | .001 | .206 | .241 | .212 | .008 | .003 | .221 | .003 | .004 |
| %RSD | .3006 | .0273 | 2.134 | 2.536 | 2.302 | .4369 | .1371 | 2.280 | .1651 | .2204 |
| #1 | 1.924 | 1.912 | 9.500 | 9.323 | 9.057 | 1.893 | 1.970 | 9.523 | 1.980 | 1.928 |
| #2 | 1.916 | 1.911 | 9.791 | 9.664 | 9.356 | 1.882 | 1.974 | 9.835 | 1.985 | 1.934 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0070 | 2.016 | 2.001 | .0254 | 1.977 | 1.871 | 1.938 | 1.952 | 1.914 |
| Stddev | .0009 | .0007 | .004 | .008 | .0017 | .006 | .041 | .007 | .001 | .006 |
| %RSD | 27.59 | 9.679 | .1769 | .4192 | 6.694 | .3072 | 2.200 | .3790 | .0297 | .2900 |
| #1 | .0037 | .0065 | 2.014 | 1.995 | .0242 | 1.973 | 1.842 | 1.944 | 1.952 | 1.918 |
| #2 | .0025 | .0075 | 2.019 | 2.007 | .0266 | 1.982 | 1.900 | 1.933 | 1.953 | 1.910 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.909 | -.0048 |
| Stddev | .0016 | .002 | .0003 |
| %RSD | 10.81 | .0990 | 6.153 |
| #1 | -.0156 | 1.908 | -.0051 |
| #2 | -.0134 | 1.911 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.7 | 54617. | 13824. |
| Stddev | 1.7 | 444. | 355. |
| %RSD | .07696 | .81372 | 2.5696 |
| #1 | 2262.9 | 54303. | 14075. |
| #2 | 2260.4 | 54931. | 13572. |





Sample Name: CCB Acquired: 6/3/2013 15:50:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0039 | .0015 | .0004 | .0014 | .0004 | .0001 | -.0019 | .0001 | .0000 |
| Stddev | .0005 | .0070 | .0010 | .0000 | .0005 | .0000 | .0001 | .0008 | .0000 | .000 |
| %RSD | 1306. | 181.3 | 66.81 | 11.23 | 35.36 | 4.953 | 64.59 | 43.24 | 36.92 | 589.7 |
| #1 | .0004 | .0011 | .0022 | .0004 | .0018 | .0004 | .0002 | -.0013 | .0001 | .0000 |
| #2 | -.0003 | -.0088 | .0008 | .0003 | .0011 | .0005 | .0001 | -.0025 | .0002 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0013 | .0029 | .0273 | .0026 | .0003 | .0004 | -.0143 | .0000 | .0001 |
| Stddev | .0005 | .0002 | .0011 | .0252 | .0075 | .0001 | .0000 | .0004 | .0001 | .0004 |
| %RSD | 160.4 | 17.79 | 37.24 | 92.34 | 295.5 | 19.29 | 4.384 | 2.896 | 173.4 | 252.8 |
| #1 | .0000 | .0011 | .0021 | .0451 | -.0028 | .0002 | .0004 | -.0141 | .0000 | .0004 |
| #2 | .0006 | .0014 | .0037 | .0095 | .0079 | .0003 | .0004 | -.0146 | .0001 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0007 | .0009 | .0012 | .0053 | -.0001 | .0001 | -.0002 | .0005 | .0001 |
| Stddev | .0009 | .0010 | .0006 | .0004 | .0001 | .0002 | .0001 | .0005 | .0000 | .0004 |
| %RSD | 168.9 | 142.2 | 60.21 | 34.44 | 2.073 | 190.1 | 88.70 | 242.0 | 7.768 | 844.1 |
| #1 | -.0001 | .0014 | .0013 | .0015 | .0054 | .0000 | .0001 | -.0005 | .0005 | -.0003 |
| #2 | .0011 | .0000 | .0005 | .0009 | .0052 | -.0002 | .0000 | .0001 | .0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .0003 | .0005 |
| Stddev | .0005 | .0001 | .0001 |
| %RSD | 23.05 | 19.44 | 23.22 |
| #1 | -.0027 | .0003 | .0004 |
| #2 | -.0019 | .0003 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2263.0 | 55406. | 13057. |
| Stddev | 1.3 | 288. | 592. |
| %RSD | .05854 | .51905 | 4.5313 |
| #1 | 2263.9 | 55203. | 12638. |
| #2 | 2262.0 | 55610. | 13475. |





Sample Name: MC21083-3F Acquired: 6/3/2013 15:55:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | .0358 | .0113 | .0000 | .0326 | .0146 | -.0001 | 20.24 | .0004 | -.0010 |
| Stddev | .0010 | .0127 | .0091 | .0016 | .0010 | .0001 | .0004 | .04 | .0003 | .0000 |
| %RSD | 48.05 | 35.40 | 80.35 | 11320. | 2.945 | .9085 | 258.5 | .2114 | 71.27 | 4.161 |
| #1 | .0013 | .0269 | .0049 | .0012 | .0332 | .0145 | -.0004 | 20.27 | .0002 | -.0010 |
| #2 | .0027 | .0448 | .0177 | -.0011 | .0319 | .0147 | .0001 | 20.21 | .0006 | -.0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0027 | .0088 | 2.483 | 2.529 | .1767 | .0012 | 11.58 | .0016 | -.0029 |
| Stddev | .0007 | .0011 | .0007 | .024 | .045 | .0003 | .0001 | .05 | .0000 | .0019 |
| %RSD | 195.5 | 40.40 | 7.783 | .9657 | 1.764 | .1578 | 7.575 | .4113 | 2.516 | 64.39 |
| #1 | .0008 | .0020 | .0093 | 2.500 | 2.561 | .1769 | .0011 | 11.61 | .0016 | -.0016 |
| #2 | -.0001 | .0035 | .0083 | 2.466 | 2.498 | .1765 | .0013 | 11.54 | .0016 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0032 | .0044 | .0089 | 4.205 | -.0017 | .1119 | .0007 | -.0001 | .0018 |
| Stddev | .0050 | .0015 | .0035 | .0007 | .015 | .0019 | .0003 | .0013 | .0086 | .0004 |
| %RSD | 957.4 | 48.14 | 78.81 | 7.458 | .3554 | 106.8 | .2666 | 172.9 | 7465. | 21.29 |
| #1 | .0040 | .0021 | .0069 | .0085 | 4.195 | -.0030 | .1121 | -.0002 | .0060 | .0021 |
| #2 | -.0030 | .0042 | .0019 | .0094 | 4.216 | -.0004 | .1117 | .0016 | -.0062 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | .0084 | .0009 |
| Stddev | .0047 | .0004 | .0010 |
| %RSD | 59.57 | 4.426 | 107.3 |
| #1 | -.0113 | .0082 | .0002 |
| #2 | -.0046 | .0087 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55210. | 13626. |
| Stddev | 4.5 | 207. | 37. |
| %RSD | .19965 | .37492 | .27059 |
| #1 | 2270.6 | 55357. | 13600. |
| #2 | 2264.2 | 55064. | 13652. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 15:59:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | .1040 | .6276 | .0041 | .1743 | .0572 | -.0003 | 50.88 | .0065 | .0120 |
| Stddev | .0060 | .0774 | .0207 | .0109 | .0003 | .0010 | .0003 | .12 | .0003 | .0011 |
| %RSD | 202.9 | 74.44 | 3.306 | 263.3 | .1631 | 1.769 | 102.2 | .2433 | 4.505 | 9.391 |
| #1 | .0013 | .1587 | .6129 | .0118 | .1745 | .0579 | -.0005 | 50.79 | .0067 | .0128 |
| #2 | -.0072 | .0492 | .6422 | -.0036 | .1741 | .0565 | -.0001 | 50.97 | .0063 | .0112 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0118 | 58.64 | 10.70 | 5.684 | 1.341 | .0019 | 21.17 | .0073 | -.0054 |
| Stddev | .0001 | .0000 | .02 | .05 | .168 | .001 | .0005 | .01 | .0015 | .0003 |
| %RSD | 6.164 | .0595 | .0278 | .4885 | 2.946 | .0380 | 26.25 | .0595 | 20.10 | 5.349 |
| #1 | -.0011 | .0118 | 58.63 | 10.74 | 5.802 | 1.340 | .0023 | 21.16 | .0084 | -.0052 |
| #2 | -.0010 | .0118 | 58.65 | 10.67 | 5.566 | 1.341 | .0016 | 21.18 | .0063 | -.0056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0155 | .0345 | .0120 | .0143 | 10.65 | -.0048 | .4448 | -.0012 | .0039 | -.0008 |
| Stddev | .0050 | .0272 | .0080 | .0140 | .02 | .0014 | .0004 | .0016 | .0027 | .0033 |
| %RSD | 32.49 | 78.69 | 66.27 | 98.12 | .2227 | 29.03 | .0928 | 128.6 | 68.78 | 410.2 |
| #1 | .0191 | .0153 | .0177 | .0044 | 10.63 | -.0058 | .4445 | -.0001 | .0058 | -.0031 |
| #2 | .0120 | .0537 | .0064 | .0242 | 10.67 | -.0038 | .4451 | -.0023 | .0020 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0109 | .0103 | .0013 |
| Stddev | .0100 | .0012 | .0011 |
| %RSD | 91.79 | 11.47 | 86.17 |
| #1 | .0179 | .0094 | .0005 |
| #2 | .0038 | .0111 | .0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.0 | 54978. | 13606. |
| Stddev | 3.3 | 64. | 102. |
| %RSD | .14413 | .11660 | .74944 |
| #1 | 2263.3 | 54933. | 13678. |
| #2 | 2258.7 | 55023. | 13534. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:04:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0265 | .0088 | .0012 | .2087 | .0333 | -.0005 | 151.3 | -.0002 | -.0013 |
| Stddev | .0006 | .0537 | .0083 | .0099 | .0015 | .0012 | .0001 | .1 | .0001 | .0002 |
| %RSD | 23.70 | 202.9 | 93.76 | 835.3 | .7211 | 3.610 | 26.03 | .0455 | 22.88 | 12.16 |
| #1 | -.0031 | .0644 | .0030 | -.0058 | .2098 | .0324 | -.0006 | 151.4 | -.0003 | -.0014 |
| #2 | -.0022 | -.0115 | .0147 | .0082 | .2077 | .0341 | -.0004 | 151.3 | -.0002 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0084 | .0570 | 4.691 | 18.59 | .2513 | .0011 | 41.42 | .0048 | -.0042 |
| Stddev | .0007 | .0043 | .0096 | .232 | .00 | .0000 | .0008 | .00 | .0013 | .0074 |
| %RSD | 23.33 | 50.91 | 16.88 | 4.948 | .0110 | .0068 | 77.56 | .0059 | 28.28 | 174.5 |
| #1 | .0036 | .0115 | .0638 | 4.527 | 18.59 | .2513 | .0017 | 41.42 | .0057 | -.0094 |
| #2 | .0026 | .0054 | .0502 | 4.855 | 18.59 | .2513 | .0005 | 41.42 | .0038 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0015 | .0068 | .0096 | 8.671 | -.0060 | .5040 | .0050 | -.0029 | .0008 |
| Stddev | .0169 | .0051 | .0005 | .0138 | .027 | .0025 | .0003 | .0037 | .0031 | .0054 |
| %RSD | 1888. | 338.9 | 7.334 | 143.8 | .3164 | 42.40 | .0566 | 74.02 | 109.0 | 709.5 |
| #1 | -.0111 | .0051 | .0072 | -.0002 | 8.690 | -.0078 | .5038 | .0076 | -.0051 | .0046 |
| #2 | .0128 | -.0021 | .0065 | .0193 | 8.651 | -.0042 | .5042 | .0024 | -.0007 | -.0030 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0090 | .0149 | .0040 |
| Stddev | .0318 | .0007 | .0013 |
| %RSD | 352.5 | 4.432 | 33.10 |
| #1 | .0135 | .0145 | .0050 |
| #2 | -.0315 | .0154 | .0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2268.7 | 54936. | 13514. |
| Stddev | 5.3 | 261. | 60. |
| %RSD | .23143 | .47443 | .44687 |
| #1 | 2272.4 | 55121. | 13471. |
| #2 | 2264.9 | 54752. | 13557. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:08:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | -.1326 | .0234 | .0029 | .2131 | .0396 | -.0015 | 151.8 | .0019 | -.0026 |
| Stddev | .0014 | .0003 | .0188 | .0056 | .0028 | .0030 | .0010 | .6 | .0004 | .0004 |
| %RSD | 17.09 | .2095 | 80.53 | 195.6 | 1.323 | 7.506 | 64.66 | .3951 | 19.48 | 16.46 |
| #1 | -.0094 | -.1324 | .0367 | -.0011 | .2111 | .0375 | -.0022 | 152.3 | .0016 | -.0029 |
| #2 | -.0074 | -.1328 | .0101 | .0068 | .2151 | .0417 | -.0008 | 151.4 | .0021 | -.0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0138 | .0212 | 4.754 | 19.07 | .2537 | .0047 | 41.92 | .0019 | -.0018 |
| Stddev | .0028 | .0136 | .0132 | .157 | .39 | .0001 | .0003 | .03 | .0031 | .0136 |
| %RSD | 380.7 | 98.74 | 62.30 | 3.293 | 2.031 | .0548 | 5.427 | .0699 | 160.2 | 765.8 |
| #1 | .0027 | .0042 | .0305 | 4.865 | 19.34 | .2538 | .0049 | 41.90 | .0041 | .0078 |
| #2 | -.0012 | .0234 | .0118 | 4.643 | 18.80 | .2536 | .0046 | 41.94 | -.0003 | -.0114 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0307 | .1790 | .0114 | .0207 | 8.701 | -.0157 | .5040 | .0019 | .0218 | -.0021 |
| Stddev | .0369 | .0432 | .0154 | .0227 | .006 | .0053 | .0046 | .0007 | .0054 | .0026 |
| %RSD | 120.0 | 24.16 | 135.6 | 109.5 | .0738 | 33.70 | .9191 | 36.59 | 24.56 | 122.8 |
| #1 | .0047 | .1484 | .0223 | .0368 | 8.697 | -.0120 | .5072 | .0014 | .0256 | -.0003 |
| #2 | .0568 | .2095 | .0005 | .0047 | 8.706 | -.0194 | .5007 | .0023 | .0181 | -.0040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0771 | .0196 | .0108 |
| Stddev | .0502 | .0031 | .0008 |
| %RSD | 65.18 | 15.91 | 7.331 |
| #1 | .0416 | .0174 | .0114 |
| #2 | .1126 | .0218 | .0102 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.6 | 54659. | 13547. |
| Stddev | .0 | 154. | 240. |
| %RSD | .00035 | .28153 | 1.7736 |
| #1 | 2266.6 | 54551. | 13377. |
| #2 | 2266.6 | 54768. | 13717. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 16:12:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1472 | .0064 | .0013 | .0059 | .0108 | -.0001 | 10.85 | .0001 | .0005 |
| Stddev | .0004 | .0110 | .0019 | .0005 | .0002 | .0005 | .0000 | .15 | .0001 | .0003 |
| %RSD | 228.7 | 7.473 | 29.14 | 39.64 | 4.181 | 4.323 | 6.361 | 1.393 | 97.71 | 61.06 |
| #1 | .0001 | .1549 | .0077 | .0017 | .0061 | .0105 | -.0001 | 10.75 | .0000 | .0003 |
| #2 | -.0004 | .1394 | .0051 | .0010 | .0057 | .0111 | -.0001 | 10.96 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0008 | .9972 | 1.344 | 1.482 | .2855 | .0001 | 3.066 | .0006 | -.0003 |
| Stddev | .0000 | .0008 | .0126 | .025 | .025 | .0014 | .0004 | .015 | .0001 | .0000 |
| %RSD | 4.376 | 93.96 | 1.267 | 1.888 | 1.665 | .4748 | 271.6 | .4858 | 10.79 | 6.322 |
| #1 | .0005 | .0013 | .9883 | 1.326 | 1.500 | .2845 | .0004 | 3.055 | .0006 | -.0003 |
| #2 | .0006 | .0003 | 1.006 | 1.361 | 1.465 | .2864 | -.0001 | 3.076 | .0005 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0053 | .0024 | .0051 | 2.406 | -.0013 | .0666 | .0012 | -.0017 | .0002 |
| Stddev | .0006 | .0136 | .0021 | .0000 | .005 | .0007 | .0008 | .0011 | .0000 | .0001 |
| %RSD | 20090. | 255.1 | 87.00 | .9200 | .1936 | 54.27 | 1.140 | 89.49 | 1.753 | 45.04 |
| #1 | -.0004 | -.0043 | .0009 | .0051 | 2.402 | -.0018 | .0661 | .0004 | -.0017 | .0001 |
| #2 | .0004 | .0149 | .0039 | .0051 | 2.409 | -.0008 | .0671 | .0019 | -.0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0095 | .0005 |
| Stddev | .0014 | .0001 | .0004 |
| %RSD | 19.79 | 1.570 | 88.73 |
| #1 | .0082 | .0094 | .0008 |
| #2 | .0062 | .0097 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.1 | 55194. | 13500. |
| Stddev | 8.3 | 210. | 271. |
| %RSD | .36530 | .37965 | 2.0058 |
| #1 | 2273.0 | 55342. | 13692. |
| #2 | 2261.3 | 55046. | 13309. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:17:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0143 | .7175 | -.0029 | .1047 | .0176 | .0000 | 97.96 | .0053 | .0056 |
| Stddev | .0011 | .0040 | .0013 | .0025 | .0018 | .0011 | .000 | .13 | .0003 | .0001 |
| %RSD | 128.8 | 28.32 | .1755 | 85.19 | 1.710 | 6.300 | 407.9 | .1344 | 5.004 | 1.079 |
| #1 | -.0001 | .0114 | .7167 | -.0012 | .1060 | .0168 | .0001 | 97.87 | .0055 | .0056 |
| #2 | -.0016 | .0171 | .7184 | -.0046 | .1035 | .0183 | -.0001 | 98.06 | .0051 | .0056 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0028 | 14.70 | 3.497 | 12.39 | 2.530 | .0054 | 116.7 | .0048 | -.0002 |
| Stddev | .0028 | .0001 | .03 | .106 | .13 | .005 | .0002 | .1 | .0001 | .0012 |
| %RSD | 175.3 | 4.033 | .1934 | 3.037 | 1.025 | .2087 | 3.291 | .1156 | 2.920 | 552.1 |
| #1 | .0036 | .0027 | 14.68 | 3.422 | 12.30 | 2.534 | .0053 | 116.6 | .0049 | -.0011 |
| #2 | -.0004 | .0028 | 14.72 | 3.572 | 12.48 | 2.526 | .0055 | 116.8 | .0047 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | -.0160 | .0028 | .0107 | 16.44 | .0009 | .4409 | -.0003 | -.0046 | -.0002 |
| Stddev | .0074 | .0117 | .0000 | .0026 | .02 | .0021 | .0016 | .0008 | .0025 | .0017 |
| %RSD | 237.0 | 72.88 | .6021 | 24.10 | .0986 | 241.4 | .3633 | 289.8 | 54.23 | 860.8 |
| #1 | .0021 | -.0078 | .0028 | .0089 | 16.45 | .0024 | .4398 | -.0008 | -.0064 | -.0014 |
| #2 | -.0083 | -.0242 | .0028 | .0126 | 16.43 | -.0006 | .4420 | .0003 | -.0029 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0121 | -.0007 |
| Stddev | .0014 | .0004 | .0001 |
| %RSD | 36.18 | 3.636 | 21.37 |
| #1 | .0049 | .0118 | -.0008 |
| #2 | .0029 | .0124 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.0 | 55002. | 13529. |
| Stddev | 10.4 | 315. | 79. |
| %RSD | .45738 | .57272 | .58348 |
| #1 | 2258.7 | 54779. | 13585. |
| #2 | 2273.3 | 55225. | 13473. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:21:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0042 | .1464 | .7476 | -.0038 | .1022 | .0299 | -.0006 | 101.5 | .0049 | .0049 |
| Stddev | .0180 | .0386 | .0166 | .0019 | .0031 | .0035 | .0013 | .1 | .0029 | .0003 |
| %RSD | 432.5 | 26.39 | 2.227 | 50.34 | 2.988 | 11.85 | 205.4 | .0949 | 59.41 | 6.921 |
| #1 | .0169 | .1737 | .7594 | -.0052 | .1000 | .0274 | .0003 | 101.6 | .0069 | .0047 |
| #2 | -.0086 | .1191 | .7359 | -.0025 | .1043 | .0324 | -.0016 | 101.5 | .0028 | .0051 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0121 | 14.93 | 3.528 | 12.66 | 2.566 | .0035 | 117.7 | .0041 | -.0093 |
| Stddev | .0055 | .0087 | .05 | .580 | .06 | .011 | .0001 | .4 | .0053 | .0083 |
| %RSD | 114.2 | 72.16 | .3576 | 16.43 | .4413 | .4280 | 2.810 | .3411 | 127.2 | 89.62 |
| #1 | -.0009 | .0182 | 14.97 | 3.118 | 12.70 | 2.574 | .0036 | 118.0 | .0079 | -.0034 |
| #2 | -.0087 | .0059 | 14.90 | 3.938 | 12.62 | 2.559 | .0034 | 117.4 | .0004 | -.0152 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0100 | .0442 | .0146 | .0454 | 16.56 | -.0095 | .4450 | -.0013 | .0039 | .0022 |
| Stddev | .0197 | .0024 | .0030 | .0033 | .05 | .0014 | .0025 | .0013 | .0178 | .0089 |
| %RSD | 197.8 | 5.458 | 20.54 | 7.323 | .2782 | 15.18 | .5583 | 101.8 | 461.4 | 409.7 |
| #1 | -.0239 | .0425 | .0168 | .0478 | 16.53 | -.0106 | .4467 | -.0022 | -.0087 | .0085 |
| #2 | .0040 | .0459 | .0125 | .0431 | 16.59 | -.0085 | .4432 | -.0004 | .0164 | -.0041 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1148 | .0253 | .0063 |
| Stddev | .0133 | .0020 | .0050 |
| %RSD | 11.59 | 7.962 | 78.82 |
| #1 | .1054 | .0239 | .0099 |
| #2 | .1242 | .0267 | .0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54978. | 13589. |
| Stddev | 1.1 | 62. | 42. |
| %RSD | .04774 | .11341 | .30646 |
| #1 | 2268.1 | 54934. | 13560. |
| #2 | 2266.5 | 55022. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 16:25:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | .8160 | .0012 | .0615 | .0361 | -.0005 | 18.24 | .0068 | .0126 |
| Stddev | .0031 | .0083 | .0103 | .0056 | .0000 | .0002 | .0001 | .01 | .0000 | .0008 |
| %RSD | 965.0 | 7819. | 1.266 | 463.0 | .0264 | .5943 | 29.14 | .0549 | .2080 | 6.104 |
| #1 | .0025 | -.0060 | .8233 | -.0027 | .0615 | .0359 | -.0006 | 18.24 | .0068 | .0121 |
| #2 | -.0019 | .0057 | .8087 | .0052 | .0615 | .0362 | -.0004 | 18.25 | .0068 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0021 | 32.32 | 9.163 | 3.416 | .7821 | .0030 | 5.087 | .0043 | -.0032 |
| Stddev | .0021 | .0004 | .06 | .163 | .064 | .0003 | .0002 | .058 | .0011 | .0001 |
| %RSD | 3293. | 19.58 | .1951 | 1.782 | 1.879 | .0444 | 7.304 | 1.148 | 24.94 | 3.623 |
| #1 | -.0014 | .0018 | 32.28 | 9.048 | 3.370 | .7818 | .0032 | 5.045 | .0050 | -.0031 |
| #2 | .0015 | .0023 | 32.36 | 9.279 | 3.461 | .7823 | .0029 | 5.128 | .0035 | -.0033 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0094 | -.0117 | .0033 | .0095 | 6.824 | -.0035 | .2096 | -.0009 | .0031 | .0005 |
| Stddev | .0039 | .0048 | .0027 | .0032 | .005 | .0003 | .0007 | .0001 | .0005 | .0023 |
| %RSD | 41.80 | 40.79 | 82.70 | 33.29 | .0737 | 7.897 | .3219 | 7.392 | 17.07 | 480.0 |
| #1 | .0121 | -.0084 | .0052 | .0073 | 6.828 | -.0033 | .2091 | -.0008 | .0034 | .0021 |
| #2 | .0066 | -.0151 | .0014 | .0117 | 6.821 | -.0037 | .2101 | -.0009 | .0027 | -.0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0021 | .0113 | -.0004 |
| Stddev | .0169 | .0001 | .0009 |
| %RSD | 810.2 | .7708 | 207.1 |
| #1 | -.0098 | .0113 | .0002 |
| #2 | .0140 | .0112 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 54793. | 13426. |
| Stddev | 1.5 | 250. | 55. |
| %RSD | .06700 | .45707 | .41010 |
| #1 | 2279.8 | 54970. | 13387. |
| #2 | 2277.7 | 54616. | 13465. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:30:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0067 | .7462 | .0012 | .1292 | .1098 | -.0002 | 45.68 | .0058 | .0009 |
| Stddev | .0020 | .0139 | .0014 | .0004 | .0002 | .0001 | .0000 | .05 | .0001 | .0001 |
| %RSD | 286.8 | 208.0 | .1813 | 35.50 | .1735 | .1048 | 28.53 | .1007 | 1.662 | 9.527 |
| #1 | .0021 | .0165 | .7472 | .0009 | .1291 | .1099 | -.0002 | 45.71 | .0057 | .0009 |
| #2 | -.0007 | -.0031 | .7452 | .0015 | .1294 | .1097 | -.0001 | 45.65 | .0059 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 67.04 | 8.875 | 5.036 | 1.707 | .0000 | 16.50 | .0018 | -.0015 |
| Stddev | .0000 | .0001 | .05 | .017 | .034 | .000 | .0001 | .02 | .0006 | .0013 |
| %RSD | 3.302 | 5.950 | .0700 | .1878 | .6648 | .0090 | 869.8 | .1476 | 35.93 | 91.12 |
| #1 | -.0005 | .0023 | 67.07 | 8.864 | 5.012 | 1.707 | .0000 | 16.48 | .0022 | -.0005 |
| #2 | -.0006 | .0025 | 67.00 | 8.887 | 5.060 | 1.707 | .0000 | 16.52 | .0013 | -.0024 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0106 | .0031 | .0044 | 14.09 | -.0014 | .4141 | .0009 | -.0021 | .0000 |
| Stddev | .0013 | .0007 | .0003 | .0019 | .01 | .0012 | .0002 | .0012 | .0008 | .000 |
| %RSD | 35.33 | 6.363 | 10.33 | 43.45 | .0495 | 85.17 | .0447 | 140.3 | 37.80 | 786.7 |
| #1 | .0028 | .0101 | .0034 | .0058 | 14.09 | -.0006 | .4140 | .0017 | -.0026 | -.0003 |
| #2 | .0046 | .0111 | .0029 | .0031 | 14.08 | -.0023 | .4143 | .0000 | -.0015 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0056 | -.0022 |
| Stddev | .0109 | .0001 | .0002 |
| %RSD | 646.0 | 1.229 | 9.862 |
| #1 | .0060 | .0057 | -.0020 |
| #2 | -.0094 | .0056 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.2 | 54625. | 13632. |
| Stddev | 3.8 | 117. | 36. |
| %RSD | .16608 | .21429 | .26138 |
| #1 | 2269.8 | 54542. | 13657. |
| #2 | 2264.5 | 54708. | 13607. |

Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:34:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .1151 | .7660 | -.0027 | .1289 | .1154 | -.0003 | 46.86 | .0047 | .0002 |
| Stddev | .0008 | .0117 | .0007 | .0102 | .0022 | .0011 | .0004 | .27 | .0001 | .0003 |
| %RSD | 480.4 | 10.13 | .0932 | 380.7 | 1.722 | .9430 | 132.1 | .5867 | 2.956 | 126.3 |
| #1 | .0007 | .1069 | .7665 | .0045 | .1273 | .1162 | -.0006 | 46.66 | .0046 | .0005 |
| #2 | -.0004 | .1234 | .7655 | -.0099 | .1305 | .1147 | .0000 | 47.05 | .0048 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0071 | .0034 | 67.68 | 9.234 | 5.021 | 1.731 | -.0002 | 16.63 | .0027 | -.0019 |
| Stddev | .0013 | .0049 | .06 | .054 | .299 | .006 | .0002 | .22 | .0004 | .0007 |
| %RSD | 18.04 | 143.0 | .0889 | .5859 | 5.954 | .3443 | 82.36 | 1.328 | 15.14 | 35.53 |
| #1 | .0080 | .0069 | 67.63 | 9.272 | 5.232 | 1.736 | -.0003 | 16.47 | .0024 | -.0024 |
| #2 | .0062 | .0000 | 67.72 | 9.196 | 4.809 | 1.727 | -.0001 | 16.79 | .0030 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0185 | -.0275 | .0152 | .0149 | 13.99 | -.0059 | .4229 | -.0006 | .0087 | -.0040 |
| Stddev | .0075 | .0194 | .0104 | .0051 | .01 | .0018 | .0010 | .0001 | .0013 | .0049 |
| %RSD | 40.75 | 70.69 | 68.44 | 34.30 | .0640 | 30.82 | .2462 | 11.27 | 15.39 | 122.6 |
| #1 | .0238 | -.0412 | .0079 | .0185 | 13.99 | -.0071 | .4222 | -.0006 | .0096 | -.0005 |
| #2 | .0132 | -.0137 | .0226 | .0113 | 14.00 | -.0046 | .4236 | -.0007 | .0077 | -.0075 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0361 | .0098 | .0019 |
| Stddev | .0160 | .0003 | .0043 |
| %RSD | 44.35 | 2.813 | 225.9 |
| #1 | .0474 | .0100 | .0049 |
| #2 | .0248 | .0096 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.8 | 54855. | 13442. |
| Stddev | 3.9 | 501. | 95. |
| %RSD | .17180 | .91294 | .70769 |
| #1 | 2282.1 | 54501. | 13509. |
| #2 | 2287.6 | 55209. | 13374. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 16:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2432 | 9.798 | 1.957 | -.0008 | 1.968 | 1.936 | 1.919 | 9.751 | 1.956 | 2.027 |
| Stddev | .0006 | .049 | .003 | .0004 | .002 | .004 | .005 | .038 | .000 | .000 |
| %RSD | .2518 | .5002 | .1635 | 51.99 | .0813 | .1943 | .2680 | .3942 | .0145 | .0027 |
| #1 | .2436 | 9.833 | 1.959 | -.0005 | 1.969 | 1.938 | 1.922 | 9.778 | 1.956 | 2.027 |
| #2 | .2427 | 9.764 | 1.954 | -.0011 | 1.967 | 1.933 | 1.915 | 9.724 | 1.956 | 2.027 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.925 | 1.917 | 9.786 | 9.722 | 9.482 | 1.900 | 1.959 | 9.806 | 1.953 | 1.913 |
| Stddev | .002 | .000 | .039 | .015 | .015 | .002 | .001 | .020 | .000 | .002 |
| %RSD | .0923 | .0131 | .3980 | .1586 | .1526 | .0969 | .0383 | .1994 | .0088 | .0827 |
| #1 | 1.924 | 1.917 | 9.814 | 9.733 | 9.472 | 1.899 | 1.958 | 9.820 | 1.952 | 1.911 |
| #2 | 1.926 | 1.916 | 9.759 | 9.711 | 9.493 | 1.902 | 1.959 | 9.792 | 1.953 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0009 | 1.997 | 1.977 | .0604 | 1.941 | 1.918 | 1.936 | 1.942 | 1.919 |
| Stddev | .0034 | .0035 | .002 | .001 | .0008 | .003 | .005 | .002 | .002 | .003 |
| %RSD | 306.5 | 387.8 | .0947 | .0601 | 1.323 | .1719 | .2674 | .1188 | .0917 | .1389 |
| #1 | .0035 | -.0033 | 1.996 | 1.978 | .0610 | 1.943 | 1.922 | 1.937 | 1.943 | 1.917 |
| #2 | -.0013 | .0016 | 1.999 | 1.976 | .0599 | 1.939 | 1.915 | 1.934 | 1.940 | 1.921 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0114 | 1.895 | -.0045 |
| Stddev | .0020 | .001 | .0002 |
| %RSD | 17.72 | .0405 | 4.272 |
| #1 | -.0129 | 1.895 | -.0047 |
| #2 | -.0100 | 1.894 | -.0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 54324. | 13533. |
| Stddev | 3.3 | 168. | 117. |
| %RSD | .14437 | .30838 | .86237 |
| #1 | 2270.7 | 54442. | 13451. |
| #2 | 2275.4 | 54205. | 13616. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 16:43:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0080 | F.0025 | .0008 | .0021 | .0010 | F.0008 | .0012 | F.0005 |
| Stddev | .0002 | .0144 | .0002 | .0012 | .0007 | .0003 | .0001 | .0015 | .0001 |
| %RSD | 216.0 | 180.5 | 8.827 | 154.4 | 31.77 | 30.94 | 9.885 | 119.2 | 19.63 |
| #1 | .0001 | .0181 | .0027 | .0016 | .0025 | .0012 | .0009 | .0023 | .0005 |
| #2 | -.0003 | -.0022 | .0024 | -.0001 | .0016 | .0008 | .0008 | .0002 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0007 | .0068 | .0128 | .0005 | .0009 | .0012 | -.0368 |
| Stddev | .0000 | .0003 | .0005 | .0015 | .0307 | .0105 | .0002 | .0005 | .0055 |
| %RSD | 2.168 | 51.46 | 69.10 | 22.83 | 239.4 | 2142. | 18.74 | 43.10 | 14.99 |
| #1 | .0003 | .0009 | .0010 | .0079 | .0346 | -.0069 | .0010 | .0016 | -.0329 |
| #2 | .0003 | .0004 | .0004 | .0057 | -.0089 | .0079 | .0008 | .0009 | -.0407 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0020 | -.0006 | .0011 | .0025 | .0051 | .0003 | .0007 |
| Stddev | .0000 | .0002 | .0016 | .0048 | .0003 | .0003 | .0002 | .0001 | .0001 |
| %RSD | 3.512 | 34.90 | 77.91 | 849.5 | 23.08 | 13.42 | 3.113 | 24.84 | 10.14 |
| #1 | .0003 | .0004 | .0009 | -.0039 | .0013 | .0023 | .0050 | .0002 | .0008 |
| #2 | .0003 | .0007 | .0031 | .0028 | .0009 | .0027 | .0052 | .0003 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0009 | .0003 | -.0004 | .0004 | .0003 |
| Stddev | .0001 | .0013 | .0004 | .0008 | .0001 | .0002 |
| %RSD | 13.58 | 133.0 | 127.8 | 203.1 | 20.59 | 56.25 |
| #1 | .0007 | .0001 | .0005 | -.0010 | .0005 | .0002 |
| #2 | .0006 | .0018 | .0000 | .0002 | .0004 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.0 | 55005. | 13447. |
| Stddev | 3.6 | 124. | 92. |
| %RSD | .16028 | .22605 | .68400 |
| #1 | 2278.6 | 54917. | 13382. |
| #2 | 2273.4 | 55093. | 13512. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 16:47:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0194 | .0049 | .0001 | .0141 | .0103 | .0001 | 13.76 | .0001 | -.0002 |
| Stddev | .0005 | .0118 | .0009 | .0010 | .0016 | .0001 | .0000 | .10 | .0002 | .0000 |
| %RSD | 72.62 | 60.59 | 17.93 | 981.0 | 11.07 | .5165 | 5.349 | .7093 | 252.7 | 19.14 |
| #1 | -.0010 | .0111 | .0043 | -.0006 | .0152 | .0102 | .0001 | 13.83 | .0002 | -.0002 |
| #2 | -.0003 | .0277 | .0056 | .0008 | .0130 | .0103 | .0001 | 13.69 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0013 | .0099 | 1.586 | 1.751 | .0160 | .0010 | 18.92 | .0001 | .0010 |
| Stddev | .0004 | .0001 | .0013 | .003 | .001 | .0001 | .0002 | .03 | .0002 | .0010 |
| %RSD | 1638. | 4.352 | 12.68 | .1669 | .0693 | .7346 | 21.64 | .1431 | 149.3 | 99.29 |
| #1 | -.0002 | .0013 | .0090 | 1.588 | 1.752 | .0159 | .0008 | 18.94 | .0000 | .0003 |
| #2 | .0003 | .0013 | .0108 | 1.585 | 1.750 | .0160 | .0011 | 18.90 | .0003 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0036 | .0105 | .0005 | .0036 | 3.721 | -.0008 | .0818 | .0002 | -.0002 | .0006 |
| Stddev | .0006 | .0072 | .0011 | .0012 | .009 | .0003 | .0004 | .0006 | .0001 | .0019 |
| %RSD | 17.54 | 68.94 | 231.7 | 33.00 | .2326 | 36.44 | .4651 | 275.6 | 48.85 | 324.9 |
| #1 | .0041 | .0156 | .0012 | .0045 | 3.715 | -.0010 | .0821 | -.0002 | -.0001 | .0020 |
| #2 | .0032 | .0054 | -.0003 | .0028 | 3.727 | -.0006 | .0815 | .0006 | -.0003 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .0092 | -.0004 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 16.94 | .7238 | 71.90 |
| #1 | .0046 | .0092 | -.0006 |
| #2 | .0058 | .0091 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.7 | 55271. | 13533. |
| Stddev | .8 | 265. | 38. |
| %RSD | .03691 | .47901 | .28064 |
| #1 | 2282.3 | 55084. | 13506. |
| #2 | 2281.1 | 55459. | 13560. |

Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 16:51:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0145 | .0034 | -.0008 | .0145 | .0099 | -.0001 | 14.09 | .0001 | .0001 |
| Stddev | .0007 | .0023 | .0007 | .0001 | .0008 | .0002 | .0002 | .08 | .0000 | .0000 |
| %RSD | 147.6 | 16.13 | 19.42 | 9.872 | 5.495 | 2.025 | 212.1 | .5730 | 51.01 | 23.66 |
| #1 | .0000 | .0129 | .0029 | -.0007 | .0150 | .0101 | .0000 | 14.14 | .0001 | .0001 |
| #2 | -.0010 | .0162 | .0039 | -.0008 | .0139 | .0098 | -.0002 | 14.03 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0025 | .0120 | 1.524 | 1.711 | .0156 | .0008 | 19.41 | .0001 | .0001 |
| Stddev | .0001 | .0002 | .0036 | .002 | .021 | .0000 | .0001 | .04 | .0002 | .0006 |
| %RSD | 9.773 | 8.738 | 29.71 | .1015 | 1.238 | .0006 | 16.26 | .2311 | 152.6 | 1051. |
| #1 | .0011 | .0027 | .0145 | 1.526 | 1.726 | .0156 | .0007 | 19.45 | .0003 | -.0004 |
| #2 | .0009 | .0024 | .0095 | 1.523 | 1.696 | .0156 | .0008 | 19.38 | .0000 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0091 | .0024 | .0011 | 3.761 | -.0020 | .0833 | .0004 | .0002 | .0000 |
| Stddev | .0025 | .0060 | .0016 | .0006 | .008 | .0003 | .0003 | .0009 | .0006 | .000 |
| %RSD | 94.68 | 66.58 | 66.08 | 61.04 | .2012 | 15.86 | .3267 | 211.9 | 327.5 | 419.9 |
| #1 | .0009 | .0134 | .0035 | .0015 | 3.766 | -.0018 | .0835 | -.0002 | -.0002 | .0001 |
| #2 | .0045 | .0048 | .0013 | .0006 | 3.756 | -.0022 | .0831 | .0010 | .0006 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0032 | .0119 | -.0002 |
| Stddev | .0035 | .0000 | .0001 |
| %RSD | 110.6 | .2087 | 56.89 |
| #1 | -.0007 | .0119 | -.0003 |
| #2 | -.0056 | .0119 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.9 | 54996. | 13525. |
| Stddev | .3 | 136. | 119. |
| %RSD | .01524 | .24784 | .88215 |
| #1 | 2270.6 | 55092. | 13440. |
| #2 | 2271.1 | 54900. | 13609. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 16:56:04 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0068 | .2378 | .0071 | .2976 | .0516 | -.0003 | 65.80 | .0018 | .0148 |
| Stddev | .0032 | .0030 | .0009 | .0028 | .0021 | .0004 | .0006 | .90 | .0003 | .0003 |
| %RSD | 177.7 | 43.80 | .3679 | 40.12 | .7013 | .8672 | 191.3 | 1.375 | 17.28 | 1.853 |
| #1 | .0005 | .0089 | .2372 | .0091 | .2961 | .0513 | -.0007 | 65.16 | .0020 | .0147 |
| #2 | -.0040 | .0047 | .2384 | .0051 | .2990 | .0519 | .0001 | 66.44 | .0016 | .0150 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | 50.00 | 9.206 | 10.57 | 2.900 | .0012 | 28.00 | .0024 | .0017 |
| Stddev | .0003 | .0028 | .64 | .412 | .24 | .013 | .0005 | .33 | .0007 | .0002 |
| %RSD | 214.4 | 135.6 | 1.279 | 4.473 | 2.251 | .4516 | 37.54 | 1.192 | 31.25 | 9.339 |
| #1 | -.0003 | .0040 | 49.55 | 8.915 | 10.40 | 2.909 | .0015 | 27.76 | .0019 | .0016 |
| #2 | .0001 | .0001 | 50.46 | 9.497 | 10.74 | 2.890 | .0009 | 28.23 | .0029 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0111 | .0033 | .0046 | 7.562 | -.0017 | .4068 | -.0009 | .0042 | -.0015 |
| Stddev | .0066 | .0037 | .0006 | .0069 | .001 | .0014 | .0044 | .0017 | .0015 | .0013 |
| %RSD | 695.7 | 33.46 | 17.13 | 150.2 | .0071 | 83.36 | 1.078 | 190.2 | 35.39 | 86.99 |
| #1 | -.0056 | .0137 | .0037 | -.0003 | 7.562 | -.0007 | .4037 | .0003 | .0031 | -.0006 |
| #2 | .0037 | .0084 | .0029 | .0095 | 7.561 | -.0027 | .4099 | -.0021 | .0052 | -.0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0360 | .0145 | -.0002 |
| Stddev | .0101 | .0002 | .0014 |
| %RSD | 28.14 | 1.415 | 566.2 |
| #1 | .0288 | .0144 | -.0012 |
| #2 | .0432 | .0147 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.7 | 54867. | 13490. |
| Stddev | 2.5 | 104. | 265. |
| %RSD | .10922 | .18922 | 1.9659 |
| #1 | 2269.9 | 54793. | 13677. |
| #2 | 2273.4 | 54940. | 13302. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 17:00:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .2560 | -.0027 | .2972 | .0513 | -.0013 | 66.04 | .0006 | .0147 |
| Stddev | .0038 | .0352 | .0089 | .0072 | .0035 | .0015 | .0004 | .07 | .0005 | .0002 |
| %RSD | 375.9 | 175.0 | 3.460 | 268.9 | 1.172 | 2.831 | 30.24 | .0989 | 74.68 | 1.325 |
| #1 | -.0037 | .0450 | .2498 | .0024 | .2996 | .0524 | -.0010 | 66.09 | .0010 | .0146 |
| #2 | .0017 | -.0048 | .2623 | -.0077 | .2947 | .0503 | -.0015 | 65.99 | .0003 | .0149 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0072 | 51.10 | 9.316 | 10.54 | 2.910 | .0020 | 28.41 | .0015 | -.0012 |
| Stddev | .0008 | .0023 | .34 | .052 | .14 | .004 | .0007 | .27 | .0000 | .0045 |
| %RSD | 167.3 | 31.64 | .6576 | .5584 | 1.281 | .1248 | 34.44 | .9567 | .7683 | 360.3 |
| #1 | -.0001 | .0056 | 50.86 | 9.353 | 10.63 | 2.908 | .0024 | 28.22 | .0015 | .0019 |
| #2 | .0011 | .0088 | 51.33 | 9.280 | 10.44 | 2.913 | .0015 | 28.60 | .0015 | -.0044 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0195 | .0144 | .0072 | .0158 | 7.651 | -.0045 | .4052 | -.0001 | -.0083 | .0042 |
| Stddev | .0025 | .0343 | .0006 | .0004 | .016 | .0044 | .0010 | .0030 | .0065 | .0009 |
| %RSD | 12.70 | 238.6 | 8.286 | 2.579 | .2062 | 97.84 | .2356 | 2276. | 78.28 | 20.42 |
| #1 | .0177 | .0387 | .0068 | .0161 | 7.640 | -.0076 | .4046 | .0020 | -.0130 | .0036 |
| #2 | .0212 | -.0099 | .0076 | .0156 | 7.663 | -.0014 | .4059 | -.0023 | -.0037 | .0048 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0170 | .0145 | .0031 |
| Stddev | .0142 | .0001 | .0014 |
| %RSD | 83.58 | .4407 | 45.05 |
| #1 | -.0069 | .0144 | .0021 |
| #2 | -.0270 | .0145 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2254.9 | 54653. | 13449. |
| Stddev | 7.3 | 122. | 150. |
| %RSD | .32580 | .22264 | 1.1124 |
| #1 | 2260.1 | 54567. | 13555. |
| #2 | 2249.7 | 54739. | 13344. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:04:43 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0164 | .6312 | .0006 | .0595 | .0862 | .0000 | 32.50 | .0054 | .0048 |
| Stddev | .0013 | .0169 | .0048 | .0008 | .0013 | .0004 | .000 | .03 | .0003 | .0001 |
| %RSD | 141.6 | 103.0 | .7629 | 133.2 | 2.234 | .4210 | 316.1 | .1059 | 5.258 | 1.813 |
| #1 | .0018 | .0284 | .6346 | .0000 | .0605 | .0865 | .0000 | 32.52 | .0052 | .0047 |
| #2 | .0000 | .0045 | .6278 | .0011 | .0586 | .0860 | -.0001 | 32.47 | .0056 | .0048 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0020 | 17.74 | 7.148 | 3.907 | 2.147 | .0031 | 24.87 | .0046 | .0027 |
| Stddev | .0002 | .0010 | .07 | .007 | .029 | .001 | .0003 | .05 | .0012 | .0007 |
| %RSD | 53.65 | 50.59 | .4075 | .1037 | .7482 | .0550 | 10.66 | .2088 | 25.96 | 25.29 |
| #1 | -.0006 | .0027 | 17.79 | 7.153 | 3.886 | 2.147 | .0033 | 24.90 | .0055 | .0032 |
| #2 | -.0003 | .0013 | 17.69 | 7.143 | 3.928 | 2.146 | .0028 | 24.83 | .0038 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0045 | .0023 | .0048 | 12.38 | -.0006 | .2745 | .0002 | -.0023 | .0003 |
| Stddev | .0012 | .0224 | .0027 | .0022 | .02 | .0011 | .0005 | .0002 | .0001 | .0017 |
| %RSD | 307.7 | 501.2 | 120.2 | 45.62 | .1739 | 179.6 | .1886 | 80.02 | 5.494 | 666.6 |
| #1 | -.0005 | -.0114 | .0042 | .0033 | 12.40 | -.0014 | .2749 | .0001 | -.0024 | .0014 |
| #2 | .0012 | .0203 | .0003 | .0064 | 12.37 | .0002 | .2742 | .0004 | -.0022 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0166 | .0507 | -.0013 |
| Stddev | .0052 | .0000 | .0009 |
| %RSD | 31.56 | .0111 | 67.77 |
| #1 | -.0129 | .0507 | -.0007 |
| #2 | -.0203 | .0506 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2265.1 | 54762. | 13586. |
| Stddev | 6.2 | 216. | 122. |
| %RSD | .27484 | .39446 | .90065 |
| #1 | 2260.6 | 54609. | 13673. |
| #2 | 2269.5 | 54915. | 13500. |

Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:09:03 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 4.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0014 | .6265 | .0005 | .0596 | .0855 | -.0002 | 32.67 | .0055 | .0048 |
| Stddev | .0029 | .0047 | .0053 | .0034 | .0012 | .0000 | .0006 | .05 | .0000 | .0006 |
| %RSD | 958.2 | 343.2 | .8483 | 654.6 | 2.082 | .0189 | 236.7 | .1477 | .1702 | 11.49 |
| #1 | -.0018 | -.0047 | .6227 | -.0019 | .0587 | .0855 | .0002 | 32.70 | .0055 | .0044 |
| #2 | .0024 | .0019 | .6303 | .0029 | .0605 | .0855 | -.0007 | 32.63 | .0055 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0041 | 17.88 | 7.304 | 3.836 | 2.157 | .0026 | 24.92 | .0042 | -.0003 |
| Stddev | .0003 | .0020 | .03 | .089 | .001 | .002 | .0010 | .04 | .0012 | .0008 |
| %RSD | 18.00 | 49.25 | .1405 | 1.213 | .0373 | .0848 | 37.88 | .1629 | 28.52 | 264.2 |
| #1 | .0016 | .0027 | 17.90 | 7.367 | 3.837 | 2.155 | .0033 | 24.95 | .0033 | .0003 |
| #2 | .0020 | .0056 | 17.86 | 7.242 | 3.835 | 2.158 | .0019 | 24.89 | .0050 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .0105 | .0032 | .0082 | 12.40 | -.0031 | .2799 | -.0002 | .0000 | .0012 |
| Stddev | .0070 | .0023 | .0045 | .0049 | .01 | .0001 | .0004 | .0001 | .0025 | .0009 |
| %RSD | 147.1 | 21.55 | 138.8 | 59.32 | .0572 | 4.300 | .1403 | 28.25 | 27680. | 78.08 |
| #1 | .0097 | .0089 | .0064 | .0116 | 12.39 | -.0032 | .2802 | -.0002 | .0018 | .0018 |
| #2 | -.0002 | .0121 | .0001 | .0048 | 12.40 | -.0030 | .2796 | -.0002 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0058 | .0507 | -.0015 |
| Stddev | .0096 | .0000 | .0018 |
| %RSD | 166.4 | .0364 | 126.6 |
| #1 | .0010 | .0507 | -.0028 |
| #2 | -.0126 | .0507 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.9 | 55420. | 13453. |
| Stddev | 2.5 | 363. | 62. |
| %RSD | .10780 | .65566 | .45737 |
| #1 | 2275.7 | 55677. | 13410. |
| #2 | 2272.2 | 55163. | 13497. |



Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 17:13:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0068 | .0765 | .0004 | .0471 | .0159 | -.0001 | 9.481 | .0007 | .0030 |
| Stddev | .0004 | .0117 | .0021 | .0003 | .0001 | .0007 | .0002 | .004 | .0003 | .0000 |
| %RSD | 197.5 | 172.8 | 2.746 | 69.60 | .1803 | 4.212 | 349.8 | .0419 | 42.29 | .9711 |
| #1 | .0001 | -.0151 | .0779 | .0002 | .0471 | .0154 | -.0002 | 9.478 | .0005 | .0031 |
| #2 | -.0004 | .0015 | .0750 | .0006 | .0470 | .0163 | .0001 | 9.484 | .0009 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0018 | 11.35 | 3.026 | 1.715 | 1.436 | .0007 | 3.820 | .0012 | -.0002 |
| Stddev | .0001 | .0000 | .00 | .023 | .087 | .001 | .0002 | .007 | .0003 | .0010 |
| %RSD | 16.57 | 2.436 | .0217 | .7636 | 5.096 | .0959 | 35.15 | .1879 | 24.16 | 571.8 |
| #1 | .0005 | .0017 | 11.35 | 3.010 | 1.777 | 1.437 | .0009 | 3.815 | .0010 | .0005 |
| #2 | .0007 | .0018 | 11.35 | 3.042 | 1.654 | 1.435 | .0005 | 3.825 | .0014 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0080 | .0017 | .0031 | 4.380 | -.0010 | .0887 | .0003 | -.0021 | .0000 |
| Stddev | .0016 | .0029 | .0001 | .0008 | .005 | .0002 | .0003 | .0006 | .0016 | .0005 |
| %RSD | 63.76 | 36.58 | 4.259 | 26.65 | .1089 | 21.47 | .3252 | 222.6 | 75.67 | 22960. |
| #1 | -.0014 | .0059 | .0017 | .0037 | 4.383 | -.0009 | .0885 | -.0002 | -.0010 | .0004 |
| #2 | -.0036 | .0101 | .0016 | .0025 | 4.376 | -.0012 | .0889 | .0008 | -.0032 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0268 | .0166 | -.0001 |
| Stddev | .0044 | .0004 | .0002 |
| %RSD | 16.45 | 2.282 | 163.6 |
| #1 | .0237 | .0169 | -.0003 |
| #2 | .0299 | .0164 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2264.0 | 55461. | 13516. |
| Stddev | .3 | 42. | 82. |
| %RSD | .01328 | .07659 | .60966 |
| #1 | 2263.8 | 55491. | 13574. |
| #2 | 2264.2 | 55431. | 13457. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 17:17:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | 1.871 | .0082 | .0045 | .0045 | .0070 | -.0001 | 48.56 | .0000 | .0006 |
| Stddev | .0022 | .030 | .0036 | .0017 | .0009 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 260.2 | 1.583 | 43.12 | 36.99 | 19.64 | 1.437 | .7414 | .0163 | 490.4 | 26.61 |
| #1 | -.0024 | 1.850 | .0057 | .0033 | .0051 | .0069 | -.0001 | 48.55 | -.0001 | .0007 |
| #2 | .0007 | 1.892 | .0107 | .0057 | .0038 | .0071 | -.0001 | 48.56 | .0001 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0027 | .9510 | 46.38 | 45.65 | .0042 | .0009 | 45.36 | .0017 | -.0021 |
| Stddev | .0017 | .0004 | .0154 | .44 | .16 | .0009 | .0015 | .07 | .0002 | .0038 |
| %RSD | 721.5 | 13.20 | 1.615 | .9397 | .3605 | 21.43 | 157.3 | .1635 | 14.70 | 183.4 |
| #1 | .0009 | .0029 | .9402 | 46.07 | 45.54 | .0048 | .0020 | 45.31 | .0019 | .0006 |
| #2 | -.0014 | .0024 | .9619 | 46.69 | 45.77 | .0035 | -.0001 | 45.41 | .0015 | -.0047 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0182 | .0036 | .0078 | 2.842 | -.0014 | .0394 | .0013 | -.0025 | -.0031 |
| Stddev | .0092 | .0081 | .0036 | .0038 | .016 | .0005 | .0004 | .0023 | .0003 | .0011 |
| %RSD | 906.8 | 44.44 | 98.54 | 48.74 | .5478 | 35.50 | .9246 | 176.7 | 12.11 | 34.44 |
| #1 | -.0075 | .0239 | .0061 | .0105 | 2.831 | -.0018 | .0397 | .0030 | -.0027 | -.0023 |
| #2 | .0055 | .0125 | .0011 | .0051 | 2.853 | -.0011 | .0392 | -.0003 | -.0022 | -.0038 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0104 | .0018 |
| Stddev | .0095 | .0001 | .0004 |
| %RSD | 1631. | .7053 | 22.81 |
| #1 | .0061 | .0105 | .0021 |
| #2 | -.0073 | .0104 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2283.7 | 55180. | 13525. |
| Stddev | 4.0 | 138. | 55. |
| %RSD | .17716 | .24976 | .40880 |
| #1 | 2286.6 | 55083. | 13564. |
| #2 | 2280.9 | 55278. | 13486. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 17:22:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2057 | 2.086 | .5212 | .0002 | .0017 | 1.969 | .5042 | 25.02 | .5162 | .5221 |
| Stddev | .0050 | .028 | .0118 | .0028 | .0012 | .002 | .0009 | .05 | .0006 | .0004 |
| %RSD | 2.454 | 1.326 | 2.263 | 1434. | 70.56 | .0764 | .1856 | .2085 | .1128 | .0813 |
| #1 | .2022 | 2.066 | .5296 | .0022 | .0009 | 1.971 | .5035 | 25.06 | .5166 | .5224 |
| #2 | .2093 | 2.106 | .5129 | -.0018 | .0026 | 1.968 | .5049 | 24.99 | .5158 | .5218 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5151 | .4896 | 2.062 | 25.60 | 24.57 | .4937 | .0001 | 25.05 | .5031 | .9947 |
| Stddev | .0018 | .0031 | .004 | .08 | .21 | .0001 | .0001 | .01 | .0000 | .0030 |
| %RSD | .3591 | .6368 | .2081 | .2942 | .8680 | .0170 | 99.09 | .0321 | .0091 | .2993 |
| #1 | .5164 | .4873 | 2.065 | 25.54 | 24.42 | .4936 | .0000 | 25.05 | .5031 | .9968 |
| #2 | .5138 | .4918 | 2.059 | 25.65 | 24.72 | .4938 | .0002 | 25.06 | .5031 | .9926 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0063 | .5244 | .5170 | .0282 | -.0034 | .4885 | .5064 | .5050 | .5140 |
| Stddev | .0026 | .0443 | .0033 | .0016 | .0004 | .0003 | .0002 | .0012 | .0033 | .0054 |
| %RSD | 190.4 | 701.6 | .6314 | .3055 | 1.539 | 7.882 | .0412 | .2375 | .6627 | 1.045 |
| #1 | -.0032 | .0250 | .5268 | .5181 | .0279 | -.0036 | .4887 | .5055 | .5026 | .5102 |
| #2 | .0005 | -.0376 | .5221 | .5158 | .0285 | -.0032 | .4884 | .5072 | .5073 | .5178 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0149 | .5197 | .0004 |
| Stddev | .0148 | .0007 | .0001 |
| %RSD | 99.73 | .1270 | 21.56 |
| #1 | .0254 | .5192 | .0005 |
| #2 | .0044 | .5202 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.0 | 54775. | 13551. |
| Stddev | 5.2 | 41. | 83. |
| %RSD | .22809 | .07496 | .61288 |
| #1 | 2280.3 | 54746. | 13609. |
| #2 | 2287.7 | 54804. | 13492. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:26:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2014 | 2.065 | 1.088 | -.0022 | .2547 | 2.094 | .5004 | 88.42 | .5170 | .5176 |
| Stddev | .0039 | .040 | .004 | .0075 | .0031 | .003 | .0021 | .31 | .0001 | .0005 |
| %RSD | 1.959 | 1.934 | .3351 | 347.4 | 1.212 | .1217 | .4196 | .3497 | .0206 | .1030 |
| #1 | .2042 | 2.093 | 1.090 | -.0075 | .2525 | 2.096 | .5019 | 88.64 | .5171 | .5173 |
| #2 | .1986 | 2.037 | 1.085 | .0031 | .2569 | 2.092 | .4989 | 88.20 | .5170 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5153 | .4847 | 84.60 | 36.28 | 33.20 | 1.642 | .0009 | 39.51 | .5020 | .9942 |
| Stddev | .0021 | .0022 | .21 | .01 | .61 | .009 | .0002 | .18 | .0010 | .0014 |
| %RSD | .4152 | .4625 | .2470 | .0186 | 1.836 | .5148 | 26.23 | .4647 | .1915 | .1391 |
| #1 | .5138 | .4832 | 84.75 | 36.28 | 33.63 | 1.647 | .0007 | 39.64 | .5013 | .9952 |
| #2 | .5168 | .4863 | 84.45 | 36.29 | 32.77 | 1.636 | .0011 | 39.38 | .5027 | .9932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0092 | .5201 | .5114 | 13.33 | -.0026 | 1.220 | .5026 | .5013 | .5156 |
| Stddev | .0036 | .0232 | .0059 | .0007 | .01 | .0007 | .003 | .0021 | .0017 | .0003 |
| %RSD | 96.96 | 250.9 | 1.135 | .1455 | .0933 | 26.86 | .2288 | .4149 | .3375 | .0493 |
| #1 | .0062 | -.0072 | .5159 | .5120 | 13.32 | -.0021 | 1.222 | .5011 | .5001 | .5158 |
| #2 | .0012 | .0256 | .5243 | .5109 | 13.34 | -.0031 | 1.218 | .5041 | .5025 | .5154 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0211 | .5158 | -.0027 |
| Stddev | .0198 | .0005 | .0042 |
| %RSD | 93.59 | .0907 | 155.7 |
| #1 | -.0071 | .5161 | -.0056 |
| #2 | -.0351 | .5155 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54707. | 13666. |
| Stddev | 3.0 | 319. | 49. |
| %RSD | .13346 | .58342 | .35604 |
| #1 | 2269.5 | 54481. | 13631. |
| #2 | 2265.2 | 54932. | 13700. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 17:30:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.869 | 1.966 | .0006 | 1.969 | 1.937 | 1.919 | 9.790 | 1.958 | 2.034 |
| Stddev | .0006 | .090 | .002 | .0007 | .001 | .015 | .013 | .077 | .002 | .000 |
| %RSD | .2330 | .9144 | .1042 | 117.0 | .0514 | .7496 | .6783 | .7887 | .1094 | .0215 |
| #1 | .2433 | 9.806 | 1.964 | .0001 | 1.968 | 1.926 | 1.910 | 9.735 | 1.960 | 2.034 |
| #2 | .2441 | 9.933 | 1.967 | .0011 | 1.970 | 1.947 | 1.928 | 9.844 | 1.957 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.910 | 9.875 | 9.724 | 9.429 | 1.893 | 1.965 | 9.889 | 1.966 | 1.917 |
| Stddev | .007 | .003 | .078 | .127 | .063 | .004 | .000 | .057 | .000 | .000 |
| %RSD | .3791 | .1578 | .7865 | 1.304 | .6719 | .2265 | .0216 | .5780 | .0202 | .0156 |
| #1 | 1.915 | 1.908 | 9.820 | 9.634 | 9.384 | 1.890 | 1.965 | 9.849 | 1.966 | 1.917 |
| #2 | 1.925 | 1.912 | 9.930 | 9.813 | 9.474 | 1.896 | 1.965 | 9.929 | 1.966 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0067 | 2.006 | 1.988 | .0562 | 1.960 | 1.922 | 1.937 | 1.944 | 1.913 |
| Stddev | .0015 | .0036 | .002 | .003 | .0006 | .000 | .012 | .007 | .000 | .005 |
| %RSD | 143.8 | 53.90 | .1006 | .1256 | 1.143 | .0122 | .6020 | .3709 | .0019 | .2508 |
| #1 | .0000 | .0092 | 2.004 | 1.986 | .0567 | 1.960 | 1.914 | 1.932 | 1.944 | 1.910 |
| #2 | .0022 | .0041 | 2.007 | 1.990 | .0558 | 1.960 | 1.930 | 1.942 | 1.944 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.901 | -.0048 |
| Stddev | .0086 | .001 | .0004 |
| %RSD | 71.19 | .0725 | 9.216 |
| #1 | -.0060 | 1.902 | -.0051 |
| #2 | -.0182 | 1.900 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.9 | 54527. | 13483. |
| Stddev | 5.7 | 151. | 161. |
| %RSD | .24952 | .27623 | 1.1948 |
| #1 | 2263.9 | 54634. | 13597. |
| #2 | 2271.9 | 54421. | 13369. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 17:34:52 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0108 | .0012 | .0009 | .0024 | .0007 | F.0005 | -.0002 | .0004 |
| Stddev | .0008 | .0034 | .0006 | .0002 | .0000 | .0001 | .0000 | .0005 | .0001 |
| %RSD | 605.0 | 31.45 | 50.46 | 22.98 | .9217 | 10.52 | 6.663 | 238.8 | 21.60 |
| #1 | -.0005 | .0132 | .0008 | .0011 | .0024 | .0007 | .0006 | -.0006 | .0004 |
| #2 | .0007 | .0084 | .0016 | .0008 | .0025 | .0006 | .0005 | .0002 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0014 | .0064 | .0005 | .0007 | .0006 | .0011 | -.0284 |
| Stddev | .0000 | .0002 | .0001 | .0000 | .0126 | .0024 | .0001 | .0002 | .0017 |
| %RSD | 6.109 | 19.83 | 8.072 | .4637 | 2340. | 339.5 | 9.911 | 18.80 | 6.079 |
| #1 | .0003 | .0007 | .0013 | .0064 | .0095 | .0024 | .0006 | .0012 | -.0297 |
| #2 | .0003 | .0010 | .0015 | .0065 | -.0084 | -.0010 | .0006 | .0009 | -.0272 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0001 | .0012 | .0055 | .0009 | .0032 | .0035 | .0001 | .0006 |
| Stddev | .0002 | .0005 | .0004 | .0027 | .0005 | .0000 | .0008 | .0002 | .0001 |
| %RSD | 122.7 | 388.1 | 30.60 | 48.73 | 58.82 | 1.208 | 21.89 | 344.6 | 19.33 |
| #1 | .0004 | -.0002 | .0014 | .0073 | .0005 | .0031 | .0029 | .0002 | .0007 |
| #2 | .0000 | .0005 | .0009 | .0036 | .0013 | .0032 | .0040 | -.0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0011 | .0018 | .0002 | .0006 | .0005 | .0002 |
| Stddev | .0003 | .0010 | .0001 | .0005 | .0000 | .0003 |
| %RSD | 28.40 | 58.32 | 58.13 | 86.72 | .8948 | 174.0 |
| #1 | .0013 | .0025 | .0001 | .0002 | .0005 | .0000 |
| #2 | .0009 | .0011 | .0003 | .0010 | .0005 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.3 | 55420. | 13668. |
| Stddev | 2.6 | 399. | 57. |
| %RSD | .11543 | .71932 | .41496 |
| #1 | 2276.4 | 55138. | 13708. |
| #2 | 2280.2 | 55702. | 13628. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:39:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.053 | 1.102 | -.0003 | .2604 | 2.117 | .5071 | 89.55 | .5198 | .5196 |
| Stddev | .0005 | .023 | .003 | .0067 | .0001 | .001 | .0046 | .14 | .0018 | .0013 |
| %RSD | .2574 | 1.132 | .2974 | 2342. | .0363 | .0340 | .9154 | .1563 | .3490 | .2490 |
| #1 | .2013 | 2.070 | 1.104 | -.0050 | .2605 | 2.116 | .5104 | 89.65 | .5185 | .5206 |
| #2 | .2006 | 2.037 | 1.099 | .0045 | .2604 | 2.117 | .5039 | 89.45 | .5211 | .5187 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5155 | .4917 | 85.68 | 37.04 | 33.66 | 1.645 | .0018 | 40.04 | .5051 | .9958 |
| Stddev | .0014 | .0022 | .11 | .05 | .17 | .001 | .0004 | .04 | .0014 | .0025 |
| %RSD | .2628 | .4480 | .1240 | .1231 | .4931 | .0525 | 21.97 | .0982 | .2838 | .2507 |
| #1 | .5145 | .4932 | 85.76 | 37.00 | 33.54 | 1.646 | .0020 | 40.06 | .5041 | .9940 |
| #2 | .5165 | .4901 | 85.61 | 37.07 | 33.78 | 1.645 | .0015 | 40.01 | .5062 | .9975 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .0005 | .5279 | .5182 | 13.56 | -.0029 | 1.232 | .5091 | .5072 | .5153 |
| Stddev | .0122 | .0178 | .0051 | .0020 | .03 | .0004 | .000 | .0006 | .0005 | .0010 |
| %RSD | 226.9 | 3350. | .9731 | .3773 | .1843 | 13.35 | .0055 | .1181 | .0978 | .1989 |
| #1 | .0032 | .0131 | .5315 | .5196 | 13.55 | -.0026 | 1.232 | .5096 | .5075 | .5146 |
| #2 | -.0139 | -.0120 | .5243 | .5168 | 13.58 | -.0031 | 1.232 | .5087 | .5068 | .5160 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0171 | .5185 | -.0036 |
| Stddev | .0171 | .0000 | .0002 |
| %RSD | 100.1 | .0038 | 4.237 |
| #1 | -.0050 | .5186 | -.0037 |
| #2 | -.0292 | .5185 | -.0035 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.1 | 54856. | 13653. |
| Stddev | 2.5 | 16. | 3. |
| %RSD | .10895 | .02941 | .02299 |
| #1 | 2257.8 | 54845. | 13655. |
| #2 | 2254.3 | 54868. | 13651. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:43:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2008 | 2.083 | 1.102 | -.0006 | .2607 | 2.110 | .5034 | 88.92 | .5191 | .5174 |
| Stddev | .0060 | .131 | .006 | .0026 | .0010 | .008 | .0073 | .36 | .0012 | .0006 |
| %RSD | 2.969 | 6.303 | .5165 | 437.0 | .3696 | .3874 | 1.452 | .4083 | .2401 | .1106 |
| #1 | .1966 | 2.175 | 1.106 | -.0025 | .2614 | 2.116 | .5086 | 89.17 | .5199 | .5178 |
| #2 | .2050 | 1.990 | 1.098 | .0013 | .2600 | 2.104 | .4983 | 88.66 | .5182 | .5170 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5119 | .4876 | 85.09 | 37.11 | 33.36 | 1.636 | .0008 | 39.59 | .5061 | .9949 |
| Stddev | .0004 | .0047 | .64 | .98 | .12 | .001 | .0006 | .20 | .0035 | .0040 |
| %RSD | .0757 | .9610 | .7530 | 2.630 | .3604 | .0731 | 67.31 | .5172 | .6824 | .4026 |
| #1 | .5121 | .4909 | 85.54 | 37.80 | 33.44 | 1.635 | .0012 | 39.73 | .5085 | .9921 |
| #2 | .5116 | .4842 | 84.63 | 36.42 | 33.27 | 1.637 | .0004 | 39.44 | .5036 | .9978 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0193 | .0267 | .5298 | .5188 | 13.37 | -.0071 | 1.221 | .5032 | .5014 | .5033 |
| Stddev | .0093 | .0084 | .0002 | .0038 | .01 | .0009 | .005 | .0049 | .0105 | .0087 |
| %RSD | 48.05 | 31.56 | .0460 | .7321 | .0812 | 12.99 | .4474 | .9780 | 2.102 | 1.721 |
| #1 | .0259 | .0208 | .5299 | .5161 | 13.38 | -.0077 | 1.225 | .4998 | .4939 | .5094 |
| #2 | .0128 | .0327 | .5296 | .5214 | 13.36 | -.0064 | 1.217 | .5067 | .5088 | .4972 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5318 | -.0002 |
| Stddev | .0528 | .0002 | .0013 |
| %RSD | 402.8 | .0386 | 767.3 |
| #1 | .0504 | .5319 | -.0011 |
| #2 | -.0242 | .5316 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.3 | 54842. | 13513. |
| Stddev | 3.7 | 39. | 214. |
| %RSD | .16209 | .07155 | 1.5843 |
| #1 | 2259.7 | 54814. | 13362. |
| #2 | 2264.9 | 54870. | 13664. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:47:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1983 | 2.113 | 1.098 | .0003 | .2596 | 2.110 | .5030 | 89.51 | .5165 | .5171 |
| Stddev | .0088 | .092 | .019 | .0029 | .0017 | .003 | .0057 | .08 | .0018 | .0009 |
| %RSD | 4.416 | 4.336 | 1.760 | 1095. | .6468 | .1228 | 1.139 | .0918 | .3550 | .1700 |
| #1 | .2045 | 2.048 | 1.085 | .0023 | .2608 | 2.109 | .5070 | 89.45 | .5178 | .5177 |
| #2 | .1921 | 2.178 | 1.112 | -.0018 | .2584 | 2.112 | .4989 | 89.57 | .5152 | .5165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5091 | .4865 | 85.86 | 36.99 | 33.75 | 1.646 | .0010 | 39.73 | .5035 | .9902 |
| Stddev | .0029 | .0016 | .33 | .60 | .12 | .003 | .0007 | .04 | .0018 | .0037 |
| %RSD | .5715 | .3321 | .3854 | 1.622 | .3685 | .1766 | 74.15 | .0970 | .3585 | .3728 |
| #1 | .5070 | .4854 | 85.63 | 37.41 | 33.84 | 1.644 | .0015 | 39.70 | .5048 | .9928 |
| #2 | .5112 | .4877 | 86.10 | 36.57 | 33.66 | 1.648 | .0005 | 39.75 | .5022 | .9876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0107 | -.0200 | .5302 | .5298 | 13.47 | -.0053 | 1.226 | .4999 | .5042 | .5060 |
| Stddev | .0074 | .1136 | .0003 | .0015 | .01 | .0037 | .004 | .0023 | .0002 | .0059 |
| %RSD | 69.03 | 569.4 | .0544 | .2749 | .1060 | 69.00 | .3361 | .4595 | .0473 | 1.159 |
| #1 | .0159 | -.1003 | .5300 | .5288 | 13.46 | -.0027 | 1.223 | .4982 | .5044 | .5018 |
| #2 | .0055 | .0604 | .5304 | .5309 | 13.48 | -.0080 | 1.229 | .5015 | .5041 | .5101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5164 | -.0002 |
| Stddev | .0059 | .0005 | .0039 |
| %RSD | 76.62 | .0878 | 2172. |
| #1 | -.0035 | .5161 | -.0030 |
| #2 | -.0119 | .5167 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.5 | 54878. | 13616. |
| Stddev | 2.6 | 318. | 49. |
| %RSD | .11669 | .58036 | .36285 |
| #1 | 2271.4 | 55103. | 13651. |
| #2 | 2267.6 | 54652. | 13581. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0080 | .5717 | .0017 | .2520 | .1425 | -.0001 | 63.98 | .0046 | -.0009 |
| Stddev | .0009 | .0183 | .0010 | .0016 | .0009 | .0008 | .0001 | .13 | .0002 | .0000 |
| %RSD | 97.61 | 230.4 | .1822 | 99.50 | .3547 | .5526 | 136.6 | .2068 | 4.445 | .4861 |
| #1 | .0003 | .0209 | .5710 | .0005 | .2527 | .1419 | .0000 | 63.89 | .0044 | -.0009 |
| #2 | .0015 | -.0050 | .5725 | .0028 | .2514 | .1431 | -.0001 | 64.07 | .0047 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0031 | 81.86 | 11.63 | 9.024 | 1.149 | .0000 | 14.57 | .0020 | -.0003 |
| Stddev | .0008 | .0002 | .24 | .09 | .060 | .003 | .0001 | .03 | .0001 | .0003 |
| %RSD | 404.9 | 5.108 | .2979 | .7556 | .6640 | .2562 | 356.7 | .2280 | 4.519 | 81.55 |
| #1 | -.0007 | .0029 | 81.69 | 11.57 | 8.982 | 1.151 | .0000 | 14.55 | .0020 | -.0005 |
| #2 | .0004 | .0032 | 82.04 | 11.69 | 9.066 | 1.147 | .0001 | 14.59 | .0019 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | -.0016 | .0016 | .0058 | 13.38 | -.0011 | .7344 | .0010 | -.0001 | .0005 |
| Stddev | .0013 | .0016 | .0003 | .0035 | .01 | .0001 | .0022 | .0002 | .0024 | .0001 |
| %RSD | 46.99 | 99.70 | 15.68 | 59.82 | .1078 | 6.339 | .2938 | 14.65 | 2283. | 27.59 |
| #1 | .0018 | -.0005 | .0014 | .0082 | 13.37 | -.0010 | .7329 | .0009 | .0016 | .0004 |
| #2 | .0037 | -.0027 | .0018 | .0033 | 13.39 | -.0011 | .7359 | .0012 | -.0018 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0064 | .0055 | -.0024 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 2.814 | .9743 | 4.138 |
| #1 | -.0066 | .0055 | -.0025 |
| #2 | -.0063 | .0056 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.4 | 55010. | 13618. |
| Stddev | 3.0 | 229. | 45. |
| %RSD | .13085 | .41682 | .33321 |
| #1 | 2254.3 | 54848. | 13650. |
| #2 | 2258.5 | 55172. | 13586. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:56:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0139 | .5711 | .0078 | .2550 | .1452 | -.0008 | 65.46 | .0037 | -.0012 |
| Stddev | .0013 | .0643 | .0119 | .0074 | .0010 | .0011 | .0002 | .32 | .0004 | .0007 |
| %RSD | 73.74 | 461.5 | 2.085 | 94.57 | .4038 | .7817 | 23.02 | .4872 | 11.58 | 56.89 |
| #1 | .0027 | -.0594 | .5795 | .0026 | .2542 | .1460 | -.0007 | 65.69 | .0040 | -.0007 |
| #2 | .0009 | .0315 | .5627 | .0130 | .2557 | .1444 | -.0010 | 65.24 | .0034 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0082 | 83.38 | 11.58 | 9.163 | 1.171 | .0005 | 14.76 | .0023 | .0025 |
| Stddev | .0007 | .0047 | .25 | .59 | .170 | .006 | .0010 | .08 | .0006 | .0010 |
| %RSD | 28.80 | 57.38 | .2972 | 5.064 | 1.850 | .5218 | 200.8 | .5388 | 24.35 | 37.73 |
| #1 | -.0031 | .0115 | 83.55 | 11.99 | 9.283 | 1.166 | .0012 | 14.82 | .0027 | .0032 |
| #2 | -.0020 | .0049 | 83.20 | 11.16 | 9.043 | 1.175 | -.0002 | 14.70 | .0019 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0202 | .0123 | .0089 | .0128 | 13.37 | -.0047 | .7592 | -.0010 | .0101 | .0031 |
| Stddev | .0101 | .0115 | .0111 | .0219 | .06 | .0042 | .0001 | .0008 | .0018 | .0033 |
| %RSD | 50.17 | 93.58 | 124.3 | 171.3 | .4701 | 88.26 | .0087 | 81.31 | 17.56 | 105.2 |
| #1 | .0130 | .0041 | .0168 | -.0027 | 13.32 | -.0018 | .7593 | -.0016 | .0088 | .0008 |
| #2 | .0273 | .0204 | .0011 | .0283 | 13.41 | -.0077 | .7592 | -.0004 | .0114 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0250 | .0086 | .0025 |
| Stddev | .0036 | .0001 | .0068 |
| %RSD | 14.37 | 1.301 | 269.9 |
| #1 | .0225 | .0087 | .0074 |
| #2 | .0276 | .0085 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 55268. | 13562. |
| Stddev | 6.0 | 424. | 37. |
| %RSD | .26423 | .76628 | .27587 |
| #1 | 2283.1 | 55567. | 13536. |
| #2 | 2274.6 | 54968. | 13589. |

Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:00:47 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0258 | .5803 | .0007 | .2568 | .1436 | -.0003 | 64.91 | .0036 | -.0013 |
| Stddev | .0025 | .0628 | .0100 | .0015 | .0003 | .0005 | .0002 | .27 | .0027 | .0004 |
| %RSD | 153.8 | 243.2 | 1.731 | 217.9 | .1022 | .3592 | 52.89 | .4189 | 74.85 | 32.94 |
| #1 | .0034 | .0702 | .5874 | .0017 | .2566 | .1439 | -.0004 | 64.72 | .0017 | -.0010 |
| #2 | -.0001 | -.0186 | .5732 | -.0004 | .2570 | .1432 | -.0002 | 65.10 | .0055 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0054 | 83.14 | 11.86 | 9.287 | 1.171 | -.0003 | 14.74 | -.0001 | .0008 |
| Stddev | .0032 | .0002 | .24 | .32 | .157 | .005 | .0006 | .07 | .0014 | .0042 |
| %RSD | 605.0 | 4.347 | .2839 | 2.714 | 1.686 | .4017 | 167.6 | .4658 | 1194. | 529.7 |
| #1 | .0028 | .0056 | 82.98 | 12.09 | 9.176 | 1.168 | .0001 | 14.69 | .0009 | .0038 |
| #2 | -.0017 | .0053 | 83.31 | 11.63 | 9.397 | 1.175 | -.0008 | 14.79 | -.0011 | -.0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0065 | -.0192 | .0022 | .0145 | 13.29 | -.0019 | .7570 | -.0037 | .0060 | -.0004 |
| Stddev | .0109 | .0159 | .0088 | .0172 | .04 | .0006 | .0018 | .0028 | .0000 | .0038 |
| %RSD | 168.5 | 82.83 | 407.4 | 118.7 | .2758 | 34.62 | .2382 | 75.47 | .2716 | 944.4 |
| #1 | .0142 | -.0304 | .0084 | .0267 | 13.26 | -.0014 | .7558 | -.0057 | .0060 | .0023 |
| #2 | -.0012 | -.0079 | -.0041 | .0023 | 13.32 | -.0023 | .7583 | -.0017 | .0060 | -.0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0116 | .0079 | -.0003 |
| Stddev | .0392 | .0002 | .0015 |
| %RSD | 338.6 | 3.083 | 460.4 |
| #1 | -.0393 | .0077 | -.0014 |
| #2 | .0162 | .0080 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2275.5 | 54890. | 13474. |
| Stddev | .7 | 458. | 43. |
| %RSD | .03195 | .83390 | .31973 |
| #1 | 2276.0 | 55214. | 13505. |
| #2 | 2275.0 | 54567. | 13444. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:05:09 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0578 | .6322 | .0044 | .2718 | .1566 | -.0004 | 70.13 | .0036 | .0006 |
| Stddev | .0007 | .0701 | .0013 | .0031 | .0006 | .0042 | .0002 | .15 | .0007 | .0010 |
| %RSD | 23.61 | 121.2 | .2060 | 69.80 | .2353 | 2.669 | 56.39 | .2208 | 17.98 | 169.1 |
| #1 | -.0036 | .0083 | .6313 | .0022 | .2723 | .1596 | -.0002 | 70.03 | .0041 | .0013 |
| #2 | -.0026 | .1074 | .6331 | .0066 | .2714 | .1537 | -.0005 | 70.24 | .0032 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0037 | 89.36 | 12.70 | 9.890 | 1.257 | -.0003 | 15.76 | .0028 | .0029 |
| Stddev | .0060 | .0035 | .33 | .47 | .192 | .002 | .0005 | .07 | .0027 | .0036 |
| %RSD | 382.7 | 93.23 | .3739 | 3.725 | 1.940 | .1716 | 156.5 | .4386 | 98.30 | 126.5 |
| #1 | -.0027 | .0013 | 89.12 | 12.36 | 10.03 | 1.259 | .0000 | 15.71 | .0008 | .0003 |
| #2 | .0058 | .0061 | 89.59 | 13.03 | 9.755 | 1.256 | -.0007 | 15.80 | .0047 | .0055 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0344 | .0064 | .0039 | 14.35 | -.0033 | .8161 | -.0038 | .0028 | .0035 |
| Stddev | .0085 | .0345 | .0072 | .0004 | .04 | .0008 | .0021 | .0042 | .0027 | .0024 |
| %RSD | 115.4 | 100.4 | 112.2 | 9.124 | .3081 | 22.91 | .2515 | 110.3 | 96.30 | 69.61 |
| #1 | -.0135 | -.0100 | .0013 | .0037 | 14.38 | -.0039 | .8146 | -.0008 | .0009 | .0018 |
| #2 | -.0014 | -.0588 | .0115 | .0042 | 14.32 | -.0028 | .8176 | -.0068 | .0046 | .0052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0373 | .0120 | .0023 |
| Stddev | .0285 | .0009 | .0034 |
| %RSD | 76.49 | 7.792 | 148.6 |
| #1 | -.0575 | .0127 | -.0001 |
| #2 | -.0171 | .0113 | .0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.8 | 55194. | 13563. |
| Stddev | 5.1 | 131. | 124. |
| %RSD | .22347 | .23751 | .91736 |
| #1 | 2270.3 | 55287. | 13651. |
| #2 | 2277.4 | 55101. | 13475. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 18:09:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0056 | .2161 | F.0056 | .0004 | .1009 | .0512 | .0041 | 4.939 | .0042 |
| Stddev | .0006 | .0089 | .0007 | .0002 | .0000 | .0001 | .0001 | .035 | .0001 |
| %RSD | 9.811 | 4.100 | 13.30 | 48.61 | .0022 | .1265 | 1.684 | .7058 | 2.944 |
| #1 | .0060 | .2224 | .0050 | .0006 | .1009 | .0511 | .0040 | 4.914 | .0043 |
| #2 | .0052 | .2099 | .0061 | .0003 | .1009 | .0512 | .0041 | 4.964 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0522 | .0100 | .0246 | .1034 | 4.929 | 4.795 | .0150 | .1017 | 4.916 |
| Stddev | .0000 | .0002 | .0003 | .0003 | .044 | .064 | .0001 | .0001 | .017 |
| %RSD | .0537 | 1.891 | 1.291 | .2912 | .9016 | 1.331 | .5540 | .1054 | .3493 |
| #1 | .0522 | .0099 | .0244 | .1036 | 4.897 | 4.750 | .0149 | .1018 | 4.904 |
| #2 | .0522 | .0101 | .0248 | .1032 | 4.960 | 4.840 | .0150 | .1016 | 4.928 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | .0002 | .0001 | .0072 | F.0132 | -.0048 | .0992 | .0100 |
| Stddev | .0003 | .0002 | .0005 | .0043 | .0013 | .0005 | .0005 | .0010 | .0001 |
| %RSD | .7647 | 3.076 | 340.9 | 5362. | 18.06 | 3.467 | 10.33 | .9706 | .9938 |
| #1 | .0412 | .0056 | .0005 | .0031 | .0063 | .0135 | -.0044 | .0985 | .0100 |
| #2 | .0408 | .0053 | -.0002 | -.0029 | .0082 | .0128 | -.0051 | .0999 | .0101 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0511 | .0054 | .0100 | -.0007 | .0206 | .0000 |
| Stddev | .0001 | .0008 | .0004 | .0006 | .0000 | .0002 |
| %RSD | .1138 | 14.67 | 4.402 | 81.83 | .0887 | 992.3 |
| #1 | .0511 | .0060 | .0097 | -.0011 | .0206 | .0002 |
| #2 | .0510 | .0048 | .0103 | -.0003 | .0206 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2282.7 | 55170. | 13495. |
| Stddev | .4 | 68. | 156. |
| %RSD | .01859 | .12274 | 1.1586 |
| #1 | 2282.4 | 55122. | 13606. |
| #2 | 2283.0 | 55218. | 13385. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 18:13:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2434 | 9.856 | 1.965 | -.0005 | 1.974 | 1.952 | 1.937 | 9.785 | 1.957 | 2.028 |
| Stddev | .0003 | .168 | .001 | .0001 | .002 | .029 | .031 | .187 | .002 | .001 |
| %RSD | .1058 | 1.704 | .0399 | 23.92 | .1083 | 1.503 | 1.619 | 1.911 | .1116 | .0339 |
| #1 | .2436 | 9.737 | 1.964 | -.0005 | 1.972 | 1.931 | 1.914 | 9.652 | 1.955 | 2.028 |
| #2 | .2433 | 9.975 | 1.965 | -.0006 | 1.975 | 1.973 | 1.959 | 9.917 | 1.958 | 2.029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.915 | 1.917 | 9.832 | 9.770 | 9.525 | 1.898 | 1.957 | 9.849 | 1.956 | 1.918 |
| Stddev | .013 | .006 | .162 | .156 | .117 | .012 | .002 | .145 | .002 | .002 |
| %RSD | .6860 | .3320 | 1.643 | 1.593 | 1.225 | .6541 | .0905 | 1.476 | .1156 | .1118 |
| #1 | 1.924 | 1.921 | 9.717 | 9.660 | 9.443 | 1.907 | 1.956 | 9.746 | 1.955 | 1.919 |
| #2 | 1.906 | 1.912 | 9.946 | 9.880 | 9.608 | 1.889 | 1.958 | 9.951 | 1.958 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0003 | 1.997 | 1.996 | .0011 | 1.937 | 1.930 | 1.927 | 1.943 | 1.914 |
| Stddev | .0000 | .0030 | .001 | .001 | .0009 | .001 | .029 | .010 | .000 | .011 |
| %RSD | .5549 | 1030. | .0695 | .0424 | 83.13 | .0451 | 1.476 | .5230 | .0129 | .5812 |
| #1 | .0017 | -.0024 | 1.996 | 1.995 | .0005 | 1.936 | 1.910 | 1.934 | 1.943 | 1.922 |
| #2 | .0017 | .0018 | 1.998 | 1.997 | .0018 | 1.938 | 1.950 | 1.920 | 1.943 | 1.907 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.898 | -.0049 |
| Stddev | .0057 | .000 | .0001 |
| %RSD | 68.75 | .0004 | 2.095 |
| #1 | -.0042 | 1.898 | -.0050 |
| #2 | -.0123 | 1.898 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.3 | 55006. | 13420. |
| Stddev | 2.0 | 569. | 403. |
| %RSD | .08680 | 1.0353 | 3.0030 |
| #1 | 2272.6 | 54604. | 13705. |
| #2 | 2269.9 | 55409. | 13135. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/3/2013 18:18:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0049 | .0020 | -.0005 | .0023 | .0006 | F.0006 | -.0039 | F.0006 |
| Stddev | .0006 | .0074 | .0001 | .0004 | .0000 | .0002 | .0000 | .0005 | .0001 |
| %RSD | 181.3 | 149.8 | 7.143 | 67.19 | .0920 | 36.12 | .2459 | 13.38 | 14.96 |
| #1 | -.0001 | .0101 | .0019 | -.0008 | .0023 | .0008 | .0006 | -.0035 | .0006 |
| #2 | .0007 | -.0003 | .0021 | -.0003 | .0023 | .0005 | .0006 | -.0042 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0006 | .0013 | .0043 | .0041 | .0104 | .0006 | .0013 | -.0375 |
| Stddev | .0001 | .0004 | .0001 | .0005 | .0394 | .0052 | .0000 | .0003 | .0075 |
| %RSD | 15.12 | 67.56 | 8.926 | 12.30 | 958.6 | 49.78 | 1.434 | 23.31 | 20.05 |
| #1 | .0004 | .0003 | .0013 | .0039 | .0320 | .0067 | .0006 | .0015 | -.0429 |
| #2 | .0005 | .0009 | .0012 | .0047 | -.0238 | .0141 | .0006 | .0011 | -.0322 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0004 | .0022 | .0060 | .0016 | .0018 | -.0041 | .0003 | .0005 |
| Stddev | .0001 | .0001 | .0004 | .0030 | .0002 | .0008 | .0016 | .0004 | .0000 |
| %RSD | 17.95 | 33.23 | 17.78 | 50.55 | 9.557 | 46.23 | 37.67 | 119.5 | 1.536 |
| #1 | .0004 | .0003 | .0024 | .0081 | .0017 | .0024 | -.0030 | .0006 | .0006 |
| #2 | .0005 | .0005 | .0019 | .0039 | .0015 | .0012 | -.0052 | .0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0020 | .0007 | -.0026 | .0007 | .0003 |
| Stddev | .0001 | .0009 | .0005 | .0073 | .0000 | .0002 |
| %RSD | 20.53 | 44.76 | 65.70 | 275.9 | 3.395 | 64.86 |
| #1 | .0007 | .0013 | .0011 | -.0078 | .0006 | .0005 |
| #2 | .0005 | .0026 | .0004 | .0025 | .0007 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2272.3 | 54937. | 13557. |
| Stddev | 1.4 | 58. | 85. |
| %RSD | .06020 | .10581 | .62944 |
| #1 | 2271.3 | 54979. | 13497. |
| #2 | 2273.3 | 54896. | 13617. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000004 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000065 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006083 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000088 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000139 | 0.000000 | No |
| | | | Al | 0.000025 | 0.000000 | No |
| | | | Mo | 0.001441 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000219 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000740 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | | Mn | 0.000138 | 0.000000 | No |
| | | | | Mo | -0.001469 | 0.000000 | No |
| | | | | Co | -0.000081 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000160 | 0.000000 | No |
| | | | | Si | -0.000042 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000035 | 0.000000 | No |
| | | | | Cr | 0.010593 | 0.000000 | No |
| | | | | Mo | -0.004098 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000400 | 0.000000 | No |
| | | | | V | -0.001401 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | 0.000039 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000219 | 0.000000 | No |
| | | | | Mn | 0.000294 | 0.000000 | No |
| | | | | Mo | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000612 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001919 | 0.000000 | No |
| | | | | Cr | 0.000325 | 0.000000 | No |
| | | | | V | -0.025440 | 0.000000 | No |
| | | | | Co | 0.001673 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | -0.000004 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Ti | -0.001617 | 0.000000 | No |
| | | | Mo | -0.000119 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | Mo | -0.000766 | 0.000000 | No |
| | | | Fe | 0.000018 | 0.000000 | No |
| W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | Mo | 0.001630 | 0.000000 | No |
| | | | Co | 0.007596 | 0.000000 | No |
| | | | Al | 0.000073 | 0.000000 | No |
| | | | Mn | -0.000017 | 0.000000 | No |
| Y 224.306 {451}* | ☒ | None | | | | |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | Mn | -0.000026 | 0.000000 | No |
| | | | Ni | 0.000026 | 0.000000 | No |
| | | | Cr | -0.000478 | 0.000000 | No |
| | | | Mo | 0.000104 | 0.000000 | No |
| | | | Co | 0.000024 | 0.000000 | No |
| | | | Ti | 0.000277 | 0.000000 | No |
| | | | Al | 0.000003 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | Ti | 0.000195 | 0.000000 | No |
| | | | Fe | 0.000024 | 0.000000 | No |
| | | | Sn | 0.002296 | 0.000000 | No |
| | | | Au | 0.002269 | 0.000000 | No |
| | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0029 | .0023 | .0009 | .0002 | .0013 | .0081 | .0000 | .0073 | .0031 |
| Stddev | .0000 | .0001 | .0001 | .0000 | .0001 | .0005 | .000 | .0003 | .0001 |
| %RSD | .9425 | 2.205 | 5.730 | 7.866 | 10.65 | 5.696 | 258.2 | 4.128 | 3.952 |
| #1 | -.0029 | .0023 | .0009 | .0002 | .0014 | .0078 | .0000 | .0075 | .0030 |
| #2 | -.0029 | .0022 | .0009 | .0002 | .0012 | .0084 | -.0001 | .0070 | .0032 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0005 | .0002 | .0137 | .0008 | -.0006 | .0001 | .0009 | .0004 | -.0005 |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0002 | .0001 | .0000 | .0000 | .0008 |
| %RSD | 16.24 | 32.12 | 1.113 | 8.129 | 42.28 | 150.9 | .9389 | 7.566 | 147.0 |
| #1 | -.0005 | .0003 | .0136 | .0008 | -.0007 | .0001 | .0009 | .0004 | -.0011 |
| #2 | -.0004 | .0002 | .0138 | .0008 | -.0004 | .0000 | .0009 | .0005 | .0000 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0009 | .0008 | .0001 | .0000 | .0001 | .0004 | .0299 | -.0002 | .0030 |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0003 | .0003 | .0004 | .0000 | .0002 |
| %RSD | 28.26 | 9.681 | 66.28 | 110.4 | 371.3 | 79.33 | 1.442 | 2.815 | 7.313 |
| #1 | -.0007 | .0007 | .0001 | .0001 | -.0001 | .0002 | .0296 | -.0002 | .0029 |
| #2 | -.0010 | .0008 | .0001 | .0000 | .0003 | .0006 | .0303 | -.0002 | .0032 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0013 | .0006 | -.0002 | .0008 | .0006 |
| Stddev | .0002 | .0000 | .0000 | .0000 | .0001 | .0002 |
| %RSD | 83.77 | 1.393 | 4.586 | 12.62 | 14.65 | 39.13 |
| #1 | -.0001 | -.0013 | .0005 | -.0002 | .0007 | .0008 |
| #2 | -.0004 | -.0012 | .0006 | -.0002 | .0009 | .0004 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2200.3 | 58015. | 13767. |
| Stddev | .6 | 35. | 11. |
| %RSD | .02792 | .06063 | .08124 |
| #1 | 2200.7 | 57990. | 13775. |
| #2 | 2199.8 | 58040. | 13759. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/4/2013 12:35:10 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1619 | .6279 | 2.081 | 15.24 | 14.29 | 10.19 | 9.508 | 1.058 | 1.957 | 6.331 |
| Stddev | .0002 | .0007 | .004 | .03 | .03 | .02 | .018 | .004 | .001 | .103 |
| %RSD | .1275 | .1099 | .1742 | .2204 | .2076 | .1507 | .1876 | .3317 | .0491 | 1.624 |
| #1 | .1617 | .6274 | 2.079 | 15.21 | 14.27 | 10.18 | 9.496 | 1.060 | 1.958 | 6.404 |
| #2 | .1620 | .6284 | 2.084 | 15.26 | 14.31 | 10.20 | 9.521 | 1.055 | 1.957 | 6.258 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.058 | 8.010 | 3.218 | 1.729 | .8648 | 1.158 | 12.41 |
| Stddev | .022 | .008 | .006 | .002 | .0011 | .004 | .02 |
| %RSD | .2723 | .1035 | .1728 | .1333 | .1218 | .3098 | .1415 |
| #1 | 8.043 | 8.005 | 3.214 | 1.727 | .8656 | 1.156 | 12.40 |
| #2 | 8.074 | 8.016 | 3.222 | 1.730 | .8641 | 1.161 | 12.42 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2185.2 | 57495. | 13748. |
| Stddev | 2.1 | 394. | 80. |
| %RSD | .09608 | .68550 | .58218 |
| #1 | 2186.7 | 57216. | 13805. |
| #2 | 2183.7 | 57773. | 13692. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/4/2013 12:39:31 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.440 | 2.746 | 1.461 | .7127 | .2178 | 2.514 |
| Stddev | .004 | .006 | .002 | .0008 | .0001 | .006 |
| %RSD | .3127 | .2240 | .1181 | .1160 | .0295 | .2473 |
| #1 | 1.437 | 2.742 | 1.460 | .7121 | .2178 | 2.509 |
| #2 | 1.443 | 2.750 | 1.462 | .7133 | .2177 | 2.518 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13805. |
| Stddev | 71. |
| %RSD | .51225 |
| #1 | 13755. |
| #2 | 13855. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/4/2013 12:43:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3020 | .5111 | .0839 | 2.253 | 2.034 | 19.79 | 1.607 | 1.323 | .0705 | 3.087 |
| Stddev | .0003 | .0004 | .0002 | .003 | .001 | .09 | .001 | .003 | .0002 | .003 |
| %RSD | .0828 | .0759 | .2115 | .1228 | .0690 | .4721 | .0733 | .1886 | .3232 | .1007 |
| #1 | .3022 | .5108 | .0838 | 2.251 | 2.033 | 19.72 | 1.606 | 1.321 | .0707 | 3.085 |
| #2 | .3019 | .5113 | .0841 | 2.255 | 2.035 | 19.86 | 1.608 | 1.324 | .0704 | 3.089 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2201.4 | 57208. | 13734. |
| Stddev | 2.3 | 101. | 17. |
| %RSD | .10482 | .17661 | .12449 |
| #1 | 2199.7 | 57279. | 13722. |
| #2 | 2203.0 | 57136. | 13747. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/4/2013 12:48:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5235 | 15.61 | 2.998 | 3.044 | 3.066 | 3.099 | 3.052 | 18.09 | 3.018 | 2.972 |
| Stddev | .0011 | .03 | .014 | .001 | .008 | .007 | .011 | .08 | .008 | .008 |
| %RSD | .2194 | .2020 | .4623 | .0301 | .2677 | .2244 | .3730 | .4693 | .2554 | .2689 |
| #1 | .5243 | 15.63 | 3.008 | 3.044 | 3.072 | 3.104 | 3.060 | 18.15 | 3.023 | 2.978 |
| #2 | .5227 | 15.58 | 2.988 | 3.043 | 3.060 | 3.094 | 3.044 | 18.03 | 3.012 | 2.966 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.091 | 3.009 | 18.50 | 15.62 | 18.56 | 2.950 | 2.872 | 15.34 | 2.865 | 2.920 |
| Stddev | .002 | .004 | .02 | .04 | .04 | .005 | .005 | .04 | .011 | .012 |
| %RSD | .0512 | .1229 | .0832 | .2652 | .2141 | .1672 | .1586 | .2619 | .3957 | .4255 |
| #1 | 3.092 | 3.006 | 18.51 | 15.65 | 18.59 | 2.953 | 2.875 | 15.37 | 2.873 | 2.928 |
| #2 | 3.089 | 3.011 | 18.48 | 15.59 | 18.53 | 2.946 | 2.869 | 15.31 | 2.857 | 2.911 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.045 | 2.988 | 2.911 | 2.933 | 3.036 | 3.056 | 3.057 | 3.039 | 2.953 | 3.014 |
| Stddev | .003 | .001 | .006 | .015 | .013 | .012 | .013 | .003 | .004 | .001 |
| %RSD | .1059 | .0255 | .2071 | .5192 | .4124 | .3957 | .4138 | .0953 | .1528 | .0363 |
| #1 | 3.043 | 2.987 | 2.915 | 2.944 | 3.045 | 3.064 | 3.066 | 3.042 | 2.956 | 3.015 |
| #2 | 3.047 | 2.988 | 2.907 | 2.922 | 3.027 | 3.047 | 3.048 | 3.037 | 2.950 | 3.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.011 | 2.882 | 3.154 |
| Stddev | .001 | .010 | .000 |
| %RSD | .0334 | .3412 | .0043 |
| #1 | 3.011 | 2.889 | 3.153 |
| #2 | 3.010 | 2.875 | 3.154 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2190.3 | 56672. | 13783. |
| Stddev | 1.7 | 134. | 9. |
| %RSD | .07866 | .23702 | .06400 |
| #1 | 2189.1 | 56578. | 13777. |
| #2 | 2191.5 | 56767. | 13790. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/4/2013 12:54:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0082 | .0002 | .0016 | .0027 | .0008 | .0004 | .0018 | .0003 |
| Stddev | .0010 | .0021 | .0015 | .0015 | .0002 | .0001 | .0000 | .0011 | .0001 |
| %RSD | 152.5 | 25.23 | 910.9 | 90.84 | 6.834 | 17.22 | 11.80 | 58.81 | 45.48 |
| #1 | .0001 | -.0067 | .0012 | .0006 | .0026 | .0009 | .0004 | .0026 | .0004 |
| #2 | -.0014 | -.0096 | -.0009 | .0027 | .0028 | .0007 | .0004 | .0011 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0004 | -.0008 | .0006 | .0459 | -.0111 | .0005 | .0013 | .0046 |
| Stddev | .0000 | .0002 | .0005 | .0014 | .0025 | .0262 | .0000 | .0000 | .0018 |
| %RSD | 2.607 | 61.86 | 60.25 | 220.8 | 5.413 | 236.8 | 5.746 | 2.226 | 38.71 |
| #1 | .0005 | -.0005 | -.0004 | .0016 | .0441 | .0075 | .0005 | .0013 | .0034 |
| #2 | .0006 | -.0002 | -.0011 | -.0004 | .0476 | -.0296 | .0004 | .0012 | .0059 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | .0016 | .0027 | .0009 | .0004 | .0001 | .0002 | .0006 |
| Stddev | .0002 | .0001 | .0016 | .0063 | .0004 | .0009 | .0001 | .0005 | .0000 |
| %RSD | 124.4 | 15.10 | 99.23 | 236.4 | 41.56 | 196.4 | 154.8 | 240.3 | 5.428 |
| #1 | .0003 | .0003 | .0027 | -.0018 | .0011 | -.0002 | .0002 | -.0002 | .0005 |
| #2 | .0000 | .0004 | .0005 | .0071 | .0006 | .0010 | .0000 | .0006 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | F.0023 | .0002 | .0081 | .0003 | .0011 |
| Stddev | .0001 | .0000 | .0002 | .0066 | .0002 | .0002 |
| %RSD | 14.27 | .3720 | 101.7 | 80.70 | 61.95 | 21.09 |
| #1 | .0008 | .0023 | .0003 | .0035 | .0005 | .0009 |
| #2 | .0009 | .0023 | .0000 | .0128 | .0002 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2217.3 | 57161. | 13583. |
| Stddev | 1.6 | 305. | 151. |
| %RSD | .07129 | .53356 | 1.1096 |
| #1 | 2218.5 | 56945. | 13476. |
| #2 | 2216.2 | 57376. | 13689. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:01:36 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2557 | 9.844 | 1.920 | -.0001 | 1.962 | 1.989 | 2.033 | 9.875 | 1.968 | 2.016 |
| Stddev | .0006 | .011 | .004 | .0000 | .001 | .004 | .008 | .037 | .002 | .001 |
| %RSD | .2465 | .1126 | .2273 | 17.60 | .0464 | .2266 | .3887 | .3703 | .0878 | .0309 |
| #1 | .2552 | 9.836 | 1.917 | -.0001 | 1.962 | 1.986 | 2.027 | 9.849 | 1.967 | 2.016 |
| #2 | .2561 | 9.852 | 1.923 | -.0001 | 1.963 | 1.992 | 2.038 | 9.901 | 1.970 | 2.017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.998 | 2.020 | 9.896 | 9.992 | 9.990 | 1.947 | 1.929 | 9.776 | 1.881 | 1.895 |
| Stddev | .002 | .003 | .034 | .015 | .046 | .001 | .001 | .023 | .000 | .001 |
| %RSD | .1117 | .1587 | .3418 | .1534 | .4627 | .0659 | .0457 | .2308 | .0044 | .0683 |
| #1 | 1.997 | 2.022 | 9.872 | 9.981 | 9.957 | 1.946 | 1.928 | 9.760 | 1.881 | 1.894 |
| #2 | 2.000 | 2.018 | 9.919 | 10.00 | 10.02 | 1.947 | 1.929 | 9.792 | 1.881 | 1.896 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0015 | 1.917 | 1.903 | .0134 | 1.882 | 2.006 | 1.965 | 1.952 | 1.992 |
| Stddev | .0010 | .0001 | .001 | .003 | .0004 | .002 | .006 | .001 | .001 | .001 |
| %RSD | 1917. | 5.652 | .0671 | .1643 | 3.022 | .1212 | .3023 | .0523 | .0516 | .0451 |
| #1 | .0008 | .0016 | 1.916 | 1.901 | .0131 | 1.884 | 2.001 | 1.964 | 1.951 | 1.992 |
| #2 | -.0007 | .0015 | 1.918 | 1.906 | .0137 | 1.881 | 2.010 | 1.965 | 1.953 | 1.991 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | 1.926 | .0015 |
| Stddev | .0018 | .004 | .0011 |
| %RSD | 35.26 | .2147 | 71.49 |
| #1 | -.0063 | 1.923 | .0022 |
| #2 | -.0038 | 1.928 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.6 | 56212. | 13633. |
| Stddev | 5.7 | 127. | 10. |
| %RSD | .25631 | .22552 | .07218 |
| #1 | 2209.6 | 56302. | 13640. |
| #2 | 2217.7 | 56123. | 13626. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 13:07:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0067 | -.0006 | .0008 | .0017 | .0003 | .0003 | .0598 | .0001 | .0003 |
| Stddev | .0003 | .0069 | .0006 | .0008 | .0004 | .0003 | .0000 | .0016 | .0001 | .0001 |
| %RSD | 28.81 | 103.5 | 89.62 | 103.0 | 23.97 | 116.7 | 2.067 | 2.665 | 77.71 | 19.62 |
| #1 | -.0011 | -.0116 | -.0002 | .0002 | .0019 | .0001 | .0003 | .0609 | .0000 | .0003 |
| #2 | -.0007 | -.0018 | -.0010 | .0014 | .0014 | .0005 | .0003 | .0586 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0011 | .0012 | .0129 | -.0040 | .0004 | .0008 | .0003 | .0001 | -.0001 |
| Stddev | .0001 | .0005 | .0028 | .0319 | .0021 | .0000 | .0001 | .0007 | .0001 | .0005 |
| %RSD | 13.10 | 48.62 | 241.9 | 246.6 | 51.36 | 3.897 | 14.68 | 214.6 | 88.76 | 532.6 |
| #1 | -.0005 | -.0015 | .0032 | -.0096 | -.0026 | .0004 | .0009 | -.0002 | .0001 | -.0005 |
| #2 | -.0004 | -.0007 | -.0008 | .0355 | -.0055 | .0004 | .0007 | .0008 | .0000 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.0043 | .0011 | .0004 | -.0012 | .0003 | .0003 | .0003 | .0019 | .0002 |
| Stddev | .0003 | .0051 | .0001 | .0009 | .0009 | .0001 | .0001 | .0002 | .0001 | .0005 |
| %RSD | 12.06 | 118.4 | 8.163 | 244.8 | 71.64 | 38.28 | 21.46 | 83.70 | 2.764 | 353.3 |
| #1 | .0027 | -.0080 | .0011 | -.0003 | -.0006 | .0004 | .0004 | .0004 | .0019 | -.0002 |
| #2 | .0023 | -.0007 | .0010 | .0010 | -.0019 | .0002 | .0003 | .0001 | .0020 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0002 | -.0001 |
| Stddev | .0065 | .0000 | .0006 |
| %RSD | 119.7 | 8.170 | 413.9 |
| #1 | .0008 | .0002 | .0003 |
| #2 | .0100 | .0001 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.2 | 57042. | 13578. |
| Stddev | 5.3 | 774. | 6. |
| %RSD | .23646 | 1.3562 | .04469 |
| #1 | 2243.9 | 57589. | 13583. |
| #2 | 2236.4 | 56495. | 13574. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 13:12:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .1865 | .0029 | -.0008 | .1017 | .0516 | .0044 | 5.015 | .0041 | .0523 |
| Stddev | .0003 | .0024 | .0001 | .0011 | .0002 | .0001 | .0000 | .015 | .0001 | .0000 |
| %RSD | 5.361 | 1.290 | 3.152 | 135.7 | .1674 | .2810 | .1828 | .3058 | 2.669 | .0174 |
| #1 | .0051 | .1848 | .0029 | -.0016 | .1019 | .0517 | .0044 | 5.004 | .0041 | .0523 |
| #2 | .0055 | .1882 | .0030 | .0000 | .1016 | .0515 | .0044 | 5.026 | .0042 | .0523 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | .0244 | .1019 | 5.147 | 5.083 | .0153 | .1002 | 4.888 | .0392 | .0055 |
| Stddev | .0004 | .0006 | .0004 | .028 | .005 | .0002 | .0006 | .012 | .0000 | .0008 |
| %RSD | 3.991 | 2.268 | .3874 | .5518 | .0931 | 1.404 | .6165 | .2434 | .0118 | 13.70 |
| #1 | .0102 | .0248 | .1017 | 5.127 | 5.080 | .0155 | .1007 | 4.879 | .0392 | .0050 |
| #2 | .0096 | .0240 | .1022 | 5.168 | 5.086 | .0152 | .0998 | 4.896 | .0392 | .0060 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0060 | .0065 | .0100 | -.0007 | .0963 | .0105 | .0518 | .0063 | .0105 |
| Stddev | .0012 | .0045 | .0015 | .0000 | .0002 | .0001 | .0000 | .0008 | .0006 | .0006 |
| %RSD | 151.8 | 75.70 | 23.72 | .1279 | 24.03 | .1372 | .2193 | 1.538 | 9.370 | 5.566 |
| #1 | -.0001 | -.0028 | .0076 | .0100 | -.0006 | .0963 | .0105 | .0524 | .0067 | .0109 |
| #2 | .0016 | -.0092 | .0054 | .0100 | -.0008 | .0964 | .0106 | .0513 | .0059 | .0101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0208 | .0000 |
| Stddev | .0020 | .0002 | .0002 |
| %RSD | 194.1 | 1.034 | 815.9 |
| #1 | .0024 | .0210 | -.0001 |
| #2 | -.0004 | .0207 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.8 | 56880. | 13556. |
| Stddev | 9.4 | 333. | 88. |
| %RSD | .41893 | .58487 | .65197 |
| #1 | 2236.2 | 56645. | 13618. |
| #2 | 2249.5 | 57115. | 13493. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/4/2013 13:20:03 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | 515.4 | .0013 | .0056 | .0056 | .0000 | .0001 | 467.7 | -.0006 | -.0006 |
| Stddev | .0006 | 5.2 | .0012 | .0009 | .0008 | .0001 | .0000 | 7.1 | .0003 | .0003 |
| %RSD | 72.37 | 1.001 | 97.26 | 15.68 | 14.20 | 421.7 | 14.61 | 1.522 | 50.65 | 49.96 |
| #1 | -.0013 | 519.0 | .0021 | .0062 | .0062 | .0001 | .0001 | 472.7 | -.0008 | -.0004 |
| #2 | -.0004 | 511.7 | .0004 | .0050 | .0051 | .0000 | .0001 | 462.6 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0007 | 191.4 | .0610 | 515.9 | .0006 | -.0005 | .0790 | -.0014 | .0025 |
| Stddev | .0000 | .0002 | .4 | .0402 | 1.1 | .0001 | .0002 | .0113 | .0001 | .0004 |
| %RSD | 4.543 | 30.34 | .1838 | 65.97 | .2096 | 10.32 | 46.64 | 14.24 | 5.251 | 17.43 |
| #1 | -.0009 | -.0009 | 191.7 | .0325 | 516.7 | .0005 | -.0003 | .0711 | -.0014 | .0028 |
| #2 | -.0008 | -.0006 | 191.2 | .0894 | 515.2 | .0006 | -.0007 | .0870 | -.0015 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0362 | -.0251 | -.0003 | -.0023 | .0405 | -.0004 | .0014 | .0096 | -.0008 | -.0004 |
| Stddev | .0011 | .0121 | .0004 | .0020 | .0006 | .0002 | .0003 | .0002 | .0003 | .0011 |
| %RSD | 2.981 | 48.11 | 153.7 | 88.07 | 1.379 | 56.06 | 19.12 | 2.141 | 41.59 | 251.4 |
| #1 | -.0355 | -.0337 | .0000 | -.0009 | .0401 | -.0006 | .0012 | .0097 | -.0010 | -.0012 |
| #2 | -.0370 | -.0166 | -.0006 | -.0037 | .0409 | -.0002 | .0016 | .0094 | -.0005 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0428 | .0014 | .0003 |
| Stddev | .0040 | .0000 | .0002 |
| %RSD | 9.228 | 1.978 | 79.72 |
| #1 | -.0456 | .0014 | .0005 |
| #2 | -.0401 | .0015 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2086.8 | 53118. | 13355. |
| Stddev | 2.2 | 17. | 98. |
| %RSD | .10660 | .03157 | .73636 |
| #1 | 2085.2 | 53130. | 13285. |
| #2 | 2088.4 | 53106. | 13424. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/4/2013 13:24:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.079 | 511.2 | 2.036 | .5122 | 1.013 | .5148 | .4934 | 469.0 | 1.028 | .4782 |
| Stddev | .001 | 6.0 | .004 | .0010 | .003 | .0002 | .0010 | 1.6 | .001 | .0014 |
| %RSD | .1216 | 1.178 | .2062 | .2012 | .2524 | .0400 | .2079 | .3361 | .0771 | .2941 |
| #1 | 1.078 | 515.5 | 2.033 | .5114 | 1.011 | .5150 | .4941 | 470.1 | 1.027 | .4772 |
| #2 | 1.080 | 507.0 | 2.038 | .5129 | 1.015 | .5147 | .4927 | 467.9 | 1.028 | .4792 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5030 | .5343 | 190.4 | .0676 | 511.0 | .4867 | .9567 | .0819 | .8609 | .8978 |
| Stddev | .0011 | .0009 | .6 | .0085 | 1.7 | .0005 | .0027 | .0086 | .0007 | .0003 |
| %RSD | .2240 | .1675 | .2900 | 12.56 | .3290 | .1078 | .2801 | 10.50 | .0833 | .0373 |
| #1 | .5022 | .5349 | 190.8 | .0736 | 512.2 | .4863 | .9549 | .0758 | .8604 | .8976 |
| #2 | .5038 | .5336 | 190.0 | .0616 | 509.9 | .4870 | .9586 | .0880 | .8614 | .8980 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4928 | .4796 | 2.020 | 1.940 | 2.157 | .9503 | 1.011 | .5223 | 1.900 | .5224 |
| Stddev | .0035 | .0011 | .002 | .001 | .003 | .0020 | .001 | .0006 | .006 | .0004 |
| %RSD | .7021 | .2208 | .0945 | .0588 | .1246 | .2150 | .1069 | .1208 | .3081 | .0854 |
| #1 | .4904 | .4788 | 2.019 | 1.939 | 2.155 | .9489 | 1.012 | .5218 | 1.896 | .5227 |
| #2 | .4953 | .4803 | 2.021 | 1.940 | 2.159 | .9518 | 1.011 | .5227 | 1.904 | .5221 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.927 | .9094 | .4553 |
| Stddev | .006 | .0025 | .0012 |
| %RSD | .3203 | .2705 | .2678 |
| #1 | 1.923 | .9076 | .4544 |
| #2 | 1.931 | .9111 | .4562 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2083.1 | 53328. | 13425. |
| Stddev | 6.3 | 369. | 115. |
| %RSD | .30373 | .69260 | .85569 |
| #1 | 2087.5 | 53589. | 13344. |
| #2 | 2078.6 | 53067. | 13506. |

Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 13:28:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2117 | 2.205 | .5070 | -.0005 | .0034 | 2.027 | .5298 | 24.72 | .5071 | .5088 |
| Stddev | .0010 | .007 | .0027 | .0003 | .0006 | .005 | .0014 | .04 | .0019 | .0013 |
| %RSD | .4704 | .3341 | .5304 | 60.96 | 16.11 | .2402 | .2613 | .1664 | .3700 | .2577 |
| #1 | .2110 | 2.200 | .5089 | -.0003 | .0038 | 2.023 | .5288 | 24.69 | .5084 | .5098 |
| #2 | .2124 | 2.210 | .5051 | -.0007 | .0030 | 2.030 | .5308 | 24.75 | .5058 | .5079 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5331 | .4949 | 2.084 | 25.23 | 25.68 | .4886 | .0014 | 24.64 | .4759 | .9818 |
| Stddev | .0010 | .0028 | .003 | .04 | .04 | .0013 | .0003 | .06 | .0003 | .0032 |
| %RSD | .1833 | .5655 | .1258 | .1467 | .1447 | .2737 | 24.96 | .2525 | .0543 | .3291 |
| #1 | .5324 | .4929 | 2.082 | 25.26 | 25.70 | .4877 | .0016 | 24.60 | .4761 | .9841 |
| #2 | .5338 | .4969 | 2.085 | 25.21 | 25.65 | .4896 | .0011 | 24.69 | .4757 | .9795 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0032 | .4999 | .4973 | .0349 | -.0012 | .4927 | .4981 | .5061 | .5269 |
| Stddev | .0003 | .0094 | .0017 | .0034 | .0002 | .0003 | .0011 | .0026 | .0025 | .0022 |
| %RSD | 155.2 | 297.8 | .3451 | .6908 | .6974 | 26.96 | .2318 | .5169 | .4954 | .4167 |
| #1 | .0000 | -.0098 | .5011 | .4998 | .0350 | -.0014 | .4919 | .4962 | .5079 | .5254 |
| #2 | .0004 | .0035 | .4986 | .4949 | .0347 | -.0009 | .4935 | .4999 | .5043 | .5285 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .5116 | .0130 |
| Stddev | .0002 | .0009 | .0017 |
| %RSD | 5.390 | .1690 | 13.01 |
| #1 | .0038 | .5122 | .0141 |
| #2 | .0041 | .5110 | .0118 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.0 | 57454. | 13982. |
| Stddev | 2.8 | 139. | 88. |
| %RSD | .12588 | .24217 | .63270 |
| #1 | 2239.0 | 57552. | 13920. |
| #2 | 2242.9 | 57356. | 14045. |



Zoom In Zoom Out

Sample Name: MP21097-MB1 Acquired: 6/4/2013 13:32:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0113 | -.0006 | -.0002 | .0001 | .0009 | .0002 | .0053 | .0000 | .0004 |
| Stddev | .0003 | .0032 | .0018 | .0015 | .0004 | .0001 | .0000 | .0009 | .000 | .0002 |
| %RSD | 59.41 | 28.42 | 303.3 | 898.5 | 498.9 | 6.968 | 9.669 | 17.25 | 89.73 | 56.43 |
| #1 | -.0007 | -.0136 | -.0019 | -.0012 | .0004 | .0008 | .0002 | .0060 | .0000 | .0005 |
| #2 | -.0003 | -.0090 | .0007 | .0009 | -.0002 | .0009 | .0002 | .0047 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0003 | .0013 | .0331 | .0285 | .0007 | .0002 | .0254 | -.0003 | .0000 |
| Stddev | .0005 | .0001 | .0019 | .0086 | .0212 | .0000 | .0001 | .0004 | .0004 | .0000 |
| %RSD | 71.55 | 35.17 | 144.5 | 25.93 | 74.42 | 6.070 | 56.31 | 1.722 | 147.6 | 15.08 |
| #1 | -.0003 | -.0004 | .0026 | .0391 | .0135 | .0007 | .0001 | .0251 | .0000 | .0000 |
| #2 | -.0010 | -.0003 | .0000 | .0270 | .0435 | .0008 | .0002 | .0257 | -.0006 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0014 | .0006 | .0001 | .0401 | -.0003 | .0002 | .0002 | .0000 | .0001 |
| Stddev | .0005 | .0043 | .0003 | .0007 | .0005 | .0002 | .0000 | .0002 | .0005 | .0008 |
| %RSD | 63.36 | 308.6 | 45.67 | 755.3 | 1.177 | 60.00 | 11.19 | 112.7 | 949.0 | 1426. |
| #1 | .0011 | .0045 | .0008 | .0006 | .0398 | -.0004 | .0002 | .0003 | .0004 | .0006 |
| #2 | .0004 | -.0017 | .0004 | -.0004 | .0405 | -.0002 | .0001 | .0000 | -.0003 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0124 | .0001 | .0002 |
| Stddev | .0042 | .0000 | .0000 |
| %RSD | 33.99 | 28.23 | 10.81 |
| #1 | .0094 | .0001 | .0002 |
| #2 | .0154 | .0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.3 | 57667. | 13979. |
| Stddev | 6.9 | 380. | 149. |
| %RSD | .30957 | .65863 | 1.0686 |
| #1 | 2247.2 | 57936. | 13873. |
| #2 | 2237.4 | 57399. | 14084. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/4/2013 13:37:20 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2154 | 2.123 | .5326 | -.0007 | .0240 | 2.053 | .5293 | 49.32 | .5113 | .5096 |
| Stddev | .0011 | .007 | .0000 | .0001 | .0001 | .005 | .0007 | .10 | .0007 | .0007 |
| %RSD | .4999 | .3312 | .0087 | 22.21 | .5639 | .2470 | .1399 | .1985 | .1366 | .1388 |
| #1 | .2162 | 2.118 | .5326 | -.0008 | .0239 | 2.049 | .5288 | 49.25 | .5118 | .5101 |
| #2 | .2146 | 2.128 | .5326 | -.0006 | .0241 | 2.056 | .5298 | 49.39 | .5109 | .5091 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5328 | .5002 | 11.36 | 27.80 | 28.12 | .9851 | .0003 | 31.44 | .4777 | .9802 |
| Stddev | .0038 | .0005 | .05 | .08 | .05 | .0013 | .0000 | .08 | .0016 | .0001 |
| %RSD | .7154 | .1038 | .4630 | .2870 | .1888 | .1300 | 11.06 | .2615 | .3388 | .0079 |
| #1 | .5355 | .5006 | 11.32 | 27.74 | 28.08 | .9860 | .0004 | 31.38 | .4789 | .9801 |
| #2 | .5301 | .4998 | 11.40 | 27.85 | 28.16 | .9842 | .0003 | 31.49 | .4766 | .9802 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0007 | .5026 | .4946 | 2.738 | -.0012 | .6413 | .5040 | .5032 | .5264 |
| Stddev | .0002 | .0070 | .0013 | .0006 | .006 | .0002 | .0021 | .0003 | .0006 | .0015 |
| %RSD | 5.444 | 1023. | .2622 | .1152 | .2145 | 13.54 | .3252 | .0499 | .1246 | .2852 |
| #1 | -.0028 | -.0057 | .5035 | .4950 | 2.742 | -.0011 | .6398 | .5042 | .5028 | .5274 |
| #2 | -.0031 | .0043 | .5017 | .4942 | 2.734 | -.0013 | .6428 | .5038 | .5037 | .5253 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .5170 | .0002 |
| Stddev | .0006 | .0002 | .0002 |
| %RSD | 31.41 | .0331 | 112.9 |
| #1 | -.0014 | .5172 | .0003 |
| #2 | -.0022 | .5169 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2195.3 | 56426. | 13810. |
| Stddev | 2.8 | 249. | 49. |
| %RSD | .12875 | .44182 | .35292 |
| #1 | 2193.3 | 56250. | 13844. |
| #2 | 2197.3 | 56603. | 13775. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/4/2013 13:41:34 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2164 | 2.109 | .5361 | .0000 | .0241 | 2.067 | .5350 | 49.67 | .5151 | .5125 |
| Stddev | .0013 | .024 | .0002 | .0002 | .0003 | .013 | .0033 | .28 | .0006 | .0005 |
| %RSD | .5877 | 1.147 | .0286 | 2394. | 1.086 | .6084 | .6252 | .5615 | .1213 | .0962 |
| #1 | .2173 | 2.092 | .5360 | -.0001 | .0239 | 2.058 | .5326 | 49.47 | .5155 | .5129 |
| #2 | .2155 | 2.126 | .5362 | .0001 | .0242 | 2.076 | .5374 | 49.87 | .5146 | .5122 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5395 | .5062 | 11.44 | 28.11 | 28.54 | .9821 | .0004 | 31.43 | .4792 | .9840 |
| Stddev | .0031 | .0043 | .05 | .24 | .14 | .0061 | .0000 | .18 | .0002 | .0025 |
| %RSD | .5807 | .8513 | .4782 | .8568 | .4747 | .6250 | 12.42 | .5720 | .0376 | .2516 |
| #1 | .5417 | .5093 | 11.40 | 27.94 | 28.44 | .9865 | .0004 | 31.30 | .4794 | .9857 |
| #2 | .5373 | .5032 | 11.48 | 28.28 | 28.63 | .9778 | .0003 | 31.56 | .4791 | .9822 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0022 | .5047 | .4982 | 2.730 | -.0016 | .6534 | .5048 | .5055 | .5320 |
| Stddev | .0012 | .0092 | .0008 | .0018 | .003 | .0002 | .0039 | .0033 | .0006 | .0061 |
| %RSD | 29.41 | 425.5 | .1502 | .3611 | .1016 | 11.72 | .5983 | .6571 | .1183 | 1.156 |
| #1 | -.0050 | .0087 | .5052 | .4994 | 2.732 | -.0014 | .6507 | .5071 | .5051 | .5363 |
| #2 | -.0033 | -.0043 | .5041 | .4969 | 2.728 | -.0017 | .6562 | .5024 | .5060 | .5276 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .5288 | -.0012 |
| Stddev | .0009 | .0015 | .0004 |
| %RSD | 39.54 | .2916 | 30.53 |
| #1 | -.0016 | .5299 | -.0010 |
| #2 | -.0029 | .5277 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.8 | 56934. | 13714. |
| Stddev | 4.0 | 61. | 52. |
| %RSD | .18121 | .10638 | .38101 |
| #1 | 2211.0 | 56977. | 13751. |
| #2 | 2216.7 | 56891. | 13677. |

Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/4/2013 13:45:47 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0199 | .0288 | -.0013 | .0228 | .0142 | .0003 | 25.24 | .0003 | .0009 |
| Stddev | .0002 | .0003 | .0014 | .0027 | .0000 | .0001 | .0000 | .06 | .0000 | .0000 |
| %RSD | 92.22 | 1.499 | 5.013 | 211.2 | .1734 | .9923 | 11.68 | .2521 | 1.674 | 2.024 |
| #1 | -.0001 | .0201 | .0278 | .0006 | .0228 | .0141 | .0003 | 25.20 | .0003 | .0009 |
| #2 | -.0004 | .0197 | .0298 | -.0032 | .0227 | .0143 | .0003 | 25.29 | .0003 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0001 | 9.591 | 2.473 | 2.713 | .4967 | -.0001 | 6.562 | .0000 | -.0006 |
| Stddev | .0000 | .0002 | .022 | .018 | .043 | .0008 | .0001 | .032 | .000 | .0000 |
| %RSD | 6.716 | 300.5 | .2262 | .7203 | 1.583 | .1664 | 112.9 | .4851 | 1212. | 7.821 |
| #1 | .0004 | -.0002 | 9.576 | 2.460 | 2.682 | .4961 | .0000 | 6.540 | -.0001 | -.0006 |
| #2 | .0005 | .0001 | 9.607 | 2.486 | 2.743 | .4973 | -.0002 | 6.585 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0023 | .0003 | .0009 | 2.739 | -.0008 | .1474 | .0008 | .0007 | .0003 |
| Stddev | .0009 | .0024 | .0004 | .0005 | .002 | .0002 | .0005 | .0003 | .0005 | .0000 |
| %RSD | 69.07 | 103.7 | 131.8 | 61.45 | .0875 | 23.06 | .3671 | 42.96 | 72.54 | 3.310 |
| #1 | -.0007 | -.0006 | .0000 | .0013 | 2.741 | -.0009 | .1470 | .0005 | .0011 | .0003 |
| #2 | -.0019 | -.0040 | .0006 | .0005 | 2.738 | -.0006 | .1477 | .0010 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0019 | .0101 | -.0003 |
| Stddev | .0016 | .0001 | .0001 |
| %RSD | 86.08 | .6465 | 37.01 |
| #1 | -.0007 | .0102 | -.0002 |
| #2 | -.0030 | .0101 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.5 | 57161. | 13728. |
| Stddev | 5.0 | 245. | 18. |
| %RSD | .22598 | .42831 | .13059 |
| #1 | 2215.0 | 57334. | 13741. |
| #2 | 2208.0 | 56987. | 13715. |



Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/4/2013 13:50:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0020 | .0239 | .0002 | .0236 | .0148 | .0002 | 25.74 | .0001 | .0009 |
| Stddev | .0019 | .0475 | .0006 | .0046 | .0002 | .0002 | .0001 | .12 | .0010 | .0005 |
| %RSD | 40.17 | 2403. | 2.432 | 2193. | .8565 | 1.167 | 60.94 | .4840 | 1887. | 55.90 |
| #1 | -.0035 | .0355 | .0235 | .0034 | .0237 | .0147 | .0001 | 25.65 | -.0006 | .0012 |
| #2 | -.0062 | -.0316 | .0243 | -.0030 | .0234 | .0150 | .0002 | 25.82 | .0007 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0045 | 9.628 | 2.690 | 2.681 | .5044 | -.0010 | 6.647 | .0016 | .0020 |
| Stddev | .0011 | .0018 | .017 | .004 | .021 | .0042 | .0011 | .040 | .0003 | .0016 |
| %RSD | 243.9 | 39.46 | .1760 | .1669 | .7812 | .8283 | 111.3 | .6082 | 17.41 | 77.77 |
| #1 | -.0003 | -.0057 | 9.616 | 2.687 | 2.695 | .5014 | -.0017 | 6.619 | .0018 | .0009 |
| #2 | .0013 | -.0032 | 9.640 | 2.693 | 2.666 | .5073 | -.0002 | 6.676 | .0014 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0037 | .0021 | .0039 | 2.687 | .0027 | .1496 | -.0032 | .0064 | .0006 |
| Stddev | .0020 | .0106 | .0022 | .0050 | .000 | .0009 | .0010 | .0018 | .0025 | .0011 |
| %RSD | 209.8 | 286.2 | 105.6 | 130.2 | .0103 | 31.32 | .6868 | 57.52 | 38.61 | 184.0 |
| #1 | -.0005 | -.0038 | .0005 | .0074 | 2.687 | .0021 | .1489 | -.0019 | .0047 | -.0002 |
| #2 | .0024 | .0112 | .0037 | .0003 | 2.687 | .0034 | .1503 | -.0045 | .0082 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0112 | .0010 |
| Stddev | .0243 | .0001 | .0000 |
| %RSD | 144.3 | .5794 | .2965 |
| #1 | .0341 | .0113 | .0010 |
| #2 | -.0003 | .0112 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.0 | 57389. | 13592. |
| Stddev | 1.3 | 35. | 110. |
| %RSD | .05956 | .06094 | .80876 |
| #1 | 2262.9 | 57414. | 13514. |
| #2 | 2261.0 | 57365. | 13669. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/4/2013 13:54:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0260 | .2337 | .0007 | .1927 | .2719 | .0000 | 64.90 | .0023 | -.0005 |
| Stddev | .0005 | .0011 | .0003 | .0000 | .0002 | .0002 | .0001 | .05 | .0000 | .0001 |
| %RSD | 239.4 | 4.209 | .1353 | .1297 | .1177 | .0584 | 1119. | .0792 | 2.097 | 15.94 |
| #1 | .0001 | -.0268 | .2334 | .0007 | .1925 | .2721 | .0001 | 64.93 | .0023 | -.0005 |
| #2 | -.0006 | -.0252 | .2339 | .0007 | .1928 | .2718 | .0000 | 64.86 | .0022 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0012 | 54.34 | 16.95 | 8.141 | 1.352 | -.0003 | 21.62 | .0017 | -.0009 |
| Stddev | .0003 | .0001 | .02 | .02 | .042 | .008 | .0000 | .01 | .0002 | .0006 |
| %RSD | 35.07 | 8.260 | .0338 | .1077 | .5163 | .5747 | 9.133 | .0692 | 12.79 | 67.56 |
| #1 | -.0007 | -.0012 | 54.36 | 16.94 | 8.171 | 1.357 | -.0003 | 21.63 | .0018 | -.0005 |
| #2 | -.0011 | -.0013 | 54.33 | 16.96 | 8.111 | 1.346 | -.0003 | 21.61 | .0015 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0067 | .0001 | .0006 | 10.40 | -.0004 | .5857 | .0005 | -.0002 | .0005 |
| Stddev | .0015 | .0019 | .0002 | .0011 | .00 | .0000 | .0007 | .0002 | .0007 | .0001 |
| %RSD | 39.85 | 28.13 | 126.7 | 203.7 | .0221 | 4.317 | .1133 | 38.65 | 397.1 | 31.79 |
| #1 | -.0026 | .0054 | .0000 | .0013 | 10.40 | -.0004 | .5861 | .0004 | .0003 | .0006 |
| #2 | -.0047 | .0080 | .0003 | -.0002 | 10.40 | -.0004 | .5852 | .0006 | -.0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0067 | -.0022 |
| Stddev | .0032 | .0000 | .0001 |
| %RSD | 523.6 | .4980 | 3.120 |
| #1 | .0029 | .0067 | -.0023 |
| #2 | -.0017 | .0067 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.2 | 57427. | 13811. |
| Stddev | 3.9 | 515. | 3. |
| %RSD | .17482 | .89705 | .01980 |
| #1 | 2222.9 | 57063. | 13809. |
| #2 | 2217.4 | 57791. | 13813. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:58:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2574 | 9.775 | 1.913 | -.0003 | 1.951 | 1.990 | 2.058 | 9.935 | 1.961 | 2.008 |
| Stddev | .0019 | .046 | .003 | .0006 | .004 | .001 | .001 | .025 | .001 | .003 |
| %RSD | .7561 | .4726 | .1763 | 202.2 | .2140 | .0523 | .0408 | .2540 | .0653 | .1385 |
| #1 | .2560 | 9.807 | 1.911 | -.0007 | 1.948 | 1.991 | 2.058 | 9.953 | 1.962 | 2.006 |
| #2 | .2587 | 9.742 | 1.915 | .0001 | 1.954 | 1.990 | 2.057 | 9.917 | 1.961 | 2.010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.015 | 2.040 | 9.923 | 10.14 | 10.15 | 1.937 | 1.914 | 9.694 | 1.855 | 1.886 |
| Stddev | .009 | .016 | .042 | .04 | .02 | .011 | .006 | .011 | .003 | .003 |
| %RSD | .4227 | .7591 | .4184 | .3565 | .2430 | .5740 | .3011 | .1107 | .1357 | .1646 |
| #1 | 2.009 | 2.029 | 9.952 | 10.11 | 10.17 | 1.929 | 1.910 | 9.701 | 1.854 | 1.883 |
| #2 | 2.021 | 2.051 | 9.894 | 10.16 | 10.13 | 1.945 | 1.918 | 9.686 | 1.857 | 1.888 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0009 | 1.896 | 1.892 | .0129 | 1.853 | 2.030 | 1.967 | 1.946 | 2.016 |
| Stddev | .0006 | .0125 | .002 | .007 | .0004 | .005 | .002 | .013 | .002 | .014 |
| %RSD | 52.63 | 1359. | .1283 | .3818 | 2.872 | .2629 | .0791 | .6799 | .1230 | .6771 |
| #1 | .0007 | .0098 | 1.895 | 1.887 | .0131 | 1.850 | 2.031 | 1.958 | 1.948 | 2.006 |
| #2 | .0016 | -.0079 | 1.898 | 1.897 | .0126 | 1.857 | 2.029 | 1.976 | 1.945 | 2.025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | 1.930 | -.0030 |
| Stddev | .0046 | .003 | .0002 |
| %RSD | 57.57 | .1392 | 5.685 |
| #1 | -.0047 | 1.928 | -.0029 |
| #2 | -.0112 | 1.932 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.2 | 56403. | 13555. |
| Stddev | 1.0 | 267. | 207. |
| %RSD | .04208 | .47405 | 1.5239 |
| #1 | 2260.5 | 56592. | 13409. |
| #2 | 2261.9 | 56214. | 13701. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 14:06:33 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0154 | -.0006 | -.0005 | .0009 | .0001 | .0001 | -.0025 | .0001 | .0003 |
| Stddev | .0003 | .0028 | .0019 | .0003 | .0004 | .0000 | .0000 | .0023 | .0001 | .0001 |
| %RSD | 43.15 | 18.36 | 294.6 | 64.63 | 40.52 | 14.51 | 45.83 | 92.93 | 122.4 | 54.54 |
| #1 | -.0006 | -.0174 | .0007 | -.0002 | .0012 | .0001 | .0001 | -.0041 | .0001 | .0004 |
| #2 | -.0010 | -.0134 | -.0020 | -.0007 | .0006 | .0001 | .0001 | -.0008 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0008 | -.0005 | .0303 | -.0245 | .0002 | .0003 | .0087 | -.0002 | -.0004 |
| Stddev | .0000 | .0000 | .0006 | .0263 | .0282 | .0000 | .0001 | .0185 | .0001 | .0007 |
| %RSD | 1.336 | 3.187 | 106.4 | 86.73 | 115.0 | 7.699 | 26.75 | 213.0 | 43.79 | 160.8 |
| #1 | -.0003 | -.0008 | -.0010 | .0488 | -.0444 | .0002 | .0004 | .0218 | -.0001 | .0001 |
| #2 | -.0002 | -.0008 | -.0001 | .0117 | -.0046 | .0002 | .0003 | -.0044 | -.0002 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0038 | .0003 | -.0001 | -.0029 | .0004 | .0002 | .0001 | .0010 | .0004 |
| Stddev | .0002 | .0041 | .0005 | .0001 | .0000 | .0001 | .0001 | .0007 | .0004 | .0001 |
| %RSD | 54.58 | 107.5 | 208.0 | 178.3 | .3863 | 23.75 | 56.55 | 1491. | 33.97 | 20.11 |
| #1 | -.0002 | -.0009 | -.0001 | -.0001 | -.0029 | .0004 | .0001 | .0006 | .0008 | .0004 |
| #2 | -.0005 | -.0068 | .0006 | .0000 | -.0029 | .0003 | .0003 | -.0005 | .0013 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | -.0001 | .0001 |
| Stddev | .0077 | .0001 | .0000 |
| %RSD | 914.6 | 74.02 | 20.43 |
| #1 | -.0046 | -.0001 | .0002 |
| #2 | .0063 | .0000 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 56639. | 13461. |
| Stddev | 15.7 | 211. | 149. |
| %RSD | .69062 | .37239 | 1.1045 |
| #1 | 2261.9 | 56789. | 13566. |
| #2 | 2284.1 | 56490. | 13356. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/4/2013 14:10:53 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0313 | 1.034 | -.0017 | .0124 | .0815 | .0001 | 76.32 | .0101 | .0184 |
| Stddev | .0005 | .0028 | .004 | .0006 | .0001 | .0004 | .0001 | .19 | .0003 | .0001 |
| %RSD | 76.31 | 8.830 | .4342 | 33.68 | 1.206 | .4630 | 113.1 | .2430 | 2.919 | .7193 |
| #1 | -.0009 | -.0293 | 1.031 | -.0013 | .0125 | .0818 | .0000 | 76.45 | .0099 | .0183 |
| #2 | -.0003 | -.0332 | 1.037 | -.0021 | .0123 | .0812 | .0002 | 76.19 | .0103 | .0185 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0009 | 8.289 | 6.446 | 3.220 | 1.963 | .0021 | 6.716 | .0174 | -.0004 |
| Stddev | .0002 | .0005 | .026 | .021 | .007 | .029 | .0001 | .034 | .0001 | .0001 |
| %RSD | 120.9 | 53.57 | .3120 | .3334 | .2041 | 1.463 | 3.183 | .5091 | .3333 | 11.63 |
| #1 | .0004 | -.0012 | 8.308 | 6.431 | 3.224 | 1.943 | .0020 | 6.740 | .0175 | -.0004 |
| #2 | .0000 | -.0005 | 8.271 | 6.461 | 3.215 | 1.983 | .0021 | 6.692 | .0174 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0011 | .0009 | .0003 | 4.870 | -.0003 | .3212 | .0008 | -.0004 | .0005 |
| Stddev | .0020 | .0071 | .0007 | .0006 | .021 | .0001 | .0008 | .0002 | .0008 | .0004 |
| %RSD | 42.69 | 621.6 | 77.82 | 239.2 | .4415 | 24.39 | .2567 | 24.88 | 193.2 | 73.05 |
| #1 | -.0033 | -.0039 | .0014 | .0007 | 4.855 | -.0002 | .3218 | .0006 | .0001 | .0007 |
| #2 | -.0061 | .0061 | .0004 | -.0002 | 4.886 | -.0003 | .3206 | .0009 | -.0010 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0075 | -.0010 |
| Stddev | .0015 | .0002 | .0001 |
| %RSD | 31.67 | 2.208 | 12.92 |
| #1 | .0058 | .0074 | -.0011 |
| #2 | .0037 | .0076 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.3 | 56548. | 13694. |
| Stddev | 7.1 | 732. | 2. |
| %RSD | .31594 | 1.2940 | .01180 |
| #1 | 2252.3 | 57066. | 13695. |
| #2 | 2242.3 | 56031. | 13692. |



Zoom In Zoom Out

Sample Name: MC21202-6F Acquired: 6/4/2013 14:15:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0133 | .0003 | .0006 | .0005 | .0003 | .0001 | .0242 | .0001 | .0001 |
| Stddev | .0003 | .0067 | .0010 | .0005 | .0003 | .0000 | .0000 | .0014 | .0001 | .0001 |
| %RSD | 36.31 | 50.38 | 371.0 | 81.49 | 57.73 | 9.067 | 21.04 | 5.849 | 80.40 | 88.97 |
| #1 | -.0006 | -.0086 | .0009 | .0009 | .0007 | .0003 | .0001 | .0252 | .0000 | .0000 |
| #2 | -.0010 | -.0181 | -.0004 | .0002 | .0003 | .0003 | .0002 | .0232 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0011 | .0040 | .0661 | .0021 | .0009 | .0001 | .0127 | -.0004 | -.0002 |
| Stddev | .0004 | .0001 | .0022 | .0034 | .0092 | .0000 | .0000 | .0028 | .0001 | .0002 |
| %RSD | 259.7 | 12.77 | 55.55 | 5.072 | 435.8 | 1.214 | 22.18 | 22.20 | 36.87 | 84.34 |
| #1 | -.0001 | -.0010 | .0055 | .0638 | -.0044 | .0009 | .0001 | .0147 | -.0004 | -.0001 |
| #2 | .0005 | -.0011 | .0024 | .0685 | .0087 | .0010 | .0001 | .0107 | -.0003 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0001 | .0001 | -.0005 | .0365 | -.0003 | .0001 | -.0002 | .0000 | -.0007 |
| Stddev | .0004 | .0038 | .0005 | .0003 | .0013 | .0001 | .0000 | .0005 | .0002 | .0004 |
| %RSD | 34.75 | 4401. | 800.7 | 50.36 | 3.558 | 17.57 | 3.018 | 211.8 | 1328. | 53.65 |
| #1 | .0009 | .0028 | -.0003 | -.0003 | .0375 | -.0003 | .0001 | .0001 | .0002 | -.0004 |
| #2 | .0014 | -.0026 | .0004 | -.0007 | .0356 | -.0003 | .0001 | -.0006 | -.0002 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0072 | -.0001 |
| Stddev | .0008 | .0000 | .0003 |
| %RSD | 46.35 | .5195 | 197.5 |
| #1 | -.0022 | .0072 | .0001 |
| #2 | -.0011 | .0071 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.4 | 57321. | 13826. |
| Stddev | 1.0 | 15. | 52. |
| %RSD | .04482 | .02575 | .37625 |
| #1 | 2268.6 | 57332. | 13789. |
| #2 | 2270.1 | 57311. | 13862. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/4/2013 14:19:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0766 | .0306 | -.0015 | .1902 | .0111 | .0002 | 106.0 | .0006 | .0021 |
| Stddev | .0001 | .0059 | .0000 | .0014 | .0003 | .0001 | .0000 | .1 | .0002 | .0000 |
| %RSD | 56.97 | 7.742 | .0135 | 98.43 | .1433 | .4523 | 12.35 | .0655 | 32.72 | 2.123 |
| #1 | -.0001 | -.0808 | .0306 | -.0004 | .1904 | .0111 | .0001 | 105.9 | .0008 | .0021 |
| #2 | -.0001 | -.0724 | .0306 | -.0025 | .1900 | .0112 | .0002 | 106.0 | .0005 | .0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0004 | .4398 | 4.946 | 13.99 | 8.578 | .0013 | 27.12 | .0141 | -.0004 |
| Stddev | .0003 | .0000 | .0035 | .025 | .03 | .085 | .0001 | .01 | .0000 | .0001 |
| %RSD | 70.07 | 8.414 | .7970 | .5134 | .2255 | .9890 | 4.176 | .0486 | .1741 | 20.00 |
| #1 | .0006 | -.0004 | .4373 | 4.928 | 13.97 | 8.638 | .0013 | 27.11 | .0141 | -.0005 |
| #2 | .0002 | -.0003 | .4422 | 4.964 | 14.01 | 8.518 | .0012 | 27.13 | .0141 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0317 | .0006 | .0010 | 9.493 | -.0004 | .5834 | .0008 | -.0035 | -.0007 |
| Stddev | .0007 | .0037 | .0007 | .0001 | .028 | .0003 | .0016 | .0006 | .0011 | .0001 |
| %RSD | 9.053 | 11.77 | 118.6 | 9.525 | .2976 | 66.93 | .2739 | 68.29 | 32.68 | 10.32 |
| #1 | -.0074 | .0343 | .0011 | .0009 | 9.513 | -.0007 | .5846 | .0012 | -.0027 | -.0008 |
| #2 | -.0084 | .0290 | .0001 | .0010 | 9.473 | -.0002 | .5823 | .0004 | -.0043 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0008 | .0206 | -.0017 |
| Stddev | .0104 | .0001 | .0001 |
| %RSD | 1264. | .4912 | 6.272 |
| #1 | -.0082 | .0207 | -.0018 |
| #2 | .0066 | .0206 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.9 | 56716. | 13777. |
| Stddev | 12.7 | 40. | 67. |
| %RSD | .56885 | .07128 | .48340 |
| #1 | 2220.9 | 56688. | 13824. |
| #2 | 2238.9 | 56745. | 13730. |

Zoom In Zoom Out

Sample Name: MC21202-8F Acquired: 6/4/2013 14:23:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0175 | -.0016 | .0002 | .0049 | .0048 | .0000 | 6.795 | -.0001 | .0000 |
| Stddev | .0010 | .0077 | .0003 | .0003 | .0002 | .0002 | .0000 | .108 | .0000 | .000 |
| %RSD | 134.4 | 44.02 | 21.10 | 145.3 | 4.812 | 4.005 | 52.52 | 1.582 | 60.02 | 22.09 |
| #1 | -.0015 | -.0120 | -.0018 | .0004 | .0047 | .0049 | .0000 | 6.871 | .0000 | .0000 |
| #2 | .0000 | -.0229 | -.0013 | .0000 | .0050 | .0047 | .0001 | 6.719 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0011 | -.0043 | 1.399 | 1.223 | .0034 | .0001 | 5.973 | -.0004 | -.0005 |
| Stddev | .0004 | .0002 | .0024 | .005 | .033 | .0004 | .0000 | .004 | .0002 | .0002 |
| %RSD | 41.27 | 20.83 | 55.68 | .3581 | 2.709 | 11.86 | 13.46 | .0675 | 56.77 | 42.16 |
| #1 | .0007 | -.0013 | -.0059 | 1.402 | 1.246 | .0036 | .0001 | 5.970 | -.0002 | -.0004 |
| #2 | .0012 | -.0009 | -.0026 | 1.395 | 1.199 | .0031 | .0001 | 5.976 | -.0005 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0006 | .0010 | -.0006 | 7.857 | -.0006 | .0469 | -.0002 | .0008 | -.0006 |
| Stddev | .0028 | .0028 | .0006 | .0014 | .018 | .0002 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 294.4 | 476.4 | 56.60 | 234.0 | .2303 | 27.25 | .2434 | 58.14 | 47.93 | 3.800 |
| #1 | .0029 | .0014 | .0014 | -.0016 | 7.844 | -.0005 | .0468 | -.0003 | .0006 | -.0006 |
| #2 | -.0010 | -.0025 | .0006 | .0004 | 7.870 | -.0007 | .0469 | -.0001 | .0011 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0095 | -.0016 |
| Stddev | .0042 | .0001 | .0001 |
| %RSD | 51.68 | .6327 | 6.221 |
| #1 | .0110 | .0094 | -.0016 |
| #2 | .0051 | .0095 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.7 | 57457. | 13712. |
| Stddev | 3.6 | 297. | 51. |
| %RSD | .15703 | .51753 | .37522 |
| #1 | 2276.2 | 57246. | 13675. |
| #2 | 2281.3 | 57667. | 13748. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/4/2013 14:28:15 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0438 | .4153 | -.0009 | .1314 | .0390 | .0001 | 53.55 | .0041 | .0005 |
| Stddev | .0006 | .0031 | .0004 | .0011 | .0003 | .0007 | .0000 | .06 | .0000 | .0000 |
| %RSD | 69.36 | 6.989 | .1029 | 117.1 | .1959 | 1.796 | 23.56 | .1211 | .7969 | 6.823 |
| #1 | -.0013 | -.0416 | .4156 | -.0017 | .1312 | .0385 | .0001 | 53.51 | .0041 | .0005 |
| #2 | -.0004 | -.0460 | .4150 | -.0002 | .1315 | .0395 | .0001 | 53.60 | .0041 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0010 | 27.75 | 4.527 | 7.204 | 3.910 | -.0001 | 27.64 | .0017 | -.0007 |
| Stddev | .0002 | .0000 | .04 | .044 | .025 | .033 | .0000 | .06 | .0003 | .0002 |
| %RSD | 28.72 | .1859 | .1431 | .9636 | .3526 | .8430 | 53.04 | .2180 | 19.77 | 25.42 |
| #1 | -.0010 | -.0010 | 27.72 | 4.496 | 7.186 | 3.933 | -.0001 | 27.59 | .0020 | -.0009 |
| #2 | -.0007 | -.0010 | 27.78 | 4.558 | 7.222 | 3.887 | -.0001 | 27.68 | .0015 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0155 | .0005 | .0011 | 10.81 | -.0005 | .2262 | .0006 | -.0008 | -.0002 |
| Stddev | .0013 | .0030 | .0007 | .0007 | .00 | .0004 | .0000 | .0002 | .0003 | .0001 |
| %RSD | 37.75 | 19.56 | 140.9 | 58.10 | .0021 | 86.04 | .0111 | 38.41 | 31.24 | 72.56 |
| #1 | -.0025 | .0133 | .0010 | .0007 | 10.81 | -.0002 | .2262 | .0004 | -.0006 | -.0001 |
| #2 | -.0043 | .0176 | .0000 | .0016 | 10.81 | -.0008 | .2262 | .0007 | -.0010 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0203 | .0059 | -.0023 |
| Stddev | .0042 | .0001 | .0003 |
| %RSD | 20.63 | 1.361 | 13.06 |
| #1 | .0173 | .0059 | -.0021 |
| #2 | .0232 | .0058 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.6 | 56859. | 13836. |
| Stddev | 3.5 | 163. | 46. |
| %RSD | .15822 | .28686 | .33516 |
| #1 | 2237.1 | 56975. | 13803. |
| #2 | 2242.1 | 56744. | 13869. |





Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/4/2013 14:32:37 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0216 | -.0002 | .0001 | .0074 | .0014 | .0001 | 5.926 | -.0001 | .0001 |
| Stddev | .0000 | .0057 | .0005 | .0007 | .0001 | .0001 | .0001 | .061 | .0002 | .0001 |
| %RSD | 5.408 | 26.54 | 245.3 | 651.9 | .9899 | 4.285 | 95.84 | 1.024 | 204.8 | 71.43 |
| #1 | -.0006 | -.0175 | -.0006 | -.0004 | .0074 | .0014 | .0000 | 5.883 | -.0002 | .0001 |
| #2 | -.0006 | -.0256 | .0002 | .0006 | .0075 | .0015 | .0001 | 5.969 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | .0299 | .9824 | .6429 | .0106 | .0001 | 23.77 | .0002 | -.0006 |
| Stddev | .0002 | .0002 | .0030 | .0116 | .0106 | .0002 | .0000 | .20 | .0001 | .0003 |
| %RSD | 112.1 | 19.39 | 9.937 | 1.178 | 1.656 | 1.596 | 36.65 | .8440 | 29.67 | 47.64 |
| #1 | .0000 | -.0011 | .0278 | .9905 | .6353 | .0107 | .0000 | 23.63 | .0002 | -.0008 |
| #2 | -.0002 | -.0014 | .0320 | .9742 | .6504 | .0105 | .0001 | 23.92 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0011 | .0007 | .0013 | 3.638 | -.0003 | .0426 | .0001 | -.0002 | -.0003 |
| Stddev | .0012 | .0052 | .0002 | .0015 | .002 | .0001 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 71.84 | 483.0 | 31.08 | 117.3 | .0622 | 29.02 | .9767 | 106.0 | 54.55 | 27.13 |
| #1 | .0025 | -.0047 | .0005 | .0002 | 3.640 | -.0002 | .0423 | .0000 | -.0003 | -.0002 |
| #2 | .0008 | .0026 | .0008 | .0024 | 3.637 | -.0003 | .0429 | .0001 | -.0002 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0597 | -.0006 |
| Stddev | .0014 | .0003 | .0003 |
| %RSD | 139.7 | .4725 | 53.29 |
| #1 | .0000 | .0599 | -.0003 |
| #2 | .0020 | .0595 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.7 | 56936. | 13606. |
| Stddev | 1.4 | 747. | 140. |
| %RSD | .06126 | 1.3128 | 1.0325 |
| #1 | 2275.7 | 56407. | 13705. |
| #2 | 2277.7 | 57464. | 13507. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/4/2013 14:36:56 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0863 | 1.091 | .0022 | .2133 | .0453 | .0000 | 77.39 | .0111 | .0153 |
| Stddev | .0002 | .0053 | .003 | .0010 | .0014 | .0001 | .000 | .05 | .0001 | .0001 |
| %RSD | 17.29 | 6.171 | .2741 | 46.21 | .6451 | .2491 | 166.7 | .0634 | .5244 | .3871 |
| #1 | -.0013 | -.0825 | 1.093 | .0029 | .2143 | .0453 | .0000 | 77.42 | .0111 | .0153 |
| #2 | -.0010 | -.0901 | 1.089 | .0015 | .2123 | .0452 | .0000 | 77.35 | .0110 | .0153 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0007 | 30.28 | 8.478 | 12.29 | 9.515 | .0010 | 28.82 | .0046 | -.0003 |
| Stddev | .0002 | .0001 | .05 | .017 | .00 | .104 | .0001 | .02 | .0002 | .0008 |
| %RSD | 64.12 | 8.224 | .1668 | .2024 | .0182 | 1.091 | 7.806 | .0614 | 3.497 | 234.5 |
| #1 | -.0002 | -.0007 | 30.31 | 8.490 | 12.28 | 9.588 | .0011 | 28.81 | .0048 | -.0009 |
| #2 | -.0004 | -.0006 | 30.24 | 8.466 | 12.29 | 9.442 | .0009 | 28.83 | .0045 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0323 | .0004 | .0010 | 12.75 | -.0010 | 1.000 | .0001 | -.0032 | -.0005 |
| Stddev | .0028 | .0031 | .0006 | .0005 | .00 | .0000 | .000 | .0000 | .0007 | .0004 |
| %RSD | 48.14 | 9.704 | 140.2 | 44.54 | .0032 | .3177 | .0013 | 15.01 | 22.70 | 77.81 |
| #1 | -.0079 | .0345 | .0009 | .0013 | 12.75 | -.0010 | 1.000 | .0001 | -.0027 | -.0002 |
| #2 | -.0039 | .0301 | .0000 | .0007 | 12.75 | -.0010 | 1.000 | .0001 | -.0037 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0080 | -.0025 |
| Stddev | .0037 | .0001 | .0002 |
| %RSD | 13.43 | 1.055 | 6.989 |
| #1 | .0249 | .0079 | -.0024 |
| #2 | .0301 | .0080 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.8 | 56903. | 13834. |
| Stddev | 1.3 | 352. | 31. |
| %RSD | .05872 | .61851 | .22162 |
| #1 | 2254.7 | 56654. | 13812. |
| #2 | 2252.8 | 57151. | 13855. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/4/2013 14:41:17 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0269 | .9491 | .0009 | .1392 | .0948 | .0000 | 45.48 | .0094 | .0164 |
| Stddev | .0002 | .0062 | .0035 | .0006 | .0003 | .0017 | .000 | .05 | .0002 | .0000 |
| %RSD | 27.11 | 23.08 | .3641 | 62.84 | .2135 | 1.790 | 3581. | .1086 | 2.211 | .2459 |
| #1 | -.0007 | -.0313 | .9466 | .0005 | .1390 | .0936 | -.0001 | 45.44 | .0092 | .0164 |
| #2 | -.0011 | -.0225 | .9515 | .0014 | .1394 | .0960 | .0001 | 45.51 | .0095 | .0165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0018 | 74.97 | 11.20 | 7.248 | .9896 | .0006 | 16.57 | .0144 | -.0017 |
| Stddev | .0002 | .0004 | .20 | .07 | .004 | .0022 | .0001 | .00 | .0001 | .0000 |
| %RSD | 18.11 | 22.42 | .2671 | .6305 | .0512 | .2250 | 20.57 | .0271 | .7306 | .2389 |
| #1 | -.0012 | -.0020 | 74.83 | 11.15 | 7.245 | .9880 | .0007 | 16.57 | .0144 | -.0017 |
| #2 | -.0010 | -.0015 | 75.11 | 11.25 | 7.251 | .9912 | .0005 | 16.57 | .0145 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0071 | .0007 | .0010 | 13.63 | -.0004 | .4244 | .0002 | .0014 | -.0006 |
| Stddev | .0010 | .0032 | .0000 | .0008 | .01 | .0003 | .0011 | .0001 | .0001 | .0008 |
| %RSD | 44.70 | 44.66 | 2.356 | 82.69 | .0998 | 77.73 | .2596 | 41.96 | 8.949 | 135.9 |
| #1 | -.0015 | .0048 | .0007 | .0016 | 13.62 | -.0006 | .4236 | .0001 | .0014 | -.0011 |
| #2 | -.0029 | .0093 | .0007 | .0004 | 13.64 | -.0002 | .4252 | .0003 | .0013 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0166 | .0119 | -.0028 |
| Stddev | .0021 | .0001 | .0000 |
| %RSD | 12.49 | 1.070 | .0659 |
| #1 | .0151 | .0120 | -.0028 |
| #2 | .0181 | .0118 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.6 | 57202. | 13920. |
| Stddev | 1.6 | 393. | 81. |
| %RSD | .07218 | .68784 | .58006 |
| #1 | 2245.5 | 57480. | 13863. |
| #2 | 2247.8 | 56923. | 13978. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/4/2013 14:45:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.1005 | .0075 | .0022 | .2890 | .0418 | .0000 | 68.06 | .0005 | .0053 |
| Stddev | .0003 | .0042 | .0000 | .0006 | .0001 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 40.38 | 4.151 | .3039 | 26.46 | .0261 | .1760 | 281.3 | .0209 | 27.51 | 3.658 |
| #1 | -.0010 | -.0975 | .0075 | .0018 | .2890 | .0418 | .0000 | 68.07 | .0006 | .0052 |
| #2 | -.0005 | -.1034 | .0075 | .0026 | .2891 | .0419 | .0000 | 68.05 | .0004 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0010 | 2.199 | 14.03 | 11.79 | 11.98 | -.0001 | 30.03 | .0054 | .0003 |
| Stddev | .0002 | .0001 | .001 | .03 | .04 | .12 | .0001 | .05 | .0000 | .0001 |
| %RSD | 50.60 | 5.765 | .0229 | .2162 | .3782 | .9910 | 73.09 | .1657 | .7813 | 33.84 |
| #1 | .0003 | -.0011 | 2.199 | 14.05 | 11.76 | 12.07 | -.0001 | 30.07 | .0054 | .0003 |
| #2 | .0007 | -.0010 | 2.199 | 14.01 | 11.82 | 11.90 | -.0002 | 30.00 | .0054 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | .0432 | .0007 | .0010 | 7.849 | -.0009 | 1.282 | .0009 | -.0043 | .0006 |
| Stddev | .0004 | .0027 | .0006 | .0014 | .022 | .0003 | .002 | .0002 | .0011 | .0001 |
| %RSD | 6.037 | 6.140 | 89.52 | 132.9 | .2843 | 35.86 | .1269 | 19.89 | 25.02 | 20.83 |
| #1 | -.0066 | .0413 | .0002 | .0020 | 7.833 | -.0012 | 1.281 | .0008 | -.0051 | .0007 |
| #2 | -.0072 | .0451 | .0011 | .0001 | 7.865 | -.0007 | 1.283 | .0011 | -.0035 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0024 | .0074 | -.0014 |
| Stddev | .0046 | .0000 | .0000 |
| %RSD | 191.5 | .1700 | 2.217 |
| #1 | -.0009 | .0074 | -.0014 |
| #2 | .0057 | .0073 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.9 | 56889. | 13766. |
| Stddev | 4.6 | 95. | 18. |
| %RSD | .20523 | .16665 | .13304 |
| #1 | 2242.2 | 56822. | 13753. |
| #2 | 2235.7 | 56956. | 13779. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/4/2013 14:49:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0748 | .0302 | .0008 | .1928 | .0113 | .0001 | 108.3 | .0007 | .0021 |
| Stddev | .0010 | .0073 | .0007 | .0009 | .0005 | .0002 | .0000 | .5 | .0001 | .0000 |
| %RSD | 133.1 | 9.721 | 2.247 | 110.2 | .2498 | 1.757 | 17.51 | .4429 | 8.943 | 1.643 |
| #1 | -.0014 | -.0696 | .0307 | .0015 | .1931 | .0114 | .0001 | 108.6 | .0007 | .0021 |
| #2 | .0000 | -.0799 | .0297 | .0002 | .1924 | .0111 | .0001 | 107.9 | .0008 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0015 | .4532 | 5.074 | 14.36 | 8.659 | .0011 | 27.60 | .0146 | -.0005 |
| Stddev | .0001 | .0004 | .0003 | .026 | .01 | .003 | .0001 | .10 | .0000 | .0007 |
| %RSD | 21.82 | 27.09 | .0558 | .5155 | .0831 | .0335 | 4.889 | .3451 | .2036 | 128.0 |
| #1 | .0005 | -.0012 | .4530 | 5.093 | 14.37 | 8.661 | .0010 | 27.67 | .0146 | -.0001 |
| #2 | .0004 | -.0018 | .4534 | 5.056 | 14.35 | 8.657 | .0011 | 27.53 | .0146 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0342 | .0014 | .0010 | 9.594 | -.0011 | .6019 | .0008 | -.0029 | -.0003 |
| Stddev | .0016 | .0072 | .0000 | .0008 | .009 | .0000 | .0038 | .0005 | .0005 | .0000 |
| %RSD | 17.09 | 20.96 | 3.342 | 79.26 | .0908 | 1.351 | .6368 | 65.23 | 16.49 | 5.325 |
| #1 | -.0103 | .0291 | .0014 | .0004 | 9.601 | -.0011 | .6046 | .0012 | -.0032 | -.0003 |
| #2 | -.0081 | .0393 | .0014 | .0015 | 9.588 | -.0011 | .5992 | .0004 | -.0026 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0090 | .0213 | -.0021 |
| Stddev | .0000 | .0000 | .0001 |
| %RSD | .3821 | .1888 | 2.781 |
| #1 | .0090 | .0212 | -.0021 |
| #2 | .0090 | .0213 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.8 | 56881. | 13670. |
| Stddev | 8.5 | 52. | 19. |
| %RSD | .37975 | .09127 | .13957 |
| #1 | 2224.8 | 56917. | 13656. |
| #2 | 2236.8 | 56844. | 13683. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 14:54:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2584 | 9.776 | 1.924 | -.0004 | 1.956 | 2.005 | 2.078 | 10.01 | 1.962 | 2.011 |
| Stddev | .0004 | .069 | .004 | .0011 | .000 | .008 | .007 | .06 | .000 | .001 |
| %RSD | .1623 | .7087 | .2131 | 287.0 | .0031 | .4131 | .3432 | .6374 | .0183 | .0652 |
| #1 | .2582 | 9.825 | 1.921 | -.0011 | 1.956 | 2.011 | 2.083 | 10.06 | 1.961 | 2.010 |
| #2 | .2587 | 9.727 | 1.927 | .0004 | 1.956 | 1.999 | 2.073 | 9.966 | 1.962 | 2.012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.027 | 2.054 | 9.987 | 10.17 | 10.30 | 1.938 | 1.917 | 9.701 | 1.856 | 1.891 |
| Stddev | .010 | .005 | .041 | .03 | .01 | .006 | .004 | .058 | .001 | .000 |
| %RSD | .4719 | .2220 | .4073 | .2480 | .0565 | .3092 | .1850 | .5949 | .0695 | .0185 |
| #1 | 2.020 | 2.051 | 10.02 | 10.19 | 10.29 | 1.933 | 1.914 | 9.741 | 1.855 | 1.891 |
| #2 | 2.034 | 2.057 | 9.958 | 10.16 | 10.30 | 1.942 | 1.919 | 9.660 | 1.856 | 1.890 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0008 | 1.896 | 1.905 | .0159 | 1.851 | 2.058 | 1.976 | 1.949 | 2.025 |
| Stddev | .0032 | .0060 | .001 | .001 | .0016 | .001 | .007 | .007 | .001 | .006 |
| %RSD | 3471. | 724.3 | .0331 | .0345 | 10.20 | .0633 | .3351 | .3565 | .0236 | .2865 |
| #1 | .0021 | -.0034 | 1.896 | 1.905 | .0171 | 1.852 | 2.063 | 1.971 | 1.950 | 2.021 |
| #2 | -.0023 | .0050 | 1.895 | 1.904 | .0148 | 1.851 | 2.053 | 1.981 | 1.949 | 2.029 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0068 | 1.937 | -.0045 |
| Stddev | .0024 | .003 | .0002 |
| %RSD | 36.04 | .1353 | 4.495 |
| #1 | -.0085 | 1.939 | -.0046 |
| #2 | -.0050 | 1.935 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 57118. | 13613. |
| Stddev | .8 | 225. | 49. |
| %RSD | .03444 | .39307 | .35669 |
| #1 | 2279.8 | 57276. | 13579. |
| #2 | 2278.7 | 56959. | 13647. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 15:00:46 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0086 | -.0014 | -.0005 | .0014 | .0005 | .0002 | .0021 | .0002 | .0004 |
| Stddev | .0002 | .0076 | .0014 | .0006 | .0004 | .0000 | .0001 | .0004 | .0001 | .0001 |
| %RSD | 33.24 | 88.51 | 101.2 | 117.4 | 29.00 | 3.897 | 63.13 | 18.68 | 52.47 | 22.35 |
| #1 | -.0009 | -.0140 | -.0024 | -.0010 | .0011 | .0005 | .0001 | .0024 | .0001 | .0003 |
| #2 | -.0005 | -.0032 | -.0004 | -.0001 | .0016 | .0005 | .0003 | .0018 | .0002 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0018 | .0005 | .0450 | -.0207 | .0007 | .0009 | .0157 | .0002 | .0002 |
| Stddev | .0000 | .0006 | .0010 | .0086 | .0248 | .0001 | .0000 | .0058 | .0001 | .0007 |
| %RSD | 3.644 | 32.47 | 189.1 | 19.13 | 119.5 | 16.57 | 1.968 | 37.07 | 53.38 | 369.6 |
| #1 | -.0007 | -.0014 | .0013 | .0511 | -.0383 | .0006 | .0009 | .0198 | .0001 | -.0003 |
| #2 | -.0007 | -.0022 | -.0002 | .0389 | -.0032 | .0008 | .0009 | .0116 | .0003 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0041 | .0006 | .0005 | -.0014 | .0005 | .0002 | .0000 | .0017 | .0007 |
| Stddev | .0010 | .0007 | .0000 | .0001 | .0000 | .0002 | .0000 | .0005 | .0003 | .0001 |
| %RSD | 252.7 | 16.44 | 4.665 | 16.34 | 2.829 | 35.51 | 7.332 | 3921. | 17.88 | 11.35 |
| #1 | -.0003 | -.0036 | .0006 | .0006 | -.0014 | .0007 | .0002 | .0004 | .0014 | .0008 |
| #2 | .0011 | -.0046 | .0006 | .0005 | -.0015 | .0004 | .0002 | -.0003 | .0019 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0011 | .0001 | .0001 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 85.64 | 54.00 | 238.2 |
| #1 | -.0017 | .0002 | .0003 |
| #2 | -.0004 | .0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.3 | 57150. | 13537. |
| Stddev | 3.5 | 11. | 13. |
| %RSD | .15258 | .01974 | .09555 |
| #1 | 2282.8 | 57158. | 13546. |
| #2 | 2277.9 | 57142. | 13527. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/4/2013 15:05:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0298 | 1.290 | .0003 | .2209 | .0528 | .0000 | 71.52 | .0124 | -.0003 |
| Stddev | .0001 | .0129 | .006 | .0002 | .0001 | .0005 | .0001 | .52 | .0001 | .0000 |
| %RSD | 15.06 | 43.15 | .4728 | 70.88 | .0503 | .9421 | 166.6 | .7314 | .5859 | 15.30 |
| #1 | -.0006 | -.0389 | 1.295 | .0002 | .2208 | .0525 | .0000 | 71.15 | .0125 | -.0003 |
| #2 | -.0007 | -.0207 | 1.286 | .0005 | .2209 | .0532 | .0001 | 71.89 | .0124 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0015 | 43.19 | 10.76 | 11.99 | 1.279 | .0001 | 26.23 | .0001 | -.0011 |
| Stddev | .0003 | .0000 | .31 | .08 | .12 | .003 | .0000 | .14 | .0000 | .0005 |
| %RSD | 57.14 | .1735 | .7191 | .7140 | 1.021 | .2160 | 15.75 | .5211 | 12.59 | 44.57 |
| #1 | -.0006 | -.0015 | 42.97 | 10.71 | 11.91 | 1.277 | .0002 | 26.14 | .0001 | -.0014 |
| #2 | -.0003 | -.0015 | 43.41 | 10.82 | 12.08 | 1.281 | .0001 | 26.33 | .0001 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0018 | .0004 | .0014 | 14.56 | -.0006 | .7933 | .0007 | .0001 | .0002 |
| Stddev | .0023 | .0048 | .0000 | .0001 | .03 | .0004 | .0032 | .0007 | .0002 | .0002 |
| %RSD | 71.58 | 267.2 | 10.45 | 6.332 | .2016 | 57.65 | .3986 | 94.70 | 182.1 | 71.80 |
| #1 | -.0049 | .0052 | .0004 | .0015 | 14.58 | -.0004 | .7910 | .0011 | .0000 | .0001 |
| #2 | -.0016 | -.0016 | .0005 | .0013 | 14.54 | -.0009 | .7955 | .0002 | .0002 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0048 | -.0030 |
| Stddev | .0159 | .0001 | .0000 |
| %RSD | 1856. | 2.031 | .6925 |
| #1 | .0121 | .0047 | -.0030 |
| #2 | -.0104 | .0048 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2243.7 | 57191. | 13751. |
| Stddev | 2.5 | 309. | 185. |
| %RSD | .11287 | .54080 | 1.3449 |
| #1 | 2241.9 | 57410. | 13882. |
| #2 | 2245.5 | 56973. | 13620. |



Zoom In Zoom Out

Sample Name: MC21261-2F Acquired: 6/4/2013 15:09:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0061 | .0188 | .0006 | .0186 | .0616 | .0000 | 39.89 | .0001 | .0003 |
| Stddev | .0003 | .0132 | .0002 | .0014 | .0006 | .0005 | .0001 | .16 | .0000 | .0000 |
| %RSD | 39.27 | 217.9 | .8132 | 243.2 | 3.106 | .8196 | 965.9 | .3945 | 11.20 | 7.401 |
| #1 | -.0008 | .0033 | .0189 | -.0004 | .0190 | .0620 | .0001 | 39.78 | .0001 | .0003 |
| #2 | -.0005 | -.0154 | .0187 | .0015 | .0182 | .0613 | -.0001 | 40.00 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0016 | .5683 | 4.397 | 3.968 | .1403 | .0012 | 9.551 | .0001 | -.0004 |
| Stddev | .0001 | .0002 | .0029 | .074 | .028 | .0007 | .0001 | .030 | .0003 | .0008 |
| %RSD | 123.4 | 12.07 | .5069 | 1.673 | .6926 | .5217 | 5.407 | .3167 | 239.2 | 186.6 |
| #1 | .0001 | -.0017 | .5663 | 4.345 | 3.949 | .1408 | .0012 | 9.529 | -.0001 | .0001 |
| #2 | .0000 | -.0015 | .5704 | 4.449 | 3.988 | .1398 | .0013 | 9.572 | .0003 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0011 | .0006 | .0011 | 3.076 | -.0005 | .2838 | .0008 | .0006 | .0001 |
| Stddev | .0019 | .0032 | .0005 | .0007 | .009 | .0001 | .0002 | .0006 | .0006 | .0001 |
| %RSD | 76.20 | 285.8 | 87.79 | 68.70 | .2799 | 16.85 | .0864 | 76.04 | 100.1 | 123.3 |
| #1 | -.0012 | -.0011 | .0002 | .0005 | 3.082 | -.0004 | .2836 | .0012 | .0002 | .0000 |
| #2 | -.0039 | .0033 | .0010 | .0016 | 3.070 | -.0005 | .2840 | .0004 | .0011 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0282 | .0056 | -.0005 |
| Stddev | .0049 | .0000 | .0000 |
| %RSD | 17.29 | .7297 | 8.659 |
| #1 | .0248 | .0056 | -.0005 |
| #2 | .0317 | .0056 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.5 | 57233. | 13632. |
| Stddev | 12.6 | 59. | 99. |
| %RSD | .55472 | .10300 | .72318 |
| #1 | 2269.5 | 57274. | 13701. |
| #2 | 2287.4 | 57191. | 13562. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/4/2013 15:14:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0103 | .0063 | .0005 | .2632 | .0385 | .0000 | 105.2 | .0002 | .0031 |
| Stddev | .0006 | .0017 | .0005 | .0008 | .0005 | .0004 | .0001 | .2 | .0001 | .0000 |
| %RSD | 89.13 | 16.91 | 8.243 | 160.6 | .1893 | 1.168 | 198.0 | .2364 | 54.31 | .0331 |
| #1 | -.0003 | -.0115 | .0060 | -.0001 | .2636 | .0388 | .0000 | 105.4 | .0003 | .0031 |
| #2 | -.0011 | -.0091 | .0067 | .0010 | .2628 | .0382 | .0001 | 105.0 | .0001 | .0031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0005 | .5967 | 11.15 | 23.40 | 4.679 | .0095 | 40.94 | .0075 | .0003 |
| Stddev | .0002 | .0000 | .0021 | .02 | .05 | .028 | .0003 | .09 | .0001 | .0002 |
| %RSD | 54.13 | 3.685 | .3457 | .2069 | .2194 | .5871 | 2.756 | .2268 | 1.394 | 81.85 |
| #1 | .0006 | -.0005 | .5982 | 11.17 | 23.36 | 4.660 | .0097 | 41.00 | .0075 | .0001 |
| #2 | .0003 | -.0005 | .5953 | 11.14 | 23.43 | 4.699 | .0093 | 40.87 | .0074 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | .0182 | .0031 | -.0002 | 9.166 | -.0008 | .5433 | .0013 | -.0010 | .0021 |
| Stddev | .0006 | .0050 | .0003 | .0006 | .004 | .0003 | .0018 | .0002 | .0006 | .0008 |
| %RSD | 7.247 | 27.58 | 10.56 | 299.2 | .0409 | 38.62 | .3334 | 17.17 | 62.56 | 38.98 |
| #1 | -.0084 | .0218 | .0029 | .0002 | 9.163 | -.0006 | .5445 | .0014 | -.0006 | .0027 |
| #2 | -.0093 | .0147 | .0033 | -.0006 | 9.168 | -.0010 | .5420 | .0011 | -.0015 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0445 | .0036 | -.0017 |
| Stddev | .0016 | .0001 | .0000 |
| %RSD | 3.596 | 2.711 | .7677 |
| #1 | .0456 | .0036 | -.0017 |
| #2 | .0434 | .0035 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.4 | 56855. | 13692. |
| Stddev | 6.3 | 11. | 14. |
| %RSD | .28005 | .01928 | .10450 |
| #1 | 2244.8 | 56862. | 13682. |
| #2 | 2236.0 | 56847. | 13703. |

Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/4/2013 15:18:43 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0385 | 1.943 | .0013 | .0253 | .0575 | .0000 | 31.64 | .0183 | .0133 |
| Stddev | .0004 | .0057 | .003 | .0001 | .0002 | .0001 | .0001 | .09 | .0000 | .0002 |
| %RSD | 63.18 | 14.91 | .1477 | 11.53 | .9188 | .1649 | 392.6 | .2986 | .0514 | 1.631 |
| #1 | -.0009 | -.0425 | 1.941 | .0014 | .0255 | .0576 | .0001 | 31.71 | .0183 | .0135 |
| #2 | -.0004 | -.0344 | 1.945 | .0012 | .0251 | .0575 | .0000 | 31.58 | .0183 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0016 | 40.52 | 4.546 | 3.466 | 2.107 | .0029 | 78.33 | .0096 | -.0005 |
| Stddev | .0002 | .0005 | .22 | .055 | .030 | .005 | .0001 | .37 | .0000 | .0004 |
| %RSD | 38.77 | 30.82 | .5447 | 1.210 | .8785 | .2170 | 2.800 | .4712 | .3210 | 81.44 |
| #1 | -.0004 | -.0013 | 40.68 | 4.585 | 3.445 | 2.110 | .0030 | 78.59 | .0096 | -.0007 |
| #2 | -.0007 | -.0020 | 40.37 | 4.508 | 3.488 | 2.104 | .0029 | 78.07 | .0096 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0047 | .0008 | .0004 | 7.382 | -.0006 | .2793 | .0007 | .0002 | -.0002 |
| Stddev | .0002 | .0008 | .0000 | .0005 | .009 | .0000 | .0016 | .0000 | .0001 | .0003 |
| %RSD | 18.15 | 17.70 | 4.888 | 142.2 | .1158 | 7.479 | .5849 | 4.893 | 62.46 | 136.0 |
| #1 | .0013 | .0041 | .0008 | .0007 | 7.376 | -.0006 | .2805 | .0007 | .0001 | .0000 |
| #2 | .0010 | .0053 | .0008 | .0000 | 7.388 | -.0006 | .2782 | .0006 | .0002 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0071 | .0072 | -.0016 |
| Stddev | .0047 | .0001 | .0000 |
| %RSD | 65.63 | 1.406 | .3233 |
| #1 | .0104 | .0072 | -.0016 |
| #2 | .0038 | .0073 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.1 | 56939. | 13643. |
| Stddev | 3.9 | 283. | 134. |
| %RSD | .17083 | .49629 | .97985 |
| #1 | 2274.3 | 56740. | 13549. |
| #2 | 2279.8 | 57139. | 13738. |



Zoom In Zoom Out

Sample Name: MC21261-5F Acquired: 6/4/2013 15:23:01 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0164 | -.0005 | .0003 | .0003 | .0000 | .0001 | -.0034 | -.0001 | .0001 |
| Stddev | .0005 | .0024 | .0008 | .0004 | .0001 | .0001 | .0000 | .0023 | .0001 | .0003 |
| %RSD | 98.96 | 14.65 | 158.4 | 137.0 | 20.07 | 126.0 | 32.82 | 67.91 | 132.0 | 308.3 |
| #1 | -.0001 | -.0147 | -.0011 | .0005 | .0003 | .0000 | .0001 | -.0018 | -.0002 | .0003 |
| #2 | -.0008 | -.0180 | .0001 | .0000 | .0002 | .0001 | .0000 | -.0051 | .0000 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .0159 | .0772 | -.0117 | .0013 | -.0001 | .0813 | -.0004 | -.0003 |
| Stddev | .0003 | .0002 | .0022 | .0172 | .0210 | .0000 | .0002 | .0084 | .0001 | .0009 |
| %RSD | 70.87 | 9.348 | 14.10 | 22.24 | 179.8 | 3.063 | 133.3 | 10.33 | 33.58 | 349.4 |
| #1 | -.0005 | -.0022 | .0175 | .0894 | -.0265 | .0013 | -.0002 | .0872 | -.0003 | -.0009 |
| #2 | -.0002 | -.0025 | .0144 | .0651 | .0032 | .0013 | .0000 | .0753 | -.0005 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0014 | .0004 | -.0002 | .0358 | -.0001 | .0002 | -.0003 | .0006 | -.0005 |
| Stddev | .0008 | .0014 | .0008 | .0016 | .0014 | .0000 | .0000 | .0000 | .0004 | .0010 |
| %RSD | 78.71 | 100.2 | 181.2 | 740.9 | 3.877 | 35.51 | 3.810 | 9.874 | 59.27 | 206.7 |
| #1 | .0004 | -.0025 | -.0001 | -.0014 | .0368 | .0000 | .0002 | -.0003 | .0009 | -.0012 |
| #2 | .0015 | -.0004 | .0010 | .0009 | .0348 | -.0001 | .0002 | -.0003 | .0004 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0058 | -.0003 |
| Stddev | .0015 | .0001 | .0001 |
| %RSD | 25.31 | 1.651 | 25.08 |
| #1 | .0048 | .0059 | -.0003 |
| #2 | .0069 | .0057 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.3 | 57322. | 13683. |
| Stddev | .5 | 222. | 28. |
| %RSD | .02066 | .38667 | .20607 |
| #1 | 2295.0 | 57478. | 13663. |
| #2 | 2295.7 | 57165. | 13703. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/4/2013 15:27:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0529 | .3026 | .0006 | .2328 | .0777 | .0000 | 94.80 | .0032 | .0105 |
| Stddev | .0002 | .0002 | .0010 | .0008 | .0000 | .0011 | .0000 | .06 | .0000 | .0002 |
| %RSD | 27.28 | .4049 | .3299 | 133.0 | .0103 | 1.457 | 111.1 | .0584 | .2341 | 1.474 |
| #1 | -.0006 | -.0528 | .3019 | .0000 | .2329 | .0785 | .0001 | 94.83 | .0032 | .0104 |
| #2 | -.0009 | -.0531 | .3033 | .0012 | .2328 | .0769 | .0000 | 94.76 | .0031 | .0106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | 13.23 | 9.463 | 15.66 | 6.580 | .0068 | 34.18 | .0056 | -.0005 |
| Stddev | .0003 | .0005 | .00 | .027 | .10 | .044 | .0001 | .04 | .0002 | .0002 |
| %RSD | 122.8 | 22.67 | .0121 | .2859 | .6137 | .6626 | 2.049 | .1048 | 3.254 | 38.39 |
| #1 | -.0005 | -.0024 | 13.23 | 9.444 | 15.60 | 6.611 | .0069 | 34.21 | .0054 | -.0004 |
| #2 | .0000 | -.0018 | 13.23 | 9.483 | 15.73 | 6.549 | .0067 | 34.16 | .0057 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0249 | .0007 | .0009 | 13.72 | -.0006 | 1.338 | .0013 | -.0024 | .0004 |
| Stddev | .0007 | .0050 | .0004 | .0002 | .04 | .0005 | .004 | .0001 | .0003 | .0004 |
| %RSD | 8.705 | 20.09 | 55.29 | 22.28 | .2615 | 73.78 | .2682 | 4.499 | 11.88 | 90.98 |
| #1 | -.0084 | .0213 | .0004 | .0011 | 13.70 | -.0009 | 1.340 | .0012 | -.0026 | .0007 |
| #2 | -.0074 | .0284 | .0009 | .0008 | 13.75 | -.0003 | 1.335 | .0013 | -.0022 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0087 | -.0025 |
| Stddev | .0010 | .0001 | .0001 |
| %RSD | 114.2 | .7161 | 4.424 |
| #1 | .0016 | .0088 | -.0024 |
| #2 | .0002 | .0087 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 56395. | 13768. |
| Stddev | 2.6 | 230. | 175. |
| %RSD | .11565 | .40703 | 1.2707 |
| #1 | 2275.2 | 56232. | 13892. |
| #2 | 2271.5 | 56557. | 13645. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/4/2013 15:31:45 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0209 | -.0006 | -.0008 | .0163 | .0254 | .0000 | 59.38 | .0004 | .0017 |
| Stddev | .0008 | .0018 | .0001 | .0008 | .0001 | .0000 | .000 | .31 | .0001 | .0002 |
| %RSD | 92.58 | 8.840 | 19.64 | 93.70 | .5854 | .1806 | 147.4 | .5284 | 20.27 | 9.406 |
| #1 | -.0003 | -.0196 | -.0007 | -.0014 | .0164 | .0255 | -.0001 | 59.16 | .0005 | .0019 |
| #2 | -.0014 | -.0222 | -.0005 | -.0003 | .0162 | .0254 | .0000 | 59.61 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0013 | .0033 | 3.098 | 14.38 | .6621 | .0009 | 38.33 | .0033 | -.0002 |
| Stddev | .0001 | .0001 | .0037 | .024 | .04 | .0039 | .0000 | .15 | .0001 | .0005 |
| %RSD | 11.27 | 7.836 | 111.1 | .7595 | .2612 | .5843 | 2.167 | .4027 | 1.885 | 194.2 |
| #1 | .0005 | -.0014 | .0060 | 3.081 | 14.35 | .6648 | .0009 | 38.22 | .0032 | .0001 |
| #2 | .0004 | -.0012 | .0007 | 3.114 | 14.41 | .6593 | .0009 | 38.44 | .0033 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | -.0051 | .0008 | -.0004 | 5.988 | -.0004 | .5238 | .0004 | -.0009 | -.0006 |
| Stddev | .0008 | .0022 | .0004 | .0014 | .001 | .0004 | .0018 | .0000 | .0003 | .0006 |
| %RSD | 28.45 | 41.92 | 47.38 | 345.3 | .0154 | 93.32 | .3431 | 9.033 | 30.94 | 114.0 |
| #1 | -.0036 | -.0036 | .0005 | .0006 | 5.988 | -.0001 | .5225 | .0004 | -.0007 | -.0001 |
| #2 | -.0024 | -.0067 | .0010 | -.0014 | 5.989 | -.0007 | .5251 | .0005 | -.0011 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0067 | .0341 | -.0016 |
| Stddev | .0085 | .0001 | .0001 |
| %RSD | 126.9 | .1663 | 5.415 |
| #1 | .0127 | .0342 | -.0015 |
| #2 | .0007 | .0341 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.7 | 56817. | 13776. |
| Stddev | 2.2 | 515. | 80. |
| %RSD | .09895 | .90590 | .57833 |
| #1 | 2272.3 | 56453. | 13832. |
| #2 | 2269.1 | 57181. | 13719. |

Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/4/2013 15:36:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0184 | .0000 | .0004 | .0159 | .0257 | .0000 | 59.11 | .0005 | .0016 |
| Stddev | .0004 | .0003 | .0000 | .0020 | .0000 | .0002 | .0000 | .20 | .0000 | .0000 |
| %RSD | 26.61 | 1.744 | 147.0 | 528.5 | .2894 | .6042 | 58.84 | .3358 | 1.118 | 3.155 |
| #1 | -.0017 | -.0187 | .0000 | -.0011 | .0158 | .0258 | .0000 | 59.25 | .0005 | .0015 |
| #2 | -.0011 | -.0182 | .0000 | .0018 | .0159 | .0256 | .0000 | 58.97 | .0005 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0013 | -.0012 | 3.135 | 14.52 | .6595 | .0008 | 38.18 | .0031 | -.0001 |
| Stddev | .0002 | .0008 | .0011 | .009 | .02 | .0016 | .0001 | .08 | .0002 | .0008 |
| %RSD | 121.5 | 60.43 | 92.85 | .2745 | .1329 | .2365 | 12.89 | .2172 | 6.112 | 1275. |
| #1 | .0003 | -.0008 | -.0020 | 3.141 | 14.54 | .6584 | .0007 | 38.23 | .0033 | .0005 |
| #2 | .0000 | -.0019 | -.0004 | 3.129 | 14.51 | .6606 | .0009 | 38.12 | .0030 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0046 | .0010 | .0001 | .0006 | 5.938 | -.0004 | .5246 | .0007 | .0002 | -.0003 |
| Stddev | .0002 | .0042 | .0003 | .0003 | .001 | .0000 | .0013 | .0000 | .0009 | .0004 |
| %RSD | 3.561 | 435.4 | 234.6 | 51.31 | .0239 | 1.473 | .2573 | 3.506 | 423.5 | 136.3 |
| #1 | -.0045 | -.0020 | -.0001 | .0004 | 5.937 | -.0004 | .5255 | .0006 | -.0004 | .0000 |
| #2 | -.0047 | .0040 | .0003 | .0009 | 5.939 | -.0004 | .5236 | .0007 | .0008 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0157 | .0327 | -.0012 |
| Stddev | .0003 | .0001 | .0003 |
| %RSD | 1.602 | .4351 | 24.53 |
| #1 | .0156 | .0328 | -.0010 |
| #2 | .0159 | .0326 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.3 | 56843. | 13732. |
| Stddev | 1.8 | 70. | 172. |
| %RSD | .07835 | .12261 | 1.2516 |
| #1 | 2276.1 | 56892. | 13610. |
| #2 | 2278.6 | 56794. | 13853. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/4/2013 15:49:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2259 | 1.805 | .1965 | .0006 | 4.297 | 2.222 | .1822 | 64.14 | .1736 | 2.329 |
| Stddev | .0007 | .009 | .0009 | .0001 | .007 | .003 | .0003 | .06 | .0001 | .003 |
| %RSD | .3140 | .5282 | .4496 | 9.575 | .1714 | .1244 | .1494 | .0901 | .0771 | .1287 |
| #1 | .2254 | 1.812 | .1959 | .0005 | 4.302 | 2.220 | .1820 | 64.18 | .1737 | 2.331 |
| #2 | .2264 | 1.798 | .1971 | .0006 | 4.292 | 2.224 | .1824 | 64.10 | .1735 | 2.327 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4480 | 1.086 | 9.121 | 45.34 | 47.59 | 1.047 | 4.187 | 47.26 | 1.556 | .2087 |
| Stddev | .0010 | .002 | .011 | .01 | .08 | .003 | .001 | .03 | .003 | .0008 |
| %RSD | .2146 | .2099 | .1250 | .0312 | .1612 | .2590 | .0175 | .0584 | .1704 | .3643 |
| #1 | .4473 | 1.085 | 9.113 | 45.35 | 47.65 | 1.045 | 4.187 | 47.24 | 1.558 | .2082 |
| #2 | .4487 | 1.088 | 9.129 | 45.33 | 47.54 | 1.049 | 4.186 | 47.28 | 1.554 | .2092 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0057 | .2465 | .4160 | 2.621 | 4.025 | .5634 | 2.185 | .2165 | .4503 |
| Stddev | .0002 | .0033 | .0009 | .0006 | .001 | .002 | .0006 | .003 | .0003 | .0010 |
| %RSD | 4.952 | 57.11 | .3813 | .1533 | .0456 | .0419 | .1129 | .1404 | .1501 | .2242 |
| #1 | -.0047 | .0080 | .2472 | .4165 | 2.620 | 4.026 | .5630 | 2.183 | .2167 | .4495 |
| #2 | -.0044 | .0034 | .2458 | .4156 | 2.621 | 4.024 | .5639 | 2.187 | .2163 | .4510 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0113 | .8255 | -.0082 |
| Stddev | .0043 | .0018 | .0003 |
| %RSD | 38.40 | .2210 | 3.317 |
| #1 | -.0082 | .8268 | -.0080 |
| #2 | -.0144 | .8242 | -.0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 57180. | 13713. |
| Stddev | .1 | 202. | 67. |
| %RSD | .00287 | .35392 | .48707 |
| #1 | 2236.3 | 57037. | 13666. |
| #2 | 2236.2 | 57323. | 13761. |



Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 15:53:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2092 | 2.007 | .4878 | .0038 | .0214 | 2.020 | .5347 | 24.76 | .5055 | .5069 |
| Stddev | .0013 | .025 | .0034 | .0051 | .0047 | .002 | .0024 | .04 | .0015 | .0016 |
| %RSD | .5980 | 1.238 | .7068 | 133.0 | 22.05 | .0972 | .4446 | .1765 | .3021 | .3070 |
| #1 | .2101 | 2.025 | .4854 | .0002 | .0248 | 2.021 | .5364 | 24.73 | .5066 | .5080 |
| #2 | .2083 | 1.990 | .4902 | .0074 | .0181 | 2.018 | .5331 | 24.79 | .5044 | .5058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .5003 | 2.071 | 26.45 | 26.14 | .4935 | .0220 | 24.51 | .4672 | .9702 |
| Stddev | .0036 | .0027 | .004 | .08 | .02 | .0013 | .0046 | .11 | .0003 | .0046 |
| %RSD | .6838 | .5495 | .1927 | .2870 | .0832 | .2599 | 20.77 | .4597 | .0605 | .4697 |
| #1 | .5327 | .4983 | 2.068 | 26.40 | 26.16 | .4926 | .0253 | 24.43 | .4674 | .9670 |
| #2 | .5276 | .5022 | 2.073 | 26.50 | 26.13 | .4944 | .0188 | 24.59 | .4670 | .9735 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0169 | .4859 | .4843 | .0491 | .0046 | .4994 | .5036 | .5001 | .5350 |
| Stddev | .0041 | .0118 | .0014 | .0009 | .0044 | .0012 | .0023 | .0026 | .0021 | .0041 |
| %RSD | 770.2 | 69.85 | .2942 | .1899 | 8.999 | 25.59 | .4551 | .5122 | .4220 | .7684 |
| #1 | .0023 | .0085 | .4869 | .4850 | .0523 | .0037 | .5010 | .5054 | .4986 | .5379 |
| #2 | -.0034 | .0252 | .4849 | .4837 | .0460 | .0054 | .4978 | .5018 | .5015 | .5321 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0184 | .5169 | -.0032 |
| Stddev | .0106 | .0011 | .0011 |
| %RSD | 57.48 | .2077 | 34.48 |
| #1 | .0259 | .5161 | -.0040 |
| #2 | .0109 | .5176 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 56941. | 13730. |
| Stddev | 1.8 | 139. | 29. |
| %RSD | .07959 | .24498 | .20816 |
| #1 | 2280.5 | 57040. | 13710. |
| #2 | 2278.0 | 56842. | 13750. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 15:58:09 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2558 | 9.719 | 1.909 | .0002 | 1.941 | 1.982 | 2.063 | 9.901 | 1.943 | 1.996 |
| Stddev | .0010 | .005 | .003 | .0009 | .004 | .003 | .003 | .003 | .003 | .003 |
| %RSD | .3817 | .0523 | .1290 | 370.8 | .2106 | .1727 | .1532 | .0276 | .1583 | .1577 |
| #1 | .2564 | 9.715 | 1.907 | .0009 | 1.938 | 1.979 | 2.061 | 9.899 | 1.941 | 1.994 |
| #2 | .2551 | 9.722 | 1.911 | -.0004 | 1.944 | 1.984 | 2.065 | 9.903 | 1.945 | 1.998 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.016 | 2.039 | 9.853 | 10.11 | 10.20 | 1.932 | 1.902 | 9.630 | 1.838 | 1.876 |
| Stddev | .004 | .000 | .020 | .03 | .04 | .004 | .005 | .029 | .003 | .001 |
| %RSD | .1893 | .0034 | .2003 | .2800 | .4192 | .2333 | .2840 | .2967 | .1721 | .0322 |
| #1 | 2.019 | 2.039 | 9.839 | 10.09 | 10.17 | 1.935 | 1.898 | 9.609 | 1.836 | 1.875 |
| #2 | 2.013 | 2.039 | 9.867 | 10.13 | 10.23 | 1.929 | 1.906 | 9.650 | 1.841 | 1.876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0045 | 1.881 | 1.884 | .0128 | 1.838 | 2.030 | 1.965 | 1.936 | 2.018 |
| Stddev | .002 | .0020 | .002 | .001 | .0001 | .002 | .004 | .001 | .007 | .003 |
| %RSD | 37670. | 43.31 | .1148 | .0530 | .9550 | .1016 | .1940 | .0512 | .3667 | .1259 |
| #1 | -.0015 | .0059 | 1.880 | 1.885 | .0129 | 1.837 | 2.027 | 1.966 | 1.931 | 2.020 |
| #2 | .0015 | .0032 | 1.883 | 1.883 | .0127 | 1.840 | 2.033 | 1.965 | 1.941 | 2.016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0115 | 1.925 | -.0048 |
| Stddev | .0035 | .000 | .0004 |
| %RSD | 30.08 | .0033 | 7.698 |
| #1 | -.0091 | 1.924 | -.0051 |
| #2 | -.0139 | 1.925 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.2 | 57396. | 13710. |
| Stddev | 6.8 | 219. | 7. |
| %RSD | .29871 | .38083 | .05409 |
| #1 | 2294.0 | 57241. | 13705. |
| #2 | 2284.3 | 57550. | 13715. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:03:23 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0065 | .0001 | -.0008 | .0024 | .0007 | .0004 | .0010 | .0002 | .0003 |
| Stddev | .0008 | .0076 | .0019 | .0010 | .0007 | .0000 | .0001 | .0022 | .0002 | .0003 |
| %RSD | 259.5 | 117.3 | 3562. | 126.9 | 27.64 | 6.609 | 17.43 | 209.6 | 115.9 | 95.55 |
| #1 | .0003 | -.0011 | .0014 | -.0015 | .0029 | .0006 | .0005 | -.0005 | .0003 | .0005 |
| #2 | -.0009 | -.0119 | -.0013 | -.0001 | .0020 | .0007 | .0004 | .0026 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0019 | .0000 | .0727 | -.0193 | .0003 | .0014 | .0228 | -.0001 | -.0001 |
| Stddev | .0004 | .0006 | .0016 | .0275 | .0042 | .0000 | .0004 | .0097 | .0002 | .0001 |
| %RSD | 138.3 | 31.50 | 7086. | 37.85 | 21.75 | 10.62 | 28.29 | 42.40 | 145.6 | 61.31 |
| #1 | .0000 | -.0023 | -.0011 | .0922 | -.0163 | .0003 | .0016 | .0160 | .0000 | -.0001 |
| #2 | -.0006 | -.0015 | .0012 | .0533 | -.0222 | .0003 | .0011 | .0296 | -.0002 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0008 | .0005 | -.0009 | -.0022 | .0004 | .0004 | .0004 | .0013 | .0000 |
| Stddev | .0004 | .0049 | .0000 | .0001 | .0003 | .0001 | .0001 | .0001 | .0004 | .000 |
| %RSD | 153.1 | 597.8 | 1.431 | 11.88 | 13.71 | 34.39 | 21.84 | 36.28 | 33.43 | 47.27 |
| #1 | -.0006 | -.0026 | .0005 | -.0010 | -.0024 | .0003 | .0005 | .0005 | .0010 | .0000 |
| #2 | .0000 | .0043 | .0005 | -.0008 | -.0020 | .0005 | .0003 | .0003 | .0016 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0042 | .0001 | -.0001 |
| Stddev | .0017 | .0001 | .0002 |
| %RSD | 41.14 | 57.92 | 217.6 |
| #1 | .0030 | .0002 | -.0002 |
| #2 | .0055 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57350. | 13582. |
| Stddev | 4.4 | 9. | 78. |
| %RSD | .19178 | .01540 | .57582 |
| #1 | 2282.1 | 57344. | 13527. |
| #2 | 2288.3 | 57356. | 13638. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/4/2013 16:08:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2449 | -.0083 | .1873 | .0009 | 4.672 | 2.426 | .1998 | 5.100 | .1889 | 2.576 |
| Stddev | .0008 | .0029 | .0003 | .0004 | .006 | .002 | .0027 | .056 | .0003 | .002 |
| %RSD | .3355 | 34.65 | .1801 | 47.42 | .1230 | .0930 | 1.334 | 1.092 | .1465 | .0950 |
| #1 | .2443 | -.0063 | .1875 | .0006 | 4.668 | 2.428 | .1980 | 5.060 | .1887 | 2.574 |
| #2 | .2455 | -.0103 | .1870 | .0012 | 4.676 | 2.425 | .2017 | 5.139 | .1891 | 2.578 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4917 | 1.184 | -.0030 | 1.408 | .8532 | .6805 | 4.567 | 1.008 | 1.720 | .2316 |
| Stddev | .0006 | .004 | .0012 | .024 | .0049 | .0016 | .006 | .006 | .001 | .0003 |
| %RSD | .1288 | .3203 | 40.53 | 1.668 | .5751 | .2278 | .1269 | .5778 | .0348 | .1281 |
| #1 | .4912 | 1.182 | -.0039 | 1.391 | .8566 | .6794 | 4.563 | 1.012 | 1.721 | .2318 |
| #2 | .4921 | 1.187 | -.0022 | 1.424 | .8497 | .6816 | 4.571 | 1.004 | 1.720 | .2314 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0027 | .2676 | .4506 | 3.022 | 4.419 | .5189 | 2.387 | .2412 | .4886 |
| Stddev | .0006 | .0010 | .0010 | .0006 | .004 | .001 | .0003 | .009 | .0005 | .0057 |
| %RSD | 48.35 | 36.29 | .3899 | .1286 | .1361 | .0181 | .0521 | .3879 | .2112 | 1.166 |
| #1 | -.0009 | .0034 | .2669 | .4502 | 3.019 | 4.419 | .5191 | 2.381 | .2408 | .4927 |
| #2 | -.0018 | .0020 | .2683 | .4511 | 3.025 | 4.418 | .5187 | 2.394 | .2415 | .4846 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0157 | .9184 | -.0101 |
| Stddev | .0060 | .0001 | .0004 |
| %RSD | 37.95 | .0153 | 4.030 |
| #1 | -.0200 | .9185 | -.0098 |
| #2 | -.0115 | .9183 | -.0104 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 57478. | 13847. |
| Stddev | 2.4 | 133. | 97. |
| %RSD | .10700 | .23189 | .69773 |
| #1 | 2269.3 | 57572. | 13779. |
| #2 | 2265.9 | 57383. | 13916. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/4/2013 16:12:57 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0476 | -.0022 | -.0017 | .0167 | .0139 | .0003 | 10.09 | .0000 | .0007 |
| Stddev | .0007 | .0014 | .0035 | .0034 | .0011 | .0008 | .0001 | .01 | .0001 | .0003 |
| %RSD | 25.95 | 2.929 | 161.8 | 200.7 | 6.679 | 5.498 | 38.25 | .1384 | 3065. | 48.60 |
| #1 | -.0032 | -.0466 | .0003 | -.0041 | .0175 | .0134 | .0004 | 10.10 | -.0001 | .0009 |
| #2 | -.0022 | -.0486 | -.0047 | .0007 | .0159 | .0144 | .0002 | 10.08 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0035 | -.0039 | 1.130 | 1.639 | .0017 | .0089 | 14.78 | .0001 | .0000 |
| Stddev | .0012 | .0001 | .0024 | .011 | .011 | .0000 | .0025 | .05 | .0001 | .001 |
| %RSD | 233.1 | 2.968 | 59.97 | 1.007 | .6747 | 1.348 | 27.83 | .3299 | 82.19 | 3296. |
| #1 | .0003 | -.0034 | -.0056 | 1.122 | 1.646 | .0016 | .0106 | 14.81 | .0002 | -.0008 |
| #2 | -.0014 | -.0036 | -.0023 | 1.138 | 1.631 | .0017 | .0071 | 14.74 | .0001 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | .0084 | .0009 | .0006 | 6.235 | .0013 | .1003 | .0016 | .0008 | .0001 |
| Stddev | .0014 | .0013 | .0013 | .0007 | .028 | .0010 | .0002 | .0003 | .0002 | .0012 |
| %RSD | 32.85 | 15.23 | 156.7 | 120.9 | .4555 | 79.54 | .2155 | 17.57 | 25.30 | 2002. |
| #1 | -.0032 | .0093 | .0018 | .0001 | 6.215 | .0020 | .1004 | .0014 | .0010 | -.0008 |
| #2 | -.0052 | .0075 | -.0001 | .0011 | 6.255 | .0006 | .1001 | .0018 | .0007 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0119 | .0080 | -.0016 |
| Stddev | .0008 | .0002 | .0000 |
| %RSD | 6.787 | 2.425 | 2.633 |
| #1 | .0114 | .0079 | -.0016 |
| #2 | .0125 | .0082 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2286.7 | 56781. | 13596. |
| Stddev | 5.2 | 386. | 73. |
| %RSD | .22600 | .67973 | .54020 |
| #1 | 2290.4 | 57054. | 13544. |
| #2 | 2283.0 | 56508. | 13648. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:17:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.1066 | 1.308 | -.0006 | .1609 | .0395 | .0000 | 76.53 | .0131 | .0137 |
| Stddev | .0002 | .0329 | .002 | .0005 | .0004 | .0012 | .000 | .19 | .0000 | .0001 |
| %RSD | 6.667 | 30.82 | .1821 | 81.27 | .2307 | 3.139 | 1459. | .2469 | .3521 | .6607 |
| #1 | -.0025 | -.0834 | 1.310 | -.0010 | .1607 | .0386 | .0001 | 76.66 | .0131 | .0138 |
| #2 | -.0027 | -.1298 | 1.307 | -.0003 | .1612 | .0404 | -.0001 | 76.40 | .0130 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0029 | 19.48 | 8.281 | 12.72 | 9.768 | .0041 | 23.73 | .0071 | -.0021 |
| Stddev | .0015 | .0003 | .03 | .005 | .02 | .084 | .0003 | .04 | .0003 | .0010 |
| %RSD | 1110. | 8.678 | .1605 | .0626 | .1547 | .8565 | 8.123 | .1776 | 4.384 | 47.65 |
| #1 | .0009 | -.0028 | 19.51 | 8.285 | 12.73 | 9.709 | .0044 | 23.76 | .0073 | -.0014 |
| #2 | -.0012 | -.0031 | 19.46 | 8.277 | 12.71 | 9.827 | .0039 | 23.70 | .0069 | -.0028 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0400 | .0021 | .0009 | 11.93 | -.0007 | .7760 | .0009 | -.0028 | -.0006 |
| Stddev | .0017 | .0009 | .0004 | .0033 | .01 | .0014 | .0011 | .0000 | .0006 | .0006 |
| %RSD | 48.24 | 2.188 | 19.32 | 377.8 | .0845 | 208.8 | .1355 | 3.925 | 21.16 | 102.6 |
| #1 | -.0046 | .0406 | .0018 | .0032 | 11.93 | .0003 | .7767 | .0009 | -.0032 | -.0010 |
| #2 | -.0023 | .0393 | .0023 | -.0015 | 11.92 | -.0017 | .7752 | .0009 | -.0023 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0001 | .0127 | -.0026 |
| Stddev | .0109 | .0001 | .0006 |
| %RSD | 7459. | 1.162 | 24.32 |
| #1 | -.0076 | .0128 | -.0021 |
| #2 | .0079 | .0125 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.7 | 56793. | 13609. |
| Stddev | 5.5 | 323. | 98. |
| %RSD | .24107 | .56884 | .72218 |
| #1 | 2284.6 | 57021. | 13540. |
| #2 | 2276.8 | 56564. | 13679. |

Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:21:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.1221 | 1.302 | .0019 | .1609 | .0397 | -.0003 | 76.37 | .0129 | .0136 |
| Stddev | .0011 | .0185 | .002 | .0018 | .0009 | .0008 | .0000 | .09 | .0002 | .0002 |
| %RSD | 177.8 | 15.19 | .1163 | 90.76 | .5571 | 1.934 | 7.091 | .1230 | 1.537 | 1.314 |
| #1 | -.0014 | -.1090 | 1.303 | .0032 | .1616 | .0391 | -.0003 | 76.30 | .0130 | .0134 |
| #2 | .0002 | -.1352 | 1.301 | .0007 | .1603 | .0402 | -.0002 | 76.43 | .0127 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0057 | 19.93 | 8.396 | 12.74 | 9.670 | .0030 | 23.65 | .0070 | .0003 |
| Stddev | .0010 | .0013 | .10 | .074 | .17 | .086 | .0000 | .01 | .0004 | .0004 |
| %RSD | 88.18 | 23.27 | .4845 | .8824 | 1.340 | .8873 | .8867 | .0506 | 6.322 | 133.4 |
| #1 | -.0004 | -.0048 | 19.86 | 8.343 | 12.62 | 9.731 | .0031 | 23.64 | .0073 | .0000 |
| #2 | -.0019 | -.0066 | 20.00 | 8.448 | 12.86 | 9.609 | .0030 | 23.66 | .0066 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0339 | .0013 | -.0029 | 11.85 | -.0005 | .7802 | .0033 | .0024 | .0004 |
| Stddev | .0022 | .0110 | .0009 | .0003 | .01 | .0002 | .0004 | .0035 | .0037 | .0005 |
| %RSD | 20.91 | 32.38 | 68.43 | 10.45 | .0824 | 49.53 | .0505 | 104.5 | 157.5 | 131.0 |
| #1 | -.0119 | .0416 | .0020 | -.0026 | 11.84 | -.0003 | .7804 | .0009 | .0050 | .0000 |
| #2 | -.0088 | .0261 | .0007 | -.0031 | 11.85 | -.0007 | .7799 | .0058 | -.0003 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0146 | .0135 | -.0024 |
| Stddev | .0062 | .0000 | .0012 |
| %RSD | 42.36 | .2237 | 51.77 |
| #1 | -.0102 | .0135 | -.0015 |
| #2 | -.0190 | .0135 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57438. | 13660. |
| Stddev | 4.3 | 319. | 58. |
| %RSD | .18769 | .55466 | .42596 |
| #1 | 2282.2 | 57213. | 13701. |
| #2 | 2288.2 | 57664. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:26:07 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0182 | -.0001 | .0035 | .0270 | .0121 | .0002 | 19.96 | -.0002 | .0001 |
| Stddev | .0013 | .0117 | .0001 | .0002 | .0002 | .0000 | .0001 | .04 | .0001 | .0002 |
| %RSD | 114.6 | 64.13 | 98.33 | 5.513 | .6150 | .1758 | 51.45 | .2216 | 43.86 | 361.5 |
| #1 | -.0020 | -.0265 | .0000 | .0036 | .0271 | .0121 | .0003 | 19.99 | -.0002 | .0002 |
| #2 | -.0002 | -.0100 | -.0002 | .0034 | .0269 | .0121 | .0001 | 19.93 | -.0001 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | .0138 | 2.673 | 2.741 | .1837 | .0004 | 11.15 | .0001 | -.0005 |
| Stddev | .0001 | .0008 | .0005 | .090 | .011 | .0005 | .0001 | .00 | .0002 | .0013 |
| %RSD | 33.56 | 23.07 | 3.925 | 3.367 | .3969 | .2742 | 16.88 | .0381 | 206.1 | 242.1 |
| #1 | -.0002 | -.0042 | .0142 | 2.610 | 2.733 | .1841 | .0004 | 11.15 | .0003 | -.0014 |
| #2 | -.0003 | -.0030 | .0134 | 2.737 | 2.749 | .1834 | .0005 | 11.16 | -.0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0001 | .0013 | -.0019 | 3.934 | -.0002 | .1174 | .0002 | .0004 | -.0002 |
| Stddev | .0010 | .0012 | .0006 | .0009 | .010 | .0014 | .0003 | .0004 | .0005 | .0003 |
| %RSD | 52.03 | 831.9 | 47.78 | 49.20 | .2528 | 704.0 | .2703 | 214.9 | 111.5 | 121.5 |
| #1 | .0012 | -.0007 | .0018 | -.0025 | 3.927 | -.0012 | .1172 | .0005 | .0007 | .0000 |
| #2 | .0026 | .0010 | .0009 | -.0012 | 3.941 | .0008 | .1176 | -.0001 | .0001 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0053 | .0070 | -.0007 |
| Stddev | .0033 | .0001 | .0002 |
| %RSD | 62.20 | 1.216 | 29.58 |
| #1 | .0077 | .0070 | -.0006 |
| #2 | .0030 | .0071 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.0 | 56899. | 13643. |
| Stddev | 3.0 | 98. | 85. |
| %RSD | .13006 | .17286 | .62305 |
| #1 | 2307.9 | 56830. | 13583. |
| #2 | 2312.1 | 56969. | 13703. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:30:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0571 | -.0027 | .0002 | .0278 | .0118 | -.0001 | 19.99 | -.0003 | .0006 |
| Stddev | .0035 | .0108 | .0000 | .0033 | .0004 | .0002 | .0002 | .02 | .0006 | .0003 |
| %RSD | 183.4 | 18.84 | 1.094 | 2077. | 1.419 | 1.859 | 156.0 | .0937 | 186.3 | 47.69 |
| #1 | -.0044 | -.0495 | -.0027 | .0025 | .0276 | .0119 | .0000 | 20.01 | .0001 | .0008 |
| #2 | .0006 | -.0647 | -.0027 | -.0022 | .0281 | .0116 | -.0003 | 19.98 | -.0007 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0047 | .0031 | 2.644 | 2.718 | .1822 | .0004 | 11.17 | .0002 | .0013 |
| Stddev | .0001 | .0009 | .0047 | .060 | .052 | .0004 | .0003 | .01 | .0003 | .0008 |
| %RSD | 67.88 | 19.32 | 152.7 | 2.276 | 1.920 | .2267 | 65.66 | .0473 | 169.4 | 59.37 |
| #1 | -.0001 | -.0054 | .0064 | 2.687 | 2.681 | .1825 | .0002 | 11.17 | .0004 | .0018 |
| #2 | -.0003 | -.0041 | -.0002 | 2.602 | 2.755 | .1819 | .0006 | 11.18 | .0000 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0149 | -.0003 | .0004 | 3.939 | -.0002 | .1150 | -.0002 | .0036 | -.0003 |
| Stddev | .0001 | .0111 | .0008 | .0028 | .002 | .0018 | .0001 | .0014 | .0030 | .0018 |
| %RSD | 10.35 | 74.09 | 293.0 | 650.4 | .0515 | 894.5 | .0511 | 627.3 | 83.47 | 533.8 |
| #1 | -.0006 | .0228 | .0003 | -.0015 | 3.941 | -.0014 | .1151 | -.0013 | .0015 | .0010 |
| #2 | -.0006 | .0071 | -.0008 | .0024 | 3.938 | .0011 | .1150 | .0008 | .0058 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0107 | .0082 | -.0014 |
| Stddev | .0016 | .0002 | .0002 |
| %RSD | 15.07 | 2.591 | 14.38 |
| #1 | -.0119 | .0083 | -.0015 |
| #2 | -.0096 | .0080 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.0 | 56967. | 13675. |
| Stddev | 1.1 | 52. | 14. |
| %RSD | .04618 | .09130 | .10005 |
| #1 | 2285.7 | 56930. | 13666. |
| #2 | 2284.2 | 57003. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:34:49 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0462 | .6031 | .0001 | .1688 | .0518 | .0000 | 50.34 | .0056 | .0104 |
| Stddev | .0001 | .0118 | .0017 | .0008 | .0004 | .0006 | .000 | .01 | .0000 | .0002 |
| %RSD | 3.989 | 25.56 | .2857 | 1357. | .2187 | 1.068 | 311.5 | .0242 | .1882 | 1.543 |
| #1 | -.0024 | -.0546 | .6019 | -.0005 | .1685 | .0522 | .0001 | 50.33 | .0056 | .0105 |
| #2 | -.0023 | -.0379 | .6043 | .0006 | .1690 | .0514 | -.0002 | 50.35 | .0056 | .0103 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0032 | 57.13 | 11.09 | 6.269 | 1.372 | .0000 | 20.45 | .0057 | -.0007 |
| Stddev | .0007 | .0008 | .07 | .01 | .129 | .000 | .0002 | .03 | .0001 | .0001 |
| %RSD | 34.28 | 25.83 | .1189 | .1114 | 2.062 | .0185 | 1781. | .1267 | 2.495 | 16.32 |
| #1 | -.0025 | -.0038 | 57.08 | 11.08 | 6.178 | 1.372 | -.0001 | 20.47 | .0056 | -.0008 |
| #2 | -.0015 | -.0026 | 57.17 | 11.10 | 6.360 | 1.372 | .0001 | 20.43 | .0058 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0082 | .0012 | -.0006 | 10.06 | -.0008 | .4573 | -.0001 | .0019 | .0000 |
| Stddev | .0043 | .0115 | .0003 | .0013 | .01 | .0000 | .0013 | .0002 | .0003 | .001 |
| %RSD | 112.2 | 141.6 | 25.85 | 202.6 | .0850 | .5363 | .2855 | 243.9 | 17.88 | 23840. |
| #1 | -.0069 | .0163 | .0014 | -.0016 | 10.05 | -.0008 | .4564 | .0001 | .0017 | .0005 |
| #2 | -.0008 | .0000 | .0010 | .0003 | 10.07 | -.0008 | .4582 | -.0002 | .0021 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0069 | -.0021 |
| Stddev | .0053 | .0001 | .0006 |
| %RSD | 905.1 | 1.879 | 29.04 |
| #1 | -.0032 | .0070 | -.0017 |
| #2 | .0043 | .0068 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.3 | 56462. | 13520. |
| Stddev | 4.9 | 215. | 18. |
| %RSD | .21466 | .38092 | .13477 |
| #1 | 2292.8 | 56309. | 13533. |
| #2 | 2299.8 | 56614. | 13507. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:39:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0400 | .6065 | .0025 | .1691 | .0533 | .0000 | 50.54 | .0055 | .0109 |
| Stddev | .0013 | .0085 | .0035 | .0019 | .0007 | .0007 | .000 | .15 | .0003 | .0001 |
| %RSD | 36.14 | 21.25 | .5763 | 73.89 | .4206 | 1.399 | 722.4 | .3042 | 6.192 | .8983 |
| #1 | -.0044 | -.0460 | .6089 | .0012 | .1686 | .0528 | .0001 | 50.43 | .0057 | .0109 |
| #2 | -.0026 | -.0340 | .6040 | .0038 | .1696 | .0539 | -.0002 | 50.64 | .0052 | .0110 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | -.0056 | 57.38 | 11.18 | 6.186 | 1.389 | -.0002 | 20.46 | .0054 | -.0018 |
| Stddev | .0000 | .0000 | .23 | .03 | .008 | .003 | .0001 | .04 | .0000 | .0024 |
| %RSD | .2266 | .3830 | .4058 | .2777 | .1287 | .2462 | 39.09 | .1714 | .7773 | 135.6 |
| #1 | -.0016 | -.0056 | 57.22 | 11.16 | 6.192 | 1.386 | -.0002 | 20.44 | .0055 | -.0035 |
| #2 | -.0016 | -.0056 | 57.55 | 11.20 | 6.181 | 1.391 | -.0001 | 20.49 | .0054 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | .0082 | .0019 | .0040 | 10.10 | -.0008 | .4608 | .0001 | .0027 | -.0003 |
| Stddev | .0050 | .0141 | .0004 | .0011 | .01 | .0002 | .0020 | .0004 | .0015 | .0006 |
| %RSD | 151.7 | 171.6 | 21.43 | 27.84 | .0823 | 25.89 | .4329 | 455.0 | 54.47 | 186.5 |
| #1 | -.0002 | -.0018 | .0022 | .0032 | 10.09 | -.0007 | .4594 | -.0002 | .0038 | .0001 |
| #2 | .0068 | .0182 | .0017 | .0048 | 10.10 | -.0010 | .4622 | .0004 | .0017 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0080 | -.0019 |
| Stddev | .0147 | .0001 | .0004 |
| %RSD | 330.0 | 1.566 | 21.89 |
| #1 | .0148 | .0081 | -.0022 |
| #2 | -.0059 | .0079 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.1 | 56694. | 13816. |
| Stddev | 1.2 | 26. | 58. |
| %RSD | .05314 | .04600 | .42065 |
| #1 | 2311.0 | 56712. | 13857. |
| #2 | 2309.2 | 56675. | 13775. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:43:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0112 | -.0019 | -.0003 | .2020 | .0274 | .0001 | 150.0 | -.0001 | .0002 |
| Stddev | .0003 | .0045 | .0011 | .0009 | .0006 | .0001 | .0000 | .1 | .0003 | .0000 |
| %RSD | 18.20 | 40.19 | 59.00 | 255.9 | .3149 | .4603 | 20.65 | .0642 | 267.9 | 10.88 |
| #1 | -.0015 | -.0144 | -.0026 | .0003 | .2015 | .0275 | .0001 | 149.9 | .0001 | .0002 |
| #2 | -.0020 | -.0080 | -.0011 | -.0009 | .2024 | .0273 | .0001 | 150.1 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0012 | .0301 | 4.922 | 19.51 | .2488 | .0009 | 39.90 | .0038 | .0006 |
| Stddev | .0001 | .0004 | .0037 | .056 | .21 | .0004 | .0003 | .06 | .0003 | .0008 |
| %RSD | 13.71 | 36.48 | 12.16 | 1.140 | 1.097 | .1566 | 35.68 | .1528 | 9.206 | 127.6 |
| #1 | -.0009 | -.0009 | .0275 | 4.962 | 19.35 | .2485 | .0011 | 39.86 | .0035 | .0012 |
| #2 | -.0011 | -.0015 | .0327 | 4.883 | 19.66 | .2491 | .0007 | 39.95 | .0040 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0098 | -.0016 | .0025 | .0018 | 8.244 | -.0007 | .5027 | .0023 | .0009 | -.0001 |
| Stddev | .0066 | .0032 | .0011 | .0007 | .010 | .0006 | .0013 | .0001 | .0013 | .0003 |
| %RSD | 67.58 | 194.0 | 44.05 | 38.36 | .1189 | 75.52 | .2506 | 5.594 | 146.2 | 427.6 |
| #1 | -.0145 | -.0039 | .0033 | .0023 | 8.251 | -.0003 | .5018 | .0022 | .0000 | -.0003 |
| #2 | -.0051 | .0006 | .0017 | .0013 | 8.237 | -.0011 | .5036 | .0024 | .0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0375 | .0091 | -.0020 |
| Stddev | .0165 | .0000 | .0003 |
| %RSD | 43.90 | .4189 | 13.53 |
| #1 | .0492 | .0091 | -.0022 |
| #2 | .0259 | .0091 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.4 | 56378. | 13695. |
| Stddev | 6.0 | 562. | 5. |
| %RSD | .26490 | .99715 | .03749 |
| #1 | 2257.7 | 56776. | 13692. |
| #2 | 2249.2 | 55981. | 13699. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:47:50 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0678 | -.0029 | .0012 | .2044 | .0284 | -.0003 | 151.5 | -.0009 | .0003 |
| Stddev | .0013 | .0148 | .0032 | .0055 | .0025 | .0007 | .0001 | .1 | .0003 | .0004 |
| %RSD | 23.58 | 21.82 | 111.5 | 449.0 | 1.219 | 2.574 | 31.37 | .0522 | 33.45 | 129.8 |
| #1 | -.0066 | -.0574 | -.0006 | .0051 | .2026 | .0289 | -.0003 | 151.6 | -.0011 | .0000 |
| #2 | -.0047 | -.0783 | -.0051 | -.0027 | .2061 | .0279 | -.0002 | 151.4 | -.0007 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0091 | .0192 | 5.077 | 19.97 | .2538 | .0006 | 40.20 | .0026 | .0000 |
| Stddev | .0010 | .0014 | .0056 | .090 | .09 | .0023 | .0003 | .06 | .0010 | .0018 |
| %RSD | 175.0 | 14.91 | 29.22 | 1.771 | .4657 | .8947 | 50.01 | .1583 | 37.56 | 5764. |
| #1 | .0001 | -.0100 | .0153 | 5.141 | 19.91 | .2554 | .0008 | 40.24 | .0019 | -.0012 |
| #2 | -.0013 | -.0081 | .0232 | 5.014 | 20.04 | .2522 | .0004 | 40.15 | .0032 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0154 | .0052 | -.0028 | 8.203 | -.0023 | .5093 | .0032 | .0019 | -.0021 |
| Stddev | .0059 | .0054 | .0039 | .0133 | .006 | .0006 | .0004 | .0010 | .0031 | .0008 |
| %RSD | 179.7 | 34.94 | 75.14 | 470.6 | .0701 | 24.12 | .0718 | 32.20 | 162.5 | 37.19 |
| #1 | .0009 | -.0116 | .0080 | -.0122 | 8.199 | -.0027 | .5090 | .0039 | .0041 | -.0027 |
| #2 | -.0074 | -.0193 | .0025 | .0066 | 8.207 | -.0019 | .5096 | .0024 | -.0003 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0532 | .0098 | -.0021 |
| Stddev | .0286 | .0009 | .0016 |
| %RSD | 53.67 | 9.160 | 75.34 |
| #1 | .0734 | .0105 | -.0010 |
| #2 | .0330 | .0092 | -.0032 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.7 | 57019. | 13712. |
| Stddev | .7 | 316. | 32. |
| %RSD | .03015 | .55456 | .23220 |
| #1 | 2297.2 | 56795. | 13690. |
| #2 | 2296.3 | 57243. | 13735. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 16:52:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2579 | 9.795 | 1.905 | -.0002 | 1.951 | 1.991 | 2.082 | 9.983 | 1.950 | 2.001 |
| Stddev | .0002 | .004 | .007 | .0001 | .001 | .002 | .002 | .003 | .000 | .002 |
| %RSD | .0863 | .0398 | .3735 | 52.21 | .0337 | .1154 | .0763 | .0287 | .0031 | .1009 |
| #1 | .2577 | 9.792 | 1.910 | -.0003 | 1.951 | 1.989 | 2.081 | 9.981 | 1.950 | 2.002 |
| #2 | .2580 | 9.798 | 1.900 | -.0001 | 1.950 | 1.993 | 2.084 | 9.985 | 1.950 | 2.000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.035 | 2.057 | 9.840 | 10.11 | 10.23 | 1.951 | 1.912 | 9.722 | 1.835 | 1.874 |
| Stddev | .005 | .003 | .006 | .01 | .02 | .000 | .001 | .014 | .001 | .002 |
| %RSD | .2319 | .1197 | .0639 | .1033 | .2044 | .0031 | .0293 | .1466 | .0270 | .0854 |
| #1 | 2.031 | 2.055 | 9.836 | 10.11 | 10.22 | 1.951 | 1.913 | 9.712 | 1.835 | 1.875 |
| #2 | 2.038 | 2.058 | 9.845 | 10.12 | 10.25 | 1.951 | 1.912 | 9.732 | 1.834 | 1.873 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0024 | 1.885 | 1.889 | .0142 | 1.840 | 2.031 | 1.984 | 1.951 | 2.036 |
| Stddev | .0003 | .0006 | .000 | .001 | .0016 | .002 | .003 | .003 | .004 | .002 |
| %RSD | 25.11 | 26.35 | .0087 | .0734 | 10.95 | .1127 | .1480 | .1519 | .1966 | .0718 |
| #1 | -.0014 | .0029 | 1.885 | 1.890 | .0153 | 1.841 | 2.029 | 1.981 | 1.954 | 2.035 |
| #2 | -.0010 | .0020 | 1.885 | 1.888 | .0131 | 1.838 | 2.033 | 1.986 | 1.948 | 2.037 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0111 | 1.925 | -.0033 |
| Stddev | .0029 | .004 | .0002 |
| %RSD | 26.18 | .2118 | 6.611 |
| #1 | -.0132 | 1.928 | -.0031 |
| #2 | -.0091 | 1.922 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2291.2 | 56908. | 13755. |
| Stddev | 3.8 | 137. | 36. |
| %RSD | .16763 | .24137 | .26327 |
| #1 | 2293.9 | 57005. | 13729. |
| #2 | 2288.5 | 56811. | 13781. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:57:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0110 | -.0005 | .0011 | .0016 | .0005 | .0004 | .0006 | .0003 | .0006 |
| Stddev | .0003 | .0118 | .0006 | .0001 | .0004 | .0001 | .0000 | .0012 | .0000 | .0002 |
| %RSD | 29.92 | 107.2 | 115.4 | 7.744 | 24.01 | 15.14 | 10.16 | 194.4 | 16.52 | 39.55 |
| #1 | -.0009 | -.0027 | -.0009 | .0010 | .0019 | .0005 | .0004 | .0014 | .0003 | .0007 |
| #2 | -.0014 | -.0194 | -.0001 | .0011 | .0014 | .0006 | .0004 | -.0002 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0016 | .0021 | .0322 | -.0064 | .0004 | .0012 | .0115 | .0002 | .0006 |
| Stddev | .0001 | .0004 | .0003 | .0778 | .0062 | .0000 | .0004 | .0022 | .0002 | .0003 |
| %RSD | 35.55 | 24.63 | 15.69 | 242.0 | 97.65 | .9270 | 33.48 | 19.31 | 77.22 | 48.23 |
| #1 | .0002 | -.0013 | .0019 | -.0229 | -.0108 | .0004 | .0014 | .0100 | .0003 | .0004 |
| #2 | .0001 | -.0019 | .0024 | .0872 | -.0020 | .0004 | .0009 | .0131 | .0001 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0006 | .0016 | -.0003 | -.0023 | .0004 | .0005 | .0006 | .0016 | .0000 |
| Stddev | .0020 | .0007 | .0000 | .0002 | .0001 | .0000 | .0000 | .0003 | .0006 | .0003 |
| %RSD | 445.7 | 116.7 | 1.832 | 66.11 | 2.708 | 8.900 | .0801 | 45.80 | 37.57 | 1651. |
| #1 | .0018 | -.0001 | .0016 | -.0002 | -.0024 | .0004 | .0005 | .0004 | .0011 | -.0002 |
| #2 | -.0009 | -.0011 | .0017 | -.0005 | -.0023 | .0004 | .0005 | .0008 | .0020 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0002 | .0001 |
| Stddev | .0103 | .0001 | .0000 |
| %RSD | 689.5 | 46.36 | 4.261 |
| #1 | -.0058 | .0003 | .0001 |
| #2 | .0088 | .0002 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2307.5 | 57508. | 13676. |
| Stddev | 7.8 | 14. | 12. |
| %RSD | .33985 | .02486 | .08508 |
| #1 | 2301.9 | 57518. | 13684. |
| #2 | 2313.0 | 57498. | 13667. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/4/2013 17:01:51 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0536 | .6902 | .0028 | .1039 | .0149 | .0000 | 99.58 | .0066 | .0065 |
| Stddev | .0006 | .0084 | .0037 | .0000 | .0004 | .0000 | .0001 | .21 | .0002 | .0006 |
| %RSD | 45.77 | 15.65 | .5332 | 1.666 | .3964 | .3291 | 276.8 | .2090 | 3.277 | 9.465 |
| #1 | -.0009 | -.0477 | .6876 | .0027 | .1036 | .0149 | .0001 | 99.73 | .0065 | .0070 |
| #2 | -.0018 | -.0596 | .6928 | .0028 | .1042 | .0148 | .0000 | 99.44 | .0068 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0032 | 14.56 | 3.657 | 13.42 | 2.574 | .0054 | 113.7 | .0037 | .0006 |
| Stddev | .0010 | .0003 | .08 | .037 | .05 | .002 | .0002 | .3 | .0000 | .0012 |
| %RSD | 147.2 | 10.76 | .5157 | 1.003 | .3684 | .0949 | 3.898 | .2641 | .0535 | 199.1 |
| #1 | .0000 | -.0029 | 14.61 | 3.683 | 13.45 | 2.572 | .0056 | 113.9 | .0037 | -.0003 |
| #2 | -.0013 | -.0034 | 14.50 | 3.631 | 13.38 | 2.576 | .0053 | 113.5 | .0037 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0137 | .0014 | .0013 | 15.81 | -.0003 | .4516 | .0015 | .0010 | -.0011 |
| Stddev | .0000 | .0062 | .0004 | .0003 | .01 | .0012 | .0010 | .0011 | .0002 | .0006 |
| %RSD | .8946 | 45.33 | 27.23 | 18.83 | .0458 | 380.9 | .2177 | 71.30 | 16.28 | 52.39 |
| #1 | -.0053 | .0093 | .0016 | .0012 | 15.81 | .0005 | .4523 | .0007 | .0009 | -.0016 |
| #2 | -.0054 | .0180 | .0011 | .0015 | 15.82 | -.0011 | .4509 | .0022 | .0011 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0099 | -.0025 |
| Stddev | .0069 | .0000 | .0009 |
| %RSD | 890.1 | .0467 | 35.38 |
| #1 | -.0041 | .0099 | -.0019 |
| #2 | .0056 | .0098 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.1 | 57146. | 13757. |
| Stddev | .1 | 494. | 37. |
| %RSD | .00631 | .86524 | .27006 |
| #1 | 2279.9 | 57496. | 13730. |
| #2 | 2280.2 | 56797. | 13783. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/4/2013 17:06:12 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0645 | .7733 | .0019 | .0642 | .0340 | .0001 | 18.41 | .0073 | .0132 |
| Stddev | .0014 | .0078 | .0075 | .0045 | .0006 | .0003 | .0000 | .04 | .0002 | .0006 |
| %RSD | 38.74 | 12.14 | .9721 | 238.9 | .9269 | .9529 | 59.61 | .2020 | 2.067 | 4.894 |
| #1 | -.0026 | -.0700 | .7680 | .0050 | .0646 | .0338 | .0001 | 18.38 | .0072 | .0127 |
| #2 | -.0045 | -.0589 | .7786 | -.0013 | .0638 | .0342 | .0000 | 18.44 | .0074 | .0136 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0045 | 31.45 | 9.588 | 3.653 | .7947 | .0035 | 5.274 | .0032 | .0013 |
| Stddev | .0004 | .0005 | .04 | .066 | .029 | .0024 | .0000 | .006 | .0001 | .0013 |
| %RSD | 31.88 | 10.66 | .1413 | .6918 | .7957 | .2958 | 1.231 | .1098 | 3.319 | 99.14 |
| #1 | -.0010 | -.0048 | 31.42 | 9.541 | 3.632 | .7931 | .0034 | 5.278 | .0033 | .0004 |
| #2 | -.0016 | -.0041 | 31.48 | 9.635 | 3.673 | .7964 | .0035 | 5.270 | .0032 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0075 | .0030 | -.0003 | 6.466 | -.0013 | .2172 | .0000 | .0044 | -.0004 |
| Stddev | .0027 | .0083 | .0023 | .0009 | .001 | .0004 | .0002 | .000 | .0029 | .0002 |
| %RSD | 343.9 | 109.7 | 76.41 | 301.6 | .0219 | 30.92 | .1050 | 171.9 | 66.58 | 38.96 |
| #1 | .0027 | .0134 | .0047 | .0003 | 6.465 | -.0016 | .2170 | -.0001 | .0065 | -.0003 |
| #2 | -.0011 | .0017 | .0014 | -.0009 | 6.467 | -.0010 | .2173 | .0000 | .0023 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0126 | .0095 | -.0016 |
| Stddev | .0119 | .0000 | .0007 |
| %RSD | 94.28 | .1315 | 44.35 |
| #1 | .0042 | .0095 | -.0011 |
| #2 | .0210 | .0095 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2301.1 | 56529. | 13698. |
| Stddev | 4.3 | 33. | 52. |
| %RSD | .18645 | .05890 | .38221 |
| #1 | 2304.1 | 56553. | 13735. |
| #2 | 2298.0 | 56506. | 13661. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/4/2013 17:10:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0835 | .7175 | .0055 | .1298 | .1121 | -.0006 | 46.95 | .0059 | .0018 |
| Stddev | .0028 | .0148 | .0082 | .0025 | .0006 | .0007 | .0001 | .03 | .0004 | .0010 |
| %RSD | 70.77 | 17.76 | 1.140 | 45.54 | .4521 | .6120 | 13.14 | .0649 | 5.936 | 56.11 |
| #1 | -.0059 | -.0939 | .7232 | .0073 | .1293 | .1116 | -.0007 | 46.97 | .0057 | .0011 |
| #2 | -.0020 | -.0730 | .7117 | .0037 | .1302 | .1126 | -.0006 | 46.93 | .0062 | .0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0083 | 67.83 | 9.632 | 5.423 | 1.747 | -.0001 | 16.48 | .0005 | -.0024 |
| Stddev | .0018 | .0011 | .18 | .081 | .035 | .001 | .0006 | .16 | .0004 | .0038 |
| %RSD | 99.44 | 13.59 | .2706 | .8372 | .6528 | .0543 | 636.8 | .9697 | 76.09 | 157.6 |
| #1 | -.0031 | -.0075 | 67.96 | 9.689 | 5.448 | 1.748 | -.0005 | 16.36 | .0002 | .0003 |
| #2 | -.0005 | -.0091 | 67.70 | 9.575 | 5.398 | 1.747 | .0003 | 16.59 | .0008 | -.0051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | -.0100 | .0003 | .0014 | 13.36 | -.0015 | .4377 | .0007 | .0068 | -.0010 |
| Stddev | .0007 | .0012 | .0010 | .0073 | .01 | .0002 | .0058 | .0002 | .0002 | .0010 |
| %RSD | 16.10 | 11.64 | 355.8 | 513.8 | .0873 | 10.78 | 1.314 | 29.34 | 2.859 | 103.2 |
| #1 | .0050 | -.0108 | -.0004 | .0065 | 13.37 | -.0016 | .4337 | .0005 | .0067 | -.0017 |
| #2 | .0040 | -.0091 | .0010 | -.0037 | 13.35 | -.0014 | .4418 | .0008 | .0070 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0053 | -.0015 |
| Stddev | .0158 | .0003 | .0004 |
| %RSD | 631.7 | 5.867 | 28.04 |
| #1 | -.0087 | .0051 | -.0018 |
| #2 | .0137 | .0055 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2317.0 | 57410. | 13558. |
| Stddev | 1.1 | 94. | 63. |
| %RSD | .04953 | .16426 | .46284 |
| #1 | 2316.2 | 57477. | 13514. |
| #2 | 2317.8 | 57343. | 13603. |

Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/4/2013 17:14:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0461 | .2247 | .0007 | .2889 | .0501 | .0000 | 65.93 | .0019 | .0155 |
| Stddev | .0015 | .0183 | .0021 | .0001 | .0011 | .0000 | .000 | .07 | .0002 | .0004 |
| %RSD | 109.3 | 39.58 | .9538 | 7.581 | .3770 | .0560 | 36460. | .0993 | 9.916 | 2.799 |
| #1 | -.0003 | -.0332 | .2263 | .0007 | .2897 | .0501 | -.0002 | 65.89 | .0021 | .0158 |
| #2 | -.0025 | -.0591 | .2232 | .0008 | .2881 | .0501 | .0002 | 65.98 | .0018 | .0152 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | 49.07 | 9.551 | 11.29 | 2.918 | .0007 | 27.19 | .0023 | -.0010 |
| Stddev | .0002 | .0002 | .10 | .045 | .01 | .000 | .0003 | .06 | .0001 | .0002 |
| %RSD | 52.77 | 5.031 | .2029 | .4684 | .0934 | .0116 | 44.56 | .2261 | 4.060 | 19.81 |
| #1 | -.0004 | -.0035 | 49.14 | 9.519 | 11.28 | 2.918 | .0009 | 27.14 | .0023 | -.0012 |
| #2 | -.0002 | -.0038 | 49.00 | 9.583 | 11.30 | 2.918 | .0005 | 27.23 | .0024 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0096 | .0004 | .0020 | 7.094 | -.0008 | .4075 | .0011 | -.0004 | -.0004 |
| Stddev | .0042 | .0057 | .0016 | .0027 | .013 | .0001 | .0017 | .0001 | .0003 | .0004 |
| %RSD | 118.7 | 59.80 | 417.7 | 137.1 | .1814 | 15.15 | .4092 | 7.928 | 86.47 | 105.3 |
| #1 | -.0065 | .0137 | .0015 | .0039 | 7.103 | -.0009 | .4087 | .0011 | -.0001 | -.0007 |
| #2 | -.0006 | .0055 | -.0007 | .0001 | 7.084 | -.0007 | .4063 | .0012 | -.0006 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0020 | .0105 | -.0009 |
| Stddev | .0029 | .0001 | .0004 |
| %RSD | 143.7 | 1.086 | 37.26 |
| #1 | -.0040 | .0106 | -.0012 |
| #2 | .0000 | .0104 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.9 | 56653. | 13677. |
| Stddev | 3.1 | 206. | 17. |
| %RSD | .13785 | .36412 | .12386 |
| #1 | 2279.6 | 56798. | 13665. |
| #2 | 2284.1 | 56507. | 13689. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 17:19:13 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0043 | .1789 | .0031 | .0000 | .1002 | .0520 | .0045 | 5.102 | .0040 | .0516 |
| Stddev | .0006 | .0005 | .0011 | .0015 | .0005 | .0009 | .0001 | .093 | .0001 | .0001 |
| %RSD | 14.94 | .2726 | 34.06 | 3433. | .5181 | 1.797 | 2.207 | 1.821 | 2.063 | .2777 |
| #1 | .0048 | .1786 | .0038 | -.0010 | .0998 | .0514 | .0045 | 5.036 | .0041 | .0515 |
| #2 | .0039 | .1792 | .0023 | .0011 | .1006 | .0527 | .0046 | 5.167 | .0040 | .0517 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0101 | .0234 | .1151 | 5.253 | 5.266 | .0161 | .0987 | 4.890 | .0383 | .0051 |
| Stddev | .0001 | .0001 | .0027 | .099 | .126 | .0001 | .0002 | .067 | .0003 | .0002 |
| %RSD | .8472 | .4067 | 2.357 | 1.878 | 2.394 | .3541 | .2252 | 1.373 | .8792 | 4.410 |
| #1 | .0100 | .0235 | .1132 | 5.183 | 5.177 | .0162 | .0985 | 4.842 | .0380 | .0049 |
| #2 | .0101 | .0233 | .1170 | 5.323 | 5.355 | .0161 | .0988 | 4.937 | .0385 | .0053 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0000 | .0057 | .0101 | .0067 | .0940 | .0108 | .0523 | .0061 | .0107 |
| Stddev | .0022 | .0035 | .0009 | .0002 | .0003 | .0001 | .0002 | .0003 | .0001 | .0004 |
| %RSD | 141.8 | 35210. | 15.28 | 1.825 | 3.925 | .0732 | 1.689 | .5936 | 2.204 | 3.870 |
| #1 | .0031 | .0025 | .0064 | .0099 | .0068 | .0940 | .0106 | .0526 | .0060 | .0104 |
| #2 | .0000 | -.0025 | .0051 | .0102 | .0065 | .0941 | .0109 | .0521 | .0062 | .0110 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0208 | -.0003 |
| Stddev | .0016 | .0003 | .0001 |
| %RSD | 669.1 | 1.301 | 47.47 |
| #1 | -.0009 | .0206 | -.0004 |
| #2 | .0013 | .0210 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2313.8 | 57200. | 13439. |
| Stddev | .5 | 148. | 190. |
| %RSD | .02028 | .25801 | 1.4111 |
| #1 | 2313.5 | 57096. | 13573. |
| #2 | 2314.1 | 57305. | 13305. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 17:23:30 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2583 | 9.830 | 1.918 | -.0005 | 1.962 | 1.991 | 2.087 | 9.980 | 1.959 | 2.012 |
| Stddev | .0007 | .010 | .001 | .0006 | .004 | .003 | .002 | .004 | .001 | .001 |
| %RSD | .2673 | .0995 | .0429 | 117.7 | .1790 | .1563 | .1165 | .0447 | .0554 | .0544 |
| #1 | .2578 | 9.837 | 1.917 | -.0009 | 1.959 | 1.989 | 2.085 | 9.977 | 1.958 | 2.011 |
| #2 | .2588 | 9.823 | 1.918 | -.0001 | 1.964 | 1.993 | 2.089 | 9.984 | 1.959 | 2.013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.043 | 2.063 | 9.860 | 10.08 | 10.21 | 1.965 | 1.918 | 9.718 | 1.843 | 1.879 |
| Stddev | .005 | .006 | .003 | .01 | .03 | .004 | .004 | .009 | .002 | .003 |
| %RSD | .2469 | .2799 | .0333 | .0960 | .3005 | .2145 | .2033 | .0964 | .1015 | .1372 |
| #1 | 2.039 | 2.059 | 9.857 | 10.07 | 10.19 | 1.962 | 1.916 | 9.725 | 1.841 | 1.881 |
| #2 | 2.046 | 2.067 | 9.862 | 10.09 | 10.23 | 1.968 | 1.921 | 9.711 | 1.844 | 1.878 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0007 | 1.891 | 1.891 | .1436 | 1.845 | 2.032 | 1.991 | 1.955 | 2.051 |
| Stddev | .0001 | .0002 | .001 | .001 | .0002 | .000 | .002 | .001 | .002 | .002 |
| %RSD | 7.847 | 35.67 | .0280 | .0348 | .1255 | .0186 | .1171 | .0660 | .0875 | .0783 |
| #1 | -.0009 | -.0005 | 1.890 | 1.891 | .1435 | 1.845 | 2.030 | 1.990 | 1.954 | 2.049 |
| #2 | -.0010 | -.0008 | 1.891 | 1.890 | .1437 | 1.845 | 2.033 | 1.992 | 1.956 | 2.052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.932 | -.0017 |
| Stddev | .0029 | .000 | .0001 |
| %RSD | 19.91 | .0002 | 7.353 |
| #1 | -.0124 | 1.932 | -.0018 |
| #2 | -.0165 | 1.932 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.2 | 56235. | 13836. |
| Stddev | 4.5 | 366. | 64. |
| %RSD | .19464 | .65100 | .46002 |
| #1 | 2298.4 | 56494. | 13881. |
| #2 | 2292.0 | 55976. | 13791. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 17:30:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0072 | -.0005 | -.0004 | .0015 | .0006 | .0003 | -.0131 | .0001 | .0005 |
| Stddev | .0006 | .0007 | .0011 | .0002 | .0000 | .0001 | .0000 | .0016 | .0001 | .0000 |
| %RSD | 61.60 | 9.139 | 241.8 | 58.68 | 2.782 | 13.98 | 3.664 | 12.55 | 99.37 | 8.206 |
| #1 | -.0013 | -.0068 | .0003 | -.0002 | .0015 | .0005 | .0003 | -.0120 | .0001 | .0005 |
| #2 | -.0005 | -.0077 | -.0013 | -.0005 | .0016 | .0006 | .0003 | -.0143 | .0000 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0014 | .0001 | .0257 | .0039 | .0005 | .0008 | .0085 | .0001 | -.0004 |
| Stddev | .0001 | .0005 | .0003 | .0423 | .0207 | .0001 | .0002 | .0068 | .0000 | .0003 |
| %RSD | 148.7 | 34.59 | 225.9 | 164.6 | 527.9 | 17.42 | 24.59 | 79.93 | 46.84 | 63.53 |
| #1 | .0000 | -.0018 | -.0001 | .0557 | -.0107 | .0006 | .0009 | .0134 | .0000 | -.0002 |
| #2 | -.0002 | -.0011 | .0003 | -.0042 | .0186 | .0005 | .0007 | .0037 | .0001 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0027 | .0000 | .0004 | .0017 | .0003 | .0003 | .0003 | .0020 | -.0004 |
| Stddev | .0011 | .0067 | .0006 | .0008 | .0001 | .0002 | .0000 | .0002 | .0009 | .0003 |
| %RSD | 1856. | 252.0 | 3605. | 206.6 | 4.914 | 54.37 | 5.008 | 87.81 | 47.13 | 81.65 |
| #1 | .0008 | -.0074 | .0005 | .0010 | .0017 | .0004 | .0003 | .0001 | .0026 | -.0006 |
| #2 | -.0007 | .0021 | -.0004 | -.0002 | .0016 | .0002 | .0003 | .0004 | .0013 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0002 | .0000 |
| Stddev | .0085 | .0001 | .000 |
| %RSD | 260.2 | 42.70 | 4643. |
| #1 | -.0028 | .0003 | .0000 |
| #2 | .0093 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2316.0 | 57590. | 13649. |
| Stddev | .2 | 187. | 101. |
| %RSD | .00951 | .32511 | .74058 |
| #1 | 2316.2 | 57723. | 13578. |
| #2 | 2315.9 | 57458. | 13721. |



**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000172 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006301 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | -0.000137 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.000766 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000089 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000078 | 0.000000 | No |
| | | | | Mn | 0.000138 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000049 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000038 | 0.000000 | No |
| | | | | Cr | 0.010126 | 0.000000 | No |
| | | | | Mo | -0.003392 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000400 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | 0.000039 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000209 | 0.000000 | No |
| | | | | Mn | 0.000495 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001294 | 0.000000 | No |
| | | | | Cr | 0.000325 | 0.000000 | No |
| | | | | V | -0.026555 | 0.000000 | No |
| | | | | Co | 0.001673 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001617 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.000766 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13F05o00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\001CAL
Date Acquired: Jun 5 2013 02:14 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 09:12 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1832470.00 | A | 12780.00 | 0.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 38.89 | P | 8.39 | 21.57 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 423.35 | P | 49.10 | 11.60 |
| 11 | B | 14.44 | P | 13.47 | 93.25 |
| 23 | Na | 590263.63 | P | 6428.00 | 1.09 |
| 23 | Na | 61271.14 | P | 554.10 | 0.90 |
| 24 | Mg | 11431.19 | P | 173.40 | 1.52 |
| 24 | Mg | 600.03 | P | 27.28 | 4.55 |
| 27 | Al | 27819.78 | P | 2046.00 | 7.35 |
| 27 | Al | 640.04 | P | 30.55 | 4.77 |
| 39 | K | 3676652.00 | A | 13000.00 | 0.35 |
| 44 | Ca | 55757.72 | P | 443.80 | 0.80 |
| 45 | Sc | 2614018.00 | A | 26210.00 | 1.00 |
| 45 | Sc | 291006.69 | P | 7164.00 | 2.46 |
| 47 | Ti | 296.68 | P | 37.12 | 12.51 |
| 51 | V | 3119.92 | P | 23.30 | 0.75 |
| 52 | Cr | 3526.67 | P | 97.16 | 2.76 |
| 55 | Mn | 1494.76 | P | 27.85 | 1.86 |
| 56 | Fe | 23776.92 | P | 528.70 | 2.22 |
| 59 | Co | 65.33 | P | 14.11 | 21.60 |
| 60 | Ni | 208.45 | P | 10.10 | 4.85 |
| 63 | Cu | 1513.43 | P | 34.88 | 2.30 |
| 66 | Zn | 1051.15 | P | 8.70 | 0.83 |
| 72 | Ge | 540304.81 | P | 4101.00 | 0.76 |
| 72 | Ge | 120530.20 | P | 2467.00 | 2.05 |
| 75 | As | 106.22 | P | 7.13 | 6.71 |
| 78 | Se | 104.89 | P | 7.00 | 6.68 |
| 88 | Sr | 815.68 | P | 66.81 | 8.19 |
| 98 | Mo | 131.12 | P | 45.38 | 34.61 |
| 103 | Rh | 3131678.00 | A | 5879.00 | 0.19 |
| 107 | Ag | 182.23 | P | 42.21 | 23.16 |

C:\ICPCHEM\1\DATA\13F05o00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 5.56 | P | 6.94 | 124.90 |
| 115 | In | 3459495.00 | A | 13140.00 | 0.38 |
| 115 | In | 1088501.00 | P | 27800.00 | 2.55 |
| 118 | (In) | 2153.57 | P | 66.43 | 3.08 |
| 118 | (In) | 693.38 | P | 57.84 | 8.34 |
| 120 | Sn | 2854.83 | P | 49.15 | 1.72 |
| 121 | Sb | 441.14 | P | 13.47 | 3.05 |
| 137 | Ba | 684.48 | P | 26.94 | 3.94 |
| 159 | Tb | 4811405.00 | A | 29860.00 | 0.62 |
| 175 | Lu | 4737493.00 | A | 63930.00 | 1.35 |
| 205 | Tl | 1820.19 | P | 78.83 | 4.33 |
| 206 | (Pb) | 261.12 | P | 41.41 | 15.86 |
| 207 | (Pb) | 220.01 | P | 3.33 | 1.51 |
| 208 | Pb | 2314.67 | P | 123.40 | 5.33 |
| 209 | Bi | 3004061.00 | A | 17570.00 | 0.58 |

C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\002CAL
Date Acquired: Jun 5 2013 02:22 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:18 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1844737.00 | A | 20660.00 | 1.12 |
| 7 | (Li) | | P | | |
| 9 | Be | 37.78 | P | 6.94 | 18.37 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 430.02 | P | 42.56 | 9.90 |
| 11 | B | 13.33 | P | 10.00 | 75.00 |
| 23 | Na | 581085.63 | P | 6555.00 | 1.13 |
| 23 | Na | 61422.65 | P | 555.50 | 0.90 |
| 24 | Mg | 11645.80 | P | 227.40 | 1.95 |
| 24 | Mg | 614.47 | P | 60.77 | 9.89 |
| 27 | Al | 27789.79 | P | 852.70 | 3.07 |
| 27 | Al | 684.50 | P | 80.44 | 11.75 |
| 39 | K | 3672001.00 | A | 19270.00 | 0.52 |
| 44 | Ca | 55836.74 | P | 97.14 | 0.17 |
| 45 | Sc | 2585224.00 | A | 6946.00 | 0.27 |
| 45 | Sc | 293772.31 | P | 1281.00 | 0.44 |
| 47 | Ti | 331.13 | P | 53.99 | 16.31 |
| 51 | V | 3083.01 | P | 58.93 | 1.91 |
| 52 | Cr | 3120.80 | P | 134.30 | 4.30 |
| 55 | Mn | 1447.64 | P | 46.70 | 3.23 |
| 56 | Fe | 25513.50 | P | 2690.00 | 10.54 |
| 59 | Co | 63.11 | P | 6.01 | 9.53 |
| 60 | Ni | 200.00 | P | 15.38 | 7.69 |
| 63 | Cu | 1527.65 | P | 50.15 | 3.28 |
| 66 | Zn | 1048.49 | P | 10.69 | 1.02 |
| 72 | Ge | 539176.31 | P | 3554.00 | 0.66 |
| 72 | Ge | 121552.10 | P | 852.20 | 0.70 |
| 75 | As | 94.22 | P | 3.29 | 3.49 |
| 78 | Se | 106.45 | P | 4.07 | 3.83 |
| 88 | Sr | 778.94 | P | 74.57 | 9.57 |
| 98 | Mo | 110.00 | P | 20.28 | 18.44 |
| 103 | Rh | 3126195.00 | A | 12440.00 | 0.40 |
| 107 | Ag | 194.45 | P | 45.01 | 23.15 |

C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 6.67 | P | 3.33 | 49.99 |
| 115 | In | 3451173.00 | A | 5091.00 | 0.15 |
| 115 | In | 1091382.00 | P | 10980.00 | 1.01 |
| 118 | (In) | 2094.67 | P | 48.58 | 2.32 |
| 118 | (In) | 664.48 | P | 75.16 | 11.31 |
| 120 | Sn | 2707.01 | P | 110.50 | 4.08 |
| 121 | Sb | 341.13 | P | 18.36 | 5.38 |
| 137 | Ba | 608.93 | P | 27.76 | 4.56 |
| 159 | Tb | 4754284.00 | A | 36740.00 | 0.77 |
| 175 | Lu | 4674625.00 | A | 50020.00 | 1.07 |
| 205 | Tl | 1232.32 | P | 92.53 | 7.51 |
| 206 | (Pb) | 261.12 | P | 16.44 | 6.30 |
| 207 | (Pb) | 210.01 | P | 20.82 | 9.91 |
| 208 | Pb | 2201.33 | P | 60.14 | 2.73 |
| 209 | Bi | 2965498.00 | A | 3044.00 | 0.10 |

C:\ICPCHEM\1\DATA\13F05o00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\003CALS.D\003CALS.D#
Date Acquired: Jun 5 2013 02:29 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:25 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1836025.00 | A | 4638.00 | 0.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 2994.83 | P | 25.25 | 0.84 |
| 9 | Be | 126.67 | P | 24.04 | 18.98 |
| 11 | B | 2396.98 | P | 241.90 | 10.09 |
| 11 | B | 47.78 | P | 3.85 | 8.06 |
| 23 | Na | 619425.63 | P | 4069.00 | 0.66 |
| 23 | Na | 64452.55 | P | 531.60 | 0.82 |
| 24 | Mg | 24012.33 | P | 138.90 | 0.58 |
| 24 | Mg | 1185.64 | P | 104.50 | 8.81 |
| 27 | Al | 41313.89 | P | 780.80 | 1.89 |
| 27 | Al | 987.85 | P | 59.67 | 6.04 |
| 39 | K | 3635428.00 | A | 29460.00 | 0.81 |
| 44 | Ca | 55176.74 | P | 801.70 | 1.45 |
| 45 | Sc | 2580352.00 | A | 15850.00 | 0.61 |
| 45 | Sc | 296397.19 | P | 2549.00 | 0.86 |
| 47 | Ti | 1360.11 | P | 60.00 | 4.41 |
| 51 | V | 6288.47 | P | 42.55 | 0.68 |
| 52 | Cr | 6463.66 | P | 88.48 | 1.37 |
| 55 | Mn | 4934.64 | P | 139.80 | 2.83 |
| 56 | Fe | 28270.62 | P | 192.40 | 0.68 |
| 59 | Co | 5244.07 | P | 78.33 | 1.49 |
| 60 | Ni | 1559.21 | P | 99.04 | 6.35 |
| 63 | Cu | 4804.37 | P | 61.27 | 1.28 |
| 66 | Zn | 1166.50 | P | 19.06 | 1.63 |
| 72 | Ge | 531982.00 | P | 4047.00 | 0.76 |
| 72 | Ge | 123167.70 | P | 555.10 | 0.45 |
| 75 | As | 566.24 | P | 6.05 | 1.07 |
| 78 | Se | 163.56 | P | 8.70 | 5.32 |
| 88 | Sr | 21141.07 | P | 239.80 | 1.13 |
| 98 | Mo | 5701.30 | P | 86.90 | 1.52 |
| 103 | Rh | 3112877.00 | A | 9018.00 | 0.29 |
| 107 | Ag | 9073.05 | P | 150.60 | 1.66 |

C:\ICPCHEM\1\DATA\13F05o00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 786.72 | P | 99.56 | 12.66 |
| 115 | In | 3425321.00 | A | 10200.00 | 0.30 |
| 115 | In | 1093654.00 | P | 10020.00 | 0.92 |
| 118 | (In) | 6108.13 | P | 115.70 | 1.89 |
| 118 | (In) | 2195.80 | P | 73.76 | 3.36 |
| 120 | Sn | 8447.15 | P | 176.10 | 2.08 |
| 121 | Sb | 7927.96 | P | 148.80 | 1.88 |
| 137 | Ba | 3471.64 | P | 95.26 | 2.74 |
| 159 | Tb | 4704294.00 | A | 7092.00 | 0.15 |
| 175 | Lu | 4604488.00 | A | 2316.00 | 0.05 |
| 205 | Tl | 15348.95 | P | 461.70 | 3.01 |
| 206 | (Pb) | 6965.34 | P | 31.83 | 0.46 |
| 207 | (Pb) | 5958.15 | P | 70.26 | 1.18 |
| 208 | Pb | 28274.76 | P | 311.80 | 1.10 |
| 209 | Bi | 2902049.00 | A | 22860.00 | 0.79 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1836025.00 | 0.25 | 1844737.30 | 99.5 | 70 - 130 | |
| 45 | Sc | 2580352.30 | 0.61 | 2585224.30 | 99.8 | 70 - 130 | |
| 45 | Sc | 296397.19 | 0.86 | 293772.34 | 100.9 | 70 - 130 | |
| 72 | Ge | 531982.00 | 0.76 | 539176.38 | 98.7 | 70 - 130 | |
| 72 | Ge | 123167.70 | 0.45 | 121552.16 | 101.3 | 70 - 130 | |
| 103 | Rh | 3112876.50 | 0.29 | 3126194.80 | 99.6 | 70 - 130 | |
| 115 | In | 3425321.50 | 0.30 | 3451173.50 | 99.3 | 70 - 130 | |
| 115 | In | 1093653.50 | 0.92 | 1091382.00 | 100.2 | 70 - 130 | |
| 159 | Tb | 4704293.50 | 0.15 | 4754284.00 | 98.9 | 70 - 130 | |
| 175 | Lu | 4604488.50 | 0.05 | 4674625.00 | 98.5 | 70 - 130 | |
| 209 | Bi | 2902049.30 | 0.79 | 2965498.00 | 97.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\004CALS.D\004CALS.D#
Date Acquired: Jun 5 2013 02:36 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:32 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1825014.00 | A | 13230.00 | 0.72 |
| 7 | (Li) | | P | | |
| 9 | Be | 29786.40 | P | 439.70 | 1.48 |
| 9 | Be | 1291.21 | P | 100.30 | 7.77 |
| 11 | B | 19025.26 | P | 183.70 | 0.97 |
| 11 | B | 444.46 | P | 41.41 | 9.32 |
| 23 | Na | 715307.19 | P | 5263.00 | 0.74 |
| 23 | Na | 71573.22 | P | 982.40 | 1.37 |
| 24 | Mg | 109428.60 | P | 482.10 | 0.44 |
| 24 | Mg | 5622.31 | P | 48.37 | 0.86 |
| 27 | Al | 150261.50 | P | 460.20 | 0.31 |
| 27 | Al | 3606.10 | P | 175.80 | 4.88 |
| 39 | K | 3759619.00 | A | 23870.00 | 0.63 |
| 44 | Ca | 57729.35 | P | 500.00 | 0.87 |
| 45 | Sc | 2583399.00 | A | 6726.00 | 0.26 |
| 45 | Sc | 300750.09 | P | 1403.00 | 0.47 |
| 47 | Ti | 11317.84 | P | 70.29 | 0.62 |
| 51 | V | 36866.31 | P | 161.50 | 0.44 |
| 52 | Cr | 40253.42 | P | 178.20 | 0.44 |
| 55 | Mn | 31023.86 | P | 243.20 | 0.78 |
| 56 | Fe | 60847.22 | P | 1804.00 | 2.96 |
| 59 | Co | 52458.34 | P | 120.80 | 0.23 |
| 60 | Ni | 13042.57 | P | 109.90 | 0.84 |
| 63 | Cu | 34412.12 | P | 148.10 | 0.43 |
| 66 | Zn | 6681.72 | P | 86.24 | 1.29 |
| 72 | Ge | 530419.88 | P | 3544.00 | 0.67 |
| 72 | Ge | 124130.20 | P | 318.50 | 0.26 |
| 75 | As | 4758.55 | P | 87.10 | 1.83 |
| 78 | Se | 674.02 | P | 26.64 | 3.95 |
| 88 | Sr | 200736.91 | P | 1458.00 | 0.73 |
| 98 | Mo | 53773.12 | P | 450.80 | 0.84 |
| 103 | Rh | 3108947.00 | A | 17200.00 | 0.55 |
| 107 | Ag | 90028.94 | P | 897.70 | 1.00 |

C:\ICPCHEM\1\DATA\13F05o00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8271.50 | P | 65.04 | 0.79 |
| 115 | In | 3418713.00 | A | 19780.00 | 0.58 |
| 115 | In | 1109054.00 | P | 7443.00 | 0.67 |
| 118 | (In) | 57081.78 | P | 938.20 | 1.64 |
| 118 | (In) | 19737.16 | P | 245.80 | 1.25 |
| 120 | Sn | 78907.70 | P | 223.10 | 0.28 |
| 121 | Sb | 76737.45 | P | 1236.00 | 1.61 |
| 137 | Ba | 29516.42 | P | 63.25 | 0.21 |
| 159 | Tb | 4678427.00 | A | 10360.00 | 0.22 |
| 175 | Lu | 4638297.00 | A | 15350.00 | 0.33 |
| 205 | Tl | 147098.00 | P | 3387.00 | 2.30 |
| 206 | (Pb) | 59528.78 | P | 484.20 | 0.81 |
| 207 | (Pb) | 50305.61 | P | 579.60 | 1.15 |
| 208 | Pb | 233830.91 | P | 1083.00 | 0.46 |
| 209 | Bi | 2896136.00 | A | 8494.00 | 0.29 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1825014.40 | 0.72 | 1844737.30 | 98.9 | 70 - 130 | |
| 45 | Sc | 2583399.30 | 0.26 | 2585224.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 300750.09 | 0.47 | 293772.34 | 102.4 | 70 - 130 | |
| 72 | Ge | 530419.88 | 0.67 | 539176.38 | 98.4 | 70 - 130 | |
| 72 | Ge | 124130.16 | 0.26 | 121552.16 | 102.1 | 70 - 130 | |
| 103 | Rh | 3108946.80 | 0.55 | 3126194.80 | 99.4 | 70 - 130 | |
| 115 | In | 3418713.50 | 0.58 | 3451173.50 | 99.1 | 70 - 130 | |
| 115 | In | 1109054.50 | 0.67 | 1091382.00 | 101.6 | 70 - 130 | |
| 159 | Tb | 4678427.00 | 0.22 | 4754284.00 | 98.4 | 70 - 130 | |
| 175 | Lu | 4638297.00 | 0.33 | 4674625.00 | 99.2 | 70 - 130 | |
| 209 | Bi | 2896136.50 | 0.29 | 2965498.00 | 97.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\005CALS.D\005CALS.D#
Date Acquired: Jun 5 2013 02:43 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:39 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1831067.00 | A | 2538.00 | 0.14 |
| 7 | (Li) | | P | | |
| 9 | Be | 144915.59 | P | 746.70 | 0.52 |
| 9 | Be | 6215.87 | P | 162.90 | 2.62 |
| 11 | B | 92842.28 | P | 274.90 | 0.30 |
| 11 | B | 2270.24 | P | 99.41 | 4.38 |
| 23 | Na | 1346804.00 | A | 6723.00 | 0.50 |
| 23 | Na | 110387.40 | P | 1265.00 | 1.15 |
| 24 | Mg | 492883.91 | P | 2220.00 | 0.45 |
| 24 | Mg | 25521.43 | P | 121.40 | 0.48 |
| 27 | Al | 628883.50 | P | 3369.00 | 0.54 |
| 27 | Al | 15454.76 | P | 219.50 | 1.42 |
| 39 | K | 4254785.00 | A | 17420.00 | 0.41 |
| 44 | Ca | 77154.43 | P | 489.50 | 0.63 |
| 45 | Sc | 2570585.00 | A | 26930.00 | 1.05 |
| 45 | Sc | 308290.41 | P | 5872.00 | 1.90 |
| 47 | Ti | 54056.41 | P | 505.50 | 0.94 |
| 51 | V | 168893.59 | P | 1434.00 | 0.85 |
| 52 | Cr | 187355.70 | P | 689.30 | 0.37 |
| 55 | Mn | 146783.59 | P | 774.00 | 0.53 |
| 56 | Fe | 197640.09 | P | 1453.00 | 0.74 |
| 59 | Co | 254605.80 | P | 1132.00 | 0.44 |
| 60 | Ni | 63307.81 | P | 314.40 | 0.50 |
| 63 | Cu | 162237.41 | P | 1078.00 | 0.66 |
| 66 | Zn | 31441.34 | P | 107.30 | 0.34 |
| 72 | Ge | 520076.69 | P | 6291.00 | 1.21 |
| 72 | Ge | 126752.90 | P | 1712.00 | 1.35 |
| 75 | As | 23260.27 | P | 114.40 | 0.49 |
| 78 | Se | 2817.61 | P | 28.22 | 1.00 |
| 88 | Sr | 975261.13 | P | 7052.00 | 0.72 |
| 98 | Mo | 265092.59 | P | 562.70 | 0.21 |
| 103 | Rh | 3077836.00 | A | 15750.00 | 0.51 |
| 107 | Ag | 434480.09 | P | 2275.00 | 0.52 |

C:\ICPCHEM\1\DATA\13F05o00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40915.27 | P | 152.20 | 0.37 |
| 115 | In | 3397593.00 | A | 18050.00 | 0.53 |
| 115 | In | 1122113.00 | P | 25180.00 | 2.24 |
| 118 | (In) | 275775.09 | P | 1253.00 | 0.45 |
| 118 | (In) | 97598.05 | P | 709.80 | 0.73 |
| 120 | Sn | 382776.00 | P | 2924.00 | 0.76 |
| 121 | Sb | 362000.41 | P | 2652.00 | 0.73 |
| 137 | Ba | 140060.00 | P | 1540.00 | 1.10 |
| 159 | Tb | 4648229.00 | A | 60590.00 | 1.30 |
| 175 | Lu | 4575447.00 | A | 67900.00 | 1.48 |
| 205 | Tl | 794832.38 | P | 2935.00 | 0.37 |
| 206 | (Pb) | 286188.00 | P | 772.70 | 0.27 |
| 207 | (Pb) | 240642.00 | P | 1027.00 | 0.43 |
| 208 | Pb | 1114288.00 | P | 6909.00 | 0.62 |
| 209 | Bi | 2832141.00 | A | 50100.00 | 1.77 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 1831066.90 | 0.14 | 1844737.30 | 99.3 | 70 - 130 | |
| 45 Sc | 2570585.50 | 1.05 | 2585224.30 | 99.4 | 70 - 130 | |
| 45 Sc | 308290.41 | 1.90 | 293772.34 | 104.9 | 70 - 130 | |
| 72 Ge | 520076.66 | 1.21 | 539176.38 | 96.5 | 70 - 130 | |
| 72 Ge | 126752.94 | 1.35 | 121552.16 | 104.3 | 70 - 130 | |
| 103 Rh | 3077836.00 | 0.51 | 3126194.80 | 98.5 | 70 - 130 | |
| 115 In | 3397592.80 | 0.53 | 3451173.50 | 98.4 | 70 - 130 | |
| 115 In | 1122113.40 | 2.24 | 1091382.00 | 102.8 | 70 - 130 | |
| 159 Tb | 4648229.00 | 1.30 | 4754284.00 | 97.8 | 70 - 130 | |
| 175 Lu | 4575447.00 | 1.48 | 4674625.00 | 97.9 | 70 - 130 | |
| 209 Bi | 2832141.50 | 1.77 | 2965498.00 | 95.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\006CALS.D\006CALS.D#
Date Acquired: Jun 5 2013 02:50 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:47 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1840436.00 | A | 11350.00 | 0.62 |
| 7 | (Li) | | P | | |
| 9 | Be | 293962.50 | P | 2868.00 | 0.98 |
| 9 | Be | 12528.66 | P | 182.20 | 1.45 |
| 11 | B | 186192.20 | P | 2117.00 | 1.14 |
| 11 | B | 4350.75 | P | 90.77 | 2.09 |
| 23 | Na | 2027342.00 | A | 11360.00 | 0.56 |
| 23 | Na | 153706.70 | P | 345.50 | 0.22 |
| 24 | Mg | 988139.31 | P | 4781.00 | 0.48 |
| 24 | Mg | 51840.60 | P | 179.00 | 0.35 |
| 27 | Al | 1270971.00 | A | 18410.00 | 1.45 |
| 27 | Al | 31485.70 | P | 379.70 | 1.21 |
| 39 | K | 4940206.00 | A | 9249.00 | 0.19 |
| 44 | Ca | 107712.70 | P | 1312.00 | 1.22 |
| 45 | Sc | 2591966.00 | A | 19960.00 | 0.77 |
| 45 | Sc | 302379.00 | P | 1398.00 | 0.46 |
| 47 | Ti | 108686.40 | P | 1006.00 | 0.93 |
| 51 | V | 340859.31 | P | 2068.00 | 0.61 |
| 52 | Cr | 380648.31 | P | 1613.00 | 0.42 |
| 55 | Mn | 298924.91 | P | 1171.00 | 0.39 |
| 56 | Fe | 375042.41 | P | 1367.00 | 0.36 |
| 59 | Co | 518251.91 | P | 3454.00 | 0.67 |
| 60 | Ni | 129897.60 | P | 1008.00 | 0.78 |
| 63 | Cu | 328133.50 | P | 1727.00 | 0.53 |
| 66 | Zn | 64626.55 | P | 458.20 | 0.71 |
| 72 | Ge | 521318.50 | P | 3988.00 | 0.76 |
| 72 | Ge | 124668.70 | P | 734.00 | 0.59 |
| 75 | As | 47085.08 | P | 263.70 | 0.56 |
| 78 | Se | 5614.40 | P | 117.10 | 2.09 |
| 88 | Sr | 1967606.00 | A | 7614.00 | 0.39 |
| 98 | Mo | 531963.13 | P | 1956.00 | 0.37 |
| 103 | Rh | 3109343.00 | A | 8462.00 | 0.27 |
| 107 | Ag | 885928.19 | P | 2914.00 | 0.33 |

C:\ICPCHEM\1\DATA\13F05o00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 82430.29 | P | 563.00 | 0.68 |
| 115 | In | 3389412.00 | A | 17150.00 | 0.51 |
| 115 | In | 1095144.00 | P | 1242.00 | 0.11 |
| 118 | (In) | 555824.13 | P | 3062.00 | 0.55 |
| 118 | (In) | 196594.70 | P | 1316.00 | 0.67 |
| 120 | Sn | 773772.50 | P | 3938.00 | 0.51 |
| 121 | Sb | 722051.88 | P | 3085.00 | 0.43 |
| 137 | Ba | 282093.59 | P | 1420.00 | 0.50 |
| 159 | Tb | 4644077.00 | A | 57530.00 | 1.24 |
| 175 | Lu | 4539538.00 | A | 23050.00 | 0.51 |
| 205 | Tl | 1626614.00 | A | 10240.00 | 0.63 |
| 206 | (Pb) | 571476.31 | P | 2536.00 | 0.44 |
| 207 | (Pb) | 482697.31 | P | 2323.00 | 0.48 |
| 208 | Pb | 2236654.00 | P | 4893.00 | 0.22 |
| 209 | Bi | 2834008.00 | A | 34520.00 | 1.22 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1840435.80 | 0.62 | 1844737.30 | 99.8 | 70 - 130 | |
| 45 | Sc | 2591965.80 | 0.77 | 2585224.30 | 100.3 | 70 - 130 | |
| 45 | Sc | 302378.97 | 0.46 | 293772.34 | 102.9 | 70 - 130 | |
| 72 | Ge | 521318.53 | 0.76 | 539176.38 | 96.7 | 70 - 130 | |
| 72 | Ge | 124668.71 | 0.59 | 121552.16 | 102.6 | 70 - 130 | |
| 103 | Rh | 3109343.50 | 0.27 | 3126194.80 | 99.5 | 70 - 130 | |
| 115 | In | 3389411.80 | 0.51 | 3451173.50 | 98.2 | 70 - 130 | |
| 115 | In | 1095144.00 | 0.11 | 1091382.00 | 100.3 | 70 - 130 | |
| 159 | Tb | 4644077.50 | 1.24 | 4754284.00 | 97.7 | 70 - 130 | |
| 175 | Lu | 4539538.00 | 0.51 | 4674625.00 | 97.1 | 70 - 130 | |
| 209 | Bi | 2834008.50 | 1.22 | 2965498.00 | 95.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\007CALS.D\007CALS.D#
Date Acquired: Jun 5 2013 02:57 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 02:54 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1829654.00 | A | 10750.00 | 0.59 |
| 7 | (Li) | | P | | |
| 9 | Be | 588591.00 | P | 1996.00 | 0.34 |
| 9 | Be | 24710.96 | P | 327.30 | 1.32 |
| 11 | B | 374435.09 | P | 1405.00 | 0.38 |
| 11 | B | 8962.80 | P | 138.50 | 1.55 |
| 23 | Na | 3406471.00 | A | 15670.00 | 0.46 |
| 23 | Na | 237866.20 | P | 1215.00 | 0.51 |
| 24 | Mg | 1962386.00 | A | 15900.00 | 0.81 |
| 24 | Mg | 101983.40 | P | 668.90 | 0.66 |
| 27 | Al | 2442033.00 | A | 11460.00 | 0.47 |
| 27 | Al | 60908.19 | P | 691.60 | 1.14 |
| 39 | K | 6148550.00 | A | 21350.00 | 0.35 |
| 44 | Ca | 155741.50 | P | 65.90 | 0.04 |
| 45 | Sc | 2598796.00 | A | 11070.00 | 0.43 |
| 45 | Sc | 300743.50 | P | 1915.00 | 0.64 |
| 47 | Ti | 218397.91 | P | 600.20 | 0.27 |
| 51 | V | 676725.19 | P | 1698.00 | 0.25 |
| 52 | Cr | 752105.19 | P | 1332.00 | 0.18 |
| 55 | Mn | 594220.19 | P | 2864.00 | 0.48 |
| 56 | Fe | 720534.00 | P | 4654.00 | 0.65 |
| 59 | Co | 1030520.00 | P | 3898.00 | 0.38 |
| 60 | Ni | 258633.59 | P | 627.00 | 0.24 |
| 63 | Cu | 652108.38 | P | 522.80 | 0.08 |
| 66 | Zn | 126472.80 | P | 458.60 | 0.36 |
| 72 | Ge | 525005.69 | P | 3285.00 | 0.63 |
| 72 | Ge | 123583.90 | P | 705.30 | 0.57 |
| 75 | As | 93576.60 | P | 459.80 | 0.49 |
| 78 | Se | 11078.76 | P | 146.50 | 1.32 |
| 88 | Sr | 3887191.00 | A | 41820.00 | 1.08 |
| 98 | Mo | 1074322.00 | P | 2126.00 | 0.20 |
| 103 | Rh | 3097675.00 | A | 14060.00 | 0.45 |
| 107 | Ag | 1736454.00 | A | 13730.00 | 0.79 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 163948.80 | P | 2351.00 | 1.43 |
| 115 | In | 3412650.00 | A | 3769.00 | 0.11 |
| 115 | In | 1090422.00 | P | 11210.00 | 1.03 |
| 118 | (In) | 1116318.00 | P | 12940.00 | 1.16 |
| 118 | (In) | 392748.19 | P | 2034.00 | 0.52 |
| 120 | Sn | 1535724.00 | A | 2983.00 | 0.19 |
| 121 | Sb | 1417897.00 | A | 6945.00 | 0.49 |
| 137 | Ba | 562817.13 | P | 2664.00 | 0.47 |
| 159 | Tb | 4665422.00 | A | 17730.00 | 0.38 |
| 175 | Lu | 4589463.00 | A | 6118.00 | 0.13 |
| 205 | Tl | 3223219.00 | A | 39630.00 | 1.23 |
| 206 | (Pb) | 1152053.00 | P | 7620.00 | 0.66 |
| 207 | (Pb) | 965957.38 | P | 4117.00 | 0.43 |
| 208 | Pb | 4383008.00 | A | 21470.00 | 0.49 |
| 209 | Bi | 2827320.00 | A | 23810.00 | 0.84 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 1829653.80 | 0.59 | 1844737.30 | 99.2 | 70 - 130 | |
| 45 Sc | 2598795.80 | 0.43 | 2585224.30 | 100.5 | 70 - 130 | |
| 45 Sc | 300743.50 | 0.64 | 293772.34 | 102.4 | 70 - 130 | |
| 72 Ge | 525005.69 | 0.63 | 539176.38 | 97.4 | 70 - 130 | |
| 72 Ge | 123583.95 | 0.57 | 121552.16 | 101.7 | 70 - 130 | |
| 103 Rh | 3097675.30 | 0.45 | 3126194.80 | 99.1 | 70 - 130 | |
| 115 In | 3412650.50 | 0.11 | 3451173.50 | 98.9 | 70 - 130 | |
| 115 In | 1090421.60 | 1.03 | 1091382.00 | 99.9 | 70 - 130 | |
| 159 Tb | 4665422.50 | 0.38 | 4754284.00 | 98.1 | 70 - 130 | |
| 175 Lu | 4589463.50 | 0.13 | 4674625.00 | 98.2 | 70 - 130 | |
| 209 Bi | 2827319.80 | 0.84 | 2965498.00 | 95.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\008CALS.D\008CALS.D#
Date Acquired: Jun 5 2013 03:04 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 03:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1845112.00 | A | 28640.00 | 1.55 |
| 7 | (Li) | | P | | |
| 9 | Be | 108.89 | P | 12.62 | 11.59 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 1810.16 | P | 38.44 | 2.12 |
| 11 | B | 36.67 | P | 8.82 | 24.05 |
| 23 | Na | 28401590.00 | A | 21500.00 | 0.08 |
| 23 | Na | 1789084.00 | A | 12730.00 | 0.71 |
| 24 | Mg | 18753350.00 | A | 65740.00 | 0.35 |
| 24 | Mg | 1010734.00 | P | 4106.00 | 0.41 |
| 27 | Al | 23697280.00 | A | 134200.00 | 0.57 |
| 27 | Al | 618489.81 | P | 3325.00 | 0.54 |
| 39 | K | 29169500.00 | A | 209500.00 | 0.72 |
| 44 | Ca | 866793.50 | P | 7874.00 | 0.91 |
| 45 | Sc | 2608560.00 | A | 13140.00 | 0.50 |
| 45 | Sc | 307054.81 | P | 1178.00 | 0.38 |
| 47 | Ti | 283.35 | P | 43.72 | 15.43 |
| 51 | V | 2771.85 | P | 111.00 | 4.00 |
| 52 | Cr | 2371.33 | P | 78.13 | 3.29 |
| 55 | Mn | 1622.33 | P | 43.85 | 2.70 |
| 56 | Fe | 6600194.00 | A | 37770.00 | 0.57 |
| 59 | Co | 258.67 | P | 43.72 | 16.90 |
| 60 | Ni | 288.45 | P | 40.10 | 13.90 |
| 63 | Cu | 1532.99 | P | 28.80 | 1.88 |
| 66 | Zn | 272.67 | P | 5.70 | 2.09 |
| 72 | Ge | 539398.13 | P | 3401.00 | 0.63 |
| 72 | Ge | 126929.20 | P | 482.70 | 0.38 |
| 75 | As | 117.11 | P | 7.81 | 6.67 |
| 78 | Se | 125.33 | P | 4.81 | 3.84 |
| 88 | Sr | 2189.12 | P | 71.84 | 3.28 |
| 98 | Mo | 3519.42 | P | 100.30 | 2.85 |
| 103 | Rh | 3079506.00 | A | 12740.00 | 0.41 |
| 107 | Ag | 450.02 | P | 40.96 | 9.10 |

C:\ICPCHEM\1\DATA\13F05o00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 6.94 | 56.77 |
| 115 | In | 3444761.00 | A | 19470.00 | 0.57 |
| 115 | In | 1120082.00 | P | 6444.00 | 0.58 |
| 118 | (In) | 1834.62 | P | 56.71 | 3.09 |
| 118 | (In) | 850.06 | P | 41.77 | 4.91 |
| 120 | Sn | 2548.09 | P | 226.50 | 8.89 |
| 121 | Sb | 4204.08 | P | 12.04 | 0.29 |
| 137 | Ba | 684.49 | P | 50.48 | 7.37 |
| 159 | Tb | 4712869.00 | A | 30030.00 | 0.64 |
| 175 | Lu | 4619813.00 | A | 45190.00 | 0.98 |
| 205 | Tl | 4676.52 | P | 70.74 | 1.51 |
| 206 | (Pb) | 370.02 | P | 15.28 | 4.13 |
| 207 | (Pb) | 304.46 | P | 16.78 | 5.51 |
| 208 | Pb | 2400.22 | P | 39.31 | 1.64 |
| 209 | Bi | 2857501.00 | A | 15610.00 | 0.55 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1845111.90 | 1.55 | 1844737.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 2608560.00 | 0.50 | 2585224.30 | 100.9 | 70 - 130 | |
| 45 | Sc | 307054.81 | 0.38 | 293772.34 | 104.5 | 70 - 130 | |
| 72 | Ge | 539398.06 | 0.63 | 539176.38 | 100.0 | 70 - 130 | |
| 72 | Ge | 126929.22 | 0.38 | 121552.16 | 104.4 | 70 - 130 | |
| 103 | Rh | 3079506.50 | 0.41 | 3126194.80 | 98.5 | 70 - 130 | |
| 115 | In | 3444761.30 | 0.57 | 3451173.50 | 99.8 | 70 - 130 | |
| 115 | In | 1120081.80 | 0.58 | 1091382.00 | 102.6 | 70 - 130 | |
| 159 | Tb | 4712868.50 | 0.64 | 4754284.00 | 99.1 | 70 - 130 | |
| 175 | Lu | 4619813.00 | 0.98 | 4674625.00 | 98.8 | 70 - 130 | |
| 209 | Bi | 2857500.50 | 0.55 | 2965498.00 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\009CALS.D\009CALS.D#
Date Acquired: Jun 5 2013 03:11 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 03:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1815165.00 | A | 1253.00 | 0.07 |
| 7 | (Li) | | P | | |
| 9 | Be | 110.00 | P | 18.56 | 16.87 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1036.73 | P | 53.65 | 5.17 |
| 11 | B | 27.78 | P | 10.18 | 36.65 |
| 23 | Na | 274748000.00 | A | 1119000.00 | 0.41 |
| 23 | Na | 16273620.00 | A | 67240.00 | 0.41 |
| 24 | Mg | 182159200.00 | A | 1276000.00 | 0.70 |
| 24 | Mg | 9202241.00 | A | 49470.00 | 0.54 |
| 27 | Al | 233070210.00 | A | 1722000.00 | 0.74 |
| 27 | Al | 5659397.00 | A | 32380.00 | 0.57 |
| 39 | K | 256578300.00 | A | 773400.00 | 0.30 |
| 44 | Ca | 7675287.00 | A | 58520.00 | 0.76 |
| 45 | Sc | 2627798.00 | A | 5522.00 | 0.21 |
| 45 | Sc | 308184.69 | P | 1067.00 | 0.35 |
| 47 | Ti | 354.46 | P | 38.35 | 10.82 |
| 51 | V | 2851.41 | P | 39.70 | 1.39 |
| 52 | Cr | 3036.34 | P | 88.69 | 2.92 |
| 55 | Mn | 2697.61 | P | 100.40 | 3.72 |
| 56 | Fe | 63994432.00 | A | 859900.00 | 1.34 |
| 59 | Co | 1605.44 | P | 50.97 | 3.17 |
| 60 | Ni | 640.02 | P | 30.20 | 4.72 |
| 63 | Cu | 1699.23 | P | 50.72 | 2.98 |
| 66 | Zn | 876.70 | P | 12.35 | 1.41 |
| 72 | Ge | 556990.69 | P | 5623.00 | 1.01 |
| 72 | Ge | 129674.90 | P | 917.20 | 0.71 |
| 75 | As | 129.56 | P | 3.36 | 2.59 |
| 78 | Se | 120.67 | P | 7.69 | 6.37 |
| 88 | Sr | 16098.05 | P | 444.30 | 2.76 |
| 98 | Mo | 1155.64 | P | 77.06 | 6.67 |
| 103 | Rh | 2985376.00 | A | 15790.00 | 0.53 |
| 107 | Ag | 1021.18 | P | 112.20 | 10.99 |

C:\ICPCHEM\1\DATA\13F05o00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 26.67 | P | 15.28 | 57.30 |
| 115 | In | 3328191.00 | A | 15690.00 | 0.47 |
| 115 | In | 1101569.00 | P | 6731.00 | 0.61 |
| 118 | (In) | 763.38 | P | 101.70 | 13.32 |
| 118 | (In) | 377.80 | P | 19.53 | 5.17 |
| 120 | Sn | 1087.86 | P | 12.62 | 1.16 |
| 121 | Sb | 1956.87 | P | 155.60 | 7.95 |
| 137 | Ba | 1145.64 | P | 65.02 | 5.68 |
| 159 | Tb | 4736220.00 | A | 4680.00 | 0.10 |
| 175 | Lu | 4680775.00 | A | 17340.00 | 0.37 |
| 205 | Tl | 2338.06 | P | 119.80 | 5.12 |
| 206 | (Pb) | 408.91 | P | 38.92 | 9.52 |
| 207 | (Pb) | 331.13 | P | 26.95 | 8.14 |
| 208 | Pb | 2541.34 | P | 40.73 | 1.60 |
| 209 | Bi | 2775990.00 | A | 10500.00 | 0.38 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1815165.10 | 0.07 | 1844737.30 | 98.4 | 70 - 130 | |
| 45 | Sc | 2627797.80 | 0.21 | 2585224.30 | 101.6 | 70 - 130 | |
| 45 | Sc | 308184.69 | 0.35 | 293772.34 | 104.9 | 70 - 130 | |
| 72 | Ge | 556990.69 | 1.01 | 539176.38 | 103.3 | 70 - 130 | |
| 72 | Ge | 129674.87 | 0.71 | 121552.16 | 106.7 | 70 - 130 | |
| 103 | Rh | 2985376.50 | 0.53 | 3126194.80 | 95.5 | 70 - 130 | |
| 115 | In | 3328191.00 | 0.47 | 3451173.50 | 96.4 | 70 - 130 | |
| 115 | In | 1101568.90 | 0.61 | 1091382.00 | 100.9 | 70 - 130 | |
| 159 | Tb | 4736220.50 | 0.10 | 4754284.00 | 99.6 | 70 - 130 | |
| 175 | Lu | 4680775.50 | 0.37 | 4674625.00 | 100.1 | 70 - 130 | |
| 209 | Bi | 2775989.50 | 0.38 | 2965498.00 | 93.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F05o00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\012SMPL.D\012SMPL.D# |
| Date Acquired: | Jun 5 2013 03:32 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | ICV |
| Misc Info: | |
| Vial Number: | 2101 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.80 | 60.80 | ppb | 0.61 | 900.00 | |
| 9 Be | 45 | 2 | 60.19 | 60.19 | ppb | 0.67 | 900.00 | |
| 11 B | 6 | 1 | 60.11 | 60.11 | ppb | 0.63 | 900.00 | |
| 11 B | 45 | 2 | 57.92 | 57.92 | ppb | 1.36 | 900.00 | |
| 23 Na | 45 | 1 | 5417.00 | 5417.00 | ppb | 0.57 | 90000.00 | |
| 23 Na | 45 | 2 | 5462.00 | 5462.00 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5488.00 | 5488.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 5542.00 | 5542.00 | ppb | 0.05 | 90000.00 | |
| 27 Al | 45 | 1 | 5577.00 | 5577.00 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 2 | 5714.00 | 5714.00 | ppb | 0.10 | 90000.00 | |
| 39 K | 45 | 1 | 5481.00 | 5481.00 | ppb | 0.92 | 90000.00 | |
| 44 Ca | 45 | 1 | 5452.00 | 5452.00 | ppb | 0.74 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.51 | 60.51 | ppb | 0.13 | 900.00 | |
| 51 V | 45 | 2 | 60.72 | 60.72 | ppb | 0.61 | 900.00 | |
| 52 Cr | 45 | 2 | 59.16 | 59.16 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 59.20 | 59.20 | ppb | 0.38 | 900.00 | |
| 56 Fe | 45 | 2 | 5500.00 | 5500.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 58.74 | 58.74 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 58.74 | 58.74 | ppb | 0.40 | 900.00 | |
| 63 Cu | 72 | 2 | 57.87 | 57.87 | ppb | 0.42 | 900.00 | |
| 66 Zn | 72 | 2 | 57.90 | 57.90 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 60.00 | 60.00 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | 59.68 | 59.68 | ppb | 0.42 | 900.00 | |
| 88 Sr | 103 | 1 | 62.45 | 62.45 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 63.52 | 63.52 | ppb | 0.60 | 900.00 | |
| 107 Ag | 115 | 1 | 62.37 | 62.37 | ppb | 0.14 | 180.00 | |
| 111 Cd | 115 | 2 | 60.03 | 60.03 | ppb | 1.23 | 900.00 | |
| 120 Sn | 115 | 1 | 62.49 | 62.49 | ppb | 0.05 | 900.00 | |
| 121 Sb | 115 | 1 | 64.68 | 64.68 | ppb | 0.38 | 900.00 | |
| 137 Ba | 159 | 1 | 60.22 | 60.22 | ppb | 0.82 | 900.00 | |
| 205 Tl | 209 | 1 | 57.50 | 57.50 | ppb | 2.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.24 | 60.24 | ppb | 1.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1857966 | 0.35 | 1844737 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 2659145 | 0.27 | 2585224 | 102.9 | 70 - 130 | |
| 45 Sc | 2 | 307246 | 0.16 | 293772 | 104.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 541087 | 0.41 | 539176 | 100.4 | 70 | - | 130 |
| 72 Ge | 2 | 126927 | 0.32 | 121552 | 104.4 | 70 | - | 130 |
| 103 Rh | 1 | 3057900 | 0.51 | 3126195 | 97.8 | 70 | - | 130 |
| 115 In | 1 | 3382190 | 0.52 | 3451174 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1087314 | 0.50 | 1091382 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 4736664 | 0.44 | 4754284 | 99.6 | 70 | - | 130 |
| 175 Lu | 1 | 4653067 | 0.18 | 4674625 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 2827860 | 1.10 | 2965498 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\013SMPL.D\013SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\013SMPL.D\013SMPL.D#
Date Acquired: Jun 5 2013 03:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 44.35 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 53.34 | 900.00 | |
| 11 B | 6 | 1 | 0.15 | 0.15 | ppb | 9.56 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 96.22 | 900.00 | |
| 23 Na | 45 | 1 | -0.02 | -0.02 | ppb | 4131.60 | 90000.00 | |
| 23 Na | 45 | 2 | 0.18 | 0.18 | ppb | 219.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.59 | 0.59 | ppb | 11.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.95 | 0.95 | ppb | 19.69 | 90000.00 | |
| 27 Al | 45 | 1 | 0.58 | 0.58 | ppb | 6.73 | 90000.00 | |
| 27 Al | 45 | 2 | 0.89 | 0.89 | ppb | 13.05 | 90000.00 | |
| 39 K | 45 | 1 | -0.08 | -0.08 | ppb | 9152.60 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.20 | 0.20 | ppb | 1452.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 228.07 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 3.63 | 900.00 | |
| 52 Cr | 45 | 2 | -0.14 | -0.14 | ppb | 6.56 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 98.47 | 900.00 | |
| 56 Fe | 45 | 2 | 0.89 | 0.89 | ppb | 31.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 21.33 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 20.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 2117.60 | 900.00 | |
| 66 Zn | 72 | 2 | -0.24 | -0.24 | ppb | 10.08 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 84.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 39.09 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 31.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.09 | ppb | 2.26 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 123.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 79.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 21.72 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 439.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.20 | ppb | 5.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 136.21 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1864523 | 2.21 | 1844737 | 101.1 | 70 - 130 | |
| 45 Sc | 1 | 2589404 | 4.89 | 2585224 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 307484 | 0.47 | 293772 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 540576 | 2.39 | 539176 | 100.3 | 70 | - | 130 |
| 72 Ge | 2 | 127650 | 0.37 | 121552 | 105.0 | 70 | - | 130 |
| 103 Rh | 1 | 3127091 | 4.66 | 3126195 | 100.0 | 70 | - | 130 |
| 115 In | 1 | 3460005 | 3.62 | 3451174 | 100.3 | 70 | - | 130 |
| 115 In | 2 | 1135023 | 0.81 | 1091382 | 104.0 | 70 | - | 130 |
| 159 Tb | 1 | 4677553 | 4.25 | 4754284 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 4576621 | 3.90 | 4674625 | 97.9 | 70 | - | 130 |
| 209 Bi | 1 | 2878172 | 2.49 | 2965498 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\014SMPL.D\014SMPL.D#
Date Acquired: Jun 5 2013 03:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.80 | 51.80 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 52.20 | 52.20 | ppb | 0.62 | 900.00 | |
| 11 B | 6 | 1 | 52.33 | 52.33 | ppb | 0.86 | 900.00 | |
| 11 B | 45 | 2 | 48.83 | 48.83 | ppb | 2.67 | 900.00 | |
| 23 Na | 45 | 1 | 5217.00 | 5217.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5280.00 | 5280.00 | ppb | 0.11 | 90000.00 | |
| 24 Mg | 45 | 1 | 5196.00 | 5196.00 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 5242.00 | 5242.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 5194.00 | 5194.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 2 | 5371.00 | 5371.00 | ppb | 0.52 | 90000.00 | |
| 39 K | 45 | 1 | 5198.00 | 5198.00 | ppb | 0.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 5258.00 | 5258.00 | ppb | 0.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.70 | 51.70 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 50.93 | 50.93 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 49.97 | 49.97 | ppb | 0.32 | 900.00 | |
| 55 Mn | 45 | 2 | 49.59 | 49.59 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 5227.00 | 5227.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 49.71 | 49.71 | ppb | 0.22 | 900.00 | |
| 60 Ni | 45 | 2 | 49.78 | 49.78 | ppb | 0.12 | 900.00 | |
| 63 Cu | 72 | 2 | 49.47 | 49.47 | ppb | 0.10 | 900.00 | |
| 66 Zn | 72 | 2 | 50.70 | 50.70 | ppb | 0.30 | 900.00 | |
| 75 As | 72 | 2 | 50.40 | 50.40 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 50.69 | 50.69 | ppb | 0.69 | 900.00 | |
| 88 Sr | 103 | 1 | 53.14 | 53.14 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 52.87 | 52.87 | ppb | 1.50 | 900.00 | |
| 107 Ag | 115 | 1 | 50.86 | 50.86 | ppb | 0.65 | 180.00 | |
| 111 Cd | 115 | 2 | 50.88 | 50.88 | ppb | 0.64 | 900.00 | |
| 120 Sn | 115 | 1 | 52.97 | 52.97 | ppb | 0.38 | 900.00 | |
| 121 Sb | 115 | 1 | 54.93 | 54.93 | ppb | 0.82 | 900.00 | |
| 137 Ba | 159 | 1 | 51.20 | 51.20 | ppb | 0.63 | 900.00 | |
| 205 Tl | 209 | 1 | 49.12 | 49.12 | ppb | 2.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.47 | 52.47 | ppb | 0.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1850759 | 0.48 | 1844737 | 100.3 | 70 - 130 | |
| 45 Sc | 1 | 2641701 | 0.24 | 2585224 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 306464 | 0.20 | 293772 | 104.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 540834 | 0.80 | 539176 | 100.3 | 70 - | 130 |
| 72 | Ge | 2 | 126604 | 0.29 | 121552 | 104.2 | 70 - | 130 |
| 103 | Rh | 1 | 3053740 | 0.60 | 3126195 | 97.7 | 70 - | 130 |
| 115 | In | 1 | 3414197 | 0.79 | 3451174 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 1087534 | 0.21 | 1091382 | 99.6 | 70 - | 130 |
| 159 | Tb | 1 | 4727724 | 0.60 | 4754284 | 99.4 | 70 - | 130 |
| 175 | Lu | 1 | 4652913 | 0.54 | 4674625 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 2794129 | 0.22 | 2965498 | 94.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\015SMPL.D\015SMPL.D# |
| Date Acquired: | Jun 5 2013 03:57 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.70 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 135.09 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 26.05 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 58.04 | 900.00 | |
| 23 Na | 45 | 1 | -1.73 | -1.73 | ppb | 155.73 | 90000.00 | |
| 23 Na | 45 | 2 | -1.11 | -1.11 | ppb | 100.45 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.10 | -0.10 | ppb | 80.99 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.10 | -0.10 | ppb | 68.80 | 90000.00 | |
| 27 Al | 45 | 1 | -0.16 | -0.16 | ppb | 126.97 | 90000.00 | |
| 27 Al | 45 | 2 | -0.25 | -0.25 | ppb | 16.78 | 90000.00 | |
| 39 K | 45 | 1 | -5.96 | -5.96 | ppb | 350.77 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.00 | -8.00 | ppb | 124.26 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 182.83 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 23.12 | 900.00 | |
| 52 Cr | 45 | 2 | -0.15 | -0.15 | ppb | 11.32 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 104.59 | 900.00 | |
| 56 Fe | 45 | 2 | 0.32 | 0.32 | ppb | 26.17 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 120.28 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 91.48 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 23.34 | 900.00 | |
| 66 Zn | 72 | 2 | -0.64 | -0.64 | ppb | 3.13 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 214.42 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 107.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 46.33 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.17 | ppb | 16.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 87.60 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 98.87 | 900.00 | |
| 120 Sn | 115 | 1 | -0.06 | -0.06 | ppb | 12.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 30.50 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 93.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 15.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 219.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1908410 | 11.32 | 1844737 | 103.5 | 70 - 130 | |
| 45 Sc | 1 | 2681035 | 14.64 | 2585224 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 303750 | 3.12 | 293772 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 553494 | 12.27 | 539176 | 102.7 | 70 | - | 130 |
| 72 Ge | 2 | 125974 | 3.27 | 121552 | 103.6 | 70 | - | 130 |
| 103 Rh | 1 | 3213206 | 14.54 | 3126195 | 102.8 | 70 | - | 130 |
| 115 In | 1 | 3535399 | 13.95 | 3451174 | 102.4 | 70 | - | 130 |
| 115 In | 2 | 1116567 | 3.32 | 1091382 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4845936 | 14.13 | 4754284 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 4798283 | 14.07 | 4674625 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 2951238 | 13.50 | 2965498 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Jun 5 2013 04:04 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2105 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 6.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.45 | 0.45 | ppb | 9.66 | 900.00 | |
| 11 B | 6 | 1 | 5.09 | 5.09 | ppb | 2.45 | 900.00 | |
| 11 B | 45 | 2 | 4.81 | 4.81 | ppb | 15.34 | 900.00 | |
| 23 Na | 45 | 1 | 250.60 | 250.60 | ppb | 1.33 | 90000.00 | |
| 23 Na | 45 | 2 | 275.10 | 275.10 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.90 | 261.90 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 281.00 | 281.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 1 | 26.50 | 26.50 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 27.61 | 27.61 | ppb | 1.59 | 90000.00 | |
| 39 K | 45 | 1 | 244.90 | 244.90 | ppb | 0.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 258.50 | 258.50 | ppb | 1.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 3.17 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 1.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.82 | 0.82 | ppb | 1.57 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 1.25 | 900.00 | |
| 56 Fe | 45 | 2 | 28.68 | 28.68 | ppb | 0.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.77 | 900.00 | |
| 60 Ni | 45 | 2 | 1.04 | 1.04 | ppb | 1.26 | 900.00 | |
| 63 Cu | 72 | 2 | 0.93 | 0.93 | ppb | 1.97 | 900.00 | |
| 66 Zn | 72 | 2 | 1.32 | 1.32 | ppb | 3.13 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 2.62 | 900.00 | |
| 78 Se | 72 | 2 | 0.64 | 0.64 | ppb | 1.71 | 900.00 | |
| 88 Sr | 103 | 1 | 5.06 | 5.06 | ppb | 1.69 | 900.00 | |
| 98 Mo | 103 | 1 | 1.08 | 1.08 | ppb | 3.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.78 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 10.70 | 900.00 | |
| 120 Sn | 115 | 1 | 4.90 | 4.90 | ppb | 0.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.56 | 0.56 | ppb | 3.84 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 1.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.53 | 0.53 | ppb | 3.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 0.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1883094 | 1.37 | 1844737 | 102.1 | 70 - 130 | |
| 45 Sc | 1 | 2658027 | 1.01 | 2585224 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 309167 | 0.34 | 293772 | 105.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 546110 | 1.43 | 539176 | 101.3 | 70 - | 130 |
| 72 | Ge | 2 | 127402 | 0.46 | 121552 | 104.8 | 70 - | 130 |
| 103 | Rh | 1 | 3147149 | 1.03 | 3126195 | 100.7 | 70 - | 130 |
| 115 | In | 1 | 3475755 | 1.65 | 3451174 | 100.7 | 70 - | 130 |
| 115 | In | 2 | 1132057 | 0.62 | 1091382 | 103.7 | 70 - | 130 |
| 159 | Tb | 1 | 4761258 | 1.50 | 4754284 | 100.1 | 70 - | 130 |
| 175 | Lu | 1 | 4643891 | 0.80 | 4674625 | 99.3 | 70 - | 130 |
| 209 | Bi | 1 | 2890602 | 0.53 | 2965498 | 97.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\017SMPL.D\017SMPL.D#
Date Acquired: Jun 5 2013 04:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 99.75 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 1.98 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.25 | ppb | 8.88 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 69.27 | 900.00 | |
| 23 Na | 45 | 1 | 92650.00 | 92650.00 | ppb | 0.40 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 94100.00 | 94100.00 | ppb | 1.76 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 93190.00 | 93190.00 | ppb | 0.54 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93340.00 | 93340.00 | ppb | 1.86 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 92770.00 | 92770.00 | ppb | 0.59 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92340.00 | 92340.00 | ppb | 1.91 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 96090.00 | 96090.00 | ppb | 0.45 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94150.00 | 94150.00 | ppb | 0.07 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2051.00 | 2051.00 | ppb | 0.73 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 197.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.94 | 0.94 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 0.30 | 0.30 | ppb | 1.71 | 900.00 | |
| 56 Fe | 45 | 2 | 94610.00 | 94610.00 | ppb | 1.60 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.08 | 0.08 | ppb | 1.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.72 | 0.72 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.60 | 0.60 | ppb | 13.94 | 900.00 | |
| 66 Zn | 72 | 2 | 0.91 | 0.91 | ppb | 2.17 | 900.00 | |
| 75 As | 72 | 2 | 0.20 | 0.20 | ppb | 6.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 136.22 | 900.00 | |
| 88 Sr | 103 | 1 | 4.90 | 4.90 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 2107.00 | 2107.00 | ppb | 0.90 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 8.94 | 180.00 | |
| 111 Cd | 115 | 2 | 1.76 | 1.76 | ppb | 2.57 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | -0.01 | ppb | 103.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 3.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 6.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 3.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 5.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1662166 | 1.11 | 1844737 | 90.1 | 70 - 130 | |
| 45 Sc | 1 | 2493376 | 0.94 | 2585224 | 96.4 | 70 - 130 | |
| 45 Sc | 2 | 288611 | 1.27 | 293772 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 654078 | 0.33 | 539176 | 121.3 | 70 - | 130 |
| 72 | Ge | 2 | 140615 | 1.16 | 121552 | 115.7 | 70 - | 130 |
| 103 | Rh | 1 | 2743237 | 1.11 | 3126195 | 87.8 | 70 - | 130 |
| 115 | In | 1 | 3172587 | 1.14 | 3451174 | 91.9 | 70 - | 130 |
| 115 | In | 2 | 1003284 | 1.38 | 1091382 | 91.9 | 70 - | 130 |
| 159 | Tb | 1 | 4533589 | 1.61 | 4754284 | 95.4 | 70 - | 130 |
| 175 | Lu | 1 | 4500969 | 2.01 | 4674625 | 96.3 | 70 - | 130 |
| 209 | Bi | 1 | 2529511 | 1.18 | 2965498 | 85.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\018SMPL.D\018SMPL.D#
Date Acquired: Jun 5 2013 04:22 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 139.10 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.02 | ppb | 43.93 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 6.47 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 26.02 | 900.00 | |
| 23 Na | 45 | 1 | 94570.00 | 94570.00 | ppb | 0.60 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97980.00 | 97980.00 | ppb | 0.62 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94790.00 | 94790.00 | ppb | 0.47 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96870.00 | 96870.00 | ppb | 0.29 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94020.00 | 94020.00 | ppb | 0.19 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 94570.00 | 94570.00 | ppb | 0.51 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98020.00 | 98020.00 | ppb | 0.20 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96060.00 | 96060.00 | ppb | 0.49 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2083.00 | 2083.00 | ppb | 0.25 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 69.36 | 900.00 | |
| 52 Cr | 45 | 2 | 20.39 | 20.39 | ppb | 0.46 | 900.00 | |
| 55 Mn | 45 | 2 | 19.47 | 19.47 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 97320.00 | 97320.00 | ppb | 0.39 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.37 | 19.37 | ppb | 0.06 | 900.00 | |
| 60 Ni | 45 | 2 | 19.48 | 19.48 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 16.29 | 16.29 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 16.76 | 16.76 | ppb | 0.79 | 900.00 | |
| 75 As | 72 | 2 | 17.72 | 17.72 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 57.68 | 900.00 | |
| 88 Sr | 103 | 1 | 4.99 | 4.99 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 2145.00 | 2145.00 | ppb | 1.47 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.56 | 19.56 | ppb | 1.01 | 180.00 | |
| 111 Cd | 115 | 2 | 21.45 | 21.45 | ppb | 1.58 | 900.00 | |
| 120 Sn | 115 | 1 | -0.03 | -0.03 | ppb | 16.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 0.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.58 | 0.58 | ppb | 5.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 10.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 6.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1794311 | 0.76 | 1844737 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 2599412 | 0.79 | 2585224 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 289698 | 0.18 | 293772 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 658068 | 0.28 | 539176 | 122.1 | 70 - | 130 |
| 72 | Ge | 2 | 139184 | 0.14 | 121552 | 114.5 | 70 - | 130 |
| 103 | Rh | 1 | 2822735 | 0.88 | 3126195 | 90.3 | 70 - | 130 |
| 115 | In | 1 | 3290835 | 0.78 | 3451174 | 95.4 | 70 - | 130 |
| 115 | In | 2 | 985323 | 0.44 | 1091382 | 90.3 | 70 - | 130 |
| 159 | Tb | 1 | 4751670 | 0.91 | 4754284 | 99.9 | 70 - | 130 |
| 175 | Lu | 1 | 4733799 | 1.02 | 4674625 | 101.3 | 70 - | 130 |
| 209 | Bi | 1 | 2618488 | 0.09 | 2965498 | 88.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\019SMPL.D\019SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\019SMPL.D\019SMPL.D#
Date Acquired: Jun 5 2013 04:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.38 | 0.38 | ppb | 3.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.36 | 0.36 | ppb | 9.26 | 900.00 | |
| 11 B | 6 | 1 | 0.39 | 0.39 | ppb | 10.09 | 900.00 | |
| 11 B | 45 | 2 | 0.26 | 0.26 | ppb | 35.18 | 900.00 | |
| 23 Na | 45 | 1 | 10.61 | 10.61 | ppb | 4.22 | 90000.00 | |
| 23 Na | 45 | 2 | 23.30 | 23.30 | ppb | 12.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.64 | 4.64 | ppb | 6.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 11.95 | 11.95 | ppb | 19.98 | 90000.00 | |
| 27 Al | 45 | 1 | 6.50 | 6.50 | ppb | 8.91 | 90000.00 | |
| 27 Al | 45 | 2 | 12.31 | 12.31 | ppb | 13.19 | 90000.00 | |
| 39 K | 45 | 1 | -2.60 | -2.60 | ppb | 105.30 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.82 | -2.82 | ppb | 29.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.58 | 0.58 | ppb | 6.87 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 21.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.06 | ppb | 18.11 | 900.00 | |
| 55 Mn | 45 | 2 | 0.71 | 0.71 | ppb | 1.85 | 900.00 | |
| 56 Fe | 45 | 2 | 15.87 | 15.87 | ppb | 12.35 | 90000.00 | |
| 59 Co | 45 | 2 | 0.41 | 0.41 | ppb | 1.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.41 | 0.41 | ppb | 7.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.49 | ppb | 2.35 | 900.00 | |
| 66 Zn | 72 | 2 | -0.25 | -0.25 | ppb | 5.17 | 900.00 | |
| 75 As | 72 | 2 | 0.32 | 0.32 | ppb | 4.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.47 | 0.47 | ppb | 33.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.41 | 0.41 | ppb | 3.37 | 900.00 | |
| 98 Mo | 103 | 1 | 2.93 | 2.93 | ppb | 1.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.24 | 0.24 | ppb | 10.96 | 180.00 | |
| 111 Cd | 115 | 2 | 0.41 | 0.41 | ppb | 19.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.24 | 0.24 | ppb | 11.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.41 | 0.41 | ppb | 3.22 | 900.00 | |
| 137 Ba | 159 | 1 | 0.42 | 0.42 | ppb | 1.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.45 | 0.45 | ppb | 0.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.47 | 0.47 | ppb | 1.18 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2042256 | 1.28 | 1844737 | 110.7 | 70 - 130 | |
| 45 Sc | 1 | 2794407 | 2.46 | 2585224 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 311428 | 0.49 | 293772 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578679 | 1.32 | 539176 | 107.3 | 70 | - | 130 |
| 72 Ge | 2 | 131098 | 0.50 | 121552 | 107.9 | 70 | - | 130 |
| 103 Rh | 1 | 3351096 | 2.56 | 3126195 | 107.2 | 70 | - | 130 |
| 115 In | 1 | 3734868 | 2.51 | 3451174 | 108.2 | 70 | - | 130 |
| 115 In | 2 | 1143435 | 0.56 | 1091382 | 104.8 | 70 | - | 130 |
| 159 Tb | 1 | 5123026 | 1.49 | 4754284 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 5023497 | 2.56 | 4674625 | 107.5 | 70 | - | 130 |
| 209 Bi | 1 | 3105404 | 0.96 | 2965498 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F05o00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Jun 5 2013 04:40 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MP21072A-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 05 2013 03:15 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 449.11 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 136.55 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.20 | ppb | 6.46 | 900.00 | |
| 11 B | 45 | 2 | 0.37 | 0.19 | ppb | 44.79 | 900.00 | |
| 23 Na | 45 | 1 | 16.98 | 8.49 | ppb | 4.22 | 90000.00 | |
| 23 Na | 45 | 2 | 31.30 | 15.65 | ppb | 2.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.50 | 0.75 | ppb | 2.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.60 | 0.80 | ppb | 8.41 | 90000.00 | |
| 27 Al | 45 | 1 | 2.92 | 1.46 | ppb | 3.57 | 90000.00 | |
| 27 Al | 45 | 2 | 3.39 | 1.69 | ppb | 16.95 | 90000.00 | |
| 39 K | 45 | 1 | 1.01 | 0.50 | ppb | 307.29 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.80 | -3.90 | ppb | 20.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.55 | 0.27 | ppb | 8.29 | 900.00 | |
| 51 V | 45 | 2 | 1.98 | 0.99 | ppb | 1.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.68 | 0.34 | ppb | 2.62 | 900.00 | |
| 55 Mn | 45 | 2 | 0.30 | 0.15 | ppb | 6.24 | 900.00 | |
| 56 Fe | 45 | 2 | 9.40 | 4.70 | ppb | 4.65 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 15.77 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.02 | ppb | 36.95 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 9.31 | 900.00 | |
| 66 Zn | 72 | 2 | -0.98 | -0.49 | ppb | 1.65 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 2.11 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.13 | ppb | 43.57 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.00 | ppb | 25.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1.36 | 0.68 | ppb | 2.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 342.61 | 900.00 | |
| 120 Sn | 115 | 1 | -0.08 | -0.04 | ppb | 8.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 14.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 22.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 27.11 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2200364 | 0.91 | 1844737 | 119.3 | 70 - 130 | |
| 45 Sc | 1 | 2854780 | 0.54 | 2585224 | 110.4 | 70 - 130 | |
| 45 Sc | 2 | 309087 | 0.17 | 293772 | 105.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 580012 | 0.24 | 539176 | 107.6 | 70 - | 130 |
| 72 | Ge | 2 | 128169 | 0.56 | 121552 | 105.4 | 70 - | 130 |
| 103 | Rh | 1 | 3291759 | 0.31 | 3126195 | 105.3 | 70 - | 130 |
| 115 | In | 1 | 3656565 | 0.62 | 3451174 | 106.0 | 70 - | 130 |
| 115 | In | 2 | 1091586 | 0.44 | 1091382 | 100.0 | 70 - | 130 |
| 159 | Tb | 1 | 5101907 | 0.42 | 4754284 | 107.3 | 70 - | 130 |
| 175 | Lu | 1 | 5007061 | 0.92 | 4674625 | 107.1 | 70 - | 130 |
| 209 | Bi | 1 | 3111958 | 0.73 | 2965498 | 104.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\021SMPL.D\021SMPL.D#
Date Acquired: Jun 5 2013 04:47 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-12F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 29.54 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 717.49 | 900.00 | |
| 11 B | 6 | 1 | 3.37 | 1.68 | ppb | 1.78 | 900.00 | |
| 11 B | 45 | 2 | 3.85 | 1.93 | ppb | 6.86 | 900.00 | |
| 23 Na | 45 | 1 | 1075.40 | 537.70 | ppb | 1.40 | 90000.00 | |
| 23 Na | 45 | 2 | 1193.80 | 596.90 | ppb | 1.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 890.40 | 445.20 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 985.00 | 492.50 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 5.98 | 2.99 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 5.72 | 2.86 | ppb | 1.45 | 90000.00 | |
| 39 K | 45 | 1 | 1365.60 | 682.80 | ppb | 1.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 5522.00 | 2761.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.28 | 0.64 | ppb | 6.20 | 900.00 | |
| 51 V | 45 | 2 | 1.94 | 0.97 | ppb | 0.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.75 | 0.37 | ppb | 6.96 | 900.00 | |
| 55 Mn | 45 | 2 | 1.63 | 0.81 | ppb | 4.02 | 900.00 | |
| 56 Fe | 45 | 2 | 4.39 | 2.20 | ppb | 1.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.01 | ppb | 18.46 | 900.00 | |
| 60 Ni | 45 | 2 | 0.40 | 0.20 | ppb | 3.60 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.04 | ppb | 25.92 | 900.00 | |
| 66 Zn | 72 | 2 | 5.17 | 2.59 | ppb | 0.52 | 900.00 | |
| 75 As | 72 | 2 | 0.69 | 0.34 | ppb | 1.13 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 46.65 | 900.00 | |
| 88 Sr | 103 | 1 | 48.28 | 24.14 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 0.62 | 0.31 | ppb | 1.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 68.54 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 225.43 | 900.00 | |
| 120 Sn | 115 | 1 | -0.15 | -0.08 | ppb | 2.93 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 6.60 | 900.00 | |
| 137 Ba | 159 | 1 | 6.52 | 3.26 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 27.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.12 | ppb | 1.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2269275 | 1.32 | 1844737 | 123.0 | 70 - 130 | |
| 45 Sc | 1 | 2905048 | 1.15 | 2585224 | 112.4 | 70 - 130 | |
| 45 Sc | 2 | 307301 | 0.33 | 293772 | 104.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 584381 | 0.79 | 539176 | 108.4 | 70 | - | 130 |
| 72 Ge | 2 | 127946 | 0.23 | 121552 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 3251297 | 0.62 | 3126195 | 104.0 | 70 | - | 130 |
| 115 In | 1 | 3671837 | 0.92 | 3451174 | 106.4 | 70 | - | 130 |
| 115 In | 2 | 1083335 | 0.15 | 1091382 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5152190 | 0.65 | 4754284 | 108.4 | 70 | - | 130 |
| 175 Lu | 1 | 5051501 | 0.77 | 4674625 | 108.1 | 70 | - | 130 |
| 209 Bi | 1 | 3086498 | 1.09 | 2965498 | 104.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\022SMPL.D\022SMPL.D# |
| Date Acquired: | Jun 5 2013 04:54 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21072A-SD1 |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 188.23 | 900.00 | |
| 9 Be | 45 | 2 | -0.06 | -0.01 | ppb | 258.92 | 900.00 | |
| 11 B | 6 | 1 | 3.16 | 0.32 | ppb | 4.44 | 900.00 | |
| 11 B | 45 | 2 | 2.56 | 0.26 | ppb | 71.45 | 900.00 | |
| 23 Na | 45 | 1 | 1133.00 | 113.30 | ppb | 4.00 | 90000.00 | |
| 23 Na | 45 | 2 | 1296.00 | 129.60 | ppb | 1.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 955.30 | 95.53 | ppb | 3.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1009.00 | 100.90 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 15.69 | 1.57 | ppb | 10.99 | 90000.00 | |
| 27 Al | 45 | 2 | 21.42 | 2.14 | ppb | 5.73 | 90000.00 | |
| 39 K | 45 | 1 | 1359.00 | 135.90 | ppb | 6.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 5738.00 | 573.80 | ppb | 1.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.09 | 0.11 | ppb | 8.73 | 900.00 | |
| 51 V | 45 | 2 | -0.93 | -0.09 | ppb | 3.46 | 900.00 | |
| 52 Cr | 45 | 2 | -1.94 | -0.19 | ppb | 2.98 | 900.00 | |
| 55 Mn | 45 | 2 | 1.78 | 0.18 | ppb | 25.86 | 900.00 | |
| 56 Fe | 45 | 2 | 22.28 | 2.23 | ppb | 1.04 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 203.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.27 | 0.03 | ppb | 25.78 | 900.00 | |
| 63 Cu | 72 | 2 | -0.67 | -0.07 | ppb | 9.30 | 900.00 | |
| 66 Zn | 72 | 2 | 1.02 | 0.10 | ppb | 16.29 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.02 | ppb | 26.44 | 900.00 | |
| 78 Se | 72 | 2 | 1.32 | 0.13 | ppb | 18.51 | 900.00 | |
| 88 Sr | 103 | 1 | 48.29 | 4.83 | ppb | 2.03 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 0.12 | ppb | 3.48 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 55.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 95.86 | 900.00 | |
| 120 Sn | 115 | 1 | -1.57 | -0.16 | ppb | 0.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.00 | ppb | 370.28 | 900.00 | |
| 137 Ba | 159 | 1 | 6.78 | 0.68 | ppb | 0.01 | 900.00 | |
| 205 Tl | 209 | 1 | -0.05 | 0.00 | ppb | 26.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.02 | ppb | 10.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2200057 | 1.12 | 1844737 | 119.3 | 70 - 130 | |
| 45 Sc | 1 | 2859355 | 3.27 | 2585224 | 110.6 | 70 - 130 | |
| 45 Sc | 2 | 312650 | 0.26 | 293772 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586297 | 0.80 | 539176 | 108.7 | 70 - | 130 |
| 72 | Ge | 2 | 129444 | 0.47 | 121552 | 106.5 | 70 - | 130 |
| 103 | Rh | 1 | 3346876 | 2.47 | 3126195 | 107.1 | 70 - | 130 |
| 115 | In | 1 | 3722837 | 0.86 | 3451174 | 107.9 | 70 - | 130 |
| 115 | In | 2 | 1120370 | 0.38 | 1091382 | 102.7 | 70 - | 130 |
| 159 | Tb | 1 | 5029193 | 2.24 | 4754284 | 105.8 | 70 - | 130 |
| 175 | Lu | 1 | 5001524 | 1.92 | 4674625 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3153603 | 1.41 | 2965498 | 106.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\023SMPL.D\023SMPL.D#
Date Acquired: Jun 5 2013 05:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-1F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 79.75 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 11.04 | 5.52 | ppb | 1.75 | 900.00 | |
| 11 B | 45 | 2 | 11.68 | 5.84 | ppb | 6.44 | 900.00 | |
| 23 Na | 45 | 1 | 15084.00 | 7542.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 15800.00 | 7900.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 1533.80 | 766.90 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1690.60 | 845.30 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 3.64 | 1.82 | ppb | 2.64 | 90000.00 | |
| 27 Al | 45 | 2 | 3.38 | 1.69 | ppb | 6.41 | 90000.00 | |
| 39 K | 45 | 1 | 1030.00 | 515.00 | ppb | 1.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 9824.00 | 4912.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.03 | 1.01 | ppb | 6.09 | 900.00 | |
| 51 V | 45 | 2 | 2.84 | 1.42 | ppb | 1.13 | 900.00 | |
| 52 Cr | 45 | 2 | 1.03 | 0.51 | ppb | 2.72 | 900.00 | |
| 55 Mn | 45 | 2 | 1.12 | 0.56 | ppb | 2.15 | 900.00 | |
| 56 Fe | 45 | 2 | 6.19 | 3.09 | ppb | 4.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.02 | ppb | 16.54 | 900.00 | |
| 60 Ni | 45 | 2 | 0.11 | 0.06 | ppb | 6.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.34 | 0.17 | ppb | 5.92 | 900.00 | |
| 66 Zn | 72 | 2 | 5.58 | 2.79 | ppb | 1.35 | 900.00 | |
| 75 As | 72 | 2 | 0.72 | 0.36 | ppb | 4.42 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 21.15 | 900.00 | |
| 88 Sr | 103 | 1 | 99.70 | 49.85 | ppb | 0.71 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 3.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 23.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 116.04 | 900.00 | |
| 120 Sn | 115 | 1 | -0.16 | -0.08 | ppb | 6.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 3.35 | 900.00 | |
| 137 Ba | 159 | 1 | 11.30 | 5.65 | ppb | 0.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 34.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 14.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2252124 | 0.53 | 1844737 | 122.1 | 70 - 130 | |
| 45 Sc | 1 | 2920205 | 0.95 | 2585224 | 113.0 | 70 - 130 | |
| 45 Sc | 2 | 311914 | 0.55 | 293772 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 587761 | 0.04 | 539176 | 109.0 | 70 - | 130 |
| 72 | Ge | 2 | 128444 | 0.60 | 121552 | 105.7 | 70 - | 130 |
| 103 | Rh | 1 | 3197622 | 0.23 | 3126195 | 102.3 | 70 - | 130 |
| 115 | In | 1 | 3644806 | 0.44 | 3451174 | 105.6 | 70 - | 130 |
| 115 | In | 2 | 1093319 | 0.40 | 1091382 | 100.2 | 70 - | 130 |
| 159 | Tb | 1 | 5093465 | 0.35 | 4754284 | 107.1 | 70 - | 130 |
| 175 | Lu | 1 | 5067229 | 0.89 | 4674625 | 108.4 | 70 - | 130 |
| 209 | Bi | 1 | 3036025 | 0.26 | 2965498 | 102.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\024SMPL.D\024SMPL.D#
Date Acquired: Jun 5 2013 05:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-2F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 214.27 | 900.00 | |
| 9 Be | 45 | 2 | -0.93 | -0.02 | ppb | 41.01 | 900.00 | |
| 11 B | 6 | 1 | 147.35 | 2.95 | ppb | 1.91 | 900.00 | |
| 11 B | 45 | 2 | 159.70 | 3.19 | ppb | 11.63 | 900.00 | |
| 23 Na | 45 | 1 | 24745.00 | 494.90 | ppb | 1.01 | 90000.00 | |
| 23 Na | 45 | 2 | 28980.00 | 579.60 | ppb | 2.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 12450.00 | 249.00 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 14280.00 | 285.60 | ppb | 2.44 | 90000.00 | |
| 27 Al | 45 | 1 | 46.53 | 0.93 | ppb | 10.39 | 90000.00 | |
| 27 Al | 45 | 2 | 66.05 | 1.32 | ppb | 24.55 | 90000.00 | |
| 39 K | 45 | 1 | 7475.00 | 149.50 | ppb | 1.72 | 90000.00 | |
| 44 Ca | 45 | 1 | 80850.00 | 1617.00 | ppb | 1.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.56 | 0.03 | ppb | 59.46 | 900.00 | |
| 51 V | 45 | 2 | -16.68 | -0.33 | ppb | 1.35 | 900.00 | |
| 52 Cr | 45 | 2 | -15.22 | -0.30 | ppb | 1.96 | 900.00 | |
| 55 Mn | 45 | 2 | 10175.00 | 203.50 | ppb | 2.21 | 900.00 | |
| 56 Fe | 45 | 2 | 21020.00 | 420.40 | ppb | 3.21 | 90000.00 | |
| 59 Co | 45 | 2 | 14.99 | 0.30 | ppb | 5.16 | 900.00 | |
| 60 Ni | 45 | 2 | 9.53 | 0.19 | ppb | 5.87 | 900.00 | |
| 63 Cu | 72 | 2 | -4.48 | -0.09 | ppb | 1.80 | 900.00 | |
| 66 Zn | 72 | 2 | -17.11 | -0.34 | ppb | 6.55 | 900.00 | |
| 75 As | 72 | 2 | 1396.50 | 27.93 | ppb | 1.81 | 900.00 | |
| 78 Se | 72 | 2 | 5.33 | 0.11 | ppb | 73.48 | 900.00 | |
| 88 Sr | 103 | 1 | 800.00 | 16.00 | ppb | 2.30 | 900.00 | |
| 98 Mo | 103 | 1 | 4.39 | 0.09 | ppb | 10.04 | 900.00 | |
| 107 Ag | 115 | 1 | -0.28 | -0.01 | ppb | 20.91 | 180.00 | |
| 111 Cd | 115 | 2 | 0.58 | 0.01 | ppb | 48.45 | 900.00 | |
| 120 Sn | 115 | 1 | -8.07 | -0.16 | ppb | 1.17 | 900.00 | |
| 121 Sb | 115 | 1 | -0.52 | -0.01 | ppb | 14.14 | 900.00 | |
| 137 Ba | 159 | 1 | 38.60 | 0.77 | ppb | 1.02 | 900.00 | |
| 205 Tl | 209 | 1 | -0.37 | -0.01 | ppb | 25.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.23 | 0.00 | ppb | 37.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2114550 | 0.67 | 1844737 | 114.6 | 70 - 130 | |
| 45 Sc | 1 | 2877063 | 1.26 | 2585224 | 111.3 | 70 - 130 | |
| 45 Sc | 2 | 299788 | 2.51 | 293772 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 587162 | 1.54 | 539176 | 108.9 | 70 | - | 130 |
| 72 Ge | 2 | 127511 | 1.16 | 121552 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 3353828 | 0.59 | 3126195 | 107.3 | 70 | - | 130 |
| 115 In | 1 | 3725188 | 0.92 | 3451174 | 107.9 | 70 | - | 130 |
| 115 In | 2 | 1088660 | 2.19 | 1091382 | 99.8 | 70 | - | 130 |
| 159 Tb | 1 | 5126337 | 0.89 | 4754284 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 5023190 | 0.42 | 4674625 | 107.5 | 70 | - | 130 |
| 209 Bi | 1 | 3107674 | 1.37 | 2965498 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\025SMPL.D\025SMPL.D#
Date Acquired: Jun 5 2013 05:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-3F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 137.70 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 28.08 | 14.04 | ppb | 1.09 | 900.00 | |
| 11 B | 45 | 2 | 28.50 | 14.25 | ppb | 3.43 | 900.00 | |
| 23 Na | 45 | 1 | 11474.00 | 5737.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 11960.00 | 5980.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 2658.00 | 1329.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 2808.00 | 1404.00 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 3.92 | 1.96 | ppb | 2.35 | 90000.00 | |
| 27 Al | 45 | 2 | 3.77 | 1.89 | ppb | 5.47 | 90000.00 | |
| 39 K | 45 | 1 | 2448.00 | 1224.00 | ppb | 0.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 19638.00 | 9819.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.58 | 0.79 | ppb | 1.03 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 0.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.74 | 0.37 | ppb | 2.40 | 900.00 | |
| 55 Mn | 45 | 2 | 176.30 | 88.15 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 9.64 | 4.82 | ppb | 1.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.14 | 0.07 | ppb | 3.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.61 | 0.31 | ppb | 3.13 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.04 | ppb | 4.79 | 900.00 | |
| 66 Zn | 72 | 2 | 6.36 | 3.18 | ppb | 1.64 | 900.00 | |
| 75 As | 72 | 2 | 1.08 | 0.54 | ppb | 4.04 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.14 | ppb | 48.85 | 900.00 | |
| 88 Sr | 103 | 1 | 117.02 | 58.51 | ppb | 1.30 | 900.00 | |
| 98 Mo | 103 | 1 | 0.28 | 0.14 | ppb | 2.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 137.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 32.57 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.02 | ppb | 33.53 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 3.97 | 900.00 | |
| 137 Ba | 159 | 1 | 11.06 | 5.53 | ppb | 0.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 40.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 22.77 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2248818 | 0.43 | 1844737 | 121.9 | 70 - 130 | |
| 45 Sc | 1 | 2888162 | 0.78 | 2585224 | 111.7 | 70 - 130 | |
| 45 Sc | 2 | 312098 | 0.21 | 293772 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588277 | 0.80 | 539176 | 109.1 | 70 - | 130 |
| 72 | Ge | 2 | 128309 | 0.71 | 121552 | 105.6 | 70 - | 130 |
| 103 | Rh | 1 | 3194199 | 1.11 | 3126195 | 102.2 | 70 - | 130 |
| 115 | In | 1 | 3676986 | 0.25 | 3451174 | 106.5 | 70 - | 130 |
| 115 | In | 2 | 1083500 | 0.78 | 1091382 | 99.3 | 70 - | 130 |
| 159 | Tb | 1 | 5103626 | 0.24 | 4754284 | 107.3 | 70 - | 130 |
| 175 | Lu | 1 | 5037106 | 0.64 | 4674625 | 107.8 | 70 - | 130 |
| 209 | Bi | 1 | 3047031 | 0.99 | 2965498 | 102.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Jun 5 2013 05:22 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2203 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.00 | 50.00 | ppb | 0.48 | 900.00 | |
| 9 Be | 45 | 2 | 52.98 | 52.98 | ppb | 1.24 | 900.00 | |
| 11 B | 6 | 1 | 49.30 | 49.30 | ppb | 0.71 | 900.00 | |
| 11 B | 45 | 2 | 49.02 | 49.02 | ppb | 1.67 | 900.00 | |
| 23 Na | 45 | 1 | 5111.00 | 5111.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 5259.00 | 5259.00 | ppb | 0.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 5068.00 | 5068.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 5222.00 | 5222.00 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 5063.00 | 5063.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 5168.00 | 5168.00 | ppb | 0.70 | 90000.00 | |
| 39 K | 45 | 1 | 5132.00 | 5132.00 | ppb | 0.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 5159.00 | 5159.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.50 | 50.50 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 51.60 | 51.60 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 50.99 | 50.99 | ppb | 0.44 | 900.00 | |
| 55 Mn | 45 | 2 | 49.33 | 49.33 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 5150.00 | 5150.00 | ppb | 0.67 | 90000.00 | |
| 59 Co | 45 | 2 | 50.75 | 50.75 | ppb | 0.59 | 900.00 | |
| 60 Ni | 45 | 2 | 50.93 | 50.93 | ppb | 0.18 | 900.00 | |
| 63 Cu | 72 | 2 | 50.11 | 50.11 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 49.49 | 49.49 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 50.63 | 50.63 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 49.09 | 49.09 | ppb | 0.38 | 900.00 | |
| 88 Sr | 103 | 1 | 52.76 | 52.76 | ppb | 1.10 | 900.00 | |
| 98 Mo | 103 | 1 | 51.86 | 51.86 | ppb | 0.85 | 900.00 | |
| 107 Ag | 115 | 1 | 50.80 | 50.80 | ppb | 0.39 | 180.00 | |
| 111 Cd | 115 | 2 | 51.62 | 51.62 | ppb | 0.14 | 900.00 | |
| 120 Sn | 115 | 1 | 51.51 | 51.51 | ppb | 0.23 | 900.00 | |
| 121 Sb | 115 | 1 | 55.44 | 55.44 | ppb | 0.51 | 900.00 | |
| 137 Ba | 159 | 1 | 51.12 | 51.12 | ppb | 1.25 | 900.00 | |
| 205 Tl | 209 | 1 | 48.87 | 48.87 | ppb | 1.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.52 | 52.52 | ppb | 1.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2055365 | 0.29 | 1844737 | 111.4 | 70 - 130 | |
| 45 Sc | 1 | 2794702 | 0.12 | 2585224 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 304246 | 0.46 | 293772 | 103.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563333 | 1.12 | 539176 | 104.5 | 70 - | 130 |
| 72 | Ge | 2 | 126037 | 0.29 | 121552 | 103.7 | 70 - | 130 |
| 103 | Rh | 1 | 3163290 | 0.94 | 3126195 | 101.2 | 70 - | 130 |
| 115 | In | 1 | 3554712 | 0.84 | 3451174 | 103.0 | 70 - | 130 |
| 115 | In | 2 | 1069691 | 0.14 | 1091382 | 98.0 | 70 - | 130 |
| 159 | Tb | 1 | 4980638 | 0.55 | 4754284 | 104.8 | 70 - | 130 |
| 175 | Lu | 1 | 4915818 | 0.48 | 4674625 | 105.2 | 70 - | 130 |
| 209 | Bi | 1 | 2947642 | 1.65 | 2965498 | 99.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\027SMPL.D\027SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\027SMPL.D\027SMPL.D#
Date Acquired: Jun 5 2013 05:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 80.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 131.04 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 16.11 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 14.25 | 900.00 | |
| 23 Na | 45 | 1 | -0.11 | -0.11 | ppb | 1154.30 | 90000.00 | |
| 23 Na | 45 | 2 | 5.29 | 5.29 | ppb | 15.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.26 | 0.26 | ppb | 22.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.78 | 0.78 | ppb | 32.96 | 90000.00 | |
| 27 Al | 45 | 1 | -0.11 | -0.11 | ppb | 35.38 | 90000.00 | |
| 27 Al | 45 | 2 | 0.30 | 0.30 | ppb | 120.89 | 90000.00 | |
| 39 K | 45 | 1 | -6.35 | -6.35 | ppb | 139.13 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.72 | -8.72 | ppb | 48.77 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.06 | -0.06 | ppb | 43.44 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 10.20 | 900.00 | |
| 52 Cr | 45 | 2 | -0.18 | -0.18 | ppb | 5.30 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 20.58 | 900.00 | |
| 56 Fe | 45 | 2 | 0.98 | 0.98 | ppb | 35.16 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.39 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 64.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 50.15 | 900.00 | |
| 66 Zn | 72 | 2 | -0.27 | -0.27 | ppb | 6.89 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 140.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 38.66 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 39.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.17 | ppb | 4.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 48.62 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 134.36 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 24.92 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 11.65 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 123.09 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 13.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 130.21 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2165202 | 6.16 | 1844737 | 117.4 | 70 - 130 | |
| 45 Sc | 1 | 2902464 | 6.15 | 2585224 | 112.3 | 70 - 130 | |
| 45 Sc | 2 | 310166 | 0.11 | 293772 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 593950 | 6.66 | 539176 | 110.2 | 70 - | 130 |
| 72 | Ge | 2 | 128025 | 0.67 | 121552 | 105.3 | 70 - | 130 |
| 103 | Rh | 1 | 3408329 | 7.28 | 3126195 | 109.0 | 70 - | 130 |
| 115 | In | 1 | 3799294 | 7.36 | 3451174 | 110.1 | 70 - | 130 |
| 115 | In | 2 | 1121744 | 0.09 | 1091382 | 102.8 | 70 - | 130 |
| 159 | Tb | 1 | 5230592 | 7.70 | 4754284 | 110.0 | 70 - | 130 |
| 175 | Lu | 1 | 5136169 | 7.07 | 4674625 | 109.9 | 70 - | 130 |
| 209 | Bi | 1 | 3190030 | 7.68 | 2965498 | 107.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\028SMPL.D\028SMPL.D#
Date Acquired: Jun 5 2013 05:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-4F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 684.96 | 900.00 | |
| 9 Be | 45 | 2 | -0.46 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 162.20 | 8.11 | ppb | 6.61 | 900.00 | |
| 11 B | 45 | 2 | 166.72 | 8.34 | ppb | 2.00 | 900.00 | |
| 23 Na | 45 | 1 | 21020.00 | 1051.00 | ppb | 7.50 | 90000.00 | |
| 23 Na | 45 | 2 | 22480.00 | 1124.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 6054.00 | 302.70 | ppb | 7.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 6628.00 | 331.40 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 31.38 | 1.57 | ppb | 10.23 | 90000.00 | |
| 27 Al | 45 | 2 | 37.96 | 1.90 | ppb | 7.66 | 90000.00 | |
| 39 K | 45 | 1 | 10546.00 | 527.30 | ppb | 9.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 52180.00 | 2609.00 | ppb | 8.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.44 | 0.17 | ppb | 28.91 | 900.00 | |
| 51 V | 45 | 2 | -5.58 | -0.28 | ppb | 0.32 | 900.00 | |
| 52 Cr | 45 | 2 | -5.24 | -0.26 | ppb | 1.98 | 900.00 | |
| 55 Mn | 45 | 2 | 1404.20 | 70.21 | ppb | 0.11 | 900.00 | |
| 56 Fe | 45 | 2 | 58880.00 | 2944.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 11.67 | 0.58 | ppb | 1.31 | 900.00 | |
| 60 Ni | 45 | 2 | 7.09 | 0.35 | ppb | 1.78 | 900.00 | |
| 63 Cu | 72 | 2 | 0.65 | 0.03 | ppb | 38.44 | 900.00 | |
| 66 Zn | 72 | 2 | 22.38 | 1.12 | ppb | 3.62 | 900.00 | |
| 75 As | 72 | 2 | 627.00 | 31.35 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 2.86 | 0.14 | ppb | 109.73 | 900.00 | |
| 88 Sr | 103 | 1 | 468.60 | 23.43 | ppb | 8.40 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 0.06 | ppb | 9.98 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | 0.00 | ppb | 90.62 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.01 | ppb | 79.19 | 900.00 | |
| 120 Sn | 115 | 1 | -2.78 | -0.14 | ppb | 0.78 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | 0.00 | ppb | 316.94 | 900.00 | |
| 137 Ba | 159 | 1 | 51.90 | 2.60 | ppb | 9.84 | 900.00 | |
| 205 Tl | 209 | 1 | 1.26 | 0.06 | ppb | 7.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.00 | ppb | 69.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2047987 | 6.71 | 1844737 | 111.0 | 70 - 130 | |
| 45 Sc | 1 | 2808182 | 7.65 | 2585224 | 108.6 | 70 - 130 | |
| 45 Sc | 2 | 308475 | 0.16 | 293772 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 584733 | 7.26 | 539176 | 108.4 | 70 | - | 130 |
| 72 Ge | 2 | 129083 | 0.32 | 121552 | 106.2 | 70 | - | 130 |
| 103 Rh | 1 | 3267264 | 8.05 | 3126195 | 104.5 | 70 | - | 130 |
| 115 In | 1 | 3662559 | 7.64 | 3451174 | 106.1 | 70 | - | 130 |
| 115 In | 2 | 1118546 | 0.57 | 1091382 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 5029094 | 7.72 | 4754284 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 4955087 | 8.32 | 4674625 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 3055380 | 7.56 | 2965498 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\029SMPL.D\029SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\029SMPL.D\029SMPL.D#
Date Acquired: Jun 5 2013 05:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-5F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 112.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 41.18 | 900.00 | |
| 11 B | 6 | 1 | 213.60 | 106.80 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 217.60 | 108.80 | ppb | 2.31 | 900.00 | |
| 23 Na | 45 | 1 | 41280.00 | 20640.00 | ppb | 2.43 | 90000.00 | |
| 23 Na | 45 | 2 | 42220.00 | 21110.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 18964.00 | 9482.00 | ppb | 2.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 19208.00 | 9604.00 | ppb | 0.89 | 90000.00 | |
| 27 Al | 45 | 1 | 3.71 | 1.86 | ppb | 14.98 | 90000.00 | |
| 27 Al | 45 | 2 | 3.31 | 1.65 | ppb | 12.70 | 90000.00 | |
| 39 K | 45 | 1 | 4692.00 | 2346.00 | ppb | 3.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 150700.00 | 75350.00 | ppb | 2.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.96 | 1.48 | ppb | 3.52 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 0.78 | 900.00 | |
| 52 Cr | 45 | 2 | 0.77 | 0.38 | ppb | 1.99 | 900.00 | |
| 55 Mn | 45 | 2 | 242.60 | 121.30 | ppb | 0.62 | 900.00 | |
| 56 Fe | 45 | 2 | 30.40 | 15.20 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.25 | ppb | 0.82 | 900.00 | |
| 60 Ni | 45 | 2 | 5.09 | 2.55 | ppb | 1.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.96 | 0.48 | ppb | 2.85 | 900.00 | |
| 66 Zn | 72 | 2 | 8.55 | 4.28 | ppb | 2.16 | 900.00 | |
| 75 As | 72 | 2 | 1.90 | 0.95 | ppb | 2.10 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.13 | ppb | 48.22 | 900.00 | |
| 88 Sr | 103 | 1 | 530.60 | 265.30 | ppb | 2.64 | 900.00 | |
| 98 Mo | 103 | 1 | 1.39 | 0.70 | ppb | 4.64 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 24.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.14 | 0.07 | ppb | 27.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.02 | ppb | 19.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 8.25 | 900.00 | |
| 137 Ba | 159 | 1 | 27.64 | 13.82 | ppb | 3.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 0.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 8.50 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2116800 | 2.89 | 1844737 | 114.7 | 70 - 130 | |
| 45 Sc | 1 | 2798062 | 2.89 | 2585224 | 108.2 | 70 - 130 | |
| 45 Sc | 2 | 304822 | 0.47 | 293772 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 545819 | 3.21 | 539176 | 101.2 | 70 - | 130 |
| 72 | Ge | 2 | 122977 | 0.13 | 121552 | 101.2 | 70 - | 130 |
| 103 | Rh | 1 | 2942594 | 2.72 | 3126195 | 94.1 | 70 - | 130 |
| 115 | In | 1 | 3386005 | 2.49 | 3451174 | 98.1 | 70 - | 130 |
| 115 | In | 2 | 1031020 | 0.48 | 1091382 | 94.5 | 70 - | 130 |
| 159 | Tb | 1 | 4807874 | 3.35 | 4754284 | 101.1 | 70 - | 130 |
| 175 | Lu | 1 | 4789908 | 4.38 | 4674625 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 2747191 | 2.97 | 2965498 | 92.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\030SMPL.D\030SMPL.D# |
| Date Acquired: | Jun 5 2013 05:50 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21083-6F |
| Misc Info: | |
| Vial Number: | 2207 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 768.96 | 900.00 | |
| 11 B | 6 | 1 | 7.33 | 3.67 | ppb | 1.88 | 900.00 | |
| 11 B | 45 | 2 | 8.69 | 4.35 | ppb | 8.61 | 900.00 | |
| 23 Na | 45 | 1 | 3108.00 | 1554.00 | ppb | 0.88 | 90000.00 | |
| 23 Na | 45 | 2 | 3368.00 | 1684.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 1524.80 | 762.40 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 1690.60 | 845.30 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 144.42 | 72.21 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 148.52 | 74.26 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 1383.40 | 691.70 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 10810.00 | 5405.00 | ppb | 0.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.18 | 1.59 | ppb | 2.78 | 900.00 | |
| 51 V | 45 | 2 | 2.65 | 1.32 | ppb | 1.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.94 | 0.47 | ppb | 3.76 | 900.00 | |
| 55 Mn | 45 | 2 | 292.40 | 146.20 | ppb | 0.66 | 900.00 | |
| 56 Fe | 45 | 2 | 1039.60 | 519.80 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 0.95 | 0.47 | ppb | 0.56 | 900.00 | |
| 60 Ni | 45 | 2 | 0.75 | 0.37 | ppb | 3.79 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 6.30 | 900.00 | |
| 66 Zn | 72 | 2 | 7.88 | 3.94 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 3.68 | 1.84 | ppb | 2.06 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.19 | ppb | 49.62 | 900.00 | |
| 88 Sr | 103 | 1 | 70.26 | 35.13 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 1.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 32.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 18.05 | 900.00 | |
| 120 Sn | 115 | 1 | -0.14 | -0.07 | ppb | 6.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 8.97 | 900.00 | |
| 137 Ba | 159 | 1 | 10.28 | 5.14 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 15.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 4.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2252752 | 0.95 | 1844737 | 122.1 | 70 - 130 | |
| 45 Sc | 1 | 2851648 | 0.56 | 2585224 | 110.3 | 70 - 130 | |
| 45 Sc | 2 | 306948 | 0.52 | 293772 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 580730 | 0.51 | 539176 | 107.7 | 70 | - | 130 |
| 72 Ge | 2 | 126389 | 0.48 | 121552 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 3158954 | 0.90 | 3126195 | 101.0 | 70 | - | 130 |
| 115 In | 1 | 3567622 | 0.43 | 3451174 | 103.4 | 70 | - | 130 |
| 115 In | 2 | 1074767 | 0.43 | 1091382 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 4999413 | 0.41 | 4754284 | 105.2 | 70 | - | 130 |
| 175 Lu | 1 | 4966152 | 1.36 | 4674625 | 106.2 | 70 | - | 130 |
| 209 Bi | 1 | 2999929 | 0.57 | 2965498 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\031SMPL.D\031SMPL.D#
Date Acquired: Jun 5 2013 05:57 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-7F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 115.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | -0.02 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.96 | 0.48 | ppb | 2.52 | 900.00 | |
| 11 B | 45 | 2 | 1.12 | 0.56 | ppb | 23.17 | 900.00 | |
| 23 Na | 45 | 1 | 8.23 | 4.12 | ppb | 5.37 | 90000.00 | |
| 23 Na | 45 | 2 | 25.98 | 12.99 | ppb | 43.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.53 | 0.76 | ppb | 2.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.74 | 0.87 | ppb | 35.76 | 90000.00 | |
| 27 Al | 45 | 1 | 2.70 | 1.35 | ppb | 13.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.99 | 1.50 | ppb | 28.58 | 90000.00 | |
| 39 K | 45 | 1 | 18.77 | 9.39 | ppb | 7.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 8.50 | 4.25 | ppb | 13.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.59 | 0.30 | ppb | 11.56 | 900.00 | |
| 51 V | 45 | 2 | 2.40 | 1.20 | ppb | 13.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.85 | 0.42 | ppb | 22.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.03 | ppb | 111.34 | 900.00 | |
| 56 Fe | 45 | 2 | 4.91 | 2.45 | ppb | 32.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.46 | 0.23 | ppb | 11.95 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.03 | ppb | 32.86 | 900.00 | |
| 63 Cu | 72 | 2 | -0.12 | -0.06 | ppb | 22.46 | 900.00 | |
| 66 Zn | 72 | 2 | 5.91 | 2.96 | ppb | 10.13 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.29 | ppb | 11.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.28 | 0.14 | ppb | 71.68 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 15.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.03 | ppb | 16.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 38.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 105.46 | 900.00 | |
| 120 Sn | 115 | 1 | -0.22 | -0.11 | ppb | 8.10 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 4.15 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.02 | ppb | 26.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 54.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 13302.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2266004 | 0.27 | 1844737 | 122.8 | 70 - 130 | |
| 45 Sc | 1 | 2849679 | 0.23 | 2585224 | 110.2 | 70 - 130 | |
| 45 Sc | 2 | 298553 | 10.25 | 293772 | 101.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 574477 | 0.52 | 539176 | 106.5 | 70 | - | 130 |
| 72 Ge | 2 | 123390 | 7.75 | 121552 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 3245143 | 0.81 | 3126195 | 103.8 | 70 | - | 130 |
| 115 In | 1 | 3613330 | 0.18 | 3451174 | 104.7 | 70 | - | 130 |
| 115 In | 2 | 1030011 | 7.97 | 1091382 | 94.4 | 70 | - | 130 |
| 159 Tb | 1 | 5006370 | 0.78 | 4754284 | 105.3 | 70 | - | 130 |
| 175 Lu | 1 | 4931734 | 0.29 | 4674625 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 3027443 | 0.32 | 2965498 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F05o00.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Jun 5 2013 06:05 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21083-8F
**Misc Info:**
**Vial Number:** 2209
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 05 2013 03:15 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 93.62 | 900.00 | |
| 9 Be | 45 | 2 | -0.20 | -0.01 | ppb | 134.56 | 900.00 | |
| 11 B | 6 | 1 | 100.96 | 5.05 | ppb | 3.30 | 900.00 | |
| 11 B | 45 | 2 | 97.86 | 4.89 | ppb | 17.50 | 900.00 | |
| 23 Na | 45 | 1 | 116320.00 | 5816.00 | ppb | 1.38 | 90000.00 | |
| 23 Na | 45 | 2 | 120400.00 | 6020.00 | ppb | 1.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 13046.00 | 652.30 | ppb | 2.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 14234.00 | 711.70 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 27.30 | 1.37 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 30.84 | 1.54 | ppb | 15.30 | 90000.00 | |
| 39 K | 45 | 1 | 3344.00 | 167.20 | ppb | 3.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 99980.00 | 4999.00 | ppb | 1.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.38 | 0.27 | ppb | 14.67 | 900.00 | |
| 51 V | 45 | 2 | -5.19 | -0.26 | ppb | 3.96 | 900.00 | |
| 52 Cr | 45 | 2 | -5.31 | -0.27 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 2614.00 | 130.70 | ppb | 1.50 | 900.00 | |
| 56 Fe | 45 | 2 | 15008.00 | 750.40 | ppb | 1.21 | 90000.00 | |
| 59 Co | 45 | 2 | 6.98 | 0.35 | ppb | 1.73 | 900.00 | |
| 60 Ni | 45 | 2 | 5.52 | 0.28 | ppb | 2.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.46 | 0.02 | ppb | 33.45 | 900.00 | |
| 66 Zn | 72 | 2 | -1.90 | -0.10 | ppb | 13.28 | 900.00 | |
| 75 As | 72 | 2 | 708.60 | 35.43 | ppb | 0.58 | 900.00 | |
| 78 Se | 72 | 2 | 3.42 | 0.17 | ppb | 37.49 | 900.00 | |
| 88 Sr | 103 | 1 | 465.20 | 23.26 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 5.29 | 0.26 | ppb | 5.29 | 900.00 | |
| 107 Ag | 115 | 1 | -0.08 | 0.00 | ppb | 26.33 | 180.00 | |
| 111 Cd | 115 | 2 | -0.04 | 0.00 | ppb | 97.92 | 900.00 | |
| 120 Sn | 115 | 1 | -2.99 | -0.15 | ppb | 2.03 | 900.00 | |
| 121 Sb | 115 | 1 | -0.07 | 0.00 | ppb | 14.09 | 900.00 | |
| 137 Ba | 159 | 1 | 13.82 | 0.69 | ppb | 4.14 | 900.00 | |
| 205 Tl | 209 | 1 | -0.13 | -0.01 | ppb | 4.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.13 | -0.01 | ppb | 11.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975325 | 2.50 | 1844737 | 107.1 | 70 - 130 | |
| 45 Sc | 1 | 2743529 | 1.87 | 2585224 | 106.1 | 70 - 130 | |
| 45 Sc | 2 | 303071 | 1.59 | 293772 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 562796 | 1.62 | 539176 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 126548 | 0.36 | 121552 | 104.1 | 70 | - | 130 |
| 103 Rh | 1 | 3173822 | 0.85 | 3126195 | 101.5 | 70 | - | 130 |
| 115 In | 1 | 3582489 | 1.84 | 3451174 | 103.8 | 70 | - | 130 |
| 115 In | 2 | 1107869 | 1.47 | 1091382 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 4905566 | 0.84 | 4754284 | 103.2 | 70 | - | 130 |
| 175 Lu | 1 | 4781077 | 1.25 | 4674625 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 2945207 | 1.16 | 2965498 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\033SMPL.D\033SMPL.D# |
| Date Acquired: | Jun 5 2013 06:12 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21083-9F |
| Misc Info: | |
| Vial Number: | 2210 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 92.83 | 900.00 | |
| 9 Be | 45 | 2 | -0.24 | -0.01 | ppb | 136.53 | 900.00 | |
| 11 B | 6 | 1 | 61.70 | 2.47 | ppb | 2.60 | 900.00 | |
| 11 B | 45 | 2 | 59.30 | 2.37 | ppb | 7.00 | 900.00 | |
| 23 Na | 45 | 1 | 5400.00 | 216.00 | ppb | 0.36 | 90000.00 | |
| 23 Na | 45 | 2 | 5900.00 | 236.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 3795.00 | 151.80 | ppb | 0.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 3957.50 | 158.30 | ppb | 0.50 | 90000.00 | |
| 27 Al | 45 | 1 | 36.80 | 1.47 | ppb | 2.92 | 90000.00 | |
| 27 Al | 45 | 2 | 41.25 | 1.65 | ppb | 11.32 | 90000.00 | |
| 39 K | 45 | 1 | 9525.00 | 381.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 19750.00 | 790.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.09 | 0.12 | ppb | 21.03 | 900.00 | |
| 51 V | 45 | 2 | -7.25 | -0.29 | ppb | 3.20 | 900.00 | |
| 52 Cr | 45 | 2 | -6.99 | -0.28 | ppb | 3.30 | 900.00 | |
| 55 Mn | 45 | 2 | 825.25 | 33.01 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 32625.00 | 1305.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 14.02 | 0.56 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 6.62 | 0.26 | ppb | 3.90 | 900.00 | |
| 63 Cu | 72 | 2 | 1.10 | 0.04 | ppb | 18.92 | 900.00 | |
| 66 Zn | 72 | 2 | 12.90 | 0.52 | ppb | 1.76 | 900.00 | |
| 75 As | 72 | 2 | 811.50 | 32.46 | ppb | 0.77 | 900.00 | |
| 78 Se | 72 | 2 | 3.13 | 0.13 | ppb | 75.61 | 900.00 | |
| 88 Sr | 103 | 1 | 221.73 | 8.87 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 3.58 | 0.14 | ppb | 3.82 | 900.00 | |
| 107 Ag | 115 | 1 | -0.10 | 0.00 | ppb | 6.58 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.00 | ppb | 178.83 | 900.00 | |
| 120 Sn | 115 | 1 | -3.72 | -0.15 | ppb | 3.43 | 900.00 | |
| 121 Sb | 115 | 1 | -0.10 | 0.00 | ppb | 59.39 | 900.00 | |
| 137 Ba | 159 | 1 | 33.45 | 1.34 | ppb | 2.51 | 900.00 | |
| 205 Tl | 209 | 1 | -0.21 | -0.01 | ppb | 40.34 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 1125.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1944030 | 0.31 | 1844737 | 105.4 | 70 - 130 | |
| 45 Sc | 1 | 2661490 | 0.08 | 2585224 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 305397 | 0.43 | 293772 | 104.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 557361 | 0.57 | 539176 | 103.4 | 70 - | 130 |
| 72 | Ge | 2 | 127675 | 0.29 | 121552 | 105.0 | 70 - | 130 |
| 103 | Rh | 1 | 3163361 | 0.63 | 3126195 | 101.2 | 70 - | 130 |
| 115 | In | 1 | 3567511 | 0.39 | 3451174 | 103.4 | 70 - | 130 |
| 115 | In | 2 | 1110628 | 0.24 | 1091382 | 101.8 | 70 - | 130 |
| 159 | Tb | 1 | 4823487 | 0.69 | 4754284 | 101.5 | 70 - | 130 |
| 175 | Lu | 1 | 4752765 | 1.00 | 4674625 | 101.7 | 70 - | 130 |
| 209 | Bi | 1 | 2897130 | 0.54 | 2965498 | 97.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F05o00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Jun 5 2013 06:19 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21083-10F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 05 2013 03:15 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 75.23 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.01 | ppb | 108.40 | 900.00 | |
| 11 B | 6 | 1 | 16.51 | 8.26 | ppb | 2.37 | 900.00 | |
| 11 B | 45 | 2 | 18.59 | 9.29 | ppb | 6.77 | 900.00 | |
| 23 Na | 45 | 1 | 2336.00 | 1168.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 2492.00 | 1246.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 990.60 | 495.30 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 1086.00 | 543.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 4.75 | 2.37 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 4.86 | 2.43 | ppb | 2.77 | 90000.00 | |
| 39 K | 45 | 1 | 2004.00 | 1002.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 6644.00 | 3322.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.54 | 0.77 | ppb | 3.99 | 900.00 | |
| 51 V | 45 | 2 | 2.37 | 1.19 | ppb | 3.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.68 | 0.34 | ppb | 1.08 | 900.00 | |
| 55 Mn | 45 | 2 | 102.50 | 51.25 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 240.00 | 120.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 1.12 | 0.56 | ppb | 2.65 | 900.00 | |
| 60 Ni | 45 | 2 | 0.57 | 0.28 | ppb | 8.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.42 | 0.21 | ppb | 3.96 | 900.00 | |
| 66 Zn | 72 | 2 | 6.84 | 3.42 | ppb | 1.73 | 900.00 | |
| 75 As | 72 | 2 | 0.89 | 0.45 | ppb | 1.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 122.44 | 900.00 | |
| 88 Sr | 103 | 1 | 56.18 | 28.09 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.06 | ppb | 12.38 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 103.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 44.39 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.10 | ppb | 5.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 4.55 | 900.00 | |
| 137 Ba | 159 | 1 | 9.29 | 4.64 | ppb | 1.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 111.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2180302 | 1.66 | 1844737 | 118.2 | 70 - 130 | |
| 45 Sc | 1 | 2794486 | 0.30 | 2585224 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 305469 | 0.19 | 293772 | 104.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 566546 | 0.46 | 539176 | 105.1 | 70 - | 130 |
| 72 | Ge | 2 | 125629 | 0.08 | 121552 | 103.4 | 70 - | 130 |
| 103 | Rh | 1 | 3161612 | 0.76 | 3126195 | 101.1 | 70 - | 130 |
| 115 | In | 1 | 3578858 | 0.31 | 3451174 | 103.7 | 70 - | 130 |
| 115 | In | 2 | 1077306 | 0.45 | 1091382 | 98.7 | 70 - | 130 |
| 159 | Tb | 1 | 4917681 | 0.70 | 4754284 | 103.4 | 70 - | 130 |
| 175 | Lu | 1 | 4850630 | 0.22 | 4674625 | 103.8 | 70 - | 130 |
| 209 | Bi | 1 | 2970403 | 0.21 | 2965498 | 100.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\035SMPL.D\035SMPL.D#
Date Acquired: Jun 5 2013 06:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-11F
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2153.50 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 1901.30 | 900.00 | |
| 11 B | 6 | 1 | 123.20 | 4.93 | ppb | 2.11 | 900.00 | |
| 11 B | 45 | 2 | 136.08 | 5.44 | ppb | 22.87 | 900.00 | |
| 23 Na | 45 | 1 | 16507.50 | 660.30 | ppb | 0.47 | 90000.00 | |
| 23 Na | 45 | 2 | 17692.50 | 707.70 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 5340.00 | 213.60 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 5767.50 | 230.70 | ppb | 0.21 | 90000.00 | |
| 27 Al | 45 | 1 | 31.73 | 1.27 | ppb | 6.82 | 90000.00 | |
| 27 Al | 45 | 2 | 36.25 | 1.45 | ppb | 15.98 | 90000.00 | |
| 39 K | 45 | 1 | 8935.00 | 357.40 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 48975.00 | 1959.00 | ppb | 0.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.17 | 0.21 | ppb | 6.94 | 900.00 | |
| 51 V | 45 | 2 | -6.88 | -0.28 | ppb | 3.77 | 900.00 | |
| 52 Cr | 45 | 2 | -6.90 | -0.28 | ppb | 0.76 | 900.00 | |
| 55 Mn | 45 | 2 | 1758.00 | 70.32 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 68325.00 | 2733.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 2.01 | 0.08 | ppb | 4.78 | 900.00 | |
| 60 Ni | 45 | 2 | 2.37 | 0.09 | ppb | 4.06 | 900.00 | |
| 63 Cu | 72 | 2 | 0.64 | 0.03 | ppb | 31.43 | 900.00 | |
| 66 Zn | 72 | 2 | -6.68 | -0.27 | ppb | 10.31 | 900.00 | |
| 75 As | 72 | 2 | 741.25 | 29.65 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | 3.54 | 0.14 | ppb | 74.38 | 900.00 | |
| 88 Sr | 103 | 1 | 442.75 | 17.71 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.02 | ppb | 16.51 | 900.00 | |
| 107 Ag | 115 | 1 | -0.14 | -0.01 | ppb | 20.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.00 | ppb | 161.00 | 900.00 | |
| 120 Sn | 115 | 1 | -3.87 | -0.15 | ppb | 1.08 | 900.00 | |
| 121 Sb | 115 | 1 | -0.20 | -0.01 | ppb | 11.13 | 900.00 | |
| 137 Ba | 159 | 1 | 112.25 | 4.49 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | -0.29 | -0.01 | ppb | 27.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | 0.00 | ppb | 101.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1913161 | 1.00 | 1844737 | 103.7 | 70 - 130 | |
| 45 Sc | 1 | 2697333 | 0.63 | 2585224 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 303830 | 0.10 | 293772 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 560170 | 1.00 | 539176 | 103.9 | 70 - | 130 |
| 72 | Ge | 2 | 127572 | 0.60 | 121552 | 105.0 | 70 - | 130 |
| 103 | Rh | 1 | 3146379 | 0.86 | 3126195 | 100.6 | 70 - | 130 |
| 115 | In | 1 | 3526981 | 0.59 | 3451174 | 102.2 | 70 - | 130 |
| 115 | In | 2 | 1111833 | 0.35 | 1091382 | 101.9 | 70 - | 130 |
| 159 | Tb | 1 | 4797961 | 0.75 | 4754284 | 100.9 | 70 - | 130 |
| 175 | Lu | 1 | 4751690 | 1.03 | 4674625 | 101.6 | 70 - | 130 |
| 209 | Bi | 1 | 2923432 | 0.32 | 2965498 | 98.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\036SMPL.D\036SMPL.D#
Date Acquired: Jun 5 2013 06:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-13F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 130.60 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 0.52 | 900.00 | |
| 11 B | 6 | 1 | 13.11 | 6.55 | ppb | 1.26 | 900.00 | |
| 11 B | 45 | 2 | 13.32 | 6.66 | ppb | 8.52 | 900.00 | |
| 23 Na | 45 | 1 | 19148.00 | 9574.00 | ppb | 0.91 | 90000.00 | |
| 23 Na | 45 | 2 | 19898.00 | 9949.00 | ppb | 0.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 1777.40 | 888.70 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1948.20 | 974.10 | ppb | 0.11 | 90000.00 | |
| 27 Al | 45 | 1 | 3.51 | 1.76 | ppb | 1.77 | 90000.00 | |
| 27 Al | 45 | 2 | 3.39 | 1.70 | ppb | 2.24 | 90000.00 | |
| 39 K | 45 | 1 | 1576.60 | 788.30 | ppb | 0.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 13894.00 | 6947.00 | ppb | 0.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.67 | 0.83 | ppb | 3.87 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 0.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.76 | 0.38 | ppb | 8.15 | 900.00 | |
| 55 Mn | 45 | 2 | 15.98 | 7.99 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 11.64 | 5.82 | ppb | 3.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 7.96 | 900.00 | |
| 60 Ni | 45 | 2 | 0.32 | 0.16 | ppb | 2.04 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.01 | ppb | 43.45 | 900.00 | |
| 66 Zn | 72 | 2 | 8.37 | 4.18 | ppb | 2.55 | 900.00 | |
| 75 As | 72 | 2 | 3.08 | 1.54 | ppb | 4.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.05 | ppb | 33.49 | 900.00 | |
| 88 Sr | 103 | 1 | 86.02 | 43.01 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 0.33 | 0.17 | ppb | 3.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 206.20 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 85.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.12 | -0.06 | ppb | 11.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 8.44 | 900.00 | |
| 137 Ba | 159 | 1 | 9.68 | 4.84 | ppb | 1.95 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 15.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 53.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2162393 | 0.56 | 1844737 | 117.2 | 70 - 130 | |
| 45 Sc | 1 | 2784687 | 0.49 | 2585224 | 107.7 | 70 - 130 | |
| 45 Sc | 2 | 304119 | 0.38 | 293772 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 568912 | 0.39 | 539176 | 105.5 | 70 - | 130 |
| 72 | Ge | 2 | 125432 | 0.24 | 121552 | 103.2 | 70 - | 130 |
| 103 | Rh | 1 | 3113949 | 0.55 | 3126195 | 99.6 | 70 - | 130 |
| 115 | In | 1 | 3550130 | 1.00 | 3451174 | 102.9 | 70 - | 130 |
| 115 | In | 2 | 1069916 | 0.45 | 1091382 | 98.0 | 70 - | 130 |
| 159 | Tb | 1 | 4906496 | 0.43 | 4754284 | 103.2 | 70 - | 130 |
| 175 | Lu | 1 | 4837173 | 1.37 | 4674625 | 103.5 | 70 - | 130 |
| 209 | Bi | 1 | 2909988 | 0.28 | 2965498 | 98.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\037SMPL.D\037SMPL.D#
Date Acquired: Jun 5 2013 06:40 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-14F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 201.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1845.00 | 900.00 | |
| 11 B | 6 | 1 | 13.28 | 6.64 | ppb | 2.31 | 900.00 | |
| 11 B | 45 | 2 | 15.05 | 7.52 | ppb | 2.87 | 900.00 | |
| 23 Na | 45 | 1 | 19322.00 | 9661.00 | ppb | 1.01 | 90000.00 | |
| 23 Na | 45 | 2 | 20260.00 | 10130.00 | ppb | 1.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 1786.80 | 893.40 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 1970.40 | 985.20 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 1 | 9.12 | 4.56 | ppb | 1.04 | 90000.00 | |
| 27 Al | 45 | 2 | 8.80 | 4.40 | ppb | 4.46 | 90000.00 | |
| 39 K | 45 | 1 | 1578.80 | 789.40 | ppb | 0.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 13992.00 | 6996.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.82 | ppb | 2.90 | 900.00 | |
| 51 V | 45 | 2 | 2.52 | 1.26 | ppb | 1.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.75 | 0.37 | ppb | 3.11 | 900.00 | |
| 55 Mn | 45 | 2 | 15.61 | 7.80 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 13.89 | 6.95 | ppb | 1.12 | 90000.00 | |
| 59 Co | 45 | 2 | 0.12 | 0.06 | ppb | 9.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.34 | 0.17 | ppb | 6.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.13 | 0.07 | ppb | 16.84 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.37 | ppb | 1.41 | 900.00 | |
| 75 As | 72 | 2 | 3.11 | 1.55 | ppb | 4.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.09 | ppb | 119.09 | 900.00 | |
| 88 Sr | 103 | 1 | 86.32 | 43.16 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 5.37 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 327.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 48.15 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.10 | ppb | 3.45 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 5.89 | 900.00 | |
| 137 Ba | 159 | 1 | 9.87 | 4.94 | ppb | 2.08 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 11.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 8.14 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153704 | 0.60 | 1844737 | 116.7 | 70 - 130 | |
| 45 Sc | 1 | 2795610 | 0.54 | 2585224 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 304878 | 0.36 | 293772 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 570611 | 0.20 | 539176 | 105.8 | 70 | - | 130 |
| 72 Ge | 2 | 125750 | 0.54 | 121552 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 3109633 | 0.23 | 3126195 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3533420 | 0.17 | 3451174 | 102.4 | 70 | - | 130 |
| 115 In | 2 | 1074153 | 0.74 | 1091382 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 4901596 | 1.39 | 4754284 | 103.1 | 70 | - | 130 |
| 175 Lu | 1 | 4844198 | 0.74 | 4674625 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 2911516 | 0.86 | 2965498 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\038SMPL.D\038SMPL.D#
Date Acquired: Jun 5 2013 06:47 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.31 | 50.31 | ppb | 0.96 | 900.00 | |
| 9 Be | 45 | 2 | 51.32 | 51.32 | ppb | 0.52 | 900.00 | |
| 11 B | 6 | 1 | 50.68 | 50.68 | ppb | 0.01 | 900.00 | |
| 11 B | 45 | 2 | 50.23 | 50.23 | ppb | 3.21 | 900.00 | |
| 23 Na | 45 | 1 | 5118.00 | 5118.00 | ppb | 0.19 | 90000.00 | |
| 23 Na | 45 | 2 | 5259.00 | 5259.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 5117.00 | 5117.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 5279.00 | 5279.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 5111.00 | 5111.00 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 2 | 5273.00 | 5273.00 | ppb | 1.20 | 90000.00 | |
| 39 K | 45 | 1 | 5191.00 | 5191.00 | ppb | 0.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5215.00 | 5215.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.04 | 51.04 | ppb | 0.46 | 900.00 | |
| 51 V | 45 | 2 | 50.65 | 50.65 | ppb | 0.29 | 900.00 | |
| 52 Cr | 45 | 2 | 49.70 | 49.70 | ppb | 0.24 | 900.00 | |
| 55 Mn | 45 | 2 | 49.20 | 49.20 | ppb | 0.70 | 900.00 | |
| 56 Fe | 45 | 2 | 5196.00 | 5196.00 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 50.00 | 50.00 | ppb | 0.86 | 900.00 | |
| 60 Ni | 45 | 2 | 49.82 | 49.82 | ppb | 1.06 | 900.00 | |
| 63 Cu | 72 | 2 | 49.63 | 49.63 | ppb | 0.62 | 900.00 | |
| 66 Zn | 72 | 2 | 50.29 | 50.29 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 50.25 | 50.25 | ppb | 0.51 | 900.00 | |
| 78 Se | 72 | 2 | 49.36 | 49.36 | ppb | 0.87 | 900.00 | |
| 88 Sr | 103 | 1 | 52.71 | 52.71 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 52.19 | 52.19 | ppb | 1.02 | 900.00 | |
| 107 Ag | 115 | 1 | 50.12 | 50.12 | ppb | 0.87 | 180.00 | |
| 111 Cd | 115 | 2 | 50.51 | 50.51 | ppb | 0.21 | 900.00 | |
| 120 Sn | 115 | 1 | 52.45 | 52.45 | ppb | 0.42 | 900.00 | |
| 121 Sb | 115 | 1 | 54.34 | 54.34 | ppb | 0.71 | 900.00 | |
| 137 Ba | 159 | 1 | 50.75 | 50.75 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 48.41 | 48.41 | ppb | 1.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.09 | 52.09 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1939049 | 0.29 | 1844737 | 105.1 | 70 - 130 | |
| 45 Sc | 1 | 2715191 | 0.36 | 2585224 | 105.0 | 70 - 130 | |
| 45 Sc | 2 | 301973 | 0.42 | 293772 | 102.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 551537 | 0.20 | 539176 | 102.3 | 70 | - | 130 |
| 72 Ge | 2 | 124973 | 0.51 | 121552 | 102.8 | 70 | - | 130 |
| 103 Rh | 1 | 3131677 | 0.60 | 3126195 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 3511404 | 0.25 | 3451174 | 101.7 | 70 | - | 130 |
| 115 In | 2 | 1076221 | 0.22 | 1091382 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 4858452 | 0.53 | 4754284 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4784681 | 0.65 | 4674625 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2862294 | 0.69 | 2965498 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\039SMPL.D\039SMPL.D#
Date Acquired: Jun 5 2013 06:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 33.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2317.30 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 5.21 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 167.75 | 900.00 | |
| 23 Na | 45 | 1 | 0.37 | 0.37 | ppb | 64.70 | 90000.00 | |
| 23 Na | 45 | 2 | 2.85 | 2.85 | ppb | 15.82 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.77 | 0.77 | ppb | 6.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.47 | 1.47 | ppb | 13.38 | 90000.00 | |
| 27 Al | 45 | 1 | 0.64 | 0.64 | ppb | 33.47 | 90000.00 | |
| 27 Al | 45 | 2 | 0.88 | 0.88 | ppb | 29.35 | 90000.00 | |
| 39 K | 45 | 1 | -0.90 | -0.90 | ppb | 81.07 | 90000.00 | |
| 44 Ca | 45 | 1 | -10.85 | -10.85 | ppb | 8.15 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 79.06 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 18.22 | 900.00 | |
| 52 Cr | 45 | 2 | -0.17 | -0.17 | ppb | 0.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 142.97 | 900.00 | |
| 56 Fe | 45 | 2 | 1.72 | 1.72 | ppb | 12.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 23.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 58.76 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 206.98 | 900.00 | |
| 66 Zn | 72 | 2 | -0.53 | -0.53 | ppb | 3.77 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 90.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.27 | ppb | 50.28 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 68.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.17 | ppb | 3.00 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 41.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 76.90 | 900.00 | |
| 120 Sn | 115 | 1 | -0.08 | -0.08 | ppb | 9.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 30.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 0.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 109.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1967905 | 0.18 | 1844737 | 106.7 | 70 - 130 | |
| 45 Sc | 1 | 2703700 | 0.69 | 2585224 | 104.6 | 70 - 130 | |
| 45 Sc | 2 | 305801 | 0.48 | 293772 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 557220 | 0.72 | 539176 | 103.3 | 70 - | 130 |
| 72 | Ge | 2 | 126343 | 0.44 | 121552 | 103.9 | 70 - | 130 |
| 103 | Rh | 1 | 3231932 | 0.61 | 3126195 | 103.4 | 70 - | 130 |
| 115 | In | 1 | 3567471 | 0.40 | 3451174 | 103.4 | 70 - | 130 |
| 115 | In | 2 | 1121282 | 0.91 | 1091382 | 102.7 | 70 - | 130 |
| 159 | Tb | 1 | 4852008 | 0.67 | 4754284 | 102.1 | 70 - | 130 |
| 175 | Lu | 1 | 4745960 | 0.33 | 4674625 | 101.5 | 70 - | 130 |
| 209 | Bi | 1 | 2935845 | 0.61 | 2965498 | 99.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\040SMPL.D\040SMPL.D#
Date Acquired: Jun 5 2013 07:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-15F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 115.42 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 283.78 | 900.00 | |
| 11 B | 6 | 1 | 14.94 | 7.47 | ppb | 1.93 | 900.00 | |
| 11 B | 45 | 2 | 15.91 | 7.96 | ppb | 5.71 | 900.00 | |
| 23 Na | 45 | 1 | 2582.00 | 1291.00 | ppb | 1.10 | 90000.00 | |
| 23 Na | 45 | 2 | 2754.00 | 1377.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 1520.00 | 760.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 1654.80 | 827.40 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 4.54 | 2.27 | ppb | 2.47 | 90000.00 | |
| 27 Al | 45 | 2 | 4.61 | 2.31 | ppb | 8.09 | 90000.00 | |
| 39 K | 45 | 1 | 1637.00 | 818.50 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 10044.00 | 5022.00 | ppb | 1.12 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.93 | ppb | 7.46 | 900.00 | |
| 51 V | 45 | 2 | 1.96 | 0.98 | ppb | 0.87 | 900.00 | |
| 52 Cr | 45 | 2 | 0.74 | 0.37 | ppb | 4.47 | 900.00 | |
| 55 Mn | 45 | 2 | 561.80 | 280.90 | ppb | 0.68 | 900.00 | |
| 56 Fe | 45 | 2 | 5538.00 | 2769.00 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 4.21 | 2.10 | ppb | 0.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.56 | 0.28 | ppb | 4.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 3708.50 | 900.00 | |
| 66 Zn | 72 | 2 | 10.81 | 5.41 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 12.33 | 6.16 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.19 | ppb | 49.66 | 900.00 | |
| 88 Sr | 103 | 1 | 70.14 | 35.07 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.69 | 0.34 | ppb | 2.97 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 58.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 37.91 | 900.00 | |
| 120 Sn | 115 | 1 | -0.10 | -0.05 | ppb | 9.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.10 | ppb | 6.17 | 900.00 | |
| 137 Ba | 159 | 1 | 8.86 | 4.43 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.10 | ppb | 5.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 11.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2202525 | 0.52 | 1844737 | 119.4 | 70 - 130 | |
| 45 Sc | 1 | 2822699 | 0.48 | 2585224 | 109.2 | 70 - 130 | |
| 45 Sc | 2 | 305714 | 0.31 | 293772 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 578407 | 0.73 | 539176 | 107.3 | 70 - | 130 |
| 72 | Ge | 2 | 127321 | 0.47 | 121552 | 104.7 | 70 - | 130 |
| 103 | Rh | 1 | 3154004 | 0.60 | 3126195 | 100.9 | 70 - | 130 |
| 115 | In | 1 | 3599435 | 0.30 | 3451174 | 104.3 | 70 - | 130 |
| 115 | In | 2 | 1083101 | 0.28 | 1091382 | 99.2 | 70 - | 130 |
| 159 | Tb | 1 | 4950623 | 0.45 | 4754284 | 104.1 | 70 - | 130 |
| 175 | Lu | 1 | 4927815 | 1.09 | 4674625 | 105.4 | 70 - | 130 |
| 209 | Bi | 1 | 2970181 | 1.36 | 2965498 | 100.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F05o00.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Jun 5 2013 07:08 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21083-16F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 05 2013 03:15 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 132.72 | 900.00 | |
| 9 Be | 45 | 2 | -0.10 | -0.01 | ppb | 243.19 | 900.00 | |
| 11 B | 6 | 1 | 290.20 | 29.02 | ppb | 1.56 | 900.00 | |
| 11 B | 45 | 2 | 284.90 | 28.49 | ppb | 8.53 | 900.00 | |
| 23 Na | 45 | 1 | 28420.00 | 2842.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 29130.00 | 2913.00 | ppb | 4.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 11110.00 | 1111.00 | ppb | 1.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 11680.00 | 1168.00 | ppb | 4.62 | 90000.00 | |
| 27 Al | 45 | 1 | 19.31 | 1.93 | ppb | 10.82 | 90000.00 | |
| 27 Al | 45 | 2 | 19.38 | 1.94 | ppb | 13.88 | 90000.00 | |
| 39 K | 45 | 1 | 9450.00 | 945.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 68080.00 | 6808.00 | ppb | 0.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.65 | 0.26 | ppb | 7.81 | 900.00 | |
| 51 V | 45 | 2 | -1.45 | -0.14 | ppb | 11.26 | 900.00 | |
| 52 Cr | 45 | 2 | -1.90 | -0.19 | ppb | 10.65 | 900.00 | |
| 55 Mn | 45 | 2 | 2959.00 | 295.90 | ppb | 4.59 | 900.00 | |
| 56 Fe | 45 | 2 | 52230.00 | 5223.00 | ppb | 5.06 | 90000.00 | |
| 59 Co | 45 | 2 | 16.84 | 1.68 | ppb | 4.55 | 900.00 | |
| 60 Ni | 45 | 2 | 3.63 | 0.36 | ppb | 4.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.03 | ppb | 49.75 | 900.00 | |
| 66 Zn | 72 | 2 | 6.47 | 0.65 | ppb | 6.05 | 900.00 | |
| 75 As | 72 | 2 | 237.90 | 23.79 | ppb | 2.92 | 900.00 | |
| 78 Se | 72 | 2 | 1.80 | 0.18 | ppb | 19.89 | 900.00 | |
| 88 Sr | 103 | 1 | 430.80 | 43.08 | ppb | 0.64 | 900.00 | |
| 98 Mo | 103 | 1 | 1.57 | 0.16 | ppb | 5.77 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 60.31 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.00 | ppb | 114.31 | 900.00 | |
| 120 Sn | 115 | 1 | -1.35 | -0.14 | ppb | 3.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.01 | ppb | 43.04 | 900.00 | |
| 137 Ba | 159 | 1 | 50.52 | 5.05 | ppb | 1.27 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.02 | ppb | 17.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.01 | ppb | 27.69 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1951154 | 1.84 | 1844737 | 105.8 | 70 - 130 | |
| 45 Sc | 1 | 2701339 | 0.94 | 2585224 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 301265 | 4.44 | 293772 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 567851 | 0.56 | 539176 | 105.3 | 70 | - | 130 |
| 72 Ge | 2 | 127213 | 2.95 | 121552 | 104.7 | 70 | - | 130 |
| 103 Rh | 1 | 3126760 | 0.27 | 3126195 | 100.0 | 70 | - | 130 |
| 115 In | 1 | 3547998 | 0.73 | 3451174 | 102.8 | 70 | - | 130 |
| 115 In | 2 | 1087485 | 1.61 | 1091382 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 4940754 | 1.32 | 4754284 | 103.9 | 70 | - | 130 |
| 175 Lu | 1 | 4840691 | 0.07 | 4674625 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 2966856 | 0.64 | 2965498 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\042SMPL.D\042SMPL.D#
Date Acquired: Jun 5 2013 07:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-17F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 205.33 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 41.21 | 900.00 | |
| 11 B | 6 | 1 | 5.60 | 2.80 | ppb | 1.45 | 900.00 | |
| 11 B | 45 | 2 | 6.24 | 3.12 | ppb | 6.89 | 900.00 | |
| 23 Na | 45 | 1 | 1199.00 | 599.50 | ppb | 0.40 | 90000.00 | |
| 23 Na | 45 | 2 | 1292.20 | 646.10 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 931.40 | 465.70 | ppb | 0.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 1006.60 | 503.30 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 2.93 | 1.46 | ppb | 3.35 | 90000.00 | |
| 27 Al | 45 | 2 | 2.58 | 1.29 | ppb | 22.11 | 90000.00 | |
| 39 K | 45 | 1 | 1300.00 | 650.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 8392.00 | 4196.00 | ppb | 1.02 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.33 | 0.67 | ppb | 9.01 | 900.00 | |
| 51 V | 45 | 2 | 1.95 | 0.97 | ppb | 1.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.64 | 0.32 | ppb | 2.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.11 | 0.06 | ppb | 43.74 | 900.00 | |
| 56 Fe | 45 | 2 | 6.93 | 3.46 | ppb | 6.40 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 19.94 | 900.00 | |
| 60 Ni | 45 | 2 | 0.08 | 0.04 | ppb | 31.37 | 900.00 | |
| 63 Cu | 72 | 2 | -0.09 | -0.05 | ppb | 18.56 | 900.00 | |
| 66 Zn | 72 | 2 | 4.87 | 2.43 | ppb | 3.05 | 900.00 | |
| 75 As | 72 | 2 | 1.17 | 0.59 | ppb | 3.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 272.21 | 900.00 | |
| 88 Sr | 103 | 1 | 38.66 | 19.33 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.10 | ppb | 2.90 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 130.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 434.18 | 900.00 | |
| 120 Sn | 115 | 1 | -0.23 | -0.11 | ppb | 3.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 5.08 | 900.00 | |
| 137 Ba | 159 | 1 | 4.97 | 2.49 | ppb | 2.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 27.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 2.97 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2173026 | 1.25 | 1844737 | 117.8 | 70 - 130 | |
| 45 Sc | 1 | 2813978 | 0.15 | 2585224 | 108.8 | 70 - 130 | |
| 45 Sc | 2 | 307124 | 0.97 | 293772 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 572243 | 0.14 | 539176 | 106.1 | 70 | - | 130 |
| 72 Ge | 2 | 127038 | 0.62 | 121552 | 104.5 | 70 | - | 130 |
| 103 Rh | 1 | 3185715 | 0.31 | 3126195 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 3626401 | 0.15 | 3451174 | 105.1 | 70 | - | 130 |
| 115 In | 2 | 1103079 | 0.56 | 1091382 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 5031637 | 0.79 | 4754284 | 105.8 | 70 | - | 130 |
| 175 Lu | 1 | 4949506 | 0.36 | 4674625 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 3061850 | 0.41 | 2965498 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\043SMPL.D\043SMPL.D#
Date Acquired: Jun 5 2013 07:22 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-18F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | 0.00 | ppb | 36.40 | 900.00 | |
| 9 Be | 45 | 2 | -0.28 | -0.01 | ppb | 54.31 | 900.00 | |
| 11 B | 6 | 1 | 57.84 | 2.89 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 59.82 | 2.99 | ppb | 3.80 | 900.00 | |
| 23 Na | 45 | 1 | 24980.00 | 1249.00 | ppb | 0.27 | 90000.00 | |
| 23 Na | 45 | 2 | 26320.00 | 1316.00 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 1 | 4124.00 | 206.20 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 4388.00 | 219.40 | ppb | 0.15 | 90000.00 | |
| 27 Al | 45 | 1 | 28.68 | 1.43 | ppb | 3.30 | 90000.00 | |
| 27 Al | 45 | 2 | 32.20 | 1.61 | ppb | 11.08 | 90000.00 | |
| 39 K | 45 | 1 | 7242.00 | 362.10 | ppb | 1.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 34700.00 | 1735.00 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.80 | 0.19 | ppb | 22.89 | 900.00 | |
| 51 V | 45 | 2 | -4.86 | -0.24 | ppb | 1.97 | 900.00 | |
| 52 Cr | 45 | 2 | -5.33 | -0.27 | ppb | 2.57 | 900.00 | |
| 55 Mn | 45 | 2 | 2238.00 | 111.90 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 18026.00 | 901.30 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 5.97 | 0.30 | ppb | 1.48 | 900.00 | |
| 60 Ni | 45 | 2 | 4.79 | 0.24 | ppb | 5.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.63 | 0.03 | ppb | 5.38 | 900.00 | |
| 66 Zn | 72 | 2 | 38.56 | 1.93 | ppb | 1.31 | 900.00 | |
| 75 As | 72 | 2 | 621.00 | 31.05 | ppb | 0.86 | 900.00 | |
| 78 Se | 72 | 2 | 2.83 | 0.14 | ppb | 49.98 | 900.00 | |
| 88 Sr | 103 | 1 | 295.60 | 14.78 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 2.76 | 0.14 | ppb | 4.28 | 900.00 | |
| 107 Ag | 115 | 1 | -0.07 | 0.00 | ppb | 4.61 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.00 | ppb | 36.11 | 900.00 | |
| 120 Sn | 115 | 1 | -2.98 | -0.15 | ppb | 2.11 | 900.00 | |
| 121 Sb | 115 | 1 | -0.08 | 0.00 | ppb | 12.41 | 900.00 | |
| 137 Ba | 159 | 1 | 87.24 | 4.36 | ppb | 0.82 | 900.00 | |
| 205 Tl | 209 | 1 | -0.06 | 0.00 | ppb | 56.31 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.00 | ppb | 81.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1901515 | 0.49 | 1844737 | 103.1 | 70 - 130 | |
| 45 Sc | 1 | 2696191 | 0.47 | 2585224 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 305128 | 0.40 | 293772 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 560755 | 1.09 | 539176 | 104.0 | 70 | - | 130 |
| 72 Ge | 2 | 127847 | 0.20 | 121552 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 3175943 | 1.06 | 3126195 | 101.6 | 70 | - | 130 |
| 115 In | 1 | 3569787 | 0.61 | 3451174 | 103.4 | 70 | - | 130 |
| 115 In | 2 | 1124869 | 0.40 | 1091382 | 103.1 | 70 | - | 130 |
| 159 Tb | 1 | 4881211 | 0.17 | 4754284 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 4820314 | 0.53 | 4674625 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2998098 | 0.25 | 2965498 | 101.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\044SMPL.D\044SMPL.D#
Date Acquired: Jun 5 2013 07:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-19F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 547.75 | 900.00 | |
| 9 Be | 45 | 2 | -0.07 | -0.01 | ppb | 108.25 | 900.00 | |
| 11 B | 6 | 1 | 48.12 | 9.62 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 49.31 | 9.86 | ppb | 2.84 | 900.00 | |
| 23 Na | 45 | 1 | 3876.00 | 775.20 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 4138.00 | 827.60 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 1827.50 | 365.50 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 1984.50 | 396.90 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 7.18 | 1.44 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 7.02 | 1.40 | ppb | 11.53 | 90000.00 | |
| 39 K | 45 | 1 | 3120.50 | 624.10 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 10065.00 | 2013.00 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.77 | 0.35 | ppb | 7.12 | 900.00 | |
| 51 V | 45 | 2 | 1.04 | 0.21 | ppb | 3.82 | 900.00 | |
| 52 Cr | 45 | 2 | -0.13 | -0.03 | ppb | 19.73 | 900.00 | |
| 55 Mn | 45 | 2 | 1457.00 | 291.40 | ppb | 0.65 | 900.00 | |
| 56 Fe | 45 | 2 | 11600.00 | 2320.00 | ppb | 0.39 | 90000.00 | |
| 59 Co | 45 | 2 | 3.57 | 0.71 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1.47 | 0.29 | ppb | 1.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.09 | ppb | 11.18 | 900.00 | |
| 66 Zn | 72 | 2 | 14.53 | 2.91 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 72.75 | 14.55 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 0.74 | 0.15 | ppb | 39.58 | 900.00 | |
| 88 Sr | 103 | 1 | 94.80 | 18.96 | ppb | 0.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.14 | ppb | 1.14 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 40.58 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 9001.70 | 900.00 | |
| 120 Sn | 115 | 1 | -0.67 | -0.13 | ppb | 3.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.04 | ppb | 4.79 | 900.00 | |
| 137 Ba | 159 | 1 | 15.58 | 3.12 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | -0.01 | ppb | 27.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.00 | ppb | 5.97 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2026992 | 1.46 | 1844737 | 109.9 | 70 - 130 | |
| 45 Sc | 1 | 2723456 | 0.30 | 2585224 | 105.3 | 70 - 130 | |
| 45 Sc | 2 | 303943 | 0.34 | 293772 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 564140 | 0.14 | 539176 | 104.6 | 70 - | 130 |
| 72 | Ge | 2 | 126609 | 0.18 | 121552 | 104.2 | 70 - | 130 |
| 103 | Rh | 1 | 3178119 | 0.17 | 3126195 | 101.7 | 70 - | 130 |
| 115 | In | 1 | 3553624 | 0.35 | 3451174 | 103.0 | 70 - | 130 |
| 115 | In | 2 | 1102845 | 0.23 | 1091382 | 101.1 | 70 - | 130 |
| 159 | Tb | 1 | 4914074 | 0.67 | 4754284 | 103.4 | 70 - | 130 |
| 175 | Lu | 1 | 4840161 | 0.71 | 4674625 | 103.5 | 70 - | 130 |
| 209 | Bi | 1 | 2992776 | 1.01 | 2965498 | 100.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\045SMPL.D\045SMPL.D#
Date Acquired: Jun 5 2013 07:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21083-20F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 67.12 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.01 | ppb | 55.69 | 900.00 | |
| 11 B | 6 | 1 | 0.97 | 0.49 | ppb | 16.27 | 900.00 | |
| 11 B | 45 | 2 | 0.69 | 0.34 | ppb | 14.43 | 900.00 | |
| 23 Na | 45 | 1 | 23.96 | 11.98 | ppb | 27.42 | 90000.00 | |
| 23 Na | 45 | 2 | 32.86 | 16.43 | ppb | 8.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.81 | 2.90 | ppb | 11.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.49 | 2.75 | ppb | 2.73 | 90000.00 | |
| 27 Al | 45 | 1 | 4.08 | 2.04 | ppb | 20.53 | 90000.00 | |
| 27 Al | 45 | 2 | 3.49 | 1.74 | ppb | 2.40 | 90000.00 | |
| 39 K | 45 | 1 | 31.00 | 15.50 | ppb | 104.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 57.40 | 28.70 | ppb | 36.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.61 | 0.30 | ppb | 18.31 | 900.00 | |
| 51 V | 45 | 2 | 1.99 | 0.99 | ppb | 5.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.36 | ppb | 8.53 | 900.00 | |
| 55 Mn | 45 | 2 | 0.07 | 0.03 | ppb | 52.23 | 900.00 | |
| 56 Fe | 45 | 2 | 7.76 | 3.88 | ppb | 8.43 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 57.90 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 86.29 | 900.00 | |
| 63 Cu | 72 | 2 | -0.14 | -0.07 | ppb | 6.86 | 900.00 | |
| 66 Zn | 72 | 2 | 6.21 | 3.10 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.26 | ppb | 6.50 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.09 | ppb | 139.23 | 900.00 | |
| 88 Sr | 103 | 1 | 0.10 | 0.05 | ppb | 14.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.02 | ppb | 11.03 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 71.39 | 180.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 43.21 | 900.00 | |
| 120 Sn | 115 | 1 | -0.21 | -0.11 | ppb | 8.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 18.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.03 | ppb | 25.51 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 19.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.04 | ppb | 11.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2102464 | 6.91 | 1844737 | 114.0 | 70 - 130 | |
| 45 Sc | 1 | 2645245 | 9.38 | 2585224 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 301755 | 2.75 | 293772 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 542357 | 7.17 | 539176 | 100.6 | 70 - | 130 |
| 72 | Ge | 2 | 125265 | 1.67 | 121552 | 103.1 | 70 - | 130 |
| 103 | Rh | 1 | 3068279 | 9.21 | 3126195 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 3412591 | 9.03 | 3451174 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 1073323 | 2.75 | 1091382 | 98.3 | 70 - | 130 |
| 159 | Tb | 1 | 4746539 | 10.09 | 4754284 | 99.8 | 70 - | 130 |
| 175 | Lu | 1 | 4711685 | 9.70 | 4674625 | 100.8 | 70 - | 130 |
| 209 | Bi | 1 | 2948176 | 8.38 | 2965498 | 99.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F05o00.B\046SMPL.D\046SMPL.D# | | |
| **Date Acquired:** | Jun 5 2013 07:44 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21072A-PS1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2311 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 05 2013 03:15 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.16 | 8.08 | ppb | 1.47 | 900.00 | |
| 9 Be | 45 | 2 | 17.58 | 8.79 | ppb | 1.39 | 900.00 | |
| 11 B | 6 | 1 | 20.02 | 10.01 | ppb | 1.55 | 900.00 | |
| 11 B | 45 | 2 | 20.32 | 10.16 | ppb | 12.84 | 900.00 | |
| 23 Na | 45 | 1 | 916.60 | 458.30 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 1024.40 | 512.20 | ppb | 0.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 763.40 | 381.70 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 835.20 | 417.60 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 23.30 | 11.65 | ppb | 1.79 | 90000.00 | |
| 27 Al | 45 | 2 | 24.24 | 12.12 | ppb | 1.62 | 90000.00 | |
| 39 K | 45 | 1 | 1189.40 | 594.70 | ppb | 1.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 4700.00 | 2350.00 | ppb | 0.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.12 | 9.06 | ppb | 2.02 | 900.00 | |
| 51 V | 45 | 2 | 19.03 | 9.52 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 17.77 | 8.89 | ppb | 0.51 | 900.00 | |
| 55 Mn | 45 | 2 | 18.33 | 9.17 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 22.52 | 11.26 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 17.19 | 8.60 | ppb | 0.45 | 900.00 | |
| 60 Ni | 45 | 2 | 17.56 | 8.78 | ppb | 1.34 | 900.00 | |
| 63 Cu | 72 | 2 | 17.22 | 8.61 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 21.82 | 10.91 | ppb | 0.82 | 900.00 | |
| 75 As | 72 | 2 | 17.24 | 8.62 | ppb | 1.16 | 900.00 | |
| 78 Se | 72 | 2 | 15.56 | 7.78 | ppb | 2.07 | 900.00 | |
| 88 Sr | 103 | 1 | 57.42 | 28.71 | ppb | 1.17 | 900.00 | |
| 98 Mo | 103 | 1 | 17.95 | 8.98 | ppb | 1.19 | 900.00 | |
| 107 Ag | 115 | 1 | 17.06 | 8.53 | ppb | 0.28 | 180.00 | |
| 111 Cd | 115 | 2 | 16.74 | 8.37 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 17.31 | 8.66 | ppb | 1.10 | 900.00 | |
| 121 Sb | 115 | 1 | 17.29 | 8.65 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 22.50 | 11.25 | ppb | 0.70 | 900.00 | |
| 205 Tl | 209 | 1 | 16.92 | 8.46 | ppb | 1.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.53 | 8.76 | ppb | 0.51 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2145462 | 0.43 | 1844737 | 116.3 | 70 - 130 | |
| 45 Sc | 1 | 2772025 | 1.19 | 2585224 | 107.2 | 70 - 130 | |
| 45 Sc | 2 | 304329 | 0.33 | 293772 | 103.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 561261 | 0.46 | 539176 | 104.1 | 70 | - | 130 |
| 72 Ge | 2 | 125854 | 0.48 | 121552 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 3184632 | 0.85 | 3126195 | 101.9 | 70 | - | 130 |
| 115 In | 1 | 3557806 | 0.76 | 3451174 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1093122 | 0.41 | 1091382 | 100.2 | 70 | - | 130 |
| 159 Tb | 1 | 4924664 | 0.61 | 4754284 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4889565 | 0.95 | 4674625 | 104.6 | 70 | - | 130 |
| 209 Bi | 1 | 3000069 | 0.82 | 2965498 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F05o00.B\047SMPL.D\047SMPL.D# |
| Date Acquired: | Jun 5 2013 07:51 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21072A-S1 |
| Misc Info: | |
| Vial Number: | 2312 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 05 2013 03:15 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 513.20 | 25.66 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 522.60 | 26.13 | ppb | 3.34 | 900.00 | |
| 11 B | 6 | 1 | 5.34 | 0.27 | ppb | 6.07 | 900.00 | |
| 11 B | 45 | 2 | 3.81 | 0.19 | ppb | 22.78 | 900.00 | |
| 23 Na | 45 | 1 | 27180.00 | 1359.00 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 28480.00 | 1424.00 | ppb | 0.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 27500.00 | 1375.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 28940.00 | 1447.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 2232.00 | 111.60 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 2 | 2346.00 | 117.30 | ppb | 0.95 | 90000.00 | |
| 39 K | 45 | 1 | 27940.00 | 1397.00 | ppb | 0.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 32940.00 | 1647.00 | ppb | 1.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 516.20 | 25.81 | ppb | 0.71 | 900.00 | |
| 51 V | 45 | 2 | 523.60 | 26.18 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 515.00 | 25.75 | ppb | 0.84 | 900.00 | |
| 55 Mn | 45 | 2 | 515.60 | 25.78 | ppb | 0.28 | 900.00 | |
| 56 Fe | 45 | 2 | 2330.00 | 116.50 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 522.60 | 26.13 | ppb | 0.32 | 900.00 | |
| 60 Ni | 45 | 2 | 513.00 | 25.65 | ppb | 0.63 | 900.00 | |
| 63 Cu | 72 | 2 | 515.40 | 25.77 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 551.40 | 27.57 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 528.60 | 26.43 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 545.00 | 27.25 | ppb | 1.03 | 900.00 | |
| 88 Sr | 103 | 1 | 571.60 | 28.58 | ppb | 0.25 | 900.00 | |
| 98 Mo | 103 | 1 | 0.71 | 0.04 | ppb | 19.60 | 900.00 | |
| 107 Ag | 115 | 1 | 211.80 | 10.59 | ppb | 0.59 | 180.00 | |
| 111 Cd | 115 | 2 | 517.40 | 25.87 | ppb | 1.27 | 900.00 | |
| 120 Sn | 115 | 1 | -3.14 | -0.16 | ppb | 0.83 | 900.00 | |
| 121 Sb | 115 | 1 | 548.80 | 27.44 | ppb | 0.75 | 900.00 | |
| 137 Ba | 159 | 1 | 2066.00 | 103.30 | ppb | 0.38 | 900.00 | |
| 205 Tl | 209 | 1 | 484.60 | 24.23 | ppb | 1.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1050.40 | 52.52 | ppb | 1.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1933594 | 0.05 | 1844737 | 104.8 | 70 - 130 | |
| 45 Sc | 1 | 2703987 | 0.81 | 2585224 | 104.6 | 70 - 130 | |
| 45 Sc | 2 | 306088 | 0.28 | 293772 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 551594 | 1.15 | 539176 | 102.3 | 70 - | 130 |
| 72 | Ge | 2 | 127163 | 0.22 | 121552 | 104.6 | 70 - | 130 |
| 103 | Rh | 1 | 3223279 | 0.72 | 3126195 | 103.1 | 70 - | 130 |
| 115 | In | 1 | 3578690 | 0.42 | 3451174 | 103.7 | 70 - | 130 |
| 115 | In | 2 | 1123793 | 0.27 | 1091382 | 103.0 | 70 - | 130 |
| 159 | Tb | 1 | 4903226 | 0.33 | 4754284 | 103.1 | 70 - | 130 |
| 175 | Lu | 1 | 4821311 | 0.68 | 4674625 | 103.1 | 70 - | 130 |
| 209 | Bi | 1 | 3000961 | 1.18 | 2965498 | 101.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\048SMPL.D\048SMPL.D#
Date Acquired: Jun 5 2013 07:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21072A-S2
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 510.20 | 25.51 | ppb | 0.50 | 900.00 | |
| 9 Be | 45 | 2 | 517.60 | 25.88 | ppb | 1.61 | 900.00 | |
| 11 B | 6 | 1 | 4.16 | 0.21 | ppb | 16.80 | 900.00 | |
| 11 B | 45 | 2 | 3.33 | 0.17 | ppb | 55.24 | 900.00 | |
| 23 Na | 45 | 1 | 26960.00 | 1348.00 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 28120.00 | 1406.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 27200.00 | 1360.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 28540.00 | 1427.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 1 | 2216.00 | 110.80 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 2 | 2322.00 | 116.10 | ppb | 0.66 | 90000.00 | |
| 39 K | 45 | 1 | 27680.00 | 1384.00 | ppb | 0.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 32580.00 | 1629.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 510.60 | 25.53 | ppb | 0.59 | 900.00 | |
| 51 V | 45 | 2 | 515.00 | 25.75 | ppb | 0.16 | 900.00 | |
| 52 Cr | 45 | 2 | 509.20 | 25.46 | ppb | 0.57 | 900.00 | |
| 55 Mn | 45 | 2 | 511.00 | 25.55 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 2318.00 | 115.90 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 518.00 | 25.90 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 505.80 | 25.29 | ppb | 0.97 | 900.00 | |
| 63 Cu | 72 | 2 | 512.80 | 25.64 | ppb | 0.13 | 900.00 | |
| 66 Zn | 72 | 2 | 552.80 | 27.64 | ppb | 0.45 | 900.00 | |
| 75 As | 72 | 2 | 527.00 | 26.35 | ppb | 0.31 | 900.00 | |
| 78 Se | 72 | 2 | 527.80 | 26.39 | ppb | 1.07 | 900.00 | |
| 88 Sr | 103 | 1 | 567.80 | 28.39 | ppb | 0.57 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.03 | ppb | 10.89 | 900.00 | |
| 107 Ag | 115 | 1 | 211.00 | 10.55 | ppb | 0.87 | 180.00 | |
| 111 Cd | 115 | 2 | 516.00 | 25.80 | ppb | 0.30 | 900.00 | |
| 120 Sn | 115 | 1 | -3.18 | -0.16 | ppb | 2.16 | 900.00 | |
| 121 Sb | 115 | 1 | 549.20 | 27.46 | ppb | 0.61 | 900.00 | |
| 137 Ba | 159 | 1 | 2044.00 | 102.20 | ppb | 1.00 | 900.00 | |
| 205 Tl | 209 | 1 | 482.60 | 24.13 | ppb | 1.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1038.60 | 51.93 | ppb | 0.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1913701 | 0.29 | 1844737 | 103.7 | 70 - 130 | |
| 45 Sc | 1 | 2681098 | 0.26 | 2585224 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 305454 | 0.40 | 293772 | 104.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 545353 | 0.47 | 539176 | 101.1 | 70 - | 130 |
| 72 | Ge | 2 | 126717 | 0.20 | 121552 | 104.2 | 70 - | 130 |
| 103 | Rh | 1 | 3183193 | 0.29 | 3126195 | 101.8 | 70 - | 130 |
| 115 | In | 1 | 3546282 | 0.31 | 3451174 | 102.8 | 70 - | 130 |
| 115 | In | 2 | 1120473 | 0.44 | 1091382 | 102.7 | 70 - | 130 |
| 159 | Tb | 1 | 4873283 | 1.27 | 4754284 | 102.5 | 70 - | 130 |
| 175 | Lu | 1 | 4788294 | 0.86 | 4674625 | 102.4 | 70 - | 130 |
| 209 | Bi | 1 | 2969617 | 0.48 | 2965498 | 100.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\049SMPL.D\049SMPL.D#
Date Acquired: Jun 5 2013 08:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21072A-B1
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 513.20 | 25.66 | ppb | 1.81 | 900.00 | |
| 9 Be | 45 | 2 | 524.20 | 26.21 | ppb | 1.07 | 900.00 | |
| 11 B | 6 | 1 | 1.03 | 0.05 | ppb | 37.64 | 900.00 | |
| 11 B | 45 | 2 | 0.85 | 0.04 | ppb | 350.71 | 900.00 | |
| 23 Na | 45 | 1 | 25820.00 | 1291.00 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 26860.00 | 1343.00 | ppb | 0.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 26380.00 | 1319.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 27320.00 | 1366.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 2226.00 | 111.30 | ppb | 0.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2300.00 | 115.00 | ppb | 0.94 | 90000.00 | |
| 39 K | 45 | 1 | 26180.00 | 1309.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 26900.00 | 1345.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 511.20 | 25.56 | ppb | 1.47 | 900.00 | |
| 51 V | 45 | 2 | 514.00 | 25.70 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 504.60 | 25.23 | ppb | 0.16 | 900.00 | |
| 55 Mn | 45 | 2 | 504.00 | 25.20 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 2290.00 | 114.50 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 515.00 | 25.75 | ppb | 0.43 | 900.00 | |
| 60 Ni | 45 | 2 | 501.00 | 25.05 | ppb | 0.41 | 900.00 | |
| 63 Cu | 72 | 2 | 510.80 | 25.54 | ppb | 0.33 | 900.00 | |
| 66 Zn | 72 | 2 | 542.00 | 27.10 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 519.60 | 25.98 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 526.80 | 26.34 | ppb | 2.63 | 900.00 | |
| 88 Sr | 103 | 1 | 516.20 | 25.81 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.02 | ppb | 4.17 | 900.00 | |
| 107 Ag | 115 | 1 | 210.80 | 10.54 | ppb | 0.13 | 180.00 | |
| 111 Cd | 115 | 2 | 511.00 | 25.55 | ppb | 0.39 | 900.00 | |
| 120 Sn | 115 | 1 | -3.22 | -0.16 | ppb | 2.29 | 900.00 | |
| 121 Sb | 115 | 1 | 547.40 | 27.37 | ppb | 0.44 | 900.00 | |
| 137 Ba | 159 | 1 | 2036.00 | 101.80 | ppb | 0.46 | 900.00 | |
| 205 Tl | 209 | 1 | 483.80 | 24.19 | ppb | 1.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1035.80 | 51.79 | ppb | 0.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1889766 | 1.58 | 1844737 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2662632 | 0.69 | 2585224 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 306958 | 0.04 | 293772 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 543048 | 1.16 | 539176 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 126947 | 0.11 | 121552 | 104.4 | 70 | - | 130 |
| 103 Rh | 1 | 3189810 | 0.32 | 3126195 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 3524342 | 0.68 | 3451174 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1119579 | 0.36 | 1091382 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4859303 | 0.47 | 4754284 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4784765 | 0.87 | 4674625 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2957008 | 0.84 | 2965498 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\050SMPL.D\050SMPL.D#
Date Acquired: Jun 5 2013 08:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.70 | 50.70 | ppb | 1.27 | 900.00 | |
| 9 Be | 45 | 2 | 52.83 | 52.83 | ppb | 0.66 | 900.00 | |
| 11 B | 6 | 1 | 49.29 | 49.29 | ppb | 1.42 | 900.00 | |
| 11 B | 45 | 2 | 49.79 | 49.79 | ppb | 3.29 | 900.00 | |
| 23 Na | 45 | 1 | 5035.00 | 5035.00 | ppb | 0.57 | 90000.00 | |
| 23 Na | 45 | 2 | 5165.00 | 5165.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 5052.00 | 5052.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 5196.00 | 5196.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 5022.00 | 5022.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 5241.00 | 5241.00 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 5079.00 | 5079.00 | ppb | 0.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 5135.00 | 5135.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.07 | 50.07 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 51.00 | 51.00 | ppb | 0.40 | 900.00 | |
| 52 Cr | 45 | 2 | 50.18 | 50.18 | ppb | 0.45 | 900.00 | |
| 55 Mn | 45 | 2 | 49.36 | 49.36 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 5138.00 | 5138.00 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 50.18 | 50.18 | ppb | 0.56 | 900.00 | |
| 60 Ni | 45 | 2 | 49.82 | 49.82 | ppb | 0.45 | 900.00 | |
| 63 Cu | 72 | 2 | 49.19 | 49.19 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.12 | 49.12 | ppb | 0.29 | 900.00 | |
| 75 As | 72 | 2 | 50.44 | 50.44 | ppb | 0.24 | 900.00 | |
| 78 Se | 72 | 2 | 49.98 | 49.98 | ppb | 0.20 | 900.00 | |
| 88 Sr | 103 | 1 | 52.47 | 52.47 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 51.74 | 51.74 | ppb | 0.41 | 900.00 | |
| 107 Ag | 115 | 1 | 50.70 | 50.70 | ppb | 0.47 | 180.00 | |
| 111 Cd | 115 | 2 | 50.70 | 50.70 | ppb | 0.31 | 900.00 | |
| 120 Sn | 115 | 1 | 51.12 | 51.12 | ppb | 0.31 | 900.00 | |
| 121 Sb | 115 | 1 | 54.82 | 54.82 | ppb | 0.43 | 900.00 | |
| 137 Ba | 159 | 1 | 50.45 | 50.45 | ppb | 1.31 | 900.00 | |
| 205 Tl | 209 | 1 | 49.06 | 49.06 | ppb | 0.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.13 | 52.13 | ppb | 1.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1913265 | 1.19 | 1844737 | 103.7 | 70 - 130 | |
| 45 Sc | 1 | 2680913 | 0.41 | 2585224 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 301463 | 0.30 | 293772 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 546294 | 0.37 | 539176 | 101.3 | 70 - | 130 |
| 72 | Ge | 2 | 125018 | 0.20 | 121552 | 102.9 | 70 - | 130 |
| 103 | Rh | 1 | 3087519 | 0.33 | 3126195 | 98.8 | 70 - | 130 |
| 115 | In | 1 | 3464082 | 0.17 | 3451174 | 100.4 | 70 - | 130 |
| 115 | In | 2 | 1078210 | 0.29 | 1091382 | 98.8 | 70 - | 130 |
| 159 | Tb | 1 | 4834607 | 0.78 | 4754284 | 101.7 | 70 - | 130 |
| 175 | Lu | 1 | 4762564 | 0.22 | 4674625 | 101.9 | 70 - | 130 |
| 209 | Bi | 1 | 2866810 | 1.44 | 2965498 | 96.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\051SMPL.D\051SMPL.D#
Date Acquired: Jun 5 2013 08:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 49.26 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.02 | ppb | 41.25 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 13.95 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 97.47 | 900.00 | |
| 23 Na | 45 | 1 | -0.81 | -0.81 | ppb | 26.75 | 90000.00 | |
| 23 Na | 45 | 2 | -0.40 | -0.40 | ppb | 126.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.53 | 0.53 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.56 | 0.56 | ppb | 11.80 | 90000.00 | |
| 27 Al | 45 | 1 | 0.37 | 0.37 | ppb | 3.59 | 90000.00 | |
| 27 Al | 45 | 2 | 0.44 | 0.44 | ppb | 38.42 | 90000.00 | |
| 39 K | 45 | 1 | -0.17 | -0.17 | ppb | 601.03 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.55 | -7.55 | ppb | 2.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 3015.20 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 9.97 | 900.00 | |
| 52 Cr | 45 | 2 | -0.18 | -0.18 | ppb | 1.98 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 59.02 | 900.00 | |
| 56 Fe | 45 | 2 | 1.11 | 1.11 | ppb | 10.33 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 51.97 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 88.98 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 48.52 | 900.00 | |
| 66 Zn | 72 | 2 | -0.26 | -0.26 | ppb | 8.05 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 36.18 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 38.35 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 161.83 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 1.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 34.79 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 103.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 18.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 21.39 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 137.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 2.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 24.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1929460 | 0.72 | 1844737 | 104.6 | 70 - 130 | |
| 45 Sc | 1 | 2663897 | 0.27 | 2585224 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 305838 | 0.25 | 293772 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 548752 | 0.48 | 539176 | 101.8 | 70 - | 130 |
| 72 | Ge | 2 | 126489 | 0.45 | 121552 | 104.1 | 70 - | 130 |
| 103 | Rh | 1 | 3198496 | 0.16 | 3126195 | 102.3 | 70 - | 130 |
| 115 | In | 1 | 3498655 | 0.21 | 3451174 | 101.4 | 70 - | 130 |
| 115 | In | 2 | 1122040 | 0.33 | 1091382 | 102.8 | 70 - | 130 |
| 159 | Tb | 1 | 4830436 | 0.12 | 4754284 | 101.6 | 70 - | 130 |
| 175 | Lu | 1 | 4736904 | 0.29 | 4674625 | 101.3 | 70 - | 130 |
| 209 | Bi | 1 | 2954654 | 0.70 | 2965498 | 99.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\052SMPL.D\052SMPL.D#
Date Acquired: Jun 5 2013 08:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21072A-MB1
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 339.66 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 135.98 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.18 | ppb | 7.79 | 900.00 | |
| 11 B | 45 | 2 | 0.43 | 0.22 | ppb | 78.24 | 900.00 | |
| 23 Na | 45 | 1 | 3.09 | 1.54 | ppb | 18.94 | 90000.00 | |
| 23 Na | 45 | 2 | 9.27 | 4.64 | ppb | 10.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.29 | 1.64 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.56 | 1.78 | ppb | 7.30 | 90000.00 | |
| 27 Al | 45 | 1 | 5.76 | 2.88 | ppb | 4.56 | 90000.00 | |
| 27 Al | 45 | 2 | 5.55 | 2.77 | ppb | 3.21 | 90000.00 | |
| 39 K | 45 | 1 | 10.31 | 5.15 | ppb | 23.99 | 90000.00 | |
| 44 Ca | 45 | 1 | -10.05 | -5.03 | ppb | 31.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.46 | 0.23 | ppb | 2.07 | 900.00 | |
| 51 V | 45 | 2 | 1.35 | 0.67 | ppb | 1.99 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 1.58 | 900.00 | |
| 55 Mn | 45 | 2 | 0.50 | 0.25 | ppb | 4.56 | 900.00 | |
| 56 Fe | 45 | 2 | 10.66 | 5.33 | ppb | 1.67 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 49.01 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.01 | ppb | 106.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 103.53 | 900.00 | |
| 66 Zn | 72 | 2 | -0.80 | -0.40 | ppb | 4.10 | 900.00 | |
| 75 As | 72 | 2 | 0.39 | 0.19 | ppb | 14.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 123.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 9.20 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.07 | ppb | 8.59 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 36.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 10331.00 | 900.00 | |
| 120 Sn | 115 | 1 | -0.17 | -0.09 | ppb | 8.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.04 | ppb | 9.71 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 29.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.12 | ppb | 7.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 15.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2101451 | 0.77 | 1844737 | 113.9 | 70 - 130 | |
| 45 Sc | 1 | 2739350 | 0.63 | 2585224 | 106.0 | 70 - 130 | |
| 45 Sc | 2 | 305447 | 0.24 | 293772 | 104.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 560994 | 1.03 | 539176 | 104.0 | 70 - | 130 |
| 72 | Ge | 2 | 125871 | 0.53 | 121552 | 103.6 | 70 - | 130 |
| 103 | Rh | 1 | 3220458 | 0.78 | 3126195 | 103.0 | 70 - | 130 |
| 115 | In | 1 | 3542237 | 0.70 | 3451174 | 102.6 | 70 - | 130 |
| 115 | In | 2 | 1097894 | 0.34 | 1091382 | 100.6 | 70 - | 130 |
| 159 | Tb | 1 | 4912864 | 0.61 | 4754284 | 103.3 | 70 - | 130 |
| 175 | Lu | 1 | 4860429 | 0.28 | 4674625 | 104.0 | 70 - | 130 |
| 209 | Bi | 1 | 3019750 | 0.21 | 2965498 | 101.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\053SMPL.D\053SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\053SMPL.D\053SMPL.D#
Date Acquired: Jun 5 2013 08:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 2.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.53 | ppb | 24.39 | 900.00 | |
| 11 B | 6 | 1 | 5.00 | 5.00 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 4.99 | 4.99 | ppb | 9.00 | 900.00 | |
| 23 Na | 45 | 1 | 252.10 | 252.10 | ppb | 1.75 | 90000.00 | |
| 23 Na | 45 | 2 | 274.40 | 274.40 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 260.90 | 260.90 | ppb | 2.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 277.90 | 277.90 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 26.76 | 26.76 | ppb | 1.97 | 90000.00 | |
| 27 Al | 45 | 2 | 27.31 | 27.31 | ppb | 0.71 | 90000.00 | |
| 39 K | 45 | 1 | 250.70 | 250.70 | ppb | 2.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 257.70 | 257.70 | ppb | 1.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.99 | 0.99 | ppb | 4.02 | 900.00 | |
| 51 V | 45 | 2 | 0.94 | 0.94 | ppb | 3.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.79 | 0.79 | ppb | 0.90 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 2.18 | 900.00 | |
| 56 Fe | 45 | 2 | 28.68 | 28.68 | ppb | 0.57 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.98 | 900.00 | |
| 60 Ni | 45 | 2 | 1.01 | 1.01 | ppb | 2.05 | 900.00 | |
| 63 Cu | 72 | 2 | 0.93 | 0.93 | ppb | 1.06 | 900.00 | |
| 66 Zn | 72 | 2 | 1.31 | 1.31 | ppb | 2.73 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 5.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.75 | 0.75 | ppb | 11.25 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 1.04 | 1.04 | ppb | 2.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 1.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 9.96 | 900.00 | |
| 120 Sn | 115 | 1 | 4.90 | 4.90 | ppb | 1.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.55 | 0.55 | ppb | 2.79 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 3.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 4.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 0.91 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1923044 | 0.64 | 1844737 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 2694466 | 1.41 | 2585224 | 104.2 | 70 - 130 | |
| 45 Sc | 2 | 305699 | 0.29 | 293772 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 551006 | 1.01 | 539176 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 126779 | 0.38 | 121552 | 104.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3189173 | 1.18 | 3126195 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 3548774 | 2.56 | 3451174 | 102.8 | 70 | - | 130 |
| 115 | In | 2 | 1125948 | 0.83 | 1091382 | 103.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4917472 | 1.09 | 4754284 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4834850 | 1.47 | 4674625 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2971749 | 1.06 | 2965498 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\054SMPL.D\054SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\054SMPL.D\054SMPL.D#
Date Acquired: Jun 5 2013 08:40 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.79 | 50.79 | ppb | 1.26 | 900.00 | |
| 9 Be | 45 | 2 | 52.66 | 52.66 | ppb | 1.59 | 900.00 | |
| 11 B | 6 | 1 | 49.54 | 49.54 | ppb | 1.00 | 900.00 | |
| 11 B | 45 | 2 | 50.31 | 50.31 | ppb | 6.70 | 900.00 | |
| 23 Na | 45 | 1 | 5088.00 | 5088.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 5236.00 | 5236.00 | ppb | 1.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 5084.00 | 5084.00 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 5238.00 | 5238.00 | ppb | 1.36 | 90000.00 | |
| 27 Al | 45 | 1 | 5039.00 | 5039.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 2 | 5270.00 | 5270.00 | ppb | 1.21 | 90000.00 | |
| 39 K | 45 | 1 | 5146.00 | 5146.00 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 5273.00 | 5273.00 | ppb | 0.90 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.26 | 50.26 | ppb | 0.35 | 900.00 | |
| 51 V | 45 | 2 | 51.66 | 51.66 | ppb | 1.37 | 900.00 | |
| 52 Cr | 45 | 2 | 50.87 | 50.87 | ppb | 1.39 | 900.00 | |
| 55 Mn | 45 | 2 | 49.99 | 49.99 | ppb | 1.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5164.00 | 5164.00 | ppb | 1.78 | 90000.00 | |
| 59 Co | 45 | 2 | 50.75 | 50.75 | ppb | 1.31 | 900.00 | |
| 60 Ni | 45 | 2 | 50.62 | 50.62 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | 49.48 | 49.48 | ppb | 1.16 | 900.00 | |
| 66 Zn | 72 | 2 | 52.01 | 52.01 | ppb | 0.74 | 900.00 | |
| 75 As | 72 | 2 | 50.79 | 50.79 | ppb | 0.71 | 900.00 | |
| 78 Se | 72 | 2 | 49.99 | 49.99 | ppb | 1.59 | 900.00 | |
| 88 Sr | 103 | 1 | 52.46 | 52.46 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 51.36 | 51.36 | ppb | 0.91 | 900.00 | |
| 107 Ag | 115 | 1 | 50.63 | 50.63 | ppb | 1.22 | 180.00 | |
| 111 Cd | 115 | 2 | 51.12 | 51.12 | ppb | 0.77 | 900.00 | |
| 120 Sn | 115 | 1 | 51.10 | 51.10 | ppb | 1.00 | 900.00 | |
| 121 Sb | 115 | 1 | 54.70 | 54.70 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 50.45 | 50.45 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 48.13 | 48.13 | ppb | 1.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.96 | 51.96 | ppb | 0.90 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1913955 | 0.56 | 1844737 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 2689088 | 0.82 | 2585224 | 104.0 | 70 - 130 | |
| 45 Sc | 2 | 301245 | 1.33 | 293772 | 102.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 550659 | 1.02 | 539176 | 102.1 | 70 | - | 130 |
| 72 Ge | 2 | 125718 | 0.94 | 121552 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 3131810 | 0.47 | 3126195 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 3485387 | 0.59 | 3451174 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1083567 | 1.56 | 1091382 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 4899139 | 0.55 | 4754284 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 4816292 | 0.02 | 4674625 | 103.0 | 70 | - | 130 |
| 209 Bi | 1 | 2927361 | 1.05 | 2965498 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F05o00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F05o00.B\055SMPL.D\055SMPL.D#
Date Acquired: Jun 5 2013 08:47 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 05 2013 03:15 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 77.06 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 138.08 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 2.42 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 83.77 | 900.00 | |
| 23 Na | 45 | 1 | -1.78 | -1.78 | ppb | 8.50 | 90000.00 | |
| 23 Na | 45 | 2 | -1.35 | -1.35 | ppb | 28.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.04 | 0.04 | ppb | 70.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.14 | 0.14 | ppb | 159.94 | 90000.00 | |
| 27 Al | 45 | 1 | 0.10 | 0.10 | ppb | 84.89 | 90000.00 | |
| 27 Al | 45 | 2 | 0.00 | 0.00 | ppb | 1735.70 | 90000.00 | |
| 39 K | 45 | 1 | -1.48 | -1.48 | ppb | 39.60 | 90000.00 | |
| 44 Ca | 45 | 1 | -9.57 | -9.57 | ppb | 8.72 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 105.55 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 11.09 | 900.00 | |
| 52 Cr | 45 | 2 | -0.20 | -0.20 | ppb | 4.01 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 39.88 | 900.00 | |
| 56 Fe | 45 | 2 | 0.50 | 0.50 | ppb | 13.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 183.04 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 55.16 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 20.11 | 900.00 | |
| 66 Zn | 72 | 2 | -0.44 | -0.44 | ppb | 2.33 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 149.82 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 124.56 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 107.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 4.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 59.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 179.77 | 900.00 | |
| 120 Sn | 115 | 1 | -0.03 | -0.03 | ppb | 33.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 37.60 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 127.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.32 | 0.32 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 64.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1941460 | 1.15 | 1844737 | 105.2 | 70 - 130 | |
| 45 Sc | 1 | 2677417 | 0.43 | 2585224 | 103.6 | 70 - 130 | |
| 45 Sc | 2 | 305127 | 0.68 | 293772 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F05o00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 555095 | 0.94 | 539176 | 103.0 | 70 | - | 130 |
| 72 Ge | 2 | 127104 | 0.71 | 121552 | 104.6 | 70 | - | 130 |
| 103 Rh | 1 | 3208524 | 0.67 | 3126195 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 3547895 | 0.88 | 3451174 | 102.8 | 70 | - | 130 |
| 115 In | 2 | 1136702 | 0.43 | 1091382 | 104.2 | 70 | - | 130 |
| 159 Tb | 1 | 4899000 | 0.56 | 4754284 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 4817521 | 0.07 | 4674625 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 3026386 | 0.81 | 2965498 | 102.1 | 70 | - | 130 |

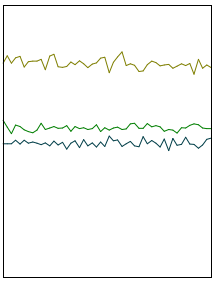
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F05o00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

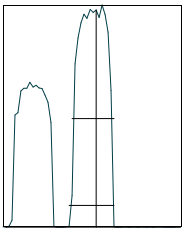
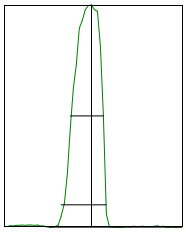
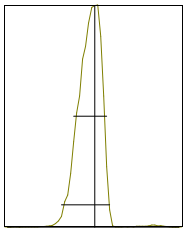
# Tune Report

Tune File : nogas.u
Comment : 060513



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2558.0 | 2468.3 | 2.44 | 3.90 |
| 89 | 10,000 | 5473.0 | 5499.1 | 1.85 | 3.40 |
| 205 | 5,000 | 3856.0 | 3934.7 | 2.23 | 6.60 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.593%
Doubly Charged: 70/140 3.835%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,482 | 5,440 | 3,946 |
| Axis: | 7.10 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.55 | 0.55 |
| W-10%: | 0.7500 | 0.7500 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 117 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9983 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.01 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 287.2 | 7.04 |
| 59 | 1109.0 | 3.86 |
| 89 | 1315.0 | 3.31 |

Integration Time: 0.1000sec



Generated : Jun 05, 2013 09:51:34
Printed : Jun 05, 2013 09:52:26

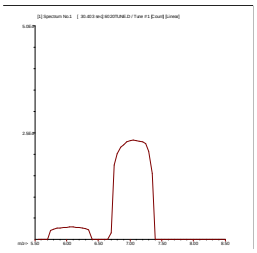
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Jun 5 2013 10:24 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

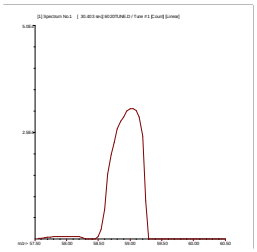
**QC Tune Summary:**
**Pass**

**RSD%**

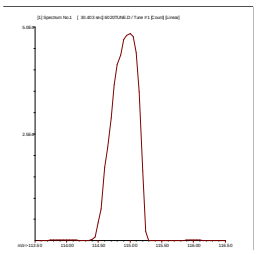
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.77 | 5.00 | 0 |
| 59 Co | 0.81 | 5.00 | |
| 115 In | 0.60 | 5.00 | |
| 205 Tl | 3.54 | 5.00 | |



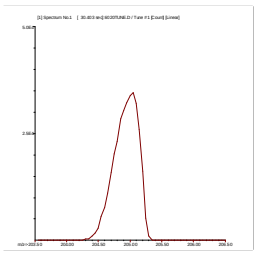
**7 Li**
**Mass Calib.**
Actual: 7.10
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

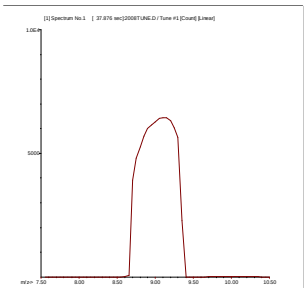
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13F05k00.B\2008TUNE.D
**Date Acquired:** Jun 5 2013 10:30 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

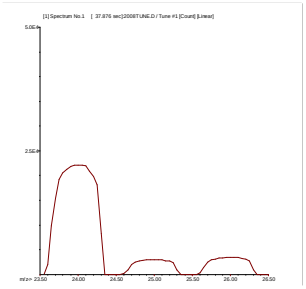


**RSD (%)**

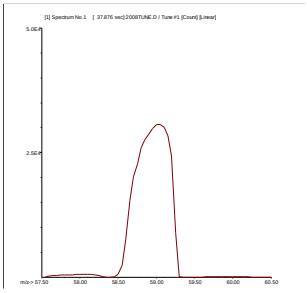
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 38833 | 38496 | 38985 | 38813 | 39111 | 38757 | **1.22** | 5.00 | |
| 24 Mg | 132555 | 132448 | 132582 | 132954 | 131743 | 133044 | **0.77** | 5.00 | |
| 59 Co | 166493 | 166553 | 167361 | 166438 | 165398 | 166715 | **0.67** | 5.00 | |
| 115 In | 244299 | 244148 | 244536 | 245301 | 242700 | 244812 | **0.98** | 5.00 | |
| 208 Pb | 128363 | 128206 | 128508 | 128067 | 128126 | 128907 | **0.73** | 5.00 | |



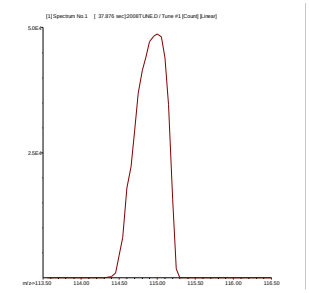
**9 Be**
**Mass Calib.**
Actual: 9.10
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



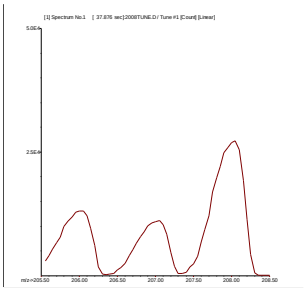
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 114.95
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Jun 06, 2013 01:52 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

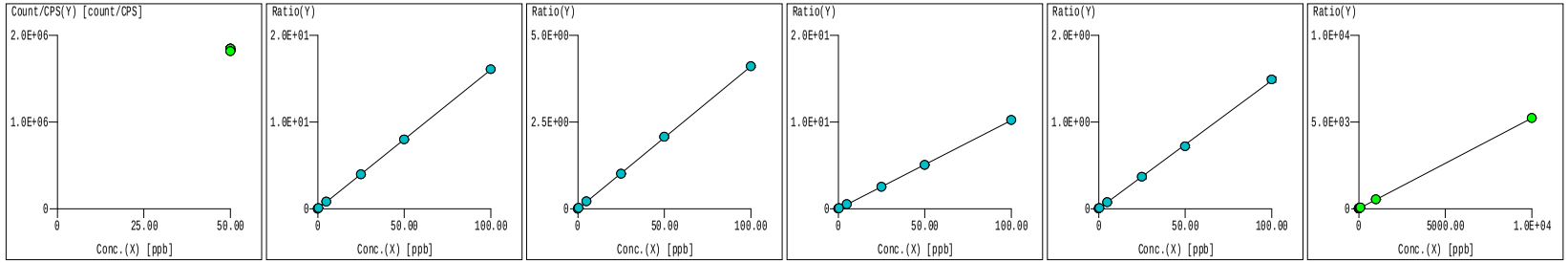
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13f05o00.b\002calb.d\002calb.d# | STDA | Jun 5 2013 02:22 pm |
| 2 | c:\icpchem\1\data\13f05o00.b\003cals.d\003cals.d# | STDB | Jun 5 2013 02:29 pm |
| 3 | c:\icpchem\1\data\13f05o00.b\004cals.d\004cals.d# | STDC | Jun 5 2013 02:36 pm |
| 4 | c:\icpchem\1\data\13f05o00.b\005cals.d\005cals.d# | STDD | Jun 5 2013 02:43 pm |
| 5 | c:\icpchem\1\data\13f05o00.b\006cals.d\006cals.d# | STDE | Jun 5 2013 02:50 pm |
| 6 | c:\icpchem\1\data\13f05o00.b\007cals.d\007cals.d# | STDF | Jun 5 2013 02:57 pm |
| 7 | c:\icpchem\1\data\13f05o00.b\008cals.d\008cals.d# | STDG | Jun 5 2013 03:04 pm |
| 8 | c:\icpchem\1\data\13f05o00.b\009cals.d\009cals.d# | STDH | Jun 5 2013 03:11 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

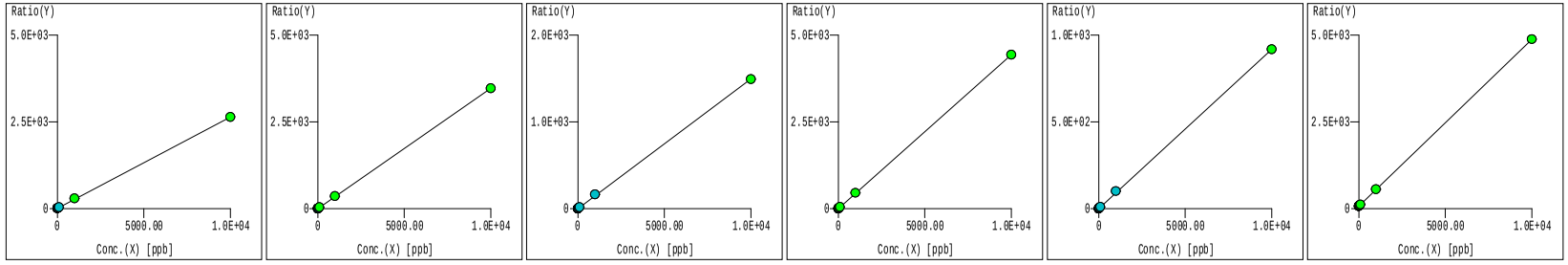
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9998 | 1.0000 |
| < DL > | --- ppb | 3.317E-03 ppb | 6.349E-02 ppb | 3.053E-02 ppb | 3.454E-01 ppb | 5.661E-01 ppb |
| < BEC > | --- ppb | 6.371E-03 ppb | 2.304E-02 ppb | 1.143E-01 ppb | 1.538E-01 ppb | 21.54 ppb |



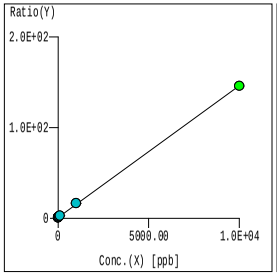

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 5.838E-01 ppb | 3.452E-02 ppb | 2.021E-01 ppb | 1.031E-01 ppb | 4.459E-01 ppb | 1.687 ppb |
| < BEC > | 39.72 ppb | 6.496E-01 ppb | 6.997E-01 ppb | 1.212 ppb | 1.268 ppb | 147.6 ppb |

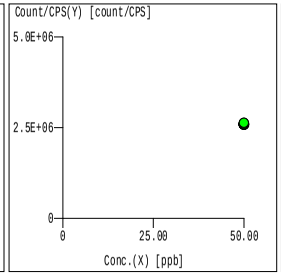


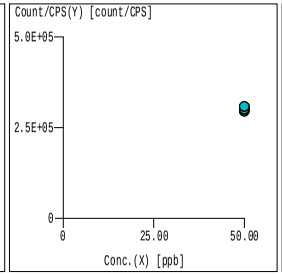
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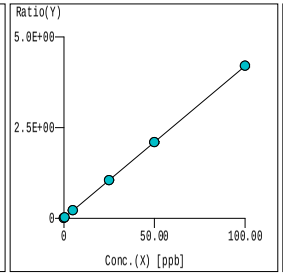
=== Graph Summary ===
Page: 2/4

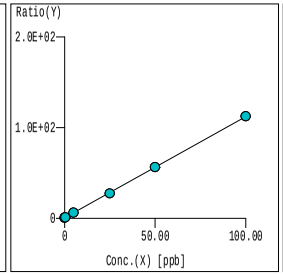
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 0.9999 | 0.9999 |
| < DL > | 6.799E-01 ppb | --- ppb | --- ppb | 7.342E-02 ppb | 2.091E-02 ppb | 5.861E-02 ppb |
| < BEC > | 74.44 ppb | --- ppb | --- ppb | 1.527E-01 ppb | 4.697E-01 ppb | 4.273E-01 ppb |

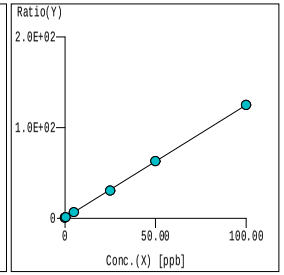


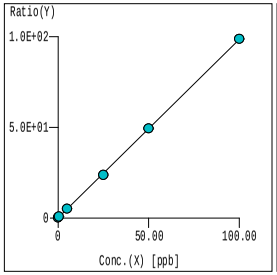



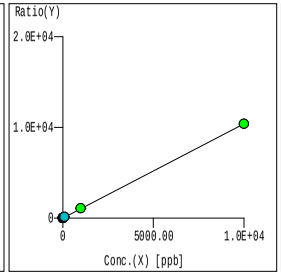



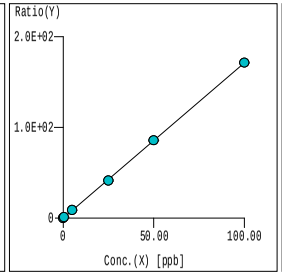



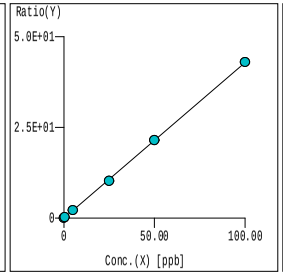



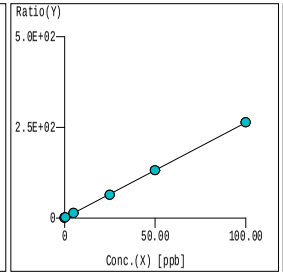

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 |
| < DL > | 2.199E-02 ppb | 1.379 ppb | 1.771E-03 ppb | 1.932E-02 ppb | 1.860E-02 ppb | 2.989E-02 ppb |
| < BEC > | 2.506E-01 ppb | 4.184 ppb | 6.280E-03 ppb | 7.945E-02 ppb | 2.393E-01 ppb | 8.518E-01 ppb |

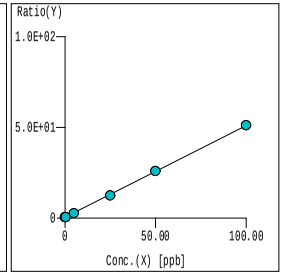


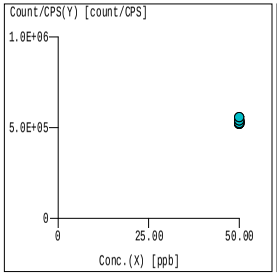



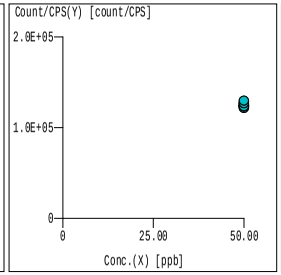



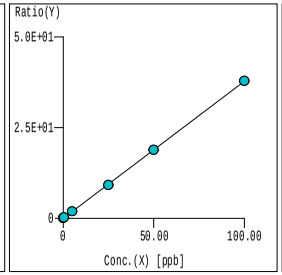
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

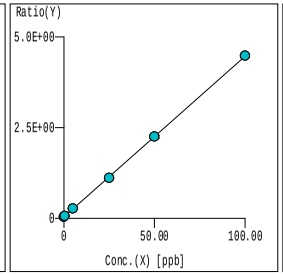
=== Graph Summary ===
Page: 3/4

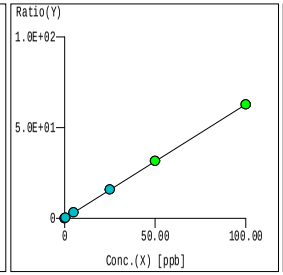
| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 1.043E-02 ppb | 1.223E-01 ppb | 5.925E-03 ppb | 5.555E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.027E-01 ppb | 9.893E-01 ppb | 1.982E-02 ppb | 1.017E-02 ppb |

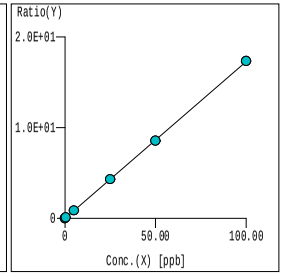


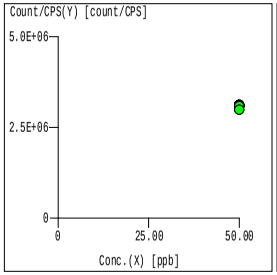



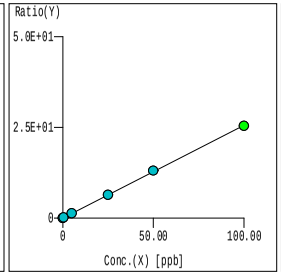



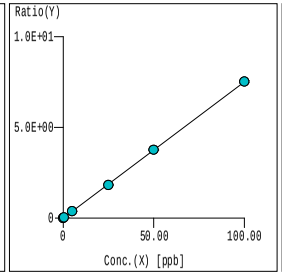



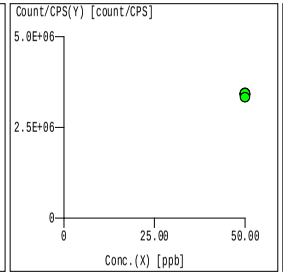



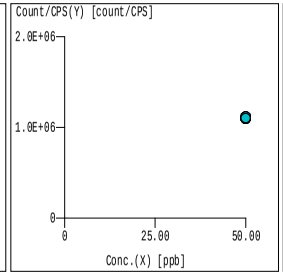

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 7.612E-03 ppb | 6.150E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 1.101E-02 ppb | 4.077E-03 ppb | --- ppb | --- ppb | --- ppb |

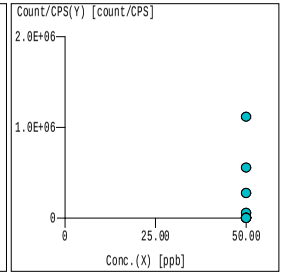


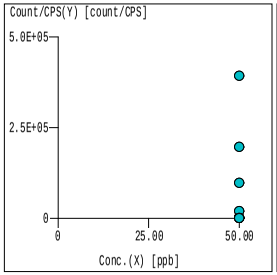



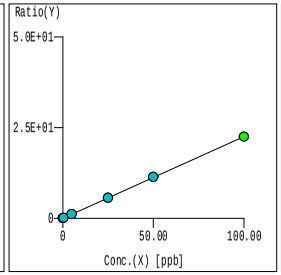



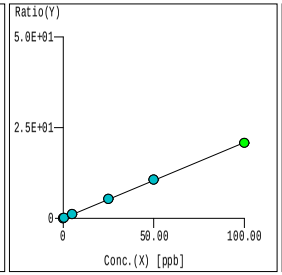
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

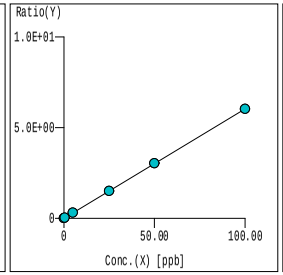
=== Graph Summary ===
Page: 4/4

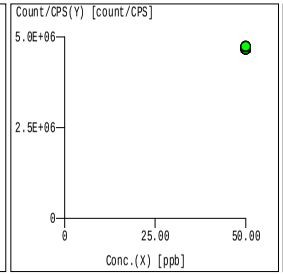
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 2.139E-02 ppb | 3.879E-03 ppb | 1.587E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 1.742E-01 ppb | 2.365E-02 ppb | 1.062E-01 ppb | --- ppb | --- ppb |

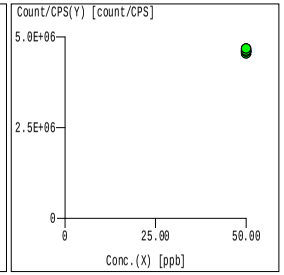


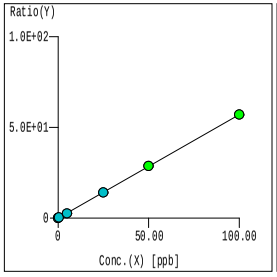



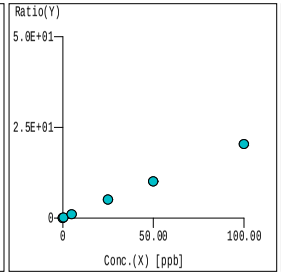



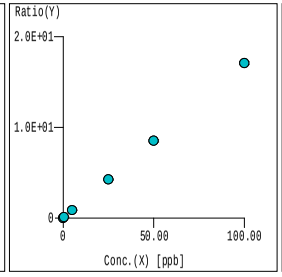



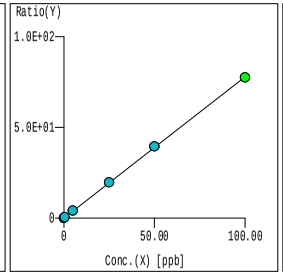



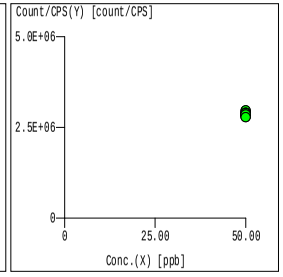

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 8.146E-03 ppb | --- ppb | --- ppb | 3.763E-03 ppb | --- ppb |
| < BEC > | 3.645E-02 ppb | --- ppb | --- ppb | 4.771E-02 ppb | --- ppb |



ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 10:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21072 |
| QC Sample ID: | MC21083-12F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21072-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21072-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072-S1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-11F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC21083-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-14F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-15F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-17F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-18F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-19F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC21083-20F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-6F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21083-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-9F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/03/13

**(Format edits must be done by dept. Manager)**

7.4.1

7

ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 10:15 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21072A |
| QC Sample ID: | MC21083-12F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21072A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21072A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21072A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-11F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC21083-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-14F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-15F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-17F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-18F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-19F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-1F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC21083-20F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-6F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21083-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC21083-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21083-9F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/04/13

**(Format edits must be done by dept. Manager)**

7.4.2

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43080 | 5.0 | 1.1 | mg/l | 250 | 264 | 105.6 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43081 | 5.0 | 1.1 | mg/l | 250 | 262 | 104.8 | 80-120% |
| Chloride | GN43052 | 1.0 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 80-120% |
| Dissolved Organic Carbon | GN42944 | 1.0 | 0.0 | mg/l | 10 | 9.49 | 94.9 | 80-120% |
| Nitrogen, Ammonia | GP16148/GN43137 | 0.10 | 0.0 | mg/l | .50 | 0.44 | 88.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16082/GN42955 | 0.10 | 0.042 | mg/l | 2 | 1.97 | 98.5 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16083/GN42955 | 0.10 | 0.041 | mg/l | 2 | 1.95 | 97.5 | 90-110% |
| Nitrogen, Nitrite | GP16074/GN42940 | 0.010 | 0.0 | mg/l | 0.020 | 0.020 | 100.0 | 80-120% |
| Sulfate | GN43093 | 5.0 | 0.0 | mg/l | 20 | 20.0 | 100.0 | 80-120% |
| Sulfate | GN43094 | 5.0 | 0.0 | mg/l | 20 | 19.8 | 99.0 | 80-120% |
| Sulfide | GN42987 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |
| Sulfide | GN42988 | 2.0 | 0.0 | mg/l | 13.4 | 11.6 | 86.6 | 80-120% |

Associated Samples:
Batch GN42944: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F
Batch GN42987: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-12
Batch GN42988: MC21083-11, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43052: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43080: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43081: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43093: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43094: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16074: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16082: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GP16083: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16148: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43080 | MC21083-1 | mg/l | 27.6 | 27.6 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43081 | MC21083-12 | mg/l | 15.5 | 15.5 | 0.0 | 0-20% |
| Chloride | GN43052 | MC21083-12 | mg/l | 1.8 | 1.8 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN42944 | MC21083-12F | mg/l | 2.0 | 2.8 | 33.3(a) | 0-20% |
| Nitrogen, Ammonia | GP16148/GN43137 | MC21083-12 | mg/l | 0.029 U | 0.0 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16082/GN42955 | MC21083-1 | mg/l | 0.089 | 0.086 | 3.4 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16083/GN42955 | MC21083-12 | mg/l | 0.19 | 0.18 | 5.4 | 0-20% |
| Nitrogen, Nitrite | GP16074/GN42940 | MC21083-12 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |
| Sulfate | GN43093 | MC21083-3 | mg/l | 27.0 | 27.0 | 0.0 | 0-20% |
| Sulfate | GN43094 | MC21083-12 | mg/l | 1.5 U | 3.6 | 0.0 | 0-20% |
| Sulfide | GN42987 | MC21083-12 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN42988 | MC21156-1 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN42944: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F
Batch GN42987: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-12
Batch GN42988: MC21083-11, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43052: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43080: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43081: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43093: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43094: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16074: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16082: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GP16083: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16148: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43080 | MC21083-1 | mg/l | 27.6 | 250 | 282 | 101.8 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43081 | MC21083-12 | mg/l | 15.5 | 250 | 278 | 105.0 | 75-125% |
| Chloride | GN43052 | MC21083-12 | mg/l | 1.8 | 10 | 12.3 | 105.0 | 75-125% |
| Dissolved Organic Carbon | GN42944 | MC21083-12F | mg/l | 2.0 | 10 | 12.6 | 106.0 | 75-125% |
| Nitrogen, Ammonia | GP16148/GN43137 | MC21083-12 | mg/l | 0.029 U | .50 | 0.51 | 102.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16082/GN42955 | MC21083-1 | mg/l | 0.089 | 2 | 2.2 | 105.6 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16083/GN42955 | MC21083-12 | mg/l | 0.19 | 2 | 2.4 | 110.5(a) | 90-110% |
| Nitrogen, Nitrite | GP16074/GN42940 | MC21083-12 | mg/l | 0.0017 U | 0.020 | 0.020 | 100.0 | 75-125% |
| Sulfate | GN43093 | MC21083-3 | mg/l | 27.0 | 40 | 63.5 | 91.3 | 75-125% |
| Sulfate | GN43094 | MC21083-12 | mg/l | 1.5 U | 20 | 24.0 | 102.0 | 75-125% |
| Sulfide | GN42987 | MC21083-12 | mg/l | 0.49 U | 10.3 | 10.0 | 97.1 | 75-125% |
| Sulfide | GN42988 | MC21156-1 | mg/l | 0.49 U | 13.4 | 11.4 | 85.1 | 75-125% |

Associated Samples:
Batch GN42944: MC21083-1F, MC21083-2F, MC21083-3F, MC21083-4F, MC21083-5F, MC21083-6F, MC21083-8F, MC21083-9F, MC21083-10F, MC21083-11F, MC21083-12F, MC21083-13F, MC21083-14F, MC21083-15F, MC21083-16F, MC21083-17F, MC21083-18F, MC21083-19F
Batch GN42987: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-12
Batch GN42988: MC21083-11, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43052: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43080: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43081: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GN43093: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GN43094: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16074: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16082: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11
Batch GP16083: MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
Batch GP16148: MC21083-1, MC21083-2, MC21083-3, MC21083-4, MC21083-5, MC21083-6, MC21083-8, MC21083-9, MC21083-10, MC21083-11, MC21083-12, MC21083-13, MC21083-14, MC21083-15, MC21083-16, MC21083-17, MC21083-18, MC21083-19
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC052313W1.TXT  Date Analyzed: 05/23/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN42944
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:46 | GN42944-CCV1 | 1 | | |
| 10:59 | GN42944-CCB1 | 1 | | |
| 11:10 | ZZZZZZ | 1 | | DNR, sparger check STD. |
| 11:23 | GN42944-ICV1 | 1 | | |
| 11:36 | GN42944-MB1 | 1 | | |
| 11:49 | GN42944-B1 | 1 | | |
| 12:34 | GN42944-S1 | 1 | | |
| 12:47 | GN42944-D1 | 1 | | |
| 13:00 | MC21083-12F | 1 | | |
| 13:13 | MC21083-1F | 1 | | |
| 13:24 | MC21083-2F | 1 | | |
| 13:39 | MC21083-3F | 1 | | |
| 13:52 | GN42944-CCV2 | 1 | | |
| 14:03 | GN42944-CCB2 | 1 | | |
| 14:14 | MC21083-4F | 1 | | |
| 14:29 | MC21083-5F | 1 | | |
| 14:42 | MC21083-6F | 1 | | |
| 14:55 | MC21083-8F | 1 | | |
| 15:08 | MC21083-9F | 1 | | |
| 15:21 | MC21083-10F | 1 | | |
| 15:34 | MC21083-11F | 1 | | |
| 15:47 | MC21083-13F | 1 | | |
| 16:00 | MC21083-14F | 1 | | |
| 16:13 | MC21083-15F | 1 | | |
| 16:26 | GN42944-CCV3 | 1 | | |
| 16:37 | GN42944-CCB3 | 1 | | |
| 16:50 | MC21083-16F | 1 | | |
| 17:03 | MC21083-17F | 1 | | |
| 17:16 | MC21083-18F | 1 | | |
| 17:29 | MC21083-19F | 1 | | |
| 17:42 | GN42944-CCV4 | 1 | | |
| 17:53 | GN42944-CCB4 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC052313W1.TXT  Date Analyzed: 05/23/13  Methods: SM21 5310 B
Run ID: GN42944  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN42944-CCV1 | Dissolved Organic Carbon | 19.9 | 1.0 | 0.23 | 20 | 99.5 | 90-110 |
| GN42944-CCB1 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN42944-ICV1 | Dissolved Organic Carbon | 29.5 | 1.0 | 0.23 | 30 | 98.3 | 90-110 |
| GN42944-CCV2 | Dissolved Organic Carbon | 19.6 | 1.0 | 0.23 | 20 | 98.0 | 90-110 |
| GN42944-CCB2 | Dissolved Organic Carbon | 0.27 | 1.0 | 0.23 | | | |
| GN42944-CCV3 | Dissolved Organic Carbon | 19.2 | 1.0 | 0.23 | 20 | 96.0 | 90-110 |
| GN42944-CCB3 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN42944-CCV4 | Dissolved Organic Carbon | 19.1 | 1.0 | 0.23 | 20 | 95.5 | 90-110 |
| GN42944-CCB4 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 052313W3.NO3 Date Analyzed: 05/23/13 Methods: EPA 353.2
Analyst: CF Run ID: GN42955
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:24 | GN42955-STD1 | 1 | | STDA5.0 |
| 15:25 | GN42955-STD2 | 1 | | STDB2.0 |
| 15:27 | GN42955-STD3 | 1 | | STDC1.0 |
| 15:28 | GN42955-STD4 | 1 | | STDD0.80 |
| 15:29 | GN42955-STD5 | 1 | | STDE0.50 |
| 15:30 | GN42955-STD6 | 1 | | STDF0.30 |
| 15:32 | GN42955-STD7 | 1 | | STDG0.10 |
| 15:33 | GN42955-STD8 | 1 | | STDH0.0 |
| 15:35 | GN42955-ICV1 | 1 | | |
| 15:36 | GN42955-ICB1 | 1 | | |
| 15:37 | GN42955-CCV1 | 1 | | |
| 15:39 | GN42955-CCB1 | 1 | | |
| 15:40 | ZZZZZZ | 1 | | Column efficiency. |
| 15:41 | GP16082-MB1 | 1 | | |
| 15:42 | GP16082-B1 | 1 | | |
| 15:44 | GP16082-S1 | 1 | | |
| 15:45 | GP16082-D1 | 1 | | |
| 15:46 | MC21083-1 | 1 | | |
| 15:47 | MC21083-2 | 1 | | |
| 15:49 | MC21083-3 | 1 | | |
| 15:50 | MC21083-4 | 1 | | |
| 15:51 | MC21083-5 | 1 | | |
| 15:52 | GN42955-CCV2 | 1 | | |
| 15:53 | GN42955-CCB2 | 1 | | |
| 15:55 | MC21083-6 | 1 | | |
| 15:56 | MC21083-8 | 1 | | |
| 15:57 | MC21083-9 | 1 | | |
| 15:58 | MC21083-10 | 1 | | |
| 16:00 | MC21083-11 | 1 | | |
| 16:01 | GN42955-CCV3 | 1 | | |
| 16:02 | GN42955-CCB3 | 1 | | |
| 16:03 | GN42955-ICV2 | 1 | | |
| 16:05 | GN42955-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 052313W3.NO3 Date Analyzed: 05/23/13 Methods: EPA 353.2
Analyst: CF Run ID: GN42955
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:06 | GN42955-CCV4 | 1 | | |
| 16:07 | GN42955-CCB4 | 1 | | |
| 16:08 | ZZZZZZ | 1 | | COlumn efficiency. |
| 16:10 | GP16083-MB1 | 1 | | |
| 16:11 | GP16083-B1 | 1 | | |
| 16:12 | GP16083-S1 | 1 | | |
| 16:13 | GP16083-D1 | 1 | | |
| 16:15 | MC21083-12 | 1 | | |
| 16:16 | MC21083-13 | 1 | | |
| 16:17 | MC21083-14 | 1 | | Raw data typo, MC12083-14 changed to MC21083-14. |
| 16:18 | MC21083-15 | 1 | | Raw data typo, MC12083-15 changed to MC21083-15. |
| 16:20 | MC21083-16 | 1 | | |
| 16:21 | GN42955-CCV5 | 1 | | |
| 16:22 | GN42955-CCB5 | 1 | | |
| 16:23 | MC21083-17 | 1 | | |
| 16:25 | MC21083-18 | 1 | | |
| 16:26 | MC21083-19 | 1 | | |
| 16:27 | GN42955-CCV6 | 1 | | |
| 16:28 | GN42955-CCB6 | 1 | | |
| 16:51 | GN42955-STD9 | 1 | | STDA5.0 |
| 16:52 | GN42955-STD10 | 1 | | STDB2.0 |
| 16:53 | GN42955-STD11 | 1 | | STDC1.0 |
| 16:55 | GN42955-STD12 | 1 | | STDD0.80 |
| 16:56 | GN42955-STD13 | 1 | | STDE0.50 |
| 16:57 | GN42955-STD14 | 1 | | STDF0.30 |
| 16:58 | GN42955-STD15 | 1 | | STDG0.10 |
| 17:00 | GN42955-STD16 | 1 | | STDH0.0 |
| 17:02 | GN42955-ICV3 | 1 | | |
| 17:03 | GN42955-ICB3 | 1 | | |
| 17:04 | GN42955-CCV7 | 1 | | |
| 17:05 | GN42955-CCB7 | 1 | | |
| 17:07 | ZZZZZZ | 1 | | Column efficiency. |
| 17:08 | GP16084-MB1 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 052313W3.NO3 Date Analyzed: 05/23/13 Methods: EPA 353.2
Analyst: CF Run ID: GN42955
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:09 | GP16084-B1 | 1 | | |
| 17:10 | ZZZZZZ | 1 | | DNR, offscale. |
| 17:12 | GP16084-D1 | 1 | | |
| 17:13 | MC21026-1 | 1 | | (sample used for QC only; not part of login MC21083) |
| 17:14 | ZZZZZZ | 1 | | |
| 17:15 | ZZZZZZ | 1 | | |
| 17:17 | ZZZZZZ | 1 | | |
| 17:18 | ZZZZZZ | 1 | | |
| 17:19 | GN42955-CCV8 | 1 | | |
| 17:20 | GN42955-CCB8 | 1 | | |
| 17:34 | GN42955-CCV9 | 1 | | |
| 17:35 | GN42955-CCB9 | 1 | | |
| 17:36 | ZZZZZZ | 1 | | |
| 17:38 | ZZZZZZ | 1 | | |
| 17:39 | ZZZZZZ | 1 | | |
| 17:40 | ZZZZZZ | 1 | | |
| 17:41 | ZZZZZZ | 1 | | |
| 17:43 | GP16084-S1 | 5 | | |
| 17:44 | GN42955-CCV10 | 1 | | |
| 17:45 | GN42955-CCB10 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21083
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 052313W3.NO3 Date Analyzed: 05/23/13 Methods: EPA 353.2
Run ID: GN42955 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN42955-ICV1 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN42955-ICB1 | Nitrogen, Nitrate + Nitrite | 0.043 | 0.10 | 0.027 | | | |
| GN42955-CCV1 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN42955-CCB1 | Nitrogen, Nitrate + Nitrite | 0.040 | 0.10 | 0.027 | | | |
| GN42955-CCV2 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN42955-CCB2 | Nitrogen, Nitrate + Nitrite | 0.048 | 0.10 | 0.027 | | | |
| GN42955-CCV3 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN42955-CCB3 | Nitrogen, Nitrate + Nitrite | 0.048 | 0.10 | 0.027 | | | |
| GN42955-ICV2 | Nitrogen, Nitrate + Nitrite | 2.9 | 0.10 | 0.027 | 3 | 96.7 | 90-110 |
| GN42955-ICB2 | Nitrogen, Nitrate + Nitrite | 0.045 | 0.10 | 0.027 | | | |
| GN42955-CCV4 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN42955-CCB4 | Nitrogen, Nitrate + Nitrite | 0.042 | 0.10 | 0.027 | | | |
| GN42955-CCV5 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN42955-CCB5 | Nitrogen, Nitrate + Nitrite | 0.041 | 0.10 | 0.027 | | | |
| GN42955-CCV6 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN42955-CCB6 | Nitrogen, Nitrate + Nitrite | 0.050 | 0.10 | 0.027 | | | |
| GN42955-ICV3 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN42955-ICB3 | Nitrogen, Nitrate + Nitrite | 0.034 | 0.10 | 0.027 | | | |
| GN42955-CCV7 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN42955-CCB7 | Nitrogen, Nitrate + Nitrite | 0.033 | 0.10 | 0.027 | | | |
| GN42955-CCV8 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN42955-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN42955-CCV9 | Nitrogen, Nitrate + Nitrite | 1.8 | 0.10 | 0.027 | 2 | 90.0 | 90-110 |
| GN42955-CCB9 | Nitrogen, Nitrate + Nitrite | 0.035 | 0.10 | 0.027 | | | |
| GN42955-CCV10 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN42955-CCB10 | Nitrogen, Nitrate + Nitrite | 0.043 | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ Units: mg/l as N
SM 21TH 4500 NO2 B M (Solids) ○ mg/kg as I

Analyst: CRYSTALL
GN Batch ID: GN42940
GP Batch ID: GP16074
Date: 5/22/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 5/22/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.034 | 0.068 | 0.167 | 0.336 | 0.676 | 1.329 | | | | |
| Actual Value: | -0.001 | 0.010 | 0.020 | 0.050 | 0.100 | 0.203 | 0.399 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-29939-NO2 | Reagent | |
| CCV | GNSTD-29939-NO2-4 | Reagent | |
| ICV | GNSTD-29940-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99997
Slope = 0.30045
Intercept = -0.00060

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21083-12 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC21083-12 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.02 | % Rec: | 100% | |
| MB Prep Date: | 05/22/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 05/22/13 | Res: | 0.020 | Spike Amt: | 0.02 | % Rec: | 100% | | | |
| SB Prep Date: | 05/22/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.102 | % Rec: | 102% | |
| CCV (1) Res: | 0.1995 | Known: | 0.20 | % Rec: | 100% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:28 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.200 | 0.1995 | 0.010 |
| 19:48 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0006 | 0.010 |
| 19:48 | ICV | N/A | | 50 | 50 | 1 | 0.341 | 0.000 | 0.102 | 0.1019 | 0.010 |
| 19:48 | GP16074-MB1 | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0006 | 0.010 |
| 19:48 | GP16074-B1 | N/A | | 50 | 50 | 1 | 0.069 | 0.000 | 0.020 | 0.0201 | 0.010 |
| 19:48 | GP16074-S1 | 6 | 1 | 50 | 50 | 1 | 0.070 | 0.000 | 0.020 | 0.0204 | 0.010 |
| 19:48 | GP16074-D1 | 6 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.002 | 0.0015 | 0.010 |
| 19:48 | MC21083-12 | 6 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0012 | 0.010 |
| 19:48 | MC21083-1 | 6 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:48 | MC21083-2 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.002 | 0.0015 | 0.010 |
| 19:48 | MC21083-3 | 7 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:48 | MC21083-4 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0006 | 0.010 |
| 19:48 | CCV | N/A | | 50 | 50 | 1 | 0.664 | 0.000 | 0.199 | 0.1989 | 0.010 |
| 19:52 | CCB | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:52 | MC21083-5 | 8 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:52 | MC21083-6 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 19:52 | MC21083-8 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 19:52 | MC21083-9 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0012 | 0.010 |
| 19:52 | MC21083-10 | 6 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:52 | MC21083-11 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.002 | 0.0015 | 0.010 |
| 19:52 | MC21083-13 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0000 | 0.010 |
| 19:52 | MC21083-14 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0000 | 0.010 |
| 19:52 | MC21083-15 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0000 | 0.010 |
| 19:52 | MC21083-16 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0006 | 0.010 |
| 19:52 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.200 | 0.1995 | 0.010 |
| 19:55 | CCB | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 19:55 | MC21083-17 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0000 | 0.010 |
| 19:55 | MC21083-18 | 7 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.003 | 0.0027 | 0.010 |
| 19:55 | MC21083-19 | 6 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.003 | 0.0030 | 0.010 |
| 19:55 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.200 | 0.1995 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0003 | 0.010 |

CW 5-22-13

Analyst: Crystal Worden Date: 5-22-13 QC Reviewer: [signature] Date: 5-23-13

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MEHDIA | **Test/Analysis** | DOC SM21 5310-B |
| **Date** | 5/23/13 | **Analysis Batch ID** | GN42944 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | |
| **File ID** | TOC052313W1.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | **29949-TOC** | **1:1 Phosphoric Acid** | RGT- | 35504-TOC |
| **ICV** | GNSTD- | **29950-TOC-1** | | | |
| **CCV** | GNSTD- | **29951-TOC-1** | | | |
| **Sparger check STD** | GNSTD- | **29952-TOC-1** | | | |
| **2 M HCL** | RGT- | **34715-TOC** | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN42944-S1 | 19, 18 | < 2 | MC21083-9F | 6 | < 2 | | | | | | |
| GN42944-D1 | 17 | < 2 | MC21083-10F | 6 | < 2 | | | | | | |
| MC21083-12F | 16 | < 2 | MC21083-11F | 6 | < 2 | | | | | | |
| MC21083-1F | 6 | < 2 | MC21083-13F | 6 | < 2 | | | | | | |
| MC21083-2F | 6 | < 2 | MC21083-14F | 6 | < 2 | | | | | | |
| MC21083-3F | 6 | < 2 | MC21083-15F | 6 | < 2 | | | | | | |
| MC21083-4F | 6 | < 2 | MC21083-16F | 6 | < 2 | | | | | | |
| MC21083-5F | 6 | < 2 | MC21083-17F | 6 | < 2 | | | | | | |
| MC21083-6F | 6 | < 2 | MC21083-18F | 6 | < 2 | | | | | | |
| MC21083-8F | 6 | < 2 | MC21083-19F | 6 | < 2 | | | | | | |

**COMMENTS**

**QC Review** **Date:** 5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Instr.Information**

Instrument Options: TOC/ASI/
Catalyst: Regular Sensitivity

**Cal. Curve**

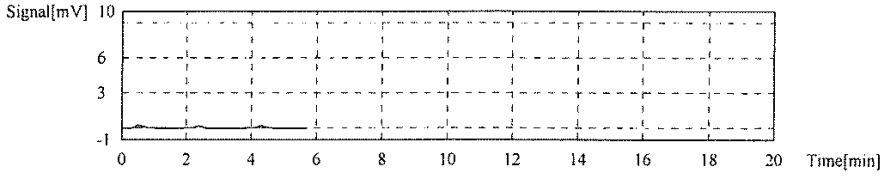
Sample Name: STD
Sample ID:
Cal. Curve: TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal
Status: Completed

| Type | Acid |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.4620 | 50uL | 1.000 | ******* | E | 5/23/2013 9:14:59 AM |
| 2 | 0.2175 | 50uL | 1.000 | ******* | | 5/23/2013 9:17:06 AM |
| 3 | 0.2451 | 50uL | 1.000 | ******* | | 5/23/2013 9:19:15 AM |

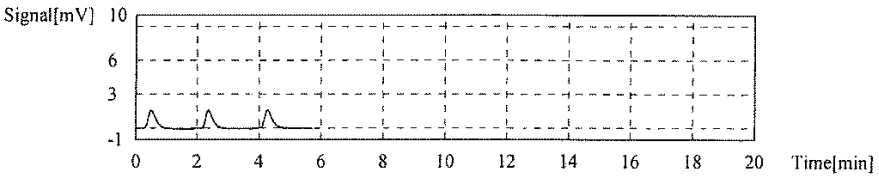
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 0.2313




Conc: 1.000mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 2.988 | 50uL | 1.000 | ******* | E | 5/23/2013 9:27:58 AM |
| 2 | 2.549 | 50uL | 1.000 | ******* | | 5/23/2013 9:30:07 AM |
| 3 | 2.531 | 50uL | 1.000 | ******* | | 5/23/2013 9:32:16 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 2.540




Conc: 5.000mg/L

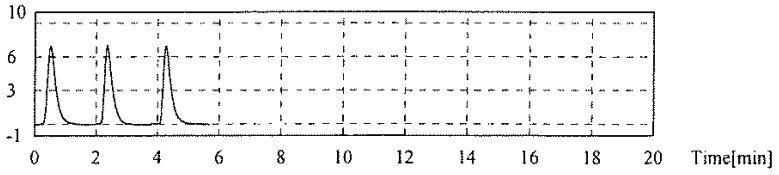
| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 13.31 | 50uL | 8.000 | ******* | E | 5/23/2013 9:41:43 AM |
| 2 | 12.40 | 50uL | 8.000 | ******* | | 5/23/2013 9:43:53 AM |
| 3 | 12.39 | 50uL | 8.000 | ******* | | 5/23/2013 9:46:02 AM |

5,24,13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

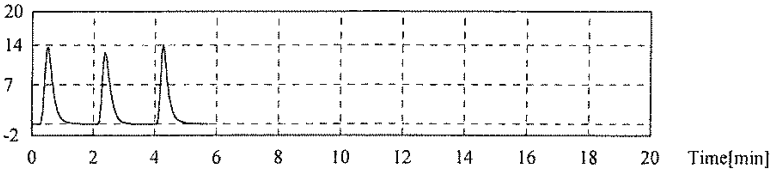
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 12.40




Conc: 10.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 26.31 | 50uL | 4.000 | ******* | E | 5/23/2013 9:53:36 AM |
| 2 | 24.26 | 50uL | 4.000 | ******* | | 5/23/2013 9:55:41 AM |
| 3 | 24.46 | 50uL | 4.000 | ******* | | 5/23/2013 9:57:46 AM |

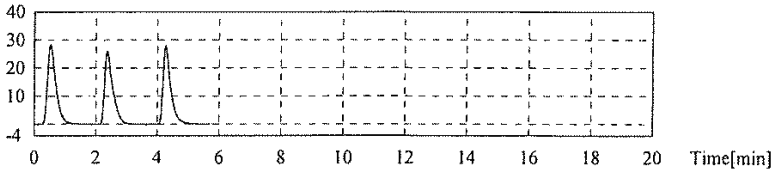
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 24.36




Conc: 20.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 53.92 | 50uL | 2.000 | ******* | E | 5/23/2013 10:05:18 AM |
| 2 | 49.78 | 50uL | 2.000 | ******* | | 5/23/2013 10:07:23 AM |
| 3 | 49.88 | 50uL | 2.000 | ******* | | 5/23/2013 10:09:28 AM |

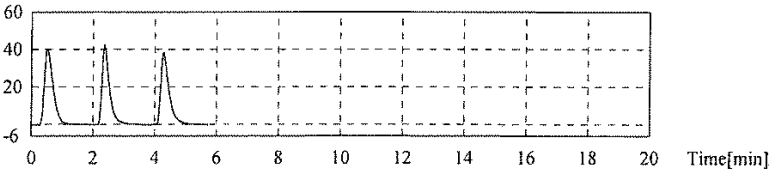
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 49.83




Conc: 30.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.19 | 50uL | 1.000 | ******* | E | 5/23/2013 10:18:28 AM |
| 2 | 73.55 | 50uL | 1.000 | ******* | | 5/23/2013 10:20:33 AM |
| 3 | 73.41 | 50uL | 1.000 | ******* | | 5/23/2013 10:22:39 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 73.48




Conc: 40.00mg/L

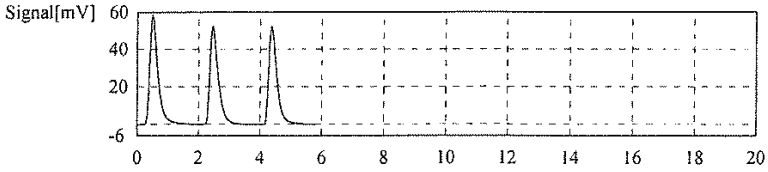
5/24/13

# TOC-Control L Report

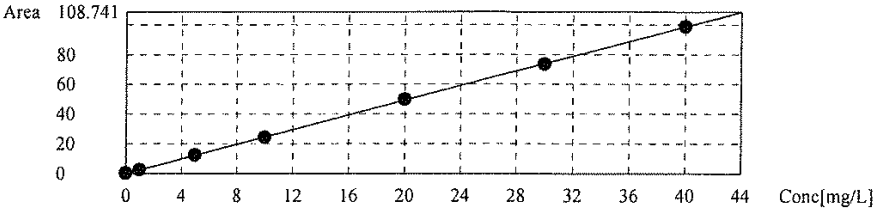
Wetchem
TOC052313W1.tlx

| No | Area | Inj. Vol | Aut. Dil. | Rem. | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 107.5 | 50uL | 1.000 | ******* | E | 5/23/2013 10:31:29 AM |
| 2 | 99.13 | 50uL | 1.000 | ******* | | 5/23/2013 10:33:34 AM |
| 3 | 98.58 | 50uL | 1.000 | ******* | | 5/23/2013 10:35:43 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 98.86




Slope: 2.464
Intercept 0.07706
r^2 0.9999
r 1.0000
Zero Shift No




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

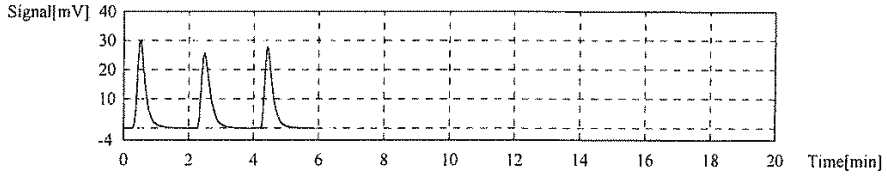
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC.19.91mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 53.59 | 21.72mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 10:44:31 AM |
| 2 | 49.78 | 20.17mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 10:46:43 AM |
| 3 | 48.46 | 19.64mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 10:48:52 AM |

Mean Area 49.12
Mean Conc. 19.91mg/L




**Sample**

5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

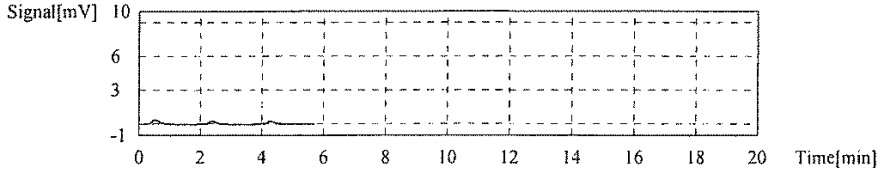
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1151mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.6962 | 0.2513mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 10:57:37 AM |
| 2 | 0.4036 | 0.1325mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 10:59:46 AM |
| 3 | 0.3177 | 0.09767mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:01:55 AM |

Mean Area 0.3607
Mean Conc. 0.1151mg/L




**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

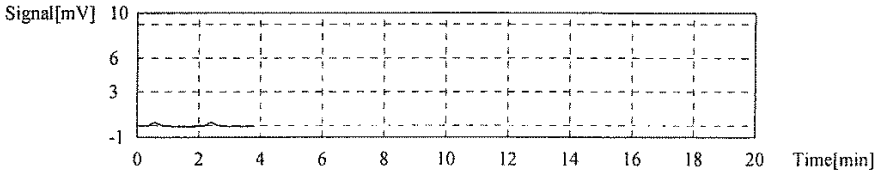
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1679mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5300 | 0.1838mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:10:37 AM |
| 2 | 0.4514 | 0.1519mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:12:46 AM |

Mean Area 0.4907
Mean Conc. 0.1679mg/L




**Sample**

5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

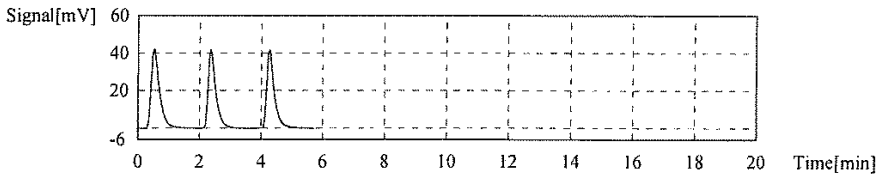
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:29.48mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 79.37 | 32.18mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:21:35 AM |
| 2 | 73.07 | 29.63mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:23:40 AM |
| 3 | 72.34 | 29.33mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:25:50 AM |

Mean Area 72.71
Mean Conc. 29.48mg/L




**Sample**

Sample Name: GN42944-MB1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

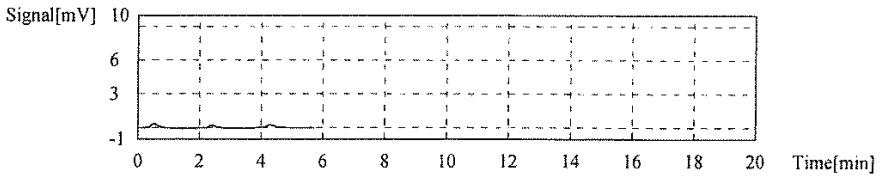
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1123mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5516 | 0.1926mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:34:35 AM |
| 2 | 0.3341 | 0.1043mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:36:45 AM |
| 3 | 0.3732 | 0.1202mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:38:53 AM |

Mean Area 0.3537
Mean Conc. 0.1123mg/L




5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tix

**Sample**

Sample Name: GN42944-B1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

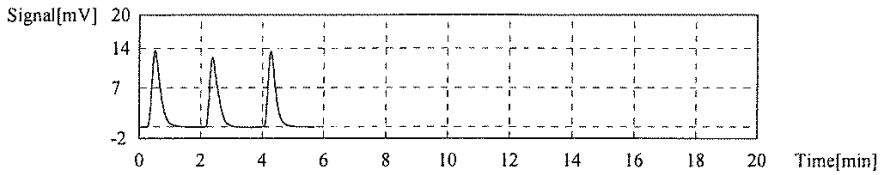
| Type | Area | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.489mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 26.21 | 10.61mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:47:39 AM |
| 2 | 23.68 | 9.580mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:49:48 AM |
| 3 | 23.23 | 9.398mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 11:51:57 AM |

Mean Area 23.45
Mean Conc. 9.489mg/L




**Sample**

Sample Name: GN42944-S1
Sample ID: MC21083-12F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

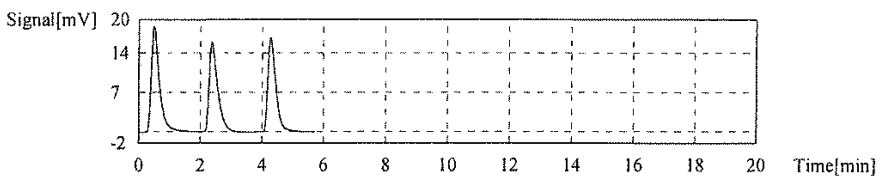
| Type | Area | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:12.59mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 34.41 | 13.94mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:32:17 PM |
| 2 | 31.41 | 12.72mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:34:22 PM |
| 3 | 30.78 | 12.46mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:36:30 PM |

Mean Area 31.09
Mean Conc. 12.59mg/L




5/24/13



9.2 9

# TOC-Control L Report

Welchem
TOC052313W1.tlx

**Sample**

Sample Name: GN42944-D1
Sample ID: MC21083-12F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

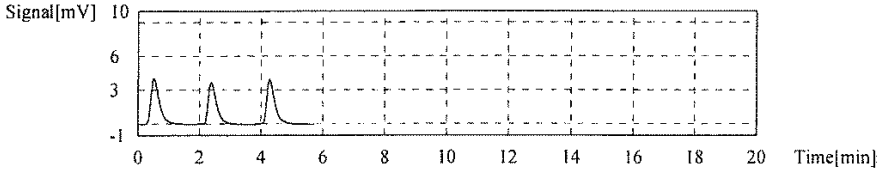
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.847mg/L |

1. Det

Anal.: NPOC

| NO. | Area | Conc. | Inj. Vol | Aut. Di. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.740 | 3.110mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:45:14 PM |
| 2 | 6.965 | 2.796mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:47:23 PM |
| 3 | 7.218 | 2.898mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:49:32 PM |

Mean Area 7.091
Mean Conc. 2.847mg/L




**Sample**

Sample Name: MC21083-12F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

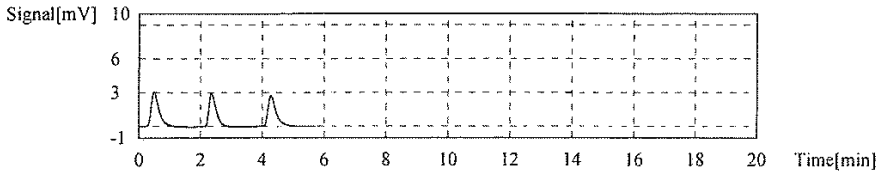
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.980mg/L |

1. Det

Anal.: NPOC

| NO. | Area | Conc. | Inj. Vol | Aut. Di. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.590 | 2.238mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 12:58:18 PM |
| 2 | 4.924 | 1.967mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:00:28 PM |
| 3 | 4.985 | 1.992mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:02:33 PM |

Mean Area 4.955
Mean Conc. 1.980mg/L




5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Sample**

Sample Name: MC21083-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

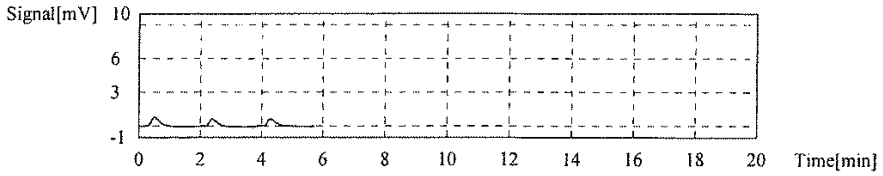
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.4286mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.636 | 0.6328mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:11:18 PM |
| 2 | 1.139 | 0.4310mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:13:27 PM |
| 3 | 1.127 | 0.4262mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:15:36 PM |

Mean Area 1.133
Mean Conc. 0.4286mg/L




**Sample**

Sample Name: MC21083-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.685mg/L |

1. Det

Anal.: NPOC

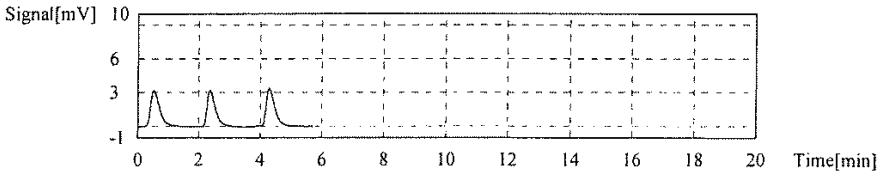
| No. | Area | Conc | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.781 | 2.721mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:24:22 PM |
| 2 | 6.071 | 2.433mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:26:31 PM |
| 3 | 6.604 | 2.649mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:28:36 PM |

5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

Mean Area 6.693
Mean Conc. 2.685mg/L




**Sample**

Sample Name: MC21083-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

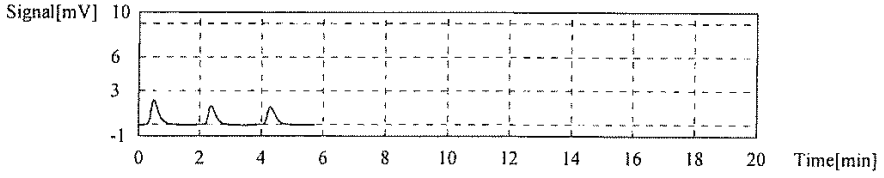
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.146mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.890 | 1.548mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:37:21 PM |
| 2 | 2.997 | 1.185mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:39:31 PM |
| 3 | 2.804 | 1.107mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:41:40 PM |

Mean Area 2.901
Mean Conc. 1.146mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:19.64mg/L |

1. Det

Anal.: NPOC

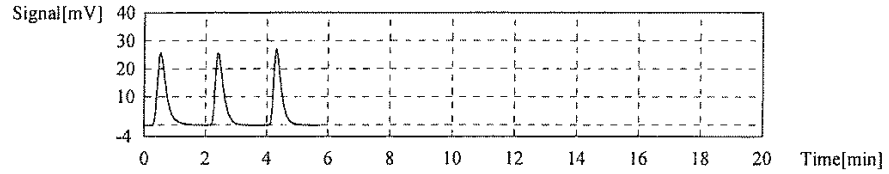
5/24/13

# TOC-Control L Report

Wetchem
TOC052313WI.tlx

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.75 | 21.38mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:50:27 PM |
| 2 | 48.66 | 19.72mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:52:32 PM |
| 3 | 48.28 | 19.57mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 1:54:41 PM |

Mean Area 48.47
Mean Conc. 19.64mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

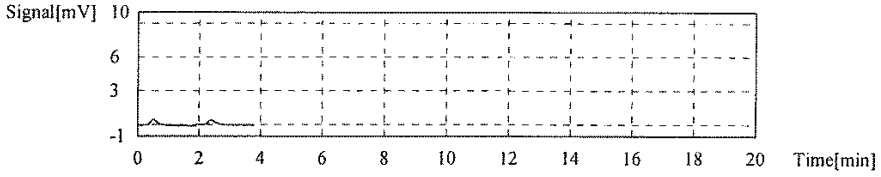
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.2719mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8006 | 0.2937mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:03:24 PM |
| 2 | 0.6931 | 0.2500mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:05:34 PM |

Mean Area 0.7469
Mean Conc. 0.2719mg/L




**Sample**

Sample Name: MC21083-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.778mg/L |

1. Det

Anal.: NPOC

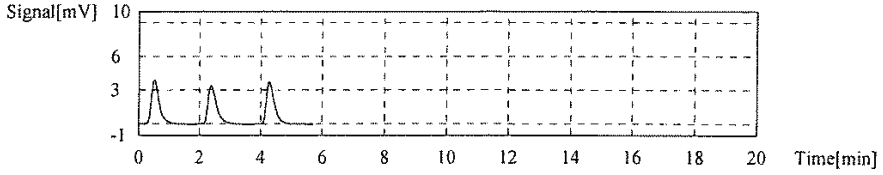
5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.058 | 2.834mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:14:24 PM |
| 2 | 6.436 | 2.581mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:16:34 PM |
| 3 | 6.785 | 2.723mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:18:39 PM |

Mean Area 6.922
Mean Conc. 2.778mg/L




**Sample**

Sample Name: MC21083-5F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

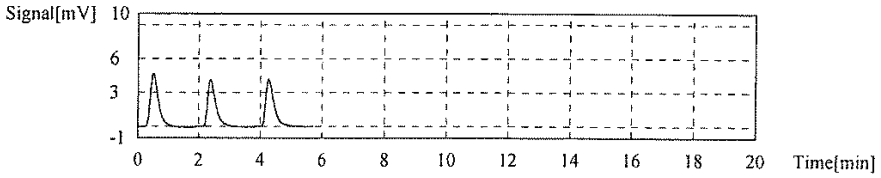
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.162mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.853 | 3.562mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:27:24 PM |
| 2 | 7.911 | 3.180mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:29:33 PM |
| 3 | 7.824 | 3.144mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:31:38 PM |

Mean Area 7.868
Mean Conc. 3.162mg/L




**Sample**

Sample Name: MC21083-6F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.141mg/L |

1. Det

5/24/13



9.2 9

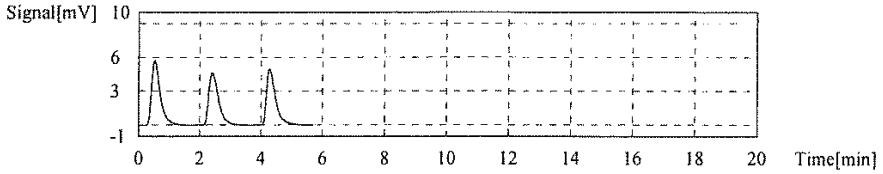
# TOC-Control L Report

Wetchem
TOC052313W1.tlx

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Di | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 11.49 | 4.632mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:40:21 PM |
| 2 | 10.34 | 4.166mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:42:30 PM |
| 3 | 10.22 | 4.117mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:44:35 PM |

Mean Area 10.28
Mean Conc. 4.141mg/L




**Sample**

Sample Name: MC21083-8F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

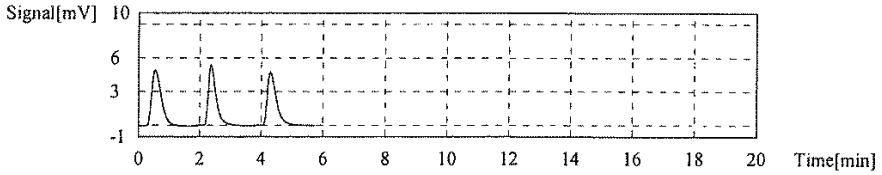
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.941mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Di | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.82 | 4.360mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:53:18 PM |
| 2 | 9.823 | 3.956mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:55:27 PM |
| 3 | 9.751 | 3.927mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 2:57:35 PM |

Mean Area 9.787
Mean Conc. 3.941mg/L




**Sample**

Sample Name: MC21083-9F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.761mg/L |

5/24/13

# TOC-Control L Report

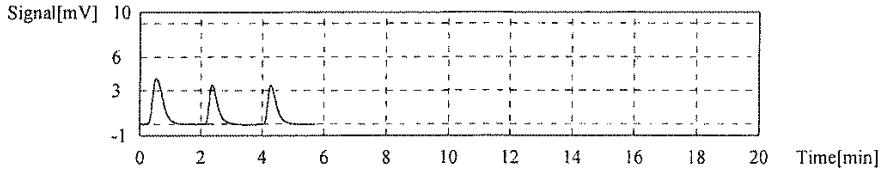
Wetchem
TOC052313W1.tlx

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut. Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.655 | 3.888mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:06:33 PM |
| 2 | 6.849 | 2.749mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:08:38 PM |
| 3 | 6.910 | 2.773mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:10:43 PM |

Mean Area 6.880
Mean Conc. 2.761mg/L




**Sample**

Sample Name: MC21083-10F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

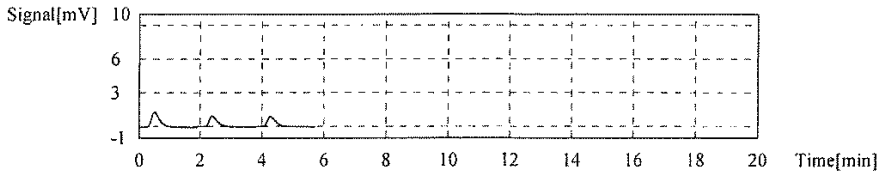
| Type | Analyte | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 0.6494mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut. Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 2.392 | 0.9396mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:19:28 PM |
| 2 | 1.755 | 0.6811mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:21:37 PM |
| 3 | 1.599 | 0.6177mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:23:42 PM |

Mean Area 1.677
Mean Conc. 0.6494mg/L




**Sample**

Sample Name: MC21083-11F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

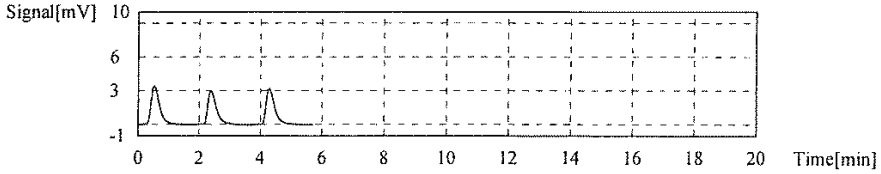
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.398mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.575 | 2.637mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:32:27 PM |
| 2 | 5.826 | 2.333mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:34:35 PM |
| 3 | 6.144 | 2.463mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:36:44 PM |

Mean Area 5.985
Mean Conc. 2.398mg/L




**Sample**

Sample Name: MC21083-13F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

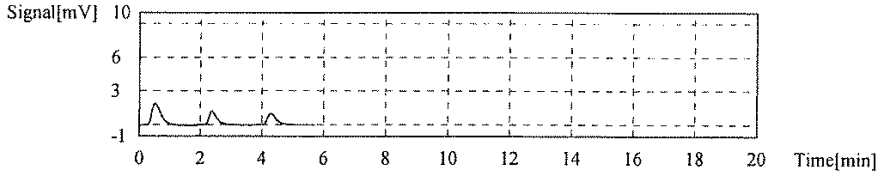
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.7900mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.966 | 1.578mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:45:30 PM |
| 2 | 2.086 | 0.8154mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:47:39 PM |
| 3 | 1.961 | 0.7647mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:49:44 PM |

Mean Area 2.024
Mean Conc. 0.7900mg/L




**Sample**

5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

Sample Name: MC21083-14F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

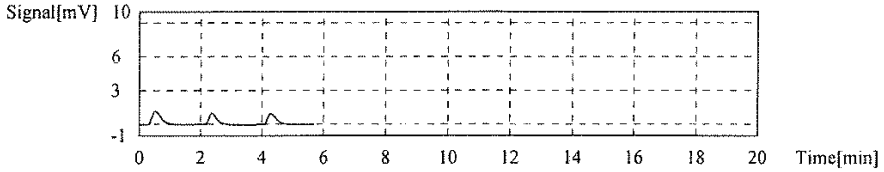
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.6863mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Anal. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 2.401 | 0.9433mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 3:58:29 PM |
| 2 | 1.791 | 0.6957mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:00:37 PM |
| 3 | 1.745 | 0.6770mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:02:46 PM |

Mean Area 1.768
Mean Conc. 0.6863mg/L




**Sample**

Sample Name: MC21083-15F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

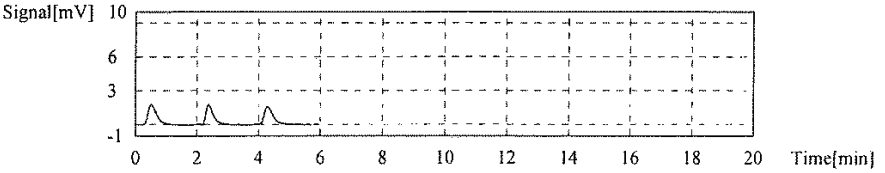
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.217mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Anal. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.622 | 1.439mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:11:32 PM |
| 2 | 3.052 | 1.208mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:13:41 PM |
| 3 | 3.097 | 1.226mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:15:46 PM |

Mean Area 3.075
Mean Conc. 1.217mg/L




5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

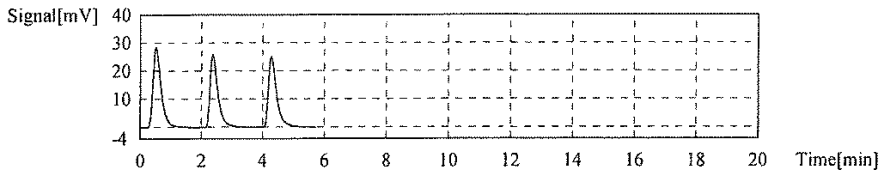
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:19.24mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.58 | 21.31mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:24:30 PM |
| 2 | 47.51 | 19.25mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:26:39 PM |
| 3 | 47.47 | 19.24mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:28:44 PM |

Mean Area 47.49
Mean Conc. 19.24mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

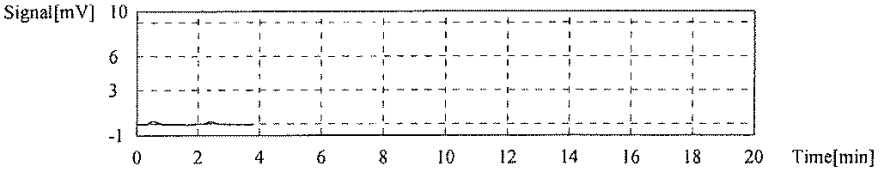
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1373mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4537 | 0.1529mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:37:28 PM |
| 2 | 0.3771 | 0.1218mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:39:37 PM |

Mean Area 0.4154
Mean Conc. 0.1373mg/L




5/24/13



9.2 9

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Sample**

Sample Name: MC21083-16F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

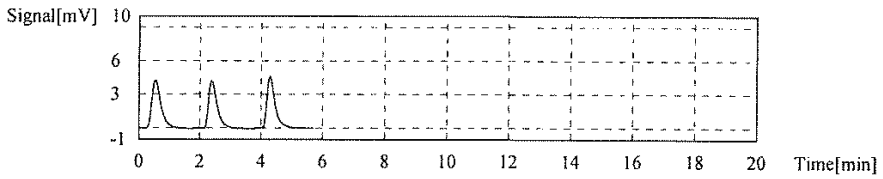
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.366mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.975 | 3.612mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:48:26 PM |
| 2 | 8.180 | 3.289mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:50:36 PM |
| 3 | 8.558 | 3.442mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 4:52:45 PM |

Mean Area 8.369
Mean Conc. 3.366mg/L




**Sample**

Sample Name: MC21083-17F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

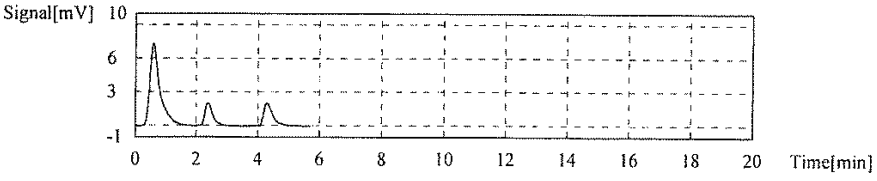
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.553mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 17.11 | 6.914mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:01:31 PM |
| 2 | 3.645 | 1.448mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:03:36 PM |
| 3 | 4.160 | 1.657mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:05:44 PM |

Mean Area 3.902
Mean Conc. 1.553mg/L




5,24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Sample**

Sample Name: MC21083-18F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

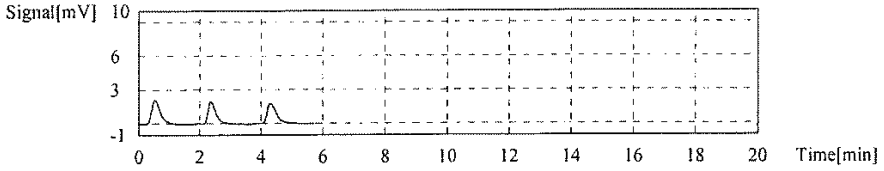
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.445mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | 4.274 | 1.704mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:14:29 PM |
| 2 | 3.681 | 1.463mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:16:38 PM |
| 3 | 3.594 | 1.428mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:18:47 PM |

Mean Area 3.638
Mean Conc. 1.445mg/L




**Sample**

Sample Name: MC21083-19F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

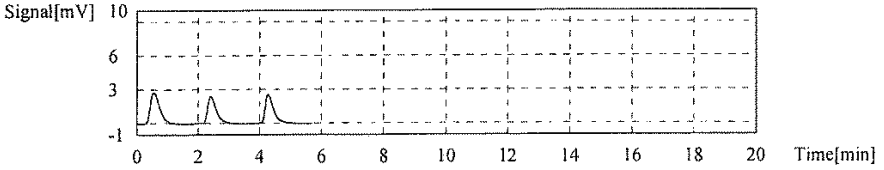
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.929mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.054 | 2.426mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:27:30 PM |
| 2 | 4.783 | 1.910mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:29:39 PM |
| 3 | 4.874 | 1.947mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:31:44 PM |

Mean Area 4.829
Mean Conc. 1.929mg/L




5/24/13

# TOC-Control L Report

Wetchem
TOC052313W1.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

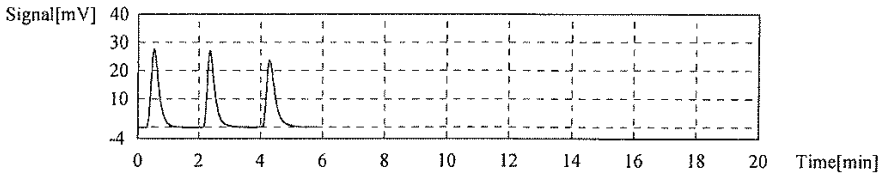
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:19.06mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 50.52 | 20.47mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:40:27 PM |
| 2 | 46.97 | 19.03mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:42:36 PM |
| 3 | 47.09 | 19.08mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:44:44 PM |

Mean Area 47.03
Mean Conc. 19.06mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

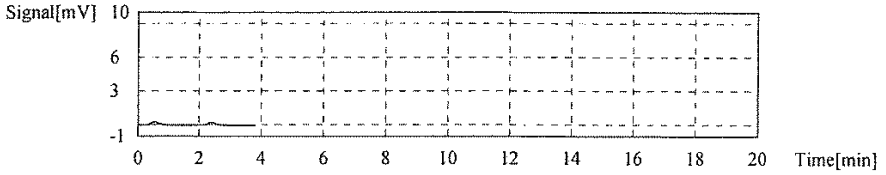
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.1417mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4840 | 0.1652mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:53:30 PM |
| 2 | 0.3681 | 0.1181mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_23_09_06_56.cal | 5/23/2013 5:55:39 PM |

Mean Area 0.4261
Mean Conc. 0.1417mg/L




5/24/13

ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 5/23/13 | **Analysis Batch ID** | GN42955 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16082,GP16083,GP16084 |
| **File ID** | 052313W3.NO3, 052313W4.NO3,052313W5.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | **29953-NO3** | **Color Reagent** | RGT- | 35565-NO3 |
| **ICV** | GNSTD- | **29954-NO3-2** | **Buffer** | RGT- | 35706-NO3 |
| **CCV** | GNSTD- | **29953-NO3-4** | | | |
| **Column EFF STD** | GNSTD- | **29955-NO3-2** | | | |
| **Ammonium Hydroxide** | VENDOR- | **12241** | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16082-S1 | 2 | 8.6 | MC21083-10 | 2 | 8.6 | MC21083-18 | 2 | 8.8 | MC21068-3 | 5 | 7.3 |
| **GP16082-D1** | 2 | 8.6 | MC21083-11 | 2 | 8.7 | MC21083-19 | 2 | 8.2 | MC21068-7 | 5 | 7.1 |
| **MC21083-1** | 2 | 8.6 | GP16083-S1 | 4 | 8.5 | GP16084-S1 | 4 | 7.9 | MC21068-13 | 5 | 7.5 |
| **MC21083-2** | 2 | 7.5 | GP16083-D1 | 4 | 8.5 | GP16084-D1 | 4 | 7.9 | MC21068-16 | 5 | 7.5 |
| **MC21083-3** | 2 | 8.2 | MC21083-12 | 4 | 8.5 | MC21026-1 | 4 | 7.9 | | | |
| **MC21083-4** | 2 | 8.6 | MC21083-13 | 2 | 8.4 | MC21026-7 | 4 | 8.1 | | | |
| **MC21083-5** | 2 | 8.5 | MC21083-14 | 2 | 8.3 | MC21026-9 | 4 | 8.6 | | | |
| **MC21083-6** | 2 | 7.9 | MC21083-15 | 2 | 8.2 | MC21026-11 | 4 | 8.5 | | | |
| **MC21083-8** | 2 | 8.4 | MC21083-16 | 2 | 7.6 | MC21026-14 | 4 | 8.3 | | | |
| **MC21083-9** | 2 | 8.5 | MC21083-17 | 2 | 8.5 | MC21026-15 | 4 | 8.1 | | | |

**COMMENTS**

**QC Review** Date: 5/24/13

Author: chemistry Date : 5/23/2013

Original Run Filename: OM_5-23-2013_03-23-40PM.OMN Created: 5/23/2013 3:23:40 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_5-23-2013_03-23-40PM.OMN Last Modified: 5/23/2013 4:49:41 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF | |
|---|---|---|---|---|
| StdA5.0 | 1 | 5.00 | | |
| StdB2.0 | 1 | 2.00 | | |
| StdC1.0 | 1 | 1.00 | | |
| StdD0.80 | 1 | 0.800 | | |
| StdE0.50 | 1 | 0.500 | | |
| StdF0.30 | 1 | 0.300 | | |
| StdG0.10 | 1 | 0.100 | | |
| StdH0.0 | 1 | 0.00 | | |
| ICV | 1 | 2.98 | | |
| Calibration: | | Table/Fig. : 1 | | |
| ICB | 1 | 0.0428 | | |
| CCV | 1 | 1.97 | | |
| CCB | 1 | 0.0399 | | |
| COLEFFCONF | 1 | 2.00 | | |
| GP16082-MB1 | 1 | 0.0419 | | |
| GP16082-B1 | 1 | 1.97 | | |
| GP16082-S1 | 1 | 2.15 | | |
| GP16082-D1 | 1 | 0.0862 | | |
| MC21083-1 | 1 | 0.0886 | | |
| MC21083-2 | 1 | 0.0552 | | |
| MC21083-3 | 1 | 0.337 | | |
| MC21083-4 | 1 | 0.460 | | |
| MC21083-5 | 1 | 0.0611 | | |
| CCV | 1 | 1.94 | | |
| CCB | 1 | 0.0483 | | |
| MC21083-6 | 1 | 0.0560 | | |
| MC21083-8 | 1 | 0.450 | | |
| MC21083-9 | 1 | 0.404 | | |
| MC21083-10 | 1 | 0.0497 | | |
| MC21083-11 | 1 | 0.341 | | |
| CCV | 1 | 1.91 | | |
| CCB | 1 | 0.0483 | | |
| ICV | 1 | 2.92 | | |
| ICB | 1 | 0.0449 | | |
| CCV | 1 | 2.03 | | |
| CCB | 1 | 0.0417 | | |
| COLEFFCONF | 1 | 1.97 | | |
| GP16083-MB1 | 1 | 0.0407 | | |
| GP16083-B1 | 1 | 1.95 | | |
| GP16083-S1 | 1 | 2.35 | | |
| GP16083-D1 | 1 | 0.178 | | |
| MC21083-12 | 1 | 0.186 | | |
| MC21083-13 | 1 | 0.621 | | |
| ~~MC12083~~-14 | 1 | 0.644 | | |
| ~~MC12083~~-15 | 1 | 0.0522 | | |
| MC21083-16 | 1 | 0.276 | | |
| CCV | 1 | 2.08 | | |
| CCB | 1 | 0.0413 | | |
| MC21083-17 | 1 | 0.183 | | |
| MC21083-18 | 1 | 0.372 | | |
| MC21083-19 | 1 | 0.519 | | |
| CCV | 1 | 2.00 | | |
| CCB | 1 | 0.0500 | | |
| ICV | 1 | 2.62 | | |
| ICB | 1 | 0.0415 | | |
| CCV | 1 | 1.69 | | |
| CCB | 1 | 0.0410 | | |
| COLEFFCONF | 1 | 1.80 | | |
| GP16084-MB1 | 1 | 0.0425 | | |
| GP16084-B1 | 1 | 1.75 | | |

MC21083
MC21083

QW TUPO 5-28-13
QW TUPO 5-29-13

DNR, ICV, CCV, SB FAIL

5/24/13

Author: chemistry

Date : 5/23/2013

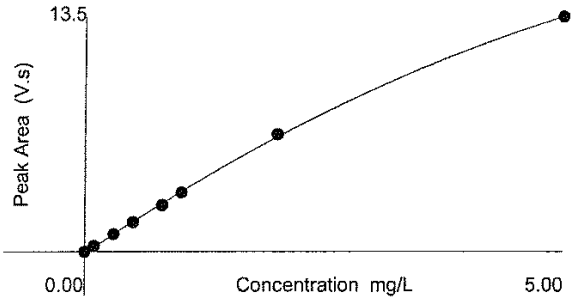
| | | | |
|---|---|---|---|
| GP16084-S1 | 1 | 5.14 | |
| GP16084-D1 | 1 | 3.65 | |
| MC21026-1 | 1 | 3.81 | |
| MC21026-7 | 1 | 0.0706 | |
| MC21026-9 | 1 | 0.455 | |
| MC21026-11 | 1 | 0.253 | |
| MC21026-14 | 1 | 0.489 | |
| CCV | 1 | 1.81 | |

DNRICU, CCU, SB FDLC

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 13.5 | 1.28 | 0.0 | 0.1 | 4.99 | 5/23/2013 | 3:24:36 PM |
| 2 | 2.00 | 1 | 6.73 | 0.714 | 0.0 | -2.0 | 2.08 | 5/23/2013 | 3:25:51 PM |
| 3 | 1.00 | 1 | 3.39 | 0.367 | 0.0 | 2.1 | 0.960 | 5/23/2013 | 3:27:07 PM |
| 4 | 0.800 | 1 | 2.66 | 0.286 | 0.0 | 4.4 | 0.745 | 5/23/2013 | 3:28:22 PM |
| 5 | 0.500 | 1 | 1.70 | 0.185 | 0.0 | 2.1 | 0.476 | 5/23/2013 | 3:29:37 PM |
| 6 | 0.300 | 1 | 0.995 | 0.107 | 0.0 | 1.7 | 0.292 | 5/23/2013 | 3:30:53 PM |
| 7 | 0.100 | 1 | 0.326 | 0.0352 | 0.0 | -18.6 | 0.124 | 5/23/2013 | 3:32:08 PM |
| 8 | 0.00 | 1 | -0.0183 | -1.36e-3 | | | 0.0415 | 5/23/2013 | 3:33:24 PM |

Figure : 1 (NO3)




Area = - 0.209 * Conc^2 + 3.77 * Conc - 0.100
Conc = 9.52e-3 * Area^2 + 0.237 * Area + 0.0459
Correlation Coefficient (r) = 0.99983

Weighting : None

5/24/13

Author: chemistry

Date : 5/23/2013

Original Run Filename: OM_5-23-2013_04-50-26PM.OMN Created: 5/23/2013 4:50:26 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_5-23-2013_04-50-26PM.OMN Last Modified: 5/23/2013 5:31:51 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.16 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0342 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0333 | |
| COLEFFCONF | 1 | 2.12 | |
| GP16084-MB1 | 1 | 0.0346 | |
| GP16084-B1 | 1 | 2.07 | |
| GP16084-S1 | 1 | 5.87 | |
| GP16084-D1 | 1 | 4.12 | |
| MC21026-1 | 1 | 4.30 | |
| MC21026-7 | 1 | 0.0575 | |
| MC21026-9 | 1 | 0.476 | |
| MC21026-11 | 1 | 0.263 | |
| MC21026-14 | 1 | 0.529 | |
| CCV | 1 | 1.89 | |
| CCB | 1 | -5.98e-3 | |
| MC21026-15 | 1 | 0.396 | |
| MC21068-3 | 1 | 0.481 | |
| MC21068-7 | 1 | 0.411 | |
| MC21068-13 | 1 | 0.236 | |
| MC21068-16 | 1 | 0.0804 | |
| GP16084-S1 | 1 | 2.53 | 5.00 |
| CCV | 1 | 1.97 | |
| CCB | 1 | 0.122 | |

ONR CCB FAILS

Table : 1 (NO3)

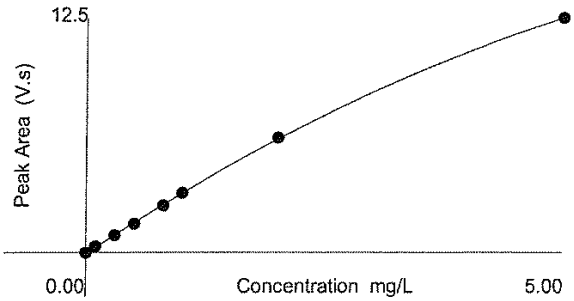
| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 12.5 | 1.18 | 0.0 | 0.1 | 4.99 | 5/23/2013 | 4:51:22 PM |
| 2 | 2.00 | 1 | 6.12 | 0.621 | 0.0 | -1.1 | 2.05 | 5/23/2013 | 4:52:37 PM |
| 3 | 1.00 | 1 | 3.16 | 0.327 | 0.0 | 0.3 | 0.981 | 5/23/2013 | 4:53:53 PM |
| 4 | 0.800 | 1 | 2.50 | 0.261 | 0.0 | 2.1 | 0.765 | 5/23/2013 | 4:55:09 PM |
| 5 | 0.500 | 1 | 1.53 | 0.158 | 0.0 | 4.3 | 0.467 | 5/23/2013 | 4:56:24 PM |
| 6 | 0.300 | 1 | 0.910 | 0.0937 | 0.0 | 3.2 | 0.287 | 5/23/2013 | 4:57:39 PM |
| 7 | 0.100 | 1 | 0.321 | 0.0336 | 0.0 | -19.3 | 0.124 | 5/23/2013 | 4:58:54 PM |
| 8 | 0.00 | 1 | -0.0183 | -1.90e-3 | | | 0.0329 | 5/23/2013 | 5:00:10 PM |

5/24/13

Author: chemistry

Date : 5/23/2013

Figure : 1 (NO3)




Area = - 0.182 * Conc^2 + 3.43 * Conc - 0.0720
Conc = 0.0105 * Area^2 + 0.265 * Area + 0.0377
Correlation Coefficient (r) = 0.99992

Weighting : None

9.3

9

5/24/13

Author: chemistry

Date : 5/23/2013

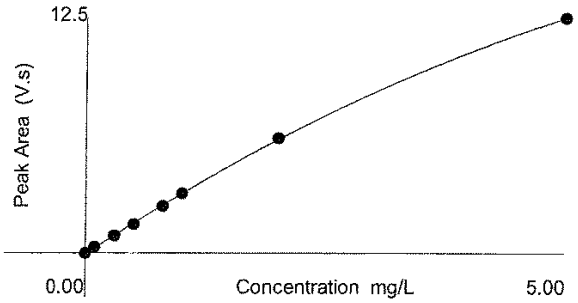
Original Run Filename: OM_5-23-2013_05-33-32PM.OMN Created: 5/23/2013 5:33:32 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_5-23-2013_05-33-32PM.OMN Last Modified: 5/23/2013 5:46:46 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| CCV | 1 | 1.81 | |
| CCB | 1 | 0.0349 | |
| Calibration: | | Table/Fig. : 1 | |
| MC21026-15 | 1 | 0.377 | |
| MC21068-3 | 1 | 0.458 | |
| MC21068-7 | 1 | 0.432 | |
| MC21068-13 | 1 | 0.248 | |
| MC21068-16 | 1 | 0.0857 | |
| GP16084-S1 | 1 | 2.82 | 5.00 |
| CCV | 1 | 2.06 | |
| CCB | 1 | 0.0425 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 12.5 | 1.18 | 0.0 | 0.1 | 4.99 | 5/23/2013 | 4:51:22 PM |
| 2 | 2.00 | 1 | 6.12 | 0.621 | 0.0 | -1.1 | 2.05 | 5/23/2013 | 4:52:37 PM |
| 3 | 1.00 | 1 | 3.16 | 0.327 | 0.0 | 0.3 | 0.981 | 5/23/2013 | 4:53:53 PM |
| 4 | 0.800 | 1 | 2.50 | 0.261 | 0.0 | 2.1 | 0.765 | 5/23/2013 | 4:55:09 PM |
| 5 | 0.500 | 1 | 1.53 | 0.158 | 0.0 | 4.3 | 0.467 | 5/23/2013 | 4:56:24 PM |
| 6 | 0.300 | 1 | 0.910 | 0.0937 | 0.0 | 3.2 | 0.287 | 5/23/2013 | 4:57:39 PM |
| 7 | 0.100 | 1 | 0.321 | 0.0336 | 0.0 | -19.3 | 0.124 | 5/23/2013 | 4:58:54 PM |
| 8 | 0.00 | 1 | -0.0183 | -1.90e-3 | | | 0.0329 | 5/23/2013 | 5:00:10 PM |

Figure : 1 (NO3)




Area = - 0.182 * Conc^2 + 3.43 * Conc - 0.0720
Conc = 0.0105 * Area^2 + 0.265 * Area + 0.0377
Correlation Coefficient (r) = 0.99992

Weighting : None

5/24/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42987
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21083-12 | Original: | <2 | MS: | 10 | Spk Amt | 10.3 | %REC 97% |
| Dup Sample ID: | MC21083-12 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | |
| Method Blank Date: | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | |
| Spk Blk Date: | 05/28/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit: | 90-110 | Known | 13.40 | Res | 12.2 | %REC 91% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42987-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42987-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 3 | GN42987-S1 | 20 | 260 | 19 | 32.5 | 13.50 | 10.0 | 10.0 | 2 |
| 11 | GN42987-D1 | 5 | 260 | 32.5 | 37.5 | 5.00 | 0.0 | <2 | 2 |
| 15 | MC21083-12 | 5 | 250 | 37.5 | 42.5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-1 | 5 | 250 | 42.5 | 47.5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-2 | 5 | 250 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-3 | 5 | 250 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-4 | 5 | 275 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-5 | 5 | 260 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-6 | 5 | 250 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-8 | 5 | 250 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-9 | 5 | 250 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-10 | 5 | 240 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.9 | 13.90 | 12.2 | 12.2 | 2 |

5-28-13 BI

Analyst: _____ Date: 5-28-13 QC Reviewer: _____ Date: 5.28.13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42988
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21156-1 | Original: | <2 | MS: | 11.4 | Spk Amt | 13.4 | %REC 85% |
| Dup Sample ID: | MC21156-1 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | |
| Method Blank Date | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | |
| Spk Blk Date: | 05/08/13 | Result: | 11.6 | SPK AMT. | 13.4 | %Rec | 86.6% | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42988-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42988-B1 | 20 | 200 | 5 | 19.2 | 14.20 | 11.6 | 11.6 | 2 |
| 8 | GN42988-S1 | 20 | 200 | 19.2 | 33.5 | 14.30 | 11.4 | 11.4 | 2 |
| 8 | GN42988-D1 | 5 | 200 | 33.5 | 38.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-1 | 5 | 195 | 38.5 | 43.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-2 | 5 | 260 | 43.5 | 48.5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-11 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-13 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-14 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-15 | 5 | 260 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-16 | 5 | 240 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-17 | 5 | 260 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-18 | 5 | 260 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-19 | 5 | 260 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

5-28-13 AJ

Analyst: _____ Date: 5-28-13

QC Reviewer: _____ Date: 5.30.13

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN43052** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 5/31/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN43052-MB1 | Date: | 5/31/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN43052-B1 | Date: | 5/31/2013 | Res: | 10 | Spike: | 10 | % Rec: | 100% | | |
| Duplicate ID: | MC21083-12 | Smpl Res:: | 1.8 | Dup Res: | 1.8 | % RPD: | 0% | | | | |
| MS ID: | MC21083-12 | Smpl Res: | 1.8 | MS Res: | 12.3 | Spike: | 10 | % Rec: | 105% | | |
| External: | GNSTD-29135-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.075 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43052-MB1 | 2.51 | 50.0 | 1 | 0.0 | 0.0750 | 0.0750 | 0.000 | 0.0 | 0 | 1 |
| | GN43052-B1 | 2.49 | 50.0 | 1 | 0.0 | 1.0750 | 1.0750 | 1.000 | 10.0 | 10 | 1 |
| 2 | GN43052-S1 | 2.47 | 50.0 | 1 | 0.0 | 1.3000 | 1.3000 | 1.225 | 12.3 | 12.25 | 1 |
| 2 | GN43052-D1 | 2.47 | 50.0 | 1 | 0.0 | 0.2500 | 0.2500 | 0.175 | 1.8 | 1.75 | 1 |
| 2 | MC21083-12 | 2.48 | 50.0 | 1 | 0.0 | 0.2500 | 0.2500 | 0.175 | 1.8 | 1.75 | 1 |
| 1 | MC21083-1 | 2.52 | 50.0 | 1 | 0.0 | 3.1000 | 3.1000 | 3.025 | 30.2 | 30.24 | 1 |
| 1 | MC21083-2 | 2.49 | 50.0 | 1 | 0.0 | 1.9500 | 1.9500 | 1.875 | 18.7 | 18.74 | 1 |
| 1 | MC21083-3 | 2.51 | 50.0 | 1 | 0.0 | 0.5000 | 0.5000 | 0.425 | 4.3 | 4.25 | 1 |
| 1 | MC21083-4 | 2.46 | 50.0 | 1 | 0.0 | 4.3000 | 4.3000 | 4.225 | 42.2 | 42.24 | 1 |
| 1 | MC21083-5 | 2.53 | 50.0 | 1 | 0.0 | 5.6500 | 5.6500 | 5.575 | 55.7 | 55.73 | 1 |
| 1 | MC21083-6 | 2.52 | 50.0 | 1 | 0.0 | 1.7000 | 1.7000 | 1.625 | 16.2 | 16.24 | 1 |
| 1 | MC21083-8 | 2.49 | 50.0 | 10 | 0.0 | 1.6000 | 1.6000 | 1.525 | 15.3 | 152.5 | 10 |
| 1 | MC21083-9 | 2.54 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.575 | 5.8 | 5.75 | 1 |
| 1 | MC21083-10 | 2.45 | 50.0 | 1 | 0.0 | 0.3500 | 0.3500 | 0.275 | 2.8 | 2.75 | 1 |
| 1 | MC21083-11 | 2.53 | 50.0 | 1 | 0.0 | 3.2000 | 3.2000 | 3.125 | 31.2 | 31.24 | 1 |
| 1 | MC21083-13 | 2.46 | 50.0 | 1 | 0.0 | 3.1500 | 3.1500 | 3.075 | 30.7 | 30.74 | 1 |
| 1 | MC21083-14 | 2.47 | 50.0 | 1 | 0.0 | 3.1500 | 3.1500 | 3.075 | 30.7 | 30.74 | 1 |
| 1 | MC21083-15 | 2.49 | 50.0 | 1 | 0.0 | 0.4000 | 0.4000 | 0.325 | 3.3 | 3.25 | 1 |
| 1 | MC21083-16 | 2.49 | 50.0 | 1 | 0.0 | 2.8500 | 2.8500 | 2.775 | 27.7 | 27.74 | 1 |
| 1 | MC21083-17 | 2.48 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.575 | 5.8 | 5.75 | 1 |
| 1 | MC21083-18 | 2.47 | 50.0 | 1 | 0.0 | 3.6500 | 3.6500 | 3.575 | 35.7 | 35.74 | 1 |
| 1 | MC21083-19 | 2.48 | 50.0 | 1 | 0.0 | 0.2500 | 0.2500 | 0.175 | 1.8 | 1.75 | 1 |
| 3 | MC21263-1 | 2.53 | 50.0 | 10 | 0.0 | 1.5000 | 1.5000 | 1.425 | 14.3 | 142.5 | 10 |
| 3 | MC21263-2 | 2.54 | 50.0 | 10 | 0.0 | 1.5500 | 1.5500 | 1.475 | 14.8 | 147.5 | 10 |
| | ICV | 2.47 | 50.0 | 1 | 0.0 | 0.5750 | 0.5750 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13478 | #4 | | |
| #2 | Acidic Indicator | RGT-35539-CHL | #5 | | |
| #3 | Spike | GNSTD-29478-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-13475, ResulT 2.01.

**Approved By:** mehdia **Date:** 6/1/2013 2:54:53 PM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43080** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/1/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21083-1 Original: 27.6 MS: 282 Spk Amt: 250 % Rec: 102%

Dup Sample ID: MC21083-1 Original: 27.6 Duplicate: 27.6 % RPD: 0%

MB Date: 6/1/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 264 Spike Amt: 250 % Rec: 105.6

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 51.9 % REC: 103.8

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43080-MB1 | 100 | 5.24 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43080-B1 | 100 | 8.91 | 0.1 | 24.0 | 23.9 | | | 264.1 | 264.095 | 5 |
| 1 | GN43080-S1 | 100 | 8.24 | 24.0 | 49.5 | 25.5 | | | 281.8 | 281.775 | 5 |
| 1 | GN43080-D1 | 100 | 5.83 | 0.0 | 2.5 | 2.5 | | | 27.6 | 27.625 | 5 |
| 1 | MC21083-1 | 100 | 5.85 | 2.5 | 5.0 | 2.5 | | | 27.6 | 27.625 | 5 |
| 1 | MC21083-2 | 100 | 6.35 | 5.0 | 33.5 | 28.5 | | | 314.9 | 314.925 | 5 |
| 1 | MC21083-3 | 100 | 6.27 | 33.5 | 38.5 | 5.0 | | | 55.3 | 55.25 | 5 |
| 1 | MC21083-4 | 100 | 6.15 | 38.5 | 57.8 | 19.3 | | | 213.3 | 213.265 | 5 |
| 1 | MC21083-5 | 100 | 7.04 | 7.8 | 53.0 | 45.2 | | | 499.5 | 499.46 | 5 |
| 1 | MC21083-6 | 100 | 5.96 | 3.0 | 5.1 | 2.1 | | | 23.2 | 23.205 | 5 |
| 1 | MC21083-8 | 100 | 7.12 | 5.1 | 39.0 | 33.9 | | | 374.6 | 374.595 | 5 |
| 1 | MC21083-9 | 100 | 6.39 | 39.0 | 47.8 | 8.8 | | | 97.2 | 97.24 | 5 |
| 1 | MC21083-10 | 100 | 5.99 | 47.8 | 49.9 | 2.1 | | | 23.2 | 23.205 | 5 |
| 1 | MC21083-11 | 100 | 6.15 | 0.0 | 17.0 | 17.0 | | | 187.8 | 187.85 | 5 |
| | ICV | 100 | 8.48 | 17.0 | 21.7 | 4.7 | | | 51.9 | 51.935 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = A x N x 50000 / Sample Vol | ALK = (2A-C) x N x 50000 / Sample Vol |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/1/2013 2:49:48 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43081** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/1/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21083-12 Original: 15.5 MS: 278 Spk Amt: 250 % Rec: 105%

Dup Sample ID: MC21083-12 Original: 15.5 Duplicate: 15.5 % RPD: 0%

MB Date: 6/1/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 262 Spike Amt: 250 % Rec: 104.8

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 53.0 % REC: 106.0

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43081-MB1 | 100 | 5.21 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43081-B1 | 100 | 8.94 | 0.1 | 23.8 | 23.7 | | | 261.9 | 261.885 | 5 |
| 2 | GN43081-S1 | 100 | 8.12 | 23.8 | 49.0 | 25.2 | | | 278.5 | 278.46 | 5 |
| 2 | GN43081-D1 | 100 | 5.92 | 0.0 | 1.7 | 1.7 | 0.3 | 2.0 | 15.5 | 15.47 | 5 |
| 2 | MC21083-12 | 100 | 5.91 | 2.0 | 3.7 | 1.7 | 0.3 | 2.0 | 15.5 | 15.47 | 5 |
| 1 | MC21083-13 | 100 | 6.39 | 4.0 | 7.5 | 3.5 | | | 38.7 | 38.675 | 5 |
| 1 | MC21083-14 | 100 | 6.45 | 7.5 | 11.0 | 3.5 | | | 38.7 | 38.675 | 5 |
| 1 | MC21083-15 | 100 | 6.10 | 11.0 | 14.0 | 3.0 | | | 33.1 | 33.15 | 5 |
| 1 | MC21083-16 | 100 | 6.28 | 14.0 | 42.8 | 28.8 | | | 318.2 | 318.24 | 5 |
| 1 | MC21083-17 | 100 | 6.81 | 42.8 | 45.0 | 2.2 | | | 24.3 | 24.31 | 5 |
| 1 | MC21083-18 | 100 | 6.28 | 45.0 | 55.0 | 10.0 | | | 110.5 | 110.5 | 5 |
| 1 | MC21083-19 | 100 | 6.09 | 5.0 | 9.4 | 4.4 | | | 48.6 | 48.62 | 5 |
| 5 | MC21089-5 | 100 | 6.20 | 9.4 | 25.0 | 15.6 | | | 172.4 | 172.38 | 5 |
| 8 | MC21089-7 | 100 | 5.82 | 25.0 | 30.5 | 5.5 | | | 60.8 | 60.775 | 5 |
| | ICV | 100 | 8.51 | 0.0 | 4.8 | 4.8 | | | 53.0 | 53.04 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/1/2013 2:51:37 PM

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils)○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43093
GP Batch ID:
Date: 6/1/2013

Instrument ID : TURBIDITY I

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 11.700 | 12.700 | 12.900 | 13.200 | 13.400 | 13.500 | 13.700 | 13.800 | 13.8 |
| 10.0 | 29.000 | 29.300 | 29.200 | 29.100 | 29.000 | 29.000 | 28.900 | 28.900 | 29.3 |
| 20.0 | 55.800 | 55.500 | 55.300 | 55.000 | 54.800 | 54.800 | 54.500 | 54.300 | 55.8 |
| 30.0 | 82.000 | 81.600 | 81.200 | 81.200 | 80.700 | 80.300 | 80.300 | 79.900 | 82 |
| 40.0 | 103.900 | 103.200 | 103.000 | 102.800 | 102.500 | 102.300 | 102.100 | 101.700 | 103.90 |

Correlation Coeff. = 0.99888
Slope = 0.38097
Intercept = -0.58360

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30049-SO4 | Reagent | |
| CCV | GNSTD-30050-SO4-1 | Reagent | |
| ICV | GNSTD-30052-SO4-1 | Reagent | |
| Reagent | RGT-35717-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

Dup Sample ID: MC21083-3 Original Res. 27.00 Duplicate Res. 27.00 %RPD: 0.0%
MS Sample ID: MC21083-3 Original Res. 27.00 Spike Amount: 40 MS Res.: 63.50 %REC: 91%
SB Prep Date: 06/01/13 Result: 20.00 Spike Amount: 20 %REC: 100%
MB Prep Date: 06/01/13 Result: <5.0 RL 5.0 <RL? Y
ICV: GNSTD-30052-SO4-1 Known 25 Range 90-110% Res.: 25.2 %REC: 101%
CCV (1) Res. 20.2 Known: 20 %REC.: 101.0% CCV (2) Res. 20.4 Known: 20 %REC: 102.0%
CCV (3) Res. Known: %REC.: CCV (4) Res. Known: %REC:

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 67.6 | 67.3 | 67.3 | 67.1 | 66.9 | 66.8 | 66.7 | 66.6 | 67.60 | 0.000 | 25.170 | 25.170 | 5.000 | mg/l |
| | GN43093-MB1 | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | -0.584 | -0.584 | 5.000 | mg/l |
| | GN43093-B1 | | 100 | 100 | 1 | 54.1 | 53.9 | 53.8 | 53.7 | 53.6 | 53.5 | 53.4 | 53.3 | 54.10 | 0.000 | 20.027 | 20.027 | 5.000 | mg/l |
| 1 | GN43093-D1 | | 100 | 100 | 1 | 72.4 | 71.7 | 71.1 | 70.6 | 70.1 | 69.7 | 69.3 | 69 | 72.40 | 0.000 | 26.999 | 26.999 | 5.000 | mg/l |
| 1 | GN43093-S1 | | 100 | 100 | 2 | 84.9 | 84.5 | 84.2 | 84.1 | 83.9 | 83.6 | 83.6 | 83.3 | 84.90 | 0.000 | 31.761 | 63.522 | 10.000 | mg/l |
| 1 | MC21083-3 | | 100 | 100 | 1 | 72.4 | 71.6 | 71.3 | 70.7 | 70.3 | 69.8 | 69.5 | 69.1 | 72.40 | 0.000 | 26.999 | 26.999 | 5.000 | mg/l |
| 1 | MC21083-1 | | 100 | 100 | 1 | 16.6 | 17.2 | 17.3 | 17.5 | 17.7 | 17.7 | 17.6 | 17.6 | 17.70 | 0.000 | 6.160 | 6.160 | 5.000 | mg/l |
| 1 | MC21083-2 | | 100 | 100 | 1 | 14 | 15.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.6 | 15.6 | 15.60 | 0.000 | 5.360 | 5.360 | 5.000 | mg/l |
| 1 | MC21083-4 | | 100 | 100 | 1 | 3.1 | 3.4 | 4.1 | 4.8 | 5.3 | 5.8 | 6.1 | 6.3 | 6.30 | 0.000 | 1.817 | 1.817 | 5.000 | mg/l |
| 1 | MC21083-5 | | 100 | 100 | 1 | 28.9 | 28.6 | 28.3 | 28.1 | 28 | 27.9 | 27.8 | 27.6 | 28.90 | 0.000 | 10.427 | 10.427 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 54.6 | 54.6 | 54.5 | 54.3 | 54.3 | 54.2 | 54.2 | 54.1 | 54.60 | 0.000 | 20.218 | 20.218 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | -0.584 | -0.584 | 5.000 | mg/l |
| 1 | MC21083-6 | | 100 | 100 | 1 | 1.2 | 1.5 | 2 | 2.7 | 3.3 | 3.7 | 4.1 | 4.5 | 4.50 | 0.000 | 1.131 | 1.131 | 5.000 | mg/l |
| 1 | MC21083-8 | | 100 | 100 | 1 | 1 | 1.4 | 1.8 | 2.2 | 2.7 | 3.1 | 3.6 | 3.8 | 3.80 | 0.000 | 0.864 | 0.864 | 5.000 | mg/l |
| 1 | MC21083-9 | | 100 | 100 | 1 | 24 | 24.3 | 24.2 | 24.1 | 24 | 24.1 | 24 | 23.9 | 24.30 | 0.000 | 8.674 | 8.674 | 5.000 | mg/l |
| 1 | MC21083-10 | | 100 | 100 | 1 | 14.9 | 15.5 | 15.8 | 15.9 | 16.1 | 16.2 | 16.2 | 16.2 | 16.20 | 0.000 | 5.588 | 5.588 | 5.000 | mg/l |
| 1 | MC21083-11 | | 100 | 100 | 1 | 11.5 | 11.5 | 11.2 | 11 | 10.8 | 10.4 | 10.3 | 10.2 | 11.50 | 0.000 | 3.798 | 3.798 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 55 | 55 | 54.9 | 54.7 | 54.6 | 54.5 | 54.5 | 54.4 | 55.00 | 0.000 | 20.370 | 20.370 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | -0.584 | -0.584 | 5.000 | mg/l |

MM 6/1/13

Analyst: MirandaMarsh Date: 6/1/13 QC Reviewer: Date: 6/3/13

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils)○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43094
GP Batch ID:
Date: 6/1/2013

Instrument ID : TURBIDITY I

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 11.700 | 12.700 | 12.900 | 13.200 | 13.400 | 13.500 | 13.700 | 13.800 | 13.8 |
| 10.0 | 29.000 | 29.300 | 29.200 | 29.100 | 29.000 | 29.000 | 28.900 | 28.900 | 29.3 |
| 20.0 | 55.800 | 55.500 | 55.300 | 55.000 | 54.800 | 54.800 | 54.500 | 54.300 | 55.8 |
| 30.0 | 82.000 | 81.600 | 81.200 | 81.200 | 80.700 | 80.300 | 80.300 | 79.900 | 82 |
| 40.0 | 103.900 | 103.200 | 103.000 | 102.800 | 102.500 | 102.300 | 102.100 | 101.700 | 103.90 |

Correlation Coeff. = 0.99888
Slope = 0.38097
Intercept = -0.58360

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30049-SO4 | Reagent | |
| CCV | GNSTD-30050-SO4-1 | Reagent | |
| ICV | GNSTD-30052-SO4-1 | Reagent | |
| Reagent | RGT-35717-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

Dup Sample ID: MC21083-12 Original Res. 3.60 Duplicate Res. 3.60 %RPD: 0.0%
MS Sample ID: MC21083-12 Original Res. 3.60 Spike Amount: 20 MS Res.: 24.00 %REC: 102%
SB Prep Date: 06/01/13 Result: 19.80 Spike Amount: 20 %REC: 99%
MB Prep Date: 06/01/13 Result: <5.0 RL 5.0 <RL? Y
ICV: GNSTD-30052-SO4-1 Known 25 Range 90-110% Res.: %REC: 0%
CCV (1) Res. 20.6 Known: 20 %REC.: 103.0% CCV (2) Res. 20.4 Known: 20 %REC: 102.0%
CCV (3) Res. Known: %REC.: CCV (4) Res. Known: %REC:

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 67.3 | 67 | 66.8 | 66.7 | 66.6 | 66.5 | 66.2 | 66.1 | 67.30 | 0.000 | 25.056 | 25.056 | 5.000 | mg/l |
| | GN43094-MB1 | | 100 | 100 | 1 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.20 | 0.000 | -0.507 | -0.507 | 5.000 | mg/l |
| | GN43094-B1 | | 100 | 100 | 1 | 53.5 | 53.2 | 53 | 52.9 | 52.8 | 52.7 | 52.6 | 52.5 | 53.50 | 0.000 | 19.799 | 19.799 | 5.000 | mg/l |
| 2 | GN43094-D1 | | 100 | 100 | 1 | 7.1 | 8.7 | 9.4 | 10 | 10.2 | 10.5 | 10.7 | 10.9 | 10.90 | 0.000 | 3.569 | 3.569 | 5.000 | mg/l |
| 2 | GN43094-S1 | | 100 | 100 | 1 | 64.4 | 64.4 | 64.3 | 64 | 63.9 | 63.7 | 63.4 | 63 | 64.40 | 0.000 | 23.951 | 23.951 | 5.000 | mg/l |
| 2 | MC21083-12 | | 100 | 100 | 1 | 7.4 | 8.7 | 9.5 | 10.1 | 10.5 | 10.8 | 10.9 | 11 | 11.00 | 0.000 | 3.607 | 3.607 | 5.000 | mg/l |
| 1 | MC21083-13 | | 100 | 100 | 1 | 19.8 | 20.1 | 20.3 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.50 | 0.000 | 7.226 | 7.226 | 5.000 | mg/l |
| 1 | MC21083-14 | | 100 | 100 | 1 | 20.2 | 20.3 | 20.3 | 20.4 | 20.5 | 20.6 | 20.6 | 20.7 | 20.70 | 0.000 | 7.303 | 7.303 | 5.000 | mg/l |
| 1 | MC21083-15 | | 100 | 100 | 1 | 21.8 | 22 | 22.1 | 22.2 | 22.2 | 22.3 | 22.2 | 22.2 | 22.30 | 0.000 | 7.912 | 7.912 | 5.000 | mg/l |
| 1 | MC21083-16 | | 100 | 100 | 1 | 9.2 | 10.6 | 11.5 | 12.3 | 12.5 | 12.6 | 12.7 | 12.8 | 12.80 | 0.000 | 4.293 | 4.293 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 55.6 | 55.6 | 55.3 | 55.1 | 55 | 54.8 | 54.5 | 54.4 | 55.60 | 0.000 | 20.599 | 20.599 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.1 | 0 | 0 | 0 | 0.30 | 0.000 | -0.469 | -0.469 | 5.000 | mg/l |
| 1 | MC21083-17 | | 100 | 100 | 1 | 11.6 | 12.8 | 13.1 | 13.2 | 13.3 | 13.5 | 13.5 | 13.6 | 13.60 | 0.000 | 4.598 | 4.598 | 5.000 | mg/l |
| 1 | MC21083-18 | | 100 | 100 | 1 | 81.7 | 81 | 80.4 | 79.6 | 79.4 | 78.8 | 78.5 | 78.3 | 81.70 | 0.000 | 30.542 | 30.542 | 5.000 | mg/l |
| 1 | MC21083-19 | | 100 | 100 | 1 | 4.6 | 6.3 | 7.5 | 8.1 | 8.6 | 8.9 | 9.1 | 9.2 | 9.20 | 0.000 | 2.921 | 2.921 | 5.000 | mg/l |
| 8 | MC21089-3 | | 100 | 100 | 1 | 5.2 | 5.1 | 5 | 4.9 | 4.9 | 4.7 | 4.6 | 4.6 | 5.20 | 0.000 | 1.397 | 1.397 | 5.000 | mg/l |
| 8 | MC21089-4 | | 100 | 100 | 1 | 5.1 | 5 | 4.8 | 4.8 | 4.6 | 4.6 | 4.5 | 4.5 | 5.10 | 0.000 | 1.359 | 1.359 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 55.1 | 54.8 | 54.7 | 54.3 | 54.1 | 53.8 | 53.7 | 53.6 | 55.10 | 0.000 | 20.408 | 20.408 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | 0.30 | 0.000 | -0.469 | -0.469 | 5.000 | mg/l |

Analyst: [signature] Date: 6/1/13 QC Reviewer: [signature] Date: 6/3/13

ACCUTEST

**Protected Worksheet** MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN43137
GP Batch ID: GP16148
Date: 6/5/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 6/5/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.059 | 0.159 | 0.270 | 0.405 | 0.541 | 1.125 | | | | |
| Actual Value: | 0.019 | 0.124 | 0.303 | 0.501 | 0.742 | 0.984 | 2.027 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30086-AMN | Reagent | |
| CCV | GNSTD-30086-AMN-6 | Reagent | |
| ICV | RGT-35464-AMN | Reagent | |
| Reagent | VENDOR-13402 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99906
Slope = 1.78438
Intercept = 0.01911

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21083-12 | Orig: | <0.1 | | Dup: | <0.1 | | RPD: | 0% | |
| MS Sample ID: | MC21083-12 | Orig: | <0.1 | | Spike Amt: | 0.5 | MS Res: | 0.51 | % Rec: | 102% |
| MB Prep Date: | 06/05/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | y | | | |
| SB Prep Date: | 06/05/13 | Res: | 0.44 | Spike Amt: | 0.5 | % Rec: | 88% | | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | | |
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 18.124 | % Rec: | 98% | |
| CCV (1) Res: | 1.001 | Known: | 1.00 | % Rec: | 100% | CCV (2) Res: | 0.980 | Known: | 1.00 | % Rec: 98% |
| CCV (3) Res: | 0.993 | Known: | 1.00 | % Rec: | 99% | CCV (4) Res: | 0.999 | Known: | 1.00 | % Rec: 100% |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:00 | CCV | | 50 | 50 | 1 | 0.550 | 0.000 | 1.001 | 1.001 | 0.100 | mg/l |
| 13:20 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.019 | 0.019 | 0.100 | mg/l |
| 13:20 | ICV | | 50 | 50 | 10 | 1.005 | 0.000 | 1.812 | 18.124 | 1.000 | mg/l |
| 13:20 | GP16148-MB1 | | 50 | 50 | 1 | 0.000 | 0.000 | 0.019 | 0.019 | 0.100 | mg/l |
| 13:20 | GP16148-B1 | | 50 | 50 | 1 | 0.236 | 0.000 | 0.440 | 0.440 | 0.100 | mg/l |
| 13:20 | GP16148-S1 | | 50 | 50 | 1 | 0.275 | 0.000 | 0.510 | 0.510 | 0.100 | mg/l |
| 13:20 | GP16148-D1 | | 50 | 50 | 1 | 0.004 | 0.000 | 0.026 | 0.026 | 0.100 | mg/l |
| 13:20 | MC21083-12 | | 50 | 50 | 1 | 0.005 | 0.000 | 0.028 | 0.028 | 0.100 | mg/l |
| 13:20 | MC21083-1 | | 50 | 50 | 1 | 0.021 | 0.000 | 0.057 | 0.057 | 0.100 | mg/l |
| 13:20 | MC21083-2 | | 50 | 50 | 2 | 0.637 | 0.000 | 1.156 | 2.312 | 0.200 | mg/l |
| 13:20 | MC21083-3 | | 50 | 50 | 1 | 0.008 | 0.000 | 0.033 | 0.033 | 0.100 | mg/l |
| 13:20 | MC21083-4 | | 50 | 50 | 10 | 0.666 | 0.000 | 1.208 | 12.075 | 1.000 | mg/l |
| 13:20 | CCV | | 50 | 50 | 1 | 0.540 | 0.000 | 0.983 | 0.983 | 0.100 | mg/l |
| 13:30 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.019 | 0.019 | 0.100 | mg/l |
| 13:30 | MC21083-5 | | 50 | 50 | 1 | 0.088 | 0.000 | 0.176 | 0.176 | 0.100 | mg/l |
| 13:30 | MC21083-6 | | 50 | 50 | 1 | 0.089 | 0.000 | 0.178 | 0.178 | 0.100 | mg/l |
| 13:30 | MC21083-8 | | 50 | 50 | 1 | 0.001 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 13:30 | MC21083-9 | | 50 | 50 | 1 | 0.079 | 0.000 | 0.160 | 0.160 | 0.100 | mg/l |
| 13:30 | MC21083-10 | | 50 | 50 | 1 | 0.003 | 0.000 | 0.024 | 0.024 | 0.100 | mg/l |
| 13:30 | MC21083-11 | | 50 | 50 | 1 | 0.025 | 0.000 | 0.064 | 0.064 | 0.100 | mg/l |
| 13:30 | MC21083-13 | | 50 | 50 | 1 | 0.001 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 13:30 | MC21083-14 | | 50 | 50 | 1 | 0.002 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |
| 13:30 | MC21083-15 | | 50 | 50 | 1 | 0.001 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 13:30 | MC21083-16 | | 50 | 50 | 5 | 1.057 | 0.000 | 1.905 | 9.526 | 0.500 | mg/l |
| 13:30 | CCV | | 50 | 50 | 1 | 0.546 | 0.000 | 0.993 | 0.993 | 0.100 | mg/l |
| 13:40 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.019 | 0.019 | 0.100 | mg/l |
| 13:40 | MC21083-17 | | 50 | 50 | 1 | 0.004 | 0.000 | 0.026 | 0.026 | 0.100 | mg/l |
| 13:40 | MC21083-18 | | 50 | 50 | 5 | 0.588 | 0.000 | 1.068 | 5.342 | 0.500 | mg/l |
| 13:40 | MC21083-19 | | 50 | 50 | 1 | 0.821 | 0.000 | 1.484 | 1.484 | 0.100 | mg/l |
| 13:40 | CCV | | 50 | 50 | 1 | 0.549 | 0.000 | 0.999 | 0.999 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.019 | 0.019 | 0.100 | mg/l |

6-5-13 BiJ

Analyst: BiJ Date: 6-5-13 QC Reviewer: Date: 6/5/13

9.11 6

ACCUTEST

Distillation/Digestion

Protected Worksheet MGN124-01

(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/5/13 | Batch ID | GP16148 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21083-12 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod ○ | TPO4 EPA365.4/Mod ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod ○ | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16148-MB1 | | N/A | N/D | <2 | 9.96 | 100 | 100 | 7:25 | 7:45 | |
| GP16148-B1 | | N/A | N/D | <2 | 9.98 | 100 | 100 | 7:25 | 7:45 | 5.0 ML OF SPIKE |
| GP16148-S1 | 4 | N/A | N/D | <2 | 9.86 | 100 | 100 | 7:25 | 7:45 | 5.0 ML OF SPIKE |
| GP16148-D1 | 4 | N/A | N/D | <2 | 9.66 | 100 | 100 | 7:25 | 7:45 | |
| MC21083-12 | 4 | N/A | N/D | <2 | 9.67 | 100 | 100 | 7:25 | 7:45 | |
| MC21083-1 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 7:25 | 7:45 | |
| MC21083-2 | 2 | N/A | N/D | <2 | 9.58 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-3 | 2 | N/A | N/D | <2 | 9.55 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-4 | 2 | N/A | N/D | <2 | 9.55 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-5 | 2 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-6 | 2 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-8 | 2 | N/A | N/D | <2 | 9.84 | 100 | 100 | 8:20 | 8:40 | |
| MC21083-9 | 2 | N/A | N/D | <2 | 9.99 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-10 | 2 | N/A | N/D | <2 | 9.68 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-11 | 2 | N/A | N/D | <2 | 9.57 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-13 | 2 | N/A | N/D | <2 | 9.57 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-14 | 2 | N/A | N/D | <2 | 9.55 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-15 | 2 | N/A | N/D | <2 | 9.62 | 100 | 100 | 9:25 | 9:45 | |
| MC21083-16 | 2 | N/A | N/D | <2 | 9.85 | 100 | 100 | 10:20 | 10:40 | |
| MC21083-17 | 2 | N/A | N/D | <2 | 9.68 | 100 | 100 | 10:20 | 10:40 | |
| MC21083-18 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:20 | 10:40 | |
| MC21083-19 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:20 | 10:40 | |
| ICV | | N/A | N/D | <2 | 9.98 | 10 | 100 | 10:20 | 10:40 | ( 1:10 DILUTION ) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 6-5-13 AF | | | | | | | | | | |
| | | | | | | | | | | |

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30085-AMN-1 |
| Boric Acid | RGT-35918-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/5/13

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/5/13 | Batch ID | GP16148 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21083-12 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| RB | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | |
| CAL.STD 0.1 | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | 1.0 ML OFGNSTD-30086-AMN-1 |
| CAL.STD 0.3 | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | 3.0 ML OFGNSTD-30086-AMN-1 |
| CAL.STD 0.5 | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | 5.0 ML OFGNSTD-30086-AMN-1 |
| CAL.STD 0.8 | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | 8.0 ML OFGNSTD-30086-AMN-1 |
| CAL.STD 1.0 | | N/A | N/D | <2 | | 100 | 100 | 11:20 | 11:40 | 10.0 ML OFGNSTD-30086-AMN-1 |
| CAL.STD 2.0 | | N/A | N/D | <2 | | 100 | 100 | 12:10 | 12:30 | 20.0 ML OFGNSTD-30086-AMN-1 |
| CCV | | N/A | N/D | <2 | | 100 | 100 | 12:10 | 12:30 | 10.0 ML OFGNSTD-30086-AMN-1 |
| CCB | | N/A | N/D | <2 | | 100 | 100 | 12:10 | 12:30 | |

6-5-13 BC

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30085-AMN-1 |
| Boric Acid | RGT-35918-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/5/13

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New England ACCUTEST LABORATORIES

06/24/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.06

Accutest Job Number: MC21156

Sampling Dates: 05/23/13 - 05/24/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **457**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21156-1 | 05/23/13 | 09:50 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-11-052313 |
| MC21156-1F | 05/23/13 | 09:50 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-11-052313 |
| MC21156-2 | 05/23/13 | 00:00 | JBMM | 05/23/13 | AQ | Ground Water | DUP-052313 |
| MC21156-2F | 05/23/13 | 00:00 | JBMM | 05/23/13 | AQ | Groundwater Filtered | DUP-052313 |
| MC21156-3 | 05/23/13 | 10:05 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-14-052313 |
| MC21156-3F | 05/23/13 | 10:05 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-14-052313 |
| MC21156-4 | 05/23/13 | 10:45 | JBMM | 05/23/13 | AQ | Ground Water | SHP-01-38B-052313 |
| MC21156-4F | 05/23/13 | 10:45 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHP-01-38B-052313 |
| MC21156-5 | 05/23/13 | 12:08 | JBMM | 05/23/13 | AQ | Ground Water | SHP-01-38A-052313 |
| MC21156-5F | 05/23/13 | 12:08 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHP-01-38A-052313 |
| MC21156-6 | 05/23/13 | 12:20 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-07-052313 |
| MC21156-6F | 05/23/13 | 12:20 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-07-052313 |
| MC21156-7 | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-13-052313 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21156-7D | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Water Dup/MSD | SHM-10-13-052313 |
| MC21156-7F | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-13-052313 |
| MC21156-7FD | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Water Dup/MSD | SHM-10-13-052313 |
| MC21156-7FS | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Water Matrix Spike | SHM-10-13-052313 |
| MC21156-7S | 05/23/13 | 12:30 | JBMM | 05/23/13 | AQ | Water Matrix Spike | SHM-10-13-052313 |
| MC21156-8 | 05/23/13 | 14:10 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-06-052313 |
| MC21156-8F | 05/23/13 | 14:10 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-06-052313 |
| MC21156-9 | 05/23/13 | 12:18 | JBMM | 05/23/13 | AQ | Ground Water | SHL-11-052313 |
| MC21156-9F | 05/23/13 | 12:18 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHL-11-052313 |
| MC21156-10F | 05/23/13 | 14:45 | JBMM | 05/23/13 | AQ | Equip Blank Filtered | RB-052313 |
| MC21156-11 | 05/23/13 | 14:20 | JBMM | 05/23/13 | AQ | Ground Water | SHM-10-12-052313 |
| MC21156-11F | 05/23/13 | 14:20 | JBMM | 05/23/13 | AQ | Groundwater Filtered | SHM-10-12-052313 |
| MC21156-12 | 05/24/13 | 09:20 | JBMM | 05/24/13 | AQ | Ground Water | PZ-12-03-052413 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21156-12F | 05/24/13 | 09:20 | JBMM | 05/24/13 | AQ | Groundwater Filtered | PZ-12-03-052413 |
| MC21156-13 | 05/24/13 | 09:25 | JBMM | 05/24/13 | AQ | Ground Water | PZ-12-08-052413 |
| MC21156-13F | 05/24/13 | 09:25 | JBMM | 05/24/13 | AQ | Groundwater Filtered | PZ-12-08-052413 |
| MC21156-14 | 05/24/13 | 09:33 | JBMM | 05/24/13 | AQ | Ground Water | SHL-4-052413 |
| MC21156-14F | 05/24/13 | 09:33 | JBMM | 05/24/13 | AQ | Groundwater Filtered | SHL-4-052413 |
| MC21156-15 | 05/24/13 | 00:00 | JBMM | 05/24/13 | AQ | Ground Water | DUP-02-052413 |
| MC21156-15F | 05/24/13 | 00:00 | JBMM | 05/24/13 | AQ | Groundwater Filtered | DUP-02-052413 |
| MC21156-16 | 05/24/13 | 11:25 | JBMM | 05/24/13 | AQ | Ground Water | PZ-12-07-052413 |
| MC21156-16F | 05/24/13 | 11:25 | JBMM | 05/24/13 | AQ | Groundwater Filtered | PZ-12-07-052413 |
| MC21156-17 | 05/24/13 | 11:00 | JBMM | 05/24/13 | AQ | Ground Water | PZ-12-04-052413 |
| MC21156-17F | 05/24/13 | 11:00 | JBMM | 05/24/13 | AQ | Groundwater Filtered | PZ-12-04-052413 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC21156 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 6/24/2013 9:37:49 AM |

17 Sample(s) were collected on between 05/23/2013 and 05/24/2013 and were received at Accutest between 05/23/2013 and 05/24/2013 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of MC21156. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21073

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7FMS, MC21156-7FMSD, MC21156-7FPS, MC21156-7FSDL were used as the QC samples for metals.
- MC21156-7F for Iron: Matrix spike duplicate recovery outside of the control limit. Post-digestion spike recovery outside of the control limit.
- MP21073-PS1 for Iron: Post-digestion spike recovery outside of the control limit.
- MC21156-7FMSD for Iron: Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP21073A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7FMS, MC21156-7FMSD, MC21156-7FSDL, MC21156-7FPS were used as the QC samples for metals.
- MP21073A-PS1 for Arsenic: Post-digestion spike recoveries outside of control limits indicate possible matrix interference.

## Wet Chemistry By Method ASTM516-90,02

**Matrix** AQ **Batch ID:** GN43127

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Sulfate.

**Matrix** AQ **Batch ID:** GN43146

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-13DUP, MC21156-13MS were used as the QC samples for Sulfate.

## Wet Chemistry By Method EPA 353.2

**Matrix** AQ **Batch ID:** GP16143

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

**Matrix** AQ **Batch ID:** GP16144

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** R33066

- MC21156-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33067

- MC21156-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33068

- MC21156-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33069

- MC21156-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33070

- MC21156-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33071

- MC21156-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33072

- MC21156-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33073

- MC21156-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33075

- MC21156-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33076

- MC21156-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33077

- MC21156-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33078

- MC21156-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33080

- MC21156-14 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33081

- MC21156-15 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33083

## Wet Chemistry By Method EPA 353.2

| Matrix | AQ | Batch ID: | R33083 |
|---|---|---|---|

- MC21156-16 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

| Matrix | AQ | Batch ID: | R33084 |
|---|---|---|---|

- MC21156-17 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

| Matrix | AQ | Batch ID: | GP16098 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Nitrogen, Nitrite.

| Matrix | AQ | Batch ID: | GP16102 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-1DUP, MC21202-1MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

| Matrix | AQ | Batch ID: | GP16152 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

| Matrix | AQ | Batch ID: | GN43085 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN43087 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-12DUP, MC21156-12MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

| Matrix | AQ | Batch ID: | GN42988 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-1DUP, MC21156-1MS were used as the QC samples for Sulfide.

| Matrix | AQ | Batch ID: | GN42994 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Sulfide.

| Matrix | AQ | Batch ID: | GN42995 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-14DUP, MC21156-14MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN43057 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

| Matrix | AQ | Batch ID: | GN43013 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7FDUP, MC21156-7FMS were used as the QC samples for Dissolved Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC21156).

# Summary of Hits



**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21156-1** | **SHM-10-11-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 102 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 21.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.9 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.31 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.31 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 30.3 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-1F** | **SHM-10-11-052313** | | | | | |
| Arsenic | | 460 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 22500 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 65100 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 3160 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2510 | 30 | 5.0 | ug/l | SW846 6010C |
| Potassium | | 4820 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 14300 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-2** | **DUP-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 126 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 21.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.8 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.24 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.24 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 31.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-2F** | **DUP-052313** | | | | | |
| Arsenic | | 464 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 22500 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 64400 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 2990 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2480 | 30 | 5.0 | ug/l | SW846 6010C |
| Potassium | | 4730 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 13700 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-3** | **SHM-10-14-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 241 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 5.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 7.4 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate [a] | | 0.19 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.19 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-3F** | **SHM-10-14-052313** | | | | | |
| Arsenic | | 5540 | 100 | 50 | ug/l | SW846 6020A |
| Calcium | | 44300 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 83100 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 3420 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2800 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 7020 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 5610 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 21.3 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-4** | **SHP-01-38B-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 190 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 51.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 5.2 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.26 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.26 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21156-4F** | **SHP-01-38B-052313** | | | | | |
| Arsenic | | 900 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 53400 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 47100 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 8140 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2240 | 45 | 7.5 | ug/l | SW846 6010C |
| Potassium | | 9270 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 23500 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.6 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-5** | **SHP-01-38A-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 64.1 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 5.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.9 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.35 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.35 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.3 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21156-5F** | **SHP-01-38A-052313** | | | | | |
| Arsenic | | 412 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 11800 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 10200 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 1260 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 254 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 4390 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 8320 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-6** | **SHM-10-07-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 243 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 61.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 7.6 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.26 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.26 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 5.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-6F** | **SHM-10-07-052313** | | | | | |
| Arsenic | | 1210 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 56000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 94900 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 6700 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2670 | 30 | 5.0 | ug/l | SW846 6010C |
| Potassium | | 13300 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 28500 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.5 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-7** | **SHM-10-13-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 292 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 19.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 9.0 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.14 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.14 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21156-7F** | **SHM-10-13-052313** | | | | | |
| Arsenic | | 565 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 65500 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron [b] | | 83400 J | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 8960 | 5000 | 200 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Manganese | | 1130 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 11600 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 14600 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 5.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-8** | **SHM-10-06-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 227 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 16.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 8.5 | 1.0 | 0.81 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.29 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.29 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21156-8F** | **SHM-10-06-052313** | | | | | |
| Arsenic | | 1980 | 50 | 25 | ug/l | SW846 6020A |
| Calcium | | 36100 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 107000 | 2000 | 600 | ug/l | SW846 6010C |
| Magnesium | | 6500 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1890 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 11500 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 17000 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.7 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-9** | **SHL-11-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 160 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 41.2 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.5 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.30 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.30 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 19.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-9F** | **SHL-11-052313** | | | | | |
| Arsenic | | 496 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 47800 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 19800 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 6490 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2430 | 45 | 7.5 | ug/l | SW846 6010C |
| Potassium | | 6480 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 24400 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21156-10F** | **RB-052313** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC21156-11** | **SHM-10-12-052313** | | | | | |
| Alkalinity, Total as CaCO3 | | 171 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 7.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.2 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.41 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.41 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 7.9 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-11F** | **SHM-10-12-052313** | | | | | |
| Arsenic | | 3580 | 100 | 50 | ug/l | SW846 6020A |
| Calcium | | 29700 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 56300 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 2720 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 6450 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 3630 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 5440 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 23.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-12** | **PZ-12-03-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 227 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 52.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.9 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.51 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.51 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 20.8 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-12F** | **PZ-12-03-052413** | | | | | |
| Arsenic | | 659 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 59500 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 40100 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 8110 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2950 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 8340 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 45500 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.3 | 1.0 | 0.64 | mg/l | SM21 5310 B |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21156-13** | **PZ-12-08-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 46.4 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 5.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.087 J | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.95 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.95 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 7.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-13F** | **PZ-12-08-052413** | | | | | |
| Arsenic | | 1.9 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 14000 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 174 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 2570 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 361 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 2810 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 6580 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 6.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-14** | **SHL-4-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 123 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 12.8 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.4 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 14.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-14F** | **SHL-4-052413** | | | | | |
| Arsenic | | 2.6 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 30500 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 57.8 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 4300 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 481 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 4460 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 18200 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-15** | **DUP-02-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 129 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 13.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 8.9 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Sulfate | | 15.1 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21156-15F** | **DUP-02-052413** | | | | | |
| Arsenic | | 2.7 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 30900 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 59.6 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 4300 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 478 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 4440 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 18600 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.5 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-16** | **PZ-12-07-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 105 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 6.3 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.1 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.50 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.50 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 12.7 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-16F** | **PZ-12-07-052413** | | | | | |
| Arsenic | | 484 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 24600 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 29000 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 2980 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1620 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3300 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 9640 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21156-17** | **PZ-12-04-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 171 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 50.7 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 6.4 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.38 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.38 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 5.0 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21156-17F** | **PZ-12-04-052413** | | | | | |
| Arsenic | | 610 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 40900 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 56300 | 1000 | 300 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21156
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/23/13 thru 05/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Magnesium | | 5160 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1310 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 10500 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 24900 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.5 | 1.0 | 0.64 | mg/l | SM21 5310 B |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Matrix spike duplicate recovery outside of the control limit. Post-digestion spike recovery outside of the control limit.

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Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-10-11-052313
**Lab Sample ID:** MC21156-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 102 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 21.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.9 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.31 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:46 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.31 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:46 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:18 | MC | SM 21 4500 NO2 B |
| Sulfate | 30.3 | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-11-052313
**Lab Sample ID:** MC21156-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 460 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 22500 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 65100 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 3160 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2510 | 30 | 5.0 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 4820 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 14300 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-11-052313 | | |
| **Lab Sample ID:** | MC21156-1F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.9 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 00:10 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052313
**Lab Sample ID:** MC21156-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 126 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 21.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.8 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.24 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:47 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.24 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:47 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:18 | MC | SM 21 4500 NO2 B |
| Sulfate | 31.6 | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052313
**Lab Sample ID:** MC21156-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 464 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 22500 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 64400 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 2990 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2480 | 30 | 5.0 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 4730 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 13700 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052313 | | |
| **Lab Sample ID:** | MC21156-2F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 00:23 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-14-052313
**Lab Sample ID:** MC21156-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 241 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 5.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 7.4 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.19 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:48 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.19 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:48 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:18 | MC | SM 21 4500 NO2 B |
| Sulfate | 6.4 | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-14-052313
**Lab Sample ID:** MC21156-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 5540 | 100 | 50 | ug/l | 200 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 44300 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 83100 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 3420 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2800 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 7020 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 5610 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-14-052313
**Lab Sample ID:** MC21156-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 21.3 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 00:37 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38B-052313
**Lab Sample ID:** MC21156-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 190 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 51.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 5.2 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.26 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:49 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.26 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:49 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:18 | MC | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38B-052313
**Lab Sample ID:** MC21156-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 900 | 25 | 13 | ug/l | 50 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 53400 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 47100 | 500 | 150 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 8140 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2240 | 45 | 7.5 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 9270 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 23500 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-01-38B-052313 | | |
| **Lab Sample ID:** | MC21156-4F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.6 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 01:14 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38A-052313
**Lab Sample ID:** MC21156-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 64.1 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 5.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.9 | 0.20 | 0.16 | mg/l | 2 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.35 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:53 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.35 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:53 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:22 | MC | SM 21 4500 NO2 B |
| Sulfate | 6.3 | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38A-052313
**Lab Sample ID:** MC21156-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 412 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 11800 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 10200 | 200 | 60 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 1260 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 254 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 4390 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 8320 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-01-38A-052313 | | |
| **Lab Sample ID:** | MC21156-5F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.1 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 01:29 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-07-052313
**Lab Sample ID:** MC21156-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 243 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 61.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 7.6 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.26 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:54 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.26 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:54 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:22 | MC | SM 21 4500 NO2 B |
| Sulfate | 5.6 | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-07-052313
**Lab Sample ID:** MC21156-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1210 | 25 | 13 | ug/l | 50 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 56000 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 94900 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 6700 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2670 | 30 | 5.0 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 13300 | 10000 | 1000 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 28500 | 25000 | 1000 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-07-052313 | | |
| **Lab Sample ID:** | MC21156-6F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.5 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 01:40 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-13-052313
**Lab Sample ID:** MC21156-7
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 292 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 19.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 9.0 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:40 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.14 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:44 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.14 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:44 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:18 | MC | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-13-052313
**Lab Sample ID:** MC21156-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 565 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 65500 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron [a] | 83400 J | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 8960 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 1130 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 11600 | 10000 | 1000 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 14600 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15713
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

(a) Matrix spike duplicate recovery outside of the control limit. Post-digestion spike recovery outside of the control limit.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-13-052313
**Lab Sample ID:** MC21156-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 5.1 | 1.0 | 0.64 | mg/l | 1 | 05/29/13 23:57 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-06-052313
**Lab Sample ID:** MC21156-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 227 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 16.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 8.5 | 1.0 | 0.81 | mg/l | 10 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.29 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:55 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.29 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:55 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:22 | MC | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/04/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-06-052313
**Lab Sample ID:** MC21156-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1980 | 50 | 25 | ug/l | 100 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 36100 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 107000 | 2000 | 600 | ug/l | 20 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 6500 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 1890 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 11500 | 10000 | 1000 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 17000 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-06-052313 | | |
| **Lab Sample ID:** | MC21156-8F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.7 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 01:55 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-11-052313
**Lab Sample ID:** MC21156-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 160 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 41.2 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.5 | 0.20 | 0.16 | mg/l | 2 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.30 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:57 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.30 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:57 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:22 | MC | SM 21 4500 NO2 B |
| Sulfate | 19.5 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-11-052313
**Lab Sample ID:** MC21156-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 496 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 47800 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 19800 | 300 | 90 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 6490 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2430 | 45 | 7.5 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 6480 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 24400 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-11-052313 | | |
| **Lab Sample ID:** | MC21156-9F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.1 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 02:08 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052313
**Lab Sample ID:** MC21156-10F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.50 U | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15713
(2) Instrument QC Batch: MA15715
(3) Prep QC Batch: MP21073
(4) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-12-052313
**Lab Sample ID:** MC21156-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 171 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 7.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.2 | 0.20 | 0.16 | mg/l | 2 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.41 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:58 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.41 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:58 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/24/13 17:22 | MC | SM 21 4500 NO2 B |
| Sulfate | 7.9 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-12-052313
**Lab Sample ID:** MC21156-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/23/13
**Date Received:** 05/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3580 | 100 | 50 | ug/l | 200 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 29700 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 56300 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2720 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 6450 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 3630 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 5440 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-12-052313 | | |
| **Lab Sample ID:** | MC21156-11F | **Date Sampled:** | 05/23/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/23/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 23.9 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 02:21 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-03-052413
**Lab Sample ID:** MC21156-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 227 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 52.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.9 | 0.20 | 0.16 | mg/l | 2 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.51 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:14 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.51 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:14 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 20.8 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-03-052413
**Lab Sample ID:** MC21156-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 659 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 59500 | 50000 | 1500 | ug/l | 10 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 40100 | 500 | 150 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 8110 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 2950 | 75 | 13 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 8340 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 45500 | 25000 | 1000 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-03-052413 | | |
| **Lab Sample ID:** | MC21156-12F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.3 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 02:34 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-08-052413
**Lab Sample ID:** MC21156-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 46.4 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 5.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.087 J | 0.10 | 0.081 | mg/l | 1 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.95 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:15 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.95 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:15 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.4 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-08-052413
**Lab Sample ID:** MC21156-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.9 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 14000 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 174 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 2570 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 361 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 2810 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 6580 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-08-052413
**Lab Sample ID:** MC21156-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 6.9 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 02:47 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-4-052413
**Lab Sample ID:** MC21156-14
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 123 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 12.8 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.4 | 0.10 | 0.081 | mg/l | 1 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:17 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:17 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 14.6 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-4-052413
**Lab Sample ID:** MC21156-14F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.6 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 30500 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 57.8 J | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 4300 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 481 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 4460 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 18200 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-4-052413 | | |
| **Lab Sample ID:** | MC21156-14F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.4 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 03:00 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-02-052413
**Lab Sample ID:** MC21156-15
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 129 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 13.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 8.9 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:18 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:18 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 15.1 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-02-052413
**Lab Sample ID:** MC21156-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.7 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 30900 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 59.6 J | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 4300 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 478 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 4440 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 18600 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-02-052413
**Lab Sample ID:** MC21156-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.5 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 03:14 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-07-052413
**Lab Sample ID:** MC21156-16
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 105 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 6.3 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.1 | 0.10 | 0.081 | mg/l | 1 | 06/06/13 13:50 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.50 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:22 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.50 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:22 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 12.7 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-07-052413
**Lab Sample ID:** MC21156-16F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 484 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 24600 | 15000 | 450 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 29000 | 300 | 90 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2980 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1620 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 3300 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 9640 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-07-052413
**Lab Sample ID:** MC21156-16F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.2 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 03:50 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-04-052413
**Lab Sample ID:** MC21156-17
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 171 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 50.7 | 1.0 | 0.75 | mg/l | 1 | 05/31/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 6.4 | 0.50 | 0.41 | mg/l | 5 | 06/06/13 14:00 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.38 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:23 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.38 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:23 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:23 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.0 | 5.0 | 4.5 | mg/l | 1 | 06/05/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-04-052413
**Lab Sample ID:** MC21156-17F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 610 | 10 | 5.0 | ug/l | 20 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 40900 | 25000 | 750 | ug/l | 5 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 56300 | 1000 | 300 | ug/l | 10 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 5160 | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1310 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 10500 | 10000 | 1000 | ug/l | 2 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 24900 | 15000 | 600 | ug/l | 3 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-04-052413 | | |
| **Lab Sample ID:** | MC21156-17F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.5 | 1.0 | 0.64 | mg/l | 1 | 05/30/13 04:05 | CF | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 12

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: FQ-2013-119 | Accutest Job #: MC21156

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | 5621 | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1 | SHM-10-11-052313 | | 5-23-13 | 0950 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -2 | DUP-052313 | | | — | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -3 | SHM-10-14-052313 | | | 1005 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -4 | SHP-01-38B-052313 | | | 1045 | MM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -5 | SHP-01-38A-052313 | | | 1208 | MM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -6 | SHM-10-07-052313 | | | 1220 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| MS -7 | SHM-10-13-052313 | | | 1230 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -8 | SHM-10-06-052313 | | | 1410 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -9 | SHL-11-052313 | | | 1218 | MM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -10 | RB-052313 | | | 1445 | JG | GW | 2 | ~~X~~ | X | | | | | | | | X | X | | | | | | | | LOC: ID |
| -11 | SHM-10-12-052313 | | | 1420 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | SD, ~~5MS~~ |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
* samples were field filtered ⇒ (Metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #003: Open
Extra Volume SHM-10-13 for MS/MSD

Sample Custody must be documented below each time samples change possession, including courier delivery. 17:00

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-23-13/1600 | 1 | 2 | 5/23/13 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | Intact / Not intact | Preserved where applicable |

On Ice: ✓ Cooler Temp: 1.1, 2.2

5.1.5

**MC21156: Chain of Custody**
**Page 1 of 3**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

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5/25/13

FED-EX Tracking # | Bottle Order Control #

Accutest Quote # FD-2013-119 | Accutest Job # MC21156

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Jonathan Chaffin / Sydney G. Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Preserved: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | pH's | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC21156 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -12 F | PZ-12-03-052413 | | 5-24-13 | 0920 | CS | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -13 F | PZ-12-08-052413 | | 5-24-13 | 0955 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -14 F | SHL-4-052413 | | 5-24-13 | 0933 | mm | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -15 F | DUP-02-052413 | | 5-24-13 | — | mm | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -16 F | PZ-12-07-052413 | | 5-24-13 | 1125 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -17 F | PZ-12-04-052413 | | 5-24-13 | 1100 | CS | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |

for 2A, 5D

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
samples were field filtered. (Metals tpoc)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG # 003: Closed

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-24-13/1700 | 1 | 2 | 5/24/13 1730 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # ☐ Intact ☐ Not intact | Preserved where applicable ☐ | On Ice ☑ Cooler Temp. 2.0°C |

**MC21156: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21156 **Client:** SOV **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/24/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** DEVENS **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21156: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-1 Collected: 23-MAY-13 09:50 By: JBMM Received: 23-MAY-13 By: BA SHM-10-11-052313 | | | | | | |
| MC21156-1 | SM 21 4500 NO2 B | 24-MAY-13 17:18 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-1 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-1 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-1 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-1 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-1 | EPA 353.2 | 04-JUN-13 13:46 | CF | | | NO3O |
| MC21156-1 | EPA 353.2 | 04-JUN-13 13:46 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-1 | SM18 4500NH3-C | 06-JUN-13 13:40 | BF | 06-JUN-13 | BF | AMN |
| MC21156-2 Collected: 23-MAY-13 00:00 By: JBMM Received: 23-MAY-13 By: BA DUP-052313 | | | | | | |
| MC21156-2 | SM 21 4500 NO2 B | 24-MAY-13 17:18 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-2 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-2 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-2 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-2 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-2 | EPA 353.2 | 04-JUN-13 13:47 | CF | | | NO3O |
| MC21156-2 | EPA 353.2 | 04-JUN-13 13:47 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-2 | SM18 4500NH3-C | 06-JUN-13 13:40 | BF | 06-JUN-13 | BF | AMN |
| MC21156-3 Collected: 23-MAY-13 10:05 By: JBMM Received: 23-MAY-13 By: BA SHM-10-14-052313 | | | | | | |
| MC21156-3 | SM 21 4500 NO2 B | 24-MAY-13 17:18 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-3 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-3 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-3 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-3 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-3 | EPA 353.2 | 04-JUN-13 13:48 | CF | | | NO3O |
| MC21156-3 | EPA 353.2 | 04-JUN-13 13:48 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-3 | SM18 4500NH3-C | 06-JUN-13 13:40 | BF | 06-JUN-13 | BF | AMN |
| MC21156-4 Collected: 23-MAY-13 10:45 By: JBMM Received: 23-MAY-13 By: BA SHP-01-38B-052313 | | | | | | |
| MC21156-4 | SM 21 4500 NO2 B | 24-MAY-13 17:18 | MC | 24-MAY-13 | MC | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-4 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-4 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-4 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-4 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-4 | EPA 353.2 | 04-JUN-13 13:49 | CF | | | NO3O |
| MC21156-4 | EPA 353.2 | 04-JUN-13 13:49 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-4 | SM18 4500NH3-C | 06-JUN-13 13:40 | BF | 06-JUN-13 | BF | AMN |
| MC21156-5 Collected: 23-MAY-13 12:08 By: JBMM Received: 23-MAY-13 By: BA<br>SHP-01-38A-052313 | | | | | | |
| MC21156-5 | SM 21 4500 NO2 B | 24-MAY-13 17:22 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-5 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-5 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-5 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-5 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-5 | EPA 353.2 | 04-JUN-13 13:53 | CF | | | NO3O |
| MC21156-5 | EPA 353.2 | 04-JUN-13 13:53 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-5 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-6 Collected: 23-MAY-13 12:20 By: JBMM Received: 23-MAY-13 By: BA<br>SHM-10-07-052313 | | | | | | |
| MC21156-6 | SM 21 4500 NO2 B | 24-MAY-13 17:22 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-6 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-6 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-6 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-6 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-6 | EPA 353.2 | 04-JUN-13 13:54 | CF | | | NO3O |
| MC21156-6 | EPA 353.2 | 04-JUN-13 13:54 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-6 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-7 Collected: 23-MAY-13 12:30 By: JBMM Received: 23-MAY-13 By: BA<br>SHM-10-13-052313 | | | | | | |
| MC21156-7 | SM 21 4500 NO2 B | 24-MAY-13 17:18 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-7 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-7 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-7 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-7 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-7 | EPA 353.2 | 04-JUN-13 13:44 | CF | | | NO3O |
| MC21156-7 | EPA 353.2 | 04-JUN-13 13:44 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-7 | SM18 4500NH3-C | 06-JUN-13 13:40 | BF | 06-JUN-13 | BF | AMN |
| MC21156-8 | Collected: 23-MAY-13 14:10 By: JBMM | | Received: 23-MAY-13 By: BA | | | |
| SHM-10-06-052313 | | | | | | |
| MC21156-8 | SM 21 4500 NO2 B | 24-MAY-13 17:22 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-8 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-8 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-8 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-8 | ASTM516-90,02 | 04-JUN-13 | MC | | | SO4 |
| MC21156-8 | EPA 353.2 | 04-JUN-13 13:55 | CF | | | NO3O |
| MC21156-8 | EPA 353.2 | 04-JUN-13 13:55 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-8 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-9 | Collected: 23-MAY-13 12:18 By: JBMM | | Received: 23-MAY-13 By: BA | | | |
| SHL-11-052313 | | | | | | |
| MC21156-9 | SM 21 4500 NO2 B | 24-MAY-13 17:22 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-9 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-9 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-9 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-9 | EPA 353.2 | 04-JUN-13 13:57 | CF | | | NO3O |
| MC21156-9 | EPA 353.2 | 04-JUN-13 13:57 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-9 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-9 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-11 | Collected: 23-MAY-13 14:20 By: JBMM | | Received: 23-MAY-13 By: BA | | | |
| SHM-10-12-052313 | | | | | | |
| MC21156-11 | SM 21 4500 NO2 B | 24-MAY-13 17:22 | MC | 24-MAY-13 | MC | NO2 |
| MC21156-11 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-11 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-11 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-11 | EPA 353.2 | 04-JUN-13 13:58 | CF | | | NO3O |
| MC21156-11 | EPA 353.2 | 04-JUN-13 13:58 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-11 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-11 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-12 | Collected: 24-MAY-13 09:20 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-03-052413 | | | | | | |
| MC21156-12 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-12 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-12 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-12 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-12 | EPA 353.2 | 04-JUN-13 14:14 | CF | | | NO3O |
| MC21156-12 | EPA 353.2 | 04-JUN-13 14:14 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-12 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-12 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-13 | Collected: 24-MAY-13 09:25 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-08-052413 | | | | | | |
| MC21156-13 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-13 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-13 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-13 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-13 | EPA 353.2 | 04-JUN-13 14:15 | CF | | | NO3O |
| MC21156-13 | EPA 353.2 | 04-JUN-13 14:15 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-13 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-13 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-14 | Collected: 24-MAY-13 09:33 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| SHL-4-052413 | | | | | | |
| MC21156-14 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-14 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-14 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-14 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-14 | EPA 353.2 | 04-JUN-13 14:17 | CF | | | NO3O |
| MC21156-14 | EPA 353.2 | 04-JUN-13 14:17 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-14 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-14 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-15 | Collected: 24-MAY-13 00:00 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| DUP-02-052413 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-15 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-15 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-15 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-15 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-15 | EPA 353.2 | 04-JUN-13 14:18 | CF | | | NO3O |
| MC21156-15 | EPA 353.2 | 04-JUN-13 14:18 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-15 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-15 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-16 | Collected: 24-MAY-13 11:25 By: JBMM Received: 24-MAY-13 By: BA<br>PZ-12-07-052413 | | | | | |
| MC21156-16 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-16 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-16 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-16 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-16 | EPA 353.2 | 04-JUN-13 14:22 | CF | | | NO3O |
| MC21156-16 | EPA 353.2 | 04-JUN-13 14:22 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-16 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-16 | SM18 4500NH3-C | 06-JUN-13 13:50 | BF | 06-JUN-13 | BF | AMN |
| MC21156-17 | Collected: 24-MAY-13 11:00 By: JBMM Received: 24-MAY-13 By: BA<br>PZ-12-04-052413 | | | | | |
| MC21156-17 | SM 21 4500 NO2 B | 25-MAY-13 11:23 | CF | 25-MAY-13 | CF | NO2 |
| MC21156-17 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21156-17 | SM21 4500CL C | 31-MAY-13 | MC | | | CHL |
| MC21156-17 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21156-17 | EPA 353.2 | 04-JUN-13 14:23 | CF | | | NO3O |
| MC21156-17 | EPA 353.2 | 04-JUN-13 14:23 | CF | 04-JUN-13 | CF | NO32 |
| MC21156-17 | ASTM516-90,02 | 05-JUN-13 | MC | | | SO4 |
| MC21156-17 | SM18 4500NH3-C | 06-JUN-13 14:00 | BF | 06-JUN-13 | BF | AMN |
| MC21156-18 | Collected: 23-MAY-13 09:50 By: JBMM Received: 23-MAY-13 By: BA<br>SHM-10-11-052313 | | | | | |
| MC21156-18 | SM21 5310 B | 30-MAY-13 00:10 | CF | | | DOC |
| MC21156-18 | SW846 6010C | 06-JUN-13 11:39 | EAL | 29-MAY-13 | DA | K,MG |
| MC21156-18 | SW846 6010C | 06-JUN-13 15:49 | EAL | 29-MAY-13 | DA | MN,NA |
| MC21156-18 | SW846 6010C | 06-JUN-13 15:53 | EAL | 29-MAY-13 | DA | CA |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-1E | SW846 6010C | 06-JUN-13 15:58 | EAL | 29-MAY-13 | DA | FE |
| MC21156-1E | SW846 6020A | 06-JUN-13 19:06 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-2E | Collected: 23-MAY-13 00:00 By: JBMM Received: 23-MAY-13 By: BA<br>DUP-052313 | | | | | |
| MC21156-2E | SM21 5310 B | 30-MAY-13 00:23 | CF | | | DOC |
| MC21156-2E | SW846 6010C | 06-JUN-13 11:43 | EAL | 29-MAY-13 | DA | K,MG |
| MC21156-2E | SW846 6010C | 06-JUN-13 14:57 | EAL | 29-MAY-13 | DA | MN,NA |
| MC21156-2E | SW846 6020A | 06-JUN-13 15:26 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-2E | SW846 6010C | 06-JUN-13 16:02 | EAL | 29-MAY-13 | DA | CA |
| MC21156-2E | SW846 6010C | 06-JUN-13 16:09 | EAL | 29-MAY-13 | DA | FE |
| MC21156-3E | Collected: 23-MAY-13 10:05 By: JBMM Received: 23-MAY-13 By: BA<br>SHM-10-14-052313 | | | | | |
| MC21156-3E | SM21 5310 B | 30-MAY-13 00:37 | CF | | | DOC |
| MC21156-3E | SW846 6010C | 06-JUN-13 11:48 | EAL | 29-MAY-13 | DA | K,MG,NA |
| MC21156-3E | SW846 6020A | 06-JUN-13 15:48 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-3E | SW846 6010C | 06-JUN-13 16:13 | EAL | 29-MAY-13 | DA | CA,MN |
| MC21156-3E | SW846 6010C | 06-JUN-13 16:17 | EAL | 29-MAY-13 | DA | FE |
| MC21156-4E | Collected: 23-MAY-13 10:45 By: JBMM Received: 23-MAY-13 By: BA<br>SHP-01-38B-052313 | | | | | |
| MC21156-4E | SM21 5310 B | 30-MAY-13 01:14 | CF | | | DOC |
| MC21156-4E | SW846 6010C | 06-JUN-13 11:52 | EAL | 29-MAY-13 | DA | K,MG |
| MC21156-4E | SW846 6020A | 06-JUN-13 16:15 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-4E | SW846 6010C | 06-JUN-13 16:22 | EAL | 29-MAY-13 | DA | MN,NA |
| MC21156-4E | SW846 6010C | 06-JUN-13 16:26 | EAL | 29-MAY-13 | DA | FE |
| MC21156-4E | SW846 6010C | 06-JUN-13 16:30 | EAL | 29-MAY-13 | DA | CA |
| MC21156-5E | Collected: 23-MAY-13 12:08 By: JBMM Received: 23-MAY-13 By: BA<br>SHP-01-38A-052313 | | | | | |
| MC21156-5E | SM21 5310 B | 30-MAY-13 01:29 | CF | | | DOC |
| MC21156-5E | SW846 6010C | 06-JUN-13 11:56 | EAL | 29-MAY-13 | DA | K,MG,MN,NA |
| MC21156-5E | SW846 6020A | 06-JUN-13 16:22 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-5E | SW846 6010C | 06-JUN-13 16:43 | EAL | 29-MAY-13 | DA | CA,FE |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-6F | Collected: 23-MAY-13 12:20 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| SHM-10-07-052313 | | | | | | |
| MC21156-6F | SM21 5310 B | 30-MAY-13 01:40 | CF | | | DOC |
| MC21156-6F | SW846 6010C | 06-JUN-13 12:01 | EAL | 29-MAY-13 | DA | MG |
| MC21156-6F | SW846 6020A | 06-JUN-13 16:29 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-6F | SW846 6010C | 06-JUN-13 16:48 | EAL | 29-MAY-13 | DA | K,MN |
| MC21156-6F | SW846 6010C | 06-JUN-13 16:52 | EAL | 29-MAY-13 | DA | NA |
| MC21156-6F | SW846 6010C | 06-JUN-13 16:57 | EAL | 29-MAY-13 | DA | CA,FE |
| MC21156-7F | Collected: 23-MAY-13 12:30 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| SHM-10-13-052313 | | | | | | |
| MC21156-7F | SM21 5310 B | 29-MAY-13 23:57 | CF | | | DOC |
| MC21156-7F | SW846 6010C | 03-JUN-13 13:12 | EAL | 29-MAY-13 | DA | MG,MN |
| MC21156-7F | SW846 6010C | 03-JUN-13 17:52 | EAL | 29-MAY-13 | DA | K,NA |
| MC21156-7F | SW846 6010C | 03-JUN-13 17:56 | EAL | 29-MAY-13 | DA | CA,FE |
| MC21156-7F | SW846 6020A | 06-JUN-13 15:05 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-8F | Collected: 23-MAY-13 14:10 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| SHM-10-06-052313 | | | | | | |
| MC21156-8F | SM21 5310 B | 30-MAY-13 01:55 | CF | | | DOC |
| MC21156-8F | SW846 6010C | 06-JUN-13 12:05 | EAL | 29-MAY-13 | DA | MG,MN |
| MC21156-8F | SW846 6020A | 06-JUN-13 16:36 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-8F | SW846 6010C | 06-JUN-13 17:01 | EAL | 29-MAY-13 | DA | K,NA |
| MC21156-8F | SW846 6010C | 06-JUN-13 17:05 | EAL | 29-MAY-13 | DA | CA |
| MC21156-8F | SW846 6010C | 06-JUN-13 17:10 | EAL | 29-MAY-13 | DA | FE |
| MC21156-9F | Collected: 23-MAY-13 12:18 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| SHL-11-052313 | | | | | | |
| MC21156-9F | SM21 5310 B | 30-MAY-13 02:08 | CF | | | DOC |
| MC21156-9F | SW846 6010C | 06-JUN-13 12:18 | EAL | 29-MAY-13 | DA | K,MG |
| MC21156-9F | SW846 6020A | 06-JUN-13 16:43 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-9F | SW846 6010C | 06-JUN-13 17:14 | EAL | 29-MAY-13 | DA | FE,MN,NA |
| MC21156-9F | SW846 6010C | 06-JUN-13 17:18 | EAL | 29-MAY-13 | DA | CA |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-10C | Collected: 23-MAY-13 14:45 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| RB-052313 | | | | | | |
| MC21156-10B | SW846 6010C | 06-JUN-13 12:22 | EAL | 29-MAY-13 | DA | CA,FE,K,MG,MN,NA |
| MC21156-10B | SW846 6020A | 06-JUN-13 16:50 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-11C | Collected: 23-MAY-13 14:20 By: JBMM Received: 23-MAY-13 By: BA | | | | | |
| SHM-10-12-052313 | | | | | | |
| MC21156-11B | SM21 5310 B | 30-MAY-13 02:21 | CF | | | DOC |
| MC21156-11B | SW846 6010C | 03-JUN-13 14:11 | EAL | 29-MAY-13 | DA | K,MG,NA |
| MC21156-11B | SW846 6010C | 05-JUN-13 11:08 | EAL | 29-MAY-13 | DA | CA,MN |
| MC21156-11B | SW846 6010C | 05-JUN-13 11:12 | EAL | 29-MAY-13 | DA | FE |
| MC21156-11B | SW846 6020A | 06-JUN-13 16:59 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-12C | Collected: 24-MAY-13 09:20 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-03-052413 | | | | | | |
| MC21156-12B | SM21 5310 B | 30-MAY-13 02:34 | CF | | | DOC |
| MC21156-12B | SW846 6010C | 03-JUN-13 14:16 | EAL | 29-MAY-13 | DA | K,MG |
| MC21156-12B | SW846 6010C | 05-JUN-13 11:16 | EAL | 29-MAY-13 | DA | FE,MN,NA |
| MC21156-12B | SW846 6010C | 05-JUN-13 11:21 | EAL | 29-MAY-13 | DA | CA |
| MC21156-12B | SW846 6020A | 06-JUN-13 17:06 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-13C | Collected: 24-MAY-13 09:25 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-08-052413 | | | | | | |
| MC21156-13B | SM21 5310 B | 30-MAY-13 02:47 | CF | | | DOC |
| MC21156-13B | SW846 6010C | 03-JUN-13 14:20 | EAL | 29-MAY-13 | DA | FE,K,MG,MN,NA |
| MC21156-13B | SW846 6010C | 05-JUN-13 11:25 | EAL | 29-MAY-13 | DA | CA |
| MC21156-13B | SW846 6020A | 06-JUN-13 17:13 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-14C | Collected: 24-MAY-13 09:33 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| SHL-4-052413 | | | | | | |
| MC21156-14B | SM21 5310 B | 30-MAY-13 03:00 | CF | | | DOC |
| MC21156-14B | SW846 6010C | 03-JUN-13 14:24 | EAL | 29-MAY-13 | DA | FE,K,MG,MN |
| MC21156-14B | SW846 6010C | 05-JUN-13 11:29 | EAL | 29-MAY-13 | DA | CA,NA |
| MC21156-14B | SW846 6020A | 06-JUN-13 17:20 | PY | 30-MAY-13 | DA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21156

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21156-15C | Collected: 24-MAY-13 00:00 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| DUP-02-052413 | | | | | | |
| MC21156-15B | SM21 5310 B | 30-MAY-13 03:14 | CF | | | DOC |
| MC21156-15B | SW846 6010C | 03-JUN-13 14:29 | EAL | 29-MAY-13 | DA | FE,K,MG,MN |
| MC21156-15B | SW846 6010C | 05-JUN-13 11:42 | EAL | 29-MAY-13 | DA | CA,NA |
| MC21156-15B | SW846 6020A | 06-JUN-13 17:41 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-16C | Collected: 24-MAY-13 11:25 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-07-052413 | | | | | | |
| MC21156-16B | SM21 5310 B | 30-MAY-13 03:50 | CF | | | DOC |
| MC21156-16B | SW846 6010C | 03-JUN-13 14:33 | EAL | 29-MAY-13 | DA | K,MG,MN,NA |
| MC21156-16B | SW846 6010C | 05-JUN-13 11:47 | EAL | 29-MAY-13 | DA | CA |
| MC21156-16B | SW846 6020A | 06-JUN-13 17:48 | PY | 30-MAY-13 | DA | ASMS |
| MC21156-17C | Collected: 24-MAY-13 11:00 By: JBMM Received: 24-MAY-13 By: BA | | | | | |
| PZ-12-04-052413 | | | | | | |
| MC21156-17B | SM21 5310 B | 30-MAY-13 04:05 | CF | | | DOC |
| MC21156-17B | SW846 6010C | 03-JUN-13 14:52 | EAL | 29-MAY-13 | DA | MG,MN |
| MC21156-17B | SW846 6010C | 05-JUN-13 11:51 | EAL | 29-MAY-13 | DA | K |
| MC21156-17B | SW846 6010C | 05-JUN-13 11:55 | EAL | 29-MAY-13 | DA | NA |
| MC21156-17B | SW846 6010C | 05-JUN-13 11:59 | EAL | 29-MAY-13 | DA | CA |
| MC21156-17B | SW846 6010C | 05-JUN-13 12:04 | EAL | 29-MAY-13 | DA | FE |
| MC21156-17B | SW846 6020A | 06-JUN-13 17:56 | PY | 30-MAY-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-1.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-1.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-1.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-1.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-1.6 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21156-1.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-1.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-1.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-1.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-1.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-1.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-1.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-1.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-1.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-1.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-1.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-2.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-2.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-2.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-2.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-2.6 | Walk In Ref #9 | Bijan Firowznin | 05/28/13 09:03 | Retrieve from Storage |
| MC21156-2.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-2.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-2.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-2.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-2.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-2.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-2.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-2.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-2.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-2.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-2.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-3.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-3.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-3.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-3.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-3.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-3.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-3.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-3.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-3.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-3.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-3.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-3.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-3.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-3.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-3.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-3.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-4.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-4.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-4.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-4.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-4.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-4.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-4.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-4.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-4.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-4.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-4.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-4.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-4.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-4.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-4.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-4.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-5.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-5.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-5.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-5.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-5.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-5.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-5.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-5.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-5.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-5.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-5.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-5.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-5.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-5.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-5.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-5.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-6.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-6.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-6.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-6.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-6.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-6.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-6.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-6.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-6.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-6.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-6.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-6.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-6.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-6.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-6.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-6.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-7.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-7.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-7.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-7.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-7.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-7.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-7.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-7.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-7.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-7.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-7.12 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-7.12 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-7.15 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-7.15 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-7.19 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-7.19 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-7.20 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-7.20 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-7.21 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-7.21 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-7.22 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-7.22 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-7.23 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-7.23 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-7.26 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:14 | Retrieve from Storage |
| MC21156-7.26 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-8.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-8.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-8.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-8.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-8.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-8.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-8.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-8.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-8.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-8.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-8.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-8.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-8.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-8.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-8.8 | Walk In Ref #5 | Miranda Cardullo | 06/04/13 09:08 | Retrieve from Storage |
| MC21156-8.8 | Miranda Cardullo | Walk In Ref #5 | 06/04/13 16:42 | Return to Storage |
| MC21156-9.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-9.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-9.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-9.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-9.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:46 | Retrieve from Storage |
| MC21156-9.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-9.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-9.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-9.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-9.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-9.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-9.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-9.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-9.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-9.8 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-9.8 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-10.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-10.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-11.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-11.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-11.4 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-11.4 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-11.6 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-11.6 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-11.7 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-11.7 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-11.7 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-11.7 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-11.8 | Walk In Ref #5 | Miranda Cardullo | 05/24/13 15:25 | Retrieve from Storage |
| MC21156-11.8 | Miranda Cardullo | Walk In Ref #5 | 05/24/13 17:22 | Return to Storage |
| MC21156-11.8 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-11.8 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-11.8 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-11.8 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-12.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21156-12.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-12.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-12.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-12.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-12.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-12.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-12.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-12.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-12.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-12.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-12.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-12.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-12.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-12F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-12F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-13.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21156-13.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-13.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-13.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-13.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-13.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-13.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-13.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-13.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-13.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-13.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:05 | Retrieve from Storage |
| MC21156-13.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-13.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-13.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-13F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-13F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-14.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21156-14.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-14.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-14.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-14.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-14.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-14.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-14.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-14.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-14.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-14.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21156-14.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-14.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-14.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-14F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-14F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-15.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21156-15.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-15.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-15.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-15.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-15.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-15.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-15.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-15.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-15.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-15.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21156-15.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-15.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-15.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-15F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-15F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-16.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21156-16.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-16.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-16.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-16.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-16.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-16.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-16.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-16.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-16.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-16.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21156-16.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-16.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-16.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21156-16F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-16F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21156-17.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:17 | Retrieve from Storage |
| MC21156-17.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21156-17.1 | Walk In Ref #5 | Miranda Cardullo | 05/31/13 09:05 | Retrieve from Storage |
| MC21156-17.1 | Miranda Cardullo | Walk In Ref #5 | 05/31/13 17:24 | Return to Storage |
| MC21156-17.1 | Walk In Ref #5 | Miranda Cardullo | 06/05/13 09:21 | Retrieve from Storage |
| MC21156-17.1 | Miranda Cardullo | Walk In Ref #5 | 06/05/13 16:51 | Return to Storage |
| MC21156-17.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21156-17.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21156-17.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21156-17.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21156-17.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21156-17.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21156-17.8 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 15:44 | Retrieve from Storage |
| MC21156-17.8 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21156
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/23/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21156-17F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21156-17F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 1 | | STD1 |
| 09:19 | MA15693-STD2 | 1 | | STD2 |
| 09:23 | MA15693-STD3 | 1 | | STD3 |
| 09:28 | MA15693-STD4 | 1 | | STD4 |
| 09:32 | MA15693-ICV1 | 1 | | |
| 09:42 | MA15693-ICB1 | 1 | | |
| 09:50 | MA15693-CCV1 | 1 | | |
| 09:58 | MA15693-CCB1 | 1 | | |
| 10:04 | MA15693-CRI1 | 1 | | |
| 10:13 | MA15693-ICSA1 | 1 | | |
| 10:17 | MA15693-ICSAB1 | 1 | | |
| 10:22 | MP21072-B1 | 1 | | |
| 10:26 | MP21072-MB1 | 1 | | |
| 10:30 | MP21072-S1 | 1 | | |
| 10:34 | MP21072-S2 | 1 | | |
| 10:39 | MC21083-12F | 1 | | (sample used for QC only; not part of login MC21156) |
| 10:43 | MP21072-SD1 | 5 | | |
| 10:47 | ZZZZZZ | 1 | | |
| 10:52 | MA15693-CCV2 | 1 | | |
| 10:58 | MA15693-CCB2 | 1 | | |
| 11:08 | ZZZZZZ | 1 | | |
| 11:12 | ZZZZZZ | 1 | | |
| 11:16 | ZZZZZZ | 1 | | |
| 11:21 | ZZZZZZ | 1 | | |
| 11:25 | ZZZZZZ | 1 | | |
| 11:29 | ZZZZZZ | 1 | | |
| 11:34 | ZZZZZZ | 1 | | |
| 11:38 | ZZZZZZ | 1 | | |
| 11:42 | ZZZZZZ | 1 | | |
| 11:47 | ZZZZZZ | 1 | | |
| 11:51 | MA15693-CCV3 | 1 | | |
| 11:58 | MA15693-CCB3 | 1 | | |
| 12:03 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:07 | ZZZZZZ | 1 | | |
| 12:11 | ZZZZZZ | 1 | | |
| 12:16 | ZZZZZZ | 1 | | |
| 12:20 | ZZZZZZ | 1 | | |
| 12:25 | ZZZZZZ | 1 | | |
| 12:29 | ZZZZZZ | 1 | | |
| 12:33 | ZZZZZZ | 1 | | |
| 12:38 | MP21072-PS1 | 1 | | |
| 12:42 | MP21073-B1 | 1 | | |
| 12:46 | MA15693-CCV4 | 1 | | |
| 12:54 | MA15693-CCB4 | 1 | | |
| 13:00 | MP21073-MB1 | 1 | | |
| 13:04 | MP21073-S1 | 1 | | |
| 13:08 | MP21073-S2 | 1 | | |
| 13:12 | MC21156-7F | 1 | | |
| 13:17 | MP21073-SD1 | 5 | | |
| 13:21 | MC21156-1F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:25 | MC21156-2F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:30 | MC21156-3F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:34 | MC21156-4F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:38 | MC21156-5F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:43 | MA15693-CCV5 | 1 | | |
| 13:48 | MA15693-CCB5 | 1 | | |
| 13:54 | MC21156-6F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 13:58 | MC21156-8F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 14:03 | MC21156-9F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 14:07 | MC21156-10F | 1 | | DNR: INCORRECT AUTOSAMPLER LOCATION. |
| 14:11 | MC21156-11F | 1 | | |
| 14:16 | MC21156-12F | 1 | | |
| 14:20 | MC21156-13F | 1 | | |
| 14:24 | MC21156-14F | 1 | | |
| 14:29 | MC21156-15F | 1 | | |
| 14:33 | MC21156-16F | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 1 | | |
| 14:42 | MA15693-CCB6 | 1 | | |
| 14:52 | MC21156-17F | 1 | | |
| 14:56 | ZZZZZZ | 1 | | |
| 15:01 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:10 | MP21073-PS1 | 1 | | |
| 15:18 | MP21072-B1 | 5 | | |
| 15:23 | MP21072-S1 | 5 | | |
| 15:27 | MP21072-S2 | 5 | | |
| 15:32 | ZZZZZZ | 5 | | |
| 15:36 | ZZZZZZ | 5 | | |
| 15:44 | MA15693-CCV7 | 1 | | |
| 15:50 | MA15693-CCB7 | 1 | | |
| 15:55 | ZZZZZZ | 5 | | |
| 15:59 | ZZZZZZ | 10 | | |
| 16:04 | ZZZZZZ | 10 | | |
| 16:08 | ZZZZZZ | 20 | | |
| 16:12 | ZZZZZZ | 2 | | |
| 16:17 | ZZZZZZ | 5 | | |
| 16:21 | ZZZZZZ | 20 | | |
| 16:25 | ZZZZZZ | 5 | | |
| 16:30 | ZZZZZZ | 2 | | |
| 16:34 | ZZZZZZ | 10 | | |
| 16:38 | MA15693-CCV8 | 1 | | |
| 16:43 | MA15693-CCB8 | 1 | | |
| 16:47 | ZZZZZZ | 2 | | |
| 16:51 | ZZZZZZ | 2 | | |
| 16:56 | ZZZZZZ | 5 | | |
| 17:00 | ZZZZZZ | 10 | | |
| 17:04 | ZZZZZZ | 3 | | |
| 17:09 | ZZZZZZ | 4 | | |
| 17:13 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 5 | | |
| 17:22 | MP21073-B1 | 5 | | |
| 17:26 | MP21073-S1 | 5 | | |
| 17:30 | MA15693-CCV9 | 1 | | |
| 17:34 | MA15693-CCB9 | 1 | | |
| 17:39 | MP21073-S2 | 5 | | |
| 17:43 | MP21073-S1 | 10 | | |
| 17:47 | MP21073-S2 | 10 | | |
| 17:52 | MC21156-7F | 2 | | |
| 17:56 | MC21156-7F | 10 | | |
| 18:00 | MP21073-SD1 | 10 | | |
| 18:05 | MP21073-SD1 | 50 | | |
| ----------> | Last reportable sample/prep for job MC21156 | | | |
| 18:09 | MA15693-CRI2 | 1 | | |
| 18:13 | MA15693-CCV10 | 1 | | |
| 18:18 | MA15693-CCB10 | 1 | | |
| ----------> | Last reportable CCB for job MC21156 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 2222 R | 53476 R | 14049 R |
| 09:19 | MA15693-STD2 | 2242 | 52643 | 12571 |
| 09:23 | MA15693-STD3 | | | 12965 |
| 09:28 | MA15693-STD4 | 2292 | 54672 | 13231 |
| 09:32 | MA15693-ICV1 | 2245 | 53542 | 13105 |
| 09:42 | MA15693-ICB1 | 2245 | 54467 | 13169 |
| 09:50 | MA15693-CCV1 | 2228 | 54081 | 13266 |
| 09:58 | MA15693-CCB1 | 2245 | 54666 | 13274 |
| 10:04 | MA15693-CRI1 | 2250 | 54745 | 13399 |
| 10:13 | MA15693-ICSA1 | 2062 | 51119 | 13017 |
| 10:17 | MA15693-ICSAB1 | 2061 | 51001 | 13045 |
| 10:22 | MP21072-B1 | 2217 | 54611 | 13509 |
| 10:26 | MP21072-MB1 | 2228 | 55199 | 13356 |
| 10:30 | MP21072-S1 | 2214 | 54593 | 13401 |
| 10:34 | MP21072-S2 | 2231 | 54533 | 13365 |
| 10:39 | MC21083-12F | 2240 | 55273 | 13361 |
| 10:43 | MP21072-SD1 | 2238 | 54990 | 13359 |
| 10:47 | ZZZZZZ | 2237 | 55315 | 13440 |
| 10:52 | MA15693-CCV2 | 2247 | 54504 | 13396 |
| 10:58 | MA15693-CCB2 | 2234 | 54828 | 13314 |
| 11:08 | ZZZZZZ | 2212 | 54809 | 13616 |
| 11:12 | ZZZZZZ | 2242 | 55067 | 13473 |
| 11:16 | ZZZZZZ | 2226 | 55276 | 13530 |
| 11:21 | ZZZZZZ | 2193 | 54366 | 13409 |
| 11:25 | ZZZZZZ | 2236 | 54775 | 13380 |
| 11:29 | ZZZZZZ | 2253 | 55028 | 13364 |
| 11:34 | ZZZZZZ | 2208 | 54768 | 13463 |
| 11:38 | ZZZZZZ | 2240 | 54672 | 13518 |
| 11:42 | ZZZZZZ | 2263 | 54642 | 13436 |
| 11:47 | ZZZZZZ | 2219 | 54549 | 13326 |
| 11:51 | MA15693-CCV3 | 2261 | 54370 | 13239 |
| 11:58 | MA15693-CCB3 | 2273 | 55412 | 13238 |
| 12:03 | ZZZZZZ | 2260 | 54805 | 13444 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:07 | ZZZZZZ | 2268 | 55124 | 13592 |
| 12:11 | ZZZZZZ | 2254 | 54690 | 13538 |
| 12:16 | ZZZZZZ | 2221 | 54530 | 13525 |
| 12:20 | ZZZZZZ | 2261 | 54746 | 13537 |
| 12:25 | ZZZZZZ | 2238 | 54889 | 13469 |
| 12:29 | ZZZZZZ | 2240 | 55327 | 13704 |
| 12:33 | ZZZZZZ | 2245 | 54900 | 13340 |
| 12:38 | MP21072-PS1 | 2219 | 54948 | 13629 |
| 12:42 | MP21073-B1 | 2227 | 54750 | 13618 |
| 12:46 | MA15693-CCV4 | 2243 | 54323 | 13694 |
| 12:54 | MA15693-CCB4 | 2224 | 54631 | 13420 |
| 13:00 | MP21073-MB1 | 2221 | 55398 | 13657 |
| 13:04 | MP21073-S1 | 2171 | 54877 | 13620 |
| 13:08 | MP21073-S2 | 2176 | 54496 | 13584 |
| 13:12 | MC21156-7F | 2194 | 54734 | 13815 |
| 13:17 | MP21073-SD1 | 2232 | 55020 | 13629 |
| 13:21 | MC21156-1F | 2232 | 55206 | 13840 |
| 13:25 | MC21156-2F | 2194 | 54685 | 13737 |
| 13:30 | MC21156-3F | 2209 | 54774 | 13796 |
| 13:34 | MC21156-4F | 2198 | 55155 | 13734 |
| 13:38 | MC21156-5F | 2182 | 54772 | 13621 |
| 13:43 | MA15693-CCV5 | 2220 | 54467 | 13603 |
| 13:48 | MA15693-CCB5 | 2216 | 55052 | 13445 |
| 13:54 | MC21156-6F | 2211 | 55303 | 13553 |
| 13:58 | MC21156-8F | 2193 | 54490 | 13494 |
| 14:03 | MC21156-9F | 2215 | 54854 | 13437 |
| 14:07 | MC21156-10F | 2222 | 54642 | 13505 |
| 14:11 | MC21156-11F | 2233 | 54718 | 13502 |
| 14:16 | MC21156-12F | 2229 | 54683 | 13579 |
| 14:20 | MC21156-13F | 2261 | 54936 | 13491 |
| 14:24 | MC21156-14F | 2262 | 54717 | 13479 |
| 14:29 | MC21156-15F | 2244 | 54567 | 13445 |
| 14:33 | MC21156-16F | 2247 | 54607 | 13527 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 2266 | 54530 | 13586 |
| 14:42 | MA15693-CCB6 | 2267 | 55360 | 13485 |
| 14:52 | MC21156-17F | 2224 | 55403 | 13596 |
| 14:56 | ZZZZZZ | 2157 | 54521 | 13371 |
| 15:01 | ZZZZZZ | 2159 | 54512 | 13507 |
| 15:05 | ZZZZZZ | 2248 | 55137 | 13481 |
| 15:10 | MP21073-PS1 | 2204 | 54715 | 13577 |
| 15:18 | MP21072-B1 | 2257 | 55271 | 13593 |
| 15:23 | MP21072-S1 | 2259 | 54795 | 13511 |
| 15:27 | MP21072-S2 | 2268 | 54947 | 13604 |
| 15:32 | ZZZZZZ | 2271 | 54927 | 13433 |
| 15:36 | ZZZZZZ | 2276 | 54865 | 13580 |
| 15:44 | MA15693-CCV7 | 2262 | 54617 | 13824 |
| 15:50 | MA15693-CCB7 | 2263 | 55406 | 13057 |
| 15:55 | ZZZZZZ | 2267 | 55210 | 13626 |
| 15:59 | ZZZZZZ | 2261 | 54978 | 13606 |
| 16:04 | ZZZZZZ | 2269 | 54936 | 13514 |
| 16:08 | ZZZZZZ | 2267 | 54659 | 13547 |
| 16:12 | ZZZZZZ | 2267 | 55194 | 13500 |
| 16:17 | ZZZZZZ | 2266 | 55002 | 13529 |
| 16:21 | ZZZZZZ | 2267 | 54978 | 13589 |
| 16:25 | ZZZZZZ | 2279 | 54793 | 13426 |
| 16:30 | ZZZZZZ | 2267 | 54625 | 13632 |
| 16:34 | ZZZZZZ | 2285 | 54855 | 13442 |
| 16:38 | MA15693-CCV8 | 2273 | 54324 | 13533 |
| 16:43 | MA15693-CCB8 | 2276 | 55005 | 13447 |
| 16:47 | ZZZZZZ | 2282 | 55271 | 13533 |
| 16:51 | ZZZZZZ | 2271 | 54996 | 13525 |
| 16:56 | ZZZZZZ | 2272 | 54867 | 13490 |
| 17:00 | ZZZZZZ | 2255 | 54653 | 13449 |
| 17:04 | ZZZZZZ | 2265 | 54762 | 13586 |
| 17:09 | ZZZZZZ | 2274 | 55420 | 13453 |
| 17:13 | ZZZZZZ | 2264 | 55461 | 13516 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 2284 | 55180 | 13525 |
| 17:22 | MP21073-B1 | 2284 | 54775 | 13551 |
| 17:26 | MP21073-S1 | 2267 | 54707 | 13666 |
| 17:30 | MA15693-CCV9 | 2268 | 54527 | 13483 |
| 17:34 | MA15693-CCB9 | 2278 | 55420 | 13668 |
| 17:39 | MP21073-S2 | 2256 | 54856 | 13653 |
| 17:43 | MP21073-S1 | 2262 | 54842 | 13513 |
| 17:47 | MP21073-S2 | 2270 | 54878 | 13616 |
| 17:52 | MC21156-7F | 2256 | 55010 | 13618 |
| 17:56 | MC21156-7F | 2279 | 55268 | 13562 |
| 18:00 | MP21073-SD1 | 2276 | 54890 | 13474 |
| 18:05 | MP21073-SD1 | 2274 | 55194 | 13563 |
| 18:09 | MA15693-CRI2 | 2283 | 55170 | 13495 |
| 18:13 | MA15693-CCV10 | 2271 | 55006 | 13420 |
| 18:18 | MA15693-CCB10 | 2272 | 54937 | 13557 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 09:42 ICB1 | | 09:58 CCB1 | | 10:58 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 3.5 | <5000 | 1.7 | <5000 | 12.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 1.6 | <100 | -0.30 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -9.9 | <5000 | 0.70 | <5000 | 3.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.10 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | -27 | <5000 | -2.8 | <5000 | -16 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -25 | <5000 | -36 | <5000 | -36 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 11:58 CCB3 | | 12:54 CCB4 | | 13:48 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 8.1 | <5000 | 15.9 | <5000 | 4.7 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 2.4 | <100 | 0.0 | <100 | 5.2 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -3.9 | <5000 | -6.6 | <5000 | 0.0 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 17.7 | <5000 | 39.5 | <5000 | 18.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -41 | <5000 | -37 | <5000 | -40 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 14:42 CCB6 | | 15:50 CCB7 | | 16:43 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.5 | <5000 | -1.9 | <5000 | 1.2 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 5.1 | <100 | 2.9 | <100 | 6.8 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 11.1 | <5000 | 2.6 | <5000 | 0.50 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.30 | <15 | 0.30 | <15 | 0.90 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 27.5 | <5000 | 27.3 | <5000 | 12.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -30 | <5000 | -14 | <5000 | -37 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 17:34 CCB9 | | 18:18 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | -0.20 | <5000 | -3.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 6.4 | <100 | 4.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 0.70 | <5000 | 10.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.60 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 0.50 | <5000 | 4.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | -28 | <5000 | -38 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 09:32 | | | 09:50 | | | 10:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18200 | 101.1 | 10000 | 9950 | 99.5 | 10000 | 9860 | 98.6 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 10000 | 100.0 | 10000 | 9930 | 99.3 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18400 | 102.2 | 10000 | 9720 | 97.2 | 10000 | 9610 | 96.1 |
| Manganese | 3000 | 2970 | 99.0 | 2000 | 1910 | 95.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9940 | 99.4 | 10000 | 9910 | 99.1 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15700 | 104.7 | 10000 | 10000 | 100.0 | 10000 | 9950 | 99.5 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 11:51 | | | 12:46 | | | 13:43 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9840 | 98.4 | 10000 | 9790 | 97.9 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9850 | 98.5 | 10000 | 9980 | 99.8 | 10000 | 9980 | 99.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9690 | 96.9 | 10000 | 9330 | 93.3 | 10000 | 9310 | 93.1 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1880 | 94.0 | 2000 | 1850 | 92.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9830 | 98.3 | 10000 | 9820 | 98.2 | 10000 | 9700 | 97.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9880 | 98.8 | 10000 | 9990 | 99.9 | 10000 | 9990 | 99.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 14:37 | | | 15:44 | | | 16:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9760 | 97.6 | 10000 | 9500 | 95.0 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9870 | 98.7 | 10000 | 9650 | 96.5 | 10000 | 9790 | 97.9 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9210 | 92.1 | 10000 | 9480 | 94.8 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9740 | 97.4 | 10000 | 9490 | 94.9 | 10000 | 9720 | 97.2 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9680 | 96.8 | 10000 | 9810 | 98.1 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 17:30 | | | 18:13 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9790 | 97.9 | 10000 | 9790 | 97.9 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9880 | 98.8 | 10000 | 9830 | 98.3 |
| Lead | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9530 | 95.3 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9720 | 97.2 | 10000 | 9770 | 97.7 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15693  Units: ug/l

| Time: | | | 10:04 | | 18:09 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5010 | 100.2 | 4940 | 98.8 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 99.9 | 99.9 | 103 | 103.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4840 | 96.8 | 4800 | 96.0 |
| Manganese | 15 | 15 | 15.1 | 100.7 | 15.0 | 100.0 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5000 | 100.0 | 4930 | 98.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4980 | 99.6 | 4920 | 98.4 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | | 10:13 | | 10:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 511000 | 102.2 | 520000 | 104.0 |
| Antimony | | 2000 | 1.9 | | 2130 | 106.5 |
| Arsenic | | 2000 | 0.0 | | 2070 | 103.5 |
| Barium | | 500 | -0.20 | | 508 | 101.6 |
| Beryllium | | 500 | 0.0 | | 462 | 92.4 |
| Boron | | 1000 | 4.5 | | 1020 | 102.0 |
| Cadmium | | 1000 | -0.30 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 462000 | 92.4 | 465000 | 93.0 |
| Chromium | | 500 | -0.30 | | 480 | 96.0 |
| Cobalt | | 500 | -0.20 | | 484 | 96.8 |
| Copper | | 500 | 3.5 | | 512 | 102.4 |
| Gold | | 500 | 7.2 | | 493 | 98.6 |
| Iron | 200000 | 200000 | 189000 | 94.5 | 189000 | 94.5 |
| Lead | | 1000 | -0.80 | | 913 | 91.3 |
| Magnesium | 500000 | 500000 | 485000 | 97.0 | 482000 | 96.4 |
| Manganese | | 500 | 0.50 | | 467 | 93.4 |
| Molybdenum | | 1000 | -0.40 | | 976 | 97.6 |
| Nickel | | 1000 | -0.60 | | 911 | 91.1 |
| Palladium | | 500 | -34* | | 503 | 100.6 |
| Platinum | | 500 | -15 | | 478 | 95.6 |
| Potassium | | | 31.4 | | 62.8 | |
| Selenium | | 2000 | -0.80 | | 2030 | 101.5 |
| Silicon | | 2000 | 36.5 | | 2230 | 111.5 |
| Silver | | 1000 | 1.1 | | 1030 | 103.0 |
| Sodium | | | 46.4 | | 37.1 | |
| Strontium | | 1000 | 1.0* | | 975 | 97.5 |
| Thallium | | 2000 | 0.70 | | 1900 | 95.0 |
| Tin | | 1000 | -0.50 | | 994 | 99.4 |
| Titanium | | 500 | 8.9* | | 515 | 103.0 |
| Tungsten | | 2000 | -39* | | 1830 | 91.5 |
| Vanadium | | 500 | 0.30 | | 505 | 101.0 |
| Zinc | | 1000 | -0.80 | | 894 | 89.4 |
| Zirconium | | 500 | 1.9 | | 461 | 92.2 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 1 | | STD1 |
| 09:22 | MA15707-STD2 | 1 | | STD2 |
| 09:26 | MA15707-STD3 | 1 | | STD3 |
| 09:31 | MA15707-STD4 | 1 | | STD4 |
| 09:35 | MA15707-ICV1 | 1 | | |
| 09:40 | MA15707-ICB1 | 1 | | |
| 09:45 | MA15707-CCV1 | 1 | | |
| 09:51 | MA15707-CCB1 | 1 | | |
| 09:56 | MA15707-CRI1 | 1 | | |
| 10:01 | MA15707-ICSA1 | 1 | | |
| 10:05 | MA15707-ICSAB1 | 1 | | |
| 10:10 | MP21104-B1 | 1 | | |
| 10:14 | MP21104-MB1 | 1 | | |
| 10:18 | MP21104-S1 | 1 | | |
| 10:22 | MP21104-S2 | 1 | | |
| 10:27 | MC21261-9F | 1 | | (sample used for QC only; not part of login MC21156) |
| 10:31 | MP21104-SD1 | 5 | | |
| 10:36 | ZZZZZZ | 1 | | |
| 10:40 | MA15707-CCV2 | 1 | | |
| 10:44 | MA15707-CCB2 | 1 | | |
| 10:50 | ZZZZZZ | 1 | | |
| 10:55 | ZZZZZZ | 1 | | |
| 10:59 | ZZZZZZ | 1 | | |
| 11:03 | MP21104-PS1 | 1 | | |
| 11:08 | MC21156-11F | 5 | | |
| 11:12 | MC21156-11F | 10 | | |
| 11:16 | MC21156-12F | 5 | | |
| 11:21 | MC21156-12F | 10 | | |
| 11:25 | MC21156-13F | 2 | | |
| 11:29 | MC21156-14F | 3 | | |
| 11:34 | MA15707-CCV3 | 1 | | |
| 11:38 | MA15707-CCB3 | 1 | | |
| 11:42 | MC21156-15F | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:47 | MC21156-16F | 3 | | |
| 11:51 | MC21156-17F | 2 | | |
| 11:55 | MC21156-17F | 3 | | |
| 11:59 | MC21156-17F | 5 | | |
| 12:04 | MC21156-17F | 10 | | |
| 12:08 | ZZZZZZ | 2 | | |
| 12:13 | ZZZZZZ | 20 | | |
| 12:17 | ZZZZZZ | 50 | | |
| 12:21 | ZZZZZZ | 2 | | |
| 12:26 | MA15707-CCV4 | 1 | | |
| 12:30 | MA15707-CCB4 | 1 | | |
| 12:34 | ZZZZZZ | 20 | | |
| 12:39 | ZZZZZZ | 50 | | |
| 12:43 | ZZZZZZ | 2 | | |
| 12:47 | MP21073-PS1 | 1 | | |
| 12:55 | MP21073-PS1 | 5 | | |
| 12:59 | MP21073-PS1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC21156 | | | |
| 13:04 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 13:09 | MP21104-B1 | 5 | | |
| 13:14 | MP21104-S1 | 5 | | |
| 13:18 | MP21104-S2 | 5 | | |
| 13:22 | MA15707-CCV5 | 1 | | |
| 13:27 | MA15707-CCB5 | 1 | | |
| 13:31 | MC21261-9F | 2 | | (sample used for QC only; not part of login MC21156) |
| 13:35 | MC21261-9F | 5 | | (sample used for QC only; not part of login MC21156) |
| 13:40 | MP21104-SD1 | 10 | | |
| 13:44 | MP21104-SD1 | 25 | | |
| 13:48 | ZZZZZZ | 3 | | |
| 13:53 | ZZZZZZ | 5 | | |
| 13:57 | ZZZZZZ | 20 | | |
| 14:01 | ZZZZZZ | 3 | | |
| 14:06 | ZZZZZZ | 10 | | |
| 14:10 | ZZZZZZ | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 1 | | |
| 14:28 | MA15707-CCB6 | 1 | | |
| 14:33 | ZZZZZZ | 2 | | |
| 14:37 | ZZZZZZ | 5 | | |
| 14:42 | MP21104-PS1 | 5 | | |
| 14:46 | MP21104-PS1 | 10 | | |
| 14:50 | MP21097-S1 | 5 | | |
| 14:54 | MP21097-S2 | 5 | | |
| 14:59 | MC21202-14F | 3 | | (sample used for QC only; not part of login MC21156) |
| 15:03 | MP21097-SD1 | 15 | | |
| 15:07 | MP21097-PS1 | 5 | | |
| 15:12 | MP21097-PS1 | 10 | | |
| 15:16 | MA15707-CCV7 | 1 | | |
| 15:20 | MA15707-CCB7 | 1 | | |
| 15:24 | ZZZZZZ | 3 | | |
| 15:29 | ZZZZZZ | 10 | | |
| 15:50 | ZZZZZZ | 10 | | |
| 15:54 | ZZZZZZ | 2 | | |
| 15:59 | ZZZZZZ | 5 | | |
| 16:03 | ZZZZZZ | 20 | | |
| 16:07 | ZZZZZZ | 3 | | |
| 16:12 | ZZZZZZ | 10 | | |
| 16:16 | ZZZZZZ | 3 | | |
| 16:20 | ZZZZZZ | 2 | | |
| 16:25 | MA15707-CCV8 | 1 | | |
| 16:29 | MA15707-CCB8 | 1 | | |
| 16:33 | ZZZZZZ | 5 | | |
| 16:38 | ZZZZZZ | 10 | | |
| 16:42 | ZZZZZZ | 2 | | |
| 16:46 | ZZZZZZ | 5 | | |
| 16:51 | ZZZZZZ | 10 | | |
| 16:55 | ZZZZZZ | 2 | | |
| 16:59 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:04 | ZZZZZZ | 10 | | |
| 17:08 | ZZZZZZ | 2 | | |
| 17:13 | ZZZZZZ | 5 | | |
| 17:17 | MA15707-CCV9 | 1 | | |
| 17:21 | MA15707-CCB9 | 1 | | |
| 17:25 | ZZZZZZ | 20 | | |
| 17:30 | MA15707-CRI2 | 1 | | |
| 17:34 | MA15707-CCV10 | 1 | | |
| 17:38 | MA15707-CCB10 | 1 | | |

----------> Last reportable CCB for job MC21156
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 2437 R | 60774 R | 15468 R |
| 09:22 | MA15707-STD2 | 2472 | 59342 | 13928 |
| 09:26 | MA15707-STD3 | | | 13827 |
| 09:31 | MA15707-STD4 | 2522 | 58630 | 13794 |
| 09:35 | MA15707-ICV1 | 2491 | 58027 | 13825 |
| 09:40 | MA15707-ICB1 | 2504 | 58652 | 13752 |
| 09:45 | MA15707-CCV1 | 2490 | 57676 | 13954 |
| 09:51 | MA15707-CCB1 | 2508 | 58394 | 13869 |
| 09:56 | MA15707-CRI1 | 2508 | 58037 | 14282 |
| 10:01 | MA15707-ICSA1 | 2299 | 54315 | 13500 |
| 10:05 | MA15707-ICSAB1 | 2290 | 54083 | 13493 |
| 10:10 | MP21104-B1 | 2483 | 58166 | 14155 |
| 10:14 | MP21104-MB1 | 2502 | 57943 | 13948 |
| 10:18 | MP21104-S1 | 2481 | 58039 | 14134 |
| 10:22 | MP21104-S2 | 2474 | 57655 | 14096 |
| 10:27 | MC21261-9F | 2508 | 58080 | 14066 |
| 10:31 | MP21104-SD1 | 2473 | 57369 | 13730 |
| 10:36 | ZZZZZZ | 2425 | 57141 | 13756 |
| 10:40 | MA15707-CCV2 | 2450 | 57542 | 13932 |
| 10:44 | MA15707-CCB2 | 2449 | 57788 | 13733 |
| 10:50 | ZZZZZZ | 2393 | 57300 | 13749 |
| 10:55 | ZZZZZZ | 2402 | 57740 | 13797 |
| 10:59 | ZZZZZZ | 2416 | 57853 | 13902 |
| 11:03 | MP21104-PS1 | 2369 | 57779 | 13868 |
| 11:08 | MC21156-11F | 2413 | 57970 | 13704 |
| 11:12 | MC21156-11F | 2412 | 57886 | 13780 |
| 11:16 | MC21156-12F | 2421 | 58093 | 13804 |
| 11:21 | MC21156-12F | 2417 | 58033 | 13800 |
| 11:25 | MC21156-13F | 2410 | 57515 | 13689 |
| 11:29 | MC21156-14F | 2443 | 58037 | 13857 |
| 11:34 | MA15707-CCV3 | 2452 | 57866 | 13966 |
| 11:38 | MA15707-CCB3 | 2460 | 58078 | 13849 |
| 11:42 | MC21156-15F | 2432 | 57931 | 13761 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 11:47 | MC21156-16F | 2446 | 58336 | 13897 |
| 11:51 | MC21156-17F | 2431 | 58095 | 13948 |
| 11:55 | MC21156-17F | 2436 | 58453 | 13758 |
| 11:59 | MC21156-17F | 2443 | 58449 | 13891 |
| 12:04 | MC21156-17F | 2435 | 58082 | 13802 |
| 12:08 | ZZZZZZ | 2383 | 57315 | 13820 |
| 12:13 | ZZZZZZ | 2432 | 58117 | 13817 |
| 12:17 | ZZZZZZ | 2426 | 57817 | 13798 |
| 12:21 | ZZZZZZ | 2372 | 57574 | 13768 |
| 12:26 | MA15707-CCV4 | 2417 | 57993 | 13854 |
| 12:30 | MA15707-CCB4 | 2422 | 57723 | 13770 |
| 12:34 | ZZZZZZ | 2426 | 57906 | 13903 |
| 12:39 | ZZZZZZ | 2413 | 58061 | 13847 |
| 12:43 | ZZZZZZ | 2423 | 57768 | 13906 |
| 12:47 | MP21073-PS1 | 2341 | 57154 | 13748 |
| 12:55 | MP21073-PS1 | 2412 | 57909 | 13809 |
| 12:59 | MP21073-PS1 | 2430 | 58023 | 13918 |
| 13:04 | ZZZZZZ | 2428 | 57813 | 13756 |
| 13:09 | MP21104-B1 | 2422 | 58161 | 13953 |
| 13:14 | MP21104-S1 | 2422 | 57799 | 13863 |
| 13:18 | MP21104-S2 | 2411 | 57844 | 14059 |
| 13:22 | MA15707-CCV5 | 2417 | 57385 | 13730 |
| 13:27 | MA15707-CCB5 | 2416 | 58655 | 13851 |
| 13:31 | MC21261-9F | 2413 | 58691 | 13934 |
| 13:35 | MC21261-9F | 2409 | 57945 | 13883 |
| 13:40 | MP21104-SD1 | 2420 | 58086 | 13792 |
| 13:44 | MP21104-SD1 | 2404 | 57971 | 13814 |
| 13:48 | ZZZZZZ | 2414 | 57380 | 13897 |
| 13:53 | ZZZZZZ | 2404 | 57536 | 13689 |
| 13:57 | ZZZZZZ | 2431 | 58221 | 13938 |
| 14:01 | ZZZZZZ | 2412 | 57911 | 13880 |
| 14:06 | ZZZZZZ | 2432 | 57987 | 13951 |
| 14:10 | ZZZZZZ | 2438 | 58192 | 13860 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 2441 | 57854 | 13812 |
| 14:28 | MA15707-CCB6 | 2403 | 57927 | 13697 |
| 14:33 | ZZZZZZ | 2386 | 57787 | 13864 |
| 14:37 | ZZZZZZ | 2370 | 58486 | 13573 |
| 14:42 | MP21104-PS1 | 2359 | 57516 | 13821 |
| 14:46 | MP21104-PS1 | 2363 | 58545 | 13772 |
| 14:50 | MP21097-S1 | 2391 | 57548 | 13867 |
| 14:54 | MP21097-S2 | 2388 | 58006 | 13817 |
| 14:59 | MC21202-14F | 2401 | 58359 | 14012 |
| 15:03 | MP21097-SD1 | 2403 | 58036 | 13829 |
| 15:07 | MP21097-PS1 | 2406 | 58178 | 13856 |
| 15:12 | MP21097-PS1 | 2414 | 57707 | 13836 |
| 15:16 | MA15707-CCV7 | 2408 | 57083 | 13868 |
| 15:20 | MA15707-CCB7 | 2402 | 58063 | 13786 |
| 15:24 | ZZZZZZ | 2389 | 57876 | 13890 |
| 15:29 | ZZZZZZ | 2379 | 58242 | 13831 |
| 15:50 | ZZZZZZ | 2409 | 58598 | 13843 |
| 15:54 | ZZZZZZ | 2385 | 57915 | 13813 |
| 15:59 | ZZZZZZ | 2391 | 58393 | 13959 |
| 16:03 | ZZZZZZ | 2388 | 57965 | 13817 |
| 16:07 | ZZZZZZ | 2387 | 57801 | 13811 |
| 16:12 | ZZZZZZ | 2396 | 58301 | 13935 |
| 16:16 | ZZZZZZ | 2397 | 58312 | 13834 |
| 16:20 | ZZZZZZ | 2380 | 57827 | 13958 |
| 16:25 | MA15707-CCV8 | 2385 | 57667 | 13853 |
| 16:29 | MA15707-CCB8 | 2401 | 58347 | 13819 |
| 16:33 | ZZZZZZ | 2391 | 58555 | 13787 |
| 16:38 | ZZZZZZ | 2371 | 58055 | 13627 |
| 16:42 | ZZZZZZ | 2368 | 57985 | 13808 |
| 16:46 | ZZZZZZ | 2376 | 58322 | 14027 |
| 16:51 | ZZZZZZ | 2388 | 57859 | 13801 |
| 16:55 | ZZZZZZ | 2373 | 58207 | 13752 |
| 16:59 | ZZZZZZ | 2400 | 58644 | 13848 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:04 | ZZZZZZ | 2385 | 57892 | 13814 |
| 17:08 | ZZZZZZ | 2380 | 58041 | 13850 |
| 17:13 | ZZZZZZ | 2376 | 57791 | 13866 |
| 17:17 | MA15707-CCV9 | 2387 | 57862 | 13926 |
| 17:21 | MA15707-CCB9 | 2381 | 57951 | 13686 |
| 17:25 | ZZZZZZ | 2390 | 58376 | 13790 |
| 17:30 | MA15707-CRI2 | 2390 | 58065 | 13852 |
| 17:34 | MA15707-CCV10 | 2388 | 57823 | 13810 |
| 17:38 | MA15707-CCB10 | 2379 | 58344 | 13682 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 09:40 ICB1 | | 09:51 CCB1 | | 10:44 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 15.2 | <5000 | 11.5 | <5000 | 3.1 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 3.7 | <100 | -0.30 | <100 | -0.10 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 12.6 | <5000 | 2.3 | <5000 | 40.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.10 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 15.6 | <5000 | -10 | <5000 | 39.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 3.4 | <5000 | -0.60 | <5000 | 2.9 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 11:38 CCB3 | | 12:30 CCB4 | | 13:27 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.0 | <5000 | 52.8 | <5000 | -0.40 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -0.80 | <100 | 0.50 | <100 | 1.6 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 13.5 | <5000 | 16.1 | <5000 | 16.6 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.40 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 11.9 | <5000 | 19.9 | <5000 | 70.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | 63.0 | <5000 | 7.4 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 14:28 CCB6 | | 15:20 CCB7 | | 16:29 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | -6.3 | <5000 | 1.5 | <5000 | 14.3 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -5.2 | <100 | 0.70 | <100 | 1.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 18.8 | <5000 | -5.5 | <5000 | 2.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | -0.10 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 6.4 | <5000 | 43.6 | <5000 | 19.6 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -7.0 | <5000 | -1.0 | <5000 | -4.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 17:21 CCB9 | | 17:38 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | 1.6 | <5000 | 4.6 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 1.2 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 7.7 | <5000 | 25.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.80 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 67.5 | <5000 | 43.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | -2.8 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 09:35 | | | 09:45 | | | 10:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9900 | 99.0 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18200 | 101.1 | 10000 | 9750 | 97.5 | 10000 | 9720 | 97.2 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9620 | 96.2 | 10000 | 9620 | 96.2 |
| Manganese | 3000 | 3040 | 101.3 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9840 | 98.4 | 10000 | 9750 | 97.5 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15500 | 103.3 | 10000 | 9960 | 99.6 | 10000 | 10000 | 100.0 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 11:34 | | | 12:26 | | | 13:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9880 | 98.8 | 10000 | 9930 | 99.3 | 10000 | 9880 | 98.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9640 | 96.4 | 10000 | 9720 | 97.2 | 10000 | 9650 | 96.5 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9890 | 98.9 | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9870 | 98.7 | 10000 | 9930 | 99.3 | 10000 | 9960 | 99.6 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9830 | 98.3 | 10000 | 9990 | 99.9 | 10000 | 9790 | 97.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 14:14 | | | 15:16 | | | 16:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9920 | 99.2 | 10000 | 9920 | 99.2 | 10000 | 9820 | 98.2 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9660 | 96.6 | 10000 | 9650 | 96.5 | 10000 | 9560 | 95.6 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9960 | 99.6 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9900 | 99.0 | 10000 | 9950 | 99.5 | 10000 | 9880 | 98.8 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9760 | 97.6 | 10000 | 9660 | 96.6 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 17:17 | | | 17:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9620 | 96.2 | 10000 | 9590 | 95.9 |
| Lead | | | | | | |
| Magnesium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9880 | 98.8 | 10000 | 9890 | 98.9 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9680 | 96.8 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15707  Units: ug/l

| Time: | | | 09:56 | | 17:30 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4880 | 97.6 | 5000 | 100.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 98.1 | 98.1 | 98.9 | 98.9 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4700 | 94.0 | 5130 | 102.6 |
| Manganese | 15 | 15 | 16.3 | 108.7 | 15.8 | 105.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4860 | 97.2 | 5080 | 101.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4830 | 96.6 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | | 10:01 | | 10:05 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 526000 | 105.2 | 539000 | 107.8 |
| Antimony | | 2000 | -0.60 | | 2080 | 104.0 |
| Arsenic | | 2000 | 0.0 | | 2050 | 102.5 |
| Barium | | 500 | -0.20 | | 513 | 102.6 |
| Beryllium | | 500 | 0.20 | | 490 | 98.0 |
| Boron | | 1000 | 5.9* | | 1030 | 103.0 |
| Cadmium | | 1000 | 0.20 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 473000 | 94.6 | 470000 | 94.0 |
| Chromium | | 500 | 0.10 | | 503 | 100.6 |
| Cobalt | | 500 | -1.0 | | 482 | 96.4 |
| Copper | | 500 | 0.50 | | 519 | 103.8 |
| Gold | | 500 | 4.2 | | 496 | 99.2 |
| Iron | 200000 | 200000 | 190000 | 95.0 | 191000 | 95.5 |
| Lead | | 1000 | -0.40 | | 905 | 90.5 |
| Magnesium | 500000 | 500000 | 489000 | 97.8 | 492000 | 98.4 |
| Manganese | | 500 | 0.70 | | 517 | 103.4 |
| Molybdenum | | 1000 | -0.30 | | 973 | 97.3 |
| Nickel | | 1000 | -2.5* | | 890 | 89.0 |
| Palladium | | 500 | -56* | | 496 | 99.2 |
| Platinum | | 500 | -30* | | 491 | 98.2 |
| Potassium | | | -7.5 | | -39 | |
| Selenium | | 2000 | -2.8 | | 1960 | 98.0 |
| Silicon | | 2000 | 44.2 | | 2220 | 111.0 |
| Silver | | 1000 | 0.0 | | 1060 | 106.0 |
| Sodium | | | 69.3 | | 69.5 | |
| Strontium | | 1000 | 0.60 | | 974 | 97.4 |
| Thallium | | 2000 | -0.90 | | 1930 | 96.5 |
| Tin | | 1000 | 0.40 | | 989 | 98.9 |
| Titanium | | 500 | 8.9* | | 523 | 104.6 |
| Tungsten | | 2000 | -31* | | 1920 | 96.0 |
| Vanadium | | 500 | 0.50 | | 512 | 102.4 |
| Zinc | | 1000 | -0.60 | | 900 | 90.0 |
| Zirconium | | 500 | 1.2 | | 460 | 92.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF Date Analyzed: 06/06/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15713
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:59 | MA15713-STD1 | 1 | | STDA |
| 13:06 | MA15713-STD2 | 1 | | STDB |
| 13:13 | MA15713-STD3 | 1 | | STDC |
| 13:20 | MA15713-STD4 | 1 | | STDD |
| 13:27 | MA15713-STD5 | 1 | | STDE |
| 13:34 | MA15713-STD6 | 1 | | STDF |
| 13:41 | MA15713-STD7 | 1 | | STDG |
| 13:48 | MA15713-STD8 | 1 | | STDH |
| 13:55 | MA15713-ICV1 | 1 | | |
| 14:02 | MA15713-ICB1 | 1 | | |
| 14:09 | MA15713-CCV1 | 1 | | |
| 14:16 | MA15713-CCB1 | 1 | | |
| 14:23 | MA15713-CRI1 | 1 | | |
| 14:31 | MA15713-ICSA1 | 1 | | |
| 14:43 | MA15713-ICSAB1 | 1 | | |
| 14:50 | ZZZZZZ | 1 | | RISNECONF |
| 14:58 | MP21073A-MB1 | 2 | | |
| 15:05 | MC21156-7F | 20 | | |
| 15:12 | MP21073A-SD1 | 100 | | |
| 15:19 | MC21156-1F | 2 | | |
| 15:26 | MC21156-2F | 20 | | |
| 15:48 | MC21156-3F | 200 | | |
| 15:55 | MA15713-CCV2 | 1 | | |
| 16:08 | MA15713-CCB2 | 1 | | |
| 16:15 | MC21156-4F | 50 | | |
| 16:22 | MC21156-5F | 20 | | |
| 16:29 | MC21156-6F | 50 | | |
| 16:36 | MC21156-8F | 100 | | |
| 16:43 | MC21156-9F | 20 | | |
| 16:50 | MC21156-10F | 2 | | |
| 16:59 | MC21156-11F | 200 | | |
| 17:06 | MC21156-12F | 20 | | |
| 17:13 | MC21156-13F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:20 | MC21156-14F | 2 | | |
| 17:27 | MA15713-CCV3 | 1 | | |
| 17:34 | MA15713-CCB3 | 1 | | |
| 17:41 | MC21156-15F | 2 | | |
| 17:48 | MC21156-16F | 20 | | |
| 17:56 | MC21156-17F | 20 | | |
| 18:03 | ZZZZZZ | 2 | | |
| 18:10 | ZZZZZZ | 2 | | |
| 18:17 | ZZZZZZ | 2 | | |
| 18:24 | MP21073A-PS1 | 20 | | |
| 18:31 | MP21073A-S1 | 50 | | |
| 18:38 | MP21073A-S2 | 50 | | |
| 18:45 | MP21073A-B1 | 20 | | |
| 18:52 | MA15713-CCV4 | 1 | | |
| 18:59 | MA15713-CCB4 | 1 | | |
| 19:06 | MC21156-1F | 20 | | |
| ----------> | Last reportable sample/prep for job MC21156 | | | |
| 19:13 | ZZZZZZ | 1 | | RINSECONF |
| 19:20 | MA15713-CRI2 | 1 | | |
| 19:28 | MA15713-CCV5 | 1 | | |
| 19:35 | MA15713-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC21156 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 12:59 | MA15713-STD1 | 1872800 R | 2694091 R | 307819 R | 562443 R | 127696 R | 3225131 R | 3540560 R | 1130477 R |
| 13:06 | MA15713-STD2 | 1876030 | 2636451 | 304683 | 556516 | 126109 | 3157731 | 3514589 | 1117322 |
| 13:13 | MA15713-STD3 | 1887210 | 2698951 | 305379 | 558267 | 126038 | 3242975 | 3533330 | 1106318 |
| 13:20 | MA15713-STD4 | 1932279 | 2764715 | 305178 | 562706 | 125520 | 3280628 | 3621348 | 1098779 |
| 13:27 | MA15713-STD5 | 1880111 | 2672475 | 299205 | 547600 | 123383 | 3215940 | 3509252 | 1078749 |
| 13:34 | MA15713-STD6 | 1898222 | 2705025 | 301222 | 551165 | 123902 | 3227053 | 3545162 | 1075216 |
| 13:41 | MA15713-STD7 | 1907516 | 2699887 | 306804 | 563372 | 126536 | 3170036 | 3543432 | 1107099 |
| 13:48 | MA15713-STD8 | 1858814 | 2721220 | 302483 | 575200 | 125142 | 3112281 | 3447678 | 1040019 |
| 13:55 | MA15713-ICV1 | 1871565 | 2715327 | 323348 | 558335 | 131923 | 3163717 | 3492384 | 1130239 |
| 14:02 | MA15713-ICB1 | 1897077 | 2663838 | 307114 | 566049 | 127528 | 3233557 | 3564374 | 1124309 |
| 14:09 | MA15713-CCV1 | 1887056 | 2726116 | 303514 | 556138 | 124795 | 3120577 | 3476001 | 1069811 |
| 14:16 | MA15713-CCB1 | 1926956 | 2733055 | 309178 | 569326 | 127877 | 3250653 | 3574358 | 1125075 |
| 14:23 | MA15713-CRI1 | 1909798 | 2705731 | 307684 | 561064 | 126838 | 3254162 | 3595268 | 1119964 |
| 14:31 | MA15713-ICSA1 | 1719489 | 2610746 | 287980 | 630532 | 131519 | 2858468 | 3254348 | 992264 |
| 14:43 | MA15713-ICSAB1 | 1845549 | 2669475 | 288785 | 631520 | 130942 | 2915017 | 3331963 | 983368 |
| 14:50 | ZZZZZZ | 2153474 | 2922534 | 304114 | 607813 | 128467 | 3497513 | 3873797 | 1104532 |
| 14:58 | MP21073A-MB1 | 2292320 | 2946070 | 312663 | 604934 | 129117 | 3423324 | 3803044 | 1095050 |
| 15:05 | MC21156-7F | 2211039 | 2972521 | 326956 | 614482 | 134498 | 3393502 | 3810301 | 1128653 |
| 15:12 | MP21073A-SD1 | 2150280 | 2878281 | 311633 | 596789 | 130121 | 3386871 | 3792081 | 1112132 |
| 15:19 | MC21156-1F | 2267682 | 2995605 | 309325 | 627677 | 133799 | 3217076 | 3665406 | 1063103 |
| 15:26 | MC21156-2F | 2233735 | 2975210 | 310135 | 616049 | 129074 | 3376480 | 3818390 | 1078627 |
| 15:48 | MC21156-3F | 2192123 | 2981784 | 318305 | 608299 | 131844 | 3427764 | 3818274 | 1128385 |
| 15:55 | MA15713-CCV2 | 2153756 | 2913563 | 314662 | 584856 | 128825 | 3297593 | 3680762 | 1076864 |
| 16:08 | MA15713-CCB2 | 2244193 | 2954645 | 319473 | 601523 | 130399 | 3415320 | 3765325 | 1116533 |
| 16:15 | MC21156-4F | 2151645 | 2949925 | 317340 | 599881 | 130832 | 3386746 | 3782705 | 1125339 |
| 16:22 | MC21156-5F | 2143574 | 2891802 | 317833 | 590993 | 130475 | 3350209 | 3745938 | 1128243 |
| 16:29 | MC21156-6F | 2112392 | 2920911 | 306270 | 601599 | 128015 | 3347062 | 3726230 | 1094159 |
| 16:36 | MC21156-8F | 2122546 | 2931086 | 317559 | 605518 | 130158 | 3429354 | 3811410 | 1124016 |
| 16:43 | MC21156-9F | 2085821 | 2865396 | 310377 | 588771 | 129093 | 3298538 | 3717187 | 1108209 |
| 16:50 | MC21156-10F | 2126321 | 2877811 | 313909 | 592980 | 129650 | 3366471 | 3733862 | 1119458 |
| 16:59 | MC21156-11F | 2187153 | 3024462 | 304005 | 612057 | 128229 | 3500126 | 3905870 | 1096804 |
| 17:06 | MC21156-12F | 2095264 | 2880890 | 314327 | 595309 | 130222 | 3307194 | 3737822 | 1122739 |
| 17:13 | MC21156-13F | 2375502 | 3038209 | 321370 | 615211 | 130666 | 3309237 | 3769647 | 1085966 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:20 | MC21156-14F | 2409835 | 3105723 | 340703 | 624141 | 136607 | 3309737 | 3769372 | 1135552 |
| 17:27 | MA15713-CCV3 | 2161054 | 2894687 | 315915 | 577913 | 128251 | 3208518 | 3617742 | 1079139 |
| 17:34 | MA15713-CCB3 | 2202326 | 2909233 | 316288 | 594047 | 128921 | 3362725 | 3761378 | 1109568 |
| 17:41 | MC21156-15F | 2367609 | 3032723 | 322659 | 612433 | 130097 | 3246686 | 3714473 | 1078884 |
| 17:48 | MC21156-16F | 2103455 | 2862611 | 306082 | 589988 | 127403 | 3303011 | 3694930 | 1094965 |
| 17:56 | MC21156-17F | 2078455 | 2844760 | 306849 | 589144 | 127241 | 3255785 | 3660865 | 1100243 |
| 18:03 | ZZZZZZ | 2240261 | 2917378 | 304812 | 563824 | 119886 | 2953300 | 3432306 | 982938 |
| 18:10 | ZZZZZZ | 2151552 | 2796447 | 295837 | 553631 | 117056 | 2918082 | 3370188 | 975776 |
| 18:17 | ZZZZZZ | 2327684 | 2980999 | 309253 | 605509 | 125933 | 3268766 | 3708973 | 1064344 |
| 18:24 | MP21073A-PS1 | 1983564 | 2728371 | 300128 | 572452 | 124931 | 3179602 | 3578458 | 1085900 |
| 18:31 | MP21073A-S1 | 1962468 | 2746102 | 301824 | 563743 | 125230 | 3230660 | 3596319 | 1093239 |
| 18:38 | MP21073A-S2 | 1921768 | 2727396 | 301178 | 559135 | 124116 | 3185205 | 3557965 | 1087903 |
| 18:45 | MP21073A-B1 | 1949569 | 2712983 | 298704 | 553979 | 123362 | 3222160 | 3552664 | 1065001 |
| 18:52 | MA15713-CCV4 | 1976885 | 2766703 | 297282 | 555702 | 122487 | 3138575 | 3517948 | 1056691 |
| 18:59 | MA15713-CCB4 | 2012709 | 2753789 | 301295 | 569342 | 124119 | 3255324 | 3628550 | 1097957 |
| 19:06 | MC21156-1F | 1965647 | 2719152 | 302322 | 570849 | 125494 | 3193462 | 3581977 | 1104469 |
| 19:13 | ZZZZZZ | 1970188 | 2755027 | 302510 | 566278 | 125026 | 3288402 | 3631155 | 1109609 |
| 19:20 | MA15713-CRI2 | 2028463 | 2777362 | 302122 | 570832 | 124712 | 3301284 | 3669111 | 1100591 |
| 19:28 | MA15713-CCV5 | 2020798 | 2811780 | 300707 | 567212 | 123584 | 3228181 | 3605802 | 1066381 |
| 19:35 | MA15713-CCB5 | 2031570 | 2776448 | 301768 | 574672 | 124705 | 3281486 | 3629640 | 1105458 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 12:59 | MA15713-STD1 | 4800257 R | 2883202 R |
| 13:06 | MA15713-STD2 | 4775800 | 2852982 |
| 13:13 | MA15713-STD3 | 4826929 | 2903210 |
| 13:20 | MA15713-STD4 | 4932978 | 2967401 |
| 13:27 | MA15713-STD5 | 4812180 | 2858018 |
| 13:34 | MA15713-STD6 | 4814434 | 2898726 |
| 13:41 | MA15713-STD7 | 4764727 | 2852993 |
| 13:48 | MA15713-STD8 | 4783142 | 2705850 |
| 13:55 | MA15713-ICV1 | 4816588 | 2790329 |
| 14:02 | MA15713-ICB1 | 4826671 | 2884956 |
| 14:09 | MA15713-CCV1 | 4781935 | 2766541 |
| 14:16 | MA15713-CCB1 | 4832594 | 2892531 |
| 14:23 | MA15713-CRI1 | 4822729 | 2901060 |
| 14:31 | MA15713-ICSA1 | 4708697 | 2556791 |
| 14:43 | MA15713-ICSAB1 | 4845451 | 2616738 |
| 14:50 | ZZZZZZ | 5270379 | 3194035 |
| 14:58 | MP21073A-MB1 | 5247835 | 3177842 |
| 15:05 | MC21156-7F | 5237601 | 3150425 |
| 15:12 | MP21073A-SD1 | 5115400 | 3052848 |
| 15:19 | MC21156-1F | 5116287 | 2953161 |
| 15:26 | MC21156-2F | 5176506 | 3141730 |
| 15:48 | MC21156-3F | 5151968 | 3090115 |
| 15:55 | MA15713-CCV2 | 5114592 | 2967483 |
| 16:08 | MA15713-CCB2 | 5160441 | 3092938 |
| 16:15 | MC21156-4F | 5137971 | 3075958 |
| 16:22 | MC21156-5F | 5116047 | 3054628 |
| 16:29 | MC21156-6F | 5144519 | 3046227 |
| 16:36 | MC21156-8F | 5220389 | 3039315 |
| 16:43 | MC21156-9F | 5004553 | 2978194 |
| 16:50 | MC21156-10F | 5101600 | 3046107 |
| 16:59 | MC21156-11F | 5329956 | 3106618 |
| 17:06 | MC21156-12F | 5075609 | 3043387 |
| 17:13 | MC21156-13F | 5217940 | 3062134 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:20 | MC21156-14F | 5225853 | 3024040 |
| 17:27 | MA15713-CCV3 | 4987683 | 2910132 |
| 17:34 | MA15713-CCB3 | 5106561 | 3062977 |
| 17:41 | MC21156-15F | 5157702 | 2941783 |
| 17:48 | MC21156-16F | 5037779 | 3009548 |
| 17:56 | MC21156-17F | 4943253 | 3000224 |
| 18:03 | ZZZZZZ | 4834816 | 2677445 |
| 18:10 | ZZZZZZ | 4782344 | 2609678 |
| 18:17 | ZZZZZZ | 5139589 | 2980928 |
| 18:24 | MP21073A-PS1 | 4871652 | 2896896 |
| 18:31 | MP21073A-S1 | 4868460 | 2877335 |
| 18:38 | MP21073A-S2 | 4810113 | 2830153 |
| 18:45 | MP21073A-B1 | 4787249 | 2872078 |
| 18:52 | MA15713-CCV4 | 4892124 | 2851520 |
| 18:59 | MA15713-CCB4 | 4893242 | 2967235 |
| 19:06 | MC21156-1F | 4869255 | 2936889 |
| 19:13 | ZZZZZZ | 4920324 | 2968976 |
| 19:20 | MA15713-CRI2 | 4966931 | 3014216 |
| 19:28 | MA15713-CCV5 | 4967153 | 2924805 |
| 19:35 | MA15713-CCB5 | 4940967 | 3024042 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15713  Units: ug/l

| Time: / Sample ID: | | | | 14:02 ICB1 | | 14:16 CCB1 | | 16:08 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0060 | <0.50 | 0.0068 | <0.50 | -0.012 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15713  Units: ug/l

| Time: / Sample ID: | | | | 17:34 CCB3 | | 18:59 CCB4 | | 19:35 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.012 | <0.50 | -0.0037 | <0.50 | 0.0098 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | 13:55 | | | 14:09 | | | 15:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 57.8 | 96.3 | 50 | 51.2 | 102.4 | 50 | 50.8 | 101.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | 17:27 | | | 18:52 | | | 19:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 50.3 | 100.6 | 50 | 51.2 | 102.4 | 50 | 51.5 | 103.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | | 14:23 | | 19:20 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | | 14:31 | | 14:43 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 93200 | 93.2 | 95500 | 95.5 |
| Antimony | | | 0.31* | | 0.30* | |
| Arsenic | | 20 | 0.21 | | 19.0 | 95.0 |
| Barium | | | 0.24 | | 0.57* | |
| Beryllium | | | 0.0071 | | -0.000015 | |
| Boron | | | 0.056 | | 0.069 | |
| Cadmium | | 20 | 1.4* | | 21.2 | 106.0 |
| Calcium | 100000 | 100000 | 95200 | 95.2 | 97800 | 97.8 |
| Chromium | | 20 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.061 | | 19.5 | 97.5 |
| Copper | | 20 | 0.48 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 93900 | 93.9 | 96100 | 96.1 |
| Lead | | | 0.13 | | 0.14 | |
| Magnesium | 100000 | 100000 | 93600 | 93.6 | 96400 | 96.4 |
| Manganese | | 20 | 0.12 | | 19.6 | 98.0 |
| Molybdenum | 2000 | 2000 | 2110 | 105.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.73* | | 19.7 | 98.5 |
| Potassium | 100000 | 100000 | 96300 | 96.3 | 98600 | 98.6 |
| Selenium | | | 0.00079 | | -0.017 | |
| Silver | | 20 | 0.059 | | 19.8 | 99.0 |
| Sodium | 100000 | 100000 | 93800 | 93.8 | 96800 | 96.8 |
| Strontium | | | 5.0* | | 5.0* | |
| Thallium | | | 0.076 | | 0.026 | |
| Tin | | | 0.12 | | 0.091 | |
| Titanium | 2000 | 2000 | 2010 | 100.5 | 2060 | 103.0 |
| Vanadium | | | 0.044 | | 0.043 | |
| Zinc | | 20 | 1.8* | | 18.4 | 92.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:50 | MA15715-STD1 | 1 | | STD1 |
| 10:54 | MA15715-STD2 | 1 | | STD2 |
| 10:59 | MA15715-STD3 | 1 | | STD3 |
| 11:03 | MA15715-STD4 | 1 | | STD4 |
| 11:08 | MA15715-ICV1 | 1 | | |
| 11:12 | MA15715-ICB1 | 1 | | |
| 11:17 | MA15715-CCV1 | 1 | | |
| 11:21 | MA15715-CCB1 | 1 | | |
| 11:26 | MA15715-CRI1 | 1 | | |
| 11:30 | MA15715-ICSA1 | 1 | | |
| 11:35 | MA15715-ICSAB1 | 1 | | |
| 11:39 | MC21156-1F | 1 | | |
| 11:43 | MC21156-2F | 1 | | |
| 11:48 | MC21156-3F | 1 | | |
| 11:52 | MC21156-4F | 1 | | |
| 11:56 | MC21156-5F | 1 | | |
| 12:01 | MC21156-6F | 1 | | |
| 12:05 | MC21156-8F | 1 | | |
| 12:09 | MA15715-CCV2 | 1 | | |
| 12:13 | MA15715-CCB2 | 1 | | |
| 12:18 | MC21156-9F | 1 | | |
| 12:22 | MC21156-10F | 1 | | |
| 12:27 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:31 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:35 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:40 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:44 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:48 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:53 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 13:02 | MA15715-CCV3 | 1 | | |
| 13:21 | MA15715-CCB3 | 1 | | |
| 13:26 | ZZZZZZ | 2 | | |
| 13:30 | ZZZZZZ | 5 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:34 | ZZZZZZ | 10 | | |
| 13:39 | ZZZZZZ | 5 | | |
| 13:43 | ZZZZZZ | 2 | | |
| 13:47 | ZZZZZZ | 3 | | |
| 13:52 | ZZZZZZ | 5 | | |
| 13:56 | ZZZZZZ | 20 | | |
| 14:01 | ZZZZZZ | 5 | | |
| 14:05 | ZZZZZZ | 10 | | |
| 14:09 | MA15715-CCV4 | 1 | | |
| 14:13 | MA15715-CCB4 | 1 | | |
| 14:18 | ZZZZZZ | 2 | | |
| 14:22 | ZZZZZZ | 5 | | |
| 14:27 | ZZZZZZ | 10 | | |
| 14:31 | ZZZZZZ | 2 | | |
| 14:35 | ZZZZZZ | 5 | | |
| 14:40 | ZZZZZZ | 10 | | |
| 14:44 | ZZZZZZ | 2 | | |
| 14:48 | ZZZZZZ | 5 | | |
| 14:53 | ZZZZZZ | 10 | | |
| 14:57 | MC21156-2F | 2 | | |
| 15:02 | MA15715-CCV5 | 1 | | |
| 15:37 | MA15715-CCB5 | 1 | | |
| 15:49 | MC21156-1F | 2 | | |
| 15:53 | MC21156-1F | 3 | | |
| 15:58 | MC21156-1F | 10 | | |
| 16:02 | MC21156-2F | 3 | | |
| 16:09 | MC21156-2F | 10 | | |
| 16:13 | MC21156-3F | 5 | | |
| 16:17 | MC21156-3F | 10 | | |
| 16:22 | MC21156-4F | 3 | | |
| 16:26 | MC21156-4F | 5 | | |
| 16:30 | MC21156-4F | 10 | | |
| 16:35 | MA15715-CCV6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:39 | MA15715-CCB6 | 1 | | |
| 16:43 | MC21156-5F | 2 | | |
| 16:48 | MC21156-6F | 2 | | |
| 16:52 | MC21156-6F | 5 | | |
| 16:57 | MC21156-6F | 10 | | |
| 17:01 | MC21156-8F | 2 | | |
| 17:05 | MC21156-8F | 5 | | |
| 17:10 | MC21156-8F | 20 | | |
| 17:14 | MC21156-9F | 3 | | |
| 17:18 | MC21156-9F | 5 | | |
| ----------> | Last reportable sample/prep for job MC21156 | | | |
| 17:23 | MA15715-CRI2 | 1 | | |
| 17:27 | MA15715-CCV7 | 1 | | |
| 17:35 | MA15715-CCB7 | 1 | | |
| ----------> | Last reportable CCB for job MC21156 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 10:50 | MA15715-STD1 | 2392 R | 78347 R | 15501 R |
| 10:54 | MA15715-STD2 | 2386 | 77966 | 15424 |
| 10:59 | MA15715-STD3 | | | 15482 |
| 11:03 | MA15715-STD4 | 2435 | 78944 | 15473 |
| 11:08 | MA15715-ICV1 | 2405 | 78574 | 15520 |
| 11:12 | MA15715-ICB1 | 2412 | 79156 | 15403 |
| 11:17 | MA15715-CCV1 | 2424 | 79074 | 15479 |
| 11:21 | MA15715-CCB1 | 2413 | 78710 | 15402 |
| 11:26 | MA15715-CRI1 | 2460 | 78857 | 15810 |
| 11:30 | MA15715-ICSA1 | 2310 | 73564 | 15462 |
| 11:35 | MA15715-ICSAB1 | 2303 | 73643 | 15546 |
| 11:39 | MC21156-1F | 2430 | 78479 | 15709 |
| 11:43 | MC21156-2F | 2429 | 79044 | 15725 |
| 11:48 | MC21156-3F | 2409 | 78157 | 15724 |
| 11:52 | MC21156-4F | 2411 | 78123 | 15646 |
| 11:56 | MC21156-5F | 2401 | 78231 | 15584 |
| 12:01 | MC21156-6F | 2394 | 78483 | 15654 |
| 12:05 | MC21156-8F | 2391 | 78703 | 15842 |
| 12:09 | MA15715-CCV2 | 2453 | 80040 | 15650 |
| 12:13 | MA15715-CCB2 | 2417 | 78526 | 15492 |
| 12:18 | MC21156-9F | 2400 | 78777 | 15809 |
| 12:22 | MC21156-10F | 2401 | 78261 | 15582 |
| 12:27 | ZZZZZZ | 2395 | 78552 | 15646 |
| 12:31 | ZZZZZZ | 2383 | 77678 | 15664 |
| 12:35 | ZZZZZZ | 2404 | 78554 | 15846 |
| 12:40 | ZZZZZZ | 2402 | 78248 | 15685 |
| 12:44 | ZZZZZZ | 2375 | 78239 | 15736 |
| 12:48 | ZZZZZZ | 2398 | 78018 | 15575 |
| 12:53 | ZZZZZZ | 2372 | 78282 | 15879 |
| 13:02 | MA15715-CCV3 | 2428 | 78861 | 15678 |
| 13:21 | MA15715-CCB3 | 2410 | 78081 | 15540 |
| 13:26 | ZZZZZZ | 2366 | 77530 | 15522 |
| 13:30 | ZZZZZZ | 2382 | 78065 | 15529 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 13:34 | ZZZZZZ | 2382 | 78076 | 15548 |
| 13:39 | ZZZZZZ | 2387 | 78355 | 15488 |
| 13:43 | ZZZZZZ | 2351 | 77547 | 15532 |
| 13:47 | ZZZZZZ | 2376 | 78760 | 15583 |
| 13:52 | ZZZZZZ | 2384 | 78735 | 15470 |
| 13:56 | ZZZZZZ | 2394 | 78668 | 15627 |
| 14:01 | ZZZZZZ | 2384 | 78289 | 15259 |
| 14:05 | ZZZZZZ | 2387 | 77804 | 15619 |
| 14:09 | MA15715-CCV4 | 2404 | 79301 | 15503 |
| 14:13 | MA15715-CCB4 | 2402 | 78713 | 15654 |
| 14:18 | ZZZZZZ | 2369 | 77992 | 15600 |
| 14:22 | ZZZZZZ | 2407 | 79014 | 15647 |
| 14:27 | ZZZZZZ | 2405 | 78915 | 15589 |
| 14:31 | ZZZZZZ | 2388 | 78339 | 15550 |
| 14:35 | ZZZZZZ | 2402 | 78234 | 15767 |
| 14:40 | ZZZZZZ | 2386 | 78682 | 15533 |
| 14:44 | ZZZZZZ | 2385 | 78631 | 15620 |
| 14:48 | ZZZZZZ | 2383 | 78128 | 15495 |
| 14:53 | ZZZZZZ | 2389 | 79051 | 15546 |
| 14:57 | MC21156-2F | 2371 | 78147 | 15576 |
| 15:02 | MA15715-CCV5 | 2404 | 79082 | 15618 |
| 15:37 | MA15715-CCB5 | 2383 | 78448 | 15289 |
| 15:49 | MC21156-1F | 2387 | 78295 | 15543 |
| 15:53 | MC21156-1F | 2407 | 78795 | 15575 |
| 15:58 | MC21156-1F | 2391 | 78910 | 15582 |
| 16:02 | MC21156-2F | 2394 | 78879 | 15455 |
| 16:09 | MC21156-2F | 2391 | 78872 | 15620 |
| 16:13 | MC21156-3F | 2382 | 78537 | 15575 |
| 16:17 | MC21156-3F | 2379 | 78720 | 15683 |
| 16:22 | MC21156-4F | 2368 | 78537 | 15469 |
| 16:26 | MC21156-4F | 2370 | 78875 | 15585 |
| 16:30 | MC21156-4F | 2375 | 78600 | 15512 |
| 16:35 | MA15715-CCV6 | 2404 | 78640 | 15527 |

INTERNAL STANDARD SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 16:39 | MA15715-CCB6 | 2361 | 77488 | 15519 |
| 16:43 | MC21156-5F | 2371 | 78218 | 15454 |
| 16:48 | MC21156-6F | 2388 | 77870 | 15697 |
| 16:52 | MC21156-6F | 2418 | 78697 | 15639 |
| 16:57 | MC21156-6F | 2413 | 78457 | 15596 |
| 17:01 | MC21156-8F | 2391 | 78349 | 15691 |
| 17:05 | MC21156-8F | 2401 | 79424 | 15675 |
| 17:10 | MC21156-8F | 2381 | 78467 | 15527 |
| 17:14 | MC21156-9F | 2383 | 78398 | 15383 |
| 17:18 | MC21156-9F | 2395 | 78249 | 15639 |
| 17:23 | MA15715-CRI2 | 2385 | 78385 | 15472 |
| 17:27 | MA15715-CCV7 | 2410 | 78971 | 15624 |
| 17:35 | MA15715-CCB7 | 2400 | 77928 | 15675 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 11:12 ICB1 | | 11:21 CCB1 | | 12:13 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 46.9 | <5000 | 43.5 | <5000 | 11.5 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 7.5 | <100 | 7.2 | <100 | 21.0 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 2.3 | <5000 | 22.4 | <5000 | 17.5 | <5000 |
| Manganese | 15 | .16 | 2.5 | 1.0 | <15 | 0.80 | <15 | 0.90 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 23.6 | <5000 | 24.4 | <5000 | 0.0 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 16.4 | <5000 | 8.3 | <5000 | 35.3 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 13:21 CCB3 | | 14:13 CCB4 | | 15:37 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | -0.40 | <5000 | 5.4 | <5000 | 2.6 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 2.4 | <100 | 5.2 | <100 | 1.4 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 17.3 | <5000 | 5.1 | <5000 | 17.6 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.10 | <15 | 0.60 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 12.0 | <5000 | 2.2 | <5000 | 19.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 9.2 | <5000 | 24.1 | <5000 | 9.8 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 16:39 CCB6 | | 17:35 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | 86.8 | <5000 | 39.1 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 6.7 | <100 | 3.5 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | -7.1 | <5000 | 14.3 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.60 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 28.9 | <5000 | 31.5 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 21.4 | <5000 | 16.3 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 11:08 | | | 11:17 | | | 12:09 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17800 | 98.9 | 10000 | 9770 | 97.7 | 10000 | 9780 | 97.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 9790 | 97.9 | 10000 | 9850 | 98.5 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18000 | 100.0 | 10000 | 9570 | 95.7 | 10000 | 9530 | 95.3 |
| Manganese | 3000 | 2840 | 94.7 | 2000 | 1920 | 96.0 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 9730 | 97.3 | 10000 | 9710 | 97.1 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15200 | 101.3 | 10000 | 9740 | 97.4 | 10000 | 9780 | 97.8 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 13:02 | | | 14:09 | | | 15:02 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9720 | 97.2 | 10000 | 9830 | 98.3 | 10000 | 9870 | 98.7 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9790 | 97.9 | 10000 | 9770 | 97.7 | 10000 | 9780 | 97.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9530 | 95.3 | 10000 | 9710 | 97.1 | 10000 | 9730 | 97.3 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1910 | 95.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9710 | 97.1 | 10000 | 9840 | 98.4 | 10000 | 9840 | 98.4 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9740 | 97.4 | 10000 | 9790 | 97.9 | 10000 | 9820 | 98.2 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 16:35 | | | 17:27 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9890 | 98.9 | 10000 | 9840 | 98.4 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9830 | 98.3 | 10000 | 9780 | 97.8 |
| Lead | | | | | | |
| Magnesium | 10000 | 9760 | 97.6 | 10000 | 9720 | 97.2 |
| Manganese | 2000 | 1930 | 96.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9850 | 98.5 | 10000 | 9860 | 98.6 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9810 | 98.1 | 10000 | 9790 | 97.9 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15715  Units: ug/l

| Time: | | | 11:26 | | 17:23 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5020 | 100.4 | 5020 | 100.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 105 | 105.0 | 105 | 105.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 4910 | 98.2 |
| Manganese | 15 | 15 | 15.7 | 104.7 | 15.8 | 105.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5000 | 100.0 | 5020 | 100.4 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4920 | 98.4 | 4910 | 98.2 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | | 11:30 | | 11:35 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 508000 | 101.6 | 512000 | 102.4 |
| Antimony | | 2000 | 0.30 | | 1950 | 97.5 |
| Arsenic | | 2000 | -0.30 | | 1950 | 97.5 |
| Barium | | 500 | -0.10 | | 491 | 98.2 |
| Beryllium | | 500 | 0.10 | | 473 | 94.6 |
| Boron | | 1000 | 5.0* | | 968 | 96.8 |
| Cadmium | | 1000 | -0.10 | | 980 | 98.0 |
| Calcium | 500000 | 500000 | 455000 | 91.0 | 458000 | 91.6 |
| Chromium | | 500 | 0.0 | | 467 | 93.4 |
| Cobalt | | 500 | 0.50 | | 446 | 89.2 |
| Copper | | 500 | 1.1 | | 482 | 96.4 |
| Gold | | 500 | 4.5 | | 472 | 94.4 |
| Iron | 200000 | 200000 | 188000 | 94.0 | 190000 | 95.0 |
| Lead | | 1000 | -0.80 | | 848 | 84.8 |
| Magnesium | 500000 | 500000 | 479000 | 95.8 | 472000 | 94.4 |
| Manganese | | 500 | 0.70 | | 473 | 94.6 |
| Molybdenum | | 1000 | -1.0 | | 898 | 89.8 |
| Nickel | | 1000 | -2.4* | | 831 | 83.1 |
| Palladium | | 500 | -35* | | 489 | 97.8 |
| Platinum | | 500 | -32* | | 477 | 95.4 |
| Potassium | | | -3.4 | | 16.5 | |
| Selenium | | 2000 | -5.1 | | 1890 | 94.5 |
| Silicon | | 2000 | 33.0 | | 2080 | 104.0 |
| Silver | | 1000 | 0.10 | | 1000 | 100.0 |
| Sodium | | | 158 | | 152 | |
| Strontium | | 1000 | 1.5* | | 989 | 98.9 |
| Thallium | | 2000 | -0.40 | | 1790 | 89.5 |
| Tin | | 1000 | -0.10 | | 922 | 92.2 |
| Titanium | | 500 | 7.9* | | 491 | 98.2 |
| Tungsten | | 2000 | -29 | | 1810 | 90.5 |
| Vanadium | | 500 | 0.20 | | 473 | 94.6 |
| Zinc | | 1000 | -1.3 | | 850 | 85.0 |
| Zirconium | | 500 | 0.20 | | 464 | 92.8 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 0.0 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 1.9 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 6.8 | <5000 |
| Manganese | 15 | .16 | .81 | 0.40 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 0.10 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | -40 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Calcium | 65500 | 88900 | 25000 | 93.6 | 75-125 |
| Iron | 83400 | 85100 | 2000 | 85.0 | 75-125 |
| Magnesium | 8960 | 33200 | 25000 | 97.0 | 75-125 |
| Manganese | 1130 | 1570 | 500 | 88.0 | 75-125 |
| Potassium | 11600 | 36300 | 25000 | 98.8 | 75-125 |
| Sodium | 14600 | 39500 | 25000 | 99.6 | 75-125 |

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Calcium | 65500 | 89500 | 25000 | 96.0 | 0.7 | 20 |
| Iron | 83400 | 85900 | 2000 | 125.0(a) | 0.9 | 20 |
| Magnesium | 8960 | 33700 | 25000 | 99.0 | 1.5 | 20 |
| Manganese | 1130 | 1590 | 500 | 92.0 | 1.3 | 20 |
| Potassium | 11600 | 37000 | 25000 | 101.6 | 1.9 | 20 |
| Sodium | 14600 | 40000 | 25000 | 101.6 | 1.3 | 20 |

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25000 | 25000 | 100.0 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2030 | 2000 | 101.5 | 80-120 |
| Lead | | | | |
| Magnesium | 24600 | 25000 | 98.4 | 80-120 |
| Manganese | 469 | 500 | 93.8 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25600 | 25000 | 102.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25100 | 25000 | 100.4 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Calcium | 65500 | 70100 | 7.1 | 0-10 |
| Iron | 83400 | 89400 | 7.2 | 0-10 |
| Magnesium | 8960 | 8980 | 0.3 | 0-10 |
| Manganese | 1130 | 1140 | 0.4 | 0-10 |
| Potassium | 11600 | 11900 | 2.0 | 0-10 |
| Sodium | 14600 | 14700 | 1.2 | 0-10 |

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | Sample ml | Final ml | MC21156-7F Raw | MC21156-7F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 65460 | 56921.74 | 101000 | 1 | 500 | 43478.26 | 101.4 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 83380 | 72504.35 | 74160 | 1 | 10 | 869.5652 | 190.4(a) | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 8957 | 7788.696 | 53590 | 1 | 500 | 43478.26 | 105.3 | 80-120 |
| Manganese | 10 | 11.5 | 1132 | 984.3478 | 1718 | .5 | 15 | 652.1739 | 112.5 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 11630 | 10113.04 | 54630 | 1 | 500 | 43478.26 | 102.4 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 14570 | 12669.57 | 55880 | 1 | 500 | 43478.26 | 99.4 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21073: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.44 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 565 | 1100 | 500 | 107.0 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 565 | 1120 | 500 | 111.0 | 1.8 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 517 | 500 | 103.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | SDL 20:100%DIF | | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 565 | 579 | 2.5 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | Sample ml | Final ml | MC21156-7F Raw | MC21156-7F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 564.9 | 470.75 | 495.3 | 2 | .1 | 16.66667 | 147.3(a) | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21073A: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-10F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recoveries outside of control limits indicate possible matrix interference.

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0006 | .0009 | .0006 | .0002 | .0013 | .0088 | .0002 | .0055 | .0028 |
| Stddev | .0000 | .0005 | .0000 | .0000 | .0000 | .0002 | .0002 | .0000 | .0000 |
| %RSD | 5.772 | 52.09 | 6.587 | 12.17 | 2.990 | 1.919 | 129.6 | .4489 | .6633 |
| #1 | -.0006 | .0013 | .0006 | .0002 | .0013 | .0087 | .0003 | .0056 | .0028 |
| #2 | -.0007 | .0006 | .0005 | .0002 | .0013 | .0089 | .0000 | .0055 | .0029 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0000 | .0001 | .0127 | .0007 | .0008 | .0000 | .0010 | .0001 | .0076 |
| Stddev | .0004 | .0002 | .0001 | .0001 | .0008 | .000 | .0000 | .0000 | .0007 |
| %RSD | 20300. | 161.8 | .4917 | 9.250 | 93.82 | 1135. | 3.435 | 34.34 | 9.387 |
| #1 | -.0003 | .0002 | .0126 | .0006 | .0003 | -.0002 | .0010 | .0001 | .0071 |
| #2 | .0003 | .0000 | .0127 | .0007 | .0014 | .0002 | .0010 | .0002 | .0081 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0013 | .0006 | .0001 | .0000 | .0001 | .0001 | .0340 | -.0001 | .0046 |
| Stddev | .0004 | .0013 | .0002 | .0000 | .0004 | .0002 | .0002 | .0000 | .0001 |
| %RSD | 29.12 | 204.7 | 367.4 | 638.4 | 597.9 | 119.0 | .5552 | 70.94 | 2.474 |
| #1 | -.0016 | -.0003 | -.0001 | .0000 | .0004 | .0000 | .0342 | -.0001 | .0047 |
| #2 | -.0011 | .0016 | .0002 | .0000 | -.0002 | .0002 | .0339 | .0000 | .0045 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0011 | .0004 | -.0002 | .0003 | .0002 |
| Stddev | .0001 | .0002 | .0000 | .0000 | .0002 | .0002 |
| %RSD | 27.26 | 17.22 | 1.921 | 3.077 | 49.47 | 92.61 |
| #1 | -.0003 | -.0010 | .0004 | -.0002 | .0002 | .0003 |
| #2 | -.0002 | -.0012 | .0004 | -.0002 | .0004 | .0001 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2221.5 | 53476. | 14049. |
| Stddev | 6.6 | 556. | 195. |
| %RSD | .29693 | 1.0390 | 1.3913 |
| #1 | 2216.9 | 53869. | 14187. |
| #2 | 2226.2 | 53083. | 13910. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/3/2013 9:19:35 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1813 | .6143 | 2.125 | 16.02 | 16.20 | 10.35 | 9.460 | 1.146 | 2.213 | 6.179 |
| Stddev | .0005 | .0007 | .004 | .01 | .00 | .01 | .010 | .002 | .003 | .051 |
| %RSD | .2829 | .1160 | .1797 | .0871 | .0072 | .1141 | .1012 | .1462 | .1321 | .8182 |
| #1 | .1816 | .6138 | 2.122 | 16.01 | 16.20 | 10.34 | 9.454 | 1.147 | 2.211 | 6.214 |
| #2 | .1809 | .6148 | 2.128 | 16.03 | 16.20 | 10.36 | 9.467 | 1.145 | 2.215 | 6.143 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.972 | 7.379 | 3.130 | 1.642 | .8221 | 1.182 | 12.52 |
| Stddev | .012 | .010 | .001 | .001 | .0015 | .001 | .01 |
| %RSD | .1452 | .1323 | .0460 | .0668 | .1840 | .0926 | .0583 |
| #1 | 7.963 | 7.372 | 3.129 | 1.641 | .8210 | 1.181 | 12.52 |
| #2 | 7.980 | 7.385 | 3.131 | 1.643 | .8231 | 1.183 | 12.53 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2242.4 | 52643. | 12571. |
| Stddev | 1.6 | 338. | 76. |
| %RSD | .07009 | .64299 | .60096 |
| #1 | 2243.6 | 52403. | 12518. |
| #2 | 2241.3 | 52882. | 12625. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/3/2013 9:23:56 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.465 | 2.848 | 1.698 | .7594 | .2410 | 2.504 |
| Stddev | .006 | .006 | .008 | .0008 | .0005 | .008 |
| %RSD | .4191 | .2157 | .4751 | .1105 | .2124 | .3072 |
| #1 | 1.460 | 2.844 | 1.692 | .7600 | .2406 | 2.499 |
| #2 | 1.469 | 2.853 | 1.704 | .7588 | .2413 | 2.510 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 12965. |
| Stddev | 106. |
| %RSD | .81601 |
| #1 | 12890. |
| #2 | 13040. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/3/2013 9:28:16 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3292 | .5132 | .0848 | 2.146 | 1.870 | 27.79 | 1.685 | 1.454 | .0805 | 3.114 |
| Stddev | .0005 | .0004 | .0002 | .008 | .005 | .09 | .001 | .000 | .0000 | .007 |
| %RSD | .1391 | .0712 | .2853 | .3608 | .2598 | .3232 | .0362 | .0274 | .0476 | .2335 |
| #1 | .3289 | .5129 | .0846 | 2.141 | 1.866 | 27.73 | 1.686 | 1.453 | .0805 | 3.109 |
| #2 | .3295 | .5134 | .0850 | 2.152 | 1.873 | 27.85 | 1.685 | 1.454 | .0805 | 3.119 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2292.1 | 54672. | 13231. |
| Stddev | 5.6 | 123. | 56. |
| %RSD | .24622 | .22554 | .42460 |
| #1 | 2296.1 | 54759. | 13192. |
| #2 | 2288.1 | 54585. | 13271. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/3/2013 9:32:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5122 | 15.84 | 3.080 | 3.022 | 3.117 | 3.083 | 2.997 | 18.23 | 3.052 | 3.019 |
| Stddev | .0016 | .03 | .005 | .008 | .004 | .001 | .000 | .01 | .001 | .000 |
| %RSD | .3060 | .1595 | .1794 | .2631 | .1202 | .0323 | .0124 | .0772 | .0202 | .0139 |
| #1 | .5133 | 15.82 | 3.084 | 3.028 | 3.120 | 3.084 | 2.996 | 18.22 | 3.052 | 3.020 |
| #2 | .5111 | 15.86 | 3.076 | 3.016 | 3.115 | 3.082 | 2.997 | 18.24 | 3.053 | 3.019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.042 | 2.955 | 18.53 | 15.56 | 18.42 | 2.967 | 2.924 | 15.65 | 2.968 | 2.978 |
| Stddev | .004 | .008 | .00 | .00 | .06 | .034 | .002 | .02 | .002 | .001 |
| %RSD | .1261 | .2734 | .0208 | .0060 | .3396 | 1.131 | .0580 | .1433 | .0614 | .0391 |
| #1 | 3.045 | 2.961 | 18.53 | 15.56 | 18.38 | 2.990 | 2.925 | 15.67 | 2.967 | 2.979 |
| #2 | 3.040 | 2.949 | 18.53 | 15.56 | 18.46 | 2.943 | 2.923 | 15.64 | 2.970 | 2.977 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.079 | 3.037 | 3.025 | 3.050 | 3.081 | 3.110 | 3.080 | 3.043 | 2.970 | 2.994 |
| Stddev | .011 | .003 | .003 | .001 | .001 | .004 | .003 | .004 | .002 | .006 |
| %RSD | .3544 | .0992 | .0850 | .0461 | .0419 | .1183 | .1056 | .1441 | .0716 | .1970 |
| #1 | 3.087 | 3.039 | 3.027 | 3.049 | 3.082 | 3.113 | 3.077 | 3.046 | 2.971 | 2.998 |
| #2 | 3.072 | 3.035 | 3.023 | 3.051 | 3.080 | 3.108 | 3.082 | 3.040 | 2.968 | 2.990 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.001 | 2.892 | 3.310 |
| Stddev | .006 | .003 | .015 |
| %RSD | .1961 | .1105 | .4654 |
| #1 | 3.006 | 2.894 | 3.321 |
| #2 | 2.997 | 2.890 | 3.299 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 53542. | 13105. |
| Stddev | 3.4 | 77. | 2. |
| %RSD | .15292 | .14311 | .01415 |
| #1 | 2242.8 | 53488. | 13103. |
| #2 | 2247.7 | 53596. | 13106. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/3/2013 9:42:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0012 | .0017 | .0004 | .0019 | .0004 | .0001 | .0035 | .0001 | .0000 |
| Stddev | .0006 | .0052 | .0012 | .0008 | .0005 | .0001 | .0000 | .0007 | .0001 | .000 |
| %RSD | 200.2 | 433.4 | 71.02 | 190.1 | 27.59 | 25.49 | 59.11 | 20.53 | 84.12 | 63.23 |
| #1 | -.0008 | -.0025 | .0026 | .0010 | .0023 | .0003 | .0000 | .0040 | .0000 | .0000 |
| #2 | .0001 | .0049 | .0009 | -.0001 | .0016 | .0004 | .0001 | .0030 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0009 | .0016 | -.0269 | -.0099 | .0001 | .0003 | -.0249 | .0003 | -.0006 |
| Stddev | .0002 | .0001 | .0021 | .0031 | .0088 | .0000 | .0000 | .0024 | .0002 | .0006 |
| %RSD | 68.73 | 14.87 | 135.1 | 11.57 | 89.32 | 14.36 | 15.72 | 9.781 | 55.40 | 109.0 |
| #1 | .0004 | .0008 | .0031 | -.0247 | -.0036 | .0002 | .0003 | -.0232 | .0004 | -.0010 |
| #2 | .0001 | .0010 | .0001 | -.0291 | -.0161 | .0001 | .0003 | -.0266 | .0002 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0015 | .0007 | .0006 | .0020 | -.0002 | .0001 | -.0003 | .0006 | .0003 |
| Stddev | .0031 | .0008 | .0007 | .0003 | .0001 | .0000 | .0000 | .0000 | .0000 | .0002 |
| %RSD | 366.8 | 53.51 | 96.64 | 63.14 | 6.305 | 9.126 | 15.58 | .2699 | 2.445 | 54.09 |
| #1 | -.0013 | -.0020 | .0002 | .0008 | .0019 | -.0002 | .0001 | -.0003 | .0006 | .0004 |
| #2 | .0030 | -.0009 | .0012 | .0003 | .0021 | -.0002 | .0001 | -.0003 | .0006 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0002 | .0015 |
| Stddev | .0021 | .0001 | .0003 |
| %RSD | 83.75 | 75.96 | 18.22 |
| #1 | .0010 | .0002 | .0017 |
| #2 | .0040 | .0001 | .0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.8 | 54467. | 13169. |
| Stddev | 4.6 | 571. | 107. |
| %RSD | .20383 | 1.0490 | .81595 |
| #1 | 2241.5 | 54871. | 13093. |
| #2 | 2248.0 | 54063. | 13245. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 9:50:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2474 | 10.00 | 2.005 | .0002 | 2.010 | 1.991 | 1.949 | 9.953 | 2.003 | 2.074 |
| Stddev | .0001 | .01 | .005 | .0017 | .000 | .001 | .003 | .019 | .001 | .001 |
| %RSD | .0521 | .0959 | .2580 | 796.5 | .0185 | .0529 | .1276 | .1947 | .0651 | .0412 |
| #1 | .2475 | 9.996 | 2.002 | .0014 | 2.011 | 1.991 | 1.950 | 9.967 | 2.004 | 2.074 |
| #2 | .2473 | 10.01 | 2.009 | -.0010 | 2.010 | 1.992 | 1.947 | 9.940 | 2.002 | 2.073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.954 | 1.950 | 9.995 | 9.939 | 9.720 | 1.913 | 1.997 | 9.999 | 2.021 | 1.968 |
| Stddev | .005 | .001 | .018 | .024 | .039 | .002 | .002 | .008 | .001 | .001 |
| %RSD | .2514 | .0304 | .1778 | .2431 | .4008 | .1132 | .1050 | .0789 | .0617 | .0721 |
| #1 | 1.951 | 1.951 | 9.982 | 9.957 | 9.748 | 1.912 | 1.998 | 10.00 | 2.021 | 1.969 |
| #2 | 1.958 | 1.950 | 10.01 | 9.922 | 9.693 | 1.915 | 1.995 | 9.993 | 2.020 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0019 | 2.046 | 2.035 | .0401 | 1.999 | 1.947 | 1.969 | 1.977 | 1.943 |
| Stddev | .0003 | .0001 | .001 | .001 | .0007 | .001 | .000 | .001 | .002 | .002 |
| %RSD | 11.19 | 7.726 | .0672 | .0680 | 1.815 | .0510 | .0177 | .0332 | .0764 | .1003 |
| #1 | .0033 | .0018 | 2.047 | 2.036 | .0395 | 2.000 | 1.947 | 1.969 | 1.978 | 1.941 |
| #2 | .0028 | .0020 | 2.045 | 2.034 | .0406 | 1.999 | 1.947 | 1.968 | 1.976 | 1.944 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0091 | 1.939 | .0023 |
| Stddev | .0050 | .002 | .0001 |
| %RSD | 55.22 | .0873 | 2.584 |
| #1 | -.0055 | 1.940 | .0023 |
| #2 | -.0126 | 1.938 | .0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.0 | 54081. | 13266. |
| Stddev | 2.8 | 91. | 104. |
| %RSD | .12590 | .16916 | .78541 |
| #1 | 2230.0 | 54146. | 13192. |
| #2 | 2226.0 | 54016. | 13340. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 9:58:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0006 | .0021 | .0007 | .0016 | .0004 | .0001 | .0017 | .0001 | .0000 |
| Stddev | .0003 | .0027 | .0013 | .0000 | .0001 | .0001 | .0000 | .0033 | .0000 | .0000 |
| %RSD | 80.56 | 440.0 | 63.99 | 1.559 | 8.998 | 14.87 | 37.24 | 191.3 | 28.92 | 364.2 |
| #1 | -.0002 | .0025 | .0011 | .0007 | .0015 | .0004 | .0001 | -.0006 | .0001 | .0000 |
| #2 | -.0006 | -.0013 | .0030 | .0007 | .0017 | .0003 | .0001 | .0040 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | -.0003 | -.0028 | .0007 | .0002 | .0003 | -.0357 | .0002 | -.0006 |
| Stddev | .0002 | .0000 | .0020 | .0042 | .0124 | .0000 | .0000 | .0165 | .0001 | .0001 |
| %RSD | 288.3 | 1.408 | 775.3 | 150.4 | 1663. | 2.728 | 7.561 | 46.31 | 66.17 | 16.73 |
| #1 | .0002 | .0005 | .0011 | -.0058 | -.0080 | .0002 | .0003 | -.0473 | .0003 | -.0007 |
| #2 | -.0001 | .0005 | -.0017 | .0002 | .0095 | .0002 | .0003 | -.0240 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0032 | .0008 | .0014 | .0020 | .0000 | .0000 | .0000 | .0008 | .0005 |
| Stddev | .0015 | .0039 | .0007 | .0006 | .0013 | .0004 | .0000 | .000 | .0004 | .0001 |
| %RSD | 205.3 | 122.6 | 86.31 | 40.56 | 63.92 | 12280. | 67.18 | 920.6 | 56.00 | 16.72 |
| #1 | -.0003 | -.0060 | .0003 | .0018 | .0029 | .0003 | .0000 | .0001 | .0005 | .0005 |
| #2 | .0018 | -.0004 | .0013 | .0010 | .0011 | -.0002 | .0001 | -.0002 | .0011 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | .0003 | .0008 |
| Stddev | .0032 | .0001 | .0001 |
| %RSD | 3047. | 34.52 | 11.73 |
| #1 | -.0024 | .0003 | .0008 |
| #2 | .0022 | .0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.9 | 54666. | 13274. |
| Stddev | .1 | 295. | 43. |
| %RSD | .00290 | .53920 | .32302 |
| #1 | 2244.9 | 54874. | 13243. |
| #2 | 2245.0 | 54457. | 13304. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 10:04:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .2096 | .0045 | .0007 | .1037 | .0514 | .0042 | 5.007 | .0042 | .0531 |
| Stddev | .0006 | .0031 | .0000 | .0008 | .0001 | .0004 | .0001 | .008 | .0000 | .0001 |
| %RSD | 10.96 | 1.466 | .9231 | 128.0 | .1266 | .6980 | 1.869 | .1553 | 1.004 | .1311 |
| #1 | .0057 | .2117 | .0045 | .0001 | .1036 | .0511 | .0043 | 5.013 | .0043 | .0531 |
| #2 | .0049 | .2074 | .0045 | .0013 | .1038 | .0516 | .0042 | 5.002 | .0042 | .0532 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0248 | .0999 | 5.002 | 4.841 | .0151 | .1034 | 4.981 | .0423 | .0055 |
| Stddev | .0001 | .0000 | .0004 | .010 | .018 | .0001 | .0003 | .013 | .0001 | .0002 |
| %RSD | 1.228 | .1658 | .3862 | .2021 | .3741 | .7035 | .3258 | .2621 | .1617 | 4.016 |
| #1 | .0101 | .0248 | .1002 | 4.995 | 4.854 | .0151 | .1036 | 4.990 | .0422 | .0054 |
| #2 | .0103 | .0248 | .0996 | 5.009 | 4.828 | .0152 | .1032 | 4.972 | .0423 | .0057 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0010 | .0068 | .0112 | -.0021 | .1020 | .0101 | .0517 | .0059 | .0106 |
| Stddev | .0004 | .0019 | .0002 | .0002 | .0001 | .0005 | .0001 | .0001 | .0007 | .0003 |
| %RSD | 19.67 | 195.3 | 3.257 | 1.710 | 5.048 | .4546 | 1.187 | .1931 | 11.41 | 3.217 |
| #1 | .0024 | .0023 | .0070 | .0113 | -.0020 | .1023 | .0102 | .0518 | .0064 | .0108 |
| #2 | .0018 | -.0004 | .0066 | .0110 | -.0022 | .1017 | .0100 | .0517 | .0054 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0211 | .0006 |
| Stddev | .0040 | .0001 | .0000 |
| %RSD | 90.46 | .6144 | 2.619 |
| #1 | .0016 | .0210 | .0006 |
| #2 | .0073 | .0212 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2249.6 | 54745. | 13399. |
| Stddev | 1.8 | 85. | 100. |
| %RSD | .08073 | .15516 | .74787 |
| #1 | 2250.9 | 54685. | 13329. |
| #2 | 2248.3 | 54805. | 13470. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/3/2013 10:13:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | 510.7 | .0000 | .0072 | .0045 | -.0002 | .0000 | 461.7 | -.0003 | -.0002 |
| Stddev | .0000 | 1.0 | .0028 | .0003 | .0007 | .0001 | .0000 | 11.2 | .0001 | .0000 |
| %RSD | 3.039 | .2000 | 7314. | 4.786 | 14.89 | 50.06 | 67.13 | 2.424 | 47.30 | .9146 |
| #1 | .0010 | 511.4 | .0020 | .0075 | .0050 | -.0002 | .0000 | 469.6 | -.0002 | -.0002 |
| #2 | .0011 | 509.9 | -.0019 | .0070 | .0040 | -.0001 | .0000 | 453.8 | -.0004 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0035 | 189.0 | .0314 | 484.7 | .0005 | -.0004 | .0464 | -.0006 | -.0008 |
| Stddev | .0001 | .0003 | .0 | .0207 | .2 | .0000 | .0000 | .0006 | .0002 | .0002 |
| %RSD | 29.83 | 9.409 | .0144 | 66.04 | .0509 | 5.846 | 5.671 | 1.370 | 33.03 | 25.58 |
| #1 | -.0003 | .0033 | 189.0 | .0167 | 484.5 | .0006 | -.0004 | .0468 | -.0004 | -.0009 |
| #2 | -.0002 | .0038 | 189.0 | .0460 | 484.8 | .0005 | -.0004 | .0459 | -.0007 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0339 | -.0147 | .0019 | -.0008 | .0365 | -.0005 | .0010 | .0089 | .0007 | .0003 |
| Stddev | .0042 | .0041 | .0003 | .0025 | .0003 | .0002 | .0003 | .0007 | .0011 | .0001 |
| %RSD | 12.25 | 27.73 | 13.78 | 322.2 | .6880 | 40.03 | 25.98 | 8.062 | 160.2 | 32.50 |
| #1 | -.0310 | -.0118 | .0021 | -.0025 | .0364 | -.0004 | .0008 | .0094 | .0014 | .0002 |
| #2 | -.0369 | -.0176 | .0017 | .0010 | .0367 | -.0007 | .0012 | .0084 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0391 | -.0008 | .0019 |
| Stddev | .0012 | .0001 | .0000 |
| %RSD | 3.165 | 7.767 | .8641 |
| #1 | -.0382 | -.0008 | .0018 |
| #2 | -.0400 | -.0007 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2062.4 | 51119. | 13017. |
| Stddev | 4.2 | 270. | 75. |
| %RSD | .20417 | .52802 | .57681 |
| #1 | 2059.5 | 50928. | 12963. |
| #2 | 2065.4 | 51310. | 13070. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/3/2013 10:17:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.034 | 520.1 | 2.073 | .4929 | 1.023 | .5076 | .4619 | 464.9 | 1.034 | .4840 |
| Stddev | .001 | 13.3 | .003 | .0035 | .002 | .0020 | .0014 | 4.4 | .001 | .0005 |
| %RSD | .1327 | 2.552 | .1479 | .7076 | .1893 | .3893 | .3111 | .9432 | .0604 | .0958 |
| #1 | 1.035 | 510.8 | 2.075 | .4954 | 1.024 | .5090 | .4629 | 461.8 | 1.035 | .4843 |
| #2 | 1.033 | 529.5 | 2.071 | .4904 | 1.022 | .5062 | .4609 | 468.0 | 1.034 | .4837 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4803 | .5118 | 189.3 | .0628 | 482.4 | .4669 | .9763 | .0371 | .9107 | .9130 |
| Stddev | .0003 | .0021 | .5 | .0054 | 1.1 | .0012 | .0001 | .0050 | .0008 | .0008 |
| %RSD | .0614 | .4038 | .2839 | 8.603 | .2324 | .2503 | .0140 | 13.43 | .0891 | .0871 |
| #1 | .4805 | .5104 | 189.7 | .0666 | 483.2 | .4677 | .9764 | .0406 | .9113 | .9135 |
| #2 | .4801 | .5133 | 188.9 | .0590 | 481.6 | .4660 | .9762 | .0336 | .9101 | .9124 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5025 | .4777 | 2.129 | 2.025 | 2.232 | .9943 | .9747 | .5147 | 1.896 | .5052 |
| Stddev | .0007 | .0046 | .003 | .002 | .001 | .0001 | .0045 | .0001 | .002 | .0010 |
| %RSD | .1351 | .9733 | .1299 | .0860 | .0451 | .0067 | .4616 | .0192 | .0893 | .1989 |
| #1 | .5030 | .4810 | 2.127 | 2.026 | 2.232 | .9942 | .9779 | .5147 | 1.895 | .5059 |
| #2 | .5021 | .4744 | 2.131 | 2.024 | 2.233 | .9943 | .9716 | .5146 | 1.898 | .5045 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.830 | .8937 | .4610 |
| Stddev | .004 | .0014 | .0024 |
| %RSD | .2071 | .1527 | .5168 |
| #1 | 1.828 | .8946 | .4594 |
| #2 | 1.833 | .8927 | .4627 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2061.3 | 51001. | 13045. |
| Stddev | 3.7 | 327. | 11. |
| %RSD | .17735 | .64150 | .08295 |
| #1 | 2058.8 | 50769. | 13037. |
| #2 | 2063.9 | 51232. | 13052. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 10:22:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2051 | 2.256 | .5229 | .0007 | .0025 | 2.022 | .5053 | 24.76 | .5194 | .5219 |
| Stddev | .0016 | .004 | .0002 | .0002 | .0001 | .004 | .0020 | .11 | .0014 | .0016 |
| %RSD | .8014 | .1634 | .0434 | 31.66 | 4.900 | .2195 | .3997 | .4437 | .2712 | .3076 |
| #1 | .2039 | 2.254 | .5227 | .0006 | .0025 | 2.019 | .5039 | 24.68 | .5184 | .5207 |
| #2 | .2063 | 2.259 | .5230 | .0009 | .0026 | 2.025 | .5068 | 24.84 | .5204 | .5230 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5189 | .4817 | 2.125 | 25.23 | 24.71 | .4764 | .0008 | 25.43 | .5079 | 1.007 |
| Stddev | .0004 | .0008 | .013 | .05 | .07 | .0003 | .0002 | .03 | .0012 | .002 |
| %RSD | .0838 | .1626 | .6113 | .2160 | .2826 | .0575 | 19.53 | .1243 | .2389 | .2378 |
| #1 | .5186 | .4812 | 2.116 | 25.19 | 24.66 | .4766 | .0009 | 25.41 | .5071 | 1.005 |
| #2 | .5192 | .4823 | 2.134 | 25.27 | 24.75 | .4762 | .0007 | 25.46 | .5088 | 1.009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0029 | .5321 | .5176 | .0243 | -.0020 | .4902 | .5009 | .5101 | .5097 |
| Stddev | .0022 | .0033 | .0005 | .0020 | .0004 | .0001 | .0012 | .0007 | .0010 | .0009 |
| %RSD | 352.4 | 115.9 | .0887 | .3938 | 1.620 | 7.353 | .2462 | .1422 | .1903 | .1819 |
| #1 | .0009 | .0005 | .5317 | .5162 | .0240 | -.0021 | .4893 | .5004 | .5094 | .5104 |
| #2 | -.0022 | .0053 | .5324 | .5190 | .0246 | -.0019 | .4910 | .5014 | .5108 | .5091 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0061 | .5107 | .0179 |
| Stddev | .0020 | .0007 | .0021 |
| %RSD | 33.36 | .1383 | 11.56 |
| #1 | .0047 | .5102 | .0194 |
| #2 | .0076 | .5112 | .0165 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.7 | 54611. | 13509. |
| Stddev | 10.9 | 7. | 46. |
| %RSD | .49092 | .01353 | .33798 |
| #1 | 2224.4 | 54606. | 13541. |
| #2 | 2209.0 | 54616. | 13477. |



Zoom In Zoom Out

Sample Name: MP21072-MB1 Acquired: 6/3/2013 10:26:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0221 | .0016 | -.0003 | .0004 | .0004 | .0001 | .0384 | .0001 | -.0002 |
| Stddev | .0005 | .0057 | .0005 | .0003 | .0004 | .0000 | .0000 | .0039 | .0000 | .0000 |
| %RSD | 1449. | 25.79 | 30.87 | 91.33 | 93.69 | 10.29 | 9.480 | 10.19 | 5.201 | 17.63 |
| #1 | .0004 | .0181 | .0012 | -.0001 | .0001 | .0004 | .0001 | .0356 | .0001 | -.0002 |
| #2 | -.0003 | .0261 | .0019 | -.0005 | .0007 | .0005 | .0001 | .0412 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0095 | .0063 | .0323 | .0003 | .0000 | -.0291 | .0000 | -.0004 |
| Stddev | .0000 | .0002 | .0002 | .0236 | .0103 | .0000 | .0000 | .0044 | .000 | .0004 |
| %RSD | 98.09 | 40.09 | 1.710 | 374.8 | 31.76 | 8.096 | 84.47 | 15.26 | 297.7 | 94.16 |
| #1 | .0000 | .0004 | .0094 | .0230 | .0396 | .0003 | .0000 | -.0322 | .0000 | -.0001 |
| #2 | .0001 | .0008 | .0096 | -.0104 | .0250 | .0003 | .0000 | -.0259 | .0000 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0006 | .0009 | .0013 | .0240 | -.0007 | .0001 | .0000 | .0010 | -.0003 |
| Stddev | .0009 | .0085 | .0000 | .0003 | .0000 | .0001 | .0000 | .000 | .0004 | .0002 |
| %RSD | 65.22 | 1312. | 2.090 | 20.63 | .0288 | 13.50 | 68.81 | 7.603 | 40.00 | 87.23 |
| #1 | .0007 | -.0053 | .0009 | .0011 | .0240 | -.0007 | .0000 | .0000 | .0007 | -.0001 |
| #2 | .0020 | .0066 | .0009 | .0015 | .0240 | -.0006 | .0001 | .0000 | .0013 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0029 | .0003 | .0028 |
| Stddev | .0004 | .0000 | .0002 |
| %RSD | 12.37 | 6.454 | 9.001 |
| #1 | .0032 | .0003 | .0029 |
| #2 | .0027 | .0003 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.3 | 55199. | 13356. |
| Stddev | 3.3 | 186. | 25. |
| %RSD | .14962 | .33741 | .18392 |
| #1 | 2225.9 | 55068. | 13339. |
| #2 | 2230.6 | 55331. | 13374. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 10:30:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2080 | 2.125 | .5257 | .0012 | .0046 | 2.062 | .5149 | 30.44 | .5244 | .5260 |
| Stddev | .0006 | .011 | .0031 | .0001 | .0000 | .003 | .0004 | .01 | .0003 | .0001 |
| %RSD | .3037 | .5012 | .5920 | 9.714 | .6872 | .1579 | .0818 | .0352 | .0533 | .0132 |
| #1 | .2076 | 2.117 | .5235 | .0012 | .0046 | 2.064 | .5146 | 30.43 | .5246 | .5260 |
| #2 | .2084 | 2.132 | .5279 | .0013 | .0045 | 2.060 | .5152 | 30.45 | .5242 | .5261 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5224 | .4907 | 2.074 | 27.22 | 26.06 | .4831 | .0005 | 26.96 | .5097 | 1.011 |
| Stddev | .0022 | .0010 | .004 | .03 | .03 | .0006 | .0001 | .04 | .0002 | .001 |
| %RSD | .4166 | .2054 | .2019 | .1070 | .1110 | .1187 | 11.19 | .1581 | .0340 | .0574 |
| #1 | .5209 | .4914 | 2.071 | 27.20 | 26.03 | .4827 | .0006 | 26.99 | .5098 | 1.012 |
| #2 | .5240 | .4899 | 2.077 | 27.24 | 26.08 | .4835 | .0005 | 26.93 | .5095 | 1.011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0061 | .5353 | .5197 | 3.285 | -.0017 | .5436 | .5051 | .5105 | .5152 |
| Stddev | .0005 | .0044 | .0020 | .0002 | .001 | .0002 | .0006 | .0004 | .0008 | .0008 |
| %RSD | 292.3 | 72.22 | .3717 | .0391 | .0320 | 10.90 | .1048 | .0720 | .1650 | .1638 |
| #1 | -.0002 | .0030 | .5367 | .5198 | 3.285 | -.0016 | .5440 | .5048 | .5099 | .5146 |
| #2 | .0005 | .0092 | .5339 | .5196 | 3.284 | -.0019 | .5432 | .5054 | .5110 | .5158 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .5208 | .0019 |
| Stddev | .0037 | .0004 | .0002 |
| %RSD | 49.42 | .0854 | 9.248 |
| #1 | .0049 | .5211 | .0020 |
| #2 | .0101 | .5204 | .0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.4 | 54593. | 13401. |
| Stddev | 1.9 | 279. | 81. |
| %RSD | .08366 | .51128 | .60139 |
| #1 | 2213.1 | 54395. | 13458. |
| #2 | 2215.7 | 54790. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 10:34:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2082 | 2.125 | .5221 | -.0011 | .0046 | 2.058 | .5165 | 30.37 | .5223 | .5228 |
| Stddev | .0006 | .000 | .0005 | .0006 | .0001 | .004 | .0009 | .04 | .0004 | .0001 |
| %RSD | .2837 | .0121 | .0973 | 49.34 | 2.549 | .2062 | .1702 | .1434 | .0839 | .0250 |
| #1 | .2086 | 2.125 | .5217 | -.0015 | .0047 | 2.061 | .5171 | 30.40 | .5220 | .5229 |
| #2 | .2077 | 2.125 | .5225 | -.0007 | .0045 | 2.055 | .5159 | 30.34 | .5226 | .5227 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5213 | .4903 | 2.063 | 27.19 | 26.07 | .4862 | .0004 | 26.91 | .5053 | 1.006 |
| Stddev | .0044 | .0017 | .010 | .08 | .07 | .0022 | .0001 | .07 | .0011 | .002 |
| %RSD | .8423 | .3495 | .4904 | .2843 | .2709 | .4622 | 20.27 | .2640 | .2177 | .1730 |
| #1 | .5182 | .4890 | 2.055 | 27.24 | 26.12 | .4846 | .0004 | 26.96 | .5045 | 1.004 |
| #2 | .5244 | .4915 | 2.070 | 27.13 | 26.02 | .4878 | .0003 | 26.86 | .5061 | 1.007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0032 | .5323 | .5180 | 3.260 | -.0019 | .5451 | .5052 | .5094 | .5166 |
| Stddev | .0006 | .0063 | .0012 | .0021 | .007 | .0000 | .0012 | .0014 | .0003 | .0030 |
| %RSD | 75.76 | 194.4 | .2229 | .4038 | .2144 | 1.467 | .2264 | .2736 | .0602 | .5877 |
| #1 | -.0004 | -.0012 | .5331 | .5194 | 3.255 | -.0019 | .5460 | .5042 | .5096 | .5144 |
| #2 | -.0012 | .0077 | .5314 | .5165 | 3.265 | -.0020 | .5443 | .5061 | .5092 | .5187 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .5185 | .0002 |
| Stddev | .0043 | .0004 | .0002 |
| %RSD | 172.4 | .0685 | 121.6 |
| #1 | -.0005 | .5183 | .0003 |
| #2 | .0055 | .5188 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.6 | 54533. | 13365. |
| Stddev | 1.6 | 317. | 66. |
| %RSD | .07171 | .58150 | .49059 |
| #1 | 2229.4 | 54758. | 13319. |
| #2 | 2231.7 | 54309. | 13412. |

Zoom In Zoom Out

Sample Name: MC21083-12F Acquired: 6/3/2013 10:39:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0022 | .0019 | -.0001 | .0027 | .0074 | .0001 | 5.371 | -.0001 | -.0001 |
| Stddev | .0004 | .0002 | .0009 | .0001 | .0004 | .0001 | .0000 | .024 | .0000 | .0001 |
| %RSD | 227.3 | 10.49 | 47.56 | 256.0 | 13.95 | .8082 | 23.23 | .4476 | 43.22 | 212.6 |
| #1 | -.0005 | .0024 | .0025 | .0000 | .0029 | .0074 | .0001 | 5.354 | -.0001 | .0000 |
| #2 | .0001 | .0021 | .0012 | -.0002 | .0024 | .0075 | .0001 | 5.388 | -.0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .0011 | 1.488 | .8450 | .0015 | .0001 | 1.058 | .0004 | .0005 |
| Stddev | .0003 | .0001 | .0014 | .035 | .0131 | .0000 | .0000 | .007 | .0002 | .0008 |
| %RSD | 180.9 | 11.10 | 128.3 | 2.366 | 1.552 | .6938 | 28.43 | .6994 | 35.69 | 148.1 |
| #1 | .0004 | .0007 | .0020 | 1.463 | .8542 | .0015 | .0001 | 1.052 | .0003 | .0011 |
| #2 | .0000 | .0008 | .0001 | 1.512 | .8357 | .0015 | .0001 | 1.063 | .0005 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | .0003 | .0026 | 3.205 | -.0008 | .0455 | -.0001 | .0005 | .0001 |
| Stddev | .0016 | .0001 | .0004 | .0011 | .003 | .0001 | .0001 | .0006 | .0007 | .0002 |
| %RSD | 377.0 | 2.499 | 116.6 | 40.60 | .0770 | 7.647 | .1251 | 448.6 | 164.3 | 189.4 |
| #1 | .0007 | -.0036 | .0006 | .0019 | 3.206 | -.0007 | .0455 | .0003 | -.0001 | .0003 |
| #2 | -.0016 | -.0037 | .0001 | .0034 | 3.203 | -.0008 | .0455 | -.0006 | .0010 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0084 | .0064 | .0006 |
| Stddev | .0039 | .0001 | .0002 |
| %RSD | 46.30 | 1.888 | 29.17 |
| #1 | .0057 | .0065 | .0005 |
| #2 | .0112 | .0063 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.0 | 55273. | 13361. |
| Stddev | 2.6 | 11. | 38. |
| %RSD | .11550 | .02022 | .28487 |
| #1 | 2238.2 | 55281. | 13334. |
| #2 | 2241.8 | 55265. | 13388. |



Zoom In Zoom Out

Sample Name: MP21072-SD1 Acquired: 6/3/2013 10:43:29 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0453 | .0080 | .0006 | .0012 | .0070 | -.0001 | 5.358 | .0003 | -.0014 |
| Stddev | .0019 | .0148 | .0045 | .0014 | .0018 | .0006 | .0000 | .029 | .0002 | .0001 |
| %RSD | 187.3 | 32.61 | 56.50 | 236.6 | 146.3 | 8.113 | 68.44 | .5393 | 68.34 | 9.058 |
| #1 | .0023 | .0557 | .0048 | -.0004 | .0025 | .0074 | -.0001 | 5.338 | .0004 | -.0013 |
| #2 | -.0003 | .0348 | .0112 | .0015 | .0000 | .0066 | .0000 | 5.378 | .0001 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0041 | .0028 | 1.716 | .8601 | .0021 | -.0001 | .9191 | .0006 | .0007 |
| Stddev | .0009 | .0007 | .0025 | .042 | .0708 | .0000 | .0002 | .0189 | .0002 | .0027 |
| %RSD | 61.66 | 17.25 | 89.63 | 2.448 | 8.237 | 1.604 | 209.0 | 2.053 | 33.48 | 354.8 |
| #1 | -.0020 | .0046 | .0046 | 1.686 | .9102 | .0020 | -.0002 | .9057 | .0007 | .0026 |
| #2 | -.0008 | .0036 | .0010 | 1.746 | .8100 | .0021 | .0000 | .9324 | .0005 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0126 | .0028 | .0045 | 3.216 | -.0030 | .0443 | -.0004 | .0041 | .0006 |
| Stddev | .0056 | .0021 | .0029 | .0017 | .004 | .0035 | .0005 | .0010 | .0025 | .0027 |
| %RSD | 128.9 | 16.56 | 104.5 | 36.74 | .1196 | 119.6 | 1.180 | 249.5 | 59.27 | 465.4 |
| #1 | -.0004 | .0112 | .0007 | .0057 | 3.219 | -.0005 | .0439 | .0003 | .0024 | .0025 |
| #2 | -.0082 | .0141 | .0048 | .0033 | 3.214 | -.0055 | .0446 | -.0011 | .0059 | -.0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0307 | .0092 | .0010 |
| Stddev | .0268 | .0001 | .0004 |
| %RSD | 87.30 | 1.025 | 36.25 |
| #1 | .0117 | .0092 | .0007 |
| #2 | .0496 | .0091 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.2 | 54990. | 13359. |
| Stddev | 2.9 | 23. | 27. |
| %RSD | .12829 | .04201 | .20368 |
| #1 | 2240.2 | 55006. | 13378. |
| #2 | 2236.2 | 54974. | 13340. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 10:47:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0056 | .0001 | .0005 | .0102 | .0117 | -.0001 | 9.729 | -.0001 | -.0002 |
| Stddev | .0002 | .0035 | .0009 | .0012 | .0000 | .0002 | .0000 | .030 | .0001 | .0001 |
| %RSD | 140.2 | 62.16 | 640.7 | 239.2 | .4771 | 1.915 | 22.73 | .3053 | 68.34 | 21.36 |
| #1 | .0003 | .0031 | -.0005 | -.0003 | .0102 | .0118 | -.0001 | 9.708 | .0000 | -.0002 |
| #2 | .0000 | .0080 | .0008 | .0013 | .0102 | .0115 | -.0001 | 9.750 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .0013 | 1.066 | 1.492 | .0009 | .0001 | 15.08 | -.0003 | .0006 |
| Stddev | .0001 | .0004 | .0012 | .033 | .011 | .0001 | .0001 | .06 | .0002 | .0005 |
| %RSD | 31.39 | 111.3 | 88.21 | 3.112 | .7608 | 6.414 | 101.1 | .3816 | 75.01 | 77.51 |
| #1 | .0005 | .0006 | .0022 | 1.042 | 1.484 | .0009 | .0002 | 15.04 | -.0001 | .0003 |
| #2 | .0003 | .0001 | .0005 | 1.089 | 1.500 | .0010 | .0000 | 15.12 | -.0004 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | .0003 | .0017 | 6.656 | -.0007 | .0942 | .0002 | .0002 | .0005 |
| Stddev | .0015 | .0022 | .0003 | .0002 | .005 | .0002 | .0004 | .0002 | .0001 | .0009 |
| %RSD | 126.7 | 4074. | 120.7 | 11.82 | .0759 | 30.51 | .3778 | 85.77 | 33.79 | 170.4 |
| #1 | .0001 | -.0016 | .0000 | .0016 | 6.652 | -.0008 | .0939 | .0004 | .0002 | .0012 |
| #2 | .0023 | .0015 | .0005 | .0019 | 6.659 | -.0005 | .0944 | .0001 | .0001 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0078 | .0064 | -.0001 |
| Stddev | .0056 | .0000 | .0001 |
| %RSD | 71.40 | .6503 | 45.11 |
| #1 | .0039 | .0065 | -.0001 |
| #2 | .0118 | .0064 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2237.2 | 55315. | 13440. |
| Stddev | 5.2 | 363. | 95. |
| %RSD | .23347 | .65594 | .70396 |
| #1 | 2240.9 | 55571. | 13507. |
| #2 | 2233.5 | 55058. | 13373. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 10:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2471 | 9.939 | 1.990 | -.0001 | 1.999 | 1.973 | 1.932 | 9.862 | 1.987 | 2.059 |
| Stddev | .0002 | .009 | .003 | .0004 | .003 | .002 | .005 | .011 | .004 | .002 |
| %RSD | .0719 | .0942 | .1263 | 343.6 | .1584 | .1045 | .2692 | .1122 | .1934 | .1171 |
| #1 | .2473 | 9.933 | 1.992 | .0002 | 2.001 | 1.974 | 1.928 | 9.854 | 1.990 | 2.061 |
| #2 | .2470 | 9.946 | 1.988 | -.0004 | 1.997 | 1.971 | 1.935 | 9.870 | 1.984 | 2.057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.937 | 9.927 | 9.912 | 9.605 | 1.904 | 1.986 | 9.952 | 1.999 | 1.953 |
| Stddev | .006 | .001 | .004 | .053 | .037 | .006 | .003 | .005 | .006 | .006 |
| %RSD | .3305 | .0536 | .0454 | .5357 | .3851 | .3274 | .1656 | .0513 | .3106 | .3342 |
| #1 | 1.936 | 1.937 | 9.924 | 9.875 | 9.579 | 1.900 | 1.989 | 9.956 | 2.004 | 1.957 |
| #2 | 1.945 | 1.938 | 9.930 | 9.950 | 9.631 | 1.909 | 1.984 | 9.948 | 1.995 | 1.948 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0030 | 2.032 | 2.018 | .0310 | 1.981 | 1.933 | 1.954 | 1.961 | 1.931 |
| Stddev | .0008 | .0009 | .000 | .002 | .0018 | .004 | .000 | .003 | .005 | .005 |
| %RSD | 92.93 | 31.02 | .0213 | .0984 | 5.718 | .1838 | .0192 | .1526 | .2436 | .2870 |
| #1 | .0014 | .0037 | 2.032 | 2.019 | .0322 | 1.984 | 1.932 | 1.952 | 1.965 | 1.927 |
| #2 | .0003 | .0024 | 2.032 | 2.016 | .0297 | 1.978 | 1.933 | 1.956 | 1.958 | 1.935 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0093 | 1.925 | -.0027 |
| Stddev | .0052 | .005 | .0001 |
| %RSD | 56.47 | .2681 | 4.083 |
| #1 | -.0129 | 1.929 | -.0028 |
| #2 | -.0056 | 1.922 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.5 | 54504. | 13396. |
| Stddev | 5.2 | 411. | 41. |
| %RSD | .23034 | .75326 | .30680 |
| #1 | 2242.9 | 54795. | 13425. |
| #2 | 2250.2 | 54214. | 13367. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 10:58:56 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0103 | .0019 | -.0003 | .0015 | .0004 | .0002 | .0129 | .0000 | .0001 |
| Stddev | .0005 | .0045 | .0015 | .0012 | .0001 | .0001 | .0000 | .0005 | .0002 | .0002 |
| %RSD | 269.7 | 43.59 | 80.73 | 423.5 | 5.631 | 33.24 | 16.35 | 3.805 | 508.1 | 121.1 |
| #1 | .0002 | .0135 | .0029 | -.0011 | .0015 | .0005 | .0002 | .0126 | -.0001 | .0000 |
| #2 | -.0006 | .0071 | .0008 | .0006 | .0014 | .0003 | .0002 | .0133 | .0002 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0029 | -.0161 | .0034 | .0002 | .0004 | -.0360 | .0001 | .0003 |
| Stddev | .0002 | .0002 | .0021 | .0009 | .0140 | .0001 | .0001 | .0051 | .0001 | .0001 |
| %RSD | 269.6 | 33.67 | 73.25 | 5.666 | 415.6 | 26.68 | 33.16 | 14.18 | 114.0 | 42.65 |
| #1 | .0002 | .0009 | .0044 | -.0154 | -.0065 | .0002 | .0005 | -.0324 | .0000 | .0004 |
| #2 | -.0001 | .0005 | .0014 | -.0167 | .0133 | .0002 | .0003 | -.0396 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0028 | .0003 | .0013 | -.0002 | -.0003 | .0001 | .0003 | .0000 | .0000 |
| Stddev | .0004 | .0031 | .0001 | .0002 | .0005 | .0003 | .0000 | .0001 | .0004 | .000 |
| %RSD | 104.9 | 109.5 | 32.09 | 18.57 | 228.1 | 84.19 | 25.83 | 27.25 | 1275. | 1159. |
| #1 | .0006 | -.0051 | .0004 | .0014 | .0001 | -.0005 | .0001 | .0002 | -.0002 | -.0003 |
| #2 | .0001 | -.0006 | .0003 | .0011 | -.0006 | -.0001 | .0002 | .0003 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0045 | .0003 | .0007 |
| Stddev | .0039 | .0002 | .0001 |
| %RSD | 86.08 | 47.14 | 12.74 |
| #1 | .0073 | .0004 | .0008 |
| #2 | .0018 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.6 | 54828. | 13314. |
| Stddev | 1.5 | 293. | 139. |
| %RSD | .06892 | .53439 | 1.0417 |
| #1 | 2234.7 | 55035. | 13216. |
| #2 | 2232.5 | 54621. | 13412. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0513 | 1.366 | -.0005 | .1627 | .0384 | .0000 | 75.31 |
| Stddev | .0003 | .0023 | .002 | .0008 | .0004 | .0002 | .000 | .11 |
| %RSD | 163.4 | 4.459 | .1173 | 149.5 | .2258 | .5248 | 104.7 | .1440 |
| #1 | .0004 | -.0497 | 1.365 | .0000 | .1625 | .0382 | .0000 | 75.23 |
| #2 | .0000 | -.0529 | 1.367 | -.0011 | .1630 | .0385 | -.0001 | 75.39 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0122 | .0137 | -.0001 | .0013 | 19.58 | 7.969 | 11.63 | 9.235 |
| Stddev | .0002 | .0000 | .0001 | .0004 | .03 | .100 | .06 | .025 |
| %RSD | 1.696 | .0754 | 109.7 | 32.25 | .1575 | 1.256 | .4901 | .2656 |
| #1 | .0124 | .0137 | -.0001 | .0010 | 19.60 | 7.898 | 11.59 | 9.252 |
| #2 | .0121 | .0137 | .0000 | .0015 | 19.56 | 8.040 | 11.67 | 9.217 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 24.41 | .0077 | .0006 | -.0055 | .0335 | .0016 | .0032 |
| Stddev | .0002 | .01 | .0001 | .0001 | .0007 | .0053 | .0002 | .0001 |
| %RSD | 6.887 | .0214 | 1.462 | 15.76 | 12.09 | 15.80 | 10.41 | 3.119 |
| #1 | .0022 | 24.42 | .0076 | .0007 | -.0059 | .0373 | .0017 | .0033 |
| #2 | .0025 | 24.41 | .0078 | .0006 | -.0050 | .0298 | .0015 | .0031 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 12.84 | -.0008 | .7524 | .0008 | F-.0080 | .0007 | .0045 | .0117 |
| Stddev | .03 | .0001 | .0002 | .0001 | .0014 | .0006 | .0010 | .0000 |
| %RSD | .2359 | 9.006 | .0226 | 6.427 | 17.38 | 81.32 | 23.16 | .0374 |
| #1 | 12.82 | -.0008 | .7525 | .0009 | -.0089 | .0003 | .0053 | .0117 |
| #2 | 12.87 | -.0009 | .7523 | .0008 | -.0070 | .0012 | .0038 | .0117 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0017 |
| Stddev | .0001 |
| %RSD | 6.190 |
| #1 | -.0016 |
| #2 | -.0018 |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2212.0 | 54809. | 13616. |
| Stddev | 1.4 | 294. | 14. |
| %RSD | .06483 | .53719 | .10281 |
| #1 | 2213.0 | 54601. | 13606. |
| #2 | 2211.0 | 55018. | 13626. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/3/2013 11:12:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0011 | .0024 | -.0008 | .0275 | .0112 | .0000 | 19.69 | .0001 | -.0002 |
| Stddev | .0004 | .0048 | .0004 | .0006 | .0003 | .0002 | .000 | .04 | .0001 | .0000 |
| %RSD | 138.7 | 424.7 | 18.21 | 69.68 | 1.130 | 2.098 | 191.2 | .2253 | 135.2 | 1.373 |
| #1 | .0000 | .0045 | .0021 | -.0004 | .0277 | .0111 | .0000 | 19.72 | .0002 | -.0002 |
| #2 | .0006 | -.0023 | .0027 | -.0012 | .0273 | .0114 | -.0001 | 19.66 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0010 | .0101 | 2.459 | 2.545 | .1759 | .0002 | 11.48 | .0003 | .0002 |
| Stddev | .000 | .0008 | .0023 | .013 | .000 | .0004 | .0000 | .02 | .0000 | .0004 |
| %RSD | 548.5 | 87.72 | 22.27 | .5347 | .0055 | .2291 | 26.94 | .1891 | 1.230 | 275.5 |
| #1 | .0001 | .0004 | .0117 | 2.468 | 2.545 | .1756 | .0002 | 11.50 | .0003 | .0005 |
| #2 | -.0001 | .0016 | .0085 | 2.450 | 2.545 | .1762 | .0001 | 11.47 | .0003 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0053 | .0013 | .0017 | 4.219 | -.0009 | .1099 | -.0004 | -.0007 | .0001 |
| Stddev | .0024 | .0012 | .0001 | .0003 | .002 | .0000 | .0004 | .0005 | .0001 | .0004 |
| %RSD | 351.0 | 22.92 | 10.03 | 19.59 | .0533 | 3.706 | .4016 | 118.0 | 11.47 | 494.1 |
| #1 | .0023 | -.0044 | .0012 | .0019 | 4.220 | -.0010 | .1102 | -.0001 | -.0007 | -.0002 |
| #2 | -.0010 | -.0061 | .0014 | .0014 | 4.217 | -.0009 | .1096 | -.0007 | -.0006 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0055 | -.0001 |
| Stddev | .0026 | .0001 | .0000 |
| %RSD | 169.4 | 1.110 | 3.944 |
| #1 | .0033 | .0055 | -.0001 |
| #2 | -.0003 | .0054 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.9 | 55067. | 13473. |
| Stddev | 3.5 | 449. | 31. |
| %RSD | .15829 | .81529 | .22836 |
| #1 | 2244.4 | 55384. | 13451. |
| #2 | 2239.4 | 54750. | 13495. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 11:16:57 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0011 | .6319 | .0011 | .1718 | .0506 | .0000 | 49.58 | .0053 | .0108 |
| Stddev | .0003 | .0113 | .0032 | .0003 | .0014 | .0004 | .0002 | .12 | .0003 | .0001 |
| %RSD | 43.01 | 1015. | .5008 | 24.14 | .7971 | .8084 | 2892. | .2341 | 5.031 | .7913 |
| #1 | .0004 | .0069 | .6297 | .0009 | .1708 | .0509 | -.0001 | 49.66 | .0051 | .0109 |
| #2 | .0008 | -.0091 | .6341 | .0012 | .1728 | .0504 | .0001 | 49.50 | .0055 | .0108 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0004 | 56.86 | 10.72 | 5.759 | 1.326 | -.0001 | 20.99 | .0067 | .0006 |
| Stddev | .0001 | .0003 | .20 | .03 | .028 | .004 | .0002 | .04 | .0001 | .0001 |
| %RSD | 31.21 | 93.39 | .3566 | .2758 | .4857 | .2990 | 341.8 | .1758 | .8882 | 25.54 |
| #1 | -.0002 | .0006 | 57.00 | 10.70 | 5.739 | 1.329 | -.0002 | 21.02 | .0067 | .0005 |
| #2 | -.0004 | .0001 | 56.72 | 10.74 | 5.778 | 1.323 | .0001 | 20.97 | .0067 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0086 | .0005 | .0015 | 10.89 | -.0007 | .4386 | .0005 | -.0012 | .0000 |
| Stddev | .0009 | .0028 | .0011 | .0014 | .03 | .0001 | .0015 | .0002 | .0004 | .0001 |
| %RSD | 252.2 | 32.16 | 211.2 | 88.67 | .2956 | 15.10 | .3488 | 50.74 | 33.42 | 1059. |
| #1 | -.0010 | .0067 | -.0003 | .0025 | 10.86 | -.0008 | .4397 | .0003 | -.0015 | .0001 |
| #2 | .0003 | .0106 | .0013 | .0006 | 10.91 | -.0007 | .4375 | .0006 | -.0009 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0003 | .0057 | -.0017 |
| Stddev | .0059 | .0000 | .0002 |
| %RSD | 2208. | .0808 | 9.403 |
| #1 | .0044 | .0057 | -.0018 |
| #2 | -.0039 | .0057 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2226.3 | 55276. | 13530. |
| Stddev | 10.2 | 297. | 29. |
| %RSD | .46018 | .53810 | .21316 |
| #1 | 2233.5 | 55066. | 13550. |
| #2 | 2219.0 | 55487. | 13509. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 11:21:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0037 | .0021 | -.0004 | .2076 | .0270 | .0000 | 149.4 | .0001 | .0001 |
| Stddev | .0002 | .0041 | .0008 | .0010 | .0016 | .0001 | .000 | .4 | .0000 | .0002 |
| %RSD | 61.80 | 110.0 | 36.37 | 256.2 | .7826 | .2473 | 294.2 | .2474 | 12.60 | 141.8 |
| #1 | .0004 | -.0008 | .0015 | -.0011 | .2064 | .0271 | .0000 | 149.7 | .0002 | .0002 |
| #2 | .0002 | -.0066 | .0026 | .0003 | .2087 | .0270 | .0000 | 149.2 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0015 | .0428 | 4.797 | 18.43 | .2423 | .0011 | 41.56 | .0045 | .0007 |
| Stddev | .0003 | .0007 | .0005 | .014 | .01 | .0009 | .0000 | .14 | .0001 | .0003 |
| %RSD | 49.68 | 49.43 | 1.183 | .2933 | .0730 | .3631 | 2.463 | .3401 | 3.094 | 43.11 |
| #1 | .0004 | .0010 | .0432 | 4.807 | 18.42 | .2417 | .0011 | 41.66 | .0045 | .0005 |
| #2 | .0009 | .0020 | .0425 | 4.787 | 18.43 | .2429 | .0012 | 41.46 | .0044 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0109 | .0014 | .0010 | .0019 | 8.916 | -.0014 | .4908 | .0015 | -.0012 | .0001 |
| Stddev | .0020 | .0054 | .0011 | .0006 | .061 | .0002 | .0010 | .0003 | .0004 | .0001 |
| %RSD | 17.94 | 379.0 | 115.4 | 29.94 | .6839 | 13.01 | .2138 | 17.67 | 29.63 | 153.2 |
| #1 | -.0123 | -.0024 | .0018 | .0023 | 8.873 | -.0012 | .4916 | .0013 | -.0014 | .0000 |
| #2 | -.0095 | .0053 | .0002 | .0015 | 8.959 | -.0015 | .4901 | .0017 | -.0009 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | .0090 | -.0012 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 3.488 | 1.220 | 12.38 |
| #1 | .0052 | .0089 | -.0013 |
| #2 | .0050 | .0091 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54366. | 13409. |
| Stddev | 14.5 | 252. | 1. |
| %RSD | .66194 | .46382 | .00481 |
| #1 | 2203.3 | 54544. | 13409. |
| #2 | 2182.7 | 54187. | 13408. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 11:25:31 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1457 | .0050 | -.0002 | .0067 | .0105 | .0000 | 10.79 | .0000 | .0007 |
| Stddev | .0003 | .0098 | .0014 | .0006 | .0002 | .0005 | .000 | .06 | .000 | .0001 |
| %RSD | 153.7 | 6.761 | 28.47 | 272.5 | 2.629 | 4.458 | 369.4 | .5319 | 38.02 | 9.723 |
| #1 | -.0004 | .1526 | .0040 | -.0006 | .0066 | .0108 | .0000 | 10.83 | -.0001 | .0007 |
| #2 | .0000 | .1387 | .0060 | .0002 | .0068 | .0102 | -.0001 | 10.75 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .9988 | 1.387 | 1.500 | .2859 | .0002 | 3.142 | .0005 | .0002 |
| Stddev | .0005 | .0005 | .0002 | .035 | .007 | .0010 | .0000 | .019 | .0000 | .0002 |
| %RSD | 150.0 | 182.4 | .0227 | 2.511 | .4934 | .3591 | .9836 | .6066 | 6.922 | 94.10 |
| #1 | .0000 | .0006 | .9986 | 1.411 | 1.505 | .2867 | .0002 | 3.155 | .0006 | .0001 |
| #2 | .0007 | -.0001 | .9989 | 1.362 | 1.495 | .2852 | .0002 | 3.128 | .0005 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0003 | .0009 | .0018 | 2.441 | -.0008 | .0670 | .0018 | -.0001 | .0011 |
| Stddev | .0014 | .0015 | .0006 | .0003 | .001 | .0003 | .0002 | .0004 | .0003 | .0002 |
| %RSD | 186.0 | 559.5 | 65.75 | 19.35 | .0247 | 38.59 | .3241 | 23.15 | 346.9 | 19.12 |
| #1 | .0002 | -.0008 | .0013 | .0020 | 2.441 | -.0006 | .0672 | .0015 | .0001 | .0013 |
| #2 | -.0018 | .0013 | .0005 | .0015 | 2.441 | -.0011 | .0669 | .0021 | -.0003 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0085 | .0004 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 626.7 | .0457 | 26.87 |
| #1 | -.0048 | .0085 | .0003 |
| #2 | .0030 | .0085 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 54775. | 13380. |
| Stddev | 1.0 | 467. | 50. |
| %RSD | .04554 | .85275 | .37003 |
| #1 | 2236.9 | 54445. | 13345. |
| #2 | 2235.4 | 55106. | 13415. |



Zoom In Zoom Out

Sample Name: MC21083-7F Acquired: 6/3/2013 11:29:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0094 | .0009 | .0002 | .0005 | .0002 | .0000 | .0177 | .0000 | .0002 |
| Stddev | .001 | .0060 | .0002 | .0007 | .0000 | .0001 | .000 | .0030 | .0001 | .0002 |
| %RSD | 8937. | 64.05 | 16.39 | 306.2 | 6.517 | 82.09 | 16.89 | 17.00 | 254.0 | 91.10 |
| #1 | -.0006 | .0051 | .0010 | .0008 | .0005 | .0001 | .0000 | .0198 | .0001 | .0001 |
| #2 | .0005 | .0136 | .0008 | -.0003 | .0004 | .0002 | .0000 | .0156 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | -.0002 | .0190 | -.0064 | -.0001 | .0000 | -.0293 | .0000 | -.0003 |
| Stddev | .0004 | .0002 | .0018 | .0058 | .0137 | .0001 | .0001 | .0091 | .000 | .0008 |
| %RSD | 1081. | 86.19 | 950.8 | 30.41 | 214.3 | 82.53 | 432.2 | 30.97 | 228.4 | 243.4 |
| #1 | .0003 | .0003 | .0011 | .0230 | .0033 | .0000 | .0001 | -.0358 | -.0001 | .0003 |
| #2 | -.0002 | .0001 | -.0014 | .0149 | -.0160 | -.0001 | .0000 | -.0229 | .0000 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0027 | .0004 | .0008 | .0154 | -.0005 | .0000 | -.0001 | -.0002 | .0004 |
| Stddev | .0020 | .0023 | .0005 | .0000 | .0005 | .0000 | .000 | .0003 | .0002 | .0001 |
| %RSD | 362.3 | 84.32 | 128.3 | 2.221 | 3.296 | 8.054 | 314.5 | 236.1 | 107.9 | 28.74 |
| #1 | -.0009 | .0044 | .0000 | .0008 | .0158 | -.0005 | -.0001 | -.0004 | -.0004 | .0005 |
| #2 | .0020 | .0011 | .0008 | .0008 | .0151 | -.0005 | .0000 | .0001 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0040 | .0059 | .0002 |
| Stddev | .0033 | .0000 | .0004 |
| %RSD | 84.07 | .3326 | 179.2 |
| #1 | .0016 | .0059 | -.0001 |
| #2 | .0063 | .0059 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2252.8 | 55028. | 13364. |
| Stddev | 9.2 | 355. | 5. |
| %RSD | .40870 | .64502 | .03648 |
| #1 | 2246.3 | 54777. | 13361. |
| #2 | 2259.4 | 55279. | 13368. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 11:34:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0176 | .7136 | -.0013 | .1046 | .0139 | .0000 | 97.66 | .0060 | .0062 |
| Stddev | .0003 | .0038 | .0011 | .0019 | .0014 | .0000 | .000 | .14 | .0000 | .0002 |
| %RSD | 104.2 | 21.57 | .1602 | 139.3 | 1.361 | .0997 | 97.45 | .1448 | .0590 | 2.908 |
| #1 | -.0001 | -.0203 | .7128 | -.0027 | .1036 | .0139 | .0000 | 97.76 | .0060 | .0061 |
| #2 | -.0004 | -.0149 | .7144 | .0000 | .1056 | .0138 | .0000 | 97.56 | .0060 | .0064 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | 14.36 | 3.491 | 12.46 | 2.500 | .0052 | 116.9 | .0046 | .0018 |
| Stddev | .0003 | .0004 | .02 | .043 | .02 | .000 | .0001 | .2 | .0001 | .0003 |
| %RSD | 106.8 | 53.52 | .1123 | 1.226 | .1756 | .0058 | 1.100 | .1657 | 1.677 | 16.64 |
| #1 | .0004 | .0005 | 14.37 | 3.461 | 12.47 | 2.500 | .0051 | 117.1 | .0047 | .0016 |
| #2 | .0001 | .0010 | 14.34 | 3.521 | 12.44 | 2.501 | .0052 | 116.8 | .0046 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0103 | .0011 | .0035 | 16.85 | -.0011 | .4336 | .0009 | -.0025 | .0004 |
| Stddev | .0017 | .0015 | .0017 | .0010 | .02 | .0000 | .0006 | .0007 | .0010 | .0002 |
| %RSD | 27.18 | 14.37 | 144.1 | 28.24 | .0966 | .2393 | .1390 | 74.48 | 41.63 | 42.49 |
| #1 | -.0051 | .0114 | .0023 | .0028 | 16.84 | -.0011 | .4341 | .0004 | -.0032 | .0003 |
| #2 | -.0076 | .0093 | .0000 | .0042 | 16.87 | -.0011 | .4332 | .0013 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0062 | .0094 | -.0028 |
| Stddev | .0069 | .0000 | .0000 |
| %RSD | 112.1 | .1425 | 1.551 |
| #1 | .0013 | .0095 | -.0028 |
| #2 | .0111 | .0094 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2207.7 | 54768. | 13463. |
| Stddev | 3.8 | 128. | 26. |
| %RSD | .17047 | .23413 | .19130 |
| #1 | 2210.4 | 54858. | 13444. |
| #2 | 2205.1 | 54677. | 13481. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 11:38:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0134 | .8101 | .0016 | .0636 | .0329 | .0000 | 17.70 | .0065 | .0135 |
| Stddev | .0003 | .0002 | .0003 | .0002 | .0003 | .0001 | .000 | .01 | .0001 | .0003 |
| %RSD | 62.76 | 1.412 | .0393 | 14.71 | .4818 | .1801 | 76.22 | .0476 | 2.127 | 2.232 |
| #1 | .0003 | -.0133 | .8099 | .0018 | .0638 | .0329 | .0000 | 17.69 | .0066 | .0133 |
| #2 | .0007 | -.0135 | .8103 | .0014 | .0634 | .0330 | -.0001 | 17.70 | .0064 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0003 | 31.40 | 9.326 | 3.453 | .7798 | .0034 | 5.150 | .0039 | .0006 |
| Stddev | .0001 | .0003 | .08 | .068 | .014 | .0012 | .0000 | .019 | .0000 | .0003 |
| %RSD | 257.6 | 108.4 | .2638 | .7306 | .4070 | .1528 | .2798 | .3675 | .0056 | 43.27 |
| #1 | .0000 | .0001 | 31.34 | 9.277 | 3.443 | .7790 | .0034 | 5.137 | .0039 | .0004 |
| #2 | .0001 | .0006 | 31.46 | 9.374 | 3.463 | .7807 | .0034 | 5.164 | .0039 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0026 | .0017 | .0011 | 6.948 | -.0005 | .2062 | -.0002 | -.0011 | .0001 |
| Stddev | .0033 | .0007 | .0002 | .0011 | .001 | .0002 | .0001 | .0003 | .0000 | .0002 |
| %RSD | 206.0 | 27.76 | 13.27 | 99.09 | .0095 | 48.84 | .0268 | 162.6 | 2.040 | 212.8 |
| #1 | -.0007 | .0032 | .0019 | .0003 | 6.948 | -.0003 | .2062 | .0000 | -.0011 | .0003 |
| #2 | .0040 | .0021 | .0016 | .0019 | 6.947 | -.0007 | .2063 | -.0004 | -.0011 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0076 | .0090 | -.0006 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 72.56 | .3287 | 20.25 |
| #1 | .0114 | .0090 | -.0007 |
| #2 | .0037 | .0090 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.1 | 54672. | 13518. |
| Stddev | .4 | 261. | 36. |
| %RSD | .01905 | .47804 | .26268 |
| #1 | 2240.4 | 54857. | 13544. |
| #2 | 2239.8 | 54487. | 13493. |



Zoom In Zoom Out

Sample Name: MC21083-10F Acquired: 6/3/2013 11:42:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0071 | .0006 | -.0004 | .0161 | .0095 | -.0001 | 6.422 | .0000 | .0007 |
| Stddev | .0006 | .0058 | .0010 | .0000 | .0001 | .0001 | .0000 | .007 | .000 | .0001 |
| %RSD | 452.7 | 81.84 | 176.1 | .7616 | .3797 | .8436 | 24.34 | .1072 | 577.0 | 17.27 |
| #1 | .0003 | .0112 | .0013 | -.0004 | .0161 | .0094 | -.0001 | 6.417 | .0000 | .0006 |
| #2 | -.0006 | .0030 | -.0001 | -.0004 | .0160 | .0096 | -.0001 | 6.427 | .0000 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | .2239 | 2.058 | .9812 | .1034 | .0001 | 2.345 | .0004 | -.0001 |
| Stddev | .0003 | .0003 | .0015 | .014 | .0038 | .0000 | .0001 | .012 | .0002 | .0007 |
| %RSD | 204.9 | 67.46 | .6852 | .6765 | .3823 | .0044 | 77.13 | .5307 | 61.93 | 1001. |
| #1 | .0003 | .0006 | .2228 | 2.048 | .9785 | .1034 | .0001 | 2.336 | .0002 | -.0006 |
| #2 | -.0001 | .0002 | .2250 | 2.068 | .9839 | .1034 | .0000 | 2.354 | .0006 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0016 | .0010 | .0014 | 3.368 | -.0004 | .0537 | -.0001 | .0000 | .0009 |
| Stddev | .0001 | .0020 | .0011 | .0009 | .006 | .0002 | .0000 | .0000 | .0006 | .0003 |
| %RSD | 10.37 | 126.3 | 114.1 | 65.27 | .1779 | 44.94 | .0893 | 8.973 | 15390. | 30.71 |
| #1 | -.0005 | .0002 | .0018 | .0008 | 3.372 | -.0003 | .0536 | -.0001 | -.0004 | .0007 |
| #2 | -.0006 | .0031 | .0002 | .0020 | 3.364 | -.0006 | .0537 | -.0001 | .0004 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0162 | .0077 | -.0001 |
| Stddev | .0014 | .0001 | .0000 |
| %RSD | 8.842 | .7718 | .5135 |
| #1 | .0151 | .0077 | -.0001 |
| #2 | .0172 | .0077 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.7 | 54642. | 13436. |
| Stddev | 2.4 | 31. | 68. |
| %RSD | .10777 | .05687 | .50790 |
| #1 | 2260.9 | 54620. | 13484. |
| #2 | 2264.4 | 54664. | 13388. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 11:47:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0156 | .7472 | .0010 | .1299 | .1108 | -.0001 | 45.92 | .0058 | .0012 |
| Stddev | .0001 | .0017 | .0015 | .0006 | .0002 | .0009 | .0001 | .06 | .0001 | .0000 |
| %RSD | 42.45 | 10.77 | .2036 | 56.20 | .1661 | .8383 | 97.73 | .1335 | 1.939 | 2.179 |
| #1 | -.0004 | -.0167 | .7461 | .0014 | .1300 | .1101 | .0000 | 45.88 | .0059 | .0012 |
| #2 | -.0002 | -.0144 | .7483 | .0006 | .1297 | .1114 | -.0001 | 45.97 | .0057 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0016 | 67.12 | 9.107 | 5.140 | 1.708 | -.0001 | 16.62 | .0022 | .0003 |
| Stddev | .0000 | .0006 | .08 | .091 | .050 | .002 | .0001 | .01 | .0001 | .0005 |
| %RSD | 15.55 | 39.27 | .1171 | 1.001 | .9642 | .1411 | 112.9 | .0558 | 3.121 | 204.2 |
| #1 | -.0002 | .0012 | 67.06 | 9.043 | 5.105 | 1.709 | -.0001 | 16.63 | .0021 | .0006 |
| #2 | -.0003 | .0021 | 67.18 | 9.172 | 5.175 | 1.706 | .0000 | 16.61 | .0022 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0038 | .0018 | .0031 | 14.31 | -.0005 | .4175 | -.0001 | -.0016 | -.0001 |
| Stddev | .0002 | .0009 | .0002 | .0002 | .04 | .0002 | .0002 | .0002 | .0001 | .0000 |
| %RSD | 10.77 | 24.68 | 8.985 | 5.261 | .3055 | 31.45 | .0550 | 290.8 | 9.336 | 42.41 |
| #1 | .0019 | .0045 | .0020 | .0032 | 14.28 | -.0007 | .4173 | .0001 | -.0014 | -.0001 |
| #2 | .0016 | .0031 | .0017 | .0029 | 14.34 | -.0004 | .4176 | -.0002 | -.0017 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0089 | .0048 | -.0024 |
| Stddev | .0012 | .0000 | .0001 |
| %RSD | 13.37 | .4625 | 2.523 |
| #1 | .0081 | .0048 | -.0025 |
| #2 | .0098 | .0048 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2218.9 | 54549. | 13326. |
| Stddev | 8.4 | 15. | 112. |
| %RSD | .37858 | .02681 | .83938 |
| #1 | 2224.8 | 54538. | 13405. |
| #2 | 2212.9 | 54559. | 13247. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 11:51:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.876 | 1.974 | -.0005 | 1.985 | 1.963 | 1.943 | 9.842 | 1.980 | 2.045 |
| Stddev | .0008 | .040 | .001 | .0012 | .000 | .002 | .005 | .019 | .004 | .003 |
| %RSD | .3425 | .4092 | .0318 | 245.5 | .0197 | .0770 | .2505 | .1894 | .1941 | .1338 |
| #1 | .2471 | 9.847 | 1.974 | .0004 | 1.985 | 1.962 | 1.940 | 9.829 | 1.982 | 2.046 |
| #2 | .2483 | 9.904 | 1.975 | -.0014 | 1.985 | 1.964 | 1.946 | 9.855 | 1.977 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.932 | 1.942 | 9.852 | 9.831 | 9.686 | 1.918 | 1.966 | 9.875 | 1.969 | 1.934 |
| Stddev | .001 | .004 | .021 | .030 | .001 | .005 | .002 | .022 | .004 | .003 |
| %RSD | .0621 | .1840 | .2087 | .3009 | .0100 | .2683 | .0896 | .2249 | .1996 | .1622 |
| #1 | 1.931 | 1.940 | 9.838 | 9.810 | 9.685 | 1.915 | 1.968 | 9.859 | 1.971 | 1.936 |
| #2 | 1.933 | 1.945 | 9.867 | 9.852 | 9.686 | 1.922 | 1.965 | 9.890 | 1.966 | 1.932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0058 | 2.007 | 1.996 | .0212 | 1.943 | 1.937 | 1.940 | 1.955 | 1.930 |
| Stddev | .0034 | .0016 | .005 | .004 | .0024 | .001 | .003 | .002 | .003 | .002 |
| %RSD | 236.0 | 27.59 | .2339 | .2120 | 11.22 | .0306 | .1649 | .1115 | .1585 | .0810 |
| #1 | -.0010 | .0070 | 2.010 | 1.999 | .0229 | 1.944 | 1.934 | 1.939 | 1.957 | 1.929 |
| #2 | .0039 | .0047 | 2.004 | 1.993 | .0195 | 1.943 | 1.939 | 1.942 | 1.952 | 1.931 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.916 | -.0043 |
| Stddev | .0012 | .002 | .0000 |
| %RSD | 14.24 | .1249 | 1.120 |
| #1 | -.0091 | 1.918 | -.0044 |
| #2 | -.0074 | 1.915 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.9 | 54370. | 13239. |
| Stddev | 6.8 | 36. | 24. |
| %RSD | .30171 | .06579 | .18383 |
| #1 | 2256.1 | 54345. | 13222. |
| #2 | 2265.7 | 54395. | 13256. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 11:58:02 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0057 | .0011 | -.0003 | .0014 | .0001 | .0000 | .0081 | .0001 | .0001 |
| Stddev | .0011 | .0055 | .0003 | .0004 | .0002 | .0001 | .0001 | .0029 | .0001 | .0001 |
| %RSD | 385.3 | 96.10 | 24.69 | 112.0 | 16.56 | 77.80 | 380.8 | 35.56 | 118.1 | 152.7 |
| #1 | .0010 | .0096 | .0009 | -.0006 | .0012 | .0001 | .0000 | .0060 | .0002 | .0000 |
| #2 | -.0005 | .0018 | .0013 | -.0001 | .0015 | .0002 | .0001 | .0101 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0002 | .0024 | .0177 | -.0039 | .0002 | .0004 | -.0405 | .0001 | -.0002 |
| Stddev | .0008 | .0001 | .0002 | .0125 | .0001 | .0001 | .0001 | .0041 | .0001 | .0002 |
| %RSD | 246.9 | 90.39 | 10.06 | 70.68 | 2.077 | 31.49 | 24.89 | 10.02 | 98.28 | 81.16 |
| #1 | .0009 | -.0001 | .0025 | .0266 | -.0040 | .0002 | .0004 | -.0376 | .0000 | -.0001 |
| #2 | -.0002 | -.0003 | .0022 | .0089 | -.0039 | .0001 | .0003 | -.0434 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0039 | .0008 | .0021 | -.0024 | -.0004 | .0001 | .0003 | .0006 | .0001 |
| Stddev | .0017 | .0065 | .0000 | .0011 | .0001 | .0001 | .0000 | .0003 | .0003 | .0001 |
| %RSD | 136.9 | 167.8 | .7492 | 51.40 | 3.880 | 23.88 | 52.13 | 107.2 | 46.72 | 53.87 |
| #1 | .0025 | .0084 | .0008 | .0013 | -.0023 | -.0004 | .0000 | .0005 | .0004 | .0001 |
| #2 | .0000 | -.0007 | .0008 | .0028 | -.0024 | -.0003 | .0001 | .0001 | .0008 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | .0002 | .0005 |
| Stddev | .0014 | .0000 | .0002 |
| %RSD | 28.10 | 1.324 | 46.99 |
| #1 | -.0061 | .0002 | .0003 |
| #2 | -.0041 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 55412. | 13238. |
| Stddev | 8.1 | 193. | 77. |
| %RSD | .35470 | .34886 | .58034 |
| #1 | 2279.0 | 55276. | 13184. |
| #2 | 2267.6 | 55549. | 13293. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 12:03:18 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0044 | .0035 | .0008 | .0130 | .0096 | .0001 | 13.84 | .0000 | -.0003 |
| Stddev | .0004 | .0029 | .0003 | .0002 | .0007 | .0001 | .0000 | .07 | .000 | .0001 |
| %RSD | 145.8 | 66.04 | 7.597 | 22.23 | 5.303 | .9464 | 27.43 | .4822 | 348.9 | 29.29 |
| #1 | .0000 | .0064 | .0034 | .0006 | .0126 | .0097 | .0001 | 13.89 | .0000 | -.0002 |
| #2 | .0006 | .0023 | .0037 | .0009 | .0135 | .0096 | .0000 | 13.80 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0017 | 1.613 | 1.717 | .0161 | .0004 | 19.11 | .0003 | .0001 |
| Stddev | .0002 | .0004 | .0018 | .004 | .003 | .0000 | .0000 | .11 | .0003 | .0002 |
| %RSD | 45.36 | 195.1 | 107.8 | .2338 | .1850 | .2842 | 8.149 | .5970 | 123.4 | 158.2 |
| #1 | .0006 | .0005 | .0004 | 1.610 | 1.715 | .0160 | .0004 | 19.19 | .0000 | .0000 |
| #2 | .0003 | -.0001 | .0030 | 1.615 | 1.719 | .0161 | .0005 | 19.03 | .0005 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .0006 | .0017 | 3.770 | -.0007 | .0822 | -.0002 | -.0004 | .0005 |
| Stddev | .0011 | .0052 | .0006 | .0002 | .003 | .0005 | .0006 | .0002 | .0006 | .0003 |
| %RSD | 220.4 | 302.3 | 105.8 | 9.813 | .0749 | 68.72 | .6797 | 76.89 | 140.9 | 55.89 |
| #1 | -.0003 | .0054 | .0010 | .0015 | 3.768 | -.0003 | .0826 | -.0003 | .0000 | .0007 |
| #2 | .0013 | -.0019 | .0001 | .0018 | 3.772 | -.0010 | .0818 | -.0001 | -.0008 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0081 | -.0002 |
| Stddev | .0010 | .0000 | .0001 |
| %RSD | 150.8 | .5286 | 57.41 |
| #1 | .0000 | .0081 | -.0001 |
| #2 | .0013 | .0081 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.3 | 54805. | 13444. |
| Stddev | 3.1 | 46. | 22. |
| %RSD | .13740 | .08362 | .16345 |
| #1 | 2262.5 | 54837. | 13459. |
| #2 | 2258.1 | 54773. | 13428. |



Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 12:07:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0063 | .0042 | -.0008 | .0130 | .0101 | .0000 | 13.98 | .0002 | -.0002 |
| Stddev | .0005 | .0067 | .0013 | .0013 | .0006 | .0000 | .000 | .06 | .0001 | .0000 |
| %RSD | 691.8 | 106.4 | 30.94 | 160.5 | 4.329 | .3906 | 224.2 | .4166 | 30.03 | 6.477 |
| #1 | .0003 | .0110 | .0051 | .0001 | .0134 | .0101 | -.0001 | 13.94 | .0002 | -.0002 |
| #2 | -.0004 | .0016 | .0033 | -.0017 | .0126 | .0101 | .0000 | 14.02 | .0002 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0008 | .0059 | 1.579 | 1.720 | .0154 | .0003 | 19.43 | .0001 | .0004 |
| Stddev | .0004 | .0001 | .0016 | .025 | .018 | .0000 | .0000 | .04 | .0001 | .0003 |
| %RSD | 144.8 | 12.36 | 27.91 | 1.569 | 1.076 | .2070 | 1.251 | .2110 | 45.25 | 59.07 |
| #1 | .0000 | .0007 | .0047 | 1.597 | 1.707 | .0154 | .0003 | 19.40 | .0002 | .0006 |
| #2 | .0005 | .0009 | .0070 | 1.562 | 1.733 | .0154 | .0003 | 19.46 | .0001 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0020 | -.0001 | .0010 | 3.801 | -.0007 | .0831 | .0004 | .0001 | .0007 |
| Stddev | .0005 | .0050 | .0001 | .0005 | .005 | .0003 | .0003 | .0004 | .0009 | .0004 |
| %RSD | 555.3 | 248.2 | 61.91 | 45.64 | .1284 | 41.44 | .3876 | 106.0 | 1654. | 54.05 |
| #1 | -.0004 | -.0015 | -.0001 | .0014 | 3.805 | -.0009 | .0829 | .0001 | -.0006 | .0010 |
| #2 | .0003 | .0055 | -.0002 | .0007 | 3.798 | -.0005 | .0834 | .0006 | .0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0070 | -.0005 |
| Stddev | .0009 | .0000 | .0001 |
| %RSD | 45.38 | .0298 | 23.96 |
| #1 | .0013 | .0070 | -.0004 |
| #2 | .0025 | .0070 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.5 | 55124. | 13592. |
| Stddev | 2.3 | 9. | 21. |
| %RSD | .10295 | .01557 | .15567 |
| #1 | 2265.8 | 55118. | 13577. |
| #2 | 2269.1 | 55130. | 13607. |

Zoom In Zoom Out

Sample Name: MC21083-15F Acquired: 6/3/2013 12:11:59 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | .0135 | .0006 | .0149 | .0090 | -.0001 | 9.932 | .0003 | .0039 |
| Stddev | .0005 | .0050 | .0010 | .0007 | .0003 | .0000 | .0000 | .159 | .0001 | .0000 |
| %RSD | 539.1 | 244.1 | 7.354 | 116.2 | 2.184 | .4125 | 51.30 | 1.600 | 16.74 | .1423 |
| #1 | -.0004 | -.0015 | .0142 | .0011 | .0147 | .0089 | -.0001 | 9.820 | .0003 | .0039 |
| #2 | .0003 | .0056 | .0128 | .0001 | .0151 | .0090 | -.0001 | 10.04 | .0004 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0012 | 5.528 | 1.629 | 1.435 | .5691 | .0006 | 2.606 | .0003 | .0001 |
| Stddev | .0003 | .0003 | .083 | .015 | .017 | .0031 | .0001 | .041 | .0000 | .0000 |
| %RSD | 110.9 | 21.76 | 1.496 | .8907 | 1.180 | .5511 | 14.08 | 1.581 | 11.79 | 48.55 |
| #1 | .0005 | .0013 | 5.469 | 1.619 | 1.423 | .5713 | .0006 | 2.577 | .0003 | .0000 |
| #2 | .0001 | .0010 | 5.586 | 1.640 | 1.447 | .5669 | .0005 | 2.635 | .0002 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0067 | .0009 | .0017 | 4.319 | -.0004 | .0673 | .0001 | -.0015 | .0005 |
| Stddev | .0017 | .0008 | .0007 | .0006 | .009 | .0001 | .0010 | .0001 | .0005 | .0000 |
| %RSD | 1190. | 11.39 | 78.02 | 35.59 | .2118 | 24.32 | 1.480 | 87.42 | 30.88 | 8.274 |
| #1 | -.0014 | .0072 | .0004 | .0013 | 4.326 | -.0005 | .0666 | .0002 | -.0012 | .0005 |
| #2 | .0011 | .0061 | .0014 | .0021 | 4.313 | -.0003 | .0680 | .0000 | -.0018 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0121 | -.0004 |
| Stddev | .0043 | .0002 | .0002 |
| %RSD | 676.7 | 1.462 | 46.47 |
| #1 | -.0037 | .0122 | -.0005 |
| #2 | .0024 | .0120 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.5 | 54690. | 13538. |
| Stddev | 1.7 | 290. | 164. |
| %RSD | .07631 | .52957 | 1.2119 |
| #1 | 2252.2 | 54485. | 13654. |
| #2 | 2254.7 | 54895. | 13422. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 12:16:17 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0170 | .2408 | -.0002 | .2988 | .0503 | .0000 | 65.61 | .0021 | .0160 |
| Stddev | .0010 | .0008 | .0007 | .0011 | .0003 | .0002 | .000 | .09 | .0000 | .0002 |
| %RSD | 934.9 | 4.817 | .2716 | 457.7 | .0928 | .3219 | 491.3 | .1427 | 1.848 | 1.261 |
| #1 | .0006 | -.0164 | .2413 | .0005 | .2986 | .0504 | .0000 | 65.68 | .0021 | .0161 |
| #2 | -.0008 | -.0176 | .2404 | -.0010 | .2990 | .0502 | -.0001 | 65.55 | .0020 | .0158 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0016 | 49.97 | 9.307 | 10.47 | 2.861 | .0011 | 28.19 | .0031 | -.0004 |
| Stddev | .0002 | .0007 | .09 | .014 | .02 | .000 | .0003 | .03 | .0001 | .0002 |
| %RSD | 76.38 | 43.12 | .1755 | .1457 | .2174 | .0081 | 29.05 | .0925 | 2.136 | 55.89 |
| #1 | -.0001 | .0021 | 50.04 | 9.317 | 10.45 | 2.861 | .0008 | 28.21 | .0032 | -.0002 |
| #2 | -.0003 | .0011 | 49.91 | 9.297 | 10.49 | 2.861 | .0013 | 28.17 | .0031 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0085 | .0009 | .0031 | 7.741 | -.0007 | .3981 | .0005 | -.0031 | .0001 |
| Stddev | .0011 | .0057 | .0005 | .0000 | .003 | .0001 | .0015 | .0002 | .0002 | .0006 |
| %RSD | 56.91 | 66.87 | 55.45 | .8595 | .0363 | 19.35 | .3718 | 35.67 | 7.515 | 402.9 |
| #1 | -.0026 | .0125 | .0012 | .0031 | 7.739 | -.0006 | .3992 | .0006 | -.0033 | -.0003 |
| #2 | -.0011 | .0045 | .0005 | .0031 | 7.743 | -.0008 | .3971 | .0004 | -.0030 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0100 | .0103 | -.0013 |
| Stddev | .0006 | .0001 | .0005 |
| %RSD | 6.413 | 1.228 | 35.88 |
| #1 | .0096 | .0104 | -.0010 |
| #2 | .0105 | .0102 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2221.1 | 54530. | 13525. |
| Stddev | 3.5 | 30. | 66. |
| %RSD | .15842 | .05559 | .48929 |
| #1 | 2223.5 | 54508. | 13478. |
| #2 | 2218.6 | 54551. | 13572. |



Zoom In Zoom Out

Sample Name: MC21083-17F Acquired: 6/3/2013 12:20:41 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0016 | .0028 | .0001 | .0051 | .0052 | -.0001 | 8.264 | .0000 | -.0003 |
| Stddev | .0003 | .0013 | .0004 | .0005 | .0000 | .0001 | .0001 | .006 | .0001 | .0001 |
| %RSD | 348.2 | 79.21 | 14.46 | 613.9 | .5118 | 1.688 | 95.05 | .0744 | 261.2 | 24.73 |
| #1 | .0003 | .0025 | .0031 | .0005 | .0051 | .0052 | .0000 | 8.260 | .0001 | -.0003 |
| #2 | -.0001 | .0007 | .0025 | -.0003 | .0051 | .0053 | -.0001 | 8.268 | .0000 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0009 | .0300 | 1.322 | .8869 | .0009 | .0002 | 1.222 | -.0001 | .0002 |
| Stddev | .0003 | .0005 | .0006 | .052 | .0107 | .0002 | .0000 | .013 | .0001 | .0004 |
| %RSD | 89.29 | 58.03 | 1.836 | 3.957 | 1.201 | 18.09 | 16.98 | 1.090 | 136.6 | 230.7 |
| #1 | .0001 | .0005 | .0296 | 1.359 | .8794 | .0010 | .0003 | 1.213 | -.0001 | -.0001 |
| #2 | .0006 | .0013 | .0303 | 1.285 | .8944 | .0008 | .0002 | 1.231 | .0000 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0020 | .0007 | .0007 | 3.021 | -.0006 | .0366 | .0001 | -.0002 | .0004 |
| Stddev | .0033 | .0080 | .0000 | .0007 | .005 | .0002 | .0001 | .0002 | .0001 | .0001 |
| %RSD | 146.4 | 404.4 | 2.142 | 98.80 | .1616 | 26.07 | .1382 | 123.1 | 41.87 | 25.28 |
| #1 | -.0046 | .0076 | .0007 | .0002 | 3.017 | -.0005 | .0367 | .0003 | -.0002 | .0004 |
| #2 | .0001 | -.0037 | .0007 | .0013 | 3.024 | -.0007 | .0366 | .0000 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0092 | .0057 | -.0003 |
| Stddev | .0004 | .0000 | .0001 |
| %RSD | 4.198 | .0807 | 27.48 |
| #1 | .0089 | .0057 | -.0004 |
| #2 | .0095 | .0057 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54746. | 13537. |
| Stddev | 2.6 | 225. | 89. |
| %RSD | .11558 | .41155 | .65677 |
| #1 | 2263.2 | 54906. | 13600. |
| #2 | 2259.5 | 54587. | 13474. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 12:25:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0146 | .6297 | -.0006 | .0587 | .0855 | -.0001 | 32.58 | .0057 | .0055 |
| Stddev | .0001 | .0045 | .0018 | .0009 | .0003 | .0002 | .0000 | .11 | .0001 | .0001 |
| %RSD | 20.46 | 31.10 | .2862 | 150.8 | .5682 | .2103 | 10.61 | .3255 | 2.359 | 1.786 |
| #1 | .0003 | -.0178 | .6310 | -.0012 | .0589 | .0854 | -.0001 | 32.65 | .0058 | .0056 |
| #2 | .0005 | -.0114 | .6284 | .0000 | .0585 | .0856 | -.0001 | 32.50 | .0056 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0012 | 17.72 | 7.240 | 3.888 | 2.143 | .0027 | 25.16 | .0046 | .0002 |
| Stddev | .0003 | .0002 | .06 | .004 | .056 | .001 | .0001 | .11 | .0001 | .0001 |
| %RSD | 262.6 | 19.57 | .3444 | .0584 | 1.434 | .0614 | 5.484 | .4262 | 2.751 | 88.71 |
| #1 | .0003 | .0011 | 17.76 | 7.237 | 3.927 | 2.144 | .0028 | 25.24 | .0047 | .0001 |
| #2 | -.0001 | .0014 | 17.68 | 7.243 | 3.848 | 2.142 | .0026 | 25.08 | .0045 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0096 | .0008 | .0025 | 12.68 | -.0005 | .2751 | .0001 | -.0026 | .0005 |
| Stddev | .0008 | .0018 | .0002 | .0007 | .00 | .0001 | .0011 | .0002 | .0003 | .0000 |
| %RSD | 34.96 | 18.73 | 30.53 | 27.12 | .0215 | 17.28 | .4106 | 141.1 | 11.86 | 4.311 |
| #1 | -.0027 | .0084 | .0009 | .0021 | 12.68 | -.0005 | .2759 | .0000 | -.0028 | .0005 |
| #2 | -.0016 | .0109 | .0006 | .0030 | 12.68 | -.0004 | .2743 | .0003 | -.0023 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0457 | -.0022 |
| Stddev | .0005 | .0000 | .0001 |
| %RSD | 7.810 | .0526 | 5.093 |
| #1 | .0056 | .0457 | -.0021 |
| #2 | .0063 | .0457 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.3 | 54889. | 13469. |
| Stddev | 2.8 | 220. | 8. |
| %RSD | .12592 | .40138 | .06171 |
| #1 | 2236.3 | 54733. | 13475. |
| #2 | 2240.3 | 55045. | 13463. |

Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 12:29:19 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0053 | .0757 | -.0003 | .0486 | .0157 | -.0001 | 9.379 | .0008 | .0031 |
| Stddev | .0002 | .0015 | .0014 | .0005 | .0003 | .0001 | .0001 | .016 | .0001 | .0002 |
| %RSD | 47.48 | 28.75 | 1.853 | 153.6 | .6482 | .7128 | 87.70 | .1652 | 9.316 | 6.843 |
| #1 | -.0002 | .0064 | .0748 | -.0007 | .0488 | .0158 | .0000 | 9.368 | .0008 | .0029 |
| #2 | -.0005 | .0042 | .0767 | .0000 | .0484 | .0156 | -.0001 | 9.390 | .0007 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0022 | 11.32 | 3.063 | 1.699 | 1.425 | .0007 | 3.859 | .0013 | -.0001 |
| Stddev | .0000 | .0003 | .02 | .026 | .003 | .001 | .0000 | .012 | .0001 | .0006 |
| %RSD | 1.671 | 11.62 | .1952 | .8536 | .1740 | .0952 | 2.155 | .3144 | 6.843 | 613.7 |
| #1 | .0005 | .0020 | 11.33 | 3.044 | 1.697 | 1.424 | .0007 | 3.851 | .0014 | .0003 |
| #2 | .0004 | .0024 | 11.30 | 3.081 | 1.701 | 1.426 | .0007 | 3.868 | .0012 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0069 | .0006 | .0013 | 4.506 | -.0010 | .0877 | -.0002 | -.0017 | .0001 |
| Stddev | .0000 | .0053 | .0012 | .0006 | .001 | .0003 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 2.928 | 76.93 | 221.8 | 41.76 | .0218 | 26.41 | .1569 | 57.68 | 20.42 | 3.385 |
| #1 | -.0015 | .0106 | -.0003 | .0009 | 4.507 | -.0008 | .0878 | -.0002 | -.0015 | .0001 |
| #2 | -.0015 | .0031 | .0014 | .0017 | 4.506 | -.0012 | .0876 | -.0001 | -.0020 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0296 | .0154 | -.0005 |
| Stddev | .0025 | .0001 | .0001 |
| %RSD | 8.339 | .4576 | 11.40 |
| #1 | .0314 | .0153 | -.0005 |
| #2 | .0279 | .0154 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.9 | 55327. | 13704. |
| Stddev | 5.2 | 18. | 96. |
| %RSD | .23364 | .03203 | .70143 |
| #1 | 2236.2 | 55314. | 13636. |
| #2 | 2243.6 | 55339. | 13772. |



Zoom In Zoom Out

Sample Name: MC21083-20F Acquired: 6/3/2013 12:33:38 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0054 | .0014 | -.0009 | .0004 | .0001 | .0000 | .0080 | -.0001 | -.0001 |
| Stddev | .0000 | .0119 | .0011 | .0001 | .0001 | .0001 | .000 | .0005 | .0001 | .0001 |
| %RSD | .3154 | 219.3 | 78.40 | 14.11 | 31.87 | 76.52 | 137.8 | 5.718 | 109.0 | 58.58 |
| #1 | .0002 | -.0030 | .0022 | -.0008 | .0003 | .0001 | .0000 | .0077 | -.0002 | -.0001 |
| #2 | .0002 | .0139 | .0006 | -.0010 | .0005 | .0002 | .0000 | .0083 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0014 | .0032 | -.0277 | .0074 | .0001 | .0001 | -.0479 | .0001 | -.0005 |
| Stddev | .0001 | .0005 | .0027 | .0004 | .0064 | .0000 | .0002 | .0055 | .0000 | .0004 |
| %RSD | 51.87 | 37.48 | 84.42 | 1.362 | 85.94 | 44.13 | 139.2 | 11.45 | 1.925 | 76.42 |
| #1 | .0003 | .0011 | .0052 | -.0274 | .0029 | .0001 | .0003 | -.0518 | .0001 | -.0008 |
| #2 | .0001 | .0018 | .0013 | -.0280 | .0120 | .0000 | .0000 | -.0440 | .0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0042 | .0007 | .0015 | .0139 | -.0005 | .0000 | -.0006 | .0003 | .0000 |
| Stddev | .0020 | .0014 | .0008 | .0005 | .0004 | .0000 | .000 | .0002 | .0001 | .0001 |
| %RSD | 674.4 | 33.29 | 114.5 | 31.40 | 2.858 | 8.524 | 134.7 | 31.80 | 44.38 | 392.0 |
| #1 | -.0017 | -.0052 | .0013 | .0019 | .0142 | -.0005 | -.0001 | -.0007 | .0002 | .0001 |
| #2 | .0011 | -.0032 | .0001 | .0012 | .0136 | -.0005 | .0000 | -.0005 | .0004 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0068 | .0001 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 72.32 | .2032 | 81.91 |
| #1 | .0121 | .0068 | .0001 |
| #2 | .0039 | .0068 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 54900. | 13340. |
| Stddev | 1.4 | 361. | 4. |
| %RSD | .06110 | .65800 | .03277 |
| #1 | 2246.3 | 55155. | 13337. |
| #2 | 2244.3 | 54644. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 12:38:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 1.894 | .0026 | .0006 | .0038 | .0070 | .0000 | 48.19 | .0003 | .0004 |
| Stddev | .0002 | .020 | .0002 | .0009 | .0004 | .0002 | .0001 | .16 | .0001 | .0000 |
| %RSD | 60.89 | 1.038 | 8.686 | 164.1 | 10.93 | 3.268 | 197.3 | .3306 | 16.70 | 5.102 |
| #1 | .0002 | 1.908 | .0028 | .0012 | .0041 | .0071 | .0000 | 48.30 | .0003 | .0004 |
| #2 | .0004 | 1.880 | .0025 | -.0001 | .0035 | .0068 | .0001 | 48.08 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0019 | .9196 | 45.20 | 45.10 | .0017 | .0007 | 45.97 | .0008 | .0010 |
| Stddev | .0001 | .0010 | .0074 | .11 | .09 | .0001 | .0001 | .17 | .0000 | .0005 |
| %RSD | 24.95 | 50.36 | .8079 | .2534 | .1932 | 3.351 | 13.41 | .3635 | 6.116 | 54.72 |
| #1 | .0003 | .0026 | .9249 | 45.28 | 45.16 | .0017 | .0008 | 46.08 | .0008 | .0013 |
| #2 | .0002 | .0013 | .9144 | 45.12 | 45.04 | .0018 | .0006 | 45.85 | .0008 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0023 | .0012 | .0025 | 2.927 | -.0001 | .0393 | .0008 | -.0002 | -.0002 |
| Stddev | .0004 | .0022 | .0010 | .0006 | .002 | .0001 | .0002 | .0008 | .0002 | .0000 |
| %RSD | 26.01 | 96.73 | 81.10 | 24.45 | .0503 | 115.4 | .5474 | 94.52 | 86.71 | 3.242 |
| #1 | -.0012 | .0039 | .0005 | .0021 | 2.926 | -.0002 | .0392 | .0014 | -.0004 | -.0002 |
| #2 | -.0017 | .0007 | .0020 | .0029 | 2.928 | .0000 | .0395 | .0003 | -.0001 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0030 | .0066 | .0001 |
| Stddev | .0009 | .0001 | .0000 |
| %RSD | 28.72 | 1.173 | 17.37 |
| #1 | .0024 | .0065 | .0001 |
| #2 | .0037 | .0066 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2219.1 | 54948. | 13629. |
| Stddev | 3.4 | 59. | 207. |
| %RSD | .15293 | .10728 | 1.5195 |
| #1 | 2221.5 | 54907. | 13482. |
| #2 | 2216.7 | 54990. | 13775. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 12:42:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.064 | .5173 | -.0003 | .0007 | 1.978 | .4953 | 24.22 | .5121 | .5174 |
| Stddev | .0002 | .013 | .0014 | .0012 | .0001 | .002 | .0001 | .02 | .0011 | .0011 |
| %RSD | .1114 | .6175 | .2700 | 387.1 | 14.42 | .1161 | .0168 | .0699 | .2203 | .2106 |
| #1 | .2011 | 2.073 | .5183 | .0005 | .0007 | 1.979 | .4953 | 24.23 | .5113 | .5166 |
| #2 | .2008 | 2.055 | .5163 | -.0012 | .0006 | 1.976 | .4954 | 24.20 | .5129 | .5182 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5136 | .4747 | 2.032 | 24.80 | 23.96 | .4687 | .0003 | 25.21 | .5046 | .9890 |
| Stddev | .0023 | .0010 | .012 | .04 | .03 | .0009 | .0002 | .05 | .0009 | .0023 |
| %RSD | .4391 | .2205 | .5985 | .1814 | .1370 | .2000 | 50.90 | .1844 | .1823 | .2308 |
| #1 | .5120 | .4754 | 2.023 | 24.83 | 23.93 | .4680 | .0004 | 25.25 | .5039 | .9874 |
| #2 | .5152 | .4739 | 2.040 | 24.77 | 23.98 | .4693 | .0002 | 25.18 | .5052 | .9906 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0008 | .5298 | .5144 | .0217 | -.0020 | .4831 | .4964 | .5031 | .5031 |
| Stddev | .0016 | .0043 | .0003 | .0010 | .0003 | .0004 | .0010 | .0012 | .0010 | .0013 |
| %RSD | 394.5 | 554.6 | .0536 | .1889 | 1.566 | 19.10 | .2067 | .2329 | .2006 | .2517 |
| #1 | -.0007 | -.0038 | .5296 | .5151 | .0220 | -.0023 | .4838 | .4972 | .5024 | .5022 |
| #2 | .0015 | .0023 | .5300 | .5137 | .0215 | -.0017 | .4824 | .4955 | .5038 | .5040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .5053 | -.0016 |
| Stddev | .0006 | .0006 | .0004 |
| %RSD | 31.35 | .1250 | 27.37 |
| #1 | .0022 | .5049 | -.0013 |
| #2 | .0014 | .5058 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2227.1 | 54750. | 13618. |
| Stddev | 4.8 | 284. | 2. |
| %RSD | .21769 | .51899 | .01744 |
| #1 | 2230.5 | 54951. | 13617. |
| #2 | 2223.6 | 54549. | 13620. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 12:46:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2433 | 9.936 | 1.998 | -.0011 | 1.991 | 1.948 | 1.902 | 9.788 | 1.980 | 2.066 |
| Stddev | .0010 | .020 | .012 | .0006 | .004 | .005 | .005 | .021 | .003 | .004 |
| %RSD | .4020 | .2007 | .6012 | 56.10 | .2238 | .2495 | .2635 | .2103 | .1500 | .2006 |
| #1 | .2426 | 9.922 | 1.989 | -.0007 | 1.988 | 1.945 | 1.898 | 9.773 | 1.978 | 2.063 |
| #2 | .2440 | 9.950 | 2.006 | -.0015 | 1.994 | 1.952 | 1.905 | 9.802 | 1.982 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.927 | 1.904 | 9.982 | 9.817 | 9.331 | 1.880 | 1.996 | 9.986 | 2.018 | 1.954 |
| Stddev | .002 | .003 | .052 | .005 | .027 | .000 | .004 | .027 | .003 | .004 |
| %RSD | .1222 | .1321 | .5225 | .0488 | .2905 | .0200 | .2007 | .2678 | .1676 | .1792 |
| #1 | 1.929 | 1.902 | 9.945 | 9.820 | 9.312 | 1.880 | 1.993 | 9.967 | 2.015 | 1.951 |
| #2 | 1.926 | 1.906 | 10.02 | 9.814 | 9.350 | 1.879 | 1.999 | 10.00 | 2.020 | 1.956 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0054 | 2.046 | 2.026 | .0258 | 2.021 | 1.916 | 1.952 | 1.964 | 1.916 |
| Stddev | .0005 | .0119 | .003 | .004 | .0006 | .001 | .005 | .003 | .001 | .001 |
| %RSD | 50.97 | 222.3 | .1225 | .2240 | 2.443 | .0445 | .2425 | .1755 | .0340 | .0243 |
| #1 | .0013 | -.0031 | 2.044 | 2.023 | .0262 | 2.021 | 1.913 | 1.955 | 1.964 | 1.916 |
| #2 | .0006 | .0138 | 2.048 | 2.029 | .0254 | 2.020 | 1.919 | 1.950 | 1.965 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.926 | -.0047 |
| Stddev | .0014 | .004 | .0002 |
| %RSD | 11.84 | .2128 | 3.485 |
| #1 | -.0131 | 1.923 | -.0045 |
| #2 | -.0111 | 1.929 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.9 | 54323. | 13694. |
| Stddev | 3.9 | 307. | 30. |
| %RSD | .17216 | .56534 | .22272 |
| #1 | 2245.6 | 54106. | 13672. |
| #2 | 2240.1 | 54540. | 13716. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 12:54:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0072 | .0020 | -.0004 | .0011 | .0002 | .0001 | .0159 | .0002 | .0002 |
| Stddev | .0001 | .0006 | .0005 | .0005 | .0001 | .0000 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 138.9 | 8.488 | 23.24 | 142.0 | 12.18 | 12.12 | 48.02 | 2.701 | 39.22 | 33.50 |
| #1 | .0000 | .0068 | .0017 | .0000 | .0012 | .0002 | .0001 | .0162 | .0002 | .0003 |
| #2 | -.0002 | .0077 | .0024 | -.0007 | .0011 | .0002 | .0000 | .0156 | .0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0013 | .0000 | .0395 | -.0066 | .0002 | .0005 | -.0369 | .0001 | .0004 |
| Stddev | .0001 | .0001 | .0007 | .0104 | .0089 | .0001 | .0001 | .0016 | .0000 | .0003 |
| %RSD | 61.85 | 5.494 | 3089. | 26.30 | 136.5 | 60.16 | 16.66 | 4.472 | 10.46 | 83.01 |
| #1 | .0000 | .0013 | -.0005 | .0322 | -.0002 | .0003 | .0006 | -.0380 | .0002 | .0002 |
| #2 | .0001 | .0014 | .0005 | .0469 | -.0129 | .0001 | .0005 | -.0357 | .0001 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0031 | .0005 | .0013 | -.0026 | -.0001 | .0000 | .0001 | .0003 | .0001 |
| Stddev | .0017 | .0029 | .0009 | .0002 | .0004 | .0003 | .0001 | .0003 | .0006 | .0005 |
| %RSD | 67.18 | 94.54 | 200.0 | 12.41 | 15.56 | 276.9 | 748.0 | 387.3 | 167.5 | 346.5 |
| #1 | -.0013 | -.0010 | .0011 | .0012 | -.0023 | -.0003 | -.0001 | .0003 | .0007 | -.0002 |
| #2 | -.0037 | -.0052 | -.0002 | .0014 | -.0029 | .0001 | .0001 | -.0001 | -.0001 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0004 | .0002 |
| Stddev | .0010 | .0000 | .0002 |
| %RSD | 25.82 | 10.31 | 76.46 |
| #1 | .0046 | .0004 | .0001 |
| #2 | .0032 | .0004 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2224.1 | 54631. | 13420. |
| Stddev | 1.8 | 237. | 54. |
| %RSD | .08132 | .43463 | .40235 |
| #1 | 2225.4 | 54799. | 13382. |
| #2 | 2222.8 | 54463. | 13458. |



Zoom In Zoom Out

Sample Name: MP21073-MB1 Acquired: 6/3/2013 13:00:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0080 | .0014 | -.0005 | .0005 | .0003 | .0000 | .0000 | .0002 | .0000 |
| Stddev | .0000 | .0012 | .0010 | .0000 | .0002 | .0001 | .0000 | .000 | .0000 | .0001 |
| %RSD | 6.019 | 15.57 | 76.98 | 1.007 | 44.71 | 38.00 | 33.00 | 612.4 | 17.03 | 130.1 |
| #1 | .0001 | .0089 | .0021 | -.0005 | .0003 | .0002 | .0000 | -.0002 | .0002 | .0001 |
| #2 | .0001 | .0071 | .0006 | -.0005 | .0006 | .0004 | .0001 | .0001 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0019 | .0001 | .0068 | .0004 | .0002 | -.0402 | .0001 | -.0004 |
| Stddev | .0002 | .0002 | .0012 | .0088 | .0226 | .0001 | .0001 | .0012 | .0001 | .0012 |
| %RSD | 273.9 | 13.95 | 65.63 | 12480. | 332.3 | 17.97 | 65.29 | 2.968 | 200.1 | 287.6 |
| #1 | -.0003 | .0011 | .0028 | -.0061 | -.0092 | .0005 | .0003 | -.0410 | .0000 | -.0013 |
| #2 | .0001 | .0013 | .0010 | .0063 | .0228 | .0003 | .0001 | -.0393 | .0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0004 | .0006 | .0009 | .0245 | -.0008 | .0000 | -.0004 | -.0003 | .0000 |
| Stddev | .0013 | .0060 | .0007 | .0012 | .0003 | .0001 | .0001 | .0004 | .0002 | .0001 |
| %RSD | 139.8 | 1396. | 119.6 | 127.9 | 1.325 | 6.720 | 483.3 | 116.9 | 72.53 | 169.7 |
| #1 | .0000 | -.0046 | .0001 | .0001 | .0243 | -.0008 | .0001 | -.0007 | -.0004 | .0000 |
| #2 | -.0018 | .0038 | .0011 | .0018 | .0247 | -.0008 | -.0001 | -.0001 | -.0001 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0016 | .0002 | .0003 |
| Stddev | .0042 | .0000 | .0003 |
| %RSD | 263.3 | 20.08 | 94.64 |
| #1 | .0014 | .0003 | .0001 |
| #2 | -.0045 | .0002 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.7 | 55398. | 13657. |
| Stddev | 5.7 | 407. | 113. |
| %RSD | .25609 | .73542 | .83021 |
| #1 | 2224.7 | 55686. | 13737. |
| #2 | 2216.7 | 55110. | 13577. |



Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 13:04:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1999 | 2.056 | 1.101 | .0005 | .2551 | 2.113 | .4873 | 87.70 | .5199 | .5158 |
| Stddev | .0010 | .015 | .000 | .0002 | .0011 | .001 | .0003 | .03 | .0002 | .0004 |
| %RSD | .5208 | .7314 | .0176 | 31.62 | .4349 | .0494 | .0623 | .0395 | .0349 | .0834 |
| #1 | .1992 | 2.046 | 1.101 | .0004 | .2558 | 2.112 | .4871 | 87.73 | .5200 | .5161 |
| #2 | .2006 | 2.067 | 1.101 | .0006 | .2543 | 2.114 | .4875 | 87.68 | .5197 | .5155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5050 | .4731 | 84.48 | 36.04 | 32.36 | 1.567 | .0003 | 40.07 | .5096 | .9907 |
| Stddev | .0018 | .0005 | .07 | .05 | .08 | .000 | .0000 | .01 | .0006 | .0006 |
| %RSD | .3469 | .0970 | .0802 | .1499 | .2345 | .0159 | 5.031 | .0163 | .1174 | .0624 |
| #1 | .5063 | .4734 | 84.43 | 36.08 | 32.41 | 1.567 | .0003 | 40.07 | .5101 | .9911 |
| #2 | .5038 | .4728 | 84.52 | 36.00 | 32.30 | 1.566 | .0003 | 40.08 | .5092 | .9903 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0019 | .5373 | .5185 | 14.00 | -.0015 | 1.205 | .4916 | .4983 | .4958 |
| Stddev | .0007 | .0039 | .0019 | .0035 | .01 | .0002 | .002 | .0010 | .0018 | .0002 |
| %RSD | 24.07 | 202.0 | .3513 | .6756 | .0995 | 11.56 | .1486 | .2052 | .3640 | .0354 |
| #1 | -.0036 | .0046 | .5386 | .5210 | 14.01 | -.0016 | 1.204 | .4923 | .4996 | .4957 |
| #2 | -.0026 | -.0008 | .5359 | .5161 | 13.99 | -.0013 | 1.206 | .4909 | .4970 | .4959 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0078 | .5021 | -.0039 |
| Stddev | .0087 | .0007 | .0001 |
| %RSD | 112.2 | .1445 | 2.307 |
| #1 | -.0016 | .5026 | -.0040 |
| #2 | -.0139 | .5016 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2170.6 | 54877. | 13620. |
| Stddev | 1.1 | 259. | 48. |
| %RSD | .05210 | .47150 | .35419 |
| #1 | 2169.8 | 54695. | 13586. |
| #2 | 2171.4 | 55060. | 13654. |

Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 13:08:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2015 | 2.075 | 1.107 | .0012 | .2578 | 2.122 | .4888 | 88.72 | .5203 | .5173 |
| Stddev | .0007 | .009 | .003 | .0012 | .0002 | .005 | .0020 | .27 | .0009 | .0009 |
| %RSD | .3460 | .4297 | .2225 | 101.2 | .0969 | .2216 | .4134 | .3089 | .1691 | .1781 |
| #1 | .2020 | 2.082 | 1.105 | .0020 | .2579 | 2.125 | .4902 | 88.91 | .5197 | .5167 |
| #2 | .2010 | 2.069 | 1.109 | .0003 | .2576 | 2.119 | .4874 | 88.52 | .5209 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5071 | .4769 | 85.62 | 36.49 | 32.64 | 1.593 | .0002 | 40.45 | .5088 | .9917 |
| Stddev | .0017 | .0014 | .35 | .12 | .24 | .002 | .0000 | .14 | .0004 | .0015 |
| %RSD | .3400 | .2862 | .4055 | .3394 | .7250 | .0991 | 15.30 | .3361 | .0731 | .1552 |
| #1 | .5083 | .4778 | 85.87 | 36.57 | 32.80 | 1.591 | .0003 | 40.54 | .5085 | .9907 |
| #2 | .5059 | .4759 | 85.38 | 36.40 | 32.47 | 1.594 | .0002 | 40.35 | .5090 | .9928 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0006 | .5383 | .5154 | 14.13 | -.0015 | 1.218 | .4956 | .4987 | .4971 |
| Stddev | .0001 | .0102 | .0004 | .0013 | .00 | .0002 | .005 | .0007 | .0005 | .0020 |
| %RSD | 9.577 | 1801. | .0701 | .2498 | .0164 | 13.58 | .3886 | .1507 | .1100 | .4021 |
| #1 | -.0014 | -.0067 | .5380 | .5163 | 14.13 | -.0016 | 1.221 | .4950 | .4991 | .4957 |
| #2 | -.0016 | .0078 | .5385 | .5145 | 14.13 | -.0013 | 1.215 | .4961 | .4983 | .4985 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0082 | .5025 | -.0041 |
| Stddev | .0108 | .0008 | .0004 |
| %RSD | 131.6 | .1608 | 8.581 |
| #1 | -.0159 | .5020 | -.0043 |
| #2 | -.0006 | .5031 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2175.8 | 54496. | 13584. |
| Stddev | .4 | 233. | 8. |
| %RSD | .01911 | .42691 | .06073 |
| #1 | 2175.5 | 54661. | 13590. |
| #2 | 2176.1 | 54332. | 13578. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 13:12:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0078 | .5844 | .0003 | .2563 | .1424 | .0000 | 64.54 | .0052 | -.0007 |
| Stddev | .0001 | .0066 | .0010 | .0011 | .0011 | .0014 | .0000 | .09 | .0001 | .0002 |
| %RSD | 20.19 | 85.27 | .1691 | 409.1 | .4202 | .9977 | 216.2 | .1453 | 1.178 | 23.11 |
| #1 | .0007 | -.0031 | .5837 | .0010 | .2556 | .1434 | .0000 | 64.61 | .0053 | -.0009 |
| #2 | .0005 | -.0125 | .5851 | -.0005 | .2571 | .1414 | .0000 | 64.48 | .0052 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0023 | 83.83 | 11.81 | 8.957 | 1.132 | -.0001 | 14.95 | .0018 | .0003 |
| Stddev | .0001 | .0000 | .17 | .00 | .108 | .001 | .0001 | .04 | .0001 | .0001 |
| %RSD | 27.76 | 1.981 | .1981 | .0327 | 1.210 | .0990 | 123.7 | .2411 | 2.968 | 31.36 |
| #1 | -.0003 | .0024 | 83.94 | 11.82 | 8.880 | 1.131 | -.0001 | 14.98 | .0018 | .0003 |
| #2 | -.0002 | .0023 | 83.71 | 11.81 | 9.034 | 1.133 | .0000 | 14.93 | .0018 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0038 | .0014 | .0026 | 14.04 | -.0003 | .7370 | .0008 | -.0001 | -.0002 |
| Stddev | .0014 | .0006 | .0002 | .0014 | .02 | .0000 | .0013 | .0002 | .0008 | .0015 |
| %RSD | 36.85 | 14.69 | 12.84 | 54.36 | .1396 | 2.818 | .1811 | 26.82 | 1421. | 877.9 |
| #1 | -.0028 | -.0042 | .0015 | .0036 | 14.02 | -.0003 | .7380 | .0006 | .0005 | -.0013 |
| #2 | -.0048 | -.0034 | .0012 | .0016 | 14.05 | -.0003 | .7361 | .0009 | -.0006 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0037 | -.0022 |
| Stddev | .0103 | .0000 | .0001 |
| %RSD | 1333. | 1.110 | 4.944 |
| #1 | -.0065 | .0037 | -.0023 |
| #2 | .0080 | .0037 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.4 | 54734. | 13815. |
| Stddev | 2.6 | 343. | 43. |
| %RSD | .12020 | .62635 | .31382 |
| #1 | 2196.3 | 54976. | 13784. |
| #2 | 2192.6 | 54492. | 13846. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 13:17:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0095 | .5854 | -.0006 | .2547 | .1414 | .0003 | 64.37 | .0052 | -.0018 |
| Stddev | .0011 | .0393 | .0020 | .0011 | .0007 | .0003 | .0001 | .11 | .0006 | .0015 |
| %RSD | 39.14 | 414.9 | .3465 | 169.3 | .2833 | .2239 | 43.15 | .1653 | 12.53 | 83.76 |
| #1 | .0035 | -.0183 | .5839 | -.0014 | .2542 | .1412 | .0003 | 64.29 | .0056 | -.0007 |
| #2 | .0020 | .0373 | .5868 | .0001 | .2552 | .1416 | .0002 | 64.44 | .0047 | -.0028 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0092 | 84.02 | 12.05 | 8.981 | 1.136 | -.0001 | 15.04 | .0023 | .0011 |
| Stddev | .0017 | .0015 | .38 | .22 | .003 | .000 | .0007 | .07 | .0006 | .0019 |
| %RSD | 698.3 | 16.07 | .4539 | 1.833 | .0295 | .0128 | 1147. | .4361 | 23.67 | 172.3 |
| #1 | .0014 | .0103 | 83.75 | 12.20 | 8.983 | 1.136 | .0005 | 14.99 | .0027 | .0025 |
| #2 | -.0009 | .0082 | 84.29 | 11.89 | 8.979 | 1.136 | -.0006 | 15.08 | .0019 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0031 | .0032 | .0054 | 13.63 | -.0027 | .7301 | .0012 | .0027 | .0009 |
| Stddev | .0061 | .0518 | .0024 | .0065 | .03 | .0015 | .0027 | .0000 | .0031 | .0019 |
| %RSD | 125.2 | 1668. | 76.74 | 120.2 | .2036 | 58.12 | .3756 | 2.388 | 113.5 | 212.4 |
| #1 | .0006 | .0397 | .0049 | .0008 | 13.61 | -.0037 | .7282 | .0012 | .0005 | .0022 |
| #2 | .0093 | -.0335 | .0015 | .0101 | 13.65 | -.0016 | .7321 | .0012 | .0049 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0048 | .0050 | -.0009 |
| Stddev | .0114 | .0006 | .0003 |
| %RSD | 237.7 | 12.28 | 38.95 |
| #1 | .0129 | .0055 | -.0007 |
| #2 | -.0033 | .0046 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2231.9 | 55020. | 13629. |
| Stddev | 1.2 | 116. | 6. |
| %RSD | .05459 | .21107 | .04227 |
| #1 | 2232.8 | 55102. | 13634. |
| #2 | 2231.1 | 54938. | 13625. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/3/2013 13:21:33 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0074 | .0009 | .0002 | .0007 | .0001 | .0000 | .0245 | .0001 | -.0002 |
| Stddev | .0003 | .0010 | .0001 | .0004 | .0000 | .0002 | .000 | .0046 | .0000 | .0002 |
| %RSD | 82.79 | 13.99 | 7.219 | 162.8 | 3.822 | 152.7 | 180.0 | 18.79 | 24.61 | 159.7 |
| #1 | .0007 | .0067 | .0010 | .0000 | .0007 | .0000 | -.0001 | .0278 | .0001 | -.0003 |
| #2 | .0002 | .0082 | .0009 | .0005 | .0006 | .0003 | .0000 | .0212 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0018 | .0159 | .0650 | .0102 | .0000 | .0001 | -.0211 | -.0001 | -.0003 |
| Stddev | .0001 | .0008 | .0001 | .0189 | .0123 | .000 | .0001 | .0052 | .0001 | .0012 |
| %RSD | 35.22 | 42.52 | .3360 | 29.04 | 119.8 | 28.32 | 154.0 | 24.67 | 163.3 | 366.6 |
| #1 | .0004 | .0023 | .0160 | .0517 | .0016 | .0000 | .0000 | -.0248 | .0000 | .0005 |
| #2 | .0002 | .0013 | .0159 | .0784 | .0189 | .0000 | .0002 | -.0174 | -.0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0034 | .0006 | .0012 | .0195 | -.0004 | .0001 | -.0007 | -.0005 | -.0002 |
| Stddev | .0023 | .0036 | .0001 | .0007 | .0007 | .0005 | .0001 | .0003 | .0001 | .0007 |
| %RSD | 557.2 | 103.2 | 15.40 | 54.91 | 3.754 | 129.7 | 104.6 | 39.00 | 32.63 | 321.4 |
| #1 | .0012 | .0009 | .0005 | .0008 | .0200 | .0000 | .0000 | -.0009 | -.0004 | .0003 |
| #2 | -.0020 | .0060 | .0007 | .0017 | .0190 | -.0007 | .0001 | -.0005 | -.0006 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0067 | .0005 |
| Stddev | .0013 | .0001 | .0003 |
| %RSD | 83.36 | 1.084 | 60.73 |
| #1 | .0024 | .0068 | .0003 |
| #2 | .0006 | .0067 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2232.0 | 55206. | 13840. |
| Stddev | 2.7 | 17. | 13. |
| %RSD | .12094 | .03011 | .09280 |
| #1 | 2233.9 | 55218. | 13831. |
| #2 | 2230.1 | 55195. | 13849. |

Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/3/2013 13:25:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0078 | .4661 | -.0006 | .0461 | .0421 | .0001 | 22.55 | .0044 | .0077 |
| Stddev | .0007 | .0003 | .0040 | .0001 | .0003 | .0005 | .0000 | .04 | .0001 | .0001 |
| %RSD | 448.7 | 4.267 | .8613 | 21.12 | .6959 | 1.222 | 44.26 | .1896 | 2.825 | 1.085 |
| #1 | -.0006 | -.0081 | .4690 | -.0007 | .0459 | .0417 | .0000 | 22.58 | .0045 | .0076 |
| #2 | .0003 | -.0076 | .4633 | -.0005 | .0463 | .0424 | .0001 | 22.52 | .0043 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0033 | 65.02 | 4.839 | 2.878 | 2.394 | -.0001 | 14.77 | .0069 | -.0011 |
| Stddev | .0004 | .0005 | .06 | .017 | .013 | .001 | .0001 | .01 | .0000 | .0001 |
| %RSD | 52.25 | 14.33 | .0895 | .3527 | .4557 | .0434 | 123.9 | .0930 | .7146 | 7.133 |
| #1 | -.0005 | .0030 | 65.06 | 4.827 | 2.869 | 2.395 | -.0001 | 14.78 | .0070 | -.0011 |
| #2 | -.0010 | .0036 | 64.97 | 4.851 | 2.887 | 2.393 | .0000 | 14.76 | .0069 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0049 | .0012 | .0027 | 10.15 | -.0006 | .0907 | -.0002 | -.0017 | .0002 |
| Stddev | .0005 | .0059 | .0002 | .0011 | .01 | .0001 | .0001 | .0000 | .0000 | .0004 |
| %RSD | 90.75 | 122.2 | 19.48 | 40.93 | .0822 | 10.02 | .1216 | 12.34 | .6318 | 251.4 |
| #1 | .0010 | .0090 | .0011 | .0019 | 10.16 | -.0007 | .0906 | -.0002 | -.0017 | -.0001 |
| #2 | .0002 | .0007 | .0014 | .0034 | 10.15 | -.0006 | .0908 | -.0002 | -.0017 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0078 | -.0009 |
| Stddev | .0069 | .0001 | .0002 |
| %RSD | 123.6 | .6739 | 26.76 |
| #1 | .0007 | .0078 | -.0011 |
| #2 | .0105 | .0077 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.2 | 54685. | 13737. |
| Stddev | 6.0 | 8. | 8. |
| %RSD | .27319 | .01478 | .05530 |
| #1 | 2189.9 | 54690. | 13742. |
| #2 | 2198.4 | 54679. | 13731. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/3/2013 13:30:14 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0109 | .4600 | .0012 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |
| Stddev | .0002 | .0057 | .0006 | .0011 | .0000 | .0001 | .000 | .00 | .0000 | .0000 |
| %RSD | 1258. | 51.82 | .1209 | 95.25 | .0218 | .3216 | 135.6 | .0070 | .1585 | .2140 |
| #1 | .0002 | -.0069 | .4596 | .0004 | .0454 | .0408 | -.0001 | 22.18 | .0043 | .0074 |
| #2 | -.0001 | -.0149 | .4604 | .0020 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0025 | 64.21 | 4.743 | 2.880 | 2.372 | -.0001 | 14.14 | .0066 | .0003 |
| Stddev | .0005 | .0003 | .01 | .020 | .007 | .001 | .0001 | .01 | .0002 | .0005 |
| %RSD | 82.58 | 12.09 | .0166 | .4143 | .2374 | .0383 | 145.8 | .0937 | 2.901 | 163.5 |
| #1 | -.0009 | .0027 | 64.22 | 4.729 | 2.875 | 2.373 | -.0001 | 14.13 | .0067 | .0006 |
| #2 | -.0002 | .0023 | 64.21 | 4.757 | 2.885 | 2.372 | .0000 | 14.15 | .0064 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0073 | .0011 | .0013 | 9.905 | -.0005 | .0892 | .0000 | -.0029 | .0001 |
| Stddev | .0006 | .0007 | .0001 | .0005 | .020 | .0002 | .0001 | .0003 | .0012 | .0001 |
| %RSD | 95.80 | 10.14 | 12.46 | 40.29 | .2013 | 39.67 | .0881 | 1024. | 40.76 | 76.87 |
| #1 | .0010 | .0078 | .0010 | .0017 | 9.891 | -.0007 | .0891 | .0002 | -.0021 | .0002 |
| #2 | .0002 | .0068 | .0011 | .0009 | 9.919 | -.0004 | .0893 | -.0002 | -.0037 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0080 | -.0016 |
| Stddev | .0022 | .0000 | .0003 |
| %RSD | 137.8 | .5316 | 18.20 |
| #1 | .0032 | .0080 | -.0018 |
| #2 | .0000 | .0079 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2209.3 | 54774. | 13796. |
| Stddev | 1.6 | 27. | 73. |
| %RSD | .07295 | .04943 | .52554 |
| #1 | 2208.2 | 54755. | 13745. |
| #2 | 2210.4 | 54794. | 13848. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/3/2013 13:34:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0207 | 5.524 | -.0007 | .0892 | .0253 | .0000 | 44.82 | .0512 | .0200 |
| Stddev | .0004 | .0074 | .011 | .0012 | .0010 | .0002 | .0000 | .05 | .0001 | .0000 |
| %RSD | 226.0 | 35.57 | .1945 | 168.0 | 1.161 | .8460 | 186.2 | .1036 | .2360 | .1661 |
| #1 | -.0005 | -.0155 | 5.517 | -.0015 | .0885 | .0252 | .0001 | 44.85 | .0513 | .0201 |
| #2 | .0001 | -.0260 | 5.532 | .0001 | .0900 | .0255 | .0000 | 44.79 | .0511 | .0200 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0024 | 84.72 | 7.063 | 3.345 | 2.712 | .0005 | 5.654 | .0060 | -.0013 |
| Stddev | .0003 | .0000 | .09 | .042 | .012 | .001 | .0001 | .009 | .0001 | .0001 |
| %RSD | 48.57 | .8763 | .1024 | .5869 | .3576 | .0234 | 23.20 | .1614 | 1.247 | 5.158 |
| #1 | -.0003 | .0024 | 84.78 | 7.034 | 3.337 | 2.712 | .0005 | 5.647 | .0061 | -.0012 |
| #2 | -.0007 | .0025 | 84.66 | 7.093 | 3.354 | 2.712 | .0004 | 5.660 | .0060 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0055 | .0009 | .0018 | 8.906 | -.0006 | .2280 | .0001 | -.0027 | .0002 |
| Stddev | .0008 | .0012 | .0005 | .0007 | .003 | .0002 | .0002 | .0001 | .0006 | .0008 |
| %RSD | 113.1 | 21.42 | 55.65 | 36.01 | .0304 | 35.57 | .0941 | 62.66 | 22.00 | 329.2 |
| #1 | -.0001 | .0047 | .0006 | .0023 | 8.908 | -.0005 | .2282 | .0001 | -.0031 | -.0003 |
| #2 | -.0013 | .0063 | .0013 | .0014 | 8.904 | -.0008 | .2279 | .0001 | -.0023 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0068 | -.0015 |
| Stddev | .0065 | .0001 | .0001 |
| %RSD | 79.70 | 1.076 | 9.148 |
| #1 | .0128 | .0068 | -.0016 |
| #2 | .0036 | .0069 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2198.3 | 55155. | 13734. |
| Stddev | 2.9 | 50. | 54. |
| %RSD | .13051 | .09047 | .38985 |
| #1 | 2200.3 | 55120. | 13696. |
| #2 | 2196.3 | 55190. | 13772. |



Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/3/2013 13:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0086 | .8919 | .0004 | .1216 | .0863 | -.0001 | 51.60 | .0081 | .0000 |
| Stddev | .0007 | .0031 | .0016 | .0006 | .0005 | .0002 | .0001 | .02 | .0000 | .0002 |
| %RSD | 1288. | 35.64 | .1797 | 153.3 | .3898 | .1875 | 143.6 | .0481 | .5914 | 695.3 |
| #1 | .0004 | -.0065 | .8908 | .0009 | .1219 | .0862 | .0000 | 51.61 | .0081 | -.0001 |
| #2 | -.0005 | -.0108 | .8930 | .0000 | .1213 | .0864 | -.0001 | 51.58 | .0082 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0018 | 47.73 | 9.343 | 8.058 | 2.132 | .0007 | 24.15 | .0034 | .0008 |
| Stddev | .0001 | .0001 | .03 | .093 | .003 | .002 | .0000 | .02 | .0000 | .0005 |
| %RSD | 203.0 | 4.766 | .0523 | 1.000 | .0397 | .0793 | 1.886 | .1015 | .1065 | 57.28 |
| #1 | .0000 | .0017 | 47.75 | 9.277 | 8.056 | 2.134 | .0007 | 24.17 | .0034 | .0012 |
| #2 | -.0002 | .0019 | 47.71 | 9.409 | 8.060 | 2.131 | .0007 | 24.14 | .0034 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0051 | .0001 | .0027 | 14.39 | -.0006 | .5587 | .0006 | -.0023 | .0003 |
| Stddev | .0005 | .0006 | .0003 | .0001 | .00 | .0001 | .0005 | .0001 | .0000 | .0000 |
| %RSD | 12.39 | 10.95 | 287.1 | 3.102 | .0026 | 15.42 | .0819 | 17.19 | .5011 | 11.21 |
| #1 | -.0040 | .0055 | -.0001 | .0028 | 14.39 | -.0007 | .5590 | .0007 | -.0023 | .0003 |
| #2 | -.0034 | .0047 | .0003 | .0026 | 14.39 | -.0006 | .5583 | .0006 | -.0023 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0020 | .0047 | -.0023 |
| Stddev | .0035 | .0001 | .0003 |
| %RSD | 172.8 | 1.930 | 11.27 |
| #1 | .0045 | .0048 | -.0022 |
| #2 | -.0005 | .0047 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2181.5 | 54772. | 13621. |
| Stddev | 6.2 | 68. | 64. |
| %RSD | .28207 | .12489 | .47158 |
| #1 | 2185.8 | 54723. | 13666. |
| #2 | 2177.1 | 54820. | 13575. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 13:43:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2422 | 9.930 | 1.996 | -.0002 | 1.990 | 1.941 | 1.882 | 9.752 | 1.978 | 2.060 |
| Stddev | .0002 | .013 | .001 | .0009 | .001 | .004 | .002 | .032 | .001 | .002 |
| %RSD | .0918 | .1333 | .0514 | 454.3 | .0254 | .1868 | .0926 | .3232 | .0358 | .0888 |
| #1 | .2424 | 9.939 | 1.997 | -.0009 | 1.990 | 1.938 | 1.881 | 9.729 | 1.979 | 2.059 |
| #2 | .2420 | 9.921 | 1.995 | .0004 | 1.990 | 1.944 | 1.883 | 9.774 | 1.978 | 2.061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.912 | 1.889 | 9.976 | 9.700 | 9.312 | 1.854 | 1.992 | 9.988 | 2.026 | 1.955 |
| Stddev | .005 | .002 | .007 | .006 | .023 | .004 | .003 | .037 | .000 | .001 |
| %RSD | .2586 | .1180 | .0714 | .0653 | .2488 | .2287 | .1316 | .3665 | .0085 | .0591 |
| #1 | 1.915 | 1.887 | 9.971 | 9.704 | 9.328 | 1.857 | 1.990 | 9.962 | 2.026 | 1.956 |
| #2 | 1.908 | 1.890 | 9.981 | 9.695 | 9.295 | 1.851 | 1.994 | 10.01 | 2.026 | 1.954 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0054 | 2.046 | 2.029 | .0793 | 2.022 | 1.898 | 1.938 | 1.957 | 1.896 |
| Stddev | .0010 | .0051 | .002 | .003 | .0004 | .001 | .000 | .004 | .004 | .000 |
| %RSD | 76.37 | 94.14 | .1109 | .1588 | .5450 | .0434 | .0186 | .1929 | .1855 | .0008 |
| #1 | .0006 | .0018 | 2.045 | 2.031 | .0796 | 2.022 | 1.898 | 1.941 | 1.954 | 1.896 |
| #2 | .0019 | .0090 | 2.048 | 2.027 | .0790 | 2.023 | 1.898 | 1.935 | 1.959 | 1.896 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0140 | 1.916 | -.0049 |
| Stddev | .0045 | .001 | .0002 |
| %RSD | 32.36 | .0286 | 3.808 |
| #1 | -.0108 | 1.916 | -.0047 |
| #2 | -.0172 | 1.916 | -.0050 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.3 | 54467. | 13603. |
| Stddev | .2 | 347. | 79. |
| %RSD | .00995 | .63711 | .57719 |
| #1 | 2220.1 | 54222. | 13659. |
| #2 | 2220.4 | 54712. | 13548. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 13:48:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0132 | F.0028 | -.0006 | .0014 | .0002 | .0001 | .0047 | .0003 |
| Stddev | .0002 | .0020 | .0003 | .0000 | .0007 | .0001 | .0000 | .0006 | .0002 |
| %RSD | 150.4 | 14.89 | 11.27 | .5272 | 48.32 | 50.14 | 7.720 | 12.73 | 69.78 |
| #1 | .0003 | .0146 | .0025 | -.0006 | .0018 | .0003 | .0001 | .0051 | .0001 |
| #2 | .0000 | .0118 | .0030 | -.0006 | .0009 | .0001 | .0001 | .0043 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0003 | .0012 | .0052 | .0183 | .0000 | .0002 | .0006 | -.0398 |
| Stddev | .0001 | .0002 | .0002 | .0005 | .0461 | .002 | .0000 | .0002 | .0027 |
| %RSD | 66.09 | 82.49 | 15.38 | 8.804 | 252.3 | 4081. | 3.219 | 30.67 | 6.670 |
| #1 | .0001 | .0005 | .0013 | .0048 | -.0143 | -.0012 | .0002 | .0007 | -.0417 |
| #2 | .0003 | .0001 | .0010 | .0055 | .0509 | .0011 | .0002 | .0005 | -.0380 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0004 | -.0001 | .0017 | .0025 | -.0038 | .0000 | .0001 |
| Stddev | .0002 | .0004 | .0022 | .0020 | .0013 | .0012 | .0004 | .000 | .0001 |
| %RSD | 47.27 | 53.90 | 501.9 | 2353. | 77.26 | 48.21 | 10.10 | 594.7 | 175.5 |
| #1 | .0005 | .0009 | .0020 | -.0015 | .0026 | .0033 | -.0041 | .0001 | .0000 |
| #2 | .0002 | .0004 | -.0011 | .0013 | .0008 | .0016 | -.0036 | -.0001 | .0001 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0002 | .0013 | .0004 | -.0024 | .0003 | .0006 |
| Stddev | .0003 | .0001 | .0000 | .0070 | .0000 | .0000 |
| %RSD | 139.6 | 4.954 | 10.49 | 295.0 | 4.720 | 5.722 |
| #1 | .0000 | .0013 | .0003 | -.0073 | .0003 | .0006 |
| #2 | .0004 | .0012 | .0004 | .0026 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.4 | 55052. | 13445. |
| Stddev | 2.1 | 146. | 13. |
| %RSD | .09582 | .26588 | .09366 |
| #1 | 2217.9 | 55155. | 13436. |
| #2 | 2214.9 | 54948. | 13454. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/3/2013 13:54:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .4128 | .0002 | .0479 | .0275 | .0000 | 11.46 | .0037 | -.0002 |
| Stddev | .0005 | .0014 | .0000 | .0016 | .0006 | .0001 | .000 | .03 | .0002 | .0001 |
| %RSD | 129.8 | 144.0 | .0020 | 974.6 | 1.161 | .5344 | 130.3 | .2306 | 5.229 | 32.45 |
| #1 | .0008 | .0020 | .4128 | -.0009 | .0483 | .0276 | .0000 | 11.48 | .0036 | -.0002 |
| #2 | .0000 | .0000 | .4128 | .0013 | .0475 | .0274 | -.0001 | 11.45 | .0039 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0013 | 10.12 | 4.389 | 1.222 | .2385 | .0009 | 8.342 | .0153 | .0006 |
| Stddev | .0000 | .0003 | .03 | .061 | .009 | .0005 | .0001 | .006 | .0002 | .0007 |
| %RSD | 5.879 | 25.26 | .2631 | 1.399 | .7347 | .1952 | 7.375 | .0694 | 1.478 | 121.6 |
| #1 | .0005 | .0011 | 10.14 | 4.345 | 1.228 | .2388 | .0009 | 8.346 | .0151 | .0011 |
| #2 | .0005 | .0016 | 10.10 | 4.432 | 1.216 | .2382 | .0008 | 8.338 | .0154 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0053 | .0016 | .0029 | 8.550 | -.0006 | .0911 | .0005 | -.0009 | .0007 |
| Stddev | .0013 | .0038 | .0005 | .0009 | .008 | .0003 | .0002 | .0007 | .0004 | .0005 |
| %RSD | 604.6 | 72.17 | 30.82 | 31.47 | .0940 | 44.35 | .2634 | 143.5 | 40.91 | 75.87 |
| #1 | .0007 | .0026 | .0012 | .0022 | 8.555 | -.0008 | .0913 | .0009 | -.0011 | .0010 |
| #2 | -.0012 | .0079 | .0019 | .0035 | 8.544 | -.0004 | .0909 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0079 | -.0013 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 10.92 | .0430 | 4.248 |
| #1 | .0182 | .0079 | -.0014 |
| #2 | .0156 | .0079 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.2 | 55303. | 13553. |
| Stddev | 3.0 | 65. | 1. |
| %RSD | .13345 | .11791 | .00683 |
| #1 | 2213.3 | 55349. | 13554. |
| #2 | 2209.1 | 55257. | 13552. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/3/2013 13:58:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0108 | 1.164 | .0008 | .2115 | .0974 | .0000 | 53.19 | .0099 | .0032 |
| Stddev | .0002 | .0050 | .000 | .0006 | .0001 | .0007 | .0000 | .19 | .0001 | .0000 |
| %RSD | 1068. | 46.52 | .0373 | 76.05 | .0685 | .7520 | 5.720 | .3631 | .5397 | .6325 |
| #1 | .0001 | -.0143 | 1.165 | .0004 | .2114 | .0969 | .0000 | 53.05 | .0099 | .0032 |
| #2 | -.0001 | -.0072 | 1.164 | .0012 | .2116 | .0979 | .0000 | 53.32 | .0100 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0019 | 93.03 | 13.09 | 6.581 | 2.551 | .0009 | 28.84 | .0052 | -.0002 |
| Stddev | .0004 | .0002 | .32 | .16 | .081 | .009 | .0000 | .08 | .0000 | .0000 |
| %RSD | 66.76 | 8.695 | .3482 | 1.243 | 1.231 | .3464 | 2.508 | .2607 | .4873 | 2.418 |
| #1 | -.0003 | .0021 | 92.80 | 12.98 | 6.524 | 2.545 | .0008 | 28.78 | .0052 | -.0002 |
| #2 | -.0010 | .0018 | 93.26 | 13.21 | 6.638 | 2.557 | .0009 | 28.89 | .0052 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0047 | .0011 | .0021 | 15.71 | -.0008 | .6095 | .0000 | -.0028 | -.0002 |
| Stddev | .002 | .0066 | .0007 | .0001 | .02 | .0000 | .0030 | .0005 | .0012 | .0008 |
| %RSD | 7776. | 140.2 | 68.91 | 3.900 | .1475 | 1.813 | .4850 | 1497. | 43.31 | 495.6 |
| #1 | .0015 | .0000 | .0016 | .0020 | 15.73 | -.0008 | .6074 | -.0003 | -.0019 | -.0008 |
| #2 | -.0016 | .0093 | .0006 | .0021 | 15.69 | -.0008 | .6116 | .0004 | -.0037 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0060 | -.0029 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 177.1 | .3856 | 3.839 |
| #1 | -.0008 | .0060 | -.0030 |
| #2 | .0074 | .0060 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54490. | 13494. |
| Stddev | 2.3 | 136. | 106. |
| %RSD | .10296 | .24924 | .78386 |
| #1 | 2194.6 | 54586. | 13569. |
| #2 | 2191.4 | 54394. | 13420. |

Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/3/2013 14:03:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0096 | 1.939 | .0016 | .1547 | .0742 | -.0001 | 35.61 | .0163 | .0271 |
| Stddev | .0005 | .0064 | .002 | .0001 | .0003 | .0004 | .0000 | .04 | .0001 | .0002 |
| %RSD | 167.7 | 67.27 | .1179 | 4.926 | .1927 | .4814 | 80.84 | .1236 | .6107 | .9146 |
| #1 | -.0001 | -.0050 | 1.937 | .0017 | .1549 | .0744 | -.0001 | 35.64 | .0164 | .0273 |
| #2 | .0006 | -.0141 | 1.940 | .0016 | .1545 | .0739 | .0000 | 35.58 | .0162 | .0269 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0023 | 104.1 | 11.51 | 6.516 | 1.807 | .0033 | 17.28 | .0067 | -.0004 |
| Stddev | .0003 | .0002 | .2 | .04 | .013 | .002 | .0002 | .02 | .0000 | .0001 |
| %RSD | 33.16 | 8.723 | .1459 | .3854 | .1975 | .0975 | 6.769 | .1113 | .1907 | 16.34 |
| #1 | -.0006 | .0025 | 104.2 | 11.54 | 6.525 | 1.806 | .0031 | 17.29 | .0067 | -.0005 |
| #2 | -.0010 | .0022 | 104.0 | 11.48 | 6.507 | 1.808 | .0034 | 17.27 | .0067 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0040 | .0011 | .0029 | 12.25 | -.0003 | .4727 | .0004 | -.0016 | .0000 |
| Stddev | .0008 | .0068 | .0008 | .0011 | .01 | .0003 | .0011 | .0002 | .0002 | .0001 |
| %RSD | 46.79 | 169.1 | 69.40 | 36.32 | .0946 | 97.14 | .2238 | 46.11 | 12.45 | 241.6 |
| #1 | .0022 | -.0008 | .0006 | .0022 | 12.25 | -.0005 | .4735 | .0003 | -.0015 | .0000 |
| #2 | .0011 | .0088 | .0017 | .0037 | 12.24 | -.0001 | .4720 | .0006 | -.0017 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0094 | -.0022 |
| Stddev | .0015 | .0001 | .0002 |
| %RSD | 5.633 | .5709 | 7.899 |
| #1 | .0286 | .0094 | -.0023 |
| #2 | .0264 | .0094 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.5 | 54854. | 13437. |
| Stddev | 4.3 | 57. | 43. |
| %RSD | .19240 | .10400 | .32095 |
| #1 | 2211.5 | 54895. | 13467. |
| #2 | 2217.5 | 54814. | 13406. |



Zoom In Zoom Out

Sample Name: MC21156-10F Acquired: 6/3/2013 14:07:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0058 | .4920 | .0008 | .0908 | .0823 | .0000 | 46.62 | .0042 | .0030 |
| Stddev | .0004 | .0055 | .0028 | .0003 | .0005 | .0005 | .000 | .13 | .0002 | .0002 |
| %RSD | 136.0 | 93.96 | .5667 | 34.84 | .5858 | .6528 | 142.3 | .2757 | 5.090 | 6.807 |
| #1 | .0000 | -.0019 | .4939 | .0011 | .0912 | .0819 | .0000 | 46.53 | .0041 | .0029 |
| #2 | .0006 | -.0097 | .4900 | .0006 | .0904 | .0827 | -.0001 | 46.71 | .0044 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0012 | 19.40 | 6.460 | 6.375 | 2.355 | .0029 | 24.60 | .0044 | .0004 |
| Stddev | .000 | .0008 | .01 | .093 | .102 | .004 | .0001 | .04 | .0000 | .0009 |
| %RSD | 852.4 | 67.82 | .0667 | 1.435 | 1.597 | .1582 | 2.993 | .1490 | .9237 | 248.5 |
| #1 | .0001 | .0017 | 19.39 | 6.394 | 6.303 | 2.352 | .0030 | 24.57 | .0044 | -.0003 |
| #2 | -.0001 | .0006 | 19.41 | 6.525 | 6.447 | 2.357 | .0029 | 24.62 | .0044 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0054 | .0010 | .0014 | 12.53 | -.0010 | .3320 | .0003 | -.0025 | .0004 |
| Stddev | .0009 | .0018 | .0014 | .0006 | .02 | .0003 | .0002 | .0004 | .0010 | .0002 |
| %RSD | 215.8 | 33.68 | 135.9 | 40.92 | .1604 | 25.91 | .0559 | 126.0 | 38.19 | 49.01 |
| #1 | .0011 | .0042 | .0020 | .0010 | 12.54 | -.0011 | .3321 | .0006 | -.0018 | .0003 |
| #2 | -.0002 | .0067 | .0000 | .0018 | 12.51 | -.0008 | .3319 | .0000 | -.0032 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0108 | .0071 | -.0022 |
| Stddev | .0017 | .0000 | .0001 |
| %RSD | 15.99 | .2398 | 5.797 |
| #1 | .0120 | .0071 | -.0023 |
| #2 | .0096 | .0071 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2222.2 | 54642. | 13505. |
| Stddev | 1.2 | 374. | 107. |
| %RSD | .05426 | .68503 | .79036 |
| #1 | 2223.0 | 54906. | 13580. |
| #2 | 2221.3 | 54377. | 13429. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0319 | 3.402 | .0011 | .0345 | .0176 | .0000 | 28.05 |
| Stddev | .0001 | .0058 | .005 | .0002 | .0003 | .0000 | .0001 | .02 |
| %RSD | 19.34 | 18.25 | .1502 | 17.38 | .7607 | .0414 | 217.8 | .0688 |
| #1 | .0004 | -.0360 | 3.399 | .0012 | .0347 | .0176 | .0000 | 28.03 |
| #2 | .0005 | -.0278 | 3.406 | .0010 | .0344 | .0176 | .0001 | 28.06 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0284 | .0061 | -.0001 | .0014 | 55.09 | 3.633 | 2.722 | 5.927 |
| Stddev | .0003 | .0002 | .0001 | .0009 | .01 | .023 | .005 | .054 |
| %RSD | .9013 | 2.731 | 154.0 | 64.40 | .0212 | .6269 | .1975 | .9162 |
| #1 | .0282 | .0060 | .0000 | .0021 | 55.10 | 3.649 | 2.718 | 5.889 |
| #2 | .0286 | .0062 | -.0002 | .0008 | 55.09 | 3.617 | 2.726 | 5.965 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 5.436 | .0090 | -.0006 | .0014 | .0207 | .0008 | .0033 |
| Stddev | .0000 | .017 | .0001 | .0003 | .0002 | .0002 | .0002 | .0011 |
| %RSD | 19.95 | .3189 | 1.152 | 48.73 | 10.92 | .7672 | 21.53 | 32.69 |
| #1 | -.0002 | 5.424 | .0090 | -.0004 | .0013 | .0206 | .0009 | .0025 |
| #2 | -.0001 | 5.448 | .0091 | -.0008 | .0015 | .0208 | .0007 | .0041 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 8.326 | -.0005 | .0946 | .0001 | F-.0053 | .0001 | .0005 | .0100 |
| Stddev | .002 | .0001 | .0001 | .0001 | .0008 | .0007 | .0083 | .0001 |
| %RSD | .0259 | 24.54 | .0739 | 91.93 | 15.21 | 860.5 | 1695. | 1.117 |
| #1 | 8.324 | -.0005 | .0946 | .0000 | -.0048 | -.0004 | .0064 | .0099 |
| #2 | 8.327 | -.0004 | .0945 | .0002 | -.0059 | .0006 | -.0054 | .0100 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0011 |
| Stddev | .0005 |
| %RSD | 47.53 |
| #1 | -.0007 |
| #2 | -.0014 |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.4 | 54718. | 13502. |
| Stddev | 1.4 | 70. | 98. |
| %RSD | .06218 | .12708 | .72470 |
| #1 | 2232.4 | 54669. | 13571. |
| #2 | 2234.3 | 54767. | 13432. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/3/2013 14:16:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0173 | .6605 | -.0004 | .1464 | .0477 | .0000 | 56.00 | .0054 | -.0001 |
| Stddev | .0000 | .0021 | .0002 | .0007 | .0006 | .0002 | .0001 | .06 | .0000 | .0001 |
| %RSD | 40.07 | 11.98 | .0233 | 160.8 | .4018 | .5235 | 372.5 | .0997 | .0874 | 72.29 |
| #1 | .0000 | -.0187 | .6606 | -.0009 | .1460 | .0475 | .0000 | 56.04 | .0054 | -.0001 |
| #2 | .0000 | -.0158 | .6604 | .0001 | .1469 | .0478 | .0001 | 55.96 | .0054 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0011 | 40.52 | 8.337 | 8.107 | 2.788 | .0004 | 45.96 | .0009 | .0006 |
| Stddev | .0003 | .0008 | .05 | .025 | .007 | .013 | .0002 | .10 | .0002 | .0002 |
| %RSD | 111.7 | 75.03 | .1329 | .3010 | .0881 | .4745 | 36.22 | .2238 | 27.29 | 31.96 |
| #1 | -.0005 | .0017 | 40.56 | 8.319 | 8.112 | 2.797 | .0006 | 46.03 | .0010 | .0005 |
| #2 | -.0001 | .0005 | 40.48 | 8.355 | 8.102 | 2.778 | .0003 | 45.89 | .0007 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0080 | .0007 | .0021 | 13.90 | -.0008 | .3085 | .0006 | -.0030 | .0002 |
| Stddev | .0006 | .0025 | .0007 | .0002 | .01 | .0001 | .0004 | .0004 | .0008 | .0001 |
| %RSD | 31.70 | 31.75 | 95.38 | 7.898 | .0524 | 12.95 | .1135 | 66.36 | 26.81 | 58.77 |
| #1 | -.0024 | .0062 | .0011 | .0020 | 13.90 | -.0007 | .3088 | .0003 | -.0035 | .0004 |
| #2 | -.0015 | .0097 | .0002 | .0023 | 13.91 | -.0008 | .3083 | .0009 | -.0024 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0067 | -.0021 |
| Stddev | .0028 | .0001 | .0002 |
| %RSD | 49.15 | 2.028 | 11.54 |
| #1 | .0077 | .0066 | -.0019 |
| #2 | .0038 | .0068 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.3 | 54683. | 13579. |
| Stddev | 1.5 | 781. | 7. |
| %RSD | .06707 | 1.4285 | .04809 |
| #1 | 2228.3 | 54130. | 13584. |
| #2 | 2230.4 | 55235. | 13575. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/3/2013 14:20:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0096 | .0030 | -.0004 | .0256 | .0321 | .0000 | 13.55 | .0002 | .0007 |
| Stddev | .0000 | .0102 | .0005 | .0004 | .0002 | .0000 | .0000 | .01 | .0001 | .0001 |
| %RSD | 10.06 | 106.4 | 17.72 | 101.2 | .9166 | .1433 | 75.59 | .0811 | 37.51 | 16.12 |
| #1 | .0001 | .0168 | .0034 | -.0001 | .0254 | .0321 | .0000 | 13.56 | .0002 | .0008 |
| #2 | .0001 | .0024 | .0026 | -.0006 | .0258 | .0322 | .0001 | 13.55 | .0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0026 | .1740 | 2.813 | 2.570 | .3606 | .0001 | 6.583 | .0029 | .0006 |
| Stddev | .0001 | .0008 | .0017 | .045 | .017 | .0009 | .0001 | .018 | .0001 | .0003 |
| %RSD | 49.70 | 32.22 | .9510 | 1.595 | .6411 | .2572 | 157.4 | .2738 | 2.821 | 60.30 |
| #1 | .0003 | .0031 | .1752 | 2.782 | 2.559 | .3613 | .0000 | 6.596 | .0030 | .0003 |
| #2 | .0002 | .0020 | .1728 | 2.845 | 2.582 | .3600 | .0002 | 6.570 | .0029 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0008 | .0008 | .0005 | 3.222 | -.0003 | .0916 | -.0001 | .0003 | .0006 |
| Stddev | .0016 | .0033 | .0004 | .0001 | .004 | .0003 | .0002 | .0006 | .0010 | .0001 |
| %RSD | 345.1 | 426.0 | 45.75 | 28.57 | .1158 | 103.6 | .2169 | 523.0 | 368.5 | 17.73 |
| #1 | -.0015 | -.0016 | .0006 | .0006 | 3.219 | -.0001 | .0915 | .0003 | .0010 | .0006 |
| #2 | .0006 | .0031 | .0011 | .0004 | 3.224 | -.0005 | .0918 | -.0005 | -.0004 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .0083 | -.0003 |
| Stddev | .0035 | .0001 | .0001 |
| %RSD | 192.6 | .6961 | 27.76 |
| #1 | -.0007 | .0084 | -.0003 |
| #2 | .0043 | .0083 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54936. | 13491. |
| Stddev | 1.0 | 49. | 19. |
| %RSD | .04485 | .08925 | .14158 |
| #1 | 2262.1 | 54901. | 13478. |
| #2 | 2260.7 | 54971. | 13505. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/3/2013 14:24:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0102 | .0038 | .0002 | .0648 | .0612 | .0000 | 29.92 | .0001 | .0004 |
| Stddev | .0002 | .0055 | .0001 | .0002 | .0003 | .0009 | .0001 | .09 | .0002 | .0000 |
| %RSD | 481.0 | 53.64 | 3.025 | 98.16 | .3980 | 1.408 | 223.1 | .2996 | 314.0 | .6683 |
| #1 | -.0001 | .0063 | .0039 | .0003 | .0646 | .0606 | .0001 | 29.86 | -.0001 | .0004 |
| #2 | .0002 | .0141 | .0037 | .0001 | .0650 | .0618 | .0000 | 29.99 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0023 | .0578 | 4.464 | 4.299 | .4808 | .0003 | 18.29 | .0032 | .0006 |
| Stddev | .0001 | .0005 | .0017 | .006 | .076 | .0005 | .0001 | .05 | .0002 | .0002 |
| %RSD | 29.66 | 21.30 | 3.003 | .1326 | 1.761 | .1042 | 30.63 | .2500 | 6.709 | 25.37 |
| #1 | -.0003 | .0020 | .0590 | 4.468 | 4.245 | .4804 | .0003 | 18.26 | .0034 | .0007 |
| #2 | -.0002 | .0027 | .0566 | 4.460 | 4.352 | .4811 | .0002 | 18.33 | .0031 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | .0009 | .0014 | .0017 | 5.185 | -.0006 | .2062 | -.0002 | -.0012 | .0007 |
| Stddev | .0006 | .0072 | .0002 | .0011 | .002 | .0007 | .0002 | .0000 | .0000 | .0004 |
| %RSD | 25.84 | 823.4 | 15.66 | 67.34 | .0465 | 106.1 | .1209 | 22.21 | 3.473 | 60.93 |
| #1 | -.0027 | -.0042 | .0013 | .0009 | 5.183 | -.0011 | .2060 | -.0002 | -.0012 | .0010 |
| #2 | -.0019 | .0060 | .0016 | .0024 | 5.186 | -.0002 | .2064 | -.0002 | -.0013 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0073 | -.0006 |
| Stddev | .0029 | .0000 | .0002 |
| %RSD | 154.8 | .1926 | 25.04 |
| #1 | .0039 | .0073 | -.0007 |
| #2 | -.0002 | .0074 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.9 | 54717. | 13479. |
| Stddev | 1.5 | 226. | 226. |
| %RSD | .06819 | .41378 | 1.6769 |
| #1 | 2260.8 | 54557. | 13638. |
| #2 | 2263.0 | 54877. | 13319. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/3/2013 14:29:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0039 | .0026 | -.0009 | .0645 | .0616 | .0000 | 29.68 | .0002 | .0007 |
| Stddev | .0003 | .0022 | .0009 | .0006 | .0002 | .0004 | .000 | .04 | .0001 | .0000 |
| %RSD | 185.7 | 58.35 | 36.80 | 72.31 | .3016 | .7158 | 125.6 | .1510 | 59.84 | .7104 |
| #1 | .0000 | .0023 | .0032 | -.0004 | .0644 | .0612 | .0000 | 29.65 | .0003 | .0007 |
| #2 | .0003 | .0054 | .0019 | -.0013 | .0647 | .0619 | -.0001 | 29.71 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0020 | .0596 | 4.437 | 4.299 | .4782 | .0004 | 18.36 | .0034 | -.0004 |
| Stddev | .0004 | .0004 | .0002 | .031 | .002 | .0002 | .0000 | .02 | .0000 | .0004 |
| %RSD | 70.68 | 17.90 | .4125 | .6974 | .0455 | .0460 | .5666 | .0945 | .6005 | 90.99 |
| #1 | .0002 | .0023 | .0594 | 4.415 | 4.298 | .4784 | .0004 | 18.34 | .0034 | -.0001 |
| #2 | .0007 | .0018 | .0598 | 4.458 | 4.301 | .4780 | .0004 | 18.37 | .0034 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0054 | .0011 | .0027 | 5.170 | -.0005 | .2046 | .0002 | -.0008 | .0011 |
| Stddev | .0018 | .0045 | .0002 | .0005 | .010 | .0005 | .0005 | .0003 | .0003 | .0008 |
| %RSD | 141.9 | 82.81 | 18.01 | 20.03 | .1958 | 103.5 | .2649 | 128.8 | 30.11 | 74.26 |
| #1 | .0000 | .0022 | .0010 | .0031 | 5.163 | -.0001 | .2050 | .0000 | -.0010 | .0005 |
| #2 | -.0025 | .0086 | .0013 | .0023 | 5.177 | -.0008 | .2042 | .0004 | -.0007 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0112 | -.0007 |
| Stddev | .0070 | .0000 | .0003 |
| %RSD | 28.61 | .1816 | 42.46 |
| #1 | .0194 | .0112 | -.0005 |
| #2 | .0292 | .0112 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.0 | 54567. | 13445. |
| Stddev | 8.8 | 58. | 96. |
| %RSD | .39280 | .10597 | .71065 |
| #1 | 2250.2 | 54526. | 13513. |
| #2 | 2237.8 | 54608. | 13378. |

Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/3/2013 14:33:26 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0166 | .4798 | .0000 | .0325 | .0369 | .0000 | 23.75 | .0041 | .0008 |
| Stddev | .000 | .0127 | .0028 | .000 | .0004 | .0001 | .000 | .09 | .0001 | .0001 |
| %RSD | 209.9 | 76.29 | .5826 | 204.3 | 1.310 | .3679 | 177.2 | .3746 | 2.025 | 10.56 |
| #1 | .0000 | -.0256 | .4818 | -.0001 | .0328 | .0368 | -.0001 | 23.68 | .0040 | .0007 |
| #2 | -.0001 | -.0076 | .4778 | .0000 | .0322 | .0370 | .0000 | 23.81 | .0041 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0014 | 29.26 | 3.299 | 2.976 | 1.620 | .0001 | 9.642 | .0025 | -.0001 |
| Stddev | .0004 | .0002 | .10 | .030 | .018 | .001 | .0001 | .058 | .0002 | .0001 |
| %RSD | 453.4 | 10.66 | .3435 | .9256 | .6137 | .0366 | 103.3 | .6023 | 6.151 | 194.7 |
| #1 | .0004 | .0015 | 29.19 | 3.277 | 2.963 | 1.620 | .0002 | 9.601 | .0024 | -.0001 |
| #2 | -.0002 | .0013 | 29.33 | 3.320 | 2.989 | 1.619 | .0000 | 9.683 | .0026 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0029 | .0009 | .0020 | 8.773 | -.0010 | .2440 | .0003 | -.0022 | -.0004 |
| Stddev | .0017 | .0025 | .0007 | .0006 | .017 | .0001 | .0013 | .0002 | .0008 | .0008 |
| %RSD | 228.4 | 86.11 | 78.51 | 29.84 | .1973 | 11.81 | .5148 | 58.35 | 35.98 | 191.9 |
| #1 | .0005 | .0011 | .0004 | .0016 | 8.786 | -.0009 | .2431 | .0004 | -.0016 | .0001 |
| #2 | -.0020 | .0046 | .0014 | .0024 | 8.761 | -.0011 | .2449 | .0002 | -.0028 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0089 | -.0014 |
| Stddev | .0050 | .0000 | .0002 |
| %RSD | 307.4 | .4122 | 11.54 |
| #1 | .0052 | .0090 | -.0015 |
| #2 | -.0019 | .0089 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.4 | 54607. | 13527. |
| Stddev | 9.0 | 70. | 45. |
| %RSD | .40218 | .12770 | .33547 |
| #1 | 2241.0 | 54558. | 13495. |
| #2 | 2253.8 | 54657. | 13559. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 14:37:45 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.853 | 1.973 | -.0015 | 1.973 | 1.941 | 1.909 | 9.764 | 1.959 | 2.038 |
| Stddev | .0004 | .025 | .001 | .0007 | .001 | .003 | .002 | .040 | .001 | .001 |
| %RSD | .1559 | .2521 | .0639 | 50.46 | .0353 | .1302 | .0822 | .4057 | .0629 | .0553 |
| #1 | .2434 | 9.836 | 1.974 | -.0020 | 1.973 | 1.939 | 1.908 | 9.736 | 1.959 | 2.038 |
| #2 | .2440 | 9.871 | 1.972 | -.0009 | 1.972 | 1.942 | 1.911 | 9.792 | 1.958 | 2.039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.926 | 1.909 | 9.865 | 9.744 | 9.426 | 1.894 | 1.967 | 9.861 | 1.980 | 1.931 |
| Stddev | .005 | .003 | .004 | .042 | .014 | .006 | .001 | .026 | .001 | .001 |
| %RSD | .2412 | .1454 | .0432 | .4306 | .1446 | .2977 | .0496 | .2675 | .0307 | .0435 |
| #1 | 1.923 | 1.911 | 9.862 | 9.774 | 9.436 | 1.890 | 1.966 | 9.843 | 1.981 | 1.932 |
| #2 | 1.929 | 1.907 | 9.868 | 9.714 | 9.417 | 1.898 | 1.968 | 9.880 | 1.980 | 1.931 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0093 | 2.012 | 1.999 | .0165 | 1.972 | 1.913 | 1.939 | 1.942 | 1.916 |
| Stddev | .0021 | .0011 | .003 | .003 | .0009 | .001 | .003 | .003 | .001 | .006 |
| %RSD | 98.22 | 11.44 | .1470 | .1481 | 5.548 | .0613 | .1737 | .1679 | .0275 | .2926 |
| #1 | .0007 | .0086 | 2.010 | 2.001 | .0159 | 1.973 | 1.911 | 1.937 | 1.941 | 1.912 |
| #2 | .0037 | .0101 | 2.014 | 1.997 | .0172 | 1.971 | 1.916 | 1.942 | 1.942 | 1.920 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | 1.910 | -.0049 |
| Stddev | .0001 | .000 | .0005 |
| %RSD | 1.235 | .0118 | 9.289 |
| #1 | -.0073 | 1.910 | -.0052 |
| #2 | -.0074 | 1.910 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.2 | 54530. | 13586. |
| Stddev | 1.8 | 473. | 34. |
| %RSD | .07853 | .86755 | .24861 |
| #1 | 2267.4 | 54865. | 13562. |
| #2 | 2264.9 | 54196. | 13610. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 14:42:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0108 | F.0032 | -.0003 | .0018 | .0003 | .0002 | .0105 | -.0001 |
| Stddev | .0002 | .0094 | .0003 | .0016 | .0004 | .0002 | .0000 | .0011 | .0001 |
| %RSD | 667.9 | 87.37 | 9.264 | 515.7 | 21.02 | 71.24 | 12.81 | 10.63 | 179.2 |
| #1 | -.0001 | .0174 | .0030 | .0008 | .0020 | .0005 | .0002 | .0097 | .0000 |
| #2 | .0001 | .0041 | .0035 | -.0015 | .0015 | .0002 | .0002 | .0113 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0010 | .0051 | .0275 | .0111 | .0003 | .0006 | -.0304 |
| Stddev | .000 | .0000 | .0002 | .0003 | .0133 | .0062 | .0001 | .0001 | .0123 |
| %RSD | 2412. | 3.341 | 19.53 | 6.467 | 48.42 | 55.62 | 32.90 | 19.70 | 40.60 |
| #1 | .0001 | .0006 | .0009 | .0053 | .0369 | .0155 | .0002 | .0007 | -.0217 |
| #2 | -.0002 | .0006 | .0012 | .0048 | .0181 | .0068 | .0003 | .0006 | -.0391 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | .0015 | -.0036 | .0005 | .0020 | -.0048 | .0001 | .0002 |
| Stddev | .0001 | .0006 | .0004 | .0002 | .0005 | .0001 | .0006 | .0004 | .0000 |
| %RSD | 110.0 | 269.0 | 30.59 | 6.562 | 97.59 | 3.937 | 12.58 | 332.9 | 10.25 |
| #1 | .0002 | -.0002 | .0011 | -.0037 | .0002 | .0020 | -.0052 | .0004 | .0002 |
| #2 | .0000 | .0006 | .0018 | -.0034 | .0009 | .0019 | -.0044 | -.0002 | .0002 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0008 | -.0021 | .0001 | .0005 |
| Stddev | .0003 | .0000 | .0006 | .0023 | .0000 | .0000 |
| %RSD | 89.36 | 3.349 | 71.44 | 109.9 | 35.22 | 9.199 |
| #1 | .0006 | .0009 | .0012 | -.0005 | .0001 | .0005 |
| #2 | .0001 | .0009 | .0004 | -.0038 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55360. | 13485. |
| Stddev | 8.1 | 398. | 90. |
| %RSD | .35935 | .71932 | .66939 |
| #1 | 2273.1 | 55078. | 13421. |
| #2 | 2261.6 | 55642. | 13548. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/3/2013 14:52:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .6101 | -.0018 | .1223 | .0663 | .0000 | 40.06 | .0053 | .0015 |
| Stddev | .0000 | .0031 | .0002 | .0017 | .0003 | .0024 | .000 | 1.29 | .0000 | .0000 |
| %RSD | 4.508 | 459.7 | .0335 | 93.71 | .2229 | 3.687 | 20.55 | 3.223 | .0951 | .0577 |
| #1 | .0001 | .0029 | .6100 | -.0006 | .1221 | .0646 | .0000 | 39.15 | .0053 | .0015 |
| #2 | .0002 | -.0015 | .6103 | -.0029 | .1225 | .0680 | .0000 | 40.97 | .0053 | .0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0019 | 55.88 | 10.28 | 5.157 | 1.312 | .0001 | 26.00 | .0023 | .0000 |
| Stddev | .000 | .0002 | 1.87 | .24 | .164 | .009 | .0000 | .80 | .0001 | .0001 |
| %RSD | 1376. | 10.54 | 3.351 | 2.315 | 3.174 | .6801 | 20.82 | 3.080 | 4.141 | 241.1 |
| #1 | -.0003 | .0017 | 54.56 | 10.11 | 5.041 | 1.318 | .0001 | 25.43 | .0024 | .0000 |
| #2 | .0002 | .0020 | 57.21 | 10.45 | 5.273 | 1.306 | .0001 | 26.56 | .0023 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0022 | .0011 | .0025 | 12.30 | -.0008 | .2938 | .0000 | -.0012 | .0003 |
| Stddev | .0022 | .0012 | .0001 | .0010 | .01 | .0001 | .0100 | .0001 | .0010 | .0004 |
| %RSD | 623.9 | 54.20 | 9.198 | 38.86 | .0808 | 8.453 | 3.404 | 1320. | 84.11 | 174.6 |
| #1 | -.0019 | .0031 | .0012 | .0032 | 12.30 | -.0007 | .2868 | -.0001 | -.0019 | .0006 |
| #2 | .0012 | .0014 | .0011 | .0018 | 12.31 | -.0008 | .3009 | .0001 | -.0005 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0023 | -.0020 |
| Stddev | .0067 | .0000 | .0000 |
| %RSD | 365.1 | 2.146 | .5421 |
| #1 | -.0065 | .0024 | -.0020 |
| #2 | .0029 | .0023 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2223.5 | 55403. | 13596. |
| Stddev | 1.6 | 396. | 282. |
| %RSD | .07088 | .71522 | 2.0746 |
| #1 | 2224.6 | 55123. | 13795. |
| #2 | 2222.4 | 55683. | 13396. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/3/2013 14:56:58 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0009 | .0029 | -.0010 | .0489 | .1691 | .0000 | 139.2 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0010 | .0017 | .0001 | .0009 | .0000 | .7 | .0000 | .0002 |
| %RSD | 92.76 | 102.8 | 35.07 | 158.6 | .1838 | .5210 | 92.11 | .5228 | 4.596 | 165.6 |
| #1 | .0005 | -.0016 | .0022 | -.0022 | .0488 | .1685 | .0001 | 138.6 | .0001 | -.0003 |
| #2 | .0001 | -.0002 | .0036 | .0001 | .0490 | .1697 | .0000 | 139.7 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0019 | .0506 | 6.271 | 16.22 | .0370 | .0005 | 434.6 | .0025 | .0005 |
| Stddev | .0001 | .0000 | .0066 | .016 | .20 | .0001 | .0001 | 1.9 | .0001 | .0002 |
| %RSD | 37.89 | .3991 | 13.14 | .2588 | 1.229 | .2002 | 24.09 | .4482 | 3.993 | 43.94 |
| #1 | .0005 | .0019 | .0553 | 6.260 | 16.08 | .0370 | .0006 | 433.2 | .0024 | .0006 |
| #2 | .0003 | .0018 | .0459 | 6.283 | 16.36 | .0369 | .0004 | 436.0 | .0026 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0007 | .0006 | .0034 | 6.602 | -.0010 | .8010 | .0012 | -.0026 | .0003 |
| Stddev | .0002 | .0012 | .0002 | .0009 | .004 | .0006 | .0063 | .0003 | .0001 | .0001 |
| %RSD | 2.512 | 176.1 | 33.60 | 24.84 | .0602 | 61.07 | .7823 | 26.60 | 5.564 | 48.29 |
| #1 | -.0094 | -.0002 | .0005 | .0040 | 6.599 | -.0014 | .7965 | .0010 | -.0027 | .0004 |
| #2 | -.0090 | .0016 | .0008 | .0028 | 6.605 | -.0006 | .8054 | .0015 | -.0025 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0007 | .0078 | -.0011 |
| Stddev | .0094 | .0002 | .0001 |
| %RSD | 1303. | 2.131 | 10.90 |
| #1 | -.0073 | .0077 | -.0010 |
| #2 | .0059 | .0079 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2156.6 | 54521. | 13371. |
| Stddev | .2 | 352. | 33. |
| %RSD | .00833 | .64515 | .24415 |
| #1 | 2156.7 | 54272. | 13348. |
| #2 | 2156.5 | 54769. | 13395. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/3/2013 15:01:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0027 | -.0005 | .0468 | .1584 | -.0001 | 128.3 | .0001 | .0006 |
| Stddev | .0001 | .0137 | .0005 | .0003 | .0006 | .0020 | .0000 | .3 | .0000 | .0000 |
| %RSD | 82.24 | 1155. | 17.88 | 47.91 | 1.260 | 1.281 | 36.52 | .2172 | 29.10 | 2.439 |
| #1 | .0000 | .0109 | .0024 | -.0007 | .0464 | .1598 | -.0001 | 128.1 | .0001 | .0006 |
| #2 | -.0002 | -.0085 | .0031 | -.0004 | .0472 | .1570 | -.0001 | 128.5 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .1307 | 6.191 | 15.11 | .1944 | .0017 | 397.8 | .0034 | -.0001 |
| Stddev | .0001 | .0003 | .0014 | .021 | .09 | .0000 | .0000 | 5.3 | .0002 | .0003 |
| %RSD | 19.55 | 16.40 | 1.102 | .3423 | .5903 | .0049 | .6871 | 1.325 | 6.121 | 407.0 |
| #1 | .0006 | .0019 | .1317 | 6.206 | 15.04 | .1944 | .0017 | 401.5 | .0033 | .0002 |
| #2 | .0005 | .0015 | .1297 | 6.176 | 15.17 | .1945 | .0017 | 394.0 | .0036 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0023 | .0017 | .0035 | 6.275 | -.0009 | .7400 | .0014 | -.0029 | .0002 |
| Stddev | .0015 | .0013 | .0002 | .0005 | .010 | .0001 | .0011 | .0003 | .0006 | .0004 |
| %RSD | 20.07 | 57.92 | 9.386 | 13.60 | .1577 | 11.78 | .1525 | 21.83 | 20.22 | 157.7 |
| #1 | -.0064 | -.0013 | .0016 | .0031 | 6.268 | -.0008 | .7392 | .0012 | -.0033 | .0005 |
| #2 | -.0085 | -.0032 | .0018 | .0038 | 6.282 | -.0010 | .7408 | .0016 | -.0025 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0458 | .0090 | -.0009 |
| Stddev | .0009 | .0001 | .0001 |
| %RSD | 2.021 | .6570 | 5.970 |
| #1 | .0451 | .0089 | -.0010 |
| #2 | .0464 | .0090 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2159.3 | 54512. | 13507. |
| Stddev | 2.5 | 163. | 61. |
| %RSD | .11377 | .29877 | .45260 |
| #1 | 2157.6 | 54627. | 13551. |
| #2 | 2161.1 | 54396. | 13464. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/3/2013 15:05:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0016 | .0035 | .0003 | .0173 | .0136 | .0000 | 17.96 | .0003 | .0022 |
| Stddev | .0008 | .0088 | .0001 | .0012 | .0001 | .0001 | .0000 | .02 | .0001 | .0000 |
| %RSD | 465.1 | 550.1 | 1.445 | 441.8 | .4628 | .4657 | 189.2 | .1031 | 18.83 | 1.575 |
| #1 | .0008 | -.0046 | .0035 | -.0006 | .0173 | .0135 | .0001 | 17.98 | .0003 | .0022 |
| #2 | -.0004 | .0078 | .0036 | .0011 | .0172 | .0136 | .0000 | 17.95 | .0003 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0018 | 1.458 | 2.708 | 3.145 | .5795 | .0001 | 2.928 | .0043 | .0005 |
| Stddev | .0001 | .0001 | .000 | .005 | .004 | .0012 | .0001 | .049 | .0000 | .0006 |
| %RSD | 64.22 | 6.649 | .0041 | .2003 | .1363 | .2097 | 76.49 | 1.675 | .2610 | 131.0 |
| #1 | .0003 | .0017 | 1.458 | 2.704 | 3.148 | .5804 | .0000 | 2.962 | .0043 | .0000 |
| #2 | .0001 | .0019 | 1.458 | 2.712 | 3.142 | .5787 | .0001 | 2.893 | .0043 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0011 | .0002 | .0018 | 6.028 | -.0005 | .1115 | -.0002 | -.0004 | .0002 |
| Stddev | .0005 | .0003 | .0003 | .0005 | .010 | .0002 | .0001 | .0003 | .0003 | .0002 |
| %RSD | 17.78 | 32.06 | 165.9 | 26.87 | .1598 | 34.30 | .0794 | 138.4 | 79.49 | 72.05 |
| #1 | -.0027 | .0013 | .0004 | .0022 | 6.022 | -.0007 | .1114 | -.0005 | -.0002 | .0001 |
| #2 | -.0035 | .0008 | .0000 | .0015 | 6.035 | -.0004 | .1115 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0120 | -.0012 |
| Stddev | .0018 | .0001 | .0002 |
| %RSD | 22.13 | 1.105 | 19.03 |
| #1 | .0069 | .0121 | -.0010 |
| #2 | .0095 | .0119 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.5 | 55137. | 13481. |
| Stddev | 3.9 | 397. | 3. |
| %RSD | .17201 | .71938 | .01956 |
| #1 | 2244.8 | 54857. | 13483. |
| #2 | 2250.3 | 55418. | 13479. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/3/2013 15:10:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 1.849 | .5090 | .0014 | .2257 | .1260 | .0000 | 99.74 | .0044 | .0000 |
| Stddev | .0003 | .006 | .0014 | .0004 | .0004 | .0000 | .000 | .11 | .0001 | .0001 |
| %RSD | 248.3 | .3196 | .2832 | 30.67 | .1834 | .0316 | 3.803 | .1068 | 1.465 | 451.0 |
| #1 | .0003 | 1.845 | .5079 | .0011 | .2254 | .1260 | .0000 | 99.81 | .0044 | .0001 |
| #2 | -.0001 | 1.853 | .5100 | .0017 | .2260 | .1260 | .0000 | 99.66 | .0043 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0024 | 73.38 | 54.10 | 52.24 | 1.006 | .0006 | 57.71 | .0022 | .0003 |
| Stddev | .0000 | .0000 | .03 | .11 | .23 | .000 | .0001 | .04 | .0000 | .0002 |
| %RSD | 19.50 | 1.778 | .0436 | .1989 | .4391 | .0033 | 18.04 | .0673 | 1.946 | 77.79 |
| #1 | -.0002 | .0023 | 73.40 | 54.18 | 52.07 | 1.006 | .0005 | 57.74 | .0022 | .0004 |
| #2 | -.0002 | .0024 | 73.36 | 54.03 | 52.40 | 1.006 | .0006 | 57.68 | .0022 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0007 | .0009 | .0023 | 12.19 | .0002 | .6500 | .0022 | -.0014 | .0001 |
| Stddev | .0016 | .0067 | .0001 | .0003 | .00 | .0001 | .0010 | .0000 | .0000 | .0007 |
| %RSD | 32.32 | 1019. | 5.895 | 11.84 | .0369 | 59.59 | .1582 | 1.363 | 2.255 | 1130. |
| #1 | -.0038 | -.0041 | .0008 | .0021 | 12.19 | .0003 | .6508 | .0022 | -.0014 | -.0004 |
| #2 | -.0060 | .0054 | .0009 | .0025 | 12.20 | .0001 | .6493 | .0023 | -.0015 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0047 | -.0020 |
| Stddev | .0021 | .0001 | .0002 |
| %RSD | 38.97 | 2.904 | 12.20 |
| #1 | -.0039 | .0047 | -.0018 |
| #2 | -.0069 | .0046 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2204.3 | 54715. | 13577. |
| Stddev | 1.8 | 349. | 3. |
| %RSD | .08248 | .63827 | .02213 |
| #1 | 2205.6 | 54962. | 13579. |
| #2 | 2203.0 | 54468. | 13575. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 15:18:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.106 | .5235 | -.0025 | -.0002 | 1.995 | .5037 | 24.86 | .5175 | .5230 |
| Stddev | .0005 | .013 | .0006 | .0031 | .0011 | .000 | .0039 | .20 | .0005 | .0013 |
| %RSD | .2695 | .6044 | .1163 | 125.7 | 704.4 | .0176 | .7657 | .7937 | .1061 | .2466 |
| #1 | .2014 | 2.115 | .5230 | -.0003 | .0006 | 1.994 | .5065 | 25.00 | .5172 | .5221 |
| #2 | .2006 | 2.097 | .5239 | -.0047 | -.0009 | 1.995 | .5010 | 24.72 | .5179 | .5239 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5141 | .4858 | 2.069 | 25.66 | 24.49 | .4830 | .0008 | 25.51 | .5085 | 1.005 |
| Stddev | .0000 | .0008 | .012 | .16 | .11 | .0006 | .0003 | .06 | .0014 | .004 |
| %RSD | .0051 | .1667 | .5930 | .6165 | .4378 | .1152 | 35.02 | .2389 | .2658 | .4515 |
| #1 | .5140 | .4852 | 2.060 | 25.55 | 24.57 | .4834 | .0010 | 25.47 | .5076 | 1.001 |
| #2 | .5141 | .4863 | 2.078 | 25.77 | 24.42 | .4826 | .0006 | 25.55 | .5095 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | -.0070 | .5277 | .5160 | -.0244 | -.0029 | .4874 | .5019 | .5075 | .5133 |
| Stddev | .0006 | .0003 | .0008 | .0052 | .0022 | .0001 | .0007 | .0022 | .0044 | .0017 |
| %RSD | 21.66 | 4.767 | .1427 | 1.013 | 8.921 | 2.318 | .1456 | .4453 | .8577 | .3388 |
| #1 | .0030 | -.0072 | .5272 | .5197 | -.0229 | -.0029 | .4868 | .5035 | .5044 | .5146 |
| #2 | .0022 | -.0067 | .5283 | .5123 | -.0259 | -.0028 | .4879 | .5004 | .5106 | .5121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0336 | .5167 | .0003 |
| Stddev | .0081 | .0006 | .0003 |
| %RSD | 24.11 | .1129 | 95.26 |
| #1 | .0279 | .5163 | .0005 |
| #2 | .0394 | .5171 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2257.0 | 55271. | 13593. |
| Stddev | 2.5 | 346. | 76. |
| %RSD | .11075 | .62593 | .56061 |
| #1 | 2258.8 | 55026. | 13647. |
| #2 | 2255.2 | 55515. | 13539. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 15:23:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2041 | 2.118 | .5232 | .0028 | .0034 | 2.010 | .5067 | 30.41 | .5190 | .5246 |
| Stddev | .0005 | .061 | .0025 | .0021 | .0008 | .000 | .0013 | .03 | .0011 | .0011 |
| %RSD | .2230 | 2.869 | .4816 | 74.17 | 24.30 | .0193 | .2575 | .1073 | .2154 | .2030 |
| #1 | .2038 | 2.161 | .5249 | .0043 | .0039 | 2.010 | .5057 | 30.43 | .5198 | .5254 |
| #2 | .2045 | 2.075 | .5214 | .0014 | .0028 | 2.011 | .5076 | 30.39 | .5182 | .5238 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5172 | .4898 | 2.051 | 27.22 | 25.85 | .4888 | .0006 | 26.73 | .5097 | 1.010 |
| Stddev | .0022 | .0055 | .002 | .04 | .11 | .0027 | .0004 | .00 | .0011 | .003 |
| %RSD | .4227 | 1.120 | .0805 | .1385 | .4347 | .5548 | 64.59 | .0008 | .2244 | .2825 |
| #1 | .5187 | .4937 | 2.052 | 27.25 | 25.93 | .4907 | .0009 | 26.73 | .5105 | 1.012 |
| #2 | .5156 | .4860 | 2.050 | 27.19 | 25.77 | .4869 | .0003 | 26.73 | .5089 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0110 | .5265 | .5204 | 3.178 | -.0052 | .5348 | .5058 | .5087 | .5143 |
| Stddev | .0007 | .0523 | .0024 | .0060 | .015 | .0007 | .0013 | .0028 | .0002 | .0003 |
| %RSD | 38.58 | 474.8 | .4550 | 1.147 | .4833 | 13.16 | .2348 | .5597 | .0464 | .0662 |
| #1 | .0014 | .0480 | .5248 | .5246 | 3.189 | -.0047 | .5357 | .5078 | .5089 | .5141 |
| #2 | .0024 | -.0260 | .5282 | .5162 | 3.168 | -.0056 | .5339 | .5038 | .5086 | .5146 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5264 | -.0009 |
| Stddev | .0020 | .0023 | .0001 |
| %RSD | 15.13 | .4298 | 13.90 |
| #1 | .0117 | .5280 | -.0008 |
| #2 | .0145 | .5248 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2258.6 | 54795. | 13511. |
| Stddev | 6.8 | 309. | 81. |
| %RSD | .30307 | .56452 | .60188 |
| #1 | 2253.8 | 55013. | 13454. |
| #2 | 2263.5 | 54576. | 13569. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 15:27:53 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2035 | 2.098 | .5265 | .0019 | .0039 | 2.017 | .5096 | 30.39 | .5213 | .5245 |
| Stddev | .0009 | .040 | .0009 | .0001 | .0004 | .010 | .0036 | .27 | .0013 | .0016 |
| %RSD | .4199 | 1.899 | .1738 | 2.663 | 10.07 | .4751 | .7094 | .9021 | .2561 | .3083 |
| #1 | .2029 | 2.070 | .5258 | .0020 | .0042 | 2.024 | .5071 | 30.20 | .5222 | .5257 |
| #2 | .2041 | 2.126 | .5271 | .0019 | .0037 | 2.011 | .5122 | 30.59 | .5203 | .5234 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5203 | .4919 | 2.077 | 27.30 | 25.81 | .4923 | .0003 | 26.67 | .5078 | 1.007 |
| Stddev | .0019 | .0010 | .011 | .07 | .16 | .0001 | .0010 | .05 | .0003 | .003 |
| %RSD | .3658 | .1934 | .5280 | .2478 | .6255 | .0180 | 350.3 | .1691 | .0542 | .2509 |
| #1 | .5217 | .4926 | 2.084 | 27.35 | 25.93 | .4922 | .0010 | 26.71 | .5080 | 1.009 |
| #2 | .5190 | .4912 | 2.069 | 27.26 | 25.70 | .4924 | -.0004 | 26.64 | .5076 | 1.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0082 | .5315 | .5150 | 3.176 | -.0034 | .5348 | .5105 | .5101 | .5183 |
| Stddev | .0078 | .0063 | .0021 | .0011 | .003 | .0017 | .0005 | .0021 | .0037 | .0042 |
| %RSD | 166.0 | 77.26 | .3884 | .2190 | .0774 | 49.73 | .0916 | .4197 | .7244 | .8098 |
| #1 | .0008 | .0037 | .5300 | .5158 | 3.178 | -.0046 | .5351 | .5120 | .5127 | .5154 |
| #2 | -.0102 | .0127 | .5329 | .5142 | 3.175 | -.0022 | .5344 | .5090 | .5075 | .5213 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5280 | -.0004 |
| Stddev | .0136 | .0012 | .0027 |
| %RSD | 175.7 | .2214 | 746.2 |
| #1 | -.0174 | .5289 | -.0023 |
| #2 | .0019 | .5272 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 54947. | 13604. |
| Stddev | 2.7 | 200. | 114. |
| %RSD | .11857 | .36378 | .83842 |
| #1 | 2269.5 | 54805. | 13524. |
| #2 | 2265.7 | 55088. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 15:32:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .0046 | .0010 | .0082 | .0187 | -.0004 | 10.17 | .0000 | -.0013 |
| Stddev | .0012 | .0164 | .0022 | .0018 | .0003 | .0001 | .0005 | .01 | .001 | .0007 |
| %RSD | 122.6 | 81.70 | 48.48 | 170.1 | 4.075 | .7545 | 121.0 | .1480 | 1378. | 50.62 |
| #1 | -.0019 | .0316 | .0062 | .0023 | .0080 | .0186 | -.0001 | 10.18 | .0004 | -.0009 |
| #2 | -.0001 | .0085 | .0030 | -.0002 | .0085 | .0188 | -.0007 | 10.16 | -.0005 | -.0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0046 | -.0033 | 1.389 | 1.508 | .0007 | .0001 | 15.51 | .0019 | .0033 |
| Stddev | .0005 | .0007 | .0168 | .187 | .129 | .0000 | .0000 | .06 | .0008 | .0009 |
| %RSD | 65.83 | 14.42 | 514.1 | 13.47 | 8.570 | .9219 | 28.47 | .3580 | 40.76 | 28.43 |
| #1 | .0012 | .0050 | .0086 | 1.256 | 1.599 | .0007 | .0001 | 15.47 | .0025 | .0026 |
| #2 | .0004 | .0041 | -.0151 | 1.521 | 1.416 | .0007 | .0001 | 15.55 | .0014 | .0040 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0067 | .0006 | .0022 | 6.501 | -.0022 | .0962 | -.0007 | -.0016 | .0007 |
| Stddev | .0127 | .0124 | .0007 | .0021 | .001 | .0015 | .0001 | .0012 | .0021 | .0002 |
| %RSD | 440.7 | 186.6 | 115.6 | 92.71 | .0208 | 65.00 | .1436 | 171.6 | 128.7 | 24.40 |
| #1 | .0061 | .0021 | .0011 | .0037 | 6.500 | -.0012 | .0963 | .0002 | -.0001 | .0008 |
| #2 | -.0118 | -.0155 | .0001 | .0008 | 6.502 | -.0033 | .0961 | -.0016 | -.0031 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | .0294 | .0006 |
| Stddev | .0153 | .0002 | .0006 |
| %RSD | 303.9 | .5800 | 99.34 |
| #1 | .0159 | .0296 | .0002 |
| #2 | -.0058 | .0293 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.5 | 54927. | 13433. |
| Stddev | .6 | 218. | 142. |
| %RSD | .02784 | .39768 | 1.0537 |
| #1 | 2270.0 | 55082. | 13333. |
| #2 | 2270.9 | 54773. | 13533. |

Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 15:36:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0591 | 1.362 | -.0056 | .1595 | .0403 | -.0001 | 75.33 | .0121 | .0124 |
| Stddev | .0012 | .0014 | .005 | .0014 | .0004 | .0005 | .0003 | .07 | .0005 | .0007 |
| %RSD | 804.6 | 2.330 | .3695 | 25.13 | .2407 | 1.127 | 243.4 | .0964 | 3.927 | 5.886 |
| #1 | -.0007 | -.0600 | 1.365 | -.0066 | .1598 | .0406 | .0001 | 75.39 | .0118 | .0129 |
| #2 | .0010 | -.0581 | 1.358 | -.0046 | .1592 | .0400 | -.0004 | 75.28 | .0124 | .0119 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0045 | 20.02 | 8.059 | 11.68 | 9.673 | .0021 | 24.27 | .0085 | -.0022 |
| Stddev | .0000 | .0011 | .05 | .076 | .01 | .005 | .0004 | .01 | .0001 | .0020 |
| %RSD | 5.018 | 24.77 | .2662 | .9395 | .0517 | .0477 | 18.26 | .0548 | 1.676 | 89.88 |
| #1 | -.0007 | .0053 | 19.98 | 8.112 | 11.68 | 9.669 | .0024 | 24.28 | .0084 | -.0036 |
| #2 | -.0008 | .0037 | 20.06 | 8.005 | 11.69 | 9.676 | .0018 | 24.26 | .0086 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0496 | .0016 | .0094 | 12.42 | -.0041 | .7485 | -.0022 | -.0095 | .0001 |
| Stddev | .0029 | .0354 | .0011 | .0035 | .02 | .0026 | .0017 | .0005 | .0020 | .0004 |
| %RSD | 46.25 | 71.44 | 69.03 | 36.84 | .1427 | 64.31 | .2209 | 23.47 | 21.25 | 328.8 |
| #1 | -.0083 | .0246 | .0024 | .0070 | 12.40 | -.0022 | .7473 | -.0018 | -.0109 | .0004 |
| #2 | -.0042 | .0747 | .0008 | .0119 | 12.43 | -.0060 | .7497 | -.0026 | -.0081 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0150 | .0000 |
| Stddev | .0080 | .0001 | .0017 |
| %RSD | 72.21 | .5600 | 9997. |
| #1 | -.0054 | .0150 | .0012 |
| #2 | -.0167 | .0149 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.1 | 54865. | 13580. |
| Stddev | .7 | 278. | 130. |
| %RSD | .02943 | .50754 | .95497 |
| #1 | 2276.5 | 55062. | 13488. |
| #2 | 2275.6 | 54668. | 13672. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 15:44:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.632 | 1.976 | -.0013 | 1.975 | 1.893 | 1.866 | 9.503 | 1.966 | 2.041 |
| Stddev | .0020 | .225 | .007 | .0008 | .003 | .039 | .040 | .222 | .002 | .003 |
| %RSD | .8318 | 2.335 | .3693 | 59.68 | .1484 | 2.083 | 2.148 | 2.332 | .0880 | .1347 |
| #1 | .2451 | 9.473 | 1.971 | -.0018 | 1.972 | 1.865 | 1.838 | 9.346 | 1.964 | 2.039 |
| #2 | .2422 | 9.791 | 1.982 | -.0007 | 1.977 | 1.921 | 1.894 | 9.660 | 1.967 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.911 | 9.645 | 9.493 | 9.206 | 1.888 | 1.972 | 9.679 | 1.982 | 1.931 |
| Stddev | .006 | .001 | .206 | .241 | .212 | .008 | .003 | .221 | .003 | .004 |
| %RSD | .3006 | .0273 | 2.134 | 2.536 | 2.302 | .4369 | .1371 | 2.280 | .1651 | .2204 |
| #1 | 1.924 | 1.912 | 9.500 | 9.323 | 9.057 | 1.893 | 1.970 | 9.523 | 1.980 | 1.928 |
| #2 | 1.916 | 1.911 | 9.791 | 9.664 | 9.356 | 1.882 | 1.974 | 9.835 | 1.985 | 1.934 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0070 | 2.016 | 2.001 | .0254 | 1.977 | 1.871 | 1.938 | 1.952 | 1.914 |
| Stddev | .0009 | .0007 | .004 | .008 | .0017 | .006 | .041 | .007 | .001 | .006 |
| %RSD | 27.59 | 9.679 | .1769 | .4192 | 6.694 | .3072 | 2.200 | .3790 | .0297 | .2900 |
| #1 | .0037 | .0065 | 2.014 | 1.995 | .0242 | 1.973 | 1.842 | 1.944 | 1.952 | 1.918 |
| #2 | .0025 | .0075 | 2.019 | 2.007 | .0266 | 1.982 | 1.900 | 1.933 | 1.953 | 1.910 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.909 | -.0048 |
| Stddev | .0016 | .002 | .0003 |
| %RSD | 10.81 | .0990 | 6.153 |
| #1 | -.0156 | 1.908 | -.0051 |
| #2 | -.0134 | 1.911 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.7 | 54617. | 13824. |
| Stddev | 1.7 | 444. | 355. |
| %RSD | .07696 | .81372 | 2.5696 |
| #1 | 2262.9 | 54303. | 14075. |
| #2 | 2260.4 | 54931. | 13572. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 15:50:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0039 | .0015 | .0004 | .0014 | .0004 | .0001 | -.0019 | .0001 | .0000 |
| Stddev | .0005 | .0070 | .0010 | .0000 | .0005 | .0000 | .0001 | .0008 | .0000 | .000 |
| %RSD | 1306. | 181.3 | 66.81 | 11.23 | 35.36 | 4.953 | 64.59 | 43.24 | 36.92 | 589.7 |
| #1 | .0004 | .0011 | .0022 | .0004 | .0018 | .0004 | .0002 | -.0013 | .0001 | .0000 |
| #2 | -.0003 | -.0088 | .0008 | .0003 | .0011 | .0005 | .0001 | -.0025 | .0002 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0013 | .0029 | .0273 | .0026 | .0003 | .0004 | -.0143 | .0000 | .0001 |
| Stddev | .0005 | .0002 | .0011 | .0252 | .0075 | .0001 | .0000 | .0004 | .0001 | .0004 |
| %RSD | 160.4 | 17.79 | 37.24 | 92.34 | 295.5 | 19.29 | 4.384 | 2.896 | 173.4 | 252.8 |
| #1 | .0000 | .0011 | .0021 | .0451 | -.0028 | .0002 | .0004 | -.0141 | .0000 | .0004 |
| #2 | .0006 | .0014 | .0037 | .0095 | .0079 | .0003 | .0004 | -.0146 | .0001 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0007 | .0009 | .0012 | .0053 | -.0001 | .0001 | -.0002 | .0005 | .0001 |
| Stddev | .0009 | .0010 | .0006 | .0004 | .0001 | .0002 | .0001 | .0005 | .0000 | .0004 |
| %RSD | 168.9 | 142.2 | 60.21 | 34.44 | 2.073 | 190.1 | 88.70 | 242.0 | 7.768 | 844.1 |
| #1 | -.0001 | .0014 | .0013 | .0015 | .0054 | .0000 | .0001 | -.0005 | .0005 | -.0003 |
| #2 | .0011 | .0000 | .0005 | .0009 | .0052 | -.0002 | .0000 | .0001 | .0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .0003 | .0005 |
| Stddev | .0005 | .0001 | .0001 |
| %RSD | 23.05 | 19.44 | 23.22 |
| #1 | -.0027 | .0003 | .0004 |
| #2 | -.0019 | .0003 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2263.0 | 55406. | 13057. |
| Stddev | 1.3 | 288. | 592. |
| %RSD | .05854 | .51905 | 4.5313 |
| #1 | 2263.9 | 55203. | 12638. |
| #2 | 2262.0 | 55610. | 13475. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/3/2013 15:55:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | .0358 | .0113 | .0000 | .0326 | .0146 | -.0001 | 20.24 | .0004 | -.0010 |
| Stddev | .0010 | .0127 | .0091 | .0016 | .0010 | .0001 | .0004 | .04 | .0003 | .0000 |
| %RSD | 48.05 | 35.40 | 80.35 | 11320. | 2.945 | .9085 | 258.5 | .2114 | 71.27 | 4.161 |
| #1 | .0013 | .0269 | .0049 | .0012 | .0332 | .0145 | -.0004 | 20.27 | .0002 | -.0010 |
| #2 | .0027 | .0448 | .0177 | -.0011 | .0319 | .0147 | .0001 | 20.21 | .0006 | -.0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0027 | .0088 | 2.483 | 2.529 | .1767 | .0012 | 11.58 | .0016 | -.0029 |
| Stddev | .0007 | .0011 | .0007 | .024 | .045 | .0003 | .0001 | .05 | .0000 | .0019 |
| %RSD | 195.5 | 40.40 | 7.783 | .9657 | 1.764 | .1578 | 7.575 | .4113 | 2.516 | 64.39 |
| #1 | .0008 | .0020 | .0093 | 2.500 | 2.561 | .1769 | .0011 | 11.61 | .0016 | -.0016 |
| #2 | -.0001 | .0035 | .0083 | 2.466 | 2.498 | .1765 | .0013 | 11.54 | .0016 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0032 | .0044 | .0089 | 4.205 | -.0017 | .1119 | .0007 | -.0001 | .0018 |
| Stddev | .0050 | .0015 | .0035 | .0007 | .015 | .0019 | .0003 | .0013 | .0086 | .0004 |
| %RSD | 957.4 | 48.14 | 78.81 | 7.458 | .3554 | 106.8 | .2666 | 172.9 | 7465. | 21.29 |
| #1 | .0040 | .0021 | .0069 | .0085 | 4.195 | -.0030 | .1121 | -.0002 | .0060 | .0021 |
| #2 | -.0030 | .0042 | .0019 | .0094 | 4.216 | -.0004 | .1117 | .0016 | -.0062 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | .0084 | .0009 |
| Stddev | .0047 | .0004 | .0010 |
| %RSD | 59.57 | 4.426 | 107.3 |
| #1 | -.0113 | .0082 | .0002 |
| #2 | -.0046 | .0087 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55210. | 13626. |
| Stddev | 4.5 | 207. | 37. |
| %RSD | .19965 | .37492 | .27059 |
| #1 | 2270.6 | 55357. | 13600. |
| #2 | 2264.2 | 55064. | 13652. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 15:59:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | .1040 | .6276 | .0041 | .1743 | .0572 | -.0003 | 50.88 | .0065 | .0120 |
| Stddev | .0060 | .0774 | .0207 | .0109 | .0003 | .0010 | .0003 | .12 | .0003 | .0011 |
| %RSD | 202.9 | 74.44 | 3.306 | 263.3 | .1631 | 1.769 | 102.2 | .2433 | 4.505 | 9.391 |
| #1 | .0013 | .1587 | .6129 | .0118 | .1745 | .0579 | -.0005 | 50.79 | .0067 | .0128 |
| #2 | -.0072 | .0492 | .6422 | -.0036 | .1741 | .0565 | -.0001 | 50.97 | .0063 | .0112 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0118 | 58.64 | 10.70 | 5.684 | 1.341 | .0019 | 21.17 | .0073 | -.0054 |
| Stddev | .0001 | .0000 | .02 | .05 | .168 | .001 | .0005 | .01 | .0015 | .0003 |
| %RSD | 6.164 | .0595 | .0278 | .4885 | 2.946 | .0380 | 26.25 | .0595 | 20.10 | 5.349 |
| #1 | -.0011 | .0118 | 58.63 | 10.74 | 5.802 | 1.340 | .0023 | 21.16 | .0084 | -.0052 |
| #2 | -.0010 | .0118 | 58.65 | 10.67 | 5.566 | 1.341 | .0016 | 21.18 | .0063 | -.0056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0155 | .0345 | .0120 | .0143 | 10.65 | -.0048 | .4448 | -.0012 | .0039 | -.0008 |
| Stddev | .0050 | .0272 | .0080 | .0140 | .02 | .0014 | .0004 | .0016 | .0027 | .0033 |
| %RSD | 32.49 | 78.69 | 66.27 | 98.12 | .2227 | 29.03 | .0928 | 128.6 | 68.78 | 410.2 |
| #1 | .0191 | .0153 | .0177 | .0044 | 10.63 | -.0058 | .4445 | -.0001 | .0058 | -.0031 |
| #2 | .0120 | .0537 | .0064 | .0242 | 10.67 | -.0038 | .4451 | -.0023 | .0020 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0109 | .0103 | .0013 |
| Stddev | .0100 | .0012 | .0011 |
| %RSD | 91.79 | 11.47 | 86.17 |
| #1 | .0179 | .0094 | .0005 |
| #2 | .0038 | .0111 | .0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.0 | 54978. | 13606. |
| Stddev | 3.3 | 64. | 102. |
| %RSD | .14413 | .11660 | .74944 |
| #1 | 2263.3 | 54933. | 13678. |
| #2 | 2258.7 | 55023. | 13534. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:04:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0265 | .0088 | .0012 | .2087 | .0333 | -.0005 | 151.3 | -.0002 | -.0013 |
| Stddev | .0006 | .0537 | .0083 | .0099 | .0015 | .0012 | .0001 | .1 | .0001 | .0002 |
| %RSD | 23.70 | 202.9 | 93.76 | 835.3 | .7211 | 3.610 | 26.03 | .0455 | 22.88 | 12.16 |
| #1 | -.0031 | .0644 | .0030 | -.0058 | .2098 | .0324 | -.0006 | 151.4 | -.0003 | -.0014 |
| #2 | -.0022 | -.0115 | .0147 | .0082 | .2077 | .0341 | -.0004 | 151.3 | -.0002 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0084 | .0570 | 4.691 | 18.59 | .2513 | .0011 | 41.42 | .0048 | -.0042 |
| Stddev | .0007 | .0043 | .0096 | .232 | .00 | .0000 | .0008 | .00 | .0013 | .0074 |
| %RSD | 23.33 | 50.91 | 16.88 | 4.948 | .0110 | .0068 | 77.56 | .0059 | 28.28 | 174.5 |
| #1 | .0036 | .0115 | .0638 | 4.527 | 18.59 | .2513 | .0017 | 41.42 | .0057 | -.0094 |
| #2 | .0026 | .0054 | .0502 | 4.855 | 18.59 | .2513 | .0005 | 41.42 | .0038 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0015 | .0068 | .0096 | 8.671 | -.0060 | .5040 | .0050 | -.0029 | .0008 |
| Stddev | .0169 | .0051 | .0005 | .0138 | .027 | .0025 | .0003 | .0037 | .0031 | .0054 |
| %RSD | 1888. | 338.9 | 7.334 | 143.8 | .3164 | 42.40 | .0566 | 74.02 | 109.0 | 709.5 |
| #1 | -.0111 | .0051 | .0072 | -.0002 | 8.690 | -.0078 | .5038 | .0076 | -.0051 | .0046 |
| #2 | .0128 | -.0021 | .0065 | .0193 | 8.651 | -.0042 | .5042 | .0024 | -.0007 | -.0030 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0090 | .0149 | .0040 |
| Stddev | .0318 | .0007 | .0013 |
| %RSD | 352.5 | 4.432 | 33.10 |
| #1 | .0135 | .0145 | .0050 |
| #2 | -.0315 | .0154 | .0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2268.7 | 54936. | 13514. |
| Stddev | 5.3 | 261. | 60. |
| %RSD | .23143 | .47443 | .44687 |
| #1 | 2272.4 | 55121. | 13471. |
| #2 | 2264.9 | 54752. | 13557. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:08:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | -.1326 | .0234 | .0029 | .2131 | .0396 | -.0015 | 151.8 | .0019 | -.0026 |
| Stddev | .0014 | .0003 | .0188 | .0056 | .0028 | .0030 | .0010 | .6 | .0004 | .0004 |
| %RSD | 17.09 | .2095 | 80.53 | 195.6 | 1.323 | 7.506 | 64.66 | .3951 | 19.48 | 16.46 |
| #1 | -.0094 | -.1324 | .0367 | -.0011 | .2111 | .0375 | -.0022 | 152.3 | .0016 | -.0029 |
| #2 | -.0074 | -.1328 | .0101 | .0068 | .2151 | .0417 | -.0008 | 151.4 | .0021 | -.0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0138 | .0212 | 4.754 | 19.07 | .2537 | .0047 | 41.92 | .0019 | -.0018 |
| Stddev | .0028 | .0136 | .0132 | .157 | .39 | .0001 | .0003 | .03 | .0031 | .0136 |
| %RSD | 380.7 | 98.74 | 62.30 | 3.293 | 2.031 | .0548 | 5.427 | .0699 | 160.2 | 765.8 |
| #1 | .0027 | .0042 | .0305 | 4.865 | 19.34 | .2538 | .0049 | 41.90 | .0041 | .0078 |
| #2 | -.0012 | .0234 | .0118 | 4.643 | 18.80 | .2536 | .0046 | 41.94 | -.0003 | -.0114 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0307 | .1790 | .0114 | .0207 | 8.701 | -.0157 | .5040 | .0019 | .0218 | -.0021 |
| Stddev | .0369 | .0432 | .0154 | .0227 | .006 | .0053 | .0046 | .0007 | .0054 | .0026 |
| %RSD | 120.0 | 24.16 | 135.6 | 109.5 | .0738 | 33.70 | .9191 | 36.59 | 24.56 | 122.8 |
| #1 | .0047 | .1484 | .0223 | .0368 | 8.697 | -.0120 | .5072 | .0014 | .0256 | -.0003 |
| #2 | .0568 | .2095 | .0005 | .0047 | 8.706 | -.0194 | .5007 | .0023 | .0181 | -.0040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0771 | .0196 | .0108 |
| Stddev | .0502 | .0031 | .0008 |
| %RSD | 65.18 | 15.91 | 7.331 |
| #1 | .0416 | .0174 | .0114 |
| #2 | .1126 | .0218 | .0102 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.6 | 54659. | 13547. |
| Stddev | .0 | 154. | 240. |
| %RSD | .00035 | .28153 | 1.7736 |
| #1 | 2266.6 | 54551. | 13377. |
| #2 | 2266.6 | 54768. | 13717. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 16:12:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1472 | .0064 | .0013 | .0059 | .0108 | -.0001 | 10.85 | .0001 | .0005 |
| Stddev | .0004 | .0110 | .0019 | .0005 | .0002 | .0005 | .0000 | .15 | .0001 | .0003 |
| %RSD | 228.7 | 7.473 | 29.14 | 39.64 | 4.181 | 4.323 | 6.361 | 1.393 | 97.71 | 61.06 |
| #1 | .0001 | .1549 | .0077 | .0017 | .0061 | .0105 | -.0001 | 10.75 | .0000 | .0003 |
| #2 | -.0004 | .1394 | .0051 | .0010 | .0057 | .0111 | -.0001 | 10.96 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0008 | .9972 | 1.344 | 1.482 | .2855 | .0001 | 3.066 | .0006 | -.0003 |
| Stddev | .0000 | .0008 | .0126 | .025 | .025 | .0014 | .0004 | .015 | .0001 | .0000 |
| %RSD | 4.376 | 93.96 | 1.267 | 1.888 | 1.665 | .4748 | 271.6 | .4858 | 10.79 | 6.322 |
| #1 | .0005 | .0013 | .9883 | 1.326 | 1.500 | .2845 | .0004 | 3.055 | .0006 | -.0003 |
| #2 | .0006 | .0003 | 1.006 | 1.361 | 1.465 | .2864 | -.0001 | 3.076 | .0005 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0053 | .0024 | .0051 | 2.406 | -.0013 | .0666 | .0012 | -.0017 | .0002 |
| Stddev | .0006 | .0136 | .0021 | .0000 | .005 | .0007 | .0008 | .0011 | .0000 | .0001 |
| %RSD | 20090. | 255.1 | 87.00 | .9200 | .1936 | 54.27 | 1.140 | 89.49 | 1.753 | 45.04 |
| #1 | -.0004 | -.0043 | .0009 | .0051 | 2.402 | -.0018 | .0661 | .0004 | -.0017 | .0001 |
| #2 | .0004 | .0149 | .0039 | .0051 | 2.409 | -.0008 | .0671 | .0019 | -.0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0095 | .0005 |
| Stddev | .0014 | .0001 | .0004 |
| %RSD | 19.79 | 1.570 | 88.73 |
| #1 | .0082 | .0094 | .0008 |
| #2 | .0062 | .0097 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.1 | 55194. | 13500. |
| Stddev | 8.3 | 210. | 271. |
| %RSD | .36530 | .37965 | 2.0058 |
| #1 | 2273.0 | 55342. | 13692. |
| #2 | 2261.3 | 55046. | 13309. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:17:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0143 | .7175 | -.0029 | .1047 | .0176 | .0000 | 97.96 | .0053 | .0056 |
| Stddev | .0011 | .0040 | .0013 | .0025 | .0018 | .0011 | .000 | .13 | .0003 | .0001 |
| %RSD | 128.8 | 28.32 | .1755 | 85.19 | 1.710 | 6.300 | 407.9 | .1344 | 5.004 | 1.079 |
| #1 | -.0001 | .0114 | .7167 | -.0012 | .1060 | .0168 | .0001 | 97.87 | .0055 | .0056 |
| #2 | -.0016 | .0171 | .7184 | -.0046 | .1035 | .0183 | -.0001 | 98.06 | .0051 | .0056 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0028 | 14.70 | 3.497 | 12.39 | 2.530 | .0054 | 116.7 | .0048 | -.0002 |
| Stddev | .0028 | .0001 | .03 | .106 | .13 | .005 | .0002 | .1 | .0001 | .0012 |
| %RSD | 175.3 | 4.033 | .1934 | 3.037 | 1.025 | .2087 | 3.291 | .1156 | 2.920 | 552.1 |
| #1 | .0036 | .0027 | 14.68 | 3.422 | 12.30 | 2.534 | .0053 | 116.6 | .0049 | -.0011 |
| #2 | -.0004 | .0028 | 14.72 | 3.572 | 12.48 | 2.526 | .0055 | 116.8 | .0047 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | -.0160 | .0028 | .0107 | 16.44 | .0009 | .4409 | -.0003 | -.0046 | -.0002 |
| Stddev | .0074 | .0117 | .0000 | .0026 | .02 | .0021 | .0016 | .0008 | .0025 | .0017 |
| %RSD | 237.0 | 72.88 | .6021 | 24.10 | .0986 | 241.4 | .3633 | 289.8 | 54.23 | 860.8 |
| #1 | .0021 | -.0078 | .0028 | .0089 | 16.45 | .0024 | .4398 | -.0008 | -.0064 | -.0014 |
| #2 | -.0083 | -.0242 | .0028 | .0126 | 16.43 | -.0006 | .4420 | .0003 | -.0029 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0121 | -.0007 |
| Stddev | .0014 | .0004 | .0001 |
| %RSD | 36.18 | 3.636 | 21.37 |
| #1 | .0049 | .0118 | -.0008 |
| #2 | .0029 | .0124 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.0 | 55002. | 13529. |
| Stddev | 10.4 | 315. | 79. |
| %RSD | .45738 | .57272 | .58348 |
| #1 | 2258.7 | 54779. | 13585. |
| #2 | 2273.3 | 55225. | 13473. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:21:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0042 | .1464 | .7476 | -.0038 | .1022 | .0299 | -.0006 | 101.5 | .0049 | .0049 |
| Stddev | .0180 | .0386 | .0166 | .0019 | .0031 | .0035 | .0013 | .1 | .0029 | .0003 |
| %RSD | 432.5 | 26.39 | 2.227 | 50.34 | 2.988 | 11.85 | 205.4 | .0949 | 59.41 | 6.921 |
| #1 | .0169 | .1737 | .7594 | -.0052 | .1000 | .0274 | .0003 | 101.6 | .0069 | .0047 |
| #2 | -.0086 | .1191 | .7359 | -.0025 | .1043 | .0324 | -.0016 | 101.5 | .0028 | .0051 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0121 | 14.93 | 3.528 | 12.66 | 2.566 | .0035 | 117.7 | .0041 | -.0093 |
| Stddev | .0055 | .0087 | .05 | .580 | .06 | .011 | .0001 | .4 | .0053 | .0083 |
| %RSD | 114.2 | 72.16 | .3576 | 16.43 | .4413 | .4280 | 2.810 | .3411 | 127.2 | 89.62 |
| #1 | -.0009 | .0182 | 14.97 | 3.118 | 12.70 | 2.574 | .0036 | 118.0 | .0079 | -.0034 |
| #2 | -.0087 | .0059 | 14.90 | 3.938 | 12.62 | 2.559 | .0034 | 117.4 | .0004 | -.0152 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0100 | .0442 | .0146 | .0454 | 16.56 | -.0095 | .4450 | -.0013 | .0039 | .0022 |
| Stddev | .0197 | .0024 | .0030 | .0033 | .05 | .0014 | .0025 | .0013 | .0178 | .0089 |
| %RSD | 197.8 | 5.458 | 20.54 | 7.323 | .2782 | 15.18 | .5583 | 101.8 | 461.4 | 409.7 |
| #1 | -.0239 | .0425 | .0168 | .0478 | 16.53 | -.0106 | .4467 | -.0022 | -.0087 | .0085 |
| #2 | .0040 | .0459 | .0125 | .0431 | 16.59 | -.0085 | .4432 | -.0004 | .0164 | -.0041 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1148 | .0253 | .0063 |
| Stddev | .0133 | .0020 | .0050 |
| %RSD | 11.59 | 7.962 | 78.82 |
| #1 | .1054 | .0239 | .0099 |
| #2 | .1242 | .0267 | .0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54978. | 13589. |
| Stddev | 1.1 | 62. | 42. |
| %RSD | .04774 | .11341 | .30646 |
| #1 | 2268.1 | 54934. | 13560. |
| #2 | 2266.5 | 55022. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 16:25:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | .8160 | .0012 | .0615 | .0361 | -.0005 | 18.24 | .0068 | .0126 |
| Stddev | .0031 | .0083 | .0103 | .0056 | .0000 | .0002 | .0001 | .01 | .0000 | .0008 |
| %RSD | 965.0 | 7819. | 1.266 | 463.0 | .0264 | .5943 | 29.14 | .0549 | .2080 | 6.104 |
| #1 | .0025 | -.0060 | .8233 | -.0027 | .0615 | .0359 | -.0006 | 18.24 | .0068 | .0121 |
| #2 | -.0019 | .0057 | .8087 | .0052 | .0615 | .0362 | -.0004 | 18.25 | .0068 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0021 | 32.32 | 9.163 | 3.416 | .7821 | .0030 | 5.087 | .0043 | -.0032 |
| Stddev | .0021 | .0004 | .06 | .163 | .064 | .0003 | .0002 | .058 | .0011 | .0001 |
| %RSD | 3293. | 19.58 | .1951 | 1.782 | 1.879 | .0444 | 7.304 | 1.148 | 24.94 | 3.623 |
| #1 | -.0014 | .0018 | 32.28 | 9.048 | 3.370 | .7818 | .0032 | 5.045 | .0050 | -.0031 |
| #2 | .0015 | .0023 | 32.36 | 9.279 | 3.461 | .7823 | .0029 | 5.128 | .0035 | -.0033 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0094 | -.0117 | .0033 | .0095 | 6.824 | -.0035 | .2096 | -.0009 | .0031 | .0005 |
| Stddev | .0039 | .0048 | .0027 | .0032 | .005 | .0003 | .0007 | .0001 | .0005 | .0023 |
| %RSD | 41.80 | 40.79 | 82.70 | 33.29 | .0737 | 7.897 | .3219 | 7.392 | 17.07 | 480.0 |
| #1 | .0121 | -.0084 | .0052 | .0073 | 6.828 | -.0033 | .2091 | -.0008 | .0034 | .0021 |
| #2 | .0066 | -.0151 | .0014 | .0117 | 6.821 | -.0037 | .2101 | -.0009 | .0027 | -.0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0021 | .0113 | -.0004 |
| Stddev | .0169 | .0001 | .0009 |
| %RSD | 810.2 | .7708 | 207.1 |
| #1 | -.0098 | .0113 | .0002 |
| #2 | .0140 | .0112 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 54793. | 13426. |
| Stddev | 1.5 | 250. | 55. |
| %RSD | .06700 | .45707 | .41010 |
| #1 | 2279.8 | 54970. | 13387. |
| #2 | 2277.7 | 54616. | 13465. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:30:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0067 | .7462 | .0012 | .1292 | .1098 | -.0002 | 45.68 | .0058 | .0009 |
| Stddev | .0020 | .0139 | .0014 | .0004 | .0002 | .0001 | .0000 | .05 | .0001 | .0001 |
| %RSD | 286.8 | 208.0 | .1813 | 35.50 | .1735 | .1048 | 28.53 | .1007 | 1.662 | 9.527 |
| #1 | .0021 | .0165 | .7472 | .0009 | .1291 | .1099 | -.0002 | 45.71 | .0057 | .0009 |
| #2 | -.0007 | -.0031 | .7452 | .0015 | .1294 | .1097 | -.0001 | 45.65 | .0059 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 67.04 | 8.875 | 5.036 | 1.707 | .0000 | 16.50 | .0018 | -.0015 |
| Stddev | .0000 | .0001 | .05 | .017 | .034 | .000 | .0001 | .02 | .0006 | .0013 |
| %RSD | 3.302 | 5.950 | .0700 | .1878 | .6648 | .0090 | 869.8 | .1476 | 35.93 | 91.12 |
| #1 | -.0005 | .0023 | 67.07 | 8.864 | 5.012 | 1.707 | .0000 | 16.48 | .0022 | -.0005 |
| #2 | -.0006 | .0025 | 67.00 | 8.887 | 5.060 | 1.707 | .0000 | 16.52 | .0013 | -.0024 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0106 | .0031 | .0044 | 14.09 | -.0014 | .4141 | .0009 | -.0021 | .0000 |
| Stddev | .0013 | .0007 | .0003 | .0019 | .01 | .0012 | .0002 | .0012 | .0008 | .000 |
| %RSD | 35.33 | 6.363 | 10.33 | 43.45 | .0495 | 85.17 | .0447 | 140.3 | 37.80 | 786.7 |
| #1 | .0028 | .0101 | .0034 | .0058 | 14.09 | -.0006 | .4140 | .0017 | -.0026 | -.0003 |
| #2 | .0046 | .0111 | .0029 | .0031 | 14.08 | -.0023 | .4143 | .0000 | -.0015 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0056 | -.0022 |
| Stddev | .0109 | .0001 | .0002 |
| %RSD | 646.0 | 1.229 | 9.862 |
| #1 | .0060 | .0057 | -.0020 |
| #2 | -.0094 | .0056 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.2 | 54625. | 13632. |
| Stddev | 3.8 | 117. | 36. |
| %RSD | .16608 | .21429 | .26138 |
| #1 | 2269.8 | 54542. | 13657. |
| #2 | 2264.5 | 54708. | 13607. |

Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:34:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .1151 | .7660 | -.0027 | .1289 | .1154 | -.0003 | 46.86 | .0047 | .0002 |
| Stddev | .0008 | .0117 | .0007 | .0102 | .0022 | .0011 | .0004 | .27 | .0001 | .0003 |
| %RSD | 480.4 | 10.13 | .0932 | 380.7 | 1.722 | .9430 | 132.1 | .5867 | 2.956 | 126.3 |
| #1 | .0007 | .1069 | .7665 | .0045 | .1273 | .1162 | -.0006 | 46.66 | .0046 | .0005 |
| #2 | -.0004 | .1234 | .7655 | -.0099 | .1305 | .1147 | .0000 | 47.05 | .0048 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0071 | .0034 | 67.68 | 9.234 | 5.021 | 1.731 | -.0002 | 16.63 | .0027 | -.0019 |
| Stddev | .0013 | .0049 | .06 | .054 | .299 | .006 | .0002 | .22 | .0004 | .0007 |
| %RSD | 18.04 | 143.0 | .0889 | .5859 | 5.954 | .3443 | 82.36 | 1.328 | 15.14 | 35.53 |
| #1 | .0080 | .0069 | 67.63 | 9.272 | 5.232 | 1.736 | -.0003 | 16.47 | .0024 | -.0024 |
| #2 | .0062 | .0000 | 67.72 | 9.196 | 4.809 | 1.727 | -.0001 | 16.79 | .0030 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0185 | -.0275 | .0152 | .0149 | 13.99 | -.0059 | .4229 | -.0006 | .0087 | -.0040 |
| Stddev | .0075 | .0194 | .0104 | .0051 | .01 | .0018 | .0010 | .0001 | .0013 | .0049 |
| %RSD | 40.75 | 70.69 | 68.44 | 34.30 | .0640 | 30.82 | .2462 | 11.27 | 15.39 | 122.6 |
| #1 | .0238 | -.0412 | .0079 | .0185 | 13.99 | -.0071 | .4222 | -.0006 | .0096 | -.0005 |
| #2 | .0132 | -.0137 | .0226 | .0113 | 14.00 | -.0046 | .4236 | -.0007 | .0077 | -.0075 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0361 | .0098 | .0019 |
| Stddev | .0160 | .0003 | .0043 |
| %RSD | 44.35 | 2.813 | 225.9 |
| #1 | .0474 | .0100 | .0049 |
| #2 | .0248 | .0096 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.8 | 54855. | 13442. |
| Stddev | 3.9 | 501. | 95. |
| %RSD | .17180 | .91294 | .70769 |
| #1 | 2282.1 | 54501. | 13509. |
| #2 | 2287.6 | 55209. | 13374. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 16:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2432 | 9.798 | 1.957 | -.0008 | 1.968 | 1.936 | 1.919 | 9.751 | 1.956 | 2.027 |
| Stddev | .0006 | .049 | .003 | .0004 | .002 | .004 | .005 | .038 | .000 | .000 |
| %RSD | .2518 | .5002 | .1635 | 51.99 | .0813 | .1943 | .2680 | .3942 | .0145 | .0027 |
| #1 | .2436 | 9.833 | 1.959 | -.0005 | 1.969 | 1.938 | 1.922 | 9.778 | 1.956 | 2.027 |
| #2 | .2427 | 9.764 | 1.954 | -.0011 | 1.967 | 1.933 | 1.915 | 9.724 | 1.956 | 2.027 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.925 | 1.917 | 9.786 | 9.722 | 9.482 | 1.900 | 1.959 | 9.806 | 1.953 | 1.913 |
| Stddev | .002 | .000 | .039 | .015 | .015 | .002 | .001 | .020 | .000 | .002 |
| %RSD | .0923 | .0131 | .3980 | .1586 | .1526 | .0969 | .0383 | .1994 | .0088 | .0827 |
| #1 | 1.924 | 1.917 | 9.814 | 9.733 | 9.472 | 1.899 | 1.958 | 9.820 | 1.952 | 1.911 |
| #2 | 1.926 | 1.916 | 9.759 | 9.711 | 9.493 | 1.902 | 1.959 | 9.792 | 1.953 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0009 | 1.997 | 1.977 | .0604 | 1.941 | 1.918 | 1.936 | 1.942 | 1.919 |
| Stddev | .0034 | .0035 | .002 | .001 | .0008 | .003 | .005 | .002 | .002 | .003 |
| %RSD | 306.5 | 387.8 | .0947 | .0601 | 1.323 | .1719 | .2674 | .1188 | .0917 | .1389 |
| #1 | .0035 | -.0033 | 1.996 | 1.978 | .0610 | 1.943 | 1.922 | 1.937 | 1.943 | 1.917 |
| #2 | -.0013 | .0016 | 1.999 | 1.976 | .0599 | 1.939 | 1.915 | 1.934 | 1.940 | 1.921 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0114 | 1.895 | -.0045 |
| Stddev | .0020 | .001 | .0002 |
| %RSD | 17.72 | .0405 | 4.272 |
| #1 | -.0129 | 1.895 | -.0047 |
| #2 | -.0100 | 1.894 | -.0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 54324. | 13533. |
| Stddev | 3.3 | 168. | 117. |
| %RSD | .14437 | .30838 | .86237 |
| #1 | 2270.7 | 54442. | 13451. |
| #2 | 2275.4 | 54205. | 13616. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 16:43:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0080 | F.0025 | .0008 | .0021 | .0010 | F.0008 | .0012 | F.0005 |
| Stddev | .0002 | .0144 | .0002 | .0012 | .0007 | .0003 | .0001 | .0015 | .0001 |
| %RSD | 216.0 | 180.5 | 8.827 | 154.4 | 31.77 | 30.94 | 9.885 | 119.2 | 19.63 |
| #1 | .0001 | .0181 | .0027 | .0016 | .0025 | .0012 | .0009 | .0023 | .0005 |
| #2 | -.0003 | -.0022 | .0024 | -.0001 | .0016 | .0008 | .0008 | .0002 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0007 | .0068 | .0128 | .0005 | .0009 | .0012 | -.0368 |
| Stddev | .0000 | .0003 | .0005 | .0015 | .0307 | .0105 | .0002 | .0005 | .0055 |
| %RSD | 2.168 | 51.46 | 69.10 | 22.83 | 239.4 | 2142. | 18.74 | 43.10 | 14.99 |
| #1 | .0003 | .0009 | .0010 | .0079 | .0346 | -.0069 | .0010 | .0016 | -.0329 |
| #2 | .0003 | .0004 | .0004 | .0057 | -.0089 | .0079 | .0008 | .0009 | -.0407 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0020 | -.0006 | .0011 | .0025 | .0051 | .0003 | .0007 |
| Stddev | .0000 | .0002 | .0016 | .0048 | .0003 | .0003 | .0002 | .0001 | .0001 |
| %RSD | 3.512 | 34.90 | 77.91 | 849.5 | 23.08 | 13.42 | 3.113 | 24.84 | 10.14 |
| #1 | .0003 | .0004 | .0009 | -.0039 | .0013 | .0023 | .0050 | .0002 | .0008 |
| #2 | .0003 | .0007 | .0031 | .0028 | .0009 | .0027 | .0052 | .0003 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0009 | .0003 | -.0004 | .0004 | .0003 |
| Stddev | .0001 | .0013 | .0004 | .0008 | .0001 | .0002 |
| %RSD | 13.58 | 133.0 | 127.8 | 203.1 | 20.59 | 56.25 |
| #1 | .0007 | .0001 | .0005 | -.0010 | .0005 | .0002 |
| #2 | .0006 | .0018 | .0000 | .0002 | .0004 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.0 | 55005. | 13447. |
| Stddev | 3.6 | 124. | 92. |
| %RSD | .16028 | .22605 | .68400 |
| #1 | 2278.6 | 54917. | 13382. |
| #2 | 2273.4 | 55093. | 13512. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 16:47:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0194 | .0049 | .0001 | .0141 | .0103 | .0001 | 13.76 | .0001 | -.0002 |
| Stddev | .0005 | .0118 | .0009 | .0010 | .0016 | .0001 | .0000 | .10 | .0002 | .0000 |
| %RSD | 72.62 | 60.59 | 17.93 | 981.0 | 11.07 | .5165 | 5.349 | .7093 | 252.7 | 19.14 |
| #1 | -.0010 | .0111 | .0043 | -.0006 | .0152 | .0102 | .0001 | 13.83 | .0002 | -.0002 |
| #2 | -.0003 | .0277 | .0056 | .0008 | .0130 | .0103 | .0001 | 13.69 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0013 | .0099 | 1.586 | 1.751 | .0160 | .0010 | 18.92 | .0001 | .0010 |
| Stddev | .0004 | .0001 | .0013 | .003 | .001 | .0001 | .0002 | .03 | .0002 | .0010 |
| %RSD | 1638. | 4.352 | 12.68 | .1669 | .0693 | .7346 | 21.64 | .1431 | 149.3 | 99.29 |
| #1 | -.0002 | .0013 | .0090 | 1.588 | 1.752 | .0159 | .0008 | 18.94 | .0000 | .0003 |
| #2 | .0003 | .0013 | .0108 | 1.585 | 1.750 | .0160 | .0011 | 18.90 | .0003 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0036 | .0105 | .0005 | .0036 | 3.721 | -.0008 | .0818 | .0002 | -.0002 | .0006 |
| Stddev | .0006 | .0072 | .0011 | .0012 | .009 | .0003 | .0004 | .0006 | .0001 | .0019 |
| %RSD | 17.54 | 68.94 | 231.7 | 33.00 | .2326 | 36.44 | .4651 | 275.6 | 48.85 | 324.9 |
| #1 | .0041 | .0156 | .0012 | .0045 | 3.715 | -.0010 | .0821 | -.0002 | -.0001 | .0020 |
| #2 | .0032 | .0054 | -.0003 | .0028 | 3.727 | -.0006 | .0815 | .0006 | -.0003 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .0092 | -.0004 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 16.94 | .7238 | 71.90 |
| #1 | .0046 | .0092 | -.0006 |
| #2 | .0058 | .0091 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.7 | 55271. | 13533. |
| Stddev | .8 | 265. | 38. |
| %RSD | .03691 | .47901 | .28064 |
| #1 | 2282.3 | 55084. | 13506. |
| #2 | 2281.1 | 55459. | 13560. |

Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 16:51:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0145 | .0034 | -.0008 | .0145 | .0099 | -.0001 | 14.09 | .0001 | .0001 |
| Stddev | .0007 | .0023 | .0007 | .0001 | .0008 | .0002 | .0002 | .08 | .0000 | .0000 |
| %RSD | 147.6 | 16.13 | 19.42 | 9.872 | 5.495 | 2.025 | 212.1 | .5730 | 51.01 | 23.66 |
| #1 | .0000 | .0129 | .0029 | -.0007 | .0150 | .0101 | .0000 | 14.14 | .0001 | .0001 |
| #2 | -.0010 | .0162 | .0039 | -.0008 | .0139 | .0098 | -.0002 | 14.03 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0025 | .0120 | 1.524 | 1.711 | .0156 | .0008 | 19.41 | .0001 | .0001 |
| Stddev | .0001 | .0002 | .0036 | .002 | .021 | .0000 | .0001 | .04 | .0002 | .0006 |
| %RSD | 9.773 | 8.738 | 29.71 | .1015 | 1.238 | .0006 | 16.26 | .2311 | 152.6 | 1051. |
| #1 | .0011 | .0027 | .0145 | 1.526 | 1.726 | .0156 | .0007 | 19.45 | .0003 | -.0004 |
| #2 | .0009 | .0024 | .0095 | 1.523 | 1.696 | .0156 | .0008 | 19.38 | .0000 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0091 | .0024 | .0011 | 3.761 | -.0020 | .0833 | .0004 | .0002 | .0000 |
| Stddev | .0025 | .0060 | .0016 | .0006 | .008 | .0003 | .0003 | .0009 | .0006 | .000 |
| %RSD | 94.68 | 66.58 | 66.08 | 61.04 | .2012 | 15.86 | .3267 | 211.9 | 327.5 | 419.9 |
| #1 | .0009 | .0134 | .0035 | .0015 | 3.766 | -.0018 | .0835 | -.0002 | -.0002 | .0001 |
| #2 | .0045 | .0048 | .0013 | .0006 | 3.756 | -.0022 | .0831 | .0010 | .0006 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0032 | .0119 | -.0002 |
| Stddev | .0035 | .0000 | .0001 |
| %RSD | 110.6 | .2087 | 56.89 |
| #1 | -.0007 | .0119 | -.0003 |
| #2 | -.0056 | .0119 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.9 | 54996. | 13525. |
| Stddev | .3 | 136. | 119. |
| %RSD | .01524 | .24784 | .88215 |
| #1 | 2270.6 | 55092. | 13440. |
| #2 | 2271.1 | 54900. | 13609. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 16:56:04 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0068 | .2378 | .0071 | .2976 | .0516 | -.0003 | 65.80 | .0018 | .0148 |
| Stddev | .0032 | .0030 | .0009 | .0028 | .0021 | .0004 | .0006 | .90 | .0003 | .0003 |
| %RSD | 177.7 | 43.80 | .3679 | 40.12 | .7013 | .8672 | 191.3 | 1.375 | 17.28 | 1.853 |
| #1 | .0005 | .0089 | .2372 | .0091 | .2961 | .0513 | -.0007 | 65.16 | .0020 | .0147 |
| #2 | -.0040 | .0047 | .2384 | .0051 | .2990 | .0519 | .0001 | 66.44 | .0016 | .0150 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | 50.00 | 9.206 | 10.57 | 2.900 | .0012 | 28.00 | .0024 | .0017 |
| Stddev | .0003 | .0028 | .64 | .412 | .24 | .013 | .0005 | .33 | .0007 | .0002 |
| %RSD | 214.4 | 135.6 | 1.279 | 4.473 | 2.251 | .4516 | 37.54 | 1.192 | 31.25 | 9.339 |
| #1 | -.0003 | .0040 | 49.55 | 8.915 | 10.40 | 2.909 | .0015 | 27.76 | .0019 | .0016 |
| #2 | .0001 | .0001 | 50.46 | 9.497 | 10.74 | 2.890 | .0009 | 28.23 | .0029 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0111 | .0033 | .0046 | 7.562 | -.0017 | .4068 | -.0009 | .0042 | -.0015 |
| Stddev | .0066 | .0037 | .0006 | .0069 | .001 | .0014 | .0044 | .0017 | .0015 | .0013 |
| %RSD | 695.7 | 33.46 | 17.13 | 150.2 | .0071 | 83.36 | 1.078 | 190.2 | 35.39 | 86.99 |
| #1 | -.0056 | .0137 | .0037 | -.0003 | 7.562 | -.0007 | .4037 | .0003 | .0031 | -.0006 |
| #2 | .0037 | .0084 | .0029 | .0095 | 7.561 | -.0027 | .4099 | -.0021 | .0052 | -.0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0360 | .0145 | -.0002 |
| Stddev | .0101 | .0002 | .0014 |
| %RSD | 28.14 | 1.415 | 566.2 |
| #1 | .0288 | .0144 | -.0012 |
| #2 | .0432 | .0147 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.7 | 54867. | 13490. |
| Stddev | 2.5 | 104. | 265. |
| %RSD | .10922 | .18922 | 1.9659 |
| #1 | 2269.9 | 54793. | 13677. |
| #2 | 2273.4 | 54940. | 13302. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 17:00:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .2560 | -.0027 | .2972 | .0513 | -.0013 | 66.04 | .0006 | .0147 |
| Stddev | .0038 | .0352 | .0089 | .0072 | .0035 | .0015 | .0004 | .07 | .0005 | .0002 |
| %RSD | 375.9 | 175.0 | 3.460 | 268.9 | 1.172 | 2.831 | 30.24 | .0989 | 74.68 | 1.325 |
| #1 | -.0037 | .0450 | .2498 | .0024 | .2996 | .0524 | -.0010 | 66.09 | .0010 | .0146 |
| #2 | .0017 | -.0048 | .2623 | -.0077 | .2947 | .0503 | -.0015 | 65.99 | .0003 | .0149 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0072 | 51.10 | 9.316 | 10.54 | 2.910 | .0020 | 28.41 | .0015 | -.0012 |
| Stddev | .0008 | .0023 | .34 | .052 | .14 | .004 | .0007 | .27 | .0000 | .0045 |
| %RSD | 167.3 | 31.64 | .6576 | .5584 | 1.281 | .1248 | 34.44 | .9567 | .7683 | 360.3 |
| #1 | -.0001 | .0056 | 50.86 | 9.353 | 10.63 | 2.908 | .0024 | 28.22 | .0015 | .0019 |
| #2 | .0011 | .0088 | 51.33 | 9.280 | 10.44 | 2.913 | .0015 | 28.60 | .0015 | -.0044 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0195 | .0144 | .0072 | .0158 | 7.651 | -.0045 | .4052 | -.0001 | -.0083 | .0042 |
| Stddev | .0025 | .0343 | .0006 | .0004 | .016 | .0044 | .0010 | .0030 | .0065 | .0009 |
| %RSD | 12.70 | 238.6 | 8.286 | 2.579 | .2062 | 97.84 | .2356 | 2276. | 78.28 | 20.42 |
| #1 | .0177 | .0387 | .0068 | .0161 | 7.640 | -.0076 | .4046 | .0020 | -.0130 | .0036 |
| #2 | .0212 | -.0099 | .0076 | .0156 | 7.663 | -.0014 | .4059 | -.0023 | -.0037 | .0048 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0170 | .0145 | .0031 |
| Stddev | .0142 | .0001 | .0014 |
| %RSD | 83.58 | .4407 | 45.05 |
| #1 | -.0069 | .0144 | .0021 |
| #2 | -.0270 | .0145 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2254.9 | 54653. | 13449. |
| Stddev | 7.3 | 122. | 150. |
| %RSD | .32580 | .22264 | 1.1124 |
| #1 | 2260.1 | 54567. | 13555. |
| #2 | 2249.7 | 54739. | 13344. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:04:43 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0164 | .6312 | .0006 | .0595 | .0862 | .0000 | 32.50 | .0054 | .0048 |
| Stddev | .0013 | .0169 | .0048 | .0008 | .0013 | .0004 | .000 | .03 | .0003 | .0001 |
| %RSD | 141.6 | 103.0 | .7629 | 133.2 | 2.234 | .4210 | 316.1 | .1059 | 5.258 | 1.813 |
| #1 | .0018 | .0284 | .6346 | .0000 | .0605 | .0865 | .0000 | 32.52 | .0052 | .0047 |
| #2 | .0000 | .0045 | .6278 | .0011 | .0586 | .0860 | -.0001 | 32.47 | .0056 | .0048 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0020 | 17.74 | 7.148 | 3.907 | 2.147 | .0031 | 24.87 | .0046 | .0027 |
| Stddev | .0002 | .0010 | .07 | .007 | .029 | .001 | .0003 | .05 | .0012 | .0007 |
| %RSD | 53.65 | 50.59 | .4075 | .1037 | .7482 | .0550 | 10.66 | .2088 | 25.96 | 25.29 |
| #1 | -.0006 | .0027 | 17.79 | 7.153 | 3.886 | 2.147 | .0033 | 24.90 | .0055 | .0032 |
| #2 | -.0003 | .0013 | 17.69 | 7.143 | 3.928 | 2.146 | .0028 | 24.83 | .0038 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0045 | .0023 | .0048 | 12.38 | -.0006 | .2745 | .0002 | -.0023 | .0003 |
| Stddev | .0012 | .0224 | .0027 | .0022 | .02 | .0011 | .0005 | .0002 | .0001 | .0017 |
| %RSD | 307.7 | 501.2 | 120.2 | 45.62 | .1739 | 179.6 | .1886 | 80.02 | 5.494 | 666.6 |
| #1 | -.0005 | -.0114 | .0042 | .0033 | 12.40 | -.0014 | .2749 | .0001 | -.0024 | .0014 |
| #2 | .0012 | .0203 | .0003 | .0064 | 12.37 | .0002 | .2742 | .0004 | -.0022 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0166 | .0507 | -.0013 |
| Stddev | .0052 | .0000 | .0009 |
| %RSD | 31.56 | .0111 | 67.77 |
| #1 | -.0129 | .0507 | -.0007 |
| #2 | -.0203 | .0506 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2265.1 | 54762. | 13586. |
| Stddev | 6.2 | 216. | 122. |
| %RSD | .27484 | .39446 | .90065 |
| #1 | 2260.6 | 54609. | 13673. |
| #2 | 2269.5 | 54915. | 13500. |

Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:09:03 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 4.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0014 | .6265 | .0005 | .0596 | .0855 | -.0002 | 32.67 | .0055 | .0048 |
| Stddev | .0029 | .0047 | .0053 | .0034 | .0012 | .0000 | .0006 | .05 | .0000 | .0006 |
| %RSD | 958.2 | 343.2 | .8483 | 654.6 | 2.082 | .0189 | 236.7 | .1477 | .1702 | 11.49 |
| #1 | -.0018 | -.0047 | .6227 | -.0019 | .0587 | .0855 | .0002 | 32.70 | .0055 | .0044 |
| #2 | .0024 | .0019 | .6303 | .0029 | .0605 | .0855 | -.0007 | 32.63 | .0055 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0041 | 17.88 | 7.304 | 3.836 | 2.157 | .0026 | 24.92 | .0042 | -.0003 |
| Stddev | .0003 | .0020 | .03 | .089 | .001 | .002 | .0010 | .04 | .0012 | .0008 |
| %RSD | 18.00 | 49.25 | .1405 | 1.213 | .0373 | .0848 | 37.88 | .1629 | 28.52 | 264.2 |
| #1 | .0016 | .0027 | 17.90 | 7.367 | 3.837 | 2.155 | .0033 | 24.95 | .0033 | .0003 |
| #2 | .0020 | .0056 | 17.86 | 7.242 | 3.835 | 2.158 | .0019 | 24.89 | .0050 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .0105 | .0032 | .0082 | 12.40 | -.0031 | .2799 | -.0002 | .0000 | .0012 |
| Stddev | .0070 | .0023 | .0045 | .0049 | .01 | .0001 | .0004 | .0001 | .0025 | .0009 |
| %RSD | 147.1 | 21.55 | 138.8 | 59.32 | .0572 | 4.300 | .1403 | 28.25 | 27680. | 78.08 |
| #1 | .0097 | .0089 | .0064 | .0116 | 12.39 | -.0032 | .2802 | -.0002 | .0018 | .0018 |
| #2 | -.0002 | .0121 | .0001 | .0048 | 12.40 | -.0030 | .2796 | -.0002 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0058 | .0507 | -.0015 |
| Stddev | .0096 | .0000 | .0018 |
| %RSD | 166.4 | .0364 | 126.6 |
| #1 | .0010 | .0507 | -.0028 |
| #2 | -.0126 | .0507 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.9 | 55420. | 13453. |
| Stddev | 2.5 | 363. | 62. |
| %RSD | .10780 | .65566 | .45737 |
| #1 | 2275.7 | 55677. | 13410. |
| #2 | 2272.2 | 55163. | 13497. |



Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 17:13:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0068 | .0765 | .0004 | .0471 | .0159 | -.0001 | 9.481 | .0007 | .0030 |
| Stddev | .0004 | .0117 | .0021 | .0003 | .0001 | .0007 | .0002 | .004 | .0003 | .0000 |
| %RSD | 197.5 | 172.8 | 2.746 | 69.60 | .1803 | 4.212 | 349.8 | .0419 | 42.29 | .9711 |
| #1 | .0001 | -.0151 | .0779 | .0002 | .0471 | .0154 | -.0002 | 9.478 | .0005 | .0031 |
| #2 | -.0004 | .0015 | .0750 | .0006 | .0470 | .0163 | .0001 | 9.484 | .0009 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0018 | 11.35 | 3.026 | 1.715 | 1.436 | .0007 | 3.820 | .0012 | -.0002 |
| Stddev | .0001 | .0000 | .00 | .023 | .087 | .001 | .0002 | .007 | .0003 | .0010 |
| %RSD | 16.57 | 2.436 | .0217 | .7636 | 5.096 | .0959 | 35.15 | .1879 | 24.16 | 571.8 |
| #1 | .0005 | .0017 | 11.35 | 3.010 | 1.777 | 1.437 | .0009 | 3.815 | .0010 | .0005 |
| #2 | .0007 | .0018 | 11.35 | 3.042 | 1.654 | 1.435 | .0005 | 3.825 | .0014 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0080 | .0017 | .0031 | 4.380 | -.0010 | .0887 | .0003 | -.0021 | .0000 |
| Stddev | .0016 | .0029 | .0001 | .0008 | .005 | .0002 | .0003 | .0006 | .0016 | .0005 |
| %RSD | 63.76 | 36.58 | 4.259 | 26.65 | .1089 | 21.47 | .3252 | 222.6 | 75.67 | 22960. |
| #1 | -.0014 | .0059 | .0017 | .0037 | 4.383 | -.0009 | .0885 | -.0002 | -.0010 | .0004 |
| #2 | -.0036 | .0101 | .0016 | .0025 | 4.376 | -.0012 | .0889 | .0008 | -.0032 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0268 | .0166 | -.0001 |
| Stddev | .0044 | .0004 | .0002 |
| %RSD | 16.45 | 2.282 | 163.6 |
| #1 | .0237 | .0169 | -.0003 |
| #2 | .0299 | .0164 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2264.0 | 55461. | 13516. |
| Stddev | .3 | 42. | 82. |
| %RSD | .01328 | .07659 | .60966 |
| #1 | 2263.8 | 55491. | 13574. |
| #2 | 2264.2 | 55431. | 13457. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 17:17:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | 1.871 | .0082 | .0045 | .0045 | .0070 | -.0001 | 48.56 | .0000 | .0006 |
| Stddev | .0022 | .030 | .0036 | .0017 | .0009 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 260.2 | 1.583 | 43.12 | 36.99 | 19.64 | 1.437 | .7414 | .0163 | 490.4 | 26.61 |
| #1 | -.0024 | 1.850 | .0057 | .0033 | .0051 | .0069 | -.0001 | 48.55 | -.0001 | .0007 |
| #2 | .0007 | 1.892 | .0107 | .0057 | .0038 | .0071 | -.0001 | 48.56 | .0001 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0027 | .9510 | 46.38 | 45.65 | .0042 | .0009 | 45.36 | .0017 | -.0021 |
| Stddev | .0017 | .0004 | .0154 | .44 | .16 | .0009 | .0015 | .07 | .0002 | .0038 |
| %RSD | 721.5 | 13.20 | 1.615 | .9397 | .3605 | 21.43 | 157.3 | .1635 | 14.70 | 183.4 |
| #1 | .0009 | .0029 | .9402 | 46.07 | 45.54 | .0048 | .0020 | 45.31 | .0019 | .0006 |
| #2 | -.0014 | .0024 | .9619 | 46.69 | 45.77 | .0035 | -.0001 | 45.41 | .0015 | -.0047 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0182 | .0036 | .0078 | 2.842 | -.0014 | .0394 | .0013 | -.0025 | -.0031 |
| Stddev | .0092 | .0081 | .0036 | .0038 | .016 | .0005 | .0004 | .0023 | .0003 | .0011 |
| %RSD | 906.8 | 44.44 | 98.54 | 48.74 | .5478 | 35.50 | .9246 | 176.7 | 12.11 | 34.44 |
| #1 | -.0075 | .0239 | .0061 | .0105 | 2.831 | -.0018 | .0397 | .0030 | -.0027 | -.0023 |
| #2 | .0055 | .0125 | .0011 | .0051 | 2.853 | -.0011 | .0392 | -.0003 | -.0022 | -.0038 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0104 | .0018 |
| Stddev | .0095 | .0001 | .0004 |
| %RSD | 1631. | .7053 | 22.81 |
| #1 | .0061 | .0105 | .0021 |
| #2 | -.0073 | .0104 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2283.7 | 55180. | 13525. |
| Stddev | 4.0 | 138. | 55. |
| %RSD | .17716 | .24976 | .40880 |
| #1 | 2286.6 | 55083. | 13564. |
| #2 | 2280.9 | 55278. | 13486. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 17:22:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2057 | 2.086 | .5212 | .0002 | .0017 | 1.969 | .5042 | 25.02 | .5162 | .5221 |
| Stddev | .0050 | .028 | .0118 | .0028 | .0012 | .002 | .0009 | .05 | .0006 | .0004 |
| %RSD | 2.454 | 1.326 | 2.263 | 1434. | 70.56 | .0764 | .1856 | .2085 | .1128 | .0813 |
| #1 | .2022 | 2.066 | .5296 | .0022 | .0009 | 1.971 | .5035 | 25.06 | .5166 | .5224 |
| #2 | .2093 | 2.106 | .5129 | -.0018 | .0026 | 1.968 | .5049 | 24.99 | .5158 | .5218 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5151 | .4896 | 2.062 | 25.60 | 24.57 | .4937 | .0001 | 25.05 | .5031 | .9947 |
| Stddev | .0018 | .0031 | .004 | .08 | .21 | .0001 | .0001 | .01 | .0000 | .0030 |
| %RSD | .3591 | .6368 | .2081 | .2942 | .8680 | .0170 | 99.09 | .0321 | .0091 | .2993 |
| #1 | .5164 | .4873 | 2.065 | 25.54 | 24.42 | .4936 | .0000 | 25.05 | .5031 | .9968 |
| #2 | .5138 | .4918 | 2.059 | 25.65 | 24.72 | .4938 | .0002 | 25.06 | .5031 | .9926 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0063 | .5244 | .5170 | .0282 | -.0034 | .4885 | .5064 | .5050 | .5140 |
| Stddev | .0026 | .0443 | .0033 | .0016 | .0004 | .0003 | .0002 | .0012 | .0033 | .0054 |
| %RSD | 190.4 | 701.6 | .6314 | .3055 | 1.539 | 7.882 | .0412 | .2375 | .6627 | 1.045 |
| #1 | -.0032 | .0250 | .5268 | .5181 | .0279 | -.0036 | .4887 | .5055 | .5026 | .5102 |
| #2 | .0005 | -.0376 | .5221 | .5158 | .0285 | -.0032 | .4884 | .5072 | .5073 | .5178 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0149 | .5197 | .0004 |
| Stddev | .0148 | .0007 | .0001 |
| %RSD | 99.73 | .1270 | 21.56 |
| #1 | .0254 | .5192 | .0005 |
| #2 | .0044 | .5202 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.0 | 54775. | 13551. |
| Stddev | 5.2 | 41. | 83. |
| %RSD | .22809 | .07496 | .61288 |
| #1 | 2280.3 | 54746. | 13609. |
| #2 | 2287.7 | 54804. | 13492. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:26:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2014 | 2.065 | 1.088 | -.0022 | .2547 | 2.094 | .5004 | 88.42 | .5170 | .5176 |
| Stddev | .0039 | .040 | .004 | .0075 | .0031 | .003 | .0021 | .31 | .0001 | .0005 |
| %RSD | 1.959 | 1.934 | .3351 | 347.4 | 1.212 | .1217 | .4196 | .3497 | .0206 | .1030 |
| #1 | .2042 | 2.093 | 1.090 | -.0075 | .2525 | 2.096 | .5019 | 88.64 | .5171 | .5173 |
| #2 | .1986 | 2.037 | 1.085 | .0031 | .2569 | 2.092 | .4989 | 88.20 | .5170 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5153 | .4847 | 84.60 | 36.28 | 33.20 | 1.642 | .0009 | 39.51 | .5020 | .9942 |
| Stddev | .0021 | .0022 | .21 | .01 | .61 | .009 | .0002 | .18 | .0010 | .0014 |
| %RSD | .4152 | .4625 | .2470 | .0186 | 1.836 | .5148 | 26.23 | .4647 | .1915 | .1391 |
| #1 | .5138 | .4832 | 84.75 | 36.28 | 33.63 | 1.647 | .0007 | 39.64 | .5013 | .9952 |
| #2 | .5168 | .4863 | 84.45 | 36.29 | 32.77 | 1.636 | .0011 | 39.38 | .5027 | .9932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0092 | .5201 | .5114 | 13.33 | -.0026 | 1.220 | .5026 | .5013 | .5156 |
| Stddev | .0036 | .0232 | .0059 | .0007 | .01 | .0007 | .003 | .0021 | .0017 | .0003 |
| %RSD | 96.96 | 250.9 | 1.135 | .1455 | .0933 | 26.86 | .2288 | .4149 | .3375 | .0493 |
| #1 | .0062 | -.0072 | .5159 | .5120 | 13.32 | -.0021 | 1.222 | .5011 | .5001 | .5158 |
| #2 | .0012 | .0256 | .5243 | .5109 | 13.34 | -.0031 | 1.218 | .5041 | .5025 | .5154 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0211 | .5158 | -.0027 |
| Stddev | .0198 | .0005 | .0042 |
| %RSD | 93.59 | .0907 | 155.7 |
| #1 | -.0071 | .5161 | -.0056 |
| #2 | -.0351 | .5155 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54707. | 13666. |
| Stddev | 3.0 | 319. | 49. |
| %RSD | .13346 | .58342 | .35604 |
| #1 | 2269.5 | 54481. | 13631. |
| #2 | 2265.2 | 54932. | 13700. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 17:30:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.869 | 1.966 | .0006 | 1.969 | 1.937 | 1.919 | 9.790 | 1.958 | 2.034 |
| Stddev | .0006 | .090 | .002 | .0007 | .001 | .015 | .013 | .077 | .002 | .000 |
| %RSD | .2330 | .9144 | .1042 | 117.0 | .0514 | .7496 | .6783 | .7887 | .1094 | .0215 |
| #1 | .2433 | 9.806 | 1.964 | .0001 | 1.968 | 1.926 | 1.910 | 9.735 | 1.960 | 2.034 |
| #2 | .2441 | 9.933 | 1.967 | .0011 | 1.970 | 1.947 | 1.928 | 9.844 | 1.957 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.910 | 9.875 | 9.724 | 9.429 | 1.893 | 1.965 | 9.889 | 1.966 | 1.917 |
| Stddev | .007 | .003 | .078 | .127 | .063 | .004 | .000 | .057 | .000 | .000 |
| %RSD | .3791 | .1578 | .7865 | 1.304 | .6719 | .2265 | .0216 | .5780 | .0202 | .0156 |
| #1 | 1.915 | 1.908 | 9.820 | 9.634 | 9.384 | 1.890 | 1.965 | 9.849 | 1.966 | 1.917 |
| #2 | 1.925 | 1.912 | 9.930 | 9.813 | 9.474 | 1.896 | 1.965 | 9.929 | 1.966 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0067 | 2.006 | 1.988 | .0562 | 1.960 | 1.922 | 1.937 | 1.944 | 1.913 |
| Stddev | .0015 | .0036 | .002 | .003 | .0006 | .000 | .012 | .007 | .000 | .005 |
| %RSD | 143.8 | 53.90 | .1006 | .1256 | 1.143 | .0122 | .6020 | .3709 | .0019 | .2508 |
| #1 | .0000 | .0092 | 2.004 | 1.986 | .0567 | 1.960 | 1.914 | 1.932 | 1.944 | 1.910 |
| #2 | .0022 | .0041 | 2.007 | 1.990 | .0558 | 1.960 | 1.930 | 1.942 | 1.944 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.901 | -.0048 |
| Stddev | .0086 | .001 | .0004 |
| %RSD | 71.19 | .0725 | 9.216 |
| #1 | -.0060 | 1.902 | -.0051 |
| #2 | -.0182 | 1.900 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.9 | 54527. | 13483. |
| Stddev | 5.7 | 151. | 161. |
| %RSD | .24952 | .27623 | 1.1948 |
| #1 | 2263.9 | 54634. | 13597. |
| #2 | 2271.9 | 54421. | 13369. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 17:34:52 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0108 | .0012 | .0009 | .0024 | .0007 | F.0005 | -.0002 | .0004 |
| Stddev | .0008 | .0034 | .0006 | .0002 | .0000 | .0001 | .0000 | .0005 | .0001 |
| %RSD | 605.0 | 31.45 | 50.46 | 22.98 | .9217 | 10.52 | 6.663 | 238.8 | 21.60 |
| #1 | -.0005 | .0132 | .0008 | .0011 | .0024 | .0007 | .0006 | -.0006 | .0004 |
| #2 | .0007 | .0084 | .0016 | .0008 | .0025 | .0006 | .0005 | .0002 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0014 | .0064 | .0005 | .0007 | .0006 | .0011 | -.0284 |
| Stddev | .0000 | .0002 | .0001 | .0000 | .0126 | .0024 | .0001 | .0002 | .0017 |
| %RSD | 6.109 | 19.83 | 8.072 | .4637 | 2340. | 339.5 | 9.911 | 18.80 | 6.079 |
| #1 | .0003 | .0007 | .0013 | .0064 | .0095 | .0024 | .0006 | .0012 | -.0297 |
| #2 | .0003 | .0010 | .0015 | .0065 | -.0084 | -.0010 | .0006 | .0009 | -.0272 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0001 | .0012 | .0055 | .0009 | .0032 | .0035 | .0001 | .0006 |
| Stddev | .0002 | .0005 | .0004 | .0027 | .0005 | .0000 | .0008 | .0002 | .0001 |
| %RSD | 122.7 | 388.1 | 30.60 | 48.73 | 58.82 | 1.208 | 21.89 | 344.6 | 19.33 |
| #1 | .0004 | -.0002 | .0014 | .0073 | .0005 | .0031 | .0029 | .0002 | .0007 |
| #2 | .0000 | .0005 | .0009 | .0036 | .0013 | .0032 | .0040 | -.0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0011 | .0018 | .0002 | .0006 | .0005 | .0002 |
| Stddev | .0003 | .0010 | .0001 | .0005 | .0000 | .0003 |
| %RSD | 28.40 | 58.32 | 58.13 | 86.72 | .8948 | 174.0 |
| #1 | .0013 | .0025 | .0001 | .0002 | .0005 | .0000 |
| #2 | .0009 | .0011 | .0003 | .0010 | .0005 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.3 | 55420. | 13668. |
| Stddev | 2.6 | 399. | 57. |
| %RSD | .11543 | .71932 | .41496 |
| #1 | 2276.4 | 55138. | 13708. |
| #2 | 2280.2 | 55702. | 13628. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:39:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.053 | 1.102 | -.0003 | .2604 | 2.117 | .5071 | 89.55 | .5198 | .5196 |
| Stddev | .0005 | .023 | .003 | .0067 | .0001 | .001 | .0046 | .14 | .0018 | .0013 |
| %RSD | .2574 | 1.132 | .2974 | 2342. | .0363 | .0340 | .9154 | .1563 | .3490 | .2490 |
| #1 | .2013 | 2.070 | 1.104 | -.0050 | .2605 | 2.116 | .5104 | 89.65 | .5185 | .5206 |
| #2 | .2006 | 2.037 | 1.099 | .0045 | .2604 | 2.117 | .5039 | 89.45 | .5211 | .5187 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5155 | .4917 | 85.68 | 37.04 | 33.66 | 1.645 | .0018 | 40.04 | .5051 | .9958 |
| Stddev | .0014 | .0022 | .11 | .05 | .17 | .001 | .0004 | .04 | .0014 | .0025 |
| %RSD | .2628 | .4480 | .1240 | .1231 | .4931 | .0525 | 21.97 | .0982 | .2838 | .2507 |
| #1 | .5145 | .4932 | 85.76 | 37.00 | 33.54 | 1.646 | .0020 | 40.06 | .5041 | .9940 |
| #2 | .5165 | .4901 | 85.61 | 37.07 | 33.78 | 1.645 | .0015 | 40.01 | .5062 | .9975 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .0005 | .5279 | .5182 | 13.56 | -.0029 | 1.232 | .5091 | .5072 | .5153 |
| Stddev | .0122 | .0178 | .0051 | .0020 | .03 | .0004 | .000 | .0006 | .0005 | .0010 |
| %RSD | 226.9 | 3350. | .9731 | .3773 | .1843 | 13.35 | .0055 | .1181 | .0978 | .1989 |
| #1 | .0032 | .0131 | .5315 | .5196 | 13.55 | -.0026 | 1.232 | .5096 | .5075 | .5146 |
| #2 | -.0139 | -.0120 | .5243 | .5168 | 13.58 | -.0031 | 1.232 | .5087 | .5068 | .5160 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0171 | .5185 | -.0036 |
| Stddev | .0171 | .0000 | .0002 |
| %RSD | 100.1 | .0038 | 4.237 |
| #1 | -.0050 | .5186 | -.0037 |
| #2 | -.0292 | .5185 | -.0035 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.1 | 54856. | 13653. |
| Stddev | 2.5 | 16. | 3. |
| %RSD | .10895 | .02941 | .02299 |
| #1 | 2257.8 | 54845. | 13655. |
| #2 | 2254.3 | 54868. | 13651. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:43:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2008 | 2.083 | 1.102 | -.0006 | .2607 | 2.110 | .5034 | 88.92 | .5191 | .5174 |
| Stddev | .0060 | .131 | .006 | .0026 | .0010 | .008 | .0073 | .36 | .0012 | .0006 |
| %RSD | 2.969 | 6.303 | .5165 | 437.0 | .3696 | .3874 | 1.452 | .4083 | .2401 | .1106 |
| #1 | .1966 | 2.175 | 1.106 | -.0025 | .2614 | 2.116 | .5086 | 89.17 | .5199 | .5178 |
| #2 | .2050 | 1.990 | 1.098 | .0013 | .2600 | 2.104 | .4983 | 88.66 | .5182 | .5170 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5119 | .4876 | 85.09 | 37.11 | 33.36 | 1.636 | .0008 | 39.59 | .5061 | .9949 |
| Stddev | .0004 | .0047 | .64 | .98 | .12 | .001 | .0006 | .20 | .0035 | .0040 |
| %RSD | .0757 | .9610 | .7530 | 2.630 | .3604 | .0731 | 67.31 | .5172 | .6824 | .4026 |
| #1 | .5121 | .4909 | 85.54 | 37.80 | 33.44 | 1.635 | .0012 | 39.73 | .5085 | .9921 |
| #2 | .5116 | .4842 | 84.63 | 36.42 | 33.27 | 1.637 | .0004 | 39.44 | .5036 | .9978 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0193 | .0267 | .5298 | .5188 | 13.37 | -.0071 | 1.221 | .5032 | .5014 | .5033 |
| Stddev | .0093 | .0084 | .0002 | .0038 | .01 | .0009 | .005 | .0049 | .0105 | .0087 |
| %RSD | 48.05 | 31.56 | .0460 | .7321 | .0812 | 12.99 | .4474 | .9780 | 2.102 | 1.721 |
| #1 | .0259 | .0208 | .5299 | .5161 | 13.38 | -.0077 | 1.225 | .4998 | .4939 | .5094 |
| #2 | .0128 | .0327 | .5296 | .5214 | 13.36 | -.0064 | 1.217 | .5067 | .5088 | .4972 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5318 | -.0002 |
| Stddev | .0528 | .0002 | .0013 |
| %RSD | 402.8 | .0386 | 767.3 |
| #1 | .0504 | .5319 | -.0011 |
| #2 | -.0242 | .5316 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.3 | 54842. | 13513. |
| Stddev | 3.7 | 39. | 214. |
| %RSD | .16209 | .07155 | 1.5843 |
| #1 | 2259.7 | 54814. | 13362. |
| #2 | 2264.9 | 54870. | 13664. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:47:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1983 | 2.113 | 1.098 | .0003 | .2596 | 2.110 | .5030 | 89.51 | .5165 | .5171 |
| Stddev | .0088 | .092 | .019 | .0029 | .0017 | .003 | .0057 | .08 | .0018 | .0009 |
| %RSD | 4.416 | 4.336 | 1.760 | 1095. | .6468 | .1228 | 1.139 | .0918 | .3550 | .1700 |
| #1 | .2045 | 2.048 | 1.085 | .0023 | .2608 | 2.109 | .5070 | 89.45 | .5178 | .5177 |
| #2 | .1921 | 2.178 | 1.112 | -.0018 | .2584 | 2.112 | .4989 | 89.57 | .5152 | .5165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5091 | .4865 | 85.86 | 36.99 | 33.75 | 1.646 | .0010 | 39.73 | .5035 | .9902 |
| Stddev | .0029 | .0016 | .33 | .60 | .12 | .003 | .0007 | .04 | .0018 | .0037 |
| %RSD | .5715 | .3321 | .3854 | 1.622 | .3685 | .1766 | 74.15 | .0970 | .3585 | .3728 |
| #1 | .5070 | .4854 | 85.63 | 37.41 | 33.84 | 1.644 | .0015 | 39.70 | .5048 | .9928 |
| #2 | .5112 | .4877 | 86.10 | 36.57 | 33.66 | 1.648 | .0005 | 39.75 | .5022 | .9876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0107 | -.0200 | .5302 | .5298 | 13.47 | -.0053 | 1.226 | .4999 | .5042 | .5060 |
| Stddev | .0074 | .1136 | .0003 | .0015 | .01 | .0037 | .004 | .0023 | .0002 | .0059 |
| %RSD | 69.03 | 569.4 | .0544 | .2749 | .1060 | 69.00 | .3361 | .4595 | .0473 | 1.159 |
| #1 | .0159 | -.1003 | .5300 | .5288 | 13.46 | -.0027 | 1.223 | .4982 | .5044 | .5018 |
| #2 | .0055 | .0604 | .5304 | .5309 | 13.48 | -.0080 | 1.229 | .5015 | .5041 | .5101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5164 | -.0002 |
| Stddev | .0059 | .0005 | .0039 |
| %RSD | 76.62 | .0878 | 2172. |
| #1 | -.0035 | .5161 | -.0030 |
| #2 | -.0119 | .5167 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.5 | 54878. | 13616. |
| Stddev | 2.6 | 318. | 49. |
| %RSD | .11669 | .58036 | .36285 |
| #1 | 2271.4 | 55103. | 13651. |
| #2 | 2267.6 | 54652. | 13581. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0080 | .5717 | .0017 | .2520 | .1425 | -.0001 | 63.98 | .0046 | -.0009 |
| Stddev | .0009 | .0183 | .0010 | .0016 | .0009 | .0008 | .0001 | .13 | .0002 | .0000 |
| %RSD | 97.61 | 230.4 | .1822 | 99.50 | .3547 | .5526 | 136.6 | .2068 | 4.445 | .4861 |
| #1 | .0003 | .0209 | .5710 | .0005 | .2527 | .1419 | .0000 | 63.89 | .0044 | -.0009 |
| #2 | .0015 | -.0050 | .5725 | .0028 | .2514 | .1431 | -.0001 | 64.07 | .0047 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0031 | 81.86 | 11.63 | 9.024 | 1.149 | .0000 | 14.57 | .0020 | -.0003 |
| Stddev | .0008 | .0002 | .24 | .09 | .060 | .003 | .0001 | .03 | .0001 | .0003 |
| %RSD | 404.9 | 5.108 | .2979 | .7556 | .6640 | .2562 | 356.7 | .2280 | 4.519 | 81.55 |
| #1 | -.0007 | .0029 | 81.69 | 11.57 | 8.982 | 1.151 | .0000 | 14.55 | .0020 | -.0005 |
| #2 | .0004 | .0032 | 82.04 | 11.69 | 9.066 | 1.147 | .0001 | 14.59 | .0019 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | -.0016 | .0016 | .0058 | 13.38 | -.0011 | .7344 | .0010 | -.0001 | .0005 |
| Stddev | .0013 | .0016 | .0003 | .0035 | .01 | .0001 | .0022 | .0002 | .0024 | .0001 |
| %RSD | 46.99 | 99.70 | 15.68 | 59.82 | .1078 | 6.339 | .2938 | 14.65 | 2283. | 27.59 |
| #1 | .0018 | -.0005 | .0014 | .0082 | 13.37 | -.0010 | .7329 | .0009 | .0016 | .0004 |
| #2 | .0037 | -.0027 | .0018 | .0033 | 13.39 | -.0011 | .7359 | .0012 | -.0018 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0064 | .0055 | -.0024 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 2.814 | .9743 | 4.138 |
| #1 | -.0066 | .0055 | -.0025 |
| #2 | -.0063 | .0056 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.4 | 55010. | 13618. |
| Stddev | 3.0 | 229. | 45. |
| %RSD | .13085 | .41682 | .33321 |
| #1 | 2254.3 | 54848. | 13650. |
| #2 | 2258.5 | 55172. | 13586. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:56:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0139 | .5711 | .0078 | .2550 | .1452 | -.0008 | 65.46 | .0037 | -.0012 |
| Stddev | .0013 | .0643 | .0119 | .0074 | .0010 | .0011 | .0002 | .32 | .0004 | .0007 |
| %RSD | 73.74 | 461.5 | 2.085 | 94.57 | .4038 | .7817 | 23.02 | .4872 | 11.58 | 56.89 |
| #1 | .0027 | -.0594 | .5795 | .0026 | .2542 | .1460 | -.0007 | 65.69 | .0040 | -.0007 |
| #2 | .0009 | .0315 | .5627 | .0130 | .2557 | .1444 | -.0010 | 65.24 | .0034 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0082 | 83.38 | 11.58 | 9.163 | 1.171 | .0005 | 14.76 | .0023 | .0025 |
| Stddev | .0007 | .0047 | .25 | .59 | .170 | .006 | .0010 | .08 | .0006 | .0010 |
| %RSD | 28.80 | 57.38 | .2972 | 5.064 | 1.850 | .5218 | 200.8 | .5388 | 24.35 | 37.73 |
| #1 | -.0031 | .0115 | 83.55 | 11.99 | 9.283 | 1.166 | .0012 | 14.82 | .0027 | .0032 |
| #2 | -.0020 | .0049 | 83.20 | 11.16 | 9.043 | 1.175 | -.0002 | 14.70 | .0019 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0202 | .0123 | .0089 | .0128 | 13.37 | -.0047 | .7592 | -.0010 | .0101 | .0031 |
| Stddev | .0101 | .0115 | .0111 | .0219 | .06 | .0042 | .0001 | .0008 | .0018 | .0033 |
| %RSD | 50.17 | 93.58 | 124.3 | 171.3 | .4701 | 88.26 | .0087 | 81.31 | 17.56 | 105.2 |
| #1 | .0130 | .0041 | .0168 | -.0027 | 13.32 | -.0018 | .7593 | -.0016 | .0088 | .0008 |
| #2 | .0273 | .0204 | .0011 | .0283 | 13.41 | -.0077 | .7592 | -.0004 | .0114 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0250 | .0086 | .0025 |
| Stddev | .0036 | .0001 | .0068 |
| %RSD | 14.37 | 1.301 | 269.9 |
| #1 | .0225 | .0087 | .0074 |
| #2 | .0276 | .0085 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 55268. | 13562. |
| Stddev | 6.0 | 424. | 37. |
| %RSD | .26423 | .76628 | .27587 |
| #1 | 2283.1 | 55567. | 13536. |
| #2 | 2274.6 | 54968. | 13589. |

Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:00:47 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0258 | .5803 | .0007 | .2568 | .1436 | -.0003 | 64.91 | .0036 | -.0013 |
| Stddev | .0025 | .0628 | .0100 | .0015 | .0003 | .0005 | .0002 | .27 | .0027 | .0004 |
| %RSD | 153.8 | 243.2 | 1.731 | 217.9 | .1022 | .3592 | 52.89 | .4189 | 74.85 | 32.94 |
| #1 | .0034 | .0702 | .5874 | .0017 | .2566 | .1439 | -.0004 | 64.72 | .0017 | -.0010 |
| #2 | -.0001 | -.0186 | .5732 | -.0004 | .2570 | .1432 | -.0002 | 65.10 | .0055 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0054 | 83.14 | 11.86 | 9.287 | 1.171 | -.0003 | 14.74 | -.0001 | .0008 |
| Stddev | .0032 | .0002 | .24 | .32 | .157 | .005 | .0006 | .07 | .0014 | .0042 |
| %RSD | 605.0 | 4.347 | .2839 | 2.714 | 1.686 | .4017 | 167.6 | .4658 | 1194. | 529.7 |
| #1 | .0028 | .0056 | 82.98 | 12.09 | 9.176 | 1.168 | .0001 | 14.69 | .0009 | .0038 |
| #2 | -.0017 | .0053 | 83.31 | 11.63 | 9.397 | 1.175 | -.0008 | 14.79 | -.0011 | -.0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0065 | -.0192 | .0022 | .0145 | 13.29 | -.0019 | .7570 | -.0037 | .0060 | -.0004 |
| Stddev | .0109 | .0159 | .0088 | .0172 | .04 | .0006 | .0018 | .0028 | .0000 | .0038 |
| %RSD | 168.5 | 82.83 | 407.4 | 118.7 | .2758 | 34.62 | .2382 | 75.47 | .2716 | 944.4 |
| #1 | .0142 | -.0304 | .0084 | .0267 | 13.26 | -.0014 | .7558 | -.0057 | .0060 | .0023 |
| #2 | -.0012 | -.0079 | -.0041 | .0023 | 13.32 | -.0023 | .7583 | -.0017 | .0060 | -.0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0116 | .0079 | -.0003 |
| Stddev | .0392 | .0002 | .0015 |
| %RSD | 338.6 | 3.083 | 460.4 |
| #1 | -.0393 | .0077 | -.0014 |
| #2 | .0162 | .0080 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2275.5 | 54890. | 13474. |
| Stddev | .7 | 458. | 43. |
| %RSD | .03195 | .83390 | .31973 |
| #1 | 2276.0 | 55214. | 13505. |
| #2 | 2275.0 | 54567. | 13444. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:05:09 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0578 | .6322 | .0044 | .2718 | .1566 | -.0004 | 70.13 | .0036 | .0006 |
| Stddev | .0007 | .0701 | .0013 | .0031 | .0006 | .0042 | .0002 | .15 | .0007 | .0010 |
| %RSD | 23.61 | 121.2 | .2060 | 69.80 | .2353 | 2.669 | 56.39 | .2208 | 17.98 | 169.1 |
| #1 | -.0036 | .0083 | .6313 | .0022 | .2723 | .1596 | -.0002 | 70.03 | .0041 | .0013 |
| #2 | -.0026 | .1074 | .6331 | .0066 | .2714 | .1537 | -.0005 | 70.24 | .0032 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0037 | 89.36 | 12.70 | 9.890 | 1.257 | -.0003 | 15.76 | .0028 | .0029 |
| Stddev | .0060 | .0035 | .33 | .47 | .192 | .002 | .0005 | .07 | .0027 | .0036 |
| %RSD | 382.7 | 93.23 | .3739 | 3.725 | 1.940 | .1716 | 156.5 | .4386 | 98.30 | 126.5 |
| #1 | -.0027 | .0013 | 89.12 | 12.36 | 10.03 | 1.259 | .0000 | 15.71 | .0008 | .0003 |
| #2 | .0058 | .0061 | 89.59 | 13.03 | 9.755 | 1.256 | -.0007 | 15.80 | .0047 | .0055 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0344 | .0064 | .0039 | 14.35 | -.0033 | .8161 | -.0038 | .0028 | .0035 |
| Stddev | .0085 | .0345 | .0072 | .0004 | .04 | .0008 | .0021 | .0042 | .0027 | .0024 |
| %RSD | 115.4 | 100.4 | 112.2 | 9.124 | .3081 | 22.91 | .2515 | 110.3 | 96.30 | 69.61 |
| #1 | -.0135 | -.0100 | .0013 | .0037 | 14.38 | -.0039 | .8146 | -.0008 | .0009 | .0018 |
| #2 | -.0014 | -.0588 | .0115 | .0042 | 14.32 | -.0028 | .8176 | -.0068 | .0046 | .0052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0373 | .0120 | .0023 |
| Stddev | .0285 | .0009 | .0034 |
| %RSD | 76.49 | 7.792 | 148.6 |
| #1 | -.0575 | .0127 | -.0001 |
| #2 | -.0171 | .0113 | .0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.8 | 55194. | 13563. |
| Stddev | 5.1 | 131. | 124. |
| %RSD | .22347 | .23751 | .91736 |
| #1 | 2270.3 | 55287. | 13651. |
| #2 | 2277.4 | 55101. | 13475. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 18:09:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0056 | .2161 | F.0056 | .0004 | .1009 | .0512 | .0041 | 4.939 | .0042 |
| Stddev | .0006 | .0089 | .0007 | .0002 | .0000 | .0001 | .0001 | .035 | .0001 |
| %RSD | 9.811 | 4.100 | 13.30 | 48.61 | .0022 | .1265 | 1.684 | .7058 | 2.944 |
| #1 | .0060 | .2224 | .0050 | .0006 | .1009 | .0511 | .0040 | 4.914 | .0043 |
| #2 | .0052 | .2099 | .0061 | .0003 | .1009 | .0512 | .0041 | 4.964 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0522 | .0100 | .0246 | .1034 | 4.929 | 4.795 | .0150 | .1017 | 4.916 |
| Stddev | .0000 | .0002 | .0003 | .0003 | .044 | .064 | .0001 | .0001 | .017 |
| %RSD | .0537 | 1.891 | 1.291 | .2912 | .9016 | 1.331 | .5540 | .1054 | .3493 |
| #1 | .0522 | .0099 | .0244 | .1036 | 4.897 | 4.750 | .0149 | .1018 | 4.904 |
| #2 | .0522 | .0101 | .0248 | .1032 | 4.960 | 4.840 | .0150 | .1016 | 4.928 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | .0002 | .0001 | .0072 | F.0132 | -.0048 | .0992 | .0100 |
| Stddev | .0003 | .0002 | .0005 | .0043 | .0013 | .0005 | .0005 | .0010 | .0001 |
| %RSD | .7647 | 3.076 | 340.9 | 5362. | 18.06 | 3.467 | 10.33 | .9706 | .9938 |
| #1 | .0412 | .0056 | .0005 | .0031 | .0063 | .0135 | -.0044 | .0985 | .0100 |
| #2 | .0408 | .0053 | -.0002 | -.0029 | .0082 | .0128 | -.0051 | .0999 | .0101 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0511 | .0054 | .0100 | -.0007 | .0206 | .0000 |
| Stddev | .0001 | .0008 | .0004 | .0006 | .0000 | .0002 |
| %RSD | .1138 | 14.67 | 4.402 | 81.83 | .0887 | 992.3 |
| #1 | .0511 | .0060 | .0097 | -.0011 | .0206 | .0002 |
| #2 | .0510 | .0048 | .0103 | -.0003 | .0206 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2282.7 | 55170. | 13495. |
| Stddev | .4 | 68. | 156. |
| %RSD | .01859 | .12274 | 1.1586 |
| #1 | 2282.4 | 55122. | 13606. |
| #2 | 2283.0 | 55218. | 13385. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 18:13:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2434 | 9.856 | 1.965 | -.0005 | 1.974 | 1.952 | 1.937 | 9.785 | 1.957 | 2.028 |
| Stddev | .0003 | .168 | .001 | .0001 | .002 | .029 | .031 | .187 | .002 | .001 |
| %RSD | .1058 | 1.704 | .0399 | 23.92 | .1083 | 1.503 | 1.619 | 1.911 | .1116 | .0339 |
| #1 | .2436 | 9.737 | 1.964 | -.0005 | 1.972 | 1.931 | 1.914 | 9.652 | 1.955 | 2.028 |
| #2 | .2433 | 9.975 | 1.965 | -.0006 | 1.975 | 1.973 | 1.959 | 9.917 | 1.958 | 2.029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.915 | 1.917 | 9.832 | 9.770 | 9.525 | 1.898 | 1.957 | 9.849 | 1.956 | 1.918 |
| Stddev | .013 | .006 | .162 | .156 | .117 | .012 | .002 | .145 | .002 | .002 |
| %RSD | .6860 | .3320 | 1.643 | 1.593 | 1.225 | .6541 | .0905 | 1.476 | .1156 | .1118 |
| #1 | 1.924 | 1.921 | 9.717 | 9.660 | 9.443 | 1.907 | 1.956 | 9.746 | 1.955 | 1.919 |
| #2 | 1.906 | 1.912 | 9.946 | 9.880 | 9.608 | 1.889 | 1.958 | 9.951 | 1.958 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0003 | 1.997 | 1.996 | .0011 | 1.937 | 1.930 | 1.927 | 1.943 | 1.914 |
| Stddev | .0000 | .0030 | .001 | .001 | .0009 | .001 | .029 | .010 | .000 | .011 |
| %RSD | .5549 | 1030. | .0695 | .0424 | 83.13 | .0451 | 1.476 | .5230 | .0129 | .5812 |
| #1 | .0017 | -.0024 | 1.996 | 1.995 | .0005 | 1.936 | 1.910 | 1.934 | 1.943 | 1.922 |
| #2 | .0017 | .0018 | 1.998 | 1.997 | .0018 | 1.938 | 1.950 | 1.920 | 1.943 | 1.907 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.898 | -.0049 |
| Stddev | .0057 | .000 | .0001 |
| %RSD | 68.75 | .0004 | 2.095 |
| #1 | -.0042 | 1.898 | -.0050 |
| #2 | -.0123 | 1.898 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.3 | 55006. | 13420. |
| Stddev | 2.0 | 569. | 403. |
| %RSD | .08680 | 1.0353 | 3.0030 |
| #1 | 2272.6 | 54604. | 13705. |
| #2 | 2269.9 | 55409. | 13135. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/3/2013 18:18:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0049 | .0020 | -.0005 | .0023 | .0006 | F.0006 | -.0039 | F.0006 |
| Stddev | .0006 | .0074 | .0001 | .0004 | .0000 | .0002 | .0000 | .0005 | .0001 |
| %RSD | 181.3 | 149.8 | 7.143 | 67.19 | .0920 | 36.12 | .2459 | 13.38 | 14.96 |
| #1 | -.0001 | .0101 | .0019 | -.0008 | .0023 | .0008 | .0006 | -.0035 | .0006 |
| #2 | .0007 | -.0003 | .0021 | -.0003 | .0023 | .0005 | .0006 | -.0042 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0006 | .0013 | .0043 | .0041 | .0104 | .0006 | .0013 | -.0375 |
| Stddev | .0001 | .0004 | .0001 | .0005 | .0394 | .0052 | .0000 | .0003 | .0075 |
| %RSD | 15.12 | 67.56 | 8.926 | 12.30 | 958.6 | 49.78 | 1.434 | 23.31 | 20.05 |
| #1 | .0004 | .0003 | .0013 | .0039 | .0320 | .0067 | .0006 | .0015 | -.0429 |
| #2 | .0005 | .0009 | .0012 | .0047 | -.0238 | .0141 | .0006 | .0011 | -.0322 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0004 | .0022 | .0060 | .0016 | .0018 | -.0041 | .0003 | .0005 |
| Stddev | .0001 | .0001 | .0004 | .0030 | .0002 | .0008 | .0016 | .0004 | .0000 |
| %RSD | 17.95 | 33.23 | 17.78 | 50.55 | 9.557 | 46.23 | 37.67 | 119.5 | 1.536 |
| #1 | .0004 | .0003 | .0024 | .0081 | .0017 | .0024 | -.0030 | .0006 | .0006 |
| #2 | .0005 | .0005 | .0019 | .0039 | .0015 | .0012 | -.0052 | .0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0020 | .0007 | -.0026 | .0007 | .0003 |
| Stddev | .0001 | .0009 | .0005 | .0073 | .0000 | .0002 |
| %RSD | 20.53 | 44.76 | 65.70 | 275.9 | 3.395 | 64.86 |
| #1 | .0007 | .0013 | .0011 | -.0078 | .0006 | .0005 |
| #2 | .0005 | .0026 | .0004 | .0025 | .0007 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2272.3 | 54937. | 13557. |
| Stddev | 1.4 | 58. | 85. |
| %RSD | .06020 | .10581 | .62944 |
| #1 | 2271.3 | 54979. | 13497. |
| #2 | 2273.3 | 54896. | 13617. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000004 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000065 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006083 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000088 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000139 | 0.000000 | No |
| | | | Al | 0.000025 | 0.000000 | No |
| | | | Mo | 0.001441 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000219 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000740 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000546 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | Fe | 0.000014 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | Mn | 0.000138 | 0.000000 | No |
| | | | Mo | -0.001469 | 0.000000 | No |
| | | | Co | -0.000081 | 0.000000 | No |
| | | | Cu | 0.000227 | 0.000000 | No |
| | | | Ca | -0.000006 | 0.000000 | No |
| | | | Fe | 0.000025 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | 0.000160 | 0.000000 | No |
| | | | Si | -0.000042 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000351 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.007692 | 0.000000 | No |
| | | | Ni | 0.000902 | 0.000000 | No |
| | | | Mn | -0.007038 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000035 | 0.000000 | No |
| | | | Cr | 0.010593 | 0.000000 | No |
| | | | Mo | -0.004098 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | Ni | -0.000400 | 0.000000 | No |
| | | | V | -0.001401 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ti | 0.000231 | 0.000000 | No |
| | | | Cu | 0.000039 | 0.000000 | No |
| | | | Sn | -0.007401 | 0.000000 | No |
| | | | Pt | -0.002057 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000219 | 0.000000 | No |
| | | | Mn | 0.000294 | 0.000000 | No |
| | | | Mo | 0.000014 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Na | -0.000003 | 0.000000 | No |
| | | | Co | -0.000612 | 0.000000 | No |
| | | | Pd | -0.003371 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | Ti | 0.015670 | 0.000000 | No |
| | | | Mo | 0.023054 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.001919 | 0.000000 | No |
| | | | Cr | 0.000325 | 0.000000 | No |
| | | | V | -0.025440 | 0.000000 | No |
| | | | Co | 0.001673 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001617 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.000766 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0028 | .0011 | .0007 | .0001 | .0009 | .0083 | -.0001 | .0061 | .0029 |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0002 | .0004 | .0000 | .0001 | .0002 |
| %RSD | 4.644 | 18.58 | 11.07 | 8.497 | 23.00 | 4.518 | 47.28 | .8999 | 5.360 |
| #1 | -.0027 | .0009 | .0007 | .0001 | .0011 | .0081 | -.0001 | .0061 | .0028 |
| #2 | -.0029 | .0012 | .0008 | .0001 | .0008 | .0086 | -.0001 | .0062 | .0030 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0001 | .0002 | .0140 | .0007 | .0016 | -.0002 | .0010 | .0003 | .0008 |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0003 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 235.7 | 28.90 | .4961 | 24.87 | 17.79 | 100.9 | 3.334 | 39.39 | 40.56 |
| #1 | .0000 | .0001 | .0140 | .0008 | .0014 | .0000 | .0010 | .0003 | .0006 |
| #2 | .0001 | .0002 | .0141 | .0006 | .0018 | -.0003 | .0011 | .0002 | .0010 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0011 | -.0003 | .0001 | .0001 | .0001 | .0007 | .0269 | -.0004 | .0032 |
| Stddev | .0001 | .0002 | .0001 | .0001 | .0001 | .0001 | .0004 | .0001 | .0003 |
| %RSD | 8.003 | 68.26 | 123.8 | 96.43 | 117.4 | 11.05 | 1.469 | 37.79 | 9.546 |
| #1 | -.0012 | -.0001 | .0000 | .0000 | .0000 | .0006 | .0272 | -.0003 | .0034 |
| #2 | -.0010 | -.0004 | .0002 | .0002 | .0001 | .0007 | .0266 | -.0005 | .0030 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0002 | -.0007 | .0003 | -.0001 | .0008 | .0004 |
| Stddev | .0000 | .0001 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 9.703 | 9.132 | 33.23 | 175.3 | 21.55 | 35.46 |
| #1 | -.0002 | -.0008 | .0003 | -.0001 | .0009 | .0005 |
| #2 | -.0002 | -.0007 | .0002 | .0000 | .0007 | .0003 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2436.6 | 60774. | 15468. |
| Stddev | 27.8 | 152. | 122. |
| %RSD | 1.1391 | .24941 | .79097 |
| #1 | 2417.0 | 60882. | 15554. |
| #2 | 2456.2 | 60667. | 15381. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/5/2013 9:22:26 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1570 | .5432 | 2.076 | 15.09 | 15.85 | 8.830 | 8.257 | 1.031 | 1.870 | 6.198 |
| Stddev | .0008 | .0008 | .000 | .02 | .01 | .006 | .004 | .009 | .021 | .015 |
| %RSD | .5215 | .1411 | .0005 | .1404 | .0520 | .0631 | .0423 | .8487 | 1.123 | .2364 |
| #1 | .1575 | .5426 | 2.076 | 15.08 | 15.84 | 8.834 | 8.260 | 1.037 | 1.885 | 6.208 |
| #2 | .1564 | .5437 | 2.076 | 15.11 | 15.86 | 8.826 | 8.255 | 1.024 | 1.855 | 6.187 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6.972 | 7.209 | 2.845 | 1.529 | .7587 | 1.090 | 10.85 |
| Stddev | .001 | .001 | .002 | .000 | .0005 | .001 | .00 |
| %RSD | .0182 | .0092 | .0565 | .0190 | .0707 | .0956 | .0261 |
| #1 | 6.971 | 7.209 | 2.844 | 1.529 | .7591 | 1.091 | 10.85 |
| #2 | 6.973 | 7.209 | 2.847 | 1.528 | .7584 | 1.089 | 10.85 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2472.0 | 59342. | 13928. |
| Stddev | 2.3 | 145. | 77. |
| %RSD | .09474 | .24474 | .55287 |
| #1 | 2470.3 | 59240. | 13874. |
| #2 | 2473.6 | 59445. | 13983. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/5/2013 9:26:47 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.418 | 2.703 | 1.476 | .7017 | .2102 | 2.493 |
| Stddev | .002 | .004 | .006 | .0032 | .0009 | .001 |
| %RSD | .1709 | .1418 | .4225 | .4525 | .4520 | .0204 |
| #1 | 1.416 | 2.700 | 1.472 | .6995 | .2095 | 2.493 |
| #2 | 1.420 | 2.706 | 1.481 | .7040 | .2108 | 2.494 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13827. |
| Stddev | 45. |
| %RSD | .32895 |
| #1 | 13795. |
| #2 | 13859. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/5/2013 9:31:05 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2940 | .5144 | .0844 | 2.018 | 1.871 | 19.04 | 1.592 | 1.279 | .0759 | 3.060 |
| Stddev | .0002 | .0001 | .0001 | .005 | .003 | .78 | .002 | .002 | .0004 | .004 |
| %RSD | .0754 | .0199 | .1168 | .2439 | .1608 | 4.121 | .1124 | .1345 | .5683 | .1136 |
| #1 | .2939 | .5143 | .0843 | 2.015 | 1.869 | 18.49 | 1.593 | 1.278 | .0756 | 3.058 |
| #2 | .2942 | .5145 | .0845 | 2.022 | 1.873 | 19.59 | 1.591 | 1.280 | .0762 | 3.063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2522.0 | 58630. | 13794. |
| Stddev | .8 | 89. | 192. |
| %RSD | .03242 | .15146 | 1.3894 |
| #1 | 2522.6 | 58693. | 13929. |
| #2 | 2521.4 | 58567. | 13658. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/5/2013 9:35:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5148 | 15.75 | 2.986 | 2.983 | 3.031 | 3.047 | 3.016 | 18.13 | 2.963 | 2.957 |
| Stddev | .0031 | .03 | .002 | .018 | .001 | .010 | .012 | .05 | .002 | .003 |
| %RSD | .6010 | .2198 | .0709 | .6097 | .0451 | .3224 | .4027 | .2919 | .0634 | .0873 |
| #1 | .5126 | 15.72 | 2.985 | 2.970 | 3.032 | 3.040 | 3.008 | 18.09 | 2.965 | 2.959 |
| #2 | .5170 | 15.77 | 2.988 | 2.996 | 3.030 | 3.054 | 3.025 | 18.16 | 2.962 | 2.955 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.085 | 2.945 | 18.21 | 15.41 | 18.34 | 3.044 | 2.865 | 15.52 | 2.868 | 2.900 |
| Stddev | .021 | .013 | .06 | .06 | .15 | .019 | .000 | .04 | .003 | .002 |
| %RSD | .6771 | .4261 | .3108 | .3819 | .8188 | .6202 | .0014 | .2774 | .1122 | .0821 |
| #1 | 3.070 | 2.937 | 18.17 | 15.37 | 18.23 | 3.031 | 2.865 | 15.49 | 2.871 | 2.902 |
| #2 | 3.100 | 2.954 | 18.25 | 15.46 | 18.44 | 3.057 | 2.865 | 15.55 | 2.866 | 2.899 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.041 | 2.987 | 2.934 | 2.932 | 3.000 | 3.061 | 2.996 | 3.004 | 2.949 | 2.966 |
| Stddev | .008 | .028 | .002 | .005 | .004 | .003 | .014 | .016 | .003 | .018 |
| %RSD | .2756 | .9219 | .0778 | .1658 | .1398 | .0916 | .4800 | .5286 | .1130 | .5987 |
| #1 | 3.035 | 2.968 | 2.935 | 2.935 | 3.003 | 3.063 | 2.986 | 2.993 | 2.952 | 2.954 |
| #2 | 3.047 | 3.007 | 2.932 | 2.928 | 2.997 | 3.059 | 3.006 | 3.016 | 2.947 | 2.979 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 2.987 | 2.860 | 3.116 |
| Stddev | .012 | .004 | .019 |
| %RSD | .3925 | .1292 | .6088 |
| #1 | 2.978 | 2.863 | 3.102 |
| #2 | 2.995 | 2.857 | 3.129 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2490.8 | 58027. | 13825. |
| Stddev | 4.2 | 512. | 20. |
| %RSD | .16674 | .88276 | .14484 |
| #1 | 2487.9 | 58389. | 13839. |
| #2 | 2493.8 | 57665. | 13811. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/5/2013 9:40:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0095 | .0010 | .0041 | .0035 | .0004 | F.0005 | .0152 | .0000 |
| Stddev | .0005 | .0023 | .0003 | .0007 | .0004 | .0004 | .0000 | .0015 | .000 |
| %RSD | 88.39 | 24.61 | 24.54 | 17.77 | 12.47 | 109.7 | .6917 | 9.741 | 706.1 |
| #1 | -.0009 | .0112 | .0012 | .0046 | .0038 | .0007 | .0005 | .0162 | .0001 |
| #2 | -.0002 | .0079 | .0009 | .0036 | .0032 | .0001 | .0005 | .0141 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0000 | .0008 | .0037 | .0156 | .0126 | .0005 | .0018 | .0034 |
| Stddev | .0001 | .0003 | .0003 | .0045 | .0142 | .0099 | .0000 | .0003 | .0019 |
| %RSD | 26.09 | 1602. | 36.40 | 122.0 | 90.96 | 79.04 | 1.320 | 14.88 | 58.04 |
| #1 | .0005 | -.0002 | .0011 | .0005 | .0257 | .0055 | .0005 | .0020 | .0020 |
| #2 | .0003 | .0002 | .0006 | .0069 | .0056 | .0196 | .0005 | .0016 | .0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0005 | .0012 | -.0090 | .0001 | .0011 | -.0034 | .0010 | .0007 |
| Stddev | .0001 | .0002 | .0015 | .0029 | .0003 | .0014 | .0000 | .0002 | .0000 |
| %RSD | 61.76 | 33.85 | 121.8 | 32.49 | 185.8 | 124.1 | .2056 | 21.25 | 6.691 |
| #1 | .0003 | .0006 | .0022 | -.0069 | .0000 | .0020 | -.0034 | .0008 | .0007 |
| #2 | .0001 | .0004 | .0002 | -.0110 | .0003 | .0001 | -.0034 | .0011 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0007 | .0016 | .0116 | .0000 | .0018 |
| Stddev | .0004 | .0003 | .0006 | .0037 | .0002 | .0004 |
| %RSD | 53.94 | 49.08 | 35.87 | 31.79 | 1921. | 24.15 |
| #1 | .0004 | .0009 | .0012 | .0090 | .0001 | .0022 |
| #2 | .0010 | .0004 | .0019 | .0142 | -.0001 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2503.9 | 58652. | 13752. |
| Stddev | 5.7 | 72. | 5. |
| %RSD | .22576 | .12294 | .03885 |
| #1 | 2507.9 | 58703. | 13755. |
| #2 | 2499.9 | 58601. | 13748. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 9:45:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.979 | 1.953 | -.0013 | 1.971 | 1.948 | 1.993 | 9.879 | 1.946 | 2.035 |
| Stddev | .0008 | .001 | .005 | .0002 | .000 | .006 | .008 | .027 | .001 | .001 |
| %RSD | .3047 | .0113 | .2752 | 18.52 | .0094 | .3107 | .4188 | .2761 | .0511 | .0481 |
| #1 | .2482 | 9.980 | 1.949 | -.0015 | 1.971 | 1.953 | 1.999 | 9.898 | 1.945 | 2.036 |
| #2 | .2471 | 9.978 | 1.957 | -.0012 | 1.970 | 1.944 | 1.987 | 9.860 | 1.946 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.997 | 1.953 | 9.748 | 9.844 | 9.616 | 2.053 | 1.956 | 9.960 | 1.934 | 1.914 |
| Stddev | .001 | .002 | .041 | .017 | .033 | .005 | .001 | .028 | .002 | .000 |
| %RSD | .0435 | .0799 | .4219 | .1684 | .3413 | .2473 | .0540 | .2798 | .0932 | .0068 |
| #1 | 1.998 | 1.952 | 9.777 | 9.855 | 9.639 | 2.057 | 1.955 | 9.979 | 1.933 | 1.914 |
| #2 | 1.997 | 1.954 | 9.718 | 9.832 | 9.593 | 2.050 | 1.956 | 9.940 | 1.935 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0036 | 1.954 | 1.950 | -.0277 | 1.954 | 1.921 | 1.962 | 1.978 | 1.964 |
| Stddev | .0009 | .0049 | .001 | .002 | .0003 | .000 | .008 | .004 | .002 | .005 |
| %RSD | 45.64 | 136.5 | .0301 | .0801 | 1.027 | .0048 | .4365 | .2256 | .1143 | .2571 |
| #1 | -.0013 | .0071 | 1.953 | 1.949 | -.0279 | 1.954 | 1.927 | 1.965 | 1.980 | 1.967 |
| #2 | -.0026 | .0001 | 1.954 | 1.951 | -.0275 | 1.954 | 1.916 | 1.959 | 1.977 | 1.960 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | 1.927 | .0015 |
| Stddev | .0053 | .001 | .0005 |
| %RSD | 41.79 | .0436 | 33.44 |
| #1 | .0090 | 1.927 | .0018 |
| #2 | .0165 | 1.928 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2489.5 | 57676. | 13954. |
| Stddev | .2 | 562. | 103. |
| %RSD | .00887 | .97511 | .73466 |
| #1 | 2489.4 | 57278. | 14026. |
| #2 | 2489.7 | 58073. | 13881. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 9:51:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0184 | .0012 | .0026 | .0020 | .0000 | .0001 | .0115 | .0002 | .0004 |
| Stddev | .0002 | .0052 | .0001 | .0007 | .0002 | .000 | .0001 | .0006 | .0001 | .0002 |
| %RSD | 91.75 | 28.47 | 8.550 | 27.80 | 11.03 | 717.9 | 51.12 | 5.587 | 61.07 | 48.81 |
| #1 | -.0001 | .0221 | .0013 | .0021 | .0022 | .0001 | .0001 | .0120 | .0001 | .0003 |
| #2 | -.0004 | .0147 | .0011 | .0031 | .0019 | -.0002 | .0001 | .0111 | .0003 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0005 | -.0003 | -.0100 | .0023 | .0001 | .0009 | -.0006 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0005 | .0595 | .0159 | .0001 | .0000 | .0157 | .0000 | .0004 |
| %RSD | 46.57 | 200.7 | 177.3 | 592.5 | 694.4 | 60.78 | 1.699 | 2844. | 24.34 | 598.1 |
| #1 | -.0004 | -.0002 | -.0006 | -.0521 | -.0090 | .0001 | .0009 | -.0117 | .0001 | -.0004 |
| #2 | -.0008 | .0011 | .0001 | .0320 | .0136 | .0002 | .0009 | .0106 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0006 | .0003 | .0002 | -.0046 | .0006 | -.0001 | .0002 | -.0003 | .0012 |
| Stddev | .0009 | .0004 | .0014 | .0001 | .0007 | .0003 | .0000 | .0002 | .0000 | .0002 |
| %RSD | 61.72 | 60.36 | 534.8 | 64.91 | 14.10 | 40.16 | 24.64 | 147.6 | 2.529 | 18.27 |
| #1 | -.0008 | -.0004 | -.0008 | .0003 | -.0042 | .0005 | -.0001 | .0000 | -.0004 | .0010 |
| #2 | -.0020 | -.0009 | .0013 | .0001 | -.0051 | .0008 | -.0001 | .0003 | -.0003 | .0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0066 | .0002 | .0005 |
| Stddev | .0023 | .0002 | .0001 |
| %RSD | 34.61 | 98.51 | 20.13 |
| #1 | .0083 | .0001 | .0004 |
| #2 | .0050 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.0 | 58394. | 13869. |
| Stddev | .3 | 373. | 65. |
| %RSD | .01294 | .63823 | .47190 |
| #1 | 2508.2 | 58657. | 13822. |
| #2 | 2507.7 | 58130. | 13915. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 9:56:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .1979 | F.0055 | .0021 | .1029 | .0488 | .0042 | 4.878 | .0040 |
| Stddev | .0001 | .0002 | .0015 | .0009 | .0008 | .0021 | .0001 | .153 | .0001 |
| %RSD | 1.557 | .0956 | 26.84 | 43.84 | .7488 | 4.354 | 3.372 | 3.141 | 2.930 |
| #1 | .0047 | .1978 | .0065 | .0027 | .1034 | .0503 | .0043 | 4.986 | .0039 |
| #2 | .0048 | .1980 | .0044 | .0014 | .1023 | .0473 | .0041 | 4.769 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0521 | .0101 | .0255 | .0981 | 4.858 | 4.697 | .0163 | .1014 | 4.885 |
| Stddev | .0004 | .0002 | .0025 | .0030 | .199 | .192 | .0004 | .0001 | .162 |
| %RSD | .6729 | 1.840 | 9.671 | 3.085 | 4.101 | 4.094 | 2.442 | .0955 | 3.325 |
| #1 | .0524 | .0099 | .0273 | .1002 | 4.999 | 4.833 | .0166 | .1015 | 5.000 |
| #2 | .0519 | .0102 | .0238 | .0959 | 4.717 | 4.561 | .0160 | .1013 | 4.770 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0406 | .0051 | .0003 | -.0014 | .0066 | .0100 | -.0032 | .1004 | .0094 |
| Stddev | .0002 | .0004 | .0006 | .0023 | .0003 | .0010 | .0010 | .0005 | .0001 |
| %RSD | .5256 | 7.082 | 214.5 | 172.3 | 4.409 | 9.902 | 31.68 | .5181 | 1.271 |
| #1 | .0407 | .0053 | -.0002 | .0003 | .0064 | .0107 | -.0025 | .1008 | .0095 |
| #2 | .0404 | .0048 | .0008 | -.0030 | .0068 | .0093 | -.0039 | .1001 | .0094 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0520 | .0047 | .0108 | .0082 | .0203 | .0002 |
| Stddev | .0018 | .0007 | .0007 | .0009 | .0001 | .0000 |
| %RSD | 3.451 | 13.96 | 6.512 | 11.09 | .4250 | 11.76 |
| #1 | .0533 | .0042 | .0113 | .0075 | .0203 | .0002 |
| #2 | .0507 | .0051 | .0103 | .0088 | .0204 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2507.6 | 58037. | 14282. |
| Stddev | 1.1 | 955. | 578. |
| %RSD | .04256 | 1.6449 | 4.0497 |
| #1 | 2506.8 | 57362. | 13873. |
| #2 | 2508.3 | 58712. | 14691. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/5/2013 10:01:21 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 526.4 | .0000 | .0042 | .0059 | -.0002 | .0002 | 472.7 | .0002 | -.0010 |
| Stddev | .0001 | 6.3 | .0003 | .0017 | .0006 | .0000 | .0000 | 2.1 | .0002 | .0001 |
| %RSD | 514.9 | 1.198 | 908.6 | 41.20 | 10.22 | 24.99 | 17.92 | .4342 | 93.16 | 12.95 |
| #1 | -.0001 | 522.0 | .0002 | .0054 | .0063 | -.0002 | .0001 | 471.2 | .0003 | -.0009 |
| #2 | .0001 | 530.9 | -.0002 | .0030 | .0055 | -.0001 | .0002 | 474.1 | .0001 | -.0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | 190.2 | -.0075 | 489.3 | .0007 | -.0003 | .0693 | -.0025 | -.0004 |
| Stddev | .0004 | .0004 | 1.3 | .0202 | 3.5 | .0001 | .0003 | .0014 | .0002 | .0003 |
| %RSD | 424.1 | 85.76 | .7052 | 270.8 | .7057 | 8.073 | 120.7 | 2.044 | 6.790 | 80.51 |
| #1 | .0004 | .0002 | 189.3 | .0068 | 486.9 | .0006 | .0000 | .0703 | -.0024 | -.0002 |
| #2 | -.0002 | .0008 | 191.2 | -.0218 | 491.8 | .0007 | -.0005 | .0683 | -.0026 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0561 | -.0302 | -.0006 | -.0028 | .0442 | .0004 | .0006 | .0089 | -.0009 | .0005 |
| Stddev | .0006 | .0004 | .0003 | .0005 | .0011 | .0000 | .0002 | .0003 | .0015 | .0012 |
| %RSD | 1.026 | 1.174 | 43.81 | 18.85 | 2.466 | 1.459 | 34.82 | 3.607 | 159.9 | 227.4 |
| #1 | -.0565 | -.0304 | -.0004 | -.0024 | .0435 | .0004 | .0008 | .0087 | .0001 | .0014 |
| #2 | -.0557 | -.0299 | -.0008 | -.0032 | .0450 | .0004 | .0005 | .0091 | -.0020 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0305 | -.0006 | .0012 |
| Stddev | .0014 | .0001 | .0005 |
| %RSD | 4.477 | 24.17 | 39.47 |
| #1 | -.0295 | -.0005 | .0016 |
| #2 | -.0315 | -.0007 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2299.1 | 54315. | 13500. |
| Stddev | 7.5 | 346. | 150. |
| %RSD | .32817 | .63762 | 1.1079 |
| #1 | 2304.5 | 54070. | 13605. |
| #2 | 2293.8 | 54559. | 13394. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/5/2013 10:05:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.060 | 539.1 | 2.048 | .4964 | 1.032 | .5126 | .4903 | 469.8 | 1.029 | .4822 |
| Stddev | .004 | 1.4 | .002 | .0004 | .003 | .0012 | .0005 | 2.6 | .002 | .0003 |
| %RSD | .3402 | .2616 | .1023 | .0813 | .2460 | .2433 | .1000 | .5568 | .1528 | .0554 |
| #1 | 1.063 | 538.1 | 2.046 | .4967 | 1.030 | .5135 | .4907 | 471.7 | 1.028 | .4820 |
| #2 | 1.058 | 540.1 | 2.049 | .4961 | 1.034 | .5117 | .4900 | 468.0 | 1.030 | .4824 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5033 | .5192 | 191.1 | -.0388 | 491.7 | .5166 | .9727 | .0695 | .8895 | .9049 |
| Stddev | .0002 | .0035 | .4 | .0123 | .4 | .0015 | .0016 | .0075 | .0009 | .0027 |
| %RSD | .0338 | .6735 | .1840 | 31.66 | .0820 | .2959 | .1620 | 10.85 | .1028 | .3011 |
| #1 | .5031 | .5216 | 191.4 | -.0301 | 492.0 | .5177 | .9715 | .0748 | .8888 | .9069 |
| #2 | .5034 | .5167 | 190.9 | -.0475 | 491.4 | .5155 | .9738 | .0641 | .8901 | .9030 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4961 | .4914 | 2.077 | 1.962 | 2.224 | .9888 | .9744 | .5234 | 1.927 | .5116 |
| Stddev | .0019 | .0018 | .003 | .002 | .005 | .0004 | .0025 | .0024 | .001 | .0013 |
| %RSD | .3880 | .3678 | .1603 | .1220 | .2123 | .0401 | .2597 | .4506 | .0669 | .2525 |
| #1 | .4947 | .4927 | 2.074 | 1.960 | 2.221 | .9885 | .9762 | .5251 | 1.927 | .5126 |
| #2 | .4974 | .4901 | 2.079 | 1.963 | 2.228 | .9891 | .9726 | .5217 | 1.926 | .5107 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.917 | .8998 | .4601 |
| Stddev | .006 | .0004 | .0006 |
| %RSD | .2897 | .0406 | .1225 |
| #1 | 1.921 | .8995 | .4605 |
| #2 | 1.913 | .9000 | .4597 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.9 | 54083. | 13493. |
| Stddev | 1.1 | 270. | 89. |
| %RSD | .04835 | .50001 | .65788 |
| #1 | 2289.1 | 53891. | 13556. |
| #2 | 2290.6 | 54274. | 13430. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 10:10:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2059 | 2.260 | .5016 | -.0005 | .0032 | 1.982 | .5206 | 24.66 | .4971 | .5046 |
| Stddev | .0003 | .013 | .0023 | .0000 | .0002 | .014 | .0039 | .13 | .0003 | .0005 |
| %RSD | .1431 | .5766 | .4663 | 9.344 | 6.572 | .7063 | .7401 | .5419 | .0547 | .0897 |
| #1 | .2057 | 2.250 | .4999 | -.0005 | .0031 | 1.972 | .5179 | 24.57 | .4973 | .5043 |
| #2 | .2061 | 2.269 | .5032 | -.0005 | .0034 | 1.992 | .5233 | 24.76 | .4969 | .5050 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5241 | .4782 | 2.048 | 24.81 | 24.53 | .5106 | .0015 | 25.45 | .4816 | .9663 |
| Stddev | .0018 | .0010 | .001 | .16 | .27 | .0007 | .0005 | .18 | .0001 | .0013 |
| %RSD | .3341 | .2152 | .0596 | .6577 | 1.091 | .1311 | 31.47 | .7011 | .0161 | .1307 |
| #1 | .5229 | .4789 | 2.049 | 24.69 | 24.34 | .5101 | .0018 | 25.32 | .4815 | .9654 |
| #2 | .5254 | .4775 | 2.047 | 24.92 | 24.72 | .5111 | .0012 | 25.58 | .4817 | .9672 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0044 | .5020 | .4931 | .0418 | -.0009 | .4709 | .4936 | .5078 | .5104 |
| Stddev | .0027 | .0062 | .0006 | .0001 | .0009 | .0003 | .0036 | .0018 | .0013 | .0016 |
| %RSD | 331.4 | 139.8 | .1115 | .0205 | 2.044 | 32.00 | .7612 | .3599 | .2582 | .3230 |
| #1 | -.0027 | -.0088 | .5024 | .4931 | .0412 | -.0007 | .4684 | .4923 | .5087 | .5092 |
| #2 | .0011 | .0000 | .5016 | .4932 | .0424 | -.0011 | .4734 | .4948 | .5069 | .5115 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0113 | .4977 | .0137 |
| Stddev | .0046 | .0003 | .0015 |
| %RSD | 40.50 | .0572 | 10.82 |
| #1 | .0146 | .4975 | .0148 |
| #2 | .0081 | .4979 | .0127 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2483.1 | 58166. | 14155. |
| Stddev | 3.4 | 209. | 48. |
| %RSD | .13592 | .36005 | .34235 |
| #1 | 2480.7 | 58314. | 14189. |
| #2 | 2485.5 | 58018. | 14120. |



Zoom In Zoom Out

Sample Name: MP21104-MB1 Acquired: 6/5/2013 10:14:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0241 | .0008 | .0007 | .0009 | .0011 | .0003 | .0291 | -.0002 | .0001 |
| Stddev | .0001 | .0090 | .0011 | .0006 | .0001 | .0001 | .0000 | .0031 | .0000 | .0001 |
| %RSD | 8.664 | 37.29 | 147.1 | 80.05 | 15.88 | 6.472 | 7.273 | 10.58 | 18.76 | 75.29 |
| #1 | -.0008 | .0177 | .0000 | .0003 | .0008 | .0011 | .0003 | .0313 | -.0002 | .0000 |
| #2 | -.0009 | .0304 | .0015 | .0011 | .0009 | .0010 | .0004 | .0270 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0015 | .0106 | .0455 | .0358 | .0006 | .0003 | .0199 | .0001 | .0005 |
| Stddev | .0002 | .0002 | .0022 | .0234 | .0187 | .0000 | .0000 | .0087 | .0002 | .0004 |
| %RSD | 66.02 | 12.40 | 20.97 | 51.54 | 52.06 | .3755 | 9.522 | 43.73 | 193.7 | 78.31 |
| #1 | -.0002 | .0016 | .0090 | .0621 | .0226 | .0006 | .0003 | .0261 | .0000 | .0008 |
| #2 | -.0005 | .0013 | .0122 | .0289 | .0490 | .0006 | .0003 | .0138 | .0003 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0108 | .0003 | -.0003 | .0467 | -.0001 | .0003 | .0002 | -.0004 | .0003 |
| Stddev | .0003 | .0005 | .0009 | .0011 | .0012 | .0002 | .0001 | .0002 | .0000 | .0001 |
| %RSD | 35.74 | 4.410 | 298.3 | 305.5 | 2.628 | 125.1 | 17.39 | 102.1 | 3.468 | 22.13 |
| #1 | .0011 | -.0112 | .0009 | .0004 | .0476 | -.0002 | .0003 | .0003 | -.0004 | .0003 |
| #2 | .0007 | -.0105 | -.0003 | -.0011 | .0459 | .0000 | .0003 | .0001 | -.0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0105 | -.0001 | .0007 |
| Stddev | .0062 | .0002 | .0001 |
| %RSD | 58.63 | 221.9 | 8.019 |
| #1 | .0149 | .0000 | .0007 |
| #2 | .0062 | -.0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2502.2 | 57943. | 13948. |
| Stddev | 15.9 | 100. | 113. |
| %RSD | .63617 | .17336 | .81210 |
| #1 | 2491.0 | 58014. | 13868. |
| #2 | 2513.5 | 57872. | 14028. |





Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 10:18:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2077 | 2.118 | .5102 | -.0105 | .0294 | 2.015 | .5313 | 44.04 | .5059 | .5146 |
| Stddev | .0006 | .008 | .0017 | .0000 | .0002 | .002 | .0012 | .01 | .0008 | .0008 |
| %RSD | .2695 | .3762 | .3291 | .1981 | .8414 | .0826 | .2224 | .0314 | .1558 | .1650 |
| #1 | .2081 | 2.123 | .5113 | -.0105 | .0296 | 2.014 | .5305 | 44.03 | .5064 | .5152 |
| #2 | .2073 | 2.112 | .5090 | -.0105 | .0292 | 2.016 | .5321 | 44.05 | .5053 | .5140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5349 | .4895 | 2.138 | 26.91 | 26.26 | 6.630 | .0008 | 32.87 | .4898 | .9746 |
| Stddev | .0032 | .0022 | .010 | .02 | .01 | .028 | .0001 | .01 | .0002 | .0037 |
| %RSD | .5944 | .4467 | .4498 | .0828 | .0536 | .4258 | 6.878 | .0272 | .0503 | .3842 |
| #1 | .5371 | .4910 | 2.132 | 26.89 | 26.27 | 6.650 | .0009 | 32.87 | .4900 | .9772 |
| #2 | .5326 | .4879 | 2.145 | 26.93 | 26.25 | 6.610 | .0008 | 32.88 | .4897 | .9720 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0242 | .5112 | .4994 | 5.232 | -.0010 | .5811 | .5032 | .5138 | .5209 |
| Stddev | .0029 | .0058 | .0004 | .0000 | .004 | .0003 | .0006 | .0016 | .0001 | .0017 |
| %RSD | 66.44 | 24.01 | .0832 | .0053 | .0858 | 27.84 | .0982 | .3245 | .0207 | .3320 |
| #1 | -.0024 | .0283 | .5115 | .4994 | 5.235 | -.0008 | .5815 | .5043 | .5139 | .5221 |
| #2 | -.0065 | .0201 | .5109 | .4994 | 5.229 | -.0013 | .5807 | .5020 | .5137 | .5197 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .5100 | -.0001 |
| Stddev | .0028 | .0007 | .0003 |
| %RSD | 152.9 | .1392 | 324.8 |
| #1 | .0039 | .5105 | .0001 |
| #2 | -.0002 | .5095 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2480.6 | 58039. | 14134. |
| Stddev | 4.6 | 58. | 54. |
| %RSD | .18580 | .10071 | .37866 |
| #1 | 2477.4 | 57998. | 14096. |
| #2 | 2483.9 | 58081. | 14172. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 10:22:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2102 | 2.136 | .5131 | -.0125 | .0295 | 2.022 | .5358 | 44.47 | .5065 | .5158 |
| Stddev | .0009 | .023 | .0003 | .0004 | .0004 | .002 | .0010 | .10 | .0004 | .0001 |
| %RSD | .4513 | 1.086 | .0639 | 3.049 | 1.356 | .1085 | .1940 | .2179 | .0872 | .0248 |
| #1 | .2096 | 2.153 | .5134 | -.0123 | .0298 | 2.023 | .5365 | 44.54 | .5062 | .5157 |
| #2 | .2109 | 2.120 | .5129 | -.0128 | .0292 | 2.020 | .5350 | 44.40 | .5068 | .5159 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5393 | .4917 | 2.133 | 27.06 | 26.47 | 6.824 | .0006 | 33.17 | .4920 | .9770 |
| Stddev | .0033 | .0045 | .002 | .05 | .04 | .062 | .0002 | .07 | .0002 | .0012 |
| %RSD | .6071 | .9101 | .0784 | .1930 | .1389 | .9083 | 33.98 | .2073 | .0443 | .1265 |
| #1 | .5370 | .4886 | 2.134 | 27.10 | 26.49 | 6.781 | .0007 | 33.22 | .4919 | .9761 |
| #2 | .5417 | .4949 | 2.132 | 27.03 | 26.44 | 6.868 | .0004 | 33.12 | .4922 | .9779 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0251 | .5118 | .5017 | 5.297 | -.0010 | .5839 | .5064 | .5193 | .5237 |
| Stddev | .0008 | .0030 | .0017 | .0017 | .003 | .0001 | .0010 | .0028 | .0007 | .0030 |
| %RSD | 24.69 | 12.08 | .3344 | .3314 | .0475 | 13.30 | .1794 | .5623 | .1367 | .5721 |
| #1 | -.0028 | .0230 | .5130 | .5029 | 5.295 | -.0011 | .5846 | .5044 | .5198 | .5216 |
| #2 | -.0039 | .0272 | .5106 | .5006 | 5.298 | -.0009 | .5831 | .5084 | .5188 | .5259 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .5114 | -.0015 |
| Stddev | .0039 | .0009 | .0006 |
| %RSD | 61.61 | .1735 | 40.51 |
| #1 | .0036 | .5121 | -.0010 |
| #2 | .0091 | .5108 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2473.8 | 57655. | 14096. |
| Stddev | 2.8 | 416. | 79. |
| %RSD | .11262 | .72110 | .56278 |
| #1 | 2475.8 | 57949. | 14040. |
| #2 | 2471.8 | 57361. | 14152. |

Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 10:27:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0102 | .0020 | -.0106 | .0267 | .0050 | .0002 | 18.88 | .0004 | .0018 |
| Stddev | .0004 | .0052 | .0000 | .0005 | .0000 | .0001 | .0000 | .02 | .0001 | .0001 |
| %RSD | 261.5 | 51.42 | 1.149 | 5.147 | .0268 | 2.164 | 9.510 | .1031 | 19.55 | 5.597 |
| #1 | -.0001 | -.0139 | .0020 | -.0110 | .0267 | .0051 | .0002 | 18.89 | .0004 | .0017 |
| #2 | .0005 | -.0065 | .0020 | -.0102 | .0267 | .0049 | .0002 | 18.86 | .0003 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0018 | .1236 | 1.765 | 1.686 | 6.067 | .0004 | 6.899 | .0015 | .0001 |
| Stddev | .0002 | .0008 | .0026 | .007 | .004 | .036 | .0001 | .008 | .0001 | .0003 |
| %RSD | 148.5 | 42.11 | 2.132 | .4239 | .2438 | .6004 | 14.25 | .1123 | 5.197 | 475.1 |
| #1 | .0003 | .0023 | .1217 | 1.759 | 1.683 | 6.093 | .0003 | 6.893 | .0014 | .0003 |
| #2 | .0000 | .0013 | .1254 | 1.770 | 1.689 | 6.041 | .0004 | 6.904 | .0015 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0250 | .0004 | .0008 | 5.000 | .0001 | .0977 | .0001 | .0015 | .0006 |
| Stddev | .0014 | .0062 | .0008 | .0007 | .006 | .0004 | .0002 | .0003 | .0000 | .0004 |
| %RSD | 193.2 | 24.59 | 195.3 | 92.58 | .1275 | 464.6 | .2103 | 185.0 | 2.283 | 78.30 |
| #1 | .0003 | .0207 | -.0001 | .0003 | 5.005 | -.0002 | .0978 | .0000 | .0015 | .0009 |
| #2 | -.0017 | .0294 | .0009 | .0013 | 4.996 | .0003 | .0975 | .0003 | .0015 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0062 | -.0005 |
| Stddev | .0010 | .0001 | .0000 |
| %RSD | 465.1 | 1.125 | 6.530 |
| #1 | -.0005 | .0062 | -.0005 |
| #2 | .0009 | .0062 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.1 | 58080. | 14066. |
| Stddev | 2.4 | 614. | 36. |
| %RSD | .09385 | 1.0564 | .25438 |
| #1 | 2506.5 | 57646. | 14041. |
| #2 | 2509.8 | 58514. | 14092. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 10:31:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0211 | .0005 | -.0050 | .0278 | .0045 | .0001 | 19.75 | -.0003 | .0018 |
| Stddev | .0016 | .0310 | .0022 | .0004 | .0003 | .0007 | .0000 | .09 | .0012 | .0004 |
| %RSD | 231.8 | 146.6 | 439.1 | 7.754 | 1.165 | 15.27 | 22.27 | .4661 | 389.6 | 23.30 |
| #1 | -.0019 | .0008 | -.0010 | -.0053 | .0275 | .0040 | .0001 | 19.81 | .0005 | .0015 |
| #2 | .0005 | -.0430 | .0020 | -.0047 | .0280 | .0050 | .0001 | 19.68 | -.0012 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0055 | .1088 | 1.950 | 1.726 | 6.123 | .0005 | 7.116 | .0011 | .0004 |
| Stddev | .0009 | .0007 | .0025 | .011 | .018 | .019 | .0007 | .008 | .0000 | .0015 |
| %RSD | 25.58 | 11.95 | 2.334 | .5813 | 1.012 | .3043 | 145.4 | .1156 | .8529 | 339.8 |
| #1 | -.0029 | .0060 | .1106 | 1.958 | 1.714 | 6.110 | .0000 | 7.110 | .0011 | -.0006 |
| #2 | -.0042 | .0050 | .1070 | 1.942 | 1.738 | 6.136 | .0010 | 7.122 | .0011 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0138 | -.0030 | .0007 | 4.958 | .0030 | .0993 | -.0022 | .0020 | .0011 |
| Stddev | .0144 | .0419 | .0042 | .0025 | .017 | .0001 | .0004 | .0021 | .0005 | .0003 |
| %RSD | 272.0 | 304.3 | 140.7 | 369.7 | .3394 | 2.348 | .4005 | 97.78 | 25.90 | 23.62 |
| #1 | .0049 | .0434 | .0000 | .0024 | 4.970 | .0030 | .0996 | -.0037 | .0016 | .0012 |
| #2 | -.0155 | -.0159 | -.0060 | -.0011 | 4.946 | .0031 | .0991 | -.0007 | .0024 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0297 | .0054 | .0012 |
| Stddev | .0162 | .0000 | .0037 |
| %RSD | 54.62 | .8957 | 301.0 |
| #1 | .0412 | .0055 | -.0014 |
| #2 | .0183 | .0054 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2472.8 | 57369. | 13730. |
| Stddev | 1.9 | 545. | 44. |
| %RSD | .07500 | .94941 | .31945 |
| #1 | 2474.1 | 57755. | 13699. |
| #2 | 2471.5 | 56984. | 13761. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 10:36:00 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0005 | -.0034 | .2387 | .0609 | .0000 | 137.5 | .0001 | .0012 |
| Stddev | .0004 | .0054 | .0002 | .0002 | .0014 | .0002 | .000 | .3 | .0001 | .0002 |
| %RSD | 112.1 | 1719. | 39.56 | 4.900 | .5658 | .3983 | 92.53 | .1865 | 57.55 | 15.33 |
| #1 | -.0007 | .0041 | .0004 | -.0033 | .2377 | .0611 | .0000 | 137.3 | .0001 | .0013 |
| #2 | -.0001 | -.0035 | .0007 | -.0036 | .2397 | .0607 | -.0001 | 137.7 | .0002 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0025 | .0337 | 4.297 | 19.25 | 2.486 | .0011 | 41.78 | .0078 | -.0007 |
| Stddev | .0002 | .0001 | .0020 | .014 | .04 | .013 | .0000 | .02 | .0004 | .0003 |
| %RSD | 74.72 | 2.091 | 6.073 | .3162 | .2039 | .5060 | .5185 | .0536 | 5.130 | 47.64 |
| #1 | .0001 | .0025 | .0351 | 4.307 | 19.22 | 2.477 | .0011 | 41.76 | .0080 | -.0009 |
| #2 | .0004 | .0025 | .0322 | 4.288 | 19.28 | 2.495 | .0011 | 41.79 | .0075 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0110 | .0014 | .0016 | 7.756 | -.0004 | .5365 | .0010 | -.0016 | .0008 |
| Stddev | .0018 | .0053 | .0008 | .0014 | .030 | .0001 | .0000 | .0001 | .0005 | .0000 |
| %RSD | 19.33 | 48.00 | 54.84 | 86.07 | .3878 | 27.21 | .0088 | 11.44 | 30.03 | 1.245 |
| #1 | -.0108 | .0072 | .0009 | .0026 | 7.735 | -.0003 | .5365 | .0009 | -.0019 | .0008 |
| #2 | -.0082 | .0147 | .0020 | .0006 | 7.777 | -.0005 | .5365 | .0011 | -.0012 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0231 | .0075 | -.0011 |
| Stddev | .0040 | .0000 | .0004 |
| %RSD | 17.31 | .3146 | 33.21 |
| #1 | .0203 | .0075 | -.0014 |
| #2 | .0259 | .0075 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2424.6 | 57141. | 13756. |
| Stddev | 8.0 | 508. | 114. |
| %RSD | .33124 | .88832 | .82693 |
| #1 | 2430.3 | 57500. | 13836. |
| #2 | 2418.9 | 56782. | 13675. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 10:40:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2482 | 10.03 | 1.941 | -.0023 | 1.963 | 1.950 | 1.994 | 9.896 | 1.956 | 2.032 |
| Stddev | .0011 | .00 | .005 | .0004 | .002 | .001 | .002 | .020 | .003 | .003 |
| %RSD | .4630 | .0327 | .2477 | 18.49 | .0846 | .0358 | .1154 | .2053 | .1556 | .1481 |
| #1 | .2490 | 10.03 | 1.938 | -.0026 | 1.962 | 1.951 | 1.992 | 9.882 | 1.953 | 2.030 |
| #2 | .2473 | 10.03 | 1.945 | -.0020 | 1.964 | 1.950 | 1.996 | 9.911 | 1.958 | 2.035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.979 | 1.959 | 9.715 | 9.753 | 9.618 | 2.039 | 1.958 | 10.04 | 1.921 | 1.897 |
| Stddev | .002 | .002 | .007 | .033 | .024 | .001 | .004 | .01 | .002 | .000 |
| %RSD | .0992 | .1136 | .0743 | .3328 | .2479 | .0602 | .2237 | .0925 | .0837 | .0170 |
| #1 | 1.981 | 1.961 | 9.720 | 9.776 | 9.601 | 2.040 | 1.955 | 10.04 | 1.920 | 1.896 |
| #2 | 1.978 | 1.957 | 9.710 | 9.730 | 9.635 | 2.038 | 1.961 | 10.03 | 1.922 | 1.897 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 1.954 | 1.920 | -.0190 | 1.941 | 1.924 | 1.954 | 1.964 | 1.956 |
| Stddev | .0000 | .0034 | .001 | .001 | .0017 | .000 | .001 | .001 | .001 | .003 |
| %RSD | 8.388 | 146.2 | .0517 | .0675 | 8.855 | .0002 | .0310 | .0358 | .0298 | .1723 |
| #1 | -.0006 | .0048 | 1.955 | 1.919 | -.0178 | 1.941 | 1.924 | 1.954 | 1.964 | 1.958 |
| #2 | -.0006 | -.0001 | 1.953 | 1.921 | -.0202 | 1.941 | 1.925 | 1.953 | 1.965 | 1.953 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0120 | 1.905 | -.0037 |
| Stddev | .0025 | .004 | .0004 |
| %RSD | 21.24 | .1827 | 9.737 |
| #1 | .0102 | 1.903 | -.0034 |
| #2 | .0138 | 1.908 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2450.4 | 57542. | 13932. |
| Stddev | 5.5 | 27. | 59. |
| %RSD | .22537 | .04704 | .42230 |
| #1 | 2454.3 | 57561. | 13891. |
| #2 | 2446.5 | 57523. | 13974. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 10:44:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0106 | .0017 | .0013 | .0021 | .0006 | F.0005 | .0031 | .0002 |
| Stddev | .0001 | .0070 | .0013 | .0013 | .0006 | .0000 | .0000 | .0009 | .0002 |
| %RSD | 119.8 | 65.99 | 80.83 | 99.58 | 30.97 | .8348 | 6.322 | 28.33 | 79.28 |
| #1 | -.0001 | .0056 | .0026 | .0023 | .0025 | .0006 | .0006 | .0038 | .0001 |
| #2 | .0000 | .0155 | .0007 | .0004 | .0016 | .0006 | .0005 | .0025 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | .0004 | -.0001 | .0398 | .0402 | .0002 | .0022 | .0029 |
| Stddev | .0000 | .0000 | .0002 | .0011 | .0024 | .0058 | .0000 | .0003 | .0071 |
| %RSD | 15.92 | 343.9 | 55.82 | 1090. | 6.032 | 14.50 | 2.494 | 13.06 | 245.7 |
| #1 | .0003 | .0000 | .0006 | .0007 | .0381 | .0360 | .0002 | .0024 | .0080 |
| #2 | .0003 | .0000 | .0003 | -.0009 | .0415 | .0443 | .0002 | .0020 | -.0021 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | .0000 | .0008 | .0011 | .0005 | -.0081 | .0010 | .0004 |
| Stddev | .0004 | .0001 | .0009 | .0027 | .0004 | .0010 | .0017 | .0001 | .0001 |
| %RSD | 150.5 | 15.27 | 7776. | 316.7 | 40.75 | 180.8 | 20.57 | 5.823 | 30.03 |
| #1 | .0005 | .0006 | .0006 | -.0011 | .0014 | .0012 | -.0093 | .0010 | .0005 |
| #2 | .0000 | .0008 | -.0006 | .0027 | .0007 | -.0002 | -.0069 | .0009 | .0004 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0004 | .0010 | .0095 | -.0001 | .0006 |
| Stddev | .0006 | .0001 | .0001 | .0019 | .0000 | .0002 |
| %RSD | 309.2 | 29.28 | 7.088 | 19.82 | 37.24 | 36.98 |
| #1 | -.0006 | -.0003 | .0009 | .0108 | -.0002 | .0004 |
| #2 | .0002 | -.0004 | .0010 | .0081 | -.0001 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2448.5 | 57788. | 13733. |
| Stddev | 6.2 | 440. | 69. |
| %RSD | .25377 | .76083 | .50119 |
| #1 | 2452.9 | 57477. | 13685. |
| #2 | 2444.1 | 58099. | 13782. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 10:50:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0566 | -.0008 | -.0183 | .1360 | .0149 | .0001 | 81.67 | .0016 |
| Stddev | .0003 | .0209 | .0002 | .0020 | .0002 | .0000 | .0000 | .33 | .0001 |
| %RSD | 66.08 | 36.91 | 30.33 | 10.73 | .1706 | .0600 | 35.41 | .4012 | 7.258 |
| #1 | -.0003 | -.0713 | -.0009 | -.0197 | .1358 | .0149 | .0001 | 81.91 | .0015 |
| #2 | -.0008 | -.0418 | -.0006 | -.0169 | .1362 | .0149 | .0001 | 81.44 | .0016 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0082 | .0010 | .0014 | .0825 | 3.038 | 9.455 | F24.38 | .0006 | 23.57 |
| Stddev | .0002 | .0006 | .0002 | .0004 | .002 | .041 | .03 | .0001 | .06 |
| %RSD | 2.056 | 57.66 | 13.04 | .5380 | .0698 | .4301 | .1298 | 11.70 | .2649 |
| #1 | .0083 | .0006 | .0015 | .0828 | 3.036 | 9.484 | 24.40 | .0007 | 23.61 |
| #2 | .0081 | .0014 | .0012 | .0821 | 3.039 | 9.427 | 24.35 | .0006 | 23.52 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0154 | -.0011 | -.0096 | .1045 | .0005 | .0063 | 6.971 | -.0004 | .4528 |
| Stddev | .0002 | .0001 | .0011 | .0054 | .0009 | .0002 | .011 | .0002 | .0012 |
| %RSD | 1.051 | 13.58 | 11.33 | 5.192 | 197.7 | 3.169 | .1502 | 59.39 | .2706 |
| #1 | .0153 | -.0012 | -.0088 | .1006 | -.0002 | .0062 | 6.978 | -.0002 | .4537 |
| #2 | .0155 | -.0010 | -.0104 | .1083 | .0011 | .0065 | 6.963 | -.0005 | .4519 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0107 | .0009 | -.0010 | .0085 | -.0009 |
| Stddev | .0003 | .0010 | .0004 | .0023 | .0000 | .0003 |
| %RSD | 40.14 | 9.718 | 47.38 | 234.9 | .1756 | 35.89 |
| #1 | .0008 | .0100 | .0013 | -.0026 | .0085 | -.0007 |
| #2 | .0005 | .0114 | .0006 | .0006 | .0085 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.0 | 57300. | 13749. |
| Stddev | 8.3 | 16. | 54. |
| %RSD | .34636 | .02833 | .39585 |
| #1 | 2387.1 | 57288. | 13711. |
| #2 | 2398.9 | 57311. | 13788. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 10:55:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0097 | .0013 | -.0082 | .0544 | .0166 | .0000 | 42.87 | .0004 | .0016 |
| Stddev | .0000 | .0074 | .0006 | .0014 | .0001 | .0001 | .0001 | .02 | .0001 | .0000 |
| %RSD | 3.107 | 75.86 | 44.31 | 17.31 | .2061 | .8519 | 111.4 | .0406 | 14.70 | 1.868 |
| #1 | -.0008 | -.0045 | .0009 | -.0072 | .0543 | .0167 | .0001 | 42.88 | .0005 | .0015 |
| #2 | -.0007 | -.0149 | .0018 | -.0092 | .0545 | .0165 | .0000 | 42.86 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0005 | .0231 | 3.689 | 3.966 | 8.014 | .0036 | 10.78 | .0028 | -.0005 |
| Stddev | .0002 | .0008 | .0015 | .013 | .026 | .092 | .0001 | .00 | .0003 | .0011 |
| %RSD | 20.26 | 152.8 | 6.531 | .3462 | .6570 | 1.143 | 2.054 | .0303 | 12.18 | 227.2 |
| #1 | .0009 | .0000 | .0242 | 3.698 | 3.984 | 8.079 | .0037 | 10.78 | .0026 | .0003 |
| #2 | .0007 | .0010 | .0220 | 3.680 | 3.947 | 7.950 | .0036 | 10.78 | .0031 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0304 | .0004 | .0009 | 7.103 | -.0003 | .1919 | .0006 | .0021 | .0016 |
| Stddev | .0006 | .0016 | .0001 | .0021 | .024 | .0001 | .0002 | .0004 | .0002 | .0008 |
| %RSD | 14.75 | 5.396 | 40.22 | 228.3 | .3377 | 17.09 | .1040 | 61.49 | 7.376 | 51.26 |
| #1 | -.0045 | .0293 | .0003 | .0025 | 7.086 | -.0004 | .1921 | .0009 | .0020 | .0010 |
| #2 | -.0036 | .0316 | .0004 | -.0006 | 7.120 | -.0003 | .1918 | .0004 | .0022 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0071 | -.0011 |
| Stddev | .0061 | .0001 | .0001 |
| %RSD | 317.2 | 1.186 | 9.404 |
| #1 | -.0024 | .0071 | -.0010 |
| #2 | .0062 | .0070 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.1 | 57740. | 13797. |
| Stddev | 8.2 | 351. | 47. |
| %RSD | .34153 | .60856 | .33992 |
| #1 | 2407.9 | 57491. | 13764. |
| #2 | 2396.3 | 57988. | 13830. |



Zoom In Zoom Out

Sample Name: MC21261-13F Acquired: 6/5/2013 10:59:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0027 | -.0006 | .0017 | .0007 | .0000 | .0000 | .0080 | -.0002 | .0000 |
| Stddev | .0005 | .0047 | .0005 | .0010 | .0003 | .0001 | .000 | .0011 | .0000 | .000 |
| %RSD | 114.7 | 173.5 | 80.94 | 56.62 | 46.78 | 212.1 | 11.42 | 13.23 | 6.715 | 86.14 |
| #1 | -.0009 | .0060 | -.0009 | .0024 | .0004 | .0001 | .0000 | .0073 | -.0002 | .0000 |
| #2 | -.0001 | -.0006 | -.0003 | .0010 | .0009 | .0000 | .0000 | .0087 | -.0002 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0004 | -.0035 | -.0230 | .0146 | .0022 | .0003 | .0062 | -.0001 | -.0002 |
| Stddev | .000 | .0001 | .0008 | .0288 | .0014 | .0001 | .0002 | .0053 | .0000 | .0000 |
| %RSD | 151.7 | 20.14 | 21.28 | 125.1 | 9.907 | 4.570 | 76.90 | 86.05 | 26.07 | 16.86 |
| #1 | -.0001 | -.0005 | -.0041 | -.0434 | .0156 | .0022 | .0004 | .0100 | -.0001 | -.0002 |
| #2 | .0000 | -.0003 | -.0030 | -.0027 | .0136 | .0021 | .0001 | .0024 | -.0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0066 | -.0001 | .0002 | .0384 | .0001 | .0000 | -.0010 | -.0010 | .0007 |
| Stddev | .0005 | .0008 | .0000 | .0011 | .0000 | .0001 | .0003 | .0010 | .0001 | |
| %RSD | 25.92 | 11.43 | 5.529 | 508.0 | .0785 | 66.69 | 9027. | 36.40 | 96.43 | 12.03 |
| #1 | .0015 | -.0061 | -.0001 | -.0005 | .0385 | .0001 | .0000 | -.0012 | -.0003 | .0007 |
| #2 | .0022 | -.0071 | -.0001 | .0010 | .0384 | .0002 | .0000 | -.0007 | -.0017 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0058 | .0001 |
| Stddev | .0025 | .0000 | .0002 |
| %RSD | 99.02 | .0297 | 252.0 |
| #1 | .0043 | .0058 | -.0001 |
| #2 | .0008 | .0058 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2415.5 | 57853. | 13902. |
| Stddev | 1.5 | 87. | 99. |
| %RSD | .06111 | .15054 | .71265 |
| #1 | 2414.5 | 57915. | 13832. |
| #2 | 2416.6 | 57791. | 13972. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 11:03:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2248 | 1.791 | .1830 | -.0047 | 4.353 | 2.189 | .1729 | 58.31 | .1807 | 2.442 |
| Stddev | .0005 | .007 | .0008 | .0004 | .005 | .006 | .0003 | .06 | .0003 | .008 |
| %RSD | .2087 | .3685 | .4163 | 7.913 | .1225 | .2586 | .1999 | .0988 | .1767 | .3139 |
| #1 | .2252 | 1.796 | .1825 | -.0050 | 4.349 | 2.193 | .1731 | 58.35 | .1805 | 2.436 |
| #2 | .2245 | 1.787 | .1836 | -.0045 | 4.357 | 2.184 | .1726 | 58.27 | .1810 | 2.447 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4463 | 1.076 | .9616 | 44.15 | 45.68 | 5.731 | 4.432 | 48.65 | 1.642 | .2168 |
| Stddev | .0005 | .001 | .0023 | .00 | .49 | .042 | .013 | .12 | .003 | .0006 |
| %RSD | .1166 | .0737 | .2399 | .0085 | 1.062 | .7397 | .2967 | .2471 | .2054 | .2944 |
| #1 | .4466 | 1.075 | .9600 | 44.15 | 45.34 | 5.761 | 4.422 | 48.73 | 1.640 | .2164 |
| #2 | .4459 | 1.076 | .9633 | 44.15 | 46.02 | 5.701 | 4.441 | 48.56 | 1.645 | .2173 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0262 | .2906 | .4327 | 4.737 | 4.242 | .5084 | 2.174 | .2299 | .4489 |
| Stddev | .0006 | .0006 | .0010 | .0003 | .010 | .008 | .0015 | .001 | .0004 | .0011 |
| %RSD | 10.99 | 2.472 | .3356 | .0663 | .2066 | .1972 | .3041 | .0649 | .1696 | .2347 |
| #1 | -.0057 | .0257 | .2899 | .4325 | 4.730 | 4.236 | .5095 | 2.173 | .2301 | .4482 |
| #2 | -.0049 | .0266 | .2913 | .4329 | 4.744 | 4.248 | .5073 | 2.175 | .2296 | .4497 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0073 | .8467 | -.0093 |
| Stddev | .0059 | .0027 | .0003 |
| %RSD | 80.56 | .3233 | 2.873 |
| #1 | .0115 | .8448 | -.0091 |
| #2 | .0032 | .8486 | -.0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2368.7 | 57779. | 13868. |
| Stddev | 8.9 | 65. | 14. |
| %RSD | .37410 | .11185 | .09749 |
| #1 | 2375.0 | 57733. | 13859. |
| #2 | 2362.4 | 57825. | 13878. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:08:14 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0217 | 3.503 | -.0004 | .0524 | .0230 | .0005 | 29.70 | .0436 | .0084 |
| Stddev | .0028 | .0100 | .000 | .0001 | .0021 | .0010 | .0004 | .07 | .0005 | .0001 |
| %RSD | 210.6 | 46.14 | .0053 | 24.28 | 3.994 | 4.315 | 85.57 | .2358 | 1.154 | 1.222 |
| #1 | .0006 | -.0146 | 3.503 | -.0003 | .0539 | .0223 | .0008 | 29.75 | .0439 | .0084 |
| #2 | -.0033 | -.0288 | 3.503 | -.0005 | .0509 | .0237 | .0002 | 29.65 | .0432 | .0085 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0014 | 55.28 | 4.205 | 3.123 | 6.453 | .0261 | 5.735 | .0114 | -.0037 |
| Stddev | .0000 | .0055 | .16 | .064 | .027 | .021 | .0054 | .026 | .0000 | .0029 |
| %RSD | 3.533 | 392.6 | .2921 | 1.515 | .8565 | .3259 | 20.65 | .4595 | .1463 | 77.18 |
| #1 | -.0009 | .0025 | 55.39 | 4.159 | 3.142 | 6.468 | .0299 | 5.716 | .0114 | -.0017 |
| #2 | -.0009 | -.0052 | 55.16 | 4.250 | 3.104 | 6.438 | .0223 | 5.753 | .0114 | -.0058 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0116 | -.0217 | .0018 | .0032 | 8.402 | .0073 | .0993 | .0015 | -.0017 | .0018 |
| Stddev | .0093 | .0303 | .0045 | .0028 | .002 | .0008 | .0006 | .0005 | .0033 | .0022 |
| %RSD | 80.76 | 139.5 | 249.5 | 85.12 | .0243 | 11.43 | .6122 | 36.64 | 192.5 | 121.2 |
| #1 | -.0182 | -.0003 | -.0014 | .0013 | 8.404 | .0067 | .0988 | .0011 | .0006 | .0003 |
| #2 | -.0050 | -.0431 | .0050 | .0052 | 8.401 | .0078 | .0997 | .0019 | -.0041 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0142 | .0003 |
| Stddev | .0284 | .0004 | .0019 |
| %RSD | 1801. | 2.475 | 686.0 |
| #1 | -.0185 | .0140 | -.0011 |
| #2 | .0217 | .0145 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 57970. | 13704. |
| Stddev | 6.3 | 294. | 181. |
| %RSD | .26283 | .50767 | 1.3234 |
| #1 | 2408.2 | 57762. | 13575. |
| #2 | 2417.2 | 58178. | 13832. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:12:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0099 | -.0213 | 3.515 | .0069 | .0483 | .0211 | -.0003 | 29.97 | .0427 | .0058 |
| Stddev | .0050 | .0330 | .030 | .0102 | .0027 | .0001 | .0003 | .21 | .0018 | .0021 |
| %RSD | 50.14 | 154.9 | .8467 | 146.2 | 5.591 | .6479 | 97.49 | .6884 | 4.292 | 36.07 |
| #1 | -.0135 | -.0446 | 3.536 | .0141 | .0502 | .0210 | -.0006 | 29.83 | .0440 | .0043 |
| #2 | -.0064 | .0020 | 3.494 | -.0002 | .0464 | .0212 | -.0001 | 30.12 | .0414 | .0073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0055 | 56.30 | 3.791 | 2.814 | 6.421 | .0116 | 5.633 | .0087 | .0006 |
| Stddev | .0005 | .0071 | .32 | .229 | .111 | .002 | .0012 | .015 | .0011 | .0042 |
| %RSD | 15.38 | 128.3 | .5729 | 6.041 | 3.936 | .0333 | 10.03 | .2688 | 12.15 | 706.8 |
| #1 | -.0039 | -.0106 | 56.07 | 3.629 | 2.893 | 6.422 | .0124 | 5.643 | .0094 | -.0024 |
| #2 | -.0031 | -.0005 | 56.53 | 3.953 | 2.736 | 6.419 | .0108 | 5.622 | .0079 | .0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0247 | .0042 | .0046 | 8.387 | .0061 | .0976 | -.0006 | -.0069 | .0101 |
| Stddev | .0153 | .0616 | .0116 | .0170 | .048 | .0013 | .0002 | .0052 | .0024 | .0054 |
| %RSD | 1550. | 249.4 | 276.3 | 367.5 | .5769 | 21.92 | .1592 | 925.8 | 34.10 | 53.18 |
| #1 | -.0098 | .0683 | -.0040 | .0167 | 8.353 | .0051 | .0977 | .0031 | -.0086 | .0139 |
| #2 | .0118 | -.0189 | .0124 | -.0074 | 8.421 | .0070 | .0975 | -.0042 | -.0052 | .0063 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0174 | .0013 |
| Stddev | .0064 | .0006 | .0034 |
| %RSD | 58.42 | 3.168 | 271.6 |
| #1 | -.0064 | .0178 | -.0012 |
| #2 | -.0155 | .0170 | .0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.4 | 57886. | 13780. |
| Stddev | 1.0 | 7. | 77. |
| %RSD | .04280 | .01275 | .55753 |
| #1 | 2413.1 | 57891. | 13834. |
| #2 | 2411.7 | 57881. | 13725. |



Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:16:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0223 | .6762 | .0036 | .1453 | .0493 | .0001 | 57.14 | .0076 | -.0009 |
| Stddev | .0016 | .0035 | .0033 | .0007 | .0017 | .0010 | .0000 | .12 | .0009 | .0004 |
| %RSD | 36.45 | 15.75 | .4832 | 18.16 | 1.177 | 1.932 | 16.78 | .2186 | 11.72 | 46.34 |
| #1 | -.0054 | -.0248 | .6739 | .0041 | .1441 | .0486 | .0001 | 57.23 | .0082 | -.0006 |
| #2 | -.0032 | -.0198 | .6785 | .0032 | .1465 | .0499 | .0001 | 57.05 | .0070 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0043 | 40.13 | 8.560 | 8.569 | 2.945 | .0023 | 45.52 | .0003 | -.0038 |
| Stddev | .0006 | .0017 | .11 | .015 | .056 | .004 | .0001 | .04 | .0013 | .0010 |
| %RSD | 21.39 | 40.38 | .2856 | .1718 | .6576 | .1208 | 6.333 | .0842 | 421.0 | 27.25 |
| #1 | -.0022 | -.0031 | 40.21 | 8.550 | 8.529 | 2.947 | .0024 | 45.55 | -.0006 | -.0031 |
| #2 | -.0030 | -.0055 | 40.04 | 8.570 | 8.609 | 2.942 | .0022 | 45.49 | .0012 | -.0045 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0066 | -.0370 | .0047 | -.0078 | 13.77 | .0000 | .3178 | -.0010 | -.0036 | .0064 |
| Stddev | .0018 | .0259 | .0011 | .0018 | .00 | .0015 | .0003 | .0004 | .0011 | .0023 |
| %RSD | 27.17 | 70.00 | 24.03 | 23.20 | .0049 | 4023. | .0807 | 38.58 | 30.29 | 35.66 |
| #1 | -.0079 | -.0187 | .0039 | -.0091 | 13.77 | -.0010 | .3176 | -.0013 | -.0029 | .0048 |
| #2 | -.0053 | -.0554 | .0055 | -.0065 | 13.77 | .0011 | .3180 | -.0007 | -.0044 | .0080 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .0111 | -.0011 |
| Stddev | .0010 | .0005 | .0006 |
| %RSD | 13.52 | 4.293 | 51.83 |
| #1 | .0067 | .0115 | -.0007 |
| #2 | .0082 | .0108 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.7 | 58093. | 13804. |
| Stddev | 2.8 | 284. | 66. |
| %RSD | .11769 | .48863 | .47595 |
| #1 | 2418.7 | 57892. | 13757. |
| #2 | 2422.7 | 58294. | 13850. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:21:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0337 | .6869 | .0125 | .1509 | .0522 | .0000 | 59.47 | .0067 | -.0008 |
| Stddev | .0018 | .0634 | .0004 | .0065 | .0014 | .0037 | .001 | .39 | .0003 | .0003 |
| %RSD | 19.34 | 187.8 | .0628 | 51.88 | .9266 | 7.137 | 4397. | .6602 | 4.249 | 39.22 |
| #1 | -.0108 | -.0111 | .6872 | .0171 | .1499 | .0496 | .0008 | 59.20 | .0065 | -.0010 |
| #2 | -.0082 | .0785 | .6866 | .0079 | .1519 | .0548 | -.0008 | 59.75 | .0069 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0134 | 41.38 | 8.664 | 8.863 | 3.010 | .0025 | 46.41 | .0166 | -.0008 |
| Stddev | .0008 | .0047 | .23 | .091 | .061 | .007 | .0012 | .13 | .0038 | .0011 |
| %RSD | 14.39 | 34.94 | .5678 | 1.051 | .6853 | .2218 | 48.46 | .2751 | 22.64 | 144.6 |
| #1 | -.0048 | -.0101 | 41.21 | 8.728 | 8.820 | 3.006 | .0033 | 46.50 | .0193 | .0000 |
| #2 | -.0059 | -.0167 | 41.54 | 8.600 | 8.906 | 3.015 | .0016 | 46.32 | .0140 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | -.0488 | .0051 | -.0070 | 13.85 | .0022 | .3213 | -.0032 | .0017 | .0038 |
| Stddev | .0038 | .0004 | .0044 | .0067 | .03 | .0039 | .0030 | .0010 | .0073 | .0041 |
| %RSD | 37.22 | .7461 | 86.91 | 94.52 | .2101 | 177.7 | .9243 | 31.69 | 422.6 | 108.0 |
| #1 | -.0076 | -.0490 | .0020 | -.0117 | 13.82 | -.0006 | .3192 | -.0039 | .0069 | .0067 |
| #2 | -.0130 | -.0485 | .0082 | -.0023 | 13.87 | .0049 | .3234 | -.0025 | -.0034 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0187 | -.0013 |
| Stddev | .0485 | .0002 | .0033 |
| %RSD | 2671. | 1.062 | 244.3 |
| #1 | -.0361 | .0186 | -.0037 |
| #2 | .0325 | .0189 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.3 | 58033. | 13800. |
| Stddev | 8.6 | 28. | 28. |
| %RSD | .35537 | .04808 | .20562 |
| #1 | 2423.4 | 58013. | 13820. |
| #2 | 2411.2 | 58053. | 13780. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/5/2013 11:25:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | .0274 | .0048 | .0010 | .0257 | .0327 | .0000 | 14.02 | -.0001 | .0003 |
| Stddev | .0005 | .0190 | .0015 | .0011 | .0002 | .0000 | .000 | .17 | .0003 | .0004 |
| %RSD | 32.55 | 69.28 | 31.91 | 118.0 | .9504 | .0101 | 1.207 | 1.195 | 442.7 | 107.6 |
| #1 | -.0013 | .0408 | .0037 | .0018 | .0255 | .0327 | .0000 | 13.90 | -.0003 | .0006 |
| #2 | -.0020 | .0140 | .0058 | .0002 | .0259 | .0327 | -.0001 | 14.14 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0001 | .1574 | 2.908 | 2.749 | .3818 | .0004 | 6.705 | .0032 | -.0001 |
| Stddev | .0004 | .0013 | .0003 | .001 | .018 | .0017 | .0001 | .014 | .0002 | .0025 |
| %RSD | 39.60 | 1702. | .1864 | .0449 | .6739 | .4339 | 11.67 | .2099 | 7.181 | 3395. |
| #1 | -.0007 | .0009 | .1571 | 2.908 | 2.736 | .3806 | .0005 | 6.695 | .0033 | .0017 |
| #2 | -.0012 | -.0010 | .1576 | 2.909 | 2.762 | .3830 | .0004 | 6.715 | .0030 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0123 | .0010 | .0008 | 3.286 | -.0001 | .0948 | -.0015 | -.0021 | .0014 |
| Stddev | .0006 | .0003 | .0001 | .0016 | .001 | .0002 | .0007 | .0005 | .0011 | .0006 |
| %RSD | 388.5 | 2.668 | 11.43 | 185.5 | .0281 | 315.0 | .6907 | 30.02 | 49.14 | 44.10 |
| #1 | -.0003 | -.0120 | .0011 | .0020 | 3.286 | .0001 | .0944 | -.0019 | -.0029 | .0009 |
| #2 | .0006 | -.0125 | .0009 | -.0003 | 3.285 | -.0002 | .0953 | -.0012 | -.0014 | .0018 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0035 | .0096 | .0000 |
| Stddev | .0005 | .0001 | .000 |
| %RSD | 13.27 | .9298 | 1133. |
| #1 | .0031 | .0097 | .0002 |
| #2 | .0038 | .0096 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.2 | 57515. | 13689. |
| Stddev | 4.7 | 30. | 94. |
| %RSD | .19573 | .05238 | .68616 |
| #1 | 2406.8 | 57494. | 13623. |
| #2 | 2413.5 | 57536. | 13755. |





Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/5/2013 11:29:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0216 | .0032 | .0055 | .0630 | .0631 | .0000 | 30.50 | -.0001 | .0005 |
| Stddev | .0008 | .0140 | .0034 | .0046 | .0005 | .0008 | .000 | .12 | .0000 | .0002 |
| %RSD | 22.69 | 65.00 | 108.9 | 84.25 | .8384 | 1.237 | 282.5 | .3855 | 32.62 | 37.03 |
| #1 | -.0040 | -.0315 | .0056 | .0088 | .0634 | .0637 | .0000 | 30.59 | -.0001 | .0003 |
| #2 | -.0029 | -.0117 | .0007 | .0022 | .0626 | .0626 | -.0001 | 30.42 | -.0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0022 | .0555 | 4.561 | 4.595 | .5061 | .0003 | 18.16 | .0033 | .0007 |
| Stddev | .0004 | .0014 | .0012 | .166 | .044 | .0008 | .0001 | .05 | .0001 | .0021 |
| %RSD | 1329. | 65.18 | 2.232 | 3.645 | .9571 | .1528 | 16.55 | .2672 | 4.279 | 308.7 |
| #1 | -.0003 | -.0032 | .0546 | 4.444 | 4.626 | .5055 | .0003 | 18.20 | .0032 | .0021 |
| #2 | .0003 | -.0012 | .0564 | 4.679 | 4.564 | .5066 | .0004 | 18.13 | .0034 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | -.0022 | .0014 | -.0030 | 5.181 | .0001 | .2137 | .0001 | -.0018 | .0028 |
| Stddev | .0010 | .0133 | .0027 | .0022 | .003 | .0008 | .0014 | .0004 | .0008 | .0004 |
| %RSD | 50.31 | 619.3 | 193.0 | 75.68 | .0650 | 506.1 | .6402 | 505.8 | 44.50 | 15.43 |
| #1 | .0026 | .0073 | .0034 | -.0014 | 5.179 | .0007 | .2127 | .0004 | -.0012 | .0031 |
| #2 | .0012 | -.0116 | -.0005 | -.0045 | 5.183 | -.0004 | .2146 | -.0002 | -.0024 | .0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0093 | -.0004 |
| Stddev | .0101 | .0002 | .0001 |
| %RSD | 1159. | 2.343 | 22.97 |
| #1 | .0062 | .0094 | -.0005 |
| #2 | -.0080 | .0091 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.2 | 58037. | 13857. |
| Stddev | 4.1 | 137. | 125. |
| %RSD | .16869 | .23527 | .89979 |
| #1 | 2440.3 | 57940. | 13769. |
| #2 | 2446.1 | 58133. | 13945. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 11:34:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2513 | 9.898 | 2.025 | -.0012 | 1.971 | 1.948 | 1.948 | 9.877 | 2.023 | 2.107 |
| Stddev | .0020 | .010 | .002 | .0018 | .003 | .001 | .003 | .006 | .000 | .001 |
| %RSD | .8149 | .0979 | .0998 | 143.2 | .1668 | .0590 | .1424 | .0617 | .0133 | .0663 |
| #1 | .2527 | 9.891 | 2.024 | .0000 | 1.969 | 1.949 | 1.949 | 9.873 | 2.023 | 2.108 |
| #2 | .2498 | 9.904 | 2.027 | -.0025 | 1.973 | 1.947 | 1.946 | 9.882 | 2.023 | 2.106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.008 | 2.001 | 9.644 | 9.870 | 9.893 | 2.020 | 2.015 | 9.826 | 1.958 | 1.967 |
| Stddev | .009 | .006 | .021 | .033 | .031 | .006 | .001 | .034 | .001 | .000 |
| %RSD | .4672 | .3043 | .2170 | .3320 | .3131 | .2854 | .0430 | .3491 | .0441 | .0216 |
| #1 | 2.014 | 2.005 | 9.659 | 9.847 | 9.871 | 2.024 | 2.015 | 9.850 | 1.957 | 1.966 |
| #2 | 2.001 | 1.997 | 9.629 | 9.893 | 9.915 | 2.016 | 2.016 | 9.802 | 1.958 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0005 | 1.995 | 1.995 | -.0210 | 1.961 | 1.970 | 1.959 | 1.965 | 2.002 |
| Stddev | .0010 | .0042 | .000 | .000 | .0007 | .003 | .002 | .004 | .004 | .008 |
| %RSD | 87.33 | 832.2 | .0148 | .0192 | 3.373 | .1639 | .0827 | .2008 | .2112 | .3923 |
| #1 | .0004 | .0024 | 1.995 | 1.994 | -.0215 | 1.958 | 1.971 | 1.962 | 1.962 | 2.007 |
| #2 | .0019 | -.0034 | 1.996 | 1.995 | -.0205 | 1.963 | 1.969 | 1.956 | 1.968 | 1.996 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | 2.007 | -.0050 |
| Stddev | .0006 | .001 | .0002 |
| %RSD | 12.04 | .0261 | 4.522 |
| #1 | .0045 | 2.008 | -.0048 |
| #2 | .0053 | 2.007 | -.0051 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2452.3 | 57866. | 13966. |
| Stddev | .9 | 210. | 29. |
| %RSD | .03501 | .36328 | .20873 |
| #1 | 2452.9 | 57718. | 13986. |
| #2 | 2451.6 | 58015. | 13945. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 11:38:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0025 | .0005 | .0017 | .0026 | .0005 | F.0006 | .0100 | F.0005 |
| Stddev | .0004 | .0049 | .0008 | .0015 | .0002 | .0002 | .0001 | .0030 | .0002 |
| %RSD | 38.86 | 198.3 | 166.4 | 88.68 | 7.348 | 29.99 | 16.80 | 30.11 | 40.88 |
| #1 | -.0007 | .0059 | -.0001 | .0006 | .0027 | .0004 | .0007 | .0079 | .0007 |
| #2 | -.0012 | -.0010 | .0011 | .0028 | .0024 | .0006 | .0005 | .0121 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | .0004 | -.0008 | .0119 | .0135 | .0004 | .0022 | .0061 |
| Stddev | .0001 | .0005 | .0012 | .0008 | .0161 | .0136 | .0000 | .0006 | .0003 |
| %RSD | 20.15 | 137.5 | 330.7 | 99.93 | 136.1 | 101.0 | 4.384 | 26.26 | 5.500 |
| #1 | .0005 | .0007 | -.0005 | -.0002 | .0233 | .0231 | .0004 | .0027 | .0059 |
| #2 | .0004 | .0000 | .0012 | -.0013 | .0004 | .0039 | .0003 | .0018 | .0064 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0012 | -.0071 | .0011 | -.0010 | -.0077 | .0011 | .0005 |
| Stddev | .0000 | .0006 | .0003 | .0022 | .0001 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 8.327 | 78.85 | 20.45 | 30.82 | 11.57 | 1.356 | 4.814 | 8.364 | 24.24 |
| #1 | .0003 | .0011 | .0014 | -.0055 | .0010 | -.0010 | -.0075 | .0011 | .0004 |
| #2 | .0004 | .0003 | .0011 | -.0086 | .0011 | -.0010 | -.0080 | .0012 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | -.0001 | .0007 | -.0003 | .0002 | .0002 |
| Stddev | .0001 | .0001 | .0007 | .0010 | .0001 | .0000 |
| %RSD | 18.01 | 102.8 | 101.0 | 338.4 | 40.89 | 14.70 |
| #1 | .0005 | -.0001 | .0012 | .0004 | .0002 | .0002 |
| #2 | .0004 | .0000 | .0002 | -.0010 | .0001 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2460.1 | 58078. | 13849. |
| Stddev | 2.5 | 150. | 46. |
| %RSD | .09994 | .25741 | .32933 |
| #1 | 2461.8 | 57972. | 13881. |
| #2 | 2458.3 | 58184. | 13817. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/5/2013 11:42:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0388 | .0061 | .0041 | .0668 | .0628 | .0001 | 30.92 | -.0004 | .0005 |
| Stddev | .0007 | .0143 | .0002 | .0052 | .0004 | .0011 | .0000 | .05 | .0006 | .0006 |
| %RSD | 1005. | 36.82 | 3.118 | 125.4 | .5496 | 1.780 | 68.59 | .1719 | 140.3 | 107.4 |
| #1 | .0004 | .0287 | .0060 | .0078 | .0666 | .0620 | .0001 | 30.96 | -.0009 | .0001 |
| #2 | -.0006 | .0489 | .0063 | .0005 | .0671 | .0636 | .0000 | 30.88 | .0000 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0007 | .0577 | 4.609 | 4.609 | .5146 | .0020 | 18.55 | .0038 | .0009 |
| Stddev | .0004 | .0006 | .0023 | .039 | .047 | .0005 | .0004 | .11 | .0002 | .0012 |
| %RSD | 697.2 | 75.09 | 4.045 | .8465 | 1.027 | .1028 | 18.44 | .5975 | 5.424 | 124.3 |
| #1 | .0002 | -.0011 | .0593 | 4.582 | 4.643 | .5149 | .0022 | 18.63 | .0036 | .0001 |
| #2 | -.0003 | -.0003 | .0560 | 4.637 | 4.576 | .5142 | .0017 | 18.47 | .0039 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0176 | .0017 | -.0007 | 5.210 | .0010 | .2107 | -.0013 | -.0004 | .0010 |
| Stddev | .0022 | .0018 | .0001 | .0013 | .018 | .0008 | .0001 | .0003 | .0020 | .0002 |
| %RSD | 403.1 | 10.28 | 6.042 | 179.0 | .3440 | 77.10 | .0546 | 19.61 | 465.1 | 24.48 |
| #1 | .0010 | -.0163 | .0017 | -.0017 | 5.197 | .0005 | .2107 | -.0012 | -.0018 | .0008 |
| #2 | -.0021 | -.0189 | .0018 | .0002 | 5.222 | .0016 | .2106 | -.0015 | .0010 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0137 | -.0001 |
| Stddev | .0018 | .0005 | .0004 |
| %RSD | 25.24 | 3.880 | 425.0 |
| #1 | .0060 | .0133 | -.0003 |
| #2 | .0085 | .0141 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.5 | 57931. | 13761. |
| Stddev | 4.1 | 66. | 138. |
| %RSD | .16673 | .11452 | 1.0025 |
| #1 | 2434.4 | 57884. | 13664. |
| #2 | 2428.6 | 57978. | 13859. |



Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/5/2013 11:47:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0143 | .4818 | -.0010 | .0334 | .0380 | .0003 | 24.61 | .0061 | .0010 |
| Stddev | .0014 | .0190 | .0014 | .0035 | .0010 | .0006 | .0001 | .03 | .0012 | .0006 |
| %RSD | 63.36 | 132.6 | .2910 | 349.1 | 3.023 | 1.595 | 49.04 | .1097 | 20.51 | 63.76 |
| #1 | -.0032 | -.0009 | .4808 | .0015 | .0342 | .0376 | .0002 | 24.63 | .0052 | .0014 |
| #2 | -.0012 | -.0278 | .4828 | -.0035 | .0327 | .0384 | .0004 | 24.59 | .0069 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0030 | 29.00 | 3.349 | 3.212 | 1.706 | .0011 | 9.746 | .0025 | .0007 |
| Stddev | .0005 | .0005 | .05 | .009 | .086 | .002 | .0001 | .043 | .0010 | .0019 |
| %RSD | 19.12 | 15.64 | .1787 | .2574 | 2.672 | .0999 | 4.826 | .4435 | 37.61 | 278.4 |
| #1 | -.0023 | -.0033 | 29.04 | 3.343 | 3.152 | 1.705 | .0011 | 9.716 | .0032 | -.0007 |
| #2 | -.0031 | -.0026 | 28.97 | 3.355 | 3.273 | 1.707 | .0011 | 9.777 | .0019 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0115 | .0024 | -.0008 | 8.742 | .0003 | .2462 | -.0010 | .0002 | .0027 |
| Stddev | .0032 | .0107 | .0024 | .0013 | .001 | .0007 | .0011 | .0009 | .0011 | .0011 |
| %RSD | 212.9 | 93.23 | 96.70 | 160.3 | .0084 | 217.6 | .4386 | 84.07 | 628.8 | 40.07 |
| #1 | -.0038 | -.0190 | .0008 | .0001 | 8.742 | .0008 | .2469 | -.0004 | -.0006 | .0035 |
| #2 | .0008 | -.0039 | .0041 | -.0018 | 8.741 | -.0002 | .2454 | -.0017 | .0010 | .0019 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0180 | -.0007 |
| Stddev | .0146 | .0006 | .0007 |
| %RSD | 259.5 | 3.109 | 93.49 |
| #1 | -.0047 | .0184 | -.0002 |
| #2 | .0159 | .0176 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2446.4 | 58336. | 13897. |
| Stddev | 2.4 | 424. | 31. |
| %RSD | .09751 | .72683 | .22443 |
| #1 | 2444.7 | 58036. | 13919. |
| #2 | 2448.1 | 58636. | 13875. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:51:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0165 | .6111 | .0018 | .1192 | .0673 | .0000 | 40.51 | .0077 | .0013 |
| Stddev | .0000 | .0047 | .0003 | .0030 | .0002 | .0007 | .0001 | .29 | .0002 | .0003 |
| %RSD | 2.062 | 28.52 | .0428 | 162.4 | .1836 | 1.090 | 587.7 | .7144 | 3.073 | 21.38 |
| #1 | -.0018 | -.0198 | .6113 | .0040 | .1193 | .0668 | -.0001 | 40.30 | .0075 | .0015 |
| #2 | -.0018 | -.0131 | .6109 | -.0003 | .1190 | .0679 | .0001 | 40.71 | .0079 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0010 | 54.90 | 10.52 | 5.482 | 1.426 | .0002 | 25.67 | .0024 | -.0006 |
| Stddev | .0004 | .0008 | .46 | .09 | .140 | .003 | .0000 | .17 | .0001 | .0013 |
| %RSD | 72.98 | 82.18 | .8378 | .8412 | 2.558 | .1918 | 1.575 | .6700 | 5.319 | 202.8 |
| #1 | -.0008 | -.0016 | 54.57 | 10.46 | 5.383 | 1.428 | .0002 | 25.55 | .0025 | .0003 |
| #2 | -.0003 | -.0004 | 55.22 | 10.58 | 5.581 | 1.424 | .0002 | 25.80 | .0023 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0074 | .0019 | -.0007 | 12.07 | .0005 | .2966 | .0000 | .0001 | .0014 |
| Stddev | .0002 | .0044 | .0005 | .0008 | .01 | .0005 | .0027 | .001 | .0012 | .0004 |
| %RSD | 5.875 | 59.77 | 23.95 | 107.8 | .0599 | 106.7 | .9104 | 6364. | 850.7 | 27.95 |
| #1 | -.0035 | -.0105 | .0016 | -.0013 | 12.06 | .0008 | .2947 | .0005 | .0010 | .0011 |
| #2 | -.0038 | -.0042 | .0023 | -.0002 | 12.07 | .0001 | .2985 | -.0005 | -.0007 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0164 | .0032 | -.0016 |
| Stddev | .0089 | .0001 | .0000 |
| %RSD | 54.01 | 1.918 | .2144 |
| #1 | .0101 | .0032 | -.0016 |
| #2 | .0226 | .0032 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2430.7 | 58095. | 13948. |
| Stddev | 8.7 | 184. | 123. |
| %RSD | .35964 | .31726 | .87858 |
| #1 | 2436.9 | 57965. | 14035. |
| #2 | 2424.5 | 58226. | 13861. |

Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:55:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0139 | .5986 | .0033 | .1169 | .0654 | .0001 | 39.44 | .0073 | .0008 |
| Stddev | .0007 | .0270 | .0038 | .0007 | .0004 | .0002 | .0002 | .24 | .0006 | .0003 |
| %RSD | 45.36 | 194.6 | .6295 | 20.49 | .3447 | .2529 | 124.5 | .6122 | 8.497 | 30.75 |
| #1 | -.0010 | -.0330 | .5959 | .0037 | .1166 | .0655 | .0003 | 39.61 | .0068 | .0006 |
| #2 | -.0020 | .0052 | .6013 | .0028 | .1172 | .0653 | .0000 | 39.27 | .0077 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0038 | 53.12 | 10.27 | 5.297 | 1.379 | .0001 | 24.93 | .0020 | -.0021 |
| Stddev | .0008 | .0024 | .40 | .19 | .144 | .003 | .0003 | .12 | .0003 | .0007 |
| %RSD | 242.4 | 63.45 | .7612 | 1.866 | 2.713 | .2171 | 238.4 | .4807 | 14.42 | 35.72 |
| #1 | -.0009 | -.0055 | 53.41 | 10.40 | 5.399 | 1.377 | .0004 | 25.02 | .0018 | -.0026 |
| #2 | .0002 | -.0021 | 52.84 | 10.13 | 5.196 | 1.382 | -.0001 | 24.85 | .0022 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0052 | .0022 | .0004 | 11.72 | -.0001 | .2879 | -.0005 | -.0008 | .0026 |
| Stddev | .0001 | .0003 | .0007 | .0029 | .01 | .0006 | .0022 | .0024 | .0014 | .0002 |
| %RSD | 4.667 | 6.528 | 33.98 | 806.8 | .1185 | 1057. | .7521 | 476.6 | 186.3 | 9.696 |
| #1 | -.0031 | -.0050 | .0016 | .0024 | 11.71 | -.0005 | .2894 | .0012 | .0002 | .0024 |
| #2 | -.0033 | -.0054 | .0027 | -.0017 | 11.73 | .0004 | .2864 | -.0022 | -.0018 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0112 | .0042 | -.0021 |
| Stddev | .0099 | .0001 | .0001 |
| %RSD | 88.60 | 2.279 | 5.388 |
| #1 | .0183 | .0042 | -.0021 |
| #2 | .0042 | .0041 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2436.2 | 58453. | 13758. |
| Stddev | .4 | 17. | 13. |
| %RSD | .01489 | .02942 | .09565 |
| #1 | 2436.5 | 58441. | 13748. |
| #2 | 2436.0 | 58465. | 13767. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:59:59 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0168 | .6113 | .0076 | .1236 | .0691 | .0001 | 40.89 | .0074 | .0008 |
| Stddev | .0018 | .0050 | .0001 | .0038 | .0013 | .0008 | .0003 | .00 | .0004 | .0011 |
| %RSD | 58.65 | 29.63 | .0156 | 50.92 | 1.074 | 1.193 | 428.8 | .0107 | 5.217 | 129.4 |
| #1 | -.0018 | -.0133 | .6113 | .0103 | .1245 | .0696 | .0003 | 40.89 | .0071 | .0001 |
| #2 | -.0045 | -.0204 | .6114 | .0048 | .1227 | .0685 | -.0001 | 40.90 | .0076 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0025 | 55.14 | 10.40 | 5.389 | 1.444 | -.0002 | 25.84 | .0012 | -.0024 |
| Stddev | .0016 | .0000 | .26 | .16 | .149 | .006 | .0008 | .09 | .0014 | .0033 |
| %RSD | 291.0 | .4081 | .4625 | 1.575 | 2.757 | .4274 | 447.6 | .3569 | 123.1 | 137.5 |
| #1 | -.0017 | -.0025 | 55.32 | 10.28 | 5.284 | 1.439 | -.0007 | 25.91 | .0022 | -.0001 |
| #2 | .0006 | -.0025 | 54.96 | 10.51 | 5.494 | 1.448 | .0004 | 25.78 | .0001 | -.0048 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0097 | -.0244 | .0043 | -.0052 | 12.06 | -.0003 | .3037 | -.0030 | -.0051 | .0026 |
| Stddev | .0000 | .0320 | .0018 | .0024 | .01 | .0004 | .0002 | .0010 | .0019 | .0010 |
| %RSD | .2409 | 131.3 | 41.06 | 46.47 | .1040 | 128.8 | .0764 | 31.53 | 37.51 | 39.35 |
| #1 | -.0097 | -.0470 | .0031 | -.0035 | 12.07 | -.0007 | .3039 | -.0037 | -.0065 | .0019 |
| #2 | -.0097 | -.0017 | .0056 | -.0069 | 12.05 | .0000 | .3035 | -.0023 | -.0037 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0094 | .0081 | -.0041 |
| Stddev | .0045 | .0004 | .0014 |
| %RSD | 48.16 | 5.141 | 34.79 |
| #1 | -.0125 | .0084 | -.0051 |
| #2 | -.0062 | .0079 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.4 | 58449. | 13891. |
| Stddev | 2.2 | 383. | 152. |
| %RSD | .09189 | .65537 | 1.0961 |
| #1 | 2445.0 | 58720. | 13999. |
| #2 | 2441.8 | 58178. | 13784. |





Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 12:04:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0739 | .6274 | .0049 | .1230 | .0691 | -.0001 | 42.15 | .0072 | -.0002 |
| Stddev | .0021 | .1429 | .0002 | .0057 | .0021 | .0001 | .0005 | .22 | .0001 | .0025 |
| %RSD | 20.21 | 193.4 | .0321 | 117.6 | 1.719 | .1820 | 557.4 | .5128 | .7410 | 1129. |
| #1 | -.0091 | .1750 | .6276 | .0008 | .1215 | .0690 | -.0004 | 42.00 | .0073 | -.0020 |
| #2 | -.0121 | -.0272 | .6273 | .0089 | .1244 | .0692 | .0003 | 42.30 | .0072 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0109 | 56.33 | 10.92 | 5.479 | 1.436 | .0008 | 26.42 | .0024 | -.0028 |
| Stddev | .0041 | .0111 | .10 | .35 | .151 | .006 | .0002 | .13 | .0001 | .0019 |
| %RSD | 91.55 | 101.6 | .1743 | 3.250 | 2.760 | .4493 | 23.96 | .4973 | 5.110 | 67.12 |
| #1 | -.0016 | -.0188 | 56.26 | 10.67 | 5.586 | 1.432 | .0007 | 26.33 | .0023 | -.0015 |
| #2 | -.0074 | -.0031 | 56.40 | 11.18 | 5.372 | 1.441 | .0010 | 26.52 | .0025 | -.0041 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0067 | -.0335 | .0055 | -.0030 | 12.08 | .0030 | .3037 | -.0049 | -.0058 | .0037 |
| Stddev | .0074 | .0566 | .0018 | .0028 | .02 | .0004 | .0037 | .0021 | .0071 | .0019 |
| %RSD | 110.5 | 169.3 | 33.69 | 91.14 | .1290 | 12.96 | 1.233 | 41.63 | 123.4 | 50.80 |
| #1 | -.0015 | -.0735 | .0042 | -.0050 | 12.07 | .0033 | .3010 | -.0035 | -.0108 | .0024 |
| #2 | -.0119 | .0066 | .0068 | -.0011 | 12.09 | .0027 | .3063 | -.0064 | -.0007 | .0051 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0139 | .0095 | .0006 |
| Stddev | .0626 | .0005 | .0032 |
| %RSD | 451.5 | 4.987 | 533.6 |
| #1 | .0304 | .0099 | -.0017 |
| #2 | -.0581 | .0092 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2434.7 | 58082. | 13802. |
| Stddev | 2.0 | 64. | 178. |
| %RSD | .08308 | .11103 | 1.2912 |
| #1 | 2436.2 | 58128. | 13928. |
| #2 | 2433.3 | 58036. | 13676. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:08:38 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0061 | .0026 | .0021 | .0477 | .1712 | .0000 | 140.9 | -.0004 | -.0004 |
| Stddev | .0013 | .0348 | .0002 | .0008 | .0017 | .0020 | .000 | .2 | .0003 | .0001 |
| %RSD | 159.5 | 573.6 | 7.882 | 40.76 | 3.468 | 1.160 | 46.50 | .1557 | 71.31 | 32.39 |
| #1 | -.0017 | -.0185 | .0028 | .0015 | .0465 | .1698 | .0000 | 141.1 | -.0002 | -.0005 |
| #2 | .0001 | .0306 | .0025 | .0027 | .0489 | .1726 | -.0001 | 140.8 | -.0006 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0003 | .0284 | 6.246 | 17.16 | .0399 | .0002 | 426.1 | .0023 | -.0003 |
| Stddev | .0002 | .0001 | .0001 | .030 | .07 | .0004 | .0002 | 4.5 | .0001 | .0009 |
| %RSD | 80.15 | 33.90 | .1934 | .4852 | .3986 | .8994 | 71.83 | 1.050 | 6.074 | 332.8 |
| #1 | .0004 | -.0002 | .0285 | 6.224 | 17.11 | .0397 | .0001 | 422.9 | .0024 | -.0009 |
| #2 | .0001 | -.0003 | .0284 | 6.267 | 17.21 | .0402 | .0003 | 429.2 | .0022 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0175 | .0032 | .0012 | 6.482 | -.0001 | .8066 | .0019 | -.0041 | .0018 |
| Stddev | .0000 | .0001 | .0010 | .0036 | .002 | .0009 | .0024 | .0001 | .0003 | .0005 |
| %RSD | .2070 | .8010 | 31.43 | 308.1 | .0236 | 966.8 | .3023 | 6.074 | 8.272 | 28.05 |
| #1 | -.0092 | -.0176 | .0039 | -.0014 | 6.481 | .0005 | .8083 | .0019 | -.0039 | .0021 |
| #2 | -.0092 | -.0174 | .0025 | .0037 | 6.483 | -.0007 | .8048 | .0018 | -.0044 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0036 | .0078 | -.0009 |
| Stddev | .0049 | .0002 | .0004 |
| %RSD | 136.4 | 2.232 | 41.68 |
| #1 | .0001 | .0079 | -.0006 |
| #2 | .0071 | .0076 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.7 | 57315. | 13820. |
| Stddev | 3.0 | 183. | 26. |
| %RSD | .12508 | .31870 | .19130 |
| #1 | 2384.8 | 57444. | 13839. |
| #2 | 2380.6 | 57185. | 13802. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:13:03 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0372 | .0126 | .0357 | .0527 | .1763 | -.0007 | 145.1 | -.0030 | -.0030 |
| Stddev | .0081 | .2364 | .0417 | .0322 | .0031 | .0042 | .0005 | .1 | .0003 | .0033 |
| %RSD | 109.8 | 636.2 | 329.5 | 90.18 | 5.957 | 2.398 | 81.95 | .0810 | 10.61 | 110.3 |
| #1 | -.0131 | .2043 | -.0168 | .0129 | .0549 | .1733 | -.0003 | 145.0 | -.0028 | -.0053 |
| #2 | -.0017 | -.1300 | .0421 | .0584 | .0504 | .1793 | -.0010 | 145.2 | -.0032 | -.0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0085 | -.0085 | -.0475 | 6.727 | 18.13 | .0342 | .0007 | 438.2 | .0001 | -.0017 |
| Stddev | .0066 | .0043 | .0335 | .662 | .28 | .0009 | .0015 | .1 | .0052 | .0053 |
| %RSD | 76.82 | 50.39 | 70.59 | 9.836 | 1.519 | 2.512 | 227.0 | .0157 | 5769. | 312.2 |
| #1 | -.0039 | -.0115 | -.0712 | 7.195 | 17.93 | .0336 | -.0004 | 438.2 | .0038 | -.0054 |
| #2 | -.0132 | -.0055 | -.0238 | 6.259 | 18.32 | .0348 | .0017 | 438.3 | -.0036 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | -.0591 | -.0059 | -.0030 | 6.435 | -.0008 | .8396 | -.0148 | -.0170 | .0201 |
| Stddev | .0515 | .0357 | .0060 | .0117 | .005 | .0028 | .0090 | .0027 | .0090 | .0113 |
| %RSD | 749.8 | 60.46 | 102.4 | 390.0 | .0708 | 351.9 | 1.075 | 18.62 | 52.87 | 56.32 |
| #1 | .0296 | -.0844 | -.0016 | .0053 | 6.431 | -.0027 | .8333 | -.0128 | -.0233 | .0281 |
| #2 | -.0433 | -.0338 | -.0102 | -.0113 | 6.438 | .0012 | .8460 | -.0167 | -.0106 | .0121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0282 | .0099 | .0062 |
| Stddev | .0334 | .0001 | .0030 |
| %RSD | 118.5 | .7390 | 48.76 |
| #1 | -.0518 | .0099 | .0041 |
| #2 | -.0046 | .0100 | .0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2432.3 | 58117. | 13817. |
| Stddev | 10.3 | 49. | 14. |
| %RSD | .42509 | .08365 | .10342 |
| #1 | 2425.0 | 58082. | 13828. |
| #2 | 2439.6 | 58151. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:17:25 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0583 | .0346 | .0527 | .0963 | .0414 | .1698 | -.0049 | 145.7 | -.0123 | -.0062 |
| Stddev | .0032 | .1995 | .0412 | .0172 | .0388 | .0044 | .0015 | 1.1 | .0093 | .0015 |
| %RSD | 5.448 | 576.9 | 78.30 | 17.89 | 93.75 | 2.596 | 30.78 | .7484 | 75.40 | 24.20 |
| #1 | -.0606 | -.1065 | .0818 | .1085 | .0139 | .1667 | -.0039 | 145.0 | -.0058 | -.0051 |
| #2 | -.0561 | .1757 | .0235 | .0841 | .0688 | .1729 | -.0060 | 146.5 | -.0189 | -.0072 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0220 | -.0495 | -.1850 | 6.875 | 17.92 | .0264 | .0037 | 431.5 | -.0094 | .0028 |
| Stddev | .0133 | .0520 | .0220 | 1.944 | .95 | .0048 | .0010 | 1.2 | .0022 | .0113 |
| %RSD | 60.66 | 105.1 | 11.91 | 28.27 | 5.327 | 18.37 | 27.25 | .2803 | 23.49 | 404.7 |
| #1 | -.0126 | -.0127 | -.1694 | 8.250 | 17.25 | .0298 | .0030 | 432.4 | -.0109 | -.0052 |
| #2 | -.0314 | -.0863 | -.2006 | 5.501 | 18.60 | .0229 | .0044 | 430.7 | -.0078 | .0108 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0292 | -.2688 | .0053 | -.0117 | 6.090 | .0224 | .8159 | -.0241 | -.0004 | .0381 |
| Stddev | .0208 | .1548 | .0300 | .0634 | .047 | .0077 | .0023 | .0171 | .0164 | .0262 |
| %RSD | 71.19 | 57.59 | 564.3 | 540.6 | .7711 | 34.27 | .2835 | 70.85 | 4068. | 68.80 |
| #1 | -.0145 | -.1593 | -.0159 | -.0566 | 6.123 | .0170 | .8143 | -.0120 | .0112 | .0566 |
| #2 | -.0439 | -.3783 | .0266 | .0331 | 6.057 | .0279 | .8176 | -.0362 | -.0120 | .0196 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0004 | .0023 | .0184 |
| Stddev | .0326 | .0006 | .0130 |
| %RSD | 8283. | 25.26 | 70.86 |
| #1 | .0235 | .0019 | .0092 |
| #2 | -.0227 | .0028 | .0276 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2426.2 | 57817. | 13798. |
| Stddev | 4.2 | 406. | 44. |
| %RSD | .17344 | .70280 | .31801 |
| #1 | 2429.2 | 57530. | 13829. |
| #2 | 2423.2 | 58104. | 13767. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:21:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0030 | .0020 | .0016 | .0459 | .1576 | .0000 | 129.6 | .0000 | .0000 |
| Stddev | .0013 | .0146 | .0036 | .0018 | .0014 | .0001 | .0002 | .2 | .0001 | .0004 |
| %RSD | 105.3 | 481.3 | 178.2 | 115.8 | 2.975 | .0597 | 1365. | .1596 | 1124. | 1073. |
| #1 | -.0022 | .0073 | .0045 | .0028 | .0468 | .1577 | .0001 | 129.5 | .0001 | -.0003 |
| #2 | -.0003 | -.0134 | -.0005 | .0003 | .0449 | .1575 | -.0001 | 129.7 | -.0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0013 | .1211 | 6.121 | 16.06 | .2129 | .0014 | 393.3 | .0031 | -.0024 |
| Stddev | .0005 | .0010 | .0007 | .005 | .14 | .0004 | .0000 | 3.8 | .0005 | .0010 |
| %RSD | 96.77 | 74.96 | .5728 | .0768 | .8703 | .1650 | 1.375 | .9719 | 16.19 | 42.75 |
| #1 | -.0002 | -.0020 | .1206 | 6.117 | 15.96 | .2131 | .0014 | 396.0 | .0027 | -.0032 |
| #2 | -.0008 | -.0006 | .1215 | 6.124 | 16.16 | .2126 | .0014 | 390.6 | .0035 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0054 | .0013 | .0011 | 6.188 | -.0005 | .7576 | .0010 | -.0033 | .0027 |
| Stddev | .0054 | .0047 | .0010 | .0020 | .010 | .0003 | .0023 | .0020 | .0006 | .0001 |
| %RSD | 71.52 | 87.94 | 73.09 | 187.6 | .1635 | 70.52 | .3083 | 209.8 | 17.05 | 2.350 |
| #1 | -.0037 | -.0020 | .0006 | .0025 | 6.195 | -.0002 | .7560 | .0024 | -.0037 | .0028 |
| #2 | -.0113 | -.0088 | .0020 | -.0004 | 6.181 | -.0007 | .7593 | -.0005 | -.0029 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0345 | .0095 | .0000 |
| Stddev | .0040 | .0002 | .000 |
| %RSD | 11.54 | 1.702 | 351.5 |
| #1 | .0374 | .0096 | .0001 |
| #2 | .0317 | .0093 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.3 | 57574. | 13768. |
| Stddev | 8.3 | 594. | 82. |
| %RSD | .35021 | 1.0310 | .59719 |
| #1 | 2366.4 | 57154. | 13827. |
| #2 | 2378.1 | 57994. | 13710. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 12:26:11 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.941 | 2.022 | .0003 | 1.967 | 1.964 | 1.949 | 9.925 | 2.047 | 2.117 |
| Stddev | .0019 | .153 | .002 | .0015 | .002 | .026 | .027 | .135 | .001 | .004 |
| %RSD | .7545 | 1.534 | .1044 | 495.7 | .0756 | 1.349 | 1.372 | 1.362 | .0470 | .1890 |
| #1 | .2513 | 10.05 | 2.024 | -.0008 | 1.968 | 1.983 | 1.968 | 10.02 | 2.047 | 2.120 |
| #2 | .2540 | 9.833 | 2.021 | .0014 | 1.966 | 1.946 | 1.930 | 9.829 | 2.046 | 2.114 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.004 | 2.016 | 9.718 | 9.933 | 10.03 | 2.000 | 2.031 | 9.993 | 1.957 | 1.970 |
| Stddev | .002 | .007 | .138 | .138 | .12 | .004 | .002 | .134 | .002 | .001 |
| %RSD | .1043 | .3431 | 1.417 | 1.384 | 1.206 | .2229 | .1193 | 1.339 | .0921 | .0571 |
| #1 | 2.003 | 2.011 | 9.816 | 10.03 | 10.11 | 1.997 | 2.033 | 10.09 | 1.958 | 1.971 |
| #2 | 2.006 | 2.021 | 9.621 | 9.836 | 9.942 | 2.004 | 2.029 | 9.898 | 1.956 | 1.969 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0005 | 2.006 | 1.994 | -.0130 | 1.953 | 1.993 | 1.956 | 1.956 | 1.999 |
| Stddev | .0008 | .0013 | .002 | .005 | .0004 | .004 | .024 | .007 | .005 | .005 |
| %RSD | 809.7 | 235.1 | .0916 | .2558 | 2.801 | .2219 | 1.195 | .3376 | .2753 | .2288 |
| #1 | .0005 | -.0004 | 2.007 | 1.998 | -.0127 | 1.956 | 2.010 | 1.951 | 1.960 | 1.996 |
| #2 | -.0007 | .0014 | 2.005 | 1.990 | -.0133 | 1.950 | 1.976 | 1.960 | 1.952 | 2.002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0079 | 2.010 | -.0049 |
| Stddev | .0050 | .003 | .0001 |
| %RSD | 62.58 | .1634 | 1.025 |
| #1 | .0114 | 2.013 | -.0049 |
| #2 | .0044 | 2.008 | -.0049 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.7 | 57993. | 13854. |
| Stddev | 2.5 | 15. | 227. |
| %RSD | .10232 | .02565 | 1.6409 |
| #1 | 2418.4 | 57982. | 13693. |
| #2 | 2414.9 | 58003. | 14015. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 12:30:23 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0012 | .0001 | .0020 | .0025 | .0005 | F.0005 | .0528 | .0004 |
| Stddev | .0001 | .0006 | .0030 | .0003 | .0002 | .0004 | .0000 | .0033 | .0000 |
| %RSD | 13.49 | 52.04 | 2714. | 15.99 | 10.01 | 74.80 | 6.253 | 6.214 | 1.312 |
| #1 | -.0007 | -.0008 | -.0020 | .0018 | .0027 | .0002 | .0005 | .0504 | .0004 |
| #2 | -.0006 | -.0017 | .0022 | .0023 | .0023 | .0008 | .0006 | .0551 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | -.0002 | .0005 | .0199 | .0161 | .0002 | .0024 | .0630 |
| Stddev | .0003 | .0002 | .0000 | .0051 | .0049 | .0118 | .0001 | .0003 | .0001 |
| %RSD | 90.74 | 427.0 | 7.606 | 1010. | 24.43 | 73.69 | 66.72 | 13.99 | .1360 |
| #1 | .0001 | .0002 | -.0002 | .0041 | .0165 | .0077 | .0003 | .0026 | .0629 |
| #2 | .0005 | -.0001 | -.0002 | -.0031 | .0234 | .0244 | .0001 | .0021 | .0630 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0013 | -.0066 | .0006 | .0006 | -.0076 | .0009 | .0005 |
| Stddev | .0001 | .0009 | .0034 | .0008 | .0006 | .0007 | .0002 | .0003 | .0001 |
| %RSD | 13.28 | 181.8 | 262.7 | 12.71 | 94.98 | 110.3 | 3.127 | 37.45 | 10.89 |
| #1 | .0005 | .0012 | .0037 | -.0060 | .0002 | .0001 | -.0078 | .0007 | .0006 |
| #2 | .0006 | -.0001 | -.0011 | -.0072 | .0010 | .0011 | -.0075 | .0011 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0010 | -.0021 | .0001 | .0005 |
| Stddev | .0001 | .0000 | .0008 | .0021 | .0001 | .0001 |
| %RSD | 32.38 | 7.512 | 85.21 | 99.66 | 61.94 | 12.10 |
| #1 | .0004 | .0007 | .0015 | -.0006 | .0001 | .0005 |
| #2 | .0003 | .0006 | .0004 | -.0035 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.3 | 57723. | 13770. |
| Stddev | .8 | 41. | 56. |
| %RSD | .03354 | .07170 | .40634 |
| #1 | 2422.8 | 57752. | 13730. |
| #2 | 2421.7 | 57694. | 13810. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:34:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0403 | .0240 | .0570 | .0719 | .1686 | .0026 | 136.4 | -.0016 | -.0011 |
| Stddev | .0038 | .0116 | .0028 | .0212 | .0027 | .0042 | .0021 | .8 | .0000 | .0005 |
| %RSD | 35.94 | 28.74 | 11.64 | 37.15 | 3.700 | 2.481 | 81.18 | .6228 | 1.919 | 48.90 |
| #1 | -.0132 | .0321 | .0260 | .0420 | .0738 | .1716 | .0042 | 135.8 | -.0016 | -.0007 |
| #2 | -.0079 | .0485 | .0221 | .0720 | .0700 | .1656 | .0011 | 137.0 | -.0016 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0246 | .0906 | 6.171 | 16.50 | .2178 | .0163 | 405.8 | .0050 | -.0058 |
| Stddev | .0185 | .0170 | .0464 | .296 | .56 | .0001 | .0033 | 1.0 | .0060 | .0091 |
| %RSD | 386.7 | 69.02 | 51.22 | 4.794 | 3.377 | .0480 | 20.09 | .2375 | 120.8 | 158.9 |
| #1 | -.0179 | -.0366 | .0578 | 5.962 | 16.10 | .2178 | .0186 | 405.2 | .0007 | .0007 |
| #2 | .0083 | -.0126 | .1235 | 6.380 | 16.89 | .2179 | .0140 | 406.5 | .0093 | -.0122 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0080 | -.0812 | .0133 | -.0102 | 6.141 | .0058 | .7837 | -.0045 | -.0179 | .0138 |
| Stddev | .0360 | .0919 | .0229 | .0041 | .010 | .0018 | .0029 | .0075 | .0083 | .0016 |
| %RSD | 446.8 | 113.1 | 172.2 | 39.99 | .1657 | 30.82 | .3697 | 166.6 | 46.34 | 11.23 |
| #1 | .0174 | -.0162 | -.0029 | -.0073 | 6.148 | .0045 | .7817 | .0008 | -.0238 | .0127 |
| #2 | -.0335 | -.1462 | .0295 | -.0131 | 6.134 | .0070 | .7858 | -.0099 | -.0121 | .0149 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1327 | .0143 | -.0026 |
| Stddev | .2096 | .0004 | .0009 |
| %RSD | 157.9 | 2.565 | 32.81 |
| #1 | -.0155 | .0140 | -.0032 |
| #2 | .2809 | .0145 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2425.8 | 57906. | 13903. |
| Stddev | 1.0 | 162. | 101. |
| %RSD | .04053 | .27990 | .72877 |
| #1 | 2426.5 | 58020. | 13975. |
| #2 | 2425.1 | 57791. | 13831. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:39:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0642 | .0647 | .0090 | .0834 | .0918 | .1602 | -.0001 | 135.2 | -.0015 | -.0040 |
| Stddev | .0326 | .4750 | .0072 | .0110 | .0095 | .0083 | .0023 | .2 | .0006 | .0036 |
| %RSD | 50.69 | 734.2 | 79.22 | 13.15 | 10.31 | 5.191 | 3646. | .1549 | 40.66 | 90.36 |
| #1 | -.0872 | .4006 | .0141 | .0756 | .0985 | .1661 | -.0017 | 135.3 | -.0011 | -.0065 |
| #2 | -.0412 | -.2712 | .0040 | .0911 | .0851 | .1543 | .0015 | 135.0 | -.0020 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0241 | -.0595 | -.1089 | 5.419 | 16.82 | .2029 | .0060 | 405.4 | -.0043 | -.0260 |
| Stddev | .0205 | .0111 | .0433 | 3.185 | 1.40 | .0035 | .0044 | .5 | .0040 | .0056 |
| %RSD | 85.30 | 18.67 | 39.77 | 58.77 | 8.314 | 1.739 | 73.53 | .1248 | 94.99 | 21.58 |
| #1 | -.0386 | -.0516 | -.1395 | 7.671 | 15.83 | .2054 | .0029 | 405.8 | -.0014 | -.0220 |
| #2 | -.0095 | -.0673 | -.0783 | 3.167 | 17.81 | .2004 | .0090 | 405.1 | -.0071 | -.0300 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0307 | -.2605 | .0459 | -.0175 | 5.850 | .0242 | .7757 | -.0316 | -.0195 | .0503 |
| Stddev | .0342 | .1801 | .0442 | .0017 | .051 | .0207 | .0032 | .0197 | .0339 | .0059 |
| %RSD | 111.2 | 69.14 | 96.26 | 9.603 | .8758 | 85.33 | .4141 | 62.44 | 173.6 | 11.67 |
| #1 | -.0066 | -.1331 | .0147 | -.0187 | 5.887 | .0096 | .7779 | -.0456 | .0044 | .0544 |
| #2 | -.0549 | -.3878 | .0772 | -.0163 | 5.814 | .0388 | .7734 | -.0177 | -.0435 | .0461 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0184 | .0089 |
| Stddev | .0072 | .0039 | .0090 |
| %RSD | 561.6 | 21.08 | 101.2 |
| #1 | -.0064 | .0156 | .0153 |
| #2 | .0038 | .0211 | .0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 58061. | 13847. |
| Stddev | 6.0 | 315. | 62. |
| %RSD | .25056 | .54184 | .45136 |
| #1 | 2408.4 | 58284. | 13891. |
| #2 | 2416.9 | 57839. | 13803. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/5/2013 12:43:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .0039 | .0005 | .0164 | .0130 | .0001 | 18.26 | .0002 | .0019 |
| Stddev | .0015 | .0042 | .0023 | .0041 | .0004 | .0001 | .0000 | .05 | .0002 | .0002 |
| %RSD | 87.30 | 51.74 | 57.86 | 798.2 | 2.443 | .6726 | 43.21 | .2948 | 117.0 | 12.12 |
| #1 | -.0027 | -.0051 | .0055 | .0034 | .0166 | .0129 | .0001 | 18.30 | .0003 | .0017 |
| #2 | -.0006 | -.0110 | .0023 | -.0024 | .0161 | .0131 | .0001 | 18.22 | .0000 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0017 | 1.419 | 2.750 | 3.415 | .6219 | .0001 | 2.566 | .0041 | -.0003 |
| Stddev | .0000 | .0006 | .006 | .088 | .055 | .0027 | .0000 | .014 | .0000 | .0011 |
| %RSD | 8.919 | 32.95 | .4599 | 3.210 | 1.596 | .4404 | 18.84 | .5470 | .1834 | 384.8 |
| #1 | -.0005 | -.0021 | 1.423 | 2.812 | 3.453 | .6238 | .0001 | 2.576 | .0041 | -.0011 |
| #2 | -.0005 | -.0013 | 1.414 | 2.687 | 3.376 | .6200 | .0001 | 2.556 | .0041 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0080 | .0014 | -.0003 | 6.035 | .0002 | .1152 | .0004 | -.0024 | .0017 |
| Stddev | .0016 | .0066 | .0001 | .0010 | .001 | .0006 | .0004 | .0003 | .0010 | .0006 |
| %RSD | 139.1 | 82.58 | 10.23 | 324.8 | .0224 | 299.2 | .3828 | 70.46 | 39.90 | 38.20 |
| #1 | .0023 | -.0126 | .0013 | -.0010 | 6.036 | .0006 | .1155 | .0005 | -.0031 | .0012 |
| #2 | .0000 | -.0033 | .0015 | .0004 | 6.034 | -.0002 | .1148 | .0002 | -.0017 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | .0128 | -.0012 |
| Stddev | .0072 | .0000 | .0005 |
| %RSD | 148.5 | .0606 | 42.96 |
| #1 | .0099 | .0128 | -.0009 |
| #2 | -.0002 | .0128 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.9 | 57768. | 13906. |
| Stddev | 7.4 | 248. | 37. |
| %RSD | .30739 | .42918 | .26718 |
| #1 | 2428.2 | 57593. | 13880. |
| #2 | 2417.6 | 57943. | 13933. |

Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:47:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2271 | 1.808 | .7023 | .0007 | 4.588 | 2.326 | .1720 | 99.56 | .1908 | 2.480 |
| Stddev | .0003 | .004 | .0037 | .0003 | .027 | .004 | .0003 | .17 | .0014 | .014 |
| %RSD | .1307 | .2351 | .5288 | 47.48 | .5821 | .1786 | .1740 | .1728 | .7128 | .5462 |
| #1 | .2273 | 1.811 | .7049 | .0010 | 4.607 | 2.329 | .1718 | 99.69 | .1918 | 2.489 |
| #2 | .2269 | 1.805 | .6997 | .0005 | 4.569 | 2.323 | .1722 | 99.44 | .1899 | 2.470 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4511 | 1.098 | 72.30 | 53.38 | 52.52 | 1.718 | 4.493 | 55.78 | 1.656 | .2182 |
| Stddev | .0006 | .002 | .15 | .03 | .05 | .007 | .024 | .13 | .008 | .0018 |
| %RSD | .1243 | .1777 | .2098 | .0495 | .0997 | .3960 | .5299 | .2388 | .4873 | .8204 |
| #1 | .4515 | 1.099 | 72.41 | 53.40 | 52.48 | 1.723 | 4.510 | 55.87 | 1.661 | .2194 |
| #2 | .4508 | 1.096 | 72.20 | 53.36 | 52.56 | 1.714 | 4.477 | 55.68 | 1.650 | .2169 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | .0043 | .2945 | .4342 | 12.52 | 4.261 | 1.102 | 2.190 | .2271 | .4550 |
| Stddev | .0009 | .0007 | .0016 | .0045 | .07 | .019 | .001 | .009 | .0011 | .0002 |
| %RSD | 10.64 | 16.67 | .5453 | 1.038 | .5597 | .4501 | .1195 | .4290 | .4920 | .0393 |
| #1 | -.0077 | .0048 | .2956 | .4374 | 12.57 | 4.275 | 1.103 | 2.197 | .2279 | .4551 |
| #2 | -.0090 | .0038 | .2934 | .4310 | 12.47 | 4.248 | 1.101 | 2.184 | .2263 | .4549 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .8597 | -.0116 |
| Stddev | .0043 | .0031 | .0003 |
| %RSD | 68.34 | .3642 | 2.224 |
| #1 | .0094 | .8619 | -.0114 |
| #2 | .0033 | .8575 | -.0117 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2340.9 | 57154. | 13748. |
| Stddev | 12.7 | 364. | 66. |
| %RSD | .54065 | .63660 | .48143 |
| #1 | 2332.0 | 56897. | 13795. |
| #2 | 2349.9 | 57411. | 13701. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:55:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2192 | 1.789 | .7019 | .0055 | 4.552 | 2.296 | .1722 | 100.1 | .1868 | 2.458 |
| Stddev | .0008 | .033 | .0043 | .0143 | .017 | .000 | .0002 | .1 | .0010 | .005 |
| %RSD | .3573 | 1.854 | .6171 | 258.8 | .3641 | .0025 | .1104 | .0768 | .5562 | .2197 |
| #1 | .2197 | 1.766 | .6988 | -.0046 | 4.564 | 2.296 | .1721 | 100.1 | .1861 | 2.462 |
| #2 | .2186 | 1.813 | .7049 | .0156 | 4.540 | 2.296 | .1724 | 100.2 | .1875 | 2.454 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4476 | 1.076 | 71.99 | 53.54 | 52.38 | 1.722 | 4.423 | 55.54 | 1.657 | .2171 |
| Stddev | .0045 | .002 | .21 | .11 | .30 | .003 | .001 | .03 | .004 | .0032 |
| %RSD | 1.001 | .1460 | .2964 | .2116 | .5667 | .1904 | .0254 | .0538 | .2537 | 1.484 |
| #1 | .4507 | 1.077 | 72.14 | 53.62 | 52.17 | 1.725 | 4.424 | 55.52 | 1.660 | .2149 |
| #2 | .4444 | 1.075 | 71.84 | 53.46 | 52.59 | 1.720 | 4.422 | 55.56 | 1.654 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0360 | .2926 | .4336 | 11.89 | 4.285 | 1.070 | 2.183 | .2239 | .4523 |
| Stddev | .0009 | .0448 | .0010 | .0032 | .01 | .002 | .002 | .001 | .0030 | .0002 |
| %RSD | 37.25 | 124.2 | .3447 | .7337 | .0606 | .0385 | .1634 | .0580 | 1.338 | .0393 |
| #1 | -.0030 | -.0677 | .2934 | .4359 | 11.90 | 4.286 | 1.068 | 2.183 | .2260 | .4522 |
| #2 | -.0018 | -.0044 | .2919 | .4314 | 11.89 | 4.283 | 1.071 | 2.182 | .2218 | .4524 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .8707 | -.0106 |
| Stddev | .0356 | .0006 | .0017 |
| %RSD | 757.2 | .0639 | 16.01 |
| #1 | -.0205 | .8710 | -.0118 |
| #2 | .0299 | .8703 | -.0094 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2411.9 | 57909. | 13809. |
| Stddev | 5.5 | 57. | 104. |
| %RSD | .22845 | .09861 | .75426 |
| #1 | 2415.8 | 57869. | 13735. |
| #2 | 2408.0 | 57949. | 13882. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2083 | 1.795 | .7034 | .0216 | 4.613 | 2.314 | .1759 | 101.0 | .1877 | 2.489 |
| Stddev | .0065 | .118 | .0001 | .0108 | .009 | .002 | .0002 | .4 | .0004 | .003 |
| %RSD | 3.141 | 6.580 | .0149 | 50.00 | .1983 | .0860 | .1145 | .3705 | .2153 | .1275 |
| #1 | .2129 | 1.711 | .7033 | .0293 | 4.606 | 2.312 | .1758 | 100.7 | .1880 | 2.486 |
| #2 | .2037 | 1.878 | .7034 | .0140 | 4.619 | 2.315 | .1760 | 101.2 | .1875 | 2.491 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4526 | 1.088 | 74.16 | 54.63 | 53.59 | 1.750 | 4.477 | 55.88 | 1.680 | .2252 |
| Stddev | .0012 | .012 | .05 | .74 | .08 | .002 | .004 | .22 | .007 | .0032 |
| %RSD | .2751 | 1.122 | .0725 | 1.360 | .1469 | .1323 | .0890 | .3974 | .3984 | 1.440 |
| #1 | .4535 | 1.079 | 74.20 | 54.10 | 53.65 | 1.749 | 4.475 | 55.72 | 1.675 | .2275 |
| #2 | .4517 | 1.096 | 74.12 | 55.16 | 53.54 | 1.752 | 4.480 | 56.03 | 1.685 | .2229 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.1036 | .2925 | .4263 | 11.91 | 4.343 | 1.081 | 2.261 | .2295 | .4623 |
| Stddev | .0010 | .0181 | .0041 | .0066 | .02 | .009 | .000 | .010 | .0032 | .0090 |
| %RSD | 38.88 | 17.42 | 1.396 | 1.557 | .1852 | .2123 | .0109 | .4343 | 1.397 | 1.945 |
| #1 | .0032 | -.0908 | .2954 | .4310 | 11.89 | 4.350 | 1.081 | 2.268 | .2318 | .4686 |
| #2 | .0018 | -.1164 | .2897 | .4216 | 11.93 | 4.337 | 1.081 | 2.254 | .2273 | .4559 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0152 | .9214 | -.0086 |
| Stddev | .0029 | .0025 | .0032 |
| %RSD | 19.27 | .2677 | 37.77 |
| #1 | .0173 | .9231 | -.0108 |
| #2 | .0132 | .9196 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2429.8 | 58023. | 13918. |
| Stddev | 9.5 | 75. | 2. |
| %RSD | .39195 | .12868 | .01640 |
| #1 | 2436.6 | 57970. | 13917. |
| #2 | 2423.1 | 58075. | 13920. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/5/2013 13:04:07 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0496 | .0030 | .6629 | .0926 | .3285 | .1502 | .0001 | 68.26 | -.0001 | .0030 |
| Stddev | .0256 | .1995 | .0234 | .0012 | .0273 | .0125 | .0029 | .36 | .0020 | .0084 |
| %RSD | 51.57 | 6755. | 3.524 | 1.329 | 8.306 | 8.334 | 3506. | .5263 | 1359. | 281.0 |
| #1 | -.0315 | -.1381 | .6463 | .0934 | .3092 | .1413 | .0021 | 68.00 | .0012 | .0089 |
| #2 | -.0677 | .1440 | .6794 | .0917 | .3478 | .1590 | -.0020 | 68.51 | -.0015 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0193 | -.0499 | 84.49 | 14.81 | 10.84 | 1.275 | .0545 | 16.05 | -.0007 | -.0268 |
| Stddev | .0189 | .0052 | .92 | 1.80 | 1.31 | .007 | .0139 | .07 | .0027 | .0039 |
| %RSD | 97.72 | 10.49 | 1.091 | 12.16 | 12.11 | .5793 | 25.53 | .4655 | 398.4 | 14.66 |
| #1 | -.0327 | -.0536 | 83.84 | 13.54 | 11.77 | 1.270 | .0643 | 16.10 | .0013 | -.0296 |
| #2 | -.0060 | -.0462 | 85.14 | 16.09 | 9.914 | 1.280 | .0446 | 16.00 | -.0026 | -.0240 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.2068 | .0082 | -.0701 | 13.44 | .0304 | .7759 | -.0065 | -.0490 | .0496 |
| Stddev | .0802 | .1261 | .0481 | .1038 | .01 | .0151 | .0028 | .0100 | .0399 | .0270 |
| %RSD | 6964. | 60.98 | 589.7 | 148.1 | .0850 | 49.52 | .3644 | 153.4 | 81.35 | 54.44 |
| #1 | -.0555 | -.2960 | -.0259 | -.1434 | 13.45 | .0411 | .7779 | .0006 | -.0772 | .0305 |
| #2 | .0578 | -.1176 | .0422 | .0033 | 13.43 | .0198 | .7739 | -.0136 | -.0208 | .0686 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0264 | .0019 | -.0006 |
| Stddev | .1036 | .0009 | .0207 |
| %RSD | 391.9 | 45.77 | 3618. |
| #1 | .0468 | .0026 | -.0152 |
| #2 | -.0997 | .0013 | .0141 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.1 | 57813. | 13756. |
| Stddev | 1.3 | 389. | 79. |
| %RSD | .05329 | .67301 | .57716 |
| #1 | 2427.2 | 58088. | 13812. |
| #2 | 2429.0 | 57538. | 13700. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 13:09:54 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2060 | 2.045 | .5295 | .0080 | .0070 | 1.977 | .5045 | 25.12 | .5317 | .5338 |
| Stddev | .0028 | .016 | .0058 | .0019 | .0007 | .008 | .0035 | .16 | .0018 | .0012 |
| %RSD | 1.361 | .7795 | 1.101 | 23.68 | 10.16 | .3821 | .7010 | .6341 | .3393 | .2182 |
| #1 | .2040 | 2.056 | .5336 | .0093 | .0065 | 1.983 | .5070 | 25.24 | .5304 | .5330 |
| #2 | .2080 | 2.034 | .5254 | .0066 | .0075 | 1.972 | .5020 | 25.01 | .5330 | .5346 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .4969 | 1.980 | 25.68 | 25.77 | .5122 | .0017 | 24.93 | .4948 | 1.025 |
| Stddev | .0004 | .0018 | .030 | .05 | .41 | .0013 | .0002 | .11 | .0002 | .002 |
| %RSD | .0772 | .3617 | 1.493 | .1835 | 1.584 | .2468 | 8.873 | .4280 | .0381 | .1714 |
| #1 | .5305 | .4956 | 2.001 | 25.65 | 26.05 | .5113 | .0016 | 25.00 | .4949 | 1.023 |
| #2 | .5299 | .4982 | 1.960 | 25.71 | 25.48 | .5131 | .0018 | 24.85 | .4947 | 1.026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0194 | .5116 | .5080 | .0300 | -.0007 | .4850 | .5018 | .5024 | .5342 |
| Stddev | .0031 | .0089 | .0029 | .0078 | .0232 | .0014 | .0021 | .0019 | .0002 | .0017 |
| %RSD | 150.6 | 45.90 | .5734 | 1.535 | 77.30 | 208.4 | .4295 | .3725 | .0378 | .3173 |
| #1 | -.0042 | -.0131 | .5136 | .5025 | .0464 | .0003 | .4865 | .5031 | .5022 | .5330 |
| #2 | .0001 | -.0257 | .5095 | .5135 | .0136 | -.0017 | .4836 | .5005 | .5025 | .5354 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0233 | .5358 | -.0001 |
| Stddev | .0123 | .0018 | .0007 |
| %RSD | 52.96 | .3329 | 946.4 |
| #1 | .0145 | .5346 | .0004 |
| #2 | .0320 | .5371 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.9 | 58161. | 13953. |
| Stddev | 5.1 | 41. | 130. |
| %RSD | .21112 | .07094 | .93015 |
| #1 | 2425.5 | 58190. | 13861. |
| #2 | 2418.3 | 58131. | 14045. |



Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 13:14:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2120 | 2.112 | .5471 | -.0056 | .0314 | 2.043 | .5200 | 44.96 | .5486 | .5514 |
| Stddev | .0044 | .061 | .0084 | .0002 | .0000 | .004 | .0015 | .17 | .0001 | .0017 |
| %RSD | 2.082 | 2.887 | 1.543 | 3.209 | .1586 | .2171 | .2926 | .3880 | .0273 | .3030 |
| #1 | .2151 | 2.069 | .5531 | -.0055 | .0314 | 2.040 | .5189 | 44.83 | .5485 | .5502 |
| #2 | .2089 | 2.155 | .5411 | -.0057 | .0315 | 2.047 | .5211 | 45.08 | .5487 | .5526 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5473 | .5138 | 2.185 | 28.31 | 28.68 | 6.653 | .0008 | 32.45 | .5120 | 1.046 |
| Stddev | .0004 | .0018 | .010 | .19 | .17 | .014 | .0008 | .09 | .0036 | .007 |
| %RSD | .0775 | .3575 | .4723 | .6663 | .5946 | .2066 | 93.14 | .2806 | .7036 | .6474 |
| #1 | .5476 | .5125 | 2.192 | 28.18 | 28.55 | 6.662 | .0014 | 32.39 | .5094 | 1.041 |
| #2 | .5470 | .5151 | 2.178 | 28.45 | 28.80 | 6.643 | .0003 | 32.52 | .5145 | 1.051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .5256 | .5185 | 5.297 | -.0007 | .6096 | .5176 | .5129 | .5553 |
| Stddev | .0016 | .0173 | .0006 | .0040 | .004 | .0018 | .0004 | .0000 | .0011 | .0013 |
| %RSD | 91.83 | 213.6 | .1051 | .7620 | .0808 | 239.9 | .0731 | .0011 | .2055 | .2380 |
| #1 | -.0028 | -.0203 | .5252 | .5157 | 5.294 | .0005 | .6093 | .5176 | .5122 | .5563 |
| #2 | -.0006 | .0041 | .5260 | .5213 | 5.300 | -.0020 | .6099 | .5176 | .5137 | .5544 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0032 | .5601 | -.0010 |
| Stddev | .0337 | .0017 | .0001 |
| %RSD | 1065. | .3032 | 9.820 |
| #1 | .0270 | .5589 | -.0011 |
| #2 | -.0206 | .5613 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.6 | 57799. | 13863. |
| Stddev | .5 | 724. | 190. |
| %RSD | .02109 | 1.2526 | 1.3712 |
| #1 | 2422.0 | 57287. | 13998. |
| #2 | 2421.2 | 58311. | 13729. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 13:18:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2133 | 2.101 | .5502 | .0031 | .0315 | 2.033 | .5200 | 45.08 | .5515 | .5556 |
| Stddev | .0006 | .025 | .0022 | .0093 | .0004 | .010 | .0016 | .10 | .0010 | .0005 |
| %RSD | .2998 | 1.208 | .3978 | 303.3 | 1.143 | .4918 | .3130 | .2314 | .1854 | .0924 |
| #1 | .2138 | 2.119 | .5517 | -.0035 | .0312 | 2.040 | .5211 | 45.16 | .5508 | .5552 |
| #2 | .2129 | 2.083 | .5487 | .0096 | .0317 | 2.026 | .5188 | 45.01 | .5522 | .5560 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5440 | .5105 | 2.147 | 28.29 | 28.22 | 6.734 | .0009 | 32.56 | .5120 | 1.052 |
| Stddev | .0012 | .0014 | .014 | .12 | .01 | .009 | .0007 | .13 | .0009 | .005 |
| %RSD | .2276 | .2839 | .6566 | .4126 | .0495 | .1367 | 77.14 | .3985 | .1848 | .4876 |
| #1 | .5449 | .5095 | 2.157 | 28.20 | 28.21 | 6.727 | .0004 | 32.65 | .5113 | 1.049 |
| #2 | .5431 | .5115 | 2.137 | 28.37 | 28.23 | 6.740 | .0014 | 32.47 | .5127 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0028 | .5291 | .5277 | 5.358 | -.0007 | .6056 | .5205 | .5168 | .5566 |
| Stddev | .0099 | .0011 | .0037 | .0033 | .012 | .0001 | .0010 | .0035 | .0041 | .0021 |
| %RSD | 174.2 | 38.24 | .6900 | .6248 | .2235 | 8.811 | .1686 | .6770 | .7863 | .3760 |
| #1 | .0013 | -.0035 | .5316 | .5300 | 5.350 | -.0007 | .6063 | .5180 | .5197 | .5551 |
| #2 | -.0127 | -.0020 | .5265 | .5253 | 5.367 | -.0008 | .6049 | .5230 | .5139 | .5580 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | .5624 | -.0012 |
| Stddev | .0114 | .0008 | .0002 |
| %RSD | 153.7 | .1438 | 13.67 |
| #1 | -.0154 | .5619 | -.0011 |
| #2 | .0006 | .5630 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.5 | 57844. | 14059. |
| Stddev | 5.9 | 104. | 1. |
| %RSD | .24423 | .17977 | .00895 |
| #1 | 2414.7 | 57918. | 14060. |
| #2 | 2406.4 | 57771. | 14058. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 13:22:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2527 | 9.913 | 2.024 | -.0014 | 1.958 | 1.956 | 1.931 | 9.882 | 2.047 |
| Stddev | .0002 | .034 | .006 | .0009 | .007 | .008 | .007 | .005 | .003 |
| %RSD | .0807 | .3453 | .3183 | 61.28 | .3815 | .3948 | .3729 | .0537 | .1637 |
| #1 | .2529 | 9.889 | 2.019 | -.0008 | 1.952 | 1.950 | 1.926 | 9.878 | 2.045 |
| #2 | .2526 | 9.937 | 2.028 | -.0021 | 1.963 | 1.961 | 1.937 | 9.885 | 2.049 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.116 | 2.013 | 2.019 | 9.649 | 9.955 | 10.000 | 1.999 | 2.028 | 9.789 |
| Stddev | .005 | .003 | .001 | .006 | .080 | .0463 | .002 | .007 | .018 |
| %RSD | .2568 | .1510 | .0495 | .0679 | .8002 | .4631 | .1155 | .3248 | .1877 |
| #1 | 2.112 | 2.015 | 2.019 | 9.645 | 9.899 | 9.967 | 2.001 | 2.024 | 9.776 |
| #2 | 2.120 | 2.011 | 2.020 | 9.654 | 10.01 | 10.03 | 1.997 | 2.033 | 9.802 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.950 | 1.967 | -.0014 | .0010 | 1.998 | 1.994 | -.0123 | 1.949 | 1.993 |
| Stddev | .004 | .005 | .0002 | .0029 | .007 | .008 | .0007 | .006 | .008 |
| %RSD | .1839 | .2603 | 13.61 | 282.6 | .3342 | .4114 | 5.420 | .2889 | .4074 |
| #1 | 1.948 | 1.963 | -.0016 | -.0010 | 1.993 | 1.988 | -.0128 | 1.945 | 1.987 |
| #2 | 1.953 | 1.970 | -.0013 | .0031 | 2.003 | 1.999 | -.0118 | 1.953 | 1.999 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | 1.959 | 1.948 | 2.006 | .0042 | 2.014 | -.0048 |
| Stddev | .002 | .008 | .001 | .0041 | .005 | .0001 |
| %RSD | .1055 | .4011 | .0384 | 98.60 | .2475 | 1.411 |
| #1 | 1.960 | 1.942 | 2.005 | .0013 | 2.010 | -.0047 |
| #2 | 1.957 | 1.953 | 2.006 | .0071 | 2.017 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.2 | 57385. | 13730. |
| Stddev | 2.1 | 409. | 8. |
| %RSD | .08667 | .71328 | .06157 |
| #1 | 2415.7 | 57095. | 13724. |
| #2 | 2418.6 | 57674. | 13736. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 13:27:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0086 | .0002 | .0013 | .0025 | .0006 | F.0005 | -.0004 | .0002 |
| Stddev | .0004 | .0058 | .0014 | .0000 | .0000 | .0000 | .0000 | .0014 | .0002 |
| %RSD | 37.44 | 67.28 | 738.1 | .0464 | 1.622 | 1.783 | .3535 | 387.8 | 120.5 |
| #1 | -.0013 | .0045 | -.0008 | .0013 | .0025 | .0006 | .0005 | -.0013 | .0003 |
| #2 | -.0008 | .0127 | .0011 | .0013 | .0025 | .0006 | .0005 | .0006 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0002 | -.0007 | .0016 | .0701 | .0166 | .0002 | .0022 | .0074 |
| Stddev | .0002 | .0001 | .0005 | .0006 | .0733 | .0035 | .0000 | .0006 | .0001 |
| %RSD | 53.97 | 30.90 | 74.71 | 38.75 | 104.4 | 21.23 | 9.940 | 26.59 | 1.999 |
| #1 | .0002 | .0003 | -.0003 | .0021 | .1219 | .0141 | .0002 | .0027 | .0073 |
| #2 | .0004 | .0002 | -.0010 | .0012 | .0183 | .0191 | .0002 | .0018 | .0075 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | -.0004 | -.0106 | .0006 | -.0004 | -.0087 | .0011 | .0005 |
| Stddev | .0001 | .0003 | .0017 | .0018 | .0002 | .0005 | .0012 | .0002 | .0000 |
| %RSD | 47.96 | 108.8 | 396.9 | 17.24 | 36.00 | 136.3 | 13.44 | 21.36 | 1.923 |
| #1 | .0001 | .0006 | -.0017 | -.0093 | .0007 | -.0007 | -.0079 | .0012 | .0005 |
| #2 | .0002 | .0001 | .0008 | -.0119 | .0004 | .0000 | -.0095 | .0009 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | .0010 | -.0014 | .0000 | .0004 |
| Stddev | .0002 | .0011 | .0004 | .0050 | .0000 | .0001 |
| %RSD | 56.26 | 251.8 | 40.62 | 362.8 | 114.1 | 14.22 |
| #1 | .0002 | .0012 | .0007 | -.0049 | .0000 | .0004 |
| #2 | .0004 | -.0003 | .0013 | .0022 | .0000 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.2 | 58655. | 13851. |
| Stddev | 5.5 | 295. | 22. |
| %RSD | .22689 | .50318 | .15961 |
| #1 | 2420.1 | 58446. | 13835. |
| #2 | 2412.4 | 58864. | 13866. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:31:24 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0052 | .0015 | -.0040 | .0283 | .0046 | .0002 | 18.89 | .0005 | .0019 |
| Stddev | .0003 | .0298 | .0015 | .0011 | .0008 | .0001 | .0001 | .03 | .0001 | .0002 |
| %RSD | 23.10 | 570.7 | 98.56 | 27.13 | 2.794 | 3.200 | 58.43 | .1692 | 16.87 | 9.785 |
| #1 | -.0009 | .0159 | .0025 | -.0033 | .0278 | .0047 | .0003 | 18.87 | .0005 | .0020 |
| #2 | -.0013 | -.0263 | .0005 | -.0048 | .0289 | .0045 | .0001 | 18.91 | .0004 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0029 | .1207 | 1.819 | 1.856 | 5.867 | .0015 | 6.778 | .0012 | .0004 |
| Stddev | .0004 | .0019 | .0025 | .076 | .029 | .002 | .0003 | .045 | .0001 | .0008 |
| %RSD | 133.0 | 63.67 | 2.112 | 4.190 | 1.589 | .0413 | 16.79 | .6685 | 7.355 | 233.0 |
| #1 | .0000 | -.0016 | .1189 | 1.766 | 1.835 | 5.869 | .0017 | 6.811 | .0012 | -.0002 |
| #2 | -.0006 | -.0043 | .1225 | 1.873 | 1.877 | 5.866 | .0013 | 6.746 | .0013 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0126 | .0005 | .0013 | 5.083 | .0004 | .1062 | -.0003 | .0014 | .0007 |
| Stddev | .0003 | .0050 | .0010 | .0007 | .005 | .0005 | .0007 | .0003 | .0006 | .0003 |
| %RSD | 6.367 | 39.64 | 184.3 | 51.32 | .1086 | 101.0 | .6540 | 91.92 | 38.59 | 37.92 |
| #1 | -.0041 | .0161 | -.0002 | .0018 | 5.079 | .0001 | .1057 | -.0006 | .0011 | .0005 |
| #2 | -.0038 | .0091 | .0012 | .0008 | 5.087 | .0008 | .1067 | -.0001 | .0018 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0098 | .0075 | -.0007 |
| Stddev | .0015 | .0000 | .0000 |
| %RSD | 14.88 | .0690 | 3.460 |
| #1 | -.0108 | .0075 | -.0007 |
| #2 | -.0087 | .0075 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2413.3 | 58691. | 13934. |
| Stddev | 2.6 | 32. | 13. |
| %RSD | .10607 | .05481 | .09443 |
| #1 | 2411.5 | 58669. | 13943. |
| #2 | 2415.2 | 58714. | 13925. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:35:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | -.0029 | .0069 | .0054 | .0311 | .0043 | .0001 | 19.79 | .0001 | .0016 |
| Stddev | .0022 | .0169 | .0036 | .0014 | .0019 | .0018 | .0004 | .39 | .0006 | .0004 |
| %RSD | 35.70 | 574.5 | 51.61 | 25.58 | 5.994 | 40.64 | 541.7 | 1.955 | 996.6 | 28.36 |
| #1 | -.0076 | -.0149 | .0044 | .0044 | .0297 | .0031 | -.0002 | 20.07 | .0005 | .0013 |
| #2 | -.0045 | .0090 | .0095 | .0063 | .0324 | .0055 | .0004 | 19.52 | -.0004 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0088 | .1063 | 1.784 | 1.847 | 5.967 | .0015 | 6.857 | .0007 | -.0019 |
| Stddev | .0010 | .0018 | .0170 | .144 | .146 | .042 | .0008 | .062 | .0004 | .0007 |
| %RSD | 1050. | 19.98 | 15.96 | 8.093 | 7.886 | .7068 | 54.85 | .9091 | 61.44 | 36.50 |
| #1 | -.0006 | -.0075 | .1183 | 1.682 | 1.950 | 5.997 | .0021 | 6.901 | .0004 | -.0024 |
| #2 | .0008 | -.0100 | .0943 | 1.886 | 1.744 | 5.937 | .0009 | 6.813 | .0010 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0223 | .0034 | .0036 | 5.065 | .0003 | .1060 | -.0032 | .0012 | .0026 |
| Stddev | .0086 | .0032 | .0023 | .0035 | .003 | .0006 | .0030 | .0006 | .0019 | .0039 |
| %RSD | 1980. | 14.19 | 66.65 | 99.18 | .0513 | 204.9 | 2.807 | 20.07 | 166.4 | 147.6 |
| #1 | -.0065 | .0245 | .0051 | .0011 | 5.067 | .0007 | .1081 | -.0037 | -.0002 | .0054 |
| #2 | .0056 | .0200 | .0018 | .0061 | 5.064 | -.0001 | .1039 | -.0028 | .0025 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0265 | .0093 | -.0005 |
| Stddev | .0298 | .0017 | .0005 |
| %RSD | 112.3 | 18.29 | 102.2 |
| #1 | .0475 | .0081 | -.0008 |
| #2 | .0054 | .0105 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.3 | 57945. | 13883. |
| Stddev | 6.3 | 337. | 212. |
| %RSD | .26091 | .58156 | 1.5260 |
| #1 | 2413.7 | 58183. | 13733. |
| #2 | 2404.8 | 57706. | 14033. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:40:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0452 | -.0036 | .0115 | .0308 | .0027 | .0009 | 19.66 | -.0001 | .0015 |
| Stddev | .0017 | .0146 | .0120 | .0056 | .0049 | .0027 | .0007 | .02 | .0005 | .0011 |
| %RSD | 10.74 | 32.21 | 334.7 | 48.84 | 16.08 | 98.27 | 79.23 | .0876 | 577.8 | 76.60 |
| #1 | -.0169 | -.0349 | .0049 | .0075 | .0273 | .0008 | .0004 | 19.65 | .0003 | .0007 |
| #2 | -.0146 | -.0555 | -.0121 | .0155 | .0343 | .0046 | .0014 | 19.67 | -.0005 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0246 | .1020 | 2.132 | 1.823 | 5.973 | .0020 | 6.944 | -.0001 | -.0070 |
| Stddev | .0001 | .0031 | .0227 | .202 | .095 | .049 | .0004 | .077 | .0006 | .0027 |
| %RSD | 3.003 | 12.55 | 22.31 | 9.479 | 5.221 | .8177 | 19.42 | 1.105 | 523.4 | 38.37 |
| #1 | -.0033 | -.0224 | .0859 | 1.989 | 1.890 | 5.938 | .0022 | 6.889 | -.0006 | -.0051 |
| #2 | -.0034 | -.0267 | .1181 | 2.275 | 1.755 | 6.007 | .0017 | 6.998 | .0003 | -.0089 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0109 | -.0156 | -.0051 | -.0101 | 5.143 | .0029 | .1053 | -.0039 | -.0049 | .0097 |
| Stddev | .0142 | .0144 | .0022 | .0017 | .008 | .0010 | .0012 | .0049 | .0033 | .0008 |
| %RSD | 131.0 | 92.19 | 42.23 | 16.82 | .1583 | 34.83 | 1.136 | 125.3 | 67.53 | 8.481 |
| #1 | .0008 | -.0054 | -.0036 | -.0089 | 5.137 | .0036 | .1045 | -.0004 | -.0073 | .0092 |
| #2 | .0209 | -.0257 | -.0067 | -.0113 | 5.149 | .0022 | .1062 | -.0073 | -.0026 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0214 | .0064 | .0014 |
| Stddev | .0172 | .0001 | .0019 |
| %RSD | 80.72 | 1.662 | 131.3 |
| #1 | .0092 | .0064 | .0028 |
| #2 | .0336 | .0065 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.4 | 58086. | 13792. |
| Stddev | 2.3 | 313. | 35. |
| %RSD | .09402 | .53936 | .25115 |
| #1 | 2418.8 | 58307. | 13816. |
| #2 | 2422.0 | 57864. | 13767. |

Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:44:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0226 | .2082 | -.0232 | .0159 | .0357 | .0026 | .0000 | 21.19 | -.0039 | .0000 |
| Stddev | .0157 | .2585 | .0238 | .0183 | .0021 | .0022 | .0002 | .25 | .0050 | .0042 |
| %RSD | 69.40 | 124.2 | 102.7 | 115.3 | 5.820 | 83.69 | 748.2 | 1.203 | 129.0 | 19760. |
| #1 | -.0336 | .0254 | -.0063 | .0288 | .0343 | .0011 | .0001 | 21.37 | -.0074 | -.0030 |
| #2 | -.0115 | .3910 | -.0400 | .0029 | .0372 | .0041 | -.0001 | 21.01 | -.0003 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0200 | -.0298 | .0190 | 2.476 | 1.847 | 5.982 | .0004 | 6.907 | -.0022 | -.0144 |
| Stddev | .0080 | .0037 | .0158 | 1.427 | .734 | .001 | .0002 | .178 | .0032 | .0160 |
| %RSD | 39.91 | 12.54 | 83.27 | 57.63 | 39.74 | .0175 | 43.15 | 2.584 | 147.4 | 111.4 |
| #1 | -.0144 | -.0272 | .0302 | 3.484 | 2.367 | 5.981 | .0003 | 7.033 | .0001 | -.0030 |
| #2 | -.0256 | -.0325 | .0078 | 1.467 | 1.328 | 5.983 | .0005 | 6.781 | -.0044 | -.0257 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.1627 | -.0027 | -.0104 | 5.029 | .0038 | .1073 | -.0130 | -.0332 | .0264 |
| Stddev | .0087 | .0697 | .0056 | .0516 | .009 | .0061 | .0015 | .0044 | .0004 | .0003 |
| %RSD | 152.9 | 42.84 | 208.2 | 497.6 | .1869 | 160.4 | 1.403 | 34.05 | 1.105 | 1.315 |
| #1 | -.0118 | -.2120 | -.0067 | -.0468 | 5.022 | -.0005 | .1084 | -.0161 | -.0335 | .0266 |
| #2 | .0005 | -.1134 | .0013 | .0261 | 5.036 | .0082 | .1063 | -.0098 | -.0329 | .0261 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0923 | .0134 | .0026 |
| Stddev | .0801 | .0000 | .0043 |
| %RSD | 86.77 | .0321 | 164.9 |
| #1 | -.0357 | .0134 | .0056 |
| #2 | -.1490 | .0134 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.3 | 57971. | 13814. |
| Stddev | 6.9 | 254. | 21. |
| %RSD | .28694 | .43736 | .14847 |
| #1 | 2409.2 | 57791. | 13829. |
| #2 | 2399.4 | 58150. | 13800. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:48:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0084 | .0015 | -.0029 | .2374 | .0623 | -.0001 | 137.8 | .0001 | .0006 |
| Stddev | .0025 | .0078 | .0045 | .0070 | .0000 | .0003 | .0000 | .1 | .0001 | .0001 |
| %RSD | 106.0 | 93.35 | 294.3 | 242.8 | .0075 | .4262 | 19.00 | .0601 | 78.00 | 22.69 |
| #1 | -.0006 | -.0140 | .0047 | .0021 | .2374 | .0621 | -.0002 | 137.9 | .0000 | .0005 |
| #2 | -.0041 | -.0029 | -.0016 | -.0079 | .2374 | .0625 | -.0001 | 137.8 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0033 | .0243 | 4.284 | 20.09 | 2.450 | .0015 | 40.30 | .0087 | -.0010 |
| Stddev | .0008 | .0015 | .0003 | .058 | .06 | .001 | .0001 | .02 | .0002 | .0002 |
| %RSD | 64.26 | 45.59 | 1.165 | 1.359 | .2925 | .0521 | 6.909 | .0380 | 1.919 | 21.46 |
| #1 | -.0007 | -.0044 | .0245 | 4.242 | 20.13 | 2.451 | .0016 | 40.29 | .0088 | -.0008 |
| #2 | -.0018 | -.0023 | .0241 | 4.325 | 20.05 | 2.449 | .0015 | 40.31 | .0086 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0017 | .0021 | .0018 | 7.736 | -.0011 | .5504 | .0007 | -.0009 | .0022 |
| Stddev | .0010 | .0003 | .0001 | .0045 | .013 | .0003 | .0000 | .0003 | .0020 | .0004 |
| %RSD | 19.55 | 15.35 | 5.349 | 250.2 | .1654 | 30.88 | .0022 | 39.21 | 221.5 | 15.69 |
| #1 | -.0055 | .0015 | .0020 | -.0014 | 7.745 | -.0009 | .5504 | .0009 | -.0023 | .0025 |
| #2 | -.0042 | .0019 | .0022 | .0050 | 7.727 | -.0013 | .5504 | .0005 | .0005 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0393 | .0086 | -.0013 |
| Stddev | .0073 | .0003 | .0004 |
| %RSD | 18.57 | 3.234 | 32.42 |
| #1 | .0342 | .0088 | -.0010 |
| #2 | .0445 | .0084 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.1 | 57380. | 13897. |
| Stddev | 1.4 | 76. | 42. |
| %RSD | .05658 | .13261 | .29961 |
| #1 | 2413.1 | 57327. | 13868. |
| #2 | 2415.0 | 57434. | 13927. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:53:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0068 | -.0024 | .0050 | .0069 | .2387 | .0638 | .0001 | 140.3 | -.0003 | -.0001 |
| Stddev | .0017 | .0220 | .0009 | .0030 | .0038 | .0014 | .0002 | 2.9 | .0001 | .0010 |
| %RSD | 25.25 | 922.0 | 18.51 | 43.47 | 1.583 | 2.168 | 174.7 | 2.065 | 37.31 | 881.6 |
| #1 | -.0055 | .0132 | .0044 | .0048 | .2413 | .0648 | .0002 | 142.3 | -.0002 | .0006 |
| #2 | -.0080 | -.0179 | .0057 | .0091 | .2360 | .0628 | .0000 | 138.2 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0039 | .0169 | 4.316 | 20.47 | 2.450 | .0008 | 41.22 | .0064 | -.0027 |
| Stddev | .0003 | .0018 | .0027 | .163 | .39 | .001 | .0010 | .84 | .0007 | .0012 |
| %RSD | 34.31 | 45.64 | 16.23 | 3.773 | 1.891 | .0372 | 119.3 | 2.032 | 11.31 | 45.43 |
| #1 | -.0008 | -.0052 | .0188 | 4.201 | 20.75 | 2.451 | .0001 | 41.81 | .0069 | -.0018 |
| #2 | -.0012 | -.0027 | .0149 | 4.431 | 20.20 | 2.450 | .0015 | 40.62 | .0059 | -.0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0173 | .0036 | -.0008 | 7.693 | -.0022 | .5561 | .0003 | .0012 | .0050 |
| Stddev | .0006 | .0013 | .0031 | .0021 | .014 | .0015 | .0118 | .0013 | .0027 | .0017 |
| %RSD | 7.794 | 7.464 | 87.14 | 255.3 | .1764 | 68.08 | 2.128 | 415.4 | 225.8 | 34.31 |
| #1 | -.0078 | -.0164 | .0014 | .0007 | 7.683 | -.0032 | .5645 | -.0006 | .0031 | .0038 |
| #2 | -.0070 | -.0183 | .0058 | -.0023 | 7.703 | -.0011 | .5477 | .0012 | -.0007 | .0062 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0069 | -.0003 |
| Stddev | .0074 | .0001 | .0010 |
| %RSD | 30.60 | 1.063 | 303.8 |
| #1 | .0296 | .0070 | -.0011 |
| #2 | .0191 | .0069 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.4 | 57536. | 13689. |
| Stddev | 1.6 | 167. | 278. |
| %RSD | .06452 | .29017 | 2.0285 |
| #1 | 2403.3 | 57418. | 13493. |
| #2 | 2405.5 | 57654. | 13886. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:57:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | -.1137 | -.0041 | .0447 | .2358 | .0604 | .0014 | 137.3 | -.0027 | -.0017 |
| Stddev | .0120 | .0961 | .0430 | .0076 | .0013 | .0057 | .0013 | .1 | .0011 | .0016 |
| %RSD | 136.3 | 84.57 | 1038. | 16.99 | .5448 | 9.356 | 95.11 | .0588 | 40.61 | 92.43 |
| #1 | -.0173 | -.0457 | -.0345 | .0500 | .2367 | .0644 | .0005 | 137.2 | -.0019 | -.0028 |
| #2 | -.0003 | -.1817 | .0262 | .0393 | .2349 | .0564 | .0023 | 137.4 | -.0034 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | -.0247 | -.0434 | 4.895 | 20.21 | 2.411 | .0028 | 40.91 | .0055 | -.0056 |
| Stddev | .0055 | .0008 | .0205 | .029 | .13 | .003 | .0013 | .01 | .0012 | .0082 |
| %RSD | 92.73 | 3.251 | 47.22 | .5994 | .6201 | .1068 | 45.92 | .0341 | 22.52 | 145.4 |
| #1 | -.0020 | -.0252 | -.0289 | 4.874 | 20.12 | 2.409 | .0019 | 40.90 | .0064 | -.0115 |
| #2 | -.0098 | -.0241 | -.0579 | 4.915 | 20.30 | 2.412 | .0038 | 40.92 | .0047 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0132 | -.0722 | .0128 | -.0055 | 7.501 | .0058 | .5501 | -.0084 | -.0272 | .0170 |
| Stddev | .0071 | .0512 | .0127 | .0152 | .002 | .0026 | .0007 | .0029 | .0107 | .0022 |
| %RSD | 53.59 | 70.92 | 99.56 | 277.3 | .0230 | 44.90 | .1346 | 34.28 | 39.54 | 13.20 |
| #1 | .0182 | -.1084 | .0218 | .0053 | 7.503 | .0076 | .5506 | -.0064 | -.0348 | .0154 |
| #2 | .0082 | -.0360 | .0038 | -.0163 | 7.500 | .0039 | .5495 | -.0105 | -.0196 | .0186 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0236 | .0326 | -.0020 |
| Stddev | .0357 | .0029 | .0001 |
| %RSD | 151.6 | 8.887 | 4.010 |
| #1 | .0489 | .0346 | -.0020 |
| #2 | -.0017 | .0305 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.3 | 58221. | 13938. |
| Stddev | 6.8 | 85. | 33. |
| %RSD | .28013 | .14671 | .23473 |
| #1 | 2436.1 | 58281. | 13915. |
| #2 | 2426.5 | 58161. | 13961. |

Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:01:53 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0866 | .0002 | -.0182 | .1383 | .0152 | .0000 | 81.95 | .0012 | .0084 |
| Stddev | .0021 | .0345 | .0009 | .0037 | .0005 | .0002 | .000 | .22 | .0005 | .0007 |
| %RSD | 124.9 | 39.88 | 458.6 | 20.35 | .3863 | 1.022 | 4529. | .2720 | 42.91 | 8.172 |
| #1 | -.0031 | -.0622 | .0008 | -.0209 | .1387 | .0153 | .0002 | 81.79 | .0008 | .0079 |
| #2 | -.0002 | -.1110 | -.0004 | -.0156 | .1380 | .0151 | -.0002 | 82.10 | .0015 | .0089 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0034 | .0784 | 2.965 | 9.714 | 25.89 | .0004 | 23.14 | .0149 | -.0008 |
| Stddev | .0006 | .0011 | .0079 | .052 | .087 | .11 | .0003 | .09 | .0000 | .0013 |
| %RSD | 178.9 | 33.98 | 10.05 | 1.768 | .8947 | .4062 | 63.68 | .3980 | .1403 | 168.0 |
| #1 | .0001 | -.0025 | .0728 | 3.002 | 9.653 | 25.96 | .0002 | 23.07 | .0149 | .0001 |
| #2 | -.0007 | -.0042 | .0840 | 2.928 | 9.775 | 25.82 | .0006 | 23.20 | .0149 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0974 | -.0012 | .0036 | 6.985 | -.0014 | .4528 | .0004 | .0091 | .0006 |
| Stddev | .0027 | .0101 | .0010 | .0026 | .006 | .0005 | .0032 | .0001 | .0006 | .0002 |
| %RSD | 26.24 | 10.33 | 85.82 | 72.95 | .0934 | 34.99 | .6964 | 33.58 | 7.075 | 28.77 |
| #1 | -.0122 | .0903 | -.0005 | .0054 | 6.990 | -.0010 | .4506 | .0005 | .0096 | .0008 |
| #2 | -.0084 | .1045 | -.0019 | .0017 | 6.980 | -.0017 | .4551 | .0003 | .0087 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0112 | -.0014 |
| Stddev | .0143 | .0005 | .0006 |
| %RSD | 306.8 | 4.055 | 43.69 |
| #1 | .0148 | .0109 | -.0018 |
| #2 | -.0055 | .0115 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.3 | 57911. | 13880. |
| Stddev | 3.3 | 222. | 46. |
| %RSD | .13840 | .38317 | .33276 |
| #1 | 2410.0 | 57754. | 13913. |
| #2 | 2414.7 | 58068. | 13847. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:06:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | -.0748 | .0059 | -.0288 | .1359 | .0141 | -.0003 | 83.03 | .0001 | .0060 |
| Stddev | .0011 | .0401 | .0097 | .0067 | .0003 | .0027 | .0010 | .07 | .0000 | .0001 |
| %RSD | 21.49 | 53.63 | 164.5 | 23.22 | .2240 | 19.11 | 296.8 | .0879 | 7.619 | 1.157 |
| #1 | -.0045 | -.0464 | .0128 | -.0335 | .1361 | .0160 | .0004 | 83.08 | .0001 | .0060 |
| #2 | -.0061 | -.1032 | -.0010 | -.0241 | .1357 | .0122 | -.0010 | 82.98 | .0001 | .0059 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0089 | .0472 | 2.876 | 9.716 | 26.60 | -.0002 | 23.95 | .0140 | -.0053 |
| Stddev | .0027 | .0004 | .0023 | .579 | .103 | .15 | .0020 | .11 | .0009 | .0058 |
| %RSD | 62.40 | 4.185 | 4.884 | 20.11 | 1.060 | .5692 | 1168. | .4729 | 6.180 | 109.2 |
| #1 | -.0024 | -.0092 | .0488 | 2.467 | 9.789 | 26.71 | -.0016 | 24.03 | .0147 | -.0094 |
| #2 | -.0062 | -.0087 | .0456 | 3.286 | 9.643 | 26.49 | .0013 | 23.87 | .0134 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0163 | .0666 | .0003 | -.0065 | 6.931 | .0017 | .4667 | -.0023 | .0047 | .0033 |
| Stddev | .0096 | .0168 | .0029 | .0069 | .012 | .0004 | .0005 | .0049 | .0037 | .0077 |
| %RSD | 58.87 | 25.19 | 1044. | 106.0 | .1712 | 22.43 | .1162 | 216.4 | 77.67 | 234.3 |
| #1 | -.0095 | .0547 | .0023 | -.0113 | 6.939 | .0019 | .4670 | .0012 | .0073 | -.0022 |
| #2 | -.0231 | .0784 | -.0017 | -.0016 | 6.922 | .0014 | .4663 | -.0057 | .0021 | .0087 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0340 | .0431 | -.0021 |
| Stddev | .0844 | .0010 | .0008 |
| %RSD | 248.5 | 2.230 | 36.25 |
| #1 | .0257 | .0424 | -.0027 |
| #2 | -.0936 | .0438 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.7 | 57987. | 13951. |
| Stddev | 2.5 | 67. | 129. |
| %RSD | .10403 | .11622 | .92570 |
| #1 | 2429.9 | 57940. | 13859. |
| #2 | 2433.5 | 58035. | 14042. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:10:37 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0208 | -.0132 | .0191 | .0006 | .1485 | .0117 | -.0003 | 84.57 | -.0022 | .0048 |
| Stddev | .0011 | .2843 | .0298 | .0448 | .0023 | .0000 | .0010 | .24 | .0036 | .0033 |
| %RSD | 5.177 | 2155. | 156.4 | 7090. | 1.543 | .0427 | 323.0 | .2885 | 166.8 | 67.73 |
| #1 | -.0200 | .1878 | -.0020 | -.0311 | .1501 | .0117 | .0004 | 84.75 | -.0047 | .0025 |
| #2 | -.0215 | -.2142 | .0402 | .0323 | .1468 | .0117 | -.0010 | 84.40 | .0004 | .0071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0166 | .0167 | 3.518 | 10.03 | 26.39 | -.0018 | 23.83 | .0155 | -.0019 |
| Stddev | .0006 | .0122 | .0208 | .793 | .42 | .16 | .0014 | .03 | .0007 | .0067 |
| %RSD | 5.520 | 73.38 | 124.2 | 22.54 | 4.189 | .6000 | 79.35 | .1389 | 4.555 | 352.2 |
| #1 | -.0097 | -.0253 | .0020 | 2.957 | 10.32 | 26.50 | -.0027 | 23.86 | .0160 | .0028 |
| #2 | -.0105 | -.0080 | .0314 | 4.078 | 9.729 | 26.28 | -.0008 | 23.81 | .0150 | -.0067 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0183 | -.0507 | .0216 | .0091 | 6.857 | .0050 | .4579 | -.0144 | .0124 | .0110 |
| Stddev | .0128 | .0984 | .0188 | .0092 | .048 | .0000 | .0025 | .0088 | .0033 | .0038 |
| %RSD | 70.22 | 194.1 | 87.36 | 101.0 | .6958 | .6791 | .5510 | 60.79 | 26.85 | 34.65 |
| #1 | -.0274 | -.1202 | .0082 | .0157 | 6.890 | .0050 | .4561 | -.0206 | .0101 | .0083 |
| #2 | -.0092 | .0189 | .0349 | .0026 | 6.823 | .0051 | .4596 | -.0082 | .0148 | .0138 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0182 | .0041 | .0045 |
| Stddev | .0199 | .0016 | .0022 |
| %RSD | 109.6 | 38.83 | 49.91 |
| #1 | -.0041 | .0029 | .0061 |
| #2 | -.0323 | .0052 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2437.6 | 58192. | 13860. |
| Stddev | 14.5 | 107. | 148. |
| %RSD | .59324 | .18446 | 1.0645 |
| #1 | 2427.4 | 58268. | 13756. |
| #2 | 2447.8 | 58116. | 13965. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 14:14:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2523 | 9.941 | 2.009 | -.0008 | 1.956 | 1.956 | 1.951 | 9.924 | 2.026 | 2.099 |
| Stddev | .0009 | .035 | .001 | .0014 | .002 | .000 | .002 | .005 | .002 | .000 |
| %RSD | .3531 | .3480 | .0446 | 183.0 | .1129 | .0103 | .0787 | .0540 | .0772 | .0039 |
| #1 | .2529 | 9.966 | 2.008 | .0002 | 1.954 | 1.956 | 1.952 | 9.920 | 2.024 | 2.099 |
| #2 | .2516 | 9.917 | 2.009 | -.0018 | 1.958 | 1.955 | 1.950 | 9.928 | 2.027 | 2.099 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.001 | 2.003 | 9.663 | 9.899 | 9.959 | 2.005 | 2.017 | 9.859 | 1.936 | 1.949 |
| Stddev | .010 | .008 | .018 | .029 | .038 | .007 | .003 | .005 | .000 | .001 |
| %RSD | .4904 | .3890 | .1827 | .2876 | .3822 | .3427 | .1297 | .0558 | .0044 | .0535 |
| #1 | 2.008 | 2.009 | 9.675 | 9.919 | 9.932 | 2.010 | 2.015 | 9.863 | 1.936 | 1.950 |
| #2 | 1.995 | 1.998 | 9.650 | 9.879 | 9.986 | 2.000 | 2.018 | 9.855 | 1.936 | 1.949 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0045 | 1.989 | 1.976 | -.0155 | 1.945 | 1.979 | 1.953 | 1.945 | 1.993 |
| Stddev | .0009 | .0014 | .002 | .003 | .0002 | .003 | .000 | .005 | .001 | .011 |
| %RSD | 51.86 | 30.76 | .1205 | .1297 | 1.160 | .1393 | .0089 | .2783 | .0573 | .5395 |
| #1 | -.0023 | -.0036 | 1.987 | 1.978 | -.0154 | 1.947 | 1.979 | 1.957 | 1.944 | 2.001 |
| #2 | -.0011 | -.0055 | 1.991 | 1.975 | -.0157 | 1.943 | 1.979 | 1.949 | 1.946 | 1.986 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | 1.989 | -.0051 |
| Stddev | .0001 | .003 | .0001 |
| %RSD | .9990 | .1359 | 1.573 |
| #1 | .0051 | 1.991 | -.0051 |
| #2 | .0051 | 1.988 | -.0052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2440.6 | 57854. | 13812. |
| Stddev | 1.8 | 3. | 40. |
| %RSD | .07206 | .00513 | .28717 |
| #1 | 2439.4 | 57856. | 13840. |
| #2 | 2441.9 | 57852. | 13784. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 14:28:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0019 | .0016 | .0012 | .0006 | -.0001 | .0001 | -.0063 | -.0002 | .0001 |
| Stddev | .0000 | .0091 | .0001 | .0004 | .0004 | .0002 | .0002 | .0014 | .0003 | .0002 |
| %RSD | 1.594 | 473.2 | 3.749 | 32.03 | 75.83 | 469.8 | 211.0 | 22.69 | 174.4 | 351.2 |
| #1 | -.0008 | -.0084 | .0016 | .0014 | .0003 | .0001 | .0002 | -.0074 | -.0004 | -.0001 |
| #2 | -.0008 | .0045 | .0015 | .0009 | .0009 | -.0002 | .0000 | -.0053 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0014 | -.0052 | .0064 | .0188 | -.0001 | .0002 | -.0070 | -.0001 | -.0004 |
| Stddev | .0004 | .0007 | .0014 | .0281 | .0039 | .0000 | .0000 | .0018 | .0001 | .0000 |
| %RSD | 169.4 | 50.02 | 26.93 | 436.5 | 20.78 | 33.07 | 27.32 | 25.64 | 56.08 | 11.26 |
| #1 | .0000 | -.0009 | -.0062 | .0263 | .0216 | -.0001 | .0001 | -.0083 | -.0001 | -.0003 |
| #2 | -.0005 | -.0020 | -.0042 | -.0134 | .0161 | -.0002 | .0002 | -.0057 | -.0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0067 | .0002 | -.0011 | -.0086 | .0002 | .0000 | -.0001 | -.0003 | .0010 |
| Stddev | .0018 | .0097 | .0005 | .0002 | .0003 | .0002 | .000 | .0002 | .0009 | .0001 |
| %RSD | 1617. | 145.4 | 332.0 | 20.32 | 3.321 | 119.3 | 481.4 | 213.6 | 295.0 | 13.13 |
| #1 | -.0014 | -.0135 | -.0002 | -.0013 | -.0084 | .0004 | -.0001 | -.0002 | -.0009 | .0010 |
| #2 | .0011 | .0002 | .0005 | -.0010 | -.0088 | .0000 | .0000 | .0000 | .0003 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | -.0004 | .0001 |
| Stddev | .0091 | .0001 | .0004 |
| %RSD | 4426. | 19.02 | 717.9 |
| #1 | -.0062 | -.0004 | -.0002 |
| #2 | .0067 | -.0003 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.7 | 57927. | 13697. |
| Stddev | 3.0 | 51. | 2. |
| %RSD | .12617 | .08806 | .01454 |
| #1 | 2404.8 | 57891. | 13699. |
| #2 | 2400.5 | 57963. | 13696. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:33:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0159 | .0012 | -.0036 | .0540 | .0164 | .0001 | 42.78 | .0003 | .0015 |
| Stddev | .0012 | .0219 | .0025 | .0036 | .0008 | .0003 | .0001 | .37 | .0003 | .0001 |
| %RSD | 67.82 | 138.0 | 209.4 | 99.58 | 1.419 | 2.081 | 94.97 | .8573 | 78.78 | 7.802 |
| #1 | -.0025 | -.0004 | .0030 | -.0011 | .0546 | .0162 | .0001 | 43.04 | .0001 | .0016 |
| #2 | -.0009 | -.0314 | -.0006 | -.0062 | .0535 | .0166 | .0000 | 42.52 | .0005 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0037 | .0185 | 3.629 | 4.071 | 7.961 | .0037 | 10.63 | .0026 | -.0002 |
| Stddev | .0004 | .0017 | .0036 | .061 | .047 | .096 | .0004 | .09 | .0001 | .0004 |
| %RSD | 472.9 | 46.10 | 19.24 | 1.689 | 1.160 | 1.204 | 9.883 | .8069 | 3.007 | 205.5 |
| #1 | -.0004 | -.0049 | .0210 | 3.672 | 4.104 | 8.029 | .0035 | 10.69 | .0026 | -.0004 |
| #2 | .0002 | -.0025 | .0160 | 3.586 | 4.037 | 7.894 | .0040 | 10.57 | .0027 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0245 | .0003 | .0053 | 7.049 | -.0004 | .1961 | -.0007 | .0008 | .0021 |
| Stddev | .0033 | .0024 | .0027 | .0006 | .018 | .0009 | .0014 | .0004 | .0001 | .0006 |
| %RSD | 6571. | 9.658 | 966.3 | 11.58 | .2556 | 211.0 | .7006 | 62.43 | 6.753 | 26.06 |
| #1 | -.0023 | .0228 | .0022 | .0049 | 7.037 | -.0010 | .1970 | -.0010 | .0009 | .0025 |
| #2 | .0024 | .0261 | -.0016 | .0058 | 7.062 | .0002 | .1951 | -.0004 | .0008 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0079 | -.0010 |
| Stddev | .0021 | .0001 | .0006 |
| %RSD | 155.3 | 1.814 | 57.49 |
| #1 | -.0028 | .0080 | -.0013 |
| #2 | .0001 | .0078 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.5 | 57787. | 13864. |
| Stddev | 4.1 | 614. | 212. |
| %RSD | .17009 | 1.0630 | 1.5286 |
| #1 | 2388.4 | 57353. | 13715. |
| #2 | 2382.6 | 58221. | 14014. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:37:44 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0056 | .0028 | .0027 | .0556 | .0163 | .0000 | 44.17 | -.0001 | .0008 |
| Stddev | .0013 | .0031 | .0002 | .0093 | .0001 | .0000 | .0005 | 1.05 | .0005 | .0005 |
| %RSD | 36.82 | 55.08 | 6.991 | 339.7 | .1129 | .2093 | 1225. | 2.390 | 482.6 | 57.97 |
| #1 | -.0044 | .0034 | .0030 | -.0038 | .0555 | .0163 | .0004 | 43.42 | .0002 | .0011 |
| #2 | -.0026 | .0078 | .0027 | .0093 | .0556 | .0163 | -.0003 | 44.91 | -.0005 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0080 | .0066 | 3.796 | 4.237 | 7.964 | .0030 | 10.98 | .0029 | -.0007 |
| Stddev | .0007 | .0014 | .0014 | .101 | .013 | .046 | .0001 | .28 | .0009 | .0029 |
| %RSD | 37.12 | 17.38 | 21.62 | 2.666 | .3127 | .5799 | 3.976 | 2.523 | 30.12 | 401.6 |
| #1 | -.0024 | -.0070 | .0076 | 3.724 | 4.246 | 7.931 | .0029 | 10.78 | .0035 | -.0028 |
| #2 | -.0014 | -.0090 | .0056 | 3.867 | 4.228 | 7.997 | .0031 | 11.18 | .0023 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0223 | .0036 | .0018 | 7.108 | .0017 | .2058 | -.0018 | -.0020 | .0033 |
| Stddev | .0128 | .0231 | .0039 | .0035 | .004 | .0012 | .0040 | .0003 | .0064 | .0007 |
| %RSD | 1094. | 103.3 | 110.0 | 193.9 | .0638 | 68.86 | 1.944 | 16.64 | 321.5 | 21.03 |
| #1 | .0079 | -.0060 | .0008 | -.0007 | 7.111 | .0009 | .2030 | -.0020 | .0025 | .0037 |
| #2 | -.0102 | -.0386 | .0064 | .0043 | 7.104 | .0025 | .2086 | -.0016 | -.0065 | .0028 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0210 | .0080 | -.0007 |
| Stddev | .0116 | .0003 | .0008 |
| %RSD | 55.26 | 3.487 | 114.0 |
| #1 | .0292 | .0078 | -.0013 |
| #2 | .0128 | .0082 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2369.9 | 58486. | 13573. |
| Stddev | 2.4 | 147. | 230. |
| %RSD | .10272 | .25131 | 1.6975 |
| #1 | 2368.2 | 58590. | 13736. |
| #2 | 2371.6 | 58382. | 13410. |



Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:42:04 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2204 | 1.756 | .1846 | -.0006 | 4.354 | 2.184 | .1688 | 59.21 | .1893 | 2.535 |
| Stddev | .0001 | .009 | .0088 | .0087 | .004 | .003 | .0008 | .00 | .0008 | .003 |
| %RSD | .0294 | .4945 | 4.785 | 1500. | .0832 | .1191 | .4840 | .0041 | .3971 | .0973 |
| #1 | .2204 | 1.762 | .1784 | -.0067 | 4.351 | 2.186 | .1694 | 59.21 | .1888 | 2.533 |
| #2 | .2205 | 1.750 | .1909 | .0055 | 4.356 | 2.183 | .1682 | 59.21 | .1898 | 2.537 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4509 | 1.096 | .9497 | 45.51 | 47.14 | 5.692 | 4.555 | 47.62 | 1.675 | .2218 |
| Stddev | .0005 | .001 | .0150 | .06 | .13 | .000 | .010 | .12 | .001 | .0034 |
| %RSD | .1103 | .0710 | 1.579 | .1348 | .2722 | .0009 | .2284 | .2618 | .0370 | 1.541 |
| #1 | .4512 | 1.096 | .9603 | 45.46 | 47.05 | 5.692 | 4.548 | 47.53 | 1.674 | .2242 |
| #2 | .4505 | 1.097 | .9391 | 45.55 | 47.24 | 5.692 | 4.563 | 47.71 | 1.675 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0001 | .2961 | .4402 | 4.622 | 4.297 | .5220 | 2.187 | .2262 | .4599 |
| Stddev | .0008 | .0011 | .0034 | .0063 | .009 | .004 | .0007 | .006 | .0064 | .0035 |
| %RSD | 20.73 | 1217. | 1.136 | 1.441 | .1962 | .0836 | .1393 | .2978 | 2.829 | .7581 |
| #1 | -.0032 | .0007 | .2937 | .4357 | 4.616 | 4.300 | .5225 | 2.191 | .2217 | .4624 |
| #2 | -.0043 | -.0009 | .2984 | .4447 | 4.629 | 4.295 | .5215 | 2.182 | .2307 | .4574 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0252 | .9063 | -.0073 |
| Stddev | .0242 | .0016 | .0009 |
| %RSD | 96.06 | .1759 | 12.63 |
| #1 | .0424 | .9052 | -.0079 |
| #2 | .0081 | .9075 | -.0066 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2359.1 | 57516. | 13821. |
| Stddev | 1.2 | 129. | 2. |
| %RSD | .05000 | .22398 | .01340 |
| #1 | 2360.0 | 57425. | 13822. |
| #2 | 2358.3 | 57607. | 13819. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:46:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2076 | 1.815 | .1984 | .0126 | 4.350 | 2.148 | .1680 | 59.51 | .1872 | 2.534 |
| Stddev | .0039 | .083 | .0177 | .0085 | .027 | .075 | .0059 | 2.02 | .0013 | .018 |
| %RSD | 1.878 | 4.586 | 8.908 | 67.51 | .6222 | 3.509 | 3.514 | 3.389 | .7120 | .7113 |
| #1 | .2049 | 1.756 | .2109 | .0186 | 4.369 | 2.201 | .1722 | 60.93 | .1882 | 2.546 |
| #2 | .2104 | 1.873 | .1859 | .0066 | 4.331 | 2.094 | .1638 | 58.08 | .1863 | 2.521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4338 | 1.055 | .9042 | 44.74 | 46.75 | 5.560 | 4.543 | 46.98 | 1.682 | .2260 |
| Stddev | .0105 | .040 | .0497 | 1.64 | 1.29 | .204 | .026 | 1.67 | .008 | .0014 |
| %RSD | 2.419 | 3.812 | 5.499 | 3.669 | 2.757 | 3.665 | .5769 | 3.550 | .4499 | .6352 |
| #1 | .4264 | 1.027 | .9393 | 45.90 | 47.67 | 5.416 | 4.562 | 48.16 | 1.688 | .2250 |
| #2 | .4412 | 1.083 | .8690 | 43.58 | 45.84 | 5.704 | 4.525 | 45.80 | 1.677 | .2271 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0040 | -.0088 | .2989 | .4452 | 4.551 | 4.275 | .5228 | 2.173 | .2201 | .4476 |
| Stddev | .0041 | .0191 | .0027 | .0020 | .032 | .031 | .0145 | .078 | .0018 | .0107 |
| %RSD | 104.3 | 217.4 | .8982 | .4521 | .7118 | .7214 | 2.767 | 3.597 | .8083 | 2.382 |
| #1 | .0010 | -.0223 | .2970 | .4466 | 4.574 | 4.297 | .5330 | 2.118 | .2189 | .4400 |
| #2 | .0069 | .0047 | .3008 | .4438 | 4.528 | 4.254 | .5125 | 2.229 | .2214 | .4551 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0503 | .9301 | -.0077 |
| Stddev | .0023 | .0107 | .0020 |
| %RSD | 4.657 | 1.148 | 25.98 |
| #1 | .0486 | .9376 | -.0091 |
| #2 | .0520 | .9225 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2362.5 | 58545. | 13772. |
| Stddev | 13.3 | 1875. | 503. |
| %RSD | .56469 | 3.2033 | 3.6487 |
| #1 | 2353.1 | 59871. | 13417. |
| #2 | 2371.9 | 57219. | 14128. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/5/2013 14:50:35 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2123 | 2.182 | .5827 | .0096 | .0290 | 2.029 | .5021 | 50.04 | .5563 | .5574 |
| Stddev | .0053 | .090 | .0012 | .0066 | .0029 | .004 | .0020 | .07 | .0029 | .0022 |
| %RSD | 2.487 | 4.122 | .2137 | 68.27 | 9.983 | .1715 | .3903 | .1368 | .5206 | .4019 |
| #1 | .2086 | 2.118 | .5818 | .0142 | .0310 | 2.032 | .5007 | 49.99 | .5583 | .5590 |
| #2 | .2160 | 2.245 | .5836 | .0050 | .0270 | 2.027 | .5035 | 50.09 | .5542 | .5558 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5436 | .5138 | 11.15 | 28.10 | 29.37 | 1.007 | .0041 | 31.39 | .5056 | 1.057 |
| Stddev | .0029 | .0025 | .02 | .05 | .09 | .004 | .0018 | .03 | .0028 | .001 |
| %RSD | .5261 | .4877 | .2017 | .1614 | .2950 | .4393 | 43.68 | .1078 | .5602 | .1199 |
| #1 | .5416 | .5120 | 11.13 | 28.13 | 29.31 | 1.004 | .0054 | 31.42 | .5076 | 1.058 |
| #2 | .5456 | .5156 | 11.16 | 28.07 | 29.43 | 1.010 | .0029 | 31.37 | .5036 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0165 | .5280 | .5211 | 2.816 | .0013 | .6489 | .5177 | .4932 | .5583 |
| Stddev | .0045 | .0082 | .0014 | .0014 | .017 | .0017 | .0006 | .0024 | .0066 | .0019 |
| %RSD | 2040. | 49.69 | .2707 | .2612 | .5842 | 128.4 | .0899 | .4662 | 1.344 | .3375 |
| #1 | -.0034 | -.0223 | .5290 | .5220 | 2.828 | .0025 | .6485 | .5159 | .4979 | .5569 |
| #2 | .0029 | -.0107 | .5270 | .5201 | 2.804 | .0001 | .6493 | .5194 | .4885 | .5596 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0197 | .5765 | -.0006 |
| Stddev | .0247 | .0023 | .0001 |
| %RSD | 125.6 | .4006 | 21.75 |
| #1 | -.0022 | .5782 | -.0007 |
| #2 | -.0371 | .5749 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.7 | 57548. | 13867. |
| Stddev | 3.8 | 196. | 11. |
| %RSD | .15754 | .34019 | .07814 |
| #1 | 2388.0 | 57686. | 13860. |
| #2 | 2393.4 | 57409. | 13875. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/5/2013 14:54:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2139 | 2.102 | .5805 | .0050 | .0265 | 2.030 | .5035 | 49.82 | .5573 | .5574 |
| Stddev | .0024 | .054 | .0023 | .0002 | .0022 | .001 | .0012 | .16 | .0014 | .0005 |
| %RSD | 1.120 | 2.569 | .3884 | 4.599 | 8.370 | .0354 | .2306 | .3282 | .2496 | .0813 |
| #1 | .2156 | 2.063 | .5789 | .0052 | .0281 | 2.031 | .5043 | 49.94 | .5563 | .5577 |
| #2 | .2122 | 2.140 | .5821 | .0049 | .0250 | 2.030 | .5027 | 49.71 | .5582 | .5571 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5419 | .5115 | 11.08 | 28.12 | 29.40 | .9963 | .0012 | 31.38 | .5064 | 1.054 |
| Stddev | .0054 | .0002 | .02 | .13 | .21 | .0030 | .0003 | .06 | .0015 | .007 |
| %RSD | .9951 | .0455 | .2079 | .4599 | .7268 | .2997 | 20.95 | .1786 | .2904 | .6662 |
| #1 | .5457 | .5117 | 11.09 | 28.03 | 29.55 | .9984 | .0014 | 31.34 | .5054 | 1.049 |
| #2 | .5381 | .5114 | 11.06 | 28.22 | 29.24 | .9942 | .0010 | 31.42 | .5074 | 1.059 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0271 | .5278 | .5273 | 2.800 | .0003 | .6489 | .5131 | .5052 | .5534 |
| Stddev | .0108 | .0123 | .0007 | .0109 | .005 | .0027 | .0008 | .0027 | .0006 | .0005 |
| %RSD | 291.4 | 45.28 | .1379 | 2.076 | .1836 | 1050. | .1158 | .5307 | .1187 | .0939 |
| #1 | .0039 | -.0358 | .5283 | .5196 | 2.796 | .0021 | .6484 | .5150 | .5056 | .5537 |
| #2 | -.0113 | -.0184 | .5273 | .5351 | 2.804 | -.0016 | .6494 | .5112 | .5048 | .5530 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .5811 | -.0019 |
| Stddev | .0069 | .0020 | .0010 |
| %RSD | 131.4 | .3466 | 50.91 |
| #1 | .0004 | .5797 | -.0012 |
| #2 | .0101 | .5826 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.9 | 58006. | 13817. |
| Stddev | .5 | 105. | 98. |
| %RSD | .01979 | .18076 | .71184 |
| #1 | 2387.5 | 57932. | 13748. |
| #2 | 2388.2 | 58080. | 13887. |



Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/5/2013 14:59:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0514 | .0314 | .0055 | .0234 | .0139 | .0002 | 25.38 | .0003 | .0004 |
| Stddev | .0000 | .0061 | .0006 | .0048 | .0005 | .0005 | .0004 | .04 | .0001 | .0004 |
| %RSD | 1.941 | 11.89 | 2.011 | 88.09 | 2.305 | 3.591 | 209.9 | .1772 | 33.26 | 98.19 |
| #1 | -.0025 | .0557 | .0318 | .0089 | .0230 | .0136 | -.0001 | 25.35 | .0004 | .0001 |
| #2 | -.0024 | .0471 | .0309 | .0021 | .0238 | .0143 | .0005 | 25.42 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0053 | 9.477 | 2.483 | 2.778 | .5058 | .0007 | 6.637 | -.0001 | -.0011 |
| Stddev | .0005 | .0012 | .032 | .036 | .011 | .0000 | .0001 | .025 | .0003 | .0009 |
| %RSD | 188.0 | 21.65 | .3342 | 1.466 | .3853 | .0035 | 18.51 | .3849 | 271.6 | 83.29 |
| #1 | -.0006 | -.0061 | 9.454 | 2.508 | 2.786 | .5059 | .0008 | 6.619 | -.0003 | -.0017 |
| #2 | .0001 | -.0045 | 9.499 | 2.457 | 2.771 | .5058 | .0006 | 6.655 | .0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | -.0035 | .0022 | -.0016 | 2.836 | .0001 | .1507 | -.0014 | -.0033 | .0014 |
| Stddev | .0009 | .0063 | .0014 | .0006 | .001 | .0009 | .0015 | .0002 | .0030 | .0028 |
| %RSD | 24.10 | 181.7 | 64.10 | 40.54 | .0205 | 966.9 | 1.004 | 12.86 | 91.19 | 197.0 |
| #1 | .0044 | .0010 | .0012 | -.0020 | 2.836 | -.0005 | .1497 | -.0015 | -.0012 | .0034 |
| #2 | .0031 | -.0079 | .0031 | -.0011 | 2.836 | .0007 | .1518 | -.0013 | -.0054 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0034 | .0159 | .0001 |
| Stddev | .0133 | .0002 | .0005 |
| %RSD | 394.2 | 1.017 | 862.3 |
| #1 | -.0060 | .0160 | .0004 |
| #2 | .0128 | .0157 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.6 | 58359. | 14012. |
| Stddev | .5 | 197. | 6. |
| %RSD | .02126 | .33687 | .04059 |
| #1 | 2400.3 | 58220. | 14008. |
| #2 | 2401.0 | 58498. | 14016. |

Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/5/2013 15:03:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 15.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0060 | .0375 | .0432 | .0196 | .0275 | .0142 | -.0010 | 26.14 | -.0013 | -.0019 |
| Stddev | .0021 | .1084 | .0145 | .0099 | .0052 | .0005 | .0007 | .05 | .0016 | .0008 |
| %RSD | 34.98 | 288.6 | 33.59 | 50.55 | 18.93 | 3.191 | 73.10 | .1990 | 119.3 | 40.81 |
| #1 | -.0075 | -.0391 | .0329 | .0267 | .0312 | .0145 | -.0015 | 26.10 | -.0025 | -.0025 |
| #2 | -.0045 | .1142 | .0534 | .0126 | .0238 | .0139 | -.0005 | 26.17 | -.0002 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0352 | 9.486 | 3.053 | 3.011 | .5163 | .0027 | 6.469 | .0014 | -.0050 |
| Stddev | .0003 | .0005 | .029 | .376 | .270 | .0069 | .0013 | .105 | .0008 | .0085 |
| %RSD | 12.94 | 1.375 | .3006 | 12.33 | 8.964 | 1.346 | 47.97 | 1.622 | 58.74 | 172.5 |
| #1 | -.0028 | -.0348 | 9.466 | 3.319 | 3.202 | .5212 | .0018 | 6.543 | .0020 | -.0110 |
| #2 | -.0023 | -.0355 | 9.506 | 2.787 | 2.821 | .5113 | .0036 | 6.395 | .0008 | .0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | -.0948 | .0006 | .0015 | 2.756 | -.0005 | .1517 | -.0066 | -.0032 | .0118 |
| Stddev | .0072 | .0048 | .0084 | .0080 | .007 | .0025 | .0015 | .0122 | .0080 | .0002 |
| %RSD | 72.20 | 5.056 | 1308. | 538.7 | .2561 | 490.5 | .9737 | 183.8 | 247.6 | 1.477 |
| #1 | .0048 | -.0914 | .0065 | .0071 | 2.751 | .0012 | .1506 | .0020 | -.0089 | .0117 |
| #2 | .0150 | -.0981 | -.0053 | -.0042 | 2.761 | -.0022 | .1527 | -.0153 | .0024 | .0120 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0242 | .0124 | .0011 |
| Stddev | .0078 | .0007 | .0012 |
| %RSD | 32.03 | 5.421 | 113.1 |
| #1 | -.0297 | .0119 | .0002 |
| #2 | -.0188 | .0129 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.6 | 58036. | 13829. |
| Stddev | 6.3 | 31. | 91. |
| %RSD | .26386 | .05412 | .65642 |
| #1 | 2398.2 | 58058. | 13765. |
| #2 | 2407.1 | 58013. | 13894. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:07:47 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2213 | 1.859 | .2097 | .0098 | 4.368 | 2.206 | .1713 | 65.98 | .1860 | 2.521 |
| Stddev | .0063 | .008 | .0027 | .0075 | .006 | .004 | .0004 | .07 | .0005 | .005 |
| %RSD | 2.851 | .4323 | 1.278 | 75.83 | .1342 | .1684 | .2548 | .1078 | .2478 | .1922 |
| #1 | .2168 | 1.853 | .2078 | .0151 | 4.372 | 2.208 | .1716 | 66.03 | .1863 | 2.525 |
| #2 | .2257 | 1.865 | .2116 | .0046 | 4.364 | 2.203 | .1710 | 65.93 | .1857 | 2.518 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4537 | 1.097 | 9.095 | 46.11 | 48.41 | 1.094 | 4.527 | 48.82 | 1.675 | .2227 |
| Stddev | .0028 | .005 | .004 | .15 | .40 | .001 | .001 | .03 | .004 | .0008 |
| %RSD | .6214 | .4351 | .0417 | .3166 | .8171 | .0958 | .0292 | .0623 | .2218 | .3699 |
| #1 | .4517 | 1.094 | 9.097 | 46.21 | 48.69 | 1.093 | 4.526 | 48.84 | 1.677 | .2233 |
| #2 | .4557 | 1.100 | 9.092 | 46.00 | 48.13 | 1.094 | 4.528 | 48.80 | 1.672 | .2221 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0161 | .2945 | .4388 | 2.623 | 4.333 | .5582 | 2.199 | .2262 | .4567 |
| Stddev | .0090 | .0123 | .0016 | .0086 | .018 | .008 | .0001 | .001 | .0002 | .0060 |
| %RSD | 186.6 | 76.58 | .5331 | 1.960 | .6679 | .1874 | .0106 | .0491 | .1010 | 1.308 |
| #1 | -.0111 | -.0248 | .2934 | .4449 | 2.636 | 4.339 | .5582 | 2.200 | .2263 | .4524 |
| #2 | .0015 | -.0074 | .2956 | .4327 | 2.611 | 4.328 | .5583 | 2.198 | .2260 | .4609 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0029 | .9065 | -.0098 |
| Stddev | .0418 | .0005 | .0003 |
| %RSD | 1460. | .0540 | 2.844 |
| #1 | .0267 | .9068 | -.0096 |
| #2 | -.0324 | .9061 | -.0100 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2406.2 | 58178. | 13856. |
| Stddev | 4.5 | 15. | 28. |
| %RSD | .18543 | .02525 | .19851 |
| #1 | 2409.3 | 58168. | 13875. |
| #2 | 2403.0 | 58189. | 13836. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:12:02 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2186 | 1.857 | .2110 | .0094 | 4.389 | 2.196 | .1747 | 66.56 | .1830 | 2.515 |
| Stddev | .0020 | .024 | .0156 | .0201 | .014 | .004 | .0008 | 1.33 | .0003 | .007 |
| %RSD | .8957 | 1.285 | 7.414 | 212.5 | .3160 | .1698 | .4726 | 2.003 | .1751 | .2802 |
| #1 | .2199 | 1.874 | .2221 | .0236 | 4.379 | 2.198 | .1741 | 65.62 | .1828 | 2.510 |
| #2 | .2172 | 1.840 | .1999 | -.0047 | 4.399 | 2.193 | .1752 | 67.50 | .1833 | 2.520 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4494 | 1.078 | 9.121 | 46.71 | 48.54 | 1.119 | 4.525 | 48.55 | 1.690 | .2261 |
| Stddev | .0089 | .009 | .028 | 1.06 | .12 | .001 | .005 | .10 | .003 | .0022 |
| %RSD | 1.971 | .8243 | .3027 | 2.271 | .2516 | .0536 | .1144 | .1970 | .1597 | .9844 |
| #1 | .4557 | 1.084 | 9.101 | 45.96 | 48.45 | 1.119 | 4.522 | 48.48 | 1.688 | .2245 |
| #2 | .4432 | 1.071 | 9.140 | 47.46 | 48.63 | 1.119 | 4.529 | 48.61 | 1.692 | .2277 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0807 | .2963 | .4436 | 2.555 | 4.326 | .5661 | 2.234 | .2181 | .4579 |
| Stddev | .0114 | .0026 | .0017 | .0010 | .006 | .004 | .0015 | .013 | .0110 | .0030 |
| %RSD | 398.1 | 3.166 | .5755 | .2214 | .2230 | .0891 | .2590 | .5888 | 5.060 | .6458 |
| #1 | -.0110 | -.0825 | .2975 | .4429 | 2.551 | 4.324 | .5671 | 2.243 | .2103 | .4600 |
| #2 | .0052 | -.0789 | .2951 | .4442 | 2.559 | 4.329 | .5650 | 2.224 | .2259 | .4558 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | .9198 | -.0106 |
| Stddev | .0129 | .0034 | .0009 |
| %RSD | 100.6 | .3745 | 8.270 |
| #1 | .0220 | .9174 | -.0100 |
| #2 | .0037 | .9223 | -.0112 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.0 | 57707. | 13836. |
| Stddev | 3.3 | 128. | 5. |
| %RSD | .13774 | .22148 | .03743 |
| #1 | 2411.7 | 57798. | 13839. |
| #2 | 2416.4 | 57617. | 13832. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 15:16:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2568 | 9.868 | 2.048 | -.0013 | 1.965 | 1.960 | 1.926 | 9.923 | 2.075 | 2.144 |
| Stddev | .0013 | .006 | .001 | .0002 | .006 | .003 | .001 | .004 | .008 | .008 |
| %RSD | .5107 | .0596 | .0462 | 15.75 | .3134 | .1627 | .0412 | .0380 | .3642 | .3772 |
| #1 | .2558 | 9.872 | 2.049 | -.0012 | 1.970 | 1.962 | 1.927 | 9.926 | 2.080 | 2.150 |
| #2 | .2577 | 9.864 | 2.047 | -.0015 | 1.961 | 1.958 | 1.926 | 9.920 | 2.070 | 2.138 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.041 | 2.049 | 9.648 | 9.954 | 10.08 | 2.010 | 2.059 | 9.764 | 1.958 | 1.985 |
| Stddev | .020 | .011 | .021 | .005 | .01 | .020 | .006 | .007 | .008 | .009 |
| %RSD | .9830 | .5448 | .2166 | .0520 | .0862 | .9731 | .2857 | .0745 | .4089 | .4569 |
| #1 | 2.027 | 2.041 | 9.662 | 9.958 | 10.07 | 1.997 | 2.064 | 9.769 | 1.964 | 1.992 |
| #2 | 2.055 | 2.057 | 9.633 | 9.950 | 10.08 | 2.024 | 2.055 | 9.759 | 1.952 | 1.979 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0033 | 2.019 | 2.008 | -.0187 | 1.959 | 2.008 | 1.981 | 1.948 | 2.037 |
| Stddev | .0009 | .0053 | .008 | .010 | .0000 | .007 | .003 | .014 | .002 | .018 |
| %RSD | 1278. | 159.7 | .4090 | .4810 | .1639 | .3848 | .1222 | .7286 | .1085 | .9016 |
| #1 | -.0007 | -.0004 | 2.025 | 2.015 | -.0187 | 1.965 | 2.009 | 1.970 | 1.949 | 2.024 |
| #2 | .0006 | .0070 | 2.014 | 2.001 | -.0188 | 1.954 | 2.006 | 1.991 | 1.946 | 2.050 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | 2.040 | -.0053 |
| Stddev | .0000 | .010 | .0003 |
| %RSD | .5090 | .4934 | 5.149 |
| #1 | .0049 | 2.047 | -.0051 |
| #2 | .0050 | 2.033 | -.0055 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.7 | 57083. | 13868. |
| Stddev | 4.5 | 1306. | 15. |
| %RSD | .18607 | 2.2871 | .10570 |
| #1 | 2404.5 | 58006. | 13858. |
| #2 | 2410.9 | 56160. | 13879. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 15:20:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0021 | .0015 | .0009 | .0031 | .0007 | F.0007 | .0015 | F.0004 |
| Stddev | .0002 | .0021 | .0014 | .0005 | .0005 | .0001 | .0000 | .0000 | .0001 |
| %RSD | 22.06 | 99.20 | 94.24 | 64.51 | 15.12 | 12.16 | 6.513 | .1982 | 27.56 |
| #1 | -.0013 | .0006 | .0005 | .0012 | .0034 | .0006 | .0007 | .0015 | .0005 |
| #2 | -.0009 | .0036 | .0025 | .0005 | .0027 | .0007 | .0006 | .0015 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | -.0012 | .0007 | .0436 | -.0055 | .0003 | .0025 | -.0010 |
| Stddev | .0001 | .0002 | .0005 | .0007 | .0220 | .0003 | .0000 | .0007 | .0060 |
| %RSD | 17.59 | 77.15 | 38.38 | 101.8 | 50.49 | 5.853 | 5.922 | 28.53 | 594.3 |
| #1 | .0005 | .0001 | -.0009 | .0002 | .0280 | -.0057 | .0002 | .0030 | .0032 |
| #2 | .0004 | .0004 | -.0015 | .0013 | .0592 | -.0053 | .0003 | .0020 | -.0053 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0003 | .0016 | -.0020 | .0006 | -.0010 | -.0080 | .0011 | .0006 |
| Stddev | .0003 | .0000 | .0012 | .0030 | .0011 | .0005 | .0004 | .0000 | .0000 |
| %RSD | 88.16 | 13.59 | 75.83 | 149.7 | 192.9 | 49.44 | 4.676 | 3.690 | 3.506 |
| #1 | .0005 | .0003 | .0024 | .0001 | .0013 | -.0006 | -.0077 | .0011 | .0006 |
| #2 | .0001 | .0002 | .0007 | -.0042 | -.0002 | -.0013 | -.0082 | .0010 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0010 | .0013 | -.0027 | .0001 | .0003 |
| Stddev | .0001 | .0006 | .0000 | .0061 | .0000 | .0003 |
| %RSD | 36.86 | 66.25 | 1.893 | 224.6 | 5.265 | 88.71 |
| #1 | .0002 | .0005 | .0013 | .0016 | .0001 | .0006 |
| #2 | .0004 | .0014 | .0013 | -.0071 | .0001 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.9 | 58063. | 13786. |
| Stddev | 2.5 | 472. | 110. |
| %RSD | .10576 | .81375 | .79878 |
| #1 | 2403.7 | 57729. | 13864. |
| #2 | 2400.1 | 58397. | 13708. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:24:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0251 | .2444 | .0040 | .1915 | .2733 | .0004 | 65.11 | .0027 | -.0008 |
| Stddev | .0015 | .0062 | .0018 | .0005 | .0004 | .0001 | .0004 | .09 | .0002 | .0000 |
| %RSD | 63.92 | 24.60 | .7475 | 11.95 | .1924 | .0229 | 123.0 | .1373 | 6.469 | 3.398 |
| #1 | -.0035 | -.0295 | .2431 | .0037 | .1913 | .2733 | .0007 | 65.05 | .0026 | -.0008 |
| #2 | -.0013 | -.0207 | .2457 | .0043 | .1918 | .2732 | .0000 | 65.18 | .0029 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0062 | 52.77 | 17.13 | 8.347 | 1.391 | .0017 | 21.79 | .0009 | -.0008 |
| Stddev | .0022 | .0002 | .14 | .32 | .001 | .005 | .0001 | .05 | .0002 | .0049 |
| %RSD | 216.0 | 2.476 | .2693 | 1.850 | .0130 | .3852 | 6.403 | .2160 | 19.99 | 642.0 |
| #1 | .0005 | -.0061 | 52.67 | 17.36 | 8.348 | 1.387 | .0016 | 21.76 | .0008 | .0027 |
| #2 | -.0026 | -.0063 | 52.87 | 16.91 | 8.347 | 1.395 | .0018 | 21.83 | .0011 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0204 | .0024 | .0011 | 10.79 | .0003 | .5731 | -.0001 | -.0026 | .0015 |
| Stddev | .0081 | .0015 | .0002 | .0004 | .01 | .0008 | .0011 | .0001 | .0018 | .0007 |
| %RSD | 200.7 | 7.512 | 6.618 | 34.17 | .0686 | 312.5 | .1928 | 94.07 | 69.13 | 46.30 |
| #1 | -.0097 | -.0193 | .0025 | .0014 | 10.78 | .0009 | .5723 | .0000 | -.0038 | .0020 |
| #2 | .0017 | -.0215 | .0023 | .0008 | 10.79 | -.0003 | .5738 | -.0002 | -.0013 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0100 | -.0011 |
| Stddev | .0133 | .0002 | .0003 |
| %RSD | 247.1 | 1.584 | 27.51 |
| #1 | -.0148 | .0101 | -.0009 |
| #2 | .0040 | .0099 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.9 | 57876. | 13890. |
| Stddev | 6.1 | 446. | 47. |
| %RSD | .25528 | .77146 | .33499 |
| #1 | 2393.3 | 58191. | 13923. |
| #2 | 2384.6 | 57560. | 13858. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:29:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | -.0011 | .2527 | .0252 | .2006 | .2748 | .0005 | 67.27 | .0023 | -.0020 |
| Stddev | .0007 | .0041 | .0062 | .0132 | .0044 | .0001 | .0006 | .29 | .0011 | .0013 |
| %RSD | 9.693 | 377.5 | 2.458 | 52.19 | 2.210 | .0248 | 110.9 | .4331 | 47.47 | 68.15 |
| #1 | -.0078 | -.0039 | .2570 | .0345 | .1974 | .2748 | .0009 | 67.48 | .0016 | -.0010 |
| #2 | -.0068 | .0018 | .2483 | .0159 | .2037 | .2749 | .0001 | 67.06 | .0031 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0161 | 54.56 | 17.31 | 8.561 | 1.386 | .0020 | 22.20 | .0022 | -.0005 |
| Stddev | .0079 | .0029 | .32 | .43 | .078 | .015 | .0004 | .12 | .0007 | .0072 |
| %RSD | 294.6 | 17.97 | .5832 | 2.466 | .9060 | 1.111 | 20.54 | .5179 | 32.60 | 1396. |
| #1 | -.0083 | -.0141 | 54.78 | 17.61 | 8.616 | 1.397 | .0023 | 22.28 | .0017 | -.0056 |
| #2 | .0029 | -.0181 | 54.33 | 17.01 | 8.506 | 1.376 | .0017 | 22.12 | .0027 | .0046 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0267 | .0061 | .0005 | 10.82 | .0018 | .5949 | -.0052 | -.0024 | .0070 |
| Stddev | .0097 | .0135 | .0017 | .0090 | .00 | .0001 | .0029 | .0049 | .0104 | .0020 |
| %RSD | 62.13 | 50.48 | 27.94 | 1807. | .0313 | 8.275 | .4914 | 92.76 | 437.3 | 28.87 |
| #1 | -.0226 | -.0362 | .0049 | .0069 | 10.82 | .0017 | .5970 | -.0087 | .0050 | .0056 |
| #2 | -.0088 | -.0172 | .0073 | -.0059 | 10.82 | .0019 | .5929 | -.0018 | -.0098 | .0084 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0288 | .0222 | -.0017 |
| Stddev | .0256 | .0011 | .0024 |
| %RSD | 88.99 | 5.084 | 139.3 |
| #1 | -.0107 | .0214 | .0000 |
| #2 | -.0469 | .0230 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2378.9 | 58242. | 13831. |
| Stddev | 4.1 | 464. | 36. |
| %RSD | .17347 | .79628 | .26107 |
| #1 | 2381.8 | 57914. | 13857. |
| #2 | 2376.0 | 58570. | 13806. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/5/2013 15:50:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0191 | -.0424 | 1.109 | .0107 | .0159 | .0797 | .0002 | 77.22 | .0116 | .0169 |
| Stddev | .0010 | .0606 | .002 | .0075 | .0001 | .0023 | .0007 | .42 | .0026 | .0009 |
| %RSD | 5.217 | 143.0 | .1926 | 70.31 | .8549 | 2.928 | 271.8 | .5455 | 22.46 | 5.127 |
| #1 | -.0184 | .0005 | 1.107 | .0054 | .0160 | .0781 | .0007 | 76.92 | .0098 | .0176 |
| #2 | -.0198 | -.0852 | 1.110 | .0160 | .0158 | .0814 | -.0002 | 77.52 | .0135 | .0163 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0223 | 8.186 | 6.212 | 3.102 | 2.006 | .0024 | 6.791 | .0159 | -.0087 |
| Stddev | .0025 | .0007 | .087 | .300 | .079 | .011 | .0005 | .145 | .0008 | .0023 |
| %RSD | 27.11 | 3.201 | 1.058 | 4.825 | 2.558 | .5680 | 23.22 | 2.134 | 4.830 | 26.44 |
| #1 | -.0110 | -.0228 | 8.125 | 6.000 | 3.158 | 2.015 | .0027 | 6.689 | .0154 | -.0071 |
| #2 | -.0075 | -.0218 | 8.247 | 6.424 | 3.045 | 1.998 | .0020 | 6.894 | .0165 | -.0103 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0727 | .0017 | .0012 | 5.023 | .0045 | .3216 | -.0044 | -.0087 | .0004 |
| Stddev | .0107 | .0340 | .0080 | .0095 | .000 | .0041 | .0034 | .0008 | .0091 | .0001 |
| %RSD | 105.5 | 46.74 | 480.3 | 797.4 | .0017 | 92.51 | 1.067 | 17.45 | 105.4 | 17.92 |
| #1 | -.0026 | -.0968 | -.0040 | -.0055 | 5.023 | .0015 | .3192 | -.0039 | -.0022 | .0003 |
| #2 | -.0177 | -.0487 | .0073 | .0079 | 5.023 | .0074 | .3240 | -.0050 | -.0151 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0299 | .0284 | .0018 |
| Stddev | .0219 | .0003 | .0028 |
| %RSD | 73.05 | .8876 | 152.9 |
| #1 | .0454 | .0282 | .0038 |
| #2 | .0145 | .0286 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.1 | 58598. | 13843. |
| Stddev | .5 | 66. | 187. |
| %RSD | .02090 | .11197 | 1.3534 |
| #1 | 2408.8 | 58552. | 13976. |
| #2 | 2409.5 | 58644. | 13711. |

Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:54:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0142 | .0354 | -.0018 | .1862 | .0107 | .0002 | 106.3 | .0007 | .0018 |
| Stddev | .0008 | .0026 | .0003 | .0013 | .0001 | .0003 | .0000 | .3 | .0001 | .0002 |
| %RSD | 38.11 | 18.34 | .7987 | 75.65 | .0496 | 2.732 | 10.53 | .3253 | 15.71 | 9.281 |
| #1 | -.0025 | -.0160 | .0352 | -.0008 | .1862 | .0105 | .0002 | 106.5 | .0006 | .0019 |
| #2 | -.0014 | -.0123 | .0356 | -.0027 | .1863 | .0109 | .0002 | 106.0 | .0008 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .4266 | 4.823 | 14.07 | 8.856 | .0014 | 27.29 | .0152 | -.0012 |
| Stddev | .0004 | .0000 | .0037 | .089 | .01 | .056 | .0002 | .05 | .0000 | .0005 |
| %RSD | 93.40 | .4328 | .8726 | 1.848 | .0489 | .6374 | 15.66 | .1786 | .2015 | 40.28 |
| #1 | -.0001 | -.0023 | .4240 | 4.760 | 14.07 | 8.816 | .0013 | 27.33 | .0152 | -.0009 |
| #2 | -.0007 | -.0023 | .4292 | 4.886 | 14.08 | 8.896 | .0016 | 27.26 | .0152 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0237 | .0016 | .0017 | 9.969 | -.0008 | .5769 | .0001 | .0027 | .0000 |
| Stddev | .0029 | .0023 | .0007 | .0016 | .015 | .0003 | .0019 | .0000 | .0001 | .0011 |
| %RSD | 39.03 | 9.737 | 47.07 | 91.63 | .1510 | 31.48 | .3207 | 29.03 | 2.281 | 3452. |
| #1 | -.0054 | .0253 | .0010 | .0006 | 9.958 | -.0010 | .5782 | .0001 | .0026 | .0008 |
| #2 | -.0095 | .0221 | .0021 | .0029 | 9.980 | -.0006 | .5756 | .0001 | .0027 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0028 | .0223 | -.0014 |
| Stddev | .0108 | .0001 | .0003 |
| %RSD | 389.3 | .6403 | 17.58 |
| #1 | .0104 | .0222 | -.0012 |
| #2 | -.0049 | .0224 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.2 | 57915. | 13813. |
| Stddev | 5.9 | 238. | 32. |
| %RSD | .24670 | .41024 | .23396 |
| #1 | 2381.0 | 58083. | 13790. |
| #2 | 2389.3 | 57747. | 13836. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:59:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0623 | .0368 | -.0011 | .1870 | .0115 | -.0003 | 107.1 | .0006 | .0009 |
| Stddev | .0006 | .0157 | .0015 | .0164 | .0005 | .0009 | .0002 | .2 | .0001 | .0001 |
| %RSD | 18.36 | 25.14 | 3.966 | 1474. | .2798 | 8.201 | 60.16 | .2210 | 13.24 | 12.34 |
| #1 | -.0040 | -.0512 | .0358 | -.0127 | .1867 | .0109 | -.0002 | 107.3 | .0007 | .0008 |
| #2 | -.0031 | -.0733 | .0379 | .0105 | .1874 | .0122 | -.0004 | 106.9 | .0006 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0073 | .4216 | 5.028 | 14.21 | 9.030 | .0019 | 27.26 | .0161 | -.0006 |
| Stddev | .0025 | .0015 | .0123 | .097 | .00 | .035 | .0003 | .07 | .0002 | .0001 |
| %RSD | 1035. | 20.41 | 2.917 | 1.924 | .0097 | .3896 | 14.35 | .2600 | 1.551 | 10.53 |
| #1 | .0020 | -.0062 | .4303 | 5.096 | 14.21 | 9.005 | .0017 | 27.31 | .0162 | -.0007 |
| #2 | -.0015 | -.0083 | .4129 | 4.960 | 14.21 | 9.055 | .0021 | 27.21 | .0159 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0150 | .0052 | -.0014 | 9.925 | -.0001 | .5836 | .0008 | .0017 | .0026 |
| Stddev | .0033 | .0128 | .0027 | .0043 | .000 | .0000 | .0010 | .0005 | .0007 | .0000 |
| %RSD | 101.8 | 84.98 | 52.28 | 305.5 | .0032 | 1.758 | .1659 | 62.27 | 38.82 | .3121 |
| #1 | -.0009 | .0060 | .0071 | -.0044 | 9.925 | -.0001 | .5843 | .0012 | .0012 | .0026 |
| #2 | -.0056 | .0240 | .0033 | .0016 | 9.925 | -.0001 | .5829 | .0005 | .0022 | .0026 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0070 | .0241 | -.0022 |
| Stddev | .0012 | .0002 | .0004 |
| %RSD | 17.57 | .8217 | 16.33 |
| #1 | .0061 | .0239 | -.0025 |
| #2 | .0079 | .0242 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.1 | 58393. | 13959. |
| Stddev | 3.2 | 238. | 107. |
| %RSD | .13181 | .40775 | .76469 |
| #1 | 2388.9 | 58562. | 13884. |
| #2 | 2393.3 | 58225. | 14035. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 16:03:31 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0169 | .0285 | .0469 | .0093 | .1978 | .0128 | .0011 | 114.0 | .0001 | .0009 |
| Stddev | .0034 | .0100 | .0208 | .0089 | .0143 | .0040 | .0018 | .2 | .0000 | .0016 |
| %RSD | 19.98 | 35.08 | 44.30 | 95.80 | 7.237 | 31.46 | 167.6 | .1821 | 34.17 | 187.9 |
| #1 | -.0193 | .0356 | .0616 | .0156 | .2079 | .0099 | -.0002 | 113.8 | .0001 | .0020 |
| #2 | -.0145 | .0214 | .0322 | .0030 | .1876 | .0156 | .0024 | 114.1 | .0002 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0383 | .3812 | 5.799 | 14.67 | 9.238 | -.0004 | 28.75 | .0166 | -.0062 |
| Stddev | .0005 | .0133 | .0009 | .252 | .36 | .004 | .0006 | .13 | .0018 | .0092 |
| %RSD | 12.18 | 34.74 | .2308 | 4.341 | 2.422 | .0424 | 162.5 | .4450 | 11.08 | 149.5 |
| #1 | -.0041 | -.0477 | .3806 | 5.977 | 14.92 | 9.235 | .0001 | 28.85 | .0179 | -.0127 |
| #2 | -.0049 | -.0289 | .3818 | 5.621 | 14.42 | 9.240 | -.0008 | 28.66 | .0153 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0291 | -.0193 | .0163 | .0080 | 10.07 | .0088 | .6075 | -.0004 | -.0187 | .0108 |
| Stddev | .0380 | .1044 | .0087 | .0099 | .06 | .0031 | .0017 | .0011 | .0075 | .0101 |
| %RSD | 130.6 | 541.5 | 53.76 | 123.4 | .5663 | 35.53 | .2848 | 267.1 | 40.03 | 93.64 |
| #1 | -.0560 | .0545 | .0101 | .0150 | 10.03 | .0110 | .6087 | .0004 | -.0134 | .0179 |
| #2 | -.0022 | -.0931 | .0224 | .0010 | 10.11 | .0066 | .6063 | -.0012 | -.0239 | .0036 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0313 | .0591 | .0001 |
| Stddev | .0021 | .0007 | .0020 |
| %RSD | 6.583 | 1.220 | 1527. |
| #1 | -.0298 | .0586 | -.0013 |
| #2 | -.0327 | .0596 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.2 | 57965. | 13817. |
| Stddev | 9.6 | 49. | 4. |
| %RSD | .40190 | .08419 | .03171 |
| #1 | 2395.0 | 58000. | 13820. |
| #2 | 2381.4 | 57931. | 13814. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:07:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0094 | .4455 | .0022 | .1287 | .0391 | .0002 | 53.03 | .0053 | -.0003 |
| Stddev | .0003 | .0051 | .0046 | .0018 | .0011 | .0013 | .0001 | .06 | .0006 | .0001 |
| %RSD | 9.113 | 54.72 | 1.030 | 82.17 | .8188 | 3.273 | 47.34 | .1046 | 10.70 | 29.55 |
| #1 | -.0041 | -.0058 | .4423 | .0034 | .1294 | .0382 | .0002 | 52.99 | .0057 | -.0003 |
| #2 | -.0036 | -.0130 | .4487 | .0009 | .1279 | .0400 | .0001 | 53.07 | .0049 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0047 | 27.09 | 4.448 | 7.324 | 3.926 | -.0001 | 27.39 | .0020 | -.0022 |
| Stddev | .0032 | .0004 | .04 | .051 | .019 | .010 | .0005 | .00 | .0003 | .0019 |
| %RSD | 296.5 | 9.499 | .1418 | 1.136 | .2578 | .2587 | 617.9 | .0107 | 14.38 | 83.11 |
| #1 | .0012 | -.0044 | 27.11 | 4.413 | 7.337 | 3.919 | -.0004 | 27.39 | .0018 | -.0009 |
| #2 | -.0034 | -.0050 | 27.06 | 4.484 | 7.311 | 3.933 | .0003 | 27.39 | .0022 | -.0035 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0107 | .0023 | .0024 | 11.17 | .0007 | .2322 | .0017 | .0005 | .0024 |
| Stddev | .0017 | .0039 | .0005 | .0011 | .00 | .0008 | .0001 | .0002 | .0007 | .0009 |
| %RSD | 77.09 | 36.46 | 19.81 | 44.15 | .0344 | 110.6 | .0219 | 11.73 | 135.9 | 36.40 |
| #1 | -.0034 | .0134 | .0026 | .0017 | 11.17 | .0002 | .2322 | .0016 | .0010 | .0018 |
| #2 | -.0010 | .0079 | .0020 | .0032 | 11.17 | .0013 | .2322 | .0019 | .0000 | .0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0083 | .0069 | -.0022 |
| Stddev | .0022 | .0005 | .0004 |
| %RSD | 26.64 | 7.002 | 19.93 |
| #1 | .0098 | .0065 | -.0025 |
| #2 | .0067 | .0072 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.5 | 57801. | 13811. |
| Stddev | 1.2 | 320. | 55. |
| %RSD | .04818 | .55289 | .39894 |
| #1 | 2385.7 | 57575. | 13850. |
| #2 | 2387.4 | 58027. | 13772. |

Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:12:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0134 | .0365 | .4423 | -.0051 | .1303 | .0372 | .0007 | 54.47 | .0029 | -.0018 |
| Stddev | .0017 | .0142 | .0107 | .0281 | .0022 | .0001 | .0005 | .04 | .0020 | .0011 |
| %RSD | 12.84 | 38.93 | 2.421 | 554.8 | 1.716 | .1477 | 63.07 | .0683 | 67.85 | 60.39 |
| #1 | -.0146 | .0264 | .4498 | -.0250 | .1319 | .0373 | .0004 | 54.45 | .0043 | -.0011 |
| #2 | -.0122 | .0465 | .4347 | .0148 | .1287 | .0372 | .0011 | 54.50 | .0015 | -.0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0229 | 27.64 | 4.501 | 7.417 | 3.948 | .0000 | 27.98 | .0019 | -.0040 |
| Stddev | .0036 | .0023 | .07 | .219 | .053 | .007 | .0007 | .04 | .0015 | .0135 |
| %RSD | 155.8 | 10.14 | .2427 | 4.858 | .7155 | .1910 | 3286. | .1328 | 79.14 | 335.8 |
| #1 | .0002 | -.0212 | 27.59 | 4.655 | 7.379 | 3.942 | -.0005 | 27.95 | .0029 | .0055 |
| #2 | -.0049 | -.0245 | 27.68 | 4.346 | 7.454 | 3.953 | .0005 | 28.00 | .0008 | -.0135 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | -.0359 | .0094 | .0057 | 11.08 | .0037 | .2299 | -.0032 | -.0016 | .0080 |
| Stddev | .0143 | .0591 | .0071 | .0068 | .01 | .0026 | .0024 | .0036 | .0095 | .0005 |
| %RSD | 438.0 | 164.6 | 76.23 | 118.8 | .0810 | 70.71 | 1.024 | 114.3 | 577.2 | 6.111 |
| #1 | -.0068 | .0059 | .0144 | .0106 | 11.07 | .0056 | .2282 | -.0057 | -.0083 | .0083 |
| #2 | .0134 | -.0777 | .0043 | .0009 | 11.09 | .0019 | .2315 | -.0006 | .0051 | .0076 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0181 | .0126 | .0006 |
| Stddev | .0656 | .0007 | .0002 |
| %RSD | 362.4 | 5.360 | 42.32 |
| #1 | -.0283 | .0131 | .0008 |
| #2 | .0645 | .0122 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.9 | 58301. | 13935. |
| Stddev | 9.0 | 274. | 180. |
| %RSD | .37764 | .47002 | 1.2887 |
| #1 | 2402.3 | 58495. | 13808. |
| #2 | 2389.5 | 58107. | 14061. |



Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/5/2013 16:16:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0017 | .0004 | .0023 | .0074 | .0017 | -.0001 | 6.520 | -.0003 | -.0001 |
| Stddev | .0016 | .0102 | .0045 | .0016 | .0004 | .0001 | .0002 | .051 | .0001 | .0004 |
| %RSD | 79.85 | 587.3 | 1272. | 70.32 | 5.590 | 5.386 | 147.0 | .7851 | 44.15 | 381.3 |
| #1 | -.0031 | .0090 | -.0028 | .0012 | .0077 | .0017 | .0000 | 6.484 | -.0002 | -.0004 |
| #2 | -.0008 | -.0055 | .0036 | .0034 | .0071 | .0018 | -.0003 | 6.557 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0066 | .0193 | .8912 | .5959 | .0101 | .0000 | 23.81 | -.0002 | -.0012 |
| Stddev | .0002 | .0019 | .0032 | .0364 | .0064 | .0001 | .0002 | .02 | .0007 | .0005 |
| %RSD | 8.522 | 28.27 | 16.54 | 4.089 | 1.069 | 1.101 | 1124. | .0796 | 405.8 | 45.20 |
| #1 | -.0024 | -.0080 | .0171 | .8654 | .6004 | .0100 | -.0001 | 23.80 | -.0006 | -.0008 |
| #2 | -.0027 | -.0053 | .0216 | .9170 | .5914 | .0102 | .0002 | 23.82 | .0003 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | -.0133 | .0017 | -.0027 | 3.855 | .0010 | .0430 | -.0003 | -.0035 | .0016 |
| Stddev | .0060 | .0018 | .0000 | .0004 | .003 | .0019 | .0002 | .0004 | .0004 | .0005 |
| %RSD | 246.6 | 13.48 | 1.655 | 13.92 | .0692 | 190.5 | .4388 | 123.7 | 11.83 | 31.92 |
| #1 | -.0018 | -.0120 | .0017 | -.0024 | 3.857 | -.0003 | .0428 | .0000 | -.0032 | .0013 |
| #2 | .0067 | -.0146 | .0017 | -.0030 | 3.853 | .0023 | .0431 | -.0006 | -.0037 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0041 | .0640 | -.0007 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 42.92 | .0306 | 18.59 |
| #1 | -.0053 | .0640 | -.0007 |
| #2 | -.0029 | .0640 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2396.6 | 58312. | 13834. |
| Stddev | 3.1 | 245. | 73. |
| %RSD | .13030 | .41931 | .52657 |
| #1 | 2394.4 | 58484. | 13886. |
| #2 | 2398.8 | 58139. | 13783. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:20:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0363 | 1.161 | -.0027 | .2058 | .0437 | -.0002 | 76.37 | .0133 | .0158 |
| Stddev | .0005 | .0065 | .003 | .0040 | .0003 | .0007 | .0001 | .21 | .0001 | .0002 |
| %RSD | 41.11 | 17.93 | .2238 | 149.5 | .1226 | 1.566 | 70.22 | .2747 | .4496 | 1.578 |
| #1 | -.0017 | -.0317 | 1.159 | -.0055 | .2056 | .0433 | -.0001 | 76.22 | .0133 | .0160 |
| #2 | -.0009 | -.0409 | 1.163 | .0002 | .2060 | .0442 | -.0002 | 76.52 | .0133 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | 29.26 | 8.277 | 12.15 | 9.889 | .0008 | 28.55 | .0053 | -.0009 |
| Stddev | .0007 | .0002 | .06 | .013 | .17 | .129 | .0001 | .03 | .0003 | .0012 |
| %RSD | 177.2 | 6.198 | .2151 | .1596 | 1.429 | 1.306 | 12.57 | .1154 | 5.512 | 136.8 |
| #1 | .0001 | -.0038 | 29.22 | 8.267 | 12.03 | 9.980 | .0007 | 28.53 | .0055 | .0000 |
| #2 | -.0009 | -.0035 | 29.31 | 8.286 | 12.28 | 9.798 | .0008 | 28.58 | .0051 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0087 | .0312 | .0005 | .0027 | 13.27 | -.0004 | .9736 | .0006 | .0038 | .0015 |
| Stddev | .0015 | .0094 | .0004 | .0002 | .01 | .0004 | .0007 | .0016 | .0027 | .0008 |
| %RSD | 16.94 | 30.18 | 79.13 | 7.526 | .0503 | 87.42 | .0719 | 271.2 | 71.30 | 52.87 |
| #1 | -.0097 | .0378 | .0002 | .0029 | 13.26 | -.0002 | .9731 | .0017 | .0056 | .0010 |
| #2 | -.0076 | .0245 | .0008 | .0026 | 13.27 | -.0007 | .9741 | -.0005 | .0019 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0225 | .0089 | -.0020 |
| Stddev | .0024 | .0000 | .0003 |
| %RSD | 10.82 | .1185 | 14.09 |
| #1 | .0208 | .0089 | -.0018 |
| #2 | .0243 | .0089 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.4 | 57827. | 13958. |
| Stddev | 5.0 | 198. | 144. |
| %RSD | .20899 | .34198 | 1.0322 |
| #1 | 2383.9 | 57967. | 14059. |
| #2 | 2376.9 | 57688. | 13856. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 16:25:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2560 | 9.781 | 2.060 | .0007 | 1.959 | 1.947 | 1.895 | 9.819 | 2.099 | 2.158 |
| Stddev | .0003 | .000 | .003 | .0019 | .001 | .001 | .002 | .013 | .003 | .002 |
| %RSD | .1348 | .0035 | .1207 | 271.7 | .0550 | .0735 | .1092 | .1299 | .1558 | .0695 |
| #1 | .2557 | 9.781 | 2.062 | .0020 | 1.958 | 1.948 | 1.896 | 9.810 | 2.101 | 2.159 |
| #2 | .2562 | 9.780 | 2.058 | -.0006 | 1.960 | 1.946 | 1.893 | 9.828 | 2.097 | 2.157 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.009 | 2.038 | 9.555 | 9.880 | 10.11 | 1.963 | 2.069 | 9.655 | 1.961 | 1.998 |
| Stddev | .003 | .002 | .007 | .018 | .02 | .004 | .002 | .005 | .000 | .002 |
| %RSD | .1471 | .0741 | .0716 | .1873 | .2252 | .1816 | .0880 | .0551 | .0020 | .0922 |
| #1 | 2.006 | 2.037 | 9.550 | 9.867 | 10.13 | 1.960 | 2.068 | 9.659 | 1.961 | 1.999 |
| #2 | 2.011 | 2.039 | 9.560 | 9.893 | 10.10 | 1.965 | 2.071 | 9.651 | 1.961 | 1.997 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0011 | 2.027 | 2.017 | .0043 | 1.947 | 2.014 | 1.946 | 1.931 | 2.012 |
| Stddev | .0015 | .0039 | .000 | .003 | .0007 | .002 | .001 | .004 | .002 | .003 |
| %RSD | 175.4 | 352.8 | .0041 | .1709 | 16.79 | .1063 | .0500 | .2184 | .0943 | .1672 |
| #1 | -.0002 | -.0039 | 2.027 | 2.014 | .0048 | 1.945 | 2.015 | 1.943 | 1.930 | 2.010 |
| #2 | .0019 | .0017 | 2.027 | 2.019 | .0038 | 1.948 | 2.013 | 1.949 | 1.933 | 2.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0098 | 2.056 | -.0053 |
| Stddev | .0014 | .001 | .0004 |
| %RSD | 14.69 | .0289 | 8.439 |
| #1 | .0108 | 2.056 | -.0049 |
| #2 | .0088 | 2.055 | -.0056 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.0 | 57667. | 13853. |
| Stddev | 4.9 | 68. | 16. |
| %RSD | .20391 | .11843 | .11274 |
| #1 | 2381.6 | 57715. | 13842. |
| #2 | 2388.5 | 57619. | 13864. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 16:29:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0043 | .0014 | .0019 | .0022 | .0007 | F.0006 | .0143 | .0002 |
| Stddev | .0007 | .0068 | .0005 | .0015 | .0003 | .0002 | .0000 | .0002 | .0002 |
| %RSD | 62.38 | 160.2 | 35.13 | 76.39 | 15.72 | 25.47 | .1128 | 1.247 | 154.4 |
| #1 | -.0007 | .0091 | .0010 | .0009 | .0025 | .0009 | .0006 | .0144 | .0003 |
| #2 | -.0017 | -.0006 | .0017 | .0029 | .0020 | .0006 | .0006 | .0142 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | -.0018 | .0013 | .0196 | .0024 | .0004 | .0021 | -.0047 |
| Stddev | .0001 | .0004 | .0010 | .0003 | .0326 | .0394 | .0001 | .0006 | .0049 |
| %RSD | 44.44 | 81.58 | 55.42 | 23.67 | 166.7 | 1627. | 13.29 | 28.92 | 105.3 |
| #1 | .0003 | .0002 | -.0026 | .0011 | .0426 | .0303 | .0004 | .0025 | -.0012 |
| #2 | .0002 | .0007 | -.0011 | .0015 | -.0035 | -.0255 | .0004 | .0017 | -.0082 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0002 | -.0050 | .0012 | .0005 | -.0064 | .0008 | .0006 |
| Stddev | .0000 | .0007 | .0019 | .0050 | .0004 | .0017 | .0002 | .0005 | .0001 |
| %RSD | 9.161 | 81.12 | 804.1 | 101.5 | 37.24 | 318.5 | 3.128 | 64.01 | 17.87 |
| #1 | .0003 | .0004 | -.0011 | -.0014 | .0009 | -.0007 | -.0065 | .0011 | .0005 |
| #2 | .0003 | .0014 | .0016 | -.0085 | .0015 | .0017 | -.0063 | .0004 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0001 | .0000 | .0013 | -.0002 | .0000 | .0000 |
| Stddev | .0002 | .001 | .0010 | .0032 | .0002 | .0002 |
| %RSD | 154.4 | 2197. | 77.56 | 1448. | 10150. | 504.2 |
| #1 | -.0002 | .0004 | .0006 | -.0025 | .0002 | .0002 |
| #2 | .0000 | -.0005 | .0020 | .0020 | -.0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.0 | 58347. | 13819. |
| Stddev | 3.6 | 80. | 250. |
| %RSD | .14811 | .13712 | 1.8061 |
| #1 | 2403.5 | 58404. | 13996. |
| #2 | 2398.5 | 58291. | 13643. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:33:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | .0048 | 1.139 | .0004 | .2058 | .0430 | .0004 | 76.03 | .0131 | .0155 |
| Stddev | .0005 | .0203 | .001 | .0016 | .0010 | .0019 | .0004 | 1.87 | .0005 | .0001 |
| %RSD | 7.379 | 418.9 | .0417 | 425.6 | .4625 | 4.524 | 89.60 | 2.462 | 4.103 | .6979 |
| #1 | -.0064 | -.0095 | 1.139 | -.0008 | .2051 | .0416 | .0002 | 74.70 | .0134 | .0154 |
| #2 | -.0058 | .0192 | 1.139 | .0015 | .2064 | .0443 | .0007 | 77.35 | .0127 | .0155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0079 | 30.04 | 8.428 | 12.22 | 9.683 | .0034 | 28.31 | .0057 | -.0010 |
| Stddev | .0008 | .0017 | .96 | .385 | .13 | .088 | .0000 | .64 | .0015 | .0044 |
| %RSD | 33.05 | 21.49 | 3.208 | 4.564 | 1.087 | .9098 | 1.146 | 2.270 | 27.09 | 453.0 |
| #1 | -.0030 | -.0091 | 29.35 | 8.156 | 12.12 | 9.621 | .0034 | 27.85 | .0046 | -.0041 |
| #2 | -.0018 | -.0067 | 30.72 | 8.700 | 12.31 | 9.745 | .0034 | 28.76 | .0068 | .0021 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0086 | .0028 | -.0002 | 12.92 | .0150 | .9695 | .0031 | .0031 | .0053 |
| Stddev | .0053 | .0110 | .0034 | .0031 | .01 | .0007 | .0260 | .0058 | .0046 | .0017 |
| %RSD | 473.3 | 127.6 | 122.2 | 1403. | .0826 | 4.820 | 2.684 | 186.7 | 147.8 | 31.61 |
| #1 | -.0026 | .0008 | .0052 | .0020 | 12.91 | .0155 | .9511 | .0072 | -.0001 | .0041 |
| #2 | .0049 | .0164 | .0004 | -.0025 | 12.92 | .0145 | .9879 | -.0010 | .0064 | .0065 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0090 | -.0013 |
| Stddev | .0007 | .0010 | .0004 |
| %RSD | 8.955 | 11.53 | 32.80 |
| #1 | .0075 | .0083 | -.0010 |
| #2 | .0085 | .0097 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.2 | 58555. | 13787. |
| Stddev | 5.9 | 65. | 321. |
| %RSD | .24556 | .11068 | 2.3284 |
| #1 | 2395.4 | 58601. | 14014. |
| #2 | 2387.1 | 58509. | 13560. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:38:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0122 | -.0264 | 1.166 | .0118 | .2115 | .0451 | .0006 | 77.75 | .0130 | .0161 |
| Stddev | .0074 | .0224 | .001 | .0016 | .0040 | .0008 | .0008 | .10 | .0006 | .0008 |
| %RSD | 60.93 | 84.97 | .0823 | 13.90 | 1.871 | 1.691 | 123.5 | .1261 | 4.703 | 4.980 |
| #1 | -.0175 | -.0105 | 1.166 | .0107 | .2087 | .0445 | .0001 | 77.82 | .0126 | .0155 |
| #2 | -.0070 | -.0422 | 1.167 | .0130 | .2143 | .0456 | .0011 | 77.68 | .0135 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0246 | 30.34 | 8.469 | 12.52 | 9.948 | .0034 | 29.46 | .0058 | -.0005 |
| Stddev | .0016 | .0028 | .10 | .117 | .33 | .013 | .0002 | .28 | .0018 | .0019 |
| %RSD | 55.04 | 11.34 | .3180 | 1.379 | 2.668 | .1310 | 4.454 | .9494 | 31.80 | 402.4 |
| #1 | -.0017 | -.0226 | 30.27 | 8.552 | 12.76 | 9.957 | .0033 | 29.26 | .0071 | .0009 |
| #2 | -.0039 | -.0266 | 30.40 | 8.387 | 12.28 | 9.938 | .0035 | 29.66 | .0045 | -.0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0257 | .0113 | -.0072 | 13.21 | -.0033 | .9852 | -.0023 | -.0033 | .0112 |
| Stddev | .0030 | .0166 | .0101 | .0002 | .04 | .0040 | .0031 | .0034 | .0143 | .0081 |
| %RSD | 319.3 | 64.84 | 88.98 | 2.308 | .2681 | 121.4 | .3186 | 147.7 | 432.9 | 72.08 |
| #1 | .0012 | -.0374 | .0184 | -.0071 | 13.24 | -.0005 | .9874 | -.0047 | .0068 | .0055 |
| #2 | -.0031 | -.0139 | .0042 | -.0073 | 13.19 | -.0061 | .9830 | .0001 | -.0134 | .0169 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0453 | .0112 | -.0007 |
| Stddev | .0614 | .0002 | .0017 |
| %RSD | 135.6 | 1.981 | 246.8 |
| #1 | .0019 | .0114 | .0005 |
| #2 | .0887 | .0111 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.0 | 58055. | 13627. |
| Stddev | 2.1 | 34. | 206. |
| %RSD | .08975 | .05919 | 1.5085 |
| #1 | 2369.5 | 58030. | 13481. |
| #2 | 2372.5 | 58079. | 13772. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:42:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0034 | 1.026 | .0031 | .1369 | .0948 | .0001 | 46.22 | .0109 | .0176 |
| Stddev | .0001 | .0260 | .002 | .0031 | .0013 | .0006 | .0001 | .13 | .0003 | .0002 |
| %RSD | 4.186 | 764.7 | .1599 | 102.0 | .9420 | .6784 | 81.17 | .2866 | 2.702 | 1.329 |
| #1 | -.0027 | -.0217 | 1.027 | .0053 | .1360 | .0943 | .0002 | 46.13 | .0107 | .0178 |
| #2 | -.0029 | .0150 | 1.025 | .0009 | .1378 | .0952 | .0000 | 46.31 | .0111 | .0175 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0043 | 73.31 | 11.05 | 7.388 | 1.002 | .0011 | 17.02 | .0151 | -.0011 |
| Stddev | .0000 | .0013 | .28 | .03 | .069 | .003 | .0004 | .04 | .0004 | .0017 |
| %RSD | 10.24 | 29.24 | .3833 | .2720 | .9400 | .2747 | 37.62 | .2540 | 2.671 | 163.2 |
| #1 | -.0002 | -.0052 | 73.11 | 11.07 | 7.339 | .9996 | .0008 | 16.99 | .0154 | -.0023 |
| #2 | -.0002 | -.0034 | 73.51 | 11.03 | 7.437 | 1.003 | .0014 | 17.05 | .0148 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0091 | .0034 | -.0026 | 14.34 | .0009 | .4264 | .0002 | -.0025 | .0024 |
| Stddev | .0015 | .0054 | .0016 | .0029 | .00 | .0010 | .0004 | .0004 | .0008 | .0003 |
| %RSD | 27.61 | 59.89 | 45.51 | 113.1 | .0308 | 112.3 | .0978 | 202.6 | 29.51 | 12.72 |
| #1 | -.0043 | -.0052 | .0045 | -.0005 | 14.34 | .0015 | .4261 | .0004 | -.0031 | .0022 |
| #2 | -.0065 | -.0129 | .0023 | -.0047 | 14.34 | .0002 | .4267 | -.0001 | -.0020 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0156 | .0134 | -.0031 |
| Stddev | .0071 | .0000 | .0000 |
| %RSD | 45.75 | .1532 | .3091 |
| #1 | .0206 | .0134 | -.0031 |
| #2 | .0105 | .0134 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2367.6 | 57985. | 13808. |
| Stddev | .8 | 268. | 35. |
| %RSD | .03443 | .46210 | .25368 |
| #1 | 2367.0 | 58174. | 13833. |
| #2 | 2368.2 | 57795. | 13783. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:46:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0231 | 1.031 | .0083 | .1356 | .0918 | -.0001 | 45.88 | .0102 | .0170 |
| Stddev | .0021 | .0664 | .007 | .0047 | .0010 | .0006 | .0001 | .08 | .0000 | .0004 |
| %RSD | 37.38 | 287.5 | .7216 | 56.60 | .7598 | .6707 | 225.5 | .1845 | .4842 | 2.509 |
| #1 | -.0073 | .0239 | 1.026 | .0050 | .1348 | .0914 | -.0001 | 45.94 | .0102 | .0173 |
| #2 | -.0042 | -.0701 | 1.036 | .0116 | .1363 | .0923 | .0000 | 45.82 | .0103 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0142 | 73.05 | 11.10 | 7.371 | 1.006 | .0004 | 16.99 | .0148 | -.0014 |
| Stddev | .0019 | .0014 | .41 | .01 | .006 | .003 | .0005 | .04 | .0005 | .0022 |
| %RSD | 67.79 | 10.12 | .5632 | .0812 | .0792 | .2438 | 140.9 | .2123 | 3.723 | 159.3 |
| #1 | -.0042 | -.0152 | 73.34 | 11.10 | 7.367 | 1.004 | .0007 | 16.96 | .0144 | -.0029 |
| #2 | -.0015 | -.0132 | 72.76 | 11.09 | 7.376 | 1.008 | .0000 | 17.01 | .0151 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0272 | .0039 | -.0049 | 14.19 | .0014 | .4312 | -.0017 | -.0034 | .0067 |
| Stddev | .0092 | .0047 | .0007 | .0033 | .00 | .0013 | .0002 | .0011 | .0022 | .0020 |
| %RSD | 2691. | 17.31 | 17.07 | 68.39 | .0047 | 93.17 | .0425 | 61.55 | 62.42 | 30.54 |
| #1 | -.0068 | -.0305 | .0034 | -.0072 | 14.19 | .0023 | .4314 | -.0010 | -.0050 | .0052 |
| #2 | .0061 | -.0239 | .0044 | -.0025 | 14.19 | .0005 | .4311 | -.0025 | -.0019 | .0081 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0366 | .0130 | -.0029 |
| Stddev | .0110 | .0002 | .0000 |
| %RSD | 30.01 | 1.347 | .9396 |
| #1 | .0289 | .0129 | -.0029 |
| #2 | .0444 | .0132 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2376.0 | 58322. | 14027. |
| Stddev | 5.8 | 54. | 108. |
| %RSD | .24314 | .09330 | .76758 |
| #1 | 2380.0 | 58361. | 14103. |
| #2 | 2371.9 | 58284. | 13951. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:51:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0055 | -.0304 | 1.051 | .0149 | .1419 | .0941 | .0001 | 47.59 | .0094 | .0174 |
| Stddev | .0043 | .1571 | .012 | .0130 | .0019 | .0001 | .0007 | .07 | .0020 | .0005 |
| %RSD | 78.74 | 517.4 | 1.175 | 86.99 | 1.350 | .1200 | 506.6 | .1465 | 21.44 | 3.109 |
| #1 | -.0085 | -.1414 | 1.042 | .0058 | .1432 | .0942 | -.0004 | 47.54 | .0109 | .0178 |
| #2 | -.0024 | .0807 | 1.059 | .0241 | .1405 | .0940 | .0006 | 47.64 | .0080 | .0171 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0076 | -.0202 | 73.17 | 11.28 | 7.454 | 1.036 | -.0002 | 17.21 | .0151 | -.0001 |
| Stddev | .0033 | .0080 | .18 | .06 | .127 | .004 | .0007 | .09 | .0002 | .0053 |
| %RSD | 43.89 | 39.46 | .2476 | .5477 | 1.705 | .3675 | 266.2 | .5256 | 1.068 | 3604. |
| #1 | -.0052 | -.0146 | 73.04 | 11.24 | 7.544 | 1.038 | .0002 | 17.27 | .0152 | .0036 |
| #2 | -.0099 | -.0259 | 73.30 | 11.33 | 7.364 | 1.033 | -.0007 | 17.14 | .0149 | -.0039 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0074 | -.0654 | -.0025 | -.0105 | 14.17 | .0033 | .4332 | -.0046 | -.0048 | .0057 |
| Stddev | .0169 | .0308 | .0088 | .0046 | .02 | .0006 | .0028 | .0027 | .0037 | .0004 |
| %RSD | 228.0 | 47.11 | 346.6 | 43.62 | .1598 | 16.69 | .6517 | 60.15 | 77.92 | 7.379 |
| #1 | .0194 | -.0436 | -.0088 | -.0073 | 14.15 | .0037 | .4312 | -.0065 | -.0022 | .0060 |
| #2 | -.0045 | -.0871 | .0037 | -.0138 | 14.19 | .0029 | .4352 | -.0026 | -.0074 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0437 | .0265 | -.0011 |
| Stddev | .0328 | .0004 | .0002 |
| %RSD | 75.05 | 1.528 | 21.73 |
| #1 | -.0205 | .0262 | -.0013 |
| #2 | -.0669 | .0268 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57859. | 13801. |
| Stddev | 6.3 | 353. | 22. |
| %RSD | .26463 | .61039 | .15683 |
| #1 | 2383.1 | 57609. | 13786. |
| #2 | 2392.0 | 58109. | 13817. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:55:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0370 | .0116 | -.0020 | .2780 | .0411 | .0000 | 67.54 | .0006 | .0056 |
| Stddev | .0007 | .0010 | .0009 | .0034 | .0003 | .0004 | .000 | .46 | .0003 | .0004 |
| %RSD | 42.21 | 2.634 | 7.707 | 164.6 | .1184 | .9075 | 138.7 | .6872 | 55.15 | 7.027 |
| #1 | -.0023 | -.0377 | .0122 | .0003 | .2777 | .0414 | .0000 | 67.21 | .0004 | .0053 |
| #2 | -.0012 | -.0363 | .0110 | -.0044 | .2782 | .0409 | .0000 | 67.87 | .0008 | .0058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0041 | 2.109 | 14.05 | 11.78 | 12.37 | .0001 | 29.96 | .0058 | -.0016 |
| Stddev | .0007 | .0003 | .021 | .14 | .16 | .13 | .0002 | .14 | .0001 | .0013 |
| %RSD | 103.1 | 6.715 | .9732 | 1.026 | 1.365 | 1.025 | 199.5 | .4605 | 1.557 | 84.31 |
| #1 | -.0012 | -.0039 | 2.094 | 13.95 | 11.66 | 12.28 | .0003 | 29.86 | .0059 | -.0006 |
| #2 | -.0002 | -.0043 | 2.123 | 14.15 | 11.89 | 12.46 | .0000 | 30.06 | .0057 | -.0025 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0401 | .0009 | .0027 | 8.144 | -.0006 | 1.259 | -.0004 | .0055 | .0017 |
| Stddev | .0011 | .0036 | .0009 | .0010 | .001 | .0009 | .009 | .0006 | .0028 | .0004 |
| %RSD | 17.80 | 8.948 | 104.9 | 36.96 | .0164 | 138.5 | .7338 | 170.2 | 50.19 | 24.70 |
| #1 | -.0067 | .0375 | .0002 | .0034 | 8.145 | -.0012 | 1.252 | .0001 | .0075 | .0014 |
| #2 | -.0052 | .0426 | .0015 | .0020 | 8.143 | .0000 | 1.265 | -.0008 | .0036 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0073 | -.0006 |
| Stddev | .0089 | .0003 | .0009 |
| %RSD | 156.9 | 4.424 | 142.9 |
| #1 | .0119 | .0075 | .0000 |
| #2 | -.0006 | .0070 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.9 | 58207. | 13752. |
| Stddev | 3.2 | 164. | 65. |
| %RSD | .13497 | .28102 | .47152 |
| #1 | 2375.1 | 58322. | 13798. |
| #2 | 2370.6 | 58091. | 13706. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0351 | .0157 | -.0013 | .2773 | .0413 | .0002 | 67.19 | .0006 | .0059 |
| Stddev | .0006 | .0203 | .0018 | .0031 | .0000 | .0004 | .0002 | .11 | .0000 | .0004 |
| %RSD | 40.49 | 57.69 | 11.32 | 236.8 | .0117 | 1.048 | 94.35 | .1578 | 5.342 | 6.303 |
| #1 | -.0011 | -.0495 | .0144 | -.0035 | .2773 | .0410 | .0001 | 67.12 | .0006 | .0056 |
| #2 | -.0019 | -.0208 | .0169 | .0009 | .2774 | .0416 | .0004 | 67.27 | .0006 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0064 | 2.104 | 14.10 | 11.77 | 12.30 | .0002 | 29.67 | .0053 | -.0024 |
| Stddev | .0010 | .0008 | .000 | .04 | .06 | .00 | .0002 | .02 | .0002 | .0007 |
| %RSD | 98.67 | 13.13 | .0033 | .3098 | .4797 | .0165 | 78.17 | .0794 | 3.741 | 30.93 |
| #1 | -.0018 | -.0059 | 2.104 | 14.07 | 11.81 | 12.30 | .0003 | 29.65 | .0055 | -.0029 |
| #2 | -.0003 | -.0070 | 2.104 | 14.13 | 11.73 | 12.31 | .0001 | 29.68 | .0052 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0081 | .0328 | .0029 | .0027 | 8.107 | -.0003 | 1.252 | -.0001 | .0039 | .0006 |
| Stddev | .0002 | .0134 | .0000 | .0013 | .006 | .0013 | .000 | .0010 | .0022 | .0016 |
| %RSD | 2.163 | 40.80 | .0494 | 48.45 | .0702 | 472.0 | .0078 | 1317. | 56.60 | 291.3 |
| #1 | -.0082 | .0423 | .0029 | .0018 | 8.111 | -.0012 | 1.252 | -.0008 | .0023 | -.0006 |
| #2 | -.0080 | .0234 | .0029 | .0037 | 8.103 | .0007 | 1.252 | .0006 | .0054 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0122 | .0097 | -.0008 |
| Stddev | .0088 | .0004 | .0004 |
| %RSD | 72.06 | 4.136 | 53.91 |
| #1 | -.0060 | .0100 | -.0005 |
| #2 | -.0185 | .0094 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2399.7 | 58644. | 13848. |
| Stddev | .4 | 169. | 91. |
| %RSD | .01650 | .28739 | .65545 |
| #1 | 2399.5 | 58524. | 13784. |
| #2 | 2400.0 | 58763. | 13912. |

Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 17:04:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0160 | -.0500 | .0013 | .0092 | .2803 | .0389 | -.0004 | 68.78 | -.0005 | .0035 |
| Stddev | .0015 | .0277 | .0131 | .0113 | .0004 | .0003 | .0002 | .19 | .0004 | .0022 |
| %RSD | 9.362 | 55.35 | 1019. | 122.5 | .1299 | .6719 | 55.05 | .2833 | 71.23 | 62.66 |
| #1 | -.0171 | -.0695 | .0106 | .0012 | .2805 | .0391 | -.0002 | 68.64 | -.0003 | .0050 |
| #2 | -.0149 | -.0304 | -.0080 | .0172 | .2800 | .0387 | -.0005 | 68.92 | -.0008 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0052 | -.0224 | 2.076 | 14.21 | 11.78 | 12.61 | -.0007 | 30.65 | .0053 | -.0052 |
| Stddev | .0030 | .0014 | .003 | .51 | .21 | .06 | .0005 | .09 | .0017 | .0004 |
| %RSD | 57.52 | 6.242 | .1322 | 3.602 | 1.775 | .4873 | 76.25 | .3069 | 32.06 | 7.834 |
| #1 | -.0074 | -.0234 | 2.078 | 13.85 | 11.63 | 12.56 | -.0010 | 30.59 | .0041 | -.0055 |
| #2 | -.0031 | -.0214 | 2.074 | 14.57 | 11.93 | 12.65 | -.0003 | 30.72 | .0065 | -.0049 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0363 | -.0008 | -.0041 | 8.042 | .0021 | 1.237 | -.0011 | .0011 | .0049 |
| Stddev | .0030 | .0160 | .0158 | .0045 | .003 | .0032 | .002 | .0025 | .0016 | .0022 |
| %RSD | 109.8 | 44.15 | 2058. | 110.7 | .0417 | 152.0 | .1957 | 220.6 | 145.3 | 44.96 |
| #1 | .0006 | .0250 | -.0119 | -.0009 | 8.040 | .0044 | 1.235 | -.0029 | .0022 | .0033 |
| #2 | .0048 | .0477 | .0104 | -.0073 | 8.044 | -.0002 | 1.239 | .0006 | .0000 | .0064 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0293 | .0163 | .0038 |
| Stddev | .0013 | .0008 | .0017 |
| %RSD | 4.335 | 4.652 | 44.04 |
| #1 | .0302 | .0168 | .0049 |
| #2 | .0284 | .0157 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.3 | 57892. | 13814. |
| Stddev | .9 | 349. | 122. |
| %RSD | .03711 | .60310 | .88125 |
| #1 | 2386.0 | 58139. | 13900. |
| #2 | 2384.7 | 57645. | 13728. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:08:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0150 | .0328 | -.0008 | .1890 | .0111 | .0002 | 107.6 | .0007 | .0021 |
| Stddev | .0003 | .0007 | .0009 | .0023 | .0002 | .0000 | .0001 | .4 | .0001 | .0004 |
| %RSD | 29.72 | 4.478 | 2.734 | 295.5 | .0814 | .1879 | 46.47 | .4110 | 14.84 | 19.87 |
| #1 | -.0009 | -.0155 | .0322 | .0008 | .1891 | .0112 | .0002 | 107.3 | .0007 | .0018 |
| #2 | -.0013 | -.0146 | .0334 | -.0024 | .1889 | .0111 | .0001 | 107.9 | .0006 | .0024 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0044 | .4322 | 4.982 | 14.36 | 9.109 | .0012 | 27.49 | .0153 | -.0001 |
| Stddev | .0000 | .0022 | .0041 | .132 | .03 | .001 | .0003 | .13 | .0006 | .0025 |
| %RSD | 3.782 | 50.06 | .9454 | 2.641 | .2265 | .0112 | 26.33 | .4787 | 3.892 | 1658. |
| #1 | .0003 | -.0028 | .4351 | 4.889 | 14.34 | 9.108 | .0015 | 27.40 | .0149 | -.0019 |
| #2 | .0003 | -.0060 | .4294 | 5.075 | 14.39 | 9.110 | .0010 | 27.58 | .0158 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0335 | .0016 | .0023 | 10.14 | -.0004 | .5886 | .0005 | .0019 | .0013 |
| Stddev | .0007 | .0078 | .0020 | .0016 | .01 | .0005 | .0008 | .0007 | .0009 | .0014 |
| %RSD | 8.517 | 23.12 | 129.3 | 72.74 | .0505 | 135.4 | .1426 | 136.6 | 46.21 | 107.4 |
| #1 | -.0074 | .0280 | .0001 | .0011 | 10.14 | .0000 | .5880 | .0000 | .0013 | .0003 |
| #2 | -.0083 | .0390 | .0030 | .0034 | 10.14 | -.0008 | .5892 | .0010 | .0025 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0244 | -.0015 |
| Stddev | .0049 | .0004 | .0010 |
| %RSD | 89.83 | 1.578 | 68.51 |
| #1 | .0020 | .0241 | -.0008 |
| #2 | .0089 | .0247 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.3 | 58041. | 13850. |
| Stddev | 5.5 | 1. | 61. |
| %RSD | .23102 | .00253 | .43830 |
| #1 | 2384.2 | 58040. | 13893. |
| #2 | 2376.4 | 58042. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:13:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0459 | .0381 | -.0044 | .1911 | .0117 | .0005 | 109.1 | .0008 | .0012 |
| Stddev | .0003 | .0358 | .0049 | .0137 | .0005 | .0004 | .0001 | .1 | .0008 | .0005 |
| %RSD | 8.996 | 77.88 | 12.92 | 313.8 | .2820 | 3.769 | 20.55 | .1197 | 99.23 | 44.03 |
| #1 | -.0040 | -.0206 | .0416 | .0053 | .1907 | .0114 | .0004 | 109.2 | .0002 | .0008 |
| #2 | -.0035 | -.0712 | .0346 | -.0140 | .1915 | .0120 | .0006 | 109.0 | .0013 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0105 | .4231 | 5.324 | 14.64 | 9.204 | .0014 | 27.84 | .0145 | .0018 |
| Stddev | .0024 | .0028 | .0234 | .134 | .29 | .032 | .0005 | .09 | .0007 | .0011 |
| %RSD | 108.2 | 26.45 | 5.536 | 2.510 | 1.989 | .3511 | 35.77 | .3384 | 4.603 | 58.48 |
| #1 | -.0005 | -.0086 | .4396 | 5.418 | 14.43 | 9.227 | .0018 | 27.90 | .0141 | .0011 |
| #2 | -.0039 | -.0125 | .4065 | 5.229 | 14.85 | 9.181 | .0011 | 27.77 | .0150 | .0026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0150 | .0007 | .0029 | 10.11 | -.0002 | .5954 | .0024 | .0002 | .0032 |
| Stddev | .0078 | .0010 | .0018 | .0013 | .02 | .0004 | .0036 | .0006 | .0021 | .0017 |
| %RSD | 177.0 | 6.539 | 254.1 | 45.58 | .2081 | 178.5 | .5981 | 23.56 | 1230. | 53.85 |
| #1 | .0011 | .0157 | .0020 | .0020 | 10.12 | -.0006 | .5980 | .0020 | .0017 | .0020 |
| #2 | -.0099 | .0143 | -.0006 | .0039 | 10.09 | .0001 | .5929 | .0028 | -.0013 | .0044 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0099 | .0234 | -.0001 |
| Stddev | .0053 | .0002 | .0001 |
| %RSD | 52.81 | .6994 | 231.6 |
| #1 | -.0137 | .0232 | .0000 |
| #2 | -.0062 | .0235 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2375.6 | 57791. | 13866. |
| Stddev | 4.6 | 254. | 95. |
| %RSD | .19366 | .43903 | .68543 |
| #1 | 2378.8 | 57612. | 13934. |
| #2 | 2372.3 | 57970. | 13799. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:17:22 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2546 | 9.802 | 2.068 | .0007 | 1.961 | 1.956 | 1.906 | 9.892 | 2.100 | 2.163 |
| Stddev | .0005 | .006 | .007 | .0002 | .006 | .002 | .000 | .004 | .004 | .004 |
| %RSD | .1951 | .0608 | .3369 | 33.46 | .2902 | .0777 | .0216 | .0401 | .2136 | .1956 |
| #1 | .2549 | 9.806 | 2.063 | .0005 | 1.957 | 1.955 | 1.905 | 9.889 | 2.097 | 2.160 |
| #2 | .2542 | 9.798 | 2.073 | .0008 | 1.965 | 1.957 | 1.906 | 9.895 | 2.103 | 2.166 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.012 | 2.040 | 9.618 | 9.882 | 10.10 | 1.970 | 2.072 | 9.701 | 1.965 | 2.002 |
| Stddev | .007 | .005 | .004 | .005 | .08 | .006 | .005 | .031 | .004 | .005 |
| %RSD | .3499 | .2249 | .0468 | .0531 | .7657 | .2960 | .2467 | .3239 | .2070 | .2550 |
| #1 | 2.007 | 2.036 | 9.615 | 9.879 | 10.16 | 1.966 | 2.069 | 9.679 | 1.962 | 1.998 |
| #2 | 2.017 | 2.043 | 9.621 | 9.886 | 10.05 | 1.974 | 2.076 | 9.723 | 1.967 | 2.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0025 | 2.031 | 2.025 | -.0060 | 1.953 | 2.019 | 1.951 | 1.938 | 2.015 |
| Stddev | .000 | .0008 | .003 | .003 | .0005 | .006 | .000 | .001 | .008 | .008 |
| %RSD | 2357. | 30.79 | .1664 | .1459 | 8.611 | .3265 | .0057 | .0474 | .4291 | .4114 |
| #1 | .0002 | -.0030 | 2.029 | 2.023 | -.0064 | 1.948 | 2.019 | 1.950 | 1.932 | 2.009 |
| #2 | -.0002 | -.0019 | 2.034 | 2.027 | -.0056 | 1.957 | 2.019 | 1.952 | 1.944 | 2.021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | 2.065 | -.0047 |
| Stddev | .0055 | .004 | .0002 |
| %RSD | 5199. | .2084 | 4.510 |
| #1 | -.0040 | 2.062 | -.0048 |
| #2 | .0037 | 2.068 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.9 | 57862. | 13926. |
| Stddev | 7.4 | 248. | 96. |
| %RSD | .31021 | .42936 | .68993 |
| #1 | 2392.1 | 58038. | 13994. |
| #2 | 2381.7 | 57687. | 13859. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:21:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0056 | .0019 | .0010 | .0022 | .0009 | F.0009 | .0016 | .0003 |
| Stddev | .0005 | .0063 | .0009 | .0007 | .0004 | .0001 | .0000 | .0025 | .0001 |
| %RSD | 47.43 | 112.4 | 46.39 | 73.16 | 17.00 | 7.232 | 1.182 | 155.0 | 22.28 |
| #1 | -.0007 | .0011 | .0025 | .0015 | .0025 | .0008 | .0009 | -.0002 | .0004 |
| #2 | -.0013 | .0101 | .0013 | .0005 | .0019 | .0009 | .0009 | .0034 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | -.0012 | .0012 | .0675 | .0077 | .0008 | .0022 | .0061 |
| Stddev | .0003 | .0002 | .0006 | .0051 | .0346 | .0021 | .0001 | .0006 | .0091 |
| %RSD | 74.74 | 48.85 | 46.63 | 434.2 | 51.26 | 27.91 | 10.48 | 27.36 | 149.5 |
| #1 | .0007 | .0002 | -.0008 | -.0024 | .0430 | .0062 | .0009 | .0026 | .0126 |
| #2 | .0002 | .0004 | -.0016 | .0048 | .0920 | .0092 | .0007 | .0017 | -.0004 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | -.0002 | -.0039 | .0008 | .0012 | -.0076 | .0006 | .0008 |
| Stddev | .0004 | .0004 | .0005 | .0088 | .0003 | .0019 | .0005 | .0006 | .0001 |
| %RSD | 181.2 | 461.6 | 287.2 | 226.3 | 37.13 | 156.5 | 6.491 | 88.04 | 11.99 |
| #1 | .0005 | .0002 | .0002 | -.0101 | .0010 | .0026 | -.0073 | .0010 | .0009 |
| #2 | -.0001 | -.0004 | -.0006 | .0023 | .0006 | -.0001 | -.0080 | .0002 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | .0001 | .0013 | -.0017 | -.0001 | -.0002 |
| Stddev | .0000 | .0005 | .0007 | .0052 | .0002 | .0004 |
| %RSD | 2.493 | 387.1 | 53.17 | 310.3 | 390.4 | 252.3 |
| #1 | .0004 | .0005 | .0008 | .0020 | .0001 | .0001 |
| #2 | .0004 | -.0002 | .0018 | -.0054 | -.0002 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2381.0 | 57951. | 13686. |
| Stddev | 7.2 | 53. | 158. |
| %RSD | .30171 | .09154 | 1.1576 |
| #1 | 2386.1 | 57914. | 13798. |
| #2 | 2375.9 | 57989. | 13574. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:25:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0199 | -.0752 | .0509 | .0233 | .2131 | .0191 | .0022 | 113.6 | .0015 | .0015 |
| Stddev | .0160 | .0559 | .0331 | .0360 | .0043 | .0015 | .0012 | .1 | .0007 | .0049 |
| %RSD | 80.56 | 74.34 | 65.08 | 154.7 | 2.012 | 7.985 | 54.21 | .1048 | 47.11 | 335.5 |
| #1 | -.0312 | -.0357 | .0743 | -.0022 | .2161 | .0202 | .0030 | 113.7 | .0020 | .0050 |
| #2 | -.0086 | -.1147 | .0275 | .0488 | .2100 | .0180 | .0014 | 113.5 | .0010 | -.0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0112 | -.0404 | .3741 | 5.909 | 15.03 | 9.212 | .0136 | 28.46 | .0147 | -.0038 |
| Stddev | .0107 | .0046 | .0447 | .586 | .26 | .027 | .0014 | .23 | .0062 | .0053 |
| %RSD | 95.55 | 11.41 | 11.95 | 9.917 | 1.745 | .2951 | 10.39 | .8057 | 42.26 | 140.0 |
| #1 | -.0188 | -.0436 | .4057 | 6.324 | 15.21 | 9.193 | .0146 | 28.62 | .0190 | -.0075 |
| #2 | -.0036 | -.0371 | .3424 | 5.495 | 14.84 | 9.231 | .0126 | 28.30 | .0103 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0161 | -.1259 | .0070 | -.0356 | 10.12 | .0069 | .6199 | -.0066 | .0013 | .0074 |
| Stddev | .0194 | .0674 | .0109 | .0013 | .00 | .0040 | .0046 | .0023 | .0190 | .0080 |
| %RSD | 120.8 | 53.48 | 155.7 | 3.677 | .0374 | 58.29 | .7380 | 34.35 | 1431. | 107.7 |
| #1 | -.0023 | -.0783 | .0146 | -.0346 | 10.13 | .0098 | .6232 | -.0050 | .0147 | .0018 |
| #2 | -.0298 | -.1736 | -.0007 | -.0365 | 10.12 | .0041 | .6167 | -.0082 | -.0121 | .0131 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0608 | .0643 | .0037 |
| Stddev | .0396 | .0003 | .0073 |
| %RSD | 65.14 | .4515 | 194.5 |
| #1 | .0328 | .0641 | .0089 |
| #2 | .0888 | .0645 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.1 | 58376. | 13790. |
| Stddev | 2.7 | 242. | 71. |
| %RSD | .11273 | .41528 | .51806 |
| #1 | 2392.0 | 58548. | 13740. |
| #2 | 2388.2 | 58205. | 13841. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 17:30:15 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .1991 | F.0061 | .0015 | .1012 | .0507 | .0041 | 4.998 | .0043 |
| Stddev | .0011 | .0085 | .0002 | .0002 | .0005 | .0004 | .0000 | .005 | .0001 |
| %RSD | 23.27 | 4.270 | 4.043 | 12.55 | .4838 | .7365 | .5160 | .1038 | 2.534 |
| #1 | .0040 | .1931 | .0063 | .0014 | .1015 | .0504 | .0041 | 4.994 | .0043 |
| #2 | .0055 | .2051 | .0059 | .0017 | .1008 | .0510 | .0041 | 5.001 | .0044 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0554 | .0101 | .0232 | .0989 | 5.076 | 5.130 | .0158 | .1075 | 4.829 |
| Stddev | .0000 | .0004 | .0005 | .0023 | .011 | .049 | .0001 | .0001 | .001 |
| %RSD | .0152 | 3.648 | 2.051 | 2.295 | .2140 | .9504 | .6215 | .0942 | .0299 |
| #1 | .0554 | .0098 | .0235 | .0973 | 5.069 | 5.164 | .0158 | .1074 | 4.828 |
| #2 | .0554 | .0103 | .0229 | .1006 | 5.084 | 5.095 | .0157 | .1075 | 4.830 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | -.0006 | -.0094 | .0077 | .0092 | .0005 | .0999 | .0103 |
| Stddev | .0001 | .0003 | .0001 | .0074 | .0001 | .0000 | .0013 | .0003 | .0000 |
| %RSD | .3129 | 6.296 | 21.92 | 79.05 | 1.271 | .0275 | 245.9 | .3017 | .4032 |
| #1 | .0409 | .0053 | -.0005 | -.0041 | .0078 | .0092 | .0014 | .0997 | .0103 |
| #2 | .0411 | .0057 | -.0006 | -.0146 | .0076 | .0092 | -.0004 | .1001 | .0103 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0515 | .0050 | .0110 | -.0026 | .0221 | -.0002 |
| Stddev | .0003 | .0002 | .0001 | .0002 | .0001 | .0000 |
| %RSD | .5170 | 3.203 | 1.258 | 8.030 | .3998 | 9.832 |
| #1 | .0514 | .0049 | .0111 | -.0028 | .0220 | -.0002 |
| #2 | .0517 | .0051 | .0109 | -.0025 | .0222 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.0 | 58065. | 13852. |
| Stddev | 2.4 | 375. | 25. |
| %RSD | .10237 | .64519 | .18376 |
| #1 | 2388.3 | 57800. | 13834. |
| #2 | 2391.8 | 58330. | 13870. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:34:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2538 | 9.795 | 2.055 | .0003 | 1.950 | 1.950 | 1.899 | 9.847 | 2.090 | 2.150 |
| Stddev | .0003 | .018 | .000 | .0007 | .005 | .000 | .001 | .001 | .005 | .006 |
| %RSD | .1120 | .1812 | .0030 | 236.6 | .2831 | .0223 | .0368 | .0097 | .2595 | .2598 |
| #1 | .2540 | 9.782 | 2.055 | .0008 | 1.946 | 1.950 | 1.899 | 9.847 | 2.086 | 2.146 |
| #2 | .2536 | 9.807 | 2.055 | -.0002 | 1.954 | 1.950 | 1.898 | 9.848 | 2.094 | 2.154 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.002 | 2.030 | 9.585 | 9.890 | 10.12 | 1.961 | 2.062 | 9.678 | 1.955 | 1.992 |
| Stddev | .002 | .005 | .035 | .042 | .06 | .002 | .006 | .019 | .004 | .004 |
| %RSD | .1053 | .2252 | .3699 | .4289 | .6038 | .1098 | .2845 | .2003 | .2129 | .2135 |
| #1 | 2.003 | 2.026 | 9.560 | 9.860 | 10.08 | 1.963 | 2.058 | 9.692 | 1.952 | 1.989 |
| #2 | 2.000 | 2.033 | 9.611 | 9.920 | 10.16 | 1.960 | 2.066 | 9.664 | 1.958 | 1.995 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0018 | 2.021 | 2.013 | -.0106 | 1.940 | 2.014 | 1.945 | 1.931 | 2.008 |
| Stddev | .0007 | .0048 | .006 | .004 | .0005 | .003 | .003 | .002 | .007 | .002 |
| %RSD | 100.7 | 268.1 | .3105 | .1980 | 4.549 | .1480 | .1603 | .1256 | .3397 | .1002 |
| #1 | .0002 | -.0016 | 2.017 | 2.010 | -.0102 | 1.938 | 2.012 | 1.947 | 1.927 | 2.007 |
| #2 | .0012 | .0052 | 2.025 | 2.015 | -.0109 | 1.942 | 2.017 | 1.944 | 1.936 | 2.010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0015 | 2.050 | -.0048 |
| Stddev | .0005 | .004 | .0001 |
| %RSD | 34.15 | .1821 | 2.492 |
| #1 | -.0011 | 2.047 | -.0049 |
| #2 | -.0018 | 2.053 | -.0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57823. | 13810. |
| Stddev | .1 | 209. | 134. |
| %RSD | .00463 | .36064 | .96673 |
| #1 | 2387.5 | 57675. | 13904. |
| #2 | 2387.7 | 57970. | 13715. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:38:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0054 | .0012 | .0021 | .0023 | .0012 | F.0011 | .0046 | .0003 |
| Stddev | .0005 | .0037 | .0019 | .0010 | .0004 | .0001 | .0003 | .0013 | .0001 |
| %RSD | 48.69 | 68.01 | 158.8 | 46.09 | 19.62 | 9.944 | 26.10 | 28.07 | 29.74 |
| #1 | -.0006 | .0028 | .0025 | .0014 | .0026 | .0011 | .0013 | .0037 | .0004 |
| #2 | -.0013 | .0081 | -.0001 | .0028 | .0019 | .0013 | .0009 | .0055 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | -.0011 | .0029 | .0432 | .0252 | .0006 | .0024 | -.0028 |
| Stddev | .0001 | .0004 | .0001 | .0008 | .0062 | .0119 | .0001 | .0006 | .0062 |
| %RSD | 17.71 | 86.14 | 7.973 | 26.89 | 14.40 | 47.23 | 14.41 | 23.08 | 224.0 |
| #1 | .0006 | .0007 | -.0010 | .0034 | .0388 | .0168 | .0007 | .0028 | .0016 |
| #2 | .0007 | .0002 | -.0012 | .0023 | .0476 | .0337 | .0005 | .0020 | -.0072 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0002 | -.0025 | .0016 | -.0007 | -.0067 | .0008 | .0010 |
| Stddev | .0002 | .0001 | .0010 | .0035 | .0004 | .0009 | .0003 | .0002 | .0000 |
| %RSD | 39.18 | 22.02 | 563.6 | 140.7 | 23.80 | 125.1 | 4.777 | 26.19 | 4.290 |
| #1 | .0006 | .0004 | -.0005 | -.0049 | .0013 | -.0014 | -.0069 | .0010 | .0010 |
| #2 | .0004 | .0006 | .0009 | .0000 | .0018 | -.0001 | -.0064 | .0007 | .0009 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0005 | .0010 | .0013 | .0001 | .0002 | .0002 |
| Stddev | .0000 | .0001 | .0001 | .0024 | .0001 | .0003 |
| %RSD | 2.969 | 11.59 | 9.665 | 2684. | 55.31 | 115.9 |
| #1 | .0006 | .0011 | .0014 | .0018 | .0002 | .0000 |
| #2 | .0005 | .0009 | .0012 | -.0016 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2379.0 | 58344. | 13682. |
| Stddev | 3.3 | 82. | 89. |
| %RSD | .13879 | .14130 | .65076 |
| #1 | 2376.7 | 58402. | 13619. |
| #2 | 2381.4 | 58286. | 13745. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000062 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.002525 | 0.000000 | No |
| | | | Mo | 0.040763 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000039 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.001250 | 0.000000 | No |
| | | | Fe | 0.000024 | 0.000000 | No |
| | | | Mn | 0.000103 | 0.000000 | No |
| | | | Ca | 0.000007 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Cr | 0.000267 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000010 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | | Mn | 0.000128 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Fe | 0.000022 | 0.000000 | No |
| | | | | Mg | -0.000000 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000077 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000007 | 0.000000 | No |
| | | | | Cr | 0.011608 | 0.000000 | No |
| | | | | Mo | -0.004351 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000523 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | -0.000166 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000243 | 0.000000 | No |
| | | | | Mn | 0.000306 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001008 | 0.000000 | No |
| | | | | Cr | 0.000167 | 0.000000 | No |
| | | | | V | -0.025372 | 0.000000 | No |
| | | | | Co | 0.001277 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001435 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.001092 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13F06m00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\001CAL
Date Acquired: Jun 6 2013 12:52 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 03:15 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1866858.00 | A | 4754.00 | 0.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 47.78 | P | 13.88 | 29.05 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 1254.54 | P | 60.59 | 4.83 |
| 11 | B | 32.22 | P | 10.71 | 33.24 |
| 23 | Na | 564356.38 | P | 7835.00 | 1.39 |
| 23 | Na | 61353.70 | P | 767.80 | 1.25 |
| 24 | Mg | 7746.60 | P | 203.20 | 2.62 |
| 24 | Mg | 467.80 | P | 50.59 | 10.81 |
| 27 | Al | 43189.76 | P | 1267.00 | 2.93 |
| 27 | Al | 1017.85 | P | 69.96 | 6.87 |
| 39 | K | 3893646.00 | A | 11090.00 | 0.28 |
| 44 | Ca | 39316.13 | P | 636.10 | 1.62 |
| 45 | Sc | 2710064.00 | A | 2510.00 | 0.09 |
| 45 | Sc | 305987.59 | P | 516.60 | 0.17 |
| 47 | Ti | 276.69 | P | 46.69 | 16.87 |
| 51 | V | 2682.94 | P | 71.58 | 2.67 |
| 52 | Cr | 1985.94 | P | 29.25 | 1.47 |
| 55 | Mn | 2392.67 | P | 54.73 | 2.29 |
| 56 | Fe | 43656.55 | P | 580.90 | 1.33 |
| 59 | Co | 82.67 | P | 5.81 | 7.03 |
| 60 | Ni | 200.00 | P | 12.72 | 6.36 |
| 63 | Cu | 1489.87 | P | 54.81 | 3.68 |
| 66 | Zn | 157.34 | P | 17.37 | 11.04 |
| 72 | Ge | 566431.50 | P | 4615.00 | 0.81 |
| 72 | Ge | 125863.50 | P | 256.60 | 0.20 |
| 75 | As | 97.56 | P | 8.04 | 8.24 |
| 78 | Se | 123.11 | P | 11.48 | 9.32 |
| 88 | Sr | 538.92 | P | 42.21 | 7.83 |
| 98 | Mo | 148.89 | P | 30.06 | 20.19 |
| 103 | Rh | 3235236.00 | A | 27290.00 | 0.84 |
| 107 | Ag | 164.45 | P | 31.68 | 19.26 |

C:\ICPCHEM\1\DATA\13F06m00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 5.56 | P | 1.93 | 34.65 |
| 115 | In | 3565393.00 | A | 17820.00 | 0.50 |
| 115 | In | 1111976.00 | P | 4555.00 | 0.41 |
| 118 | (In) | 543.36 | P | 76.24 | 14.03 |
| 118 | (In) | 195.56 | P | 12.62 | 6.45 |
| 120 | Sn | 707.82 | P | 36.87 | 5.21 |
| 121 | Sb | 504.47 | P | 23.65 | 4.69 |
| 137 | Ba | 602.26 | P | 45.38 | 7.54 |
| 159 | Tb | 4810382.00 | A | 22000.00 | 0.46 |
| 175 | Lu | 4719770.00 | A | 27410.00 | 0.58 |
| 205 | Tl | 1894.65 | P | 45.02 | 2.38 |
| 206 | (Pb) | 350.02 | P | 43.72 | 12.49 |
| 207 | (Pb) | 257.79 | P | 5.09 | 1.97 |
| 208 | Pb | 2155.74 | P | 95.83 | 4.45 |
| 209 | Bi | 2897618.00 | A | 22430.00 | 0.77 |

C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\002CAL
Date Acquired: Jun 6 2013 12:59 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 12:55 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1872800.00 | A | 20860.00 | 1.11 |
| 7 | (Li) | | P | | |
| 9 | Be | 58.89 | P | 19.53 | 33.16 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 1305.66 | P | 106.00 | 8.12 |
| 11 | B | 25.56 | P | 3.85 | 15.06 |
| 23 | Na | 547462.13 | P | 3660.00 | 0.67 |
| 23 | Na | 59762.47 | P | 471.50 | 0.79 |
| 24 | Mg | 7823.33 | P | 68.86 | 0.88 |
| 24 | Mg | 334.46 | P | 41.68 | 12.46 |
| 27 | Al | 43676.13 | P | 1661.00 | 3.80 |
| 27 | Al | 992.29 | P | 73.82 | 7.44 |
| 39 | K | 3832362.00 | A | 25820.00 | 0.67 |
| 44 | Ca | 37663.26 | P | 381.20 | 1.01 |
| 45 | Sc | 2694091.00 | A | 19060.00 | 0.71 |
| 45 | Sc | 307818.59 | P | 6242.00 | 2.03 |
| 47 | Ti | 224.46 | P | 35.64 | 15.88 |
| 51 | V | 2636.71 | P | 45.76 | 1.74 |
| 52 | Cr | 1777.46 | P | 64.77 | 3.64 |
| 55 | Mn | 2382.00 | P | 59.79 | 2.51 |
| 56 | Fe | 43066.94 | P | 251.70 | 0.58 |
| 59 | Co | 77.78 | P | 2.04 | 2.62 |
| 60 | Ni | 191.12 | P | 8.57 | 4.49 |
| 63 | Cu | 1467.65 | P | 65.56 | 4.47 |
| 66 | Zn | 155.78 | P | 5.39 | 3.46 |
| 72 | Ge | 562442.81 | P | 3296.00 | 0.59 |
| 72 | Ge | 127696.10 | P | 2420.00 | 1.90 |
| 75 | As | 105.11 | P | 7.34 | 6.99 |
| 78 | Se | 126.67 | P | 8.74 | 6.90 |
| 88 | Sr | 540.03 | P | 3.33 | 0.62 |
| 98 | Mo | 126.67 | P | 5.77 | 4.56 |
| 103 | Rh | 3225131.00 | A | 24430.00 | 0.76 |
| 107 | Ag | 176.67 | P | 21.86 | 12.37 |

C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 3540560.00 | A | 13820.00 | 0.39 |
| 115 | In | 1130477.00 | P | 22940.00 | 2.03 |
| 118 | (In) | 542.25 | P | 28.74 | 5.30 |
| 118 | (In) | 177.79 | P | 30.97 | 17.42 |
| 120 | Sn | 685.60 | P | 56.70 | 8.27 |
| 121 | Sb | 405.58 | P | 41.95 | 10.34 |
| 137 | Ba | 603.37 | P | 11.55 | 1.91 |
| 159 | Tb | 4800257.00 | A | 57030.00 | 1.19 |
| 175 | Lu | 4666574.00 | A | 20830.00 | 0.45 |
| 205 | Tl | 1369.01 | P | 23.66 | 1.73 |
| 206 | (Pb) | 338.91 | P | 32.03 | 9.45 |
| 207 | (Pb) | 262.23 | P | 10.71 | 4.08 |
| 208 | Pb | 2011.27 | P | 73.75 | 3.67 |
| 209 | Bi | 2883202.00 | A | 41590.00 | 1.44 |

C:\ICPCHEM\1\DATA\13F06m00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\003CALS.D\003CALS.D#
Date Acquired: Jun 6 2013 01:06 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:02 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1876030.00 | A | 12790.00 | 0.68 |
| 7 | (Li) | | P | | |
| 9 | Be | 3074.85 | P | 97.17 | 3.16 |
| 9 | Be | 136.67 | P | 14.53 | 10.63 |
| 11 | B | 2536.96 | P | 61.74 | 2.43 |
| 11 | B | 50.00 | P | 11.55 | 23.10 |
| 23 | Na | 609136.63 | P | 6155.00 | 1.01 |
| 23 | Na | 63170.58 | P | 575.50 | 0.91 |
| 24 | Mg | 25450.21 | P | 609.60 | 2.40 |
| 24 | Mg | 1282.31 | P | 44.39 | 3.46 |
| 27 | Al | 43260.99 | P | 797.60 | 1.84 |
| 27 | Al | 1074.53 | P | 16.78 | 1.56 |
| 39 | K | 3859143.00 | A | 21010.00 | 0.54 |
| 44 | Ca | 42922.35 | P | 322.60 | 0.75 |
| 45 | Sc | 2636451.00 | A | 62070.00 | 2.35 |
| 45 | Sc | 304683.41 | P | 1246.00 | 0.41 |
| 47 | Ti | 1455.68 | P | 53.37 | 3.67 |
| 51 | V | 6274.24 | P | 133.90 | 2.13 |
| 52 | Cr | 5628.21 | P | 85.74 | 1.52 |
| 55 | Mn | 4958.20 | P | 130.50 | 2.63 |
| 56 | Fe | 29913.39 | P | 243.70 | 0.81 |
| 59 | Co | 5421.92 | P | 73.35 | 1.35 |
| 60 | Ni | 1674.78 | P | 26.77 | 1.60 |
| 63 | Cu | 4911.08 | P | 70.15 | 1.43 |
| 66 | Zn | 1169.83 | P | 15.78 | 1.35 |
| 72 | Ge | 556516.13 | P | 7176.00 | 1.29 |
| 72 | Ge | 126108.60 | P | 550.30 | 0.44 |
| 75 | As | 590.90 | P | 6.84 | 1.16 |
| 78 | Se | 184.00 | P | 6.96 | 3.78 |
| 88 | Sr | 22295.01 | P | 356.70 | 1.60 |
| 98 | Mo | 5784.65 | P | 90.76 | 1.57 |
| 103 | Rh | 3157731.00 | A | 54490.00 | 1.73 |
| 107 | Ag | 9417.75 | P | 135.10 | 1.43 |

C:\ICPCHEM\1\DATA\13F06m00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 928.95 | P | 21.43 | 2.31 |
| 115 | In | 3514589.00 | A | 40820.00 | 1.16 |
| 115 | In | 1117322.00 | P | 4453.00 | 0.40 |
| 118 | (In) | 6510.57 | P | 194.90 | 2.99 |
| 118 | (In) | 2110.23 | P | 92.63 | 4.39 |
| 120 | Sn | 8918.57 | P | 231.30 | 2.59 |
| 121 | Sb | 8449.39 | P | 129.20 | 1.53 |
| 137 | Ba | 3620.58 | P | 141.90 | 3.92 |
| 159 | Tb | 4775800.00 | A | 38380.00 | 0.80 |
| 175 | Lu | 4652328.00 | A | 64350.00 | 1.38 |
| 205 | Tl | 14997.51 | P | 530.80 | 3.54 |
| 206 | (Pb) | 6920.87 | P | 155.60 | 2.25 |
| 207 | (Pb) | 5863.69 | P | 164.00 | 2.80 |
| 208 | Pb | 27942.28 | P | 309.50 | 1.11 |
| 209 | Bi | 2852982.00 | A | 38480.00 | 1.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1876029.80 | 0.68 | 1872799.80 | 100.2 | 70 - 130 | |
| 45 | Sc | 2636450.80 | 2.35 | 2694090.50 | 97.9 | 70 - 130 | |
| 45 | Sc | 304683.41 | 0.41 | 307818.59 | 99.0 | 70 - 130 | |
| 72 | Ge | 556516.13 | 1.29 | 562442.81 | 98.9 | 70 - 130 | |
| 72 | Ge | 126108.55 | 0.44 | 127696.13 | 98.8 | 70 - 130 | |
| 103 | Rh | 3157731.50 | 1.73 | 3225130.50 | 97.9 | 70 - 130 | |
| 115 | In | 3514588.80 | 1.16 | 3540560.30 | 99.3 | 70 - 130 | |
| 115 | In | 1117322.10 | 0.40 | 1130476.90 | 98.8 | 70 - 130 | |
| 159 | Tb | 4775800.00 | 0.80 | 4800257.00 | 99.5 | 70 - 130 | |
| 175 | Lu | 4652328.50 | 1.38 | 4666573.50 | 99.7 | 70 - 130 | |
| 209 | Bi | 2852981.80 | 1.35 | 2883202.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#
Date Acquired: Jun 6 2013 01:13 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:09 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1887210.00 | A | 11890.00 | 0.63 |
| 7 | (Li) | | P | | |
| 9 | Be | 30849.50 | P | 468.50 | 1.52 |
| 9 | Be | 1264.54 | P | 40.05 | 3.17 |
| 11 | B | 19709.41 | P | 430.60 | 2.18 |
| 11 | B | 452.24 | P | 8.39 | 1.85 |
| 23 | Na | 716865.38 | P | 9215.00 | 1.29 |
| 23 | Na | 69740.62 | P | 683.20 | 0.98 |
| 24 | Mg | 114697.80 | P | 954.50 | 0.83 |
| 24 | Mg | 5781.25 | P | 252.60 | 4.37 |
| 27 | Al | 157150.00 | P | 1313.00 | 0.84 |
| 27 | Al | 3802.81 | P | 127.10 | 3.34 |
| 39 | K | 3983392.00 | A | 24620.00 | 0.62 |
| 44 | Ca | 46153.03 | P | 195.80 | 0.42 |
| 45 | Sc | 2698951.00 | A | 12200.00 | 0.45 |
| 45 | Sc | 305378.69 | P | 536.50 | 0.18 |
| 47 | Ti | 11584.71 | P | 72.23 | 0.62 |
| 51 | V | 36747.75 | P | 420.80 | 1.15 |
| 52 | Cr | 39645.68 | P | 166.50 | 0.42 |
| 55 | Mn | 30923.19 | P | 383.10 | 1.24 |
| 56 | Fe | 60709.96 | P | 319.50 | 0.53 |
| 59 | Co | 52676.45 | P | 97.69 | 0.19 |
| 60 | Ni | 13454.49 | P | 124.60 | 0.93 |
| 63 | Cu | 35136.41 | P | 36.94 | 0.11 |
| 66 | Zn | 6734.41 | P | 85.01 | 1.26 |
| 72 | Ge | 558267.31 | P | 4495.00 | 0.81 |
| 72 | Ge | 126038.10 | P | 940.90 | 0.75 |
| 75 | As | 4867.92 | P | 18.75 | 0.39 |
| 78 | Se | 681.13 | P | 8.15 | 1.20 |
| 88 | Sr | 210886.50 | P | 661.60 | 0.31 |
| 98 | Mo | 56746.63 | P | 209.20 | 0.37 |
| 103 | Rh | 3242975.00 | A | 12790.00 | 0.39 |
| 107 | Ag | 93541.33 | P | 926.30 | 0.99 |

C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8160.32 | P | 112.20 | 1.37 |
| 115 | In | 3533330.00 | A | 8854.00 | 0.25 |
| 115 | In | 1106318.00 | P | 6075.00 | 0.55 |
| 118 | (In) | 59429.66 | P | 306.10 | 0.52 |
| 118 | (In) | 19787.24 | P | 294.90 | 1.49 |
| 120 | Sn | 82252.64 | P | 785.50 | 0.95 |
| 121 | Sb | 80325.40 | P | 799.80 | 1.00 |
| 137 | Ba | 30436.00 | P | 464.70 | 1.53 |
| 159 | Tb | 4826929.00 | A | 42210.00 | 0.87 |
| 175 | Lu | 4727257.00 | A | 17950.00 | 0.38 |
| 205 | Tl | 149733.41 | P | 1703.00 | 1.14 |
| 206 | (Pb) | 60103.37 | P | 591.70 | 0.98 |
| 207 | (Pb) | 50256.64 | P | 210.60 | 0.42 |
| 208 | Pb | 234231.41 | P | 1075.00 | 0.46 |
| 209 | Bi | 2903210.00 | A | 17100.00 | 0.59 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1887209.80 | 0.63 | 1872799.80 | 100.8 | 70 - 130 | |
| 45 | Sc | 2698951.00 | 0.45 | 2694090.50 | 100.2 | 70 - 130 | |
| 45 | Sc | 305378.72 | 0.18 | 307818.59 | 99.2 | 70 - 130 | |
| 72 | Ge | 558267.31 | 0.81 | 562442.81 | 99.3 | 70 - 130 | |
| 72 | Ge | 126038.13 | 0.75 | 127696.13 | 98.7 | 70 - 130 | |
| 103 | Rh | 3242974.80 | 0.39 | 3225130.50 | 100.6 | 70 - 130 | |
| 115 | In | 3533330.30 | 0.25 | 3540560.30 | 99.8 | 70 - 130 | |
| 115 | In | 1106317.60 | 0.55 | 1130476.90 | 97.9 | 70 - 130 | |
| 159 | Tb | 4826928.50 | 0.87 | 4800257.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 4727257.50 | 0.38 | 4666573.50 | 101.3 | 70 - 130 | |
| 209 | Bi | 2903209.80 | 0.59 | 2883202.00 | 100.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#
Date Acquired: Jun 6 2013 01:20 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:17 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1932279.00 | A | 31460.00 | 1.63 |
| 7 | (Li) | | P | | |
| 9 | Be | 149575.30 | P | 937.00 | 0.63 |
| 9 | Be | 6186.96 | P | 55.83 | 0.90 |
| 11 | B | 95381.82 | P | 521.30 | 0.55 |
| 11 | B | 2166.89 | P | 97.37 | 4.49 |
| 23 | Na | 1373901.00 | A | 11340.00 | 0.83 |
| 23 | Na | 109264.10 | P | 1014.00 | 0.93 |
| 24 | Mg | 514714.69 | P | 5082.00 | 0.99 |
| 24 | Mg | 25615.95 | P | 141.30 | 0.55 |
| 27 | Al | 658479.13 | P | 10310.00 | 1.57 |
| 27 | Al | 16037.57 | P | 422.00 | 2.63 |
| 39 | K | 4519961.00 | A | 14580.00 | 0.32 |
| 44 | Ca | 67728.52 | P | 962.00 | 1.42 |
| 45 | Sc | 2764715.00 | A | 46410.00 | 1.68 |
| 45 | Sc | 305177.59 | P | 1595.00 | 0.52 |
| 47 | Ti | 56166.42 | P | 1195.00 | 2.13 |
| 51 | V | 171407.80 | P | 142.00 | 0.08 |
| 52 | Cr | 189211.91 | P | 1295.00 | 0.68 |
| 55 | Mn | 148567.80 | P | 551.60 | 0.37 |
| 56 | Fe | 198477.59 | P | 1192.00 | 0.60 |
| 59 | Co | 259319.20 | P | 2981.00 | 1.15 |
| 60 | Ni | 65140.36 | P | 469.60 | 0.72 |
| 63 | Cu | 165822.59 | P | 540.90 | 0.33 |
| 66 | Zn | 31725.48 | P | 115.30 | 0.36 |
| 72 | Ge | 562705.69 | P | 9477.00 | 1.68 |
| 72 | Ge | 125520.10 | P | 301.40 | 0.24 |
| 75 | As | 23363.54 | P | 114.40 | 0.49 |
| 78 | Se | 2857.17 | P | 28.70 | 1.00 |
| 88 | Sr | 1025375.00 | P | 11960.00 | 1.17 |
| 98 | Mo | 276117.41 | P | 717.20 | 0.26 |
| 103 | Rh | 3280628.00 | A | 53850.00 | 1.64 |
| 107 | Ag | 450887.19 | P | 8603.00 | 1.91 |

C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40950.75 | P | 63.62 | 0.16 |
| 115 | In | 3621348.00 | A | 67100.00 | 1.85 |
| 115 | In | 1098779.00 | P | 2398.00 | 0.22 |
| 118 | (In) | 286148.31 | P | 2704.00 | 0.94 |
| 118 | (In) | 97472.56 | P | 919.80 | 0.94 |
| 120 | Sn | 397456.91 | P | 8277.00 | 2.08 |
| 121 | Sb | 378877.19 | P | 5110.00 | 1.35 |
| 137 | Ba | 146050.80 | P | 2426.00 | 1.66 |
| 159 | Tb | 4932978.00 | A | 118000.00 | 2.39 |
| 175 | Lu | 4821680.00 | A | 88370.00 | 1.83 |
| 205 | Tl | 789119.50 | P | 7081.00 | 0.90 |
| 206 | (Pb) | 287851.31 | P | 4301.00 | 1.49 |
| 207 | (Pb) | 242051.50 | P | 2543.00 | 1.05 |
| 208 | Pb | 1122355.00 | P | 14380.00 | 1.28 |
| 209 | Bi | 2967401.00 | A | 61610.00 | 2.08 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1932278.80 | 1.63 | 1872799.80 | 103.2 | 70 - 130 | |
| 45 | Sc | 2764715.00 | 1.68 | 2694090.50 | 102.6 | 70 - 130 | |
| 45 | Sc | 305177.59 | 0.52 | 307818.59 | 99.1 | 70 - 130 | |
| 72 | Ge | 562705.69 | 1.68 | 562442.81 | 100.0 | 70 - 130 | |
| 72 | Ge | 125520.06 | 0.24 | 127696.13 | 98.3 | 70 - 130 | |
| 103 | Rh | 3280627.80 | 1.64 | 3225130.50 | 101.7 | 70 - 130 | |
| 115 | In | 3621348.30 | 1.85 | 3540560.30 | 102.3 | 70 - 130 | |
| 115 | In | 1098778.60 | 0.22 | 1130476.90 | 97.2 | 70 - 130 | |
| 159 | Tb | 4932978.00 | 2.39 | 4800257.00 | 102.8 | 70 - 130 | |
| 175 | Lu | 4821679.50 | 1.83 | 4666573.50 | 103.3 | 70 - 130 | |
| 209 | Bi | 2967401.00 | 2.08 | 2883202.00 | 102.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#
Date Acquired: Jun 6 2013 01:27 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1880111.00 | A | 14380.00 | 0.76 |
| 7 | (Li) | | P | | |
| 9 | Be | 302646.09 | P | 1611.00 | 0.53 |
| 9 | Be | 12597.59 | P | 128.50 | 1.02 |
| 11 | B | 191501.70 | P | 1139.00 | 0.59 |
| 11 | B | 4370.75 | P | 108.40 | 2.48 |
| 23 | Na | 2235105.00 | A | 10090.00 | 0.45 |
| 23 | Na | 159997.00 | P | 1071.00 | 0.67 |
| 24 | Mg | 1041667.00 | A | 8560.00 | 0.82 |
| 24 | Mg | 52105.91 | P | 231.30 | 0.44 |
| 27 | Al | 1346443.00 | A | 8432.00 | 0.63 |
| 27 | Al | 31790.72 | P | 247.50 | 0.78 |
| 39 | K | 5308674.00 | A | 20420.00 | 0.38 |
| 44 | Ca | 129146.00 | P | 1455.00 | 1.13 |
| 45 | Sc | 2672475.00 | A | 14400.00 | 0.54 |
| 45 | Sc | 299204.81 | P | 1359.00 | 0.45 |
| 47 | Ti | 114309.80 | P | 655.60 | 0.57 |
| 51 | V | 341182.91 | P | 1033.00 | 0.30 |
| 52 | Cr | 377777.81 | P | 1291.00 | 0.34 |
| 55 | Mn | 295112.09 | P | 1137.00 | 0.39 |
| 56 | Fe | 379160.81 | P | 1687.00 | 0.44 |
| 59 | Co | 517049.91 | P | 212.70 | 0.04 |
| 60 | Ni | 130216.70 | P | 546.20 | 0.42 |
| 63 | Cu | 329392.50 | P | 799.80 | 0.24 |
| 66 | Zn | 65289.76 | P | 515.80 | 0.79 |
| 72 | Ge | 547599.63 | P | 2575.00 | 0.47 |
| 72 | Ge | 123382.90 | P | 694.60 | 0.56 |
| 75 | As | 46800.17 | P | 64.21 | 0.14 |
| 78 | Se | 5601.07 | P | 82.93 | 1.48 |
| 88 | Sr | 2061582.00 | A | 4285.00 | 0.21 |
| 98 | Mo | 558024.31 | P | 4110.00 | 0.74 |
| 103 | Rh | 3215940.00 | A | 11140.00 | 0.35 |
| 107 | Ag | 919971.19 | P | 8939.00 | 0.97 |

C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 81985.53 | P | 545.40 | 0.67 |
| 115 | In | 3509252.00 | A | 11660.00 | 0.33 |
| 115 | In | 1078749.00 | P | 10970.00 | 1.02 |
| 118 | (In) | 581573.38 | P | 2595.00 | 0.45 |
| 118 | (In) | 196606.70 | P | 1650.00 | 0.84 |
| 120 | Sn | 803880.38 | P | 4992.00 | 0.62 |
| 121 | Sb | 760144.50 | P | 4569.00 | 0.60 |
| 137 | Ba | 295039.41 | P | 2862.00 | 0.97 |
| 159 | Tb | 4812180.00 | A | 38890.00 | 0.81 |
| 175 | Lu | 4691269.00 | A | 32110.00 | 0.68 |
| 205 | Tl | 1639109.00 | A | 18630.00 | 1.14 |
| 206 | (Pb) | 584475.38 | P | 2549.00 | 0.44 |
| 207 | (Pb) | 494429.69 | P | 1093.00 | 0.22 |
| 208 | Pb | 2281573.00 | P | 5065.00 | 0.22 |
| 209 | Bi | 2858018.00 | A | 18370.00 | 0.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1880111.40 | 0.76 | 1872799.80 | 100.4 | 70 - 130 | |
| 45 | Sc | 2672474.80 | 0.54 | 2694090.50 | 99.2 | 70 - 130 | |
| 45 | Sc | 299204.84 | 0.45 | 307818.59 | 97.2 | 70 - 130 | |
| 72 | Ge | 547599.63 | 0.47 | 562442.81 | 97.4 | 70 - 130 | |
| 72 | Ge | 123382.90 | 0.56 | 127696.13 | 96.6 | 70 - 130 | |
| 103 | Rh | 3215939.80 | 0.35 | 3225130.50 | 99.7 | 70 - 130 | |
| 115 | In | 3509252.00 | 0.33 | 3540560.30 | 99.1 | 70 - 130 | |
| 115 | In | 1078748.50 | 1.02 | 1130476.90 | 95.4 | 70 - 130 | |
| 159 | Tb | 4812180.50 | 0.81 | 4800257.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 4691269.00 | 0.68 | 4666573.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2858017.80 | 0.64 | 2883202.00 | 99.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#
Date Acquired: Jun 6 2013 01:34 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:32 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1898222.00 | A | 50260.00 | 2.65 |
| 7 | (Li) | | P | | |
| 9 | Be | 609044.00 | P | 8864.00 | 1.46 |
| 9 | Be | 25039.34 | P | 151.50 | 0.61 |
| 11 | B | 387898.91 | P | 3450.00 | 0.89 |
| 11 | B | 9029.53 | P | 113.00 | 1.25 |
| 23 | Na | 3502635.00 | A | 73760.00 | 2.11 |
| 23 | Na | 238136.91 | P | 1906.00 | 0.80 |
| 24 | Mg | 2043471.00 | A | 23970.00 | 1.17 |
| 24 | Mg | 102720.40 | P | 102.30 | 0.10 |
| 27 | Al | 2537196.00 | A | 22730.00 | 0.90 |
| 27 | Al | 60847.80 | P | 1038.00 | 1.71 |
| 39 | K | 6517827.00 | A | 88320.00 | 1.36 |
| 44 | Ca | 149852.20 | P | 1718.00 | 1.15 |
| 45 | Sc | 2705025.00 | A | 20430.00 | 0.76 |
| 45 | Sc | 301222.19 | P | 2855.00 | 0.95 |
| 47 | Ti | 228954.50 | P | 2317.00 | 1.01 |
| 51 | V | 678191.19 | P | 1488.00 | 0.22 |
| 52 | Cr | 753869.88 | P | 3074.00 | 0.41 |
| 55 | Mn | 589792.31 | P | 4843.00 | 0.82 |
| 56 | Fe | 719503.69 | P | 4116.00 | 0.57 |
| 59 | Co | 1032874.00 | P | 913.60 | 0.09 |
| 60 | Ni | 258809.20 | P | 834.00 | 0.32 |
| 63 | Cu | 656544.38 | P | 2756.00 | 0.42 |
| 66 | Zn | 125232.00 | P | 586.80 | 0.47 |
| 72 | Ge | 551164.63 | P | 10060.00 | 1.83 |
| 72 | Ge | 123902.40 | P | 914.80 | 0.74 |
| 75 | As | 93209.34 | P | 507.80 | 0.54 |
| 78 | Se | 10892.18 | P | 130.70 | 1.20 |
| 88 | Sr | 4033401.00 | A | 23400.00 | 0.58 |
| 98 | Mo | 1124763.00 | P | 5414.00 | 0.48 |
| 103 | Rh | 3227053.00 | A | 21980.00 | 0.68 |
| 107 | Ag | 1812240.00 | A | 8861.00 | 0.49 |

C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 161839.09 | P | 819.50 | 0.51 |
| 115 | In | 3545162.00 | A | 25370.00 | 0.72 |
| 115 | In | 1075216.00 | P | 14770.00 | 1.37 |
| 118 | (In) | 1163585.00 | P | 14930.00 | 1.28 |
| 118 | (In) | 391320.00 | P | 1513.00 | 0.39 |
| 120 | Sn | 1605118.00 | A | 6485.00 | 0.40 |
| 121 | Sb | 1482147.00 | A | 8267.00 | 0.56 |
| 137 | Ba | 585927.69 | P | 7213.00 | 1.23 |
| 159 | Tb | 4814434.00 | A | 57570.00 | 1.20 |
| 175 | Lu | 4707696.00 | A | 67820.00 | 1.44 |
| 205 | Tl | 3265889.00 | A | 9982.00 | 0.31 |
| 206 | (Pb) | 1163228.00 | P | 11130.00 | 0.96 |
| 207 | (Pb) | 979822.13 | P | 12980.00 | 1.32 |
| 208 | Pb | 4458663.00 | A | 40360.00 | 0.91 |
| 209 | Bi | 2898726.00 | A | 55350.00 | 1.91 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1898221.60 | 2.65 | 1872799.80 | 101.4 | 70 - 130 | |
| 45 | Sc | 2705025.30 | 0.76 | 2694090.50 | 100.4 | 70 - 130 | |
| 45 | Sc | 301222.16 | 0.95 | 307818.59 | 97.9 | 70 - 130 | |
| 72 | Ge | 551164.63 | 1.83 | 562442.81 | 98.0 | 70 - 130 | |
| 72 | Ge | 123902.37 | 0.74 | 127696.13 | 97.0 | 70 - 130 | |
| 103 | Rh | 3227052.80 | 0.68 | 3225130.50 | 100.1 | 70 - 130 | |
| 115 | In | 3545161.50 | 0.72 | 3540560.30 | 100.1 | 70 - 130 | |
| 115 | In | 1075215.90 | 1.37 | 1130476.90 | 95.1 | 70 - 130 | |
| 159 | Tb | 4814433.50 | 1.20 | 4800257.00 | 100.3 | 70 - 130 | |
| 175 | Lu | 4707696.00 | 1.44 | 4666573.50 | 100.9 | 70 - 130 | |
| 209 | Bi | 2898726.00 | 1.91 | 2883202.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#
Date Acquired: Jun 6 2013 01:41 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1907516.00 | A | 16940.00 | 0.89 |
| 7 | (Li) | | P | | |
| 9 | Be | 131.12 | P | 30.97 | 23.62 |
| 9 | Be | 6.67 | P | 6.67 | 100.00 |
| 11 | B | 2269.13 | P | 154.60 | 6.81 |
| 11 | B | 52.22 | P | 10.71 | 20.51 |
| 23 | Na | 29166900.00 | A | 158600.00 | 0.54 |
| 23 | Na | 1770444.00 | A | 6342.00 | 0.36 |
| 24 | Mg | 19280690.00 | A | 46310.00 | 0.24 |
| 24 | Mg | 1010275.00 | P | 6428.00 | 0.64 |
| 27 | Al | 24403630.00 | A | 56550.00 | 0.23 |
| 27 | Al | 616265.19 | P | 2233.00 | 0.36 |
| 39 | K | 30498210.00 | A | 181200.00 | 0.59 |
| 44 | Ca | 887525.38 | P | 3214.00 | 0.36 |
| 45 | Sc | 2699887.00 | A | 8113.00 | 0.30 |
| 45 | Sc | 306804.41 | P | 733.70 | 0.24 |
| 47 | Ti | 285.57 | P | 54.81 | 19.19 |
| 51 | V | 2619.81 | P | 34.81 | 1.33 |
| 52 | Cr | 1667.67 | P | 13.49 | 0.81 |
| 55 | Mn | 1567.21 | P | 98.44 | 6.28 |
| 56 | Fe | 6577851.00 | A | 53220.00 | 0.81 |
| 59 | Co | 284.01 | P | 9.61 | 3.39 |
| 60 | Ni | 293.78 | P | 11.95 | 4.07 |
| 63 | Cu | 1568.55 | P | 93.62 | 5.97 |
| 66 | Zn | 251.34 | P | 12.98 | 5.16 |
| 72 | Ge | 563371.69 | P | 3052.00 | 0.54 |
| 72 | Ge | 126535.50 | P | 420.60 | 0.33 |
| 75 | As | 115.33 | P | 2.67 | 2.31 |
| 78 | Se | 129.78 | P | 11.24 | 8.66 |
| 88 | Sr | 2448.07 | P | 122.20 | 4.99 |
| 98 | Mo | 4012.90 | P | 31.00 | 0.77 |
| 103 | Rh | 3170036.00 | A | 15640.00 | 0.49 |
| 107 | Ag | 448.91 | P | 29.12 | 6.49 |

C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 21.11 | P | 1.93 | 9.12 |
| 115 | In | 3543432.00 | A | 27290.00 | 0.77 |
| 115 | In | 1107099.00 | P | 5693.00 | 0.51 |
| 118 | (In) | 2136.90 | P | 177.90 | 8.33 |
| 118 | (In) | 988.96 | P | 75.75 | 7.66 |
| 120 | Sn | 3028.20 | P | 262.70 | 8.68 |
| 121 | Sb | 4180.74 | P | 268.60 | 6.42 |
| 137 | Ba | 638.93 | P | 17.11 | 2.68 |
| 159 | Tb | 4764727.00 | A | 27650.00 | 0.58 |
| 175 | Lu | 4654503.00 | A | 36960.00 | 0.79 |
| 205 | Tl | 6651.84 | P | 144.50 | 2.17 |
| 206 | (Pb) | 387.80 | P | 38.64 | 9.96 |
| 207 | (Pb) | 351.13 | P | 5.09 | 1.45 |
| 208 | Pb | 2362.42 | P | 18.95 | 0.80 |
| 209 | Bi | 2852993.00 | A | 34100.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1907515.80 | 0.89 | 1872799.80 | 101.9 | 70 - 130 | |
| 45 | Sc | 2699887.00 | 0.30 | 2694090.50 | 100.2 | 70 - 130 | |
| 45 | Sc | 306804.41 | 0.24 | 307818.59 | 99.7 | 70 - 130 | |
| 72 | Ge | 563371.69 | 0.54 | 562442.81 | 100.2 | 70 - 130 | |
| 72 | Ge | 126535.48 | 0.33 | 127696.13 | 99.1 | 70 - 130 | |
| 103 | Rh | 3170035.80 | 0.49 | 3225130.50 | 98.3 | 70 - 130 | |
| 115 | In | 3543432.50 | 0.77 | 3540560.30 | 100.1 | 70 - 130 | |
| 115 | In | 1107099.60 | 0.51 | 1130476.90 | 97.9 | 70 - 130 | |
| 159 | Tb | 4764727.50 | 0.58 | 4800257.00 | 99.3 | 70 - 130 | |
| 175 | Lu | 4654503.00 | 0.79 | 4666573.50 | 99.7 | 70 - 130 | |
| 209 | Bi | 2852993.50 | 1.20 | 2883202.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#
Date Acquired: Jun 6 2013 01:48 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:45 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858814.00 | A | 14180.00 | 0.76 |
| 7 | (Li) | | P | | |
| 9 | Be | 87.78 | P | 7.70 | 8.77 |
| 9 | Be | 2.22 | P | 3.85 | 173.19 |
| 11 | B | 1282.33 | P | 19.26 | 1.50 |
| 11 | B | 27.78 | P | 8.39 | 30.20 |
| 23 | Na | 281856900.00 | A | 706300.00 | 0.25 |
| 23 | Na | 16288820.00 | A | 136800.00 | 0.84 |
| 24 | Mg | 189049700.00 | A | 333200.00 | 0.18 |
| 24 | Mg | 9168579.00 | A | 85960.00 | 0.94 |
| 27 | Al | 240771600.00 | A | 318700.00 | 0.13 |
| 27 | Al | 5633067.00 | A | 55280.00 | 0.98 |
| 39 | K | 266287200.00 | A | 885700.00 | 0.33 |
| 44 | Ca | 7894927.00 | A | 44000.00 | 0.56 |
| 45 | Sc | 2721220.00 | A | 11690.00 | 0.43 |
| 45 | Sc | 302482.59 | P | 23430.00 | 7.75 |
| 47 | Ti | 233.34 | P | 37.86 | 16.23 |
| 51 | V | 2706.94 | P | 72.76 | 2.69 |
| 52 | Cr | 2394.44 | P | 22.01 | 0.92 |
| 55 | Mn | 2681.61 | P | 53.19 | 1.98 |
| 56 | Fe | 63407088.00 | A | 315600.00 | 0.50 |
| 59 | Co | 1587.22 | P | 56.77 | 3.58 |
| 60 | Ni | 662.69 | P | 34.64 | 5.23 |
| 63 | Cu | 1729.01 | P | 24.01 | 1.39 |
| 66 | Zn | 848.47 | P | 24.23 | 2.86 |
| 72 | Ge | 575199.50 | P | 1687.00 | 0.29 |
| 72 | Ge | 125141.80 | P | 8980.00 | 7.18 |
| 75 | As | 125.33 | P | 5.46 | 4.35 |
| 78 | Se | 130.89 | P | 5.09 | 3.89 |
| 88 | Sr | 16746.50 | P | 104.90 | 0.63 |
| 98 | Mo | 1213.43 | P | 37.57 | 3.10 |
| 103 | Rh | 3112281.00 | A | 29860.00 | 0.96 |
| 107 | Ag | 987.85 | P | 105.40 | 10.67 |

C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 17.78 | P | 7.70 | 43.30 |
| 115 | In | 3447678.00 | A | 19310.00 | 0.56 |
| 115 | In | 1040019.00 | M | 54680.00 | 5.26 |
| 118 | (In) | 882.28 | P | 17.11 | 1.94 |
| 118 | (In) | 391.13 | P | 43.38 | 11.09 |
| 120 | Sn | 1167.87 | P | 137.50 | 11.77 |
| 121 | Sb | 1927.98 | P | 68.68 | 3.56 |
| 137 | Ba | 1138.98 | P | 106.30 | 9.33 |
| 159 | Tb | 4783142.00 | A | 25710.00 | 0.54 |
| 175 | Lu | 4659000.00 | A | 35540.00 | 0.76 |
| 205 | Tl | 2901.51 | P | 93.43 | 3.22 |
| 206 | (Pb) | 427.80 | P | 25.24 | 5.90 |
| 207 | (Pb) | 385.58 | P | 13.88 | 3.60 |
| 208 | Pb | 2535.78 | P | 95.84 | 3.78 |
| 209 | Bi | 2705850.00 | A | 6293.00 | 0.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858813.90 | 0.76 | 1872799.80 | 99.3 | 70 - 130 | |
| 45 | Sc | 2721220.50 | 0.43 | 2694090.50 | 101.0 | 70 - 130 | |
| 45 | Sc | 302482.66 | 7.75 | 307818.59 | 98.3 | 70 - 130 | |
| 72 | Ge | 575199.50 | 0.29 | 562442.81 | 102.3 | 70 - 130 | |
| 72 | Ge | 125141.81 | 7.18 | 127696.13 | 98.0 | 70 - 130 | |
| 103 | Rh | 3112281.00 | 0.96 | 3225130.50 | 96.5 | 70 - 130 | |
| 115 | In | 3447677.80 | 0.56 | 3540560.30 | 97.4 | 70 - 130 | |
| 115 | In | 1040019.10 | 5.26 | 1130476.90 | 92.0 | 70 - 130 | |
| 159 | Tb | 4783142.50 | 0.54 | 4800257.00 | 99.6 | 70 - 130 | |
| 175 | Lu | 4659000.50 | 0.76 | 4666573.50 | 99.8 | 70 - 130 | |
| 209 | Bi | 2705849.80 | 0.23 | 2883202.00 | 93.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#
Date Acquired: Jun 6 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 61.27 | 61.27 | ppb | 0.34 | 900.00 | |
| 9 Be | 45 | 2 | 57.50 | 57.50 | ppb | 8.60 | 900.00 | |
| 11 B | 6 | 1 | 59.92 | 59.92 | ppb | 0.14 | 900.00 | |
| 11 B | 45 | 2 | 53.87 | 53.87 | ppb | 4.62 | 900.00 | |
| 23 Na | 45 | 1 | 5446.00 | 5446.00 | ppb | 0.11 | 90000.00 | |
| 23 Na | 45 | 2 | 5090.00 | 5090.00 | ppb | 8.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 5492.00 | 5492.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 5187.00 | 5187.00 | ppb | 8.17 | 90000.00 | |
| 27 Al | 45 | 1 | 5579.00 | 5579.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 5323.00 | 5323.00 | ppb | 8.88 | 90000.00 | |
| 39 K | 45 | 1 | 5503.00 | 5503.00 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 5521.00 | 5521.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 61.10 | 61.10 | ppb | 0.58 | 900.00 | |
| 51 V | 45 | 2 | 57.64 | 57.64 | ppb | 8.58 | 900.00 | |
| 52 Cr | 45 | 2 | 56.27 | 56.27 | ppb | 9.02 | 900.00 | |
| 55 Mn | 45 | 2 | 56.23 | 56.23 | ppb | 8.32 | 900.00 | |
| 56 Fe | 45 | 2 | 5116.00 | 5116.00 | ppb | 8.06 | 90000.00 | |
| 59 Co | 45 | 2 | 55.88 | 55.88 | ppb | 8.53 | 900.00 | |
| 60 Ni | 45 | 2 | 55.93 | 55.93 | ppb | 8.77 | 900.00 | |
| 63 Cu | 72 | 2 | 55.19 | 55.19 | ppb | 7.24 | 900.00 | |
| 66 Zn | 72 | 2 | 56.02 | 56.02 | ppb | 7.42 | 900.00 | |
| 75 As | 72 | 2 | 57.80 | 57.80 | ppb | 7.02 | 900.00 | |
| 78 Se | 72 | 2 | 57.29 | 57.29 | ppb | 7.98 | 900.00 | |
| 88 Sr | 103 | 1 | 62.61 | 62.61 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 63.50 | 63.50 | ppb | 0.83 | 900.00 | |
| 107 Ag | 115 | 1 | 62.68 | 62.68 | ppb | 0.35 | 180.00 | |
| 111 Cd | 115 | 2 | 57.48 | 57.48 | ppb | 8.01 | 900.00 | |
| 120 Sn | 115 | 1 | 62.05 | 62.05 | ppb | 0.57 | 900.00 | |
| 121 Sb | 115 | 1 | 64.26 | 64.26 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 60.72 | 60.72 | ppb | 2.05 | 900.00 | |
| 205 Tl | 209 | 1 | 58.41 | 58.41 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.33 | 60.33 | ppb | 1.39 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1871565 | 0.30 | 1872800 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2715327 | 0.19 | 2694091 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 323348 | 8.49 | 307819 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 558335 | 0.48 | 562443 | 99.3 | 70 - | 130 |
| 72 | Ge | 2 | 131923 | 6.92 | 127696 | 103.3 | 70 - | 130 |
| 103 | Rh | 1 | 3163717 | 0.94 | 3225131 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 3492384 | 0.88 | 3540560 | 98.6 | 70 - | 130 |
| 115 | In | 2 | 1130239 | 7.22 | 1130477 | 100.0 | 70 - | 130 |
| 159 | Tb | 1 | 4816589 | 1.31 | 4800257 | 100.3 | 70 - | 130 |
| 175 | Lu | 1 | 4691554 | 0.25 | 4666574 | 100.5 | 70 - | 130 |
| 209 | Bi | 1 | 2790329 | 1.61 | 2883202 | 96.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\011SMPL.D\011SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\011SMPL.D\011SMPL.D#
Date Acquired: Jun 6 2013 02:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 21.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 170.71 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 9.88 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 123.11 | 900.00 | |
| 23 Na | 45 | 1 | 1.06 | 1.06 | ppb | 25.24 | 90000.00 | |
| 23 Na | 45 | 2 | 1.16 | 1.16 | ppb | 64.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.79 | 0.79 | ppb | 10.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.87 | 0.87 | ppb | 9.71 | 90000.00 | |
| 27 Al | 45 | 1 | -0.02 | -0.02 | ppb | 420.98 | 90000.00 | |
| 27 Al | 45 | 2 | -0.06 | -0.06 | ppb | 226.97 | 90000.00 | |
| 39 K | 45 | 1 | 1.81 | 1.81 | ppb | 77.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.90 | 3.90 | ppb | 11.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 15.93 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 1897.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 17.18 | 900.00 | |
| 55 Mn | 45 | 2 | -0.15 | -0.15 | ppb | 10.31 | 900.00 | |
| 56 Fe | 45 | 2 | -1.65 | -1.65 | ppb | 4.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 14.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 29.35 | 900.00 | |
| 66 Zn | 72 | 2 | 0.20 | 0.20 | ppb | 2.74 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 152.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 67.43 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 12.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.80 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 86.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 14.45 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 10.30 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 27.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 48.98 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1897078 | 0.99 | 1872800 | 101.3 | 70 - 130 | |
| 45 Sc | 1 | 2663838 | 0.52 | 2694091 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 307114 | 1.02 | 307819 | 99.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 566049 | 0.60 | 562443 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 127528 | 0.67 | 127696 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3233557 | 0.28 | 3225131 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 3564374 | 0.58 | 3540560 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1124310 | 0.34 | 1130477 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 4826672 | 0.90 | 4800257 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 4705069 | 0.90 | 4666574 | 100.8 | 70 | - | 130 |
| 209 Bi | 1 | 2884957 | 0.46 | 2883202 | 100.1 | 70 | - | 130 |

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Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#
Date Acquired: Jun 6 2013 02:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.25 | 52.25 | ppb | 1.07 | 900.00 | |
| 9 Be | 45 | 2 | 50.63 | 50.63 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 51.88 | 51.88 | ppb | 1.22 | 900.00 | |
| 11 B | 45 | 2 | 49.29 | 49.29 | ppb | 1.62 | 900.00 | |
| 23 Na | 45 | 1 | 5220.00 | 5220.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 5144.00 | 5144.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 1 | 5153.00 | 5153.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 5185.00 | 5185.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 5249.00 | 5249.00 | ppb | 0.52 | 90000.00 | |
| 39 K | 45 | 1 | 5217.00 | 5217.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 5281.00 | 5281.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.32 | 51.32 | ppb | 0.95 | 900.00 | |
| 51 V | 45 | 2 | 51.17 | 51.17 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | 50.29 | 50.29 | ppb | 0.63 | 900.00 | |
| 55 Mn | 45 | 2 | 50.21 | 50.21 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 5128.00 | 5128.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 50.26 | 50.26 | ppb | 0.70 | 900.00 | |
| 60 Ni | 45 | 2 | 50.39 | 50.39 | ppb | 1.19 | 900.00 | |
| 63 Cu | 72 | 2 | 49.65 | 49.65 | ppb | 1.12 | 900.00 | |
| 66 Zn | 72 | 2 | 51.44 | 51.44 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 51.17 | 51.17 | ppb | 1.15 | 900.00 | |
| 78 Se | 72 | 2 | 50.46 | 50.46 | ppb | 0.93 | 900.00 | |
| 88 Sr | 103 | 1 | 53.61 | 53.61 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 52.90 | 52.90 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 51.48 | 51.48 | ppb | 0.37 | 180.00 | |
| 111 Cd | 115 | 2 | 51.23 | 51.23 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 52.80 | 52.80 | ppb | 0.86 | 900.00 | |
| 121 Sb | 115 | 1 | 55.33 | 55.33 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 51.88 | 51.88 | ppb | 1.24 | 900.00 | |
| 205 Tl | 209 | 1 | 49.82 | 49.82 | ppb | 1.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 53.15 | 53.15 | ppb | 0.29 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1887056 | 0.93 | 1872800 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2726116 | 1.01 | 2694091 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 303514 | 0.93 | 307819 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 556138 | 0.89 | 562443 | 98.9 | 70 | - | 130 |
| 72 | Ge | 2 | 124795 | 1.09 | 127696 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3120577 | 0.39 | 3225131 | 96.8 | 70 | - | 130 |
| 115 | In | 1 | 3476001 | 0.23 | 3540560 | 98.2 | 70 | - | 130 |
| 115 | In | 2 | 1069811 | 1.20 | 1130477 | 94.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4781935 | 0.41 | 4800257 | 99.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4684410 | 0.22 | 4666574 | 100.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2766541 | 0.12 | 2883202 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#
Date Acquired: Jun 6 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 10.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 24238.00 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 5.37 | 900.00 | |
| 11 B | 45 | 2 | 0.26 | 0.26 | ppb | 58.72 | 900.00 | |
| 23 Na | 45 | 1 | 0.98 | 0.98 | ppb | 21.84 | 90000.00 | |
| 23 Na | 45 | 2 | 2.49 | 2.49 | ppb | 17.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.98 | 0.98 | ppb | 2.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.51 | 1.51 | ppb | 20.45 | 90000.00 | |
| 27 Al | 45 | 1 | 0.11 | 0.11 | ppb | 47.45 | 90000.00 | |
| 27 Al | 45 | 2 | 0.51 | 0.51 | ppb | 36.15 | 90000.00 | |
| 39 K | 45 | 1 | 1.06 | 1.06 | ppb | 161.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.02 | 5.02 | ppb | 15.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 37.28 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 121.42 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 6.63 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | -1.11 | -1.11 | ppb | 27.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 39.91 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 41.55 | 900.00 | |
| 66 Zn | 72 | 2 | 0.32 | 0.32 | ppb | 3.30 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 76.71 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 141.85 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 2.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.17 | ppb | 1.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 13.13 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 49.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 7.83 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.28 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 18.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.40 | 0.40 | ppb | 3.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 15.75 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1926956 | 0.84 | 1872800 | 102.9 | 70 - 130 | |
| 45 Sc | 1 | 2733055 | 1.31 | 2694091 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 309178 | 0.68 | 307819 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569326 | 1.13 | 562443 | 101.2 | 70 - | 130 |
| 72 | Ge | 2 | 127877 | 0.10 | 127696 | 100.1 | 70 - | 130 |
| 103 | Rh | 1 | 3250653 | 0.80 | 3225131 | 100.8 | 70 - | 130 |
| 115 | In | 1 | 3574358 | 0.63 | 3540560 | 101.0 | 70 - | 130 |
| 115 | In | 2 | 1125075 | 0.44 | 1130477 | 99.5 | 70 - | 130 |
| 159 | Tb | 1 | 4832595 | 1.01 | 4800257 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 4701804 | 0.71 | 4666574 | 100.8 | 70 - | 130 |
| 209 | Bi | 1 | 2892531 | 0.92 | 2883202 | 100.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#
Date Acquired: Jun 6 2013 02:23 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 3.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 22.52 | 900.00 | |
| 11 B | 6 | 1 | 5.03 | 5.03 | ppb | 1.79 | 900.00 | |
| 11 B | 45 | 2 | 5.36 | 5.36 | ppb | 10.27 | 900.00 | |
| 23 Na | 45 | 1 | 255.70 | 255.70 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 271.30 | 271.30 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.50 | 261.50 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 274.30 | 274.30 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 26.20 | 26.20 | ppb | 1.63 | 90000.00 | |
| 27 Al | 45 | 2 | 26.31 | 26.31 | ppb | 2.03 | 90000.00 | |
| 39 K | 45 | 1 | 253.40 | 253.40 | ppb | 1.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 268.80 | 268.80 | ppb | 1.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 1.04 | ppb | 5.55 | 900.00 | |
| 51 V | 45 | 2 | 0.99 | 0.99 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.91 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.86 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 25.65 | 25.65 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.69 | 900.00 | |
| 66 Zn | 72 | 2 | 2.02 | 2.02 | ppb | 1.33 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 4.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 9.99 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.82 | 900.00 | |
| 98 Mo | 103 | 1 | 1.07 | 1.07 | ppb | 1.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 2.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 6.72 | 900.00 | |
| 120 Sn | 115 | 1 | 4.99 | 4.99 | ppb | 1.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.88 | 900.00 | |
| 137 Ba | 159 | 1 | 1.08 | 1.08 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 2.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 2.42 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1909798 | 0.93 | 1872800 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 2705731 | 0.63 | 2694091 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 307684 | 0.08 | 307819 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 561064 | 0.98 | 562443 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 126838 | 0.15 | 127696 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 3254163 | 0.61 | 3225131 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 3595268 | 0.54 | 3540560 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 1119965 | 0.13 | 1130477 | 99.1 | 70 | - | 130 |
| 159 Tb | 1 | 4822729 | 0.57 | 4800257 | 100.5 | 70 | - | 130 |
| 175 Lu | 1 | 4741934 | 1.25 | 4666574 | 101.6 | 70 | - | 130 |
| 209 Bi | 1 | 2901060 | 0.32 | 2883202 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#
Date Acquired: Jun 6 2013 02:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 57.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 141.17 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 55.86 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 46.76 | 900.00 | |
| 23 Na | 45 | 1 | 93830.00 | 93830.00 | ppb | 0.48 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93580.00 | 93580.00 | ppb | 0.39 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 93570.00 | 93570.00 | ppb | 0.87 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93250.00 | 93250.00 | ppb | 0.58 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 93200.00 | 93200.00 | ppb | 0.36 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 91710.00 | 91710.00 | ppb | 0.32 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 96310.00 | 96310.00 | ppb | 0.46 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95230.00 | 95230.00 | ppb | 0.28 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2010.00 | 2010.00 | ppb | 0.68 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 3.54 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.12 | 0.12 | ppb | 12.69 | 900.00 | |
| 56 Fe | 45 | 2 | 93880.00 | 93880.00 | ppb | 0.34 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.06 | 0.06 | ppb | 11.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.73 | 0.73 | ppb | 0.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.48 | ppb | 14.24 | 900.00 | |
| 66 Zn | 72 | 2 | 1.76 | 1.76 | ppb | 2.74 | 900.00 | |
| 75 As | 72 | 2 | 0.21 | 0.21 | ppb | 5.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 9079.60 | 900.00 | |
| 88 Sr | 103 | 1 | 4.96 | 4.96 | ppb | 0.77 | 900.00 | |
| 98 Mo | 103 | 1 | 2107.00 | 2107.00 | ppb | 1.25 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 5.38 | 180.00 | |
| 111 Cd | 115 | 2 | 1.42 | 1.42 | ppb | 2.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 12.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 4.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 4.47 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 3.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 1.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1719490 | 0.95 | 1872800 | 91.8 | 70 - 130 | |
| 45 Sc | 1 | 2610746 | 0.88 | 2694091 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 287980 | 0.29 | 307819 | 93.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 630532 | 0.65 | 562443 | 112.1 | 70 | - | 130 |
| 72 | Ge | 2 | 131519 | 0.23 | 127696 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2858468 | 0.84 | 3225131 | 88.6 | 70 | - | 130 |
| 115 | In | 1 | 3254349 | 0.79 | 3540560 | 91.9 | 70 | - | 130 |
| 115 | In | 2 | 992264 | 0.85 | 1130477 | 87.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4708697 | 0.79 | 4800257 | 98.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4623964 | 0.44 | 4666574 | 99.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2556791 | 0.88 | 2883202 | 88.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#
Date Acquired: Jun 6 2013 02:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 21282.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1345.60 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 28.30 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 84.20 | 900.00 | |
| 23 Na | 45 | 1 | 96820.00 | 96820.00 | ppb | 1.14 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97210.00 | 97210.00 | ppb | 0.20 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96360.00 | 96360.00 | ppb | 1.13 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96470.00 | 96470.00 | ppb | 0.41 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95510.00 | 95510.00 | ppb | 0.64 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 93220.00 | 93220.00 | ppb | 0.31 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98620.00 | 98620.00 | ppb | 1.03 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97760.00 | 97760.00 | ppb | 0.68 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2058.00 | 2058.00 | ppb | 1.14 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 21.05 | 900.00 | |
| 52 Cr | 45 | 2 | 20.69 | 20.69 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 19.60 | 19.60 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 96090.00 | 96090.00 | ppb | 0.41 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.47 | 19.47 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 19.74 | 19.74 | ppb | 0.24 | 900.00 | |
| 63 Cu | 72 | 2 | 17.07 | 17.07 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 18.38 | 18.38 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 18.95 | 18.95 | ppb | 0.24 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 91.90 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 2148.00 | 2148.00 | ppb | 0.56 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.79 | 19.79 | ppb | 1.13 | 180.00 | |
| 111 Cd | 115 | 2 | 21.17 | 21.17 | ppb | 0.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 14.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 4.69 | 900.00 | |
| 137 Ba | 159 | 1 | 0.57 | 0.57 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 13.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 1.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1845549 | 1.34 | 1872800 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 2669475 | 0.65 | 2694091 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 288785 | 0.22 | 307819 | 93.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 631520 | 0.85 | 562443 | 112.3 | 70 - | 130 |
| 72 | Ge | 2 | 130942 | 0.19 | 127696 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 2915018 | 0.14 | 3225131 | 90.4 | 70 - | 130 |
| 115 | In | 1 | 3331963 | 1.01 | 3540560 | 94.1 | 70 - | 130 |
| 115 | In | 2 | 983368 | 0.43 | 1130477 | 87.0 | 70 - | 130 |
| 159 | Tb | 1 | 4845451 | 1.21 | 4800257 | 100.9 | 70 - | 130 |
| 175 | Lu | 1 | 4776700 | 1.00 | 4666574 | 102.4 | 70 - | 130 |
| 209 | Bi | 1 | 2616739 | 0.81 | 2883202 | 90.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\017SMPL.D\017SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\017SMPL.D\017SMPL.D#
Date Acquired: Jun 6 2013 02:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.27 | 0.27 | ppb | 9.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.33 | 0.33 | ppb | 8.72 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 14.31 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 63.86 | 900.00 | |
| 23 Na | 45 | 1 | 18.67 | 18.67 | ppb | 8.15 | 90000.00 | |
| 23 Na | 45 | 2 | 31.11 | 31.11 | ppb | 16.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 10.09 | 10.09 | ppb | 8.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 16.96 | 16.96 | ppb | 30.22 | 90000.00 | |
| 27 Al | 45 | 1 | 10.38 | 10.38 | ppb | 7.15 | 90000.00 | |
| 27 Al | 45 | 2 | 16.16 | 16.16 | ppb | 24.66 | 90000.00 | |
| 39 K | 45 | 1 | 7.39 | 7.39 | ppb | 15.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 25.00 | 25.00 | ppb | 7.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.63 | 0.63 | ppb | 1.89 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 20.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.21 | ppb | 8.61 | 900.00 | |
| 55 Mn | 45 | 2 | 0.47 | 0.47 | ppb | 8.61 | 900.00 | |
| 56 Fe | 45 | 2 | 18.62 | 18.62 | ppb | 20.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.34 | ppb | 6.59 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.36 | ppb | 8.07 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.45 | ppb | 5.59 | 900.00 | |
| 66 Zn | 72 | 2 | 1.35 | 1.35 | ppb | 8.00 | 900.00 | |
| 75 As | 72 | 2 | 0.27 | 0.27 | ppb | 5.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.37 | ppb | 39.24 | 900.00 | |
| 88 Sr | 103 | 1 | 0.31 | 0.31 | ppb | 1.76 | 900.00 | |
| 98 Mo | 103 | 1 | 3.36 | 3.36 | ppb | 2.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.24 | 0.24 | ppb | 3.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.34 | 0.34 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.60 | 0.60 | ppb | 3.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.32 | 0.32 | ppb | 7.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 6.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.30 | ppb | 3.54 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153474 | 0.59 | 1872800 | 115.0 | 70 - 130 | |
| 45 Sc | 1 | 2922534 | 0.32 | 2694091 | 108.5 | 70 - 130 | |
| 45 Sc | 2 | 304114 | 4.34 | 307819 | 98.8 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 607813 | 0.77 | 562443 | 108.1 | 70 - | 130 |
| 72 | Ge | 2 | 128467 | 3.59 | 127696 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 3497513 | 0.54 | 3225131 | 108.4 | 70 - | 130 |
| 115 | In | 1 | 3873798 | 0.46 | 3540560 | 109.4 | 70 - | 130 |
| 115 | In | 2 | 1104533 | 4.22 | 1130477 | 97.7 | 70 - | 130 |
| 159 | Tb | 1 | 5270379 | 0.64 | 4800257 | 109.8 | 70 - | 130 |
| 175 | Lu | 1 | 5197486 | 0.86 | 4666574 | 111.4 | 70 - | 130 |
| 209 | Bi | 1 | 3194035 | 0.96 | 2883202 | 110.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#
Date Acquired: Jun 6 2013 02:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 77.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 169.78 | 900.00 | |
| 11 B | 6 | 1 | -0.04 | -0.02 | ppb | 55.81 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.12 | ppb | 82.16 | 900.00 | |
| 23 Na | 45 | 1 | 21.08 | 10.54 | ppb | 5.73 | 90000.00 | |
| 23 Na | 45 | 2 | 35.80 | 17.90 | ppb | 1.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.55 | 1.28 | ppb | 4.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.50 | 1.25 | ppb | 6.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2.60 | 1.30 | ppb | 17.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2.08 | 1.04 | ppb | 12.66 | 90000.00 | |
| 39 K | 45 | 1 | 6.71 | 3.35 | ppb | 82.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.91 | 3.96 | ppb | 24.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.68 | 0.34 | ppb | 5.17 | 900.00 | |
| 51 V | 45 | 2 | 2.03 | 1.01 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 5.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 2.44 | 900.00 | |
| 56 Fe | 45 | 2 | 8.80 | 4.40 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 62.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.20 | 0.10 | ppb | 3.75 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.20 | ppb | 5.71 | 900.00 | |
| 66 Zn | 72 | 2 | 0.66 | 0.33 | ppb | 7.13 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 5.08 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.02 | ppb | 177.65 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 9.79 | 900.00 | |
| 98 Mo | 103 | 1 | 1.83 | 0.91 | ppb | 2.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.16 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 177.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 9.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.07 | ppb | 2.99 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.03 | ppb | 36.39 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 2.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 11.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2292320 | 0.52 | 1872800 | 122.4 | 70 - 130 | |
| 45 Sc | 1 | 2946070 | 1.34 | 2694091 | 109.4 | 70 - 130 | |
| 45 Sc | 2 | 312663 | 0.45 | 307819 | 101.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 604934 | 0.61 | 562443 | 107.6 | 70 - | 130 |
| 72 | Ge | 2 | 129117 | 0.22 | 127696 | 101.1 | 70 - | 130 |
| 103 | Rh | 1 | 3423324 | 0.81 | 3225131 | 106.1 | 70 - | 130 |
| 115 | In | 1 | 3803045 | 0.33 | 3540560 | 107.4 | 70 - | 130 |
| 115 | In | 2 | 1095051 | 0.28 | 1130477 | 96.9 | 70 - | 130 |
| 159 | Tb | 1 | 5247836 | 0.41 | 4800257 | 109.3 | 70 - | 130 |
| 175 | Lu | 1 | 5216597 | 0.63 | 4666574 | 111.8 | 70 - | 130 |
| 209 | Bi | 1 | 3177842 | 0.81 | 2883202 | 110.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#
Date Acquired: Jun 6 2013 03:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-7F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | 0.00 | ppb | 36.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.01 | ppb | 321.73 | 900.00 | |
| 11 B | 6 | 1 | 241.20 | 12.06 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 232.60 | 11.63 | ppb | 8.46 | 900.00 | |
| 23 Na | 45 | 1 | 15380.00 | 769.00 | ppb | 1.11 | 90000.00 | |
| 23 Na | 45 | 2 | 15320.00 | 766.00 | ppb | 6.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 9888.00 | 494.40 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 10092.00 | 504.60 | ppb | 5.78 | 90000.00 | |
| 27 Al | 45 | 1 | 27.94 | 1.40 | ppb | 4.71 | 90000.00 | |
| 27 Al | 45 | 2 | 32.22 | 1.61 | ppb | 22.68 | 90000.00 | |
| 39 K | 45 | 1 | 11998.00 | 599.90 | ppb | 1.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 69460.00 | 3473.00 | ppb | 1.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.10 | 0.21 | ppb | 16.24 | 900.00 | |
| 51 V | 45 | 2 | -4.03 | -0.20 | ppb | 4.42 | 900.00 | |
| 52 Cr | 45 | 2 | -2.07 | -0.10 | ppb | 8.66 | 900.00 | |
| 55 Mn | 45 | 2 | 1164.80 | 58.24 | ppb | 5.28 | 900.00 | |
| 56 Fe | 45 | 2 | 81440.00 | 4072.00 | ppb | 5.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.02 | ppb | 9.01 | 900.00 | |
| 60 Ni | 45 | 2 | 2.32 | 0.12 | ppb | 10.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.08 | 0.05 | ppb | 17.88 | 900.00 | |
| 66 Zn | 72 | 2 | 9.35 | 0.47 | ppb | 6.71 | 900.00 | |
| 75 As | 72 | 2 | 565.00 | 28.25 | ppb | 5.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.01 | ppb | 367.05 | 900.00 | |
| 88 Sr | 103 | 1 | 795.20 | 39.76 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 4.54 | 0.23 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 67.61 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 4.29 | 900.00 | |
| 120 Sn | 115 | 1 | -0.29 | -0.01 | ppb | 59.71 | 900.00 | |
| 121 Sb | 115 | 1 | -0.17 | -0.01 | ppb | 33.60 | 900.00 | |
| 137 Ba | 159 | 1 | 146.56 | 7.33 | ppb | 0.44 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | 0.00 | ppb | 169.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.00 | ppb | 40.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2211039 | 0.38 | 1872800 | 118.1 | 70 - 130 | |
| 45 Sc | 1 | 2972522 | 1.03 | 2694091 | 110.3 | 70 - 130 | |
| 45 Sc | 2 | 326956 | 5.30 | 307819 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 614482 | 0.58 | 562443 | 109.3 | 70 | - | 130 |
| 72 Ge | 2 | 134498 | 4.75 | 127696 | 105.3 | 70 | - | 130 |
| 103 Rh | 1 | 3393502 | 0.67 | 3225131 | 105.2 | 70 | - | 130 |
| 115 In | 1 | 3810301 | 0.45 | 3540560 | 107.6 | 70 | - | 130 |
| 115 In | 2 | 1128653 | 3.29 | 1130477 | 99.8 | 70 | - | 130 |
| 159 Tb | 1 | 5237601 | 0.50 | 4800257 | 109.1 | 70 | - | 130 |
| 175 Lu | 1 | 5114056 | 1.05 | 4666574 | 109.6 | 70 | - | 130 |
| 209 Bi | 1 | 3150426 | 1.30 | 2883202 | 109.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D#
Date Acquired: Jun 6 2013 03:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-SD1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.38 | 0.00 | ppb | 16.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 84042.00 | 900.00 | |
| 11 B | 6 | 1 | 217.10 | 2.17 | ppb | 3.57 | 900.00 | |
| 11 B | 45 | 2 | 236.60 | 2.37 | ppb | 10.69 | 900.00 | |
| 23 Na | 45 | 1 | 16130.00 | 161.30 | ppb | 1.59 | 90000.00 | |
| 23 Na | 45 | 2 | 17420.00 | 174.20 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 10470.00 | 104.70 | ppb | 1.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 10710.00 | 107.10 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 129.20 | 1.29 | ppb | 14.45 | 90000.00 | |
| 27 Al | 45 | 2 | 146.90 | 1.47 | ppb | 24.42 | 90000.00 | |
| 39 K | 45 | 1 | 11750.00 | 117.50 | ppb | 1.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 73080.00 | 730.80 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.22 | 0.06 | ppb | 28.69 | 900.00 | |
| 51 V | 45 | 2 | -30.68 | -0.31 | ppb | 1.62 | 900.00 | |
| 52 Cr | 45 | 2 | -14.18 | -0.14 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1246.00 | 12.46 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 82290.00 | 822.90 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.00 | ppb | 47.01 | 900.00 | |
| 60 Ni | 45 | 2 | 3.20 | 0.03 | ppb | 27.14 | 900.00 | |
| 63 Cu | 72 | 2 | 7.64 | 0.08 | ppb | 2.96 | 900.00 | |
| 66 Zn | 72 | 2 | 16.15 | 0.16 | ppb | 4.66 | 900.00 | |
| 75 As | 72 | 2 | 579.20 | 5.79 | ppb | 2.12 | 900.00 | |
| 78 Se | 72 | 2 | 2.69 | 0.03 | ppb | 124.83 | 900.00 | |
| 88 Sr | 103 | 1 | 807.70 | 8.08 | ppb | 1.30 | 900.00 | |
| 98 Mo | 103 | 1 | 9.99 | 0.10 | ppb | 9.87 | 900.00 | |
| 107 Ag | 115 | 1 | -0.39 | 0.00 | ppb | 34.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.87 | 0.01 | ppb | 26.43 | 900.00 | |
| 120 Sn | 115 | 1 | -2.91 | -0.03 | ppb | 3.62 | 900.00 | |
| 121 Sb | 115 | 1 | -1.89 | -0.02 | ppb | 3.14 | 900.00 | |
| 137 Ba | 159 | 1 | 145.00 | 1.45 | ppb | 1.91 | 900.00 | |
| 205 Tl | 209 | 1 | -0.57 | -0.01 | ppb | 18.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.00 | ppb | 924.31 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2150280 | 0.98 | 1872800 | 114.8 | 70 - 130 | |
| 45 Sc | 1 | 2878281 | 1.16 | 2694091 | 106.8 | 70 - 130 | |
| 45 Sc | 2 | 311633 | 0.19 | 307819 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596789 | 0.72 | 562443 | 106.1 | 70 - | 130 |
| 72 | Ge | 2 | 130121 | 0.54 | 127696 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 3386871 | 0.49 | 3225131 | 105.0 | 70 - | 130 |
| 115 | In | 1 | 3792081 | 0.62 | 3540560 | 107.1 | 70 - | 130 |
| 115 | In | 2 | 1112132 | 0.21 | 1130477 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 5115401 | 0.46 | 4800257 | 106.6 | 70 - | 130 |
| 175 | Lu | 1 | 5001699 | 0.35 | 4666574 | 107.2 | 70 - | 130 |
| 209 | Bi | 1 | 3052848 | 1.35 | 2883202 | 105.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 03:19 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21156-1F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 16.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 350.04 | 900.00 | |
| 11 B | 6 | 1 | 47.40 | 23.70 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 49.12 | 24.56 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 14616.00 | 7308.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 15132.00 | 7566.00 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 3088.00 | 1544.00 | ppb | 0.64 | 90000.00 | |
| 24 Mg | 45 | 2 | 3280.00 | 1640.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 9.53 | 4.76 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 10.19 | 5.10 | ppb | 7.36 | 90000.00 | |
| 39 K | 45 | 1 | 4788.00 | 2394.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 22800.00 | 11400.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.56 | 1.28 | ppb | 1.91 | 900.00 | |
| 51 V | 45 | 2 | 1.84 | 0.92 | ppb | 2.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.79 | 0.39 | ppb | 0.99 | 900.00 | |
| 55 Mn | 45 | 2 | 2378.00 | 1189.00 | ppb | 2.42 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 64780.00 | 32390.00 | ppb | 2.11 | 90000.00 | |
| 59 Co | 45 | 2 | 8.62 | 4.31 | ppb | 0.90 | 900.00 | |
| 60 Ni | 45 | 2 | 7.03 | 3.51 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.25 | ppb | 5.30 | 900.00 | |
| 66 Zn | 72 | 2 | 8.37 | 4.19 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 431.20 | 215.60 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.04 | ppb | 233.83 | 900.00 | |
| 88 Sr | 103 | 1 | 100.36 | 50.18 | ppb | 0.24 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.33 | ppb | 4.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 33.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 88.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 6.33 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 4.34 | 900.00 | |
| 137 Ba | 159 | 1 | 42.60 | 21.30 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 5.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 8.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2267682 | 0.48 | 1872800 | 121.1 | 70 - 130 | |
| 45 Sc | 1 | 2995605 | 0.40 | 2694091 | 111.2 | 70 - 130 | |
| 45 Sc | 2 | 309325 | 0.65 | 307819 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 627677 | 0.63 | 562443 | 111.6 | 70 | - | 130 |
| 72 Ge | 2 | 133799 | 0.81 | 127696 | 104.8 | 70 | - | 130 |
| 103 Rh | 1 | 3217076 | 0.34 | 3225131 | 99.8 | 70 | - | 130 |
| 115 In | 1 | 3665406 | 0.06 | 3540560 | 103.5 | 70 | - | 130 |
| 115 In | 2 | 1063103 | 1.43 | 1130477 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 5116287 | 0.75 | 4800257 | 106.6 | 70 | - | 130 |
| 175 Lu | 1 | 5055701 | 0.71 | 4666574 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 2953161 | 0.46 | 2883202 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#
Date Acquired: Jun 6 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-2F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | 0.00 | ppb | 13.46 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 180.93 | 900.00 | |
| 11 B | 6 | 1 | 41.50 | 2.08 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 45.20 | 2.26 | ppb | 5.75 | 900.00 | |
| 23 Na | 45 | 1 | 14686.00 | 734.30 | ppb | 0.93 | 90000.00 | |
| 23 Na | 45 | 2 | 15694.00 | 784.70 | ppb | 3.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 3258.00 | 162.90 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 3498.00 | 174.90 | ppb | 2.91 | 90000.00 | |
| 27 Al | 45 | 1 | 21.38 | 1.07 | ppb | 5.01 | 90000.00 | |
| 27 Al | 45 | 2 | 27.56 | 1.38 | ppb | 23.26 | 90000.00 | |
| 39 K | 45 | 1 | 4828.00 | 241.40 | ppb | 1.02 | 90000.00 | |
| 44 Ca | 45 | 1 | 24320.00 | 1216.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.68 | 0.13 | ppb | 16.60 | 900.00 | |
| 51 V | 45 | 2 | -4.34 | -0.22 | ppb | 2.33 | 900.00 | |
| 52 Cr | 45 | 2 | -1.94 | -0.10 | ppb | 7.60 | 900.00 | |
| 55 Mn | 45 | 2 | 2598.00 | 129.90 | ppb | 3.41 | 900.00 | |
| 56 Fe | 45 | 2 | 65720.00 | 3286.00 | ppb | 4.00 | 90000.00 | |
| 59 Co | 45 | 2 | 8.72 | 0.44 | ppb | 4.70 | 900.00 | |
| 60 Ni | 45 | 2 | 7.01 | 0.35 | ppb | 3.69 | 900.00 | |
| 63 Cu | 72 | 2 | 1.38 | 0.07 | ppb | 9.49 | 900.00 | |
| 66 Zn | 72 | 2 | 11.09 | 0.55 | ppb | 5.17 | 900.00 | |
| 75 As | 72 | 2 | 464.40 | 23.22 | ppb | 3.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.52 | 0.08 | ppb | 231.66 | 900.00 | |
| 88 Sr | 103 | 1 | 99.30 | 4.97 | ppb | 0.71 | 900.00 | |
| 98 Mo | 103 | 1 | 1.27 | 0.06 | ppb | 4.08 | 900.00 | |
| 107 Ag | 115 | 1 | -0.07 | 0.00 | ppb | 13.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.01 | ppb | 89.10 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 7.88 | 900.00 | |
| 121 Sb | 115 | 1 | -0.22 | -0.01 | ppb | 12.23 | 900.00 | |
| 137 Ba | 159 | 1 | 42.24 | 2.11 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | -0.26 | -0.01 | ppb | 23.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.05 | 0.00 | ppb | 55.88 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2233736 | 0.59 | 1872800 | 119.3 | 70 - 130 | |
| 45 Sc | 1 | 2975210 | 1.05 | 2694091 | 110.4 | 70 - 130 | |
| 45 Sc | 2 | 310134 | 3.66 | 307819 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 616049 | 0.30 | 562443 | 109.5 | 70 - | 130 |
| 72 | Ge | 2 | 129074 | 3.44 | 127696 | 101.1 | 70 - | 130 |
| 103 | Rh | 1 | 3376480 | 0.38 | 3225131 | 104.7 | 70 - | 130 |
| 115 | In | 1 | 3818390 | 0.74 | 3540560 | 107.8 | 70 - | 130 |
| 115 | In | 2 | 1078627 | 4.74 | 1130477 | 95.4 | 70 - | 130 |
| 159 | Tb | 1 | 5176506 | 0.17 | 4800257 | 107.8 | 70 - | 130 |
| 175 | Lu | 1 | 5093135 | 0.68 | 4666574 | 109.1 | 70 - | 130 |
| 209 | Bi | 1 | 3141730 | 1.00 | 2883202 | 109.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 03:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2202 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 200.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 200.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1.07 | -0.01 | ppb | 21.11 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | 0.00 | ppb | 13.45 | 900.00 | |
| 11 B | 6 | 1 | 34.60 | 0.17 | ppb | 3.04 | 900.00 | |
| 11 B | 45 | 2 | 66.42 | 0.33 | ppb | 61.46 | 900.00 | |
| 23 Na | 45 | 1 | 7084.00 | 35.42 | ppb | 2.46 | 90000.00 | |
| 23 Na | 45 | 2 | 8250.00 | 41.25 | ppb | 2.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 4102.00 | 20.51 | ppb | 2.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4128.00 | 20.64 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 196.00 | 0.98 | ppb | 9.63 | 90000.00 | |
| 27 Al | 45 | 2 | 159.40 | 0.80 | ppb | 73.04 | 90000.00 | |
| 39 K | 45 | 1 | 6316.00 | 31.58 | ppb | 4.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 51060.00 | 255.30 | ppb | 2.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.91 | 0.00 | ppb | 223.44 | 900.00 | |
| 51 V | 45 | 2 | -65.24 | -0.33 | ppb | 0.28 | 900.00 | |
| 52 Cr | 45 | 2 | -29.56 | -0.15 | ppb | 3.30 | 900.00 | |
| 55 Mn | 45 | 2 | 3022.00 | 15.11 | ppb | 0.70 | 900.00 | |
| 56 Fe | 45 | 2 | 81020.00 | 405.10 | ppb | 0.99 | 90000.00 | |
| 59 Co | 45 | 2 | 20.94 | 0.10 | ppb | 0.14 | 900.00 | |
| 60 Ni | 45 | 2 | 9.40 | 0.05 | ppb | 6.37 | 900.00 | |
| 63 Cu | 72 | 2 | 10.25 | 0.05 | ppb | 11.66 | 900.00 | |
| 66 Zn | 72 | 2 | 64.08 | 0.32 | ppb | 7.72 | 900.00 | |
| 75 As | 72 | 2 | 5544.00 | 27.72 | ppb | 0.11 | 900.00 | |
| 78 Se | 72 | 2 | -1.56 | -0.01 | ppb | 1075.60 | 900.00 | |
| 88 Sr | 103 | 1 | 256.40 | 1.28 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 4.83 | 0.02 | ppb | 11.86 | 900.00 | |
| 107 Ag | 115 | 1 | -0.92 | 0.00 | ppb | 4.43 | 180.00 | |
| 111 Cd | 115 | 2 | 1.44 | 0.01 | ppb | 41.36 | 900.00 | |
| 120 Sn | 115 | 1 | -6.00 | -0.03 | ppb | 4.61 | 900.00 | |
| 121 Sb | 115 | 1 | -2.94 | -0.01 | ppb | 51.09 | 900.00 | |
| 137 Ba | 159 | 1 | 32.68 | 0.16 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | -1.12 | -0.01 | ppb | 25.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.25 | 0.00 | ppb | 151.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2192123 | 0.73 | 1872800 | 117.1 | 70 - 130 | |
| 45 Sc | 1 | 2981784 | 1.00 | 2694091 | 110.7 | 70 - 130 | |
| 45 Sc | 2 | 318305 | 0.28 | 307819 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 608299 | 1.01 | 562443 | 108.2 | 70 | - | 130 |
| 72 | Ge | 2 | 131844 | 0.38 | 127696 | 103.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3427764 | 0.68 | 3225131 | 106.3 | 70 | - | 130 |
| 115 | In | 1 | 3818275 | 0.68 | 3540560 | 107.8 | 70 | - | 130 |
| 115 | In | 2 | 1128385 | 0.22 | 1130477 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5151969 | 0.72 | 4800257 | 107.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5080573 | 0.83 | 4666574 | 108.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3090115 | 1.90 | 2883202 | 107.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#
Date Acquired: Jun 6 2013 03:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.72 | 50.72 | ppb | 0.75 | 900.00 | |
| 9 Be | 45 | 2 | 52.65 | 52.65 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 49.76 | 49.76 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 51.10 | 51.10 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5213.00 | 5213.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5270.00 | 5270.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5180.00 | 5180.00 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 5180.00 | 5180.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 5145.00 | 5145.00 | ppb | 0.21 | 90000.00 | |
| 27 Al | 45 | 2 | 5110.00 | 5110.00 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 5156.00 | 5156.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 5208.00 | 5208.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.27 | 50.27 | ppb | 0.17 | 900.00 | |
| 51 V | 45 | 2 | 51.14 | 51.14 | ppb | 0.17 | 900.00 | |
| 52 Cr | 45 | 2 | 50.71 | 50.71 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 49.30 | 49.30 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5069.00 | 5069.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 50.64 | 50.64 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 50.46 | 50.46 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 50.38 | 50.38 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 50.36 | 50.36 | ppb | 0.43 | 900.00 | |
| 75 As | 72 | 2 | 50.79 | 50.79 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 1.28 | 900.00 | |
| 88 Sr | 103 | 1 | 52.72 | 52.72 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 51.67 | 51.67 | ppb | 1.18 | 900.00 | |
| 107 Ag | 115 | 1 | 50.56 | 50.56 | ppb | 0.29 | 180.00 | |
| 111 Cd | 115 | 2 | 51.46 | 51.46 | ppb | 0.64 | 900.00 | |
| 120 Sn | 115 | 1 | 51.50 | 51.50 | ppb | 0.38 | 900.00 | |
| 121 Sb | 115 | 1 | 54.86 | 54.86 | ppb | 0.53 | 900.00 | |
| 137 Ba | 159 | 1 | 50.86 | 50.86 | ppb | 0.36 | 900.00 | |
| 205 Tl | 209 | 1 | 49.57 | 49.57 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.73 | 52.73 | ppb | 0.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153756 | 0.36 | 1872800 | 115.0 | 70 - 130 | |
| 45 Sc | 1 | 2913564 | 0.27 | 2694091 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 314662 | 0.34 | 307819 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 584856 | 0.99 | 562443 | 104.0 | 70 | - | 130 |
| 72 | Ge | 2 | 128825 | 0.15 | 127696 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3297593 | 0.46 | 3225131 | 102.2 | 70 | - | 130 |
| 115 | In | 1 | 3680762 | 0.40 | 3540560 | 104.0 | 70 | - | 130 |
| 115 | In | 2 | 1076864 | 0.33 | 1130477 | 95.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5114593 | 0.49 | 4800257 | 106.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5071426 | 0.91 | 4666574 | 108.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2967483 | 0.53 | 2883202 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#
Date Acquired: Jun 6 2013 04:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 33.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 324.02 | 900.00 | |
| 11 B | 6 | 1 | -0.11 | -0.11 | ppb | 14.31 | 900.00 | |
| 11 B | 45 | 2 | -0.07 | -0.07 | ppb | 176.46 | 900.00 | |
| 23 Na | 45 | 1 | 2.85 | 2.85 | ppb | 20.22 | 90000.00 | |
| 23 Na | 45 | 2 | 8.21 | 8.21 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.95 | 0.95 | ppb | 2.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.02 | 1.02 | ppb | 8.45 | 90000.00 | |
| 27 Al | 45 | 1 | -0.34 | -0.34 | ppb | 15.34 | 90000.00 | |
| 27 Al | 45 | 2 | -0.17 | -0.17 | ppb | 160.02 | 90000.00 | |
| 39 K | 45 | 1 | 0.67 | 0.67 | ppb | 341.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.42 | 3.42 | ppb | 46.22 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 105.55 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 25.16 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 19.53 | 900.00 | |
| 55 Mn | 45 | 2 | -0.16 | -0.16 | ppb | 4.28 | 900.00 | |
| 56 Fe | 45 | 2 | -2.13 | -2.13 | ppb | 5.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 565.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 48.77 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 3.58 | 900.00 | |
| 66 Zn | 72 | 2 | 0.22 | 0.22 | ppb | 8.66 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 66.97 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 1115.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 9.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 2.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 40.52 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 43.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 11.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 10.78 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 554.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.13 | ppb | 0.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 118.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2244193 | 1.35 | 1872800 | 119.8 | 70 - 130 | |
| 45 Sc | 1 | 2954645 | 1.41 | 2694091 | 109.7 | 70 - 130 | |
| 45 Sc | 2 | 319473 | 0.14 | 307819 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 601523 | 0.10 | 562443 | 106.9 | 70 - | 130 |
| 72 | Ge | 2 | 130399 | 0.38 | 127696 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 3415320 | 0.91 | 3225131 | 105.9 | 70 - | 130 |
| 115 | In | 1 | 3765325 | 1.35 | 3540560 | 106.3 | 70 - | 130 |
| 115 | In | 2 | 1116533 | 0.63 | 1130477 | 98.8 | 70 - | 130 |
| 159 | Tb | 1 | 5160441 | 0.41 | 4800257 | 107.5 | 70 - | 130 |
| 175 | Lu | 1 | 5061001 | 1.02 | 4666574 | 108.5 | 70 - | 130 |
| 209 | Bi | 1 | 3092938 | 0.92 | 2883202 | 107.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D#
Date Acquired: Jun 6 2013 04:15 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-4F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.06 | 0.00 | ppb | 220.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 84.61 | 900.00 | |
| 11 B | 6 | 1 | 106.25 | 2.13 | ppb | 1.31 | 900.00 | |
| 11 B | 45 | 2 | 104.15 | 2.08 | ppb | 13.09 | 900.00 | |
| 23 Na | 45 | 1 | 24975.00 | 499.50 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 26325.00 | 526.50 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 9055.00 | 181.10 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 9450.00 | 189.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 40.40 | 0.81 | ppb | 13.78 | 90000.00 | |
| 27 Al | 45 | 2 | 57.75 | 1.16 | ppb | 5.81 | 90000.00 | |
| 39 K | 45 | 1 | 9180.00 | 183.60 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 57300.00 | 1146.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.69 | 0.07 | ppb | 28.95 | 900.00 | |
| 51 V | 45 | 2 | -13.64 | -0.27 | ppb | 2.28 | 900.00 | |
| 52 Cr | 45 | 2 | -6.42 | -0.13 | ppb | 4.82 | 900.00 | |
| 55 Mn | 45 | 2 | 2310.50 | 46.21 | ppb | 0.82 | 900.00 | |
| 56 Fe | 45 | 2 | 47220.00 | 944.40 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 0.94 | 0.02 | ppb | 14.58 | 900.00 | |
| 60 Ni | 45 | 2 | 4.76 | 0.10 | ppb | 12.12 | 900.00 | |
| 63 Cu | 72 | 2 | 2.81 | 0.06 | ppb | 6.94 | 900.00 | |
| 66 Zn | 72 | 2 | 11.88 | 0.24 | ppb | 4.64 | 900.00 | |
| 75 As | 72 | 2 | 900.00 | 18.00 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | -1.02 | -0.02 | ppb | 643.38 | 900.00 | |
| 88 Sr | 103 | 1 | 613.50 | 12.27 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.54 | 0.03 | ppb | 18.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.12 | 0.00 | ppb | 76.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.56 | 0.01 | ppb | 66.51 | 900.00 | |
| 120 Sn | 115 | 1 | -1.18 | -0.02 | ppb | 8.45 | 900.00 | |
| 121 Sb | 115 | 1 | -0.86 | -0.02 | ppb | 12.95 | 900.00 | |
| 137 Ba | 159 | 1 | 88.50 | 1.77 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 2.40 | 0.05 | ppb | 3.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.00 | ppb | 63.49 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2151646 | 0.86 | 1872800 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 2949925 | 0.52 | 2694091 | 109.5 | 70 - 130 | |
| 45 Sc | 2 | 317340 | 0.33 | 307819 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 599881 | 1.03 | 562443 | 106.7 | 70 - | 130 |
| 72 | Ge | 2 | 130832 | 0.19 | 127696 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 3386746 | 0.79 | 3225131 | 105.0 | 70 - | 130 |
| 115 | In | 1 | 3782705 | 0.89 | 3540560 | 106.8 | 70 - | 130 |
| 115 | In | 2 | 1125339 | 0.61 | 1130477 | 99.5 | 70 - | 130 |
| 159 | Tb | 1 | 5137971 | 0.22 | 4800257 | 107.0 | 70 - | 130 |
| 175 | Lu | 1 | 5084852 | 0.30 | 4666574 | 109.0 | 70 - | 130 |
| 209 | Bi | 1 | 3075958 | 0.90 | 2883202 | 106.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 04:22 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-5F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2206 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.10 | 0.00 | ppb | 33.90 | 900.00 | |
| 9 Be | 45 | 2 | -0.26 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 41.58 | 2.08 | ppb | 3.34 | 900.00 | |
| 11 B | 45 | 2 | 43.44 | 2.17 | ppb | 7.24 | 900.00 | |
| 23 Na | 45 | 1 | 8790.00 | 439.50 | ppb | 0.30 | 90000.00 | |
| 23 Na | 45 | 2 | 9264.00 | 463.20 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 1410.20 | 70.51 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 1422.20 | 71.11 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 18.65 | 0.93 | ppb | 10.21 | 90000.00 | |
| 27 Al | 45 | 2 | 22.80 | 1.14 | ppb | 6.96 | 90000.00 | |
| 39 K | 45 | 1 | 4430.00 | 221.50 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 12904.00 | 645.20 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.44 | 0.12 | ppb | 9.34 | 900.00 | |
| 51 V | 45 | 2 | -3.80 | -0.19 | ppb | 1.36 | 900.00 | |
| 52 Cr | 45 | 2 | -1.96 | -0.10 | ppb | 8.62 | 900.00 | |
| 55 Mn | 45 | 2 | 259.80 | 12.99 | ppb | 0.92 | 900.00 | |
| 56 Fe | 45 | 2 | 10300.00 | 515.00 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.20 | 0.01 | ppb | 10.39 | 900.00 | |
| 60 Ni | 45 | 2 | 15.37 | 0.77 | ppb | 3.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.36 | 0.07 | ppb | 20.17 | 900.00 | |
| 66 Zn | 72 | 2 | 15.37 | 0.77 | ppb | 3.54 | 900.00 | |
| 75 As | 72 | 2 | 411.60 | 20.58 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 1.14 | 0.06 | ppb | 36.26 | 900.00 | |
| 88 Sr | 103 | 1 | 99.30 | 4.97 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.92 | 0.05 | ppb | 6.64 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 55.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.01 | ppb | 75.82 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 5.56 | 900.00 | |
| 121 Sb | 115 | 1 | -0.21 | -0.01 | ppb | 28.87 | 900.00 | |
| 137 Ba | 159 | 1 | 28.02 | 1.40 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.01 | ppb | 14.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 926.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2143574 | 0.92 | 1872800 | 114.5 | 70 - 130 | |
| 45 Sc | 1 | 2891802 | 0.16 | 2694091 | 107.3 | 70 - 130 | |
| 45 Sc | 2 | 317833 | 0.72 | 307819 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 590993 | 0.16 | 562443 | 105.1 | 70 - | 130 |
| 72 | Ge | 2 | 130475 | 0.63 | 127696 | 102.2 | 70 - | 130 |
| 103 | Rh | 1 | 3350209 | 0.43 | 3225131 | 103.9 | 70 - | 130 |
| 115 | In | 1 | 3745938 | 0.27 | 3540560 | 105.8 | 70 - | 130 |
| 115 | In | 2 | 1128243 | 0.78 | 1130477 | 99.8 | 70 - | 130 |
| 159 | Tb | 1 | 5116048 | 0.19 | 4800257 | 106.6 | 70 - | 130 |
| 175 | Lu | 1 | 4991495 | 0.62 | 4666574 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3054628 | 0.55 | 2883202 | 105.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D#
Date Acquired: Jun 6 2013 04:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-6F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.15 | 0.00 | ppb | 33.16 | 900.00 | |
| 9 Be | 45 | 2 | -0.21 | 0.00 | ppb | 179.50 | 900.00 | |
| 11 B | 6 | 1 | 194.20 | 3.88 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 217.15 | 4.34 | ppb | 5.25 | 900.00 | |
| 23 Na | 45 | 1 | 30170.00 | 603.40 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 32000.00 | 640.00 | ppb | 2.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 7530.00 | 150.60 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 7975.00 | 159.50 | ppb | 2.08 | 90000.00 | |
| 27 Al | 45 | 1 | 55.45 | 1.11 | ppb | 21.15 | 90000.00 | |
| 27 Al | 45 | 2 | 54.90 | 1.10 | ppb | 23.54 | 90000.00 | |
| 39 K | 45 | 1 | 13365.00 | 267.30 | ppb | 1.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 59700.00 | 1194.00 | ppb | 1.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.56 | 0.09 | ppb | 5.09 | 900.00 | |
| 51 V | 45 | 2 | -14.03 | -0.28 | ppb | 1.76 | 900.00 | |
| 52 Cr | 45 | 2 | -6.49 | -0.13 | ppb | 4.69 | 900.00 | |
| 55 Mn | 45 | 2 | 2852.00 | 57.04 | ppb | 2.09 | 900.00 | |
| 56 Fe | 45 | 2 | 97600.00 | 1952.00 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 4.37 | 0.09 | ppb | 3.15 | 900.00 | |
| 60 Ni | 45 | 2 | 6.40 | 0.13 | ppb | 4.51 | 900.00 | |
| 63 Cu | 72 | 2 | 3.53 | 0.07 | ppb | 10.33 | 900.00 | |
| 66 Zn | 72 | 2 | 29.75 | 0.59 | ppb | 3.36 | 900.00 | |
| 75 As | 72 | 2 | 1207.50 | 24.15 | ppb | 2.11 | 900.00 | |
| 78 Se | 72 | 2 | 3.14 | 0.06 | ppb | 117.65 | 900.00 | |
| 88 Sr | 103 | 1 | 678.00 | 13.56 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 1.44 | 0.03 | ppb | 19.40 | 900.00 | |
| 107 Ag | 115 | 1 | -0.24 | 0.00 | ppb | 9.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.17 | 0.00 | ppb | 64.39 | 900.00 | |
| 120 Sn | 115 | 1 | -1.27 | -0.03 | ppb | 5.78 | 900.00 | |
| 121 Sb | 115 | 1 | -0.88 | -0.02 | ppb | 8.86 | 900.00 | |
| 137 Ba | 159 | 1 | 100.40 | 2.01 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.00 | ppb | 43.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.09 | 0.00 | ppb | 153.61 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2112392 | 0.31 | 1872800 | 112.8 | 70 - 130 | |
| 45 Sc | 1 | 2920911 | 0.68 | 2694091 | 108.4 | 70 - 130 | |
| 45 Sc | 2 | 306270 | 1.98 | 307819 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 601599 | 0.65 | 562443 | 107.0 | 70 - | 130 |
| 72 | Ge | 2 | 128015 | 1.99 | 127696 | 100.3 | 70 - | 130 |
| 103 | Rh | 1 | 3347062 | 1.53 | 3225131 | 103.8 | 70 - | 130 |
| 115 | In | 1 | 3726230 | 0.70 | 3540560 | 105.2 | 70 - | 130 |
| 115 | In | 2 | 1094159 | 2.00 | 1130477 | 96.8 | 70 - | 130 |
| 159 | Tb | 1 | 5144519 | 0.63 | 4800257 | 107.2 | 70 - | 130 |
| 175 | Lu | 1 | 5036523 | 0.75 | 4666574 | 107.9 | 70 - | 130 |
| 209 | Bi | 1 | 3046227 | 1.43 | 2883202 | 105.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 04:36 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-8F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2208 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 100.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 100.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.46 | 0.00 | ppb | 4.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.82 | 0.01 | ppb | 235.72 | 900.00 | |
| 11 B | 6 | 1 | 123.60 | 1.24 | ppb | 5.14 | 900.00 | |
| 11 B | 45 | 2 | 113.60 | 1.14 | ppb | 15.04 | 900.00 | |
| 23 Na | 45 | 1 | 17900.00 | 179.00 | ppb | 3.63 | 90000.00 | |
| 23 Na | 45 | 2 | 19430.00 | 194.30 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 7342.00 | 73.42 | ppb | 4.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 7512.00 | 75.12 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 60.04 | 0.60 | ppb | 8.43 | 90000.00 | |
| 27 Al | 45 | 2 | 59.46 | 0.59 | ppb | 40.16 | 90000.00 | |
| 39 K | 45 | 1 | 10690.00 | 106.90 | ppb | 8.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 39720.00 | 397.20 | ppb | 3.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.05 | 0.04 | ppb | 41.27 | 900.00 | |
| 51 V | 45 | 2 | -30.96 | -0.31 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | -14.45 | -0.14 | ppb | 0.62 | 900.00 | |
| 55 Mn | 45 | 2 | 1956.00 | 19.56 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 103000.00 | 1030.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 27.83 | 0.28 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 9.32 | 0.09 | ppb | 2.11 | 900.00 | |
| 63 Cu | 72 | 2 | 4.80 | 0.05 | ppb | 2.43 | 900.00 | |
| 66 Zn | 72 | 2 | 28.05 | 0.28 | ppb | 6.81 | 900.00 | |
| 75 As | 72 | 2 | 1981.00 | 19.81 | ppb | 0.68 | 900.00 | |
| 78 Se | 72 | 2 | 16.55 | 0.17 | ppb | 52.21 | 900.00 | |
| 88 Sr | 103 | 1 | 512.40 | 5.12 | ppb | 4.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2.74 | 0.03 | ppb | 10.45 | 900.00 | |
| 107 Ag | 115 | 1 | -0.40 | 0.00 | ppb | 16.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.72 | 0.01 | ppb | 40.70 | 900.00 | |
| 120 Sn | 115 | 1 | -3.10 | -0.03 | ppb | 0.69 | 900.00 | |
| 121 Sb | 115 | 1 | -1.86 | -0.02 | ppb | 8.77 | 900.00 | |
| 137 Ba | 159 | 1 | 77.15 | 0.77 | ppb | 6.65 | 900.00 | |
| 205 Tl | 209 | 1 | -0.05 | 0.00 | ppb | 333.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.39 | 0.00 | ppb | 32.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122546 | 3.09 | 1872800 | 113.3 | 70 - 130 | |
| 45 Sc | 1 | 2931086 | 2.69 | 2694091 | 108.8 | 70 - 130 | |
| 45 Sc | 2 | 317559 | 0.76 | 307819 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 605518 | 3.04 | 562443 | 107.7 | 70 | - | 130 |
| 72 | Ge | 2 | 130158 | 0.35 | 127696 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3429354 | 3.53 | 3225131 | 106.3 | 70 | - | 130 |
| 115 | In | 1 | 3811410 | 3.22 | 3540560 | 107.6 | 70 | - | 130 |
| 115 | In | 2 | 1124016 | 0.78 | 1130477 | 99.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5220389 | 4.62 | 4800257 | 108.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5114950 | 3.45 | 4666574 | 109.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3039315 | 1.60 | 2883202 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#
Date Acquired: Jun 6 2013 04:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-9F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 40.62 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 175.67 | 900.00 | |
| 11 B | 6 | 1 | 83.10 | 4.16 | ppb | 1.93 | 900.00 | |
| 11 B | 45 | 2 | 85.68 | 4.28 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 25500.00 | 1275.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 26180.00 | 1309.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 6942.00 | 347.10 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 7346.00 | 367.30 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 20.46 | 1.02 | ppb | 16.34 | 90000.00 | |
| 27 Al | 45 | 2 | 21.16 | 1.06 | ppb | 16.13 | 90000.00 | |
| 39 K | 45 | 1 | 6576.00 | 328.80 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 50760.00 | 2538.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.49 | 0.17 | ppb | 32.61 | 900.00 | |
| 51 V | 45 | 2 | -4.14 | -0.21 | ppb | 3.44 | 900.00 | |
| 52 Cr | 45 | 2 | -2.16 | -0.11 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 2484.00 | 124.20 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 19778.00 | 988.90 | ppb | 0.61 | 90000.00 | |
| 59 Co | 45 | 2 | 3.50 | 0.18 | ppb | 1.80 | 900.00 | |
| 60 Ni | 45 | 2 | 5.03 | 0.25 | ppb | 2.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.34 | 0.07 | ppb | 5.85 | 900.00 | |
| 66 Zn | 72 | 2 | 12.89 | 0.64 | ppb | 3.57 | 900.00 | |
| 75 As | 72 | 2 | 496.20 | 24.81 | ppb | 0.58 | 900.00 | |
| 78 Se | 72 | 2 | -1.84 | -0.09 | ppb | 145.26 | 900.00 | |
| 88 Sr | 103 | 1 | 365.00 | 18.25 | ppb | 0.61 | 900.00 | |
| 98 Mo | 103 | 1 | 3.06 | 0.15 | ppb | 4.90 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 67.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.00 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | -0.54 | -0.03 | ppb | 1.47 | 900.00 | |
| 121 Sb | 115 | 1 | -0.18 | -0.01 | ppb | 40.09 | 900.00 | |
| 137 Ba | 159 | 1 | 85.06 | 4.25 | ppb | 1.34 | 900.00 | |
| 205 Tl | 209 | 1 | -0.28 | -0.01 | ppb | 2.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | 0.00 | ppb | 245.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2085821 | 0.05 | 1872800 | 111.4 | 70 - 130 | |
| 45 Sc | 1 | 2865397 | 0.62 | 2694091 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 310377 | 0.18 | 307819 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588771 | 0.67 | 562443 | 104.7 | 70 | - | 130 |
| 72 | Ge | 2 | 129093 | 0.15 | 127696 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3298538 | 0.32 | 3225131 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 3717187 | 0.83 | 3540560 | 105.0 | 70 | - | 130 |
| 115 | In | 2 | 1108209 | 0.53 | 1130477 | 98.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5004554 | 0.96 | 4800257 | 104.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4950781 | 1.48 | 4666574 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2978194 | 0.19 | 2883202 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#
Date Acquired: Jun 6 2013 04:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-10F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 101.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 47.41 | 900.00 | |
| 11 B | 6 | 1 | -0.32 | -0.16 | ppb | 3.08 | 900.00 | |
| 11 B | 45 | 2 | -0.20 | -0.10 | ppb | 60.72 | 900.00 | |
| 23 Na | 45 | 1 | 6.59 | 3.29 | ppb | 3.03 | 90000.00 | |
| 23 Na | 45 | 2 | 17.03 | 8.52 | ppb | 3.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.58 | 0.79 | ppb | 7.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.02 | 1.01 | ppb | 7.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2.53 | 1.26 | ppb | 29.71 | 90000.00 | |
| 27 Al | 45 | 2 | 2.22 | 1.11 | ppb | 21.86 | 90000.00 | |
| 39 K | 45 | 1 | 0.34 | 0.17 | ppb | 322.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 21.92 | 10.96 | ppb | 1.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.05 | ppb | 38.26 | 900.00 | |
| 51 V | 45 | 2 | -0.41 | -0.21 | ppb | 2.99 | 900.00 | |
| 52 Cr | 45 | 2 | -0.22 | -0.11 | ppb | 2.27 | 900.00 | |
| 55 Mn | 45 | 2 | 0.77 | 0.39 | ppb | 7.69 | 900.00 | |
| 56 Fe | 45 | 2 | 6.13 | 3.07 | ppb | 5.47 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 40.07 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 19.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.14 | 0.07 | ppb | 1.63 | 900.00 | |
| 66 Zn | 72 | 2 | 1.24 | 0.62 | ppb | 1.43 | 900.00 | |
| 75 As | 72 | 2 | -0.06 | -0.03 | ppb | 7.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.00 | ppb | 323.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 13.56 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 29.13 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 25.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 165.92 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | -0.02 | ppb | 15.87 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | -0.01 | ppb | 24.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.03 | ppb | 12.38 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 24.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 45.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2126321 | 0.94 | 1872800 | 113.5 | 70 - 130 | |
| 45 Sc | 1 | 2877811 | 0.52 | 2694091 | 106.8 | 70 - 130 | |
| 45 Sc | 2 | 313909 | 0.32 | 307819 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 592980 | 0.90 | 562443 | 105.4 | 70 | - | 130 |
| 72 Ge | 2 | 129650 | 0.19 | 127696 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 3366471 | 0.31 | 3225131 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 3733863 | 0.07 | 3540560 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1119458 | 0.43 | 1130477 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 5101601 | 0.75 | 4800257 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 4970477 | 1.08 | 4666574 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 3046107 | 1.53 | 2883202 | 105.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D# |
| Date Acquired: | Jun 6 2013 04:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-11F |
| Misc Info: | |
| Vial Number: | 2211 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 200.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 200.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.82 | 0.00 | ppb | 19.91 | 900.00 | |
| 9 Be | 45 | 2 | 0.89 | 0.00 | ppb | 432.41 | 900.00 | |
| 11 B | 6 | 1 | -9.40 | -0.05 | ppb | 7.29 | 900.00 | |
| 11 B | 45 | 2 | -22.32 | -0.11 | ppb | 149.64 | 900.00 | |
| 23 Na | 45 | 1 | 5986.00 | 29.93 | ppb | 3.41 | 90000.00 | |
| 23 Na | 45 | 2 | 7490.00 | 37.45 | ppb | 6.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 3216.00 | 16.08 | ppb | 3.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 3412.00 | 17.06 | ppb | 2.83 | 90000.00 | |
| 27 Al | 45 | 1 | 151.74 | 0.76 | ppb | 53.16 | 90000.00 | |
| 27 Al | 45 | 2 | 234.60 | 1.17 | ppb | 22.00 | 90000.00 | |
| 39 K | 45 | 1 | 1114.20 | 5.57 | ppb | 19.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 31200.00 | 156.00 | ppb | 2.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.17 | 0.02 | ppb | 40.36 | 900.00 | |
| 51 V | 45 | 2 | -63.36 | -0.32 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | -28.44 | -0.14 | ppb | 5.35 | 900.00 | |
| 55 Mn | 45 | 2 | 6748.00 | 33.74 | ppb | 3.60 | 900.00 | |
| 56 Fe | 45 | 2 | 55280.00 | 276.40 | ppb | 4.68 | 90000.00 | |
| 59 Co | 45 | 2 | 6.16 | 0.03 | ppb | 7.15 | 900.00 | |
| 60 Ni | 45 | 2 | 12.94 | 0.06 | ppb | 13.67 | 900.00 | |
| 63 Cu | 72 | 2 | 9.72 | 0.05 | ppb | 4.93 | 900.00 | |
| 66 Zn | 72 | 2 | 26.58 | 0.13 | ppb | 5.44 | 900.00 | |
| 75 As | 72 | 2 | 3580.00 | 17.90 | ppb | 1.76 | 900.00 | |
| 78 Se | 72 | 2 | 3.43 | 0.02 | ppb | 465.52 | 900.00 | |
| 88 Sr | 103 | 1 | 103.94 | 0.52 | ppb | 5.20 | 900.00 | |
| 98 Mo | 103 | 1 | 0.58 | 0.00 | ppb | 197.88 | 900.00 | |
| 107 Ag | 115 | 1 | -0.76 | 0.00 | ppb | 59.81 | 180.00 | |
| 111 Cd | 115 | 2 | 1.50 | 0.01 | ppb | 43.35 | 900.00 | |
| 120 Sn | 115 | 1 | -6.64 | -0.03 | ppb | 3.78 | 900.00 | |
| 121 Sb | 115 | 1 | -4.00 | -0.02 | ppb | 3.63 | 900.00 | |
| 137 Ba | 159 | 1 | 19.12 | 0.10 | ppb | 20.87 | 900.00 | |
| 205 Tl | 209 | 1 | -0.97 | 0.00 | ppb | 66.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.25 | 0.00 | ppb | 229.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2187153 | 2.56 | 1872800 | 116.8 | 70 - 130 | |
| 45 Sc | 1 | 3024463 | 0.80 | 2694091 | 112.3 | 70 - 130 | |
| 45 Sc | 2 | 304004 | 4.10 | 307819 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 612057 | 1.22 | 562443 | 108.8 | 70 | - | 130 |
| 72 | Ge | 2 | 128229 | 1.98 | 127696 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3500126 | 1.57 | 3225131 | 108.5 | 70 | - | 130 |
| 115 | In | 1 | 3905870 | 0.59 | 3540560 | 110.3 | 70 | - | 130 |
| 115 | In | 2 | 1096804 | 2.94 | 1130477 | 97.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5329956 | 0.66 | 4800257 | 111.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5233337 | 1.37 | 4666574 | 112.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3106618 | 1.23 | 2883202 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D# |
| Date Acquired: | Jun 6 2013 05:06 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-12F |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.10 | 0.00 | ppb | 31.21 | 900.00 | |
| 9 Be | 45 | 2 | -0.17 | -0.01 | ppb | 85.82 | 900.00 | |
| 11 B | 6 | 1 | 138.28 | 6.91 | ppb | 0.33 | 900.00 | |
| 11 B | 45 | 2 | 130.58 | 6.53 | ppb | 3.00 | 900.00 | |
| 23 Na | 45 | 1 | 47700.00 | 2385.00 | ppb | 0.22 | 90000.00 | |
| 23 Na | 45 | 2 | 47720.00 | 2386.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 8722.00 | 436.10 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 9144.00 | 457.20 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 25.46 | 1.27 | ppb | 6.56 | 90000.00 | |
| 27 Al | 45 | 2 | 27.80 | 1.39 | ppb | 10.81 | 90000.00 | |
| 39 K | 45 | 1 | 8408.00 | 420.40 | ppb | 1.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 60200.00 | 3010.00 | ppb | 0.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.01 | 0.25 | ppb | 22.10 | 900.00 | |
| 51 V | 45 | 2 | -4.06 | -0.20 | ppb | 2.54 | 900.00 | |
| 52 Cr | 45 | 2 | -2.02 | -0.10 | ppb | 0.80 | 900.00 | |
| 55 Mn | 45 | 2 | 2906.00 | 145.30 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 41060.00 | 2053.00 | ppb | 0.68 | 90000.00 | |
| 59 Co | 45 | 2 | 0.54 | 0.03 | ppb | 9.19 | 900.00 | |
| 60 Ni | 45 | 2 | 2.94 | 0.15 | ppb | 8.28 | 900.00 | |
| 63 Cu | 72 | 2 | 1.79 | 0.09 | ppb | 13.94 | 900.00 | |
| 66 Zn | 72 | 2 | 24.38 | 1.22 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 659.20 | 32.96 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.00 | ppb | 2121.80 | 900.00 | |
| 88 Sr | 103 | 1 | 338.40 | 16.92 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.95 | 0.05 | ppb | 8.47 | 900.00 | |
| 107 Ag | 115 | 1 | -0.06 | 0.00 | ppb | 10.53 | 180.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.01 | ppb | 43.16 | 900.00 | |
| 120 Sn | 115 | 1 | -0.47 | -0.02 | ppb | 5.13 | 900.00 | |
| 121 Sb | 115 | 1 | -0.20 | -0.01 | ppb | 24.69 | 900.00 | |
| 137 Ba | 159 | 1 | 48.28 | 2.41 | ppb | 1.37 | 900.00 | |
| 205 Tl | 209 | 1 | -0.35 | -0.02 | ppb | 4.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.00 | ppb | 44.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2095264 | 0.38 | 1872800 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 2880890 | 0.59 | 2694091 | 106.9 | 70 - 130 | |
| 45 Sc | 2 | 314327 | 0.25 | 307819 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 595309 | 0.27 | 562443 | 105.8 | 70 - | 130 |
| 72 | Ge | 2 | 130222 | 0.21 | 127696 | 102.0 | 70 - | 130 |
| 103 | Rh | 1 | 3307194 | 0.15 | 3225131 | 102.5 | 70 - | 130 |
| 115 | In | 1 | 3737822 | 0.38 | 3540560 | 105.6 | 70 - | 130 |
| 115 | In | 2 | 1122739 | 0.11 | 1130477 | 99.3 | 70 - | 130 |
| 159 | Tb | 1 | 5075609 | 0.32 | 4800257 | 105.7 | 70 - | 130 |
| 175 | Lu | 1 | 4997244 | 0.66 | 4666574 | 107.1 | 70 - | 130 |
| 209 | Bi | 1 | 3043387 | 0.19 | 2883202 | 105.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D# |
| Date Acquired: | Jun 6 2013 05:13 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-13F |
| Misc Info: | |
| Vial Number: | 2301 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 166.23 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 311.19 | 900.00 | |
| 11 B | 6 | 1 | 26.46 | 13.23 | ppb | 1.57 | 900.00 | |
| 11 B | 45 | 2 | 27.66 | 13.83 | ppb | 2.77 | 900.00 | |
| 23 Na | 45 | 1 | 6890.00 | 3445.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 7002.00 | 3501.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 2788.00 | 1394.00 | ppb | 0.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 2890.00 | 1445.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 14.14 | 7.07 | ppb | 3.45 | 90000.00 | |
| 27 Al | 45 | 2 | 13.68 | 6.84 | ppb | 1.84 | 90000.00 | |
| 39 K | 45 | 1 | 2864.00 | 1432.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 14216.00 | 7108.00 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.28 | 0.64 | ppb | 3.42 | 900.00 | |
| 51 V | 45 | 2 | 2.15 | 1.08 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 2.21 | 900.00 | |
| 55 Mn | 45 | 2 | 364.60 | 182.30 | ppb | 2.18 | 900.00 | |
| 56 Fe | 45 | 2 | 174.74 | 87.37 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.94 | 0.47 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 3.34 | 1.67 | ppb | 2.14 | 900.00 | |
| 63 Cu | 72 | 2 | 2.08 | 1.04 | ppb | 2.45 | 900.00 | |
| 66 Zn | 72 | 2 | 19.07 | 9.53 | ppb | 0.27 | 900.00 | |
| 75 As | 72 | 2 | 1.95 | 0.97 | ppb | 1.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 127.02 | 900.00 | |
| 88 Sr | 103 | 1 | 99.78 | 49.89 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.06 | ppb | 3.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 37.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 14.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 3.90 | 900.00 | |
| 137 Ba | 159 | 1 | 32.78 | 16.39 | ppb | 1.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 29.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 10.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2375502 | 1.30 | 1872800 | 126.8 | 70 - 130 | |
| 45 Sc | 1 | 3038209 | 1.17 | 2694091 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 321370 | 0.87 | 307819 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 615211 | 0.64 | 562443 | 109.4 | 70 - | 130 |
| 72 | Ge | 2 | 130666 | 0.49 | 127696 | 102.3 | 70 - | 130 |
| 103 | Rh | 1 | 3309237 | 0.83 | 3225131 | 102.6 | 70 - | 130 |
| 115 | In | 1 | 3769647 | 1.01 | 3540560 | 106.5 | 70 - | 130 |
| 115 | In | 2 | 1085966 | 0.33 | 1130477 | 96.1 | 70 - | 130 |
| 159 | Tb | 1 | 5217940 | 0.39 | 4800257 | 108.7 | 70 - | 130 |
| 175 | Lu | 1 | 5154640 | 0.73 | 4666574 | 110.5 | 70 - | 130 |
| 209 | Bi | 1 | 3062134 | 0.75 | 2883202 | 106.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#
Date Acquired: Jun 6 2013 05:20 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-14F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 188.70 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 80.77 | 900.00 | |
| 11 B | 6 | 1 | 65.94 | 32.97 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 66.48 | 33.24 | ppb | 12.92 | 900.00 | |
| 23 Na | 45 | 1 | 18524.00 | 9262.00 | ppb | 0.77 | 90000.00 | |
| 23 Na | 45 | 2 | 18128.00 | 9064.00 | ppb | 6.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 4508.00 | 2254.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 4486.00 | 2243.00 | ppb | 5.84 | 90000.00 | |
| 27 Al | 45 | 1 | 4.15 | 2.08 | ppb | 3.07 | 90000.00 | |
| 27 Al | 45 | 2 | 3.62 | 1.81 | ppb | 2.67 | 90000.00 | |
| 39 K | 45 | 1 | 4448.00 | 2224.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 30360.00 | 15180.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.67 | 0.84 | ppb | 3.51 | 900.00 | |
| 51 V | 45 | 2 | 2.50 | 1.25 | ppb | 9.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.55 | 0.28 | ppb | 14.75 | 900.00 | |
| 55 Mn | 45 | 2 | 446.60 | 223.30 | ppb | 6.25 | 900.00 | |
| 56 Fe | 45 | 2 | 58.84 | 29.42 | ppb | 7.43 | 90000.00 | |
| 59 Co | 45 | 2 | 0.84 | 0.42 | ppb | 9.55 | 900.00 | |
| 60 Ni | 45 | 2 | 3.31 | 1.66 | ppb | 6.14 | 900.00 | |
| 63 Cu | 72 | 2 | 1.23 | 0.62 | ppb | 6.50 | 900.00 | |
| 66 Zn | 72 | 2 | 9.10 | 4.55 | ppb | 6.03 | 900.00 | |
| 75 As | 72 | 2 | 2.57 | 1.28 | ppb | 4.65 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 41.43 | 900.00 | |
| 88 Sr | 103 | 1 | 218.60 | 109.30 | ppb | 2.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.18 | ppb | 7.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 9.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 3.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 3.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.62 | 0.31 | ppb | 3.63 | 900.00 | |
| 137 Ba | 159 | 1 | 61.58 | 30.79 | ppb | 1.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 2.75 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2409836 | 0.99 | 1872800 | 128.7 | 70 - 130 | |
| 45 Sc | 1 | 3105723 | 0.69 | 2694091 | 115.3 | 70 - 130 | |
| 45 Sc | 2 | 340703 | 6.18 | 307819 | 110.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 624141 | 0.75 | 562443 | 111.0 | 70 - | 130 |
| 72 | Ge | 2 | 136607 | 5.18 | 127696 | 107.0 | 70 - | 130 |
| 103 | Rh | 1 | 3309737 | 1.18 | 3225131 | 102.6 | 70 - | 130 |
| 115 | In | 1 | 3769372 | 0.70 | 3540560 | 106.5 | 70 - | 130 |
| 115 | In | 2 | 1135552 | 6.03 | 1130477 | 100.4 | 70 - | 130 |
| 159 | Tb | 1 | 5225854 | 1.46 | 4800257 | 108.9 | 70 - | 130 |
| 175 | Lu | 1 | 5138251 | 0.92 | 4666574 | 110.1 | 70 - | 130 |
| 209 | Bi | 1 | 3024040 | 0.33 | 2883202 | 104.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#
Date Acquired: Jun 6 2013 05:27 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.78 | 50.78 | ppb | 2.25 | 900.00 | |
| 9 Be | 45 | 2 | 52.98 | 52.98 | ppb | 0.39 | 900.00 | |
| 11 B | 6 | 1 | 50.49 | 50.49 | ppb | 2.44 | 900.00 | |
| 11 B | 45 | 2 | 50.80 | 50.80 | ppb | 3.32 | 900.00 | |
| 23 Na | 45 | 1 | 5364.00 | 5364.00 | ppb | 4.82 | 90000.00 | |
| 23 Na | 45 | 2 | 5269.00 | 5269.00 | ppb | 1.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 5280.00 | 5280.00 | ppb | 4.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5232.00 | 5232.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 5266.00 | 5266.00 | ppb | 4.90 | 90000.00 | |
| 27 Al | 45 | 2 | 5137.00 | 5137.00 | ppb | 0.22 | 90000.00 | |
| 39 K | 45 | 1 | 5284.00 | 5284.00 | ppb | 4.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 5338.00 | 5338.00 | ppb | 4.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.56 | 51.56 | ppb | 4.72 | 900.00 | |
| 51 V | 45 | 2 | 50.86 | 50.86 | ppb | 0.48 | 900.00 | |
| 52 Cr | 45 | 2 | 50.13 | 50.13 | ppb | 0.20 | 900.00 | |
| 55 Mn | 45 | 2 | 49.01 | 49.01 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 49.79 | 49.79 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 49.84 | 49.84 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 50.14 | 50.14 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 50.75 | 50.75 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 50.32 | 50.32 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 48.38 | 48.38 | ppb | 0.68 | 900.00 | |
| 88 Sr | 103 | 1 | 54.24 | 54.24 | ppb | 4.42 | 900.00 | |
| 98 Mo | 103 | 1 | 53.30 | 53.30 | ppb | 4.13 | 900.00 | |
| 107 Ag | 115 | 1 | 51.07 | 51.07 | ppb | 4.22 | 180.00 | |
| 111 Cd | 115 | 2 | 51.06 | 51.06 | ppb | 0.28 | 900.00 | |
| 120 Sn | 115 | 1 | 52.80 | 52.80 | ppb | 4.51 | 900.00 | |
| 121 Sb | 115 | 1 | 55.43 | 55.43 | ppb | 4.91 | 900.00 | |
| 137 Ba | 159 | 1 | 51.65 | 51.65 | ppb | 4.39 | 900.00 | |
| 205 Tl | 209 | 1 | 49.58 | 49.58 | ppb | 2.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 53.29 | 53.29 | ppb | 3.60 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2161054 | 2.37 | 1872800 | 115.4 | 70 - 130 | |
| 45 Sc | 1 | 2894687 | 4.14 | 2694091 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 315915 | 0.05 | 307819 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 577913 | 2.75 | 562443 | 102.8 | 70 | - | 130 |
| 72 Ge | 2 | 128251 | 0.34 | 127696 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 3208518 | 4.34 | 3225131 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3617743 | 4.30 | 3540560 | 102.2 | 70 | - | 130 |
| 115 In | 2 | 1079139 | 0.07 | 1130477 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 4987684 | 3.73 | 4800257 | 103.9 | 70 | - | 130 |
| 175 Lu | 1 | 4934259 | 3.58 | 4666574 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2910132 | 3.27 | 2883202 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#
Date Acquired: Jun 6 2013 05:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 26.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 234.91 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 88.87 | 900.00 | |
| 11 B | 45 | 2 | -0.04 | -0.04 | ppb | 256.95 | 900.00 | |
| 23 Na | 45 | 1 | 2.86 | 2.86 | ppb | 11.27 | 90000.00 | |
| 23 Na | 45 | 2 | 9.03 | 9.03 | ppb | 6.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.33 | 1.33 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.07 | 2.07 | ppb | 18.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.30 | 0.30 | ppb | 11.86 | 90000.00 | |
| 27 Al | 45 | 2 | 0.83 | 0.83 | ppb | 20.08 | 90000.00 | |
| 39 K | 45 | 1 | 4.38 | 4.38 | ppb | 24.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.05 | 5.05 | ppb | 22.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 15.66 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 67.77 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 10.56 | 900.00 | |
| 55 Mn | 45 | 2 | -0.13 | -0.13 | ppb | 6.14 | 900.00 | |
| 56 Fe | 45 | 2 | -0.58 | -0.58 | ppb | 42.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 46.92 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 67.20 | 900.00 | |
| 66 Zn | 72 | 2 | 0.23 | 0.23 | ppb | 5.13 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 55.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 63.04 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 7.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 2.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 34.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 5.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 12.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 31.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 1.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 27.93 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2202326 | 0.76 | 1872800 | 117.6 | 70 - 130 | |
| 45 Sc | 1 | 2909233 | 0.59 | 2694091 | 108.0 | 70 - 130 | |
| 45 Sc | 2 | 316288 | 0.66 | 307819 | 102.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 594047 | 0.92 | 562443 | 105.6 | 70 - | 130 |
| 72 | Ge | 2 | 128921 | 0.09 | 127696 | 101.0 | 70 - | 130 |
| 103 | Rh | 1 | 3362726 | 0.57 | 3225131 | 104.3 | 70 - | 130 |
| 115 | In | 1 | 3761378 | 0.97 | 3540560 | 106.2 | 70 - | 130 |
| 115 | In | 2 | 1109568 | 0.39 | 1130477 | 98.2 | 70 - | 130 |
| 159 | Tb | 1 | 5106561 | 0.64 | 4800257 | 106.4 | 70 - | 130 |
| 175 | Lu | 1 | 4995445 | 0.13 | 4666574 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3062977 | 0.41 | 2883202 | 106.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#
Date Acquired: Jun 6 2013 05:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-15F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 70.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 179.35 | 900.00 | |
| 11 B | 6 | 1 | 67.54 | 33.77 | ppb | 2.01 | 900.00 | |
| 11 B | 45 | 2 | 70.30 | 35.15 | ppb | 4.04 | 900.00 | |
| 23 Na | 45 | 1 | 19016.00 | 9508.00 | ppb | 1.01 | 90000.00 | |
| 23 Na | 45 | 2 | 19078.00 | 9539.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 4540.00 | 2270.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 4690.00 | 2345.00 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 1 | 5.62 | 2.81 | ppb | 2.08 | 90000.00 | |
| 27 Al | 45 | 2 | 5.91 | 2.95 | ppb | 3.19 | 90000.00 | |
| 39 K | 45 | 1 | 4474.00 | 2237.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 30400.00 | 15200.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.75 | 0.88 | ppb | 6.69 | 900.00 | |
| 51 V | 45 | 2 | 2.66 | 1.33 | ppb | 2.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.64 | 0.32 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 467.60 | 233.80 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 65.92 | 32.96 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.92 | 0.46 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | 3.91 | 1.96 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.69 | 0.84 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 11.58 | 5.79 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 2.65 | 1.33 | ppb | 1.11 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 573.92 | 900.00 | |
| 88 Sr | 103 | 1 | 217.60 | 108.80 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.45 | 0.23 | ppb | 1.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 8.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 30.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 4.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.60 | 0.30 | ppb | 1.40 | 900.00 | |
| 137 Ba | 159 | 1 | 61.44 | 30.72 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.32 | 0.16 | ppb | 2.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 1.52 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2367609 | 0.57 | 1872800 | 126.4 | 70 - 130 | |
| 45 Sc | 1 | 3032723 | 0.70 | 2694091 | 112.6 | 70 - 130 | |
| 45 Sc | 2 | 322659 | 0.35 | 307819 | 104.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 612433 | 0.61 | 562443 | 108.9 | 70 - | 130 |
| 72 | Ge | 2 | 130096 | 0.50 | 127696 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 3246687 | 0.72 | 3225131 | 100.7 | 70 - | 130 |
| 115 | In | 1 | 3714473 | 0.91 | 3540560 | 104.9 | 70 - | 130 |
| 115 | In | 2 | 1078884 | 0.57 | 1130477 | 95.4 | 70 - | 130 |
| 159 | Tb | 1 | 5157702 | 1.17 | 4800257 | 107.4 | 70 - | 130 |
| 175 | Lu | 1 | 5044999 | 0.93 | 4666574 | 108.1 | 70 - | 130 |
| 209 | Bi | 1 | 2941784 | 0.45 | 2883202 | 102.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D#
Date Acquired: Jun 6 2013 05:48 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-16F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | 0.00 | ppb | 40.60 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 362.98 | 900.00 | |
| 11 B | 6 | 1 | 29.52 | 1.48 | ppb | 4.86 | 900.00 | |
| 11 B | 45 | 2 | 31.38 | 1.57 | ppb | 8.38 | 900.00 | |
| 23 Na | 45 | 1 | 10132.00 | 506.60 | ppb | 0.05 | 90000.00 | |
| 23 Na | 45 | 2 | 10998.00 | 549.90 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 3322.00 | 166.10 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 3494.00 | 174.70 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 21.84 | 1.09 | ppb | 23.60 | 90000.00 | |
| 27 Al | 45 | 2 | 27.22 | 1.36 | ppb | 27.88 | 90000.00 | |
| 39 K | 45 | 1 | 3412.00 | 170.60 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 26220.00 | 1311.00 | ppb | 0.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.85 | 0.14 | ppb | 10.22 | 900.00 | |
| 51 V | 45 | 2 | -3.18 | -0.16 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | -2.06 | -0.10 | ppb | 4.95 | 900.00 | |
| 55 Mn | 45 | 2 | 1713.80 | 85.69 | ppb | 0.54 | 900.00 | |
| 56 Fe | 45 | 2 | 29960.00 | 1498.00 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 1.61 | 0.08 | ppb | 2.41 | 900.00 | |
| 60 Ni | 45 | 2 | 3.10 | 0.16 | ppb | 11.50 | 900.00 | |
| 63 Cu | 72 | 2 | 1.22 | 0.06 | ppb | 10.17 | 900.00 | |
| 66 Zn | 72 | 2 | 15.18 | 0.76 | ppb | 1.82 | 900.00 | |
| 75 As | 72 | 2 | 484.40 | 24.22 | ppb | 0.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.15 | 0.06 | ppb | 123.63 | 900.00 | |
| 88 Sr | 103 | 1 | 266.40 | 13.32 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.03 | ppb | 19.26 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 29.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.00 | ppb | 50.13 | 900.00 | |
| 120 Sn | 115 | 1 | -0.45 | -0.02 | ppb | 13.16 | 900.00 | |
| 121 Sb | 115 | 1 | -0.14 | -0.01 | ppb | 18.31 | 900.00 | |
| 137 Ba | 159 | 1 | 38.28 | 1.91 | ppb | 2.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.03 | ppb | 12.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.00 | ppb | 168.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2103455 | 0.84 | 1872800 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 2862611 | 0.84 | 2694091 | 106.3 | 70 - 130 | |
| 45 Sc | 2 | 306082 | 0.30 | 307819 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 589988 | 0.63 | 562443 | 104.9 | 70 | - | 130 |
| 72 Ge | 2 | 127403 | 0.28 | 127696 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3303011 | 0.25 | 3225131 | 102.4 | 70 | - | 130 |
| 115 In | 1 | 3694930 | 1.20 | 3540560 | 104.4 | 70 | - | 130 |
| 115 In | 2 | 1094965 | 0.89 | 1130477 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 5037779 | 0.33 | 4800257 | 104.9 | 70 | - | 130 |
| 175 Lu | 1 | 4939929 | 0.56 | 4666574 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 3009548 | 1.12 | 2883202 | 104.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#
Date Acquired: Jun 6 2013 05:56 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-17F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 28.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 17153.00 | 900.00 | |
| 11 B | 6 | 1 | 113.88 | 5.69 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 116.04 | 5.80 | ppb | 11.81 | 900.00 | |
| 23 Na | 45 | 1 | 26660.00 | 1333.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 27120.00 | 1356.00 | ppb | 1.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 5628.00 | 281.40 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 5932.00 | 296.60 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 19.58 | 0.98 | ppb | 14.17 | 90000.00 | |
| 27 Al | 45 | 2 | 20.42 | 1.02 | ppb | 7.78 | 90000.00 | |
| 39 K | 45 | 1 | 10464.00 | 523.20 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 43420.00 | 2171.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.55 | 0.18 | ppb | 7.95 | 900.00 | |
| 51 V | 45 | 2 | -3.73 | -0.19 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | -2.10 | -0.11 | ppb | 5.09 | 900.00 | |
| 55 Mn | 45 | 2 | 1413.40 | 70.67 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 56040.00 | 2802.00 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 2.31 | 0.12 | ppb | 1.93 | 900.00 | |
| 60 Ni | 45 | 2 | 2.90 | 0.15 | ppb | 5.78 | 900.00 | |
| 63 Cu | 72 | 2 | 1.33 | 0.07 | ppb | 8.48 | 900.00 | |
| 66 Zn | 72 | 2 | 15.21 | 0.76 | ppb | 3.60 | 900.00 | |
| 75 As | 72 | 2 | 609.80 | 30.49 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | -0.22 | -0.01 | ppb | 963.27 | 900.00 | |
| 88 Sr | 103 | 1 | 323.40 | 16.17 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.02 | ppb | 29.61 | 900.00 | |
| 107 Ag | 115 | 1 | -0.07 | 0.00 | ppb | 28.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.00 | ppb | 0.90 | 900.00 | |
| 120 Sn | 115 | 1 | -0.40 | -0.02 | ppb | 36.80 | 900.00 | |
| 121 Sb | 115 | 1 | -0.20 | -0.01 | ppb | 14.81 | 900.00 | |
| 137 Ba | 159 | 1 | 68.40 | 3.42 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 182.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 1906.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2078455 | 1.42 | 1872800 | 111.0 | 70 - 130 | |
| 45 Sc | 1 | 2844760 | 0.29 | 2694091 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 306849 | 0.53 | 307819 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 589144 | 0.92 | 562443 | 104.7 | 70 | - | 130 |
| 72 Ge | 2 | 127241 | 0.38 | 127696 | 99.6 | 70 | - | 130 |
| 103 Rh | 1 | 3255785 | 0.22 | 3225131 | 101.0 | 70 | - | 130 |
| 115 In | 1 | 3660865 | 0.48 | 3540560 | 103.4 | 70 | - | 130 |
| 115 In | 2 | 1100243 | 0.61 | 1130477 | 97.3 | 70 | - | 130 |
| 159 Tb | 1 | 4943253 | 0.32 | 4800257 | 103.0 | 70 | - | 130 |
| 175 Lu | 1 | 4896571 | 0.37 | 4666574 | 104.9 | 70 | - | 130 |
| 209 Bi | 1 | 3000224 | 1.06 | 2883202 | 104.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 06:03 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21202-1F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2308 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 24.43 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 89.76 | 900.00 | |
| 11 B | 6 | 1 | 48.40 | 24.20 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 51.26 | 25.63 | ppb | 2.60 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 439200.00 | 219600.00 | ppb | 0.26 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 16790.00 | 8395.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 17198.00 | 8599.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 4.55 | 2.28 | ppb | 2.18 | 90000.00 | |
| 27 Al | 45 | 2 | 4.58 | 2.29 | ppb | 5.02 | 90000.00 | |
| 39 K | 45 | 1 | 6072.00 | 3036.00 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 140780.00 | 70390.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 1.06 | ppb | 4.73 | 900.00 | |
| 51 V | 45 | 2 | 2.52 | 1.26 | ppb | 3.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.67 | 0.34 | ppb | 4.40 | 900.00 | |
| 55 Mn | 45 | 2 | 37.02 | 18.51 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 37.00 | 18.50 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.24 | 0.12 | ppb | 5.29 | 900.00 | |
| 60 Ni | 45 | 2 | 3.34 | 1.67 | ppb | 2.33 | 900.00 | |
| 63 Cu | 72 | 2 | 1.66 | 0.83 | ppb | 2.88 | 900.00 | |
| 66 Zn | 72 | 2 | 12.14 | 6.07 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 1.50 | 0.75 | ppb | 2.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.19 | ppb | 57.17 | 900.00 | |
| 88 Sr | 103 | 1 | 874.40 | 437.20 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.25 | ppb | 0.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.05 | ppb | 5.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 7.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 2.59 | 900.00 | |
| 137 Ba | 159 | 1 | 172.66 | 86.33 | ppb | 1.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 22.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 4.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2240261 | 0.66 | 1872800 | 119.6 | 70 - 130 | |
| 45 Sc | 1 | 2917378 | 0.57 | 2694091 | 108.3 | 70 - 130 | |
| 45 Sc | 2 | 304812 | 0.23 | 307819 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563824 | 0.81 | 562443 | 100.2 | 70 - | 130 |
| 72 | Ge | 2 | 119886 | 0.67 | 127696 | 93.9 | 70 - | 130 |
| 103 | Rh | 1 | 2953300 | 0.52 | 3225131 | 91.6 | 70 - | 130 |
| 115 | In | 1 | 3432306 | 0.73 | 3540560 | 96.9 | 70 - | 130 |
| 115 | In | 2 | 982938 | 0.64 | 1130477 | 86.9 | 70 - | 130 |
| 159 | Tb | 1 | 4834817 | 0.27 | 4800257 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 4799235 | 0.83 | 4666574 | 102.8 | 70 - | 130 |
| 209 | Bi | 1 | 2677445 | 0.16 | 2883202 | 92.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#
Date Acquired: Jun 6 2013 06:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-2F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 112.41 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 93.98 | 900.00 | |
| 11 B | 6 | 1 | 45.98 | 22.99 | ppb | 0.69 | 900.00 | |
| 11 B | 45 | 2 | 47.44 | 23.72 | ppb | 5.09 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 404400.00 | 202200.00 | ppb | 0.32 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 15466.00 | 7733.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 15622.00 | 7811.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 2.69 | 1.34 | ppb | 1.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.97 | 1.49 | ppb | 3.20 | 90000.00 | |
| 39 K | 45 | 1 | 5930.00 | 2965.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 129140.00 | 64570.00 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.00 | 1.00 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.69 | 0.34 | ppb | 4.63 | 900.00 | |
| 55 Mn | 45 | 2 | 196.70 | 98.35 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 138.00 | 69.00 | ppb | 0.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.95 | 0.47 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 3.93 | 1.96 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1.43 | 0.72 | ppb | 2.55 | 900.00 | |
| 66 Zn | 72 | 2 | 9.76 | 4.88 | ppb | 2.89 | 900.00 | |
| 75 As | 72 | 2 | 1.49 | 0.74 | ppb | 4.32 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 45.82 | 900.00 | |
| 88 Sr | 103 | 1 | 797.20 | 398.60 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.69 | 0.85 | ppb | 2.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.03 | ppb | 3.71 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 5.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 12.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.64 | 900.00 | |
| 137 Ba | 159 | 1 | 156.86 | 78.43 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 25.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 3.85 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2151553 | 0.58 | 1872800 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 2796448 | 0.34 | 2694091 | 103.8 | 70 - 130 | |
| 45 Sc | 2 | 295837 | 0.28 | 307819 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553631 | 0.70 | 562443 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 117056 | 0.54 | 127696 | 91.7 | 70 - | 130 |
| 103 | Rh | 1 | 2918082 | 0.92 | 3225131 | 90.5 | 70 - | 130 |
| 115 | In | 1 | 3370189 | 0.69 | 3540560 | 95.2 | 70 - | 130 |
| 115 | In | 2 | 975776 | 0.76 | 1130477 | 86.3 | 70 - | 130 |
| 159 | Tb | 1 | 4782345 | 0.73 | 4800257 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 4750284 | 0.33 | 4666574 | 101.8 | 70 - | 130 |
| 209 | Bi | 1 | 2609678 | 1.03 | 2883202 | 90.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D#
Date Acquired: Jun 6 2013 06:17 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-3F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 55.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 311.83 | 900.00 | |
| 11 B | 6 | 1 | 16.86 | 8.43 | ppb | 1.39 | 900.00 | |
| 11 B | 45 | 2 | 17.38 | 8.69 | ppb | 2.56 | 900.00 | |
| 23 Na | 45 | 1 | 2532.00 | 1266.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 2672.00 | 1336.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 3244.00 | 1622.00 | ppb | 1.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 3456.00 | 1728.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 4.35 | 2.18 | ppb | 2.28 | 90000.00 | |
| 27 Al | 45 | 2 | 4.10 | 2.05 | ppb | 8.32 | 90000.00 | |
| 39 K | 45 | 1 | 2634.00 | 1317.00 | ppb | 2.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 17956.00 | 8978.00 | ppb | 1.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.10 | 1.05 | ppb | 3.52 | 900.00 | |
| 51 V | 45 | 2 | 2.16 | 1.08 | ppb | 1.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.60 | 0.30 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 579.00 | 289.50 | ppb | 1.81 | 900.00 | |
| 56 Fe | 45 | 2 | 1451.00 | 725.50 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 2.51 | 1.26 | ppb | 1.40 | 900.00 | |
| 60 Ni | 45 | 2 | 5.17 | 2.59 | ppb | 1.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.80 | 0.40 | ppb | 2.82 | 900.00 | |
| 66 Zn | 72 | 2 | 25.82 | 12.91 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 3.77 | 1.89 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 119.63 | 900.00 | |
| 88 Sr | 103 | 1 | 117.66 | 58.83 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.02 | ppb | 17.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 42.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.08 | ppb | 3.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 13.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 10.87 | 900.00 | |
| 137 Ba | 159 | 1 | 13.30 | 6.65 | ppb | 1.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 1.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 19.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2327684 | 1.11 | 1872800 | 124.3 | 70 - 130 | |
| 45 Sc | 1 | 2980999 | 0.59 | 2694091 | 110.6 | 70 - 130 | |
| 45 Sc | 2 | 309253 | 1.30 | 307819 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 605509 | 1.18 | 562443 | 107.7 | 70 | - | 130 |
| 72 | Ge | 2 | 125932 | 0.78 | 127696 | 98.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3268766 | 0.36 | 3225131 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 3708973 | 0.85 | 3540560 | 104.8 | 70 | - | 130 |
| 115 | In | 2 | 1064344 | 0.63 | 1130477 | 94.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5139589 | 1.17 | 4800257 | 107.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5072300 | 1.01 | 4666574 | 108.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2980928 | 1.18 | 2883202 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#
Date Acquired: Jun 6 2013 06:24 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-PS1
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.24 | 0.86 | ppb | 0.66 | 900.00 | |
| 9 Be | 45 | 2 | 17.44 | 0.87 | ppb | 11.67 | 900.00 | |
| 11 B | 6 | 1 | 213.60 | 10.68 | ppb | 0.82 | 900.00 | |
| 11 B | 45 | 2 | 230.80 | 11.54 | ppb | 4.36 | 900.00 | |
| 23 Na | 45 | 1 | 13000.00 | 650.00 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 13396.00 | 669.80 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 8270.00 | 413.50 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 8704.00 | 435.20 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 1 | 39.32 | 1.97 | ppb | 8.77 | 90000.00 | |
| 27 Al | 45 | 2 | 37.20 | 1.86 | ppb | 15.86 | 90000.00 | |
| 39 K | 45 | 1 | 10262.00 | 513.10 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 58460.00 | 2923.00 | ppb | 1.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 21.20 | 1.06 | ppb | 3.41 | 900.00 | |
| 51 V | 45 | 2 | 13.04 | 0.65 | ppb | 2.14 | 900.00 | |
| 52 Cr | 45 | 2 | 14.47 | 0.72 | ppb | 5.16 | 900.00 | |
| 55 Mn | 45 | 2 | 1032.00 | 51.60 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 69860.00 | 3493.00 | ppb | 1.65 | 90000.00 | |
| 59 Co | 45 | 2 | 17.20 | 0.86 | ppb | 2.47 | 900.00 | |
| 60 Ni | 45 | 2 | 18.74 | 0.94 | ppb | 3.80 | 900.00 | |
| 63 Cu | 72 | 2 | 18.14 | 0.91 | ppb | 1.50 | 900.00 | |
| 66 Zn | 72 | 2 | 26.00 | 1.30 | ppb | 2.72 | 900.00 | |
| 75 As | 72 | 2 | 495.40 | 24.77 | ppb | 1.23 | 900.00 | |
| 78 Se | 72 | 2 | 17.81 | 0.89 | ppb | 14.49 | 900.00 | |
| 88 Sr | 103 | 1 | 680.20 | 34.01 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 15.10 | 0.76 | ppb | 1.94 | 900.00 | |
| 107 Ag | 115 | 1 | 16.71 | 0.84 | ppb | 1.60 | 180.00 | |
| 111 Cd | 115 | 2 | 17.15 | 0.86 | ppb | 2.52 | 900.00 | |
| 120 Sn | 115 | 1 | 16.59 | 0.83 | ppb | 3.23 | 900.00 | |
| 121 Sb | 115 | 1 | 18.18 | 0.91 | ppb | 1.67 | 900.00 | |
| 137 Ba | 159 | 1 | 139.44 | 6.97 | ppb | 1.62 | 900.00 | |
| 205 Tl | 209 | 1 | 13.46 | 0.67 | ppb | 0.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.87 | 0.89 | ppb | 2.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1983564 | 0.17 | 1872800 | 105.9 | 70 - 130 | |
| 45 Sc | 1 | 2728371 | 1.17 | 2694091 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 300128 | 1.16 | 307819 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 572452 | 0.56 | 562443 | 101.8 | 70 | - | 130 |
| 72 | Ge | 2 | 124931 | 0.36 | 127696 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3179602 | 0.56 | 3225131 | 98.6 | 70 | - | 130 |
| 115 | In | 1 | 3578458 | 0.27 | 3540560 | 101.1 | 70 | - | 130 |
| 115 | In | 2 | 1085900 | 1.17 | 1130477 | 96.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4871653 | 1.07 | 4800257 | 101.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4768240 | 0.77 | 4666574 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2896896 | 0.94 | 2883202 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#
Date Acquired: Jun 6 2013 06:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-S1
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.00 | 10.02 | ppb | 0.07 | 900.00 | |
| 9 Be | 45 | 2 | 503.00 | 10.06 | ppb | 0.68 | 900.00 | |
| 11 B | 6 | 1 | 230.75 | 4.62 | ppb | 0.47 | 900.00 | |
| 11 B | 45 | 2 | 235.60 | 4.71 | ppb | 4.14 | 900.00 | |
| 23 Na | 45 | 1 | 41465.00 | 829.30 | ppb | 1.73 | 90000.00 | |
| 23 Na | 45 | 2 | 42960.00 | 859.20 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 35965.00 | 719.30 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 38125.00 | 762.50 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 1 | 2236.50 | 44.73 | ppb | 1.36 | 90000.00 | |
| 27 Al | 45 | 2 | 2277.00 | 45.54 | ppb | 1.37 | 90000.00 | |
| 39 K | 45 | 1 | 38090.00 | 761.80 | ppb | 3.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 97250.00 | 1945.00 | ppb | 1.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 503.00 | 10.06 | ppb | 1.72 | 900.00 | |
| 51 V | 45 | 2 | 502.50 | 10.05 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 496.75 | 9.94 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 1715.00 | 34.30 | ppb | 0.07 | 900.00 | |
| 56 Fe | 45 | 2 | 85000.00 | 1700.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 511.50 | 10.23 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 503.00 | 10.06 | ppb | 0.51 | 900.00 | |
| 63 Cu | 72 | 2 | 512.00 | 10.24 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 562.00 | 11.24 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 1098.50 | 21.97 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 523.00 | 10.46 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 1323.00 | 26.46 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.01 | ppb | 31.57 | 900.00 | |
| 107 Ag | 115 | 1 | 205.15 | 4.10 | ppb | 2.37 | 180.00 | |
| 111 Cd | 115 | 2 | 502.00 | 10.04 | ppb | 0.25 | 900.00 | |
| 120 Sn | 115 | 1 | -1.25 | -0.02 | ppb | 17.20 | 900.00 | |
| 121 Sb | 115 | 1 | 536.50 | 10.73 | ppb | 1.65 | 900.00 | |
| 137 Ba | 159 | 1 | 2185.50 | 43.71 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 460.00 | 9.20 | ppb | 3.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1037.00 | 20.74 | ppb | 0.83 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1962468 | 1.08 | 1872800 | 104.8 | 70 - 130 | |
| 45 Sc | 1 | 2746103 | 2.14 | 2694091 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 301824 | 0.15 | 307819 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 563743 | 1.57 | 562443 | 100.2 | 70 | - | 130 |
| 72 Ge | 2 | 125230 | 0.36 | 127696 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 3230661 | 1.36 | 3225131 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 3596320 | 1.82 | 3540560 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 1093239 | 0.58 | 1130477 | 96.7 | 70 | - | 130 |
| 159 Tb | 1 | 4868461 | 0.99 | 4800257 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4774384 | 1.34 | 4666574 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 2877335 | 1.18 | 2883202 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#
Date Acquired: Jun 6 2013 06:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-S2
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 522.50 | 10.45 | ppb | 0.39 | 900.00 | |
| 9 Be | 45 | 2 | 502.50 | 10.05 | ppb | 2.98 | 900.00 | |
| 11 B | 6 | 1 | 235.95 | 4.72 | ppb | 2.35 | 900.00 | |
| 11 B | 45 | 2 | 229.85 | 4.60 | ppb | 8.67 | 900.00 | |
| 23 Na | 45 | 1 | 42130.00 | 842.60 | ppb | 1.34 | 90000.00 | |
| 23 Na | 45 | 2 | 43280.00 | 865.60 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 36650.00 | 733.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 39070.00 | 781.40 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2322.00 | 46.44 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2368.00 | 47.36 | ppb | 0.93 | 90000.00 | |
| 39 K | 45 | 1 | 38660.00 | 773.20 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 98600.00 | 1972.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 512.50 | 10.25 | ppb | 1.19 | 900.00 | |
| 51 V | 45 | 2 | 506.00 | 10.12 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 503.00 | 10.06 | ppb | 1.54 | 900.00 | |
| 55 Mn | 45 | 2 | 1745.50 | 34.91 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 86000.00 | 1720.00 | ppb | 0.54 | 90000.00 | |
| 59 Co | 45 | 2 | 515.00 | 10.30 | ppb | 0.97 | 900.00 | |
| 60 Ni | 45 | 2 | 505.50 | 10.11 | ppb | 0.22 | 900.00 | |
| 63 Cu | 72 | 2 | 517.50 | 10.35 | ppb | 0.27 | 900.00 | |
| 66 Zn | 72 | 2 | 577.00 | 11.54 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 1124.50 | 22.49 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 529.00 | 10.58 | ppb | 3.48 | 900.00 | |
| 88 Sr | 103 | 1 | 1352.50 | 27.05 | ppb | 1.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.01 | ppb | 13.52 | 900.00 | |
| 107 Ag | 115 | 1 | 209.80 | 4.20 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 515.00 | 10.30 | ppb | 2.70 | 900.00 | |
| 120 Sn | 115 | 1 | -1.35 | -0.03 | ppb | 5.73 | 900.00 | |
| 121 Sb | 115 | 1 | 547.00 | 10.94 | ppb | 0.34 | 900.00 | |
| 137 Ba | 159 | 1 | 2226.00 | 44.52 | ppb | 1.85 | 900.00 | |
| 205 Tl | 209 | 1 | 471.10 | 9.42 | ppb | 2.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1057.00 | 21.14 | ppb | 1.13 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1921768 | 1.04 | 1872800 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 2727397 | 0.90 | 2694091 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 301178 | 0.64 | 307819 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 559135 | 1.02 | 562443 | 99.4 | 70 | - | 130 |
| 72 | Ge | 2 | 124116 | 0.29 | 127696 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3185205 | 0.61 | 3225131 | 98.8 | 70 | - | 130 |
| 115 | In | 1 | 3557965 | 0.67 | 3540560 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1087903 | 0.24 | 1130477 | 96.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4810113 | 0.32 | 4800257 | 100.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4699412 | 0.20 | 4666574 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2830153 | 0.46 | 2883202 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D# |
| Date Acquired: | Jun 6 2013 06:45 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21073A-B1 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 506.20 | 25.31 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 508.00 | 25.40 | ppb | 3.23 | 900.00 | |
| 11 B | 6 | 1 | -1.99 | -0.10 | ppb | 11.07 | 900.00 | |
| 11 B | 45 | 2 | -0.62 | -0.03 | ppb | 147.45 | 900.00 | |
| 23 Na | 45 | 1 | 25940.00 | 1297.00 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 26300.00 | 1315.00 | ppb | 5.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 26040.00 | 1302.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 26800.00 | 1340.00 | ppb | 6.51 | 90000.00 | |
| 27 Al | 45 | 1 | 2182.00 | 109.10 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 2244.00 | 112.20 | ppb | 6.74 | 90000.00 | |
| 39 K | 45 | 1 | 26080.00 | 1304.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 26500.00 | 1325.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 503.80 | 25.19 | ppb | 1.72 | 900.00 | |
| 51 V | 45 | 2 | 508.80 | 25.44 | ppb | 6.24 | 900.00 | |
| 52 Cr | 45 | 2 | 502.00 | 25.10 | ppb | 5.62 | 900.00 | |
| 55 Mn | 45 | 2 | 499.40 | 24.97 | ppb | 5.87 | 900.00 | |
| 56 Fe | 45 | 2 | 2216.00 | 110.80 | ppb | 6.29 | 90000.00 | |
| 59 Co | 45 | 2 | 506.40 | 25.32 | ppb | 5.72 | 900.00 | |
| 60 Ni | 45 | 2 | 498.20 | 24.91 | ppb | 6.18 | 900.00 | |
| 63 Cu | 72 | 2 | 505.40 | 25.27 | ppb | 4.58 | 900.00 | |
| 66 Zn | 72 | 2 | 544.00 | 27.20 | ppb | 4.92 | 900.00 | |
| 75 As | 72 | 2 | 517.40 | 25.87 | ppb | 3.87 | 900.00 | |
| 78 Se | 72 | 2 | 508.80 | 25.44 | ppb | 6.94 | 900.00 | |
| 88 Sr | 103 | 1 | 514.60 | 25.73 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 0.44 | 0.02 | ppb | 19.48 | 900.00 | |
| 107 Ag | 115 | 1 | 206.00 | 10.30 | ppb | 0.83 | 180.00 | |
| 111 Cd | 115 | 2 | 511.80 | 25.59 | ppb | 4.66 | 900.00 | |
| 120 Sn | 115 | 1 | -0.40 | -0.02 | ppb | 3.82 | 900.00 | |
| 121 Sb | 115 | 1 | 535.00 | 26.75 | ppb | 0.44 | 900.00 | |
| 137 Ba | 159 | 1 | 2036.00 | 101.80 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 473.20 | 23.66 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.60 | 50.88 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1949569 | 1.03 | 1872800 | 104.1 | 70 - 130 | |
| 45 Sc | 1 | 2712983 | 0.67 | 2694091 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 298704 | 5.16 | 307819 | 97.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553979 | 1.20 | 562443 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 123361 | 4.32 | 127696 | 96.6 | 70 - | 130 |
| 103 | Rh | 1 | 3222160 | 0.96 | 3225131 | 99.9 | 70 - | 130 |
| 115 | In | 1 | 3552664 | 0.70 | 3540560 | 100.3 | 70 - | 130 |
| 115 | In | 2 | 1065001 | 3.75 | 1130477 | 94.2 | 70 - | 130 |
| 159 | Tb | 1 | 4787249 | 0.85 | 4800257 | 99.7 | 70 - | 130 |
| 175 | Lu | 1 | 4698556 | 0.42 | 4666574 | 100.7 | 70 - | 130 |
| 209 | Bi | 1 | 2872078 | 0.89 | 2883202 | 99.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Jun 6 2013 06:52 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2403 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.18 | 51.18 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 53.38 | 53.38 | ppb | 2.79 | 900.00 | |
| 11 B | 6 | 1 | 50.44 | 50.44 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 50.77 | 50.77 | ppb | 3.76 | 900.00 | |
| 23 Na | 45 | 1 | 5189.00 | 5189.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5221.00 | 5221.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 5139.00 | 5139.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.13 | 90000.00 | |
| 27 Al | 45 | 1 | 5111.00 | 5111.00 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 5255.00 | 5255.00 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 5202.00 | 5202.00 | ppb | 0.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 5255.00 | 5255.00 | ppb | 0.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.46 | 50.46 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 51.50 | 51.50 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 50.72 | 50.72 | ppb | 0.30 | 900.00 | |
| 55 Mn | 45 | 2 | 50.07 | 50.07 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5134.00 | 5134.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 50.69 | 50.69 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 50.40 | 50.40 | ppb | 0.76 | 900.00 | |
| 63 Cu | 72 | 2 | 49.77 | 49.77 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 51.09 | 51.09 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 51.22 | 51.22 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 50.70 | 50.70 | ppb | 0.85 | 900.00 | |
| 88 Sr | 103 | 1 | 53.73 | 53.73 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 52.16 | 52.16 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 50.43 | 50.43 | ppb | 0.46 | 180.00 | |
| 111 Cd | 115 | 2 | 51.40 | 51.40 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 51.96 | 51.96 | ppb | 0.51 | 900.00 | |
| 121 Sb | 115 | 1 | 54.62 | 54.62 | ppb | 0.44 | 900.00 | |
| 137 Ba | 159 | 1 | 51.04 | 51.04 | ppb | 0.18 | 900.00 | |
| 205 Tl | 209 | 1 | 49.18 | 49.18 | ppb | 1.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.25 | 52.25 | ppb | 0.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1976885 | 0.91 | 1872800 | 105.6 | 70 - 130 | |
| 45 Sc | 1 | 2766703 | 0.29 | 2694091 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 297282 | 0.40 | 307819 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 555702 | 0.29 | 562443 | 98.8 | 70 | - | 130 |
| 72 | Ge | 2 | 122487 | 0.16 | 127696 | 95.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3138575 | 0.70 | 3225131 | 97.3 | 70 | - | 130 |
| 115 | In | 1 | 3517948 | 0.57 | 3540560 | 99.4 | 70 | - | 130 |
| 115 | In | 2 | 1056691 | 0.12 | 1130477 | 93.5 | 70 | - | 130 |
| 159 | Tb | 1 | 4892124 | 0.43 | 4800257 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4796537 | 0.11 | 4666574 | 102.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2851520 | 0.59 | 2883202 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#
Date Acquired: Jun 6 2013 06:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 111.61 | 900.00 | |
| 11 B | 6 | 1 | 0.01 | 0.01 | ppb | 132.62 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 48.55 | 900.00 | |
| 23 Na | 45 | 1 | 4.72 | 4.72 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 7.14 | 7.14 | ppb | 5.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.51 | 1.51 | ppb | 6.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.46 | 1.46 | ppb | 6.78 | 90000.00 | |
| 27 Al | 45 | 1 | 0.50 | 0.50 | ppb | 24.65 | 90000.00 | |
| 27 Al | 45 | 2 | 0.47 | 0.47 | ppb | 50.17 | 90000.00 | |
| 39 K | 45 | 1 | 7.04 | 7.04 | ppb | 11.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.97 | 0.97 | ppb | 74.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 100.08 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 117.73 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 10.60 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 2.65 | 900.00 | |
| 56 Fe | 45 | 2 | -0.80 | -0.80 | ppb | 3.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 19.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 42.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 38.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.30 | 0.30 | ppb | 5.43 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 132.08 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 68.05 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 19.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 1.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 34.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 15.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 25.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.36 | 0.36 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2012709 | 1.10 | 1872800 | 107.5 | 70 - 130 | |
| 45 Sc | 1 | 2753789 | 0.67 | 2694091 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 301295 | 0.21 | 307819 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569342 | 0.82 | 562443 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124119 | 0.69 | 127696 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3255324 | 0.81 | 3225131 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 3628550 | 0.68 | 3540560 | 102.5 | 70 | - | 130 |
| 115 | In | 2 | 1097957 | 0.28 | 1130477 | 97.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4893243 | 0.57 | 4800257 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4821593 | 1.18 | 4666574 | 103.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2967235 | 0.37 | 2883202 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#** | | |
| **Date Acquired:** | **Jun 6 2013 07:06 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MC21156-1F** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2405** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Jun 06 2013 01:52 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **20.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **20.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 177.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.28 | 0.01 | ppb | 169.82 | 900.00 | |
| 11 B | 6 | 1 | 41.16 | 2.06 | ppb | 1.62 | 900.00 | |
| 11 B | 45 | 2 | 41.28 | 2.06 | ppb | 11.56 | 900.00 | |
| 23 Na | 45 | 1 | 15278.00 | 763.90 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 15380.00 | 769.00 | ppb | 3.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 3362.00 | 168.10 | ppb | 1.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 3384.00 | 169.20 | ppb | 2.51 | 90000.00 | |
| 27 Al | 45 | 1 | 24.92 | 1.25 | ppb | 14.84 | 90000.00 | |
| 27 Al | 45 | 2 | 26.92 | 1.35 | ppb | 7.67 | 90000.00 | |
| 39 K | 45 | 1 | 5086.00 | 254.30 | ppb | 2.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 25300.00 | 1265.00 | ppb | 1.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.17 | 0.16 | ppb | 14.03 | 900.00 | |
| 51 V | 45 | 2 | -3.57 | -0.18 | ppb | 2.89 | 900.00 | |
| 52 Cr | 45 | 2 | -1.97 | -0.10 | ppb | 0.72 | 900.00 | |
| 55 Mn | 45 | 2 | 2556.00 | 127.80 | ppb | 2.93 | 900.00 | |
| 56 Fe | 45 | 2 | 64300.00 | 3215.00 | ppb | 2.63 | 90000.00 | |
| 59 Co | 45 | 2 | 8.23 | 0.41 | ppb | 4.36 | 900.00 | |
| 60 Ni | 45 | 2 | 7.43 | 0.37 | ppb | 7.86 | 900.00 | |
| 63 Cu | 72 | 2 | 1.99 | 0.10 | ppb | 25.09 | 900.00 | |
| 66 Zn | 72 | 2 | 12.86 | 0.64 | ppb | 4.95 | 900.00 | |
| 75 As | 72 | 2 | 459.80 | 22.99 | ppb | 2.92 | 900.00 | |
| 78 Se | 72 | 2 | 2.51 | 0.13 | ppb | 76.41 | 900.00 | |
| 88 Sr | 103 | 1 | 100.34 | 5.02 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 0.64 | 0.03 | ppb | 1.77 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | 0.00 | ppb | 101.28 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 34.79 | 900.00 | |
| 120 Sn | 115 | 1 | -0.38 | -0.02 | ppb | 9.94 | 900.00 | |
| 121 Sb | 115 | 1 | -0.16 | -0.01 | ppb | 17.38 | 900.00 | |
| 137 Ba | 159 | 1 | 43.78 | 2.19 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 1.94 | 0.10 | ppb | 1.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.01 | ppb | 9.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1965647 | 0.26 | 1872800 | 105.0 | 70 - 130 | |
| 45 Sc | 1 | 2719152 | 0.97 | 2694091 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 302322 | 2.50 | 307819 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570849 | 0.58 | 562443 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 125494 | 2.41 | 127696 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3193462 | 0.14 | 3225131 | 99.0 | 70 | - | 130 |
| 115 | In | 1 | 3581977 | 0.06 | 3540560 | 101.2 | 70 | - | 130 |
| 115 | In | 2 | 1104469 | 3.04 | 1130477 | 97.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4869255 | 0.70 | 4800257 | 101.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4768537 | 0.08 | 4666574 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2936889 | 0.82 | 2883202 | 101.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 07:13 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2406 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.22 | 0.22 | ppb | 2.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.17 | 0.17 | ppb | 27.88 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 41.88 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 126.18 | 900.00 | |
| 23 Na | 45 | 1 | 14.50 | 14.50 | ppb | 2.69 | 90000.00 | |
| 23 Na | 45 | 2 | 15.61 | 15.61 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 12.75 | 12.75 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 13.09 | 13.09 | ppb | 1.43 | 90000.00 | |
| 27 Al | 45 | 1 | 12.96 | 12.96 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 2 | 13.26 | 13.26 | ppb | 5.42 | 90000.00 | |
| 39 K | 45 | 1 | 17.42 | 17.42 | ppb | 8.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 31.90 | 31.90 | ppb | 4.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.49 | 0.49 | ppb | 6.00 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 25.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.11 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.31 | 0.31 | ppb | 6.99 | 900.00 | |
| 56 Fe | 45 | 2 | 13.24 | 13.24 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 0.22 | 0.22 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.25 | ppb | 11.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.29 | ppb | 3.40 | 900.00 | |
| 66 Zn | 72 | 2 | 1.95 | 1.95 | ppb | 2.57 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.17 | ppb | 15.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.29 | 0.29 | ppb | 27.72 | 900.00 | |
| 88 Sr | 103 | 1 | 0.25 | 0.25 | ppb | 1.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.45 | 0.45 | ppb | 0.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.19 | 0.19 | ppb | 6.14 | 180.00 | |
| 111 Cd | 115 | 2 | 0.21 | 0.21 | ppb | 7.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.68 | 0.68 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.22 | ppb | 4.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.25 | ppb | 5.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 2.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.23 | ppb | 2.04 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1970188 | 0.38 | 1872800 | 105.2 | 70 - 130 | |
| 45 Sc | 1 | 2755027 | 0.24 | 2694091 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 302510 | 0.32 | 307819 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 566278 | 0.71 | 562443 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 125026 | 0.24 | 127696 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3288402 | 0.34 | 3225131 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 3631155 | 0.88 | 3540560 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1109610 | 0.62 | 1130477 | 98.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4920324 | 0.52 | 4800257 | 102.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4837002 | 0.10 | 4666574 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2968976 | 0.69 | 2883202 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#
Date Acquired: Jun 6 2013 07:20 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 2.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.43 | 0.43 | ppb | 10.45 | 900.00 | |
| 11 B | 6 | 1 | 4.74 | 4.74 | ppb | 2.80 | 900.00 | |
| 11 B | 45 | 2 | 4.36 | 4.36 | ppb | 11.46 | 900.00 | |
| 23 Na | 45 | 1 | 259.80 | 259.80 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 279.20 | 279.20 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.50 | 261.50 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 278.10 | 278.10 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 26.34 | 26.34 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 26.64 | 26.64 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 259.60 | 259.60 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.10 | 264.10 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 1.02 | ppb | 3.91 | 900.00 | |
| 51 V | 45 | 2 | 0.99 | 0.99 | ppb | 1.51 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 1.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.86 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 25.94 | 25.94 | ppb | 1.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.02 | 900.00 | |
| 60 Ni | 45 | 2 | 1.02 | 1.02 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.96 | 0.96 | ppb | 2.16 | 900.00 | |
| 66 Zn | 72 | 2 | 3.75 | 3.75 | ppb | 0.82 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 6.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 9.96 | 900.00 | |
| 88 Sr | 103 | 1 | 5.11 | 5.11 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 2.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 2.83 | 900.00 | |
| 120 Sn | 115 | 1 | 4.96 | 4.96 | ppb | 0.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 3.79 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 3.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 1.42 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2028463 | 1.48 | 1872800 | 108.3 | 70 - 130 | |
| 45 Sc | 1 | 2777362 | 0.57 | 2694091 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 302122 | 1.04 | 307819 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570832 | 0.96 | 562443 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 124712 | 0.50 | 127696 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3301284 | 1.06 | 3225131 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 3669111 | 0.17 | 3540560 | 103.6 | 70 | - | 130 |
| 115 | In | 2 | 1100592 | 0.29 | 1130477 | 97.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4966931 | 0.77 | 4800257 | 103.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4869093 | 1.44 | 4666574 | 104.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3014217 | 0.67 | 2883202 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#
Date Acquired: Jun 6 2013 07:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.89 | 50.89 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 53.91 | 53.91 | ppb | 3.08 | 900.00 | |
| 11 B | 6 | 1 | 50.18 | 50.18 | ppb | 0.87 | 900.00 | |
| 11 B | 45 | 2 | 51.37 | 51.37 | ppb | 3.22 | 900.00 | |
| 23 Na | 45 | 1 | 5198.00 | 5198.00 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5231.00 | 5231.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 5142.00 | 5142.00 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 5251.00 | 5251.00 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 1 | 5128.00 | 5128.00 | ppb | 1.37 | 90000.00 | |
| 27 Al | 45 | 2 | 5248.00 | 5248.00 | ppb | 1.31 | 90000.00 | |
| 39 K | 45 | 1 | 5200.00 | 5200.00 | ppb | 1.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 5230.00 | 5230.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.23 | 50.23 | ppb | 0.64 | 900.00 | |
| 51 V | 45 | 2 | 51.67 | 51.67 | ppb | 0.91 | 900.00 | |
| 52 Cr | 45 | 2 | 50.85 | 50.85 | ppb | 1.36 | 900.00 | |
| 55 Mn | 45 | 2 | 50.26 | 50.26 | ppb | 1.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5168.00 | 5168.00 | ppb | 1.67 | 90000.00 | |
| 59 Co | 45 | 2 | 50.80 | 50.80 | ppb | 1.48 | 900.00 | |
| 60 Ni | 45 | 2 | 50.61 | 50.61 | ppb | 1.00 | 900.00 | |
| 63 Cu | 72 | 2 | 50.29 | 50.29 | ppb | 1.18 | 900.00 | |
| 66 Zn | 72 | 2 | 51.36 | 51.36 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 51.54 | 51.54 | ppb | 1.35 | 900.00 | |
| 78 Se | 72 | 2 | 50.44 | 50.44 | ppb | 1.44 | 900.00 | |
| 88 Sr | 103 | 1 | 53.10 | 53.10 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 51.68 | 51.68 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 50.40 | 50.40 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 51.09 | 51.09 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 51.38 | 51.38 | ppb | 0.83 | 900.00 | |
| 121 Sb | 115 | 1 | 54.39 | 54.39 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 51.18 | 51.18 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 49.21 | 49.21 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.58 | 52.58 | ppb | 0.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2020798 | 0.92 | 1872800 | 107.9 | 70 - 130 | |
| 45 Sc | 1 | 2811780 | 1.08 | 2694091 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 300707 | 0.92 | 307819 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 567212 | 0.49 | 562443 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 123584 | 0.57 | 127696 | 96.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3228182 | 0.94 | 3225131 | 100.1 | 70 | - | 130 |
| 115 | In | 1 | 3605802 | 0.75 | 3540560 | 101.8 | 70 | - | 130 |
| 115 | In | 2 | 1066381 | 0.72 | 1130477 | 94.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4967154 | 1.01 | 4800257 | 103.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4934140 | 1.81 | 4666574 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2924805 | 0.72 | 2883202 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#
Date Acquired: Jun 6 2013 07:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 44.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2939.50 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 96.66 | 900.00 | |
| 11 B | 45 | 2 | -0.06 | -0.06 | ppb | 116.94 | 900.00 | |
| 23 Na | 45 | 1 | 3.46 | 3.46 | ppb | 10.62 | 90000.00 | |
| 23 Na | 45 | 2 | 6.09 | 6.09 | ppb | 4.08 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.26 | 1.26 | ppb | 3.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.56 | 1.56 | ppb | 10.54 | 90000.00 | |
| 27 Al | 45 | 1 | 0.37 | 0.37 | ppb | 16.26 | 90000.00 | |
| 27 Al | 45 | 2 | 0.66 | 0.66 | ppb | 19.71 | 90000.00 | |
| 39 K | 45 | 1 | 8.74 | 8.74 | ppb | 19.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.20 | 6.20 | ppb | 11.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 44.29 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 50.79 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 9.56 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 5.91 | 900.00 | |
| 56 Fe | 45 | 2 | -0.91 | -0.91 | ppb | 21.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 56.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 43.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 29.16 | 900.00 | |
| 66 Zn | 72 | 2 | 0.76 | 0.76 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 66.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 106.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 5.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 8.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 20.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 62.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.26 | ppb | 4.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 6.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 3.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2031570 | 1.17 | 1872800 | 108.5 | 70 - 130 | |
| 45 Sc | 1 | 2776448 | 0.70 | 2694091 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 301768 | 0.61 | 307819 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 574672 | 0.27 | 562443 | 102.2 | 70 | - | 130 |
| 72 Ge | 2 | 124705 | 0.27 | 127696 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3281486 | 0.74 | 3225131 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 3629640 | 1.20 | 3540560 | 102.5 | 70 | - | 130 |
| 115 In | 2 | 1105458 | 0.54 | 1130477 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 4940967 | 1.14 | 4800257 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 4865948 | 0.67 | 4666574 | 104.3 | 70 | - | 130 |
| 209 Bi | 1 | 3024042 | 1.29 | 2883202 | 104.9 | 70 | - | 130 |

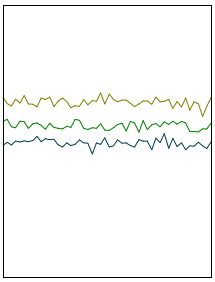
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

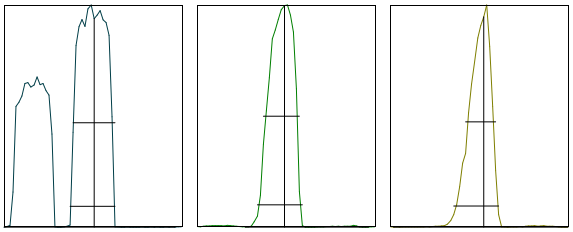
# Tune Report

Tune File : nogas.u
Comment : 060613



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2495.0 | 2467.8 | 2.82 | 2.30 |
| 89 | 10,000 | 5684.0 | 5577.6 | 2.43 | 1.50 |
| 205 | 5,000 | 3312.0 | 3221.5 | 2.46 | 6.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.471%
Doubly Charged: 70/140 3.627%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,383 | 5,587 | 3,639 |
| Axis: | 7.05 | 89.00 | 205.10 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 117 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9983 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.01 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 229.3 | 7.76 | |
| QP Focus: | -8 V | 59 | 1117.1 | 3.77 | |
| Cell Exit: | -34 V | 89 | 1293.7 | 3.74 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Jun 06, 2013 08:58:05
Printed : Jun 06, 2013 08:58:55

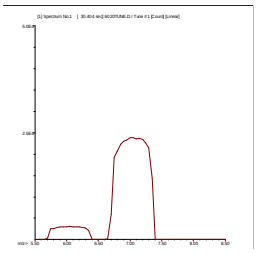
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Jun 6 2013 09:11 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

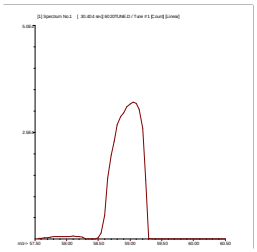
**QC Tune Summary:**
**Pass**

**RSD%**

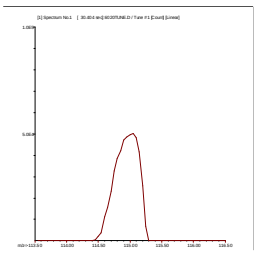
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.70 | 5.00 | 0 |
| 59 Co | 0.53 | 5.00 | |
| 115 In | 0.78 | 5.00 | |
| 205 Tl | 3.09 | 5.00 | |



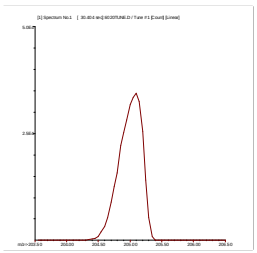
**7 Li**
**Mass Calib.**
Actual: 7.10
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

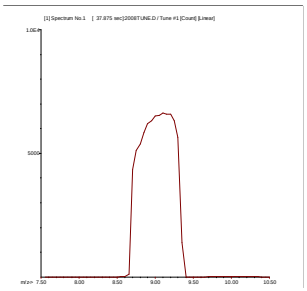
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13F06j00.B\2008TUNE.D
**Date Acquired:** Jun 6 2013 09:17 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

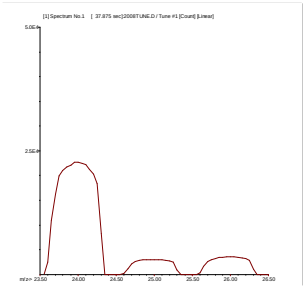


**RSD (%)**

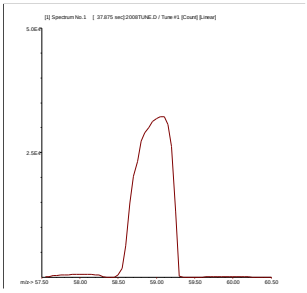
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 39731 | 39208 | 39855 | 39699 | 40036 | 39857 | **0.77** | 5.00 | |
| 24 Mg | 136277 | 136003 | 136135 | 135850 | 136259 | 137136 | **1.13** | 5.00 | |
| 59 Co | 175115 | 174949 | 174512 | 176639 | 174540 | 174933 | **0.92** | 5.00 | |
| 115 In | 247453 | 244990 | 247672 | 248411 | 247642 | 248552 | **0.49** | 5.00 | |
| 208 Pb | 119684 | 117467 | 119480 | 120263 | 120590 | 120620 | **0.87** | 5.00 | |



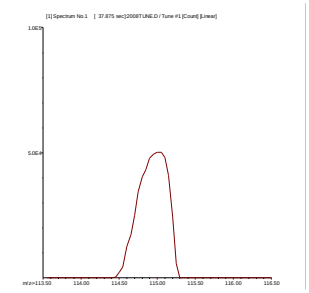
**9 Be**
**Mass Calib.**
Actual: 9.10
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



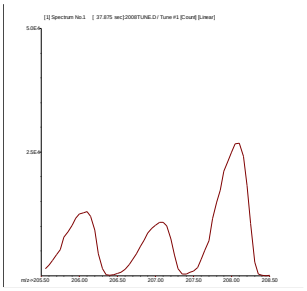
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.05
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Jun 07, 2013 10:40 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

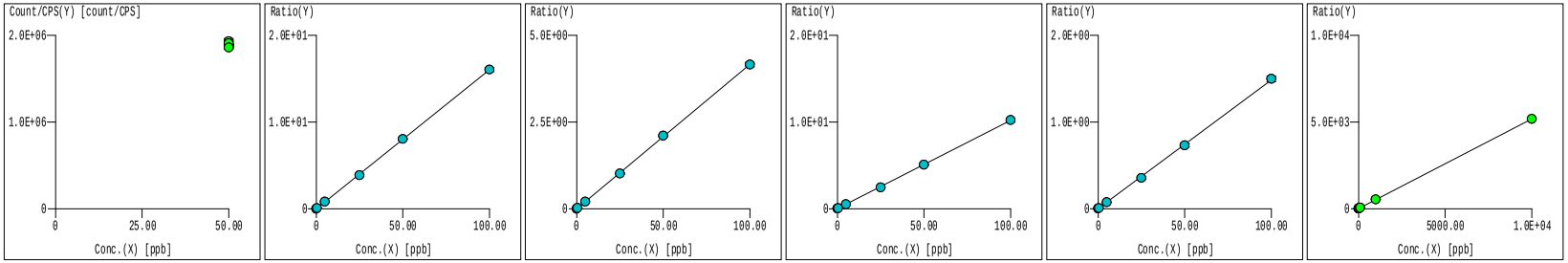
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13f06m00.b\002calb.d\002calb.d# | STDA | Jun 6 2013 12:59 pm |
| 2 | c:\icpchem\1\data\13f06m00.b\003cals.d\003cals.d# | STDB | Jun 6 2013 01:06 pm |
| 3 | c:\icpchem\1\data\13f06m00.b\004cals.d\004cals.d# | STDC | Jun 6 2013 01:13 pm |
| 4 | c:\icpchem\1\data\13f06m00.b\005cals.d\005cals.d# | STDD | Jun 6 2013 01:20 pm |
| 5 | c:\icpchem\1\data\13f06m00.b\006cals.d\006cals.d# | STDE | Jun 6 2013 01:27 pm |
| 6 | c:\icpchem\1\data\13f06m00.b\007cals.d\007cals.d# | STDF | Jun 6 2013 01:34 pm |
| 7 | c:\icpchem\1\data\13f06m00.b\008cals.d\008cals.d# | STDG | Jun 6 2013 01:41 pm |
| 8 | c:\icpchem\1\data\13f06m00.b\009cals.d\009cals.d# | STDH | Jun 6 2013 01:48 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

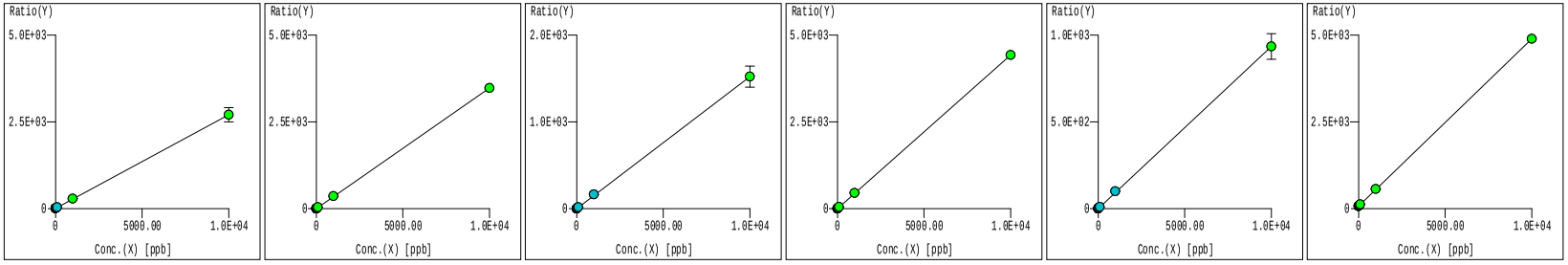
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 1.0000 |
| < DL > | --- ppb | 9.614E-03 ppb | 3.819E-02 ppb | 9.283E-02 ppb | 1.313E-01 ppb | 2.808E-01 ppb |
| < BEC > | --- ppb | 9.795E-03 ppb | 1.284E-02 ppb | 3.436E-01 ppb | 2.803E-01 ppb | 19.65 ppb |



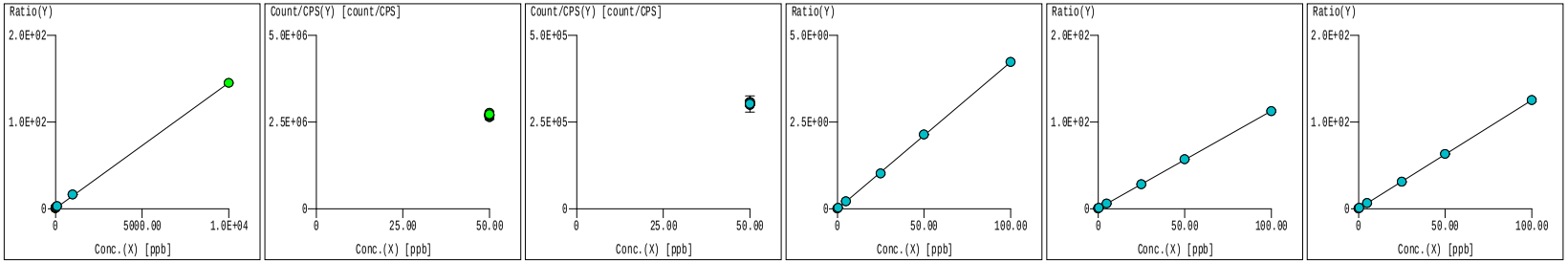

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.610 ppb | 1.145E-02 ppb | 1.185E-01 ppb | 2.486E-01 ppb | 2.898E-01 ppb | 3.523 ppb |
| < BEC > | 36.04 ppb | 4.179E-01 ppb | 3.564E-01 ppb | 1.833 ppb | 1.722 ppb | 147.5 ppb |



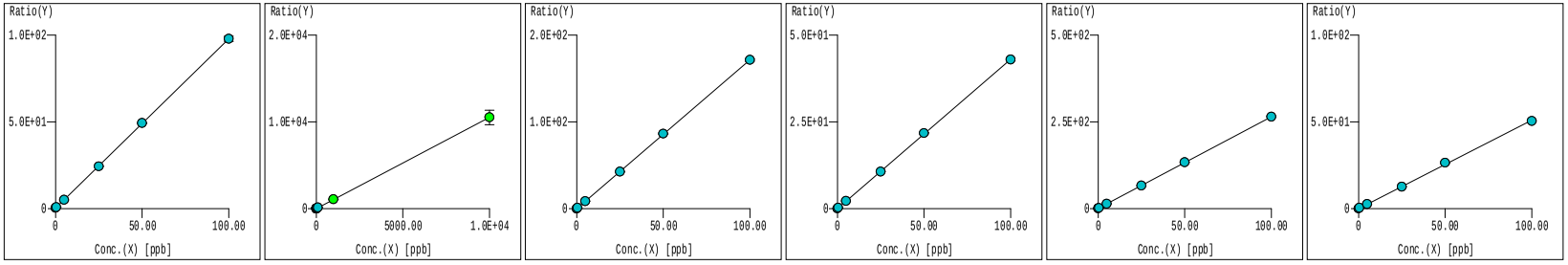
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | 7.711E-01 ppb | --- ppb | --- ppb | 4.911E-02 ppb | 1.510E-02 ppb | 3.626E-02 ppb |
| < BEC > | 48.37 ppb | --- ppb | --- ppb | 9.862E-02 ppb | 3.815E-01 ppb | 2.313E-01 ppb |



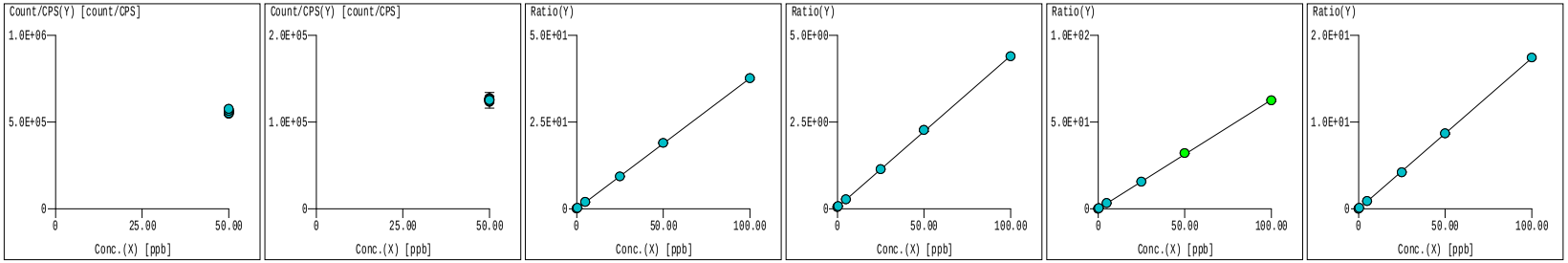

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9997 |
| < DL > | 1.955E-02 ppb | 4.267E-01 ppb | 1.003E-03 ppb | 6.605E-03 ppb | 3.277E-02 ppb | 9.604E-03 ppb |
| < BEC > | 3.969E-01 ppb | 6.652 ppb | 7.366E-03 ppb | 7.215E-02 ppb | 2.173E-01 ppb | 1.198E-01 ppb |



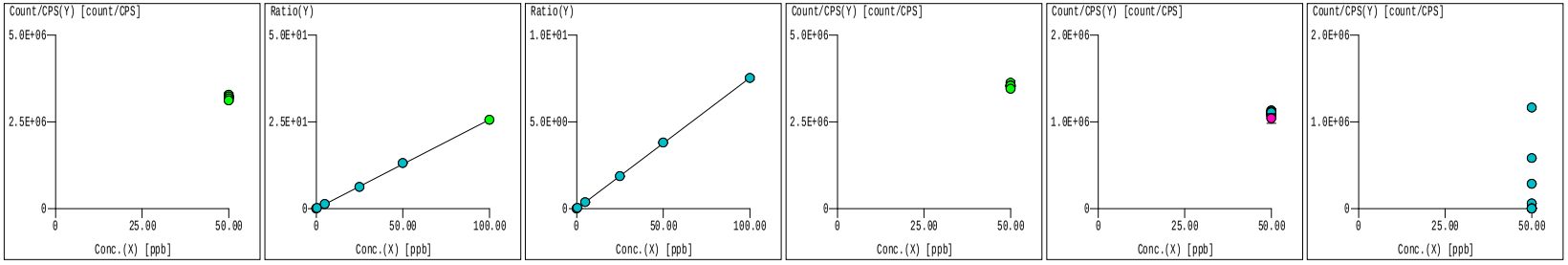
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 0.9999 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 1.839E-02 ppb | 2.799E-01 ppb | 1.108E-04 ppb | 1.791E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.094E-01 ppb | 1.137 ppb | 1.333E-02 ppb | 1.130E-02 ppb |



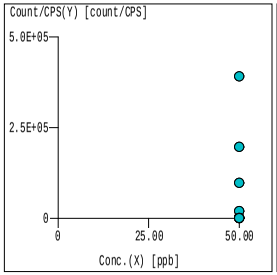

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.676E-03 ppb | 5.748E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 9.728E-03 ppb | 1.942E-03 ppb | --- ppb | --- ppb | --- ppb |

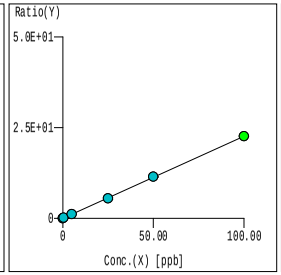


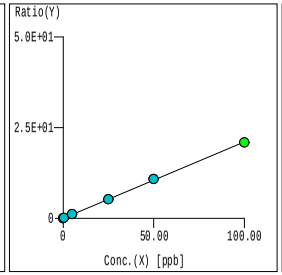
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

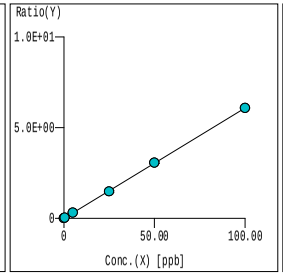
=== Graph Summary ===
Page: 4/4

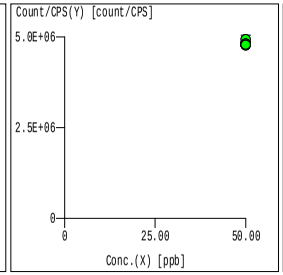
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9998 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.011E-02 ppb | 8.603E-03 ppb | 8.464E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.275E-02 ppb | 2.722E-02 ppb | 1.034E-01 ppb | --- ppb | --- ppb |

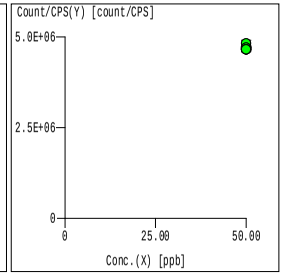


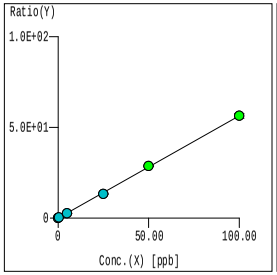



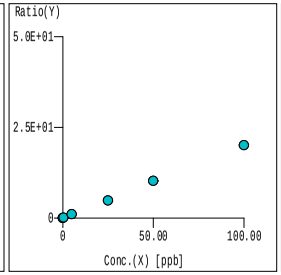



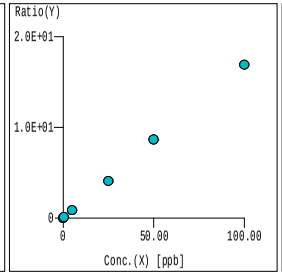



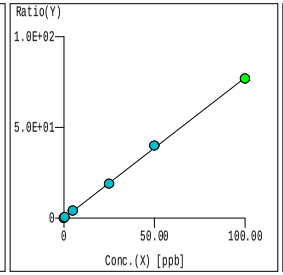



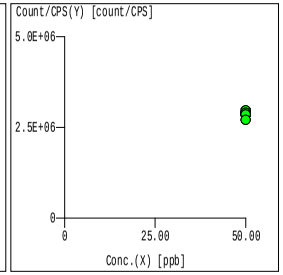

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9998 | 0.9999 | 0.9999 | 0.9998 | 0.0000 |
| < DL > | 1.266E-03 ppb | --- ppb | --- ppb | 6.786E-03 ppb | --- ppb |
| < BEC > | 4.213E-02 ppb | --- ppb | --- ppb | 4.510E-02 ppb | --- ppb |



Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/6/2013 10:50:36 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0025 | .0013 | .0006 | .0002 | .0011 | .0065 | -.0001 | .0056 | .0031 |
| Stddev | .0001 | .0005 | .0002 | .0000 | .0001 | .0005 | .0000 | .0001 | .0001 |
| %RSD | 2.437 | 41.61 | 30.06 | 2.310 | 8.341 | 7.992 | 15.53 | 2.016 | 2.760 |
| #1 | -.0026 | .0009 | .0005 | .0002 | .0010 | .0069 | -.0002 | .0057 | .0032 |
| #2 | -.0025 | .0017 | .0007 | .0002 | .0012 | .0061 | -.0001 | .0055 | .0030 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0004 | .0002 | .0071 | .0005 | .0014 | -.0001 | .0008 | .0002 | .0057 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0008 | .0001 | .0000 | .0000 | .0005 |
| %RSD | 33.28 | 58.26 | 1.946 | 2.073 | 56.81 | 57.62 | 6.136 | 14.15 | 8.153 |
| #1 | -.0003 | .0002 | .0072 | .0005 | .0008 | -.0002 | .0008 | .0002 | .0053 |
| #2 | -.0005 | .0001 | .0070 | .0005 | .0020 | -.0001 | .0007 | .0002 | .0060 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | -.0011 | .0001 | .0001 | .0003 | .0003 | .0292 | -.0001 | .0038 |
| Stddev | .0001 | .0007 | .0000 | .0000 | .0004 | .0002 | .0003 | .0001 | .0000 |
| %RSD | 3.527 | 62.86 | 1.040 | 33.57 | 116.2 | 61.53 | 1.103 | 93.93 | .1279 |
| #1 | -.0015 | -.0016 | .0001 | .0000 | .0001 | .0005 | .0290 | -.0001 | .0038 |
| #2 | -.0014 | -.0006 | .0001 | .0001 | .0006 | .0002 | .0294 | .0000 | .0037 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0002 | -.0012 | .0002 | .0000 | .0008 | .0004 |
| Stddev | .0000 | .0000 | .0001 | .000 | .0002 | .0003 |
| %RSD | 32.74 | 1.593 | 29.28 | 236.4 | 23.17 | 83.49 |
| #1 | -.0002 | -.0012 | .0002 | -.0001 | .0009 | .0006 |
| #2 | -.0001 | -.0012 | .0003 | .0000 | .0006 | .0001 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/6/2013 10:50:36 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2391.9 | 78347. | 15501. |
| Stddev | .3 | 438. | 140. |
| %RSD | .01448 | .55899 | .90041 |
| #1 | 2391.7 | 78656. | 15402. |
| #2 | 2392.1 | 78037. | 15600. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/6/2013 10:54:59 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1335 | .5092 | 1.931 | 15.59 | 14.20 | 8.870 | 8.294 | .8750 | 1.690 | 5.259 |
| Stddev | .0003 | .0004 | .002 | .02 | .00 | .003 | .012 | .0011 | .001 | .022 |
| %RSD | .2184 | .0869 | .0944 | .1137 | .0057 | .0357 | .1457 | .1288 | .0585 | .4208 |
| #1 | .1333 | .5095 | 1.930 | 15.61 | 14.20 | 8.872 | 8.285 | .8742 | 1.691 | 5.274 |
| #2 | .1337 | .5089 | 1.933 | 15.58 | 14.20 | 8.868 | 8.302 | .8758 | 1.689 | 5.243 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.381 | 6.783 | 2.697 | 1.526 | .7216 | 1.042 | 9.709 |
| Stddev | .012 | .005 | .003 | .000 | .0000 | .000 | .018 |
| %RSD | .1666 | .0736 | .0910 | .0137 | .0031 | .0119 | .1842 |
| #1 | 7.372 | 6.779 | 2.696 | 1.526 | .7216 | 1.042 | 9.696 |
| #2 | 7.390 | 6.787 | 2.699 | 1.526 | .7216 | 1.042 | 9.721 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2385.9 | 77966. | 15424. |
| Stddev | 3.3 | 535. | 65. |
| %RSD | .13910 | .68670 | .41824 |
| #1 | 2388.2 | 78344. | 15378. |
| #2 | 2383.5 | 77587. | 15470. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/6/2013 10:59:20 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.374 | 2.471 | 1.564 | .7884 | .1946 | 2.477 |
| Stddev | .001 | .003 | .000 | .0014 | .0008 | .002 |
| %RSD | .0606 | .1043 | .0280 | .1787 | .4156 | .0962 |
| #1 | 1.374 | 2.469 | 1.564 | .7894 | .1940 | 2.476 |
| #2 | 1.375 | 2.473 | 1.563 | .7874 | .1951 | 2.479 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 15482. |
| Stddev | 29. |
| %RSD | .18930 |
| #1 | 15462. |
| #2 | 15503. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/6/2013 11:03:40 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2315 | .4565 | .0713 | 1.981 | 1.735 | 24.19 | 1.460 | 1.159 | .0643 | 2.938 |
| Stddev | .0004 | .0002 | .0002 | .006 | .003 | .08 | .001 | .001 | .0002 | .003 |
| %RSD | .1563 | .0400 | .2871 | .2828 | .1712 | .3441 | .0913 | .0943 | .3249 | .0902 |
| #1 | .2313 | .4563 | .0715 | 1.977 | 1.733 | 24.13 | 1.459 | 1.158 | .0644 | 2.936 |
| #2 | .2318 | .4566 | .0712 | 1.985 | 1.738 | 24.25 | 1.461 | 1.160 | .0641 | 2.940 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2435.1 | 78944. | 15473. |
| Stddev | 6.0 | 264. | 38. |
| %RSD | .24835 | .33472 | .24252 |
| #1 | 2439.4 | 78757. | 15447. |
| #2 | 2430.8 | 79131. | 15500. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/6/2013 11:08:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5034 | 15.37 | 2.955 | 2.907 | 2.973 | 2.985 | 2.927 | 17.77 | 2.914 | 2.910 |
| Stddev | .0024 | .02 | .000 | .011 | .005 | .000 | .001 | .01 | .004 | .004 |
| %RSD | .4682 | .1306 | .0129 | .3876 | .1860 | .0106 | .0426 | .0525 | .1210 | .1332 |
| #1 | .5017 | 15.36 | 2.955 | 2.899 | 2.970 | 2.985 | 2.926 | 17.76 | 2.911 | 2.907 |
| #2 | .5051 | 15.39 | 2.956 | 2.915 | 2.977 | 2.985 | 2.928 | 17.77 | 2.916 | 2.912 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.990 | 2.880 | 18.00 | 15.08 | 17.95 | 2.837 | 2.815 | 15.17 | 2.822 | 2.867 |
| Stddev | .017 | .009 | .06 | .00 | .09 | .002 | .004 | .02 | .003 | .001 |
| %RSD | .5717 | .3161 | .3235 | .0034 | .5161 | .0759 | .1309 | .1023 | .0885 | .0495 |
| #1 | 2.978 | 2.874 | 17.96 | 15.08 | 17.89 | 2.838 | 2.813 | 15.18 | 2.820 | 2.866 |
| #2 | 3.002 | 2.886 | 18.04 | 15.08 | 18.02 | 2.835 | 2.818 | 15.16 | 2.823 | 2.868 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.949 | 2.898 | 2.885 | 2.900 | 2.943 | 2.977 | 3.052 | 2.931 | 2.870 | 2.884 |
| Stddev | .009 | .017 | .005 | .005 | .005 | .003 | .055 | .007 | .001 | .009 |
| %RSD | .2932 | .5805 | .1727 | .1678 | .1621 | .1046 | 1.810 | .2281 | .0489 | .3186 |
| #1 | 2.942 | 2.886 | 2.881 | 2.896 | 2.940 | 2.975 | 3.013 | 2.926 | 2.871 | 2.877 |
| #2 | 2.955 | 2.910 | 2.888 | 2.903 | 2.947 | 2.979 | 3.091 | 2.935 | 2.869 | 2.890 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 2.907 | 2.826 | 3.061 |
| Stddev | .006 | .006 | .007 |
| %RSD | .2238 | .2113 | .2177 |
| #1 | 2.902 | 2.822 | 3.056 |
| #2 | 2.911 | 2.830 | 3.065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2405.2 | 78574. | 15520. |
| Stddev | 5.8 | 476. | 73. |
| %RSD | .24130 | .60538 | .47142 |
| #1 | 2409.3 | 78910. | 15572. |
| #2 | 2401.1 | 78238. | 15468. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/6/2013 11:12:52 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0081 | .0003 | .0031 | .0033 | .0008 | F.0009 | .0469 | F.0005 |
| Stddev | .0005 | .0044 | .0007 | .0000 | .0005 | .0002 | .0001 | .0006 | .0002 |
| %RSD | 521.2 | 54.36 | 265.2 | 1.545 | 15.36 | 25.21 | 7.653 | 1.320 | 37.11 |
| #1 | -.0004 | .0050 | -.0002 | .0032 | .0036 | .0007 | .0010 | .0474 | .0006 |
| #2 | .0002 | .0112 | .0007 | .0031 | .0029 | .0010 | .0009 | .0465 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | .0006 | .0075 | .0236 | .0023 | .0010 | .0029 | .0164 |
| Stddev | .0001 | .0005 | .0000 | .0019 | .0151 | .0191 | .0001 | .0006 | .0041 |
| %RSD | 12.37 | 129.2 | 4.173 | 25.71 | 64.16 | 846.6 | 14.12 | 21.82 | 24.71 |
| #1 | .0006 | .0007 | .0006 | .0062 | .0343 | .0157 | .0011 | .0033 | .0193 |
| #2 | .0007 | .0000 | .0006 | .0089 | .0129 | -.0112 | .0009 | .0024 | .0136 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0018 | .0022 | .0005 | .0003 | .0024 | .0038 | .0006 | F.0010 |
| Stddev | .0000 | .0004 | .0031 | .0005 | .0002 | .0002 | .0000 | .0002 | .0000 |
| %RSD | 7.249 | 20.38 | 140.7 | 94.46 | 56.25 | 9.097 | 1.011 | 35.54 | .4941 |
| #1 | .0007 | .0021 | .0044 | .0009 | .0002 | .0023 | .0038 | .0004 | .0010 |
| #2 | .0006 | .0016 | .0000 | .0002 | .0005 | .0026 | .0038 | .0007 | .0010 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | F.0032 | .0008 | .0146 | .0006 | .0021 |
| Stddev | .0003 | .0006 | .0004 | .0048 | .0002 | .0000 |
| %RSD | 28.56 | 19.47 | 53.61 | 32.53 | 32.93 | .7193 |
| #1 | .0011 | .0037 | .0011 | .0180 | .0004 | .0021 |
| #2 | .0007 | .0028 | .0005 | .0113 | .0007 | .0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2411.8 | 79156. | 15403. |
| Stddev | 2.3 | 1000. | . |
| %RSD | .09514 | 1.2631 | .00195 |
| #1 | 2410.2 | 79863. | 15403. |
| #2 | 2413.4 | 78449. | 15403. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 11:17:14 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2428 | 9.730 | 1.922 | -.0043 | 1.928 | 1.918 | 1.934 | 9.766 | 1.911 | 1.998 |
| Stddev | .0016 | .013 | .009 | .0004 | .004 | .005 | .003 | .016 | .006 | .005 |
| %RSD | .6784 | .1336 | .4956 | 9.517 | .1804 | .2398 | .1744 | .1644 | .3269 | .2709 |
| #1 | .2440 | 9.740 | 1.929 | -.0046 | 1.930 | 1.921 | 1.937 | 9.777 | 1.916 | 2.001 |
| #2 | .2416 | 9.721 | 1.916 | -.0040 | 1.925 | 1.915 | 1.932 | 9.754 | 1.907 | 1.994 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.928 | 1.903 | 9.787 | 9.729 | 9.569 | 1.921 | 1.913 | 9.740 | 1.900 | 1.886 |
| Stddev | .004 | .002 | .015 | .006 | .028 | .005 | .006 | .042 | .004 | .004 |
| %RSD | .2166 | .1130 | .1510 | .0670 | .2887 | .2392 | .3221 | .4340 | .2171 | .2313 |
| #1 | 1.931 | 1.901 | 9.797 | 9.725 | 9.588 | 1.925 | 1.917 | 9.770 | 1.903 | 1.889 |
| #2 | 1.925 | 1.904 | 9.776 | 9.734 | 9.549 | 1.918 | 1.908 | 9.710 | 1.897 | 1.883 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0021 | 1.916 | 1.926 | .0037 | 1.899 | 1.972 | 1.903 | 1.919 | 1.902 |
| Stddev | .0003 | .0021 | .010 | .006 | .0004 | .009 | .004 | .003 | .009 | .001 |
| %RSD | 108.1 | 102.8 | .5020 | .3278 | 11.27 | .4914 | .1766 | .1788 | .4544 | .0341 |
| #1 | -.0004 | .0006 | 1.923 | 1.931 | .0040 | 1.905 | 1.975 | 1.905 | 1.925 | 1.902 |
| #2 | -.0001 | .0036 | 1.910 | 1.922 | .0035 | 1.892 | 1.970 | 1.900 | 1.913 | 1.903 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0112 | 1.907 | .0015 |
| Stddev | .0043 | .005 | .0007 |
| %RSD | 37.95 | .2896 | 47.40 |
| #1 | .0082 | 1.911 | .0020 |
| #2 | .0143 | 1.904 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2424.4 | 79074. | 15479. |
| Stddev | 2.0 | 259. | 47. |
| %RSD | .08107 | .32781 | .30264 |
| #1 | 2423.0 | 78891. | 15446. |
| #2 | 2425.8 | 79257. | 15513. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 11:21:24 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0038 | .0015 | -.0015 | .0031 | .0007 | F.0008 | .0435 | .0003 |
| Stddev | .0000 | .0059 | .0006 | .0003 | .0001 | .0001 | .0002 | .0011 | .0003 |
| %RSD | 3.672 | 152.1 | 40.71 | 21.87 | 2.688 | 14.04 | 17.84 | 2.590 | 83.79 |
| #1 | -.0004 | .0080 | .0010 | -.0013 | .0030 | .0008 | .0010 | .0443 | .0005 |
| #2 | -.0004 | -.0003 | .0019 | -.0017 | .0031 | .0006 | .0007 | .0427 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | .0002 | .0072 | .0244 | .0224 | .0008 | .0024 | .0083 |
| Stddev | .0004 | .0001 | .0002 | .0040 | .0232 | .0170 | .0000 | .0005 | .0003 |
| %RSD | 162.4 | 31.40 | 68.01 | 54.96 | 95.09 | 75.97 | 3.900 | 22.58 | 3.919 |
| #1 | .0005 | .0003 | .0003 | .0044 | .0408 | .0103 | .0008 | .0027 | .0081 |
| #2 | .0000 | .0002 | .0001 | .0100 | .0080 | .0344 | .0008 | .0020 | .0086 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0002 | .0000 | -.0023 | .0000 | .0012 | .0036 | .0005 | .0008 |
| Stddev | .0002 | .0007 | .001 | .0091 | .0010 | .0008 | .0006 | .0001 | .0001 |
| %RSD | 45.86 | 460.8 | 2092. | 399.1 | 2249. | 65.10 | 17.13 | 28.76 | 11.16 |
| #1 | .0005 | .0007 | -.0006 | .0041 | .0007 | .0007 | .0032 | .0004 | .0008 |
| #2 | .0002 | -.0004 | .0005 | -.0087 | -.0006 | .0018 | .0040 | .0006 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | .0018 | .0009 | .0065 | .0000 | .0007 |
| Stddev | .0002 | .0001 | .0000 | .0012 | .0000 | .0000 |
| %RSD | 19.96 | 7.012 | 2.489 | 17.92 | 253.1 | 5.951 |
| #1 | .0007 | .0017 | .0009 | .0057 | .0000 | .0006 |
| #2 | .0010 | .0019 | .0010 | .0074 | .0000 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.9 | 78710. | 15402. |
| Stddev | 2.5 | 373. | 56. |
| %RSD | .10433 | .47445 | .36619 |
| #1 | 2414.7 | 78446. | 15442. |
| #2 | 2411.1 | 78975. | 15362. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/6/2013 11:26:35 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1957 | .0048 | -.0002 | .1018 | .0508 | .0043 | 5.017 | .0041 |
| Stddev | .0001 | .0024 | .0009 | .0008 | .0001 | .0000 | .0001 | .026 | .0001 |
| %RSD | 1.884 | 1.227 | 17.97 | 420.7 | .0987 | .0794 | 1.367 | .5191 | 1.280 |
| #1 | .0050 | .1940 | .0054 | .0004 | .1017 | .0509 | .0043 | 4.999 | .0041 |
| #2 | .0048 | .1974 | .0042 | -.0008 | .1019 | .0508 | .0044 | 5.036 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0523 | .0099 | .0249 | .1047 | 5.004 | 4.887 | .0157 | .1010 | 4.923 |
| Stddev | .0000 | .0007 | .0001 | .0006 | .025 | .037 | .0001 | .0000 | .008 |
| %RSD | .0338 | 6.747 | .4771 | .6198 | .4941 | .7557 | .6919 | .0299 | .1584 |
| #1 | .0523 | .0095 | .0248 | .1051 | 4.986 | 4.861 | .0156 | .1010 | 4.917 |
| #2 | .0523 | .0104 | .0250 | .1042 | 5.021 | 4.913 | .0158 | .1010 | 4.928 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0063 | -.0009 | -.0047 | .0067 | .0104 | .0006 | .0987 | .0105 |
| Stddev | .0000 | .0007 | .0004 | .0020 | .0001 | .0008 | .0006 | .0007 | .0001 |
| %RSD | .0918 | 11.13 | 39.33 | 42.36 | 1.391 | 7.808 | 104.3 | .6957 | .6002 |
| #1 | .0410 | .0058 | -.0007 | -.0033 | .0067 | .0110 | .0010 | .0983 | .0104 |
| #2 | .0410 | .0068 | -.0012 | -.0061 | .0066 | .0099 | .0001 | .0992 | .0105 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0517 | F.0067 | .0108 | .0034 | .0212 | .0002 |
| Stddev | .0007 | .0001 | .0007 | .0005 | .0000 | .0001 |
| %RSD | 1.364 | .7733 | 6.355 | 14.60 | .0598 | 61.50 |
| #1 | .0512 | .0067 | .0103 | .0030 | .0212 | .0002 |
| #2 | .0522 | .0067 | .0112 | .0037 | .0212 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2460.4 | 78857. | 15810. |
| Stddev | 3.7 | 451. | 92. |
| %RSD | .15164 | .57227 | .57995 |
| #1 | 2457.8 | 79176. | 15875. |
| #2 | 2463.0 | 78538. | 15745. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/6/2013 11:30:53 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 508.1 | -.0003 | .0045 | .0050 | -.0001 | .0001 | 454.6 | -.0001 | .0005 |
| Stddev | .0001 | 9.7 | .0005 | .0020 | .0004 | .0001 | .0001 | .5 | .0001 | .0001 |
| %RSD | 147.7 | 1.910 | 155.9 | 45.24 | 7.368 | 81.24 | 43.60 | .1078 | 92.69 | 17.25 |
| #1 | .0001 | 514.9 | -.0007 | .0030 | .0053 | -.0002 | .0001 | 454.3 | .0000 | .0005 |
| #2 | .0000 | 501.2 | .0000 | .0059 | .0047 | .0000 | .0002 | 455.0 | -.0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | 188.1 | -.0034 | 478.6 | .0007 | -.0010 | .1578 | -.0024 | -.0008 |
| Stddev | .0001 | .0003 | .9 | .0184 | 1.6 | .0001 | .0001 | .0165 | .0004 | .0007 |
| %RSD | 3330. | 26.16 | .4638 | 540.8 | .3438 | 11.57 | 7.136 | 10.45 | 17.45 | 91.64 |
| #1 | -.0001 | .0009 | 187.5 | -.0164 | 477.4 | .0007 | -.0009 | .1462 | -.0027 | -.0003 |
| #2 | .0001 | .0013 | 188.7 | .0096 | 479.7 | .0008 | -.0010 | .1695 | -.0021 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0345 | -.0315 | .0003 | -.0051 | .0330 | -.0001 | .0015 | .0079 | -.0004 | .0002 |
| Stddev | .0018 | .0009 | .0011 | .0005 | .0000 | .0005 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 5.218 | 2.908 | 321.5 | 10.72 | .0783 | 524.3 | 6.042 | .6670 | 95.39 | 8.804 |
| #1 | -.0358 | -.0308 | -.0004 | -.0055 | .0330 | .0003 | .0014 | .0078 | -.0007 | .0002 |
| #2 | -.0333 | -.0321 | .0011 | -.0047 | .0330 | -.0005 | .0015 | .0079 | -.0001 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0290 | -.0013 | .0002 |
| Stddev | .0033 | .0001 | .0002 |
| %RSD | 11.26 | 8.759 | 74.74 |
| #1 | -.0313 | -.0012 | .0004 |
| #2 | -.0267 | -.0014 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2309.9 | 73564. | 15462. |
| Stddev | 3.5 | 43. | 14. |
| %RSD | .15068 | .05885 | .08800 |
| #1 | 2307.5 | 73534. | 15453. |
| #2 | 2312.4 | 73595. | 15472. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/6/2013 11:35:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.004 | 512.2 | 1.945 | .4715 | .9681 | .4911 | .4725 | 457.9 | .9795 | .4460 |
| Stddev | .001 | 2.4 | .002 | .0019 | .0021 | .0002 | .0000 | 4.3 | .0009 | .0003 |
| %RSD | .1222 | .4680 | .0823 | .4072 | .2179 | .0316 | .0005 | .9318 | .0911 | .0617 |
| #1 | 1.005 | 513.9 | 1.944 | .4729 | .9696 | .4912 | .4725 | 460.9 | .9788 | .4462 |
| #2 | 1.003 | 510.5 | 1.946 | .4702 | .9666 | .4910 | .4725 | 454.9 | .9801 | .4458 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4670 | .4819 | 189.5 | .0165 | 472.4 | .4732 | .8977 | .1519 | .8307 | .8482 |
| Stddev | .0004 | .0003 | .1 | .0086 | .6 | .0006 | .0001 | .0059 | .0015 | .0032 |
| %RSD | .0868 | .0710 | .0493 | 51.99 | .1297 | .1240 | .0063 | 3.867 | .1855 | .3754 |
| #1 | .4668 | .4821 | 189.5 | .0225 | 472.0 | .4736 | .8978 | .1477 | .8318 | .8459 |
| #2 | .4673 | .4816 | 189.6 | .0104 | 472.8 | .4727 | .8977 | .1560 | .8296 | .8504 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4885 | .4770 | 1.954 | 1.886 | 2.077 | .9216 | .9893 | .4914 | 1.787 | .4731 |
| Stddev | .0008 | .0015 | .004 | .001 | .002 | .0009 | .0008 | .0009 | .003 | .0013 |
| %RSD | .1572 | .3234 | .1863 | .0442 | .0804 | .1004 | .0845 | .1845 | .1475 | .2824 |
| #1 | .4880 | .4759 | 1.952 | 1.886 | 2.076 | .9222 | .9887 | .4921 | 1.789 | .4740 |
| #2 | .4891 | .4781 | 1.957 | 1.885 | 2.078 | .9209 | .9899 | .4908 | 1.785 | .4722 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.808 | .8502 | .4643 |
| Stddev | .005 | .0020 | .0018 |
| %RSD | .2769 | .2333 | .3913 |
| #1 | 1.811 | .8516 | .4630 |
| #2 | 1.804 | .8488 | .4655 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2303.4 | 73643. | 15546. |
| Stddev | .2 | 257. | 36. |
| %RSD | .00907 | .34913 | .22929 |
| #1 | 2303.6 | 73461. | 15572. |
| #2 | 2303.3 | 73825. | 15521. |

Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 11:39:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .1627 | .4441 | -.0046 | .0454 | .0423 | .0001 | 22.80 | .0003 | .0082 |
| Stddev | .0002 | .0262 | .0015 | .0001 | .0001 | .0000 | .0000 | .06 | .0002 | .0002 |
| %RSD | 48.95 | 16.10 | .3272 | 1.185 | .1372 | .0262 | 21.29 | .2692 | 50.33 | 1.936 |
| #1 | .0005 | .1812 | .4431 | -.0046 | .0453 | .0424 | .0001 | 22.76 | .0005 | .0083 |
| #2 | .0002 | .1442 | .4451 | -.0045 | .0454 | .0423 | .0001 | 22.85 | .0002 | .0081 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0008 | 64.71 | 4.824 | 3.157 | 2.559 | .0009 | 14.59 | .0064 | .0010 |
| Stddev | .0002 | .0002 | .14 | .009 | .037 | .012 | .0002 | .02 | .0001 | .0011 |
| %RSD | 86.64 | 22.63 | .2226 | .1831 | 1.161 | .4655 | 28.15 | .1114 | 1.570 | 105.4 |
| #1 | -.0001 | .0010 | 64.61 | 4.818 | 3.131 | 2.551 | .0010 | 14.58 | .0063 | .0018 |
| #2 | -.0003 | .0007 | 64.82 | 4.830 | 3.182 | 2.568 | .0007 | 14.61 | .0065 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0095 | .0005 | .0021 | 9.622 | .0001 | .0937 | .0003 | .0025 | -.0001 |
| Stddev | .0001 | .0026 | .0001 | .0002 | .025 | .0003 | .0001 | .0003 | .0010 | .0000 |
| %RSD | 5.347 | 26.82 | 10.95 | 8.217 | .2636 | 251.6 | .1278 | 77.15 | 40.08 | 54.67 |
| #1 | -.0025 | .0113 | .0006 | .0022 | 9.604 | -.0001 | .0938 | .0005 | .0032 | .0000 |
| #2 | -.0027 | .0077 | .0005 | .0019 | 9.640 | .0004 | .0936 | .0002 | .0018 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0300 | .0073 | .0039 |
| Stddev | .0034 | .0001 | .0002 |
| %RSD | 11.29 | 1.201 | 4.343 |
| #1 | .0276 | .0073 | .0040 |
| #2 | .0324 | .0072 | .0038 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2430.0 | 78479. | 15709. |
| Stddev | .6 | 515. | 64. |
| %RSD | .02399 | .65583 | .40477 |
| #1 | 2430.4 | 78843. | 15754. |
| #2 | 2429.6 | 78115. | 15664. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 11:43:58 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0081 | .4408 | -.0042 | .0435 | .0408 | .0000 | 22.38 | .0002 | .0076 |
| Stddev | .0001 | .0021 | .0004 | .0011 | .0003 | .0003 | .0001 | .05 | .0001 | .0001 |
| %RSD | 21.85 | 25.68 | .0801 | 25.08 | .7336 | .8054 | 197.6 | .2189 | 41.66 | 1.887 |
| #1 | .0004 | .0095 | .4406 | -.0034 | .0437 | .0410 | .0001 | 22.35 | .0002 | .0075 |
| #2 | .0003 | .0066 | .4411 | -.0049 | .0432 | .0405 | .0000 | 22.42 | .0001 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | 63.73 | 4.732 | 2.986 | 2.533 | .0001 | 13.92 | .0058 | .0011 |
| Stddev | .0000 | .0002 | .05 | .005 | .034 | .008 | .0003 | .01 | .0002 | .0005 |
| %RSD | 2.785 | 40.86 | .0752 | .1143 | 1.150 | .3276 | 233.5 | .0605 | 2.726 | 44.20 |
| #1 | -.0006 | .0003 | 63.69 | 4.728 | 3.010 | 2.539 | .0003 | 13.92 | .0059 | .0014 |
| #2 | -.0006 | .0005 | 63.76 | 4.736 | 2.961 | 2.527 | -.0001 | 13.93 | .0057 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0058 | -.0005 | .0012 | 9.467 | .0000 | .0917 | .0003 | .0013 | .0001 |
| Stddev | .0010 | .0011 | .0004 | .0013 | .001 | .000 | .0002 | .0004 | .0012 | .0001 |
| %RSD | 36.54 | 19.24 | 91.27 | 110.6 | .0063 | 187.2 | .1696 | 144.0 | 96.46 | 60.48 |
| #1 | -.0021 | .0066 | -.0008 | .0021 | 9.467 | -.0001 | .0916 | .0000 | .0004 | .0001 |
| #2 | -.0035 | .0050 | -.0002 | .0003 | 9.468 | .0000 | .0918 | .0005 | .0021 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0124 | .0080 | -.0001 |
| Stddev | .0005 | .0000 | .0000 |
| %RSD | 4.150 | .5463 | 29.35 |
| #1 | .0128 | .0080 | -.0001 |
| #2 | .0121 | .0080 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.9 | 79044. | 15725. |
| Stddev | .9 | 786. | 32. |
| %RSD | .03693 | .99393 | .20407 |
| #1 | 2428.2 | 78488. | 15748. |
| #2 | 2429.5 | 79599. | 15702. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 11:48:17 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0157 | 5.250 | -.0052 | .0849 | .0251 | .0001 | 44.92 | .0018 | .0200 |
| Stddev | .0002 | .0036 | .002 | .0010 | .0002 | .0000 | .0000 | .12 | .0002 | .0002 |
| %RSD | 101.2 | 23.01 | .0395 | 18.73 | .2720 | .1119 | 48.61 | .2740 | 9.153 | 1.136 |
| #1 | .0000 | -.0182 | 5.252 | -.0058 | .0847 | .0251 | .0001 | 45.01 | .0020 | .0202 |
| #2 | -.0003 | -.0131 | 5.249 | -.0045 | .0851 | .0251 | .0000 | 44.83 | .0017 | .0198 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0008 | 83.93 | 7.021 | 3.417 | 2.892 | .0003 | 5.612 | .0053 | .0006 |
| Stddev | .0000 | .0004 | .03 | .002 | .012 | .025 | .0001 | .004 | .0000 | .0005 |
| %RSD | 6.202 | 53.23 | .0401 | .0236 | .3365 | .8741 | 23.47 | .0766 | .7443 | 83.02 |
| #1 | -.0006 | .0005 | 83.96 | 7.023 | 3.425 | 2.874 | .0004 | 5.615 | .0053 | .0003 |
| #2 | -.0005 | .0011 | 83.91 | 7.020 | 3.409 | 2.909 | .0003 | 5.609 | .0054 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0117 | .0000 | .0007 | 8.462 | .0001 | .2337 | .0004 | .0012 | -.0004 |
| Stddev | .0003 | .0001 | .0006 | .0010 | .001 | .0003 | .0000 | .0001 | .0000 | .0001 |
| %RSD | 8.510 | .6396 | 1275. | 143.7 | .0165 | 259.4 | .0011 | 20.39 | 1.920 | 16.33 |
| #1 | -.0034 | .0116 | -.0004 | .0000 | 8.461 | -.0001 | .2337 | .0004 | .0012 | -.0004 |
| #2 | -.0038 | .0117 | .0004 | .0014 | 8.463 | .0003 | .2337 | .0003 | .0012 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0110 | .0067 | -.0005 |
| Stddev | .0033 | .0000 | .0000 |
| %RSD | 30.03 | .2518 | .6575 |
| #1 | .0086 | .0067 | -.0005 |
| #2 | .0133 | .0067 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2408.8 | 78157. | 15724. |
| Stddev | .2 | 162. | 106. |
| %RSD | .00639 | .20705 | .67547 |
| #1 | 2408.7 | 78271. | 15649. |
| #2 | 2408.9 | 78042. | 15799. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 11:52:39 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0152 | .8577 | -.0048 | .1155 | .0850 | .0001 | 51.64 | .0005 | .0004 |
| Stddev | .0001 | .0055 | .0014 | .0015 | .0007 | .0004 | .0001 | .16 | .0000 | .0000 |
| %RSD | 73.32 | 36.46 | .1617 | 31.65 | .6242 | .4417 | 100.8 | .3046 | 3.910 | 5.545 |
| #1 | .0000 | -.0113 | .8587 | -.0058 | .1160 | .0853 | .0001 | 51.76 | .0005 | .0004 |
| #2 | -.0001 | -.0191 | .8567 | -.0037 | .1150 | .0847 | .0000 | 51.53 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0001 | 47.25 | 9.267 | 8.136 | 2.274 | .0006 | 23.67 | .0030 | .0006 |
| Stddev | .0003 | .0004 | .09 | .033 | .040 | .004 | .0000 | .04 | .0000 | .0001 |
| %RSD | 37.80 | 435.8 | .1920 | .3507 | .4895 | .1993 | 3.973 | .1809 | .1454 | 23.72 |
| #1 | -.0006 | .0003 | 47.32 | 9.244 | 8.108 | 2.277 | .0006 | 23.71 | .0030 | .0005 |
| #2 | -.0010 | -.0002 | 47.19 | 9.290 | 8.164 | 2.271 | .0006 | 23.64 | .0030 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0078 | .0006 | -.0005 | 13.77 | -.0003 | .5717 | .0001 | .0005 | -.0002 |
| Stddev | .0003 | .0041 | .0010 | .0004 | .03 | .0002 | .0006 | .0002 | .0003 | .0003 |
| %RSD | 7.909 | 51.71 | 171.3 | 87.97 | .2053 | 72.55 | .1118 | 144.6 | 59.11 | 143.2 |
| #1 | -.0034 | .0050 | .0013 | -.0008 | 13.79 | -.0005 | .5721 | .0000 | .0007 | -.0005 |
| #2 | -.0038 | .0107 | -.0001 | -.0002 | 13.75 | -.0002 | .5712 | .0002 | .0003 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .0046 | -.0018 |
| Stddev | .0028 | .0001 | .0002 |
| %RSD | 44.43 | 2.564 | 9.329 |
| #1 | .0084 | .0047 | -.0019 |
| #2 | .0044 | .0045 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.8 | 78123. | 15646. |
| Stddev | .3 | 597. | 9. |
| %RSD | .01214 | .76442 | .06017 |
| #1 | 2411.0 | 77701. | 15639. |
| #2 | 2410.5 | 78545. | 15653. |

Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/6/2013 11:56:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0022 | .3947 | -.0003 | .0454 | .0276 | .0000 | 11.61 | .0001 | .0000 |
| Stddev | .0002 | .0013 | .0018 | .0001 | .0005 | .0001 | .0001 | .06 | .0002 | .0000 |
| %RSD | 99.30 | 59.46 | .4569 | 45.73 | 1.170 | .2739 | 173.0 | .5298 | 207.6 | 39.96 |
| #1 | -.0001 | .0013 | .3934 | -.0004 | .0450 | .0275 | .0000 | 11.57 | .0000 | .0000 |
| #2 | -.0003 | .0031 | .3960 | -.0002 | .0457 | .0277 | .0001 | 11.65 | .0002 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | 10.18 | 4.388 | 1.256 | .2542 | .0007 | 8.324 | .0145 | .0004 |
| Stddev | .000 | .0003 | .01 | .017 | .030 | .0006 | .0001 | .004 | .0000 | .0010 |
| %RSD | 1201. | 53.85 | .1401 | .3830 | 2.367 | .2385 | 8.010 | .0545 | .1655 | 236.2 |
| #1 | .0001 | .0003 | 10.17 | 4.376 | 1.235 | .2538 | .0006 | 8.321 | .0145 | -.0003 |
| #2 | -.0001 | .0007 | 10.19 | 4.400 | 1.277 | .2547 | .0007 | 8.327 | .0146 | .0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0029 | .0004 | .0014 | 8.241 | -.0004 | .0937 | .0001 | -.0001 | -.0003 |
| Stddev | .0004 | .0039 | .0004 | .0011 | .010 | .0001 | .0004 | .0003 | .0005 | .0004 |
| %RSD | 69.82 | 134.0 | 89.12 | 76.54 | .1235 | 38.54 | .4289 | 305.6 | 684.8 | 162.3 |
| #1 | -.0003 | .0002 | .0007 | .0022 | 8.234 | -.0005 | .0934 | .0003 | -.0004 | -.0006 |
| #2 | -.0008 | .0057 | .0002 | .0007 | 8.248 | -.0003 | .0940 | -.0001 | .0003 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0322 | .0077 | -.0007 |
| Stddev | .0002 | .0001 | .0000 |
| %RSD | .5943 | 1.381 | 6.034 |
| #1 | .0321 | .0076 | -.0007 |
| #2 | .0324 | .0078 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.8 | 78231. | 15584. |
| Stddev | 4.5 | 86. | 82. |
| %RSD | .18634 | .10930 | .52494 |
| #1 | 2404.0 | 78170. | 15641. |
| #2 | 2397.7 | 78291. | 15526. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 12:01:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0140 | 1.121 | -.0044 | .2013 | .0974 | .0000 | 53.70 | .0004 | .0037 |
| Stddev | .0001 | .0022 | .013 | .0002 | .0020 | .0005 | .0001 | .02 | .0002 | .0000 |
| %RSD | 49.25 | 16.07 | 1.119 | 4.394 | .9774 | .4823 | 190.7 | .0318 | 44.34 | .3093 |
| #1 | -.0001 | -.0124 | 1.112 | -.0045 | .2000 | .0971 | .0001 | 53.71 | .0003 | .0038 |
| #2 | -.0002 | -.0156 | 1.129 | -.0043 | .2027 | .0977 | .0000 | 53.68 | .0005 | .0037 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0005 | 93.39 | 12.89 | 6.704 | 2.678 | .0005 | 28.60 | .0044 | .0011 |
| Stddev | .0003 | .0001 | .01 | .04 | .026 | .015 | .0001 | .02 | .0002 | .0003 |
| %RSD | 35.84 | 18.02 | .0134 | .3238 | .3895 | .5520 | 25.94 | .0858 | 4.500 | 27.20 |
| #1 | -.0006 | .0006 | 93.38 | 12.92 | 6.686 | 2.688 | .0004 | 28.62 | .0045 | .0013 |
| #2 | -.0010 | .0004 | 93.40 | 12.87 | 6.723 | 2.667 | .0006 | 28.59 | .0043 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0088 | -.0006 | .0002 | 15.24 | .0000 | .6288 | .0002 | .0017 | .0005 |
| Stddev | .0011 | .0014 | .0005 | .0011 | .14 | .0006 | .0008 | .0004 | .0000 | .0001 |
| %RSD | 36.35 | 16.38 | 88.91 | 654.0 | .9161 | 1280. | .1283 | 221.0 | 1.514 | 18.37 |
| #1 | -.0023 | .0099 | -.0010 | .0010 | 15.14 | -.0004 | .6294 | .0005 | .0017 | .0006 |
| #2 | -.0039 | .0078 | -.0002 | -.0006 | 15.34 | .0005 | .6282 | -.0001 | .0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0125 | .0057 | -.0027 |
| Stddev | .0056 | .0001 | .0001 |
| %RSD | 44.86 | 2.409 | 2.862 |
| #1 | .0085 | .0056 | -.0027 |
| #2 | .0164 | .0058 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.9 | 78483. | 15654. |
| Stddev | 24.9 | 357. | 13. |
| %RSD | 1.0421 | .45459 | .08484 |
| #1 | 2411.5 | 78231. | 15664. |
| #2 | 2376.3 | 78736. | 15645. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 12:05:33 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0241 | 1.876 | -.0032 | .1475 | .0733 | .0000 | 35.50 | .0004 | .0273 |
| Stddev | .0005 | .0027 | .010 | .0011 | .0010 | .0001 | .0000 | .03 | .0001 | .0000 |
| %RSD | 139.2 | 11.39 | .5345 | 36.01 | .7063 | .1183 | 65.71 | .0732 | 21.67 | .0941 |
| #1 | .0007 | -.0222 | 1.869 | -.0040 | .1468 | .0732 | .0000 | 35.48 | .0004 | .0273 |
| #2 | .0000 | -.0261 | 1.883 | -.0024 | .1483 | .0734 | .0001 | 35.52 | .0005 | .0273 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0003 | 104.0 | 11.24 | 6.495 | 1.885 | .0030 | 17.11 | .0058 | .0017 |
| Stddev | .0002 | .0005 | .2 | .06 | .008 | .002 | .0001 | .02 | .0001 | .0005 |
| %RSD | 29.46 | 145.5 | .2256 | .5745 | .1224 | .1127 | 4.244 | .0980 | 1.565 | 28.88 |
| #1 | -.0009 | .0007 | 103.8 | 11.19 | 6.501 | 1.886 | .0029 | 17.10 | .0057 | .0020 |
| #2 | -.0006 | .0000 | 104.2 | 11.28 | 6.490 | 1.883 | .0031 | 17.13 | .0058 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0059 | -.0004 | .0011 | 11.97 | .0000 | .4823 | .0003 | .0010 | .0001 |
| Stddev | .0010 | .0043 | .0009 | .0003 | .04 | .0007 | .0003 | .0001 | .0005 | .0000 |
| %RSD | 31.18 | 72.05 | 244.5 | 25.69 | .3133 | 2188. | .0677 | 47.70 | 53.92 | 73.91 |
| #1 | -.0039 | .0089 | -.0011 | .0013 | 11.95 | .0005 | .4820 | .0002 | .0006 | .0001 |
| #2 | -.0025 | .0029 | .0003 | .0009 | 12.00 | -.0005 | .4825 | .0003 | .0013 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0602 | .0093 | -.0019 |
| Stddev | .0026 | .0000 | .0001 |
| %RSD | 4.279 | .4948 | 6.618 |
| #1 | .0620 | .0093 | -.0020 |
| #2 | .0583 | .0094 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.8 | 78703. | 15842. |
| Stddev | .7 | 285. | 86. |
| %RSD | .02851 | .36275 | .54035 |
| #1 | 2391.2 | 78501. | 15902. |
| #2 | 2390.3 | 78905. | 15781. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 12:09:49 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2402 | 9.729 | 1.906 | -.0058 | 1.931 | 1.925 | 1.949 | 9.775 | 1.922 | 1.976 |
| Stddev | .0003 | .017 | .002 | .0002 | .001 | .004 | .001 | .034 | .001 | .002 |
| %RSD | .1274 | .1742 | .1040 | 3.939 | .0642 | .2289 | .0558 | .3478 | .0468 | .0966 |
| #1 | .2400 | 9.740 | 1.904 | -.0060 | 1.930 | 1.922 | 1.950 | 9.799 | 1.923 | 1.977 |
| #2 | .2404 | 9.717 | 1.907 | -.0057 | 1.931 | 1.928 | 1.948 | 9.751 | 1.921 | 1.974 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.918 | 1.881 | 9.846 | 9.705 | 9.534 | 1.922 | 1.892 | 9.776 | 1.898 | 1.871 |
| Stddev | .003 | .001 | .004 | .044 | .036 | .000 | .001 | .011 | .002 | .000 |
| %RSD | .1569 | .0682 | .0414 | .4522 | .3818 | .0115 | .0686 | .1078 | .0880 | .0131 |
| #1 | 1.920 | 1.882 | 9.849 | 9.674 | 9.508 | 1.921 | 1.893 | 9.768 | 1.899 | 1.872 |
| #2 | 1.916 | 1.880 | 9.843 | 9.736 | 9.559 | 1.922 | 1.891 | 9.783 | 1.897 | 1.871 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0028 | 1.907 | 1.913 | -.0085 | 1.900 | 1.945 | 1.898 | 1.934 | 1.881 |
| Stddev | .0000 | .0018 | .001 | .000 | .0014 | .004 | .001 | .000 | .001 | .001 |
| %RSD | 5.425 | 63.93 | .0515 | .0226 | 16.52 | .2019 | .0357 | .0085 | .0662 | .0703 |
| #1 | -.0010 | .0015 | 1.908 | 1.913 | -.0075 | 1.902 | 1.945 | 1.899 | 1.935 | 1.880 |
| #2 | -.0009 | .0040 | 1.906 | 1.913 | -.0095 | 1.897 | 1.946 | 1.898 | 1.933 | 1.882 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0111 | 1.879 | .0017 |
| Stddev | .0036 | .004 | .0007 |
| %RSD | 32.15 | .2335 | 40.07 |
| #1 | .0086 | 1.882 | .0021 |
| #2 | .0137 | 1.876 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2452.6 | 80040. | 15650. |
| Stddev | 5.1 | 26. | 48. |
| %RSD | .20676 | .03214 | .30851 |
| #1 | 2456.2 | 80058. | 15684. |
| #2 | 2449.0 | 80021. | 15616. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 12:13:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0030 | .0004 | -.0011 | .0017 | .0006 | F.0008 | .0115 | .0002 |
| Stddev | .0000 | .0030 | .0000 | .0007 | .0007 | .0001 | .0001 | .0013 | .0001 |
| %RSD | 15.87 | 100.2 | 4.994 | 62.35 | 41.22 | 14.25 | 14.39 | 11.69 | 59.11 |
| #1 | .0003 | -.0009 | .0005 | -.0006 | .0023 | .0007 | .0008 | .0124 | .0003 |
| #2 | .0003 | -.0052 | .0004 | -.0016 | .0012 | .0005 | .0007 | .0105 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0002 | F.0210 | .0000 | .0175 | .0009 | .0020 | .0353 |
| Stddev | .0002 | .0001 | .0000 | .0018 | .022 | .0092 | .0000 | .0005 | .0039 |
| %RSD | 54.71 | 23.27 | 3.317 | 8.699 | 51150. | 52.87 | .5686 | 26.54 | 10.95 |
| #1 | .0006 | .0002 | .0002 | .0223 | .0155 | .0109 | .0009 | .0023 | .0381 |
| #2 | .0003 | .0003 | .0002 | .0197 | -.0156 | .0240 | .0009 | .0016 | .0326 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | -.0009 | -.0024 | .0006 | .0002 | .0026 | .0002 | .0008 |
| Stddev | .0001 | .0002 | .0012 | .0025 | .0007 | .0005 | .0005 | .0002 | .0000 |
| %RSD | 54.59 | 26.56 | 135.2 | 102.6 | 106.4 | 258.0 | 19.93 | 111.9 | 4.296 |
| #1 | .0004 | .0010 | .0000 | -.0007 | .0011 | .0006 | .0022 | .0003 | .0008 |
| #2 | .0002 | .0007 | -.0017 | -.0042 | .0002 | -.0002 | .0030 | .0000 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0013 | .0013 | .0062 | .0000 | .0002 |
| Stddev | .0001 | .0017 | .0004 | .0002 | .0000 | .0000 |
| %RSD | 17.31 | 128.4 | 27.84 | 3.175 | 120.1 | 3.817 |
| #1 | .0007 | .0025 | .0010 | .0064 | .0000 | .0002 |
| #2 | .0006 | .0001 | .0015 | .0061 | .0000 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.8 | 78526. | 15492. |
| Stddev | 5.6 | 548. | 63. |
| %RSD | .22996 | .69804 | .40419 |
| #1 | 2420.7 | 78139. | 15448. |
| #2 | 2412.9 | 78914. | 15536. |



Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 12:18:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0055 | .4803 | -.0047 | .0872 | .0824 | .0002 | 46.77 | .0002 | .0034 |
| Stddev | .0002 | .0053 | .0001 | .0000 | .0004 | .0003 | .0001 | .12 | .0000 | .0000 |
| %RSD | 54.08 | 96.87 | .0135 | .6153 | .4451 | .3660 | 55.60 | .2660 | 8.980 | 1.040 |
| #1 | .0002 | -.0017 | .4802 | -.0047 | .0869 | .0822 | .0002 | 46.69 | .0002 | .0034 |
| #2 | .0005 | -.0093 | .4803 | -.0047 | .0875 | .0827 | .0001 | 46.86 | .0002 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0005 | 19.34 | 6.476 | 6.486 | 2.435 | .0031 | 24.34 | .0041 | .0010 |
| Stddev | .0001 | .0000 | .02 | .045 | .036 | .002 | .0000 | .01 | .0000 | .0004 |
| %RSD | 43.63 | 4.472 | .0872 | .6968 | .5579 | .0725 | 1.243 | .0234 | .2337 | 43.15 |
| #1 | -.0001 | .0005 | 19.33 | 6.444 | 6.460 | 2.433 | .0030 | 24.34 | .0041 | .0013 |
| #2 | -.0002 | .0005 | 19.36 | 6.508 | 6.511 | 2.436 | .0031 | 24.33 | .0041 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0102 | .0003 | .0015 | 12.26 | -.0004 | .3398 | .0006 | .0011 | -.0004 |
| Stddev | .0014 | .0007 | .0000 | .0000 | .01 | .0004 | .0005 | .0001 | .0002 | .0004 |
| %RSD | 45.97 | 6.398 | 6.423 | .3823 | .0469 | 89.01 | .1565 | 11.56 | 21.70 | 106.7 |
| #1 | -.0021 | .0097 | .0003 | .0015 | 12.25 | -.0001 | .3395 | .0006 | .0009 | -.0007 |
| #2 | -.0041 | .0106 | .0003 | .0015 | 12.26 | -.0007 | .3402 | .0007 | .0012 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0086 | .0093 | -.0024 |
| Stddev | .0008 | .0000 | .0000 |
| %RSD | 9.614 | .3090 | 1.048 |
| #1 | .0080 | .0093 | -.0023 |
| #2 | .0092 | .0093 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.1 | 78777. | 15809. |
| Stddev | 2.8 | 138. | 123. |
| %RSD | .11724 | .17574 | .77945 |
| #1 | 2402.1 | 78679. | 15896. |
| #2 | 2398.1 | 78875. | 15722. |



Zoom In Zoom Out

Sample Name: MC21156-10F Acquired: 6/6/2013 12:22:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0023 | .0002 | -.0002 | .0008 | .0000 | .0001 | .0264 | -.0001 | .0000 |
| Stddev | .0002 | .0105 | .0004 | .0008 | .0002 | .000 | .0000 | .0027 | .0000 | .000 |
| %RSD | 359.1 | 458.5 | 215.4 | 443.8 | 28.15 | 2236. | 42.98 | 10.11 | 56.54 | 75.23 |
| #1 | .0002 | .0051 | .0005 | -.0008 | .0010 | -.0001 | .0001 | .0282 | .0000 | -.0001 |
| #2 | -.0001 | -.0097 | -.0001 | .0004 | .0006 | .0001 | .0000 | .0245 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0114 | .0140 | .0058 | .0007 | .0002 | .0485 | .0000 | .0004 |
| Stddev | .0006 | .0007 | .0006 | .0147 | .0122 | .0001 | .0001 | .0040 | .000 | .0004 |
| %RSD | 141.6 | 266.1 | 4.991 | 104.8 | 211.6 | 7.416 | 38.41 | 8.183 | 3495. | 90.09 |
| #1 | -.0008 | .0008 | .0110 | .0244 | .0144 | .0007 | .0002 | .0513 | -.0001 | .0007 |
| #2 | .0000 | -.0002 | .0118 | .0036 | -.0029 | .0007 | .0001 | .0457 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0007 | .0003 | .0011 | .0239 | -.0003 | .0002 | -.0003 | .0002 | .0001 |
| Stddev | .0000 | .0020 | .0003 | .0000 | .0004 | .0006 | .0001 | .0001 | .0008 | .0004 |
| %RSD | 9.171 | 271.1 | 132.5 | .7915 | 1.830 | 229.4 | 55.32 | 26.00 | 340.4 | 539.3 |
| #1 | -.0004 | -.0021 | .0005 | .0011 | .0242 | .0002 | .0001 | -.0002 | -.0003 | -.0002 |
| #2 | -.0004 | .0007 | .0000 | .0011 | .0236 | -.0007 | .0003 | -.0004 | .0008 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0048 | .0065 | .0000 |
| Stddev | .0026 | .0001 | .000 |
| %RSD | 53.92 | 1.724 | 69.27 |
| #1 | .0066 | .0064 | .0000 |
| #2 | .0030 | .0066 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.6 | 78261. | 15582. |
| Stddev | 6.4 | 173. | 83. |
| %RSD | .26644 | .22145 | .53080 |
| #1 | 2396.1 | 78384. | 15524. |
| #2 | 2405.1 | 78139. | 15641. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/6/2013 12:27:02 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0210 | 3.328 | -.0095 | .0331 | .0174 | .0001 | 28.20 | .0008 | .0065 |
| Stddev | .000 | .0065 | .001 | .0004 | .0000 | .0001 | .0000 | .03 | .0000 | .0001 |
| %RSD | 293.0 | 30.85 | .0295 | 3.701 | .0162 | .5286 | 16.84 | .1027 | 2.248 | 1.069 |
| #1 | -.0001 | -.0164 | 3.329 | -.0093 | .0331 | .0174 | .0001 | 28.18 | .0008 | .0065 |
| #2 | .0000 | -.0255 | 3.327 | -.0097 | .0331 | .0175 | .0001 | 28.22 | .0008 | .0066 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0002 | 55.48 | 3.613 | 2.737 | 6.107 | -.0001 | 5.436 | .0085 | .0004 |
| Stddev | .0004 | .0002 | .00 | .026 | .026 | .030 | .0001 | .007 | .0002 | .0003 |
| %RSD | 176.1 | 96.01 | .0015 | .7272 | .9384 | .4858 | 70.14 | .1237 | 2.442 | 87.24 |
| #1 | -.0006 | -.0003 | 55.48 | 3.631 | 2.755 | 6.128 | -.0001 | 5.432 | .0087 | .0002 |
| #2 | .0001 | -.0001 | 55.48 | 3.594 | 2.719 | 6.086 | -.0002 | 5.441 | .0084 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0249 | .0000 | .0015 | 8.206 | -.0006 | .0970 | .0001 | .0024 | .0000 |
| Stddev | .0006 | .0025 | .0002 | .0003 | .005 | .0002 | .0001 | .0000 | .0003 | .000 |
| %RSD | 22.65 | 9.965 | 377.5 | 16.39 | .0651 | 35.35 | .1233 | 17.26 | 11.47 | 458.2 |
| #1 | -.0030 | .0232 | .0002 | .0014 | 8.210 | -.0007 | .0969 | .0002 | .0026 | -.0002 |
| #2 | -.0022 | .0267 | -.0001 | .0017 | 8.203 | -.0004 | .0971 | .0001 | .0022 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0100 | -.0018 |
| Stddev | .0031 | .0001 | .0000 |
| %RSD | 69.98 | 1.385 | 1.819 |
| #1 | .0022 | .0099 | -.0017 |
| #2 | .0065 | .0101 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.2 | 78552. | 15646. |
| Stddev | 4.8 | 94. | 89. |
| %RSD | .19961 | .11934 | .57072 |
| #1 | 2391.8 | 78486. | 15709. |
| #2 | 2398.6 | 78618. | 15583. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/6/2013 12:31:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0095 | .6472 | -.0050 | .1402 | .0471 | .0000 | 56.31 | .0000 | .0001 |
| Stddev | .0001 | .0002 | .0041 | .0017 | .0000 | .0001 | .0000 | .08 | .0001 | .0001 |
| %RSD | 44.52 | 1.757 | .6343 | 34.73 | .0119 | .1167 | 191.5 | .1446 | 767.9 | 71.69 |
| #1 | .0002 | -.0094 | .6443 | -.0037 | .1401 | .0472 | .0000 | 56.25 | .0001 | .0001 |
| #2 | .0004 | -.0096 | .6501 | -.0062 | .1402 | .0471 | .0000 | 56.37 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0004 | 40.63 | 8.315 | 8.216 | 2.875 | .0003 | 45.63 | .0007 | .0008 |
| Stddev | .0002 | .0004 | .03 | .012 | .100 | .000 | .0003 | .03 | .0001 | .0009 |
| %RSD | 46.68 | 105.9 | .0827 | .1466 | 1.219 | .0141 | 99.45 | .0675 | 21.25 | 115.9 |
| #1 | -.0003 | .0006 | 40.61 | 8.306 | 8.145 | 2.875 | .0005 | 45.61 | .0006 | .0001 |
| #2 | -.0006 | .0001 | 40.65 | 8.323 | 8.287 | 2.875 | .0001 | 45.65 | .0008 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0102 | .0009 | .0010 | 13.71 | -.0004 | .3179 | .0004 | .0004 | .0002 |
| Stddev | .0003 | .0038 | .0001 | .0009 | .03 | .0000 | .0007 | .0002 | .0014 | .0003 |
| %RSD | 8.388 | 36.89 | 6.610 | 83.58 | .2453 | 8.868 | .2132 | 44.43 | 343.2 | 138.7 |
| #1 | -.0036 | .0129 | .0009 | .0004 | 13.69 | -.0003 | .3174 | .0005 | .0014 | .0000 |
| #2 | -.0032 | .0076 | .0010 | .0017 | 13.73 | -.0004 | .3184 | .0003 | -.0006 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0078 | .0066 | -.0026 |
| Stddev | .0000 | .0000 | .0000 |
| %RSD | .4555 | .2607 | 1.785 |
| #1 | .0077 | .0066 | -.0025 |
| #2 | .0078 | .0066 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.6 | 77678. | 15664. |
| Stddev | 1.8 | 16. | 22. |
| %RSD | .07669 | .02096 | .14240 |
| #1 | 2381.3 | 77666. | 15648. |
| #2 | 2383.9 | 77689. | 15680. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/6/2013 12:35:50 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0008 | .0020 | -.0012 | .0244 | .0318 | .0001 | 13.58 | .0000 | .0008 |
| Stddev | .0001 | .0088 | .0004 | .0002 | .0001 | .0000 | .0000 | .02 | .000 | .0000 |
| %RSD | 153.4 | 1134. | 20.47 | 20.16 | .2583 | .1317 | 5.129 | .1580 | 89.17 | 2.865 |
| #1 | -.0002 | .0070 | .0023 | -.0010 | .0244 | .0318 | .0001 | 13.57 | .0000 | .0008 |
| #2 | .0000 | -.0054 | .0017 | -.0014 | .0244 | .0318 | .0001 | 13.60 | .0000 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0022 | .1805 | 2.832 | 2.619 | .3719 | .0001 | 6.580 | .0030 | .0010 |
| Stddev | .0001 | .0008 | .0040 | .031 | .015 | .0008 | .0001 | .007 | .0000 | .0003 |
| %RSD | 20.72 | 36.17 | 2.241 | 1.085 | .5538 | .2263 | 58.26 | .1134 | .5464 | 33.81 |
| #1 | -.0004 | .0028 | .1833 | 2.853 | 2.630 | .3725 | .0001 | 6.575 | .0030 | .0008 |
| #2 | -.0003 | .0017 | .1776 | 2.810 | 2.609 | .3713 | .0001 | 6.585 | .0030 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0020 | .0005 | .0006 | 3.199 | -.0007 | .0942 | .0001 | .0004 | .0002 |
| Stddev | .0003 | .0011 | .0007 | .0000 | .011 | .0004 | .0002 | .0001 | .0015 | .0004 |
| %RSD | 122.6 | 57.47 | 133.3 | 5.549 | .3445 | 51.41 | .1636 | 125.5 | 419.2 | 239.9 |
| #1 | .0000 | -.0012 | .0010 | .0006 | 3.206 | -.0004 | .0941 | .0001 | -.0007 | .0005 |
| #2 | -.0004 | -.0028 | .0000 | .0005 | 3.191 | -.0010 | .0943 | .0000 | .0014 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0082 | -.0006 |
| Stddev | .0037 | .0001 | .0003 |
| %RSD | 59.64 | .7662 | 46.93 |
| #1 | .0036 | .0083 | -.0004 |
| #2 | .0089 | .0082 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.4 | 78554. | 15846. |
| Stddev | 4.6 | 503. | 33. |
| %RSD | .19189 | .64017 | .20737 |
| #1 | 2401.1 | 78198. | 15822. |
| #2 | 2407.6 | 78909. | 15869. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/6/2013 12:40:12 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0054 | .0025 | -.0018 | .0619 | .0611 | .0000 | 29.99 | .0001 | .0005 |
| Stddev | .0001 | .0005 | .0003 | .0005 | .0001 | .0004 | .0001 | .01 | .0000 | .0001 |
| %RSD | 25.55 | 9.022 | 12.12 | 28.19 | .2202 | .6116 | 200.5 | .0319 | 18.37 | 21.85 |
| #1 | -.0002 | -.0050 | .0023 | -.0015 | .0618 | .0608 | .0000 | 29.99 | .0002 | .0006 |
| #2 | -.0003 | -.0057 | .0027 | -.0022 | .0620 | .0614 | .0001 | 30.00 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0015 | .0551 | 4.516 | 4.353 | .4927 | .0003 | 18.13 | .0031 | .0011 |
| Stddev | .0002 | .0003 | .0010 | .050 | .004 | .0007 | .0001 | .03 | .0000 | .0003 |
| %RSD | 67.47 | 19.16 | 1.738 | 1.097 | .0853 | .1399 | 49.41 | .1852 | 1.385 | 29.61 |
| #1 | -.0004 | .0017 | .0545 | 4.480 | 4.351 | .4932 | .0003 | 18.15 | .0031 | .0013 |
| #2 | -.0001 | .0013 | .0558 | 4.551 | 4.356 | .4922 | .0002 | 18.10 | .0032 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0038 | .0013 | .0006 | 5.128 | -.0004 | .2118 | .0002 | .0003 | .0003 |
| Stddev | .0023 | .0006 | .0008 | .0023 | .006 | .0001 | .0010 | .0002 | .0001 | .0005 |
| %RSD | 502.0 | 14.56 | 65.40 | 388.2 | .1209 | 12.19 | .4698 | 90.07 | 52.69 | 149.7 |
| #1 | .0012 | .0034 | .0019 | -.0010 | 5.124 | -.0005 | .2125 | .0004 | .0002 | .0006 |
| #2 | -.0021 | .0042 | .0007 | .0022 | 5.132 | -.0004 | .2111 | .0001 | .0004 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0026 | .0073 | -.0007 |
| Stddev | .0021 | .0000 | .0001 |
| %RSD | 79.29 | .2713 | 13.79 |
| #1 | .0041 | .0073 | -.0006 |
| #2 | .0012 | .0073 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.0 | 78248. | 15685. |
| Stddev | 7.6 | 422. | 23. |
| %RSD | .31525 | .53867 | .14729 |
| #1 | 2396.6 | 77950. | 15701. |
| #2 | 2407.3 | 78546. | 15668. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/6/2013 12:44:32 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0042 | .0040 | -.0026 | .0620 | .0617 | .0000 | 29.83 | -.0001 | .0006 |
| Stddev | .000 | .0005 | .0003 | .0003 | .0002 | .0002 | .000 | .01 | .0000 | .0002 |
| %RSD | 2075. | 12.42 | 8.550 | 11.17 | .2738 | .2810 | 9623. | .0180 | 9.056 | 33.40 |
| #1 | .0002 | -.0046 | .0038 | -.0024 | .0619 | .0616 | .0000 | 29.83 | -.0001 | .0005 |
| #2 | -.0002 | -.0039 | .0043 | -.0028 | .0621 | .0618 | .0000 | 29.82 | -.0001 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0016 | .0594 | 4.484 | 4.391 | .4927 | .0003 | 18.20 | .0038 | .0004 |
| Stddev | .0002 | .0004 | .0013 | .009 | .015 | .0004 | .0001 | .00 | .0000 | .0002 |
| %RSD | 57.24 | 26.97 | 2.184 | .1925 | .3513 | .0856 | 26.71 | .0041 | 1.234 | 41.01 |
| #1 | -.0002 | .0019 | .0603 | 4.491 | 4.380 | .4924 | .0002 | 18.20 | .0038 | .0005 |
| #2 | -.0004 | .0013 | .0585 | 4.478 | 4.402 | .4930 | .0003 | 18.20 | .0037 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0029 | .0006 | .0010 | 5.135 | -.0007 | .2114 | .0003 | .0001 | .0011 |
| Stddev | .0006 | .0017 | .0006 | .0010 | .007 | .0000 | .0005 | .0001 | .0011 | .0000 |
| %RSD | 20.94 | 58.08 | 91.34 | 97.14 | .1444 | 3.959 | .2175 | 47.15 | 847.6 | 2.409 |
| #1 | -.0025 | -.0017 | .0002 | .0003 | 5.140 | -.0007 | .2111 | .0002 | -.0007 | .0011 |
| #2 | -.0033 | -.0041 | .0010 | .0017 | 5.130 | -.0007 | .2117 | .0004 | .0009 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0386 | .0112 | -.0011 |
| Stddev | .0025 | .0001 | .0001 |
| %RSD | 6.528 | 1.293 | 7.464 |
| #1 | .0369 | .0111 | -.0011 |
| #2 | .0404 | .0113 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2374.8 | 78239. | 15736. |
| Stddev | 6.6 | 154. | 73. |
| %RSD | .27646 | .19692 | .46300 |
| #1 | 2370.1 | 78130. | 15684. |
| #2 | 2379.4 | 78348. | 15787. |

Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/6/2013 12:48:53 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0084 | .4692 | -.0034 | .0308 | .0364 | .0000 | 23.75 | .0000 | .0012 |
| Stddev | .0007 | .0029 | .0004 | .0005 | .0002 | .0002 | .0000 | .01 | .000 | .0000 |
| %RSD | 471.8 | 34.05 | .0761 | 13.86 | .6663 | .4408 | 60.83 | .0578 | 359.4 | 2.953 |
| #1 | .0004 | -.0104 | .4695 | -.0037 | .0310 | .0365 | .0000 | 23.74 | .0000 | .0012 |
| #2 | -.0007 | -.0064 | .4690 | -.0031 | .0307 | .0363 | .0001 | 23.76 | .0000 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0004 | 29.06 | 3.304 | 3.015 | 1.663 | .0000 | 9.534 | .0024 | .0009 |
| Stddev | .0002 | .0007 | .05 | .038 | .002 | .002 | .000 | .003 | .0000 | .0003 |
| %RSD | 36.90 | 158.7 | .1741 | 1.142 | .0723 | .1408 | 1114. | .0356 | 1.177 | 31.61 |
| #1 | -.0006 | .0001 | 29.02 | 3.277 | 3.017 | 1.661 | .0000 | 9.531 | .0024 | .0011 |
| #2 | -.0003 | -.0009 | 29.09 | 3.330 | 3.014 | 1.665 | .0000 | 9.536 | .0024 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0035 | .0003 | -.0004 | 8.615 | -.0003 | .2505 | .0001 | .0009 | .0000 |
| Stddev | .0001 | .0040 | .0002 | .0011 | .004 | .0003 | .0004 | .0003 | .0001 | .0001 |
| %RSD | 6.086 | 115.2 | 75.49 | 281.6 | .0515 | 75.78 | .1707 | 242.3 | 8.660 | 424.6 |
| #1 | -.0014 | .0006 | .0005 | .0004 | 8.618 | -.0005 | .2502 | -.0001 | .0009 | .0001 |
| #2 | -.0015 | .0063 | .0002 | -.0012 | 8.612 | -.0002 | .2508 | .0003 | .0010 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0118 | .0075 | -.0018 |
| Stddev | .0016 | .0001 | .0001 |
| %RSD | 14.01 | 1.656 | 3.916 |
| #1 | .0129 | .0076 | -.0018 |
| #2 | .0106 | .0074 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2397.6 | 78018. | 15575. |
| Stddev | 6.8 | 119. | 89. |
| %RSD | .28473 | .15202 | .57308 |
| #1 | 2392.7 | 78102. | 15512. |
| #2 | 2402.4 | 77934. | 15638. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/6/2013 12:53:13 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0067 | .5963 | -.0027 | .1158 | .0648 | .0001 | 39.66 | .0001 | .0019 |
| Stddev | .0006 | .0069 | .0007 | .0007 | .0005 | .0006 | .0001 | .03 | .0000 | .0001 |
| %RSD | 146.2 | 104.2 | .1190 | 27.16 | .4391 | .9826 | 162.0 | .0826 | 66.45 | 2.912 |
| #1 | -.0008 | -.0116 | .5968 | -.0022 | .1154 | .0644 | .0000 | 39.64 | .0000 | .0019 |
| #2 | .0000 | -.0018 | .5958 | -.0032 | .1161 | .0653 | .0001 | 39.69 | .0001 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0003 | 54.79 | 10.03 | 5.188 | 1.381 | -.0001 | 25.34 | .0022 | .0009 |
| Stddev | .0003 | .0001 | .05 | .03 | .006 | .006 | .0001 | .04 | .0001 | .0000 |
| %RSD | 90.28 | 41.19 | .0955 | .3365 | .1180 | .4239 | 144.0 | .1589 | 5.134 | .8867 |
| #1 | -.0005 | .0002 | 54.76 | 10.01 | 5.183 | 1.376 | -.0001 | 25.31 | .0023 | .0009 |
| #2 | -.0001 | .0004 | 54.83 | 10.05 | 5.192 | 1.385 | .0000 | 25.37 | .0021 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0051 | .0005 | .0004 | 11.98 | -.0003 | .3012 | .0005 | .0005 | .0000 |
| Stddev | .0015 | .0028 | .0006 | .0004 | .01 | .0002 | .0004 | .0001 | .0002 | .000 |
| %RSD | 130.4 | 54.59 | 142.3 | 117.1 | .0918 | 45.81 | .1207 | 10.20 | 38.56 | 324.5 |
| #1 | -.0001 | .0031 | .0000 | .0001 | 11.97 | -.0002 | .3010 | .0006 | .0004 | .0000 |
| #2 | -.0022 | .0071 | .0009 | .0007 | 11.99 | -.0004 | .3015 | .0005 | .0007 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0071 | -.0021 |
| Stddev | .0007 | .0001 | .0002 |
| %RSD | 10.67 | 1.341 | 10.62 |
| #1 | .0068 | .0072 | -.0023 |
| #2 | .0058 | .0071 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.7 | 78282. | 15879. |
| Stddev | 3.8 | 332. | 20. |
| %RSD | .15908 | .42382 | .12688 |
| #1 | 2374.4 | 78517. | 15893. |
| #2 | 2369.0 | 78047. | 15865. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 13:02:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2428 | 9.742 | 1.908 | -.0048 | 1.916 | 1.921 | 1.935 | 9.721 | 1.908 | 1.988 |
| Stddev | .0016 | .008 | .006 | .0008 | .002 | .003 | .001 | .012 | .000 | .000 |
| %RSD | .6502 | .0815 | .3069 | 17.46 | .1064 | .1430 | .0730 | .1236 | .0148 | .0225 |
| #1 | .2416 | 9.748 | 1.904 | -.0042 | 1.915 | 1.919 | 1.934 | 9.712 | 1.908 | 1.988 |
| #2 | .2439 | 9.737 | 1.912 | -.0054 | 1.918 | 1.923 | 1.936 | 9.729 | 1.908 | 1.988 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.924 | 1.899 | 9.788 | 9.705 | 9.525 | 1.916 | 1.906 | 9.739 | 1.890 | 1.874 |
| Stddev | .002 | .002 | .017 | .029 | .006 | .003 | .003 | .026 | .000 | .001 |
| %RSD | .0910 | .1086 | .1712 | .2957 | .0687 | .1573 | .1556 | .2723 | .0094 | .0358 |
| #1 | 1.925 | 1.900 | 9.776 | 9.725 | 9.520 | 1.918 | 1.904 | 9.720 | 1.889 | 1.874 |
| #2 | 1.923 | 1.897 | 9.800 | 9.685 | 9.529 | 1.914 | 1.908 | 9.758 | 1.890 | 1.875 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0041 | 1.912 | 1.910 | -.0108 | 1.890 | 1.972 | 1.901 | 1.911 | 1.899 |
| Stddev | .0002 | .0035 | .000 | .003 | .0010 | .000 | .004 | .003 | .004 | .004 |
| %RSD | 26.05 | 84.06 | .0086 | .1479 | 9.548 | .0236 | .2134 | .1314 | .2247 | .2103 |
| #1 | -.0010 | .0066 | 1.912 | 1.908 | -.0101 | 1.890 | 1.969 | 1.903 | 1.914 | 1.902 |
| #2 | -.0007 | .0017 | 1.911 | 1.912 | -.0115 | 1.891 | 1.975 | 1.899 | 1.908 | 1.896 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0036 | 1.892 | -.0040 |
| Stddev | .0011 | .001 | .0002 |
| %RSD | 29.46 | .0416 | 5.914 |
| #1 | .0029 | 1.892 | -.0041 |
| #2 | .0044 | 1.891 | -.0038 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.2 | 78861. | 15678. |
| Stddev | 2.8 | 299. | 51. |
| %RSD | .11606 | .37943 | .32381 |
| #1 | 2426.2 | 78649. | 15642. |
| #2 | 2430.2 | 79072. | 15713. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 13:21:46 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0040 | -.0006 | -.0006 | -.0002 | .0000 | .0001 | -.0004 | .0000 | .0000 |
| Stddev | .0004 | .0042 | .0001 | .0012 | .0003 | .0001 | .0000 | .0001 | .0001 | .0001 |
| %RSD | 1077. | 103.7 | 11.70 | 208.9 | 144.8 | 1762. | .5993 | 22.92 | 492.2 | 454.3 |
| #1 | -.0002 | -.0070 | -.0005 | .0003 | .0000 | .0000 | .0001 | -.0004 | .0001 | .0000 |
| #2 | .0003 | -.0011 | -.0006 | -.0014 | -.0004 | .0000 | .0001 | -.0005 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0002 | .0024 | .0120 | .0173 | .0001 | .0001 | .0092 | .0002 | .0005 |
| Stddev | .0002 | .0004 | .0007 | .0497 | .0147 | .0000 | .0002 | .0099 | .0001 | .0011 |
| %RSD | 57.77 | 199.5 | 29.30 | 413.5 | 84.74 | 27.63 | 159.2 | 106.7 | 46.60 | 203.6 |
| #1 | -.0006 | .0005 | .0019 | -.0231 | .0069 | .0002 | .0002 | .0023 | .0002 | -.0002 |
| #2 | -.0002 | -.0001 | .0029 | .0472 | .0277 | .0001 | .0000 | .0162 | .0001 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0050 | -.0010 | .0007 | .0016 | .0002 | .0001 | -.0003 | .0005 | .0002 |
| Stddev | .0009 | .0016 | .0005 | .0008 | .0003 | .0003 | .0001 | .0001 | .0000 | .0003 |
| %RSD | 120.8 | 33.26 | 52.12 | 112.7 | 20.54 | 165.8 | 130.1 | 16.46 | 2.033 | 157.1 |
| #1 | -.0001 | -.0038 | -.0014 | .0012 | .0018 | .0004 | .0001 | -.0003 | .0005 | .0003 |
| #2 | -.0014 | -.0061 | -.0006 | .0001 | .0014 | .0000 | .0000 | -.0003 | .0005 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0001 | -.0003 | .0001 |
| Stddev | .0006 | .0000 | .0003 |
| %RSD | 798.7 | 8.219 | 304.3 |
| #1 | .0005 | -.0003 | -.0001 |
| #2 | -.0003 | -.0003 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.4 | 78081. | 15540. |
| Stddev | 3.4 | 125. | 28. |
| %RSD | .14293 | .15954 | .18119 |
| #1 | 2412.8 | 78169. | 15520. |
| #2 | 2408.0 | 77993. | 15560. |

Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:26:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0187 | 1.334 | -.0021 | .2169 | .0523 | .0002 | 72.02 | .0002 | .0001 |
| Stddev | .0014 | .0181 | .001 | .0013 | .0005 | .0001 | .0001 | .07 | .0005 | .0002 |
| %RSD | 311.0 | 96.92 | .0669 | 60.69 | .2500 | .1196 | 81.92 | .0922 | 218.7 | 269.4 |
| #1 | -.0014 | -.0315 | 1.333 | -.0030 | .2165 | .0524 | .0003 | 72.07 | .0005 | -.0001 |
| #2 | .0005 | -.0059 | 1.335 | -.0012 | .2173 | .0523 | .0001 | 71.97 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0002 | 43.63 | 10.62 | 11.58 | 1.320 | .0003 | 27.05 | -.0001 | .0018 |
| Stddev | .0001 | .0001 | .07 | .01 | .06 | .001 | .0002 | .01 | .0002 | .0007 |
| %RSD | 17.24 | 42.59 | .1500 | .0690 | .4933 | .1070 | 53.15 | .0439 | 209.5 | 39.10 |
| #1 | -.0010 | -.0001 | 43.67 | 10.61 | 11.54 | 1.321 | .0005 | 27.06 | .0000 | .0023 |
| #2 | -.0008 | -.0003 | 43.58 | 10.62 | 11.62 | 1.319 | .0002 | 27.04 | -.0002 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0000 | -.0002 | -.0009 | 15.32 | -.0010 | .7865 | .0009 | .0014 | .0003 |
| Stddev | .0014 | .0085 | .0020 | .0006 | .02 | .0000 | .0004 | .0002 | .0003 | .0002 |
| %RSD | 28.43 | 90570. | 1017. | 64.11 | .1420 | 1.457 | .0536 | 20.45 | 22.50 | 73.88 |
| #1 | -.0058 | .0060 | -.0016 | -.0005 | 15.30 | -.0010 | .7868 | .0011 | .0016 | .0004 |
| #2 | -.0038 | -.0060 | .0012 | -.0014 | 15.34 | -.0010 | .7862 | .0008 | .0012 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0058 | -.0028 |
| Stddev | .0078 | .0001 | .0003 |
| %RSD | 143.9 | 2.125 | 9.959 |
| #1 | .0001 | .0059 | -.0026 |
| #2 | -.0109 | .0057 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2366.0 | 77530. | 15522. |
| Stddev | 3.8 | 373. | 35. |
| %RSD | .16056 | .48056 | .22321 |
| #1 | 2368.7 | 77267. | 15546. |
| #2 | 2363.3 | 77794. | 15497. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:30:34 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0271 | 1.320 | -.0100 | .2144 | .0519 | .0004 | 70.72 | -.0007 | -.0002 |
| Stddev | .0018 | .0031 | .002 | .0038 | .0004 | .0002 | .0001 | .30 | .0002 | .0013 |
| %RSD | 335.7 | 11.62 | .1331 | 38.18 | .1936 | .4272 | 19.99 | .4195 | 21.87 | 557.0 |
| #1 | .0007 | -.0248 | 1.321 | -.0127 | .2147 | .0518 | .0004 | 70.93 | -.0006 | -.0012 |
| #2 | -.0018 | -.0293 | 1.318 | -.0073 | .2141 | .0521 | .0003 | 70.51 | -.0008 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0002 | 42.72 | 10.48 | 11.46 | 1.293 | .0003 | 26.46 | .0018 | .0003 |
| Stddev | .0009 | .0007 | .12 | .27 | .23 | .005 | .0003 | .06 | .0006 | .0001 |
| %RSD | 24.40 | 360.5 | .2868 | 2.581 | 1.995 | .3607 | 117.6 | .2248 | 31.53 | 51.19 |
| #1 | -.0031 | .0007 | 42.80 | 10.67 | 11.63 | 1.296 | .0000 | 26.51 | .0022 | .0002 |
| #2 | -.0044 | -.0003 | 42.63 | 10.28 | 11.30 | 1.289 | .0005 | 26.42 | .0014 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0117 | -.0031 | .0038 | 14.84 | .0000 | .7672 | .0008 | .0038 | .0004 |
| Stddev | .0009 | .0085 | .0002 | .0024 | .03 | .0023 | .0043 | .0001 | .0040 | .0000 |
| %RSD | 22.36 | 73.09 | 6.360 | 61.88 | .1895 | 7705. | .5557 | 9.204 | 104.6 | 4.666 |
| #1 | -.0035 | -.0177 | -.0033 | .0022 | 14.86 | -.0016 | .7702 | .0009 | .0067 | .0005 |
| #2 | -.0049 | -.0056 | -.0030 | .0055 | 14.82 | .0016 | .7642 | .0008 | .0010 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0159 | -.0021 |
| Stddev | .0017 | .0014 | .0005 |
| %RSD | 26.44 | 8.555 | 25.41 |
| #1 | .0075 | .0149 | -.0017 |
| #2 | .0051 | .0168 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2381.6 | 78065. | 15529. |
| Stddev | 1.3 | 831. | 38. |
| %RSD | .05500 | 1.0648 | .24697 |
| #1 | 2380.6 | 77477. | 15502. |
| #2 | 2382.5 | 78652. | 15556. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:34:55 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0511 | 1.346 | -.0153 | .2158 | .0536 | .0005 | 72.88 | .0000 | -.0015 |
| Stddev | .0005 | .0870 | .012 | .0071 | .0015 | .0010 | .0004 | .23 | .002 | .0007 |
| %RSD | 11.64 | 170.1 | .8804 | 46.24 | .7180 | 1.896 | 72.30 | .3088 | 3913. | 43.42 |
| #1 | -.0046 | -.1126 | 1.355 | -.0103 | .2147 | .0543 | .0003 | 72.72 | .0011 | -.0010 |
| #2 | -.0039 | .0104 | 1.338 | -.0203 | .2169 | .0529 | .0008 | 73.04 | -.0012 | -.0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0023 | 44.36 | 10.71 | 11.72 | 1.317 | -.0001 | 27.57 | -.0001 | .0113 |
| Stddev | .0030 | .0020 | .11 | .24 | .04 | .006 | .0029 | .02 | .0005 | .0024 |
| %RSD | 61.49 | 89.55 | .2498 | 2.240 | .3736 | .4633 | 5069. | .0768 | 723.4 | 21.17 |
| #1 | -.0027 | -.0008 | 44.29 | 10.87 | 11.75 | 1.321 | .0020 | 27.55 | .0003 | .0096 |
| #2 | -.0069 | -.0037 | 44.44 | 10.54 | 11.69 | 1.313 | -.0021 | 27.58 | -.0004 | .0130 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0031 | .0008 | -.0044 | 15.04 | .0013 | .7946 | .0014 | .0095 | -.0011 |
| Stddev | .0004 | .0689 | .0079 | .0167 | .06 | .0003 | .0097 | .0017 | .0008 | .0001 |
| %RSD | 8.677 | 2196. | 992.3 | 378.5 | .3767 | 24.32 | 1.215 | 123.1 | 8.337 | 7.198 |
| #1 | -.0045 | .0456 | .0064 | .0074 | 15.08 | .0011 | .8014 | .0002 | .0101 | -.0011 |
| #2 | -.0051 | -.0518 | -.0048 | -.0162 | 15.00 | .0015 | .7878 | .0027 | .0089 | -.0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0072 | .0218 | -.0012 |
| Stddev | .0246 | .0006 | .0000 |
| %RSD | 343.3 | 2.805 | 1.698 |
| #1 | -.0245 | .0222 | -.0012 |
| #2 | .0102 | .0213 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.1 | 78076. | 15548. |
| Stddev | 4.6 | 176. | 81. |
| %RSD | .19163 | .22599 | .51974 |
| #1 | 2378.9 | 77951. | 15605. |
| #2 | 2385.3 | 78201. | 15491. |



Zoom In Zoom Out

Sample Name: MC21261-2F Acquired: 6/6/2013 13:39:16 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0081 | .0247 | -.0052 | .0163 | .0620 | .0002 | 40.01 | -.0002 | .0002 |
| Stddev | .0021 | .0445 | .0007 | .0025 | .0020 | .0002 | .0000 | .03 | .0015 | .0009 |
| %RSD | 103.7 | 547.2 | 2.636 | 48.32 | 12.19 | .3076 | 4.235 | .0842 | 613.4 | 434.4 |
| #1 | .0035 | .0233 | .0252 | -.0034 | .0149 | .0621 | .0002 | 40.04 | -.0013 | .0008 |
| #2 | .0005 | -.0396 | .0243 | -.0070 | .0177 | .0619 | .0002 | 39.99 | .0008 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0019 | .5704 | 4.231 | 3.816 | .1467 | .0015 | 10.03 | .0001 | -.0002 |
| Stddev | .0007 | .0025 | .0079 | .067 | .072 | .0011 | .0005 | .03 | .0004 | .0058 |
| %RSD | 60.44 | 133.7 | 1.389 | 1.577 | 1.880 | .7624 | 31.70 | .3426 | 542.2 | 3640. |
| #1 | -.0018 | -.0001 | .5760 | 4.184 | 3.765 | .1475 | .0012 | 10.05 | -.0002 | .0039 |
| #2 | -.0007 | -.0037 | .5648 | 4.278 | 3.866 | .1459 | .0019 | 10.00 | .0004 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0013 | -.0007 | .0056 | 3.279 | -.0015 | .2902 | -.0005 | .0040 | .0033 |
| Stddev | .0008 | .0416 | .0005 | .0021 | .001 | .0000 | .0019 | .0004 | .0009 | .0039 |
| %RSD | 47.63 | 3313. | 62.47 | 38.11 | .0385 | 1.118 | .6690 | 94.50 | 22.51 | 119.0 |
| #1 | .0022 | -.0281 | -.0010 | .0041 | 3.280 | -.0015 | .2888 | -.0002 | .0047 | .0061 |
| #2 | .0011 | .0306 | -.0004 | .0071 | 3.278 | -.0015 | .2915 | -.0008 | .0034 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0360 | .0112 | -.0003 |
| Stddev | .0008 | .0002 | .0011 |
| %RSD | 2.198 | 1.796 | 376.1 |
| #1 | .0354 | .0111 | -.0011 |
| #2 | .0366 | .0114 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.2 | 78355. | 15488. |
| Stddev | 4.3 | 637. | 57. |
| %RSD | .18025 | .81340 | .37111 |
| #1 | 2390.2 | 77904. | 15448. |
| #2 | 2384.1 | 78805. | 15529. |

Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:43:38 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0127 | .0100 | -.0087 | .2605 | .0385 | .0000 | 105.6 | .0002 | .0030 |
| Stddev | .0002 | .0136 | .0001 | .0017 | .0001 | .0006 | .000 | .2 | .0003 | .0000 |
| %RSD | 432.4 | 107.5 | 1.393 | 18.87 | .0414 | 1.532 | 105.6 | .1939 | 156.8 | 1.303 |
| #1 | .0002 | .0030 | .0099 | -.0076 | .2604 | .0381 | .0000 | 105.7 | .0005 | .0030 |
| #2 | -.0001 | .0223 | .0101 | -.0099 | .2606 | .0389 | -.0001 | 105.4 | .0000 | .0031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0006 | .6018 | 11.01 | 22.54 | 4.882 | .0101 | 42.05 | .0083 | .0003 |
| Stddev | .0003 | .0004 | .0024 | .03 | .07 | .000 | .0003 | .01 | .0003 | .0003 |
| %RSD | 126.4 | 61.54 | .4061 | .2344 | .3187 | .0060 | 3.044 | .0319 | 4.127 | 121.2 |
| #1 | -.0005 | .0009 | .6035 | 10.99 | 22.59 | 4.882 | .0099 | 42.06 | .0080 | .0000 |
| #2 | .0000 | .0003 | .6001 | 11.03 | 22.48 | 4.883 | .0103 | 42.04 | .0085 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | .0181 | .0031 | .0024 | 9.785 | -.0016 | .5398 | .0008 | .0031 | .0023 |
| Stddev | .0026 | .0099 | .0008 | .0040 | .009 | .0007 | .0001 | .0001 | .0001 | .0006 |
| %RSD | 35.22 | 54.75 | 26.81 | 163.8 | .0962 | 40.93 | .0108 | 8.873 | 2.928 | 27.45 |
| #1 | -.0091 | .0251 | .0025 | -.0004 | 9.778 | -.0011 | .5397 | .0007 | .0031 | .0027 |
| #2 | -.0055 | .0111 | .0037 | .0052 | 9.792 | -.0021 | .5398 | .0008 | .0032 | .0019 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0374 | .0045 | -.0015 |
| Stddev | .0103 | .0000 | .0008 |
| %RSD | 27.52 | .4596 | 55.00 |
| #1 | .0447 | .0045 | -.0009 |
| #2 | .0302 | .0045 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2351.0 | 77547. | 15532. |
| Stddev | 1.0 | 116. | 207. |
| %RSD | .04386 | .14946 | 1.3354 |
| #1 | 2351.7 | 77629. | 15386. |
| #2 | 2350.3 | 77465. | 15679. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:47:58 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0218 | .0075 | -.0105 | .2595 | .0390 | .0000 | 106.6 | .0003 | .0033 |
| Stddev | .0016 | .0329 | .0006 | .0043 | .0004 | .0000 | .000 | .5 | .0002 | .0000 |
| %RSD | 525.6 | 150.9 | 8.069 | 40.73 | .1671 | .0782 | 4476. | .4623 | 73.70 | .4114 |
| #1 | .0008 | .0450 | .0071 | -.0075 | .2592 | .0389 | -.0002 | 106.3 | .0004 | .0033 |
| #2 | -.0015 | -.0015 | .0079 | -.0135 | .2598 | .0390 | .0002 | 107.0 | .0001 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0002 | .6132 | 11.08 | 22.79 | 4.882 | .0100 | 42.16 | .0082 | -.0008 |
| Stddev | .0005 | .0003 | .0012 | .04 | .05 | .001 | .0004 | .12 | .0000 | .0008 |
| %RSD | 33.33 | 141.7 | .2018 | .3936 | .2355 | .0175 | 4.494 | .2948 | .5686 | 102.2 |
| #1 | -.0011 | .0005 | .6124 | 11.11 | 22.82 | 4.882 | .0097 | 42.07 | .0081 | -.0002 |
| #2 | -.0017 | .0000 | .6141 | 11.05 | 22.75 | 4.883 | .0103 | 42.25 | .0082 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0126 | .0040 | .0031 | 9.711 | -.0013 | .5431 | .0007 | .0025 | .0039 |
| Stddev | .0016 | .0130 | .0030 | .0005 | .006 | .0005 | .0004 | .0001 | .0019 | .0011 |
| %RSD | 40.79 | 103.5 | 75.14 | 15.49 | .0666 | 35.17 | .0743 | 19.04 | 75.81 | 29.14 |
| #1 | -.0027 | .0217 | .0061 | .0035 | 9.716 | -.0017 | .5428 | .0008 | .0039 | .0047 |
| #2 | -.0049 | .0034 | .0019 | .0028 | 9.707 | -.0010 | .5434 | .0006 | .0012 | .0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0493 | .0054 | -.0011 |
| Stddev | .0020 | .0004 | .0003 |
| %RSD | 4.114 | 6.488 | 23.72 |
| #1 | .0507 | .0057 | -.0012 |
| #2 | .0479 | .0052 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2376.3 | 78760. | 15583. |
| Stddev | 1.2 | 143. | 173. |
| %RSD | .04947 | .18166 | 1.1131 |
| #1 | 2377.2 | 78861. | 15706. |
| #2 | 2375.5 | 78659. | 15460. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:52:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0231 | .0028 | -.0131 | .2593 | .0397 | .0003 | 107.4 | .0000 | .0033 |
| Stddev | .0002 | .0038 | .0016 | .0031 | .0008 | .0009 | .0003 | .3 | .000 | .0004 |
| %RSD | 142.2 | 16.24 | 57.50 | 23.65 | .3112 | 2.328 | 105.7 | .2534 | 1119. | 11.25 |
| #1 | .0003 | -.0205 | .0040 | -.0109 | .2587 | .0404 | .0001 | 107.2 | -.0001 | .0030 |
| #2 | .0000 | -.0258 | .0017 | -.0153 | .2598 | .0391 | .0005 | 107.5 | .0001 | .0035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | .0000 | .6036 | 11.04 | 22.73 | 4.896 | .0104 | 42.42 | .0082 | .0055 |
| Stddev | .0040 | .001 | .0187 | .24 | .38 | .003 | .0003 | .03 | .0002 | .0038 |
| %RSD | 253.4 | 1333. | 3.093 | 2.151 | 1.691 | .0688 | 2.857 | .0647 | 2.077 | 69.25 |
| #1 | .0013 | .0004 | .5904 | 10.87 | 22.45 | 4.894 | .0102 | 42.40 | .0080 | .0028 |
| #2 | -.0044 | -.0005 | .6168 | 11.21 | 23.00 | 4.899 | .0106 | 42.43 | .0083 | .0082 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0183 | .0008 | .0091 | 9.731 | -.0014 | .5472 | .0023 | .0073 | .0010 |
| Stddev | .0002 | .0112 | .0022 | .0021 | .013 | .0004 | .0008 | .0004 | .0019 | .0006 |
| %RSD | 11.48 | 61.37 | 257.4 | 23.39 | .1284 | 25.78 | .1490 | 19.32 | 26.13 | 57.63 |
| #1 | -.0015 | .0104 | -.0007 | .0076 | 9.722 | -.0017 | .5478 | .0020 | .0086 | .0015 |
| #2 | -.0018 | .0262 | .0024 | .0105 | 9.740 | -.0012 | .5466 | .0026 | .0059 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0279 | .0113 | -.0021 |
| Stddev | .0006 | .0003 | .0009 |
| %RSD | 2.007 | 2.812 | 43.67 |
| #1 | .0283 | .0111 | -.0015 |
| #2 | .0275 | .0116 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.5 | 78735. | 15470. |
| Stddev | 3.5 | 95. | 121. |
| %RSD | .14841 | .12097 | .78390 |
| #1 | 2381.0 | 78668. | 15556. |
| #2 | 2386.0 | 78802. | 15385. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:56:41 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0060 | -.0738 | -.0105 | -.0313 | .2565 | .0428 | .0009 | 111.2 | -.0011 | .0056 |
| Stddev | .0075 | .0254 | .0025 | .0002 | .0128 | .0039 | .0006 | .2 | .0011 | .0011 |
| %RSD | 125.6 | 34.46 | 24.14 | .7540 | 4.984 | 9.075 | 58.30 | .1567 | 102.4 | 18.97 |
| #1 | -.0113 | -.0918 | -.0123 | -.0311 | .2656 | .0401 | .0006 | 111.1 | -.0019 | .0049 |
| #2 | -.0007 | -.0558 | -.0087 | -.0315 | .2475 | .0456 | .0013 | 111.3 | -.0003 | .0064 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0114 | -.0060 | .6360 | 10.88 | 23.15 | 4.995 | .0079 | 44.24 | .0125 | .0246 |
| Stddev | .0029 | .0103 | .0188 | .26 | .26 | .005 | .0012 | .00 | .0076 | .0119 |
| %RSD | 25.22 | 171.0 | 2.959 | 2.348 | 1.139 | .0992 | 14.80 | .0017 | 60.81 | 48.45 |
| #1 | -.0134 | .0013 | .6227 | 11.06 | 22.96 | 4.991 | .0071 | 44.24 | .0179 | .0162 |
| #2 | -.0094 | -.0133 | .6493 | 10.70 | 23.33 | 4.998 | .0087 | 44.24 | .0072 | .0330 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0289 | .0674 | -.0004 | .0101 | 9.801 | .0059 | .5638 | -.0007 | .0093 | .0081 |
| Stddev | .0035 | .0751 | .0087 | .0043 | .000 | .0036 | .0008 | .0018 | .0107 | .0055 |
| %RSD | 11.98 | 111.5 | 2389. | 42.27 | .0021 | 61.49 | .1504 | 240.0 | 115.2 | 67.99 |
| #1 | .0313 | .0143 | -.0065 | .0131 | 9.801 | .0084 | .5632 | -.0020 | .0017 | .0120 |
| #2 | .0264 | .1205 | .0058 | .0071 | 9.801 | .0033 | .5644 | .0005 | .0169 | .0042 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0909 | .0371 | .0026 |
| Stddev | .0535 | .0001 | .0001 |
| %RSD | 58.90 | .3676 | 3.314 |
| #1 | .1287 | .0370 | .0026 |
| #2 | .0530 | .0372 | .0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.7 | 78668. | 15627. |
| Stddev | 4.4 | 36. | 80. |
| %RSD | .18402 | .04528 | .51216 |
| #1 | 2396.8 | 78693. | 15571. |
| #2 | 2390.6 | 78642. | 15684. |

Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/6/2013 14:01:04 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0062 | 2.013 | -.0067 | .0241 | .0581 | .0002 | 33.13 | -.0010 | .0143 |
| Stddev | .0015 | .0028 | .007 | .0062 | .0002 | .0004 | .0001 | .25 | .0003 | .0004 |
| %RSD | 155.6 | 45.48 | .3504 | 92.80 | .6786 | .7661 | 63.39 | .7597 | 28.99 | 3.029 |
| #1 | -.0020 | -.0042 | 2.008 | -.0111 | .0239 | .0585 | .0001 | 32.95 | -.0008 | .0146 |
| #2 | .0001 | -.0082 | 2.018 | -.0023 | .0242 | .0578 | .0003 | 33.31 | -.0012 | .0140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0003 | 40.92 | 4.383 | 3.453 | 2.126 | .0033 | 80.77 | .0103 | .0012 |
| Stddev | .0016 | .0004 | .07 | .100 | .064 | .007 | .0002 | .17 | .0014 | .0027 |
| %RSD | 50.20 | 117.3 | .1825 | 2.269 | 1.858 | .3194 | 7.037 | .2148 | 13.69 | 222.2 |
| #1 | -.0020 | .0006 | 40.86 | 4.454 | 3.499 | 2.130 | .0031 | 80.65 | .0093 | -.0007 |
| #2 | -.0043 | .0001 | 40.97 | 4.313 | 3.408 | 2.121 | .0034 | 80.89 | .0113 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | -.0206 | -.0020 | .0065 | 7.700 | .0008 | .2900 | .0004 | .0062 | .0013 |
| Stddev | .0005 | .0092 | .0000 | .0024 | .004 | .0001 | .0021 | .0011 | .0037 | .0015 |
| %RSD | 9.966 | 44.78 | .4652 | 37.07 | .0584 | 9.158 | .7190 | 264.1 | 59.76 | 116.0 |
| #1 | .0044 | -.0271 | -.0020 | .0082 | 7.703 | .0007 | .2886 | .0012 | .0036 | .0002 |
| #2 | .0051 | -.0141 | -.0020 | .0048 | 7.696 | .0008 | .2915 | -.0004 | .0088 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0184 | .0109 | -.0012 |
| Stddev | .0066 | .0006 | .0005 |
| %RSD | 35.64 | 5.714 | 44.37 |
| #1 | .0138 | .0113 | -.0016 |
| #2 | .0230 | .0104 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.6 | 78289. | 15259. |
| Stddev | 4.0 | 576. | 29. |
| %RSD | .16954 | .73634 | .19121 |
| #1 | 2380.8 | 77881. | 15279. |
| #2 | 2386.5 | 78696. | 15238. |



Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/6/2013 14:05:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0243 | 2.044 | -.0186 | .0231 | .0599 | .0011 | 32.77 | -.0010 | .0154 |
| Stddev | .0009 | .0018 | .001 | .0054 | .0022 | .0009 | .0007 | .04 | .0014 | .0003 |
| %RSD | 39.11 | 7.295 | .0223 | 29.23 | 9.524 | 1.537 | 65.10 | .1351 | 136.5 | 2.081 |
| #1 | -.0017 | -.0256 | 2.044 | -.0148 | .0215 | .0605 | .0016 | 32.74 | .0000 | .0152 |
| #2 | -.0030 | -.0231 | 2.043 | -.0225 | .0246 | .0592 | .0006 | 32.80 | -.0020 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0010 | 41.49 | 4.495 | 3.563 | 2.167 | .0022 | 80.20 | .0129 | .0083 |
| Stddev | .0013 | .0021 | .04 | .091 | .000 | .014 | .0002 | .22 | .0010 | .0071 |
| %RSD | 13.72 | 208.4 | .1021 | 2.027 | .0027 | .6405 | 9.706 | .2693 | 7.443 | 85.66 |
| #1 | -.0083 | .0024 | 41.46 | 4.430 | 3.563 | 2.177 | .0024 | 80.05 | .0135 | .0033 |
| #2 | -.0101 | -.0005 | 41.52 | 4.559 | 3.563 | 2.157 | .0021 | 80.35 | .0122 | .0133 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0081 | -.0047 | -.0008 | .0038 | 7.776 | .0013 | .2893 | .0003 | .0082 | .0003 |
| Stddev | .0088 | .0152 | .0041 | .0096 | .018 | .0040 | .0005 | .0031 | .0042 | .0024 |
| %RSD | 108.5 | 324.0 | 520.7 | 249.3 | .2246 | 298.9 | .1883 | 1072. | 51.54 | 701.6 |
| #1 | .0143 | .0061 | -.0037 | -.0029 | 7.764 | -.0015 | .2897 | -.0019 | .0052 | .0020 |
| #2 | .0019 | -.0155 | .0021 | .0106 | 7.789 | .0042 | .2889 | .0025 | .0111 | -.0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0109 | .0188 | -.0008 |
| Stddev | .0148 | .0007 | .0008 |
| %RSD | 136.1 | 3.881 | 94.42 |
| #1 | .0004 | .0193 | -.0014 |
| #2 | .0213 | .0183 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.8 | 77804. | 15619. |
| Stddev | 3.6 | 949. | 101. |
| %RSD | .15227 | 1.2198 | .64836 |
| #1 | 2389.4 | 77133. | 15548. |
| #2 | 2384.2 | 78475. | 15691. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 14:09:47 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2446 | 9.785 | 1.965 | -.0036 | 1.940 | 1.935 | 1.931 | 9.830 | 1.925 | 2.043 |
| Stddev | .0010 | .020 | .012 | .0014 | .005 | .003 | .005 | .016 | .005 | .006 |
| %RSD | .4279 | .2045 | .6238 | 39.07 | .2748 | .1307 | .2782 | .1581 | .2398 | .2859 |
| #1 | .2453 | 9.799 | 1.957 | -.0026 | 1.936 | 1.934 | 1.927 | 9.819 | 1.922 | 2.039 |
| #2 | .2438 | 9.771 | 1.974 | -.0046 | 1.944 | 1.937 | 1.935 | 9.841 | 1.928 | 2.047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.942 | 1.933 | 9.774 | 9.835 | 9.714 | 1.911 | 1.958 | 9.788 | 1.923 | 1.923 |
| Stddev | .011 | .005 | .003 | .000 | .010 | .013 | .007 | .018 | .002 | .002 |
| %RSD | .5757 | .2724 | .0253 | .0010 | .0999 | .6518 | .3467 | .1829 | .1150 | .1219 |
| #1 | 1.950 | 1.936 | 9.772 | 9.835 | 9.708 | 1.919 | 1.953 | 9.776 | 1.922 | 1.922 |
| #2 | 1.934 | 1.929 | 9.775 | 9.835 | 9.721 | 1.902 | 1.963 | 9.801 | 1.925 | 1.925 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | 1.956 | 1.963 | .0389 | 1.918 | 2.001 | 1.912 | 1.928 | 1.922 |
| Stddev | .0008 | .0012 | .003 | .006 | .0019 | .002 | .003 | .010 | .004 | .011 |
| %RSD | 63.04 | 1043. | .1459 | .2877 | 4.911 | .1198 | .1287 | .4995 | .1991 | .5733 |
| #1 | .0007 | -.0009 | 1.954 | 1.959 | .0376 | 1.917 | 1.999 | 1.919 | 1.925 | 1.929 |
| #2 | .0018 | .0007 | 1.958 | 1.967 | .0403 | 1.920 | 2.003 | 1.905 | 1.931 | 1.914 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0026 | 1.954 | -.0025 |
| Stddev | .0014 | .004 | .0000 |
| %RSD | 52.35 | .2108 | 1.865 |
| #1 | .0017 | 1.951 | -.0026 |
| #2 | .0036 | 1.957 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.5 | 79301. | 15503. |
| Stddev | .1 | 745. | 27. |
| %RSD | .00216 | .93973 | .17614 |
| #1 | 2403.5 | 78774. | 15522. |
| #2 | 2403.6 | 79827. | 15484. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 14:13:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0019 | .0000 | -.0005 | .0015 | .0007 | F.0007 | .0054 | .0003 |
| Stddev | .0006 | .0016 | .0004 | .0007 | .0000 | .0001 | .0002 | .0010 | .0001 |
| %RSD | 585.7 | 82.14 | 1579. | 144.4 | 2.726 | 7.556 | 21.56 | 18.58 | 21.89 |
| #1 | -.0005 | .0030 | -.0002 | -.0010 | .0015 | .0007 | .0009 | .0061 | .0004 |
| #2 | .0003 | .0008 | .0003 | .0000 | .0014 | .0007 | .0006 | .0047 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0000 | .0052 | .0022 | .0051 | .0006 | .0020 | .0241 |
| Stddev | .0003 | .0001 | .0003 | .0025 | .0202 | .0098 | .0001 | .0006 | .0009 |
| %RSD | 59.97 | 31.68 | 958.2 | 48.06 | 915.7 | 192.3 | 10.58 | 31.61 | 3.670 |
| #1 | .0007 | .0002 | -.0002 | .0034 | .0165 | -.0018 | .0007 | .0024 | .0235 |
| #2 | .0003 | .0001 | .0003 | .0070 | -.0121 | .0121 | .0006 | .0015 | .0247 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .0003 | -.0019 | .0004 | .0009 | .0026 | .0004 | .0008 |
| Stddev | .0001 | .0007 | .0000 | .0003 | .0006 | .0018 | .0001 | .0002 | .0001 |
| %RSD | 28.39 | 67.43 | 1.875 | 16.14 | 138.4 | 195.5 | 4.890 | 53.90 | 8.923 |
| #1 | .0003 | .0015 | .0003 | -.0017 | .0009 | -.0004 | .0025 | .0005 | .0008 |
| #2 | .0004 | .0005 | .0003 | -.0021 | .0000 | .0022 | .0027 | .0002 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0005 | F.0025 | .0008 | .0005 | .0000 | .0002 |
| Stddev | .0002 | .0001 | .0001 | .0038 | .0001 | .0000 |
| %RSD | 44.02 | 5.906 | 11.07 | 789.2 | 917.0 | 6.652 |
| #1 | .0004 | .0026 | .0007 | -.0022 | .0001 | .0002 |
| #2 | .0007 | .0024 | .0008 | .0031 | .0000 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.6 | 78713. | 15654. |
| Stddev | 2.5 | 236. | 164. |
| %RSD | .10308 | .29950 | 1.0508 |
| #1 | 2403.4 | 78547. | 15538. |
| #2 | 2399.9 | 78880. | 15770. |

Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:18:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0115 | .3163 | -.0128 | .2283 | .0763 | .0003 | 94.51 | .0003 | .0107 |
| Stddev | .0003 | .0094 | .0021 | .0005 | .0005 | .0001 | .0001 | .06 | .0003 | .0003 |
| %RSD | 501.1 | 81.76 | .6688 | 4.191 | .2370 | .0952 | 52.56 | .0617 | 127.5 | 2.620 |
| #1 | -.0003 | -.0181 | .3178 | -.0125 | .2286 | .0762 | .0004 | 94.47 | .0005 | .0109 |
| #2 | .0001 | -.0048 | .3148 | -.0132 | .2279 | .0763 | .0002 | 94.55 | .0000 | .0105 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0014 | 13.63 | 9.219 | 15.03 | 6.712 | .0077 | 34.91 | .0061 | .0028 |
| Stddev | .0003 | .0009 | .05 | .028 | .08 | .021 | .0001 | .02 | .0001 | .0029 |
| %RSD | 24.53 | 66.47 | .3314 | .3028 | .5397 | .3162 | .7666 | .0458 | 2.452 | 103.0 |
| #1 | -.0012 | .0007 | 13.66 | 9.199 | 15.08 | 6.697 | .0077 | 34.90 | .0062 | .0008 |
| #2 | -.0009 | .0021 | 13.60 | 9.238 | 14.97 | 6.727 | .0078 | 34.92 | .0060 | .0049 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0056 | .0271 | -.0005 | .0034 | 14.45 | -.0003 | 1.310 | .0011 | .0038 | .0009 |
| Stddev | .0021 | .0018 | .0036 | .0005 | .01 | .0003 | .002 | .0003 | .0008 | .0004 |
| %RSD | 37.30 | 6.624 | 671.5 | 14.70 | .0835 | 105.0 | .1381 | 30.04 | 20.70 | 50.26 |
| #1 | -.0041 | .0283 | -.0031 | .0031 | 14.46 | -.0004 | 1.309 | .0013 | .0043 | .0006 |
| #2 | -.0071 | .0258 | .0020 | .0038 | 14.44 | -.0001 | 1.311 | .0009 | .0032 | .0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0062 | .0091 | -.0028 |
| Stddev | .0085 | .0003 | .0003 |
| %RSD | 137.3 | 3.023 | 9.978 |
| #1 | .0002 | .0089 | -.0026 |
| #2 | .0122 | .0092 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2368.7 | 77992. | 15600. |
| Stddev | 7.1 | 155. | 4. |
| %RSD | .30099 | .19890 | .02865 |
| #1 | 2373.8 | 78101. | 15596. |
| #2 | 2363.7 | 77882. | 15603. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:22:47 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0362 | .3214 | -.0157 | .2303 | .0786 | .0004 | 96.15 | .0002 | .0112 |
| Stddev | .0009 | .0244 | .0108 | .0017 | .0020 | .0027 | .0000 | 3.54 | .0000 | .0004 |
| %RSD | 150.8 | 67.55 | 3.357 | 11.00 | .8750 | 3.444 | 11.19 | 3.683 | 15.42 | 3.816 |
| #1 | -.0012 | -.0535 | .3290 | -.0145 | .2317 | .0767 | .0004 | 93.65 | .0002 | .0109 |
| #2 | .0000 | -.0189 | .3138 | -.0169 | .2288 | .0805 | .0003 | 98.66 | .0002 | .0115 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0024 | 13.62 | 9.619 | 15.31 | 6.739 | .0081 | 35.36 | .0069 | .0029 |
| Stddev | .0003 | .0029 | .58 | .619 | .55 | .016 | .0003 | 1.29 | .0001 | .0005 |
| %RSD | 11.82 | 120.8 | 4.262 | 6.433 | 3.597 | .2404 | 3.957 | 3.659 | 1.814 | 17.12 |
| #1 | -.0024 | -.0045 | 13.20 | 9.182 | 14.92 | 6.728 | .0079 | 34.44 | .0070 | .0033 |
| #2 | -.0029 | -.0004 | 14.03 | 10.06 | 15.70 | 6.751 | .0083 | 36.27 | .0068 | .0026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0189 | .0029 | .0051 | 14.46 | -.0023 | 1.315 | .0028 | .0062 | .0003 |
| Stddev | .0044 | .0085 | .0006 | .0007 | .02 | .0028 | .049 | .0019 | .0010 | .0012 |
| %RSD | 105.9 | 44.93 | 22.11 | 14.64 | .1281 | 120.0 | 3.693 | 66.46 | 16.09 | 408.5 |
| #1 | -.0010 | .0129 | .0024 | .0056 | 14.47 | -.0043 | 1.280 | .0015 | .0055 | -.0005 |
| #2 | -.0072 | .0249 | .0033 | .0046 | 14.45 | -.0004 | 1.349 | .0041 | .0069 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0060 | .0110 | -.0024 |
| Stddev | .0152 | .0008 | .0001 |
| %RSD | 254.6 | 7.242 | 3.677 |
| #1 | .0168 | .0105 | -.0023 |
| #2 | -.0048 | .0116 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.1 | 79014. | 15647. |
| Stddev | .8 | 85. | 519. |
| %RSD | .03424 | .10810 | 3.3172 |
| #1 | 2406.5 | 79074. | 16014. |
| #2 | 2407.7 | 78953. | 15280. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:27:08 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0335 | .3229 | -.0168 | .2335 | .0786 | .0010 | 97.71 | -.0010 | .0121 |
| Stddev | .0013 | .0171 | .0030 | .0122 | .0024 | .0006 | .0004 | .15 | .0000 | .0009 |
| %RSD | 48.15 | 50.94 | .9189 | 72.26 | 1.028 | .8209 | 37.21 | .1576 | 1.819 | 7.219 |
| #1 | -.0017 | -.0215 | .3250 | -.0254 | .2318 | .0790 | .0013 | 97.82 | -.0010 | .0127 |
| #2 | -.0035 | -.0456 | .3208 | -.0082 | .2352 | .0781 | .0007 | 97.60 | -.0010 | .0115 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0036 | 13.98 | 9.515 | 15.72 | 6.926 | .0080 | 35.93 | .0090 | .0044 |
| Stddev | .0001 | .0006 | .01 | .108 | .02 | .011 | .0014 | .19 | .0010 | .0081 |
| %RSD | 3.699 | 15.60 | .0935 | 1.132 | .1304 | .1542 | 17.95 | .5378 | 11.47 | 182.5 |
| #1 | -.0019 | .0032 | 13.97 | 9.439 | 15.73 | 6.919 | .0090 | 36.06 | .0083 | -.0013 |
| #2 | -.0020 | .0040 | 13.98 | 9.591 | 15.71 | 6.934 | .0070 | 35.79 | .0097 | .0102 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0163 | .0026 | .0068 | 14.57 | -.0004 | 1.338 | .0011 | .0109 | .0064 |
| Stddev | .0013 | .0182 | .0040 | .0058 | .01 | .0048 | .002 | .0009 | .0030 | .0046 |
| %RSD | 125.9 | 111.7 | 157.7 | 84.85 | .0743 | 1295. | .1758 | 76.07 | 27.67 | 71.94 |
| #1 | .0019 | .0034 | -.0003 | .0027 | 14.58 | -.0037 | 1.339 | .0018 | .0130 | .0032 |
| #2 | .0001 | .0291 | .0054 | .0109 | 14.56 | .0030 | 1.336 | .0005 | .0088 | .0097 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0126 | .0159 | -.0012 |
| Stddev | .0301 | .0004 | .0018 |
| %RSD | 239.4 | 2.534 | 156.2 |
| #1 | .0338 | .0162 | -.0025 |
| #2 | -.0087 | .0156 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.9 | 78915. | 15589. |
| Stddev | 2.8 | 72. | 17. |
| %RSD | .11708 | .09125 | .11118 |
| #1 | 2406.9 | 78965. | 15601. |
| #2 | 2402.9 | 78864. | 15577. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:31:31 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0154 | .0018 | -.0034 | .0147 | .0251 | .0002 | 59.03 | .0004 | .0011 |
| Stddev | .0003 | .0009 | .0004 | .0009 | .0004 | .0001 | .0000 | .18 | .0000 | .0002 |
| %RSD | 264.5 | 5.736 | 23.48 | 25.75 | 2.992 | .5874 | 28.33 | .3113 | 7.161 | 14.86 |
| #1 | .0001 | -.0160 | .0015 | -.0041 | .0151 | .0250 | .0002 | 59.16 | .0004 | .0012 |
| #2 | -.0003 | -.0148 | .0021 | -.0028 | .0144 | .0252 | .0001 | 58.90 | .0004 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0008 | .0042 | 3.067 | 13.70 | .6700 | .0012 | 39.03 | .0036 | .0001 |
| Stddev | .0003 | .0001 | .0033 | .079 | .16 | .0012 | .0000 | .08 | .0006 | .0009 |
| %RSD | 100.1 | 13.44 | 79.28 | 2.585 | 1.157 | .1753 | 3.368 | .1952 | 16.22 | 1542. |
| #1 | -.0001 | .0007 | .0018 | 3.123 | 13.81 | .6708 | .0012 | 39.09 | .0032 | -.0006 |
| #2 | -.0005 | .0009 | .0065 | 3.011 | 13.59 | .6691 | .0012 | 38.98 | .0040 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0068 | -.0025 | .0010 | .0013 | 6.298 | -.0011 | .5183 | .0004 | .0008 | -.0002 |
| Stddev | .0014 | .0019 | .0004 | .0017 | .003 | .0002 | .0000 | .0004 | .0001 | .0003 |
| %RSD | 19.89 | 75.38 | 38.31 | 126.1 | .0546 | 21.65 | .0095 | 109.3 | 7.240 | 137.2 |
| #1 | -.0058 | -.0038 | .0012 | .0025 | 6.300 | -.0013 | .5182 | .0007 | .0008 | .0000 |
| #2 | -.0078 | -.0012 | .0007 | .0001 | 6.296 | -.0009 | .5183 | .0001 | .0007 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0034 | .0354 | -.0011 |
| Stddev | .0046 | .0001 | .0007 |
| %RSD | 137.3 | .3389 | 65.45 |
| #1 | -.0001 | .0355 | -.0016 |
| #2 | -.0066 | .0353 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.1 | 78339. | 15550. |
| Stddev | 3.7 | 186. | 176. |
| %RSD | .15379 | .23753 | 1.1291 |
| #1 | 2385.5 | 78208. | 15426. |
| #2 | 2390.7 | 78471. | 15674. |

Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:35:52 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0068 | -.0001 | -.0075 | .0148 | .0256 | .0006 | 59.71 | -.0006 | .0017 |
| Stddev | .0007 | .0362 | .0019 | .0037 | .0003 | .0001 | .0002 | .17 | .0001 | .0005 |
| %RSD | 298.1 | 530.5 | 1607. | 48.70 | 2.120 | .2610 | 25.00 | .2821 | 11.72 | 28.99 |
| #1 | .0007 | -.0324 | .0013 | -.0101 | .0150 | .0256 | .0005 | 59.83 | -.0006 | .0014 |
| #2 | -.0003 | .0188 | -.0015 | -.0049 | .0146 | .0255 | .0007 | 59.59 | -.0005 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | -.0011 | .0039 | 2.976 | 13.92 | .6817 | .0017 | 39.30 | .0031 | .0000 |
| Stddev | .0014 | .0019 | .0112 | .221 | .12 | .0006 | .0005 | .07 | .0003 | .001 |
| %RSD | 85.54 | 178.5 | 285.9 | 7.438 | .8638 | .0927 | 29.31 | .1895 | 9.529 | 2472. |
| #1 | -.0006 | .0003 | -.0040 | 3.133 | 13.84 | .6813 | .0020 | 39.35 | .0029 | .0005 |
| #2 | -.0026 | -.0024 | .0118 | 2.820 | 14.01 | .6822 | .0013 | 39.25 | .0033 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0217 | -.0019 | .0015 | 6.299 | -.0019 | .5230 | -.0003 | .0017 | -.0001 |
| Stddev | .0017 | .0277 | .0003 | .0036 | .002 | .0015 | .0009 | .0024 | .0038 | .0015 |
| %RSD | 44.84 | 127.4 | 17.10 | 229.8 | .0369 | 76.42 | .1637 | 908.8 | 218.6 | 1772. |
| #1 | -.0050 | -.0022 | -.0017 | .0041 | 6.300 | -.0009 | .5236 | -.0019 | .0044 | -.0012 |
| #2 | -.0026 | -.0413 | -.0021 | -.0010 | 6.297 | -.0030 | .5224 | .0014 | -.0010 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0399 | -.0001 |
| Stddev | .0055 | .0002 | .0004 |
| %RSD | 334.6 | .5944 | 406.6 |
| #1 | -.0022 | .0400 | .0002 |
| #2 | .0055 | .0397 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.0 | 78234. | 15767. |
| Stddev | 3.5 | 436. | 48. |
| %RSD | .14363 | .55722 | .30540 |
| #1 | 2404.5 | 77926. | 15801. |
| #2 | 2399.6 | 78543. | 15733. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:40:13 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0112 | .0043 | -.0094 | .0099 | .0252 | .0004 | 61.49 | -.0013 | .0020 |
| Stddev | .0055 | .0192 | .0002 | .0104 | .0007 | .0005 | .0003 | .17 | .0002 | .0012 |
| %RSD | 357.1 | 171.7 | 4.554 | 111.7 | 7.124 | 1.876 | 61.55 | .2708 | 11.95 | 62.92 |
| #1 | .0023 | -.0248 | .0041 | -.0020 | .0104 | .0248 | .0006 | 61.38 | -.0012 | .0029 |
| #2 | -.0054 | .0024 | .0044 | -.0167 | .0094 | .0255 | .0002 | 61.61 | -.0014 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0039 | -.0038 | .0001 | 3.313 | 14.01 | .6929 | .0006 | 39.72 | .0059 | .0048 |
| Stddev | .0021 | .0024 | .0107 | .471 | .15 | .0032 | .0009 | .07 | .0006 | .0067 |
| %RSD | 54.46 | 61.85 | 10070. | 14.22 | 1.053 | .4566 | 154.2 | .1777 | 10.10 | 138.7 |
| #1 | -.0053 | -.0022 | .0077 | 3.646 | 14.11 | .6951 | .0012 | 39.77 | .0055 | .0096 |
| #2 | -.0024 | -.0055 | -.0075 | 2.980 | 13.90 | .6907 | -.0001 | 39.67 | .0063 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | -.0324 | .0041 | .0115 | 6.357 | -.0007 | .5363 | -.0012 | .0086 | .0036 |
| Stddev | .0118 | .0043 | .0044 | .0081 | .024 | .0048 | .0012 | .0025 | .0025 | .0005 |
| %RSD | 334.0 | 13.12 | 105.8 | 71.02 | .3819 | 744.6 | .2254 | 209.2 | 29.01 | 14.88 |
| #1 | .0118 | -.0355 | .0072 | .0057 | 6.374 | -.0041 | .5354 | .0006 | .0104 | .0040 |
| #2 | -.0048 | -.0294 | .0010 | .0172 | 6.340 | .0028 | .5371 | -.0029 | .0069 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0169 | .0383 | .0011 |
| Stddev | .0619 | .0001 | .0023 |
| %RSD | 366.4 | .1743 | 205.2 |
| #1 | .0269 | .0383 | .0028 |
| #2 | -.0606 | .0382 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.3 | 78682. | 15533. |
| Stddev | 7.5 | 368. | 79. |
| %RSD | .31329 | .46733 | .50979 |
| #1 | 2381.0 | 78422. | 15589. |
| #2 | 2391.5 | 78942. | 15477. |



Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:44:36 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0017 | .0010 | -.0029 | .0155 | .0255 | .0002 | 59.13 | .0004 | .0015 |
| Stddev | .0003 | .0045 | .0011 | .0024 | .0008 | .0001 | .0000 | .09 | .0001 | .0001 |
| %RSD | 132.9 | 262.5 | 109.5 | 82.74 | 5.101 | .3910 | 16.19 | .1579 | 14.77 | 5.078 |
| #1 | .0000 | -.0049 | .0002 | -.0046 | .0149 | .0256 | .0002 | 59.20 | .0005 | .0015 |
| #2 | .0004 | .0015 | .0018 | -.0012 | .0160 | .0255 | .0003 | 59.07 | .0004 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0005 | -.0018 | 3.087 | 13.96 | .6724 | .0011 | 38.91 | .0037 | .0005 |
| Stddev | .0002 | .0005 | .0019 | .071 | .00 | .0006 | .0000 | .04 | .0001 | .0001 |
| %RSD | 27.63 | 89.46 | 106.4 | 2.293 | .0345 | .0840 | 2.203 | .1080 | 3.373 | 26.26 |
| #1 | -.0007 | .0009 | -.0004 | 3.137 | 13.97 | .6720 | .0011 | 38.88 | .0038 | .0006 |
| #2 | -.0011 | .0002 | -.0031 | 3.037 | 13.96 | .6728 | .0011 | 38.94 | .0036 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0006 | .0014 | .0027 | 6.280 | -.0013 | .5166 | -.0001 | .0010 | .0001 |
| Stddev | .0005 | .0029 | .0007 | .0006 | .017 | .0003 | .0005 | .0006 | .0002 | .0003 |
| %RSD | 43.68 | 471.2 | 50.88 | 22.72 | .2619 | 26.40 | .0923 | 596.8 | 24.29 | 229.4 |
| #1 | -.0008 | .0026 | .0020 | .0031 | 6.268 | -.0010 | .5163 | -.0006 | .0008 | .0004 |
| #2 | -.0015 | -.0014 | .0009 | .0023 | 6.292 | -.0015 | .5170 | .0003 | .0011 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0135 | .0341 | -.0010 |
| Stddev | .0029 | .0000 | .0002 |
| %RSD | 21.38 | .0876 | 17.03 |
| #1 | .0114 | .0341 | -.0009 |
| #2 | .0155 | .0341 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.1 | 78631. | 15620. |
| Stddev | 8.3 | 255. | 160. |
| %RSD | .34630 | .32491 | 1.0262 |
| #1 | 2390.9 | 78811. | 15506. |
| #2 | 2379.2 | 78450. | 15733. |



Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:48:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0429 | -.0018 | -.0065 | .0145 | .0257 | .0005 | 59.03 | -.0003 | .0020 |
| Stddev | .0005 | .0009 | .0081 | .0036 | .0024 | .0005 | .0003 | .07 | .0011 | .0001 |
| %RSD | 48.92 | 2.199 | 459.9 | 55.49 | 16.57 | 1.824 | 59.37 | .1183 | 321.5 | 6.047 |
| #1 | -.0007 | -.0436 | .0040 | -.0039 | .0163 | .0254 | .0003 | 59.07 | .0004 | .0021 |
| #2 | -.0014 | -.0422 | -.0075 | -.0090 | .0128 | .0260 | .0007 | 58.98 | -.0011 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0016 | .0043 | 3.030 | 13.71 | .6709 | .0008 | 39.01 | .0042 | .0020 |
| Stddev | .0001 | .0034 | .0089 | .032 | .09 | .0008 | .0002 | .03 | .0006 | .0017 |
| %RSD | 3.287 | 212.8 | 208.8 | 1.054 | .6450 | .1120 | 30.88 | .0776 | 15.15 | 85.40 |
| #1 | -.0036 | .0040 | -.0020 | 3.053 | 13.78 | .6704 | .0006 | 39.03 | .0047 | .0008 |
| #2 | -.0038 | -.0008 | .0106 | 3.007 | 13.65 | .6714 | .0009 | 38.99 | .0038 | .0032 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0343 | -.0007 | .0008 | 6.227 | -.0023 | .5163 | .0005 | .0049 | .0015 |
| Stddev | .0069 | .0129 | .0013 | .0029 | .007 | .0001 | .0007 | .0003 | .0015 | .0005 |
| %RSD | 1238. | 37.57 | 195.9 | 349.9 | .1059 | 3.038 | .1441 | 64.19 | 30.33 | 35.45 |
| #1 | -.0054 | -.0252 | .0003 | .0029 | 6.232 | -.0023 | .5168 | .0007 | .0060 | .0019 |
| #2 | .0043 | -.0433 | -.0016 | -.0012 | 6.222 | -.0024 | .5157 | .0003 | .0039 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0144 | .0349 | -.0007 |
| Stddev | .0075 | .0005 | .0002 |
| %RSD | 52.00 | 1.506 | 23.87 |
| #1 | .0091 | .0353 | -.0006 |
| #2 | .0197 | .0345 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.7 | 78128. | 15495. |
| Stddev | 3.6 | 163. | 71. |
| %RSD | .15192 | .20817 | .45676 |
| #1 | 2380.1 | 78243. | 15545. |
| #2 | 2385.3 | 78013. | 15445. |

Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:53:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0591 | .0061 | -.0171 | .0157 | .0263 | .0001 | 61.22 | -.0005 | .0031 |
| Stddev | .0003 | .0109 | .0150 | .0036 | .0009 | .0002 | .0004 | .02 | .0013 | .0017 |
| %RSD | 9.130 | 18.37 | 246.5 | 21.06 | 5.513 | .8232 | 465.4 | .0365 | 236.6 | 55.89 |
| #1 | .0037 | .0668 | .0167 | -.0196 | .0151 | .0262 | -.0002 | 61.24 | .0004 | .0044 |
| #2 | .0033 | .0514 | -.0045 | -.0145 | .0164 | .0265 | .0004 | 61.21 | -.0014 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0034 | .0149 | 3.428 | 14.06 | .6889 | .0012 | 39.35 | .0046 | .0030 |
| Stddev | .0009 | .0011 | .0380 | .101 | .03 | .0038 | .0011 | .04 | .0015 | .0025 |
| %RSD | 20.97 | 31.29 | 255.3 | 2.948 | .2250 | .5494 | 85.47 | .0896 | 31.89 | 82.26 |
| #1 | -.0048 | -.0042 | -.0120 | 3.499 | 14.04 | .6915 | .0020 | 39.33 | .0056 | .0048 |
| #2 | -.0036 | -.0027 | .0417 | 3.356 | 14.08 | .6862 | .0005 | 39.38 | .0036 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0119 | .0028 | .0072 | 6.331 | .0037 | .5316 | .0008 | .0144 | .0019 |
| Stddev | .0091 | .0159 | .0057 | .0042 | .019 | .0009 | .0010 | .0019 | .0005 | .0038 |
| %RSD | 659.4 | 133.6 | 207.5 | 57.49 | .3048 | 25.65 | .1906 | 246.1 | 3.588 | 194.8 |
| #1 | .0079 | -.0007 | -.0013 | .0102 | 6.345 | .0030 | .5323 | -.0006 | .0148 | .0046 |
| #2 | -.0051 | -.0231 | .0068 | .0043 | 6.318 | .0043 | .5309 | .0021 | .0140 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0235 | .0579 | .0003 |
| Stddev | .0470 | .0008 | .0017 |
| %RSD | 199.9 | 1.319 | 688.4 |
| #1 | .0567 | .0584 | .0015 |
| #2 | -.0097 | .0573 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2389.3 | 79051. | 15546. |
| Stddev | 1.8 | 107. | 17. |
| %RSD | .07473 | .13533 | .10934 |
| #1 | 2390.5 | 78976. | 15534. |
| #2 | 2388.0 | 79127. | 15558. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 14:57:42 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0073 | .4520 | -.0028 | .0420 | .0407 | .0000 | 22.36 | -.0001 | .0082 |
| Stddev | .0000 | .0011 | .0023 | .0008 | .0002 | .0002 | .0000 | .02 | .0000 | .0003 |
| %RSD | 14.62 | 14.76 | .5043 | 29.15 | .5878 | .4770 | 111.9 | .0689 | 25.98 | 3.301 |
| #1 | -.0002 | -.0081 | .4536 | -.0022 | .0418 | .0409 | .0000 | 22.37 | -.0001 | .0080 |
| #2 | -.0002 | -.0066 | .4503 | -.0034 | .0422 | .0406 | .0000 | 22.35 | -.0001 | .0084 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0002 | 62.24 | 4.776 | 3.054 | 2.478 | -.0003 | 13.74 | .0064 | .0015 |
| Stddev | .0005 | .0008 | .01 | .026 | .030 | .001 | .0003 | .00 | .0002 | .0013 |
| %RSD | 45.42 | 417.4 | .0138 | .5370 | .9959 | .0251 | 89.80 | .0247 | 3.053 | 83.74 |
| #1 | -.0015 | -.0008 | 62.24 | 4.794 | 3.032 | 2.479 | -.0005 | 13.74 | .0065 | .0006 |
| #2 | -.0008 | .0004 | 62.23 | 4.758 | 3.075 | 2.478 | -.0001 | 13.74 | .0062 | .0024 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0055 | -.0001 | .0032 | 9.486 | -.0003 | .0951 | .0002 | .0013 | .0005 |
| Stddev | .0010 | .0019 | .0004 | .0010 | .011 | .0002 | .0004 | .0006 | .0004 | .0005 |
| %RSD | 214.0 | 33.74 | 292.6 | 30.76 | .1136 | 80.77 | .4564 | 260.8 | 27.60 | 114.6 |
| #1 | .0002 | .0042 | -.0005 | .0025 | 9.479 | -.0001 | .0948 | .0006 | .0015 | .0001 |
| #2 | -.0011 | .0068 | .0002 | .0040 | 9.494 | -.0004 | .0954 | -.0002 | .0010 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0016 | .0093 | -.0020 |
| Stddev | .0056 | .0001 | .0005 |
| %RSD | 352.5 | .7895 | 24.42 |
| #1 | .0024 | .0093 | -.0016 |
| #2 | -.0055 | .0094 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.4 | 78147. | 15576. |
| Stddev | 1.2 | 38. | 35. |
| %RSD | .04860 | .04881 | .22296 |
| #1 | 2372.3 | 78120. | 15552. |
| #2 | 2370.6 | 78174. | 15601. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 15:02:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2457 | 9.783 | 1.981 | -.0047 | 1.946 | 1.948 | 1.935 | 9.866 | 1.931 | 2.052 |
| Stddev | .0002 | .035 | .006 | .0017 | .004 | .000 | .003 | .028 | .002 | .001 |
| %RSD | .0912 | .3556 | .3018 | 35.76 | .1858 | .0001 | .1577 | .2882 | .0799 | .0452 |
| #1 | .2455 | 9.759 | 1.977 | -.0035 | 1.944 | 1.948 | 1.933 | 9.846 | 1.929 | 2.052 |
| #2 | .2458 | 9.808 | 1.985 | -.0059 | 1.949 | 1.948 | 1.938 | 9.886 | 1.932 | 2.053 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.954 | 1.943 | 9.784 | 9.844 | 9.730 | 1.917 | 1.966 | 9.821 | 1.932 | 1.932 |
| Stddev | .003 | .001 | .032 | .008 | .061 | .004 | .002 | .017 | .001 | .002 |
| %RSD | .1558 | .0609 | .3315 | .0774 | .6230 | .2207 | .0796 | .1746 | .0578 | .1088 |
| #1 | 1.956 | 1.944 | 9.761 | 9.839 | 9.687 | 1.920 | 1.965 | 9.809 | 1.932 | 1.931 |
| #2 | 1.952 | 1.942 | 9.806 | 9.849 | 9.773 | 1.914 | 1.967 | 9.833 | 1.933 | 1.934 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0014 | 1.963 | 1.971 | .0230 | 1.925 | 2.006 | 1.922 | 1.935 | 1.932 |
| Stddev | .0006 | .0030 | .002 | .000 | .0010 | .004 | .002 | .005 | .002 | .002 |
| %RSD | 46.17 | 218.0 | .0879 | .0060 | 4.229 | .2033 | .0892 | .2524 | .0861 | .1021 |
| #1 | .0018 | -.0035 | 1.962 | 1.972 | .0237 | 1.922 | 2.004 | 1.925 | 1.936 | 1.933 |
| #2 | .0009 | .0007 | 1.964 | 1.971 | .0223 | 1.928 | 2.007 | 1.918 | 1.934 | 1.931 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0086 | 1.963 | -.0049 |
| Stddev | .0008 | .000 | .0002 |
| %RSD | 9.732 | .0036 | 3.435 |
| #1 | .0080 | 1.963 | -.0050 |
| #2 | .0092 | 1.963 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.6 | 79082. | 15618. |
| Stddev | 1.9 | 202. | 139. |
| %RSD | .07722 | .25582 | .88726 |
| #1 | 2402.2 | 78939. | 15716. |
| #2 | 2404.9 | 79225. | 15520. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 15:37:51 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0017 | -.0001 | -.0011 | -.0005 | .0000 | .0001 | .0026 | -.0001 | .0000 |
| Stddev | .000 | .0028 | .0004 | .0002 | .0004 | .000 | .0000 | .0031 | .0001 | .0000 |
| %RSD | 25.43 | 163.3 | 310.2 | 23.65 | 73.31 | 384.0 | 10.70 | 118.7 | 68.92 | 212.9 |
| #1 | .0000 | .0003 | -.0004 | -.0009 | -.0003 | .0000 | .0001 | .0004 | -.0002 | .0000 |
| #2 | .0000 | -.0037 | .0001 | -.0012 | -.0008 | .0000 | .0000 | .0048 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0008 | .0014 | .0192 | .0176 | .0001 | .0001 | .0098 | -.0001 | .0007 |
| Stddev | .0004 | .0001 | .0001 | .0045 | .0233 | .0000 | .0001 | .0106 | .0002 | .0008 |
| %RSD | 96.21 | 10.98 | 9.941 | 23.61 | 132.2 | 8.567 | 82.82 | 108.6 | 333.2 | 105.4 |
| #1 | -.0007 | -.0007 | .0013 | .0160 | .0011 | .0001 | .0000 | .0173 | .0001 | .0002 |
| #2 | -.0001 | -.0009 | .0015 | .0224 | .0341 | .0001 | .0001 | .0023 | -.0002 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0038 | -.0003 | .0001 | .0017 | -.0003 | .0000 | -.0001 | .0019 | .0003 |
| Stddev | .0007 | .0016 | .0008 | .0003 | .0006 | .0000 | .0001 | .0000 | .0005 | .0000 |
| %RSD | 81.09 | 41.73 | 274.7 | 340.8 | 37.26 | 9.346 | 298.2 | 70.17 | 28.59 | 7.877 |
| #1 | -.0014 | -.0027 | .0003 | .0003 | .0021 | -.0003 | .0000 | -.0001 | .0015 | .0003 |
| #2 | -.0004 | -.0049 | -.0009 | -.0001 | .0012 | -.0003 | .0001 | .0000 | .0023 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0028 | -.0003 | .0002 |
| Stddev | .0064 | .0001 | .0000 |
| %RSD | 231.9 | 33.89 | 12.39 |
| #1 | -.0073 | -.0004 | .0002 |
| #2 | .0018 | -.0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.4 | 78448. | 15289. |
| Stddev | 2.4 | 513. | 157. |
| %RSD | .10261 | .65373 | 1.0253 |
| #1 | 2381.7 | 78086. | 15400. |
| #2 | 2385.1 | 78811. | 15179. |

Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:49:19 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0009 | .4548 | -.0048 | .0427 | .0414 | .0002 | 22.62 | -.0002 | .0080 |
| Stddev | .0005 | .0157 | .0027 | .0014 | .0002 | .0007 | .0001 | .02 | .0001 | .0004 |
| %RSD | 83.16 | 1684. | .6004 | 28.77 | .5841 | 1.788 | 34.84 | .1005 | 30.49 | 4.561 |
| #1 | -.0010 | .0102 | .4568 | -.0057 | .0429 | .0409 | .0003 | 22.63 | -.0001 | .0083 |
| #2 | -.0002 | -.0120 | .4529 | -.0038 | .0425 | .0419 | .0002 | 22.60 | -.0002 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0006 | 62.94 | 4.773 | 2.956 | 2.513 | -.0002 | 14.26 | .0072 | .0018 |
| Stddev | .0002 | .0009 | .06 | .006 | .023 | .004 | .0001 | .03 | .0003 | .0005 |
| %RSD | 17.21 | 146.3 | .0933 | .1357 | .7723 | .1472 | 49.88 | .2195 | 3.973 | 26.49 |
| #1 | -.0013 | .0012 | 62.98 | 4.778 | 2.973 | 2.510 | -.0003 | 14.28 | .0070 | .0015 |
| #2 | -.0010 | .0000 | 62.90 | 4.768 | 2.940 | 2.515 | -.0001 | 14.24 | .0074 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0068 | .0007 | -.0002 | 9.626 | -.0001 | .0949 | -.0003 | .0018 | .0013 |
| Stddev | .0003 | .0027 | .0014 | .0015 | .010 | .0003 | .0004 | .0000 | .0006 | .0003 |
| %RSD | 62.47 | 39.80 | 218.1 | 651.1 | .1043 | 282.4 | .3809 | 5.869 | 30.93 | 19.79 |
| #1 | -.0007 | .0087 | .0017 | .0008 | 9.633 | -.0003 | .0947 | -.0003 | .0022 | .0011 |
| #2 | -.0003 | .0049 | -.0004 | -.0013 | 9.619 | .0001 | .0952 | -.0003 | .0014 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0188 | .0086 | -.0009 |
| Stddev | .0018 | .0002 | .0002 |
| %RSD | 9.771 | 2.511 | 23.16 |
| #1 | .0201 | .0084 | -.0011 |
| #2 | .0175 | .0087 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.4 | 78295. | 15543. |
| Stddev | 7.1 | 249. | 11. |
| %RSD | .29608 | .31837 | .07323 |
| #1 | 2382.4 | 78471. | 15535. |
| #2 | 2392.4 | 78118. | 15551. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:53:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0144 | .4536 | -.0043 | .0416 | .0408 | .0002 | 22.50 | -.0002 | .0080 |
| Stddev | .0015 | .0289 | .0032 | .0001 | .0002 | .0003 | .0000 | .02 | .0003 | .0004 |
| %RSD | 748.5 | 201.2 | .7036 | 3.016 | .4624 | .7419 | .6570 | .1103 | 114.9 | 4.515 |
| #1 | .0008 | .0061 | .4513 | -.0042 | .0414 | .0410 | .0002 | 22.48 | .0000 | .0082 |
| #2 | -.0012 | -.0348 | .4558 | -.0043 | .0417 | .0406 | .0002 | 22.52 | -.0004 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0010 | 62.63 | 4.776 | 3.016 | 2.492 | -.0006 | 14.19 | .0067 | .0018 |
| Stddev | .0003 | .0000 | .14 | .065 | .011 | .007 | .0004 | .04 | .0004 | .0003 |
| %RSD | 16.15 | 2.222 | .2237 | 1.351 | .3624 | .2975 | 68.92 | .3158 | 5.245 | 15.09 |
| #1 | -.0016 | -.0010 | 62.53 | 4.822 | 3.024 | 2.487 | -.0003 | 14.15 | .0069 | .0019 |
| #2 | -.0020 | -.0010 | 62.73 | 4.731 | 3.008 | 2.497 | -.0008 | 14.22 | .0064 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0021 | -.0004 | .0014 | 9.530 | .0006 | .0945 | .0013 | .0026 | .0009 |
| Stddev | .0051 | .0028 | .0022 | .0025 | .010 | .0002 | .0003 | .0009 | .0002 | .0016 |
| %RSD | 284.1 | 132.6 | 592.8 | 171.7 | .1092 | 30.32 | .3437 | 66.67 | 7.419 | 185.2 |
| #1 | .0018 | .0001 | .0012 | -.0003 | 9.537 | .0005 | .0943 | .0020 | .0028 | -.0003 |
| #2 | -.0054 | .0041 | -.0019 | .0032 | 9.523 | .0007 | .0948 | .0007 | .0025 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0189 | .0084 | -.0003 |
| Stddev | .0046 | .0001 | .0003 |
| %RSD | 24.26 | .9997 | 82.63 |
| #1 | .0157 | .0084 | -.0001 |
| #2 | .0222 | .0083 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.0 | 78795. | 15575. |
| Stddev | 6.6 | 655. | 157. |
| %RSD | .27437 | .83146 | 1.0072 |
| #1 | 2402.3 | 79258. | 15686. |
| #2 | 2411.7 | 78332. | 15464. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:58:04 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0940 | .4675 | -.0106 | .0385 | .0419 | .0001 | 23.96 | -.0014 | .0092 |
| Stddev | .0034 | .1008 | .0050 | .0118 | .0008 | .0002 | .0003 | .04 | .0015 | .0017 |
| %RSD | 108.6 | 107.2 | 1.065 | 111.4 | 2.145 | .4779 | 364.9 | .1612 | 107.0 | 18.54 |
| #1 | -.0056 | -.0227 | .4640 | -.0023 | .0379 | .0421 | .0003 | 23.93 | -.0003 | .0104 |
| #2 | -.0007 | -.1653 | .4710 | -.0189 | .0391 | .0418 | -.0001 | 23.98 | -.0025 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | -.0028 | 65.09 | 4.607 | 2.963 | 2.530 | -.0011 | 14.80 | .0073 | .0058 |
| Stddev | .0070 | .0006 | .04 | .073 | .071 | .001 | .0007 | .15 | .0013 | .0070 |
| %RSD | 196.3 | 19.96 | .0592 | 1.579 | 2.402 | .0529 | 60.27 | 1.014 | 17.76 | 120.0 |
| #1 | -.0085 | -.0024 | 65.11 | 4.658 | 3.013 | 2.531 | -.0016 | 14.70 | .0064 | .0009 |
| #2 | .0014 | -.0032 | 65.06 | 4.556 | 2.913 | 2.529 | -.0007 | 14.91 | .0082 | .0108 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0090 | -.0237 | -.0021 | .0024 | 9.698 | -.0029 | .0969 | -.0014 | -.0002 | .0026 |
| Stddev | .0018 | .0118 | .0038 | .0002 | .018 | .0006 | .0008 | .0003 | .0019 | .0030 |
| %RSD | 19.46 | 49.81 | 181.0 | 9.924 | .1894 | 21.52 | .8358 | 24.32 | 805.3 | 113.3 |
| #1 | -.0103 | -.0154 | .0006 | .0022 | 9.711 | -.0024 | .0963 | -.0016 | -.0016 | .0047 |
| #2 | -.0078 | -.0321 | -.0048 | .0026 | 9.685 | -.0033 | .0975 | -.0011 | .0011 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0333 | .0112 | -.0001 |
| Stddev | .0250 | .0001 | .0003 |
| %RSD | 75.25 | .5787 | 331.3 |
| #1 | .0156 | .0111 | -.0003 |
| #2 | .0510 | .0112 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.4 | 78910. | 15582. |
| Stddev | 5.5 | 99. | 58. |
| %RSD | .22952 | .12553 | .37263 |
| #1 | 2395.3 | 78840. | 15623. |
| #2 | 2387.5 | 78980. | 15541. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 16:02:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0172 | .4564 | -.0048 | .0425 | .0411 | .0002 | 22.53 | .0002 | .0083 |
| Stddev | .0019 | .0060 | .0016 | .0026 | .0004 | .0004 | .0004 | .08 | .0002 | .0006 |
| %RSD | 1091. | 34.80 | .3542 | 55.12 | .8874 | .9658 | 199.7 | .3350 | 114.8 | 6.683 |
| #1 | -.0016 | -.0130 | .4552 | -.0066 | .0428 | .0414 | -.0001 | 22.59 | .0003 | .0079 |
| #2 | .0012 | -.0215 | .4575 | -.0029 | .0422 | .0409 | .0004 | 22.48 | .0000 | .0086 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0002 | 62.68 | 4.924 | 3.089 | 2.491 | -.0001 | 13.85 | .0065 | .0020 |
| Stddev | .0005 | .0000 | .12 | .005 | .017 | .005 | .0001 | .02 | .0003 | .0006 |
| %RSD | 35.41 | 6.625 | .1945 | .0971 | .5616 | .2082 | 94.38 | .1604 | 4.629 | 30.85 |
| #1 | -.0011 | .0002 | 62.76 | 4.927 | 3.077 | 2.494 | .0000 | 13.84 | .0063 | .0016 |
| #2 | -.0019 | .0002 | 62.59 | 4.921 | 3.101 | 2.487 | -.0002 | 13.87 | .0067 | .0025 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | .0075 | .0002 | .0034 | 9.523 | -.0012 | .0945 | -.0006 | .0023 | .0012 |
| Stddev | .0030 | .0024 | .0004 | .0047 | .011 | .0007 | .0002 | .0002 | .0008 | .0023 |
| %RSD | 127.4 | 31.30 | 204.0 | 138.3 | .1139 | 56.87 | .2278 | 32.04 | 33.19 | 188.4 |
| #1 | -.0002 | .0092 | .0005 | .0001 | 9.531 | -.0017 | .0943 | -.0007 | .0029 | .0028 |
| #2 | -.0045 | .0059 | -.0001 | .0068 | 9.515 | -.0007 | .0947 | -.0005 | .0018 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0038 | .0109 | -.0015 |
| Stddev | .0038 | .0004 | .0000 |
| %RSD | 100.4 | 3.981 | 2.332 |
| #1 | .0065 | .0106 | -.0015 |
| #2 | .0011 | .0112 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2394.4 | 78879. | 15455. |
| Stddev | 8.7 | 457. | 3. |
| %RSD | .36364 | .57986 | .01750 |
| #1 | 2388.2 | 78556. | 15454. |
| #2 | 2400.5 | 79203. | 15457. |

Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 16:09:08 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0039 | -.0264 | .4533 | -.0088 | .0416 | .0415 | -.0002 | 23.29 | -.0007 | .0091 |
| Stddev | .0036 | .0036 | .0050 | .0034 | .0038 | .0017 | .0004 | .10 | .0001 | .0013 |
| %RSD | 91.16 | 13.69 | 1.113 | 38.69 | 9.205 | 4.107 | 256.2 | .4439 | 7.604 | 14.63 |
| #1 | -.0014 | -.0239 | .4568 | -.0112 | .0443 | .0403 | -.0005 | 23.21 | -.0007 | .0082 |
| #2 | -.0064 | -.0290 | .4497 | -.0064 | .0389 | .0427 | .0001 | 23.36 | -.0007 | .0101 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .0006 | 64.44 | 4.772 | 3.025 | 2.506 | -.0009 | 14.32 | .0079 | .0091 |
| Stddev | .0032 | .0029 | .04 | .344 | .155 | .001 | .0002 | .04 | .0005 | .0015 |
| %RSD | 59.19 | 448.3 | .0622 | 7.216 | 5.113 | .0477 | 21.02 | .3032 | 6.263 | 16.13 |
| #1 | -.0031 | .0027 | 64.47 | 5.015 | 2.915 | 2.507 | -.0008 | 14.35 | .0083 | .0080 |
| #2 | -.0077 | -.0014 | 64.41 | 4.528 | 3.134 | 2.505 | -.0011 | 14.29 | .0076 | .0101 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0167 | -.0037 | .0043 | 9.558 | .0020 | .0947 | -.0002 | .0116 | .0038 |
| Stddev | .0046 | .0120 | .0025 | .0233 | .021 | .0017 | .0004 | .0026 | .0016 | .0035 |
| %RSD | 1093. | 72.30 | 66.31 | 537.3 | .2141 | 81.96 | .3845 | 1147. | 14.14 | 92.37 |
| #1 | -.0028 | -.0081 | -.0055 | -.0121 | 9.573 | .0032 | .0945 | .0016 | .0104 | .0013 |
| #2 | .0037 | -.0252 | -.0020 | .0208 | 9.544 | .0009 | .0950 | -.0020 | .0127 | .0062 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0066 | .0200 | -.0012 |
| Stddev | .0209 | .0019 | .0008 |
| %RSD | 316.8 | 9.384 | 71.32 |
| #1 | .0214 | .0186 | -.0017 |
| #2 | -.0082 | .0213 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.2 | 78872. | 15620. |
| Stddev | 1.0 | 268. | 17. |
| %RSD | .04006 | .33998 | .10986 |
| #1 | 2390.5 | 79062. | 15607. |
| #2 | 2391.9 | 78682. | 15632. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 16:13:32 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0544 | 5.368 | -.0085 | .0803 | .0249 | .0003 | 44.34 | -.0004 | .0207 |
| Stddev | .0018 | .0018 | .009 | .0091 | .0003 | .0010 | .0000 | .02 | .0003 | .0004 |
| %RSD | 59.97 | 3.329 | .1587 | 107.2 | .4207 | 3.896 | 13.53 | .0509 | 71.84 | 1.839 |
| #1 | -.0042 | -.0557 | 5.374 | -.0021 | .0805 | .0243 | .0004 | 44.33 | -.0007 | .0210 |
| #2 | -.0017 | -.0531 | 5.362 | -.0150 | .0801 | .0256 | .0003 | 44.36 | -.0002 | .0204 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0039 | 80.78 | 6.936 | 3.504 | 2.803 | -.0001 | 5.560 | .0051 | .0031 |
| Stddev | .0014 | .0017 | .27 | .084 | .053 | .005 | .0003 | .003 | .0000 | .0051 |
| %RSD | 36.63 | 44.96 | .3351 | 1.213 | 1.513 | .1966 | 222.1 | .0600 | .4528 | 164.8 |
| #1 | -.0047 | -.0026 | 80.59 | 6.876 | 3.467 | 2.799 | -.0003 | 5.558 | .0051 | .0068 |
| #2 | -.0028 | -.0051 | 80.97 | 6.995 | 3.542 | 2.807 | .0001 | 5.563 | .0051 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0055 | .0001 | -.0014 | 8.386 | -.0020 | .2369 | -.0017 | .0037 | .0018 |
| Stddev | .0031 | .0013 | .0010 | .0018 | .001 | .0002 | .0017 | .0020 | .0012 | .0004 |
| %RSD | 124.2 | 23.42 | 833.5 | 133.7 | .0072 | 11.23 | .7148 | 115.4 | 32.92 | 20.93 |
| #1 | -.0047 | .0046 | .0008 | -.0001 | 8.387 | -.0018 | .2357 | -.0031 | .0028 | .0015 |
| #2 | -.0003 | .0064 | -.0006 | -.0027 | 8.386 | -.0021 | .2381 | -.0003 | .0045 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0007 | .0075 | -.0017 |
| Stddev | .0010 | .0003 | .0005 |
| %RSD | 130.7 | 3.969 | 28.61 |
| #1 | -.0001 | .0077 | -.0013 |
| #2 | -.0014 | .0073 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.0 | 78537. | 15575. |
| Stddev | 3.9 | 209. | 5. |
| %RSD | .16397 | .26572 | .03189 |
| #1 | 2379.3 | 78685. | 15572. |
| #2 | 2384.8 | 78390. | 15579. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 16:17:54 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0731 | 5.469 | -.0129 | .0843 | .0262 | .0001 | 46.64 | -.0008 | .0224 |
| Stddev | .0035 | .0791 | .028 | .0003 | .0058 | .0000 | .0006 | .02 | .0008 | .0012 |
| %RSD | 92.34 | 108.2 | .5133 | 2.203 | 6.870 | .1489 | 747.6 | .0484 | 94.80 | 5.411 |
| #1 | -.0062 | -.1291 | 5.449 | -.0127 | .0884 | .0262 | -.0003 | 46.66 | -.0003 | .0215 |
| #2 | -.0013 | -.0172 | 5.489 | -.0131 | .0802 | .0263 | .0005 | 46.62 | -.0014 | .0232 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | .0015 | 83.07 | 7.487 | 3.472 | 2.873 | .0011 | 5.838 | .0057 | .0118 |
| Stddev | .0024 | .0001 | .01 | .215 | .103 | .001 | .0004 | .020 | .0006 | .0026 |
| %RSD | 32.76 | 4.560 | .0169 | 2.876 | 2.973 | .0252 | 34.97 | .3334 | 9.830 | 22.07 |
| #1 | -.0090 | .0016 | 83.08 | 7.639 | 3.545 | 2.872 | .0014 | 5.852 | .0053 | .0137 |
| #2 | -.0056 | .0015 | 83.06 | 7.335 | 3.399 | 2.873 | .0008 | 5.825 | .0061 | .0100 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0025 | -.0021 | .0118 | 8.594 | -.0038 | .2420 | -.0001 | .0067 | .0043 |
| Stddev | .0008 | .0000 | .0022 | .0129 | .053 | .0050 | .0002 | .0041 | .0058 | .0012 |
| %RSD | 25.18 | .3877 | 101.9 | 109.2 | .6138 | 134.2 | .0778 | 5793. | 86.47 | 26.98 |
| #1 | -.0039 | .0025 | -.0006 | .0027 | 8.557 | -.0002 | .2421 | -.0030 | .0026 | .0035 |
| #2 | -.0027 | .0025 | -.0037 | .0209 | 8.631 | -.0073 | .2419 | .0028 | .0108 | .0051 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0064 | .0310 | .0006 |
| Stddev | .0520 | .0009 | .0027 |
| %RSD | 813.7 | 3.023 | 421.5 |
| #1 | .0304 | .0303 | .0026 |
| #2 | -.0432 | .0316 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2379.0 | 78720. | 15683. |
| Stddev | 10.2 | 330. | 5. |
| %RSD | .42739 | .41885 | .02914 |
| #1 | 2386.2 | 78953. | 15680. |
| #2 | 2371.8 | 78486. | 15687. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:22:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0337 | .8917 | -.0043 | .1150 | .0868 | .0003 | 52.26 | -.0005 | .0005 |
| Stddev | .0027 | .0232 | .0009 | .0018 | .0001 | .0002 | .0002 | .13 | .0003 | .0002 |
| %RSD | 419.5 | 68.70 | .1035 | 42.90 | .1266 | .1924 | 57.27 | .2500 | 61.45 | 36.13 |
| #1 | -.0026 | -.0501 | .8911 | -.0030 | .1151 | .0867 | .0002 | 52.17 | -.0003 | .0006 |
| #2 | .0013 | -.0173 | .8924 | -.0056 | .1149 | .0869 | .0004 | 52.35 | -.0007 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0014 | 46.90 | 9.509 | 8.507 | 2.244 | .0004 | 23.54 | .0034 | .0018 |
| Stddev | .0005 | .0032 | .13 | .013 | .019 | .000 | .0004 | .13 | .0004 | .0003 |
| %RSD | 42.60 | 227.3 | .2774 | .1398 | .2279 | .0046 | 83.58 | .5423 | 11.04 | 19.63 |
| #1 | -.0014 | -.0036 | 46.81 | 9.518 | 8.521 | 2.244 | .0007 | 23.45 | .0037 | .0015 |
| #2 | -.0007 | .0008 | 46.99 | 9.499 | 8.494 | 2.244 | .0002 | 23.63 | .0032 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0000 | -.0013 | .0042 | 13.94 | -.0013 | .5832 | -.0006 | .0045 | .0003 |
| Stddev | .0024 | .006 | .0001 | .0034 | .01 | .0003 | .0005 | .0006 | .0024 | .0003 |
| %RSD | 89.61 | 45050. | 7.449 | 80.99 | .0397 | 24.62 | .0827 | 113.3 | 54.17 | 122.7 |
| #1 | .0043 | .0044 | -.0013 | .0065 | 13.93 | -.0011 | .5829 | -.0010 | .0028 | .0000 |
| #2 | .0010 | -.0045 | -.0014 | .0018 | 13.94 | -.0016 | .5836 | -.0001 | .0062 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0150 | .0053 | -.0029 |
| Stddev | .0070 | .0004 | .0001 |
| %RSD | 46.96 | 7.330 | 5.093 |
| #1 | .0199 | .0050 | -.0028 |
| #2 | .0100 | .0055 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2367.6 | 78537. | 15469. |
| Stddev | 2.1 | 6. | 12. |
| %RSD | .08937 | .00767 | .07835 |
| #1 | 2366.1 | 78541. | 15478. |
| #2 | 2369.1 | 78533. | 15461. |

Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:26:37 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0284 | .8979 | -.0020 | .1130 | .0871 | .0005 | 52.57 | -.0001 | .0010 |
| Stddev | .0020 | .0266 | .0041 | .0021 | .0032 | .0005 | .0000 | .16 | .0002 | .0004 |
| %RSD | 75.64 | 93.69 | .4548 | 105.2 | 2.790 | .5191 | 2.573 | .2971 | 194.8 | 42.74 |
| #1 | -.0012 | -.0096 | .8950 | -.0005 | .1152 | .0874 | .0005 | 52.46 | .0000 | .0007 |
| #2 | -.0040 | -.0473 | .9008 | -.0035 | .1107 | .0867 | .0005 | 52.68 | -.0002 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0021 | 47.08 | 9.492 | 8.470 | 2.254 | -.0001 | 23.68 | .0041 | .0033 |
| Stddev | .0007 | .0008 | .15 | .108 | .009 | .005 | .0001 | .10 | .0011 | .0017 |
| %RSD | 40.80 | 39.53 | .3144 | 1.141 | .1007 | .2367 | 176.9 | .4248 | 26.21 | 50.99 |
| #1 | -.0022 | -.0027 | 46.98 | 9.568 | 8.476 | 2.251 | -.0002 | 23.61 | .0049 | .0021 |
| #2 | -.0012 | -.0015 | 47.19 | 9.415 | 8.464 | 2.258 | .0000 | 23.75 | .0034 | .0044 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0036 | .0017 | .0005 | 13.90 | .0002 | .5855 | -.0006 | .0021 | .0021 |
| Stddev | .0029 | .0036 | .0032 | .0036 | .01 | .0008 | .0026 | .0025 | .0009 | .0006 |
| %RSD | 392.9 | 98.76 | 189.5 | 713.9 | .0547 | 321.8 | .4455 | 443.9 | 42.91 | 28.73 |
| #1 | .0013 | .0062 | -.0006 | .0031 | 13.91 | .0008 | .5837 | .0012 | .0027 | .0017 |
| #2 | -.0028 | .0011 | .0040 | -.0020 | 13.89 | -.0003 | .5873 | -.0024 | .0014 | .0026 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0048 | .0061 | -.0022 |
| Stddev | .0056 | .0006 | .0003 |
| %RSD | 117.2 | 9.953 | 11.66 |
| #1 | -.0008 | .0057 | -.0020 |
| #2 | -.0088 | .0066 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2370.1 | 78875. | 15585. |
| Stddev | .6 | 394. | 87. |
| %RSD | .02612 | .49959 | .56059 |
| #1 | 2369.7 | 79154. | 15646. |
| #2 | 2370.6 | 78597. | 15523. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:30:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0640 | .8900 | -.0118 | .1109 | .0858 | .0011 | 53.43 | -.0010 | .0004 |
| Stddev | .0001 | .1114 | .0105 | .0082 | .0027 | .0022 | .0003 | .31 | .0002 | .0009 |
| %RSD | 5.589 | 174.0 | 1.174 | 69.37 | 2.410 | 2.613 | 29.51 | .5839 | 15.77 | 201.3 |
| #1 | -.0026 | .0148 | .8974 | -.0177 | .1090 | .0842 | .0013 | 53.21 | -.0011 | -.0002 |
| #2 | -.0028 | -.1428 | .8826 | -.0060 | .1128 | .0874 | .0009 | 53.65 | -.0009 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0044 | 47.83 | 9.557 | 8.531 | 2.252 | .0007 | 24.09 | .0044 | .0024 |
| Stddev | .0010 | .0005 | .41 | .300 | .001 | .004 | .0018 | .16 | .0005 | .0014 |
| %RSD | 40.54 | 11.08 | .8569 | 3.141 | .0053 | .1830 | 255.0 | .6552 | 10.30 | 58.60 |
| #1 | -.0031 | -.0047 | 47.54 | 9.769 | 8.530 | 2.255 | -.0006 | 23.98 | .0041 | .0034 |
| #2 | -.0017 | -.0040 | 48.12 | 9.344 | 8.531 | 2.249 | .0020 | 24.20 | .0047 | .0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0092 | -.0129 | .0001 | .0095 | 13.78 | -.0004 | .5951 | .0002 | .0041 | .0012 |
| Stddev | .0128 | .0005 | .0011 | .0041 | .00 | .0044 | .0027 | .0010 | .0027 | .0002 |
| %RSD | 138.6 | 4.044 | 795.9 | 43.31 | .0077 | 1116. | .4478 | 476.7 | 64.65 | 16.97 |
| #1 | .0002 | -.0125 | -.0006 | .0066 | 13.78 | .0027 | .5932 | .0009 | .0022 | .0013 |
| #2 | .0183 | -.0132 | .0009 | .0124 | 13.78 | -.0035 | .5970 | -.0005 | .0060 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0228 | .0350 | -.0015 |
| Stddev | .0382 | .0023 | .0006 |
| %RSD | 167.7 | 6.603 | 41.22 |
| #1 | .0042 | .0333 | -.0020 |
| #2 | -.0498 | .0366 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2374.6 | 78600. | 15512. |
| Stddev | 8.4 | 193. | 139. |
| %RSD | .35294 | .24604 | .89807 |
| #1 | 2368.6 | 78463. | 15413. |
| #2 | 2380.5 | 78736. | 15610. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 16:35:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2462 | 9.817 | 1.987 | -.0048 | 1.955 | 1.944 | 1.936 | 9.892 | 1.935 | 2.058 |
| Stddev | .0007 | .023 | .005 | .0001 | .002 | .002 | .001 | .006 | .003 | .002 |
| %RSD | .2840 | .2346 | .2370 | 1.531 | .0858 | .1208 | .0391 | .0610 | .1480 | .1057 |
| #1 | .2457 | 9.834 | 1.990 | -.0049 | 1.954 | 1.943 | 1.936 | 9.896 | 1.937 | 2.059 |
| #2 | .2467 | 9.801 | 1.984 | -.0048 | 1.957 | 1.946 | 1.937 | 9.888 | 1.933 | 2.056 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.957 | 1.944 | 9.833 | 9.845 | 9.755 | 1.931 | 1.967 | 9.806 | 1.941 | 1.941 |
| Stddev | .007 | .006 | .012 | .003 | .018 | .009 | .000 | .000 | .001 | .001 |
| %RSD | .3820 | .2905 | .1214 | .0274 | .1840 | .4701 | .0217 | .0022 | .0611 | .0530 |
| #1 | 1.952 | 1.940 | 9.841 | 9.843 | 9.742 | 1.925 | 1.967 | 9.806 | 1.942 | 1.940 |
| #2 | 1.963 | 1.948 | 9.825 | 9.847 | 9.767 | 1.938 | 1.968 | 9.806 | 1.940 | 1.941 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0022 | 1.971 | 1.985 | .0208 | 1.930 | 2.010 | 1.927 | 1.939 | 1.942 |
| Stddev | .0007 | .0009 | .004 | .004 | .0002 | .002 | .004 | .005 | .002 | .006 |
| %RSD | 101.7 | 39.79 | .2273 | .2048 | 1.094 | .1148 | .2096 | .2688 | .1244 | .2873 |
| #1 | -.0013 | .0016 | 1.974 | 1.983 | .0206 | 1.932 | 2.007 | 1.924 | 1.941 | 1.938 |
| #2 | -.0002 | .0028 | 1.968 | 1.988 | .0209 | 1.928 | 2.013 | 1.931 | 1.938 | 1.946 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | 1.971 | -.0043 |
| Stddev | .0026 | .001 | .0001 |
| %RSD | 51.01 | .0454 | 3.508 |
| #1 | .0033 | 1.972 | -.0044 |
| #2 | .0070 | 1.971 | -.0042 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.5 | 78640. | 15527. |
| Stddev | 4.6 | 487. | 43. |
| %RSD | .18997 | .61920 | .27890 |
| #1 | 2400.2 | 78984. | 15496. |
| #2 | 2406.7 | 78296. | 15557. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 16:39:33 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0052 | .0010 | -.0013 | .0013 | .0007 | F.0009 | .0868 | .0000 |
| Stddev | .0004 | .0080 | .0003 | .0009 | .0006 | .0003 | .0004 | .0050 | .0002 |
| %RSD | 194.0 | 152.6 | 36.01 | 67.24 | 44.34 | 41.96 | 42.06 | 5.724 | 369.2 |
| #1 | .0005 | -.0004 | .0012 | -.0019 | .0017 | .0010 | .0012 | .0903 | .0002 |
| #2 | -.0001 | .0109 | .0007 | -.0007 | .0009 | .0005 | .0006 | .0833 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | .0004 | .0067 | .0289 | -.0071 | .0006 | .0020 | .0214 |
| Stddev | .0001 | .000 | .0007 | .0030 | .0293 | .0299 | .0000 | .0004 | .0053 |
| %RSD | 32.26 | 218.6 | 181.7 | 45.18 | 101.6 | 420.6 | 1.721 | 22.52 | 24.50 |
| #1 | .0004 | -.0001 | .0009 | .0089 | .0081 | .0141 | .0006 | .0023 | .0177 |
| #2 | .0002 | .0000 | -.0001 | .0046 | .0496 | -.0283 | .0006 | .0016 | .0252 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0001 | -.0011 | .0000 | .0009 | .0010 | .0002 | F.0011 |
| Stddev | .0000 | .0002 | .0006 | .0038 | .0005 | .0013 | .0006 | .0000 | .0004 |
| %RSD | 14.41 | 27.44 | 617.7 | 330.7 | 1914. | 151.0 | 59.27 | 22.82 | 36.84 |
| #1 | .0003 | .0007 | .0005 | .0015 | -.0003 | .0018 | .0006 | .0001 | .0013 |
| #2 | .0003 | .0011 | -.0003 | -.0038 | .0004 | -.0001 | .0014 | .0002 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0018 | .0003 | -.0022 | .0002 | .0001 |
| Stddev | .0002 | .0006 | .0004 | .0006 | .0000 | .0000 |
| %RSD | 63.25 | 33.36 | 107.4 | 26.11 | 10.06 | 15.79 |
| #1 | .0002 | .0022 | .0001 | -.0018 | .0002 | .0001 |
| #2 | .0004 | .0014 | .0006 | -.0025 | .0002 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2361.1 | 77488. | 15519. |
| Stddev | 4.7 | 11. | 68. |
| %RSD | .19963 | .01442 | .43526 |
| #1 | 2364.4 | 77480. | 15567. |
| #2 | 2357.8 | 77496. | 15471. |

Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/6/2013 16:43:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0015 | .4049 | -.0010 | .0459 | .0278 | .0004 | 11.83 | -.0003 | .0002 |
| Stddev | .0006 | .0193 | .0005 | .0014 | .0001 | .0001 | .0001 | .03 | .0003 | .0001 |
| %RSD | 1906. | 1317. | .1186 | 139.3 | .2928 | .4524 | 38.48 | .2402 | 122.7 | 30.97 |
| #1 | .0005 | -.0122 | .4052 | .0000 | .0460 | .0279 | .0003 | 11.85 | .0000 | .0002 |
| #2 | -.0004 | .0151 | .4045 | -.0020 | .0458 | .0278 | .0005 | 11.81 | -.0005 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0001 | 10.20 | 4.468 | 1.284 | .2502 | .0015 | 8.204 | .0148 | .0012 |
| Stddev | .0001 | .0008 | .04 | .048 | .022 | .0008 | .0001 | .021 | .0000 | .0011 |
| %RSD | 43.90 | 634.4 | .3788 | 1.073 | 1.732 | .3097 | 7.878 | .2506 | .2628 | 92.41 |
| #1 | -.0004 | -.0007 | 10.23 | 4.434 | 1.269 | .2497 | .0016 | 8.218 | .0148 | .0004 |
| #2 | -.0002 | .0004 | 10.18 | 4.502 | 1.300 | .2508 | .0015 | 8.189 | .0148 | .0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0083 | .0006 | .0020 | 8.295 | -.0008 | .0977 | .0001 | .0030 | .0005 |
| Stddev | .0002 | .0058 | .0003 | .0002 | .001 | .0012 | .0001 | .0003 | .0010 | .0005 |
| %RSD | 21.92 | 69.63 | 48.72 | 9.626 | .0174 | 156.3 | .0999 | 421.2 | 32.94 | 110.5 |
| #1 | .0007 | -.0042 | .0004 | .0018 | 8.293 | -.0017 | .0978 | .0003 | .0037 | .0008 |
| #2 | .0010 | -.0123 | .0008 | .0021 | 8.296 | .0001 | .0977 | -.0001 | .0023 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0199 | .0092 | -.0012 |
| Stddev | .0042 | .0000 | .0001 |
| %RSD | 21.24 | .1884 | 4.959 |
| #1 | .0169 | .0091 | -.0011 |
| #2 | .0229 | .0092 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.2 | 78218. | 15454. |
| Stddev | 9.9 | 224. | 80. |
| %RSD | .41627 | .28611 | .51843 |
| #1 | 2364.2 | 78060. | 15511. |
| #2 | 2378.2 | 78376. | 15398. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:48:19 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0246 | 1.159 | -.0020 | .2019 | .0969 | .0003 | 53.68 | -.0001 | .0039 |
| Stddev | .0001 | .0044 | .002 | .0004 | .0013 | .0007 | .0000 | .11 | .0001 | .0000 |
| %RSD | 95.70 | 17.73 | .1697 | 21.88 | .6471 | .7161 | 7.526 | .1998 | 113.4 | 1.221 |
| #1 | .0000 | -.0277 | 1.160 | -.0023 | .2028 | .0964 | .0003 | 53.60 | -.0002 | .0039 |
| #2 | -.0002 | -.0216 | 1.157 | -.0017 | .2010 | .0974 | .0002 | 53.75 | .0000 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0007 | 91.86 | 13.27 | 6.860 | 2.665 | .0008 | 28.19 | .0049 | .0012 |
| Stddev | .0001 | .0013 | .25 | .08 | .060 | .002 | .0002 | .02 | .0000 | .0003 |
| %RSD | 19.82 | 184.9 | .2682 | .6250 | .8809 | .0777 | 20.74 | .0545 | .9437 | 29.16 |
| #1 | -.0005 | .0016 | 91.69 | 13.21 | 6.817 | 2.667 | .0009 | 28.18 | .0049 | .0009 |
| #2 | -.0003 | -.0002 | 92.04 | 13.33 | 6.902 | 2.664 | .0007 | 28.20 | .0049 | .0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0092 | .0008 | .0038 | 15.33 | -.0008 | .6341 | .0004 | .0017 | .0004 |
| Stddev | .0012 | .0005 | .0015 | .0000 | .02 | .0003 | .0002 | .0003 | .0021 | .0007 |
| %RSD | 31.60 | 5.356 | 196.4 | 1.104 | .1012 | 37.10 | .0270 | 56.62 | 121.8 | 168.5 |
| #1 | -.0047 | .0095 | -.0003 | .0038 | 15.32 | -.0006 | .6340 | .0003 | .0032 | .0009 |
| #2 | -.0030 | .0088 | .0019 | .0038 | 15.34 | -.0011 | .6343 | .0006 | .0002 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0073 | .0111 | -.0032 |
| Stddev | .0017 | .0001 | .0003 |
| %RSD | 23.43 | .4931 | 10.43 |
| #1 | .0061 | .0112 | -.0034 |
| #2 | .0085 | .0111 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.5 | 77870. | 15697. |
| Stddev | 4.6 | 264. | 27. |
| %RSD | .19433 | .33852 | .17502 |
| #1 | 2384.2 | 78057. | 15716. |
| #2 | 2390.7 | 77684. | 15677. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:52:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0090 | 1.167 | -.0096 | .2048 | .0971 | -.0001 | 54.41 | -.0007 | .0040 |
| Stddev | .0006 | .0166 | .007 | .0020 | .0023 | .0005 | .0001 | .27 | .0002 | .0011 |
| %RSD | 57.83 | 183.9 | .5722 | 21.33 | 1.140 | .5486 | 129.9 | .5003 | 27.02 | 26.87 |
| #1 | -.0016 | .0027 | 1.172 | -.0081 | .2032 | .0975 | -.0002 | 54.60 | -.0008 | .0048 |
| #2 | -.0007 | -.0208 | 1.162 | -.0110 | .2065 | .0968 | .0000 | 54.22 | -.0005 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0001 | 93.12 | 13.25 | 7.031 | 2.716 | .0006 | 28.47 | .0040 | .0028 |
| Stddev | .0005 | .0002 | .55 | .16 | .078 | .002 | .0003 | .16 | .0003 | .0012 |
| %RSD | 11.70 | 249.7 | .5920 | 1.240 | 1.106 | .0660 | 53.84 | .5607 | 8.489 | 41.19 |
| #1 | -.0037 | .0002 | 93.51 | 13.37 | 6.976 | 2.715 | .0008 | 28.59 | .0038 | .0036 |
| #2 | -.0044 | -.0001 | 92.73 | 13.14 | 7.086 | 2.717 | .0004 | 28.36 | .0043 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0085 | -.0252 | -.0020 | .0035 | 15.31 | -.0012 | .6373 | .0007 | .0055 | -.0006 |
| Stddev | .0030 | .0103 | .0006 | .0035 | .01 | .0004 | .0050 | .0017 | .0012 | .0020 |
| %RSD | 35.07 | 40.78 | 28.96 | 100.5 | .0452 | 31.57 | .7808 | 250.4 | 21.07 | 346.3 |
| #1 | -.0064 | -.0180 | -.0024 | .0059 | 15.32 | -.0009 | .6408 | .0018 | .0063 | .0008 |
| #2 | -.0106 | -.0325 | -.0016 | .0010 | 15.31 | -.0014 | .6338 | -.0005 | .0046 | -.0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0107 | .0107 | -.0022 |
| Stddev | .0041 | .0006 | .0010 |
| %RSD | 38.85 | 5.458 | 43.82 |
| #1 | -.0077 | .0103 | -.0029 |
| #2 | -.0136 | .0112 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.5 | 78697. | 15639. |
| Stddev | 4.0 | 508. | 129. |
| %RSD | .16455 | .64549 | .82611 |
| #1 | 2414.6 | 79056. | 15548. |
| #2 | 2420.3 | 78338. | 15731. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:57:01 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0002 | 1.154 | -.0203 | .1981 | .0982 | .0005 | 55.98 | .0001 | .0038 |
| Stddev | .0043 | .0744 | .005 | .0114 | .0022 | .0008 | .0001 | .06 | .0008 | .0002 |
| %RSD | 195.3 | 32710. | .4716 | 56.26 | 1.108 | .8209 | 18.43 | .1148 | 667.6 | 4.237 |
| #1 | .0008 | .0529 | 1.157 | -.0284 | .1966 | .0976 | .0005 | 55.93 | .0007 | .0037 |
| #2 | -.0052 | -.0524 | 1.150 | -.0122 | .1997 | .0988 | .0006 | 56.02 | -.0005 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0020 | 94.87 | 13.53 | 6.752 | 2.731 | .0012 | 29.66 | .0046 | .0027 |
| Stddev | .0025 | .0005 | .14 | .24 | .017 | .004 | .0003 | .01 | .0018 | .0008 |
| %RSD | 74.40 | 25.37 | .1497 | 1.783 | .2556 | .1272 | 29.07 | .0498 | 39.78 | 28.84 |
| #1 | -.0052 | .0016 | 94.77 | 13.36 | 6.739 | 2.733 | .0014 | 29.65 | .0033 | .0021 |
| #2 | -.0016 | .0023 | 94.97 | 13.70 | 6.764 | 2.728 | .0009 | 29.67 | .0059 | .0032 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | .0266 | -.0028 | .0009 | 15.25 | -.0025 | .6563 | .0006 | .0065 | .0036 |
| Stddev | .0028 | .0224 | .0026 | .0025 | .00 | .0009 | .0024 | .0006 | .0089 | .0062 |
| %RSD | 117.9 | 84.08 | 94.40 | 271.8 | .0138 | 37.67 | .3668 | 112.4 | 136.9 | 169.5 |
| #1 | -.0004 | .0108 | -.0046 | .0027 | 15.25 | -.0032 | .6546 | .0001 | .0002 | .0080 |
| #2 | -.0043 | .0424 | -.0009 | -.0008 | 15.25 | -.0018 | .6580 | .0010 | .0128 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0011 | .0206 | -.0007 |
| Stddev | .0046 | .0004 | .0012 |
| %RSD | 418.0 | 1.807 | 171.5 |
| #1 | -.0043 | .0209 | -.0015 |
| #2 | .0021 | .0203 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2413.4 | 78457. | 15596. |
| Stddev | 5.3 | 227. | 39. |
| %RSD | .21871 | .28973 | .24764 |
| #1 | 2417.1 | 78296. | 15624. |
| #2 | 2409.6 | 78617. | 15569. |

Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:01:22 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0169 | 1.908 | -.0015 | .1466 | .0734 | .0000 | 35.63 | -.0001 | .0276 |
| Stddev | .0007 | .0070 | .011 | .0008 | .0013 | .0003 | .0001 | .02 | .0002 | .0000 |
| %RSD | 54.44 | 41.20 | .5807 | 49.07 | .8979 | .3738 | 21620. | .0572 | 136.4 | .0824 |
| #1 | -.0008 | -.0120 | 1.900 | -.0021 | .1475 | .0732 | -.0001 | 35.62 | .0000 | .0276 |
| #2 | -.0018 | -.0218 | 1.915 | -.0010 | .1457 | .0736 | .0001 | 35.65 | -.0003 | .0276 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0007 | 103.4 | 11.48 | 6.615 | 1.880 | .0030 | 17.03 | .0059 | .0004 |
| Stddev | .0002 | .0001 | .1 | .02 | .050 | .001 | .0002 | .00 | .0000 | .0001 |
| %RSD | 14.74 | 14.06 | .1082 | .2094 | .7621 | .0740 | 8.036 | .0266 | .2497 | 24.01 |
| #1 | -.0011 | .0006 | 103.4 | 11.46 | 6.580 | 1.879 | .0028 | 17.03 | .0059 | .0005 |
| #2 | -.0014 | .0007 | 103.5 | 11.49 | 6.651 | 1.881 | .0031 | 17.04 | .0059 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0066 | -.0009 | .0018 | 11.94 | .0004 | .4868 | -.0006 | .0025 | .0005 |
| Stddev | .0014 | .0041 | .0001 | .0016 | .02 | .0002 | .0011 | .0001 | .0008 | .0004 |
| %RSD | 129.0 | 63.10 | 14.16 | 87.73 | .1518 | 61.60 | .2301 | 14.08 | 30.52 | 66.50 |
| #1 | -.0020 | .0095 | -.0010 | .0030 | 11.93 | .0006 | .4860 | -.0006 | .0020 | .0003 |
| #2 | -.0001 | .0036 | -.0008 | .0007 | 11.96 | .0002 | .4876 | -.0005 | .0030 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0450 | .0095 | -.0022 |
| Stddev | .0009 | .0002 | .0002 |
| %RSD | 1.962 | 1.591 | 10.37 |
| #1 | .0456 | .0094 | -.0020 |
| #2 | .0444 | .0096 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.1 | 78349. | 15691. |
| Stddev | 6.0 | 13. | 16. |
| %RSD | .25047 | .01675 | .10138 |
| #1 | 2395.3 | 78340. | 15680. |
| #2 | 2386.8 | 78359. | 15702. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:05:43 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0605 | 1.951 | -.0020 | .1472 | .0732 | .0002 | 36.12 | -.0009 | .0286 |
| Stddev | .0012 | .0198 | .007 | .0035 | .0030 | .0017 | .0002 | .18 | .0001 | .0002 |
| %RSD | 51.12 | 32.63 | .3810 | 178.2 | 2.060 | 2.348 | 79.32 | .5093 | 8.716 | .6249 |
| #1 | -.0031 | -.0466 | 1.945 | .0005 | .1493 | .0720 | .0001 | 35.99 | -.0008 | .0285 |
| #2 | -.0015 | -.0745 | 1.956 | -.0044 | .1451 | .0744 | .0004 | 36.25 | -.0009 | .0288 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0005 | 103.9 | 11.77 | 6.796 | 1.887 | .0034 | 17.08 | .0064 | .0002 |
| Stddev | .0011 | .0031 | .4 | .26 | .049 | .000 | .0003 | .08 | .0016 | .0020 |
| %RSD | 39.66 | 618.4 | .3787 | 2.249 | .7228 | .0041 | 7.846 | .4677 | 25.38 | 1119. |
| #1 | -.0020 | -.0027 | 103.7 | 11.58 | 6.831 | 1.887 | .0036 | 17.02 | .0053 | -.0012 |
| #2 | -.0036 | .0017 | 104.2 | 11.96 | 6.761 | 1.887 | .0032 | 17.14 | .0076 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0007 | -.0001 | -.0033 | 12.05 | -.0008 | .4900 | -.0008 | .0022 | .0014 |
| Stddev | .0009 | .0041 | .0022 | .0054 | .00 | .0011 | .0021 | .0000 | .0029 | .0008 |
| %RSD | 26.90 | 562.7 | 1574. | 162.8 | .0369 | 125.6 | .4293 | 1.319 | 135.2 | 56.88 |
| #1 | -.0039 | -.0037 | -.0017 | .0005 | 12.05 | -.0016 | .4885 | -.0008 | .0042 | .0020 |
| #2 | -.0026 | .0022 | .0014 | -.0071 | 12.05 | -.0001 | .4915 | -.0008 | .0001 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0355 | .0104 | -.0020 |
| Stddev | .0079 | .0002 | .0006 |
| %RSD | 22.37 | 2.030 | 31.92 |
| #1 | .0299 | .0103 | -.0015 |
| #2 | .0411 | .0106 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.3 | 79424. | 15675. |
| Stddev | .8 | 381. | 148. |
| %RSD | .03198 | .47947 | .94176 |
| #1 | 2401.9 | 79155. | 15779. |
| #2 | 2400.8 | 79693. | 15571. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:10:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0599 | 1.941 | -.0124 | .1388 | .0760 | .0012 | 37.35 | .0000 | .0303 |
| Stddev | .0181 | .0499 | .009 | .0034 | .0039 | .0023 | .0000 | .17 | .0002 | .0019 |
| %RSD | 1409. | 83.35 | .4908 | 27.11 | 2.834 | 3.038 | 2.474 | .4500 | 534.1 | 6.137 |
| #1 | -.0115 | .0952 | 1.948 | -.0148 | .1360 | .0743 | .0013 | 37.23 | -.0001 | .0316 |
| #2 | .0141 | .0246 | 1.935 | -.0100 | .1416 | .0776 | .0012 | 37.47 | .0002 | .0290 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | -.0023 | 107.2 | 11.83 | 6.990 | 1.957 | .0022 | 17.94 | .0090 | .0031 |
| Stddev | .0017 | .0060 | .2 | .08 | .064 | .006 | .0011 | .07 | .0036 | .0115 |
| %RSD | 21.41 | 258.1 | .1440 | .6477 | .9160 | .3143 | 51.19 | .4151 | 39.83 | 376.9 |
| #1 | -.0067 | -.0066 | 107.3 | 11.78 | 7.036 | 1.962 | .0030 | 17.99 | .0115 | .0112 |
| #2 | -.0091 | .0019 | 107.1 | 11.89 | 6.945 | 1.953 | .0014 | 17.88 | .0064 | -.0051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0275 | .0020 | -.0059 | .0162 | 12.11 | -.0039 | .5006 | -.0055 | .0061 | -.0007 |
| Stddev | .0038 | .0210 | .0005 | .0053 | .00 | .0072 | .0043 | .0003 | .0091 | .0043 |
| %RSD | 13.66 | 1054. | 9.101 | 32.46 | .0312 | 187.6 | .8671 | 6.219 | 149.4 | 618.0 |
| #1 | .0302 | .0168 | -.0063 | .0125 | 12.11 | -.0090 | .4975 | -.0058 | -.0003 | -.0037 |
| #2 | .0249 | -.0129 | -.0055 | .0199 | 12.10 | .0013 | .5037 | -.0053 | .0126 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0336 | .0198 | -.0011 |
| Stddev | .0051 | .0007 | .0013 |
| %RSD | 15.04 | 3.492 | 120.2 |
| #1 | .0301 | .0193 | -.0002 |
| #2 | .0372 | .0203 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.8 | 78467. | 15527. |
| Stddev | 1.6 | 510. | 73. |
| %RSD | .06759 | .64964 | .46844 |
| #1 | 2382.0 | 78107. | 15578. |
| #2 | 2379.7 | 78828. | 15475. |



Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 17:14:24 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0253 | .4923 | -.0067 | .0847 | .0830 | .0002 | 47.35 | .0002 | .0029 |
| Stddev | .0000 | .0120 | .0024 | .0017 | .0015 | .0006 | .0002 | .23 | .0003 | .0007 |
| %RSD | .8079 | 47.44 | .4935 | 26.06 | 1.804 | .6666 | 124.0 | .4833 | 140.6 | 24.34 |
| #1 | -.0017 | -.0338 | .4905 | -.0054 | .0858 | .0834 | .0003 | 47.51 | .0004 | .0034 |
| #2 | -.0017 | -.0168 | .4940 | -.0079 | .0837 | .0826 | .0000 | 47.18 | .0000 | .0024 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0000 | 19.76 | 6.502 | 6.689 | 2.433 | .0028 | 24.41 | .0040 | .0032 |
| Stddev | .0001 | .0009 | .11 | .028 | .093 | .003 | .0001 | .17 | .0005 | .0007 |
| %RSD | 6.693 | 3457. | .5591 | .4253 | 1.385 | .1111 | 3.096 | .6858 | 13.35 | 23.05 |
| #1 | -.0007 | .0006 | 19.84 | 6.521 | 6.754 | 2.435 | .0027 | 24.53 | .0037 | .0037 |
| #2 | -.0008 | -.0006 | 19.69 | 6.482 | 6.623 | 2.431 | .0028 | 24.29 | .0044 | .0027 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0160 | -.0002 | .0035 | 12.31 | -.0020 | .3446 | .0009 | .0039 | .0004 |
| Stddev | .0006 | .0040 | .0002 | .0030 | .00 | .0002 | .0024 | .0004 | .0003 | .0001 |
| %RSD | 75.29 | 24.89 | 111.5 | 83.82 | .0152 | 9.101 | .7044 | 49.95 | 8.741 | 31.22 |
| #1 | .0012 | .0132 | -.0004 | .0014 | 12.31 | -.0019 | .3464 | .0012 | .0036 | .0003 |
| #2 | .0004 | .0188 | .0000 | .0056 | 12.31 | -.0021 | .3429 | .0006 | .0041 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0005 | .0093 | -.0017 |
| Stddev | .0097 | .0002 | .0002 |
| %RSD | 1980. | 2.276 | 13.03 |
| #1 | -.0063 | .0095 | -.0015 |
| #2 | .0073 | .0092 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.2 | 78398. | 15383. |
| Stddev | 4.1 | 145. | 5. |
| %RSD | .17230 | .18540 | .03164 |
| #1 | 2380.3 | 78295. | 15380. |
| #2 | 2386.1 | 78501. | 15386. |

Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 17:18:45 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0363 | .4891 | -.0110 | .0850 | .0832 | .0003 | 47.84 | -.0002 | .0031 |
| Stddev | .0017 | .0152 | .0084 | .0020 | .0011 | .0018 | .0001 | .15 | .0015 | .0003 |
| %RSD | 363.0 | 41.99 | 1.719 | 18.68 | 1.274 | 2.208 | 47.67 | .3234 | 909.8 | 8.262 |
| #1 | .0017 | -.0255 | .4951 | -.0124 | .0842 | .0845 | .0003 | 47.73 | .0009 | .0033 |
| #2 | -.0007 | -.0471 | .4832 | -.0095 | .0857 | .0819 | .0002 | 47.95 | -.0012 | .0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0005 | 19.88 | 6.725 | 6.669 | 2.469 | .0022 | 24.61 | .0035 | .0028 |
| Stddev | .0006 | .0010 | .13 | .133 | .149 | .002 | .0009 | .02 | .0007 | .0004 |
| %RSD | 71.24 | 212.6 | .6563 | 1.977 | 2.242 | .0695 | 41.92 | .0701 | 20.94 | 14.22 |
| #1 | -.0004 | -.0002 | 19.79 | 6.819 | 6.564 | 2.467 | .0015 | 24.60 | .0030 | .0025 |
| #2 | -.0013 | .0012 | 19.97 | 6.631 | 6.775 | 2.470 | .0028 | 24.62 | .0040 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0141 | -.0007 | .0039 | 12.34 | -.0014 | .3575 | -.0001 | .0022 | .0009 |
| Stddev | .0021 | .0330 | .0025 | .0036 | .01 | .0004 | .0023 | .0017 | .0002 | .0034 |
| %RSD | 65.66 | 234.3 | 344.3 | 92.56 | .0663 | 29.99 | .6413 | 2134. | 8.766 | 368.0 |
| #1 | .0017 | .0374 | -.0025 | .0064 | 12.33 | -.0011 | .3558 | .0011 | .0023 | -.0015 |
| #2 | .0047 | -.0092 | .0011 | .0013 | 12.35 | -.0017 | .3591 | -.0013 | .0020 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0100 | .0184 | -.0018 |
| Stddev | .0093 | .0005 | .0012 |
| %RSD | 92.72 | 2.519 | 66.79 |
| #1 | -.0166 | .0180 | -.0009 |
| #2 | -.0035 | .0187 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.0 | 78249. | 15639. |
| Stddev | 3.8 | 133. | 155. |
| %RSD | .16049 | .16967 | .98887 |
| #1 | 2397.7 | 78156. | 15749. |
| #2 | 2392.3 | 78343. | 15530. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/6/2013 17:23:06 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1923 | .0042 | -.0012 | .1012 | .0505 | .0042 | 5.016 | .0041 | .0530 |
| Stddev | .0003 | .0049 | .0016 | .0008 | .0001 | .0006 | .0000 | .025 | .0001 | .0002 |
| %RSD | 5.171 | 2.534 | 37.18 | 63.05 | .0500 | 1.285 | 1.065 | .5065 | 1.882 | .3396 |
| #1 | .0047 | .1958 | .0054 | -.0007 | .1013 | .0500 | .0043 | 4.998 | .0040 | .0531 |
| #2 | .0050 | .1889 | .0031 | -.0018 | .1012 | .0510 | .0042 | 5.034 | .0041 | .0529 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | .0243 | .1048 | 5.017 | 4.910 | .0158 | .1022 | 4.914 | .0408 | .0054 |
| Stddev | .0002 | .0002 | .0017 | .038 | .034 | .0000 | .0002 | .005 | .0000 | .0007 |
| %RSD | 1.621 | .6999 | 1.627 | .7512 | .6858 | .3091 | .2352 | .1128 | .1076 | 12.87 |
| #1 | .0101 | .0244 | .1036 | 4.990 | 4.934 | .0158 | .1020 | 4.918 | .0408 | .0049 |
| #2 | .0099 | .0242 | .1060 | 5.043 | 4.886 | .0158 | .1024 | 4.910 | .0409 | .0059 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0021 | .0063 | .0103 | .0009 | .0986 | .0106 | .0512 | .0061 | .0102 |
| Stddev | .0002 | .0039 | .0004 | .0006 | .0001 | .0000 | .0001 | .0003 | .0005 | .0001 |
| %RSD | 55.17 | 191.5 | 6.219 | 5.987 | 11.88 | .0309 | .6264 | .4988 | 7.397 | .6567 |
| #1 | -.0005 | -.0048 | .0060 | .0108 | .0010 | .0986 | .0106 | .0510 | .0065 | .0103 |
| #2 | -.0002 | .0007 | .0066 | .0099 | .0008 | .0986 | .0106 | .0514 | .0058 | .0102 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0022 | .0242 | .0002 |
| Stddev | .0011 | .0000 | .0000 |
| %RSD | 49.09 | .1514 | 26.83 |
| #1 | -.0030 | .0241 | .0001 |
| #2 | -.0014 | .0242 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.0 | 78385. | 15472. |
| Stddev | 1.0 | 64. | 137. |
| %RSD | .04047 | .08103 | .88352 |
| #1 | 2384.4 | 78430. | 15375. |
| #2 | 2385.7 | 78340. | 15568. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 17:27:25 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2447 | 9.805 | 1.970 | -.0046 | 1.943 | 1.940 | 1.935 | 9.837 | 1.924 | 2.041 |
| Stddev | .0012 | .013 | .002 | .0004 | .005 | .002 | .006 | .041 | .003 | .002 |
| %RSD | .4747 | .1307 | .0965 | 8.159 | .2518 | .1079 | .2882 | .4204 | .1736 | .1169 |
| #1 | .2456 | 9.796 | 1.969 | -.0044 | 1.940 | 1.939 | 1.931 | 9.808 | 1.922 | 2.039 |
| #2 | .2439 | 9.814 | 1.972 | -.0049 | 1.947 | 1.942 | 1.939 | 9.867 | 1.927 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.949 | 1.939 | 9.776 | 9.862 | 9.720 | 1.921 | 1.955 | 9.792 | 1.924 | 1.923 |
| Stddev | .000 | .004 | .034 | .025 | .008 | .001 | .007 | .033 | .003 | .005 |
| %RSD | .0108 | .1856 | .3482 | .2547 | .0816 | .0375 | .3560 | .3368 | .1535 | .2685 |
| #1 | 1.949 | 1.942 | 9.752 | 9.844 | 9.725 | 1.921 | 1.950 | 9.768 | 1.922 | 1.919 |
| #2 | 1.948 | 1.937 | 9.800 | 9.879 | 9.714 | 1.920 | 1.960 | 9.815 | 1.926 | 1.927 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0025 | 1.957 | 1.969 | .0402 | 1.918 | 2.002 | 1.919 | 1.928 | 1.928 |
| Stddev | .0007 | .0019 | .006 | .010 | .0011 | .005 | .003 | .001 | .004 | .001 |
| %RSD | 212.7 | 74.80 | .2988 | .5031 | 2.809 | .2571 | .1634 | .0301 | .2076 | .0622 |
| #1 | .0002 | .0012 | 1.953 | 1.962 | .0394 | 1.915 | 2.000 | 1.920 | 1.926 | 1.929 |
| #2 | -.0008 | .0039 | 1.961 | 1.976 | .0410 | 1.922 | 2.004 | 1.919 | 1.931 | 1.928 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | 1.952 | -.0030 |
| Stddev | .0058 | .004 | .0000 |
| %RSD | 124.1 | .1787 | .2681 |
| #1 | .0087 | 1.949 | -.0030 |
| #2 | .0006 | 1.954 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.4 | 78971. | 15624. |
| Stddev | 1.4 | 80. | 120. |
| %RSD | .05806 | .10188 | .76520 |
| #1 | 2411.4 | 79028. | 15709. |
| #2 | 2409.4 | 78914. | 15540. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 17:35:22 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .0007 | -.0005 | .0007 | .0001 | .0003 | .0391 | .0002 | .0004 |
| Stddev | .0001 | .0000 | .0011 | .0005 | .0010 | .0000 | .0001 | .0022 | .0001 | .0001 |
| %RSD | 69.93 | 19.89 | 162.2 | 111.5 | 143.8 | 35.99 | 28.31 | 5.542 | 46.97 | 26.46 |
| #1 | -.0001 | .0003 | .0014 | -.0008 | .0013 | .0001 | .0002 | .0376 | .0003 | .0003 |
| #2 | -.0002 | .0002 | -.0001 | -.0001 | .0000 | .0001 | .0003 | .0406 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | .0035 | .0315 | .0143 | .0004 | .0006 | .0163 | .0004 | .0008 |
| Stddev | .0001 | .0003 | .0018 | .0085 | .0160 | .0000 | .0000 | .0061 | .0001 | .0005 |
| %RSD | 18.95 | 71.47 | 53.23 | 27.06 | 112.2 | 8.376 | 2.614 | 37.17 | 30.38 | 60.94 |
| #1 | -.0005 | .0007 | .0022 | .0375 | .0030 | .0004 | .0006 | .0120 | .0003 | .0005 |
| #2 | -.0006 | .0002 | .0048 | .0254 | .0256 | .0004 | .0006 | .0206 | .0004 | .0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0001 | -.0003 | .0005 | .0011 | .0006 | .0003 | .0001 | .0017 | .0003 |
| Stddev | .0013 | .0027 | .0004 | .0009 | .0003 | .0002 | .0000 | .0001 | .0000 | .0002 |
| %RSD | 119.4 | 5035. | 161.3 | 184.0 | 23.00 | 27.63 | 8.582 | 147.9 | 1.822 | 46.10 |
| #1 | -.0002 | .0020 | .0000 | .0012 | .0013 | .0007 | .0003 | .0000 | .0017 | .0002 |
| #2 | -.0021 | -.0019 | -.0006 | -.0002 | .0009 | .0005 | .0003 | .0001 | .0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0035 | .0001 | .0002 |
| Stddev | .0010 | .0000 | .0001 |
| %RSD | 29.58 | 37.85 | 35.83 |
| #1 | .0028 | .0001 | .0002 |
| #2 | .0042 | .0001 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2399.6 | 77928. | 15675. |
| Stddev | 5.9 | 66. | 33. |
| %RSD | .24527 | .08463 | .20842 |
| #1 | 2403.8 | 77882. | 15652. |
| #2 | 2395.4 | 77975. | 15698. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000062 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.002525 | 0.000000 | No |
| | | | Mo | 0.040763 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000039 | 0.000000 | No |
| | | | Al | 0.000025 | 0.000000 | No |
| | | | Mo | 0.001250 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Mn | 0.000103 | 0.000000 | No |
| | | | Ca | 0.000007 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000267 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000009 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000014 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000094 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000546 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | Fe | 0.000014 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000061 | 0.000000 | No |
| | | | Mn | 0.000128 | 0.000000 | No |
| | | | Mo | -0.001571 | 0.000000 | No |
| | | | Co | -0.000355 | 0.000000 | No |
| | | | Cu | 0.000227 | 0.000000 | No |
| | | | Ca | -0.000006 | 0.000000 | No |
| | | | Fe | 0.000025 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | 0.000048 | 0.000000 | No |
| | | | Si | 0.000077 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000351 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.007692 | 0.000000 | No |
| | | | Ni | 0.000902 | 0.000000 | No |
| | | | Mn | -0.007038 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 12 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Cr | 0.011608 | 0.000000 | No |
| | | | Mo | -0.004351 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | Ni | -0.000523 | 0.000000 | No |
| | | | V | -0.001589 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000231 | 0.000000 | No |
| | | | Cu | -0.000166 | 0.000000 | No |
| | | | Sn | -0.007401 | 0.000000 | No |
| | | | Pt | -0.002057 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000294 | 0.000000 | No |
| | | | Mn | 0.000306 | 0.000000 | No |
| | | | Mo | 0.000127 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Na | -0.000003 | 0.000000 | No |
| | | | Co | -0.000378 | 0.000000 | No |
| | | | Pd | -0.003371 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | Ti | 0.015670 | 0.000000 | No |
| | | | Mo | 0.023054 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.001008 | 0.000000 | No |
| | | | Cr | 0.000167 | 0.000000 | No |
| | | | V | -0.025372 | 0.000000 | No |
| | | | Co | 0.001277 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001435 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.001092 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 11:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21073 |
| QC Sample ID: | MC21156-7F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 94 | Factor | -1.5 | Corrected Temp C | 92.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21073-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21073-B1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-S1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-13F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-16F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-17F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-1F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-2F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-6F | 50 | 50 | | | | 3 | 5 | | |
| 15 | MC21156-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-3F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 06/03/13

(Format edits must be done by dept. Manager)

7.5.1 7

ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 11:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21073A |
| QC Sample ID: | MC21156-7F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 94 | Factor | -1.5 | Corrected Temp C | 92.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21073A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21073A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-13F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-16F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-17F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-1F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-2F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-6F | 50 | 50 | | | | 3 | 5 | | |
| 15 | MC21156-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-3F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/04/13

**(Format edits must be done by dept. Manager)**

7.5.2

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43085 | 5.0 | 1.1 | mg/l | 250 | 263 | 105.2 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43087 | 5.0 | 1.1 | mg/l | 250 | 264 | 105.6 | 80-120% |
| Chloride | GN43057 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Dissolved Organic Carbon | GN43013 | 1.0 | 0.39 | mg/l | 10 | 10.4 | 104.0 | 80-120% |
| Nitrogen, Ammonia | GP16152/GN43157 | 0.10 | 0.0 | mg/l | 0.5 | 0.46 | 92.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16143/GN43132 | 0.10 | 0.0 | mg/l | 2 | 2.02 | 101.0 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | 0.10 | 0.0 | mg/l | 2 | 2.10 | 105.0 | 90-110% |
| Nitrogen, Nitrite | GP16098/GN42970 | 0.010 | 0.0 | mg/l | 0.02 | 0.020 | 100.0 | 80-120% |
| Nitrogen, Nitrite | GP16102/GN42982 | 0.010 | 0.0 | mg/l | 0.020 | 0.019 | 95.0 | 80-120% |
| Sulfate | GN43127 | 5.0 | 0.0 | mg/l | 20 | 20.0 | 100.0 | 80-120% |
| Sulfate | GN43146 | 5.0 | 0.0 | mg/l | 20 | 20.7 | 103.5 | 80-120% |
| Sulfide | GN42988 | 2.0 | 0.0 | mg/l | 13.4 | 11.6 | 86.6 | 80-120% |
| Sulfide | GN42994 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |
| Sulfide | GN42995 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |

Associated Samples:
Batch GN42988: MC21156-1, MC21156-2
Batch GN42994: MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13
Batch GN42995: MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43013: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F
Batch GN43057: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43085: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GN43087: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43127: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8
Batch GN43146: MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16098: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16102: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16143: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16144: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16152: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43085 | MC21156-7 | mg/l | 292 | 292 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43087 | MC21156-12 | mg/l | 227 | 227 | 0.0 | 0-20% |
| Chloride | GN43057 | MC21156-7 | mg/l | 19.7 | 19.7 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN43013 | MC21156-7F | mg/l | 5.1 | 5.4 | 5.7 | 0-20% |
| Nitrogen, Ammonia | GP16152/GN43157 | MC21156-7 | mg/l | 9.0 | 9.0 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16143/GN43132 | MC21156-7 | mg/l | 0.14 | 0.14 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | MC21202-14 | mg/l | 0.15 | 0.15 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16098/GN42970 | MC21156-7 | mg/l | 0.0017 U | 0.0021 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16102/GN42982 | MC21202-1 | mg/l | 0.0040 | 0.0043 | 7.2 | 0-20% |
| Sulfate | GN43127 | MC21156-7 | mg/l | 1.5 U | 0.0 | 0.0 | 0-20% |
| Sulfate | GN43146 | MC21156-13 | mg/l | 7.4 | 7.5 | 1.3 | 0-20% |
| Sulfide | GN42988 | MC21156-1 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN42994 | MC21156-7 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN42995 | MC21156-14 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN42988: MC21156-1, MC21156-2
Batch GN42994: MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13
Batch GN42995: MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43013: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F
Batch GN43057: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43085: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GN43087: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43127: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8
Batch GN43146: MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16098: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16102: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16143: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16144: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16152: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43085 | MC21156-7 | mg/l | 292 | 250 | 548 | 102.4 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43087 | MC21156-12 | mg/l | 227 | 250 | 486 | 103.6 | 75-125% |
| Chloride | GN43057 | MC21156-7 | mg/l | 19.7 | 10 | 30.2 | 105.0 | 75-125% |
| Dissolved Organic Carbon | GN43013 | MC21156-7F | mg/l | 5.1 | 10 | 14.8 | 97.0 | 75-125% |
| Nitrogen, Ammonia | GP16152/GN43157 | MC21156-7 | mg/l | 9.0 | 0.5 | 9.4 | 80.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16143/GN43132 | MC21156-7 | mg/l | 0.14 | 2 | 1.2 | 53.0N(a) | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | MC21202-14 | mg/l | 0.15 | 2 | 2.1 | 97.5 | 90-110% |
| Nitrogen, Nitrite | GP16098/GN42970 | MC21156-7 | mg/l | 0.0017 U | 0.02 | 0.022 | 99.5 | 75-125% |
| Nitrogen, Nitrite | GP16102/GN42982 | MC21202-1 | mg/l | 0.0040 | 0.020 | 0.021 | 85.0 | 75-125% |
| Sulfate | GN43127 | MC21156-7 | mg/l | 1.5 U | 20 | 20.7 | 103.5 | 75-125% |
| Sulfate | GN43146 | MC21156-13 | mg/l | 7.4 | 20 | 28.7 | 106.5 | 75-125% |
| Sulfide | GN42988 | MC21156-1 | mg/l | 0.49 U | 13.4 | 11.4 | 85.1 | 75-125% |
| Sulfide | GN42994 | MC21156-7 | mg/l | 0.49 U | 10.3 | 10.0 | 97.1 | 75-125% |
| Sulfide | GN42995 | MC21156-14 | mg/l | 0.49 U | 13.4 | 12.0 | 89.6 | 75-125% |

Associated Samples:
Batch GN42988: MC21156-1, MC21156-2
Batch GN42994: MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13
Batch GN42995: MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43013: MC21156-1F, MC21156-2F, MC21156-3F, MC21156-4F, MC21156-5F, MC21156-6F, MC21156-7F, MC21156-8F, MC21156-9F, MC21156-11F, MC21156-12F, MC21156-13F, MC21156-14F, MC21156-15F, MC21156-16F, MC21156-17F
Batch GN43057: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43085: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GN43087: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GN43127: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8
Batch GN43146: MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16098: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16102: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16143: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11
Batch GP16144: MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
Batch GP16152: MC21156-1, MC21156-2, MC21156-3, MC21156-4, MC21156-5, MC21156-6, MC21156-7, MC21156-8, MC21156-9, MC21156-11, MC21156-12, MC21156-13, MC21156-14, MC21156-15, MC21156-16, MC21156-17
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC052913W2.TXT  Date Analyzed: 05/29/13  Methods: SM21 5310 B
Analyst: CF  Run ID: GN43013
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 22:20 | GN43013-CCV1 | 1 | | |
| 22:30 | GN43013-CCB1 | 1 | | |
| 22:41 | ZZZZZZ | 1 | | Sparger Check Standard. |
| 22:55 | GN43013-ICV1 | 1 | | |
| 23:05 | GN43013-MB1 | 1 | | |
| 23:19 | GN43013-B1 | 1 | | |
| 23:31 | GN43013-S1 | 1 | | |
| 23:44 | GN43013-D1 | 1 | | |
| 23:57 | MC21156-7F | 1 | | |
| 00:10 | MC21156-1F | 1 | | |
| 00:23 | MC21156-2F | 1 | | |
| 00:37 | MC21156-3F | 1 | | |
| 00:50 | GN43013-CCV2 | 1 | | |
| 01:03 | GN43013-CCB2 | 1 | | |
| 01:14 | MC21156-4F | 1 | | |
| 01:29 | MC21156-5F | 1 | | |
| 01:40 | MC21156-6F | 1 | | |
| 01:55 | MC21156-8F | 1 | | |
| 02:08 | MC21156-9F | 1 | | |
| 02:21 | MC21156-11F | 1 | | |
| 02:34 | MC21156-12F | 1 | | |
| 02:47 | MC21156-13F | 1 | | |
| 03:00 | MC21156-14F | 1 | | |
| 03:14 | MC21156-15F | 1 | | |
| 03:27 | GN43013-CCV3 | 1 | | |
| 03:39 | GN43013-CCB3 | 1 | | |
| 03:50 | MC21156-16F | 1 | | |
| 04:05 | MC21156-17F | 1 | | |
| 04:18 | GN43013-CCV4 | 1 | | |
| 04:31 | GN43013-CCB4 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC052913W2.TXT  Date Analyzed: 05/29/13  Methods: SM21 5310 B
Run ID: GN43013  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43013-CCV1 | Dissolved Organic Carbon | 20.4 | 1.0 | 0.23 | 20 | 102.0 | 90-110 |
| GN43013-CCB1 | Dissolved Organic Carbon | 0.39 | 1.0 | 0.23 | | | |
| GN43013-ICV1 | Dissolved Organic Carbon | 30.7 | 1.0 | 0.23 | 30 | 102.3 | 90-110 |
| GN43013-CCV2 | Dissolved Organic Carbon | 18.2 | 1.0 | 0.23 | 20 | 91.0 | 90-110 |
| GN43013-CCB2 | Dissolved Organic Carbon | 0.43 | 1.0 | 0.23 | | | |
| GN43013-CCV3 | Dissolved Organic Carbon | 19.8 | 1.0 | 0.23 | 20 | 99.0 | 90-110 |
| GN43013-CCB3 | Dissolved Organic Carbon | 0.36 | 1.0 | 0.23 | | | |
| GN43013-CCV4 | Dissolved Organic Carbon | 19.2 | 1.0 | 0.23 | 20 | 96.0 | 90-110 |
| GN43013-CCB4 | Dissolved Organic Carbon | 0.52 | 1.0 | 0.23 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:22 | GN43132-STD1 | 1 | | STDA5.0 |
| 13:23 | GN43132-STD2 | 1 | | STDB2.0 |
| 13:25 | GN43132-STD3 | 1 | | STDC1.0 |
| 13:26 | GN43132-STD4 | 1 | | STDD0.80 |
| 13:27 | GN43132-STD5 | 1 | | STDE0.50 |
| 13:28 | GN43132-STD6 | 1 | | STDF0.30 |
| 13:30 | GN43132-STD7 | 1 | | STDG0.10 |
| 13:31 | GN43132-STD8 | 1 | | STDH0.0 |
| 13:33 | GN43132-ICV1 | 1 | | |
| 13:34 | GN43132-ICB1 | 1 | | |
| 13:36 | GN43132-CCV1 | 1 | | |
| 13:37 | GN43132-CCB1 | 1 | | |
| 13:38 | ZZZZZZ | 1 | | Column efficiency. |
| 13:39 | GP16143-MB1 | 1 | | |
| 13:41 | GP16143-B1 | 1 | | |
| 13:42 | GP16143-S1 | 1 | | |
| 13:43 | GP16143-D1 | 1 | | |
| 13:44 | MC21156-7 | 1 | | |
| 13:46 | MC21156-1 | 1 | | |
| 13:47 | MC21156-2 | 1 | | |
| 13:48 | MC21156-3 | 1 | | |
| 13:49 | MC21156-4 | 1 | | |
| 13:50 | GN43132-CCV2 | 1 | | |
| 13:52 | GN43132-CCB2 | 1 | | |
| 13:53 | MC21156-5 | 1 | | |
| 13:54 | MC21156-6 | 1 | | |
| 13:55 | MC21156-8 | 1 | | |
| 13:57 | MC21156-9 | 1 | | |
| 13:58 | MC21156-11 | 1 | | |
| 13:59 | GN43132-CCV3 | 1 | | |
| 14:00 | GN43132-CCB3 | 1 | | |
| 14:02 | GN43132-ICV2 | 1 | | |
| 14:03 | GN43132-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:04 | GN43132-CCV4 | 1 | | |
| 14:05 | GN43132-CCB4 | 1 | | |
| 14:07 | ZZZZZZ | 1 | | Column efficiency. |
| 14:08 | GP16144-MB1 | 1 | | |
| 14:09 | GP16144-B1 | 1 | | |
| 14:10 | GP16144-S1 | 1 | | |
| 14:12 | GP16144-D1 | 1 | | |
| 14:13 | MC21202-14 | 1 | | (sample used for QC only; not part of login MC21156) |
| 14:14 | MC21156-12 | 1 | | |
| 14:15 | MC21156-13 | 1 | | |
| 14:17 | MC21156-14 | 1 | | |
| 14:18 | MC21156-15 | 1 | | |
| 14:19 | GN43132-CCV5 | 1 | | |
| 14:20 | GN43132-CCB5 | 1 | | |
| 14:22 | MC21156-16 | 1 | | |
| 14:23 | MC21156-17 | 1 | | |
| 14:24 | ZZZZZZ | 1 | | |
| 14:25 | ZZZZZZ | 1 | | |
| 14:26 | ZZZZZZ | 1 | | |
| 14:28 | GN43132-CCV6 | 1 | | |
| 14:29 | GN43132-CCB6 | 1 | | |
| 15:01 | GN43132-STD9 | 1 | | STDA5.0 |
| 15:02 | GN43132-STD10 | 1 | | STDB2.0 |
| 15:04 | GN43132-STD11 | 1 | | STDC1.0 |
| 15:05 | GN43132-STD12 | 1 | | STDD0.80 |
| 15:06 | GN43132-STD13 | 1 | | STDE0.50 |
| 15:07 | GN43132-STD14 | 1 | | STDF0.30 |
| 15:09 | GN43132-STD15 | 1 | | STDG0.10 |
| 15:10 | GN43132-STD16 | 1 | | STDH0.0 |
| 15:12 | GN43132-ICV3 | 1 | | |
| 15:13 | GN43132-ICB3 | 1 | | |
| 15:15 | GN43132-CCV7 | 1 | | |
| 15:16 | GN43132-CCB7 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:17 | ZZZZZZ | 1 | | Column efficiency. |
| 15:18 | GP16145-MB1 | 1 | | |
| 15:20 | GP16145-B1 | 1 | | |
| 15:21 | GP16145-S1 | 1 | | |
| 15:22 | GP16145-D1 | 1 | | |
| 15:23 | MC21202-1 | 1 | | (sample used for QC only; not part of login MC21156) |
| 15:25 | ZZZZZZ | 1 | | |
| 15:26 | ZZZZZZ | 1 | | |
| 15:27 | ZZZZZZ | 1 | | |
| 15:28 | ZZZZZZ | 1 | | |
| 15:30 | GN43132-CCV8 | 1 | | |
| 15:31 | GN43132-CCB8 | 1 | | |
| 15:32 | ZZZZZZ | 1 | | |
| 15:33 | ZZZZZZ | 1 | | |
| 15:35 | ZZZZZZ | 1 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:37 | ZZZZZZ | 1 | | |
| 15:38 | GN43132-CCV9 | 1 | | |
| 15:40 | GN43132-CCB9 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21156
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Run ID: GN43132 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43132-ICV1 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN43132-ICB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV1 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV2 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV3 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-ICV2 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN43132-ICB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV5 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV6 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB6 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN43132-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV7 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB7 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV8 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV9 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueou◉ SM 21TH 4500 NO2 B M (Solids○ Units: mg/l as N mg/kg as I

Analyst: MIRANDAC
GN Batch ID: GN42970
GP Batch ID: GP16098
Date: 5/24/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 5/24/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.034 | 0.066 | 0.163 | 0.326 | 0.645 | 1.283 | | | | |
| Actual Value: | -0.001 | 0.010 | 0.020 | 0.050 | 0.101 | 0.200 | 0.400 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-29979-NO2 | Reagent | |
| CCV | GNSTD-29979-NO2-5 | Reagent | |
| ICV | GNSTD-29980-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99999
Slope = 0.31198
Intercept = -0.00075

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21156-7 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | |
| MS Sample ID: | MC21156-7 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.022 | % Rec: | 110% |
| MB Prep Date: | 05/24/13 | | | RL: | 0.01 | <RL ?: | Y | | |
| SB Prep Date: | 05/24/13 | Res: | 0.021 | Spike Amt: | 0.02 | % Rec: | 105% | | |
| SB Prep Date: | 05/24/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.102 | % Rec: | 102% |
| CCV (1) Res: | 0.2052 | Known: | 0.20 | % Rec: | 103% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | | Known: | 0.20 | % Rec: | |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: | |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:11 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.205 | 0.2052 | 0.010 |
| 17:18 | CCB | N/A | | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | 0.0005 | 0.010 |
| 17:18 | ICV | N/A | | 50 | 50 | 1 | 0.330 | 0.000 | 0.102 | 0.1022 | 0.010 |
| 17:18 | GP16098-MB1 | N/A | | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | -0.0001 | 0.010 |
| 17:18 | GP16098-B1 | N/A | | 50 | 50 | 1 | 0.068 | 0.000 | 0.020 | 0.0205 | 0.010 |
| 17:18 | GP16098-S1 | 7 | 8 | 50 | 50 | 1 | 0.073 | 0.000 | 0.022 | 0.0220 | 0.010 |
| 17:18 | GP16098-D1 | 7 | 8 | 50 | 50 | 1 | 0.009 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 17:18 | MC21156-7 | 7 | 8 | 50 | 50 | 1 | 0.009 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 17:18 | MC21156-1 | 6 | 8 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0011 | 0.010 |
| 17:18 | MC21156-2 | 6 | 8 | 50 | 50 | 1 | 0.011 | 0.000 | 0.003 | 0.0027 | 0.010 |
| 17:18 | MC21156-3 | 7 | 8 | 50 | 50 | 1 | 0.012 | 0.000 | 0.003 | 0.0030 | 0.010 |
| 17:18 | MC21156-4 | 7 | 8 | 50 | 50 | 1 | 0.010 | 0.000 | 0.002 | 0.0024 | 0.010 |
| 17:18 | CCV | N/A | | 50 | 50 | 1 | 0.641 | 0.000 | 0.199 | 0.1992 | 0.010 |
| 17:22 | CCB | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0002 | 0.010 |
| 17:22 | MC21156-5 | 7 | 8 | 50 | 50 | 1 | 0.010 | 0.000 | 0.002 | 0.0024 | 0.010 |
| 17:22 | MC21156-6 | 7 | 8 | 50 | 50 | 1 | 0.013 | 0.000 | 0.003 | 0.0033 | 0.010 |
| 17:22 | MC21156-8 | 7 | 8 | 50 | 50 | 1 | 0.014 | 0.000 | 0.004 | 0.0036 | 0.010 |
| 17:22 | MC21156-9 | 7 | 8 | 50 | 50 | 1 | 0.014 | 0.000 | 0.004 | 0.0036 | 0.010 |
| 17:22 | MC21156-11 | 7 | 8 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0011 | 0.010 |
| 17:22 | CCV | N/A | | 50 | 50 | 1 | 0.645 | 0.000 | 0.200 | 0.2005 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0002 | 0.010 |

MM 5/24/13

Analyst: Miranda Mathis Date: 5/24/13 QC Reviewer: Date:

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

**Test:** Nitrogen, Nitrite
**Product:** NO2
**Method:** SM 21TH 4500 NO2 B (Aqueous) ◉ SM 21TH 4500 NO2 B M (Solids) ○ **Units:** mg/l as N mg/kg as I

**Analyst:** CRYSTALL
**GN Batch ID:** GN42982
**GP Batch ID:** GP16102
**Date:** 5/25/2013
**Instrument ID:** spectronic 543nm

**Original Calibration Information** **Calibration Date:** 5/25/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.036 | 0.070 | 0.172 | 0.336 | 0.673 | 1.318 | | | | |
| Actual Value: | -0.001 | 0.009 | 0.020 | 0.051 | 0.100 | 0.203 | 0.398 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-29986-NO2 | Reagent | |
| CCV | GNSTD-29986-NO2-4 | Reagent | |
| ICV | GNSTD-29987-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99995
Slope = 0.30343
Intercept = -0.00149

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-1 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC21202-1 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.021 | % Rec: | 105% | |
| MB Prep Date: | 05/25/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 05/25/13 | Res: | 0.019 | Spike Amt: | 0.02 | % Rec: | 95% | | | |
| SB Prep Date: | 05/25/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% | |
| CCV (1) Res: | 0.2039 | Known: | 0.20 | % Rec: | 102% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:58 | CCV | N/A | | 50 | 50 | 1 | 0.677 | 0.000 | 0.204 | 0.2039 | 0.010 |
| 11:18 | CCB | N/A | | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:18 | ICV | N/A | | 50 | 50 | 1 | 0.337 | 0.000 | 0.101 | 0.1008 | 0.010 |
| 11:18 | GP16102-MB1 | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | -0.001 | -0.0006 | 0.010 |
| 11:18 | GP16102-B1 | N/A | | 50 | 50 | 1 | 0.069 | 0.000 | 0.019 | 0.0194 | 0.010 |
| 11:18 | GP16102-S1 | 7 | 1 | 50 | 50 | 1 | 0.075 | 0.000 | 0.021 | 0.0213 | 0.010 |
| 11:18 | GP16102-D1 | 7 | 1 | 50 | 50 | 1 | 0.019 | 0.000 | 0.004 | 0.0043 | 0.010 |
| 11:18 | MC21202-1 | 7 | 1 | 50 | 50 | 1 | 0.018 | 0.000 | 0.004 | 0.0040 | 0.010 |
| 11:18 | MC21202-2 | 7 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.002 | 0.0018 | 0.010 |
| 11:18 | MC21202-3 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.001 | 0.0006 | 0.010 |
| 11:18 | MC21202-4 | 7 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 11:18 | MC21202-5 | 7 | 1 | 50 | 50 | 1 | 0.014 | 0.000 | 0.003 | 0.0028 | 0.010 |
| 11:18 | CCV | N/A | | 50 | 50 | 1 | 0.665 | 0.000 | 0.200 | 0.2003 | 0.010 |
| 11:23 | CCB | N/A | | 50 | 50 | 1 | 0.006 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 11:23 | MC21156-12 | 8 | 1 | 50 | 50 | 1 | 0.015 | 0.000 | 0.003 | 0.0031 | 0.010 |
| 11:23 | MC21156-13 | 7 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 11:23 | MC21156-14 | 7 | 1 | 50 | 50 | 1 | 0.001 | 0.000 | -0.001 | -0.0012 | 0.010 |
| 11:23 | MC21156-15 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |
| 11:23 | MC21156-16 | 7 | 1 | 50 | 50 | 1 | 0.010 | 0.000 | 0.002 | 0.0015 | 0.010 |
| 11:23 | MC21156-17 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 11:23 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.201 | 0.2006 | 0.010 |
| 11:25 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |
| 11:25 | MC21232-2 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:25 | MC21232-1 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:25 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.201 | 0.2006 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |

CW 5-25-13
Analyst: Crystal Woodard Date: 5-25-13 QC Reviewer: 5.28.13 Date:

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42988
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21156-1 | Original: | <2 | MS: | 11.4 | Spk Amt | 13.4 | %REC | 85% |
| Dup Sample ID: | MC21156-1 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 05/08/13 | Result: | 11.6 | SPK AMT. | 13.4 | %Rec | 86.6% | | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC | 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42988-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42988-B1 | 20 | 200 | 5 | 19.2 | 14.20 | 11.6 | 11.6 | 2 |
| 8 | GN42988-S1 | 20 | 200 | 19.2 | 33.5 | 14.30 | 11.4 | 11.4 | 2 |
| 8 | GN42988-D1 | 5 | 200 | 33.5 | 38.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-1 | 5 | 195 | 38.5 | 43.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-2 | 5 | 260 | 43.5 | 48.5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-11 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-13 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-14 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-15 | 5 | 260 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-16 | 5 | 240 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-17 | 5 | 260 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-18 | 5 | 260 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 5 | MC21083-19 | 5 | 260 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

5-28-13

Analyst: _____ Date: 5-28-13 QC Reviewer: _____ Date: 5.30.13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42994
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21156-7 | Original: | <2 | MS: | 10 | Spk Amt | 10.3 | %REC 97% |
| Dup Sample ID: | MC21156-7 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | |
| Method Blank Date | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | |
| Spk Blk Date: | 05/28/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 13 | %REC 97% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42994-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42994-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 21 | GN42994-S1 | 20 | 260 | 19 | 32.5 | 13.50 | 10.0 | 10.0 | 2 |
| 20 | GN42994-D1 | 5 | 260 | 32.5 | 37.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-7 | 5 | 260 | 37.5 | 42.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-3 | 5 | 240 | 42.5 | 47.5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-4 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-5 | 5 | 270 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-6 | 5 | 275 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-8 | 5 | 260 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-9 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 6 | MC21156-11 | 5 | 260 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-12 | 5 | 265 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-13 | 5 | 260 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.5 | 13.50 | 13.0 | 13.0 | 2 |

BIJ 5-28-13

Analyst: BIJ Date: 5-28-13 QC Reviewer: MSS 5/29/13 Date:

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42995
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21156-14 | Original: | <2 | MS: | 12 | Spk Amt | 13.4 | %REC | 90% |
| Dup Sample ID: | MC21156-14 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date: | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 05/08/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC | 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42995-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42995-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 1 | GN42995-S1 | 20 | 200 | 19 | 33 | 14.00 | 12.0 | 12.0 | 2 |
| 1 | GN42995-D1 | 5 | 200 | 33 | 38 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-14 | 5 | 260 | 38 | 43 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-15 | 5 | 260 | 43 | 48 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-16 | 5 | 280 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-17 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-1 | 5 | 250 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-2 | 5 | 230 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-3 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-4 | 5 | 255 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-5 | 5 | 240 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21224-1 | 5 | 280 | 35 | 38.7 | 3.70 | 1.9 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

5-28-13 BIJ

Analyst: BIJ Date: 5-28-13 QC Reviewer: 5.29.13 Date:

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | TOC SM21 5310-B |
| **Date** | 5/29/13 | **Analysis Batch ID** | GN43013 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | GP16115 |
| **File ID** | TOC052913W2.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | **30016-TOC** | **2 M HCL** | RGT- | 35504-TOC |
| **ICV** | GNSTD- | **30017-TOC** | | | |
| **CCV** | GNSTD- | **30018-TOC** | | | |
| **Sparger check STD** | GNSTD- | **30019-TOC** | | | |
| **1:1 Phosphoric Acid** | RGT- | **34715-TOC** | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN43013-S1 | 23 | <2 | MC21156-9F | 1 | <2 | | | | | | |
| **GN43013-D1** | 19 | <2 | MC21156-11F | 1 | <2 | | | | | | |
| **MC21156-7F** | 12 | <2 | MC21156-12F | 1 | <2 | | | | | | |
| **MC21156-1F** | 1 | <2 | MC21156-13F | 1 | <2 | | | | | | |
| **MC21156-2F** | 1 | <2 | MC21156-14F | 1 | <2 | | | | | | |
| **MC21156-3F** | 1 | <2 | MC21156-15F | 1 | <2 | | | | | | |
| **MC21156-4F** | 1 | <2 | MC21156-16F | 1 | <2 | | | | | | |
| **MC21156-5F** | 1 | <2 | MC21156-17F | 1 | <2 | | | | | | |
| **MC21156-6F** | 1 | <2 | | | | | | | | | |
| **MC21156-8F** | 1 | <2 | | | | | | | | | |

**COMMENTS**

**QC Review** **Date:** 5/30/13

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Instr.Information**

Instrument Options: TOC/ASI/
Catalyst: Regular Sensitivity

**Cal. Curve**

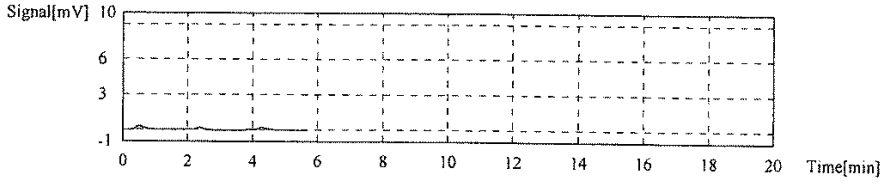
Sample Name: STD
Sample ID:
Cal. Curve: TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal
Status: Completed

| Type | Anal. |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.5015 | 50uL | 1.000 | ******* | E | 5/29/2013 5:02:54 PM |
| 2 | 0.2026 | 50uL | 1.000 | ******* | | 5/29/2013 5:04:59 PM |
| 3 | 0.2414 | 50uL | 1.000 | ******* | | 5/29/2013 5:07:08 PM |

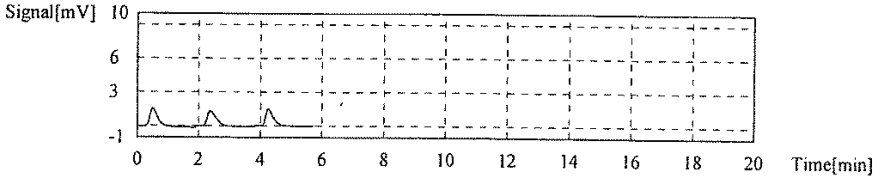
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 0.2220




Conc: 1.000mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 2.912 | 50uL | 1.000 | ******* | E | 5/29/2013 5:15:50 PM |
| 2 | 2.532 | 50uL | 1.000 | ******* | | 5/29/2013 5:17:59 PM |
| 3 | 2.670 | 50uL | 1.000 | ******* | | 5/29/2013 5:20:08 PM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 2.601



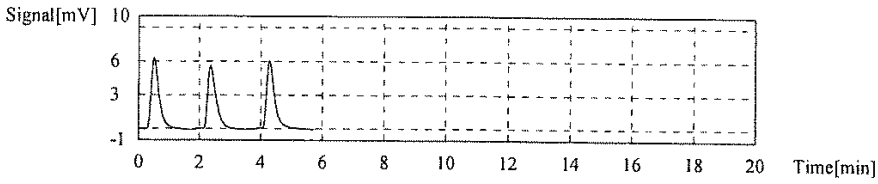

Conc: 5.000mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 11.66 | 50uL | 8.000 | ******* | E | 5/29/2013 5:29:33 PM |
| 2 | 10.84 | 50uL | 8.000 | ******* | | 5/29/2013 5:31:42 PM |
| 3 | 10.88 | 50uL | 8.000 | ******* | | 5/29/2013 5:33:51 PM |

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

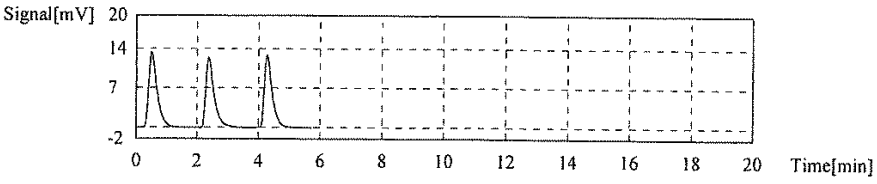
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 10.86




Conc: 10.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 25.80 | 50uL | 4.000 | ******* | E | 5/29/2013 5:41:24 PM |
| 2 | 23.64 | 50uL | 4.000 | ******* | | 5/29/2013 5:43:33 PM |
| 3 | 23.28 | 50uL | 4.000 | ******* | | 5/29/2013 5:45:42 PM |

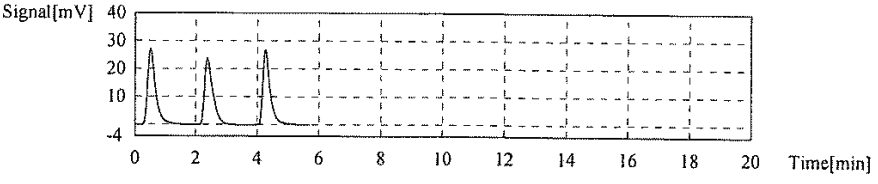
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 23.46




Conc: 20.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 50.40 | 50uL | 2.000 | ******* | E | 5/29/2013 5:53:12 PM |
| 2 | 45.42 | 50uL | 2.000 | ******* | | 5/29/2013 5:55:17 PM |
| 3 | 46.18 | 50uL | 2.000 | ******* | | 5/29/2013 5:57:22 PM |

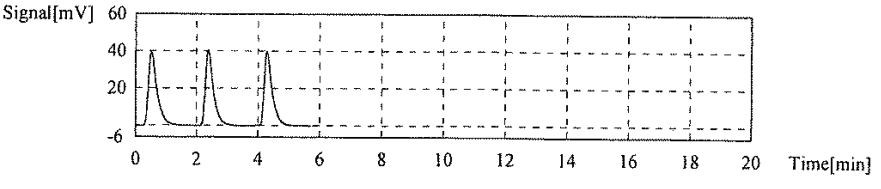
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 45.80




Conc: 30.00mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.25 | 50uL | 1.000 | ******* | E | 5/29/2013 6:06:21 PM |
| 2 | 74.48 | 50uL | 1.000 | ******* | | 5/29/2013 6:08:26 PM |
| 3 | 74.25 | 50uL | 1.000 | ******* | | 5/29/2013 6:10:35 PM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 74.37



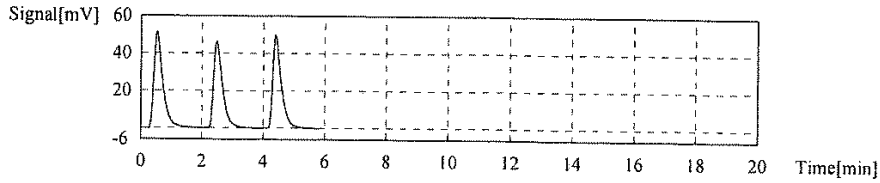

Conc: 40.00mg/L

# TOC-Control L Report

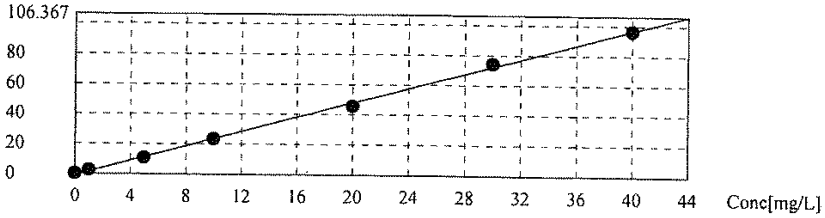
Wetchem
TOC052913W2.tlx

| No | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 105.8 | 50uL | 1.000 | ******* | E | 5/29/2013 6:19:23 PM |
| 2 | 96.36 | 50uL | 1.000 | ******* | | 5/29/2013 6:21:30 PM |
| 3 | 96.62 | 50uL | 1.000 | ******* | | 5/29/2013 6:23:40 PM |

| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 96.49 |




| | |
|---|---|
| Slope: | 2.432 |
| Intercept | -0.5631 |
| r^2 | 0.9987 |
| r | 0.9994 |
| Zero Shift | No |




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

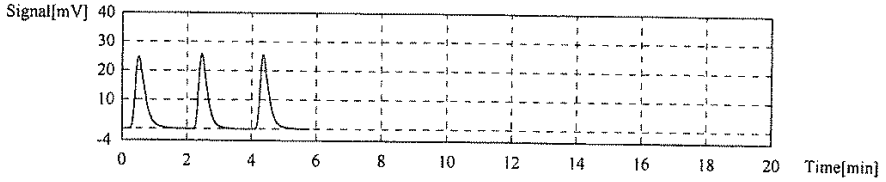
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.38mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 53.45 | 22.21mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:17:55 PM |
| 2 | 49.08 | 20.42mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:20:03 PM |
| 3 | 48.89 | 20.34mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:22:08 PM |

| | |
|---|---|
| Mean Area | 48.98 |
| Mean Conc. | 20.38mg/L |




**Sample**

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Sample Name: CCB
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

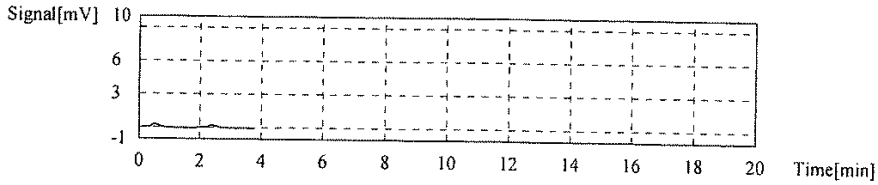
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.3878mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Auto Dil. | Ext. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4252 | 0.4065mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:30:53 PM |
| 2 | 0.3347 | 0.3692mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:33:03 PM |

Mean Area 0.3800
Mean Conc. 0.3878mg/L




**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

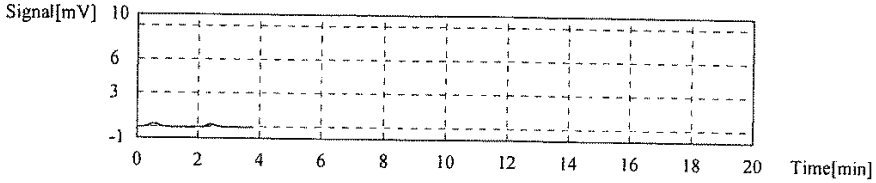
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.4350mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Auto Dil. | Ext. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4895 | 0.4329mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:41:53 PM |
| 2 | 0.4997 | 0.4371mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:44:03 PM |

Mean Area 0.4946
Mean Conc. 0.4350mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

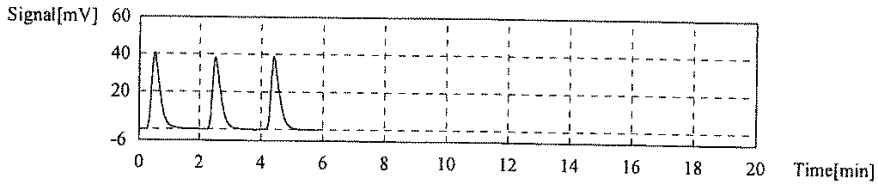
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:30.74mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Auto Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 81.39 | 33.70mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:52:59 PM |
| 2 | 74.16 | 30.73mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:55:04 PM |
| 3 | 74.22 | 30.76mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 10:57:09 PM |

Mean Area 74.19
Mean Conc. 30.74mg/L




**Sample**

Sample Name: GN43013-MB1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

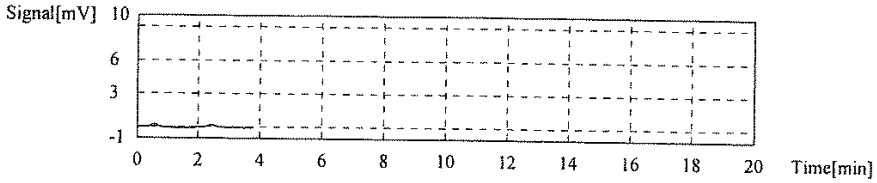
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.3895mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Auto Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4220 | 0.4051mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:05:51 PM |
| 2 | 0.3459 | 0.3738mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:08:00 PM |

Mean Area 0.3840
Mean Conc. 0.3895mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Sample Name: GN43013-B1
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

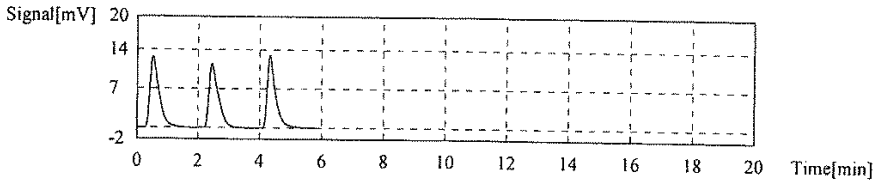
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 10.37mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 27.26 | 11.44mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:16:51 PM |
| 2 | 24.66 | 10.37mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:19:00 PM |
| 3 | 24.65 | 10.37mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:21:05 PM |

Mean Area 24.66
Mean Conc. 10.37mg/L




**Sample**

Sample Name: GN43013-S1
Sample ID: MC21156-7E
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

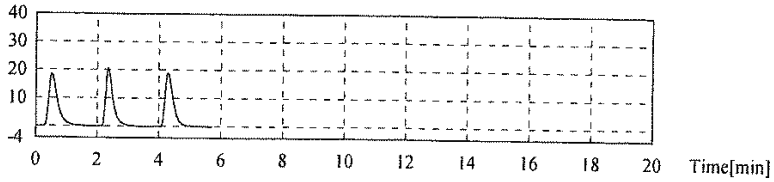
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 14.76mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 37.88 | 15.81mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:29:50 PM |
| 2 | 35.16 | 14.69mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:31:55 PM |
| 3 | 35.48 | 14.82mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:34:04 PM |

Mean Area 35.32
Mean Conc. 14.76mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: GN43013-D1
Sample ID: MC21156-7F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

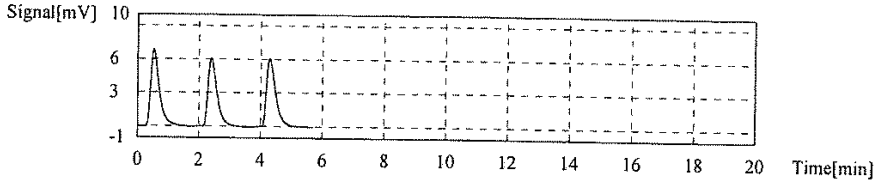
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:5.424mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 13.98 | 5.981mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:42:47 PM |
| 2 | 12.54 | 5.389mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:44:56 PM |
| 3 | 12.71 | 5.459mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:47:01 PM |

Mean Area 12.63
Mean Conc. 5.424mg/L




**Sample**

Sample Name: MC21156-7F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

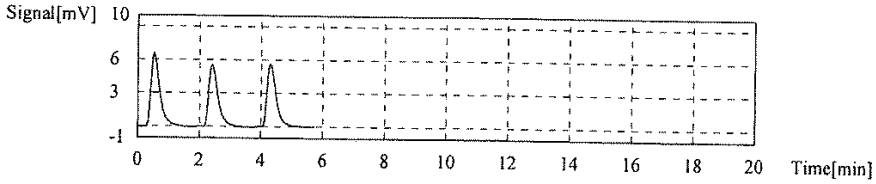
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:5.080mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 13.27 | 5.689mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:55:44 PM |
| 2 | 11.89 | 5.122mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:57:53 PM |
| 3 | 11.69 | 5.039mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/29/2013 11:59:58 PM |

Mean Area 11.79
Mean Conc. 5.080mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: MC21156-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

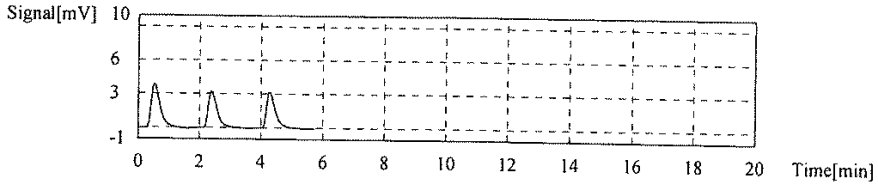
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.850mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj Vol | Aut. Dil. | Ex | Cal. Curve | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.913 | 3.486mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:08:41 AM |
| 2 | 6.543 | 2.923mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:10:50 AM |
| 3 | 6.192 | 2.778mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:12:55 AM |

Mean Area 6.367
Mean Conc. 2.850mg/L




**Sample**

Sample Name: MC21156-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

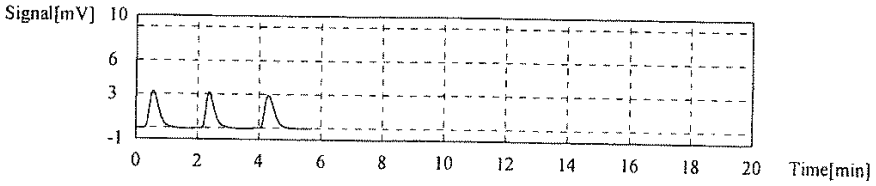
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.840mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj Vol | Aut. Dil. | Ex | Cal. Curve | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.021 | 3.119mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:21:38 AM |
| 2 | 6.320 | 2.831mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:23:48 AM |
| 3 | 6.363 | 2.848mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:25:53 AM |

Mean Area 6.341
Mean Conc. 2.840mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: MC21156-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

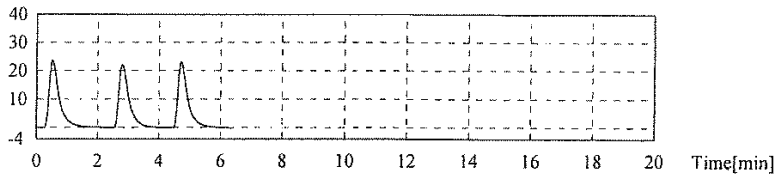
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 21.27mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Act Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 54.91 | 22.81mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:35:01 AM |
| 2 | 51.28 | 21.32mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:37:11 AM |
| 3 | 51.03 | 21.22mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:39:32 AM |

Mean Area 51.16
Mean Conc. 21.27mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 18.24mg/L |

1. Det

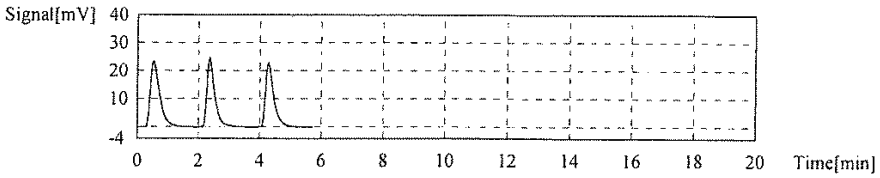
Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Act Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 49.95 | 20.77mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:48:15 AM |
| 2 | 43.76 | 18.23mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:50:23 AM |
| 3 | 43.81 | 18.25mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 12:52:28 AM |

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Mean Area 43.79
Mean Conc. 18.24mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

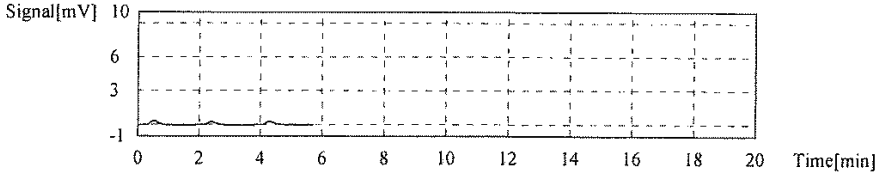
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.4276mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.6526 | 0.5000mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:01:11 AM |
| 2 | 0.4694 | 0.4246mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:03:20 AM |
| 3 | 0.4838 | 0.4306mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:05:29 AM |

Mean Area 0.4766
Mean Conc. 0.4276mg/L




**Sample**

Sample Name: MC21156-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.597mg/L |

1. Det

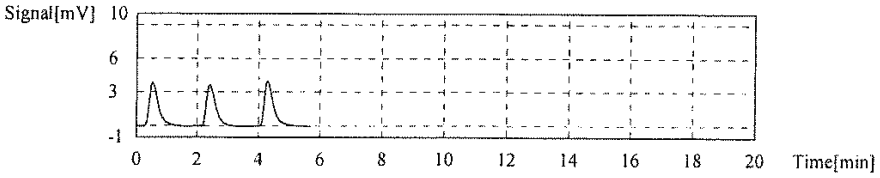
Anal.: NPOC

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.076 | 3.553mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:14:12 AM |
| 2 | 7.791 | 3.436mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:16:21 AM |
| 3 | 8.289 | 3.641mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:18:26 AM |

Mean Area 8.183
Mean Conc. 3.597mg/L




**Sample**

Sample Name: MC21156-5E
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

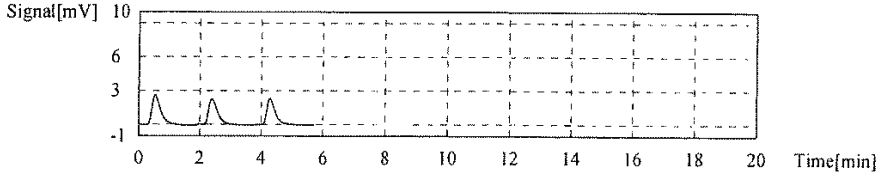
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 2.064mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.355 | 2.434mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:27:09 AM |
| 2 | 4.501 | 2.083mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:29:18 AM |
| 3 | 4.408 | 2.044mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:31:23 AM |

Mean Area 4.455
Mean Conc. 2.064mg/L




**Sample**

Sample Name: MC21156-6F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 3.543mg/L |

1. Det

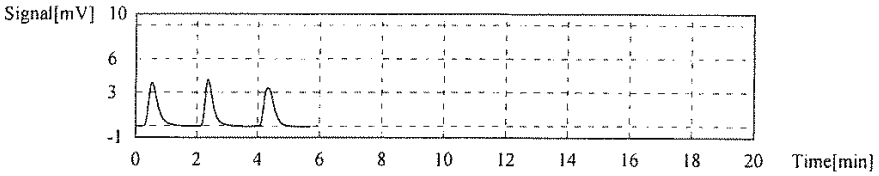
# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.155 | 3.585mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:40:09 AM |
| 2 | 7.632 | 3.370mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:42:17 AM |
| 3 | 7.949 | 3.501mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:44:23 AM |

Mean Area 8.052
Mean Conc. 3.543mg/L




**Sample**

Sample Name: MC21156-8F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

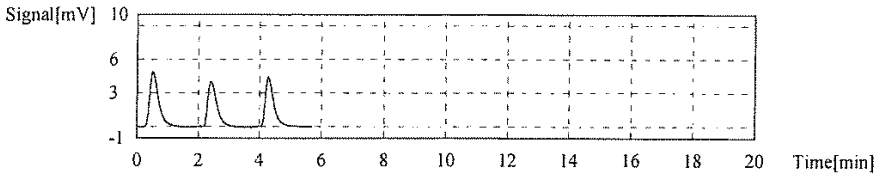
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.675mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Aut Dil | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.945 | 4.322mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:53:11 AM |
| 2 | 8.349 | 3.665mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:55:20 AM |
| 3 | 8.394 | 3.684mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 1:57:29 AM |

Mean Area 8.372
Mean Conc. 3.675mg/L




**Sample**

Sample Name: MC21156-9F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.139mg/L |

# TOC-Control L Report

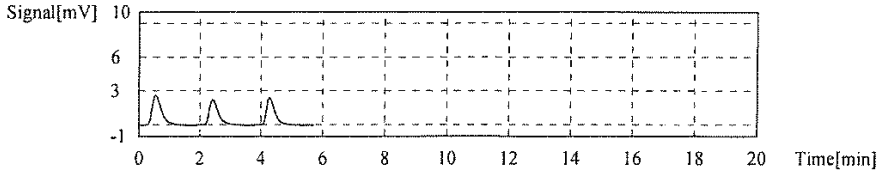
Wetchem
TOC052913W2.tlx

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj Vol | Aut Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.643 | 2.552mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:06:13 AM |
| 2 | 4.632 | 2.137mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:08:22 AM |
| 3 | 4.644 | 2.142mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:10:27 AM |

Mean Area 4.638
Mean Conc. 2.139mg/L




**Sample**

Sample Name: MC21156-11F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

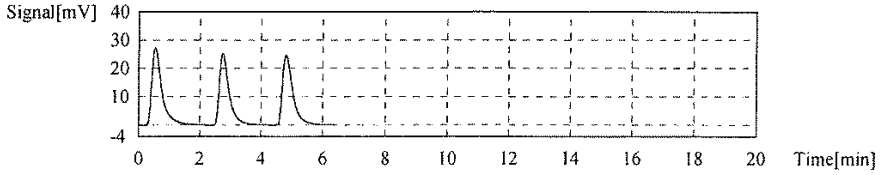
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 23.93mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj Vol | Aut Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 63.43 | 26.32mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:19:31 AM |
| 2 | 57.63 | 23.93mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:21:46 AM |
| 3 | 57.64 | 23.94mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:24:01 AM |

Mean Area 57.64
Mean Conc. 23.93mg/L




**Sample**

Sample Name: MC21156-12F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

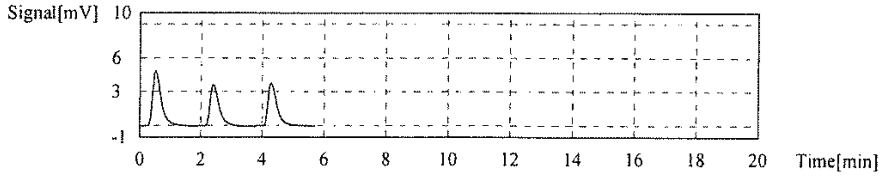
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.345mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.530 | 4.151mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:32:48 AM |
| 2 | 7.498 | 3.315mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:34:56 AM |
| 3 | 7.643 | 3.375mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:37:05 AM |

Mean Area 7.571
Mean Conc. 3.345mg/L




**Sample**

Sample Name: MC21156-13F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

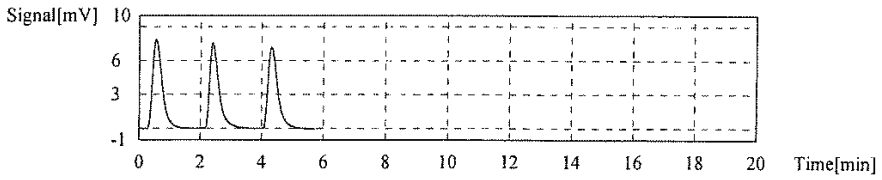
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:6.890mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 17.33 | 7.359mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:45:49 AM |
| 2 | 16.24 | 6.911mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:47:58 AM |
| 3 | 16.14 | 6.869mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:50:03 AM |

Mean Area 16.19
Mean Conc. 6.890mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

Sample Name: MC21156-14F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

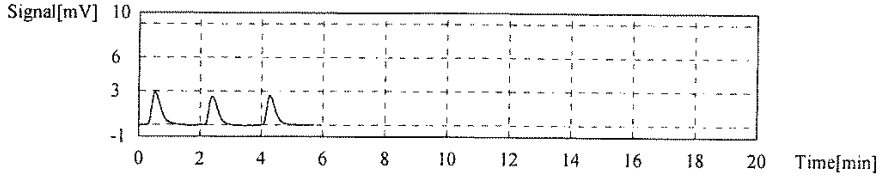
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 2.378mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.104 | 2.742mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 2:58:48 AM |
| 2 | 5.265 | 2.397mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:00:57 AM |
| 3 | 5.174 | 2.359mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:03:06 AM |

Mean Area 5.220
Mean Conc. 2.378mg/L




**Sample**

Sample Name: MC21156-15F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

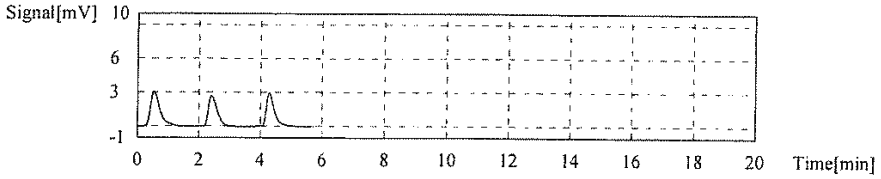
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 2.459mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.506 | 2.907mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:11:52 AM |
| 2 | 5.472 | 2.482mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:14:01 AM |
| 3 | 5.360 | 2.436mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:16:10 AM |

Mean Area 5.416
Mean Conc. 2.459mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

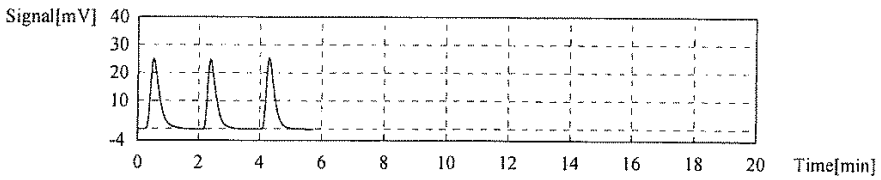
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:19.78mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.54 | 21.84mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:24:55 AM |
| 2 | 47.81 | 19.89mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:27:00 AM |
| 3 | 47.25 | 19.66mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:29:05 AM |

Mean Area 47.53
Mean Conc. 19.78mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

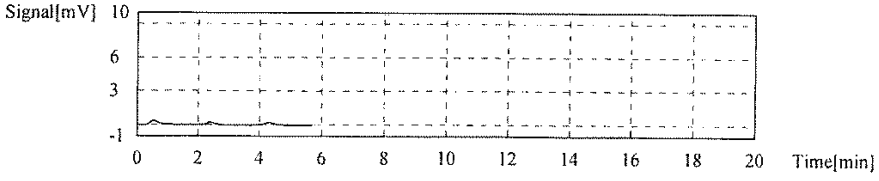
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.3569mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.6894 | 0.5151mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:37:51 AM |
| 2 | 0.2699 | 0.3426mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:39:56 AM |
| 3 | 0.3394 | 0.3712mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:42:01 AM |

Mean Area 0.3047
Mean Conc. 0.3569mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: MC21156-16F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

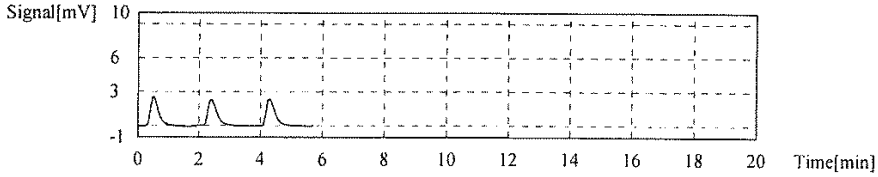
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.237mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 4.957 | 2.270mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:50:45 AM |
| 2 | 4.564 | 2.109mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:52:54 AM |
| 3 | 4.795 | 2.204mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 3:54:59 AM |

Mean Area 4.876
Mean Conc. 2.237mg/L




**Sample**

Sample Name: MC21156-17F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

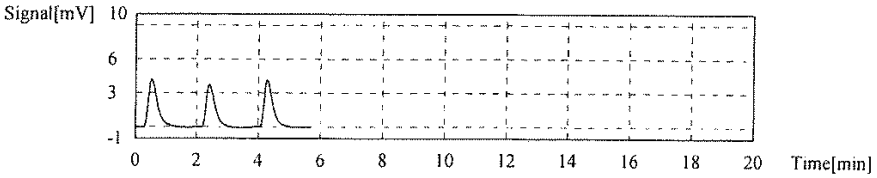
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.534mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.888 | 3.887mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:03:44 AM |
| 2 | 7.966 | 3.508mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:05:53 AM |
| 3 | 8.092 | 3.560mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:08:02 AM |

Mean Area 8.029
Mean Conc. 3.534mg/L



# TOC-Control L Report

Wetchem
TOC052913W2.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

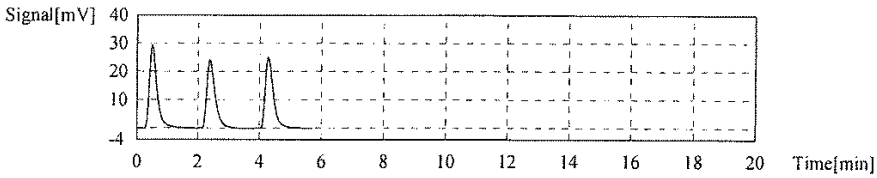
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:19.17mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.32 | 21.34mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:16:47 AM |
| 2 | 45.73 | 19.04mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:18:52 AM |
| 3 | 46.36 | 19.30mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:21:01 AM |

Mean Area 46.05
Mean Conc. 19.17mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5215mg/L |

1. Det

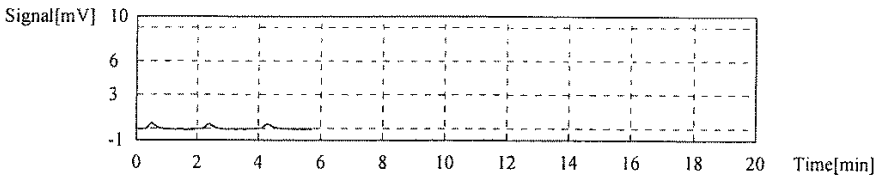
Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8282 | 0.5722mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:29:46 AM |
| 2 | 0.6856 | 0.5136mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:31:55 AM |
| 3 | 0.7244 | 0.5295mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_05_29_16_54_51.cal | 5/30/2013 4:34:04 AM |

# TOC-Control L Report

Wetchem
TOC052913W2.tlx

| | |
|---|---|
| Mean Area | 0.7050 |
| Mean Conc. | 0.5215mg/L |



ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN43057** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 5/31/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN43057-MB1 | Date: | 5/31/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN43057-B1 | Date: | 5/31/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC21156-7 | Smpl Res:: | 19.7 | Dup Res: | 19.7 | % RPD: | 0% | | | | |
| MS ID: | MC21156-7 | Smpl Res: | 19.7 | MS Res: | 30.2 | Spike: | 10 | % Rec: | 105% | | |
| External: | GNSTD-29135-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.075 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43057-MB1 | 2.48 | 50.0 | 1 | 0.0 | 0.0750 | 0.0750 | 0.000 | 0.0 | 0 | 1 |
| | GN43057-B1 | 2.5 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.025 | 10.3 | 10.25 | 1 |
| 8 | GN43057-S1 | 2.49 | 50.0 | 1 | 0.0 | 3.1000 | 3.1000 | 3.025 | 30.2 | 30.24 | 1 |
| 8 | GN43057-D1 | 2.51 | 50.0 | 1 | 0.0 | 2.0500 | 2.0500 | 1.975 | 19.7 | 19.74 | 1 |
| 8 | MC21156-7 | 2.51 | 50.0 | 1 | 0.0 | 2.0500 | 2.0500 | 1.975 | 19.7 | 19.74 | 1 |
| 9 | MC21113-1 | 2.52 | 50.0 | 100 | 0.0 | 2.0500 | 2.0500 | 1.975 | 19.7 | 1974 | 100 |
| 8 | MC21156-1 | 2.57 | 50.0 | 1 | 0.0 | 2.2000 | 2.2000 | 2.125 | 21.2 | 21.24 | 1 |
| 8 | MC21156-2 | 2.54 | 50.0 | 1 | 0.0 | 2.2000 | 2.2000 | 2.125 | 21.2 | 21.24 | 1 |
| 8 | MC21156-3 | 2.48 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.575 | 5.8 | 5.75 | 1 |
| 8 | MC21156-4 | 2.5 | 50.0 | 1 | 0.0 | 5.2500 | 5.2500 | 5.175 | 51.7 | 51.73 | 1 |
| 8 | MC21156-5 | 2.53 | 50.0 | 1 | 0.0 | 0.6000 | 0.6000 | 0.525 | 5.3 | 5.25 | 1 |
| 8 | MC21156-6 | 2.43 | 50.0 | 1 | 0.0 | 6.2500 | 6.2500 | 6.175 | 61.7 | 61.73 | 1 |
| 8 | MC21156-8 | 2.47 | 50.0 | 1 | 0.0 | 1.7000 | 1.7000 | 1.625 | 16.2 | 16.24 | 1 |
| 8 | MC21156-9 | 2.53 | 50.0 | 1 | 0.0 | 4.2000 | 4.2000 | 4.125 | 41.2 | 41.24 | 1 |
| 8 | MC21156-11 | 2.54 | 50.0 | 1 | 0.0 | 0.8000 | 0.8000 | 0.725 | 7.3 | 7.25 | 1 |
| 1 | MC21156-12 | 2.49 | 50.0 | 1 | 0.0 | 5.3500 | 5.3500 | 5.275 | 52.7 | 52.73 | 1 |
| 1 | MC21156-13 | 2.53 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.575 | 5.8 | 5.75 | 1 |
| 1 | MC21156-14 | 2.5 | 50.0 | 1 | 0.0 | 1.3500 | 1.3500 | 1.275 | 12.8 | 12.75 | 1 |
| 1 | MC21156-15 | 2.49 | 50.0 | 1 | 0.0 | 1.4000 | 1.4000 | 1.325 | 13.3 | 13.25 | 1 |
| 1 | MC21156-16 | 2.53 | 50.0 | 1 | 0.0 | 0.7000 | 0.7000 | 0.625 | 6.3 | 6.25 | 1 |
| 1 | MC21156-17 | 2.52 | 50.0 | 1 | 0.0 | 5.1500 | 5.1500 | 5.075 | 50.7 | 50.73 | 1 |
| 3 | MC21206-1 | 2.5 | 50.0 | 10 | 0.0 | 4.3000 | 4.3000 | 4.225 | 42.2 | 422.4 | 10 |
| 5 | MC21319-1 | 2.52 | 50.0 | 10 | 0.0 | 3.7500 | 3.7500 | 3.675 | 36.7 | 367.4 | 10 |
| 5 | MC21319-2 | 2.56 | 50.0 | 10 | 0.0 | 3.9500 | 3.9500 | 3.875 | 38.7 | 387.4 | 10 |
| | ICV | 2.47 | 50.0 | 1 | 0.0 | 0.5750 | 0.5750 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13478 | #4 | | |
| #2 | Acidic Indicator | RGT-35539-CHL | #5 | | |
| #3 | Spike | GNSTD-29478-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-13475, Result 2.01.

**Approved By:** mehdia **Date:** 6/1/2013 2:57:31 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43085** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/1/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21156-7 Original: 292 MS: 548 Spk Amt: 250 % Rec: 102%

Dup Sample ID: MC21156-7 Original: 292 Duplicate: 292 % RPD: 0%

MB Date: 6/1/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 263 Spike Amt: 250 % Rec: 105.2

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 52.0 % REC: 104.0

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43085-MB1 | 100 | 5.22 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43085-B1 | 100 | 8.91 | 0.1 | 23.9 | 23.8 | | | 263.0 | 262.99 | 5 |
| 8 | GN43085-S1 | 100 | 6.81 | 23.9 | 73.5 | 49.6 | | | 548.1 | 548.08 | 5 |
| 8 | GN43085-D1 | 100 | 6.29 | 23.5 | 49.9 | 26.4 | | | 291.7 | 291.72 | 5 |
| 8 | MC21156-7 | 100 | 6.28 | 0.0 | 26.4 | 26.4 | | | 291.7 | 291.72 | 5 |
| 8 | MC21156-1 | 100 | 6.15 | 26.4 | 35.6 | 9.2 | | | 101.7 | 101.66 | 5 |
| 8 | MC21156-2 | 100 | 5.94 | 35.6 | 47.0 | 11.4 | | | 126.0 | 125.97 | 5 |
| 8 | MC21156-3 | 100 | 6.08 | 0.0 | 21.8 | 21.8 | | | 240.9 | 240.89 | 5 |
| 8 | MC21156-4 | 100 | 6.31 | 21.8 | 39.0 | 17.2 | | | 190.1 | 190.06 | 5 |
| 8 | MC21156-5 | 100 | 6.35 | 39.0 | 44.8 | 5.8 | | | 64.1 | 64.09 | 5 |
| 8 | MC21156-6 | 100 | 6.15 | 0.0 | 22.0 | 22.0 | | | 243.1 | 243.1 | 5 |
| 8 | MC21156-8 | 100 | 6.20 | 22.0 | 42.5 | 20.5 | | | 226.5 | 226.525 | 5 |
| 8 | MC21156-9 | 100 | 6.30 | 42.5 | 57.0 | 14.5 | | | 160.2 | 160.225 | 5 |
| 8 | MC21156-11 | 100 | 6.11 | 7.0 | 22.5 | 15.5 | | | 171.3 | 171.275 | 5 |
| | ICV | 100 | 8.56 | 0.0 | 4.7 | 4.7 | | | 51.9 | 51.935 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/1/2013 2:58:14 PM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43087** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/1/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21156-12 Original: 227 MS: 486 Spk Amt: 250 % Rec: 104%

Dup Sample ID: MC21156-12 Original: 227 Duplicate: 227 % RPD: 0%

MB Date: 6/1/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 264 Spike Amt: 250 % Rec: 105.6

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 50.8 % REC: 101.6

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43087-MB1 | 100 | 5.23 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43087-B1 | 100 | 8.88 | 0.1 | 24.0 | 23.9 | | | 264.1 | 264.095 | 5 |
| 1 | GN43087-S1 | 100 | 7.20 | 24.0 | 68.0 | 44.0 | | | 486.2 | 486.2 | 5 |
| 1 | GN43087-D1 | 100 | 6.44 | 18.0 | 38.5 | 20.5 | | | 226.5 | 226.525 | 5 |
| 1 | MC21156-12 | 100 | 6.45 | 38.5 | 59.0 | 20.5 | | | 226.5 | 226.525 | 5 |
| 1 | MC21156-13 | 100 | 6.09 | 9.0 | 13.2 | 4.2 | | | 46.4 | 46.41 | 5 |
| 1 | MC21156-14 | 100 | 6.27 | 13.2 | 24.3 | 11.1 | | | 122.7 | 122.655 | 5 |
| 1 | MC21156-15 | 100 | 6.28 | 24.3 | 36.0 | 11.7 | | | 129.3 | 129.285 | 5 |
| 1 | MC21156-16 | 100 | 6.11 | 36.0 | 45.5 | 9.5 | | | 105.0 | 104.975 | 5 |
| 1 | MC21156-17 | 100 | 6.18 | 45.5 | 61.0 | 15.5 | | | 171.3 | 171.275 | 5 |
| 1 | MC21202-1 | 100 | 6.66 | 11.0 | 17.5 | 6.5 | | | 71.8 | 71.825 | 5 |
| 1 | MC21202-2 | 100 | 6.45 | 17.5 | 23.5 | 6.0 | | | 66.3 | 66.3 | 5 |
| 1 | MC21202-3 | 100 | 6.12 | 23.5 | 28.5 | 5.0 | | | 55.3 | 55.25 | 5 |
| 1 | MC21202-4 | 100 | 6.15 | 28.5 | 55.0 | 26.5 | | | 292.8 | 292.825 | 5 |
| | ICV | 100 | 8.61 | 5.0 | 9.6 | 4.6 | | | 50.8 | 50.83 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/1/2013 3:00:02 PM

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils) ○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43127
GP Batch ID:
Date: 6/4/2013

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 10.200 | 10.600 | 10.900 | 11.000 | 11.200 | 11.300 | 11.500 | 11.600 | 11.6 |
| 10.0 | 24.900 | 25.100 | 25.200 | 25.100 | 25.100 | 25.100 | 25.100 | 25.100 | 25.2 |
| 20.0 | 54.800 | 54.500 | 54.200 | 54.000 | 53.800 | 53.600 | 53.400 | 53.300 | 54.8 |
| 30.0 | 78.900 | 78.600 | 78.300 | 78.100 | 77.600 | 77.500 | 77.300 | 77.000 | 78.9 |
| 40.0 | 101.800 | 100.800 | 100.400 | 100.200 | 99.700 | 99.500 | 99.200 | 99.000 | 101.80 |

Instrument ID : TURBIDITY I

Correlation Coeff. = 0.99900
Slope = 0.38481
Intercept = 0.03584

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30072-SO4 | Reagent | |
| CCV | GNSTD-30073-SO4 | Reagent | |
| ICV | GNSTD-30074-SO4 | Reagent | |
| Reagent | RGT-35914-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21156-7 | Original Res. | <5.0 | Duplicate Res. | <5.0 | | | %RPD: | 0.0% |
| MS Sample ID: | MC21156-7 | Original Res. | <5.0 | Spike Amount: | 20 | MS Res.: | 20.70 | %REC: | 104% |
| SB Prep Date: | 06/04/13 | Result: | 20.00 | Spike Amount: | 20 | | | %REC: | 100% |
| MB Prep Date: | 06/04/13 | Result: | <5.0 | RL | 5.0 | | | <RL? | Y |
| ICV: | GNSTD-30074-SO4 | Known | 25 | Range | 90-110% | Res.: | 24.8 | %REC: | 99% |
| CCV (1) Res. | 20.5 | Known: | 20 | %REC.: | 102.5% | CCV (2) Res. | 19.5 | Known: | 20 | %REC: | 97.5% |
| CCV (3) Res. | | Known: | | %REC.: | | CCV (4) Res. | | Known: | | %REC: | |

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 64.3 | 64 | 63.8 | 63.6 | 63.3 | 63.2 | 63.1 | 63 | 64.30 | 0.000 | 24.779 | 24.779 | 5.000 | mg/l |
| | GN43127-MB1 | | 100 | 100 | 1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.30 | 0.000 | 0.151 | 0.151 | 5.000 | mg/l |
| | GN43127-B1 | | 100 | 100 | 1 | 51.9 | 51.7 | 51.5 | 51.6 | 51.4 | 51.3 | 51.2 | 51 | 51.90 | 0.000 | 20.008 | 20.008 | 5.000 | mg/l |
| 26 | GN43127-D1 | | 100 | 100 | 1 | 1.6 | 1.5 | 1.7 | 1.4 | 1.6 | 1.5 | 1.6 | 1.5 | 1.70 | 0.000 | 0.690 | 0.690 | 5.000 | mg/l |
| 26 | GN43127-S1 | | 100 | 100 | 1 | 53.8 | 53.3 | 52.9 | 52.4 | 51.9 | 51.5 | 51.2 | 51 | 53.80 | 0.000 | 20.739 | 20.739 | 5.000 | mg/l |
| 26 | MC21156-7 | | 100 | 100 | 1 | 1.5 | 1.4 | 1.2 | 1.3 | 1.5 | 1.6 | 1.3 | 1 | 1.60 | 0.000 | 0.652 | 0.652 | 5.000 | mg/l |
| 1 | MC21150-14 | | 100 | 100 | 2 | 53.4 | 53.2 | 52.8 | 52.7 | 52.5 | 52.4 | 52.2 | 52 | 53.40 | 0.000 | 20.585 | 41.170 | 10.000 | mg/l |
| 1 | MC21150-15 | | 100 | 100 | 4 | 54.5 | 54.2 | 54.1 | 54 | 53.7 | 53.5 | 53.4 | 53.2 | 54.50 | 0.000 | 21.008 | 84.033 | 20.000 | mg/l |
| 8 | MC21156-1 | | 100 | 100 | 1 | 78.7 | 78.1 | 77.4 | 76.8 | 76 | 75.5 | 75.1 | 74.6 | 78.70 | 0.000 | 30.321 | 30.321 | 5.000 | mg/l |
| 8 | MC21156-2 | | 100 | 100 | 1 | 81.9 | 80.8 | 79.9 | 79.3 | 78.7 | 78.3 | 77.9 | 77.4 | 81.90 | 0.000 | 31.552 | 31.552 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 53.1 | 52.9 | 52.6 | 52.5 | 52.4 | 52.2 | 52.2 | 52.1 | 53.10 | 0.000 | 20.469 | 20.469 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.6 | 0.5 | 0.6 | 0.6 | 0.4 | 0.6 | 0.6 | 0.6 | 0.60 | 0.000 | 0.267 | 0.267 | 5.000 | mg/l |
| 8 | MC21156-3 | | 100 | 100 | 1 | 16.1 | 16.4 | 16.2 | 16.3 | 16.5 | 16.3 | 16.5 | 16.6 | 16.60 | 0.000 | 6.424 | 6.424 | 5.000 | mg/l |
| 8 | MC21156-4 | | 100 | 100 | 1 | 5.2 | 5.2 | 5 | 4.8 | 4.7 | 4.6 | 4.7 | 4.6 | 5.20 | 0.000 | 2.037 | 2.037 | 5.000 | mg/l |
| 8 | MC21156-5 | | 100 | 100 | 1 | 15.5 | 15.8 | 16.1 | 16.1 | 16.2 | 16.2 | 16.2 | 16.2 | 16.20 | 0.000 | 6.270 | 6.270 | 5.000 | mg/l |
| 8 | MC21156-6 | | 100 | 100 | 1 | 14.4 | 14.4 | 14.1 | 14 | 14 | 13.8 | 13.7 | 13.6 | 14.40 | 0.000 | 5.577 | 5.577 | 5.000 | mg/l |
| 8 | MC21156-8 | | 100 | 100 | 1 | 11.1 | 11.4 | 11.2 | 11 | 10.8 | 10.7 | 10.7 | 10.6 | 11.40 | 0.000 | 4.423 | 4.423 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50.7 | 50.6 | 50.4 | 50.3 | 50 | 50 | 49.9 | 49.8 | 50.70 | 0.000 | 19.546 | 19.546 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.7 | 0.70 | 0.000 | 0.305 | 0.305 | 5.000 | mg/l |

Analyst: [signature] Date: 6/4/13 QC Reviewer: [signature] Date: 6/5/13

ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 6/4/13 | **Analysis Batch ID** | GN43132 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16143,GP16144,GP16145 |
| **File ID** | 060413W3.NO3,060413W4.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 30077-NO3 | **Color Reagent** | RGT- | 35565-NO3 |
| **ICV** | GNSTD- | 30078-NO3-2 | **Buffer** | RGT- | 35706-NO3 |
| **CCV** | GNSTD- | 30077-NO3-4 | | | |
| **Column EFF STD** | GNSTD- | 30079-NO3-2 | | | |
| **Ammonium Hydroxide** | VENDOR- | 12241 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16143-S1 | 22 | 7.5 | MC21156-9 | 7 | 8.7 | MC21156-17 | 2 | 8.9 | MC21202-5 | 2 | 8.6 |
| GP16143-D1 | 22 | 7.5 | MC21156-11 | 7 | 8.1 | MC21202-12 | 2 | 9.0 | MC21202-7 | 2 | 8.9 |
| MC21156-7 | 22 | 7.5 | GP16144-S1 | 6 | 7.1 | MC21202-13 | 2 | 7.1 | MC21202-8 | 2 | 7.6 |
| MC21156-1 | 7 | 7.5 | GP16144-D1 | 6 | 7.1 | MC21202-15 | 2 | 6.7 | MC21202-9 | 2 | 7.9 |
| MC21156-2 | 7 | 7.3 | MC21202-14 | 6 | 7.1 | GP16145-S1 | 2 | 8.6 | MC21202-10 | 2 | 7.6 |
| MC21156-3 | 7 | 7.6 | MC21156-12 | 2 | 7.8 | GP16145-D1 | 2 | 8.6 | MC21202-11 | 2 | 8.6 |
| MC21156-4 | 7 | 7.6 | MC21156-13 | 2 | 8.4 | MC21202-1 | 2 | 8.6 | | | |
| MC21156-5 | 7 | 7.5 | MC21156-14 | 2 | 8.1 | MC21202-2 | 2 | 8.9 | | | |
| MC21156-6 | 7 | 8.2 | MC21156-15 | 2 | 8.1 | MC21202-3 | 2 | 7.5 | | | |
| MC21156-8 | 7 | 8.4 | MC21156-16 | 2 | 7.7 | MC21202-4 | 2 | 7.7 | | | |

**COMMENTS**

**QC Review** Date: 6/5/13

Author: chemistry

Date : 6/4/2013

Original Run Filename: OM_6-4-2013_01-21-39PM.OMN Created: 6/4/2013 1:21:39 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_01-21-39PM.OMN Last Modified: 6/4/2013 2:59:23 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.08 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0156 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0160 | |
| COLEFFCONF | 1 | 2.11 | |
| GP16143-MB1 | 1 | 0.0143 | |
| GP16143-B1 | 1 | 2.02 | |
| GP16143-S1 | 1 | 1.23 | |
| GP16143-D1 | 1 | 0.138 | |
| MC21156-7 | 1 | 0.138 | |
| MC21156-1 | 1 | 0.305 | |
| MC21156-2 | 1 | 0.237 | |
| MC21156-3 | 1 | 0.194 | |
| MC21156-4 | 1 | 0.260 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0151 | |
| MC21156-5 | 1 | 0.353 | |
| MC21156-6 | 1 | 0.259 | |
| MC21156-8 | 1 | 0.290 | |
| MC21156-9 | 1 | 0.304 | |
| MC21156-11 | 1 | 0.406 | |
| CCV | 1 | 2.15 | |
| CCB | 1 | 0.0171 | |
| ICV | 1 | 3.22 | |
| ICB | 1 | 0.0167 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0182 | |
| COLEFFCONF | 1 | 2.11 | |
| GP16144-MB1 | 1 | 0.0159 | |
| GP16144-B1 | 1 | 2.10 | |
| GP16144-S1 | 1 | 2.09 | |
| GP16144-D1 | 1 | 0.150 | |
| MC21202-14 | 1 | 0.152 | |
| MC21156-12 | 1 | 0.505 | |
| MC21156-13 | 1 | 0.949 | |
| MC21156-14 | 1 | 0.0303 | |
| MC21156-15 | 1 | 0.0346 | |
| CCV | 1 | 2.16 | |
| CCB | 1 | 0.0152 | |
| MC21156-16 | 1 | 0.498 | |
| MC21156-17 | 1 | 0.383 | |
| MC21202-12 | 1 | 0.403 | |
| MC21202-13 | 1 | 0.0430 | |
| MC21202-15 | 1 | 0.0446 | |
| CCV | 1 | 2.18 | |
| CCB | 1 | 0.0156 | |
| ICV | 1 | 3.25 | |
| ICB | 1 | 0.0153 | |
| CCV | 1 | 2.16 | |
| CCB | 1 | 0.0159 | |
| COLEFFCONF | 1 | 2.20 | |

DNR CCV FAILS

6/5/13

- 1 -

9.11

9

Author: chemistry

Date : 6/4/2013

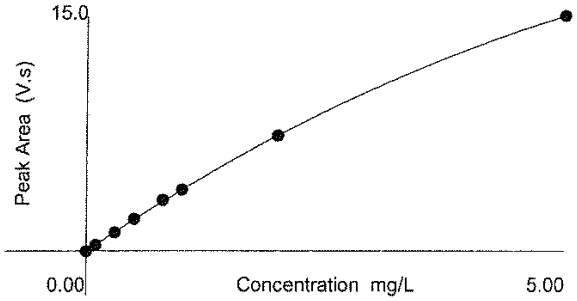
| | | | |
|---|---|---|---|
| GP16145-MB1 | 1 | 0.0166 | |
| GP15145-B1 | 1 | 2.16 | |
| GP16145-S1 | 1 | 2.82 | |
| GP16145-D1 | 1 | 0.505 | |
| MC21202-1 | 1 | 0.517 | |
| MC21202-2 | 1 | 0.507 | |
| MC21202-3 | 1 | 0.354 | |
| MC21202-4 | 1 | 0.331 | |
| MC21202-5 | 1 | 0.0300 | |
| CCV | 1 | 2.27 | |
| CCB | 1 | 0.0282 | |
| MC21202-7 | 1 | 0.0154 | |
| MC21202-8 | 1 | 0.256 | |
| MC21202-9 | 1 | 0.343 | |
| MC21202-10 | 1 | 0.950 | |
| MC21202-11 | 1 | 0.378 | |
| CCV | 1 | 2.25 | |
| CCB | 1 | 0.0170 | |

D N R CCV FAILS

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.0 | 1.30 | 0.0 | 0.0 | 5.00 | 6/4/2013 | 1:22:36 PM |
| 2 | 2.00 | 1 | 7.33 | 0.716 | 0.0 | 0.5 | 2.02 | 6/4/2013 | 1:23:51 PM |
| 3 | 1.00 | 1 | 3.89 | 0.390 | 0.0 | 0.4 | 0.979 | 6/4/2013 | 1:25:06 PM |
| 4 | 0.800 | 1 | 3.25 | 0.327 | 0.0 | -2.8 | 0.805 | 6/4/2013 | 1:26:21 PM |
| 5 | 0.500 | 1 | 2.03 | 0.203 | 0.0 | -1.2 | 0.492 | 6/4/2013 | 1:27:37 PM |
| 6 | 0.300 | 1 | 1.17 | 0.118 | 0.0 | 3.6 | 0.284 | 6/4/2013 | 1:28:52 PM |
| 7 | 0.100 | 1 | 0.391 | 0.0392 | 0.0 | 3.2 | 0.106 | 6/4/2013 | 1:30:07 PM |
| 8 | 0.00 | 1 | -0.0146 | -2.42e-3 | | | 0.0169 | 6/4/2013 | 1:31:23 PM |

Figure : 1 (NO3)




Area = - 0.229 * Conc^2 + 4.15 * Conc - 7.86e-3
Conc = 7.67e-3 * Area^2 + 0.217 * Area + 0.0200
Correlation Coefficient (r) = 0.99997

Weighting : None

6/5/13

Author: chemistry

Date : 6/4/2013

Original Run Filename: OM_6-4-2013_03-00-45PM.OMN Created: 6/4/2013 3:00:45 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_03-00-45PM.OMN Last Modified: 6/4/2013 3:41:26 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.07 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | -3.42e-3 | |
| CCV | 1 | 2.05 | |
| CCB | 1 | 0.0227 | |
| COLEFFCONF | 1 | 2.07 | |
| GP16145-MB1 | 1 | 0.0230 | |
| ~~GP15145~~-B1 | 1 | 2.04 | |
| GP16145-S1 | 1 | 2.62 | |
| GP16145-D1 | 1 | 0.470 | |
| MC21202-1 | 1 | 0.474 | |
| MC21202-2 | 1 | 0.467 | |
| MC21202-3 | 1 | 0.324 | |
| MC21202-4 | 1 | 0.317 | |
| MC21202-5 | 1 | 0.0330 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0245 | |
| MC21202-7 | 1 | 0.0222 | |
| MC21202-8 | 1 | 0.239 | |
| MC21202-9 | 1 | 0.320 | |
| MC21202-10 | 1 | 0.867 | |
| MC21202-11 | 1 | 0.355 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0237 | |

GP16145 — Aw TUPC 6-4-13

Table : 1 (NO3)

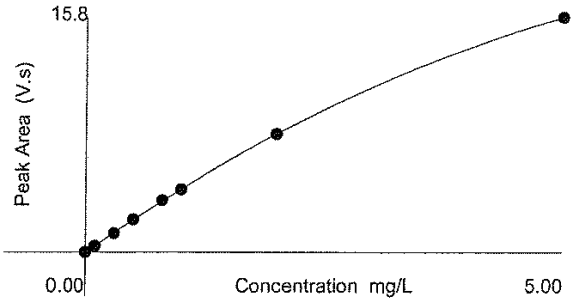
| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.8 | 1.33 | 0.0 | -5.8e-3 | 4.99 | 6/4/2013 | 3:01:41 PM |
| 2 | 2.00 | 1 | 7.94 | 0.763 | 0.0 | 0.1 | 2.04 | 6/4/2013 | 3:02:56 PM |
| 3 | 1.00 | 1 | 4.22 | 0.415 | 0.0 | 0.5 | 0.974 | 6/4/2013 | 3:04:11 PM |
| 4 | 0.800 | 1 | 3.49 | 0.344 | 0.0 | -1.5 | 0.789 | 6/4/2013 | 3:05:27 PM |
| 5 | 0.500 | 1 | 2.19 | 0.217 | 0.0 | -0.4 | 0.484 | 6/4/2013 | 3:06:42 PM |
| 6 | 0.300 | 1 | 1.28 | 0.127 | 0.0 | 3.1 | 0.285 | 6/4/2013 | 3:07:57 PM |
| 7 | 0.100 | 1 | 0.432 | 0.0421 | 0.0 | 1.2 | 0.110 | 6/4/2013 | 3:09:13 PM |
| 8 | 0.00 | 1 | 8.89e-4 | 1.34e-3 | | | 0.0260 | 6/4/2013 | 3:10:28 PM |

6/5/13

Author: chemistry

Date : 6/4/2013

Figure : 1 (NO3)




Area = - 0.272 * Conc^2 + 4.53 * Conc - 0.0130
Conc = 7.71e-3 * Area^2 + 0.192 * Area + 0.0259
Correlation Coefficient (r) = 0.99999

Weighting : None

9.11

9

6/5/13

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils) ○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43146
GP Batch ID:
Date: 6/5/2013

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 10.600 | 11.100 | 11.500 | 11.600 | 11.800 | 12.000 | 12.000 | 12.100 | 12.1 |
| 10.0 | 24.100 | 24.200 | 24.300 | 24.200 | 24.200 | 24.100 | 24.100 | 24.100 | 24.3 |
| 20.0 | 52.800 | 52.700 | 52.500 | 52.200 | 52.100 | 52.000 | 51.900 | 51.700 | 52.8 |
| 30.0 | 77.000 | 76.800 | 76.300 | 76.100 | 76.000 | 75.700 | 75.400 | 75.300 | 77 |
| 40.0 | 99.200 | 98.300 | 97.900 | 97.600 | 97.300 | 97.000 | 96.800 | 96.600 | 99.20 |

Instrument ID : TURBIDITY I

| | |
|---|---|
| Correlation Coeff. = | 0.99926 |
| Slope = | 0.39617 |
| Intercept = | -0.02388 |

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30093-SO4 | Reagent | |
| CCV | GNSTD-30094-SO4 | Reagent | |
| ICV | GNSTD-30095-SO4 | Reagent | |
| Reagent | RGT-35914-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21156-13 | Original Res. | 7.40 | Duplicate Res. | 7.50 | | | %RPD: | 1.3% |
| MS Sample ID: | MC21156-13 | Original Res. | 7.40 | Spike Amount: | 20 | MS Res.: | 28.70 | %REC: | 107% |
| SB Prep Date: | 06/05/13 | Result: | 20.70 | Spike Amount: | 20 | | | %REC: | 104% |
| MB Prep Date: | 06/05/13 | Result: | <5.0 | RL | 5.0 | | | <RL? | Y |
| ICV: | GNSTD-30095-SO4 | Known | 25 | Range | 90-110% | Res.: | 25.9 | %REC: | 104% |
| CCV (1) Res. | 20.7 | Known: | 20 | %REC.: | 103.5% | CCV (2) Res. | 20.5 | Known: | 20 | %REC: | 102.5% |
| CCV (3) Res. | | Known: | | %REC.: | | CCV (4) Res. | | Known: | | %REC: | |

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 65.5 | 64.9 | 64.7 | 64.5 | 64.2 | 64.1 | 64 | 63.8 | 65.50 | 0.000 | 25.925 | 25.925 | 5.000 | mg/l |
| | GN43146-MB1 | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | -0.024 | -0.024 | 5.000 | mg/l |
| | GN43146-B1 | | 100 | 100 | 1 | 52.2 | 51.9 | 51.8 | 51.6 | 51.5 | 51.3 | 51.2 | 51 | 52.20 | 0.000 | 20.656 | 20.656 | 5.000 | mg/l |
| 8 | GN43146-D1 | | 100 | 100 | 1 | 17.5 | 18.1 | 18.3 | 18.6 | 18.8 | 18.8 | 18.8 | 18.9 | 18.90 | 0.000 | 7.464 | 7.464 | 5.000 | mg/l |
| 8 | GN43146-S1 | | 100 | 100 | 1 | 72.4 | 71.9 | 70.9 | 70.4 | 70.1 | 69.5 | 69 | 68.6 | 72.40 | 0.000 | 28.659 | 28.659 | 5.000 | mg/l |
| 8 | MC21156-13 | | 100 | 100 | 1 | 17.6 | 18 | 18.2 | 18.3 | 18.4 | 18.5 | 18.6 | 18.7 | 18.70 | 0.000 | 7.384 | 7.384 | 5.000 | mg/l |
| 8 | MC21156-9 | | 100 | 100 | 1 | 49.3 | 48.9 | 48.6 | 48.3 | 48 | 47.8 | 47.5 | 47.3 | 49.30 | 0.000 | 19.507 | 19.507 | 5.000 | mg/l |
| 8 | MC21156-11 | | 100 | 100 | 1 | 19.8 | 20 | 19.9 | 19.9 | 20 | 20.1 | 20 | 20 | 20.10 | 0.000 | 7.939 | 7.939 | 5.000 | mg/l |
| 8 | MC21156-12 | | 100 | 100 | 1 | 52.6 | 52.3 | 51.8 | 51.4 | 51.1 | 50.5 | 50.2 | 50 | 52.60 | 0.000 | 20.815 | 20.815 | 5.000 | mg/l |
| 8 | MC21156-14 | | 100 | 100 | 1 | 36.9 | 36.7 | 36.6 | 36.3 | 36.1 | 35.9 | 35.7 | 35.5 | 36.90 | 0.000 | 14.595 | 14.595 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 52.2 | 52 | 51.7 | 51.8 | 51.5 | 51.3 | 51.1 | 51 | 52.20 | 0.000 | 20.656 | 20.656 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.20 | 0.000 | 0.055 | 0.055 | 5.000 | mg/l |
| 8 | MC21156-15 | | 100 | 100 | 1 | 38.1 | 37.9 | 37.7 | 37.4 | 37 | 36.8 | 36.6 | 36.3 | 38.10 | 0.000 | 15.070 | 15.070 | 5.000 | mg/l |
| 8 | MC21156-16 | | 100 | 100 | 1 | 32.2 | 32.1 | 32 | 31.9 | 31.8 | 31.5 | 31.3 | 31.1 | 32.20 | 0.000 | 12.733 | 12.733 | 5.000 | mg/l |
| 8 | MC21156-17 | | 100 | 100 | 1 | 11.5 | 12.3 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.7 | 12.70 | 0.000 | 5.007 | 5.007 | 5.000 | mg/l |
| 1 | MC21232-1 | | 100 | 100 | 1 | 42.8 | 42.7 | 42.4 | 42.2 | 41.9 | 41.7 | 41.4 | 41.1 | 42.80 | 0.000 | 16.932 | 16.932 | 5.000 | mg/l |
| 1 | MC21232-2 | | 100 | 100 | 1 | 28 | 28.1 | 28.2 | 28.1 | 28 | 27.8 | 27.7 | 27.6 | 28.20 | 0.000 | 11.148 | 11.148 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 51.9 | 51.6 | 51.4 | 51.2 | 51 | 50.9 | 50.8 | 50.6 | 51.90 | 0.000 | 20.537 | 20.537 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.20 | 0.000 | 0.055 | 0.055 | 5.000 | mg/l |

Analyst: [signature] Date: 6/5/13 QC Reviewer: [signature] Date: 6/6/13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN43157
GP Batch ID: GP16152
Date: 6/6/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 6/6/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.065 | 0.189 | 0.330 | 0.492 | 0.610 | 1.322 | | | | |
| Actual Value: | 0.017 | 0.116 | 0.305 | 0.519 | 0.766 | 0.946 | 2.031 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30103-AMN | Reagent | |
| CCV | GNSTD-30103-AMN-6 | Reagent | |
| ICV | RGT-35464-AMN | Reagent | |
| Reagent | VENDOR-13402 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99895
Slope = 1.52378
Intercept = 0.01664

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21156-7 | Orig: | 9 | | | Dup: | 9 | | RPD: | 0% | |
| MS Sample ID: | MC21156-7 | Orig: | 9 | | | Spike Amt: | 0.5 | MS Res: | 9.4 | % Rec: | 80% |
| MB Prep Date: | 06/06/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | | | | | |
| SB Prep Date: | 06/06/13 | Res: | 0.46 | Spike Amt: | 0.5 | % Rec: | 92% | | | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | | | |
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 19.198 | % Rec: | 104% | | |
| CCV (1) Res: | 1.007 | Known: | 1.00 | % Rec: | 101% | CCV (2) Res: | 1.019 | Known: | 1.00 | % Rec: | 102% |
| CCV (3) Res: | 1.024 | Known: | 1.00 | % Rec: | 102% | CCV (4) Res: | 1.028 | Known: | 1.00 | % Rec: | 103% |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: | |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | CCV | | 50 | 50 | 1 | 0.650 | 0.000 | 1.007 | 1.007 | 0.100 | mg/l |
| 13:40 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 13:40 | ICV | | 50 | 50 | 10 | 1.249 | 0.000 | 1.920 | 19.198 | 1.000 | mg/l |
| 13:40 | GP16152-MB1 | | 50 | 50 | 1 | 0.003 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 13:40 | GP16152-B1 | | 50 | 50 | 1 | 0.290 | 0.000 | 0.459 | 0.459 | 0.100 | mg/l |
| 13:40 | GP16152-S1 | | 50 | 50 | 10 | 0.608 | 0.000 | 0.943 | 9.431 | 1.000 | mg/l |
| 13:40 | GP16152-D1 | | 50 | 50 | 5 | 1.166 | 0.000 | 1.793 | 8.967 | 0.500 | mg/l |
| 13:40 | MC21156-7 | | 50 | 50 | 5 | 1.167 | 0.000 | 1.795 | 8.974 | 0.500 | mg/l |
| 13:40 | MC21156-1 | | 50 | 50 | 5 | 0.501 | 0.000 | 0.780 | 3.900 | 0.500 | mg/l |
| 13:40 | MC21156-2 | | 50 | 50 | 5 | 0.489 | 0.000 | 0.762 | 3.809 | 0.500 | mg/l |
| 13:40 | MC21156-3 | | 50 | 50 | 5 | 0.958 | 0.000 | 1.476 | 7.382 | 0.500 | mg/l |
| 13:40 | MC21156-4 | | 50 | 50 | 5 | 0.674 | 0.000 | 1.044 | 5.218 | 0.500 | mg/l |
| 13:40 | CCV | | 50 | 50 | 1 | 0.658 | 0.000 | 1.019 | 1.019 | 0.100 | mg/l |
| 13:50 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 13:50 | MC21156-5 | | 50 | 50 | 2 | 0.938 | 0.000 | 1.446 | 2.892 | 0.200 | mg/l |
| 13:50 | MC21156-6 | | 50 | 50 | 5 | 0.982 | 0.000 | 1.513 | 7.565 | 0.500 | mg/l |
| 13:50 | MC21156-8 | | 50 | 50 | 10 | 0.545 | 0.000 | 0.847 | 8.471 | 1.000 | mg/l |
| 13:50 | MC21156-9 | | 50 | 50 | 2 | 0.817 | 0.000 | 1.262 | 2.523 | 0.200 | mg/l |
| 13:50 | MC21156-11 | | 50 | 50 | 2 | 1.031 | 0.000 | 1.588 | 3.175 | 0.200 | mg/l |
| 13:50 | MC21156-12 | | 50 | 50 | 2 | 0.934 | 0.000 | 1.440 | 2.880 | 0.200 | mg/l |
| 13:50 | MC21156-13 | | 50 | 50 | 1 | 0.046 | 0.000 | 0.087 | 0.087 | 0.100 | mg/l |
| 13:50 | MC21156-14 | | 50 | 50 | 1 | 0.881 | 0.000 | 1.359 | 1.359 | 0.100 | mg/l |
| 13:50 | MC21156-15 | | 50 | 50 | 5 | 1.152 | 0.000 | 1.772 | 8.860 | 0.500 | mg/l |
| 13:50 | MC21156-16 | | 50 | 50 | 1 | 0.682 | 0.000 | 1.056 | 1.056 | 0.100 | mg/l |
| 13:50 | CCV | | 50 | 50 | 1 | 0.661 | 0.000 | 1.024 | 1.024 | 0.100 | mg/l |
| 14:00 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 14:00 | MC21156-17 | | 50 | 50 | 5 | 0.826 | 0.000 | 1.275 | 6.376 | 0.500 | mg/l |
| 14:00 | MC21202-1 | | 50 | 50 | 1 | 0.004 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |
| 14:00 | MC21202-2 | | 50 | 50 | 1 | 0.003 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 14:00 | MC21202-3 | | 50 | 50 | 1 | 0.051 | 0.000 | 0.094 | 0.094 | 0.100 | mg/l |
| 14:00 | MC21202-4 | | 50 | 50 | 10 | 0.967 | 0.000 | 1.490 | 14.901 | 1.000 | mg/l |
| 14:00 | CCV | | 50 | 50 | 1 | 0.664 | 0.000 | 1.028 | 1.028 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |

6-6-13 AM

Analyst: [signature] Date: 6-6-13 QC Reviewer: [signature] Date: 6/7/13

9.13 9

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/6/13 | Batch ID | GP16152 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21156-7 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16152-MB1 | | N/A | N/D | <2 | 9.96 | 100 | 100 | 7:40 | 8:00 | |
| GP16152-B1 | | N/A | N/D | <2 | 9.97 | 100 | 100 | 7:40 | 8:00 | 5.0 ML OF SPIKE |
| GP16152-S1 | 7 | N/A | N/D | <2 | 9.98 | 100 | 100 | 7:40 | 8:00 | 5.0 ML OF SPIKE |
| GP16152-D1 | 7 | N/A | N/D | <2 | 9.99 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-7 | 7 | N/A | N/D | <2 | 9.68 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-1 | 7 | N/A | N/D | <2 | 9.66 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-2 | 7 | N/A | N/D | <2 | 9.89 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-3 | 7 | N/A | N/D | <2 | 9.89 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-4 | 7 | N/A | N/D | <2 | 9.94 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-5 | 7 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-6 | 7 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-8 | 7 | N/A | N/D | <2 | 9.56 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-9 | 7 | N/A | N/D | <2 | 9.55 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-11 | 7 | N/A | N/D | <2 | 9.67 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-12 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-13 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-14 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-15 | 2 | N/A | N/D | <2 | 9.75 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-16 | 2 | N/A | N/D | <2 | 9.75 | 100 | 100 | 10:30 | 10:50 | |
| MC21156-17 | 2 | N/A | N/D | <2 | 9.77 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-1 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-2 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-3 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-4 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:30 | 10:50 | |
| ICV | | N/A | N/D | <2 | 9.97 | 10 | 100 | 11:00 | 11:20 | ( 1:10 DILUTION ) |
| 6-6-13 DV | | | | | | | | | | |
| | | | | | | | | | | |

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30102-AMN-1 |
| Boric Acid | RGT-35945-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/7/13

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/6/13 | Batch ID | GP16152 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21156-7 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod ○ | TPO4 EPA365.4/Mod ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod ○ | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| RB | | N/A | N/D | <2 | 9.98 | 100 | 100 | 11:00 | 11:20 | |
| CAL.STD.1 | | N/A | N/D | <2 | 9.96 | 100 | 100 | 11:00 | 11:20 | 1.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.3 | | N/A | N/D | <2 | 9.97 | 100 | 100 | 11:00 | 11:20 | 3.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.5 | | N/A | N/D | <2 | 9.84 | 100 | 100 | 11:00 | 11:20 | 5.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.8 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 11:00 | 11:20 | 8.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD1.0 | | N/A | N/D | <2 | 9.55 | 100 | 100 | 12:00 | 12:20 | 10.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD2.0 | | N/A | N/D | <2 | 9.66 | 100 | 100 | 12:00 | 12:20 | 20.0 ML OFGNSTD-30103-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.87 | 100 | 100 | 12:00 | 12:20 | 10.0 ML OFGNSTD-30103-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.54 | 100 | 100 | 12:00 | 12:20 | |

6.6.13

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30102-AMN-1 |
| Boric Acid | RGT-35945-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

QC Review _____ Date 6/7/13

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New England ACCUTEST LABORATORIES

06/24/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C

Accutest Job Number: MC21202

Sampling Dates: 05/24/13 - 05/28/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **620**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21202-1 | 05/24/13 | 10:30 | JG | 05/24/13 | AQ | Ground Water | SHM-10-03-052413 |
| MC21202-1F | 05/24/13 | 10:30 | JG | 05/24/13 | AQ | Groundwater Filtered | SHM-10-03-052413 |
| MC21202-2 | 05/24/13 | 00:00 | JG | 05/24/13 | AQ | Ground Water | DUP-01-052413 |
| MC21202-2F | 05/24/13 | 00:00 | JG | 05/24/13 | AQ | Groundwater Filtered | DUP-01-052413 |
| MC21202-3 | 05/24/13 | 12:25 | JG | 05/24/13 | AQ | Ground Water | SHL-19-052413 |
| MC21202-3F | 05/24/13 | 12:25 | JG | 05/24/13 | AQ | Groundwater Filtered | SHL-19-052413 |
| MC21202-4 | 05/24/13 | 13:00 | JG | 05/24/13 | AQ | Ground Water | PZ-12-06-052413 |
| MC21202-4F | 05/24/13 | 13:00 | JG | 05/24/13 | AQ | Groundwater Filtered | PZ-12-06-052413 |
| MC21202-5 | 05/24/13 | 13:15 | JG | 05/24/13 | AQ | Ground Water | SHM-10-15-052413 |
| MC21202-5F | 05/24/13 | 13:15 | JG | 05/24/13 | AQ | Groundwater Filtered | SHM-10-15-052413 |
| MC21202-6F | 05/24/13 | 14:20 | JG | 05/24/13 | AQ | Equip Blank Filtered | RB-052413 |
| MC21202-7 | 05/28/13 | 00:00 | JG | 05/28/13 | AQ | Ground Water | DUP-052813 |
| MC21202-7F | 05/28/13 | 00:00 | JG | 05/28/13 | AQ | Groundwater Filtered | DUP-052813 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21202-8 | 05/28/13 | 09:30 | JG | 05/28/13 | AQ | Ground Water | SHL-85-052813 |
| MC21202-8F | 05/28/13 | 09:30 | JG | 05/28/13 | AQ | Groundwater Filtered | SHL-85-052813 |
| MC21202-9 | 05/28/13 | 09:50 | JG | 05/28/13 | AQ | Ground Water | PZ-12-01-052813 |
| MC21202-9F | 05/28/13 | 09:50 | JG | 05/28/13 | AQ | Groundwater Filtered | PZ-12-01-052813 |
| MC21202-10 | 05/28/13 | 09:56 | JG | 05/28/13 | AQ | Ground Water | SHM-07-03-052813 |
| MC21202-10F | 05/28/13 | 09:56 | JG | 05/28/13 | AQ | Groundwater Filtered | SHM-07-03-052813 |
| MC21202-11 | 05/28/13 | 10:30 | JG | 05/28/13 | AQ | Ground Water | SHM-93-22B-052813 |
| MC21202-11F | 05/28/13 | 10:30 | JG | 05/28/13 | AQ | Groundwater Filtered | SHM-93-22B-052813 |
| MC21202-12 | 05/28/13 | 11:00 | JG | 05/28/13 | AQ | Ground Water | SHM-11-06-052813 |
| MC21202-12F | 05/28/13 | 11:00 | JG | 05/28/13 | AQ | Groundwater Filtered | SHM-11-06-052813 |
| MC21202-13 | 05/28/13 | 11:10 | JG | 05/28/13 | AQ | Ground Water | SHM-96-5C-052813 |
| MC21202-13F | 05/28/13 | 11:10 | JG | 05/28/13 | AQ | Groundwater Filtered | SHM-96-5C-052813 |
| MC21202-14 | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Ground Water | SHL-9-052813 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21202-14D | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Water Dup/MSD | SHL-9-052813 |
| MC21202-14F | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Groundwater Filtered | SHL-9-052813 |
| MC21202-14FD | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Water Dup/MSD | SHL-9-052813 |
| MC21202-14FS | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Water Matrix Spike | SHL-9-052813 |
| MC21202-14S | 05/28/13 | 13:25 | JG | 05/28/13 | AQ | Water Matrix Spike | SHL-9-052813 |
| MC21202-15 | 05/28/13 | 09:25 | JG | 05/28/13 | AQ | Ground Water | SHL-22-052813 |
| MC21202-15F | 05/28/13 | 09:25 | JG | 05/28/13 | AQ | Groundwater Filtered | SHL-22-052813 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC21202 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 6/21/2013 12:53:23 PM |

15 Sample(s) were collected on between 05/24/2013 and 05/28/2013 and were received at Accutest between 05/24/2013 and 05/28/2013 properly preserved, at 1 Deg. C and intact. These Samples received an Accutest job number of MC21202. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21073

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7FMS, MC21156-7FMSD, MC21156-7FPS, MC21156-7FSDL were used as the QC samples for metals.
- MP21073-PS1 for Iron: Post-digestion spike recovery outside of the control limit.

**Matrix** AQ **Batch ID:** MP21097

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14FMS, MC21202-14FMSD, MC21202-14FPS, MC21202-14FSDL were used as the QC samples for metals.
- MC21202-14F for Iron: Matrix spike duplicate recovery outside of the control limit.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP21073A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7FMS, MC21156-7FMSD, MC21156-7FSDL, MC21156-7FPS were used as the QC samples for metals.
- MP21073A-PS1 for Arsenic: Post-digestion spike recoveries outside of control limits indicate possible matrix interference.

**Matrix** AQ **Batch ID:** MP21097A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14FMS, MC21202-14FMSD, MC21202-14FPS, MC21202-14FSDL were used as the QC samples for metals.

## Wet Chemistry By Method ASTM516-90,02

| Matrix | AQ | Batch ID: | GN43160 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-3DUP, MC21202-3MS were used as the QC samples for Sulfate.

| Matrix | AQ | Batch ID: | GN43161 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Sulfate.

## Wet Chemistry By Method EPA 353.2

**Matrix** AQ **Batch ID:** GP16144

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** GP16145

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-1DUP, MC21202-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** R33074

- MC21202-14 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33079

- MC21202-15 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33082

- MC21202-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33085

- MC21202-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33086

- MC21202-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33087

- MC21202-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33088

- MC21202-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33089

- MC21202-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33090

- MC21202-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33091

- MC21202-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33092

- MC21202-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33093

- MC21202-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33094

- MC21202-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33095

- MC21202-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix** AQ **Batch ID:** GP16102

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-1DUP, MC21202-1MS were used as the QC samples for Nitrogen, Nitrite.

**Matrix** AQ **Batch ID:** GP16116

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

**Matrix** AQ **Batch ID:** GP16152

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-7DUP, MC21156-7MS were used as the QC samples for Nitrogen, Ammonia.

**Matrix** AQ **Batch ID:** GP16156

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

**Matrix** AQ **Batch ID:** GN43087

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-12DUP, MC21156-12MS were used as the QC samples for Alkalinity, Total as CaCO3.

**Matrix** AQ **Batch ID:** GN43130

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Alkalinity, Total as CaCO3.

**Matrix** AQ **Batch ID:** GN43151

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-7DUP, MC21202-7MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

| Matrix | AQ | Batch ID: | GN42995 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21156-14DUP, MC21156-14MS were used as the QC samples for Sulfide.

| Matrix | AQ | Batch ID: | GN43128 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN43149 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

| Matrix | AQ | Batch ID: | GN43123 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14FDUP, MC21202-14FMS were used as the QC samples for Dissolved Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC21202).

# Summary of Hits



**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21202-1** | **SHM-10-03-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 71.8 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 870 | 10 | 7.5 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.47 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.47 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.0040 J | 0.010 | 0.0040 | mg/l | SM 21 4500 NO2 B |
| Sulfate | | 35.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-1F** | **SHM-10-03-052413** | | | | | |
| Arsenic | | 1.5 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 145000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 50.6 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 17200 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 37.0 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 6270 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 432000 | 250000 | 10000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 0.72 J | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-2** | **DUP-01-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 66.3 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 870 | 10 | 7.5 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.47 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.47 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 39.7 | 10 | 9.0 | mg/l | ASTM516-90,02 |
| **MC21202-2F** | **DUP-01-052413** | | | | | |
| Arsenic | | 1.5 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 136000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 131 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 16100 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 194 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 6190 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 405000 | 250000 | 10000 | ug/l | SW846 6010C |
| **MC21202-3** | **SHL-19-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 55.3 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 1.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.094 J | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.32 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.32 | 0.10 | 0.075 | mg/l | EPA 353.2 |

# Summary of Hits

**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Sulfate | | 12.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-3F** | **SHL-19-052413** | | | | | |
| Arsenic | | 3.8 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 18300 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 1460 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 3150 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 580 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 2710 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2930 J | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-4** | **PZ-12-06-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 293 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 51.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 14.9 | 1.0 | 0.81 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.32 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.32 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 10.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-4F** | **PZ-12-06-052413** | | | | | |
| Arsenic | | 244 | 5.0 | 2.5 | ug/l | SW846 6020A |
| Calcium | | 67300 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 54600 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 8140 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1350 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 17100 | 15000 | 1500 | ug/l | SW846 6010C |
| Sodium | | 21800 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 29.5 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-5** | **SHM-10-15-052413** | | | | | |
| Alkalinity, Total as CaCO3 | | 196 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 7.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.4 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 7.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-5F** | **SHM-10-15-052413** | | | | | |
| Arsenic | | 1090 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 77200 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 8290 | 100 | 30 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Manganese | | 1960 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 6450 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 6720 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-6F** | **RB-052413** | | | | | |
| Arsenic | | 0.50 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| **MC21202-7** | **DUP-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 396 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 20.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.28 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 5.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-7F** | **DUP-052813** | | | | | |
| Arsenic | | 33.3 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 114000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 440 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 14100 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 8580 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 27300 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-8** | **SHL-85-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 22.1 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 6.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.081 J | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.24 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.24 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.2 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-8F** | **SHL-85-052813** | | | | | |
| Arsenic | | 0.93 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 6800 | 5000 | 150 | ug/l | SW846 6010C |
| Sodium | | 5970 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 16.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-9** | **PZ-12-01-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 201 | 5.0 | 2.3 | mg/l | SM21 2320B |

# Summary of Hits

**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|
| Chloride | 38.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | 1.4 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.32 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.32 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | 13.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-9F PZ-12-01-052813** | | | | | |
| Arsenic | 441 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | 54500 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | 27100 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | 7200 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | 3930 | 45 | 7.5 | ug/l | SW846 6010C |
| Sodium | 27400 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | 2.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-10 SHM-07-03-052813** | | | | | |
| Alkalinity, Total as CaCO3 | 16.6 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | 28.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.87 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.87 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | 6.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-10F SHM-07-03-052813** | | | | | |
| Arsenic | 1.0 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | 5930 | 5000 | 150 | ug/l | SW846 6010C |
| Sodium | 23800 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | 1.3 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-11 SHM-93-22B-052813** | | | | | |
| Alkalinity, Total as CaCO3 | 337 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | 21.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | 1.3 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.36 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.36 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21202-11F SHM-93-22B-052813** | | | | | |
| Arsenic | 1150 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | 77800 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | 30000 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | 12200 | 10000 | 400 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Manganese | | 9680 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 8480 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 28300 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-12** | **SHM-11-06-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 262 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 20.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 8.3 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.40 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.40 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.8 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-12F** | **SHM-11-06-052813** | | | | | |
| Arsenic | | 1020 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 45900 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 73200 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 7250 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 990 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 11100 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 17000 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.1 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-13** | **SHM-96-5C-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 318 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 24.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.8 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| **MC21202-13F** | **SHM-96-5C-052813** | | | | | |
| Arsenic | | 10.4 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 68800 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 2200 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 11800 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 12600 | 150 | 25 | ug/l | SW846 6010C |
| Potassium | | 14100 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 29700 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-14** | **SHL-9-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 88.4 | 5.0 | 2.3 | mg/l | SM21 2320B |

# Summary of Hits

**Job Number:** MC21202
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/24/13 thru 05/28/13

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Chloride | | 5.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.61 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.15 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.15 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| **MC21202-14F** | **SHL-9-052813** | | | | | |
| Arsenic | | 30.0 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 25400 | 15000 | 450 | ug/l | SW846 6010C |
| Iron [b] | | 9590 J | 100 | 30 | ug/l | SW846 6010C |
| Manganese | | 497 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 6560 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.6 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21202-15** | **SHL-22-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 400 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 19.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.27 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 5.8 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21202-15F** | **SHL-22-052813** | | | | | |
| Arsenic | | 34.1 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 114000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 453 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 14400 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 9200 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 5070 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 27800 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.2 | 1.0 | 0.64 | mg/l | SM21 5310 B |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Matrix spike duplicate recovery outside of the control limit.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-10-03-052413
**Lab Sample ID:** MC21202-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 71.8 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 870 | 10 | 7.5 | mg/l | 10 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/06/13 14:00 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.47 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:23 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.47 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:23 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 J | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:18 | CF | SM 21 4500 NO2 B |
| Sulfate | 35.4 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-03-052413
**Lab Sample ID:** MC21202-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.5 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 145000 | 100000 | 3000 | ug/l | 20 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 50.6 J | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 17200 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 37.0 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 6270 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 432000 | 250000 | 10000 | ug/l | 50 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-03-052413 | | |
| **Lab Sample ID:** | MC21202-1F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.72 J | 1.0 | 0.64 | mg/l | 1 | 06/04/13 12:29 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-01-052413
**Lab Sample ID:** MC21202-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 66.3 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 870 | 10 | 7.5 | mg/l | 10 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/06/13 14:00 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.47 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:25 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.47 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:25 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:18 | CF | SM 21 4500 NO2 B |
| Sulfate | 39.7 | 10 | 9.0 | mg/l | 2 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-01-052413
**Lab Sample ID:** MC21202-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.5 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 136000 | 100000 | 3000 | ug/l | 20 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 131 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 16100 | 10000 | 400 | ug/l | 2 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 194 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 6190 | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 405000 | 250000 | 10000 | ug/l | 50 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-01-052413
**Lab Sample ID:** MC21202-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.64 U | 1.0 | 0.64 | mg/l | 1 | 06/04/13 12:42 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-19-052413
**Lab Sample ID:** MC21202-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 55.3 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 1.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.094 J | 0.10 | 0.081 | mg/l | 1 | 06/06/13 14:00 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.32 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:26 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.32 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:26 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:18 | CF | SM 21 4500 NO2 B |
| Sulfate | 12.6 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-19-052413
**Lab Sample ID:** MC21202-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.8 | 1.0 | 0.50 | ug/l | 2 | 05/30/13 | 06/06/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 18300 | 10000 | 300 | ug/l | 2 | 05/29/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 1460 | 100 | 30 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 3150 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 580 | 15 | 2.5 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 2710 J | 5000 | 500 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 2930 J | 5000 | 200 | ug/l | 1 | 05/29/13 | 06/03/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15693
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15713
(4) Prep QC Batch: MP21073
(5) Prep QC Batch: MP21073A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-19-052413 | | |
| **Lab Sample ID:** | MC21202-3F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.8 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 12:55 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-06-052413
**Lab Sample ID:** MC21202-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 293 | 5.0 | 2.3 | mg/l | 1 | 06/01/13 | BF | SM21 2320B |
| Chloride | 51.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 14.9 | 1.0 | 0.81 | mg/l | 10 | 06/06/13 14:00 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.32 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:27 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.32 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:27 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:18 | CF | SM 21 4500 NO2 B |
| Sulfate | 10.4 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-06-052413
**Lab Sample ID:** MC21202-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 244 | 5.0 | 2.5 | ug/l | 10 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 67300 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 54600 | 1000 | 300 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 8140 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1350 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 17100 | 15000 | 1500 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 21800 | 15000 | 600 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-06-052413 | | |
| **Lab Sample ID:** | MC21202-4F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 29.5 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 13:33 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-15-052413
**Lab Sample ID:** MC21202-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 196 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 7.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 1.4 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:05 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:28 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:28 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/25/13 11:18 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.4 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 05/28/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-15-052413
**Lab Sample ID:** MC21202-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1090 | 25 | 13 | ug/l | 50 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 77200 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 8290 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1960 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 6450 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 6720 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-15-052413 | | |
| **Lab Sample ID:** | MC21202-5F | **Date Sampled:** | 05/24/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/24/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.4 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 13:46 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052413
**Lab Sample ID:** MC21202-6F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/24/13
**Date Received:** 05/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.50 J | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | < 5000 | 5000 | 150 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | < 15 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21097
(4) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052813
**Lab Sample ID:** MC21202-7
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 396 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 20.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.28 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:05 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:32 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:32 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.5 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052813
**Lab Sample ID:** MC21202-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 33.3 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 114000 | 100000 | 3000 | ug/l | 20 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 440 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 14100 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 8580 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 27300 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052813 | | |
| **Lab Sample ID:** | MC21202-7F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.2 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 13:59 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-85-052813
**Lab Sample ID:** MC21202-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 22.1 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 6.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 J | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:05 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.24 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:33 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.24 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:33 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.2 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-85-052813
**Lab Sample ID:** MC21202-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.93 J | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 6800 | 5000 | 150 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | < 15 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 5970 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21097
(4) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-85-052813 | | |
| **Lab Sample ID:** | MC21202-8F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 16.2 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 14:12 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-01-052813
**Lab Sample ID:** MC21202-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 201 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 38.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 1.4 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:05 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.32 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:35 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.32 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:35 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 13.6 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** PZ-12-01-052813
**Lab Sample ID:** MC21202-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 441 | 10 | 5.0 | ug/l | 20 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 54500 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 27100 | 300 | 90 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 7200 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 3930 | 45 | 7.5 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 27400 | 15000 | 600 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PZ-12-01-052813 | | |
| **Lab Sample ID:** | MC21202-9F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.4 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 14:25 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-07-03-052813
**Lab Sample ID:** MC21202-10
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 16.6 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 28.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.87 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:36 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.87 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:36 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.4 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-07-03-052813
**Lab Sample ID:** MC21202-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.0 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 5930 | 5000 | 150 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | < 15 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 23800 | 15000 | 600 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-07-03-052813 | | |
| **Lab Sample ID:** | MC21202-10F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.3 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 14:38 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22B-052813
**Lab Sample ID:** MC21202-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 337 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 21.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 1.3 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.36 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 15:37 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.36 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 15:37 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22B-052813
**Lab Sample ID:** MC21202-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1150 | 25 | 13 | ug/l | 50 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 77800 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 30000 | 500 | 150 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 12200 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 9680 | 75 | 13 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 8480 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 28300 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-93-22B-052813 | | |
| **Lab Sample ID:** | MC21202-11F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.9 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 14:51 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-06-052813
**Lab Sample ID:** MC21202-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 262 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 20.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 8.3 | 0.50 | 0.41 | mg/l | 5 | 06/07/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.40 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:24 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.40 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:24 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.8 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-06-052813
**Lab Sample ID:** MC21202-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1020 | 25 | 13 | ug/l | 50 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 45900 | 25000 | 750 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 73200 | 1000 | 300 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 7250 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 990 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 11100 | 10000 | 1000 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 17000 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-11-06-052813 | | |
| **Lab Sample ID:** | MC21202-12F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.1 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 15:04 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5C-052813
**Lab Sample ID:** MC21202-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 318 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 24.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 3.8 | 0.20 | 0.16 | mg/l | 2 | 06/07/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:25 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:25 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5C-052813
**Lab Sample ID:** MC21202-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 10.4 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 68800 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 2200 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 11800 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 12600 | 150 | 25 | ug/l | 10 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 14100 | 10000 | 1000 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 29700 | 15000 | 600 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-96-5C-052813 | | |
| **Lab Sample ID:** | MC21202-13F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.8 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 15:17 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-9-052813
**Lab Sample ID:** MC21202-14
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 88.4 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 5.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.61 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:05 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.15 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:13 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.15 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:13 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:52 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-9-052813
**Lab Sample ID:** MC21202-14F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 30.0 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 25400 | 15000 | 450 | ug/l | 3 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron [a] | 9590 J | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 497 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 6560 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

(a) Matrix spike duplicate recovery outside of the control limit.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-9-052813 | | |
| **Lab Sample ID:** | MC21202-14F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.6 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 12:16 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-22-052813
**Lab Sample ID:** MC21202-15
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 400 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 19.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.27 | 0.10 | 0.081 | mg/l | 1 | 06/07/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 14:26 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 14:26 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.8 | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-22-052813
**Lab Sample ID:** MC21202-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 34.1 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 114000 | 100000 | 3000 | ug/l | 20 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 453 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 14400 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 9200 | 75 | 13 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 5070 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 27800 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/05/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15707
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-22-052813 | | |
| **Lab Sample ID:** | MC21202-15F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.2 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 15:30 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 12 #123013

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FED-2013.119 | Accutest Job # MC21202

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Jonathan Chaffee / Brian Eng Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Filtered | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC21202-1 F | SHM-16-03-052413 | | 5-24-13 | 1030 | JG | GW | 8 | | X | L | L | | | | L | L | L | X | X | X | L | X | X | X | |
| -2 F | DUP-01-052413 | | 5-24-13 | — | JG | GW | 8 | | X | L | L | | | | L | L | L | X | X | X | L | X | X | X | |
| -3 F | SHL-19-052413 | | 5-24-13 | 1205 | MM | GW | 8 | | L | L | L | | | | L | L | L | L | L | L | L | L | L | L | |
| -4 F | DZ-12-06-052413 | | 5-24-13 | 1340 | ET | GW | 8 | | X | L | L | | | | X | X | X | X | X | X | X | X | X | X | |
| -5 F | SHM-10-15-052413 | | 5-24-13 | 1345 | CS | GW | 8 | | L | L | L | | | | L | L | L | L | L | L | L | L | L | L | |
| -6 F | RB-052413 | | 5-24-13 | 1420 | JG | RB | 7 | | | X | | | | | | L | L | | | | | | | | |

for 24 SD,

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
All samples were field filtered (Cr metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #004: Open

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 5-24-13/1710 | 1 | 2 | 5/24/13 1750 | 2 |
| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 3 | | 3 | 4 | | 4 |
| Relinquished By: | Date Time: | Received By: | Custody Seal # | Intact / Not Intact | Preserved where applicable | On Ice | Cooler Temp. |
| 5 | | 5 | | | | | 1.0°c |

**MC21202: Chain of Custody**
**Page 1 of 3**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking #: | Bottle Order Control #: | 5/28/13

Accutest Quote #: FQ-2693 119 | Accutest Job #: MC21202

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SCL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | pH's | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -15F | SHL-22-052813 | | 5-28-13 | 0925 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -15F |
| -7F | DUP-052813 | | | — | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -7F |
| -8F | SHL-8S-052813 | | | 0930 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -8F |
| -9F | P2-12-01-052813 | | | 0950 | SV | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -9F |
| -10F | SHM-07-03-052813 | | | 0956 | MM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -10F |
| -11F | SHM-93-22B-052813 | | | 1030 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -11F |
| -12F | SHM-11-06-052813 | | | 1100 | SV | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -12F |
| -13F | SHM-96-5C-052813 | | | 1110 | EF | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -13F |
| -14F,5,D | SHL-9-052813 | | | 1325 | EF | GW | 24 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | -14F,5,D |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 3,4,5E |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
All samples were field filtered. (Metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG # 004 = Closed
SHL-9 = Extra Volume for MS/MSD

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5/28/13/1640 | 1 | 2 | 5/28/13 1615 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] On Ice [X] Cooler Temp. 1.0, 0.6 2.0, 1.1 |

**MC21202: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21202 **Client:** SOV **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/28/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** DEVENS **No. Coolers:** 2 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21202: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-1 Collected: 24-MAY-13 10:30 By: JG Received: 24-MAY-13 By: BA SHM-10-03-052413 | | | | | | |
| MC21202-1 | SM 21 4500 NO2 B | 25-MAY-13 11:18 | CF | 25-MAY-13 | CF | NO2 |
| MC21202-1 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21202-1 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21202-1 | EPA 353.2 | 04-JUN-13 15:23 | CF | | | NO3O |
| MC21202-1 | EPA 353.2 | 04-JUN-13 15:23 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-1 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-1 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-1 | SM18 4500NH3-C | 06-JUN-13 14:00 | BF | 06-JUN-13 | BF | AMN |
| MC21202-2 Collected: 24-MAY-13 00:00 By: JG Received: 24-MAY-13 By: BA DUP-01-052413 | | | | | | |
| MC21202-2 | SM 21 4500 NO2 B | 25-MAY-13 11:18 | CF | 25-MAY-13 | CF | NO2 |
| MC21202-2 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21202-2 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21202-2 | EPA 353.2 | 04-JUN-13 15:25 | CF | | | NO3O |
| MC21202-2 | EPA 353.2 | 04-JUN-13 15:25 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-2 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-2 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-2 | SM18 4500NH3-C | 06-JUN-13 14:00 | BF | 06-JUN-13 | BF | AMN |
| MC21202-3 Collected: 24-MAY-13 12:25 By: JG Received: 24-MAY-13 By: BA SHL-19-052413 | | | | | | |
| MC21202-3 | SM 21 4500 NO2 B | 25-MAY-13 11:18 | CF | 25-MAY-13 | CF | NO2 |
| MC21202-3 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21202-3 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21202-3 | EPA 353.2 | 04-JUN-13 15:26 | CF | | | NO3O |
| MC21202-3 | EPA 353.2 | 04-JUN-13 15:26 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-3 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-3 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-3 | SM18 4500NH3-C | 06-JUN-13 14:00 | BF | 06-JUN-13 | BF | AMN |
| MC21202-4 Collected: 24-MAY-13 13:00 By: JG Received: 24-MAY-13 By: BA PZ-12-06-052413 | | | | | | |
| MC21202-4 | SM 21 4500 NO2 B | 25-MAY-13 11:18 | CF | 25-MAY-13 | CF | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-4 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21202-4 | SM21 2320B | 01-JUN-13 | BF | | | ALK |
| MC21202-4 | EPA 353.2 | 04-JUN-13 15:27 | CF | | | NO3O |
| MC21202-4 | EPA 353.2 | 04-JUN-13 15:27 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-4 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-4 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-4 | SM18 4500NH3-C | 06-JUN-13 14:00 | BF | 06-JUN-13 | BF | AMN |
| MC21202-5 Collected: 24-MAY-13 13:15 By: JG Received: 24-MAY-13 By: BA<br>SHM-10-15-052413 | | | | | | |
| MC21202-5 | SM 21 4500 NO2 B | 25-MAY-13 11:18 | CF | 25-MAY-13 | CF | NO2 |
| MC21202-5 | SM21 4500 S F | 28-MAY-13 | BF | | | S |
| MC21202-5 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-5 | EPA 353.2 | 04-JUN-13 15:28 | CF | | | NO3O |
| MC21202-5 | EPA 353.2 | 04-JUN-13 15:28 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-5 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-5 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-5 | SM18 4500NH3-C | 07-JUN-13 16:05 | BF | 07-JUN-13 | BF | AMN |
| MC21202-7 Collected: 28-MAY-13 00:00 By: JG Received: 28-MAY-13 By: BA<br>DUP-052813 | | | | | | |
| MC21202-7 | SM 21 4500 NO2 B | 29-MAY-13 18:52 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-7 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-7 | EPA 353.2 | 04-JUN-13 15:32 | CF | | | NO3O |
| MC21202-7 | EPA 353.2 | 04-JUN-13 15:32 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-7 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21202-7 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-7 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-7 | SM18 4500NH3-C | 07-JUN-13 16:05 | BF | 07-JUN-13 | BF | AMN |
| MC21202-8 Collected: 28-MAY-13 09:30 By: JG Received: 28-MAY-13 By: BA<br>SHL-85-052813 | | | | | | |
| MC21202-8 | SM 21 4500 NO2 B | 29-MAY-13 18:52 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-8 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-8 | EPA 353.2 | 04-JUN-13 15:33 | CF | | | NO3O |
| MC21202-8 | EPA 353.2 | 04-JUN-13 15:33 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-8 | SM21 2320B | 05-JUN-13 | CF | | | ALK |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-8 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-8 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-8 | SM18 4500NH3-C | 07-JUN-13 16:05 | BF | 07-JUN-13 | BF | AMN |
| MC21202-9 | Collected: 28-MAY-13 09:50 By: JG | | Received: 28-MAY-13 By: BA | | | |
| PZ-12-01-052813 | | | | | | |
| MC21202-9 | SM 21 4500 NO2 B | 29-MAY-13 18:52 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-9 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-9 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-9 | EPA 353.2 | 04-JUN-13 15:35 | CF | | | NO3O |
| MC21202-9 | EPA 353.2 | 04-JUN-13 15:35 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-9 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-9 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-9 | SM18 4500NH3-C | 07-JUN-13 16:05 | BF | 07-JUN-13 | BF | AMN |
| MC21202-10 | Collected: 28-MAY-13 09:56 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-07-03-052813 | | | | | | |
| MC21202-10 | SM 21 4500 NO2 B | 29-MAY-13 18:52 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-10 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-10 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-10 | EPA 353.2 | 04-JUN-13 15:36 | CF | | | NO3O |
| MC21202-10 | EPA 353.2 | 04-JUN-13 15:36 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-10 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-10 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-10 | SM18 4500NH3-C | 07-JUN-13 16:10 | BF | 07-JUN-13 | BF | AMN |
| MC21202-11 | Collected: 28-MAY-13 10:30 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-93-22B-052813 | | | | | | |
| MC21202-11 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-11 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-11 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-11 | EPA 353.2 | 04-JUN-13 15:37 | CF | | | NO3O |
| MC21202-11 | EPA 353.2 | 04-JUN-13 15:37 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-11 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-11 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-11 | SM18 4500NH3-C | 07-JUN-13 16:10 | BF | 07-JUN-13 | BF | AMN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-12 | Collected: 28-MAY-13 11:00 By: JG | | Received: 28-MAY-13 | | By: BA | |
| SHM-11-06-052813 | | | | | | |
| MC21202-12 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-12 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-12 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-12 | EPA 353.2 | 04-JUN-13 14:24 | CF | | | NO3O |
| MC21202-12 | EPA 353.2 | 04-JUN-13 14:24 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-12 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-12 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-12 | SM18 4500NH3-C | 07-JUN-13 16:10 | BF | 07-JUN-13 | BF | AMN |
| MC21202-13 | Collected: 28-MAY-13 11:10 By: JG | | Received: 28-MAY-13 | | By: BA | |
| SHM-96-5C-052813 | | | | | | |
| MC21202-13 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-13 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-13 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-13 | EPA 353.2 | 04-JUN-13 14:25 | CF | | | NO3O |
| MC21202-13 | EPA 353.2 | 04-JUN-13 14:25 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-13 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-13 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-13 | SM18 4500NH3-C | 07-JUN-13 16:10 | BF | 07-JUN-13 | BF | AMN |
| MC21202-14 | Collected: 28-MAY-13 13:25 By: JG | | Received: 28-MAY-13 | | By: BA | |
| SHL-9-052813 | | | | | | |
| MC21202-14 | SM 21 4500 NO2 B | 29-MAY-13 18:52 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-14 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-14 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-14 | EPA 353.2 | 04-JUN-13 14:13 | CF | | | NO3O |
| MC21202-14 | EPA 353.2 | 04-JUN-13 14:13 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-14 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-14 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-14 | SM18 4500NH3-C | 07-JUN-13 16:05 | BF | 07-JUN-13 | BF | AMN |
| MC21202-15 | Collected: 28-MAY-13 09:25 By: JG | | Received: 28-MAY-13 | | By: BA | |
| SHL-22-052813 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-15 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21202-15 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21202-15 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21202-15 | EPA 353.2 | 04-JUN-13 14:26 | CF | | | NO3O |
| MC21202-15 | EPA 353.2 | 04-JUN-13 14:26 | CF | 04-JUN-13 | CF | NO32 |
| MC21202-15 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21202-15 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21202-15 | SM18 4500NH3-C | 07-JUN-13 16:10 | BF | 07-JUN-13 | BF | AMN |
| MC21202-16 | Collected: 24-MAY-13 10:30 By: JG | | | Received: 24-MAY-13 By: BA | | |
| SHM-10-03-052413 | | | | | | |
| MC21202-16 | SW846 6010C | 03-JUN-13 14:56 | EAL | 29-MAY-13 | DA | FE,K,MN |
| MC21202-16 | SM21 5310 B | 04-JUN-13 12:29 | MA | | | DOC |
| MC21202-16 | SW846 6010C | 05-JUN-13 12:08 | EAL | 29-MAY-13 | DA | MG |
| MC21202-16 | SW846 6010C | 05-JUN-13 12:13 | EAL | 29-MAY-13 | DA | CA |
| MC21202-16 | SW846 6010C | 05-JUN-13 12:17 | EAL | 29-MAY-13 | DA | NA |
| MC21202-16 | SW846 6020A | 06-JUN-13 18:03 | PY | 30-MAY-13 | DA | ASMS |
| MC21202-21 | Collected: 24-MAY-13 00:00 By: JG | | | Received: 24-MAY-13 By: BA | | |
| DUP-01-052413 | | | | | | |
| MC21202-21 | SW846 6010C | 03-JUN-13 15:01 | EAL | 29-MAY-13 | DA | FE,K,MN |
| MC21202-21 | SM21 5310 B | 04-JUN-13 12:42 | MA | | | DOC |
| MC21202-21 | SW846 6010C | 05-JUN-13 12:21 | EAL | 29-MAY-13 | DA | MG |
| MC21202-21 | SW846 6010C | 05-JUN-13 12:34 | EAL | 29-MAY-13 | DA | CA |
| MC21202-21 | SW846 6010C | 05-JUN-13 12:39 | EAL | 29-MAY-13 | DA | NA |
| MC21202-21 | SW846 6020A | 06-JUN-13 18:10 | PY | 30-MAY-13 | DA | ASMS |
| MC21202-31 | Collected: 24-MAY-13 12:25 By: JG | | | Received: 24-MAY-13 By: BA | | |
| SHL-19-052413 | | | | | | |
| MC21202-31 | SW846 6010C | 03-JUN-13 15:05 | EAL | 29-MAY-13 | DA | FE,K,MG,MN,NA |
| MC21202-31 | SM21 5310 B | 04-JUN-13 12:55 | MA | | | DOC |
| MC21202-31 | SW846 6010C | 05-JUN-13 12:43 | EAL | 29-MAY-13 | DA | CA |
| MC21202-31 | SW846 6020A | 06-JUN-13 18:17 | PY | 30-MAY-13 | DA | ASMS |
| MC21202-41 | Collected: 24-MAY-13 13:00 By: JG | | | Received: 24-MAY-13 By: BA | | |
| PZ-12-06-052413 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-4 | ISM21 5310 B | 04-JUN-13 13:33 | MA | | | DOC |
| MC21202-4 | ISW846 6010C | 04-JUN-13 13:54 | EAL | 03-JUN-13 | DA | MG,MN |
| MC21202-4 | ISW846 6010C | 05-JUN-13 15:24 | EAL | 03-JUN-13 | DA | K,NA |
| MC21202-4 | ISW846 6010C | 05-JUN-13 15:29 | EAL | 03-JUN-13 | DA | CA,FE |
| MC21202-4 | ISW846 6020A | 07-JUN-13 13:33 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-5 | FCollected: 24-MAY-13 13:15 By: JG | | Received: 24-MAY-13 By: BA | | | |
| SHM-10-15-052413 | | | | | | |
| MC21202-5 | ISM21 5310 B | 04-JUN-13 13:46 | MA | | | DOC |
| MC21202-5 | ISW846 6010C | 04-JUN-13 14:10 | EAL | 03-JUN-13 | DA | FE,K,MG,MN,NA |
| MC21202-5 | ISW846 6010C | 05-JUN-13 15:50 | EAL | 03-JUN-13 | DA | CA |
| MC21202-5 | ISW846 6020A | 07-JUN-13 13:40 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-6 | FCollected: 24-MAY-13 14:20 By: JG | | Received: 24-MAY-13 By: BA | | | |
| RB-052413 | | | | | | |
| MC21202-6 | ISW846 6010C | 04-JUN-13 14:15 | EAL | 03-JUN-13 | DA | CA,FE,K,MG,MN,NA |
| MC21202-6 | ISW846 6020A | 07-JUN-13 14:01 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-7 | FCollected: 28-MAY-13 00:00 By: JG | | Received: 28-MAY-13 By: BA | | | |
| DUP-052813 | | | | | | |
| MC21202-7 | ISM21 5310 B | 04-JUN-13 13:59 | MA | | | DOC |
| MC21202-7 | ISW846 6010C | 04-JUN-13 14:19 | EAL | 03-JUN-13 | DA | FE,K,MN |
| MC21202-7 | ISW846 6010C | 05-JUN-13 15:54 | EAL | 03-JUN-13 | DA | MG |
| MC21202-7 | ISW846 6010C | 05-JUN-13 15:59 | EAL | 03-JUN-13 | DA | NA |
| MC21202-7 | ISW846 6010C | 05-JUN-13 16:03 | EAL | 03-JUN-13 | DA | CA |
| MC21202-7 | ISW846 6020A | 07-JUN-13 14:09 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-8 | FCollected: 28-MAY-13 09:30 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHL-85-052813 | | | | | | |
| MC21202-8 | ISM21 5310 B | 04-JUN-13 14:12 | MA | | | DOC |
| MC21202-8 | ISW846 6010C | 04-JUN-13 14:23 | EAL | 03-JUN-13 | DA | CA,FE,K,MG,MN,NA |
| MC21202-8 | ISW846 6020A | 07-JUN-13 14:16 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-9 | FCollected: 28-MAY-13 09:50 By: JG | | Received: 28-MAY-13 By: BA | | | |
| PZ-12-01-052813 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-9E | SM21 5310 B | 04-JUN-13 14:25 | MA | | | DOC |
| MC21202-9E | SW846 6010C | 04-JUN-13 14:28 | EAL | 03-JUN-13 | DA | K,MG |
| MC21202-9E | SW846 6010C | 05-JUN-13 16:07 | EAL | 03-JUN-13 | DA | FE,MN,NA |
| MC21202-9E | SW846 6010C | 05-JUN-13 16:12 | EAL | 03-JUN-13 | DA | CA |
| MC21202-9E | SW846 6020A | 07-JUN-13 14:23 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-10 | Collected: 28-MAY-13 09:56 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-07-03-052813 | | | | | | |
| MC21202-10 | SW846 6010C | 04-JUN-13 14:32 | EAL | 03-JUN-13 | DA | CA,FE,K,MG,MN |
| MC21202-10 | SM21 5310 B | 04-JUN-13 14:38 | MA | | | DOC |
| MC21202-10 | SW846 6010C | 05-JUN-13 16:16 | EAL | 03-JUN-13 | DA | NA |
| MC21202-10 | SW846 6020A | 07-JUN-13 14:30 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-11 | Collected: 28-MAY-13 10:30 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-93-22B-052813 | | | | | | |
| MC21202-11 | SW846 6010C | 04-JUN-13 14:36 | EAL | 03-JUN-13 | DA | K |
| MC21202-11 | SM21 5310 B | 04-JUN-13 14:51 | MA | | | DOC |
| MC21202-11 | SW846 6010C | 05-JUN-13 16:20 | EAL | 03-JUN-13 | DA | MG |
| MC21202-11 | SW846 6010C | 05-JUN-13 16:33 | EAL | 03-JUN-13 | DA | FE,MN,NA |
| MC21202-11 | SW846 6010C | 05-JUN-13 16:38 | EAL | 03-JUN-13 | DA | CA |
| MC21202-11 | SW846 6020A | 07-JUN-13 14:37 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-12 | Collected: 28-MAY-13 11:00 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-11-06-052813 | | | | | | |
| MC21202-12 | SW846 6010C | 04-JUN-13 14:41 | EAL | 03-JUN-13 | DA | MG,MN |
| MC21202-12 | SM21 5310 B | 04-JUN-13 15:04 | MA | | | DOC |
| MC21202-12 | SW846 6010C | 05-JUN-13 16:42 | EAL | 03-JUN-13 | DA | K,NA |
| MC21202-12 | SW846 6010C | 05-JUN-13 16:46 | EAL | 03-JUN-13 | DA | CA |
| MC21202-12 | SW846 6010C | 05-JUN-13 16:51 | EAL | 03-JUN-13 | DA | FE |
| MC21202-12 | SW846 6020A | 07-JUN-13 14:44 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-13 | Collected: 28-MAY-13 11:10 By: JG | | Received: 28-MAY-13 By: BA | | | |
| SHM-96-5C-052813 | | | | | | |
| MC21202-13 | SW846 6010C | 04-JUN-13 14:45 | EAL | 03-JUN-13 | DA | FE |
| MC21202-13 | SM21 5310 B | 04-JUN-13 15:17 | MA | | | DOC |
| MC21202-13 | SW846 6010C | 05-JUN-13 16:55 | EAL | 03-JUN-13 | DA | K,MG |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21202

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21202-13 | SW846 6010C | 05-JUN-13 16:59 | EAL | 03-JUN-13 | DA | NA |
| MC21202-13 | SW846 6010C | 05-JUN-13 17:04 | EAL | 03-JUN-13 | DA | CA,MN |
| MC21202-13 | SW846 6020A | 07-JUN-13 14:51 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-14 | Collected: 28-MAY-13 13:25 By: JG | | | Received: 28-MAY-13 By: BA | | |
| SHL-9-052813 | | | | | | |
| MC21202-14 | SM21 5310 B | 04-JUN-13 12:16 | MA | | | DOC |
| MC21202-14 | SW846 6010C | 04-JUN-13 13:45 | EAL | 03-JUN-13 | DA | FE,K,MG,MN,NA |
| MC21202-14 | SW846 6010C | 05-JUN-13 14:59 | EAL | 03-JUN-13 | DA | CA |
| MC21202-14 | SW846 6020A | 07-JUN-13 13:19 | PY | 03-JUN-13 | DA | ASMS |
| MC21202-15 | Collected: 28-MAY-13 09:25 By: JG | | | Received: 28-MAY-13 By: BA | | |
| SHL-22-052813 | | | | | | |
| MC21202-15 | SW846 6010C | 04-JUN-13 14:49 | EAL | 03-JUN-13 | DA | FE,K |
| MC21202-15 | SM21 5310 B | 04-JUN-13 15:30 | MA | | | DOC |
| MC21202-15 | SW846 6010C | 05-JUN-13 17:08 | EAL | 03-JUN-13 | DA | MG |
| MC21202-15 | SW846 6010C | 05-JUN-13 17:13 | EAL | 03-JUN-13 | DA | MN,NA |
| MC21202-15 | SW846 6010C | 05-JUN-13 17:25 | EAL | 03-JUN-13 | DA | CA |
| MC21202-15 | SW846 6020A | 07-JUN-13 14:58 | PY | 03-JUN-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-1.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21202-1.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21202-1.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-1.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-1.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-1.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-1.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-1.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-1.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21202-1.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21202-1.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21202-1.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21202-1.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-1.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-1.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-1.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-1F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21202-1F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21202-2.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21202-2.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21202-2.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-2.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-2.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-2.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-2.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-2.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-2.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21202-2.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21202-2.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21202-2.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21202-2.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-2.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-2.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-2.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-2F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-2F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21202-3.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21202-3.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21202-3.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-3.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-3.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-3.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-3.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-3.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-3.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21202-3.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21202-3.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21202-3.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21202-3.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-3.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-3.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-3.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-3F.5 | Walk In Ref #5 | Dorina Antonovici | 05/29/13 10:28 | Retrieve from Storage |
| MC21202-3F.5 | Dorina Antonovici | Walk In Ref #5 | 05/29/13 11:53 | Return to Storage |
| MC21202-4.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21202-4.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21202-4.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-4.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-4.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-4.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-4.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-4.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-4.2 | Walk In Ref #5 | Bijan Firowznin | 06/06/13 06:45 | Retrieve from Storage |
| MC21202-4.2 | Bijan Firowznin | Walk In Ref #5 | 06/06/13 08:50 | Return to Storage |
| MC21202-4.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21202-4.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21202-4.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-4.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-4.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-4.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-4F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-4F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-5.1 | Walk In Ref #5 | Crystall Woodruff | 05/25/13 10:18 | Retrieve from Storage |
| MC21202-5.1 | Crystall Woodruff | Walk In Ref #5 | 05/27/13 14:47 | Return to Storage |
| MC21202-5.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-5.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-5.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-5.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-5.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-5.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-5.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-5.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-5.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-5.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-5.3 | Walk In Ref #5 | Bijan Firowznin | 05/28/13 09:06 | Retrieve from Storage |
| MC21202-5.3 | Bijan Firowznin | | 05/28/13 15:22 | Depleted |
| MC21202-5.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-5.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-5.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-5.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-5F.4 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-5F.4 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-6F.2 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-6F.2 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-7.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-7.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-7.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-7.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-7.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-7.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-7.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-7.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-7.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-7.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-7.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-7.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-7.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-7.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-7.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-7.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-7F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-7F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-8.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-8.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-8.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-8.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-8.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-8.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-8.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-8.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-8.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-8.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-8.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-8.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-8.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-8.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-8.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-8.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-8F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-8F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-9.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-9.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-9.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-9.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-9.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-9.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-9.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-9.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-9.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-9.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-9.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-9.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-9.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-9.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-9.8 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-9.8 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-9.8 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-9.8 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-9F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-9F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-10.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-10.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-10.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-10.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-10.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-10.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-10.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-10.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-10.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-10.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-10.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-10.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-10.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-10.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-10.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-10.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-10.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-10.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-10F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-10F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-11.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-11.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-11.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-11.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-11.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-11.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-11.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-11.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-11.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-11.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-11.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-11.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-11.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-11.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-11.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-11.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-11.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-11.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-11F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-11F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-12.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-12.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-12.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-12.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-12.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-12.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-12.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-12.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-12.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-12.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-12.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-12.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-12.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-12.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-12.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-12.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-12.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-12.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-12F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-12F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-13.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-13.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-13.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-13.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-13.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-13.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-13.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-13.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-13.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-13.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21202-13.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-13.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-13.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-13.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-13.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-13.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-13.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-13.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-13F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-13F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-14.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-14.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-14.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-14.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-14.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-14.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-14.2 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-14.2 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-14.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-14.3 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-14.3 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-14.3 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-14.6 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-14.6 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-14.6 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-14.6 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-14.7 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-14.7 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-14.8 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-14.8 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-14.9 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-14.9 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-14.20 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-14.20 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-14.20 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-14.20 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-14.21 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-14.21 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-14.21 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-14.21 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-14.22 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-14.22 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-14.22 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-14.22 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-14.23 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-14.23 | Mehdi Abdolrahim | Walk In Ref #5 | 06/04/13 08:34 | Return to Storage |
| MC21202-14F.14 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-14F.14 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21202-15.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21202-15.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21202-15.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21202-15.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21202-15.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21202-15.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21202-15.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21202-15.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21202-15.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21202-15.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21202
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/24/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21202-15.2 | Walk In Ref #5 | Bijan Firowznin | 06/07/13 06:54 | Retrieve from Storage |
| MC21202-15.2 | Bijan Firowznin | Walk In Ref #5 | 06/07/13 06:55 | Return to Storage |
| MC21202-15.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21202-15.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21202-15.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21202-15.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21202-15.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21202-15.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21202-15F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21202-15F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

# QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 1 | | STD1 |
| 09:19 | MA15693-STD2 | 1 | | STD2 |
| 09:23 | MA15693-STD3 | 1 | | STD3 |
| 09:28 | MA15693-STD4 | 1 | | STD4 |
| 09:32 | MA15693-ICV1 | 1 | | |
| 09:42 | MA15693-ICB1 | 1 | | |
| 09:50 | MA15693-CCV1 | 1 | | |
| 09:58 | MA15693-CCB1 | 1 | | |
| 10:04 | MA15693-CRI1 | 1 | | |
| 10:13 | MA15693-ICSA1 | 1 | | |
| 10:17 | MA15693-ICSAB1 | 1 | | |
| 10:22 | MP21072-B1 | 1 | | |
| 10:26 | MP21072-MB1 | 1 | | |
| 10:30 | MP21072-S1 | 1 | | |
| 10:34 | MP21072-S2 | 1 | | |
| 10:39 | MC21083-12F | 1 | | (sample used for QC only; not part of login MC21202) |
| 10:43 | MP21072-SD1 | 5 | | |
| 10:47 | ZZZZZZ | 1 | | |
| 10:52 | MA15693-CCV2 | 1 | | |
| 10:58 | MA15693-CCB2 | 1 | | |
| 11:08 | ZZZZZZ | 1 | | |
| 11:12 | ZZZZZZ | 1 | | |
| 11:16 | ZZZZZZ | 1 | | |
| 11:21 | ZZZZZZ | 1 | | |
| 11:25 | ZZZZZZ | 1 | | |
| 11:29 | ZZZZZZ | 1 | | |
| 11:34 | ZZZZZZ | 1 | | |
| 11:38 | ZZZZZZ | 1 | | |
| 11:42 | ZZZZZZ | 1 | | |
| 11:47 | ZZZZZZ | 1 | | |
| 11:51 | MA15693-CCV3 | 1 | | |
| 11:58 | MA15693-CCB3 | 1 | | |
| 12:03 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:07 | ZZZZZZ | 1 | | |
| 12:11 | ZZZZZZ | 1 | | |
| 12:16 | ZZZZZZ | 1 | | |
| 12:20 | ZZZZZZ | 1 | | |
| 12:25 | ZZZZZZ | 1 | | |
| 12:29 | ZZZZZZ | 1 | | |
| 12:33 | ZZZZZZ | 1 | | |
| 12:38 | MP21072-PS1 | 1 | | |
| 12:42 | MP21073-B1 | 1 | | |
| 12:46 | MA15693-CCV4 | 1 | | |
| 12:54 | MA15693-CCB4 | 1 | | |
| 13:00 | MP21073-MB1 | 1 | | |
| 13:04 | MP21073-S1 | 1 | | |
| 13:08 | MP21073-S2 | 1 | | |
| 13:12 | MC21156-7F | 1 | | (sample used for QC only; not part of login MC21202) |
| 13:17 | MP21073-SD1 | 5 | | |
| 13:21 | ZZZZZZ | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:34 | ZZZZZZ | 1 | | |
| 13:38 | ZZZZZZ | 1 | | |
| 13:43 | MA15693-CCV5 | 1 | | |
| 13:48 | MA15693-CCB5 | 1 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:07 | ZZZZZZ | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:24 | ZZZZZZ | 1 | | |
| 14:29 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 1 | | |
| 14:42 | MA15693-CCB6 | 1 | | |
| 14:52 | ZZZZZZ | 1 | | |
| 14:56 | MC21202-1F | 1 | | |
| 15:01 | MC21202-2F | 1 | | |
| 15:05 | MC21202-3F | 1 | | |
| 15:10 | MP21073-PS1 | 1 | | |
| 15:18 | MP21072-B1 | 5 | | |
| 15:23 | MP21072-S1 | 5 | | |
| 15:27 | MP21072-S2 | 5 | | |
| 15:32 | ZZZZZZ | 5 | | |
| 15:36 | ZZZZZZ | 5 | | |
| 15:44 | MA15693-CCV7 | 1 | | |
| 15:50 | MA15693-CCB7 | 1 | | |
| 15:55 | ZZZZZZ | 5 | | |
| 15:59 | ZZZZZZ | 10 | | |
| 16:04 | ZZZZZZ | 10 | | |
| 16:08 | ZZZZZZ | 20 | | |
| 16:12 | ZZZZZZ | 2 | | |
| 16:17 | ZZZZZZ | 5 | | |
| 16:21 | ZZZZZZ | 20 | | |
| 16:25 | ZZZZZZ | 5 | | |
| 16:30 | ZZZZZZ | 2 | | |
| 16:34 | ZZZZZZ | 10 | | |
| 16:38 | MA15693-CCV8 | 1 | | |
| 16:43 | MA15693-CCB8 | 1 | | |
| 16:47 | ZZZZZZ | 2 | | |
| 16:51 | ZZZZZZ | 2 | | |
| 16:56 | ZZZZZZ | 5 | | |
| 17:00 | ZZZZZZ | 10 | | |
| 17:04 | ZZZZZZ | 3 | | |
| 17:09 | ZZZZZZ | 4 | | |
| 17:13 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 5 | | |
| 17:22 | MP21073-B1 | 5 | | |
| 17:26 | MP21073-S1 | 5 | | |
| 17:30 | MA15693-CCV9 | 1 | | |
| 17:34 | MA15693-CCB9 | 1 | | |
| 17:39 | MP21073-S2 | 5 | | |
| 17:43 | MP21073-S1 | 10 | | |
| 17:47 | MP21073-S2 | 10 | | |
| 17:52 | MC21156-7F | 2 | | (sample used for QC only; not part of login MC21202) |
| 17:56 | MC21156-7F | 10 | | (sample used for QC only; not part of login MC21202) |
| 18:00 | MP21073-SD1 | 10 | | |
| 18:05 | MP21073-SD1 | 50 | | |
| ----------> | Last reportable sample/prep for job MC21202 | | | |
| 18:09 | MA15693-CRI2 | 1 | | |
| 18:13 | MA15693-CCV10 | 1 | | |
| 18:18 | MA15693-CCB10 | 1 | | |
| ----------> | Last reportable CCB for job MC21202 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:15 | MA15693-STD1 | 2222 R | 53476 R | 14049 R |
| 09:19 | MA15693-STD2 | 2242 | 52643 | 12571 |
| 09:23 | MA15693-STD3 | | | 12965 |
| 09:28 | MA15693-STD4 | 2292 | 54672 | 13231 |
| 09:32 | MA15693-ICV1 | 2245 | 53542 | 13105 |
| 09:42 | MA15693-ICB1 | 2245 | 54467 | 13169 |
| 09:50 | MA15693-CCV1 | 2228 | 54081 | 13266 |
| 09:58 | MA15693-CCB1 | 2245 | 54666 | 13274 |
| 10:04 | MA15693-CRI1 | 2250 | 54745 | 13399 |
| 10:13 | MA15693-ICSA1 | 2062 | 51119 | 13017 |
| 10:17 | MA15693-ICSAB1 | 2061 | 51001 | 13045 |
| 10:22 | MP21072-B1 | 2217 | 54611 | 13509 |
| 10:26 | MP21072-MB1 | 2228 | 55199 | 13356 |
| 10:30 | MP21072-S1 | 2214 | 54593 | 13401 |
| 10:34 | MP21072-S2 | 2231 | 54533 | 13365 |
| 10:39 | MC21083-12F | 2240 | 55273 | 13361 |
| 10:43 | MP21072-SD1 | 2238 | 54990 | 13359 |
| 10:47 | ZZZZZZ | 2237 | 55315 | 13440 |
| 10:52 | MA15693-CCV2 | 2247 | 54504 | 13396 |
| 10:58 | MA15693-CCB2 | 2234 | 54828 | 13314 |
| 11:08 | ZZZZZZ | 2212 | 54809 | 13616 |
| 11:12 | ZZZZZZ | 2242 | 55067 | 13473 |
| 11:16 | ZZZZZZ | 2226 | 55276 | 13530 |
| 11:21 | ZZZZZZ | 2193 | 54366 | 13409 |
| 11:25 | ZZZZZZ | 2236 | 54775 | 13380 |
| 11:29 | ZZZZZZ | 2253 | 55028 | 13364 |
| 11:34 | ZZZZZZ | 2208 | 54768 | 13463 |
| 11:38 | ZZZZZZ | 2240 | 54672 | 13518 |
| 11:42 | ZZZZZZ | 2263 | 54642 | 13436 |
| 11:47 | ZZZZZZ | 2219 | 54549 | 13326 |
| 11:51 | MA15693-CCV3 | 2261 | 54370 | 13239 |
| 11:58 | MA15693-CCB3 | 2273 | 55412 | 13238 |
| 12:03 | ZZZZZZ | 2260 | 54805 | 13444 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:07 | ZZZZZZ | 2268 | 55124 | 13592 |
| 12:11 | ZZZZZZ | 2254 | 54690 | 13538 |
| 12:16 | ZZZZZZ | 2221 | 54530 | 13525 |
| 12:20 | ZZZZZZ | 2261 | 54746 | 13537 |
| 12:25 | ZZZZZZ | 2238 | 54889 | 13469 |
| 12:29 | ZZZZZZ | 2240 | 55327 | 13704 |
| 12:33 | ZZZZZZ | 2245 | 54900 | 13340 |
| 12:38 | MP21072-PS1 | 2219 | 54948 | 13629 |
| 12:42 | MP21073-B1 | 2227 | 54750 | 13618 |
| 12:46 | MA15693-CCV4 | 2243 | 54323 | 13694 |
| 12:54 | MA15693-CCB4 | 2224 | 54631 | 13420 |
| 13:00 | MP21073-MB1 | 2221 | 55398 | 13657 |
| 13:04 | MP21073-S1 | 2171 | 54877 | 13620 |
| 13:08 | MP21073-S2 | 2176 | 54496 | 13584 |
| 13:12 | MC21156-7F | 2194 | 54734 | 13815 |
| 13:17 | MP21073-SD1 | 2232 | 55020 | 13629 |
| 13:21 | ZZZZZZ | 2232 | 55206 | 13840 |
| 13:25 | ZZZZZZ | 2194 | 54685 | 13737 |
| 13:30 | ZZZZZZ | 2209 | 54774 | 13796 |
| 13:34 | ZZZZZZ | 2198 | 55155 | 13734 |
| 13:38 | ZZZZZZ | 2182 | 54772 | 13621 |
| 13:43 | MA15693-CCV5 | 2220 | 54467 | 13603 |
| 13:48 | MA15693-CCB5 | 2216 | 55052 | 13445 |
| 13:54 | ZZZZZZ | 2211 | 55303 | 13553 |
| 13:58 | ZZZZZZ | 2193 | 54490 | 13494 |
| 14:03 | ZZZZZZ | 2215 | 54854 | 13437 |
| 14:07 | ZZZZZZ | 2222 | 54642 | 13505 |
| 14:11 | ZZZZZZ | 2233 | 54718 | 13502 |
| 14:16 | ZZZZZZ | 2229 | 54683 | 13579 |
| 14:20 | ZZZZZZ | 2261 | 54936 | 13491 |
| 14:24 | ZZZZZZ | 2262 | 54717 | 13479 |
| 14:29 | ZZZZZZ | 2244 | 54567 | 13445 |
| 14:33 | ZZZZZZ | 2247 | 54607 | 13527 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:37 | MA15693-CCV6 | 2266 | 54530 | 13586 |
| 14:42 | MA15693-CCB6 | 2267 | 55360 | 13485 |
| 14:52 | ZZZZZZ | 2224 | 55403 | 13596 |
| 14:56 | MC21202-1F | 2157 | 54521 | 13371 |
| 15:01 | MC21202-2F | 2159 | 54512 | 13507 |
| 15:05 | MC21202-3F | 2248 | 55137 | 13481 |
| 15:10 | MP21073-PS1 | 2204 | 54715 | 13577 |
| 15:18 | MP21072-B1 | 2257 | 55271 | 13593 |
| 15:23 | MP21072-S1 | 2259 | 54795 | 13511 |
| 15:27 | MP21072-S2 | 2268 | 54947 | 13604 |
| 15:32 | ZZZZZZ | 2271 | 54927 | 13433 |
| 15:36 | ZZZZZZ | 2276 | 54865 | 13580 |
| 15:44 | MA15693-CCV7 | 2262 | 54617 | 13824 |
| 15:50 | MA15693-CCB7 | 2263 | 55406 | 13057 |
| 15:55 | ZZZZZZ | 2267 | 55210 | 13626 |
| 15:59 | ZZZZZZ | 2261 | 54978 | 13606 |
| 16:04 | ZZZZZZ | 2269 | 54936 | 13514 |
| 16:08 | ZZZZZZ | 2267 | 54659 | 13547 |
| 16:12 | ZZZZZZ | 2267 | 55194 | 13500 |
| 16:17 | ZZZZZZ | 2266 | 55002 | 13529 |
| 16:21 | ZZZZZZ | 2267 | 54978 | 13589 |
| 16:25 | ZZZZZZ | 2279 | 54793 | 13426 |
| 16:30 | ZZZZZZ | 2267 | 54625 | 13632 |
| 16:34 | ZZZZZZ | 2285 | 54855 | 13442 |
| 16:38 | MA15693-CCV8 | 2273 | 54324 | 13533 |
| 16:43 | MA15693-CCB8 | 2276 | 55005 | 13447 |
| 16:47 | ZZZZZZ | 2282 | 55271 | 13533 |
| 16:51 | ZZZZZZ | 2271 | 54996 | 13525 |
| 16:56 | ZZZZZZ | 2272 | 54867 | 13490 |
| 17:00 | ZZZZZZ | 2255 | 54653 | 13449 |
| 17:04 | ZZZZZZ | 2265 | 54762 | 13586 |
| 17:09 | ZZZZZZ | 2274 | 55420 | 13453 |
| 17:13 | ZZZZZZ | 2264 | 55461 | 13516 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15693
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:17 | MP21072-PS1 | 2284 | 55180 | 13525 |
| 17:22 | MP21073-B1 | 2284 | 54775 | 13551 |
| 17:26 | MP21073-S1 | 2267 | 54707 | 13666 |
| 17:30 | MA15693-CCV9 | 2268 | 54527 | 13483 |
| 17:34 | MA15693-CCB9 | 2278 | 55420 | 13668 |
| 17:39 | MP21073-S2 | 2256 | 54856 | 13653 |
| 17:43 | MP21073-S1 | 2262 | 54842 | 13513 |
| 17:47 | MP21073-S2 | 2270 | 54878 | 13616 |
| 17:52 | MC21156-7F | 2256 | 55010 | 13618 |
| 17:56 | MC21156-7F | 2279 | 55268 | 13562 |
| 18:00 | MP21073-SD1 | 2276 | 54890 | 13474 |
| 18:05 | MP21073-SD1 | 2274 | 55194 | 13563 |
| 18:09 | MA15693-CRI2 | 2283 | 55170 | 13495 |
| 18:13 | MA15693-CCV10 | 2271 | 55006 | 13420 |
| 18:18 | MA15693-CCB10 | 2272 | 54937 | 13557 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 09:42 ICB1 | | 09:58 CCB1 | | 10:58 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 3.5 | <5000 | 1.7 | <5000 | 12.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 1.6 | <100 | -0.30 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -9.9 | <5000 | 0.70 | <5000 | 3.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.10 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | -27 | <5000 | -2.8 | <5000 | -16 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -25 | <5000 | -36 | <5000 | -36 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 11:58 CCB3 | | 12:54 CCB4 | | 13:48 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 8.1 | <5000 | 15.9 | <5000 | 4.7 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 2.4 | <100 | 0.0 | <100 | 5.2 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -3.9 | <5000 | -6.6 | <5000 | 0.0 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 17.7 | <5000 | 39.5 | <5000 | 18.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -41 | <5000 | -37 | <5000 | -40 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 14:42 CCB6 | | 15:50 CCB7 | | 16:43 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.5 | <5000 | -1.9 | <5000 | 1.2 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 5.1 | <100 | 2.9 | <100 | 6.8 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 11.1 | <5000 | 2.6 | <5000 | 0.50 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.30 | <15 | 0.30 | <15 | 0.90 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 27.5 | <5000 | 27.3 | <5000 | 12.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -30 | <5000 | -14 | <5000 | -37 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| Time: / Sample ID: | | | | 17:34 CCB9 | | 18:18 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | -0.20 | <5000 | -3.9 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 6.4 | <100 | 4.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 0.70 | <5000 | 10.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.60 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 0.50 | <5000 | 4.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | -28 | <5000 | -38 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15693  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 09:32 | | | 09:50 | | | 10:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18200 | 101.1 | 10000 | 9950 | 99.5 | 10000 | 9860 | 98.6 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 10000 | 100.0 | 10000 | 9930 | 99.3 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18400 | 102.2 | 10000 | 9720 | 97.2 | 10000 | 9610 | 96.1 |
| Manganese | 3000 | 2970 | 99.0 | 2000 | 1910 | 95.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9940 | 99.4 | 10000 | 9910 | 99.1 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15700 | 104.7 | 10000 | 10000 | 100.0 | 10000 | 9950 | 99.5 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 11:51 | | | 12:46 | | | 13:43 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9840 | 98.4 | 10000 | 9790 | 97.9 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9850 | 98.5 | 10000 | 9980 | 99.8 | 10000 | 9980 | 99.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9690 | 96.9 | 10000 | 9330 | 93.3 | 10000 | 9310 | 93.1 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1880 | 94.0 | 2000 | 1850 | 92.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9830 | 98.3 | 10000 | 9820 | 98.2 | 10000 | 9700 | 97.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9880 | 98.8 | 10000 | 9990 | 99.9 | 10000 | 9990 | 99.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 14:37 | | | 15:44 | | | 16:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9760 | 97.6 | 10000 | 9500 | 95.0 | 10000 | 9750 | 97.5 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9870 | 98.7 | 10000 | 9650 | 96.5 | 10000 | 9790 | 97.9 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9210 | 92.1 | 10000 | 9480 | 94.8 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9740 | 97.4 | 10000 | 9490 | 94.9 | 10000 | 9720 | 97.2 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9680 | 96.8 | 10000 | 9810 | 98.1 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | 17:30 | | | 18:13 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9790 | 97.9 | 10000 | 9790 | 97.9 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9880 | 98.8 | 10000 | 9830 | 98.3 |
| Lead | | | | | | |
| Magnesium | 10000 | 9430 | 94.3 | 10000 | 9530 | 95.3 |
| Manganese | 2000 | 1890 | 94.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9720 | 97.2 | 10000 | 9770 | 97.7 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP Date Analyzed: 06/03/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15693 Units: ug/l

| Time: | | | 10:04 | | 18:09 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5010 | 100.2 | 4940 | 98.8 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 99.9 | 99.9 | 103 | 103.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4840 | 96.8 | 4800 | 96.0 |
| Manganese | 15 | 15 | 15.1 | 100.7 | 15.0 | 100.0 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5000 | 100.0 | 4930 | 98.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4980 | 99.6 | 4920 | 98.4 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | | | 10:13 | | 10:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 511000 | 102.2 | 520000 | 104.0 |
| Antimony | | 2000 | 1.9 | | 2130 | 106.5 |
| Arsenic | | 2000 | 0.0 | | 2070 | 103.5 |
| Barium | | 500 | -0.20 | | 508 | 101.6 |
| Beryllium | | 500 | 0.0 | | 462 | 92.4 |
| Boron | | 1000 | 4.5 | | 1020 | 102.0 |
| Cadmium | | 1000 | -0.30 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 462000 | 92.4 | 465000 | 93.0 |
| Chromium | | 500 | -0.30 | | 480 | 96.0 |
| Cobalt | | 500 | -0.20 | | 484 | 96.8 |
| Copper | | 500 | 3.5 | | 512 | 102.4 |
| Gold | | 500 | 7.2 | | 493 | 98.6 |
| Iron | 200000 | 200000 | 189000 | 94.5 | 189000 | 94.5 |
| Lead | | 1000 | -0.80 | | 913 | 91.3 |
| Magnesium | 500000 | 500000 | 485000 | 97.0 | 482000 | 96.4 |
| Manganese | | 500 | 0.50 | | 467 | 93.4 |
| Molybdenum | | 1000 | -0.40 | | 976 | 97.6 |
| Nickel | | 1000 | -0.60 | | 911 | 91.1 |
| Palladium | | 500 | -34* | | 503 | 100.6 |
| Platinum | | 500 | -15 | | 478 | 95.6 |
| Potassium | | | 31.4 | | 62.8 | |
| Selenium | | 2000 | -0.80 | | 2030 | 101.5 |
| Silicon | | 2000 | 36.5 | | 2230 | 111.5 |
| Silver | | 1000 | 1.1 | | 1030 | 103.0 |
| Sodium | | | 46.4 | | 37.1 | |
| Strontium | | 1000 | 1.0* | | 975 | 97.5 |
| Thallium | | 2000 | 0.70 | | 1900 | 95.0 |
| Tin | | 1000 | -0.50 | | 994 | 99.4 |
| Titanium | | 500 | 8.9* | | 515 | 103.0 |
| Tungsten | | 2000 | -39* | | 1830 | 91.5 |
| Vanadium | | 500 | 0.30 | | 505 | 101.0 |
| Zinc | | 1000 | -0.80 | | 894 | 89.4 |
| Zirconium | | 500 | 1.9 | | 461 | 92.2 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060313M1L.ICP  Date Analyzed: 06/03/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15693  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 1 | | STD1 |
| 12:35 | MA15701-STD2 | 1 | | STD2 |
| 12:39 | MA15701-STD3 | 1 | | STD3 |
| 12:43 | MA15701-STD4 | 1 | | STD4 |
| 12:48 | MA15701-ICV1 | 1 | | |
| 12:54 | MA15701-ICB1 | 1 | | |
| 13:01 | MA15701-CCV1 | 1 | | |
| 13:07 | MA15701-CCB1 | 1 | | |
| 13:12 | MA15701-CRI1 | 1 | | |
| 13:20 | MA15701-ICSA1 | 1 | | |
| 13:24 | MA15701-ICSAB1 | 1 | | |
| 13:28 | MP21097-B1 | 1 | | |
| 13:32 | MP21097-MB1 | 1 | | |
| 13:37 | MP21097-S1 | 1 | | |
| 13:41 | MP21097-S2 | 1 | | |
| 13:45 | MC21202-14F | 1 | | |
| 13:50 | MP21097-SD1 | 5 | | |
| 13:54 | MC21202-4F | 1 | | |
| 13:58 | MA15701-CCV2 | 1 | | |
| 14:06 | MA15701-CCB2 | 1 | | |
| 14:10 | MC21202-5F | 1 | | |
| 14:15 | MC21202-6F | 1 | | |
| 14:19 | MC21202-7F | 1 | | |
| 14:23 | MC21202-8F | 1 | | |
| 14:28 | MC21202-9F | 1 | | |
| 14:32 | MC21202-10F | 1 | | |
| 14:36 | MC21202-11F | 1 | | |
| 14:41 | MC21202-12F | 1 | | |
| 14:45 | MC21202-13F | 1 | | |
| 14:49 | MC21202-15F | 1 | | |
| 14:54 | MA15701-CCV3 | 1 | | |
| 15:00 | MA15701-CCB3 | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:09 | ZZZZZZ | 1 | | |
| 15:14 | ZZZZZZ | 1 | | |
| 15:18 | ZZZZZZ | 1 | | |
| 15:23 | ZZZZZZ | 1 | | |
| 15:27 | ZZZZZZ | 1 | | |
| 15:31 | ZZZZZZ | 1 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:49 | MP21097-PS1 | 1 | | |
| 15:53 | MP21097-B1 | 5 | | |
| ----------> | Last reportable sample/prep for job MC21202 | | | |
| 15:58 | MA15701-CCV4 | 1 | | |
| 16:03 | MA15701-CCB4 | 1 | | |
| 16:08 | MP21072-PS1 | 1 | | |
| 16:12 | ZZZZZZ | 2 | | |
| 16:17 | ZZZZZZ | 2 | | |
| 16:21 | ZZZZZZ | 3 | | |
| 16:26 | ZZZZZZ | 2 | | |
| 16:30 | ZZZZZZ | 3 | | |
| 16:34 | ZZZZZZ | 2 | | |
| 16:39 | ZZZZZZ | 3 | | |
| 16:43 | ZZZZZZ | 2 | | |
| 16:47 | ZZZZZZ | 5 | | |
| 16:52 | MA15701-CCV5 | 1 | | |
| 16:57 | MA15701-CCB5 | 1 | | |
| 17:01 | ZZZZZZ | 2 | | |
| 17:06 | ZZZZZZ | 3 | | |
| 17:10 | ZZZZZZ | 5 | | |
| 17:14 | ZZZZZZ | 2 | | |
| 17:19 | MA15701-CRI2 | 1 | | |
| 17:23 | MA15701-CCV6 | 1 | | |
| 17:30 | MA15701-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC21202 | | | |
| 17:34 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 17:39 | ZZZZZZ | 1 | | DNR: NOT NEEDED. |
| 17:52 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 10 | | |
| 18:03 | ZZZZZZ | 2 | | |
| 18:08 | ZZZZZZ | 3 | | |
| 18:12 | ZZZZZZ | 10 | | |
| 18:16 | ZZZZZZ | 5 | | |
| 18:21 | ZZZZZZ | 10 | | |
| 18:25 | ZZZZZZ | 3 | | |
| 18:29 | MA15701-CCV7 | 1 | | |
| 18:33 | MA15701-CCB7 | 1 | | |
| 18:38 | ZZZZZZ | 10 | | |
| 18:42 | ZZZZZZ | 2 | | |
| 18:46 | ZZZZZZ | 2 | | |
| 18:51 | ZZZZZZ | 3 | | |
| 18:55 | ZZZZZZ | 10 | | |
| 18:59 | ZZZZZZ | 2 | | |
| 19:04 | ZZZZZZ | 5 | | |
| 19:08 | ZZZZZZ | 10 | | |
| 19:12 | ZZZZZZ | 3 | | |
| 19:17 | ZZZZZZ | 10 | | |
| 19:21 | MA15701-CCV8 | 1 | | |
| 19:25 | MA15701-CCB8 | 1 | | |
| 19:30 | MA15701-CRI3 | 1 | | |
| 19:34 | MA15701-CCV9 | 1 | | |
| 19:38 | MA15701-CCB9 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 2200 R | 58015 R | 13767 R |
| 12:35 | MA15701-STD2 | 2185 | 57495 | 13748 |
| 12:39 | MA15701-STD3 | | | 13805 |
| 12:43 | MA15701-STD4 | 2201 | 57208 | 13734 |
| 12:48 | MA15701-ICV1 | 2190 | 56672 | 13783 |
| 12:54 | MA15701-ICB1 | 2217 | 57161 | 13583 |
| 13:01 | MA15701-CCV1 | 2214 | 56212 | 13633 |
| 13:07 | MA15701-CCB1 | 2240 | 57042 | 13578 |
| 13:12 | MA15701-CRI1 | 2243 | 56880 | 13556 |
| 13:20 | MA15701-ICSA1 | 2087 | 53118 | 13355 |
| 13:24 | MA15701-ICSAB1 | 2083 | 53328 | 13425 |
| 13:28 | MP21097-B1 | 2241 | 57454 | 13982 |
| 13:32 | MP21097-MB1 | 2242 | 57667 | 13979 |
| 13:37 | MP21097-S1 | 2195 | 56426 | 13810 |
| 13:41 | MP21097-S2 | 2214 | 56934 | 13714 |
| 13:45 | MC21202-14F | 2212 | 57161 | 13728 |
| 13:50 | MP21097-SD1 | 2262 | 57389 | 13592 |
| 13:54 | MC21202-4F | 2220 | 57427 | 13811 |
| 13:58 | MA15701-CCV2 | 2261 | 56403 | 13555 |
| 14:06 | MA15701-CCB2 | 2273 | 56639 | 13461 |
| 14:10 | MC21202-5F | 2247 | 56548 | 13694 |
| 14:15 | MC21202-6F | 2269 | 57321 | 13826 |
| 14:19 | MC21202-7F | 2230 | 56716 | 13777 |
| 14:23 | MC21202-8F | 2279 | 57457 | 13712 |
| 14:28 | MC21202-9F | 2240 | 56859 | 13836 |
| 14:32 | MC21202-10F | 2277 | 56936 | 13606 |
| 14:36 | MC21202-11F | 2254 | 56903 | 13834 |
| 14:41 | MC21202-12F | 2247 | 57202 | 13920 |
| 14:45 | MC21202-13F | 2239 | 56889 | 13766 |
| 14:49 | MC21202-15F | 2231 | 56881 | 13670 |
| 14:54 | MA15701-CCV3 | 2279 | 57118 | 13613 |
| 15:00 | MA15701-CCB3 | 2280 | 57150 | 13537 |
| 15:05 | ZZZZZZ | 2244 | 57191 | 13751 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:09 | ZZZZZZ | 2279 | 57233 | 13632 |
| 15:14 | ZZZZZZ | 2240 | 56855 | 13692 |
| 15:18 | ZZZZZZ | 2277 | 56939 | 13643 |
| 15:23 | ZZZZZZ | 2295 | 57322 | 13683 |
| 15:27 | ZZZZZZ | 2273 | 56395 | 13768 |
| 15:31 | ZZZZZZ | 2271 | 56817 | 13776 |
| 15:36 | ZZZZZZ | 2277 | 56843 | 13732 |
| 15:49 | MP21097-PS1 | 2236 | 57180 | 13713 |
| 15:53 | MP21097-B1 | 2279 | 56941 | 13730 |
| 15:58 | MA15701-CCV4 | 2289 | 57396 | 13710 |
| 16:03 | MA15701-CCB4 | 2285 | 57350 | 13582 |
| 16:08 | MP21072-PS1 | 2268 | 57478 | 13847 |
| 16:12 | ZZZZZZ | 2287 | 56781 | 13596 |
| 16:17 | ZZZZZZ | 2281 | 56793 | 13609 |
| 16:21 | ZZZZZZ | 2285 | 57438 | 13660 |
| 16:26 | ZZZZZZ | 2310 | 56899 | 13643 |
| 16:30 | ZZZZZZ | 2285 | 56967 | 13675 |
| 16:34 | ZZZZZZ | 2296 | 56462 | 13520 |
| 16:39 | ZZZZZZ | 2310 | 56694 | 13816 |
| 16:43 | ZZZZZZ | 2253 | 56378 | 13695 |
| 16:47 | ZZZZZZ | 2297 | 57019 | 13712 |
| 16:52 | MA15701-CCV5 | 2291 | 56908 | 13755 |
| 16:57 | MA15701-CCB5 | 2308 | 57508 | 13676 |
| 17:01 | ZZZZZZ | 2280 | 57146 | 13757 |
| 17:06 | ZZZZZZ | 2301 | 56529 | 13698 |
| 17:10 | ZZZZZZ | 2317 | 57410 | 13558 |
| 17:14 | ZZZZZZ | 2282 | 56653 | 13677 |
| 17:19 | MA15701-CRI2 | 2314 | 57200 | 13439 |
| 17:23 | MA15701-CCV6 | 2295 | 56235 | 13836 |
| 17:30 | MA15701-CCB6 | 2316 | 57590 | 13649 |
| 17:34 | ZZZZZZ | 2301 | 57343 | 13746 |
| 17:39 | ZZZZZZ | 2247 | 56787 | 13684 |
| 17:52 | ZZZZZZ | 2275 | 57048 | 13801 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 2278 | 56975 | 13648 |
| 18:03 | ZZZZZZ | 2270 | 57247 | 13654 |
| 18:08 | ZZZZZZ | 2285 | 58073 | 13770 |
| 18:12 | ZZZZZZ | 2289 | 57285 | 13728 |
| 18:16 | ZZZZZZ | 2257 | 57086 | 13740 |
| 18:21 | ZZZZZZ | 2275 | 57584 | 13748 |
| 18:25 | ZZZZZZ | 2286 | 57525 | 13827 |
| 18:29 | MA15701-CCV7 | 2266 | 56810 | 13714 |
| 18:33 | MA15701-CCB7 | 2296 | 57554 | 13706 |
| 18:38 | ZZZZZZ | 2296 | 57386 | 13816 |
| 18:42 | ZZZZZZ | 2256 | 57175 | 13887 |
| 18:46 | ZZZZZZ | 2252 | 57486 | 13702 |
| 18:51 | ZZZZZZ | 2273 | 57492 | 13614 |
| 18:55 | ZZZZZZ | 2269 | 57598 | 13764 |
| 18:59 | ZZZZZZ | 2257 | 57216 | 13704 |
| 19:04 | ZZZZZZ | 2280 | 57560 | 13739 |
| 19:08 | ZZZZZZ | 2273 | 57081 | 13700 |
| 19:12 | ZZZZZZ | 2261 | 56913 | 13643 |
| 19:17 | ZZZZZZ | 2285 | 57482 | 13582 |
| 19:21 | MA15701-CCV8 | 2285 | 56684 | 13902 |
| 19:25 | MA15701-CCB8 | 2267 | 56973 | 13606 |
| 19:30 | MA15701-CRI3 | 2283 | 57006 | 13613 |
| 19:34 | MA15701-CCV9 | 2284 | 57286 | 13828 |
| 19:38 | MA15701-CCB9 | 2276 | 57344 | 13713 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 12:54 ICB1 | | 13:07 CCB1 | | 14:06 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 1.8 | <5000 | 59.8 | <5000 | -2.5 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 0.60 | <100 | 1.2 | <100 | -0.50 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -11 | <5000 | -4.0 | <5000 | -25 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.40 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.9 | <5000 | 12.9 | <5000 | 30.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 4.6 | <5000 | 0.30 | <5000 | 8.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 15:00 CCB3 | | 16:03 CCB4 | | 16:57 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 2.1 | <5000 | 1.0 | <5000 | 0.60 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 0.50 | <100 | 0.0 | <100 | 2.1 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -21 | <5000 | -19 | <5000 | -6.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.70 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.0 | <5000 | 72.7 | <5000 | 32.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 15.7 | <5000 | 22.8 | <5000 | 11.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: | | | | 17:30 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 12 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | |
| Barium | 50 | .32 | 2.5 | | |
| Beryllium | 4.0 | .1 | 0.90 | | |
| Boron | 100 | 1.1 | 5.0 | | |
| Cadmium | 4.0 | .25 | 1.9 | | |
| Calcium | 5000 | 21 | 150 | -13 | <5000 |
| Chromium | 10 | .48 | 5.0 | | |
| Cobalt | 50 | .29 | 1.5 | | |
| Copper | 25 | .93 | 8.0 | | |
| Gold | 50 | 1.5 | 8.0 | | |
| Iron | 100 | 3.5 | 30 | 0.10 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | |
| Magnesium | 5000 | 30 | 200 | 3.9 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2.2 | 30 | | |
| Platinum | 50 | 6.4 | 30 | | |
| Potassium | 5000 | 54 | 500 | 25.7 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | |
| Silicon | 100 | 2 | 50 | | |
| Silver | 5.0 | .81 | 3.5 | | |
| Sodium | 5000 | 16 | 200 | 8.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 5.0 | | |
| Titanium | 50 | .66 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .82 | 8.0 | | |
| Zinc | 20 | .45 | 1.5 | | |
| Zirconium | 50 | .45 | 8.0 | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 12:48 | | | 13:01 | | | 13:58 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9940 | 99.4 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 9900 | 99.0 | 10000 | 9920 | 99.2 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18600 | 103.3 | 10000 | 9990 | 99.9 | 10000 | 10200 | 102.0 |
| Manganese | 3000 | 2950 | 98.3 | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9990 | 99.9 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15300 | 102.0 | 10000 | 9780 | 97.8 | 10000 | 9690 | 96.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 14:54 | | | 15:58 | | | 16:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 10000 | 100.0 | 10000 | 9900 | 99.0 | 10000 | 9980 | 99.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9990 | 99.9 | 10000 | 9850 | 98.5 | 10000 | 9840 | 98.4 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 10300 | 103.0 | 10000 | 10200 | 102.0 | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1940 | 97.0 | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 10200 | 102.0 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9630 | 96.3 | 10000 | 9720 | 97.2 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 17:23 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | | | |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | 10000 | 9980 | 99.8 |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Gold | | | |
| Iron | 10000 | 9860 | 98.6 |
| Lead | | | |
| Magnesium | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1970 | 98.5 |
| Molybdenum | | | |
| Nickel | | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 10100 | 101.0 |
| Selenium | | | |
| Silicon | | | |
| Silver | | | |
| Sodium | 10000 | 9720 | 97.2 |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | | | |
| Zirconium | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15701 Units: ug/l

| Time: | | | 13:12 | | 17:19 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5020 | 100.4 | 5100 | 102.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 102 | 102.0 | 115 | 115.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 5080 | 101.6 | 5270 | 105.4 |
| Manganese | 15 | 15 | 15.3 | 102.0 | 16.1 | 107.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5150 | 103.0 | 5250 | 105.0 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4890 | 97.8 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | | 13:20 | | 13:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 515000 | 103.0 | 511000 | 102.2 |
| Antimony | | 2000 | -0.30 | | 2020 | 101.0 |
| Arsenic | | 2000 | 1.3 | | 2040 | 102.0 |
| Barium | | 500 | 0.0 | | 515 | 103.0 |
| Beryllium | | 500 | 0.10 | | 493 | 98.6 |
| Boron | | 1000 | 5.6* | | 1010 | 101.0 |
| Cadmium | | 1000 | -0.60 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 468000 | 93.6 | 469000 | 93.8 |
| Chromium | | 500 | -0.80 | | 503 | 100.6 |
| Cobalt | | 500 | -0.60 | | 478 | 95.6 |
| Copper | | 500 | -0.70 | | 534 | 106.8 |
| Gold | | 500 | 5.6 | | 512 | 102.4 |
| Iron | 200000 | 200000 | 191000 | 95.5 | 190000 | 95.0 |
| Lead | | 1000 | 2.5* | | 898 | 89.8 |
| Magnesium | 500000 | 500000 | 516000 | 103.2 | 511000 | 102.2 |
| Manganese | | 500 | 0.60 | | 487 | 97.4 |
| Molybdenum | | 1000 | -0.50 | | 957 | 95.7 |
| Nickel | | 1000 | -1.4 | | 861 | 86.1 |
| Palladium | | 500 | -36* | | 493 | 98.6 |
| Platinum | | 500 | -25 | | 480 | 96.0 |
| Potassium | | | 61.0 | | 67.6 | |
| Selenium | | 2000 | -2.3 | | 1940 | 97.0 |
| Silicon | | 2000 | 40.5 | | 2160 | 108.0 |
| Silver | | 1000 | -0.90 | | 1080 | 108.0 |
| Sodium | | | 79.0 | | 81.9 | |
| Strontium | | 1000 | 1.4* | | 1010 | 101.0 |
| Thallium | | 2000 | -0.80 | | 1900 | 95.0 |
| Tin | | 1000 | -0.40 | | 950 | 95.0 |
| Titanium | | 500 | 9.6* | | 522 | 104.4 |
| Tungsten | | 2000 | -43* | | 1930 | 96.5 |
| Vanadium | | 500 | -0.40 | | 522 | 104.4 |
| Zinc | | 1000 | 1.4 | | 909 | 90.9 |
| Zirconium | | 500 | 0.30 | | 455 | 91.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 1 | | STD1 |
| 09:22 | MA15707-STD2 | 1 | | STD2 |
| 09:26 | MA15707-STD3 | 1 | | STD3 |
| 09:31 | MA15707-STD4 | 1 | | STD4 |
| 09:35 | MA15707-ICV1 | 1 | | |
| 09:40 | MA15707-ICB1 | 1 | | |
| 09:45 | MA15707-CCV1 | 1 | | |
| 09:51 | MA15707-CCB1 | 1 | | |
| 09:56 | MA15707-CRI1 | 1 | | |
| 10:01 | MA15707-ICSA1 | 1 | | |
| 10:05 | MA15707-ICSAB1 | 1 | | |
| 10:10 | MP21104-B1 | 1 | | |
| 10:14 | MP21104-MB1 | 1 | | |
| 10:18 | MP21104-S1 | 1 | | |
| 10:22 | MP21104-S2 | 1 | | |
| 10:27 | MC21261-9F | 1 | | (sample used for QC only; not part of login MC21202) |
| 10:31 | MP21104-SD1 | 5 | | |
| 10:36 | ZZZZZZ | 1 | | |
| 10:40 | MA15707-CCV2 | 1 | | |
| 10:44 | MA15707-CCB2 | 1 | | |
| 10:50 | ZZZZZZ | 1 | | |
| 10:55 | ZZZZZZ | 1 | | |
| 10:59 | ZZZZZZ | 1 | | |
| 11:03 | MP21104-PS1 | 1 | | |
| 11:08 | ZZZZZZ | 5 | | |
| 11:12 | ZZZZZZ | 10 | | |
| 11:16 | ZZZZZZ | 5 | | |
| 11:21 | ZZZZZZ | 10 | | |
| 11:25 | ZZZZZZ | 2 | | |
| 11:29 | ZZZZZZ | 3 | | |
| 11:34 | MA15707-CCV3 | 1 | | |
| 11:38 | MA15707-CCB3 | 1 | | |
| 11:42 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:47 | ZZZZZZ | 3 | | |
| 11:51 | ZZZZZZ | 2 | | |
| 11:55 | ZZZZZZ | 3 | | |
| 11:59 | ZZZZZZ | 5 | | |
| 12:04 | ZZZZZZ | 10 | | |
| 12:08 | MC21202-1F | 2 | | |
| 12:13 | MC21202-1F | 20 | | |
| 12:17 | MC21202-1F | 50 | | |
| 12:21 | MC21202-2F | 2 | | |
| 12:26 | MA15707-CCV4 | 1 | | |
| 12:30 | MA15707-CCB4 | 1 | | |
| 12:34 | MC21202-2F | 20 | | |
| 12:39 | MC21202-2F | 50 | | |
| 12:43 | MC21202-3F | 2 | | |
| 12:47 | MP21073-PS1 | 1 | | |
| 12:55 | MP21073-PS1 | 5 | | |
| 12:59 | MP21073-PS1 | 10 | | |
| 13:04 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 13:09 | MP21104-B1 | 5 | | |
| 13:14 | MP21104-S1 | 5 | | |
| 13:18 | MP21104-S2 | 5 | | |
| 13:22 | MA15707-CCV5 | 1 | | |
| 13:27 | MA15707-CCB5 | 1 | | |
| 13:31 | MC21261-9F | 2 | | (sample used for QC only; not part of login MC21202) |
| 13:35 | MC21261-9F | 5 | | (sample used for QC only; not part of login MC21202) |
| 13:40 | MP21104-SD1 | 10 | | |
| 13:44 | MP21104-SD1 | 25 | | |
| 13:48 | ZZZZZZ | 3 | | |
| 13:53 | ZZZZZZ | 5 | | |
| 13:57 | ZZZZZZ | 20 | | |
| 14:01 | ZZZZZZ | 3 | | |
| 14:06 | ZZZZZZ | 10 | | |
| 14:10 | ZZZZZZ | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 1 | | |
| 14:28 | MA15707-CCB6 | 1 | | |
| 14:33 | ZZZZZZ | 2 | | |
| 14:37 | ZZZZZZ | 5 | | |
| 14:42 | MP21104-PS1 | 5 | | |
| 14:46 | MP21104-PS1 | 10 | | |
| 14:50 | MP21097-S1 | 5 | | |
| 14:54 | MP21097-S2 | 5 | | |
| 14:59 | MC21202-14F | 3 | | |
| 15:03 | MP21097-SD1 | 15 | | |
| 15:07 | MP21097-PS1 | 5 | | |
| 15:12 | MP21097-PS1 | 10 | | |
| 15:16 | MA15707-CCV7 | 1 | | |
| 15:20 | MA15707-CCB7 | 1 | | |
| 15:24 | MC21202-4F | 3 | | |
| 15:29 | MC21202-4F | 10 | | |
| 15:50 | MC21202-5F | 10 | | |
| 15:54 | MC21202-7F | 2 | | |
| 15:59 | MC21202-7F | 5 | | |
| 16:03 | MC21202-7F | 20 | | |
| 16:07 | MC21202-9F | 3 | | |
| 16:12 | MC21202-9F | 10 | | |
| 16:16 | MC21202-10F | 3 | | |
| 16:20 | MC21202-11F | 2 | | |
| 16:25 | MA15707-CCV8 | 1 | | |
| 16:29 | MA15707-CCB8 | 1 | | |
| 16:33 | MC21202-11F | 5 | | |
| 16:38 | MC21202-11F | 10 | | |
| 16:42 | MC21202-12F | 2 | | |
| 16:46 | MC21202-12F | 5 | | |
| 16:51 | MC21202-12F | 10 | | |
| 16:55 | MC21202-13F | 2 | | |
| 16:59 | MC21202-13F | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:04 | MC21202-13F | 10 | | |
| 17:08 | MC21202-15F | 2 | | |
| 17:13 | MC21202-15F | 5 | | |
| 17:17 | MA15707-CCV9 | 1 | | |
| 17:21 | MA15707-CCB9 | 1 | | |
| 17:25 | MC21202-15F | 20 | | |
| ----------> | Last reportable sample/prep for job MC21202 | | | |
| 17:30 | MA15707-CRI2 | 1 | | |
| 17:34 | MA15707-CCV10 | 1 | | |
| 17:38 | MA15707-CCB10 | 1 | | |
| ----------> | Last reportable CCB for job MC21202 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 2437 R | 60774 R | 15468 R |
| 09:22 | MA15707-STD2 | 2472 | 59342 | 13928 |
| 09:26 | MA15707-STD3 | | | 13827 |
| 09:31 | MA15707-STD4 | 2522 | 58630 | 13794 |
| 09:35 | MA15707-ICV1 | 2491 | 58027 | 13825 |
| 09:40 | MA15707-ICB1 | 2504 | 58652 | 13752 |
| 09:45 | MA15707-CCV1 | 2490 | 57676 | 13954 |
| 09:51 | MA15707-CCB1 | 2508 | 58394 | 13869 |
| 09:56 | MA15707-CRI1 | 2508 | 58037 | 14282 |
| 10:01 | MA15707-ICSA1 | 2299 | 54315 | 13500 |
| 10:05 | MA15707-ICSAB1 | 2290 | 54083 | 13493 |
| 10:10 | MP21104-B1 | 2483 | 58166 | 14155 |
| 10:14 | MP21104-MB1 | 2502 | 57943 | 13948 |
| 10:18 | MP21104-S1 | 2481 | 58039 | 14134 |
| 10:22 | MP21104-S2 | 2474 | 57655 | 14096 |
| 10:27 | MC21261-9F | 2508 | 58080 | 14066 |
| 10:31 | MP21104-SD1 | 2473 | 57369 | 13730 |
| 10:36 | ZZZZZZ | 2425 | 57141 | 13756 |
| 10:40 | MA15707-CCV2 | 2450 | 57542 | 13932 |
| 10:44 | MA15707-CCB2 | 2449 | 57788 | 13733 |
| 10:50 | ZZZZZZ | 2393 | 57300 | 13749 |
| 10:55 | ZZZZZZ | 2402 | 57740 | 13797 |
| 10:59 | ZZZZZZ | 2416 | 57853 | 13902 |
| 11:03 | MP21104-PS1 | 2369 | 57779 | 13868 |
| 11:08 | ZZZZZZ | 2413 | 57970 | 13704 |
| 11:12 | ZZZZZZ | 2412 | 57886 | 13780 |
| 11:16 | ZZZZZZ | 2421 | 58093 | 13804 |
| 11:21 | ZZZZZZ | 2417 | 58033 | 13800 |
| 11:25 | ZZZZZZ | 2410 | 57515 | 13689 |
| 11:29 | ZZZZZZ | 2443 | 58037 | 13857 |
| 11:34 | MA15707-CCV3 | 2452 | 57866 | 13966 |
| 11:38 | MA15707-CCB3 | 2460 | 58078 | 13849 |
| 11:42 | ZZZZZZ | 2432 | 57931 | 13761 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 11:47 | ZZZZZZ | 2446 | 58336 | 13897 |
| 11:51 | ZZZZZZ | 2431 | 58095 | 13948 |
| 11:55 | ZZZZZZ | 2436 | 58453 | 13758 |
| 11:59 | ZZZZZZ | 2443 | 58449 | 13891 |
| 12:04 | ZZZZZZ | 2435 | 58082 | 13802 |
| 12:08 | MC21202-1F | 2383 | 57315 | 13820 |
| 12:13 | MC21202-1F | 2432 | 58117 | 13817 |
| 12:17 | MC21202-1F | 2426 | 57817 | 13798 |
| 12:21 | MC21202-2F | 2372 | 57574 | 13768 |
| 12:26 | MA15707-CCV4 | 2417 | 57993 | 13854 |
| 12:30 | MA15707-CCB4 | 2422 | 57723 | 13770 |
| 12:34 | MC21202-2F | 2426 | 57906 | 13903 |
| 12:39 | MC21202-2F | 2413 | 58061 | 13847 |
| 12:43 | MC21202-3F | 2423 | 57768 | 13906 |
| 12:47 | MP21073-PS1 | 2341 | 57154 | 13748 |
| 12:55 | MP21073-PS1 | 2412 | 57909 | 13809 |
| 12:59 | MP21073-PS1 | 2430 | 58023 | 13918 |
| 13:04 | ZZZZZZ | 2428 | 57813 | 13756 |
| 13:09 | MP21104-B1 | 2422 | 58161 | 13953 |
| 13:14 | MP21104-S1 | 2422 | 57799 | 13863 |
| 13:18 | MP21104-S2 | 2411 | 57844 | 14059 |
| 13:22 | MA15707-CCV5 | 2417 | 57385 | 13730 |
| 13:27 | MA15707-CCB5 | 2416 | 58655 | 13851 |
| 13:31 | MC21261-9F | 2413 | 58691 | 13934 |
| 13:35 | MC21261-9F | 2409 | 57945 | 13883 |
| 13:40 | MP21104-SD1 | 2420 | 58086 | 13792 |
| 13:44 | MP21104-SD1 | 2404 | 57971 | 13814 |
| 13:48 | ZZZZZZ | 2414 | 57380 | 13897 |
| 13:53 | ZZZZZZ | 2404 | 57536 | 13689 |
| 13:57 | ZZZZZZ | 2431 | 58221 | 13938 |
| 14:01 | ZZZZZZ | 2412 | 57911 | 13880 |
| 14:06 | ZZZZZZ | 2432 | 57987 | 13951 |
| 14:10 | ZZZZZZ | 2438 | 58192 | 13860 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 2441 | 57854 | 13812 |
| 14:28 | MA15707-CCB6 | 2403 | 57927 | 13697 |
| 14:33 | ZZZZZZ | 2386 | 57787 | 13864 |
| 14:37 | ZZZZZZ | 2370 | 58486 | 13573 |
| 14:42 | MP21104-PS1 | 2359 | 57516 | 13821 |
| 14:46 | MP21104-PS1 | 2363 | 58545 | 13772 |
| 14:50 | MP21097-S1 | 2391 | 57548 | 13867 |
| 14:54 | MP21097-S2 | 2388 | 58006 | 13817 |
| 14:59 | MC21202-14F | 2401 | 58359 | 14012 |
| 15:03 | MP21097-SD1 | 2403 | 58036 | 13829 |
| 15:07 | MP21097-PS1 | 2406 | 58178 | 13856 |
| 15:12 | MP21097-PS1 | 2414 | 57707 | 13836 |
| 15:16 | MA15707-CCV7 | 2408 | 57083 | 13868 |
| 15:20 | MA15707-CCB7 | 2402 | 58063 | 13786 |
| 15:24 | MC21202-4F | 2389 | 57876 | 13890 |
| 15:29 | MC21202-4F | 2379 | 58242 | 13831 |
| 15:50 | MC21202-5F | 2409 | 58598 | 13843 |
| 15:54 | MC21202-7F | 2385 | 57915 | 13813 |
| 15:59 | MC21202-7F | 2391 | 58393 | 13959 |
| 16:03 | MC21202-7F | 2388 | 57965 | 13817 |
| 16:07 | MC21202-9F | 2387 | 57801 | 13811 |
| 16:12 | MC21202-9F | 2396 | 58301 | 13935 |
| 16:16 | MC21202-10F | 2397 | 58312 | 13834 |
| 16:20 | MC21202-11F | 2380 | 57827 | 13958 |
| 16:25 | MA15707-CCV8 | 2385 | 57667 | 13853 |
| 16:29 | MA15707-CCB8 | 2401 | 58347 | 13819 |
| 16:33 | MC21202-11F | 2391 | 58555 | 13787 |
| 16:38 | MC21202-11F | 2371 | 58055 | 13627 |
| 16:42 | MC21202-12F | 2368 | 57985 | 13808 |
| 16:46 | MC21202-12F | 2376 | 58322 | 14027 |
| 16:51 | MC21202-12F | 2388 | 57859 | 13801 |
| 16:55 | MC21202-13F | 2373 | 58207 | 13752 |
| 16:59 | MC21202-13F | 2400 | 58644 | 13848 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:04 | MC21202-13F | 2385 | 57892 | 13814 |
| 17:08 | MC21202-15F | 2380 | 58041 | 13850 |
| 17:13 | MC21202-15F | 2376 | 57791 | 13866 |
| 17:17 | MA15707-CCV9 | 2387 | 57862 | 13926 |
| 17:21 | MA15707-CCB9 | 2381 | 57951 | 13686 |
| 17:25 | MC21202-15F | 2390 | 58376 | 13790 |
| 17:30 | MA15707-CRI2 | 2390 | 58065 | 13852 |
| 17:34 | MA15707-CCV10 | 2388 | 57823 | 13810 |
| 17:38 | MA15707-CCB10 | 2379 | 58344 | 13682 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 09:40 ICB1 | | 09:51 CCB1 | | 10:44 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 15.2 | <5000 | 11.5 | <5000 | 3.1 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 3.7 | <100 | -0.30 | <100 | -0.10 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 12.6 | <5000 | 2.3 | <5000 | 40.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.10 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 15.6 | <5000 | -10 | <5000 | 39.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 3.4 | <5000 | -0.60 | <5000 | 2.9 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 11:38 CCB3 | | 12:30 CCB4 | | 13:27 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.0 | <5000 | 52.8 | <5000 | -0.40 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -0.80 | <100 | 0.50 | <100 | 1.6 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 13.5 | <5000 | 16.1 | <5000 | 16.6 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.40 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 11.9 | <5000 | 19.9 | <5000 | 70.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | 63.0 | <5000 | 7.4 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 14:28 CCB6 | | 15:20 CCB7 | | 16:29 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | -6.3 | <5000 | 1.5 | <5000 | 14.3 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -5.2 | <100 | 0.70 | <100 | 1.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 18.8 | <5000 | -5.5 | <5000 | 2.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | -0.10 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 6.4 | <5000 | 43.6 | <5000 | 19.6 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -7.0 | <5000 | -1.0 | <5000 | -4.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 17:21 CCB9 | | 17:38 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | 1.6 | <5000 | 4.6 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 1.2 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 7.7 | <5000 | 25.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.80 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 67.5 | <5000 | 43.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | -2.8 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 09:35 | | | 09:45 | | | 10:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9900 | 99.0 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18200 | 101.1 | 10000 | 9750 | 97.5 | 10000 | 9720 | 97.2 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9620 | 96.2 | 10000 | 9620 | 96.2 |
| Manganese | 3000 | 3040 | 101.3 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9840 | 98.4 | 10000 | 9750 | 97.5 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15500 | 103.3 | 10000 | 9960 | 99.6 | 10000 | 10000 | 100.0 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 11:34 | | | 12:26 | | | 13:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9880 | 98.8 | 10000 | 9930 | 99.3 | 10000 | 9880 | 98.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9640 | 96.4 | 10000 | 9720 | 97.2 | 10000 | 9650 | 96.5 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9890 | 98.9 | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9870 | 98.7 | 10000 | 9930 | 99.3 | 10000 | 9960 | 99.6 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9830 | 98.3 | 10000 | 9990 | 99.9 | 10000 | 9790 | 97.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 14:14 | | | 15:16 | | | 16:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9920 | 99.2 | 10000 | 9920 | 99.2 | 10000 | 9820 | 98.2 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9660 | 96.6 | 10000 | 9650 | 96.5 | 10000 | 9560 | 95.6 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9960 | 99.6 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9900 | 99.0 | 10000 | 9950 | 99.5 | 10000 | 9880 | 98.8 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9760 | 97.6 | 10000 | 9660 | 96.6 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 17:17 | | | 17:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9620 | 96.2 | 10000 | 9590 | 95.9 |
| Lead | | | | | | |
| Magnesium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9880 | 98.8 | 10000 | 9890 | 98.9 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9680 | 96.8 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15707  Units: ug/l

| Time: | | | 09:56 | | 17:30 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4880 | 97.6 | 5000 | 100.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 98.1 | 98.1 | 98.9 | 98.9 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4700 | 94.0 | 5130 | 102.6 |
| Manganese | 15 | 15 | 16.3 | 108.7 | 15.8 | 105.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4860 | 97.2 | 5080 | 101.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4830 | 96.6 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | | 10:01 | | 10:05 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 526000 | 105.2 | 539000 | 107.8 |
| Antimony | | 2000 | -0.60 | | 2080 | 104.0 |
| Arsenic | | 2000 | 0.0 | | 2050 | 102.5 |
| Barium | | 500 | -0.20 | | 513 | 102.6 |
| Beryllium | | 500 | 0.20 | | 490 | 98.0 |
| Boron | | 1000 | 5.9* | | 1030 | 103.0 |
| Cadmium | | 1000 | 0.20 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 473000 | 94.6 | 470000 | 94.0 |
| Chromium | | 500 | 0.10 | | 503 | 100.6 |
| Cobalt | | 500 | -1.0 | | 482 | 96.4 |
| Copper | | 500 | 0.50 | | 519 | 103.8 |
| Gold | | 500 | 4.2 | | 496 | 99.2 |
| Iron | 200000 | 200000 | 190000 | 95.0 | 191000 | 95.5 |
| Lead | | 1000 | -0.40 | | 905 | 90.5 |
| Magnesium | 500000 | 500000 | 489000 | 97.8 | 492000 | 98.4 |
| Manganese | | 500 | 0.70 | | 517 | 103.4 |
| Molybdenum | | 1000 | -0.30 | | 973 | 97.3 |
| Nickel | | 1000 | -2.5* | | 890 | 89.0 |
| Palladium | | 500 | -56* | | 496 | 99.2 |
| Platinum | | 500 | -30* | | 491 | 98.2 |
| Potassium | | | -7.5 | | -39 | |
| Selenium | | 2000 | -2.8 | | 1960 | 98.0 |
| Silicon | | 2000 | 44.2 | | 2220 | 111.0 |
| Silver | | 1000 | 0.0 | | 1060 | 106.0 |
| Sodium | | | 69.3 | | 69.5 | |
| Strontium | | 1000 | 0.60 | | 974 | 97.4 |
| Thallium | | 2000 | -0.90 | | 1930 | 96.5 |
| Tin | | 1000 | 0.40 | | 989 | 98.9 |
| Titanium | | 500 | 8.9* | | 523 | 104.6 |
| Tungsten | | 2000 | -31* | | 1920 | 96.0 |
| Vanadium | | 500 | 0.50 | | 512 | 102.4 |
| Zinc | | 1000 | -0.60 | | 900 | 90.0 |
| Zirconium | | 500 | 1.2 | | 460 | 92.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:59 | MA15713-STD1 | 1 | | STDA |
| 13:06 | MA15713-STD2 | 1 | | STDB |
| 13:13 | MA15713-STD3 | 1 | | STDC |
| 13:20 | MA15713-STD4 | 1 | | STDD |
| 13:27 | MA15713-STD5 | 1 | | STDE |
| 13:34 | MA15713-STD6 | 1 | | STDF |
| 13:41 | MA15713-STD7 | 1 | | STDG |
| 13:48 | MA15713-STD8 | 1 | | STDH |
| 13:55 | MA15713-ICV1 | 1 | | |
| 14:02 | MA15713-ICB1 | 1 | | |
| 14:09 | MA15713-CCV1 | 1 | | |
| 14:16 | MA15713-CCB1 | 1 | | |
| 14:23 | MA15713-CRI1 | 1 | | |
| 14:31 | MA15713-ICSA1 | 1 | | |
| 14:43 | MA15713-ICSAB1 | 1 | | |
| 14:50 | ZZZZZZ | 1 | | RISNECONF |
| 14:58 | MP21073A-MB1 | 2 | | |
| 15:05 | MC21156-7F | 20 | | (sample used for QC only; not part of login MC21202) |
| 15:12 | MP21073A-SD1 | 100 | | |
| 15:19 | ZZZZZZ | 2 | | |
| 15:26 | ZZZZZZ | 20 | | |
| 15:48 | ZZZZZZ | 200 | | |
| 15:55 | MA15713-CCV2 | 1 | | |
| 16:08 | MA15713-CCB2 | 1 | | |
| 16:15 | ZZZZZZ | 50 | | |
| 16:22 | ZZZZZZ | 20 | | |
| 16:29 | ZZZZZZ | 50 | | |
| 16:36 | ZZZZZZ | 100 | | |
| 16:43 | ZZZZZZ | 20 | | |
| 16:50 | ZZZZZZ | 2 | | |
| 16:59 | ZZZZZZ | 200 | | |
| 17:06 | ZZZZZZ | 20 | | |
| 17:13 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:20 | ZZZZZZ | 2 | | |
| 17:27 | MA15713-CCV3 | 1 | | |
| 17:34 | MA15713-CCB3 | 1 | | |
| 17:41 | ZZZZZZ | 2 | | |
| 17:48 | ZZZZZZ | 20 | | |
| 17:56 | ZZZZZZ | 20 | | |
| 18:03 | MC21202-1F | 2 | | |
| 18:10 | MC21202-2F | 2 | | |
| 18:17 | MC21202-3F | 2 | | |
| 18:24 | MP21073A-PS1 | 20 | | |
| 18:31 | MP21073A-S1 | 50 | | |
| 18:38 | MP21073A-S2 | 50 | | |
| 18:45 | MP21073A-B1 | 20 | | |
| ----------> | Last reportable sample/prep for job MC21202 | | | |
| 18:52 | MA15713-CCV4 | 1 | | |
| 18:59 | MA15713-CCB4 | 1 | | |
| 19:06 | ZZZZZZ | 20 | | |
| 19:13 | ZZZZZZ | 1 | | RINSECONF |
| 19:20 | MA15713-CRI2 | 1 | | |
| 19:28 | MA15713-CCV5 | 1 | | |
| 19:35 | MA15713-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC21202 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 12:59 | MA15713-STD1 | 1872800 R | 2694091 R | 307819 R | 562443 R | 127696 R | 3225131 R | 3540560 R | 1130477 R |
| 13:06 | MA15713-STD2 | 1876030 | 2636451 | 304683 | 556516 | 126109 | 3157731 | 3514589 | 1117322 |
| 13:13 | MA15713-STD3 | 1887210 | 2698951 | 305379 | 558267 | 126038 | 3242975 | 3533330 | 1106318 |
| 13:20 | MA15713-STD4 | 1932279 | 2764715 | 305178 | 562706 | 125520 | 3280628 | 3621348 | 1098779 |
| 13:27 | MA15713-STD5 | 1880111 | 2672475 | 299205 | 547600 | 123383 | 3215940 | 3509252 | 1078749 |
| 13:34 | MA15713-STD6 | 1898222 | 2705025 | 301222 | 551165 | 123902 | 3227053 | 3545162 | 1075216 |
| 13:41 | MA15713-STD7 | 1907516 | 2699887 | 306804 | 563372 | 126536 | 3170036 | 3543432 | 1107099 |
| 13:48 | MA15713-STD8 | 1858814 | 2721220 | 302483 | 575200 | 125142 | 3112281 | 3447678 | 1040019 |
| 13:55 | MA15713-ICV1 | 1871565 | 2715327 | 323348 | 558335 | 131923 | 3163717 | 3492384 | 1130239 |
| 14:02 | MA15713-ICB1 | 1897077 | 2663838 | 307114 | 566049 | 127528 | 3233557 | 3564374 | 1124309 |
| 14:09 | MA15713-CCV1 | 1887056 | 2726116 | 303514 | 556138 | 124795 | 3120577 | 3476001 | 1069811 |
| 14:16 | MA15713-CCB1 | 1926956 | 2733055 | 309178 | 569326 | 127877 | 3250653 | 3574358 | 1125075 |
| 14:23 | MA15713-CRI1 | 1909798 | 2705731 | 307684 | 561064 | 126838 | 3254162 | 3595268 | 1119964 |
| 14:31 | MA15713-ICSA1 | 1719489 | 2610746 | 287980 | 630532 | 131519 | 2858468 | 3254348 | 992264 |
| 14:43 | MA15713-ICSAB1 | 1845549 | 2669475 | 288785 | 631520 | 130942 | 2915017 | 3331963 | 983368 |
| 14:50 | ZZZZZZ | 2153474 | 2922534 | 304114 | 607813 | 128467 | 3497513 | 3873797 | 1104532 |
| 14:58 | MP21073A-MB1 | 2292320 | 2946070 | 312663 | 604934 | 129117 | 3423324 | 3803044 | 1095050 |
| 15:05 | MC21156-7F | 2211039 | 2972521 | 326956 | 614482 | 134498 | 3393502 | 3810301 | 1128653 |
| 15:12 | MP21073A-SD1 | 2150280 | 2878281 | 311633 | 596789 | 130121 | 3386871 | 3792081 | 1112132 |
| 15:19 | ZZZZZZ | 2267682 | 2995605 | 309325 | 627677 | 133799 | 3217076 | 3665406 | 1063103 |
| 15:26 | ZZZZZZ | 2233735 | 2975210 | 310135 | 616049 | 129074 | 3376480 | 3818390 | 1078627 |
| 15:48 | ZZZZZZ | 2192123 | 2981784 | 318305 | 608299 | 131844 | 3427764 | 3818274 | 1128385 |
| 15:55 | MA15713-CCV2 | 2153756 | 2913563 | 314662 | 584856 | 128825 | 3297593 | 3680762 | 1076864 |
| 16:08 | MA15713-CCB2 | 2244193 | 2954645 | 319473 | 601523 | 130399 | 3415320 | 3765325 | 1116533 |
| 16:15 | ZZZZZZ | 2151645 | 2949925 | 317340 | 599881 | 130832 | 3386746 | 3782705 | 1125339 |
| 16:22 | ZZZZZZ | 2143574 | 2891802 | 317833 | 590993 | 130475 | 3350209 | 3745938 | 1128243 |
| 16:29 | ZZZZZZ | 2112392 | 2920911 | 306270 | 601599 | 128015 | 3347062 | 3726230 | 1094159 |
| 16:36 | ZZZZZZ | 2122546 | 2931086 | 317559 | 605518 | 130158 | 3429354 | 3811410 | 1124016 |
| 16:43 | ZZZZZZ | 2085821 | 2865396 | 310377 | 588771 | 129093 | 3298538 | 3717187 | 1108209 |
| 16:50 | ZZZZZZ | 2126321 | 2877811 | 313909 | 592980 | 129650 | 3366471 | 3733862 | 1119458 |
| 16:59 | ZZZZZZ | 2187153 | 3024462 | 304005 | 612057 | 128229 | 3500126 | 3905870 | 1096804 |
| 17:06 | ZZZZZZ | 2095264 | 2880890 | 314327 | 595309 | 130222 | 3307194 | 3737822 | 1122739 |
| 17:13 | ZZZZZZ | 2375502 | 3038209 | 321370 | 615211 | 130666 | 3309237 | 3769647 | 1085966 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 17:20 | ZZZZZZ | 2409835 | 3105723 | 340703 | 624141 | 136607 | 3309737 | 3769372 | 1135552 |
| 17:27 | MA15713-CCV3 | 2161054 | 2894687 | 315915 | 577913 | 128251 | 3208518 | 3617742 | 1079139 |
| 17:34 | MA15713-CCB3 | 2202326 | 2909233 | 316288 | 594047 | 128921 | 3362725 | 3761378 | 1109568 |
| 17:41 | ZZZZZZ | 2367609 | 3032723 | 322659 | 612433 | 130097 | 3246686 | 3714473 | 1078884 |
| 17:48 | ZZZZZZ | 2103455 | 2862611 | 306082 | 589988 | 127403 | 3303011 | 3694930 | 1094965 |
| 17:56 | ZZZZZZ | 2078455 | 2844760 | 306849 | 589144 | 127241 | 3255785 | 3660865 | 1100243 |
| 18:03 | MC21202-1F | 2240261 | 2917378 | 304812 | 563824 | 119886 | 2953300 | 3432306 | 982938 |
| 18:10 | MC21202-2F | 2151552 | 2796447 | 295837 | 553631 | 117056 | 2918082 | 3370188 | 975776 |
| 18:17 | MC21202-3F | 2327684 | 2980999 | 309253 | 605509 | 125933 | 3268766 | 3708973 | 1064344 |
| 18:24 | MP21073A-PS1 | 1983564 | 2728371 | 300128 | 572452 | 124931 | 3179602 | 3578458 | 1085900 |
| 18:31 | MP21073A-S1 | 1962468 | 2746102 | 301824 | 563743 | 125230 | 3230660 | 3596319 | 1093239 |
| 18:38 | MP21073A-S2 | 1921768 | 2727396 | 301178 | 559135 | 124116 | 3185205 | 3557965 | 1087903 |
| 18:45 | MP21073A-B1 | 1949569 | 2712983 | 298704 | 553979 | 123362 | 3222160 | 3552664 | 1065001 |
| 18:52 | MA15713-CCV4 | 1976885 | 2766703 | 297282 | 555702 | 122487 | 3138575 | 3517948 | 1056691 |
| 18:59 | MA15713-CCB4 | 2012709 | 2753789 | 301295 | 569342 | 124119 | 3255324 | 3628550 | 1097957 |
| 19:06 | ZZZZZZ | 1965647 | 2719152 | 302322 | 570849 | 125494 | 3193462 | 3581977 | 1104469 |
| 19:13 | ZZZZZZ | 1970188 | 2755027 | 302510 | 566278 | 125026 | 3288402 | 3631155 | 1109609 |
| 19:20 | MA15713-CRI2 | 2028463 | 2777362 | 302122 | 570832 | 124712 | 3301284 | 3669111 | 1100591 |
| 19:28 | MA15713-CCV5 | 2020798 | 2811780 | 300707 | 567212 | 123584 | 3228181 | 3605802 | 1066381 |
| 19:35 | MA15713-CCB5 | 2031570 | 2776448 | 301768 | 574672 | 124705 | 3281486 | 3629640 | 1105458 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 12:59 | MA15713-STD1 | 4800257 R | 2883202 R |
| 13:06 | MA15713-STD2 | 4775800 | 2852982 |
| 13:13 | MA15713-STD3 | 4826929 | 2903210 |
| 13:20 | MA15713-STD4 | 4932978 | 2967401 |
| 13:27 | MA15713-STD5 | 4812180 | 2858018 |
| 13:34 | MA15713-STD6 | 4814434 | 2898726 |
| 13:41 | MA15713-STD7 | 4764727 | 2852993 |
| 13:48 | MA15713-STD8 | 4783142 | 2705850 |
| 13:55 | MA15713-ICV1 | 4816588 | 2790329 |
| 14:02 | MA15713-ICB1 | 4826671 | 2884956 |
| 14:09 | MA15713-CCV1 | 4781935 | 2766541 |
| 14:16 | MA15713-CCB1 | 4832594 | 2892531 |
| 14:23 | MA15713-CRI1 | 4822729 | 2901060 |
| 14:31 | MA15713-ICSA1 | 4708697 | 2556791 |
| 14:43 | MA15713-ICSAB1 | 4845451 | 2616738 |
| 14:50 | ZZZZZZ | 5270379 | 3194035 |
| 14:58 | MP21073A-MB1 | 5247835 | 3177842 |
| 15:05 | MC21156-7F | 5237601 | 3150425 |
| 15:12 | MP21073A-SD1 | 5115400 | 3052848 |
| 15:19 | ZZZZZZ | 5116287 | 2953161 |
| 15:26 | ZZZZZZ | 5176506 | 3141730 |
| 15:48 | ZZZZZZ | 5151968 | 3090115 |
| 15:55 | MA15713-CCV2 | 5114592 | 2967483 |
| 16:08 | MA15713-CCB2 | 5160441 | 3092938 |
| 16:15 | ZZZZZZ | 5137971 | 3075958 |
| 16:22 | ZZZZZZ | 5116047 | 3054628 |
| 16:29 | ZZZZZZ | 5144519 | 3046227 |
| 16:36 | ZZZZZZ | 5220389 | 3039315 |
| 16:43 | ZZZZZZ | 5004553 | 2978194 |
| 16:50 | ZZZZZZ | 5101600 | 3046107 |
| 16:59 | ZZZZZZ | 5329956 | 3106618 |
| 17:06 | ZZZZZZ | 5075609 | 3043387 |
| 17:13 | ZZZZZZ | 5217940 | 3062134 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15713
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 17:20 | ZZZZZZ | 5225853 | 3024040 |
| 17:27 | MA15713-CCV3 | 4987683 | 2910132 |
| 17:34 | MA15713-CCB3 | 5106561 | 3062977 |
| 17:41 | ZZZZZZ | 5157702 | 2941783 |
| 17:48 | ZZZZZZ | 5037779 | 3009548 |
| 17:56 | ZZZZZZ | 4943253 | 3000224 |
| 18:03 | MC21202-1F | 4834816 | 2677445 |
| 18:10 | MC21202-2F | 4782344 | 2609678 |
| 18:17 | MC21202-3F | 5139589 | 2980928 |
| 18:24 | MP21073A-PS1 | 4871652 | 2896896 |
| 18:31 | MP21073A-S1 | 4868460 | 2877335 |
| 18:38 | MP21073A-S2 | 4810113 | 2830153 |
| 18:45 | MP21073A-B1 | 4787249 | 2872078 |
| 18:52 | MA15713-CCV4 | 4892124 | 2851520 |
| 18:59 | MA15713-CCB4 | 4893242 | 2967235 |
| 19:06 | ZZZZZZ | 4869255 | 2936889 |
| 19:13 | ZZZZZZ | 4920324 | 2968976 |
| 19:20 | MA15713-CRI2 | 4966931 | 3014216 |
| 19:28 | MA15713-CCV5 | 4967153 | 2924805 |
| 19:35 | MA15713-CCB5 | 4940967 | 3024042 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15713  Units: ug/l

| Time: / Sample ID: | | | | 14:02 ICB1 | | 14:16 CCB1 | | 16:08 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0060 | <0.50 | 0.0068 | <0.50 | -0.012 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15713  Units: ug/l

| Time: / Sample ID: | | | | 17:34 CCB3 | | 18:59 CCB4 | | 19:35 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.012 | <0.50 | -0.0037 | <0.50 | 0.0098 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | 13:55 | | | 14:09 | | | 15:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 57.8 | 96.3 | 50 | 51.2 | 102.4 | 50 | 50.8 | 101.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | 17:27 | | | 18:52 | | | 19:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 50.3 | 100.6 | 50 | 51.2 | 102.4 | 50 | 51.5 | 103.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | | 14:23 | | 19:20 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.52 | 104.0 | 0.51 | 102.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060613W2L.AGF  Date Analyzed: 06/06/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15713  Units: ug/l

| Time: | | | 14:31 | | 14:43 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 93200 | 93.2 | 95500 | 95.5 |
| Antimony | | | 0.31* | | 0.30* | |
| Arsenic | | 20 | 0.21 | | 19.0 | 95.0 |
| Barium | | | 0.24 | | 0.57* | |
| Beryllium | | | 0.0071 | | -0.000015 | |
| Boron | | | 0.056 | | 0.069 | |
| Cadmium | | 20 | 1.4* | | 21.2 | 106.0 |
| Calcium | 100000 | 100000 | 95200 | 95.2 | 97800 | 97.8 |
| Chromium | | 20 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.061 | | 19.5 | 97.5 |
| Copper | | 20 | 0.48 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 93900 | 93.9 | 96100 | 96.1 |
| Lead | | | 0.13 | | 0.14 | |
| Magnesium | 100000 | 100000 | 93600 | 93.6 | 96400 | 96.4 |
| Manganese | | 20 | 0.12 | | 19.6 | 98.0 |
| Molybdenum | 2000 | 2000 | 2110 | 105.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.73* | | 19.7 | 98.5 |
| Potassium | 100000 | 100000 | 96300 | 96.3 | 98600 | 98.6 |
| Selenium | | | 0.00079 | | -0.017 | |
| Silver | | 20 | 0.059 | | 19.8 | 99.0 |
| Sodium | 100000 | 100000 | 93800 | 93.8 | 96800 | 96.8 |
| Strontium | | | 5.0* | | 5.0* | |
| Thallium | | | 0.076 | | 0.026 | |
| Tin | | | 0.12 | | 0.091 | |
| Titanium | 2000 | 2000 | 2010 | 100.5 | 2060 | 103.0 |
| Vanadium | | | 0.044 | | 0.043 | |
| Zinc | | 20 | 1.8* | | 18.4 | 92.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:41 | MA15721-STD1 | 1 | | STDA |
| 09:48 | MA15721-STD2 | 1 | | STDB |
| 09:55 | MA15721-STD3 | 1 | | STDC |
| 10:02 | MA15721-STD4 | 1 | | STDD |
| 10:10 | MA15721-STD5 | 1 | | STDE |
| 10:18 | MA15721-STD6 | 1 | | STDF |
| 10:25 | MA15721-STD7 | 1 | | STDG |
| 10:32 | MA15721-STD8 | 1 | | STDH |
| 10:39 | MA15721-ICV1 | 1 | | |
| 10:50 | MA15721-ICB1 | 1 | | |
| 10:57 | MA15721-CCV1 | 1 | | |
| 11:04 | MA15721-CCB1 | 1 | | |
| 11:11 | MA15721-CRI1 | 1 | | |
| 11:19 | MA15721-ICSA1 | 1 | | |
| 11:26 | MA15721-ICSAB1 | 1 | | |
| 11:33 | ZZZZZZ | 1 | | RINSECONF |
| 11:40 | MP21104A-MB1 | 2 | | |
| 11:47 | MC21261-9F | 2 | | (sample used for QC only; not part of login MC21202) |
| 11:54 | MP21104A-SD1 | 10 | | |
| 12:01 | ZZZZZZ | 2 | | |
| 12:08 | ZZZZZZ | 2 | | |
| 12:15 | ZZZZZZ | 2 | | |
| 12:22 | MA15721-CCV2 | 1 | | |
| 12:29 | MA15721-CCB2 | 1 | | |
| 12:37 | ZZZZZZ | 2 | | |
| 12:44 | MP21104A-PS1 | 2 | | |
| 12:51 | MP21104A-S1 | 20 | | |
| 12:58 | MP21104A-S2 | 20 | | |
| 13:05 | MP21104A-B1 | 20 | | |
| 13:12 | ZZZZZZ | 2 | | DNR: SEE RERUN. |
| 13:19 | MC21202-14F | 2 | | |
| 13:26 | MP21097A-SD1 | 10 | | |
| 13:33 | MC21202-4F | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:40 | MC21202-5F | 50 | | |
| 13:47 | MA15721-CCV3 | 1 | | |
| 13:54 | MA15721-CCB3 | 1 | | |
| 14:01 | MC21202-6F | 2 | | |
| 14:09 | MC21202-7F | 2 | | |
| 14:16 | MC21202-8F | 2 | | |
| 14:23 | MC21202-9F | 20 | | |
| 14:30 | MC21202-10F | 2 | | |
| 14:37 | MC21202-11F | 50 | | |
| 14:44 | MC21202-12F | 50 | | |
| 14:51 | MC21202-13F | 2 | | |
| 14:58 | MC21202-15F | 2 | | |
| 15:05 | ZZZZZZ | 50 | | |
| 15:12 | MA15721-CCV4 | 1 | | |
| 15:19 | MA15721-CCB4 | 1 | | |
| 15:26 | ZZZZZZ | 2 | | |
| 15:33 | ZZZZZZ | 2 | | |
| 15:40 | ZZZZZZ | 100 | | |
| 15:48 | ZZZZZZ | 2 | | |
| 15:55 | ZZZZZZ | 10 | | |
| 16:02 | ZZZZZZ | 2 | | |
| 16:09 | ZZZZZZ | 2 | | |
| 16:16 | MP21097A-PS1 | 2 | | |
| 16:23 | MP21097A-S1 | 20 | | |
| 16:30 | MP21097A-S2 | 20 | | |
| 16:37 | MA15721-CCV5 | 1 | | |
| 16:44 | MA15721-CCB5 | 1 | | |
| 16:51 | MP21097A-B1 | 20 | | |
| 16:58 | MP21097A-MB1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC21202 | | | |
| 17:11 | MA15721-CRI2 | 1 | | |
| 17:18 | MA15721-CCV6 | 1 | | |
| 17:25 | MA15721-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC21202 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 09:41 | MA15721-STD1 | 1866118 R | 2660105 R | 293973 R | 561821 R | 124165 R | 3161327 R | 3455998 R | 1091146 R |
| 09:48 | MA15721-STD2 | 1868205 | 2668327 | 292751 | 554072 | 123631 | 3154552 | 3462003 | 1087637 |
| 09:55 | MA15721-STD3 | 1858682 | 2646122 | 293087 | 551047 | 122840 | 3136038 | 3456649 | 1088599 |
| 10:02 | MA15721-STD4 | 1854574 | 2645720 | 295033 | 540541 | 123093 | 3120736 | 3437968 | 1083072 |
| 10:10 | MA15721-STD5 | 1858476 | 2622459 | 293150 | 539791 | 121874 | 3118717 | 3440740 | 1072512 |
| 10:18 | MA15721-STD6 | 1836609 | 2630238 | 292113 | 538310 | 120815 | 3128525 | 3397116 | 1063789 |
| 10:25 | MA15721-STD7 | 1850436 | 2639131 | 297077 | 554332 | 124839 | 3114065 | 3456814 | 1095520 |
| 10:32 | MA15721-STD8 | 1819591 | 2674280 | 300384 | 564864 | 125641 | 3020158 | 3356052 | 1074836 |
| 10:39 | MA15721-ICV1 | 1839090 | 2648095 | 297041 | 547562 | 123257 | 3044042 | 3375397 | 1068358 |
| 10:50 | MA15721-ICB1 | 1849698 | 2635220 | 301217 | 553916 | 125489 | 3145279 | 3461518 | 1110695 |
| 10:57 | MA15721-CCV1 | 1829757 | 2639693 | 297223 | 542386 | 122956 | 3057691 | 3381715 | 1067438 |
| 11:04 | MA15721-CCB1 | 1859643 | 2637293 | 296342 | 551272 | 124544 | 3122635 | 3451577 | 1102678 |
| 11:11 | MA15721-CRI1 | 1944098 | 2831243 | 300364 | 582500 | 125166 | 3330613 | 3655443 | 1105064 |
| 11:19 | MA15721-ICSA1 | 1719054 | 2584798 | 283478 | 599759 | 127935 | 2817618 | 3228944 | 992660 |
| 11:26 | MA15721-ICSAB1 | 1811392 | 2604935 | 283515 | 596996 | 126769 | 2815875 | 3288157 | 982270 |
| 11:33 | ZZZZZZ | 2120404 | 2852367 | 305900 | 593330 | 128788 | 3363671 | 3739709 | 1122450 |
| 11:40 | MP21104A-MB1 | 2089273 | 2677388 | 307125 | 553764 | 128351 | 3116248 | 3439029 | 1108921 |
| 11:47 | MC21261-9F | 2214545 | 2905384 | 305852 | 593533 | 127615 | 3234472 | 3689966 | 1094454 |
| 11:54 | MP21104A-SD1 | 2183385 | 2910325 | 310478 | 597066 | 129908 | 3328996 | 3778789 | 1123645 |
| 12:01 | ZZZZZZ | 2198501 | 2930837 | 308603 | 580258 | 125028 | 3096760 | 3557674 | 1058731 |
| 12:08 | ZZZZZZ | 2244520 | 2959568 | 312298 | 591519 | 127436 | 3155921 | 3622760 | 1075560 |
| 12:15 | ZZZZZZ | 2261121 | 2967397 | 313730 | 594760 | 128418 | 3175123 | 3644609 | 1092125 |
| 12:22 | MA15721-CCV2 | 2177271 | 2908129 | 317577 | 575488 | 130117 | 3212371 | 3615845 | 1106740 |
| 12:29 | MA15721-CCB2 | 2199351 | 2875765 | 311486 | 585551 | 127993 | 3288010 | 3666697 | 1112385 |
| 12:37 | ZZZZZZ | 2410689 | 3048608 | 315131 | 610462 | 128765 | 3420610 | 3810224 | 1105084 |
| 12:44 | MP21104A-PS1 | 2318541 | 2971516 | 316918 | 596269 | 129433 | 3254582 | 3717565 | 1103224 |
| 12:51 | MP21104A-S1 | 2096307 | 2764960 | 312751 | 563107 | 129039 | 3160676 | 3533090 | 1104818 |
| 12:58 | MP21104A-S2 | 2161897 | 2899208 | 312987 | 581242 | 128838 | 3303294 | 3697875 | 1118529 |
| 13:05 | MP21104A-B1 | 2122473 | 2867853 | 315016 | 575988 | 127896 | 3287704 | 3658672 | 1091657 |
| 13:12 | ZZZZZZ | 2328509 | 2961593 | 318836 | 598830 | 129239 | 3341960 | 3698462 | 1108629 |
| 13:19 | MC21202-14F | 2313227 | 2986351 | 320282 | 600844 | 131237 | 3219099 | 3664289 | 1098077 |
| 13:26 | MP21097A-SD1 | 2181191 | 2906545 | 316821 | 595346 | 130292 | 3301443 | 3709070 | 1122562 |
| 13:33 | MC21202-4F | 2132303 | 2861390 | 308429 | 588708 | 127635 | 3221905 | 3619302 | 1093232 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:40 | MC21202-5F | 2081263 | 2857026 | 315115 | 586847 | 129792 | 3287962 | 3673008 | 1130595 |
| 13:47 | MA15721-CCV3 | 2102376 | 2829064 | 309836 | 570557 | 127271 | 3190102 | 3569380 | 1080302 |
| 13:54 | MA15721-CCB3 | 2167478 | 2847532 | 314887 | 583873 | 129087 | 3283879 | 3654870 | 1121503 |
| 14:01 | MC21202-6F | 2329959 | 2938173 | 333807 | 595485 | 134232 | 3319609 | 3683044 | 1132025 |
| 14:09 | MC21202-7F | 2269183 | 2999583 | 332609 | 585672 | 131980 | 3113200 | 3564761 | 1094687 |
| 14:16 | MC21202-8F | 2305001 | 3001158 | 320497 | 597258 | 130210 | 3239702 | 3664372 | 1107739 |
| 14:23 | MC21202-9F | 2059747 | 2743405 | 311619 | 571948 | 129135 | 3152260 | 3547952 | 1120090 |
| 14:30 | MC21202-10F | 2254137 | 2896472 | 315643 | 587962 | 128795 | 3150920 | 3582914 | 1099103 |
| 14:37 | MC21202-11F | 2049412 | 2799449 | 312175 | 576183 | 129134 | 3238698 | 3636002 | 1137952 |
| 14:44 | MC21202-12F | 2011900 | 2780651 | 308463 | 572806 | 128543 | 3226517 | 3611961 | 1119717 |
| 14:51 | MC21202-13F | 2196232 | 2892171 | 310996 | 571110 | 126289 | 3061018 | 3521844 | 1072733 |
| 14:58 | MC21202-15F | 2209606 | 2900456 | 313699 | 575062 | 125864 | 3073983 | 3512025 | 1076494 |
| 15:05 | ZZZZZZ | 1994292 | 2740098 | 311671 | 569540 | 128972 | 3168264 | 3562790 | 1138306 |
| 15:12 | MA15721-CCV4 | 1991838 | 2734662 | 303782 | 554166 | 124883 | 3094070 | 3455311 | 1076799 |
| 15:19 | MA15721-CCB4 | 2044236 | 2742962 | 310464 | 565497 | 127925 | 3205348 | 3563482 | 1124606 |
| 15:26 | ZZZZZZ | 2213976 | 2882304 | 321987 | 584733 | 131372 | 3139336 | 3589767 | 1112008 |
| 15:33 | ZZZZZZ | 2177772 | 2878492 | 309105 | 567334 | 125609 | 3027822 | 3493731 | 1053566 |
| 15:40 | ZZZZZZ | 1972863 | 2710408 | 310750 | 564917 | 129533 | 3215530 | 3566159 | 1138512 |
| 15:48 | ZZZZZZ | 2181162 | 2776546 | 311133 | 568696 | 126473 | 3206371 | 3562719 | 1108276 |
| 15:55 | ZZZZZZ | 1982613 | 2693475 | 306302 | 560890 | 126548 | 3102167 | 3470002 | 1112475 |
| 16:02 | ZZZZZZ | 2135617 | 2830988 | 313714 | 578513 | 127627 | 3061975 | 3530126 | 1094581 |
| 16:09 | ZZZZZZ | 2170527 | 2835472 | 321725 | 578782 | 130212 | 3062142 | 3528324 | 1123268 |
| 16:16 | MP21097A-PS1 | 2152192 | 2808443 | 308081 | 569860 | 127901 | 3148690 | 3559525 | 1090166 |
| 16:23 | MP21097A-S1 | 2138567 | 2981500 | 306311 | 604320 | 126696 | 3465014 | 3857087 | 1105768 |
| 16:30 | MP21097A-S2 | 1940220 | 2699716 | 304810 | 553187 | 125897 | 3178050 | 3507852 | 1110864 |
| 16:37 | MA15721-CCV5 | 1986193 | 2770382 | 301530 | 566092 | 124045 | 3187518 | 3547783 | 1071409 |
| 16:44 | MA15721-CCB5 | 2004302 | 2763147 | 305355 | 568649 | 126509 | 3240935 | 3600214 | 1124384 |
| 16:51 | MP21097A-B1 | 1939742 | 2713329 | 312224 | 554463 | 128398 | 3167939 | 3529498 | 1135155 |
| 16:58 | MP21097A-MB1 | 2164480 | 2814044 | 311761 | 572290 | 126815 | 3233856 | 3609558 | 1115182 |
| 17:11 | MA15721-CRI2 | 2002361 | 2780537 | 311766 | 569401 | 127550 | 3253936 | 3606331 | 1128451 |
| 17:18 | MA15721-CCV6 | 1979639 | 2741871 | 309154 | 557065 | 126388 | 3135165 | 3492787 | 1098188 |
| 17:25 | MA15721-CCB6 | 1982927 | 2744252 | 309020 | 568808 | 127591 | 3243322 | 3574051 | 1124844 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF Date Analyzed: 06/07/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 09:41 | MA15721-STD1 | 4795045 R | 2963190 R |
| 09:48 | MA15721-STD2 | 4779705 | 2957070 |
| 09:55 | MA15721-STD3 | 4815634 | 2964909 |
| 10:02 | MA15721-STD4 | 4779030 | 2950045 |
| 10:10 | MA15721-STD5 | 4799049 | 2998875 |
| 10:18 | MA15721-STD6 | 4816497 | 3006162 |
| 10:25 | MA15721-STD7 | 4829879 | 2979552 |
| 10:32 | MA15721-STD8 | 4812920 | 2859352 |
| 10:39 | MA15721-ICV1 | 4814476 | 2908058 |
| 10:50 | MA15721-ICB1 | 4803077 | 3002383 |
| 10:57 | MA15721-CCV1 | 4798332 | 2919010 |
| 11:04 | MA15721-CCB1 | 4810674 | 3014040 |
| 11:11 | MA15721-CRI1 | 5121924 | 3177391 |
| 11:19 | MA15721-ICSA1 | 4779270 | 2721454 |
| 11:26 | MA15721-ICSAB1 | 4876139 | 2748620 |
| 11:33 | ZZZZZZ | 5216287 | 3287754 |
| 11:40 | MP21104A-MB1 | 4898851 | 3047218 |
| 11:47 | MC21261-9F | 5276442 | 3166484 |
| 11:54 | MP21104A-SD1 | 5269384 | 3317790 |
| 12:01 | ZZZZZZ | 5153088 | 3001446 |
| 12:08 | ZZZZZZ | 5226960 | 3077430 |
| 12:15 | ZZZZZZ | 5221869 | 3155944 |
| 12:22 | MA15721-CCV2 | 5149217 | 3135038 |
| 12:29 | MA15721-CCB2 | 5140576 | 3203447 |
| 12:37 | ZZZZZZ | 5420016 | 3346101 |
| 12:44 | MP21104A-PS1 | 5256473 | 3234443 |
| 12:51 | MP21104A-S1 | 4955776 | 3066211 |
| 12:58 | MP21104A-S2 | 5183529 | 3178334 |
| 13:05 | MP21104A-B1 | 5136964 | 3178024 |
| 13:12 | ZZZZZZ | 5239185 | 3265428 |
| 13:19 | MC21202-14F | 5217916 | 3158519 |
| 13:26 | MP21097A-SD1 | 5170250 | 3240405 |
| 13:33 | MC21202-4F | 5097329 | 3158296 |

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:40 | MC21202-5F | 5050682 | 3168870 |
| 13:47 | MA15721-CCV3 | 5081953 | 3044633 |
| 13:54 | MA15721-CCB3 | 5107890 | 3155854 |
| 14:01 | MC21202-6F | 5180297 | 3221933 |
| 14:09 | MC21202-7F | 5113997 | 2972083 |
| 14:16 | MC21202-8F | 5122656 | 3131784 |
| 14:23 | MC21202-9F | 4898293 | 3034071 |
| 14:30 | MC21202-10F | 5054165 | 3078849 |
| 14:37 | MC21202-11F | 4998015 | 3095287 |
| 14:44 | MC21202-12F | 5011499 | 3066188 |
| 14:51 | MC21202-13F | 5008263 | 2943551 |
| 14:58 | MC21202-15F | 5046065 | 2970969 |
| 15:05 | ZZZZZZ | 4945248 | 3052649 |
| 15:12 | MA15721-CCV4 | 4947069 | 2998990 |
| 15:19 | MA15721-CCB4 | 4932497 | 3063120 |
| 15:26 | ZZZZZZ | 5145955 | 3050826 |
| 15:33 | ZZZZZZ | 4972809 | 2942589 |
| 15:40 | ZZZZZZ | 4888030 | 3006472 |
| 15:48 | ZZZZZZ | 5021450 | 3096290 |
| 15:55 | ZZZZZZ | 4869838 | 3014776 |
| 16:02 | ZZZZZZ | 5023590 | 2965336 |
| 16:09 | ZZZZZZ | 5008487 | 2957633 |
| 16:16 | MP21097A-PS1 | 5013181 | 3065764 |
| 16:23 | MP21097A-S1 | 5367958 | 3299702 |
| 16:30 | MP21097A-S2 | 4866142 | 3033695 |
| 16:37 | MA15721-CCV5 | 5066895 | 3024294 |
| 16:44 | MA15721-CCB5 | 4974557 | 3104737 |
| 16:51 | MP21097A-B1 | 4896369 | 3037193 |
| 16:58 | MP21097A-MB1 | 5063827 | 3148929 |
| 17:11 | MA15721-CRI2 | 5012259 | 3079191 |
| 17:18 | MA15721-CCV6 | 4926247 | 2992222 |
| 17:25 | MA15721-CCB6 | 4953385 | 3093644 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: | | | | 10:50 | | 11:04 | | 12:29 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0011 | <0.50 | 0.00020 | <0.50 | 0.0076 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: / Sample ID: | | | | 13:54 CCB3 | | 15:19 CCB4 | | 16:44 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.011 | <0.50 | 0.014 | <0.50 | 0.013 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: | | | | 17:25 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0061 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 10:39 | | | 10:57 | | | 12:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.9 | 101.5 | 50 | 51.1 | 102.2 | 50 | 49.3 | 98.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 13:47 | | | 15:12 | | | 16:37 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 50.7 | 101.4 | 50 | 50.9 | 101.8 | 50 | 50.6 | 101.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 17:18 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 50.7 | 101.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | | 11:11 | | 17:11 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.52 | 104.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | | 11:19 | | 11:26 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 91300 | 91.3 | 94600 | 94.6 |
| Antimony | | | 0.29* | | 0.29* | |
| Arsenic | | 20 | 0.22 | | 19.3 | 96.5 |
| Barium | | | 0.22 | | 0.60* | |
| Beryllium | | | 0.0013 | | 0.0034 | |
| Boron | | | 0.043 | | 0.049 | |
| Cadmium | | 20 | 1.4* | | 20.8 | 104.0 |
| Calcium | 100000 | 100000 | 92700 | 92.7 | 96300 | 96.3 |
| Chromium | | 20 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.049 | | 19.6 | 98.0 |
| Copper | | 20 | 0.41 | | 17.6 | 88.0 |
| Iron | 100000 | 100000 | 94100 | 94.1 | 96000 | 96.0 |
| Lead | | | 0.14 | | 0.15 | |
| Magnesium | 100000 | 100000 | 92400 | 92.4 | 95900 | 95.9 |
| Manganese | | 20 | 0.15 | | 19.4 | 97.0 |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.71* | | 19.7 | 98.5 |
| Potassium | 100000 | 100000 | 93200 | 93.2 | 97400 | 97.4 |
| Selenium | | | 0.11 | | -0.011 | |
| Silver | | 20 | 0.059 | | 19.6 | 98.0 |
| Sodium | 100000 | 100000 | 92100 | 92.1 | 95800 | 95.8 |
| Strontium | | | 4.8* | | 5.0* | |
| Thallium | | | 0.080 | | 0.034 | |
| Tin | | | 0.11 | | 0.092 | |
| Titanium | 2000 | 2000 | 1980 | 99.0 | 2050 | 102.5 |
| Vanadium | | | 0.037 | | 0.040 | |
| Zinc | | 20 | 1.8* | | 18.7 | 93.5 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 0.0 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 1.9 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 6.8 | <5000 |
| Manganese | 15 | .16 | .81 | 0.40 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 0.10 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | -40 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Calcium | 65500 | 88900 | 25000 | 93.6 | 75-125 |
| Iron | 83400 | 85100 | 2000 | 85.0 | 75-125 |
| Magnesium | 8960 | 33200 | 25000 | 97.0 | 75-125 |
| Manganese | 1130 | 1570 | 500 | 88.0 | 75-125 |
| Potassium | 11600 | 36300 | 25000 | 98.8 | 75-125 |
| Sodium | 14600 | 39500 | 25000 | 99.6 | 75-125 |

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Calcium | 65500 | 89500 | 25000 | 96.0 | 0.7 | 20 |
| Iron | 83400 | 85900 | 2000 | 125.0(a) | 0.9 | 20 |
| Magnesium | 8960 | 33700 | 25000 | 99.0 | 1.5 | 20 |
| Manganese | 1130 | 1590 | 500 | 92.0 | 1.3 | 20 |
| Potassium | 11600 | 37000 | 25000 | 101.6 | 1.9 | 20 |
| Sodium | 14600 | 40000 | 25000 | 101.6 | 1.3 | 20 |

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25000 | 25000 | 100.0 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2030 | 2000 | 101.5 | 80-120 |
| Lead | | | | |
| Magnesium | 24600 | 25000 | 98.4 | 80-120 |
| Manganese | 469 | 500 | 93.8 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25600 | 25000 | 102.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25100 | 25000 | 100.4 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | MC21156-7F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Calcium | 65500 | 70100 | 7.1 | 0-10 |
| Iron | 83400 | 89400 | 7.2 | 0-10 |
| Magnesium | 8960 | 8980 | 0.3 | 0-10 |
| Manganese | 1130 | 1140 | 0.4 | 0-10 |
| Potassium | 11600 | 11900 | 2.0 | 0-10 |
| Sodium | 14600 | 14700 | 1.2 | 0-10 |

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 05/29/13

| Metal | Sample ml | Final ml | MC21156-7F Raw | MC21156-7F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 65460 | 56921.74 | 101000 | 1 | 500 | 43478.26 | 101.4 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 83380 | 72504.35 | 74160 | 1 | 10 | 869.5652 | 190.4(a) | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 8957 | 7788.696 | 53590 | 1 | 500 | 43478.26 | 105.3 | 80-120 |
| Manganese | 10 | 11.5 | 1132 | 984.3478 | 1718 | .5 | 15 | 652.1739 | 112.5 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 11630 | 10113.04 | 54630 | 1 | 500 | 43478.26 | 102.4 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 14570 | 12669.57 | 55880 | 1 | 500 | 43478.26 | 99.4 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21073: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.44 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 565 | 1100 | 500 | 107.0 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 565 | 1120 | 500 | 111.0 | 1.8 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 517 | 500 | 103.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | MC21156-7F Original | SDL 20:100%DIF | | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 565 | 579 | 2.5 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21073A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 05/30/13

| Metal | Sample ml | Final ml | MC21156-7F Raw | MC21156-7F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 564.9 | 470.75 | 495.3 | 2 | .1 | 16.66667 | 147.3(a) | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21073A: MC21202-1F, MC21202-2F, MC21202-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recoveries outside of control limits indicate possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 5.3 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 1.3 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 28.5 | <5000 |
| Manganese | 15 | .16 | .81 | 0.70 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 33.1 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | 25.4 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 25400 | 50000 | 25000 | 98.4 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 9590 | 11200 | 2000 | 80.5 | 75-125 |
| Lead | | | | | |
| Magnesium | 2710 | 29400 | 25000 | 106.8 | 75-125 |
| Manganese | 497 | 985 | 500 | 97.6 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 2470 | 28100 | 25000 | 102.5 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |
| Zirconium | | | | | |

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 25400 | 49800 | 25000 | 97.6 | 0.4 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 9590 | 11100 | 2000 | 75.5 (a) | 0.9 | 20 |
| Lead | | | | | | |
| Magnesium | 2710 | 29400 | 25000 | 106.8 | 0.0 | 20 |
| Manganese | 497 | 982 | 500 | 97.0 | 0.3 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 2470 | 28100 | 25000 | 102.5 | 0.0 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 24800 | 25000 | 99.2 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2080 | 2000 | 104.0 | 80-120 |
| Lead | | | | |
| Magnesium | 26100 | 25000 | 104.4 | 80-120 |
| Manganese | 489 | 500 | 97.8 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 26500 | 25000 | 106.0 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 24500 | 25000 | 98.0 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25400 | 26100 | 3.0 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 9590 | 9630 | 0.4 | 0-10 |
| Lead | | | | |
| Magnesium | 2710 | 2680 | 1.2 | 0-10 |
| Manganese | 497 | 504 | 1.6 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 2470 | 2690 | 8.8 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 6560 | 6650 | 1.3 | 0-10 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | Sample ml | Final ml | MC21202-14F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 25380 | 22069.57 | 66560 | 1 | 500 | 43478.26 | 102.3 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 9591 | 8340 | 9121 | 1 | 10 | 869.5652 | 89.8 | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 2713 | 2359.13 | 48410 | 1 | 500 | 43478.26 | 105.9 | 80-120 |
| Manganese | 10 | 11.5 | 496.7 | 431.913 | 1047 | .5 | 15 | 652.1739 | 94.3 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 2473 | 2150.435 | 46110 | 1 | 500 | 43478.26 | 101.1 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 6562 | 5706.087 | 48820 | 1 | 500 | 43478.26 | 99.2 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.39 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 30.0 | 559 | 500 | 105.8 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 30.0 | 557 | 500 | 105.4 | 0.4 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 511 | 500 | 102.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 30.0 | 30.3 | 1.1 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | Sample ml | Final ml | MC21202-14F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 29.98 | 24.98333 | 41.6 | 2 | .1 | 16.66667 | 99.7 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21097A: MC21202-4F, MC21202-5F, MC21202-6F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0006 | .0009 | .0006 | .0002 | .0013 | .0088 | .0002 | .0055 | .0028 |
| Stddev | .0000 | .0005 | .0000 | .0000 | .0000 | .0002 | .0002 | .0000 | .0000 |
| %RSD | 5.772 | 52.09 | 6.587 | 12.17 | 2.990 | 1.919 | 129.6 | .4489 | .6633 |
| #1 | -.0006 | .0013 | .0006 | .0002 | .0013 | .0087 | .0003 | .0056 | .0028 |
| #2 | -.0007 | .0006 | .0005 | .0002 | .0013 | .0089 | .0000 | .0055 | .0029 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0000 | .0001 | .0127 | .0007 | .0008 | .0000 | .0010 | .0001 | .0076 |
| Stddev | .0004 | .0002 | .0001 | .0001 | .0008 | .000 | .0000 | .0000 | .0007 |
| %RSD | 20300. | 161.8 | .4917 | 9.250 | 93.82 | 1135. | 3.435 | 34.34 | 9.387 |
| #1 | -.0003 | .0002 | .0126 | .0006 | .0003 | -.0002 | .0010 | .0001 | .0071 |
| #2 | .0003 | .0000 | .0127 | .0007 | .0014 | .0002 | .0010 | .0002 | .0081 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0013 | .0006 | .0001 | .0000 | .0001 | .0001 | .0340 | -.0001 | .0046 |
| Stddev | .0004 | .0013 | .0002 | .0000 | .0004 | .0002 | .0002 | .0000 | .0001 |
| %RSD | 29.12 | 204.7 | 367.4 | 638.4 | 597.9 | 119.0 | .5552 | 70.94 | 2.474 |
| #1 | -.0016 | -.0003 | -.0001 | .0000 | .0004 | .0000 | .0342 | -.0001 | .0047 |
| #2 | -.0011 | .0016 | .0002 | .0000 | -.0002 | .0002 | .0339 | .0000 | .0045 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0011 | .0004 | -.0002 | .0003 | .0002 |
| Stddev | .0001 | .0002 | .0000 | .0000 | .0002 | .0002 |
| %RSD | 27.26 | 17.22 | 1.921 | 3.077 | 49.47 | 92.61 |
| #1 | -.0003 | -.0010 | .0004 | -.0002 | .0002 | .0003 |
| #2 | -.0002 | -.0012 | .0004 | -.0002 | .0004 | .0001 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/3/2013 9:15:13 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2221.5 | 53476. | 14049. |
| Stddev | 6.6 | 556. | 195. |
| %RSD | .29693 | 1.0390 | 1.3913 |
| #1 | 2216.9 | 53869. | 14187. |
| #2 | 2226.2 | 53083. | 13910. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/3/2013 9:19:35 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1813 | .6143 | 2.125 | 16.02 | 16.20 | 10.35 | 9.460 | 1.146 | 2.213 | 6.179 |
| Stddev | .0005 | .0007 | .004 | .01 | .00 | .01 | .010 | .002 | .003 | .051 |
| %RSD | .2829 | .1160 | .1797 | .0871 | .0072 | .1141 | .1012 | .1462 | .1321 | .8182 |
| #1 | .1816 | .6138 | 2.122 | 16.01 | 16.20 | 10.34 | 9.454 | 1.147 | 2.211 | 6.214 |
| #2 | .1809 | .6148 | 2.128 | 16.03 | 16.20 | 10.36 | 9.467 | 1.145 | 2.215 | 6.143 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.972 | 7.379 | 3.130 | 1.642 | .8221 | 1.182 | 12.52 |
| Stddev | .012 | .010 | .001 | .001 | .0015 | .001 | .01 |
| %RSD | .1452 | .1323 | .0460 | .0668 | .1840 | .0926 | .0583 |
| #1 | 7.963 | 7.372 | 3.129 | 1.641 | .8210 | 1.181 | 12.52 |
| #2 | 7.980 | 7.385 | 3.131 | 1.643 | .8231 | 1.183 | 12.53 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2242.4 | 52643. | 12571. |
| Stddev | 1.6 | 338. | 76. |
| %RSD | .07009 | .64299 | .60096 |
| #1 | 2243.6 | 52403. | 12518. |
| #2 | 2241.3 | 52882. | 12625. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/3/2013 9:23:56 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.465 | 2.848 | 1.698 | .7594 | .2410 | 2.504 |
| Stddev | .006 | .006 | .008 | .0008 | .0005 | .008 |
| %RSD | .4191 | .2157 | .4751 | .1105 | .2124 | .3072 |
| #1 | 1.460 | 2.844 | 1.692 | .7600 | .2406 | 2.499 |
| #2 | 1.469 | 2.853 | 1.704 | .7588 | .2413 | 2.510 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 12965. |
| Stddev | 106. |
| %RSD | .81601 |
| #1 | 12890. |
| #2 | 13040. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/3/2013 9:28:16 Type: Cal
Method: Accutest -SS2(v179) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3292 | .5132 | .0848 | 2.146 | 1.870 | 27.79 | 1.685 | 1.454 | .0805 | 3.114 |
| Stddev | .0005 | .0004 | .0002 | .008 | .005 | .09 | .001 | .000 | .0000 | .007 |
| %RSD | .1391 | .0712 | .2853 | .3608 | .2598 | .3232 | .0362 | .0274 | .0476 | .2335 |
| #1 | .3289 | .5129 | .0846 | 2.141 | 1.866 | 27.73 | 1.686 | 1.453 | .0805 | 3.109 |
| #2 | .3295 | .5134 | .0850 | 2.152 | 1.873 | 27.85 | 1.685 | 1.454 | .0805 | 3.119 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2292.1 | 54672. | 13231. |
| Stddev | 5.6 | 123. | 56. |
| %RSD | .24622 | .22554 | .42460 |
| #1 | 2296.1 | 54759. | 13192. |
| #2 | 2288.1 | 54585. | 13271. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/3/2013 9:32:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5122 | 15.84 | 3.080 | 3.022 | 3.117 | 3.083 | 2.997 | 18.23 | 3.052 | 3.019 |
| Stddev | .0016 | .03 | .005 | .008 | .004 | .001 | .000 | .01 | .001 | .000 |
| %RSD | .3060 | .1595 | .1794 | .2631 | .1202 | .0323 | .0124 | .0772 | .0202 | .0139 |
| #1 | .5133 | 15.82 | 3.084 | 3.028 | 3.120 | 3.084 | 2.996 | 18.22 | 3.052 | 3.020 |
| #2 | .5111 | 15.86 | 3.076 | 3.016 | 3.115 | 3.082 | 2.997 | 18.24 | 3.053 | 3.019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.042 | 2.955 | 18.53 | 15.56 | 18.42 | 2.967 | 2.924 | 15.65 | 2.968 | 2.978 |
| Stddev | .004 | .008 | .00 | .00 | .06 | .034 | .002 | .02 | .002 | .001 |
| %RSD | .1261 | .2734 | .0208 | .0060 | .3396 | 1.131 | .0580 | .1433 | .0614 | .0391 |
| #1 | 3.045 | 2.961 | 18.53 | 15.56 | 18.38 | 2.990 | 2.925 | 15.67 | 2.967 | 2.979 |
| #2 | 3.040 | 2.949 | 18.53 | 15.56 | 18.46 | 2.943 | 2.923 | 15.64 | 2.970 | 2.977 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.079 | 3.037 | 3.025 | 3.050 | 3.081 | 3.110 | 3.080 | 3.043 | 2.970 | 2.994 |
| Stddev | .011 | .003 | .003 | .001 | .001 | .004 | .003 | .004 | .002 | .006 |
| %RSD | .3544 | .0992 | .0850 | .0461 | .0419 | .1183 | .1056 | .1441 | .0716 | .1970 |
| #1 | 3.087 | 3.039 | 3.027 | 3.049 | 3.082 | 3.113 | 3.077 | 3.046 | 2.971 | 2.998 |
| #2 | 3.072 | 3.035 | 3.023 | 3.051 | 3.080 | 3.108 | 3.082 | 3.040 | 2.968 | 2.990 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.001 | 2.892 | 3.310 |
| Stddev | .006 | .003 | .015 |
| %RSD | .1961 | .1105 | .4654 |
| #1 | 3.006 | 2.894 | 3.321 |
| #2 | 2.997 | 2.890 | 3.299 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 53542. | 13105. |
| Stddev | 3.4 | 77. | 2. |
| %RSD | .15292 | .14311 | .01415 |
| #1 | 2242.8 | 53488. | 13103. |
| #2 | 2247.7 | 53596. | 13106. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/3/2013 9:42:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0012 | .0017 | .0004 | .0019 | .0004 | .0001 | .0035 | .0001 | .0000 |
| Stddev | .0006 | .0052 | .0012 | .0008 | .0005 | .0001 | .0000 | .0007 | .0001 | .000 |
| %RSD | 200.2 | 433.4 | 71.02 | 190.1 | 27.59 | 25.49 | 59.11 | 20.53 | 84.12 | 63.23 |
| #1 | -.0008 | -.0025 | .0026 | .0010 | .0023 | .0003 | .0000 | .0040 | .0000 | .0000 |
| #2 | .0001 | .0049 | .0009 | -.0001 | .0016 | .0004 | .0001 | .0030 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0009 | .0016 | -.0269 | -.0099 | .0001 | .0003 | -.0249 | .0003 | -.0006 |
| Stddev | .0002 | .0001 | .0021 | .0031 | .0088 | .0000 | .0000 | .0024 | .0002 | .0006 |
| %RSD | 68.73 | 14.87 | 135.1 | 11.57 | 89.32 | 14.36 | 15.72 | 9.781 | 55.40 | 109.0 |
| #1 | .0004 | .0008 | .0031 | -.0247 | -.0036 | .0002 | .0003 | -.0232 | .0004 | -.0010 |
| #2 | .0001 | .0010 | .0001 | -.0291 | -.0161 | .0001 | .0003 | -.0266 | .0002 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0015 | .0007 | .0006 | .0020 | -.0002 | .0001 | -.0003 | .0006 | .0003 |
| Stddev | .0031 | .0008 | .0007 | .0003 | .0001 | .0000 | .0000 | .0000 | .0000 | .0002 |
| %RSD | 366.8 | 53.51 | 96.64 | 63.14 | 6.305 | 9.126 | 15.58 | .2699 | 2.445 | 54.09 |
| #1 | -.0013 | -.0020 | .0002 | .0008 | .0019 | -.0002 | .0001 | -.0003 | .0006 | .0004 |
| #2 | .0030 | -.0009 | .0012 | .0003 | .0021 | -.0002 | .0001 | -.0003 | .0006 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0002 | .0015 |
| Stddev | .0021 | .0001 | .0003 |
| %RSD | 83.75 | 75.96 | 18.22 |
| #1 | .0010 | .0002 | .0017 |
| #2 | .0040 | .0001 | .0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.8 | 54467. | 13169. |
| Stddev | 4.6 | 571. | 107. |
| %RSD | .20383 | 1.0490 | .81595 |
| #1 | 2241.5 | 54871. | 13093. |
| #2 | 2248.0 | 54063. | 13245. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 9:50:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2474 | 10.00 | 2.005 | .0002 | 2.010 | 1.991 | 1.949 | 9.953 | 2.003 | 2.074 |
| Stddev | .0001 | .01 | .005 | .0017 | .000 | .001 | .003 | .019 | .001 | .001 |
| %RSD | .0521 | .0959 | .2580 | 796.5 | .0185 | .0529 | .1276 | .1947 | .0651 | .0412 |
| #1 | .2475 | 9.996 | 2.002 | .0014 | 2.011 | 1.991 | 1.950 | 9.967 | 2.004 | 2.074 |
| #2 | .2473 | 10.01 | 2.009 | -.0010 | 2.010 | 1.992 | 1.947 | 9.940 | 2.002 | 2.073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.954 | 1.950 | 9.995 | 9.939 | 9.720 | 1.913 | 1.997 | 9.999 | 2.021 | 1.968 |
| Stddev | .005 | .001 | .018 | .024 | .039 | .002 | .002 | .008 | .001 | .001 |
| %RSD | .2514 | .0304 | .1778 | .2431 | .4008 | .1132 | .1050 | .0789 | .0617 | .0721 |
| #1 | 1.951 | 1.951 | 9.982 | 9.957 | 9.748 | 1.912 | 1.998 | 10.00 | 2.021 | 1.969 |
| #2 | 1.958 | 1.950 | 10.01 | 9.922 | 9.693 | 1.915 | 1.995 | 9.993 | 2.020 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0019 | 2.046 | 2.035 | .0401 | 1.999 | 1.947 | 1.969 | 1.977 | 1.943 |
| Stddev | .0003 | .0001 | .001 | .001 | .0007 | .001 | .000 | .001 | .002 | .002 |
| %RSD | 11.19 | 7.726 | .0672 | .0680 | 1.815 | .0510 | .0177 | .0332 | .0764 | .1003 |
| #1 | .0033 | .0018 | 2.047 | 2.036 | .0395 | 2.000 | 1.947 | 1.969 | 1.978 | 1.941 |
| #2 | .0028 | .0020 | 2.045 | 2.034 | .0406 | 1.999 | 1.947 | 1.968 | 1.976 | 1.944 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0091 | 1.939 | .0023 |
| Stddev | .0050 | .002 | .0001 |
| %RSD | 55.22 | .0873 | 2.584 |
| #1 | -.0055 | 1.940 | .0023 |
| #2 | -.0126 | 1.938 | .0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.0 | 54081. | 13266. |
| Stddev | 2.8 | 91. | 104. |
| %RSD | .12590 | .16916 | .78541 |
| #1 | 2230.0 | 54146. | 13192. |
| #2 | 2226.0 | 54016. | 13340. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 9:58:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0006 | .0021 | .0007 | .0016 | .0004 | .0001 | .0017 | .0001 | .0000 |
| Stddev | .0003 | .0027 | .0013 | .0000 | .0001 | .0001 | .0000 | .0033 | .0000 | .0000 |
| %RSD | 80.56 | 440.0 | 63.99 | 1.559 | 8.998 | 14.87 | 37.24 | 191.3 | 28.92 | 364.2 |
| #1 | -.0002 | .0025 | .0011 | .0007 | .0015 | .0004 | .0001 | -.0006 | .0001 | .0000 |
| #2 | -.0006 | -.0013 | .0030 | .0007 | .0017 | .0003 | .0001 | .0040 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | -.0003 | -.0028 | .0007 | .0002 | .0003 | -.0357 | .0002 | -.0006 |
| Stddev | .0002 | .0000 | .0020 | .0042 | .0124 | .0000 | .0000 | .0165 | .0001 | .0001 |
| %RSD | 288.3 | 1.408 | 775.3 | 150.4 | 1663. | 2.728 | 7.561 | 46.31 | 66.17 | 16.73 |
| #1 | .0002 | .0005 | .0011 | -.0058 | -.0080 | .0002 | .0003 | -.0473 | .0003 | -.0007 |
| #2 | -.0001 | .0005 | -.0017 | .0002 | .0095 | .0002 | .0003 | -.0240 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0032 | .0008 | .0014 | .0020 | .0000 | .0000 | .0000 | .0008 | .0005 |
| Stddev | .0015 | .0039 | .0007 | .0006 | .0013 | .0004 | .0000 | .000 | .0004 | .0001 |
| %RSD | 205.3 | 122.6 | 86.31 | 40.56 | 63.92 | 12280. | 67.18 | 920.6 | 56.00 | 16.72 |
| #1 | -.0003 | -.0060 | .0003 | .0018 | .0029 | .0003 | .0000 | .0001 | .0005 | .0005 |
| #2 | .0018 | -.0004 | .0013 | .0010 | .0011 | -.0002 | .0001 | -.0002 | .0011 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | .0003 | .0008 |
| Stddev | .0032 | .0001 | .0001 |
| %RSD | 3047. | 34.52 | 11.73 |
| #1 | -.0024 | .0003 | .0008 |
| #2 | .0022 | .0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.9 | 54666. | 13274. |
| Stddev | .1 | 295. | 43. |
| %RSD | .00290 | .53920 | .32302 |
| #1 | 2244.9 | 54874. | 13243. |
| #2 | 2245.0 | 54457. | 13304. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 10:04:16 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .2096 | .0045 | .0007 | .1037 | .0514 | .0042 | 5.007 | .0042 | .0531 |
| Stddev | .0006 | .0031 | .0000 | .0008 | .0001 | .0004 | .0001 | .008 | .0000 | .0001 |
| %RSD | 10.96 | 1.466 | .9231 | 128.0 | .1266 | .6980 | 1.869 | .1553 | 1.004 | .1311 |
| #1 | .0057 | .2117 | .0045 | .0001 | .1036 | .0511 | .0043 | 5.013 | .0043 | .0531 |
| #2 | .0049 | .2074 | .0045 | .0013 | .1038 | .0516 | .0042 | 5.002 | .0042 | .0532 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0248 | .0999 | 5.002 | 4.841 | .0151 | .1034 | 4.981 | .0423 | .0055 |
| Stddev | .0001 | .0000 | .0004 | .010 | .018 | .0001 | .0003 | .013 | .0001 | .0002 |
| %RSD | 1.228 | .1658 | .3862 | .2021 | .3741 | .7035 | .3258 | .2621 | .1617 | 4.016 |
| #1 | .0101 | .0248 | .1002 | 4.995 | 4.854 | .0151 | .1036 | 4.990 | .0422 | .0054 |
| #2 | .0103 | .0248 | .0996 | 5.009 | 4.828 | .0152 | .1032 | 4.972 | .0423 | .0057 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0010 | .0068 | .0112 | -.0021 | .1020 | .0101 | .0517 | .0059 | .0106 |
| Stddev | .0004 | .0019 | .0002 | .0002 | .0001 | .0005 | .0001 | .0001 | .0007 | .0003 |
| %RSD | 19.67 | 195.3 | 3.257 | 1.710 | 5.048 | .4546 | 1.187 | .1931 | 11.41 | 3.217 |
| #1 | .0024 | .0023 | .0070 | .0113 | -.0020 | .1023 | .0102 | .0518 | .0064 | .0108 |
| #2 | .0018 | -.0004 | .0066 | .0110 | -.0022 | .1017 | .0100 | .0517 | .0054 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0211 | .0006 |
| Stddev | .0040 | .0001 | .0000 |
| %RSD | 90.46 | .6144 | 2.619 |
| #1 | .0016 | .0210 | .0006 |
| #2 | .0073 | .0212 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2249.6 | 54745. | 13399. |
| Stddev | 1.8 | 85. | 100. |
| %RSD | .08073 | .15516 | .74787 |
| #1 | 2250.9 | 54685. | 13329. |
| #2 | 2248.3 | 54805. | 13470. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/3/2013 10:13:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | 510.7 | .0000 | .0072 | .0045 | -.0002 | .0000 | 461.7 | -.0003 | -.0002 |
| Stddev | .0000 | 1.0 | .0028 | .0003 | .0007 | .0001 | .0000 | 11.2 | .0001 | .0000 |
| %RSD | 3.039 | .2000 | 7314. | 4.786 | 14.89 | 50.06 | 67.13 | 2.424 | 47.30 | .9146 |
| #1 | .0010 | 511.4 | .0020 | .0075 | .0050 | -.0002 | .0000 | 469.6 | -.0002 | -.0002 |
| #2 | .0011 | 509.9 | -.0019 | .0070 | .0040 | -.0001 | .0000 | 453.8 | -.0004 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0035 | 189.0 | .0314 | 484.7 | .0005 | -.0004 | .0464 | -.0006 | -.0008 |
| Stddev | .0001 | .0003 | .0 | .0207 | .2 | .0000 | .0000 | .0006 | .0002 | .0002 |
| %RSD | 29.83 | 9.409 | .0144 | 66.04 | .0509 | 5.846 | 5.671 | 1.370 | 33.03 | 25.58 |
| #1 | -.0003 | .0033 | 189.0 | .0167 | 484.5 | .0006 | -.0004 | .0468 | -.0004 | -.0009 |
| #2 | -.0002 | .0038 | 189.0 | .0460 | 484.8 | .0005 | -.0004 | .0459 | -.0007 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0339 | -.0147 | .0019 | -.0008 | .0365 | -.0005 | .0010 | .0089 | .0007 | .0003 |
| Stddev | .0042 | .0041 | .0003 | .0025 | .0003 | .0002 | .0003 | .0007 | .0011 | .0001 |
| %RSD | 12.25 | 27.73 | 13.78 | 322.2 | .6880 | 40.03 | 25.98 | 8.062 | 160.2 | 32.50 |
| #1 | -.0310 | -.0118 | .0021 | -.0025 | .0364 | -.0004 | .0008 | .0094 | .0014 | .0002 |
| #2 | -.0369 | -.0176 | .0017 | .0010 | .0367 | -.0007 | .0012 | .0084 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0391 | -.0008 | .0019 |
| Stddev | .0012 | .0001 | .0000 |
| %RSD | 3.165 | 7.767 | .8641 |
| #1 | -.0382 | -.0008 | .0018 |
| #2 | -.0400 | -.0007 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2062.4 | 51119. | 13017. |
| Stddev | 4.2 | 270. | 75. |
| %RSD | .20417 | .52802 | .57681 |
| #1 | 2059.5 | 50928. | 12963. |
| #2 | 2065.4 | 51310. | 13070. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/3/2013 10:17:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.034 | 520.1 | 2.073 | .4929 | 1.023 | .5076 | .4619 | 464.9 | 1.034 | .4840 |
| Stddev | .001 | 13.3 | .003 | .0035 | .002 | .0020 | .0014 | 4.4 | .001 | .0005 |
| %RSD | .1327 | 2.552 | .1479 | .7076 | .1893 | .3893 | .3111 | .9432 | .0604 | .0958 |
| #1 | 1.035 | 510.8 | 2.075 | .4954 | 1.024 | .5090 | .4629 | 461.8 | 1.035 | .4843 |
| #2 | 1.033 | 529.5 | 2.071 | .4904 | 1.022 | .5062 | .4609 | 468.0 | 1.034 | .4837 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4803 | .5118 | 189.3 | .0628 | 482.4 | .4669 | .9763 | .0371 | .9107 | .9130 |
| Stddev | .0003 | .0021 | .5 | .0054 | 1.1 | .0012 | .0001 | .0050 | .0008 | .0008 |
| %RSD | .0614 | .4038 | .2839 | 8.603 | .2324 | .2503 | .0140 | 13.43 | .0891 | .0871 |
| #1 | .4805 | .5104 | 189.7 | .0666 | 483.2 | .4677 | .9764 | .0406 | .9113 | .9135 |
| #2 | .4801 | .5133 | 188.9 | .0590 | 481.6 | .4660 | .9762 | .0336 | .9101 | .9124 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5025 | .4777 | 2.129 | 2.025 | 2.232 | .9943 | .9747 | .5147 | 1.896 | .5052 |
| Stddev | .0007 | .0046 | .003 | .002 | .001 | .0001 | .0045 | .0001 | .002 | .0010 |
| %RSD | .1351 | .9733 | .1299 | .0860 | .0451 | .0067 | .4616 | .0192 | .0893 | .1989 |
| #1 | .5030 | .4810 | 2.127 | 2.026 | 2.232 | .9942 | .9779 | .5147 | 1.895 | .5059 |
| #2 | .5021 | .4744 | 2.131 | 2.024 | 2.233 | .9943 | .9716 | .5146 | 1.898 | .5045 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.830 | .8937 | .4610 |
| Stddev | .004 | .0014 | .0024 |
| %RSD | .2071 | .1527 | .5168 |
| #1 | 1.828 | .8946 | .4594 |
| #2 | 1.833 | .8927 | .4627 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2061.3 | 51001. | 13045. |
| Stddev | 3.7 | 327. | 11. |
| %RSD | .17735 | .64150 | .08295 |
| #1 | 2058.8 | 50769. | 13037. |
| #2 | 2063.9 | 51232. | 13052. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 10:22:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2051 | 2.256 | .5229 | .0007 | .0025 | 2.022 | .5053 | 24.76 | .5194 | .5219 |
| Stddev | .0016 | .004 | .0002 | .0002 | .0001 | .004 | .0020 | .11 | .0014 | .0016 |
| %RSD | .8014 | .1634 | .0434 | 31.66 | 4.900 | .2195 | .3997 | .4437 | .2712 | .3076 |
| #1 | .2039 | 2.254 | .5227 | .0006 | .0025 | 2.019 | .5039 | 24.68 | .5184 | .5207 |
| #2 | .2063 | 2.259 | .5230 | .0009 | .0026 | 2.025 | .5068 | 24.84 | .5204 | .5230 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5189 | .4817 | 2.125 | 25.23 | 24.71 | .4764 | .0008 | 25.43 | .5079 | 1.007 |
| Stddev | .0004 | .0008 | .013 | .05 | .07 | .0003 | .0002 | .03 | .0012 | .002 |
| %RSD | .0838 | .1626 | .6113 | .2160 | .2826 | .0575 | 19.53 | .1243 | .2389 | .2378 |
| #1 | .5186 | .4812 | 2.116 | 25.19 | 24.66 | .4766 | .0009 | 25.41 | .5071 | 1.005 |
| #2 | .5192 | .4823 | 2.134 | 25.27 | 24.75 | .4762 | .0007 | 25.46 | .5088 | 1.009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0029 | .5321 | .5176 | .0243 | -.0020 | .4902 | .5009 | .5101 | .5097 |
| Stddev | .0022 | .0033 | .0005 | .0020 | .0004 | .0001 | .0012 | .0007 | .0010 | .0009 |
| %RSD | 352.4 | 115.9 | .0887 | .3938 | 1.620 | 7.353 | .2462 | .1422 | .1903 | .1819 |
| #1 | .0009 | .0005 | .5317 | .5162 | .0240 | -.0021 | .4893 | .5004 | .5094 | .5104 |
| #2 | -.0022 | .0053 | .5324 | .5190 | .0246 | -.0019 | .4910 | .5014 | .5108 | .5091 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0061 | .5107 | .0179 |
| Stddev | .0020 | .0007 | .0021 |
| %RSD | 33.36 | .1383 | 11.56 |
| #1 | .0047 | .5102 | .0194 |
| #2 | .0076 | .5112 | .0165 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.7 | 54611. | 13509. |
| Stddev | 10.9 | 7. | 46. |
| %RSD | .49092 | .01353 | .33798 |
| #1 | 2224.4 | 54606. | 13541. |
| #2 | 2209.0 | 54616. | 13477. |



Zoom In Zoom Out

Sample Name: MP21072-MB1 Acquired: 6/3/2013 10:26:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0221 | .0016 | -.0003 | .0004 | .0004 | .0001 | .0384 | .0001 | -.0002 |
| Stddev | .0005 | .0057 | .0005 | .0003 | .0004 | .0000 | .0000 | .0039 | .0000 | .0000 |
| %RSD | 1449. | 25.79 | 30.87 | 91.33 | 93.69 | 10.29 | 9.480 | 10.19 | 5.201 | 17.63 |
| #1 | .0004 | .0181 | .0012 | -.0001 | .0001 | .0004 | .0001 | .0356 | .0001 | -.0002 |
| #2 | -.0003 | .0261 | .0019 | -.0005 | .0007 | .0005 | .0001 | .0412 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0095 | .0063 | .0323 | .0003 | .0000 | -.0291 | .0000 | -.0004 |
| Stddev | .0000 | .0002 | .0002 | .0236 | .0103 | .0000 | .0000 | .0044 | .000 | .0004 |
| %RSD | 98.09 | 40.09 | 1.710 | 374.8 | 31.76 | 8.096 | 84.47 | 15.26 | 297.7 | 94.16 |
| #1 | .0000 | .0004 | .0094 | .0230 | .0396 | .0003 | .0000 | -.0322 | .0000 | -.0001 |
| #2 | .0001 | .0008 | .0096 | -.0104 | .0250 | .0003 | .0000 | -.0259 | .0000 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0006 | .0009 | .0013 | .0240 | -.0007 | .0001 | .0000 | .0010 | -.0003 |
| Stddev | .0009 | .0085 | .0000 | .0003 | .0000 | .0001 | .0000 | .000 | .0004 | .0002 |
| %RSD | 65.22 | 1312. | 2.090 | 20.63 | .0288 | 13.50 | 68.81 | 7.603 | 40.00 | 87.23 |
| #1 | .0007 | -.0053 | .0009 | .0011 | .0240 | -.0007 | .0000 | .0000 | .0007 | -.0001 |
| #2 | .0020 | .0066 | .0009 | .0015 | .0240 | -.0006 | .0001 | .0000 | .0013 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0029 | .0003 | .0028 |
| Stddev | .0004 | .0000 | .0002 |
| %RSD | 12.37 | 6.454 | 9.001 |
| #1 | .0032 | .0003 | .0029 |
| #2 | .0027 | .0003 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2228.3 | 55199. | 13356. |
| Stddev | 3.3 | 186. | 25. |
| %RSD | .14962 | .33741 | .18392 |
| #1 | 2225.9 | 55068. | 13339. |
| #2 | 2230.6 | 55331. | 13374. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 10:30:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2080 | 2.125 | .5257 | .0012 | .0046 | 2.062 | .5149 | 30.44 | .5244 | .5260 |
| Stddev | .0006 | .011 | .0031 | .0001 | .0000 | .003 | .0004 | .01 | .0003 | .0001 |
| %RSD | .3037 | .5012 | .5920 | 9.714 | .6872 | .1579 | .0818 | .0352 | .0533 | .0132 |
| #1 | .2076 | 2.117 | .5235 | .0012 | .0046 | 2.064 | .5146 | 30.43 | .5246 | .5260 |
| #2 | .2084 | 2.132 | .5279 | .0013 | .0045 | 2.060 | .5152 | 30.45 | .5242 | .5261 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5224 | .4907 | 2.074 | 27.22 | 26.06 | .4831 | .0005 | 26.96 | .5097 | 1.011 |
| Stddev | .0022 | .0010 | .004 | .03 | .03 | .0006 | .0001 | .04 | .0002 | .001 |
| %RSD | .4166 | .2054 | .2019 | .1070 | .1110 | .1187 | 11.19 | .1581 | .0340 | .0574 |
| #1 | .5209 | .4914 | 2.071 | 27.20 | 26.03 | .4827 | .0006 | 26.99 | .5098 | 1.012 |
| #2 | .5240 | .4899 | 2.077 | 27.24 | 26.08 | .4835 | .0005 | 26.93 | .5095 | 1.011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0061 | .5353 | .5197 | 3.285 | -.0017 | .5436 | .5051 | .5105 | .5152 |
| Stddev | .0005 | .0044 | .0020 | .0002 | .001 | .0002 | .0006 | .0004 | .0008 | .0008 |
| %RSD | 292.3 | 72.22 | .3717 | .0391 | .0320 | 10.90 | .1048 | .0720 | .1650 | .1638 |
| #1 | -.0002 | .0030 | .5367 | .5198 | 3.285 | -.0016 | .5440 | .5048 | .5099 | .5146 |
| #2 | .0005 | .0092 | .5339 | .5196 | 3.284 | -.0019 | .5432 | .5054 | .5110 | .5158 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .5208 | .0019 |
| Stddev | .0037 | .0004 | .0002 |
| %RSD | 49.42 | .0854 | 9.248 |
| #1 | .0049 | .5211 | .0020 |
| #2 | .0101 | .5204 | .0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.4 | 54593. | 13401. |
| Stddev | 1.9 | 279. | 81. |
| %RSD | .08366 | .51128 | .60139 |
| #1 | 2213.1 | 54395. | 13458. |
| #2 | 2215.7 | 54790. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 10:34:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2082 | 2.125 | .5221 | -.0011 | .0046 | 2.058 | .5165 | 30.37 | .5223 | .5228 |
| Stddev | .0006 | .000 | .0005 | .0006 | .0001 | .004 | .0009 | .04 | .0004 | .0001 |
| %RSD | .2837 | .0121 | .0973 | 49.34 | 2.549 | .2062 | .1702 | .1434 | .0839 | .0250 |
| #1 | .2086 | 2.125 | .5217 | -.0015 | .0047 | 2.061 | .5171 | 30.40 | .5220 | .5229 |
| #2 | .2077 | 2.125 | .5225 | -.0007 | .0045 | 2.055 | .5159 | 30.34 | .5226 | .5227 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5213 | .4903 | 2.063 | 27.19 | 26.07 | .4862 | .0004 | 26.91 | .5053 | 1.006 |
| Stddev | .0044 | .0017 | .010 | .08 | .07 | .0022 | .0001 | .07 | .0011 | .002 |
| %RSD | .8423 | .3495 | .4904 | .2843 | .2709 | .4622 | 20.27 | .2640 | .2177 | .1730 |
| #1 | .5182 | .4890 | 2.055 | 27.24 | 26.12 | .4846 | .0004 | 26.96 | .5045 | 1.004 |
| #2 | .5244 | .4915 | 2.070 | 27.13 | 26.02 | .4878 | .0003 | 26.86 | .5061 | 1.007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0032 | .5323 | .5180 | 3.260 | -.0019 | .5451 | .5052 | .5094 | .5166 |
| Stddev | .0006 | .0063 | .0012 | .0021 | .007 | .0000 | .0012 | .0014 | .0003 | .0030 |
| %RSD | 75.76 | 194.4 | .2229 | .4038 | .2144 | 1.467 | .2264 | .2736 | .0602 | .5877 |
| #1 | -.0004 | -.0012 | .5331 | .5194 | 3.255 | -.0019 | .5460 | .5042 | .5096 | .5144 |
| #2 | -.0012 | .0077 | .5314 | .5165 | 3.265 | -.0020 | .5443 | .5061 | .5092 | .5187 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .5185 | .0002 |
| Stddev | .0043 | .0004 | .0002 |
| %RSD | 172.4 | .0685 | 121.6 |
| #1 | -.0005 | .5183 | .0003 |
| #2 | .0055 | .5188 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.6 | 54533. | 13365. |
| Stddev | 1.6 | 317. | 66. |
| %RSD | .07171 | .58150 | .49059 |
| #1 | 2229.4 | 54758. | 13319. |
| #2 | 2231.7 | 54309. | 13412. |

Zoom In Zoom Out

Sample Name: MC21083-12F Acquired: 6/3/2013 10:39:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0022 | .0019 | -.0001 | .0027 | .0074 | .0001 | 5.371 | -.0001 | -.0001 |
| Stddev | .0004 | .0002 | .0009 | .0001 | .0004 | .0001 | .0000 | .024 | .0000 | .0001 |
| %RSD | 227.3 | 10.49 | 47.56 | 256.0 | 13.95 | .8082 | 23.23 | .4476 | 43.22 | 212.6 |
| #1 | -.0005 | .0024 | .0025 | .0000 | .0029 | .0074 | .0001 | 5.354 | -.0001 | .0000 |
| #2 | .0001 | .0021 | .0012 | -.0002 | .0024 | .0075 | .0001 | 5.388 | -.0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .0011 | 1.488 | .8450 | .0015 | .0001 | 1.058 | .0004 | .0005 |
| Stddev | .0003 | .0001 | .0014 | .035 | .0131 | .0000 | .0000 | .007 | .0002 | .0008 |
| %RSD | 180.9 | 11.10 | 128.3 | 2.366 | 1.552 | .6938 | 28.43 | .6994 | 35.69 | 148.1 |
| #1 | .0004 | .0007 | .0020 | 1.463 | .8542 | .0015 | .0001 | 1.052 | .0003 | .0011 |
| #2 | .0000 | .0008 | .0001 | 1.512 | .8357 | .0015 | .0001 | 1.063 | .0005 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | .0003 | .0026 | 3.205 | -.0008 | .0455 | -.0001 | .0005 | .0001 |
| Stddev | .0016 | .0001 | .0004 | .0011 | .003 | .0001 | .0001 | .0006 | .0007 | .0002 |
| %RSD | 377.0 | 2.499 | 116.6 | 40.60 | .0770 | 7.647 | .1251 | 448.6 | 164.3 | 189.4 |
| #1 | .0007 | -.0036 | .0006 | .0019 | 3.206 | -.0007 | .0455 | .0003 | -.0001 | .0003 |
| #2 | -.0016 | -.0037 | .0001 | .0034 | 3.203 | -.0008 | .0455 | -.0006 | .0010 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0084 | .0064 | .0006 |
| Stddev | .0039 | .0001 | .0002 |
| %RSD | 46.30 | 1.888 | 29.17 |
| #1 | .0057 | .0065 | .0005 |
| #2 | .0112 | .0063 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.0 | 55273. | 13361. |
| Stddev | 2.6 | 11. | 38. |
| %RSD | .11550 | .02022 | .28487 |
| #1 | 2238.2 | 55281. | 13334. |
| #2 | 2241.8 | 55265. | 13388. |



Zoom In Zoom Out

Sample Name: MP21072-SD1 Acquired: 6/3/2013 10:43:29 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0453 | .0080 | .0006 | .0012 | .0070 | -.0001 | 5.358 | .0003 | -.0014 |
| Stddev | .0019 | .0148 | .0045 | .0014 | .0018 | .0006 | .0000 | .029 | .0002 | .0001 |
| %RSD | 187.3 | 32.61 | 56.50 | 236.6 | 146.3 | 8.113 | 68.44 | .5393 | 68.34 | 9.058 |
| #1 | .0023 | .0557 | .0048 | -.0004 | .0025 | .0074 | -.0001 | 5.338 | .0004 | -.0013 |
| #2 | -.0003 | .0348 | .0112 | .0015 | .0000 | .0066 | .0000 | 5.378 | .0001 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0041 | .0028 | 1.716 | .8601 | .0021 | -.0001 | .9191 | .0006 | .0007 |
| Stddev | .0009 | .0007 | .0025 | .042 | .0708 | .0000 | .0002 | .0189 | .0002 | .0027 |
| %RSD | 61.66 | 17.25 | 89.63 | 2.448 | 8.237 | 1.604 | 209.0 | 2.053 | 33.48 | 354.8 |
| #1 | -.0020 | .0046 | .0046 | 1.686 | .9102 | .0020 | -.0002 | .9057 | .0007 | .0026 |
| #2 | -.0008 | .0036 | .0010 | 1.746 | .8100 | .0021 | .0000 | .9324 | .0005 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0126 | .0028 | .0045 | 3.216 | -.0030 | .0443 | -.0004 | .0041 | .0006 |
| Stddev | .0056 | .0021 | .0029 | .0017 | .004 | .0035 | .0005 | .0010 | .0025 | .0027 |
| %RSD | 128.9 | 16.56 | 104.5 | 36.74 | .1196 | 119.6 | 1.180 | 249.5 | 59.27 | 465.4 |
| #1 | -.0004 | .0112 | .0007 | .0057 | 3.219 | -.0005 | .0439 | .0003 | .0024 | .0025 |
| #2 | -.0082 | .0141 | .0048 | .0033 | 3.214 | -.0055 | .0446 | -.0011 | .0059 | -.0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0307 | .0092 | .0010 |
| Stddev | .0268 | .0001 | .0004 |
| %RSD | 87.30 | 1.025 | 36.25 |
| #1 | .0117 | .0092 | .0007 |
| #2 | .0496 | .0091 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.2 | 54990. | 13359. |
| Stddev | 2.9 | 23. | 27. |
| %RSD | .12829 | .04201 | .20368 |
| #1 | 2240.2 | 55006. | 13378. |
| #2 | 2236.2 | 54974. | 13340. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 10:47:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0056 | .0001 | .0005 | .0102 | .0117 | -.0001 | 9.729 | -.0001 | -.0002 |
| Stddev | .0002 | .0035 | .0009 | .0012 | .0000 | .0002 | .0000 | .030 | .0001 | .0001 |
| %RSD | 140.2 | 62.16 | 640.7 | 239.2 | .4771 | 1.915 | 22.73 | .3053 | 68.34 | 21.36 |
| #1 | .0003 | .0031 | -.0005 | -.0003 | .0102 | .0118 | -.0001 | 9.708 | .0000 | -.0002 |
| #2 | .0000 | .0080 | .0008 | .0013 | .0102 | .0115 | -.0001 | 9.750 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .0013 | 1.066 | 1.492 | .0009 | .0001 | 15.08 | -.0003 | .0006 |
| Stddev | .0001 | .0004 | .0012 | .033 | .011 | .0001 | .0001 | .06 | .0002 | .0005 |
| %RSD | 31.39 | 111.3 | 88.21 | 3.112 | .7608 | 6.414 | 101.1 | .3816 | 75.01 | 77.51 |
| #1 | .0005 | .0006 | .0022 | 1.042 | 1.484 | .0009 | .0002 | 15.04 | -.0001 | .0003 |
| #2 | .0003 | .0001 | .0005 | 1.089 | 1.500 | .0010 | .0000 | 15.12 | -.0004 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | .0003 | .0017 | 6.656 | -.0007 | .0942 | .0002 | .0002 | .0005 |
| Stddev | .0015 | .0022 | .0003 | .0002 | .005 | .0002 | .0004 | .0002 | .0001 | .0009 |
| %RSD | 126.7 | 4074. | 120.7 | 11.82 | .0759 | 30.51 | .3778 | 85.77 | 33.79 | 170.4 |
| #1 | .0001 | -.0016 | .0000 | .0016 | 6.652 | -.0008 | .0939 | .0004 | .0002 | .0012 |
| #2 | .0023 | .0015 | .0005 | .0019 | 6.659 | -.0005 | .0944 | .0001 | .0001 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0078 | .0064 | -.0001 |
| Stddev | .0056 | .0000 | .0001 |
| %RSD | 71.40 | .6503 | 45.11 |
| #1 | .0039 | .0065 | -.0001 |
| #2 | .0118 | .0064 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2237.2 | 55315. | 13440. |
| Stddev | 5.2 | 363. | 95. |
| %RSD | .23347 | .65594 | .70396 |
| #1 | 2240.9 | 55571. | 13507. |
| #2 | 2233.5 | 55058. | 13373. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 10:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2471 | 9.939 | 1.990 | -.0001 | 1.999 | 1.973 | 1.932 | 9.862 | 1.987 | 2.059 |
| Stddev | .0002 | .009 | .003 | .0004 | .003 | .002 | .005 | .011 | .004 | .002 |
| %RSD | .0719 | .0942 | .1263 | 343.6 | .1584 | .1045 | .2692 | .1122 | .1934 | .1171 |
| #1 | .2473 | 9.933 | 1.992 | .0002 | 2.001 | 1.974 | 1.928 | 9.854 | 1.990 | 2.061 |
| #2 | .2470 | 9.946 | 1.988 | -.0004 | 1.997 | 1.971 | 1.935 | 9.870 | 1.984 | 2.057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.937 | 9.927 | 9.912 | 9.605 | 1.904 | 1.986 | 9.952 | 1.999 | 1.953 |
| Stddev | .006 | .001 | .004 | .053 | .037 | .006 | .003 | .005 | .006 | .006 |
| %RSD | .3305 | .0536 | .0454 | .5357 | .3851 | .3274 | .1656 | .0513 | .3106 | .3342 |
| #1 | 1.936 | 1.937 | 9.924 | 9.875 | 9.579 | 1.900 | 1.989 | 9.956 | 2.004 | 1.957 |
| #2 | 1.945 | 1.938 | 9.930 | 9.950 | 9.631 | 1.909 | 1.984 | 9.948 | 1.995 | 1.948 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0030 | 2.032 | 2.018 | .0310 | 1.981 | 1.933 | 1.954 | 1.961 | 1.931 |
| Stddev | .0008 | .0009 | .000 | .002 | .0018 | .004 | .000 | .003 | .005 | .005 |
| %RSD | 92.93 | 31.02 | .0213 | .0984 | 5.718 | .1838 | .0192 | .1526 | .2436 | .2870 |
| #1 | .0014 | .0037 | 2.032 | 2.019 | .0322 | 1.984 | 1.932 | 1.952 | 1.965 | 1.927 |
| #2 | .0003 | .0024 | 2.032 | 2.016 | .0297 | 1.978 | 1.933 | 1.956 | 1.958 | 1.935 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0093 | 1.925 | -.0027 |
| Stddev | .0052 | .005 | .0001 |
| %RSD | 56.47 | .2681 | 4.083 |
| #1 | -.0129 | 1.929 | -.0028 |
| #2 | -.0056 | 1.922 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.5 | 54504. | 13396. |
| Stddev | 5.2 | 411. | 41. |
| %RSD | .23034 | .75326 | .30680 |
| #1 | 2242.9 | 54795. | 13425. |
| #2 | 2250.2 | 54214. | 13367. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 10:58:56 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0103 | .0019 | -.0003 | .0015 | .0004 | .0002 | .0129 | .0000 | .0001 |
| Stddev | .0005 | .0045 | .0015 | .0012 | .0001 | .0001 | .0000 | .0005 | .0002 | .0002 |
| %RSD | 269.7 | 43.59 | 80.73 | 423.5 | 5.631 | 33.24 | 16.35 | 3.805 | 508.1 | 121.1 |
| #1 | .0002 | .0135 | .0029 | -.0011 | .0015 | .0005 | .0002 | .0126 | -.0001 | .0000 |
| #2 | -.0006 | .0071 | .0008 | .0006 | .0014 | .0003 | .0002 | .0133 | .0002 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0029 | -.0161 | .0034 | .0002 | .0004 | -.0360 | .0001 | .0003 |
| Stddev | .0002 | .0002 | .0021 | .0009 | .0140 | .0001 | .0001 | .0051 | .0001 | .0001 |
| %RSD | 269.6 | 33.67 | 73.25 | 5.666 | 415.6 | 26.68 | 33.16 | 14.18 | 114.0 | 42.65 |
| #1 | .0002 | .0009 | .0044 | -.0154 | -.0065 | .0002 | .0005 | -.0324 | .0000 | .0004 |
| #2 | -.0001 | .0005 | .0014 | -.0167 | .0133 | .0002 | .0003 | -.0396 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0028 | .0003 | .0013 | -.0002 | -.0003 | .0001 | .0003 | .0000 | .0000 |
| Stddev | .0004 | .0031 | .0001 | .0002 | .0005 | .0003 | .0000 | .0001 | .0004 | .000 |
| %RSD | 104.9 | 109.5 | 32.09 | 18.57 | 228.1 | 84.19 | 25.83 | 27.25 | 1275. | 1159. |
| #1 | .0006 | -.0051 | .0004 | .0014 | .0001 | -.0005 | .0001 | .0002 | -.0002 | -.0003 |
| #2 | .0001 | -.0006 | .0003 | .0011 | -.0006 | -.0001 | .0002 | .0003 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0045 | .0003 | .0007 |
| Stddev | .0039 | .0002 | .0001 |
| %RSD | 86.08 | 47.14 | 12.74 |
| #1 | .0073 | .0004 | .0008 |
| #2 | .0018 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.6 | 54828. | 13314. |
| Stddev | 1.5 | 293. | 139. |
| %RSD | .06892 | .53439 | 1.0417 |
| #1 | 2234.7 | 55035. | 13216. |
| #2 | 2232.5 | 54621. | 13412. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0513 | 1.366 | -.0005 | .1627 | .0384 | .0000 | 75.31 |
| Stddev | .0003 | .0023 | .002 | .0008 | .0004 | .0002 | .000 | .11 |
| %RSD | 163.4 | 4.459 | .1173 | 149.5 | .2258 | .5248 | 104.7 | .1440 |
| #1 | .0004 | -.0497 | 1.365 | .0000 | .1625 | .0382 | .0000 | 75.23 |
| #2 | .0000 | -.0529 | 1.367 | -.0011 | .1630 | .0385 | -.0001 | 75.39 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0122 | .0137 | -.0001 | .0013 | 19.58 | 7.969 | 11.63 | 9.235 |
| Stddev | .0002 | .0000 | .0001 | .0004 | .03 | .100 | .06 | .025 |
| %RSD | 1.696 | .0754 | 109.7 | 32.25 | .1575 | 1.256 | .4901 | .2656 |
| #1 | .0124 | .0137 | -.0001 | .0010 | 19.60 | 7.898 | 11.59 | 9.252 |
| #2 | .0121 | .0137 | .0000 | .0015 | 19.56 | 8.040 | 11.67 | 9.217 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 24.41 | .0077 | .0006 | -.0055 | .0335 | .0016 | .0032 |
| Stddev | .0002 | .01 | .0001 | .0001 | .0007 | .0053 | .0002 | .0001 |
| %RSD | 6.887 | .0214 | 1.462 | 15.76 | 12.09 | 15.80 | 10.41 | 3.119 |
| #1 | .0022 | 24.42 | .0076 | .0007 | -.0059 | .0373 | .0017 | .0033 |
| #2 | .0025 | 24.41 | .0078 | .0006 | -.0050 | .0298 | .0015 | .0031 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 12.84 | -.0008 | .7524 | .0008 | F-.0080 | .0007 | .0045 | .0117 |
| Stddev | .03 | .0001 | .0002 | .0001 | .0014 | .0006 | .0010 | .0000 |
| %RSD | .2359 | 9.006 | .0226 | 6.427 | 17.38 | 81.32 | 23.16 | .0374 |
| #1 | 12.82 | -.0008 | .7525 | .0009 | -.0089 | .0003 | .0053 | .0117 |
| #2 | 12.87 | -.0009 | .7523 | .0008 | -.0070 | .0012 | .0038 | .0117 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0017 |
| Stddev | .0001 |
| %RSD | 6.190 |
| #1 | -.0016 |
| #2 | -.0018 |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 11:08:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2212.0 | 54809. | 13616. |
| Stddev | 1.4 | 294. | 14. |
| %RSD | .06483 | .53719 | .10281 |
| #1 | 2213.0 | 54601. | 13606. |
| #2 | 2211.0 | 55018. | 13626. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/3/2013 11:12:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0011 | .0024 | -.0008 | .0275 | .0112 | .0000 | 19.69 | .0001 | -.0002 |
| Stddev | .0004 | .0048 | .0004 | .0006 | .0003 | .0002 | .000 | .04 | .0001 | .0000 |
| %RSD | 138.7 | 424.7 | 18.21 | 69.68 | 1.130 | 2.098 | 191.2 | .2253 | 135.2 | 1.373 |
| #1 | .0000 | .0045 | .0021 | -.0004 | .0277 | .0111 | .0000 | 19.72 | .0002 | -.0002 |
| #2 | .0006 | -.0023 | .0027 | -.0012 | .0273 | .0114 | -.0001 | 19.66 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0010 | .0101 | 2.459 | 2.545 | .1759 | .0002 | 11.48 | .0003 | .0002 |
| Stddev | .000 | .0008 | .0023 | .013 | .000 | .0004 | .0000 | .02 | .0000 | .0004 |
| %RSD | 548.5 | 87.72 | 22.27 | .5347 | .0055 | .2291 | 26.94 | .1891 | 1.230 | 275.5 |
| #1 | .0001 | .0004 | .0117 | 2.468 | 2.545 | .1756 | .0002 | 11.50 | .0003 | .0005 |
| #2 | -.0001 | .0016 | .0085 | 2.450 | 2.545 | .1762 | .0001 | 11.47 | .0003 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0053 | .0013 | .0017 | 4.219 | -.0009 | .1099 | -.0004 | -.0007 | .0001 |
| Stddev | .0024 | .0012 | .0001 | .0003 | .002 | .0000 | .0004 | .0005 | .0001 | .0004 |
| %RSD | 351.0 | 22.92 | 10.03 | 19.59 | .0533 | 3.706 | .4016 | 118.0 | 11.47 | 494.1 |
| #1 | .0023 | -.0044 | .0012 | .0019 | 4.220 | -.0010 | .1102 | -.0001 | -.0007 | -.0002 |
| #2 | -.0010 | -.0061 | .0014 | .0014 | 4.217 | -.0009 | .1096 | -.0007 | -.0006 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0055 | -.0001 |
| Stddev | .0026 | .0001 | .0000 |
| %RSD | 169.4 | 1.110 | 3.944 |
| #1 | .0033 | .0055 | -.0001 |
| #2 | -.0003 | .0054 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.9 | 55067. | 13473. |
| Stddev | 3.5 | 449. | 31. |
| %RSD | .15829 | .81529 | .22836 |
| #1 | 2244.4 | 55384. | 13451. |
| #2 | 2239.4 | 54750. | 13495. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 11:16:57 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0011 | .6319 | .0011 | .1718 | .0506 | .0000 | 49.58 | .0053 | .0108 |
| Stddev | .0003 | .0113 | .0032 | .0003 | .0014 | .0004 | .0002 | .12 | .0003 | .0001 |
| %RSD | 43.01 | 1015. | .5008 | 24.14 | .7971 | .8084 | 2892. | .2341 | 5.031 | .7913 |
| #1 | .0004 | .0069 | .6297 | .0009 | .1708 | .0509 | -.0001 | 49.66 | .0051 | .0109 |
| #2 | .0008 | -.0091 | .6341 | .0012 | .1728 | .0504 | .0001 | 49.50 | .0055 | .0108 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0004 | 56.86 | 10.72 | 5.759 | 1.326 | -.0001 | 20.99 | .0067 | .0006 |
| Stddev | .0001 | .0003 | .20 | .03 | .028 | .004 | .0002 | .04 | .0001 | .0001 |
| %RSD | 31.21 | 93.39 | .3566 | .2758 | .4857 | .2990 | 341.8 | .1758 | .8882 | 25.54 |
| #1 | -.0002 | .0006 | 57.00 | 10.70 | 5.739 | 1.329 | -.0002 | 21.02 | .0067 | .0005 |
| #2 | -.0004 | .0001 | 56.72 | 10.74 | 5.778 | 1.323 | .0001 | 20.97 | .0067 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0086 | .0005 | .0015 | 10.89 | -.0007 | .4386 | .0005 | -.0012 | .0000 |
| Stddev | .0009 | .0028 | .0011 | .0014 | .03 | .0001 | .0015 | .0002 | .0004 | .0001 |
| %RSD | 252.2 | 32.16 | 211.2 | 88.67 | .2956 | 15.10 | .3488 | 50.74 | 33.42 | 1059. |
| #1 | -.0010 | .0067 | -.0003 | .0025 | 10.86 | -.0008 | .4397 | .0003 | -.0015 | .0001 |
| #2 | .0003 | .0106 | .0013 | .0006 | 10.91 | -.0007 | .4375 | .0006 | -.0009 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0003 | .0057 | -.0017 |
| Stddev | .0059 | .0000 | .0002 |
| %RSD | 2208. | .0808 | 9.403 |
| #1 | .0044 | .0057 | -.0018 |
| #2 | -.0039 | .0057 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2226.3 | 55276. | 13530. |
| Stddev | 10.2 | 297. | 29. |
| %RSD | .46018 | .53810 | .21316 |
| #1 | 2233.5 | 55066. | 13550. |
| #2 | 2219.0 | 55487. | 13509. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 11:21:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0037 | .0021 | -.0004 | .2076 | .0270 | .0000 | 149.4 | .0001 | .0001 |
| Stddev | .0002 | .0041 | .0008 | .0010 | .0016 | .0001 | .000 | .4 | .0000 | .0002 |
| %RSD | 61.80 | 110.0 | 36.37 | 256.2 | .7826 | .2473 | 294.2 | .2474 | 12.60 | 141.8 |
| #1 | .0004 | -.0008 | .0015 | -.0011 | .2064 | .0271 | .0000 | 149.7 | .0002 | .0002 |
| #2 | .0002 | -.0066 | .0026 | .0003 | .2087 | .0270 | .0000 | 149.2 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0015 | .0428 | 4.797 | 18.43 | .2423 | .0011 | 41.56 | .0045 | .0007 |
| Stddev | .0003 | .0007 | .0005 | .014 | .01 | .0009 | .0000 | .14 | .0001 | .0003 |
| %RSD | 49.68 | 49.43 | 1.183 | .2933 | .0730 | .3631 | 2.463 | .3401 | 3.094 | 43.11 |
| #1 | .0004 | .0010 | .0432 | 4.807 | 18.42 | .2417 | .0011 | 41.66 | .0045 | .0005 |
| #2 | .0009 | .0020 | .0425 | 4.787 | 18.43 | .2429 | .0012 | 41.46 | .0044 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0109 | .0014 | .0010 | .0019 | 8.916 | -.0014 | .4908 | .0015 | -.0012 | .0001 |
| Stddev | .0020 | .0054 | .0011 | .0006 | .061 | .0002 | .0010 | .0003 | .0004 | .0001 |
| %RSD | 17.94 | 379.0 | 115.4 | 29.94 | .6839 | 13.01 | .2138 | 17.67 | 29.63 | 153.2 |
| #1 | -.0123 | -.0024 | .0018 | .0023 | 8.873 | -.0012 | .4916 | .0013 | -.0014 | .0000 |
| #2 | -.0095 | .0053 | .0002 | .0015 | 8.959 | -.0015 | .4901 | .0017 | -.0009 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | .0090 | -.0012 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 3.488 | 1.220 | 12.38 |
| #1 | .0052 | .0089 | -.0013 |
| #2 | .0050 | .0091 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54366. | 13409. |
| Stddev | 14.5 | 252. | 1. |
| %RSD | .66194 | .46382 | .00481 |
| #1 | 2203.3 | 54544. | 13409. |
| #2 | 2182.7 | 54187. | 13408. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 11:25:31 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1457 | .0050 | -.0002 | .0067 | .0105 | .0000 | 10.79 | .0000 | .0007 |
| Stddev | .0003 | .0098 | .0014 | .0006 | .0002 | .0005 | .000 | .06 | .000 | .0001 |
| %RSD | 153.7 | 6.761 | 28.47 | 272.5 | 2.629 | 4.458 | 369.4 | .5319 | 38.02 | 9.723 |
| #1 | -.0004 | .1526 | .0040 | -.0006 | .0066 | .0108 | .0000 | 10.83 | -.0001 | .0007 |
| #2 | .0000 | .1387 | .0060 | .0002 | .0068 | .0102 | -.0001 | 10.75 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .9988 | 1.387 | 1.500 | .2859 | .0002 | 3.142 | .0005 | .0002 |
| Stddev | .0005 | .0005 | .0002 | .035 | .007 | .0010 | .0000 | .019 | .0000 | .0002 |
| %RSD | 150.0 | 182.4 | .0227 | 2.511 | .4934 | .3591 | .9836 | .6066 | 6.922 | 94.10 |
| #1 | .0000 | .0006 | .9986 | 1.411 | 1.505 | .2867 | .0002 | 3.155 | .0006 | .0001 |
| #2 | .0007 | -.0001 | .9989 | 1.362 | 1.495 | .2852 | .0002 | 3.128 | .0005 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0003 | .0009 | .0018 | 2.441 | -.0008 | .0670 | .0018 | -.0001 | .0011 |
| Stddev | .0014 | .0015 | .0006 | .0003 | .001 | .0003 | .0002 | .0004 | .0003 | .0002 |
| %RSD | 186.0 | 559.5 | 65.75 | 19.35 | .0247 | 38.59 | .3241 | 23.15 | 346.9 | 19.12 |
| #1 | .0002 | -.0008 | .0013 | .0020 | 2.441 | -.0006 | .0672 | .0015 | .0001 | .0013 |
| #2 | -.0018 | .0013 | .0005 | .0015 | 2.441 | -.0011 | .0669 | .0021 | -.0003 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0085 | .0004 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 626.7 | .0457 | 26.87 |
| #1 | -.0048 | .0085 | .0003 |
| #2 | .0030 | .0085 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 54775. | 13380. |
| Stddev | 1.0 | 467. | 50. |
| %RSD | .04554 | .85275 | .37003 |
| #1 | 2236.9 | 54445. | 13345. |
| #2 | 2235.4 | 55106. | 13415. |



Zoom In Zoom Out

Sample Name: MC21083-7F Acquired: 6/3/2013 11:29:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0094 | .0009 | .0002 | .0005 | .0002 | .0000 | .0177 | .0000 | .0002 |
| Stddev | .001 | .0060 | .0002 | .0007 | .0000 | .0001 | .000 | .0030 | .0001 | .0002 |
| %RSD | 8937. | 64.05 | 16.39 | 306.2 | 6.517 | 82.09 | 16.89 | 17.00 | 254.0 | 91.10 |
| #1 | -.0006 | .0051 | .0010 | .0008 | .0005 | .0001 | .0000 | .0198 | .0001 | .0001 |
| #2 | .0005 | .0136 | .0008 | -.0003 | .0004 | .0002 | .0000 | .0156 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | -.0002 | .0190 | -.0064 | -.0001 | .0000 | -.0293 | .0000 | -.0003 |
| Stddev | .0004 | .0002 | .0018 | .0058 | .0137 | .0001 | .0001 | .0091 | .000 | .0008 |
| %RSD | 1081. | 86.19 | 950.8 | 30.41 | 214.3 | 82.53 | 432.2 | 30.97 | 228.4 | 243.4 |
| #1 | .0003 | .0003 | .0011 | .0230 | .0033 | .0000 | .0001 | -.0358 | -.0001 | .0003 |
| #2 | -.0002 | .0001 | -.0014 | .0149 | -.0160 | -.0001 | .0000 | -.0229 | .0000 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0027 | .0004 | .0008 | .0154 | -.0005 | .0000 | -.0001 | -.0002 | .0004 |
| Stddev | .0020 | .0023 | .0005 | .0000 | .0005 | .0000 | .000 | .0003 | .0002 | .0001 |
| %RSD | 362.3 | 84.32 | 128.3 | 2.221 | 3.296 | 8.054 | 314.5 | 236.1 | 107.9 | 28.74 |
| #1 | -.0009 | .0044 | .0000 | .0008 | .0158 | -.0005 | -.0001 | -.0004 | -.0004 | .0005 |
| #2 | .0020 | .0011 | .0008 | .0008 | .0151 | -.0005 | .0000 | .0001 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0040 | .0059 | .0002 |
| Stddev | .0033 | .0000 | .0004 |
| %RSD | 84.07 | .3326 | 179.2 |
| #1 | .0016 | .0059 | -.0001 |
| #2 | .0063 | .0059 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2252.8 | 55028. | 13364. |
| Stddev | 9.2 | 355. | 5. |
| %RSD | .40870 | .64502 | .03648 |
| #1 | 2246.3 | 54777. | 13361. |
| #2 | 2259.4 | 55279. | 13368. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 11:34:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0176 | .7136 | -.0013 | .1046 | .0139 | .0000 | 97.66 | .0060 | .0062 |
| Stddev | .0003 | .0038 | .0011 | .0019 | .0014 | .0000 | .000 | .14 | .0000 | .0002 |
| %RSD | 104.2 | 21.57 | .1602 | 139.3 | 1.361 | .0997 | 97.45 | .1448 | .0590 | 2.908 |
| #1 | -.0001 | -.0203 | .7128 | -.0027 | .1036 | .0139 | .0000 | 97.76 | .0060 | .0061 |
| #2 | -.0004 | -.0149 | .7144 | .0000 | .1056 | .0138 | .0000 | 97.56 | .0060 | .0064 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | 14.36 | 3.491 | 12.46 | 2.500 | .0052 | 116.9 | .0046 | .0018 |
| Stddev | .0003 | .0004 | .02 | .043 | .02 | .000 | .0001 | .2 | .0001 | .0003 |
| %RSD | 106.8 | 53.52 | .1123 | 1.226 | .1756 | .0058 | 1.100 | .1657 | 1.677 | 16.64 |
| #1 | .0004 | .0005 | 14.37 | 3.461 | 12.47 | 2.500 | .0051 | 117.1 | .0047 | .0016 |
| #2 | .0001 | .0010 | 14.34 | 3.521 | 12.44 | 2.501 | .0052 | 116.8 | .0046 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0103 | .0011 | .0035 | 16.85 | -.0011 | .4336 | .0009 | -.0025 | .0004 |
| Stddev | .0017 | .0015 | .0017 | .0010 | .02 | .0000 | .0006 | .0007 | .0010 | .0002 |
| %RSD | 27.18 | 14.37 | 144.1 | 28.24 | .0966 | .2393 | .1390 | 74.48 | 41.63 | 42.49 |
| #1 | -.0051 | .0114 | .0023 | .0028 | 16.84 | -.0011 | .4341 | .0004 | -.0032 | .0003 |
| #2 | -.0076 | .0093 | .0000 | .0042 | 16.87 | -.0011 | .4332 | .0013 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0062 | .0094 | -.0028 |
| Stddev | .0069 | .0000 | .0000 |
| %RSD | 112.1 | .1425 | 1.551 |
| #1 | .0013 | .0095 | -.0028 |
| #2 | .0111 | .0094 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2207.7 | 54768. | 13463. |
| Stddev | 3.8 | 128. | 26. |
| %RSD | .17047 | .23413 | .19130 |
| #1 | 2210.4 | 54858. | 13444. |
| #2 | 2205.1 | 54677. | 13481. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 11:38:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0134 | .8101 | .0016 | .0636 | .0329 | .0000 | 17.70 | .0065 | .0135 |
| Stddev | .0003 | .0002 | .0003 | .0002 | .0003 | .0001 | .000 | .01 | .0001 | .0003 |
| %RSD | 62.76 | 1.412 | .0393 | 14.71 | .4818 | .1801 | 76.22 | .0476 | 2.127 | 2.232 |
| #1 | .0003 | -.0133 | .8099 | .0018 | .0638 | .0329 | .0000 | 17.69 | .0066 | .0133 |
| #2 | .0007 | -.0135 | .8103 | .0014 | .0634 | .0330 | -.0001 | 17.70 | .0064 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0003 | 31.40 | 9.326 | 3.453 | .7798 | .0034 | 5.150 | .0039 | .0006 |
| Stddev | .0001 | .0003 | .08 | .068 | .014 | .0012 | .0000 | .019 | .0000 | .0003 |
| %RSD | 257.6 | 108.4 | .2638 | .7306 | .4070 | .1528 | .2798 | .3675 | .0056 | 43.27 |
| #1 | .0000 | .0001 | 31.34 | 9.277 | 3.443 | .7790 | .0034 | 5.137 | .0039 | .0004 |
| #2 | .0001 | .0006 | 31.46 | 9.374 | 3.463 | .7807 | .0034 | 5.164 | .0039 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0026 | .0017 | .0011 | 6.948 | -.0005 | .2062 | -.0002 | -.0011 | .0001 |
| Stddev | .0033 | .0007 | .0002 | .0011 | .001 | .0002 | .0001 | .0003 | .0000 | .0002 |
| %RSD | 206.0 | 27.76 | 13.27 | 99.09 | .0095 | 48.84 | .0268 | 162.6 | 2.040 | 212.8 |
| #1 | -.0007 | .0032 | .0019 | .0003 | 6.948 | -.0003 | .2062 | .0000 | -.0011 | .0003 |
| #2 | .0040 | .0021 | .0016 | .0019 | 6.947 | -.0007 | .2063 | -.0004 | -.0011 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0076 | .0090 | -.0006 |
| Stddev | .0055 | .0000 | .0001 |
| %RSD | 72.56 | .3287 | 20.25 |
| #1 | .0114 | .0090 | -.0007 |
| #2 | .0037 | .0090 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.1 | 54672. | 13518. |
| Stddev | .4 | 261. | 36. |
| %RSD | .01905 | .47804 | .26268 |
| #1 | 2240.4 | 54857. | 13544. |
| #2 | 2239.8 | 54487. | 13493. |



Zoom In Zoom Out

Sample Name: MC21083-10F Acquired: 6/3/2013 11:42:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0071 | .0006 | -.0004 | .0161 | .0095 | -.0001 | 6.422 | .0000 | .0007 |
| Stddev | .0006 | .0058 | .0010 | .0000 | .0001 | .0001 | .0000 | .007 | .000 | .0001 |
| %RSD | 452.7 | 81.84 | 176.1 | .7616 | .3797 | .8436 | 24.34 | .1072 | 577.0 | 17.27 |
| #1 | .0003 | .0112 | .0013 | -.0004 | .0161 | .0094 | -.0001 | 6.417 | .0000 | .0006 |
| #2 | -.0006 | .0030 | -.0001 | -.0004 | .0160 | .0096 | -.0001 | 6.427 | .0000 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | .2239 | 2.058 | .9812 | .1034 | .0001 | 2.345 | .0004 | -.0001 |
| Stddev | .0003 | .0003 | .0015 | .014 | .0038 | .0000 | .0001 | .012 | .0002 | .0007 |
| %RSD | 204.9 | 67.46 | .6852 | .6765 | .3823 | .0044 | 77.13 | .5307 | 61.93 | 1001. |
| #1 | .0003 | .0006 | .2228 | 2.048 | .9785 | .1034 | .0001 | 2.336 | .0002 | -.0006 |
| #2 | -.0001 | .0002 | .2250 | 2.068 | .9839 | .1034 | .0000 | 2.354 | .0006 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0016 | .0010 | .0014 | 3.368 | -.0004 | .0537 | -.0001 | .0000 | .0009 |
| Stddev | .0001 | .0020 | .0011 | .0009 | .006 | .0002 | .0000 | .0000 | .0006 | .0003 |
| %RSD | 10.37 | 126.3 | 114.1 | 65.27 | .1779 | 44.94 | .0893 | 8.973 | 15390. | 30.71 |
| #1 | -.0005 | .0002 | .0018 | .0008 | 3.372 | -.0003 | .0536 | -.0001 | -.0004 | .0007 |
| #2 | -.0006 | .0031 | .0002 | .0020 | 3.364 | -.0006 | .0537 | -.0001 | .0004 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0162 | .0077 | -.0001 |
| Stddev | .0014 | .0001 | .0000 |
| %RSD | 8.842 | .7718 | .5135 |
| #1 | .0151 | .0077 | -.0001 |
| #2 | .0172 | .0077 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.7 | 54642. | 13436. |
| Stddev | 2.4 | 31. | 68. |
| %RSD | .10777 | .05687 | .50790 |
| #1 | 2260.9 | 54620. | 13484. |
| #2 | 2264.4 | 54664. | 13388. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 11:47:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0156 | .7472 | .0010 | .1299 | .1108 | -.0001 | 45.92 | .0058 | .0012 |
| Stddev | .0001 | .0017 | .0015 | .0006 | .0002 | .0009 | .0001 | .06 | .0001 | .0000 |
| %RSD | 42.45 | 10.77 | .2036 | 56.20 | .1661 | .8383 | 97.73 | .1335 | 1.939 | 2.179 |
| #1 | -.0004 | -.0167 | .7461 | .0014 | .1300 | .1101 | .0000 | 45.88 | .0059 | .0012 |
| #2 | -.0002 | -.0144 | .7483 | .0006 | .1297 | .1114 | -.0001 | 45.97 | .0057 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0016 | 67.12 | 9.107 | 5.140 | 1.708 | -.0001 | 16.62 | .0022 | .0003 |
| Stddev | .0000 | .0006 | .08 | .091 | .050 | .002 | .0001 | .01 | .0001 | .0005 |
| %RSD | 15.55 | 39.27 | .1171 | 1.001 | .9642 | .1411 | 112.9 | .0558 | 3.121 | 204.2 |
| #1 | -.0002 | .0012 | 67.06 | 9.043 | 5.105 | 1.709 | -.0001 | 16.63 | .0021 | .0006 |
| #2 | -.0003 | .0021 | 67.18 | 9.172 | 5.175 | 1.706 | .0000 | 16.61 | .0022 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0038 | .0018 | .0031 | 14.31 | -.0005 | .4175 | -.0001 | -.0016 | -.0001 |
| Stddev | .0002 | .0009 | .0002 | .0002 | .04 | .0002 | .0002 | .0002 | .0001 | .0000 |
| %RSD | 10.77 | 24.68 | 8.985 | 5.261 | .3055 | 31.45 | .0550 | 290.8 | 9.336 | 42.41 |
| #1 | .0019 | .0045 | .0020 | .0032 | 14.28 | -.0007 | .4173 | .0001 | -.0014 | -.0001 |
| #2 | .0016 | .0031 | .0017 | .0029 | 14.34 | -.0004 | .4176 | -.0002 | -.0017 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0089 | .0048 | -.0024 |
| Stddev | .0012 | .0000 | .0001 |
| %RSD | 13.37 | .4625 | 2.523 |
| #1 | .0081 | .0048 | -.0025 |
| #2 | .0098 | .0048 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2218.9 | 54549. | 13326. |
| Stddev | 8.4 | 15. | 112. |
| %RSD | .37858 | .02681 | .83938 |
| #1 | 2224.8 | 54538. | 13405. |
| #2 | 2212.9 | 54559. | 13247. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 11:51:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.876 | 1.974 | -.0005 | 1.985 | 1.963 | 1.943 | 9.842 | 1.980 | 2.045 |
| Stddev | .0008 | .040 | .001 | .0012 | .000 | .002 | .005 | .019 | .004 | .003 |
| %RSD | .3425 | .4092 | .0318 | 245.5 | .0197 | .0770 | .2505 | .1894 | .1941 | .1338 |
| #1 | .2471 | 9.847 | 1.974 | .0004 | 1.985 | 1.962 | 1.940 | 9.829 | 1.982 | 2.046 |
| #2 | .2483 | 9.904 | 1.975 | -.0014 | 1.985 | 1.964 | 1.946 | 9.855 | 1.977 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.932 | 1.942 | 9.852 | 9.831 | 9.686 | 1.918 | 1.966 | 9.875 | 1.969 | 1.934 |
| Stddev | .001 | .004 | .021 | .030 | .001 | .005 | .002 | .022 | .004 | .003 |
| %RSD | .0621 | .1840 | .2087 | .3009 | .0100 | .2683 | .0896 | .2249 | .1996 | .1622 |
| #1 | 1.931 | 1.940 | 9.838 | 9.810 | 9.685 | 1.915 | 1.968 | 9.859 | 1.971 | 1.936 |
| #2 | 1.933 | 1.945 | 9.867 | 9.852 | 9.686 | 1.922 | 1.965 | 9.890 | 1.966 | 1.932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0058 | 2.007 | 1.996 | .0212 | 1.943 | 1.937 | 1.940 | 1.955 | 1.930 |
| Stddev | .0034 | .0016 | .005 | .004 | .0024 | .001 | .003 | .002 | .003 | .002 |
| %RSD | 236.0 | 27.59 | .2339 | .2120 | 11.22 | .0306 | .1649 | .1115 | .1585 | .0810 |
| #1 | -.0010 | .0070 | 2.010 | 1.999 | .0229 | 1.944 | 1.934 | 1.939 | 1.957 | 1.929 |
| #2 | .0039 | .0047 | 2.004 | 1.993 | .0195 | 1.943 | 1.939 | 1.942 | 1.952 | 1.931 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.916 | -.0043 |
| Stddev | .0012 | .002 | .0000 |
| %RSD | 14.24 | .1249 | 1.120 |
| #1 | -.0091 | 1.918 | -.0044 |
| #2 | -.0074 | 1.915 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.9 | 54370. | 13239. |
| Stddev | 6.8 | 36. | 24. |
| %RSD | .30171 | .06579 | .18383 |
| #1 | 2256.1 | 54345. | 13222. |
| #2 | 2265.7 | 54395. | 13256. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 11:58:02 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0057 | .0011 | -.0003 | .0014 | .0001 | .0000 | .0081 | .0001 | .0001 |
| Stddev | .0011 | .0055 | .0003 | .0004 | .0002 | .0001 | .0001 | .0029 | .0001 | .0001 |
| %RSD | 385.3 | 96.10 | 24.69 | 112.0 | 16.56 | 77.80 | 380.8 | 35.56 | 118.1 | 152.7 |
| #1 | .0010 | .0096 | .0009 | -.0006 | .0012 | .0001 | .0000 | .0060 | .0002 | .0000 |
| #2 | -.0005 | .0018 | .0013 | -.0001 | .0015 | .0002 | .0001 | .0101 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0002 | .0024 | .0177 | -.0039 | .0002 | .0004 | -.0405 | .0001 | -.0002 |
| Stddev | .0008 | .0001 | .0002 | .0125 | .0001 | .0001 | .0001 | .0041 | .0001 | .0002 |
| %RSD | 246.9 | 90.39 | 10.06 | 70.68 | 2.077 | 31.49 | 24.89 | 10.02 | 98.28 | 81.16 |
| #1 | .0009 | -.0001 | .0025 | .0266 | -.0040 | .0002 | .0004 | -.0376 | .0000 | -.0001 |
| #2 | -.0002 | -.0003 | .0022 | .0089 | -.0039 | .0001 | .0003 | -.0434 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0039 | .0008 | .0021 | -.0024 | -.0004 | .0001 | .0003 | .0006 | .0001 |
| Stddev | .0017 | .0065 | .0000 | .0011 | .0001 | .0001 | .0000 | .0003 | .0003 | .0001 |
| %RSD | 136.9 | 167.8 | .7492 | 51.40 | 3.880 | 23.88 | 52.13 | 107.2 | 46.72 | 53.87 |
| #1 | .0025 | .0084 | .0008 | .0013 | -.0023 | -.0004 | .0000 | .0005 | .0004 | .0001 |
| #2 | .0000 | -.0007 | .0008 | .0028 | -.0024 | -.0003 | .0001 | .0001 | .0008 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | .0002 | .0005 |
| Stddev | .0014 | .0000 | .0002 |
| %RSD | 28.10 | 1.324 | 46.99 |
| #1 | -.0061 | .0002 | .0003 |
| #2 | -.0041 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 55412. | 13238. |
| Stddev | 8.1 | 193. | 77. |
| %RSD | .35470 | .34886 | .58034 |
| #1 | 2279.0 | 55276. | 13184. |
| #2 | 2267.6 | 55549. | 13293. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 12:03:18 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0044 | .0035 | .0008 | .0130 | .0096 | .0001 | 13.84 | .0000 | -.0003 |
| Stddev | .0004 | .0029 | .0003 | .0002 | .0007 | .0001 | .0000 | .07 | .000 | .0001 |
| %RSD | 145.8 | 66.04 | 7.597 | 22.23 | 5.303 | .9464 | 27.43 | .4822 | 348.9 | 29.29 |
| #1 | .0000 | .0064 | .0034 | .0006 | .0126 | .0097 | .0001 | 13.89 | .0000 | -.0002 |
| #2 | .0006 | .0023 | .0037 | .0009 | .0135 | .0096 | .0000 | 13.80 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0017 | 1.613 | 1.717 | .0161 | .0004 | 19.11 | .0003 | .0001 |
| Stddev | .0002 | .0004 | .0018 | .004 | .003 | .0000 | .0000 | .11 | .0003 | .0002 |
| %RSD | 45.36 | 195.1 | 107.8 | .2338 | .1850 | .2842 | 8.149 | .5970 | 123.4 | 158.2 |
| #1 | .0006 | .0005 | .0004 | 1.610 | 1.715 | .0160 | .0004 | 19.19 | .0000 | .0000 |
| #2 | .0003 | -.0001 | .0030 | 1.615 | 1.719 | .0161 | .0005 | 19.03 | .0005 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .0006 | .0017 | 3.770 | -.0007 | .0822 | -.0002 | -.0004 | .0005 |
| Stddev | .0011 | .0052 | .0006 | .0002 | .003 | .0005 | .0006 | .0002 | .0006 | .0003 |
| %RSD | 220.4 | 302.3 | 105.8 | 9.813 | .0749 | 68.72 | .6797 | 76.89 | 140.9 | 55.89 |
| #1 | -.0003 | .0054 | .0010 | .0015 | 3.768 | -.0003 | .0826 | -.0003 | .0000 | .0007 |
| #2 | .0013 | -.0019 | .0001 | .0018 | 3.772 | -.0010 | .0818 | -.0001 | -.0008 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0081 | -.0002 |
| Stddev | .0010 | .0000 | .0001 |
| %RSD | 150.8 | .5286 | 57.41 |
| #1 | .0000 | .0081 | -.0001 |
| #2 | .0013 | .0081 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2260.3 | 54805. | 13444. |
| Stddev | 3.1 | 46. | 22. |
| %RSD | .13740 | .08362 | .16345 |
| #1 | 2262.5 | 54837. | 13459. |
| #2 | 2258.1 | 54773. | 13428. |



Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 12:07:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0063 | .0042 | -.0008 | .0130 | .0101 | .0000 | 13.98 | .0002 | -.0002 |
| Stddev | .0005 | .0067 | .0013 | .0013 | .0006 | .0000 | .000 | .06 | .0001 | .0000 |
| %RSD | 691.8 | 106.4 | 30.94 | 160.5 | 4.329 | .3906 | 224.2 | .4166 | 30.03 | 6.477 |
| #1 | .0003 | .0110 | .0051 | .0001 | .0134 | .0101 | -.0001 | 13.94 | .0002 | -.0002 |
| #2 | -.0004 | .0016 | .0033 | -.0017 | .0126 | .0101 | .0000 | 14.02 | .0002 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0008 | .0059 | 1.579 | 1.720 | .0154 | .0003 | 19.43 | .0001 | .0004 |
| Stddev | .0004 | .0001 | .0016 | .025 | .018 | .0000 | .0000 | .04 | .0001 | .0003 |
| %RSD | 144.8 | 12.36 | 27.91 | 1.569 | 1.076 | .2070 | 1.251 | .2110 | 45.25 | 59.07 |
| #1 | .0000 | .0007 | .0047 | 1.597 | 1.707 | .0154 | .0003 | 19.40 | .0002 | .0006 |
| #2 | .0005 | .0009 | .0070 | 1.562 | 1.733 | .0154 | .0003 | 19.46 | .0001 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0020 | -.0001 | .0010 | 3.801 | -.0007 | .0831 | .0004 | .0001 | .0007 |
| Stddev | .0005 | .0050 | .0001 | .0005 | .005 | .0003 | .0003 | .0004 | .0009 | .0004 |
| %RSD | 555.3 | 248.2 | 61.91 | 45.64 | .1284 | 41.44 | .3876 | 106.0 | 1654. | 54.05 |
| #1 | -.0004 | -.0015 | -.0001 | .0014 | 3.805 | -.0009 | .0829 | .0001 | -.0006 | .0010 |
| #2 | .0003 | .0055 | -.0002 | .0007 | 3.798 | -.0005 | .0834 | .0006 | .0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0070 | -.0005 |
| Stddev | .0009 | .0000 | .0001 |
| %RSD | 45.38 | .0298 | 23.96 |
| #1 | .0013 | .0070 | -.0004 |
| #2 | .0025 | .0070 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.5 | 55124. | 13592. |
| Stddev | 2.3 | 9. | 21. |
| %RSD | .10295 | .01557 | .15567 |
| #1 | 2265.8 | 55118. | 13577. |
| #2 | 2269.1 | 55130. | 13607. |



7.1

7

Zoom In Zoom Out

Sample Name: MC21083-15F Acquired: 6/3/2013 12:11:59 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | .0135 | .0006 | .0149 | .0090 | -.0001 | 9.932 | .0003 | .0039 |
| Stddev | .0005 | .0050 | .0010 | .0007 | .0003 | .0000 | .0000 | .159 | .0001 | .0000 |
| %RSD | 539.1 | 244.1 | 7.354 | 116.2 | 2.184 | .4125 | 51.30 | 1.600 | 16.74 | .1423 |
| #1 | -.0004 | -.0015 | .0142 | .0011 | .0147 | .0089 | -.0001 | 9.820 | .0003 | .0039 |
| #2 | .0003 | .0056 | .0128 | .0001 | .0151 | .0090 | -.0001 | 10.04 | .0004 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0012 | 5.528 | 1.629 | 1.435 | .5691 | .0006 | 2.606 | .0003 | .0001 |
| Stddev | .0003 | .0003 | .083 | .015 | .017 | .0031 | .0001 | .041 | .0000 | .0000 |
| %RSD | 110.9 | 21.76 | 1.496 | .8907 | 1.180 | .5511 | 14.08 | 1.581 | 11.79 | 48.55 |
| #1 | .0005 | .0013 | 5.469 | 1.619 | 1.423 | .5713 | .0006 | 2.577 | .0003 | .0000 |
| #2 | .0001 | .0010 | 5.586 | 1.640 | 1.447 | .5669 | .0005 | 2.635 | .0002 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0067 | .0009 | .0017 | 4.319 | -.0004 | .0673 | .0001 | -.0015 | .0005 |
| Stddev | .0017 | .0008 | .0007 | .0006 | .009 | .0001 | .0010 | .0001 | .0005 | .0000 |
| %RSD | 1190. | 11.39 | 78.02 | 35.59 | .2118 | 24.32 | 1.480 | 87.42 | 30.88 | 8.274 |
| #1 | -.0014 | .0072 | .0004 | .0013 | 4.326 | -.0005 | .0666 | .0002 | -.0012 | .0005 |
| #2 | .0011 | .0061 | .0014 | .0021 | 4.313 | -.0003 | .0680 | .0000 | -.0018 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0121 | -.0004 |
| Stddev | .0043 | .0002 | .0002 |
| %RSD | 676.7 | 1.462 | 46.47 |
| #1 | -.0037 | .0122 | -.0005 |
| #2 | .0024 | .0120 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.5 | 54690. | 13538. |
| Stddev | 1.7 | 290. | 164. |
| %RSD | .07631 | .52957 | 1.2119 |
| #1 | 2252.2 | 54485. | 13654. |
| #2 | 2254.7 | 54895. | 13422. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 12:16:17 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0170 | .2408 | -.0002 | .2988 | .0503 | .0000 | 65.61 | .0021 | .0160 |
| Stddev | .0010 | .0008 | .0007 | .0011 | .0003 | .0002 | .000 | .09 | .0000 | .0002 |
| %RSD | 934.9 | 4.817 | .2716 | 457.7 | .0928 | .3219 | 491.3 | .1427 | 1.848 | 1.261 |
| #1 | .0006 | -.0164 | .2413 | .0005 | .2986 | .0504 | .0000 | 65.68 | .0021 | .0161 |
| #2 | -.0008 | -.0176 | .2404 | -.0010 | .2990 | .0502 | -.0001 | 65.55 | .0020 | .0158 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0016 | 49.97 | 9.307 | 10.47 | 2.861 | .0011 | 28.19 | .0031 | -.0004 |
| Stddev | .0002 | .0007 | .09 | .014 | .02 | .000 | .0003 | .03 | .0001 | .0002 |
| %RSD | 76.38 | 43.12 | .1755 | .1457 | .2174 | .0081 | 29.05 | .0925 | 2.136 | 55.89 |
| #1 | -.0001 | .0021 | 50.04 | 9.317 | 10.45 | 2.861 | .0008 | 28.21 | .0032 | -.0002 |
| #2 | -.0003 | .0011 | 49.91 | 9.297 | 10.49 | 2.861 | .0013 | 28.17 | .0031 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0085 | .0009 | .0031 | 7.741 | -.0007 | .3981 | .0005 | -.0031 | .0001 |
| Stddev | .0011 | .0057 | .0005 | .0000 | .003 | .0001 | .0015 | .0002 | .0002 | .0006 |
| %RSD | 56.91 | 66.87 | 55.45 | .8595 | .0363 | 19.35 | .3718 | 35.67 | 7.515 | 402.9 |
| #1 | -.0026 | .0125 | .0012 | .0031 | 7.739 | -.0006 | .3992 | .0006 | -.0033 | -.0003 |
| #2 | -.0011 | .0045 | .0005 | .0031 | 7.743 | -.0008 | .3971 | .0004 | -.0030 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0100 | .0103 | -.0013 |
| Stddev | .0006 | .0001 | .0005 |
| %RSD | 6.413 | 1.228 | 35.88 |
| #1 | .0096 | .0104 | -.0010 |
| #2 | .0105 | .0102 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2221.1 | 54530. | 13525. |
| Stddev | 3.5 | 30. | 66. |
| %RSD | .15842 | .05559 | .48929 |
| #1 | 2223.5 | 54508. | 13478. |
| #2 | 2218.6 | 54551. | 13572. |



Zoom In Zoom Out

Sample Name: MC21083-17F Acquired: 6/3/2013 12:20:41 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0016 | .0028 | .0001 | .0051 | .0052 | -.0001 | 8.264 | .0000 | -.0003 |
| Stddev | .0003 | .0013 | .0004 | .0005 | .0000 | .0001 | .0001 | .006 | .0001 | .0001 |
| %RSD | 348.2 | 79.21 | 14.46 | 613.9 | .5118 | 1.688 | 95.05 | .0744 | 261.2 | 24.73 |
| #1 | .0003 | .0025 | .0031 | .0005 | .0051 | .0052 | .0000 | 8.260 | .0001 | -.0003 |
| #2 | -.0001 | .0007 | .0025 | -.0003 | .0051 | .0053 | -.0001 | 8.268 | .0000 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0009 | .0300 | 1.322 | .8869 | .0009 | .0002 | 1.222 | -.0001 | .0002 |
| Stddev | .0003 | .0005 | .0006 | .052 | .0107 | .0002 | .0000 | .013 | .0001 | .0004 |
| %RSD | 89.29 | 58.03 | 1.836 | 3.957 | 1.201 | 18.09 | 16.98 | 1.090 | 136.6 | 230.7 |
| #1 | .0001 | .0005 | .0296 | 1.359 | .8794 | .0010 | .0003 | 1.213 | -.0001 | -.0001 |
| #2 | .0006 | .0013 | .0303 | 1.285 | .8944 | .0008 | .0002 | 1.231 | .0000 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0020 | .0007 | .0007 | 3.021 | -.0006 | .0366 | .0001 | -.0002 | .0004 |
| Stddev | .0033 | .0080 | .0000 | .0007 | .005 | .0002 | .0001 | .0002 | .0001 | .0001 |
| %RSD | 146.4 | 404.4 | 2.142 | 98.80 | .1616 | 26.07 | .1382 | 123.1 | 41.87 | 25.28 |
| #1 | -.0046 | .0076 | .0007 | .0002 | 3.017 | -.0005 | .0367 | .0003 | -.0002 | .0004 |
| #2 | .0001 | -.0037 | .0007 | .0013 | 3.024 | -.0007 | .0366 | .0000 | -.0001 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0092 | .0057 | -.0003 |
| Stddev | .0004 | .0000 | .0001 |
| %RSD | 4.198 | .0807 | 27.48 |
| #1 | .0089 | .0057 | -.0004 |
| #2 | .0095 | .0057 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54746. | 13537. |
| Stddev | 2.6 | 225. | 89. |
| %RSD | .11558 | .41155 | .65677 |
| #1 | 2263.2 | 54906. | 13600. |
| #2 | 2259.5 | 54587. | 13474. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 12:25:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0146 | .6297 | -.0006 | .0587 | .0855 | -.0001 | 32.58 | .0057 | .0055 |
| Stddev | .0001 | .0045 | .0018 | .0009 | .0003 | .0002 | .0000 | .11 | .0001 | .0001 |
| %RSD | 20.46 | 31.10 | .2862 | 150.8 | .5682 | .2103 | 10.61 | .3255 | 2.359 | 1.786 |
| #1 | .0003 | -.0178 | .6310 | -.0012 | .0589 | .0854 | -.0001 | 32.65 | .0058 | .0056 |
| #2 | .0005 | -.0114 | .6284 | .0000 | .0585 | .0856 | -.0001 | 32.50 | .0056 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0012 | 17.72 | 7.240 | 3.888 | 2.143 | .0027 | 25.16 | .0046 | .0002 |
| Stddev | .0003 | .0002 | .06 | .004 | .056 | .001 | .0001 | .11 | .0001 | .0001 |
| %RSD | 262.6 | 19.57 | .3444 | .0584 | 1.434 | .0614 | 5.484 | .4262 | 2.751 | 88.71 |
| #1 | .0003 | .0011 | 17.76 | 7.237 | 3.927 | 2.144 | .0028 | 25.24 | .0047 | .0001 |
| #2 | -.0001 | .0014 | 17.68 | 7.243 | 3.848 | 2.142 | .0026 | 25.08 | .0045 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0096 | .0008 | .0025 | 12.68 | -.0005 | .2751 | .0001 | -.0026 | .0005 |
| Stddev | .0008 | .0018 | .0002 | .0007 | .00 | .0001 | .0011 | .0002 | .0003 | .0000 |
| %RSD | 34.96 | 18.73 | 30.53 | 27.12 | .0215 | 17.28 | .4106 | 141.1 | 11.86 | 4.311 |
| #1 | -.0027 | .0084 | .0009 | .0021 | 12.68 | -.0005 | .2759 | .0000 | -.0028 | .0005 |
| #2 | -.0016 | .0109 | .0006 | .0030 | 12.68 | -.0004 | .2743 | .0003 | -.0023 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0457 | -.0022 |
| Stddev | .0005 | .0000 | .0001 |
| %RSD | 7.810 | .0526 | 5.093 |
| #1 | .0056 | .0457 | -.0021 |
| #2 | .0063 | .0457 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.3 | 54889. | 13469. |
| Stddev | 2.8 | 220. | 8. |
| %RSD | .12592 | .40138 | .06171 |
| #1 | 2236.3 | 54733. | 13475. |
| #2 | 2240.3 | 55045. | 13463. |

Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 12:29:19 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0053 | .0757 | -.0003 | .0486 | .0157 | -.0001 | 9.379 | .0008 | .0031 |
| Stddev | .0002 | .0015 | .0014 | .0005 | .0003 | .0001 | .0001 | .016 | .0001 | .0002 |
| %RSD | 47.48 | 28.75 | 1.853 | 153.6 | .6482 | .7128 | 87.70 | .1652 | 9.316 | 6.843 |
| #1 | -.0002 | .0064 | .0748 | -.0007 | .0488 | .0158 | .0000 | 9.368 | .0008 | .0029 |
| #2 | -.0005 | .0042 | .0767 | .0000 | .0484 | .0156 | -.0001 | 9.390 | .0007 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0022 | 11.32 | 3.063 | 1.699 | 1.425 | .0007 | 3.859 | .0013 | -.0001 |
| Stddev | .0000 | .0003 | .02 | .026 | .003 | .001 | .0000 | .012 | .0001 | .0006 |
| %RSD | 1.671 | 11.62 | .1952 | .8536 | .1740 | .0952 | 2.155 | .3144 | 6.843 | 613.7 |
| #1 | .0005 | .0020 | 11.33 | 3.044 | 1.697 | 1.424 | .0007 | 3.851 | .0014 | .0003 |
| #2 | .0004 | .0024 | 11.30 | 3.081 | 1.701 | 1.426 | .0007 | 3.868 | .0012 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0069 | .0006 | .0013 | 4.506 | -.0010 | .0877 | -.0002 | -.0017 | .0001 |
| Stddev | .0000 | .0053 | .0012 | .0006 | .001 | .0003 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 2.928 | 76.93 | 221.8 | 41.76 | .0218 | 26.41 | .1569 | 57.68 | 20.42 | 3.385 |
| #1 | -.0015 | .0106 | -.0003 | .0009 | 4.507 | -.0008 | .0878 | -.0002 | -.0015 | .0001 |
| #2 | -.0015 | .0031 | .0014 | .0017 | 4.506 | -.0012 | .0876 | -.0001 | -.0020 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0296 | .0154 | -.0005 |
| Stddev | .0025 | .0001 | .0001 |
| %RSD | 8.339 | .4576 | 11.40 |
| #1 | .0314 | .0153 | -.0005 |
| #2 | .0279 | .0154 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.9 | 55327. | 13704. |
| Stddev | 5.2 | 18. | 96. |
| %RSD | .23364 | .03203 | .70143 |
| #1 | 2236.2 | 55314. | 13636. |
| #2 | 2243.6 | 55339. | 13772. |



Zoom In Zoom Out

Sample Name: MC21083-20F Acquired: 6/3/2013 12:33:38 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0054 | .0014 | -.0009 | .0004 | .0001 | .0000 | .0080 | -.0001 | -.0001 |
| Stddev | .0000 | .0119 | .0011 | .0001 | .0001 | .0001 | .000 | .0005 | .0001 | .0001 |
| %RSD | .3154 | 219.3 | 78.40 | 14.11 | 31.87 | 76.52 | 137.8 | 5.718 | 109.0 | 58.58 |
| #1 | .0002 | -.0030 | .0022 | -.0008 | .0003 | .0001 | .0000 | .0077 | -.0002 | -.0001 |
| #2 | .0002 | .0139 | .0006 | -.0010 | .0005 | .0002 | .0000 | .0083 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0014 | .0032 | -.0277 | .0074 | .0001 | .0001 | -.0479 | .0001 | -.0005 |
| Stddev | .0001 | .0005 | .0027 | .0004 | .0064 | .0000 | .0002 | .0055 | .0000 | .0004 |
| %RSD | 51.87 | 37.48 | 84.42 | 1.362 | 85.94 | 44.13 | 139.2 | 11.45 | 1.925 | 76.42 |
| #1 | .0003 | .0011 | .0052 | -.0274 | .0029 | .0001 | .0003 | -.0518 | .0001 | -.0008 |
| #2 | .0001 | .0018 | .0013 | -.0280 | .0120 | .0000 | .0000 | -.0440 | .0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0042 | .0007 | .0015 | .0139 | -.0005 | .0000 | -.0006 | .0003 | .0000 |
| Stddev | .0020 | .0014 | .0008 | .0005 | .0004 | .0000 | .000 | .0002 | .0001 | .0001 |
| %RSD | 674.4 | 33.29 | 114.5 | 31.40 | 2.858 | 8.524 | 134.7 | 31.80 | 44.38 | 392.0 |
| #1 | -.0017 | -.0052 | .0013 | .0019 | .0142 | -.0005 | -.0001 | -.0007 | .0002 | .0001 |
| #2 | .0011 | -.0032 | .0001 | .0012 | .0136 | -.0005 | .0000 | -.0005 | .0004 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0068 | .0001 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 72.32 | .2032 | 81.91 |
| #1 | .0121 | .0068 | .0001 |
| #2 | .0039 | .0068 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2245.3 | 54900. | 13340. |
| Stddev | 1.4 | 361. | 4. |
| %RSD | .06110 | .65800 | .03277 |
| #1 | 2246.3 | 55155. | 13337. |
| #2 | 2244.3 | 54644. | 13344. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 12:38:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 1.894 | .0026 | .0006 | .0038 | .0070 | .0000 | 48.19 | .0003 | .0004 |
| Stddev | .0002 | .020 | .0002 | .0009 | .0004 | .0002 | .0001 | .16 | .0001 | .0000 |
| %RSD | 60.89 | 1.038 | 8.686 | 164.1 | 10.93 | 3.268 | 197.3 | .3306 | 16.70 | 5.102 |
| #1 | .0002 | 1.908 | .0028 | .0012 | .0041 | .0071 | .0000 | 48.30 | .0003 | .0004 |
| #2 | .0004 | 1.880 | .0025 | -.0001 | .0035 | .0068 | .0001 | 48.08 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0019 | .9196 | 45.20 | 45.10 | .0017 | .0007 | 45.97 | .0008 | .0010 |
| Stddev | .0001 | .0010 | .0074 | .11 | .09 | .0001 | .0001 | .17 | .0000 | .0005 |
| %RSD | 24.95 | 50.36 | .8079 | .2534 | .1932 | 3.351 | 13.41 | .3635 | 6.116 | 54.72 |
| #1 | .0003 | .0026 | .9249 | 45.28 | 45.16 | .0017 | .0008 | 46.08 | .0008 | .0013 |
| #2 | .0002 | .0013 | .9144 | 45.12 | 45.04 | .0018 | .0006 | 45.85 | .0008 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0023 | .0012 | .0025 | 2.927 | -.0001 | .0393 | .0008 | -.0002 | -.0002 |
| Stddev | .0004 | .0022 | .0010 | .0006 | .002 | .0001 | .0002 | .0008 | .0002 | .0000 |
| %RSD | 26.01 | 96.73 | 81.10 | 24.45 | .0503 | 115.4 | .5474 | 94.52 | 86.71 | 3.242 |
| #1 | -.0012 | .0039 | .0005 | .0021 | 2.926 | -.0002 | .0392 | .0014 | -.0004 | -.0002 |
| #2 | -.0017 | .0007 | .0020 | .0029 | 2.928 | .0000 | .0395 | .0003 | -.0001 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0030 | .0066 | .0001 |
| Stddev | .0009 | .0001 | .0000 |
| %RSD | 28.72 | 1.173 | 17.37 |
| #1 | .0024 | .0065 | .0001 |
| #2 | .0037 | .0066 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2219.1 | 54948. | 13629. |
| Stddev | 3.4 | 59. | 207. |
| %RSD | .15293 | .10728 | 1.5195 |
| #1 | 2221.5 | 54907. | 13482. |
| #2 | 2216.7 | 54990. | 13775. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 12:42:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.064 | .5173 | -.0003 | .0007 | 1.978 | .4953 | 24.22 | .5121 | .5174 |
| Stddev | .0002 | .013 | .0014 | .0012 | .0001 | .002 | .0001 | .02 | .0011 | .0011 |
| %RSD | .1114 | .6175 | .2700 | 387.1 | 14.42 | .1161 | .0168 | .0699 | .2203 | .2106 |
| #1 | .2011 | 2.073 | .5183 | .0005 | .0007 | 1.979 | .4953 | 24.23 | .5113 | .5166 |
| #2 | .2008 | 2.055 | .5163 | -.0012 | .0006 | 1.976 | .4954 | 24.20 | .5129 | .5182 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5136 | .4747 | 2.032 | 24.80 | 23.96 | .4687 | .0003 | 25.21 | .5046 | .9890 |
| Stddev | .0023 | .0010 | .012 | .04 | .03 | .0009 | .0002 | .05 | .0009 | .0023 |
| %RSD | .4391 | .2205 | .5985 | .1814 | .1370 | .2000 | 50.90 | .1844 | .1823 | .2308 |
| #1 | .5120 | .4754 | 2.023 | 24.83 | 23.93 | .4680 | .0004 | 25.25 | .5039 | .9874 |
| #2 | .5152 | .4739 | 2.040 | 24.77 | 23.98 | .4693 | .0002 | 25.18 | .5052 | .9906 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0008 | .5298 | .5144 | .0217 | -.0020 | .4831 | .4964 | .5031 | .5031 |
| Stddev | .0016 | .0043 | .0003 | .0010 | .0003 | .0004 | .0010 | .0012 | .0010 | .0013 |
| %RSD | 394.5 | 554.6 | .0536 | .1889 | 1.566 | 19.10 | .2067 | .2329 | .2006 | .2517 |
| #1 | -.0007 | -.0038 | .5296 | .5151 | .0220 | -.0023 | .4838 | .4972 | .5024 | .5022 |
| #2 | .0015 | .0023 | .5300 | .5137 | .0215 | -.0017 | .4824 | .4955 | .5038 | .5040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .5053 | -.0016 |
| Stddev | .0006 | .0006 | .0004 |
| %RSD | 31.35 | .1250 | 27.37 |
| #1 | .0022 | .5049 | -.0013 |
| #2 | .0014 | .5058 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2227.1 | 54750. | 13618. |
| Stddev | 4.8 | 284. | 2. |
| %RSD | .21769 | .51899 | .01744 |
| #1 | 2230.5 | 54951. | 13617. |
| #2 | 2223.6 | 54549. | 13620. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 12:46:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2433 | 9.936 | 1.998 | -.0011 | 1.991 | 1.948 | 1.902 | 9.788 | 1.980 | 2.066 |
| Stddev | .0010 | .020 | .012 | .0006 | .004 | .005 | .005 | .021 | .003 | .004 |
| %RSD | .4020 | .2007 | .6012 | 56.10 | .2238 | .2495 | .2635 | .2103 | .1500 | .2006 |
| #1 | .2426 | 9.922 | 1.989 | -.0007 | 1.988 | 1.945 | 1.898 | 9.773 | 1.978 | 2.063 |
| #2 | .2440 | 9.950 | 2.006 | -.0015 | 1.994 | 1.952 | 1.905 | 9.802 | 1.982 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.927 | 1.904 | 9.982 | 9.817 | 9.331 | 1.880 | 1.996 | 9.986 | 2.018 | 1.954 |
| Stddev | .002 | .003 | .052 | .005 | .027 | .000 | .004 | .027 | .003 | .004 |
| %RSD | .1222 | .1321 | .5225 | .0488 | .2905 | .0200 | .2007 | .2678 | .1676 | .1792 |
| #1 | 1.929 | 1.902 | 9.945 | 9.820 | 9.312 | 1.880 | 1.993 | 9.967 | 2.015 | 1.951 |
| #2 | 1.926 | 1.906 | 10.02 | 9.814 | 9.350 | 1.879 | 1.999 | 10.00 | 2.020 | 1.956 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0054 | 2.046 | 2.026 | .0258 | 2.021 | 1.916 | 1.952 | 1.964 | 1.916 |
| Stddev | .0005 | .0119 | .003 | .004 | .0006 | .001 | .005 | .003 | .001 | .001 |
| %RSD | 50.97 | 222.3 | .1225 | .2240 | 2.443 | .0445 | .2425 | .1755 | .0340 | .0243 |
| #1 | .0013 | -.0031 | 2.044 | 2.023 | .0262 | 2.021 | 1.913 | 1.955 | 1.964 | 1.916 |
| #2 | .0006 | .0138 | 2.048 | 2.029 | .0254 | 2.020 | 1.919 | 1.950 | 1.965 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.926 | -.0047 |
| Stddev | .0014 | .004 | .0002 |
| %RSD | 11.84 | .2128 | 3.485 |
| #1 | -.0131 | 1.923 | -.0045 |
| #2 | -.0111 | 1.929 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.9 | 54323. | 13694. |
| Stddev | 3.9 | 307. | 30. |
| %RSD | .17216 | .56534 | .22272 |
| #1 | 2245.6 | 54106. | 13672. |
| #2 | 2240.1 | 54540. | 13716. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 12:54:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0072 | .0020 | -.0004 | .0011 | .0002 | .0001 | .0159 | .0002 | .0002 |
| Stddev | .0001 | .0006 | .0005 | .0005 | .0001 | .0000 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 138.9 | 8.488 | 23.24 | 142.0 | 12.18 | 12.12 | 48.02 | 2.701 | 39.22 | 33.50 |
| #1 | .0000 | .0068 | .0017 | .0000 | .0012 | .0002 | .0001 | .0162 | .0002 | .0003 |
| #2 | -.0002 | .0077 | .0024 | -.0007 | .0011 | .0002 | .0000 | .0156 | .0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0013 | .0000 | .0395 | -.0066 | .0002 | .0005 | -.0369 | .0001 | .0004 |
| Stddev | .0001 | .0001 | .0007 | .0104 | .0089 | .0001 | .0001 | .0016 | .0000 | .0003 |
| %RSD | 61.85 | 5.494 | 3089. | 26.30 | 136.5 | 60.16 | 16.66 | 4.472 | 10.46 | 83.01 |
| #1 | .0000 | .0013 | -.0005 | .0322 | -.0002 | .0003 | .0006 | -.0380 | .0002 | .0002 |
| #2 | .0001 | .0014 | .0005 | .0469 | -.0129 | .0001 | .0005 | -.0357 | .0001 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0031 | .0005 | .0013 | -.0026 | -.0001 | .0000 | .0001 | .0003 | .0001 |
| Stddev | .0017 | .0029 | .0009 | .0002 | .0004 | .0003 | .0001 | .0003 | .0006 | .0005 |
| %RSD | 67.18 | 94.54 | 200.0 | 12.41 | 15.56 | 276.9 | 748.0 | 387.3 | 167.5 | 346.5 |
| #1 | -.0013 | -.0010 | .0011 | .0012 | -.0023 | -.0003 | -.0001 | .0003 | .0007 | -.0002 |
| #2 | -.0037 | -.0052 | -.0002 | .0014 | -.0029 | .0001 | .0001 | -.0001 | -.0001 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0004 | .0002 |
| Stddev | .0010 | .0000 | .0002 |
| %RSD | 25.82 | 10.31 | 76.46 |
| #1 | .0046 | .0004 | .0001 |
| #2 | .0032 | .0004 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2224.1 | 54631. | 13420. |
| Stddev | 1.8 | 237. | 54. |
| %RSD | .08132 | .43463 | .40235 |
| #1 | 2225.4 | 54799. | 13382. |
| #2 | 2222.8 | 54463. | 13458. |



Zoom In Zoom Out

Sample Name: MP21073-MB1 Acquired: 6/3/2013 13:00:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0080 | .0014 | -.0005 | .0005 | .0003 | .0000 | .0000 | .0002 | .0000 |
| Stddev | .0000 | .0012 | .0010 | .0000 | .0002 | .0001 | .0000 | .000 | .0000 | .0001 |
| %RSD | 6.019 | 15.57 | 76.98 | 1.007 | 44.71 | 38.00 | 33.00 | 612.4 | 17.03 | 130.1 |
| #1 | .0001 | .0089 | .0021 | -.0005 | .0003 | .0002 | .0000 | -.0002 | .0002 | .0001 |
| #2 | .0001 | .0071 | .0006 | -.0005 | .0006 | .0004 | .0001 | .0001 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0019 | .0001 | .0068 | .0004 | .0002 | -.0402 | .0001 | -.0004 |
| Stddev | .0002 | .0002 | .0012 | .0088 | .0226 | .0001 | .0001 | .0012 | .0001 | .0012 |
| %RSD | 273.9 | 13.95 | 65.63 | 12480. | 332.3 | 17.97 | 65.29 | 2.968 | 200.1 | 287.6 |
| #1 | -.0003 | .0011 | .0028 | -.0061 | -.0092 | .0005 | .0003 | -.0410 | .0000 | -.0013 |
| #2 | .0001 | .0013 | .0010 | .0063 | .0228 | .0003 | .0001 | -.0393 | .0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0004 | .0006 | .0009 | .0245 | -.0008 | .0000 | -.0004 | -.0003 | .0000 |
| Stddev | .0013 | .0060 | .0007 | .0012 | .0003 | .0001 | .0001 | .0004 | .0002 | .0001 |
| %RSD | 139.8 | 1396. | 119.6 | 127.9 | 1.325 | 6.720 | 483.3 | 116.9 | 72.53 | 169.7 |
| #1 | .0000 | -.0046 | .0001 | .0001 | .0243 | -.0008 | .0001 | -.0007 | -.0004 | .0000 |
| #2 | -.0018 | .0038 | .0011 | .0018 | .0247 | -.0008 | -.0001 | -.0001 | -.0001 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0016 | .0002 | .0003 |
| Stddev | .0042 | .0000 | .0003 |
| %RSD | 263.3 | 20.08 | 94.64 |
| #1 | .0014 | .0003 | .0001 |
| #2 | -.0045 | .0002 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.7 | 55398. | 13657. |
| Stddev | 5.7 | 407. | 113. |
| %RSD | .25609 | .73542 | .83021 |
| #1 | 2224.7 | 55686. | 13737. |
| #2 | 2216.7 | 55110. | 13577. |



Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 13:04:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1999 | 2.056 | 1.101 | .0005 | .2551 | 2.113 | .4873 | 87.70 | .5199 | .5158 |
| Stddev | .0010 | .015 | .000 | .0002 | .0011 | .001 | .0003 | .03 | .0002 | .0004 |
| %RSD | .5208 | .7314 | .0176 | 31.62 | .4349 | .0494 | .0623 | .0395 | .0349 | .0834 |
| #1 | .1992 | 2.046 | 1.101 | .0004 | .2558 | 2.112 | .4871 | 87.73 | .5200 | .5161 |
| #2 | .2006 | 2.067 | 1.101 | .0006 | .2543 | 2.114 | .4875 | 87.68 | .5197 | .5155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5050 | .4731 | 84.48 | 36.04 | 32.36 | 1.567 | .0003 | 40.07 | .5096 | .9907 |
| Stddev | .0018 | .0005 | .07 | .05 | .08 | .000 | .0000 | .01 | .0006 | .0006 |
| %RSD | .3469 | .0970 | .0802 | .1499 | .2345 | .0159 | 5.031 | .0163 | .1174 | .0624 |
| #1 | .5063 | .4734 | 84.43 | 36.08 | 32.41 | 1.567 | .0003 | 40.07 | .5101 | .9911 |
| #2 | .5038 | .4728 | 84.52 | 36.00 | 32.30 | 1.566 | .0003 | 40.08 | .5092 | .9903 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0019 | .5373 | .5185 | 14.00 | -.0015 | 1.205 | .4916 | .4983 | .4958 |
| Stddev | .0007 | .0039 | .0019 | .0035 | .01 | .0002 | .002 | .0010 | .0018 | .0002 |
| %RSD | 24.07 | 202.0 | .3513 | .6756 | .0995 | 11.56 | .1486 | .2052 | .3640 | .0354 |
| #1 | -.0036 | .0046 | .5386 | .5210 | 14.01 | -.0016 | 1.204 | .4923 | .4996 | .4957 |
| #2 | -.0026 | -.0008 | .5359 | .5161 | 13.99 | -.0013 | 1.206 | .4909 | .4970 | .4959 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0078 | .5021 | -.0039 |
| Stddev | .0087 | .0007 | .0001 |
| %RSD | 112.2 | .1445 | 2.307 |
| #1 | -.0016 | .5026 | -.0040 |
| #2 | -.0139 | .5016 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2170.6 | 54877. | 13620. |
| Stddev | 1.1 | 259. | 48. |
| %RSD | .05210 | .47150 | .35419 |
| #1 | 2169.8 | 54695. | 13586. |
| #2 | 2171.4 | 55060. | 13654. |

Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 13:08:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2015 | 2.075 | 1.107 | .0012 | .2578 | 2.122 | .4888 | 88.72 | .5203 | .5173 |
| Stddev | .0007 | .009 | .003 | .0012 | .0002 | .005 | .0020 | .27 | .0009 | .0009 |
| %RSD | .3460 | .4297 | .2225 | 101.2 | .0969 | .2216 | .4134 | .3089 | .1691 | .1781 |
| #1 | .2020 | 2.082 | 1.105 | .0020 | .2579 | 2.125 | .4902 | 88.91 | .5197 | .5167 |
| #2 | .2010 | 2.069 | 1.109 | .0003 | .2576 | 2.119 | .4874 | 88.52 | .5209 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5071 | .4769 | 85.62 | 36.49 | 32.64 | 1.593 | .0002 | 40.45 | .5088 | .9917 |
| Stddev | .0017 | .0014 | .35 | .12 | .24 | .002 | .0000 | .14 | .0004 | .0015 |
| %RSD | .3400 | .2862 | .4055 | .3394 | .7250 | .0991 | 15.30 | .3361 | .0731 | .1552 |
| #1 | .5083 | .4778 | 85.87 | 36.57 | 32.80 | 1.591 | .0003 | 40.54 | .5085 | .9907 |
| #2 | .5059 | .4759 | 85.38 | 36.40 | 32.47 | 1.594 | .0002 | 40.35 | .5090 | .9928 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0006 | .5383 | .5154 | 14.13 | -.0015 | 1.218 | .4956 | .4987 | .4971 |
| Stddev | .0001 | .0102 | .0004 | .0013 | .00 | .0002 | .005 | .0007 | .0005 | .0020 |
| %RSD | 9.577 | 1801. | .0701 | .2498 | .0164 | 13.58 | .3886 | .1507 | .1100 | .4021 |
| #1 | -.0014 | -.0067 | .5380 | .5163 | 14.13 | -.0016 | 1.221 | .4950 | .4991 | .4957 |
| #2 | -.0016 | .0078 | .5385 | .5145 | 14.13 | -.0013 | 1.215 | .4961 | .4983 | .4985 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0082 | .5025 | -.0041 |
| Stddev | .0108 | .0008 | .0004 |
| %RSD | 131.6 | .1608 | 8.581 |
| #1 | -.0159 | .5020 | -.0043 |
| #2 | -.0006 | .5031 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2175.8 | 54496. | 13584. |
| Stddev | .4 | 233. | 8. |
| %RSD | .01911 | .42691 | .06073 |
| #1 | 2175.5 | 54661. | 13590. |
| #2 | 2176.1 | 54332. | 13578. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 13:12:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0078 | .5844 | .0003 | .2563 | .1424 | .0000 | 64.54 | .0052 | -.0007 |
| Stddev | .0001 | .0066 | .0010 | .0011 | .0011 | .0014 | .0000 | .09 | .0001 | .0002 |
| %RSD | 20.19 | 85.27 | .1691 | 409.1 | .4202 | .9977 | 216.2 | .1453 | 1.178 | 23.11 |
| #1 | .0007 | -.0031 | .5837 | .0010 | .2556 | .1434 | .0000 | 64.61 | .0053 | -.0009 |
| #2 | .0005 | -.0125 | .5851 | -.0005 | .2571 | .1414 | .0000 | 64.48 | .0052 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0023 | 83.83 | 11.81 | 8.957 | 1.132 | -.0001 | 14.95 | .0018 | .0003 |
| Stddev | .0001 | .0000 | .17 | .00 | .108 | .001 | .0001 | .04 | .0001 | .0001 |
| %RSD | 27.76 | 1.981 | .1981 | .0327 | 1.210 | .0990 | 123.7 | .2411 | 2.968 | 31.36 |
| #1 | -.0003 | .0024 | 83.94 | 11.82 | 8.880 | 1.131 | -.0001 | 14.98 | .0018 | .0003 |
| #2 | -.0002 | .0023 | 83.71 | 11.81 | 9.034 | 1.133 | .0000 | 14.93 | .0018 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0038 | .0014 | .0026 | 14.04 | -.0003 | .7370 | .0008 | -.0001 | -.0002 |
| Stddev | .0014 | .0006 | .0002 | .0014 | .02 | .0000 | .0013 | .0002 | .0008 | .0015 |
| %RSD | 36.85 | 14.69 | 12.84 | 54.36 | .1396 | 2.818 | .1811 | 26.82 | 1421. | 877.9 |
| #1 | -.0028 | -.0042 | .0015 | .0036 | 14.02 | -.0003 | .7380 | .0006 | .0005 | -.0013 |
| #2 | -.0048 | -.0034 | .0012 | .0016 | 14.05 | -.0003 | .7361 | .0009 | -.0006 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0037 | -.0022 |
| Stddev | .0103 | .0000 | .0001 |
| %RSD | 1333. | 1.110 | 4.944 |
| #1 | -.0065 | .0037 | -.0023 |
| #2 | .0080 | .0037 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.4 | 54734. | 13815. |
| Stddev | 2.6 | 343. | 43. |
| %RSD | .12020 | .62635 | .31382 |
| #1 | 2196.3 | 54976. | 13784. |
| #2 | 2192.6 | 54492. | 13846. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 13:17:12 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0095 | .5854 | -.0006 | .2547 | .1414 | .0003 | 64.37 | .0052 | -.0018 |
| Stddev | .0011 | .0393 | .0020 | .0011 | .0007 | .0003 | .0001 | .11 | .0006 | .0015 |
| %RSD | 39.14 | 414.9 | .3465 | 169.3 | .2833 | .2239 | 43.15 | .1653 | 12.53 | 83.76 |
| #1 | .0035 | -.0183 | .5839 | -.0014 | .2542 | .1412 | .0003 | 64.29 | .0056 | -.0007 |
| #2 | .0020 | .0373 | .5868 | .0001 | .2552 | .1416 | .0002 | 64.44 | .0047 | -.0028 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0092 | 84.02 | 12.05 | 8.981 | 1.136 | -.0001 | 15.04 | .0023 | .0011 |
| Stddev | .0017 | .0015 | .38 | .22 | .003 | .000 | .0007 | .07 | .0006 | .0019 |
| %RSD | 698.3 | 16.07 | .4539 | 1.833 | .0295 | .0128 | 1147. | .4361 | 23.67 | 172.3 |
| #1 | .0014 | .0103 | 83.75 | 12.20 | 8.983 | 1.136 | .0005 | 14.99 | .0027 | .0025 |
| #2 | -.0009 | .0082 | 84.29 | 11.89 | 8.979 | 1.136 | -.0006 | 15.08 | .0019 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0031 | .0032 | .0054 | 13.63 | -.0027 | .7301 | .0012 | .0027 | .0009 |
| Stddev | .0061 | .0518 | .0024 | .0065 | .03 | .0015 | .0027 | .0000 | .0031 | .0019 |
| %RSD | 125.2 | 1668. | 76.74 | 120.2 | .2036 | 58.12 | .3756 | 2.388 | 113.5 | 212.4 |
| #1 | .0006 | .0397 | .0049 | .0008 | 13.61 | -.0037 | .7282 | .0012 | .0005 | .0022 |
| #2 | .0093 | -.0335 | .0015 | .0101 | 13.65 | -.0016 | .7321 | .0012 | .0049 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0048 | .0050 | -.0009 |
| Stddev | .0114 | .0006 | .0003 |
| %RSD | 237.7 | 12.28 | 38.95 |
| #1 | .0129 | .0055 | -.0007 |
| #2 | -.0033 | .0046 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2231.9 | 55020. | 13629. |
| Stddev | 1.2 | 116. | 6. |
| %RSD | .05459 | .21107 | .04227 |
| #1 | 2232.8 | 55102. | 13634. |
| #2 | 2231.1 | 54938. | 13625. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/3/2013 13:21:33 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0074 | .0009 | .0002 | .0007 | .0001 | .0000 | .0245 | .0001 | -.0002 |
| Stddev | .0003 | .0010 | .0001 | .0004 | .0000 | .0002 | .000 | .0046 | .0000 | .0002 |
| %RSD | 82.79 | 13.99 | 7.219 | 162.8 | 3.822 | 152.7 | 180.0 | 18.79 | 24.61 | 159.7 |
| #1 | .0007 | .0067 | .0010 | .0000 | .0007 | .0000 | -.0001 | .0278 | .0001 | -.0003 |
| #2 | .0002 | .0082 | .0009 | .0005 | .0006 | .0003 | .0000 | .0212 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0018 | .0159 | .0650 | .0102 | .0000 | .0001 | -.0211 | -.0001 | -.0003 |
| Stddev | .0001 | .0008 | .0001 | .0189 | .0123 | .000 | .0001 | .0052 | .0001 | .0012 |
| %RSD | 35.22 | 42.52 | .3360 | 29.04 | 119.8 | 28.32 | 154.0 | 24.67 | 163.3 | 366.6 |
| #1 | .0004 | .0023 | .0160 | .0517 | .0016 | .0000 | .0000 | -.0248 | .0000 | .0005 |
| #2 | .0002 | .0013 | .0159 | .0784 | .0189 | .0000 | .0002 | -.0174 | -.0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0034 | .0006 | .0012 | .0195 | -.0004 | .0001 | -.0007 | -.0005 | -.0002 |
| Stddev | .0023 | .0036 | .0001 | .0007 | .0007 | .0005 | .0001 | .0003 | .0001 | .0007 |
| %RSD | 557.2 | 103.2 | 15.40 | 54.91 | 3.754 | 129.7 | 104.6 | 39.00 | 32.63 | 321.4 |
| #1 | .0012 | .0009 | .0005 | .0008 | .0200 | .0000 | .0000 | -.0009 | -.0004 | .0003 |
| #2 | -.0020 | .0060 | .0007 | .0017 | .0190 | -.0007 | .0001 | -.0005 | -.0006 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0067 | .0005 |
| Stddev | .0013 | .0001 | .0003 |
| %RSD | 83.36 | 1.084 | 60.73 |
| #1 | .0024 | .0068 | .0003 |
| #2 | .0006 | .0067 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2232.0 | 55206. | 13840. |
| Stddev | 2.7 | 17. | 13. |
| %RSD | .12094 | .03011 | .09280 |
| #1 | 2233.9 | 55218. | 13831. |
| #2 | 2230.1 | 55195. | 13849. |

Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/3/2013 13:25:55 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0078 | .4661 | -.0006 | .0461 | .0421 | .0001 | 22.55 | .0044 | .0077 |
| Stddev | .0007 | .0003 | .0040 | .0001 | .0003 | .0005 | .0000 | .04 | .0001 | .0001 |
| %RSD | 448.7 | 4.267 | .8613 | 21.12 | .6959 | 1.222 | 44.26 | .1896 | 2.825 | 1.085 |
| #1 | -.0006 | -.0081 | .4690 | -.0007 | .0459 | .0417 | .0000 | 22.58 | .0045 | .0076 |
| #2 | .0003 | -.0076 | .4633 | -.0005 | .0463 | .0424 | .0001 | 22.52 | .0043 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0033 | 65.02 | 4.839 | 2.878 | 2.394 | -.0001 | 14.77 | .0069 | -.0011 |
| Stddev | .0004 | .0005 | .06 | .017 | .013 | .001 | .0001 | .01 | .0000 | .0001 |
| %RSD | 52.25 | 14.33 | .0895 | .3527 | .4557 | .0434 | 123.9 | .0930 | .7146 | 7.133 |
| #1 | -.0005 | .0030 | 65.06 | 4.827 | 2.869 | 2.395 | -.0001 | 14.78 | .0070 | -.0011 |
| #2 | -.0010 | .0036 | 64.97 | 4.851 | 2.887 | 2.393 | .0000 | 14.76 | .0069 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0049 | .0012 | .0027 | 10.15 | -.0006 | .0907 | -.0002 | -.0017 | .0002 |
| Stddev | .0005 | .0059 | .0002 | .0011 | .01 | .0001 | .0001 | .0000 | .0000 | .0004 |
| %RSD | 90.75 | 122.2 | 19.48 | 40.93 | .0822 | 10.02 | .1216 | 12.34 | .6318 | 251.4 |
| #1 | .0010 | .0090 | .0011 | .0019 | 10.16 | -.0007 | .0906 | -.0002 | -.0017 | -.0001 |
| #2 | .0002 | .0007 | .0014 | .0034 | 10.15 | -.0006 | .0908 | -.0002 | -.0017 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0078 | -.0009 |
| Stddev | .0069 | .0001 | .0002 |
| %RSD | 123.6 | .6739 | 26.76 |
| #1 | .0007 | .0078 | -.0011 |
| #2 | .0105 | .0077 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2194.2 | 54685. | 13737. |
| Stddev | 6.0 | 8. | 8. |
| %RSD | .27319 | .01478 | .05530 |
| #1 | 2189.9 | 54690. | 13742. |
| #2 | 2198.4 | 54679. | 13731. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/3/2013 13:30:14 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0109 | .4600 | .0012 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |
| Stddev | .0002 | .0057 | .0006 | .0011 | .0000 | .0001 | .000 | .00 | .0000 | .0000 |
| %RSD | 1258. | 51.82 | .1209 | 95.25 | .0218 | .3216 | 135.6 | .0070 | .1585 | .2140 |
| #1 | .0002 | -.0069 | .4596 | .0004 | .0454 | .0408 | -.0001 | 22.18 | .0043 | .0074 |
| #2 | -.0001 | -.0149 | .4604 | .0020 | .0454 | .0409 | .0000 | 22.18 | .0043 | .0074 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0025 | 64.21 | 4.743 | 2.880 | 2.372 | -.0001 | 14.14 | .0066 | .0003 |
| Stddev | .0005 | .0003 | .01 | .020 | .007 | .001 | .0001 | .01 | .0002 | .0005 |
| %RSD | 82.58 | 12.09 | .0166 | .4143 | .2374 | .0383 | 145.8 | .0937 | 2.901 | 163.5 |
| #1 | -.0009 | .0027 | 64.22 | 4.729 | 2.875 | 2.373 | -.0001 | 14.13 | .0067 | .0006 |
| #2 | -.0002 | .0023 | 64.21 | 4.757 | 2.885 | 2.372 | .0000 | 14.15 | .0064 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0073 | .0011 | .0013 | 9.905 | -.0005 | .0892 | .0000 | -.0029 | .0001 |
| Stddev | .0006 | .0007 | .0001 | .0005 | .020 | .0002 | .0001 | .0003 | .0012 | .0001 |
| %RSD | 95.80 | 10.14 | 12.46 | 40.29 | .2013 | 39.67 | .0881 | 1024. | 40.76 | 76.87 |
| #1 | .0010 | .0078 | .0010 | .0017 | 9.891 | -.0007 | .0891 | .0002 | -.0021 | .0002 |
| #2 | .0002 | .0068 | .0011 | .0009 | 9.919 | -.0004 | .0893 | -.0002 | -.0037 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0080 | -.0016 |
| Stddev | .0022 | .0000 | .0003 |
| %RSD | 137.8 | .5316 | 18.20 |
| #1 | .0032 | .0080 | -.0018 |
| #2 | .0000 | .0079 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2209.3 | 54774. | 13796. |
| Stddev | 1.6 | 27. | 73. |
| %RSD | .07295 | .04943 | .52554 |
| #1 | 2208.2 | 54755. | 13745. |
| #2 | 2210.4 | 54794. | 13848. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/3/2013 13:34:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0207 | 5.524 | -.0007 | .0892 | .0253 | .0000 | 44.82 | .0512 | .0200 |
| Stddev | .0004 | .0074 | .011 | .0012 | .0010 | .0002 | .0000 | .05 | .0001 | .0000 |
| %RSD | 226.0 | 35.57 | .1945 | 168.0 | 1.161 | .8460 | 186.2 | .1036 | .2360 | .1661 |
| #1 | -.0005 | -.0155 | 5.517 | -.0015 | .0885 | .0252 | .0001 | 44.85 | .0513 | .0201 |
| #2 | .0001 | -.0260 | 5.532 | .0001 | .0900 | .0255 | .0000 | 44.79 | .0511 | .0200 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0024 | 84.72 | 7.063 | 3.345 | 2.712 | .0005 | 5.654 | .0060 | -.0013 |
| Stddev | .0003 | .0000 | .09 | .042 | .012 | .001 | .0001 | .009 | .0001 | .0001 |
| %RSD | 48.57 | .8763 | .1024 | .5869 | .3576 | .0234 | 23.20 | .1614 | 1.247 | 5.158 |
| #1 | -.0003 | .0024 | 84.78 | 7.034 | 3.337 | 2.712 | .0005 | 5.647 | .0061 | -.0012 |
| #2 | -.0007 | .0025 | 84.66 | 7.093 | 3.354 | 2.712 | .0004 | 5.660 | .0060 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0055 | .0009 | .0018 | 8.906 | -.0006 | .2280 | .0001 | -.0027 | .0002 |
| Stddev | .0008 | .0012 | .0005 | .0007 | .003 | .0002 | .0002 | .0001 | .0006 | .0008 |
| %RSD | 113.1 | 21.42 | 55.65 | 36.01 | .0304 | 35.57 | .0941 | 62.66 | 22.00 | 329.2 |
| #1 | -.0001 | .0047 | .0006 | .0023 | 8.908 | -.0005 | .2282 | .0001 | -.0031 | -.0003 |
| #2 | -.0013 | .0063 | .0013 | .0014 | 8.904 | -.0008 | .2279 | .0001 | -.0023 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0068 | -.0015 |
| Stddev | .0065 | .0001 | .0001 |
| %RSD | 79.70 | 1.076 | 9.148 |
| #1 | .0128 | .0068 | -.0016 |
| #2 | .0036 | .0069 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2198.3 | 55155. | 13734. |
| Stddev | 2.9 | 50. | 54. |
| %RSD | .13051 | .09047 | .38985 |
| #1 | 2200.3 | 55120. | 13696. |
| #2 | 2196.3 | 55190. | 13772. |



Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/3/2013 13:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0086 | .8919 | .0004 | .1216 | .0863 | -.0001 | 51.60 | .0081 | .0000 |
| Stddev | .0007 | .0031 | .0016 | .0006 | .0005 | .0002 | .0001 | .02 | .0000 | .0002 |
| %RSD | 1288. | 35.64 | .1797 | 153.3 | .3898 | .1875 | 143.6 | .0481 | .5914 | 695.3 |
| #1 | .0004 | -.0065 | .8908 | .0009 | .1219 | .0862 | .0000 | 51.61 | .0081 | -.0001 |
| #2 | -.0005 | -.0108 | .8930 | .0000 | .1213 | .0864 | -.0001 | 51.58 | .0082 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0018 | 47.73 | 9.343 | 8.058 | 2.132 | .0007 | 24.15 | .0034 | .0008 |
| Stddev | .0001 | .0001 | .03 | .093 | .003 | .002 | .0000 | .02 | .0000 | .0005 |
| %RSD | 203.0 | 4.766 | .0523 | 1.000 | .0397 | .0793 | 1.886 | .1015 | .1065 | 57.28 |
| #1 | .0000 | .0017 | 47.75 | 9.277 | 8.056 | 2.134 | .0007 | 24.17 | .0034 | .0012 |
| #2 | -.0002 | .0019 | 47.71 | 9.409 | 8.060 | 2.131 | .0007 | 24.14 | .0034 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0051 | .0001 | .0027 | 14.39 | -.0006 | .5587 | .0006 | -.0023 | .0003 |
| Stddev | .0005 | .0006 | .0003 | .0001 | .00 | .0001 | .0005 | .0001 | .0000 | .0000 |
| %RSD | 12.39 | 10.95 | 287.1 | 3.102 | .0026 | 15.42 | .0819 | 17.19 | .5011 | 11.21 |
| #1 | -.0040 | .0055 | -.0001 | .0028 | 14.39 | -.0007 | .5590 | .0007 | -.0023 | .0003 |
| #2 | -.0034 | .0047 | .0003 | .0026 | 14.39 | -.0006 | .5583 | .0006 | -.0023 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0020 | .0047 | -.0023 |
| Stddev | .0035 | .0001 | .0003 |
| %RSD | 172.8 | 1.930 | 11.27 |
| #1 | .0045 | .0048 | -.0022 |
| #2 | -.0005 | .0047 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2181.5 | 54772. | 13621. |
| Stddev | 6.2 | 68. | 64. |
| %RSD | .28207 | .12489 | .47158 |
| #1 | 2185.8 | 54723. | 13666. |
| #2 | 2177.1 | 54820. | 13575. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 13:43:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2422 | 9.930 | 1.996 | -.0002 | 1.990 | 1.941 | 1.882 | 9.752 | 1.978 | 2.060 |
| Stddev | .0002 | .013 | .001 | .0009 | .001 | .004 | .002 | .032 | .001 | .002 |
| %RSD | .0918 | .1333 | .0514 | 454.3 | .0254 | .1868 | .0926 | .3232 | .0358 | .0888 |
| #1 | .2424 | 9.939 | 1.997 | -.0009 | 1.990 | 1.938 | 1.881 | 9.729 | 1.979 | 2.059 |
| #2 | .2420 | 9.921 | 1.995 | .0004 | 1.990 | 1.944 | 1.883 | 9.774 | 1.978 | 2.061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.912 | 1.889 | 9.976 | 9.700 | 9.312 | 1.854 | 1.992 | 9.988 | 2.026 | 1.955 |
| Stddev | .005 | .002 | .007 | .006 | .023 | .004 | .003 | .037 | .000 | .001 |
| %RSD | .2586 | .1180 | .0714 | .0653 | .2488 | .2287 | .1316 | .3665 | .0085 | .0591 |
| #1 | 1.915 | 1.887 | 9.971 | 9.704 | 9.328 | 1.857 | 1.990 | 9.962 | 2.026 | 1.956 |
| #2 | 1.908 | 1.890 | 9.981 | 9.695 | 9.295 | 1.851 | 1.994 | 10.01 | 2.026 | 1.954 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0054 | 2.046 | 2.029 | .0793 | 2.022 | 1.898 | 1.938 | 1.957 | 1.896 |
| Stddev | .0010 | .0051 | .002 | .003 | .0004 | .001 | .000 | .004 | .004 | .000 |
| %RSD | 76.37 | 94.14 | .1109 | .1588 | .5450 | .0434 | .0186 | .1929 | .1855 | .0008 |
| #1 | .0006 | .0018 | 2.045 | 2.031 | .0796 | 2.022 | 1.898 | 1.941 | 1.954 | 1.896 |
| #2 | .0019 | .0090 | 2.048 | 2.027 | .0790 | 2.023 | 1.898 | 1.935 | 1.959 | 1.896 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0140 | 1.916 | -.0049 |
| Stddev | .0045 | .001 | .0002 |
| %RSD | 32.36 | .0286 | 3.808 |
| #1 | -.0108 | 1.916 | -.0047 |
| #2 | -.0172 | 1.916 | -.0050 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.3 | 54467. | 13603. |
| Stddev | .2 | 347. | 79. |
| %RSD | .00995 | .63711 | .57719 |
| #1 | 2220.1 | 54222. | 13659. |
| #2 | 2220.4 | 54712. | 13548. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 13:48:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0132 | F.0028 | -.0006 | .0014 | .0002 | .0001 | .0047 | .0003 |
| Stddev | .0002 | .0020 | .0003 | .0000 | .0007 | .0001 | .0000 | .0006 | .0002 |
| %RSD | 150.4 | 14.89 | 11.27 | .5272 | 48.32 | 50.14 | 7.720 | 12.73 | 69.78 |
| #1 | .0003 | .0146 | .0025 | -.0006 | .0018 | .0003 | .0001 | .0051 | .0001 |
| #2 | .0000 | .0118 | .0030 | -.0006 | .0009 | .0001 | .0001 | .0043 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0003 | .0012 | .0052 | .0183 | .0000 | .0002 | .0006 | -.0398 |
| Stddev | .0001 | .0002 | .0002 | .0005 | .0461 | .002 | .0000 | .0002 | .0027 |
| %RSD | 66.09 | 82.49 | 15.38 | 8.804 | 252.3 | 4081. | 3.219 | 30.67 | 6.670 |
| #1 | .0001 | .0005 | .0013 | .0048 | -.0143 | -.0012 | .0002 | .0007 | -.0417 |
| #2 | .0003 | .0001 | .0010 | .0055 | .0509 | .0011 | .0002 | .0005 | -.0380 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0004 | -.0001 | .0017 | .0025 | -.0038 | .0000 | .0001 |
| Stddev | .0002 | .0004 | .0022 | .0020 | .0013 | .0012 | .0004 | .000 | .0001 |
| %RSD | 47.27 | 53.90 | 501.9 | 2353. | 77.26 | 48.21 | 10.10 | 594.7 | 175.5 |
| #1 | .0005 | .0009 | .0020 | -.0015 | .0026 | .0033 | -.0041 | .0001 | .0000 |
| #2 | .0002 | .0004 | -.0011 | .0013 | .0008 | .0016 | -.0036 | -.0001 | .0001 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0002 | .0013 | .0004 | -.0024 | .0003 | .0006 |
| Stddev | .0003 | .0001 | .0000 | .0070 | .0000 | .0000 |
| %RSD | 139.6 | 4.954 | 10.49 | 295.0 | 4.720 | 5.722 |
| #1 | .0000 | .0013 | .0003 | -.0073 | .0003 | .0006 |
| #2 | .0004 | .0012 | .0004 | .0026 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2216.4 | 55052. | 13445. |
| Stddev | 2.1 | 146. | 13. |
| %RSD | .09582 | .26588 | .09366 |
| #1 | 2217.9 | 55155. | 13436. |
| #2 | 2214.9 | 54948. | 13454. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/3/2013 13:54:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .4128 | .0002 | .0479 | .0275 | .0000 | 11.46 | .0037 | -.0002 |
| Stddev | .0005 | .0014 | .0000 | .0016 | .0006 | .0001 | .000 | .03 | .0002 | .0001 |
| %RSD | 129.8 | 144.0 | .0020 | 974.6 | 1.161 | .5344 | 130.3 | .2306 | 5.229 | 32.45 |
| #1 | .0008 | .0020 | .4128 | -.0009 | .0483 | .0276 | .0000 | 11.48 | .0036 | -.0002 |
| #2 | .0000 | .0000 | .4128 | .0013 | .0475 | .0274 | -.0001 | 11.45 | .0039 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0013 | 10.12 | 4.389 | 1.222 | .2385 | .0009 | 8.342 | .0153 | .0006 |
| Stddev | .0000 | .0003 | .03 | .061 | .009 | .0005 | .0001 | .006 | .0002 | .0007 |
| %RSD | 5.879 | 25.26 | .2631 | 1.399 | .7347 | .1952 | 7.375 | .0694 | 1.478 | 121.6 |
| #1 | .0005 | .0011 | 10.14 | 4.345 | 1.228 | .2388 | .0009 | 8.346 | .0151 | .0011 |
| #2 | .0005 | .0016 | 10.10 | 4.432 | 1.216 | .2382 | .0008 | 8.338 | .0154 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0053 | .0016 | .0029 | 8.550 | -.0006 | .0911 | .0005 | -.0009 | .0007 |
| Stddev | .0013 | .0038 | .0005 | .0009 | .008 | .0003 | .0002 | .0007 | .0004 | .0005 |
| %RSD | 604.6 | 72.17 | 30.82 | 31.47 | .0940 | 44.35 | .2634 | 143.5 | 40.91 | 75.87 |
| #1 | .0007 | .0026 | .0012 | .0022 | 8.555 | -.0008 | .0913 | .0009 | -.0011 | .0010 |
| #2 | -.0012 | .0079 | .0019 | .0035 | 8.544 | -.0004 | .0909 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0079 | -.0013 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 10.92 | .0430 | 4.248 |
| #1 | .0182 | .0079 | -.0014 |
| #2 | .0156 | .0079 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.2 | 55303. | 13553. |
| Stddev | 3.0 | 65. | 1. |
| %RSD | .13345 | .11791 | .00683 |
| #1 | 2213.3 | 55349. | 13554. |
| #2 | 2209.1 | 55257. | 13552. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/3/2013 13:58:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0108 | 1.164 | .0008 | .2115 | .0974 | .0000 | 53.19 | .0099 | .0032 |
| Stddev | .0002 | .0050 | .000 | .0006 | .0001 | .0007 | .0000 | .19 | .0001 | .0000 |
| %RSD | 1068. | 46.52 | .0373 | 76.05 | .0685 | .7520 | 5.720 | .3631 | .5397 | .6325 |
| #1 | .0001 | -.0143 | 1.165 | .0004 | .2114 | .0969 | .0000 | 53.05 | .0099 | .0032 |
| #2 | -.0001 | -.0072 | 1.164 | .0012 | .2116 | .0979 | .0000 | 53.32 | .0100 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0019 | 93.03 | 13.09 | 6.581 | 2.551 | .0009 | 28.84 | .0052 | -.0002 |
| Stddev | .0004 | .0002 | .32 | .16 | .081 | .009 | .0000 | .08 | .0000 | .0000 |
| %RSD | 66.76 | 8.695 | .3482 | 1.243 | 1.231 | .3464 | 2.508 | .2607 | .4873 | 2.418 |
| #1 | -.0003 | .0021 | 92.80 | 12.98 | 6.524 | 2.545 | .0008 | 28.78 | .0052 | -.0002 |
| #2 | -.0010 | .0018 | 93.26 | 13.21 | 6.638 | 2.557 | .0009 | 28.89 | .0052 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0047 | .0011 | .0021 | 15.71 | -.0008 | .6095 | .0000 | -.0028 | -.0002 |
| Stddev | .002 | .0066 | .0007 | .0001 | .02 | .0000 | .0030 | .0005 | .0012 | .0008 |
| %RSD | 7776. | 140.2 | 68.91 | 3.900 | .1475 | 1.813 | .4850 | 1497. | 43.31 | 495.6 |
| #1 | .0015 | .0000 | .0016 | .0020 | 15.73 | -.0008 | .6074 | -.0003 | -.0019 | -.0008 |
| #2 | -.0016 | .0093 | .0006 | .0021 | 15.69 | -.0008 | .6116 | .0004 | -.0037 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0060 | -.0029 |
| Stddev | .0058 | .0000 | .0001 |
| %RSD | 177.1 | .3856 | 3.839 |
| #1 | -.0008 | .0060 | -.0030 |
| #2 | .0074 | .0060 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2193.0 | 54490. | 13494. |
| Stddev | 2.3 | 136. | 106. |
| %RSD | .10296 | .24924 | .78386 |
| #1 | 2194.6 | 54586. | 13569. |
| #2 | 2191.4 | 54394. | 13420. |

Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/3/2013 14:03:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0096 | 1.939 | .0016 | .1547 | .0742 | -.0001 | 35.61 | .0163 | .0271 |
| Stddev | .0005 | .0064 | .002 | .0001 | .0003 | .0004 | .0000 | .04 | .0001 | .0002 |
| %RSD | 167.7 | 67.27 | .1179 | 4.926 | .1927 | .4814 | 80.84 | .1236 | .6107 | .9146 |
| #1 | -.0001 | -.0050 | 1.937 | .0017 | .1549 | .0744 | -.0001 | 35.64 | .0164 | .0273 |
| #2 | .0006 | -.0141 | 1.940 | .0016 | .1545 | .0739 | .0000 | 35.58 | .0162 | .0269 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0023 | 104.1 | 11.51 | 6.516 | 1.807 | .0033 | 17.28 | .0067 | -.0004 |
| Stddev | .0003 | .0002 | .2 | .04 | .013 | .002 | .0002 | .02 | .0000 | .0001 |
| %RSD | 33.16 | 8.723 | .1459 | .3854 | .1975 | .0975 | 6.769 | .1113 | .1907 | 16.34 |
| #1 | -.0006 | .0025 | 104.2 | 11.54 | 6.525 | 1.806 | .0031 | 17.29 | .0067 | -.0005 |
| #2 | -.0010 | .0022 | 104.0 | 11.48 | 6.507 | 1.808 | .0034 | 17.27 | .0067 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0040 | .0011 | .0029 | 12.25 | -.0003 | .4727 | .0004 | -.0016 | .0000 |
| Stddev | .0008 | .0068 | .0008 | .0011 | .01 | .0003 | .0011 | .0002 | .0002 | .0001 |
| %RSD | 46.79 | 169.1 | 69.40 | 36.32 | .0946 | 97.14 | .2238 | 46.11 | 12.45 | 241.6 |
| #1 | .0022 | -.0008 | .0006 | .0022 | 12.25 | -.0005 | .4735 | .0003 | -.0015 | .0000 |
| #2 | .0011 | .0088 | .0017 | .0037 | 12.24 | -.0001 | .4720 | .0006 | -.0017 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0094 | -.0022 |
| Stddev | .0015 | .0001 | .0002 |
| %RSD | 5.633 | .5709 | 7.899 |
| #1 | .0286 | .0094 | -.0023 |
| #2 | .0264 | .0094 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2214.5 | 54854. | 13437. |
| Stddev | 4.3 | 57. | 43. |
| %RSD | .19240 | .10400 | .32095 |
| #1 | 2211.5 | 54895. | 13467. |
| #2 | 2217.5 | 54814. | 13406. |



Zoom In Zoom Out

Sample Name: MC21156-10F Acquired: 6/3/2013 14:07:21 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0058 | .4920 | .0008 | .0908 | .0823 | .0000 | 46.62 | .0042 | .0030 |
| Stddev | .0004 | .0055 | .0028 | .0003 | .0005 | .0005 | .000 | .13 | .0002 | .0002 |
| %RSD | 136.0 | 93.96 | .5667 | 34.84 | .5858 | .6528 | 142.3 | .2757 | 5.090 | 6.807 |
| #1 | .0000 | -.0019 | .4939 | .0011 | .0912 | .0819 | .0000 | 46.53 | .0041 | .0029 |
| #2 | .0006 | -.0097 | .4900 | .0006 | .0904 | .0827 | -.0001 | 46.71 | .0044 | .0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0012 | 19.40 | 6.460 | 6.375 | 2.355 | .0029 | 24.60 | .0044 | .0004 |
| Stddev | .000 | .0008 | .01 | .093 | .102 | .004 | .0001 | .04 | .0000 | .0009 |
| %RSD | 852.4 | 67.82 | .0667 | 1.435 | 1.597 | .1582 | 2.993 | .1490 | .9237 | 248.5 |
| #1 | .0001 | .0017 | 19.39 | 6.394 | 6.303 | 2.352 | .0030 | 24.57 | .0044 | -.0003 |
| #2 | -.0001 | .0006 | 19.41 | 6.525 | 6.447 | 2.357 | .0029 | 24.62 | .0044 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0054 | .0010 | .0014 | 12.53 | -.0010 | .3320 | .0003 | -.0025 | .0004 |
| Stddev | .0009 | .0018 | .0014 | .0006 | .02 | .0003 | .0002 | .0004 | .0010 | .0002 |
| %RSD | 215.8 | 33.68 | 135.9 | 40.92 | .1604 | 25.91 | .0559 | 126.0 | 38.19 | 49.01 |
| #1 | .0011 | .0042 | .0020 | .0010 | 12.54 | -.0011 | .3321 | .0006 | -.0018 | .0003 |
| #2 | -.0002 | .0067 | .0000 | .0018 | 12.51 | -.0008 | .3319 | .0000 | -.0032 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0108 | .0071 | -.0022 |
| Stddev | .0017 | .0000 | .0001 |
| %RSD | 15.99 | .2398 | 5.797 |
| #1 | .0120 | .0071 | -.0023 |
| #2 | .0096 | .0071 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2222.2 | 54642. | 13505. |
| Stddev | 1.2 | 374. | 107. |
| %RSD | .05426 | .68503 | .79036 |
| #1 | 2223.0 | 54906. | 13580. |
| #2 | 2221.3 | 54377. | 13429. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0319 | 3.402 | .0011 | .0345 | .0176 | .0000 | 28.05 |
| Stddev | .0001 | .0058 | .005 | .0002 | .0003 | .0000 | .0001 | .02 |
| %RSD | 19.34 | 18.25 | .1502 | 17.38 | .7607 | .0414 | 217.8 | .0688 |
| #1 | .0004 | -.0360 | 3.399 | .0012 | .0347 | .0176 | .0000 | 28.03 |
| #2 | .0005 | -.0278 | 3.406 | .0010 | .0344 | .0176 | .0001 | 28.06 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0284 | .0061 | -.0001 | .0014 | 55.09 | 3.633 | 2.722 | 5.927 |
| Stddev | .0003 | .0002 | .0001 | .0009 | .01 | .023 | .005 | .054 |
| %RSD | .9013 | 2.731 | 154.0 | 64.40 | .0212 | .6269 | .1975 | .9162 |
| #1 | .0282 | .0060 | .0000 | .0021 | 55.10 | 3.649 | 2.718 | 5.889 |
| #2 | .0286 | .0062 | -.0002 | .0008 | 55.09 | 3.617 | 2.726 | 5.965 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 5.436 | .0090 | -.0006 | .0014 | .0207 | .0008 | .0033 |
| Stddev | .0000 | .017 | .0001 | .0003 | .0002 | .0002 | .0002 | .0011 |
| %RSD | 19.95 | .3189 | 1.152 | 48.73 | 10.92 | .7672 | 21.53 | 32.69 |
| #1 | -.0002 | 5.424 | .0090 | -.0004 | .0013 | .0206 | .0009 | .0025 |
| #2 | -.0001 | 5.448 | .0091 | -.0008 | .0015 | .0208 | .0007 | .0041 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 |
|---|---|---|---|---|---|---|---|---|
| Avg | 8.326 | -.0005 | .0946 | .0001 | F-.0053 | .0001 | .0005 | .0100 |
| Stddev | .002 | .0001 | .0001 | .0001 | .0008 | .0007 | .0083 | .0001 |
| %RSD | .0259 | 24.54 | .0739 | 91.93 | 15.21 | 860.5 | 1695. | 1.117 |
| #1 | 8.324 | -.0005 | .0946 | .0000 | -.0048 | -.0004 | .0064 | .0099 |
| #2 | 8.327 | -.0004 | .0945 | .0002 | -.0059 | .0006 | -.0054 | .0100 |

| Elem | Zr3391 |
|---|---|
| Avg | -.0011 |
| Stddev | .0005 |
| %RSD | 47.53 |
| #1 | -.0007 |
| #2 | -.0014 |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/3/2013 14:11:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2233.4 | 54718. | 13502. |
| Stddev | 1.4 | 70. | 98. |
| %RSD | .06218 | .12708 | .72470 |
| #1 | 2232.4 | 54669. | 13571. |
| #2 | 2234.3 | 54767. | 13432. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/3/2013 14:16:06 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0173 | .6605 | -.0004 | .1464 | .0477 | .0000 | 56.00 | .0054 | -.0001 |
| Stddev | .0000 | .0021 | .0002 | .0007 | .0006 | .0002 | .0001 | .06 | .0000 | .0001 |
| %RSD | 40.07 | 11.98 | .0233 | 160.8 | .4018 | .5235 | 372.5 | .0997 | .0874 | 72.29 |
| #1 | .0000 | -.0187 | .6606 | -.0009 | .1460 | .0475 | .0000 | 56.04 | .0054 | -.0001 |
| #2 | .0000 | -.0158 | .6604 | .0001 | .1469 | .0478 | .0001 | 55.96 | .0054 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0011 | 40.52 | 8.337 | 8.107 | 2.788 | .0004 | 45.96 | .0009 | .0006 |
| Stddev | .0003 | .0008 | .05 | .025 | .007 | .013 | .0002 | .10 | .0002 | .0002 |
| %RSD | 111.7 | 75.03 | .1329 | .3010 | .0881 | .4745 | 36.22 | .2238 | 27.29 | 31.96 |
| #1 | -.0005 | .0017 | 40.56 | 8.319 | 8.112 | 2.797 | .0006 | 46.03 | .0010 | .0005 |
| #2 | -.0001 | .0005 | 40.48 | 8.355 | 8.102 | 2.778 | .0003 | 45.89 | .0007 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | .0080 | .0007 | .0021 | 13.90 | -.0008 | .3085 | .0006 | -.0030 | .0002 |
| Stddev | .0006 | .0025 | .0007 | .0002 | .01 | .0001 | .0004 | .0004 | .0008 | .0001 |
| %RSD | 31.70 | 31.75 | 95.38 | 7.898 | .0524 | 12.95 | .1135 | 66.36 | 26.81 | 58.77 |
| #1 | -.0024 | .0062 | .0011 | .0020 | 13.90 | -.0007 | .3088 | .0003 | -.0035 | .0004 |
| #2 | -.0015 | .0097 | .0002 | .0023 | 13.91 | -.0008 | .3083 | .0009 | -.0024 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0067 | -.0021 |
| Stddev | .0028 | .0001 | .0002 |
| %RSD | 49.15 | 2.028 | 11.54 |
| #1 | .0077 | .0066 | -.0019 |
| #2 | .0038 | .0068 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.3 | 54683. | 13579. |
| Stddev | 1.5 | 781. | 7. |
| %RSD | .06707 | 1.4285 | .04809 |
| #1 | 2228.3 | 54130. | 13584. |
| #2 | 2230.4 | 55235. | 13575. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/3/2013 14:20:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0096 | .0030 | -.0004 | .0256 | .0321 | .0000 | 13.55 | .0002 | .0007 |
| Stddev | .0000 | .0102 | .0005 | .0004 | .0002 | .0000 | .0000 | .01 | .0001 | .0001 |
| %RSD | 10.06 | 106.4 | 17.72 | 101.2 | .9166 | .1433 | 75.59 | .0811 | 37.51 | 16.12 |
| #1 | .0001 | .0168 | .0034 | -.0001 | .0254 | .0321 | .0000 | 13.56 | .0002 | .0008 |
| #2 | .0001 | .0024 | .0026 | -.0006 | .0258 | .0322 | .0001 | 13.55 | .0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0026 | .1740 | 2.813 | 2.570 | .3606 | .0001 | 6.583 | .0029 | .0006 |
| Stddev | .0001 | .0008 | .0017 | .045 | .017 | .0009 | .0001 | .018 | .0001 | .0003 |
| %RSD | 49.70 | 32.22 | .9510 | 1.595 | .6411 | .2572 | 157.4 | .2738 | 2.821 | 60.30 |
| #1 | .0003 | .0031 | .1752 | 2.782 | 2.559 | .3613 | .0000 | 6.596 | .0030 | .0003 |
| #2 | .0002 | .0020 | .1728 | 2.845 | 2.582 | .3600 | .0002 | 6.570 | .0029 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0008 | .0008 | .0005 | 3.222 | -.0003 | .0916 | -.0001 | .0003 | .0006 |
| Stddev | .0016 | .0033 | .0004 | .0001 | .004 | .0003 | .0002 | .0006 | .0010 | .0001 |
| %RSD | 345.1 | 426.0 | 45.75 | 28.57 | .1158 | 103.6 | .2169 | 523.0 | 368.5 | 17.73 |
| #1 | -.0015 | -.0016 | .0006 | .0006 | 3.219 | -.0001 | .0915 | .0003 | .0010 | .0006 |
| #2 | .0006 | .0031 | .0011 | .0004 | 3.224 | -.0005 | .0918 | -.0005 | -.0004 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0018 | .0083 | -.0003 |
| Stddev | .0035 | .0001 | .0001 |
| %RSD | 192.6 | .6961 | 27.76 |
| #1 | -.0007 | .0084 | -.0003 |
| #2 | .0043 | .0083 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.4 | 54936. | 13491. |
| Stddev | 1.0 | 49. | 19. |
| %RSD | .04485 | .08925 | .14158 |
| #1 | 2262.1 | 54901. | 13478. |
| #2 | 2260.7 | 54971. | 13505. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/3/2013 14:24:46 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0102 | .0038 | .0002 | .0648 | .0612 | .0000 | 29.92 | .0001 | .0004 |
| Stddev | .0002 | .0055 | .0001 | .0002 | .0003 | .0009 | .0001 | .09 | .0002 | .0000 |
| %RSD | 481.0 | 53.64 | 3.025 | 98.16 | .3980 | 1.408 | 223.1 | .2996 | 314.0 | .6683 |
| #1 | -.0001 | .0063 | .0039 | .0003 | .0646 | .0606 | .0001 | 29.86 | -.0001 | .0004 |
| #2 | .0002 | .0141 | .0037 | .0001 | .0650 | .0618 | .0000 | 29.99 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0023 | .0578 | 4.464 | 4.299 | .4808 | .0003 | 18.29 | .0032 | .0006 |
| Stddev | .0001 | .0005 | .0017 | .006 | .076 | .0005 | .0001 | .05 | .0002 | .0002 |
| %RSD | 29.66 | 21.30 | 3.003 | .1326 | 1.761 | .1042 | 30.63 | .2500 | 6.709 | 25.37 |
| #1 | -.0003 | .0020 | .0590 | 4.468 | 4.245 | .4804 | .0003 | 18.26 | .0034 | .0007 |
| #2 | -.0002 | .0027 | .0566 | 4.460 | 4.352 | .4811 | .0002 | 18.33 | .0031 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | .0009 | .0014 | .0017 | 5.185 | -.0006 | .2062 | -.0002 | -.0012 | .0007 |
| Stddev | .0006 | .0072 | .0002 | .0011 | .002 | .0007 | .0002 | .0000 | .0000 | .0004 |
| %RSD | 25.84 | 823.4 | 15.66 | 67.34 | .0465 | 106.1 | .1209 | 22.21 | 3.473 | 60.93 |
| #1 | -.0027 | -.0042 | .0013 | .0009 | 5.183 | -.0011 | .2060 | -.0002 | -.0012 | .0010 |
| #2 | -.0019 | .0060 | .0016 | .0024 | 5.186 | -.0002 | .2064 | -.0002 | -.0013 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0073 | -.0006 |
| Stddev | .0029 | .0000 | .0002 |
| %RSD | 154.8 | .1926 | 25.04 |
| #1 | .0039 | .0073 | -.0007 |
| #2 | -.0002 | .0074 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.9 | 54717. | 13479. |
| Stddev | 1.5 | 226. | 226. |
| %RSD | .06819 | .41378 | 1.6769 |
| #1 | 2260.8 | 54557. | 13638. |
| #2 | 2263.0 | 54877. | 13319. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/3/2013 14:29:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0039 | .0026 | -.0009 | .0645 | .0616 | .0000 | 29.68 | .0002 | .0007 |
| Stddev | .0003 | .0022 | .0009 | .0006 | .0002 | .0004 | .000 | .04 | .0001 | .0000 |
| %RSD | 185.7 | 58.35 | 36.80 | 72.31 | .3016 | .7158 | 125.6 | .1510 | 59.84 | .7104 |
| #1 | .0000 | .0023 | .0032 | -.0004 | .0644 | .0612 | .0000 | 29.65 | .0003 | .0007 |
| #2 | .0003 | .0054 | .0019 | -.0013 | .0647 | .0619 | -.0001 | 29.71 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0020 | .0596 | 4.437 | 4.299 | .4782 | .0004 | 18.36 | .0034 | -.0004 |
| Stddev | .0004 | .0004 | .0002 | .031 | .002 | .0002 | .0000 | .02 | .0000 | .0004 |
| %RSD | 70.68 | 17.90 | .4125 | .6974 | .0455 | .0460 | .5666 | .0945 | .6005 | 90.99 |
| #1 | .0002 | .0023 | .0594 | 4.415 | 4.298 | .4784 | .0004 | 18.34 | .0034 | -.0001 |
| #2 | .0007 | .0018 | .0598 | 4.458 | 4.301 | .4780 | .0004 | 18.37 | .0034 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0054 | .0011 | .0027 | 5.170 | -.0005 | .2046 | .0002 | -.0008 | .0011 |
| Stddev | .0018 | .0045 | .0002 | .0005 | .010 | .0005 | .0005 | .0003 | .0003 | .0008 |
| %RSD | 141.9 | 82.81 | 18.01 | 20.03 | .1958 | 103.5 | .2649 | 128.8 | 30.11 | 74.26 |
| #1 | .0000 | .0022 | .0010 | .0031 | 5.163 | -.0001 | .2050 | .0000 | -.0010 | .0005 |
| #2 | -.0025 | .0086 | .0013 | .0023 | 5.177 | -.0008 | .2042 | .0004 | -.0007 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0112 | -.0007 |
| Stddev | .0070 | .0000 | .0003 |
| %RSD | 28.61 | .1816 | 42.46 |
| #1 | .0194 | .0112 | -.0005 |
| #2 | .0292 | .0112 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2244.0 | 54567. | 13445. |
| Stddev | 8.8 | 58. | 96. |
| %RSD | .39280 | .10597 | .71065 |
| #1 | 2250.2 | 54526. | 13513. |
| #2 | 2237.8 | 54608. | 13378. |

Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/3/2013 14:33:26 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0166 | .4798 | .0000 | .0325 | .0369 | .0000 | 23.75 | .0041 | .0008 |
| Stddev | .000 | .0127 | .0028 | .000 | .0004 | .0001 | .000 | .09 | .0001 | .0001 |
| %RSD | 209.9 | 76.29 | .5826 | 204.3 | 1.310 | .3679 | 177.2 | .3746 | 2.025 | 10.56 |
| #1 | .0000 | -.0256 | .4818 | -.0001 | .0328 | .0368 | -.0001 | 23.68 | .0040 | .0007 |
| #2 | -.0001 | -.0076 | .4778 | .0000 | .0322 | .0370 | .0000 | 23.81 | .0041 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0014 | 29.26 | 3.299 | 2.976 | 1.620 | .0001 | 9.642 | .0025 | -.0001 |
| Stddev | .0004 | .0002 | .10 | .030 | .018 | .001 | .0001 | .058 | .0002 | .0001 |
| %RSD | 453.4 | 10.66 | .3435 | .9256 | .6137 | .0366 | 103.3 | .6023 | 6.151 | 194.7 |
| #1 | .0004 | .0015 | 29.19 | 3.277 | 2.963 | 1.620 | .0002 | 9.601 | .0024 | -.0001 |
| #2 | -.0002 | .0013 | 29.33 | 3.320 | 2.989 | 1.619 | .0000 | 9.683 | .0026 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0029 | .0009 | .0020 | 8.773 | -.0010 | .2440 | .0003 | -.0022 | -.0004 |
| Stddev | .0017 | .0025 | .0007 | .0006 | .017 | .0001 | .0013 | .0002 | .0008 | .0008 |
| %RSD | 228.4 | 86.11 | 78.51 | 29.84 | .1973 | 11.81 | .5148 | 58.35 | 35.98 | 191.9 |
| #1 | .0005 | .0011 | .0004 | .0016 | 8.786 | -.0009 | .2431 | .0004 | -.0016 | .0001 |
| #2 | -.0020 | .0046 | .0014 | .0024 | 8.761 | -.0011 | .2449 | .0002 | -.0028 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0089 | -.0014 |
| Stddev | .0050 | .0000 | .0002 |
| %RSD | 307.4 | .4122 | 11.54 |
| #1 | .0052 | .0090 | -.0015 |
| #2 | -.0019 | .0089 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.4 | 54607. | 13527. |
| Stddev | 9.0 | 70. | 45. |
| %RSD | .40218 | .12770 | .33547 |
| #1 | 2241.0 | 54558. | 13495. |
| #2 | 2253.8 | 54657. | 13559. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 14:37:45 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.853 | 1.973 | -.0015 | 1.973 | 1.941 | 1.909 | 9.764 | 1.959 | 2.038 |
| Stddev | .0004 | .025 | .001 | .0007 | .001 | .003 | .002 | .040 | .001 | .001 |
| %RSD | .1559 | .2521 | .0639 | 50.46 | .0353 | .1302 | .0822 | .4057 | .0629 | .0553 |
| #1 | .2434 | 9.836 | 1.974 | -.0020 | 1.973 | 1.939 | 1.908 | 9.736 | 1.959 | 2.038 |
| #2 | .2440 | 9.871 | 1.972 | -.0009 | 1.972 | 1.942 | 1.911 | 9.792 | 1.958 | 2.039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.926 | 1.909 | 9.865 | 9.744 | 9.426 | 1.894 | 1.967 | 9.861 | 1.980 | 1.931 |
| Stddev | .005 | .003 | .004 | .042 | .014 | .006 | .001 | .026 | .001 | .001 |
| %RSD | .2412 | .1454 | .0432 | .4306 | .1446 | .2977 | .0496 | .2675 | .0307 | .0435 |
| #1 | 1.923 | 1.911 | 9.862 | 9.774 | 9.436 | 1.890 | 1.966 | 9.843 | 1.981 | 1.932 |
| #2 | 1.929 | 1.907 | 9.868 | 9.714 | 9.417 | 1.898 | 1.968 | 9.880 | 1.980 | 1.931 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0093 | 2.012 | 1.999 | .0165 | 1.972 | 1.913 | 1.939 | 1.942 | 1.916 |
| Stddev | .0021 | .0011 | .003 | .003 | .0009 | .001 | .003 | .003 | .001 | .006 |
| %RSD | 98.22 | 11.44 | .1470 | .1481 | 5.548 | .0613 | .1737 | .1679 | .0275 | .2926 |
| #1 | .0007 | .0086 | 2.010 | 2.001 | .0159 | 1.973 | 1.911 | 1.937 | 1.941 | 1.912 |
| #2 | .0037 | .0101 | 2.014 | 1.997 | .0172 | 1.971 | 1.916 | 1.942 | 1.942 | 1.920 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | 1.910 | -.0049 |
| Stddev | .0001 | .000 | .0005 |
| %RSD | 1.235 | .0118 | 9.289 |
| #1 | -.0073 | 1.910 | -.0052 |
| #2 | -.0074 | 1.910 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.2 | 54530. | 13586. |
| Stddev | 1.8 | 473. | 34. |
| %RSD | .07853 | .86755 | .24861 |
| #1 | 2267.4 | 54865. | 13562. |
| #2 | 2264.9 | 54196. | 13610. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 14:42:39 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0108 | F.0032 | -.0003 | .0018 | .0003 | .0002 | .0105 | -.0001 |
| Stddev | .0002 | .0094 | .0003 | .0016 | .0004 | .0002 | .0000 | .0011 | .0001 |
| %RSD | 667.9 | 87.37 | 9.264 | 515.7 | 21.02 | 71.24 | 12.81 | 10.63 | 179.2 |
| #1 | -.0001 | .0174 | .0030 | .0008 | .0020 | .0005 | .0002 | .0097 | .0000 |
| #2 | .0001 | .0041 | .0035 | -.0015 | .0015 | .0002 | .0002 | .0113 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | .0010 | .0051 | .0275 | .0111 | .0003 | .0006 | -.0304 |
| Stddev | .000 | .0000 | .0002 | .0003 | .0133 | .0062 | .0001 | .0001 | .0123 |
| %RSD | 2412. | 3.341 | 19.53 | 6.467 | 48.42 | 55.62 | 32.90 | 19.70 | 40.60 |
| #1 | .0001 | .0006 | .0009 | .0053 | .0369 | .0155 | .0002 | .0007 | -.0217 |
| #2 | -.0002 | .0006 | .0012 | .0048 | .0181 | .0068 | .0003 | .0006 | -.0391 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | .0015 | -.0036 | .0005 | .0020 | -.0048 | .0001 | .0002 |
| Stddev | .0001 | .0006 | .0004 | .0002 | .0005 | .0001 | .0006 | .0004 | .0000 |
| %RSD | 110.0 | 269.0 | 30.59 | 6.562 | 97.59 | 3.937 | 12.58 | 332.9 | 10.25 |
| #1 | .0002 | -.0002 | .0011 | -.0037 | .0002 | .0020 | -.0052 | .0004 | .0002 |
| #2 | .0000 | .0006 | .0018 | -.0034 | .0009 | .0019 | -.0044 | -.0002 | .0002 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0008 | -.0021 | .0001 | .0005 |
| Stddev | .0003 | .0000 | .0006 | .0023 | .0000 | .0000 |
| %RSD | 89.36 | 3.349 | 71.44 | 109.9 | 35.22 | 9.199 |
| #1 | .0006 | .0009 | .0012 | -.0005 | .0001 | .0005 |
| #2 | .0001 | .0009 | .0004 | -.0038 | .0002 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55360. | 13485. |
| Stddev | 8.1 | 398. | 90. |
| %RSD | .35935 | .71932 | .66939 |
| #1 | 2273.1 | 55078. | 13421. |
| #2 | 2261.6 | 55642. | 13548. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/3/2013 14:52:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0007 | .6101 | -.0018 | .1223 | .0663 | .0000 | 40.06 | .0053 | .0015 |
| Stddev | .0000 | .0031 | .0002 | .0017 | .0003 | .0024 | .000 | 1.29 | .0000 | .0000 |
| %RSD | 4.508 | 459.7 | .0335 | 93.71 | .2229 | 3.687 | 20.55 | 3.223 | .0951 | .0577 |
| #1 | .0001 | .0029 | .6100 | -.0006 | .1221 | .0646 | .0000 | 39.15 | .0053 | .0015 |
| #2 | .0002 | -.0015 | .6103 | -.0029 | .1225 | .0680 | .0000 | 40.97 | .0053 | .0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0019 | 55.88 | 10.28 | 5.157 | 1.312 | .0001 | 26.00 | .0023 | .0000 |
| Stddev | .000 | .0002 | 1.87 | .24 | .164 | .009 | .0000 | .80 | .0001 | .0001 |
| %RSD | 1376. | 10.54 | 3.351 | 2.315 | 3.174 | .6801 | 20.82 | 3.080 | 4.141 | 241.1 |
| #1 | -.0003 | .0017 | 54.56 | 10.11 | 5.041 | 1.318 | .0001 | 25.43 | .0024 | .0000 |
| #2 | .0002 | .0020 | 57.21 | 10.45 | 5.273 | 1.306 | .0001 | 26.56 | .0023 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0022 | .0011 | .0025 | 12.30 | -.0008 | .2938 | .0000 | -.0012 | .0003 |
| Stddev | .0022 | .0012 | .0001 | .0010 | .01 | .0001 | .0100 | .0001 | .0010 | .0004 |
| %RSD | 623.9 | 54.20 | 9.198 | 38.86 | .0808 | 8.453 | 3.404 | 1320. | 84.11 | 174.6 |
| #1 | -.0019 | .0031 | .0012 | .0032 | 12.30 | -.0007 | .2868 | -.0001 | -.0019 | .0006 |
| #2 | .0012 | .0014 | .0011 | .0018 | 12.31 | -.0008 | .3009 | .0001 | -.0005 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0023 | -.0020 |
| Stddev | .0067 | .0000 | .0000 |
| %RSD | 365.1 | 2.146 | .5421 |
| #1 | -.0065 | .0024 | -.0020 |
| #2 | .0029 | .0023 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2223.5 | 55403. | 13596. |
| Stddev | 1.6 | 396. | 282. |
| %RSD | .07088 | .71522 | 2.0746 |
| #1 | 2224.6 | 55123. | 13795. |
| #2 | 2222.4 | 55683. | 13396. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/3/2013 14:56:58 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0009 | .0029 | -.0010 | .0489 | .1691 | .0000 | 139.2 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0010 | .0017 | .0001 | .0009 | .0000 | .7 | .0000 | .0002 |
| %RSD | 92.76 | 102.8 | 35.07 | 158.6 | .1838 | .5210 | 92.11 | .5228 | 4.596 | 165.6 |
| #1 | .0005 | -.0016 | .0022 | -.0022 | .0488 | .1685 | .0001 | 138.6 | .0001 | -.0003 |
| #2 | .0001 | -.0002 | .0036 | .0001 | .0490 | .1697 | .0000 | 139.7 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0019 | .0506 | 6.271 | 16.22 | .0370 | .0005 | 434.6 | .0025 | .0005 |
| Stddev | .0001 | .0000 | .0066 | .016 | .20 | .0001 | .0001 | 1.9 | .0001 | .0002 |
| %RSD | 37.89 | .3991 | 13.14 | .2588 | 1.229 | .2002 | 24.09 | .4482 | 3.993 | 43.94 |
| #1 | .0005 | .0019 | .0553 | 6.260 | 16.08 | .0370 | .0006 | 433.2 | .0024 | .0006 |
| #2 | .0003 | .0018 | .0459 | 6.283 | 16.36 | .0369 | .0004 | 436.0 | .0026 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0007 | .0006 | .0034 | 6.602 | -.0010 | .8010 | .0012 | -.0026 | .0003 |
| Stddev | .0002 | .0012 | .0002 | .0009 | .004 | .0006 | .0063 | .0003 | .0001 | .0001 |
| %RSD | 2.512 | 176.1 | 33.60 | 24.84 | .0602 | 61.07 | .7823 | 26.60 | 5.564 | 48.29 |
| #1 | -.0094 | -.0002 | .0005 | .0040 | 6.599 | -.0014 | .7965 | .0010 | -.0027 | .0004 |
| #2 | -.0090 | .0016 | .0008 | .0028 | 6.605 | -.0006 | .8054 | .0015 | -.0025 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0007 | .0078 | -.0011 |
| Stddev | .0094 | .0002 | .0001 |
| %RSD | 1303. | 2.131 | 10.90 |
| #1 | -.0073 | .0077 | -.0010 |
| #2 | .0059 | .0079 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2156.6 | 54521. | 13371. |
| Stddev | .2 | 352. | 33. |
| %RSD | .00833 | .64515 | .24415 |
| #1 | 2156.7 | 54272. | 13348. |
| #2 | 2156.5 | 54769. | 13395. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/3/2013 15:01:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0012 | .0027 | -.0005 | .0468 | .1584 | -.0001 | 128.3 | .0001 | .0006 |
| Stddev | .0001 | .0137 | .0005 | .0003 | .0006 | .0020 | .0000 | .3 | .0000 | .0000 |
| %RSD | 82.24 | 1155. | 17.88 | 47.91 | 1.260 | 1.281 | 36.52 | .2172 | 29.10 | 2.439 |
| #1 | .0000 | .0109 | .0024 | -.0007 | .0464 | .1598 | -.0001 | 128.1 | .0001 | .0006 |
| #2 | -.0002 | -.0085 | .0031 | -.0004 | .0472 | .1570 | -.0001 | 128.5 | .0000 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0017 | .1307 | 6.191 | 15.11 | .1944 | .0017 | 397.8 | .0034 | -.0001 |
| Stddev | .0001 | .0003 | .0014 | .021 | .09 | .0000 | .0000 | 5.3 | .0002 | .0003 |
| %RSD | 19.55 | 16.40 | 1.102 | .3423 | .5903 | .0049 | .6871 | 1.325 | 6.121 | 407.0 |
| #1 | .0006 | .0019 | .1317 | 6.206 | 15.04 | .1944 | .0017 | 401.5 | .0033 | .0002 |
| #2 | .0005 | .0015 | .1297 | 6.176 | 15.17 | .1945 | .0017 | 394.0 | .0036 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0023 | .0017 | .0035 | 6.275 | -.0009 | .7400 | .0014 | -.0029 | .0002 |
| Stddev | .0015 | .0013 | .0002 | .0005 | .010 | .0001 | .0011 | .0003 | .0006 | .0004 |
| %RSD | 20.07 | 57.92 | 9.386 | 13.60 | .1577 | 11.78 | .1525 | 21.83 | 20.22 | 157.7 |
| #1 | -.0064 | -.0013 | .0016 | .0031 | 6.268 | -.0008 | .7392 | .0012 | -.0033 | .0005 |
| #2 | -.0085 | -.0032 | .0018 | .0038 | 6.282 | -.0010 | .7408 | .0016 | -.0025 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0458 | .0090 | -.0009 |
| Stddev | .0009 | .0001 | .0001 |
| %RSD | 2.021 | .6570 | 5.970 |
| #1 | .0451 | .0089 | -.0010 |
| #2 | .0464 | .0090 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2159.3 | 54512. | 13507. |
| Stddev | 2.5 | 163. | 61. |
| %RSD | .11377 | .29877 | .45260 |
| #1 | 2157.6 | 54627. | 13551. |
| #2 | 2161.1 | 54396. | 13464. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/3/2013 15:05:48 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0016 | .0035 | .0003 | .0173 | .0136 | .0000 | 17.96 | .0003 | .0022 |
| Stddev | .0008 | .0088 | .0001 | .0012 | .0001 | .0001 | .0000 | .02 | .0001 | .0000 |
| %RSD | 465.1 | 550.1 | 1.445 | 441.8 | .4628 | .4657 | 189.2 | .1031 | 18.83 | 1.575 |
| #1 | .0008 | -.0046 | .0035 | -.0006 | .0173 | .0135 | .0001 | 17.98 | .0003 | .0022 |
| #2 | -.0004 | .0078 | .0036 | .0011 | .0172 | .0136 | .0000 | 17.95 | .0003 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0018 | 1.458 | 2.708 | 3.145 | .5795 | .0001 | 2.928 | .0043 | .0005 |
| Stddev | .0001 | .0001 | .000 | .005 | .004 | .0012 | .0001 | .049 | .0000 | .0006 |
| %RSD | 64.22 | 6.649 | .0041 | .2003 | .1363 | .2097 | 76.49 | 1.675 | .2610 | 131.0 |
| #1 | .0003 | .0017 | 1.458 | 2.704 | 3.148 | .5804 | .0000 | 2.962 | .0043 | .0000 |
| #2 | .0001 | .0019 | 1.458 | 2.712 | 3.142 | .5787 | .0001 | 2.893 | .0043 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0011 | .0002 | .0018 | 6.028 | -.0005 | .1115 | -.0002 | -.0004 | .0002 |
| Stddev | .0005 | .0003 | .0003 | .0005 | .010 | .0002 | .0001 | .0003 | .0003 | .0002 |
| %RSD | 17.78 | 32.06 | 165.9 | 26.87 | .1598 | 34.30 | .0794 | 138.4 | 79.49 | 72.05 |
| #1 | -.0027 | .0013 | .0004 | .0022 | 6.022 | -.0007 | .1114 | -.0005 | -.0002 | .0001 |
| #2 | -.0035 | .0008 | .0000 | .0015 | 6.035 | -.0004 | .1115 | .0000 | -.0006 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0082 | .0120 | -.0012 |
| Stddev | .0018 | .0001 | .0002 |
| %RSD | 22.13 | 1.105 | 19.03 |
| #1 | .0069 | .0121 | -.0010 |
| #2 | .0095 | .0119 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.5 | 55137. | 13481. |
| Stddev | 3.9 | 397. | 3. |
| %RSD | .17201 | .71938 | .01956 |
| #1 | 2244.8 | 54857. | 13483. |
| #2 | 2250.3 | 55418. | 13479. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/3/2013 15:10:07 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 1.849 | .5090 | .0014 | .2257 | .1260 | .0000 | 99.74 | .0044 | .0000 |
| Stddev | .0003 | .006 | .0014 | .0004 | .0004 | .0000 | .000 | .11 | .0001 | .0001 |
| %RSD | 248.3 | .3196 | .2832 | 30.67 | .1834 | .0316 | 3.803 | .1068 | 1.465 | 451.0 |
| #1 | .0003 | 1.845 | .5079 | .0011 | .2254 | .1260 | .0000 | 99.81 | .0044 | .0001 |
| #2 | -.0001 | 1.853 | .5100 | .0017 | .2260 | .1260 | .0000 | 99.66 | .0043 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0024 | 73.38 | 54.10 | 52.24 | 1.006 | .0006 | 57.71 | .0022 | .0003 |
| Stddev | .0000 | .0000 | .03 | .11 | .23 | .000 | .0001 | .04 | .0000 | .0002 |
| %RSD | 19.50 | 1.778 | .0436 | .1989 | .4391 | .0033 | 18.04 | .0673 | 1.946 | 77.79 |
| #1 | -.0002 | .0023 | 73.40 | 54.18 | 52.07 | 1.006 | .0005 | 57.74 | .0022 | .0004 |
| #2 | -.0002 | .0024 | 73.36 | 54.03 | 52.40 | 1.006 | .0006 | 57.68 | .0022 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0007 | .0009 | .0023 | 12.19 | .0002 | .6500 | .0022 | -.0014 | .0001 |
| Stddev | .0016 | .0067 | .0001 | .0003 | .00 | .0001 | .0010 | .0000 | .0000 | .0007 |
| %RSD | 32.32 | 1019. | 5.895 | 11.84 | .0369 | 59.59 | .1582 | 1.363 | 2.255 | 1130. |
| #1 | -.0038 | -.0041 | .0008 | .0021 | 12.19 | .0003 | .6508 | .0022 | -.0014 | -.0004 |
| #2 | -.0060 | .0054 | .0009 | .0025 | 12.20 | .0001 | .6493 | .0023 | -.0015 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0047 | -.0020 |
| Stddev | .0021 | .0001 | .0002 |
| %RSD | 38.97 | 2.904 | 12.20 |
| #1 | -.0039 | .0047 | -.0018 |
| #2 | -.0069 | .0046 | -.0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2204.3 | 54715. | 13577. |
| Stddev | 1.8 | 349. | 3. |
| %RSD | .08248 | .63827 | .02213 |
| #1 | 2205.6 | 54962. | 13579. |
| #2 | 2203.0 | 54468. | 13575. |

Zoom In Zoom Out

Sample Name: MP21072-B1 Acquired: 6/3/2013 15:18:20 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.106 | .5235 | -.0025 | -.0002 | 1.995 | .5037 | 24.86 | .5175 | .5230 |
| Stddev | .0005 | .013 | .0006 | .0031 | .0011 | .000 | .0039 | .20 | .0005 | .0013 |
| %RSD | .2695 | .6044 | .1163 | 125.7 | 704.4 | .0176 | .7657 | .7937 | .1061 | .2466 |
| #1 | .2014 | 2.115 | .5230 | -.0003 | .0006 | 1.994 | .5065 | 25.00 | .5172 | .5221 |
| #2 | .2006 | 2.097 | .5239 | -.0047 | -.0009 | 1.995 | .5010 | 24.72 | .5179 | .5239 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5141 | .4858 | 2.069 | 25.66 | 24.49 | .4830 | .0008 | 25.51 | .5085 | 1.005 |
| Stddev | .0000 | .0008 | .012 | .16 | .11 | .0006 | .0003 | .06 | .0014 | .004 |
| %RSD | .0051 | .1667 | .5930 | .6165 | .4378 | .1152 | 35.02 | .2389 | .2658 | .4515 |
| #1 | .5140 | .4852 | 2.060 | 25.55 | 24.57 | .4834 | .0010 | 25.47 | .5076 | 1.001 |
| #2 | .5141 | .4863 | 2.078 | 25.77 | 24.42 | .4826 | .0006 | 25.55 | .5095 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | -.0070 | .5277 | .5160 | -.0244 | -.0029 | .4874 | .5019 | .5075 | .5133 |
| Stddev | .0006 | .0003 | .0008 | .0052 | .0022 | .0001 | .0007 | .0022 | .0044 | .0017 |
| %RSD | 21.66 | 4.767 | .1427 | 1.013 | 8.921 | 2.318 | .1456 | .4453 | .8577 | .3388 |
| #1 | .0030 | -.0072 | .5272 | .5197 | -.0229 | -.0029 | .4868 | .5035 | .5044 | .5146 |
| #2 | .0022 | -.0067 | .5283 | .5123 | -.0259 | -.0028 | .4879 | .5004 | .5106 | .5121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0336 | .5167 | .0003 |
| Stddev | .0081 | .0006 | .0003 |
| %RSD | 24.11 | .1129 | 95.26 |
| #1 | .0279 | .5163 | .0005 |
| #2 | .0394 | .5171 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2257.0 | 55271. | 13593. |
| Stddev | 2.5 | 346. | 76. |
| %RSD | .11075 | .62593 | .56061 |
| #1 | 2258.8 | 55026. | 13647. |
| #2 | 2255.2 | 55515. | 13539. |



Zoom In Zoom Out

Sample Name: MP21072-S1 Acquired: 6/3/2013 15:23:36 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2041 | 2.118 | .5232 | .0028 | .0034 | 2.010 | .5067 | 30.41 | .5190 | .5246 |
| Stddev | .0005 | .061 | .0025 | .0021 | .0008 | .000 | .0013 | .03 | .0011 | .0011 |
| %RSD | .2230 | 2.869 | .4816 | 74.17 | 24.30 | .0193 | .2575 | .1073 | .2154 | .2030 |
| #1 | .2038 | 2.161 | .5249 | .0043 | .0039 | 2.010 | .5057 | 30.43 | .5198 | .5254 |
| #2 | .2045 | 2.075 | .5214 | .0014 | .0028 | 2.011 | .5076 | 30.39 | .5182 | .5238 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5172 | .4898 | 2.051 | 27.22 | 25.85 | .4888 | .0006 | 26.73 | .5097 | 1.010 |
| Stddev | .0022 | .0055 | .002 | .04 | .11 | .0027 | .0004 | .00 | .0011 | .003 |
| %RSD | .4227 | 1.120 | .0805 | .1385 | .4347 | .5548 | 64.59 | .0008 | .2244 | .2825 |
| #1 | .5187 | .4937 | 2.052 | 27.25 | 25.93 | .4907 | .0009 | 26.73 | .5105 | 1.012 |
| #2 | .5156 | .4860 | 2.050 | 27.19 | 25.77 | .4869 | .0003 | 26.73 | .5089 | 1.008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0110 | .5265 | .5204 | 3.178 | -.0052 | .5348 | .5058 | .5087 | .5143 |
| Stddev | .0007 | .0523 | .0024 | .0060 | .015 | .0007 | .0013 | .0028 | .0002 | .0003 |
| %RSD | 38.58 | 474.8 | .4550 | 1.147 | .4833 | 13.16 | .2348 | .5597 | .0464 | .0662 |
| #1 | .0014 | .0480 | .5248 | .5246 | 3.189 | -.0047 | .5357 | .5078 | .5089 | .5141 |
| #2 | .0024 | -.0260 | .5282 | .5162 | 3.168 | -.0056 | .5339 | .5038 | .5086 | .5146 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5264 | -.0009 |
| Stddev | .0020 | .0023 | .0001 |
| %RSD | 15.13 | .4298 | 13.90 |
| #1 | .0117 | .5280 | -.0008 |
| #2 | .0145 | .5248 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2258.6 | 54795. | 13511. |
| Stddev | 6.8 | 309. | 81. |
| %RSD | .30307 | .56452 | .60188 |
| #1 | 2253.8 | 55013. | 13454. |
| #2 | 2263.5 | 54576. | 13569. |



Zoom In Zoom Out

Sample Name: MP21072-S2 Acquired: 6/3/2013 15:27:53 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2035 | 2.098 | .5265 | .0019 | .0039 | 2.017 | .5096 | 30.39 | .5213 | .5245 |
| Stddev | .0009 | .040 | .0009 | .0001 | .0004 | .010 | .0036 | .27 | .0013 | .0016 |
| %RSD | .4199 | 1.899 | .1738 | 2.663 | 10.07 | .4751 | .7094 | .9021 | .2561 | .3083 |
| #1 | .2029 | 2.070 | .5258 | .0020 | .0042 | 2.024 | .5071 | 30.20 | .5222 | .5257 |
| #2 | .2041 | 2.126 | .5271 | .0019 | .0037 | 2.011 | .5122 | 30.59 | .5203 | .5234 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5203 | .4919 | 2.077 | 27.30 | 25.81 | .4923 | .0003 | 26.67 | .5078 | 1.007 |
| Stddev | .0019 | .0010 | .011 | .07 | .16 | .0001 | .0010 | .05 | .0003 | .003 |
| %RSD | .3658 | .1934 | .5280 | .2478 | .6255 | .0180 | 350.3 | .1691 | .0542 | .2509 |
| #1 | .5217 | .4926 | 2.084 | 27.35 | 25.93 | .4922 | .0010 | 26.71 | .5080 | 1.009 |
| #2 | .5190 | .4912 | 2.069 | 27.26 | 25.70 | .4924 | -.0004 | 26.64 | .5076 | 1.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0082 | .5315 | .5150 | 3.176 | -.0034 | .5348 | .5105 | .5101 | .5183 |
| Stddev | .0078 | .0063 | .0021 | .0011 | .003 | .0017 | .0005 | .0021 | .0037 | .0042 |
| %RSD | 166.0 | 77.26 | .3884 | .2190 | .0774 | 49.73 | .0916 | .4197 | .7244 | .8098 |
| #1 | .0008 | .0037 | .5300 | .5158 | 3.178 | -.0046 | .5351 | .5120 | .5127 | .5154 |
| #2 | -.0102 | .0127 | .5329 | .5142 | 3.175 | -.0022 | .5344 | .5090 | .5075 | .5213 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5280 | -.0004 |
| Stddev | .0136 | .0012 | .0027 |
| %RSD | 175.7 | .2214 | 746.2 |
| #1 | -.0174 | .5289 | -.0023 |
| #2 | .0019 | .5272 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 54947. | 13604. |
| Stddev | 2.7 | 200. | 114. |
| %RSD | .11857 | .36378 | .83842 |
| #1 | 2269.5 | 54805. | 13524. |
| #2 | 2265.7 | 55088. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/3/2013 15:32:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .0046 | .0010 | .0082 | .0187 | -.0004 | 10.17 | .0000 | -.0013 |
| Stddev | .0012 | .0164 | .0022 | .0018 | .0003 | .0001 | .0005 | .01 | .001 | .0007 |
| %RSD | 122.6 | 81.70 | 48.48 | 170.1 | 4.075 | .7545 | 121.0 | .1480 | 1378. | 50.62 |
| #1 | -.0019 | .0316 | .0062 | .0023 | .0080 | .0186 | -.0001 | 10.18 | .0004 | -.0009 |
| #2 | -.0001 | .0085 | .0030 | -.0002 | .0085 | .0188 | -.0007 | 10.16 | -.0005 | -.0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0046 | -.0033 | 1.389 | 1.508 | .0007 | .0001 | 15.51 | .0019 | .0033 |
| Stddev | .0005 | .0007 | .0168 | .187 | .129 | .0000 | .0000 | .06 | .0008 | .0009 |
| %RSD | 65.83 | 14.42 | 514.1 | 13.47 | 8.570 | .9219 | 28.47 | .3580 | 40.76 | 28.43 |
| #1 | .0012 | .0050 | .0086 | 1.256 | 1.599 | .0007 | .0001 | 15.47 | .0025 | .0026 |
| #2 | .0004 | .0041 | -.0151 | 1.521 | 1.416 | .0007 | .0001 | 15.55 | .0014 | .0040 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0067 | .0006 | .0022 | 6.501 | -.0022 | .0962 | -.0007 | -.0016 | .0007 |
| Stddev | .0127 | .0124 | .0007 | .0021 | .001 | .0015 | .0001 | .0012 | .0021 | .0002 |
| %RSD | 440.7 | 186.6 | 115.6 | 92.71 | .0208 | 65.00 | .1436 | 171.6 | 128.7 | 24.40 |
| #1 | .0061 | .0021 | .0011 | .0037 | 6.500 | -.0012 | .0963 | .0002 | -.0001 | .0008 |
| #2 | -.0118 | -.0155 | .0001 | .0008 | 6.502 | -.0033 | .0961 | -.0016 | -.0031 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | .0294 | .0006 |
| Stddev | .0153 | .0002 | .0006 |
| %RSD | 303.9 | .5800 | 99.34 |
| #1 | .0159 | .0296 | .0002 |
| #2 | -.0058 | .0293 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.5 | 54927. | 13433. |
| Stddev | .6 | 218. | 142. |
| %RSD | .02784 | .39768 | 1.0537 |
| #1 | 2270.0 | 55082. | 13333. |
| #2 | 2270.9 | 54773. | 13533. |

Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/3/2013 15:36:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0591 | 1.362 | -.0056 | .1595 | .0403 | -.0001 | 75.33 | .0121 | .0124 |
| Stddev | .0012 | .0014 | .005 | .0014 | .0004 | .0005 | .0003 | .07 | .0005 | .0007 |
| %RSD | 804.6 | 2.330 | .3695 | 25.13 | .2407 | 1.127 | 243.4 | .0964 | 3.927 | 5.886 |
| #1 | -.0007 | -.0600 | 1.365 | -.0066 | .1598 | .0406 | .0001 | 75.39 | .0118 | .0129 |
| #2 | .0010 | -.0581 | 1.358 | -.0046 | .1592 | .0400 | -.0004 | 75.28 | .0124 | .0119 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0045 | 20.02 | 8.059 | 11.68 | 9.673 | .0021 | 24.27 | .0085 | -.0022 |
| Stddev | .0000 | .0011 | .05 | .076 | .01 | .005 | .0004 | .01 | .0001 | .0020 |
| %RSD | 5.018 | 24.77 | .2662 | .9395 | .0517 | .0477 | 18.26 | .0548 | 1.676 | 89.88 |
| #1 | -.0007 | .0053 | 19.98 | 8.112 | 11.68 | 9.669 | .0024 | 24.28 | .0084 | -.0036 |
| #2 | -.0008 | .0037 | 20.06 | 8.005 | 11.69 | 9.676 | .0018 | 24.26 | .0086 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | .0496 | .0016 | .0094 | 12.42 | -.0041 | .7485 | -.0022 | -.0095 | .0001 |
| Stddev | .0029 | .0354 | .0011 | .0035 | .02 | .0026 | .0017 | .0005 | .0020 | .0004 |
| %RSD | 46.25 | 71.44 | 69.03 | 36.84 | .1427 | 64.31 | .2209 | 23.47 | 21.25 | 328.8 |
| #1 | -.0083 | .0246 | .0024 | .0070 | 12.40 | -.0022 | .7473 | -.0018 | -.0109 | .0004 |
| #2 | -.0042 | .0747 | .0008 | .0119 | 12.43 | -.0060 | .7497 | -.0026 | -.0081 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0150 | .0000 |
| Stddev | .0080 | .0001 | .0017 |
| %RSD | 72.21 | .5600 | 9997. |
| #1 | -.0054 | .0150 | .0012 |
| #2 | -.0167 | .0149 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.1 | 54865. | 13580. |
| Stddev | .7 | 278. | 130. |
| %RSD | .02943 | .50754 | .95497 |
| #1 | 2276.5 | 55062. | 13488. |
| #2 | 2275.6 | 54668. | 13672. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 15:44:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.632 | 1.976 | -.0013 | 1.975 | 1.893 | 1.866 | 9.503 | 1.966 | 2.041 |
| Stddev | .0020 | .225 | .007 | .0008 | .003 | .039 | .040 | .222 | .002 | .003 |
| %RSD | .8318 | 2.335 | .3693 | 59.68 | .1484 | 2.083 | 2.148 | 2.332 | .0880 | .1347 |
| #1 | .2451 | 9.473 | 1.971 | -.0018 | 1.972 | 1.865 | 1.838 | 9.346 | 1.964 | 2.039 |
| #2 | .2422 | 9.791 | 1.982 | -.0007 | 1.977 | 1.921 | 1.894 | 9.660 | 1.967 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.911 | 9.645 | 9.493 | 9.206 | 1.888 | 1.972 | 9.679 | 1.982 | 1.931 |
| Stddev | .006 | .001 | .206 | .241 | .212 | .008 | .003 | .221 | .003 | .004 |
| %RSD | .3006 | .0273 | 2.134 | 2.536 | 2.302 | .4369 | .1371 | 2.280 | .1651 | .2204 |
| #1 | 1.924 | 1.912 | 9.500 | 9.323 | 9.057 | 1.893 | 1.970 | 9.523 | 1.980 | 1.928 |
| #2 | 1.916 | 1.911 | 9.791 | 9.664 | 9.356 | 1.882 | 1.974 | 9.835 | 1.985 | 1.934 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0070 | 2.016 | 2.001 | .0254 | 1.977 | 1.871 | 1.938 | 1.952 | 1.914 |
| Stddev | .0009 | .0007 | .004 | .008 | .0017 | .006 | .041 | .007 | .001 | .006 |
| %RSD | 27.59 | 9.679 | .1769 | .4192 | 6.694 | .3072 | 2.200 | .3790 | .0297 | .2900 |
| #1 | .0037 | .0065 | 2.014 | 1.995 | .0242 | 1.973 | 1.842 | 1.944 | 1.952 | 1.918 |
| #2 | .0025 | .0075 | 2.019 | 2.007 | .0266 | 1.982 | 1.900 | 1.933 | 1.953 | 1.910 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.909 | -.0048 |
| Stddev | .0016 | .002 | .0003 |
| %RSD | 10.81 | .0990 | 6.153 |
| #1 | -.0156 | 1.908 | -.0051 |
| #2 | -.0134 | 1.911 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.7 | 54617. | 13824. |
| Stddev | 1.7 | 444. | 355. |
| %RSD | .07696 | .81372 | 2.5696 |
| #1 | 2262.9 | 54303. | 14075. |
| #2 | 2260.4 | 54931. | 13572. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 15:50:37 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0039 | .0015 | .0004 | .0014 | .0004 | .0001 | -.0019 | .0001 | .0000 |
| Stddev | .0005 | .0070 | .0010 | .0000 | .0005 | .0000 | .0001 | .0008 | .0000 | .000 |
| %RSD | 1306. | 181.3 | 66.81 | 11.23 | 35.36 | 4.953 | 64.59 | 43.24 | 36.92 | 589.7 |
| #1 | .0004 | .0011 | .0022 | .0004 | .0018 | .0004 | .0002 | -.0013 | .0001 | .0000 |
| #2 | -.0003 | -.0088 | .0008 | .0003 | .0011 | .0005 | .0001 | -.0025 | .0002 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0013 | .0029 | .0273 | .0026 | .0003 | .0004 | -.0143 | .0000 | .0001 |
| Stddev | .0005 | .0002 | .0011 | .0252 | .0075 | .0001 | .0000 | .0004 | .0001 | .0004 |
| %RSD | 160.4 | 17.79 | 37.24 | 92.34 | 295.5 | 19.29 | 4.384 | 2.896 | 173.4 | 252.8 |
| #1 | .0000 | .0011 | .0021 | .0451 | -.0028 | .0002 | .0004 | -.0141 | .0000 | .0004 |
| #2 | .0006 | .0014 | .0037 | .0095 | .0079 | .0003 | .0004 | -.0146 | .0001 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0007 | .0009 | .0012 | .0053 | -.0001 | .0001 | -.0002 | .0005 | .0001 |
| Stddev | .0009 | .0010 | .0006 | .0004 | .0001 | .0002 | .0001 | .0005 | .0000 | .0004 |
| %RSD | 168.9 | 142.2 | 60.21 | 34.44 | 2.073 | 190.1 | 88.70 | 242.0 | 7.768 | 844.1 |
| #1 | -.0001 | .0014 | .0013 | .0015 | .0054 | .0000 | .0001 | -.0005 | .0005 | -.0003 |
| #2 | .0011 | .0000 | .0005 | .0009 | .0052 | -.0002 | .0000 | .0001 | .0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .0003 | .0005 |
| Stddev | .0005 | .0001 | .0001 |
| %RSD | 23.05 | 19.44 | 23.22 |
| #1 | -.0027 | .0003 | .0004 |
| #2 | -.0019 | .0003 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2263.0 | 55406. | 13057. |
| Stddev | 1.3 | 288. | 592. |
| %RSD | .05854 | .51905 | 4.5313 |
| #1 | 2263.9 | 55203. | 12638. |
| #2 | 2262.0 | 55610. | 13475. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/3/2013 15:55:28 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | .0358 | .0113 | .0000 | .0326 | .0146 | -.0001 | 20.24 | .0004 | -.0010 |
| Stddev | .0010 | .0127 | .0091 | .0016 | .0010 | .0001 | .0004 | .04 | .0003 | .0000 |
| %RSD | 48.05 | 35.40 | 80.35 | 11320. | 2.945 | .9085 | 258.5 | .2114 | 71.27 | 4.161 |
| #1 | .0013 | .0269 | .0049 | .0012 | .0332 | .0145 | -.0004 | 20.27 | .0002 | -.0010 |
| #2 | .0027 | .0448 | .0177 | -.0011 | .0319 | .0147 | .0001 | 20.21 | .0006 | -.0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0027 | .0088 | 2.483 | 2.529 | .1767 | .0012 | 11.58 | .0016 | -.0029 |
| Stddev | .0007 | .0011 | .0007 | .024 | .045 | .0003 | .0001 | .05 | .0000 | .0019 |
| %RSD | 195.5 | 40.40 | 7.783 | .9657 | 1.764 | .1578 | 7.575 | .4113 | 2.516 | 64.39 |
| #1 | .0008 | .0020 | .0093 | 2.500 | 2.561 | .1769 | .0011 | 11.61 | .0016 | -.0016 |
| #2 | -.0001 | .0035 | .0083 | 2.466 | 2.498 | .1765 | .0013 | 11.54 | .0016 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0032 | .0044 | .0089 | 4.205 | -.0017 | .1119 | .0007 | -.0001 | .0018 |
| Stddev | .0050 | .0015 | .0035 | .0007 | .015 | .0019 | .0003 | .0013 | .0086 | .0004 |
| %RSD | 957.4 | 48.14 | 78.81 | 7.458 | .3554 | 106.8 | .2666 | 172.9 | 7465. | 21.29 |
| #1 | .0040 | .0021 | .0069 | .0085 | 4.195 | -.0030 | .1121 | -.0002 | .0060 | .0021 |
| #2 | -.0030 | .0042 | .0019 | .0094 | 4.216 | -.0004 | .1117 | .0016 | -.0062 | .0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | .0084 | .0009 |
| Stddev | .0047 | .0004 | .0010 |
| %RSD | 59.57 | 4.426 | 107.3 |
| #1 | -.0113 | .0082 | .0002 |
| #2 | -.0046 | .0087 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.4 | 55210. | 13626. |
| Stddev | 4.5 | 207. | 37. |
| %RSD | .19965 | .37492 | .27059 |
| #1 | 2270.6 | 55357. | 13600. |
| #2 | 2264.2 | 55064. | 13652. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/3/2013 15:59:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | .1040 | .6276 | .0041 | .1743 | .0572 | -.0003 | 50.88 | .0065 | .0120 |
| Stddev | .0060 | .0774 | .0207 | .0109 | .0003 | .0010 | .0003 | .12 | .0003 | .0011 |
| %RSD | 202.9 | 74.44 | 3.306 | 263.3 | .1631 | 1.769 | 102.2 | .2433 | 4.505 | 9.391 |
| #1 | .0013 | .1587 | .6129 | .0118 | .1745 | .0579 | -.0005 | 50.79 | .0067 | .0128 |
| #2 | -.0072 | .0492 | .6422 | -.0036 | .1741 | .0565 | -.0001 | 50.97 | .0063 | .0112 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0118 | 58.64 | 10.70 | 5.684 | 1.341 | .0019 | 21.17 | .0073 | -.0054 |
| Stddev | .0001 | .0000 | .02 | .05 | .168 | .001 | .0005 | .01 | .0015 | .0003 |
| %RSD | 6.164 | .0595 | .0278 | .4885 | 2.946 | .0380 | 26.25 | .0595 | 20.10 | 5.349 |
| #1 | -.0011 | .0118 | 58.63 | 10.74 | 5.802 | 1.340 | .0023 | 21.16 | .0084 | -.0052 |
| #2 | -.0010 | .0118 | 58.65 | 10.67 | 5.566 | 1.341 | .0016 | 21.18 | .0063 | -.0056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0155 | .0345 | .0120 | .0143 | 10.65 | -.0048 | .4448 | -.0012 | .0039 | -.0008 |
| Stddev | .0050 | .0272 | .0080 | .0140 | .02 | .0014 | .0004 | .0016 | .0027 | .0033 |
| %RSD | 32.49 | 78.69 | 66.27 | 98.12 | .2227 | 29.03 | .0928 | 128.6 | 68.78 | 410.2 |
| #1 | .0191 | .0153 | .0177 | .0044 | 10.63 | -.0058 | .4445 | -.0001 | .0058 | -.0031 |
| #2 | .0120 | .0537 | .0064 | .0242 | 10.67 | -.0038 | .4451 | -.0023 | .0020 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0109 | .0103 | .0013 |
| Stddev | .0100 | .0012 | .0011 |
| %RSD | 91.79 | 11.47 | 86.17 |
| #1 | .0179 | .0094 | .0005 |
| #2 | .0038 | .0111 | .0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.0 | 54978. | 13606. |
| Stddev | 3.3 | 64. | 102. |
| %RSD | .14413 | .11660 | .74944 |
| #1 | 2263.3 | 54933. | 13678. |
| #2 | 2258.7 | 55023. | 13534. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:04:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0265 | .0088 | .0012 | .2087 | .0333 | -.0005 | 151.3 | -.0002 | -.0013 |
| Stddev | .0006 | .0537 | .0083 | .0099 | .0015 | .0012 | .0001 | .1 | .0001 | .0002 |
| %RSD | 23.70 | 202.9 | 93.76 | 835.3 | .7211 | 3.610 | 26.03 | .0455 | 22.88 | 12.16 |
| #1 | -.0031 | .0644 | .0030 | -.0058 | .2098 | .0324 | -.0006 | 151.4 | -.0003 | -.0014 |
| #2 | -.0022 | -.0115 | .0147 | .0082 | .2077 | .0341 | -.0004 | 151.3 | -.0002 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0084 | .0570 | 4.691 | 18.59 | .2513 | .0011 | 41.42 | .0048 | -.0042 |
| Stddev | .0007 | .0043 | .0096 | .232 | .00 | .0000 | .0008 | .00 | .0013 | .0074 |
| %RSD | 23.33 | 50.91 | 16.88 | 4.948 | .0110 | .0068 | 77.56 | .0059 | 28.28 | 174.5 |
| #1 | .0036 | .0115 | .0638 | 4.527 | 18.59 | .2513 | .0017 | 41.42 | .0057 | -.0094 |
| #2 | .0026 | .0054 | .0502 | 4.855 | 18.59 | .2513 | .0005 | 41.42 | .0038 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0015 | .0068 | .0096 | 8.671 | -.0060 | .5040 | .0050 | -.0029 | .0008 |
| Stddev | .0169 | .0051 | .0005 | .0138 | .027 | .0025 | .0003 | .0037 | .0031 | .0054 |
| %RSD | 1888. | 338.9 | 7.334 | 143.8 | .3164 | 42.40 | .0566 | 74.02 | 109.0 | 709.5 |
| #1 | -.0111 | .0051 | .0072 | -.0002 | 8.690 | -.0078 | .5038 | .0076 | -.0051 | .0046 |
| #2 | .0128 | -.0021 | .0065 | .0193 | 8.651 | -.0042 | .5042 | .0024 | -.0007 | -.0030 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0090 | .0149 | .0040 |
| Stddev | .0318 | .0007 | .0013 |
| %RSD | 352.5 | 4.432 | 33.10 |
| #1 | .0135 | .0145 | .0050 |
| #2 | -.0315 | .0154 | .0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2268.7 | 54936. | 13514. |
| Stddev | 5.3 | 261. | 60. |
| %RSD | .23143 | .47443 | .44687 |
| #1 | 2272.4 | 55121. | 13471. |
| #2 | 2264.9 | 54752. | 13557. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/3/2013 16:08:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | -.1326 | .0234 | .0029 | .2131 | .0396 | -.0015 | 151.8 | .0019 | -.0026 |
| Stddev | .0014 | .0003 | .0188 | .0056 | .0028 | .0030 | .0010 | .6 | .0004 | .0004 |
| %RSD | 17.09 | .2095 | 80.53 | 195.6 | 1.323 | 7.506 | 64.66 | .3951 | 19.48 | 16.46 |
| #1 | -.0094 | -.1324 | .0367 | -.0011 | .2111 | .0375 | -.0022 | 152.3 | .0016 | -.0029 |
| #2 | -.0074 | -.1328 | .0101 | .0068 | .2151 | .0417 | -.0008 | 151.4 | .0021 | -.0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0138 | .0212 | 4.754 | 19.07 | .2537 | .0047 | 41.92 | .0019 | -.0018 |
| Stddev | .0028 | .0136 | .0132 | .157 | .39 | .0001 | .0003 | .03 | .0031 | .0136 |
| %RSD | 380.7 | 98.74 | 62.30 | 3.293 | 2.031 | .0548 | 5.427 | .0699 | 160.2 | 765.8 |
| #1 | .0027 | .0042 | .0305 | 4.865 | 19.34 | .2538 | .0049 | 41.90 | .0041 | .0078 |
| #2 | -.0012 | .0234 | .0118 | 4.643 | 18.80 | .2536 | .0046 | 41.94 | -.0003 | -.0114 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0307 | .1790 | .0114 | .0207 | 8.701 | -.0157 | .5040 | .0019 | .0218 | -.0021 |
| Stddev | .0369 | .0432 | .0154 | .0227 | .006 | .0053 | .0046 | .0007 | .0054 | .0026 |
| %RSD | 120.0 | 24.16 | 135.6 | 109.5 | .0738 | 33.70 | .9191 | 36.59 | 24.56 | 122.8 |
| #1 | .0047 | .1484 | .0223 | .0368 | 8.697 | -.0120 | .5072 | .0014 | .0256 | -.0003 |
| #2 | .0568 | .2095 | .0005 | .0047 | 8.706 | -.0194 | .5007 | .0023 | .0181 | -.0040 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0771 | .0196 | .0108 |
| Stddev | .0502 | .0031 | .0008 |
| %RSD | 65.18 | 15.91 | 7.331 |
| #1 | .0416 | .0174 | .0114 |
| #2 | .1126 | .0218 | .0102 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.6 | 54659. | 13547. |
| Stddev | .0 | 154. | 240. |
| %RSD | .00035 | .28153 | 1.7736 |
| #1 | 2266.6 | 54551. | 13377. |
| #2 | 2266.6 | 54768. | 13717. |



Zoom In Zoom Out

Sample Name: MC21083-6F Acquired: 6/3/2013 16:12:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1472 | .0064 | .0013 | .0059 | .0108 | -.0001 | 10.85 | .0001 | .0005 |
| Stddev | .0004 | .0110 | .0019 | .0005 | .0002 | .0005 | .0000 | .15 | .0001 | .0003 |
| %RSD | 228.7 | 7.473 | 29.14 | 39.64 | 4.181 | 4.323 | 6.361 | 1.393 | 97.71 | 61.06 |
| #1 | .0001 | .1549 | .0077 | .0017 | .0061 | .0105 | -.0001 | 10.75 | .0000 | .0003 |
| #2 | -.0004 | .1394 | .0051 | .0010 | .0057 | .0111 | -.0001 | 10.96 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0008 | .9972 | 1.344 | 1.482 | .2855 | .0001 | 3.066 | .0006 | -.0003 |
| Stddev | .0000 | .0008 | .0126 | .025 | .025 | .0014 | .0004 | .015 | .0001 | .0000 |
| %RSD | 4.376 | 93.96 | 1.267 | 1.888 | 1.665 | .4748 | 271.6 | .4858 | 10.79 | 6.322 |
| #1 | .0005 | .0013 | .9883 | 1.326 | 1.500 | .2845 | .0004 | 3.055 | .0006 | -.0003 |
| #2 | .0006 | .0003 | 1.006 | 1.361 | 1.465 | .2864 | -.0001 | 3.076 | .0005 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0053 | .0024 | .0051 | 2.406 | -.0013 | .0666 | .0012 | -.0017 | .0002 |
| Stddev | .0006 | .0136 | .0021 | .0000 | .005 | .0007 | .0008 | .0011 | .0000 | .0001 |
| %RSD | 20090. | 255.1 | 87.00 | .9200 | .1936 | 54.27 | 1.140 | 89.49 | 1.753 | 45.04 |
| #1 | -.0004 | -.0043 | .0009 | .0051 | 2.402 | -.0018 | .0661 | .0004 | -.0017 | .0001 |
| #2 | .0004 | .0149 | .0039 | .0051 | 2.409 | -.0008 | .0671 | .0019 | -.0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0095 | .0005 |
| Stddev | .0014 | .0001 | .0004 |
| %RSD | 19.79 | 1.570 | 88.73 |
| #1 | .0082 | .0094 | .0008 |
| #2 | .0062 | .0097 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.1 | 55194. | 13500. |
| Stddev | 8.3 | 210. | 271. |
| %RSD | .36530 | .37965 | 2.0058 |
| #1 | 2273.0 | 55342. | 13692. |
| #2 | 2261.3 | 55046. | 13309. |

Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:17:11 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0143 | .7175 | -.0029 | .1047 | .0176 | .0000 | 97.96 | .0053 | .0056 |
| Stddev | .0011 | .0040 | .0013 | .0025 | .0018 | .0011 | .000 | .13 | .0003 | .0001 |
| %RSD | 128.8 | 28.32 | .1755 | 85.19 | 1.710 | 6.300 | 407.9 | .1344 | 5.004 | 1.079 |
| #1 | -.0001 | .0114 | .7167 | -.0012 | .1060 | .0168 | .0001 | 97.87 | .0055 | .0056 |
| #2 | -.0016 | .0171 | .7184 | -.0046 | .1035 | .0183 | -.0001 | 98.06 | .0051 | .0056 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0028 | 14.70 | 3.497 | 12.39 | 2.530 | .0054 | 116.7 | .0048 | -.0002 |
| Stddev | .0028 | .0001 | .03 | .106 | .13 | .005 | .0002 | .1 | .0001 | .0012 |
| %RSD | 175.3 | 4.033 | .1934 | 3.037 | 1.025 | .2087 | 3.291 | .1156 | 2.920 | 552.1 |
| #1 | .0036 | .0027 | 14.68 | 3.422 | 12.30 | 2.534 | .0053 | 116.6 | .0049 | -.0011 |
| #2 | -.0004 | .0028 | 14.72 | 3.572 | 12.48 | 2.526 | .0055 | 116.8 | .0047 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | -.0160 | .0028 | .0107 | 16.44 | .0009 | .4409 | -.0003 | -.0046 | -.0002 |
| Stddev | .0074 | .0117 | .0000 | .0026 | .02 | .0021 | .0016 | .0008 | .0025 | .0017 |
| %RSD | 237.0 | 72.88 | .6021 | 24.10 | .0986 | 241.4 | .3633 | 289.8 | 54.23 | 860.8 |
| #1 | .0021 | -.0078 | .0028 | .0089 | 16.45 | .0024 | .4398 | -.0008 | -.0064 | -.0014 |
| #2 | -.0083 | -.0242 | .0028 | .0126 | 16.43 | -.0006 | .4420 | .0003 | -.0029 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .0121 | -.0007 |
| Stddev | .0014 | .0004 | .0001 |
| %RSD | 36.18 | 3.636 | 21.37 |
| #1 | .0049 | .0118 | -.0008 |
| #2 | .0029 | .0124 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2266.0 | 55002. | 13529. |
| Stddev | 10.4 | 315. | 79. |
| %RSD | .45738 | .57272 | .58348 |
| #1 | 2258.7 | 54779. | 13585. |
| #2 | 2273.3 | 55225. | 13473. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/3/2013 16:21:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0042 | .1464 | .7476 | -.0038 | .1022 | .0299 | -.0006 | 101.5 | .0049 | .0049 |
| Stddev | .0180 | .0386 | .0166 | .0019 | .0031 | .0035 | .0013 | .1 | .0029 | .0003 |
| %RSD | 432.5 | 26.39 | 2.227 | 50.34 | 2.988 | 11.85 | 205.4 | .0949 | 59.41 | 6.921 |
| #1 | .0169 | .1737 | .7594 | -.0052 | .1000 | .0274 | .0003 | 101.6 | .0069 | .0047 |
| #2 | -.0086 | .1191 | .7359 | -.0025 | .1043 | .0324 | -.0016 | 101.5 | .0028 | .0051 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0121 | 14.93 | 3.528 | 12.66 | 2.566 | .0035 | 117.7 | .0041 | -.0093 |
| Stddev | .0055 | .0087 | .05 | .580 | .06 | .011 | .0001 | .4 | .0053 | .0083 |
| %RSD | 114.2 | 72.16 | .3576 | 16.43 | .4413 | .4280 | 2.810 | .3411 | 127.2 | 89.62 |
| #1 | -.0009 | .0182 | 14.97 | 3.118 | 12.70 | 2.574 | .0036 | 118.0 | .0079 | -.0034 |
| #2 | -.0087 | .0059 | 14.90 | 3.938 | 12.62 | 2.559 | .0034 | 117.4 | .0004 | -.0152 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0100 | .0442 | .0146 | .0454 | 16.56 | -.0095 | .4450 | -.0013 | .0039 | .0022 |
| Stddev | .0197 | .0024 | .0030 | .0033 | .05 | .0014 | .0025 | .0013 | .0178 | .0089 |
| %RSD | 197.8 | 5.458 | 20.54 | 7.323 | .2782 | 15.18 | .5583 | 101.8 | 461.4 | 409.7 |
| #1 | -.0239 | .0425 | .0168 | .0478 | 16.53 | -.0106 | .4467 | -.0022 | -.0087 | .0085 |
| #2 | .0040 | .0459 | .0125 | .0431 | 16.59 | -.0085 | .4432 | -.0004 | .0164 | -.0041 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1148 | .0253 | .0063 |
| Stddev | .0133 | .0020 | .0050 |
| %RSD | 11.59 | 7.962 | 78.82 |
| #1 | .1054 | .0239 | .0099 |
| #2 | .1242 | .0267 | .0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54978. | 13589. |
| Stddev | 1.1 | 62. | 42. |
| %RSD | .04774 | .11341 | .30646 |
| #1 | 2268.1 | 54934. | 13560. |
| #2 | 2266.5 | 55022. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/3/2013 16:25:51 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | .8160 | .0012 | .0615 | .0361 | -.0005 | 18.24 | .0068 | .0126 |
| Stddev | .0031 | .0083 | .0103 | .0056 | .0000 | .0002 | .0001 | .01 | .0000 | .0008 |
| %RSD | 965.0 | 7819. | 1.266 | 463.0 | .0264 | .5943 | 29.14 | .0549 | .2080 | 6.104 |
| #1 | .0025 | -.0060 | .8233 | -.0027 | .0615 | .0359 | -.0006 | 18.24 | .0068 | .0121 |
| #2 | -.0019 | .0057 | .8087 | .0052 | .0615 | .0362 | -.0004 | 18.25 | .0068 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0021 | 32.32 | 9.163 | 3.416 | .7821 | .0030 | 5.087 | .0043 | -.0032 |
| Stddev | .0021 | .0004 | .06 | .163 | .064 | .0003 | .0002 | .058 | .0011 | .0001 |
| %RSD | 3293. | 19.58 | .1951 | 1.782 | 1.879 | .0444 | 7.304 | 1.148 | 24.94 | 3.623 |
| #1 | -.0014 | .0018 | 32.28 | 9.048 | 3.370 | .7818 | .0032 | 5.045 | .0050 | -.0031 |
| #2 | .0015 | .0023 | 32.36 | 9.279 | 3.461 | .7823 | .0029 | 5.128 | .0035 | -.0033 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0094 | -.0117 | .0033 | .0095 | 6.824 | -.0035 | .2096 | -.0009 | .0031 | .0005 |
| Stddev | .0039 | .0048 | .0027 | .0032 | .005 | .0003 | .0007 | .0001 | .0005 | .0023 |
| %RSD | 41.80 | 40.79 | 82.70 | 33.29 | .0737 | 7.897 | .3219 | 7.392 | 17.07 | 480.0 |
| #1 | .0121 | -.0084 | .0052 | .0073 | 6.828 | -.0033 | .2091 | -.0008 | .0034 | .0021 |
| #2 | .0066 | -.0151 | .0014 | .0117 | 6.821 | -.0037 | .2101 | -.0009 | .0027 | -.0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0021 | .0113 | -.0004 |
| Stddev | .0169 | .0001 | .0009 |
| %RSD | 810.2 | .7708 | 207.1 |
| #1 | -.0098 | .0113 | .0002 |
| #2 | .0140 | .0112 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 54793. | 13426. |
| Stddev | 1.5 | 250. | 55. |
| %RSD | .06700 | .45707 | .41010 |
| #1 | 2279.8 | 54970. | 13387. |
| #2 | 2277.7 | 54616. | 13465. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:30:10 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0067 | .7462 | .0012 | .1292 | .1098 | -.0002 | 45.68 | .0058 | .0009 |
| Stddev | .0020 | .0139 | .0014 | .0004 | .0002 | .0001 | .0000 | .05 | .0001 | .0001 |
| %RSD | 286.8 | 208.0 | .1813 | 35.50 | .1735 | .1048 | 28.53 | .1007 | 1.662 | 9.527 |
| #1 | .0021 | .0165 | .7472 | .0009 | .1291 | .1099 | -.0002 | 45.71 | .0057 | .0009 |
| #2 | -.0007 | -.0031 | .7452 | .0015 | .1294 | .1097 | -.0001 | 45.65 | .0059 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 67.04 | 8.875 | 5.036 | 1.707 | .0000 | 16.50 | .0018 | -.0015 |
| Stddev | .0000 | .0001 | .05 | .017 | .034 | .000 | .0001 | .02 | .0006 | .0013 |
| %RSD | 3.302 | 5.950 | .0700 | .1878 | .6648 | .0090 | 869.8 | .1476 | 35.93 | 91.12 |
| #1 | -.0005 | .0023 | 67.07 | 8.864 | 5.012 | 1.707 | .0000 | 16.48 | .0022 | -.0005 |
| #2 | -.0006 | .0025 | 67.00 | 8.887 | 5.060 | 1.707 | .0000 | 16.52 | .0013 | -.0024 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0106 | .0031 | .0044 | 14.09 | -.0014 | .4141 | .0009 | -.0021 | .0000 |
| Stddev | .0013 | .0007 | .0003 | .0019 | .01 | .0012 | .0002 | .0012 | .0008 | .000 |
| %RSD | 35.33 | 6.363 | 10.33 | 43.45 | .0495 | 85.17 | .0447 | 140.3 | 37.80 | 786.7 |
| #1 | .0028 | .0101 | .0034 | .0058 | 14.09 | -.0006 | .4140 | .0017 | -.0026 | -.0003 |
| #2 | .0046 | .0111 | .0029 | .0031 | 14.08 | -.0023 | .4143 | .0000 | -.0015 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0056 | -.0022 |
| Stddev | .0109 | .0001 | .0002 |
| %RSD | 646.0 | 1.229 | 9.862 |
| #1 | .0060 | .0057 | -.0020 |
| #2 | -.0094 | .0056 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.2 | 54625. | 13632. |
| Stddev | 3.8 | 117. | 36. |
| %RSD | .16608 | .21429 | .26138 |
| #1 | 2269.8 | 54542. | 13657. |
| #2 | 2264.5 | 54708. | 13607. |

Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/3/2013 16:34:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .1151 | .7660 | -.0027 | .1289 | .1154 | -.0003 | 46.86 | .0047 | .0002 |
| Stddev | .0008 | .0117 | .0007 | .0102 | .0022 | .0011 | .0004 | .27 | .0001 | .0003 |
| %RSD | 480.4 | 10.13 | .0932 | 380.7 | 1.722 | .9430 | 132.1 | .5867 | 2.956 | 126.3 |
| #1 | .0007 | .1069 | .7665 | .0045 | .1273 | .1162 | -.0006 | 46.66 | .0046 | .0005 |
| #2 | -.0004 | .1234 | .7655 | -.0099 | .1305 | .1147 | .0000 | 47.05 | .0048 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0071 | .0034 | 67.68 | 9.234 | 5.021 | 1.731 | -.0002 | 16.63 | .0027 | -.0019 |
| Stddev | .0013 | .0049 | .06 | .054 | .299 | .006 | .0002 | .22 | .0004 | .0007 |
| %RSD | 18.04 | 143.0 | .0889 | .5859 | 5.954 | .3443 | 82.36 | 1.328 | 15.14 | 35.53 |
| #1 | .0080 | .0069 | 67.63 | 9.272 | 5.232 | 1.736 | -.0003 | 16.47 | .0024 | -.0024 |
| #2 | .0062 | .0000 | 67.72 | 9.196 | 4.809 | 1.727 | -.0001 | 16.79 | .0030 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0185 | -.0275 | .0152 | .0149 | 13.99 | -.0059 | .4229 | -.0006 | .0087 | -.0040 |
| Stddev | .0075 | .0194 | .0104 | .0051 | .01 | .0018 | .0010 | .0001 | .0013 | .0049 |
| %RSD | 40.75 | 70.69 | 68.44 | 34.30 | .0640 | 30.82 | .2462 | 11.27 | 15.39 | 122.6 |
| #1 | .0238 | -.0412 | .0079 | .0185 | 13.99 | -.0071 | .4222 | -.0006 | .0096 | -.0005 |
| #2 | .0132 | -.0137 | .0226 | .0113 | 14.00 | -.0046 | .4236 | -.0007 | .0077 | -.0075 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0361 | .0098 | .0019 |
| Stddev | .0160 | .0003 | .0043 |
| %RSD | 44.35 | 2.813 | 225.9 |
| #1 | .0474 | .0100 | .0049 |
| #2 | .0248 | .0096 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.8 | 54855. | 13442. |
| Stddev | 3.9 | 501. | 95. |
| %RSD | .17180 | .91294 | .70769 |
| #1 | 2282.1 | 54501. | 13509. |
| #2 | 2287.6 | 55209. | 13374. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 16:38:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2432 | 9.798 | 1.957 | -.0008 | 1.968 | 1.936 | 1.919 | 9.751 | 1.956 | 2.027 |
| Stddev | .0006 | .049 | .003 | .0004 | .002 | .004 | .005 | .038 | .000 | .000 |
| %RSD | .2518 | .5002 | .1635 | 51.99 | .0813 | .1943 | .2680 | .3942 | .0145 | .0027 |
| #1 | .2436 | 9.833 | 1.959 | -.0005 | 1.969 | 1.938 | 1.922 | 9.778 | 1.956 | 2.027 |
| #2 | .2427 | 9.764 | 1.954 | -.0011 | 1.967 | 1.933 | 1.915 | 9.724 | 1.956 | 2.027 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.925 | 1.917 | 9.786 | 9.722 | 9.482 | 1.900 | 1.959 | 9.806 | 1.953 | 1.913 |
| Stddev | .002 | .000 | .039 | .015 | .015 | .002 | .001 | .020 | .000 | .002 |
| %RSD | .0923 | .0131 | .3980 | .1586 | .1526 | .0969 | .0383 | .1994 | .0088 | .0827 |
| #1 | 1.924 | 1.917 | 9.814 | 9.733 | 9.472 | 1.899 | 1.958 | 9.820 | 1.952 | 1.911 |
| #2 | 1.926 | 1.916 | 9.759 | 9.711 | 9.493 | 1.902 | 1.959 | 9.792 | 1.953 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0009 | 1.997 | 1.977 | .0604 | 1.941 | 1.918 | 1.936 | 1.942 | 1.919 |
| Stddev | .0034 | .0035 | .002 | .001 | .0008 | .003 | .005 | .002 | .002 | .003 |
| %RSD | 306.5 | 387.8 | .0947 | .0601 | 1.323 | .1719 | .2674 | .1188 | .0917 | .1389 |
| #1 | .0035 | -.0033 | 1.996 | 1.978 | .0610 | 1.943 | 1.922 | 1.937 | 1.943 | 1.917 |
| #2 | -.0013 | .0016 | 1.999 | 1.976 | .0599 | 1.939 | 1.915 | 1.934 | 1.940 | 1.921 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0114 | 1.895 | -.0045 |
| Stddev | .0020 | .001 | .0002 |
| %RSD | 17.72 | .0405 | 4.272 |
| #1 | -.0129 | 1.895 | -.0047 |
| #2 | -.0100 | 1.894 | -.0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 54324. | 13533. |
| Stddev | 3.3 | 168. | 117. |
| %RSD | .14437 | .30838 | .86237 |
| #1 | 2270.7 | 54442. | 13451. |
| #2 | 2275.4 | 54205. | 13616. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 16:43:00 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0080 | F.0025 | .0008 | .0021 | .0010 | F.0008 | .0012 | F.0005 |
| Stddev | .0002 | .0144 | .0002 | .0012 | .0007 | .0003 | .0001 | .0015 | .0001 |
| %RSD | 216.0 | 180.5 | 8.827 | 154.4 | 31.77 | 30.94 | 9.885 | 119.2 | 19.63 |
| #1 | .0001 | .0181 | .0027 | .0016 | .0025 | .0012 | .0009 | .0023 | .0005 |
| #2 | -.0003 | -.0022 | .0024 | -.0001 | .0016 | .0008 | .0008 | .0002 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0007 | .0068 | .0128 | .0005 | .0009 | .0012 | -.0368 |
| Stddev | .0000 | .0003 | .0005 | .0015 | .0307 | .0105 | .0002 | .0005 | .0055 |
| %RSD | 2.168 | 51.46 | 69.10 | 22.83 | 239.4 | 2142. | 18.74 | 43.10 | 14.99 |
| #1 | .0003 | .0009 | .0010 | .0079 | .0346 | -.0069 | .0010 | .0016 | -.0329 |
| #2 | .0003 | .0004 | .0004 | .0057 | -.0089 | .0079 | .0008 | .0009 | -.0407 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0020 | -.0006 | .0011 | .0025 | .0051 | .0003 | .0007 |
| Stddev | .0000 | .0002 | .0016 | .0048 | .0003 | .0003 | .0002 | .0001 | .0001 |
| %RSD | 3.512 | 34.90 | 77.91 | 849.5 | 23.08 | 13.42 | 3.113 | 24.84 | 10.14 |
| #1 | .0003 | .0004 | .0009 | -.0039 | .0013 | .0023 | .0050 | .0002 | .0008 |
| #2 | .0003 | .0007 | .0031 | .0028 | .0009 | .0027 | .0052 | .0003 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0009 | .0003 | -.0004 | .0004 | .0003 |
| Stddev | .0001 | .0013 | .0004 | .0008 | .0001 | .0002 |
| %RSD | 13.58 | 133.0 | 127.8 | 203.1 | 20.59 | 56.25 |
| #1 | .0007 | .0001 | .0005 | -.0010 | .0005 | .0002 |
| #2 | .0006 | .0018 | .0000 | .0002 | .0004 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.0 | 55005. | 13447. |
| Stddev | 3.6 | 124. | 92. |
| %RSD | .16028 | .22605 | .68400 |
| #1 | 2278.6 | 54917. | 13382. |
| #2 | 2273.4 | 55093. | 13512. |



Zoom In Zoom Out

Sample Name: MC21083-13F Acquired: 6/3/2013 16:47:22 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0194 | .0049 | .0001 | .0141 | .0103 | .0001 | 13.76 | .0001 | -.0002 |
| Stddev | .0005 | .0118 | .0009 | .0010 | .0016 | .0001 | .0000 | .10 | .0002 | .0000 |
| %RSD | 72.62 | 60.59 | 17.93 | 981.0 | 11.07 | .5165 | 5.349 | .7093 | 252.7 | 19.14 |
| #1 | -.0010 | .0111 | .0043 | -.0006 | .0152 | .0102 | .0001 | 13.83 | .0002 | -.0002 |
| #2 | -.0003 | .0277 | .0056 | .0008 | .0130 | .0103 | .0001 | 13.69 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0013 | .0099 | 1.586 | 1.751 | .0160 | .0010 | 18.92 | .0001 | .0010 |
| Stddev | .0004 | .0001 | .0013 | .003 | .001 | .0001 | .0002 | .03 | .0002 | .0010 |
| %RSD | 1638. | 4.352 | 12.68 | .1669 | .0693 | .7346 | 21.64 | .1431 | 149.3 | 99.29 |
| #1 | -.0002 | .0013 | .0090 | 1.588 | 1.752 | .0159 | .0008 | 18.94 | .0000 | .0003 |
| #2 | .0003 | .0013 | .0108 | 1.585 | 1.750 | .0160 | .0011 | 18.90 | .0003 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0036 | .0105 | .0005 | .0036 | 3.721 | -.0008 | .0818 | .0002 | -.0002 | .0006 |
| Stddev | .0006 | .0072 | .0011 | .0012 | .009 | .0003 | .0004 | .0006 | .0001 | .0019 |
| %RSD | 17.54 | 68.94 | 231.7 | 33.00 | .2326 | 36.44 | .4651 | 275.6 | 48.85 | 324.9 |
| #1 | .0041 | .0156 | .0012 | .0045 | 3.715 | -.0010 | .0821 | -.0002 | -.0001 | .0020 |
| #2 | .0032 | .0054 | -.0003 | .0028 | 3.727 | -.0006 | .0815 | .0006 | -.0003 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .0092 | -.0004 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 16.94 | .7238 | 71.90 |
| #1 | .0046 | .0092 | -.0006 |
| #2 | .0058 | .0091 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.7 | 55271. | 13533. |
| Stddev | .8 | 265. | 38. |
| %RSD | .03691 | .47901 | .28064 |
| #1 | 2282.3 | 55084. | 13506. |
| #2 | 2281.1 | 55459. | 13560. |

Zoom In Zoom Out

Sample Name: MC21083-14F Acquired: 6/3/2013 16:51:42 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0145 | .0034 | -.0008 | .0145 | .0099 | -.0001 | 14.09 | .0001 | .0001 |
| Stddev | .0007 | .0023 | .0007 | .0001 | .0008 | .0002 | .0002 | .08 | .0000 | .0000 |
| %RSD | 147.6 | 16.13 | 19.42 | 9.872 | 5.495 | 2.025 | 212.1 | .5730 | 51.01 | 23.66 |
| #1 | .0000 | .0129 | .0029 | -.0007 | .0150 | .0101 | .0000 | 14.14 | .0001 | .0001 |
| #2 | -.0010 | .0162 | .0039 | -.0008 | .0139 | .0098 | -.0002 | 14.03 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0025 | .0120 | 1.524 | 1.711 | .0156 | .0008 | 19.41 | .0001 | .0001 |
| Stddev | .0001 | .0002 | .0036 | .002 | .021 | .0000 | .0001 | .04 | .0002 | .0006 |
| %RSD | 9.773 | 8.738 | 29.71 | .1015 | 1.238 | .0006 | 16.26 | .2311 | 152.6 | 1051. |
| #1 | .0011 | .0027 | .0145 | 1.526 | 1.726 | .0156 | .0007 | 19.45 | .0003 | -.0004 |
| #2 | .0009 | .0024 | .0095 | 1.523 | 1.696 | .0156 | .0008 | 19.38 | .0000 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0091 | .0024 | .0011 | 3.761 | -.0020 | .0833 | .0004 | .0002 | .0000 |
| Stddev | .0025 | .0060 | .0016 | .0006 | .008 | .0003 | .0003 | .0009 | .0006 | .000 |
| %RSD | 94.68 | 66.58 | 66.08 | 61.04 | .2012 | 15.86 | .3267 | 211.9 | 327.5 | 419.9 |
| #1 | .0009 | .0134 | .0035 | .0015 | 3.766 | -.0018 | .0835 | -.0002 | -.0002 | .0001 |
| #2 | .0045 | .0048 | .0013 | .0006 | 3.756 | -.0022 | .0831 | .0010 | .0006 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0032 | .0119 | -.0002 |
| Stddev | .0035 | .0000 | .0001 |
| %RSD | 110.6 | .2087 | 56.89 |
| #1 | -.0007 | .0119 | -.0003 |
| #2 | -.0056 | .0119 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.9 | 54996. | 13525. |
| Stddev | .3 | 136. | 119. |
| %RSD | .01524 | .24784 | .88215 |
| #1 | 2270.6 | 55092. | 13440. |
| #2 | 2271.1 | 54900. | 13609. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 16:56:04 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0068 | .2378 | .0071 | .2976 | .0516 | -.0003 | 65.80 | .0018 | .0148 |
| Stddev | .0032 | .0030 | .0009 | .0028 | .0021 | .0004 | .0006 | .90 | .0003 | .0003 |
| %RSD | 177.7 | 43.80 | .3679 | 40.12 | .7013 | .8672 | 191.3 | 1.375 | 17.28 | 1.853 |
| #1 | .0005 | .0089 | .2372 | .0091 | .2961 | .0513 | -.0007 | 65.16 | .0020 | .0147 |
| #2 | -.0040 | .0047 | .2384 | .0051 | .2990 | .0519 | .0001 | 66.44 | .0016 | .0150 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | 50.00 | 9.206 | 10.57 | 2.900 | .0012 | 28.00 | .0024 | .0017 |
| Stddev | .0003 | .0028 | .64 | .412 | .24 | .013 | .0005 | .33 | .0007 | .0002 |
| %RSD | 214.4 | 135.6 | 1.279 | 4.473 | 2.251 | .4516 | 37.54 | 1.192 | 31.25 | 9.339 |
| #1 | -.0003 | .0040 | 49.55 | 8.915 | 10.40 | 2.909 | .0015 | 27.76 | .0019 | .0016 |
| #2 | .0001 | .0001 | 50.46 | 9.497 | 10.74 | 2.890 | .0009 | 28.23 | .0029 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0111 | .0033 | .0046 | 7.562 | -.0017 | .4068 | -.0009 | .0042 | -.0015 |
| Stddev | .0066 | .0037 | .0006 | .0069 | .001 | .0014 | .0044 | .0017 | .0015 | .0013 |
| %RSD | 695.7 | 33.46 | 17.13 | 150.2 | .0071 | 83.36 | 1.078 | 190.2 | 35.39 | 86.99 |
| #1 | -.0056 | .0137 | .0037 | -.0003 | 7.562 | -.0007 | .4037 | .0003 | .0031 | -.0006 |
| #2 | .0037 | .0084 | .0029 | .0095 | 7.561 | -.0027 | .4099 | -.0021 | .0052 | -.0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0360 | .0145 | -.0002 |
| Stddev | .0101 | .0002 | .0014 |
| %RSD | 28.14 | 1.415 | 566.2 |
| #1 | .0288 | .0144 | -.0012 |
| #2 | .0432 | .0147 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.7 | 54867. | 13490. |
| Stddev | 2.5 | 104. | 265. |
| %RSD | .10922 | .18922 | 1.9659 |
| #1 | 2269.9 | 54793. | 13677. |
| #2 | 2273.4 | 54940. | 13302. |



Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/3/2013 17:00:24 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0201 | .2560 | -.0027 | .2972 | .0513 | -.0013 | 66.04 | .0006 | .0147 |
| Stddev | .0038 | .0352 | .0089 | .0072 | .0035 | .0015 | .0004 | .07 | .0005 | .0002 |
| %RSD | 375.9 | 175.0 | 3.460 | 268.9 | 1.172 | 2.831 | 30.24 | .0989 | 74.68 | 1.325 |
| #1 | -.0037 | .0450 | .2498 | .0024 | .2996 | .0524 | -.0010 | 66.09 | .0010 | .0146 |
| #2 | .0017 | -.0048 | .2623 | -.0077 | .2947 | .0503 | -.0015 | 65.99 | .0003 | .0149 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0072 | 51.10 | 9.316 | 10.54 | 2.910 | .0020 | 28.41 | .0015 | -.0012 |
| Stddev | .0008 | .0023 | .34 | .052 | .14 | .004 | .0007 | .27 | .0000 | .0045 |
| %RSD | 167.3 | 31.64 | .6576 | .5584 | 1.281 | .1248 | 34.44 | .9567 | .7683 | 360.3 |
| #1 | -.0001 | .0056 | 50.86 | 9.353 | 10.63 | 2.908 | .0024 | 28.22 | .0015 | .0019 |
| #2 | .0011 | .0088 | 51.33 | 9.280 | 10.44 | 2.913 | .0015 | 28.60 | .0015 | -.0044 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0195 | .0144 | .0072 | .0158 | 7.651 | -.0045 | .4052 | -.0001 | -.0083 | .0042 |
| Stddev | .0025 | .0343 | .0006 | .0004 | .016 | .0044 | .0010 | .0030 | .0065 | .0009 |
| %RSD | 12.70 | 238.6 | 8.286 | 2.579 | .2062 | 97.84 | .2356 | 2276. | 78.28 | 20.42 |
| #1 | .0177 | .0387 | .0068 | .0161 | 7.640 | -.0076 | .4046 | .0020 | -.0130 | .0036 |
| #2 | .0212 | -.0099 | .0076 | .0156 | 7.663 | -.0014 | .4059 | -.0023 | -.0037 | .0048 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0170 | .0145 | .0031 |
| Stddev | .0142 | .0001 | .0014 |
| %RSD | 83.58 | .4407 | 45.05 |
| #1 | -.0069 | .0144 | .0021 |
| #2 | -.0270 | .0145 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2254.9 | 54653. | 13449. |
| Stddev | 7.3 | 122. | 150. |
| %RSD | .32580 | .22264 | 1.1124 |
| #1 | 2260.1 | 54567. | 13555. |
| #2 | 2249.7 | 54739. | 13344. |



Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:04:43 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0164 | .6312 | .0006 | .0595 | .0862 | .0000 | 32.50 | .0054 | .0048 |
| Stddev | .0013 | .0169 | .0048 | .0008 | .0013 | .0004 | .000 | .03 | .0003 | .0001 |
| %RSD | 141.6 | 103.0 | .7629 | 133.2 | 2.234 | .4210 | 316.1 | .1059 | 5.258 | 1.813 |
| #1 | .0018 | .0284 | .6346 | .0000 | .0605 | .0865 | .0000 | 32.52 | .0052 | .0047 |
| #2 | .0000 | .0045 | .6278 | .0011 | .0586 | .0860 | -.0001 | 32.47 | .0056 | .0048 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0020 | 17.74 | 7.148 | 3.907 | 2.147 | .0031 | 24.87 | .0046 | .0027 |
| Stddev | .0002 | .0010 | .07 | .007 | .029 | .001 | .0003 | .05 | .0012 | .0007 |
| %RSD | 53.65 | 50.59 | .4075 | .1037 | .7482 | .0550 | 10.66 | .2088 | 25.96 | 25.29 |
| #1 | -.0006 | .0027 | 17.79 | 7.153 | 3.886 | 2.147 | .0033 | 24.90 | .0055 | .0032 |
| #2 | -.0003 | .0013 | 17.69 | 7.143 | 3.928 | 2.146 | .0028 | 24.83 | .0038 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0045 | .0023 | .0048 | 12.38 | -.0006 | .2745 | .0002 | -.0023 | .0003 |
| Stddev | .0012 | .0224 | .0027 | .0022 | .02 | .0011 | .0005 | .0002 | .0001 | .0017 |
| %RSD | 307.7 | 501.2 | 120.2 | 45.62 | .1739 | 179.6 | .1886 | 80.02 | 5.494 | 666.6 |
| #1 | -.0005 | -.0114 | .0042 | .0033 | 12.40 | -.0014 | .2749 | .0001 | -.0024 | .0014 |
| #2 | .0012 | .0203 | .0003 | .0064 | 12.37 | .0002 | .2742 | .0004 | -.0022 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0166 | .0507 | -.0013 |
| Stddev | .0052 | .0000 | .0009 |
| %RSD | 31.56 | .0111 | 67.77 |
| #1 | -.0129 | .0507 | -.0007 |
| #2 | -.0203 | .0506 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2265.1 | 54762. | 13586. |
| Stddev | 6.2 | 216. | 122. |
| %RSD | .27484 | .39446 | .90065 |
| #1 | 2260.6 | 54609. | 13673. |
| #2 | 2269.5 | 54915. | 13500. |

Zoom In Zoom Out

Sample Name: MC21083-18F Acquired: 6/3/2013 17:09:03 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 4.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0014 | .6265 | .0005 | .0596 | .0855 | -.0002 | 32.67 | .0055 | .0048 |
| Stddev | .0029 | .0047 | .0053 | .0034 | .0012 | .0000 | .0006 | .05 | .0000 | .0006 |
| %RSD | 958.2 | 343.2 | .8483 | 654.6 | 2.082 | .0189 | 236.7 | .1477 | .1702 | 11.49 |
| #1 | -.0018 | -.0047 | .6227 | -.0019 | .0587 | .0855 | .0002 | 32.70 | .0055 | .0044 |
| #2 | .0024 | .0019 | .6303 | .0029 | .0605 | .0855 | -.0007 | 32.63 | .0055 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0041 | 17.88 | 7.304 | 3.836 | 2.157 | .0026 | 24.92 | .0042 | -.0003 |
| Stddev | .0003 | .0020 | .03 | .089 | .001 | .002 | .0010 | .04 | .0012 | .0008 |
| %RSD | 18.00 | 49.25 | .1405 | 1.213 | .0373 | .0848 | 37.88 | .1629 | 28.52 | 264.2 |
| #1 | .0016 | .0027 | 17.90 | 7.367 | 3.837 | 2.155 | .0033 | 24.95 | .0033 | .0003 |
| #2 | .0020 | .0056 | 17.86 | 7.242 | 3.835 | 2.158 | .0019 | 24.89 | .0050 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .0105 | .0032 | .0082 | 12.40 | -.0031 | .2799 | -.0002 | .0000 | .0012 |
| Stddev | .0070 | .0023 | .0045 | .0049 | .01 | .0001 | .0004 | .0001 | .0025 | .0009 |
| %RSD | 147.1 | 21.55 | 138.8 | 59.32 | .0572 | 4.300 | .1403 | 28.25 | 27680. | 78.08 |
| #1 | .0097 | .0089 | .0064 | .0116 | 12.39 | -.0032 | .2802 | -.0002 | .0018 | .0018 |
| #2 | -.0002 | .0121 | .0001 | .0048 | 12.40 | -.0030 | .2796 | -.0002 | -.0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0058 | .0507 | -.0015 |
| Stddev | .0096 | .0000 | .0018 |
| %RSD | 166.4 | .0364 | 126.6 |
| #1 | .0010 | .0507 | -.0028 |
| #2 | -.0126 | .0507 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.9 | 55420. | 13453. |
| Stddev | 2.5 | 363. | 62. |
| %RSD | .10780 | .65566 | .45737 |
| #1 | 2275.7 | 55677. | 13410. |
| #2 | 2272.2 | 55163. | 13497. |



Zoom In Zoom Out

Sample Name: MC21083-19F Acquired: 6/3/2013 17:13:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0068 | .0765 | .0004 | .0471 | .0159 | -.0001 | 9.481 | .0007 | .0030 |
| Stddev | .0004 | .0117 | .0021 | .0003 | .0001 | .0007 | .0002 | .004 | .0003 | .0000 |
| %RSD | 197.5 | 172.8 | 2.746 | 69.60 | .1803 | 4.212 | 349.8 | .0419 | 42.29 | .9711 |
| #1 | .0001 | -.0151 | .0779 | .0002 | .0471 | .0154 | -.0002 | 9.478 | .0005 | .0031 |
| #2 | -.0004 | .0015 | .0750 | .0006 | .0470 | .0163 | .0001 | 9.484 | .0009 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0018 | 11.35 | 3.026 | 1.715 | 1.436 | .0007 | 3.820 | .0012 | -.0002 |
| Stddev | .0001 | .0000 | .00 | .023 | .087 | .001 | .0002 | .007 | .0003 | .0010 |
| %RSD | 16.57 | 2.436 | .0217 | .7636 | 5.096 | .0959 | 35.15 | .1879 | 24.16 | 571.8 |
| #1 | .0005 | .0017 | 11.35 | 3.010 | 1.777 | 1.437 | .0009 | 3.815 | .0010 | .0005 |
| #2 | .0007 | .0018 | 11.35 | 3.042 | 1.654 | 1.435 | .0005 | 3.825 | .0014 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0080 | .0017 | .0031 | 4.380 | -.0010 | .0887 | .0003 | -.0021 | .0000 |
| Stddev | .0016 | .0029 | .0001 | .0008 | .005 | .0002 | .0003 | .0006 | .0016 | .0005 |
| %RSD | 63.76 | 36.58 | 4.259 | 26.65 | .1089 | 21.47 | .3252 | 222.6 | 75.67 | 22960. |
| #1 | -.0014 | .0059 | .0017 | .0037 | 4.383 | -.0009 | .0885 | -.0002 | -.0010 | .0004 |
| #2 | -.0036 | .0101 | .0016 | .0025 | 4.376 | -.0012 | .0889 | .0008 | -.0032 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0268 | .0166 | -.0001 |
| Stddev | .0044 | .0004 | .0002 |
| %RSD | 16.45 | 2.282 | 163.6 |
| #1 | .0237 | .0169 | -.0003 |
| #2 | .0299 | .0164 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2264.0 | 55461. | 13516. |
| Stddev | .3 | 42. | 82. |
| %RSD | .01328 | .07659 | .60966 |
| #1 | 2263.8 | 55491. | 13574. |
| #2 | 2264.2 | 55431. | 13457. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/3/2013 17:17:44 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | 1.871 | .0082 | .0045 | .0045 | .0070 | -.0001 | 48.56 | .0000 | .0006 |
| Stddev | .0022 | .030 | .0036 | .0017 | .0009 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 260.2 | 1.583 | 43.12 | 36.99 | 19.64 | 1.437 | .7414 | .0163 | 490.4 | 26.61 |
| #1 | -.0024 | 1.850 | .0057 | .0033 | .0051 | .0069 | -.0001 | 48.55 | -.0001 | .0007 |
| #2 | .0007 | 1.892 | .0107 | .0057 | .0038 | .0071 | -.0001 | 48.56 | .0001 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0027 | .9510 | 46.38 | 45.65 | .0042 | .0009 | 45.36 | .0017 | -.0021 |
| Stddev | .0017 | .0004 | .0154 | .44 | .16 | .0009 | .0015 | .07 | .0002 | .0038 |
| %RSD | 721.5 | 13.20 | 1.615 | .9397 | .3605 | 21.43 | 157.3 | .1635 | 14.70 | 183.4 |
| #1 | .0009 | .0029 | .9402 | 46.07 | 45.54 | .0048 | .0020 | 45.31 | .0019 | .0006 |
| #2 | -.0014 | .0024 | .9619 | 46.69 | 45.77 | .0035 | -.0001 | 45.41 | .0015 | -.0047 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0182 | .0036 | .0078 | 2.842 | -.0014 | .0394 | .0013 | -.0025 | -.0031 |
| Stddev | .0092 | .0081 | .0036 | .0038 | .016 | .0005 | .0004 | .0023 | .0003 | .0011 |
| %RSD | 906.8 | 44.44 | 98.54 | 48.74 | .5478 | 35.50 | .9246 | 176.7 | 12.11 | 34.44 |
| #1 | -.0075 | .0239 | .0061 | .0105 | 2.831 | -.0018 | .0397 | .0030 | -.0027 | -.0023 |
| #2 | .0055 | .0125 | .0011 | .0051 | 2.853 | -.0011 | .0392 | -.0003 | -.0022 | -.0038 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0006 | .0104 | .0018 |
| Stddev | .0095 | .0001 | .0004 |
| %RSD | 1631. | .7053 | 22.81 |
| #1 | .0061 | .0105 | .0021 |
| #2 | -.0073 | .0104 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2283.7 | 55180. | 13525. |
| Stddev | 4.0 | 138. | 55. |
| %RSD | .17716 | .24976 | .40880 |
| #1 | 2286.6 | 55083. | 13564. |
| #2 | 2280.9 | 55278. | 13486. |



Zoom In Zoom Out

Sample Name: MP21073-B1 Acquired: 6/3/2013 17:22:05 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2057 | 2.086 | .5212 | .0002 | .0017 | 1.969 | .5042 | 25.02 | .5162 | .5221 |
| Stddev | .0050 | .028 | .0118 | .0028 | .0012 | .002 | .0009 | .05 | .0006 | .0004 |
| %RSD | 2.454 | 1.326 | 2.263 | 1434. | 70.56 | .0764 | .1856 | .2085 | .1128 | .0813 |
| #1 | .2022 | 2.066 | .5296 | .0022 | .0009 | 1.971 | .5035 | 25.06 | .5166 | .5224 |
| #2 | .2093 | 2.106 | .5129 | -.0018 | .0026 | 1.968 | .5049 | 24.99 | .5158 | .5218 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5151 | .4896 | 2.062 | 25.60 | 24.57 | .4937 | .0001 | 25.05 | .5031 | .9947 |
| Stddev | .0018 | .0031 | .004 | .08 | .21 | .0001 | .0001 | .01 | .0000 | .0030 |
| %RSD | .3591 | .6368 | .2081 | .2942 | .8680 | .0170 | 99.09 | .0321 | .0091 | .2993 |
| #1 | .5164 | .4873 | 2.065 | 25.54 | 24.42 | .4936 | .0000 | 25.05 | .5031 | .9968 |
| #2 | .5138 | .4918 | 2.059 | 25.65 | 24.72 | .4938 | .0002 | 25.06 | .5031 | .9926 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0063 | .5244 | .5170 | .0282 | -.0034 | .4885 | .5064 | .5050 | .5140 |
| Stddev | .0026 | .0443 | .0033 | .0016 | .0004 | .0003 | .0002 | .0012 | .0033 | .0054 |
| %RSD | 190.4 | 701.6 | .6314 | .3055 | 1.539 | 7.882 | .0412 | .2375 | .6627 | 1.045 |
| #1 | -.0032 | .0250 | .5268 | .5181 | .0279 | -.0036 | .4887 | .5055 | .5026 | .5102 |
| #2 | .0005 | -.0376 | .5221 | .5158 | .0285 | -.0032 | .4884 | .5072 | .5073 | .5178 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0149 | .5197 | .0004 |
| Stddev | .0148 | .0007 | .0001 |
| %RSD | 99.73 | .1270 | 21.56 |
| #1 | .0254 | .5192 | .0005 |
| #2 | .0044 | .5202 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2284.0 | 54775. | 13551. |
| Stddev | 5.2 | 41. | 83. |
| %RSD | .22809 | .07496 | .61288 |
| #1 | 2280.3 | 54746. | 13609. |
| #2 | 2287.7 | 54804. | 13492. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:26:23 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2014 | 2.065 | 1.088 | -.0022 | .2547 | 2.094 | .5004 | 88.42 | .5170 | .5176 |
| Stddev | .0039 | .040 | .004 | .0075 | .0031 | .003 | .0021 | .31 | .0001 | .0005 |
| %RSD | 1.959 | 1.934 | .3351 | 347.4 | 1.212 | .1217 | .4196 | .3497 | .0206 | .1030 |
| #1 | .2042 | 2.093 | 1.090 | -.0075 | .2525 | 2.096 | .5019 | 88.64 | .5171 | .5173 |
| #2 | .1986 | 2.037 | 1.085 | .0031 | .2569 | 2.092 | .4989 | 88.20 | .5170 | .5180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5153 | .4847 | 84.60 | 36.28 | 33.20 | 1.642 | .0009 | 39.51 | .5020 | .9942 |
| Stddev | .0021 | .0022 | .21 | .01 | .61 | .009 | .0002 | .18 | .0010 | .0014 |
| %RSD | .4152 | .4625 | .2470 | .0186 | 1.836 | .5148 | 26.23 | .4647 | .1915 | .1391 |
| #1 | .5138 | .4832 | 84.75 | 36.28 | 33.63 | 1.647 | .0007 | 39.64 | .5013 | .9952 |
| #2 | .5168 | .4863 | 84.45 | 36.29 | 32.77 | 1.636 | .0011 | 39.38 | .5027 | .9932 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0092 | .5201 | .5114 | 13.33 | -.0026 | 1.220 | .5026 | .5013 | .5156 |
| Stddev | .0036 | .0232 | .0059 | .0007 | .01 | .0007 | .003 | .0021 | .0017 | .0003 |
| %RSD | 96.96 | 250.9 | 1.135 | .1455 | .0933 | 26.86 | .2288 | .4149 | .3375 | .0493 |
| #1 | .0062 | -.0072 | .5159 | .5120 | 13.32 | -.0021 | 1.222 | .5011 | .5001 | .5158 |
| #2 | .0012 | .0256 | .5243 | .5109 | 13.34 | -.0031 | 1.218 | .5041 | .5025 | .5154 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0211 | .5158 | -.0027 |
| Stddev | .0198 | .0005 | .0042 |
| %RSD | 93.59 | .0907 | 155.7 |
| #1 | -.0071 | .5161 | -.0056 |
| #2 | -.0351 | .5155 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.3 | 54707. | 13666. |
| Stddev | 3.0 | 319. | 49. |
| %RSD | .13346 | .58342 | .35604 |
| #1 | 2269.5 | 54481. | 13631. |
| #2 | 2265.2 | 54932. | 13700. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 17:30:40 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2437 | 9.869 | 1.966 | .0006 | 1.969 | 1.937 | 1.919 | 9.790 | 1.958 | 2.034 |
| Stddev | .0006 | .090 | .002 | .0007 | .001 | .015 | .013 | .077 | .002 | .000 |
| %RSD | .2330 | .9144 | .1042 | 117.0 | .0514 | .7496 | .6783 | .7887 | .1094 | .0215 |
| #1 | .2433 | 9.806 | 1.964 | .0001 | 1.968 | 1.926 | 1.910 | 9.735 | 1.960 | 2.034 |
| #2 | .2441 | 9.933 | 1.967 | .0011 | 1.970 | 1.947 | 1.928 | 9.844 | 1.957 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.920 | 1.910 | 9.875 | 9.724 | 9.429 | 1.893 | 1.965 | 9.889 | 1.966 | 1.917 |
| Stddev | .007 | .003 | .078 | .127 | .063 | .004 | .000 | .057 | .000 | .000 |
| %RSD | .3791 | .1578 | .7865 | 1.304 | .6719 | .2265 | .0216 | .5780 | .0202 | .0156 |
| #1 | 1.915 | 1.908 | 9.820 | 9.634 | 9.384 | 1.890 | 1.965 | 9.849 | 1.966 | 1.917 |
| #2 | 1.925 | 1.912 | 9.930 | 9.813 | 9.474 | 1.896 | 1.965 | 9.929 | 1.966 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0067 | 2.006 | 1.988 | .0562 | 1.960 | 1.922 | 1.937 | 1.944 | 1.913 |
| Stddev | .0015 | .0036 | .002 | .003 | .0006 | .000 | .012 | .007 | .000 | .005 |
| %RSD | 143.8 | 53.90 | .1006 | .1256 | 1.143 | .0122 | .6020 | .3709 | .0019 | .2508 |
| #1 | .0000 | .0092 | 2.004 | 1.986 | .0567 | 1.960 | 1.914 | 1.932 | 1.944 | 1.910 |
| #2 | .0022 | .0041 | 2.007 | 1.990 | .0558 | 1.960 | 1.930 | 1.942 | 1.944 | 1.917 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0121 | 1.901 | -.0048 |
| Stddev | .0086 | .001 | .0004 |
| %RSD | 71.19 | .0725 | 9.216 |
| #1 | -.0060 | 1.902 | -.0051 |
| #2 | -.0182 | 1.900 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.9 | 54527. | 13483. |
| Stddev | 5.7 | 151. | 161. |
| %RSD | .24952 | .27623 | 1.1948 |
| #1 | 2263.9 | 54634. | 13597. |
| #2 | 2271.9 | 54421. | 13369. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/3/2013 17:34:52 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0108 | .0012 | .0009 | .0024 | .0007 | F.0005 | -.0002 | .0004 |
| Stddev | .0008 | .0034 | .0006 | .0002 | .0000 | .0001 | .0000 | .0005 | .0001 |
| %RSD | 605.0 | 31.45 | 50.46 | 22.98 | .9217 | 10.52 | 6.663 | 238.8 | 21.60 |
| #1 | -.0005 | .0132 | .0008 | .0011 | .0024 | .0007 | .0006 | -.0006 | .0004 |
| #2 | .0007 | .0084 | .0016 | .0008 | .0025 | .0006 | .0005 | .0002 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0014 | .0064 | .0005 | .0007 | .0006 | .0011 | -.0284 |
| Stddev | .0000 | .0002 | .0001 | .0000 | .0126 | .0024 | .0001 | .0002 | .0017 |
| %RSD | 6.109 | 19.83 | 8.072 | .4637 | 2340. | 339.5 | 9.911 | 18.80 | 6.079 |
| #1 | .0003 | .0007 | .0013 | .0064 | .0095 | .0024 | .0006 | .0012 | -.0297 |
| #2 | .0003 | .0010 | .0015 | .0065 | -.0084 | -.0010 | .0006 | .0009 | -.0272 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0001 | .0012 | .0055 | .0009 | .0032 | .0035 | .0001 | .0006 |
| Stddev | .0002 | .0005 | .0004 | .0027 | .0005 | .0000 | .0008 | .0002 | .0001 |
| %RSD | 122.7 | 388.1 | 30.60 | 48.73 | 58.82 | 1.208 | 21.89 | 344.6 | 19.33 |
| #1 | .0004 | -.0002 | .0014 | .0073 | .0005 | .0031 | .0029 | .0002 | .0007 |
| #2 | .0000 | .0005 | .0009 | .0036 | .0013 | .0032 | .0040 | -.0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0011 | .0018 | .0002 | .0006 | .0005 | .0002 |
| Stddev | .0003 | .0010 | .0001 | .0005 | .0000 | .0003 |
| %RSD | 28.40 | 58.32 | 58.13 | 86.72 | .8948 | 174.0 |
| #1 | .0013 | .0025 | .0001 | .0002 | .0005 | .0000 |
| #2 | .0009 | .0011 | .0003 | .0010 | .0005 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.3 | 55420. | 13668. |
| Stddev | 2.6 | 399. | 57. |
| %RSD | .11543 | .71932 | .41496 |
| #1 | 2276.4 | 55138. | 13708. |
| #2 | 2280.2 | 55702. | 13628. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:39:15 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2010 | 2.053 | 1.102 | -.0003 | .2604 | 2.117 | .5071 | 89.55 | .5198 | .5196 |
| Stddev | .0005 | .023 | .003 | .0067 | .0001 | .001 | .0046 | .14 | .0018 | .0013 |
| %RSD | .2574 | 1.132 | .2974 | 2342. | .0363 | .0340 | .9154 | .1563 | .3490 | .2490 |
| #1 | .2013 | 2.070 | 1.104 | -.0050 | .2605 | 2.116 | .5104 | 89.65 | .5185 | .5206 |
| #2 | .2006 | 2.037 | 1.099 | .0045 | .2604 | 2.117 | .5039 | 89.45 | .5211 | .5187 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5155 | .4917 | 85.68 | 37.04 | 33.66 | 1.645 | .0018 | 40.04 | .5051 | .9958 |
| Stddev | .0014 | .0022 | .11 | .05 | .17 | .001 | .0004 | .04 | .0014 | .0025 |
| %RSD | .2628 | .4480 | .1240 | .1231 | .4931 | .0525 | 21.97 | .0982 | .2838 | .2507 |
| #1 | .5145 | .4932 | 85.76 | 37.00 | 33.54 | 1.646 | .0020 | 40.06 | .5041 | .9940 |
| #2 | .5165 | .4901 | 85.61 | 37.07 | 33.78 | 1.645 | .0015 | 40.01 | .5062 | .9975 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .0005 | .5279 | .5182 | 13.56 | -.0029 | 1.232 | .5091 | .5072 | .5153 |
| Stddev | .0122 | .0178 | .0051 | .0020 | .03 | .0004 | .000 | .0006 | .0005 | .0010 |
| %RSD | 226.9 | 3350. | .9731 | .3773 | .1843 | 13.35 | .0055 | .1181 | .0978 | .1989 |
| #1 | .0032 | .0131 | .5315 | .5196 | 13.55 | -.0026 | 1.232 | .5096 | .5075 | .5146 |
| #2 | -.0139 | -.0120 | .5243 | .5168 | 13.58 | -.0031 | 1.232 | .5087 | .5068 | .5160 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0171 | .5185 | -.0036 |
| Stddev | .0171 | .0000 | .0002 |
| %RSD | 100.1 | .0038 | 4.237 |
| #1 | -.0050 | .5186 | -.0037 |
| #2 | -.0292 | .5185 | -.0035 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.1 | 54856. | 13653. |
| Stddev | 2.5 | 16. | 3. |
| %RSD | .10895 | .02941 | .02299 |
| #1 | 2257.8 | 54845. | 13655. |
| #2 | 2254.3 | 54868. | 13651. |

Zoom In Zoom Out

Sample Name: MP21073-S1 Acquired: 6/3/2013 17:43:32 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2008 | 2.083 | 1.102 | -.0006 | .2607 | 2.110 | .5034 | 88.92 | .5191 | .5174 |
| Stddev | .0060 | .131 | .006 | .0026 | .0010 | .008 | .0073 | .36 | .0012 | .0006 |
| %RSD | 2.969 | 6.303 | .5165 | 437.0 | .3696 | .3874 | 1.452 | .4083 | .2401 | .1106 |
| #1 | .1966 | 2.175 | 1.106 | -.0025 | .2614 | 2.116 | .5086 | 89.17 | .5199 | .5178 |
| #2 | .2050 | 1.990 | 1.098 | .0013 | .2600 | 2.104 | .4983 | 88.66 | .5182 | .5170 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5119 | .4876 | 85.09 | 37.11 | 33.36 | 1.636 | .0008 | 39.59 | .5061 | .9949 |
| Stddev | .0004 | .0047 | .64 | .98 | .12 | .001 | .0006 | .20 | .0035 | .0040 |
| %RSD | .0757 | .9610 | .7530 | 2.630 | .3604 | .0731 | 67.31 | .5172 | .6824 | .4026 |
| #1 | .5121 | .4909 | 85.54 | 37.80 | 33.44 | 1.635 | .0012 | 39.73 | .5085 | .9921 |
| #2 | .5116 | .4842 | 84.63 | 36.42 | 33.27 | 1.637 | .0004 | 39.44 | .5036 | .9978 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0193 | .0267 | .5298 | .5188 | 13.37 | -.0071 | 1.221 | .5032 | .5014 | .5033 |
| Stddev | .0093 | .0084 | .0002 | .0038 | .01 | .0009 | .005 | .0049 | .0105 | .0087 |
| %RSD | 48.05 | 31.56 | .0460 | .7321 | .0812 | 12.99 | .4474 | .9780 | 2.102 | 1.721 |
| #1 | .0259 | .0208 | .5299 | .5161 | 13.38 | -.0077 | 1.225 | .4998 | .4939 | .5094 |
| #2 | .0128 | .0327 | .5296 | .5214 | 13.36 | -.0064 | 1.217 | .5067 | .5088 | .4972 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0131 | .5318 | -.0002 |
| Stddev | .0528 | .0002 | .0013 |
| %RSD | 402.8 | .0386 | 767.3 |
| #1 | .0504 | .5319 | -.0011 |
| #2 | -.0242 | .5316 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.3 | 54842. | 13513. |
| Stddev | 3.7 | 39. | 214. |
| %RSD | .16209 | .07155 | 1.5843 |
| #1 | 2259.7 | 54814. | 13362. |
| #2 | 2264.9 | 54870. | 13664. |



Zoom In Zoom Out

Sample Name: MP21073-S2 Acquired: 6/3/2013 17:47:50 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1983 | 2.113 | 1.098 | .0003 | .2596 | 2.110 | .5030 | 89.51 | .5165 | .5171 |
| Stddev | .0088 | .092 | .019 | .0029 | .0017 | .003 | .0057 | .08 | .0018 | .0009 |
| %RSD | 4.416 | 4.336 | 1.760 | 1095. | .6468 | .1228 | 1.139 | .0918 | .3550 | .1700 |
| #1 | .2045 | 2.048 | 1.085 | .0023 | .2608 | 2.109 | .5070 | 89.45 | .5178 | .5177 |
| #2 | .1921 | 2.178 | 1.112 | -.0018 | .2584 | 2.112 | .4989 | 89.57 | .5152 | .5165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5091 | .4865 | 85.86 | 36.99 | 33.75 | 1.646 | .0010 | 39.73 | .5035 | .9902 |
| Stddev | .0029 | .0016 | .33 | .60 | .12 | .003 | .0007 | .04 | .0018 | .0037 |
| %RSD | .5715 | .3321 | .3854 | 1.622 | .3685 | .1766 | 74.15 | .0970 | .3585 | .3728 |
| #1 | .5070 | .4854 | 85.63 | 37.41 | 33.84 | 1.644 | .0015 | 39.70 | .5048 | .9928 |
| #2 | .5112 | .4877 | 86.10 | 36.57 | 33.66 | 1.648 | .0005 | 39.75 | .5022 | .9876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0107 | -.0200 | .5302 | .5298 | 13.47 | -.0053 | 1.226 | .4999 | .5042 | .5060 |
| Stddev | .0074 | .1136 | .0003 | .0015 | .01 | .0037 | .004 | .0023 | .0002 | .0059 |
| %RSD | 69.03 | 569.4 | .0544 | .2749 | .1060 | 69.00 | .3361 | .4595 | .0473 | 1.159 |
| #1 | .0159 | -.1003 | .5300 | .5288 | 13.46 | -.0027 | 1.223 | .4982 | .5044 | .5018 |
| #2 | .0055 | .0604 | .5304 | .5309 | 13.48 | -.0080 | 1.229 | .5015 | .5041 | .5101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0077 | .5164 | -.0002 |
| Stddev | .0059 | .0005 | .0039 |
| %RSD | 76.62 | .0878 | 2172. |
| #1 | -.0035 | .5161 | -.0030 |
| #2 | -.0119 | .5167 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.5 | 54878. | 13616. |
| Stddev | 2.6 | 318. | 49. |
| %RSD | .11669 | .58036 | .36285 |
| #1 | 2271.4 | 55103. | 13651. |
| #2 | 2267.6 | 54652. | 13581. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:52:08 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0080 | .5717 | .0017 | .2520 | .1425 | -.0001 | 63.98 | .0046 | -.0009 |
| Stddev | .0009 | .0183 | .0010 | .0016 | .0009 | .0008 | .0001 | .13 | .0002 | .0000 |
| %RSD | 97.61 | 230.4 | .1822 | 99.50 | .3547 | .5526 | 136.6 | .2068 | 4.445 | .4861 |
| #1 | .0003 | .0209 | .5710 | .0005 | .2527 | .1419 | .0000 | 63.89 | .0044 | -.0009 |
| #2 | .0015 | -.0050 | .5725 | .0028 | .2514 | .1431 | -.0001 | 64.07 | .0047 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0031 | 81.86 | 11.63 | 9.024 | 1.149 | .0000 | 14.57 | .0020 | -.0003 |
| Stddev | .0008 | .0002 | .24 | .09 | .060 | .003 | .0001 | .03 | .0001 | .0003 |
| %RSD | 404.9 | 5.108 | .2979 | .7556 | .6640 | .2562 | 356.7 | .2280 | 4.519 | 81.55 |
| #1 | -.0007 | .0029 | 81.69 | 11.57 | 8.982 | 1.151 | .0000 | 14.55 | .0020 | -.0005 |
| #2 | .0004 | .0032 | 82.04 | 11.69 | 9.066 | 1.147 | .0001 | 14.59 | .0019 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | -.0016 | .0016 | .0058 | 13.38 | -.0011 | .7344 | .0010 | -.0001 | .0005 |
| Stddev | .0013 | .0016 | .0003 | .0035 | .01 | .0001 | .0022 | .0002 | .0024 | .0001 |
| %RSD | 46.99 | 99.70 | 15.68 | 59.82 | .1078 | 6.339 | .2938 | 14.65 | 2283. | 27.59 |
| #1 | .0018 | -.0005 | .0014 | .0082 | 13.37 | -.0010 | .7329 | .0009 | .0016 | .0004 |
| #2 | .0037 | -.0027 | .0018 | .0033 | 13.39 | -.0011 | .7359 | .0012 | -.0018 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0064 | .0055 | -.0024 |
| Stddev | .0002 | .0001 | .0001 |
| %RSD | 2.814 | .9743 | 4.138 |
| #1 | -.0066 | .0055 | -.0025 |
| #2 | -.0063 | .0056 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2256.4 | 55010. | 13618. |
| Stddev | 3.0 | 229. | 45. |
| %RSD | .13085 | .41682 | .33321 |
| #1 | 2254.3 | 54848. | 13650. |
| #2 | 2258.5 | 55172. | 13586. |



Zoom In Zoom Out

Sample Name: MC21156-7F Acquired: 6/3/2013 17:56:27 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0139 | .5711 | .0078 | .2550 | .1452 | -.0008 | 65.46 | .0037 | -.0012 |
| Stddev | .0013 | .0643 | .0119 | .0074 | .0010 | .0011 | .0002 | .32 | .0004 | .0007 |
| %RSD | 73.74 | 461.5 | 2.085 | 94.57 | .4038 | .7817 | 23.02 | .4872 | 11.58 | 56.89 |
| #1 | .0027 | -.0594 | .5795 | .0026 | .2542 | .1460 | -.0007 | 65.69 | .0040 | -.0007 |
| #2 | .0009 | .0315 | .5627 | .0130 | .2557 | .1444 | -.0010 | 65.24 | .0034 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0082 | 83.38 | 11.58 | 9.163 | 1.171 | .0005 | 14.76 | .0023 | .0025 |
| Stddev | .0007 | .0047 | .25 | .59 | .170 | .006 | .0010 | .08 | .0006 | .0010 |
| %RSD | 28.80 | 57.38 | .2972 | 5.064 | 1.850 | .5218 | 200.8 | .5388 | 24.35 | 37.73 |
| #1 | -.0031 | .0115 | 83.55 | 11.99 | 9.283 | 1.166 | .0012 | 14.82 | .0027 | .0032 |
| #2 | -.0020 | .0049 | 83.20 | 11.16 | 9.043 | 1.175 | -.0002 | 14.70 | .0019 | .0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0202 | .0123 | .0089 | .0128 | 13.37 | -.0047 | .7592 | -.0010 | .0101 | .0031 |
| Stddev | .0101 | .0115 | .0111 | .0219 | .06 | .0042 | .0001 | .0008 | .0018 | .0033 |
| %RSD | 50.17 | 93.58 | 124.3 | 171.3 | .4701 | 88.26 | .0087 | 81.31 | 17.56 | 105.2 |
| #1 | .0130 | .0041 | .0168 | -.0027 | 13.32 | -.0018 | .7593 | -.0016 | .0088 | .0008 |
| #2 | .0273 | .0204 | .0011 | .0283 | 13.41 | -.0077 | .7592 | -.0004 | .0114 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0250 | .0086 | .0025 |
| Stddev | .0036 | .0001 | .0068 |
| %RSD | 14.37 | 1.301 | 269.9 |
| #1 | .0225 | .0087 | .0074 |
| #2 | .0276 | .0085 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.8 | 55268. | 13562. |
| Stddev | 6.0 | 424. | 37. |
| %RSD | .26423 | .76628 | .27587 |
| #1 | 2283.1 | 55567. | 13536. |
| #2 | 2274.6 | 54968. | 13589. |

Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:00:47 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0258 | .5803 | .0007 | .2568 | .1436 | -.0003 | 64.91 | .0036 | -.0013 |
| Stddev | .0025 | .0628 | .0100 | .0015 | .0003 | .0005 | .0002 | .27 | .0027 | .0004 |
| %RSD | 153.8 | 243.2 | 1.731 | 217.9 | .1022 | .3592 | 52.89 | .4189 | 74.85 | 32.94 |
| #1 | .0034 | .0702 | .5874 | .0017 | .2566 | .1439 | -.0004 | 64.72 | .0017 | -.0010 |
| #2 | -.0001 | -.0186 | .5732 | -.0004 | .2570 | .1432 | -.0002 | 65.10 | .0055 | -.0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0054 | 83.14 | 11.86 | 9.287 | 1.171 | -.0003 | 14.74 | -.0001 | .0008 |
| Stddev | .0032 | .0002 | .24 | .32 | .157 | .005 | .0006 | .07 | .0014 | .0042 |
| %RSD | 605.0 | 4.347 | .2839 | 2.714 | 1.686 | .4017 | 167.6 | .4658 | 1194. | 529.7 |
| #1 | .0028 | .0056 | 82.98 | 12.09 | 9.176 | 1.168 | .0001 | 14.69 | .0009 | .0038 |
| #2 | -.0017 | .0053 | 83.31 | 11.63 | 9.397 | 1.175 | -.0008 | 14.79 | -.0011 | -.0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0065 | -.0192 | .0022 | .0145 | 13.29 | -.0019 | .7570 | -.0037 | .0060 | -.0004 |
| Stddev | .0109 | .0159 | .0088 | .0172 | .04 | .0006 | .0018 | .0028 | .0000 | .0038 |
| %RSD | 168.5 | 82.83 | 407.4 | 118.7 | .2758 | 34.62 | .2382 | 75.47 | .2716 | 944.4 |
| #1 | .0142 | -.0304 | .0084 | .0267 | 13.26 | -.0014 | .7558 | -.0057 | .0060 | .0023 |
| #2 | -.0012 | -.0079 | -.0041 | .0023 | 13.32 | -.0023 | .7583 | -.0017 | .0060 | -.0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0116 | .0079 | -.0003 |
| Stddev | .0392 | .0002 | .0015 |
| %RSD | 338.6 | 3.083 | 460.4 |
| #1 | -.0393 | .0077 | -.0014 |
| #2 | .0162 | .0080 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2275.5 | 54890. | 13474. |
| Stddev | .7 | 458. | 43. |
| %RSD | .03195 | .83390 | .31973 |
| #1 | 2276.0 | 55214. | 13505. |
| #2 | 2275.0 | 54567. | 13444. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/3/2013 18:05:09 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0578 | .6322 | .0044 | .2718 | .1566 | -.0004 | 70.13 | .0036 | .0006 |
| Stddev | .0007 | .0701 | .0013 | .0031 | .0006 | .0042 | .0002 | .15 | .0007 | .0010 |
| %RSD | 23.61 | 121.2 | .2060 | 69.80 | .2353 | 2.669 | 56.39 | .2208 | 17.98 | 169.1 |
| #1 | -.0036 | .0083 | .6313 | .0022 | .2723 | .1596 | -.0002 | 70.03 | .0041 | .0013 |
| #2 | -.0026 | .1074 | .6331 | .0066 | .2714 | .1537 | -.0005 | 70.24 | .0032 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0037 | 89.36 | 12.70 | 9.890 | 1.257 | -.0003 | 15.76 | .0028 | .0029 |
| Stddev | .0060 | .0035 | .33 | .47 | .192 | .002 | .0005 | .07 | .0027 | .0036 |
| %RSD | 382.7 | 93.23 | .3739 | 3.725 | 1.940 | .1716 | 156.5 | .4386 | 98.30 | 126.5 |
| #1 | -.0027 | .0013 | 89.12 | 12.36 | 10.03 | 1.259 | .0000 | 15.71 | .0008 | .0003 |
| #2 | .0058 | .0061 | 89.59 | 13.03 | 9.755 | 1.256 | -.0007 | 15.80 | .0047 | .0055 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0344 | .0064 | .0039 | 14.35 | -.0033 | .8161 | -.0038 | .0028 | .0035 |
| Stddev | .0085 | .0345 | .0072 | .0004 | .04 | .0008 | .0021 | .0042 | .0027 | .0024 |
| %RSD | 115.4 | 100.4 | 112.2 | 9.124 | .3081 | 22.91 | .2515 | 110.3 | 96.30 | 69.61 |
| #1 | -.0135 | -.0100 | .0013 | .0037 | 14.38 | -.0039 | .8146 | -.0008 | .0009 | .0018 |
| #2 | -.0014 | -.0588 | .0115 | .0042 | 14.32 | -.0028 | .8176 | -.0068 | .0046 | .0052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0373 | .0120 | .0023 |
| Stddev | .0285 | .0009 | .0034 |
| %RSD | 76.49 | 7.792 | 148.6 |
| #1 | -.0575 | .0127 | -.0001 |
| #2 | -.0171 | .0113 | .0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.8 | 55194. | 13563. |
| Stddev | 5.1 | 131. | 124. |
| %RSD | .22347 | .23751 | .91736 |
| #1 | 2270.3 | 55287. | 13651. |
| #2 | 2277.4 | 55101. | 13475. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/3/2013 18:09:30 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0056 | .2161 | F.0056 | .0004 | .1009 | .0512 | .0041 | 4.939 | .0042 |
| Stddev | .0006 | .0089 | .0007 | .0002 | .0000 | .0001 | .0001 | .035 | .0001 |
| %RSD | 9.811 | 4.100 | 13.30 | 48.61 | .0022 | .1265 | 1.684 | .7058 | 2.944 |
| #1 | .0060 | .2224 | .0050 | .0006 | .1009 | .0511 | .0040 | 4.914 | .0043 |
| #2 | .0052 | .2099 | .0061 | .0003 | .1009 | .0512 | .0041 | 4.964 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0522 | .0100 | .0246 | .1034 | 4.929 | 4.795 | .0150 | .1017 | 4.916 |
| Stddev | .0000 | .0002 | .0003 | .0003 | .044 | .064 | .0001 | .0001 | .017 |
| %RSD | .0537 | 1.891 | 1.291 | .2912 | .9016 | 1.331 | .5540 | .1054 | .3493 |
| #1 | .0522 | .0099 | .0244 | .1036 | 4.897 | 4.750 | .0149 | .1018 | 4.904 |
| #2 | .0522 | .0101 | .0248 | .1032 | 4.960 | 4.840 | .0150 | .1016 | 4.928 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | .0002 | .0001 | .0072 | F.0132 | -.0048 | .0992 | .0100 |
| Stddev | .0003 | .0002 | .0005 | .0043 | .0013 | .0005 | .0005 | .0010 | .0001 |
| %RSD | .7647 | 3.076 | 340.9 | 5362. | 18.06 | 3.467 | 10.33 | .9706 | .9938 |
| #1 | .0412 | .0056 | .0005 | .0031 | .0063 | .0135 | -.0044 | .0985 | .0100 |
| #2 | .0408 | .0053 | -.0002 | -.0029 | .0082 | .0128 | -.0051 | .0999 | .0101 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0511 | .0054 | .0100 | -.0007 | .0206 | .0000 |
| Stddev | .0001 | .0008 | .0004 | .0006 | .0000 | .0002 |
| %RSD | .1138 | 14.67 | 4.402 | 81.83 | .0887 | 992.3 |
| #1 | .0511 | .0060 | .0097 | -.0011 | .0206 | .0002 |
| #2 | .0510 | .0048 | .0103 | -.0003 | .0206 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2282.7 | 55170. | 13495. |
| Stddev | .4 | 68. | 156. |
| %RSD | .01859 | .12274 | 1.1586 |
| #1 | 2282.4 | 55122. | 13606. |
| #2 | 2283.0 | 55218. | 13385. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/3/2013 18:13:49 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2434 | 9.856 | 1.965 | -.0005 | 1.974 | 1.952 | 1.937 | 9.785 | 1.957 | 2.028 |
| Stddev | .0003 | .168 | .001 | .0001 | .002 | .029 | .031 | .187 | .002 | .001 |
| %RSD | .1058 | 1.704 | .0399 | 23.92 | .1083 | 1.503 | 1.619 | 1.911 | .1116 | .0339 |
| #1 | .2436 | 9.737 | 1.964 | -.0005 | 1.972 | 1.931 | 1.914 | 9.652 | 1.955 | 2.028 |
| #2 | .2433 | 9.975 | 1.965 | -.0006 | 1.975 | 1.973 | 1.959 | 9.917 | 1.958 | 2.029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.915 | 1.917 | 9.832 | 9.770 | 9.525 | 1.898 | 1.957 | 9.849 | 1.956 | 1.918 |
| Stddev | .013 | .006 | .162 | .156 | .117 | .012 | .002 | .145 | .002 | .002 |
| %RSD | .6860 | .3320 | 1.643 | 1.593 | 1.225 | .6541 | .0905 | 1.476 | .1156 | .1118 |
| #1 | 1.924 | 1.921 | 9.717 | 9.660 | 9.443 | 1.907 | 1.956 | 9.746 | 1.955 | 1.919 |
| #2 | 1.906 | 1.912 | 9.946 | 9.880 | 9.608 | 1.889 | 1.958 | 9.951 | 1.958 | 1.916 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0003 | 1.997 | 1.996 | .0011 | 1.937 | 1.930 | 1.927 | 1.943 | 1.914 |
| Stddev | .0000 | .0030 | .001 | .001 | .0009 | .001 | .029 | .010 | .000 | .011 |
| %RSD | .5549 | 1030. | .0695 | .0424 | 83.13 | .0451 | 1.476 | .5230 | .0129 | .5812 |
| #1 | .0017 | -.0024 | 1.996 | 1.995 | .0005 | 1.936 | 1.910 | 1.934 | 1.943 | 1.922 |
| #2 | .0017 | .0018 | 1.998 | 1.997 | .0018 | 1.938 | 1.950 | 1.920 | 1.943 | 1.907 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0083 | 1.898 | -.0049 |
| Stddev | .0057 | .000 | .0001 |
| %RSD | 68.75 | .0004 | 2.095 |
| #1 | -.0042 | 1.898 | -.0050 |
| #2 | -.0123 | 1.898 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2271.3 | 55006. | 13420. |
| Stddev | 2.0 | 569. | 403. |
| %RSD | .08680 | 1.0353 | 3.0030 |
| #1 | 2272.6 | 54604. | 13705. |
| #2 | 2269.9 | 55409. | 13135. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/3/2013 18:18:01 Type: Unk
Method: Accutest -SS2(v179) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0049 | .0020 | -.0005 | .0023 | .0006 | F.0006 | -.0039 | F.0006 |
| Stddev | .0006 | .0074 | .0001 | .0004 | .0000 | .0002 | .0000 | .0005 | .0001 |
| %RSD | 181.3 | 149.8 | 7.143 | 67.19 | .0920 | 36.12 | .2459 | 13.38 | 14.96 |
| #1 | -.0001 | .0101 | .0019 | -.0008 | .0023 | .0008 | .0006 | -.0035 | .0006 |
| #2 | .0007 | -.0003 | .0021 | -.0003 | .0023 | .0005 | .0006 | -.0042 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0006 | .0013 | .0043 | .0041 | .0104 | .0006 | .0013 | -.0375 |
| Stddev | .0001 | .0004 | .0001 | .0005 | .0394 | .0052 | .0000 | .0003 | .0075 |
| %RSD | 15.12 | 67.56 | 8.926 | 12.30 | 958.6 | 49.78 | 1.434 | 23.31 | 20.05 |
| #1 | .0004 | .0003 | .0013 | .0039 | .0320 | .0067 | .0006 | .0015 | -.0429 |
| #2 | .0005 | .0009 | .0012 | .0047 | -.0238 | .0141 | .0006 | .0011 | -.0322 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0004 | .0022 | .0060 | .0016 | .0018 | -.0041 | .0003 | .0005 |
| Stddev | .0001 | .0001 | .0004 | .0030 | .0002 | .0008 | .0016 | .0004 | .0000 |
| %RSD | 17.95 | 33.23 | 17.78 | 50.55 | 9.557 | 46.23 | 37.67 | 119.5 | 1.536 |
| #1 | .0004 | .0003 | .0024 | .0081 | .0017 | .0024 | -.0030 | .0006 | .0006 |
| #2 | .0005 | .0005 | .0019 | .0039 | .0015 | .0012 | -.0052 | .0001 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0020 | .0007 | -.0026 | .0007 | .0003 |
| Stddev | .0001 | .0009 | .0005 | .0073 | .0000 | .0002 |
| %RSD | 20.53 | 44.76 | 65.70 | 275.9 | 3.395 | 64.86 |
| #1 | .0007 | .0013 | .0011 | -.0078 | .0006 | .0005 |
| #2 | .0005 | .0026 | .0004 | .0025 | .0007 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2272.3 | 54937. | 13557. |
| Stddev | 1.4 | 58. | 85. |
| %RSD | .06020 | .10581 | .62944 |
| #1 | 2271.3 | 54979. | 13497. |
| #2 | 2273.3 | 54896. | 13617. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000004 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000065 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006083 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000088 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000139 | 0.000000 | No |
| | | | Al | 0.000025 | 0.000000 | No |
| | | | Mo | 0.001441 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000219 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000740 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | | Mn | 0.000138 | 0.000000 | No |
| | | | | Mo | -0.001469 | 0.000000 | No |
| | | | | Co | -0.000081 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000160 | 0.000000 | No |
| | | | | Si | -0.000042 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000035 | 0.000000 | No |
| | | | | Cr | 0.010593 | 0.000000 | No |
| | | | | Mo | -0.004098 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000400 | 0.000000 | No |
| | | | | V | -0.001401 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | 0.000039 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000219 | 0.000000 | No |
| | | | | Mn | 0.000294 | 0.000000 | No |
| | | | | Mo | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000612 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001919 | 0.000000 | No |
| | | | | Cr | 0.000325 | 0.000000 | No |
| | | | | V | -0.025440 | 0.000000 | No |
| | | | | Co | 0.001673 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001617 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.000766 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶
Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0029 | .0023 | .0009 | .0002 | .0013 | .0081 | .0000 | .0073 | .0031 |
| Stddev | .0000 | .0001 | .0001 | .0000 | .0001 | .0005 | .000 | .0003 | .0001 |
| %RSD | .9425 | 2.205 | 5.730 | 7.866 | 10.65 | 5.696 | 258.2 | 4.128 | 3.952 |
| #1 | -.0029 | .0023 | .0009 | .0002 | .0014 | .0078 | .0000 | .0075 | .0030 |
| #2 | -.0029 | .0022 | .0009 | .0002 | .0012 | .0084 | -.0001 | .0070 | .0032 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0005 | .0002 | .0137 | .0008 | -.0006 | .0001 | .0009 | .0004 | -.0005 |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0002 | .0001 | .0000 | .0000 | .0008 |
| %RSD | 16.24 | 32.12 | 1.113 | 8.129 | 42.28 | 150.9 | .9389 | 7.566 | 147.0 |
| #1 | -.0005 | .0003 | .0136 | .0008 | -.0007 | .0001 | .0009 | .0004 | -.0011 |
| #2 | -.0004 | .0002 | .0138 | .0008 | -.0004 | .0000 | .0009 | .0005 | .0000 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0009 | .0008 | .0001 | .0000 | .0001 | .0004 | .0299 | -.0002 | .0030 |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0003 | .0003 | .0004 | .0000 | .0002 |
| %RSD | 28.26 | 9.681 | 66.28 | 110.4 | 371.3 | 79.33 | 1.442 | 2.815 | 7.313 |
| #1 | -.0007 | .0007 | .0001 | .0001 | -.0001 | .0002 | .0296 | -.0002 | .0029 |
| #2 | -.0010 | .0008 | .0001 | .0000 | .0003 | .0006 | .0303 | -.0002 | .0032 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0013 | .0006 | -.0002 | .0008 | .0006 |
| Stddev | .0002 | .0000 | .0000 | .0000 | .0001 | .0002 |
| %RSD | 83.77 | 1.393 | 4.586 | 12.62 | 14.65 | 39.13 |
| #1 | -.0001 | -.0013 | .0005 | -.0002 | .0007 | .0008 |
| #2 | -.0004 | -.0012 | .0006 | -.0002 | .0009 | .0004 |



◀ Zoom In ▶
Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2200.3 | 58015. | 13767. |
| Stddev | .6 | 35. | 11. |
| %RSD | .02792 | .06063 | .08124 |
| #1 | 2200.7 | 57990. | 13775. |
| #2 | 2199.8 | 58040. | 13759. |



◀ Zoom In ▶
Zoom Out

Sample Name: Std2 Acquired: 6/4/2013 12:35:10 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1619 | .6279 | 2.081 | 15.24 | 14.29 | 10.19 | 9.508 | 1.058 | 1.957 | 6.331 |
| Stddev | .0002 | .0007 | .004 | .03 | .03 | .02 | .018 | .004 | .001 | .103 |
| %RSD | .1275 | .1099 | .1742 | .2204 | .2076 | .1507 | .1876 | .3317 | .0491 | 1.624 |
| #1 | .1617 | .6274 | 2.079 | 15.21 | 14.27 | 10.18 | 9.496 | 1.060 | 1.958 | 6.404 |
| #2 | .1620 | .6284 | 2.084 | 15.26 | 14.31 | 10.20 | 9.521 | 1.055 | 1.957 | 6.258 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.058 | 8.010 | 3.218 | 1.729 | .8648 | 1.158 | 12.41 |
| Stddev | .022 | .008 | .006 | .002 | .0011 | .004 | .02 |
| %RSD | .2723 | .1035 | .1728 | .1333 | .1218 | .3098 | .1415 |
| #1 | 8.043 | 8.005 | 3.214 | 1.727 | .8656 | 1.156 | 12.40 |
| #2 | 8.074 | 8.016 | 3.222 | 1.730 | .8641 | 1.161 | 12.42 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2185.2 | 57495. | 13748. |
| Stddev | 2.1 | 394. | 80. |
| %RSD | .09608 | .68550 | .58218 |
| #1 | 2186.7 | 57216. | 13805. |
| #2 | 2183.7 | 57773. | 13692. |



◀ Zoom In ▶
Zoom Out

Sample Name: Std3 Acquired: 6/4/2013 12:39:31 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.440 | 2.746 | 1.461 | .7127 | .2178 | 2.514 |
| Stddev | .004 | .006 | .002 | .0008 | .0001 | .006 |
| %RSD | .3127 | .2240 | .1181 | .1160 | .0295 | .2473 |
| #1 | 1.437 | 2.742 | 1.460 | .7121 | .2178 | 2.509 |
| #2 | 1.443 | 2.750 | 1.462 | .7133 | .2177 | 2.518 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13805. |
| Stddev | 71. |
| %RSD | .51225 |
| #1 | 13755. |
| #2 | 13855. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/4/2013 12:43:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3020 | .5111 | .0839 | 2.253 | 2.034 | 19.79 | 1.607 | 1.323 | .0705 | 3.087 |
| Stddev | .0003 | .0004 | .0002 | .003 | .001 | .09 | .001 | .003 | .0002 | .003 |
| %RSD | .0828 | .0759 | .2115 | .1228 | .0690 | .4721 | .0733 | .1886 | .3232 | .1007 |
| #1 | .3022 | .5108 | .0838 | 2.251 | 2.033 | 19.72 | 1.606 | 1.321 | .0707 | 3.085 |
| #2 | .3019 | .5113 | .0841 | 2.255 | 2.035 | 19.86 | 1.608 | 1.324 | .0704 | 3.089 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2201.4 | 57208. | 13734. |
| Stddev | 2.3 | 101. | 17. |
| %RSD | .10482 | .17661 | .12449 |
| #1 | 2199.7 | 57279. | 13722. |
| #2 | 2203.0 | 57136. | 13747. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/4/2013 12:48:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5235 | 15.61 | 2.998 | 3.044 | 3.066 | 3.099 | 3.052 | 18.09 | 3.018 | 2.972 |
| Stddev | .0011 | .03 | .014 | .001 | .008 | .007 | .011 | .08 | .008 | .008 |
| %RSD | .2194 | .2020 | .4623 | .0301 | .2677 | .2244 | .3730 | .4693 | .2554 | .2689 |
| #1 | .5243 | 15.63 | 3.008 | 3.044 | 3.072 | 3.104 | 3.060 | 18.15 | 3.023 | 2.978 |
| #2 | .5227 | 15.58 | 2.988 | 3.043 | 3.060 | 3.094 | 3.044 | 18.03 | 3.012 | 2.966 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.091 | 3.009 | 18.50 | 15.62 | 18.56 | 2.950 | 2.872 | 15.34 | 2.865 | 2.920 |
| Stddev | .002 | .004 | .02 | .04 | .04 | .005 | .005 | .04 | .011 | .012 |
| %RSD | .0512 | .1229 | .0832 | .2652 | .2141 | .1672 | .1586 | .2619 | .3957 | .4255 |
| #1 | 3.092 | 3.006 | 18.51 | 15.65 | 18.59 | 2.953 | 2.875 | 15.37 | 2.873 | 2.928 |
| #2 | 3.089 | 3.011 | 18.48 | 15.59 | 18.53 | 2.946 | 2.869 | 15.31 | 2.857 | 2.911 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.045 | 2.988 | 2.911 | 2.933 | 3.036 | 3.056 | 3.057 | 3.039 | 2.953 | 3.014 |
| Stddev | .003 | .001 | .006 | .015 | .013 | .012 | .013 | .003 | .004 | .001 |
| %RSD | .1059 | .0255 | .2071 | .5192 | .4124 | .3957 | .4138 | .0953 | .1528 | .0363 |
| #1 | 3.043 | 2.987 | 2.915 | 2.944 | 3.045 | 3.064 | 3.066 | 3.042 | 2.956 | 3.015 |
| #2 | 3.047 | 2.988 | 2.907 | 2.922 | 3.027 | 3.047 | 3.048 | 3.037 | 2.950 | 3.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.011 | 2.882 | 3.154 |
| Stddev | .001 | .010 | .000 |
| %RSD | .0334 | .3412 | .0043 |
| #1 | 3.011 | 2.889 | 3.153 |
| #2 | 3.010 | 2.875 | 3.154 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2190.3 | 56672. | 13783. |
| Stddev | 1.7 | 134. | 9. |
| %RSD | .07866 | .23702 | .06400 |
| #1 | 2189.1 | 56578. | 13777. |
| #2 | 2191.5 | 56767. | 13790. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/4/2013 12:54:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0082 | .0002 | .0016 | .0027 | .0008 | .0004 | .0018 | .0003 |
| Stddev | .0010 | .0021 | .0015 | .0015 | .0002 | .0001 | .0000 | .0011 | .0001 |
| %RSD | 152.5 | 25.23 | 910.9 | 90.84 | 6.834 | 17.22 | 11.80 | 58.81 | 45.48 |
| #1 | .0001 | -.0067 | .0012 | .0006 | .0026 | .0009 | .0004 | .0026 | .0004 |
| #2 | -.0014 | -.0096 | -.0009 | .0027 | .0028 | .0007 | .0004 | .0011 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0004 | -.0008 | .0006 | .0459 | -.0111 | .0005 | .0013 | .0046 |
| Stddev | .0000 | .0002 | .0005 | .0014 | .0025 | .0262 | .0000 | .0000 | .0018 |
| %RSD | 2.607 | 61.86 | 60.25 | 220.8 | 5.413 | 236.8 | 5.746 | 2.226 | 38.71 |
| #1 | .0005 | -.0005 | -.0004 | .0016 | .0441 | .0075 | .0005 | .0013 | .0034 |
| #2 | .0006 | -.0002 | -.0011 | -.0004 | .0476 | -.0296 | .0004 | .0012 | .0059 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | .0016 | .0027 | .0009 | .0004 | .0001 | .0002 | .0006 |
| Stddev | .0002 | .0001 | .0016 | .0063 | .0004 | .0009 | .0001 | .0005 | .0000 |
| %RSD | 124.4 | 15.10 | 99.23 | 236.4 | 41.56 | 196.4 | 154.8 | 240.3 | 5.428 |
| #1 | .0003 | .0003 | .0027 | -.0018 | .0011 | -.0002 | .0002 | -.0002 | .0005 |
| #2 | .0000 | .0004 | .0005 | .0071 | .0006 | .0010 | .0000 | .0006 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | F.0023 | .0002 | .0081 | .0003 | .0011 |
| Stddev | .0001 | .0000 | .0002 | .0066 | .0002 | .0002 |
| %RSD | 14.27 | .3720 | 101.7 | 80.70 | 61.95 | 21.09 |
| #1 | .0008 | .0023 | .0003 | .0035 | .0005 | .0009 |
| #2 | .0009 | .0023 | .0000 | .0128 | .0002 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2217.3 | 57161. | 13583. |
| Stddev | 1.6 | 305. | 151. |
| %RSD | .07129 | .53356 | 1.1096 |
| #1 | 2218.5 | 56945. | 13476. |
| #2 | 2216.2 | 57376. | 13689. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:01:36 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2557 | 9.844 | 1.920 | -.0001 | 1.962 | 1.989 | 2.033 | 9.875 | 1.968 | 2.016 |
| Stddev | .0006 | .011 | .004 | .0000 | .001 | .004 | .008 | .037 | .002 | .001 |
| %RSD | .2465 | .1126 | .2273 | 17.60 | .0464 | .2266 | .3887 | .3703 | .0878 | .0309 |
| #1 | .2552 | 9.836 | 1.917 | -.0001 | 1.962 | 1.986 | 2.027 | 9.849 | 1.967 | 2.016 |
| #2 | .2561 | 9.852 | 1.923 | -.0001 | 1.963 | 1.992 | 2.038 | 9.901 | 1.970 | 2.017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.998 | 2.020 | 9.896 | 9.992 | 9.990 | 1.947 | 1.929 | 9.776 | 1.881 | 1.895 |
| Stddev | .002 | .003 | .034 | .015 | .046 | .001 | .001 | .023 | .000 | .001 |
| %RSD | .1117 | .1587 | .3418 | .1534 | .4627 | .0659 | .0457 | .2308 | .0044 | .0683 |
| #1 | 1.997 | 2.022 | 9.872 | 9.981 | 9.957 | 1.946 | 1.928 | 9.760 | 1.881 | 1.894 |
| #2 | 2.000 | 2.018 | 9.919 | 10.00 | 10.02 | 1.947 | 1.929 | 9.792 | 1.881 | 1.896 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0015 | 1.917 | 1.903 | .0134 | 1.882 | 2.006 | 1.965 | 1.952 | 1.992 |
| Stddev | .0010 | .0001 | .001 | .003 | .0004 | .002 | .006 | .001 | .001 | .001 |
| %RSD | 1917. | 5.652 | .0671 | .1643 | 3.022 | .1212 | .3023 | .0523 | .0516 | .0451 |
| #1 | .0008 | .0016 | 1.916 | 1.901 | .0131 | 1.884 | 2.001 | 1.964 | 1.951 | 1.992 |
| #2 | -.0007 | .0015 | 1.918 | 1.906 | .0137 | 1.881 | 2.010 | 1.965 | 1.953 | 1.991 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | 1.926 | .0015 |
| Stddev | .0018 | .004 | .0011 |
| %RSD | 35.26 | .2147 | 71.49 |
| #1 | -.0063 | 1.923 | .0022 |
| #2 | -.0038 | 1.928 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.6 | 56212. | 13633. |
| Stddev | 5.7 | 127. | 10. |
| %RSD | .25631 | .22552 | .07218 |
| #1 | 2209.6 | 56302. | 13640. |
| #2 | 2217.7 | 56123. | 13626. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 13:07:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0067 | -.0006 | .0008 | .0017 | .0003 | .0003 | .0598 | .0001 | .0003 |
| Stddev | .0003 | .0069 | .0006 | .0008 | .0004 | .0003 | .0000 | .0016 | .0001 | .0001 |
| %RSD | 28.81 | 103.5 | 89.62 | 103.0 | 23.97 | 116.7 | 2.067 | 2.665 | 77.71 | 19.62 |
| #1 | -.0011 | -.0116 | -.0002 | .0002 | .0019 | .0001 | .0003 | .0609 | .0000 | .0003 |
| #2 | -.0007 | -.0018 | -.0010 | .0014 | .0014 | .0005 | .0003 | .0586 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0011 | .0012 | .0129 | -.0040 | .0004 | .0008 | .0003 | .0001 | -.0001 |
| Stddev | .0001 | .0005 | .0028 | .0319 | .0021 | .0000 | .0001 | .0007 | .0001 | .0005 |
| %RSD | 13.10 | 48.62 | 241.9 | 246.6 | 51.36 | 3.897 | 14.68 | 214.6 | 88.76 | 532.6 |
| #1 | -.0005 | -.0015 | .0032 | -.0096 | -.0026 | .0004 | .0009 | -.0002 | .0001 | -.0005 |
| #2 | -.0004 | -.0007 | -.0008 | .0355 | -.0055 | .0004 | .0007 | .0008 | .0000 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.0043 | .0011 | .0004 | -.0012 | .0003 | .0003 | .0003 | .0019 | .0002 |
| Stddev | .0003 | .0051 | .0001 | .0009 | .0009 | .0001 | .0001 | .0002 | .0001 | .0005 |
| %RSD | 12.06 | 118.4 | 8.163 | 244.8 | 71.64 | 38.28 | 21.46 | 83.70 | 2.764 | 353.3 |
| #1 | .0027 | -.0080 | .0011 | -.0003 | -.0006 | .0004 | .0004 | .0004 | .0019 | -.0002 |
| #2 | .0023 | -.0007 | .0010 | .0010 | -.0019 | .0002 | .0003 | .0001 | .0020 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0002 | -.0001 |
| Stddev | .0065 | .0000 | .0006 |
| %RSD | 119.7 | 8.170 | 413.9 |
| #1 | .0008 | .0002 | .0003 |
| #2 | .0100 | .0001 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.2 | 57042. | 13578. |
| Stddev | 5.3 | 774. | 6. |
| %RSD | .23646 | 1.3562 | .04469 |
| #1 | 2243.9 | 57589. | 13583. |
| #2 | 2236.4 | 56495. | 13574. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 13:12:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .1865 | .0029 | -.0008 | .1017 | .0516 | .0044 | 5.015 | .0041 | .0523 |
| Stddev | .0003 | .0024 | .0001 | .0011 | .0002 | .0001 | .0000 | .015 | .0001 | .0000 |
| %RSD | 5.361 | 1.290 | 3.152 | 135.7 | .1674 | .2810 | .1828 | .3058 | 2.669 | .0174 |
| #1 | .0051 | .1848 | .0029 | -.0016 | .1019 | .0517 | .0044 | 5.004 | .0041 | .0523 |
| #2 | .0055 | .1882 | .0030 | .0000 | .1016 | .0515 | .0044 | 5.026 | .0042 | .0523 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | .0244 | .1019 | 5.147 | 5.083 | .0153 | .1002 | 4.888 | .0392 | .0055 |
| Stddev | .0004 | .0006 | .0004 | .028 | .005 | .0002 | .0006 | .012 | .0000 | .0008 |
| %RSD | 3.991 | 2.268 | .3874 | .5518 | .0931 | 1.404 | .6165 | .2434 | .0118 | 13.70 |
| #1 | .0102 | .0248 | .1017 | 5.127 | 5.080 | .0155 | .1007 | 4.879 | .0392 | .0050 |
| #2 | .0096 | .0240 | .1022 | 5.168 | 5.086 | .0152 | .0998 | 4.896 | .0392 | .0060 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0060 | .0065 | .0100 | -.0007 | .0963 | .0105 | .0518 | .0063 | .0105 |
| Stddev | .0012 | .0045 | .0015 | .0000 | .0002 | .0001 | .0000 | .0008 | .0006 | .0006 |
| %RSD | 151.8 | 75.70 | 23.72 | .1279 | 24.03 | .1372 | .2193 | 1.538 | 9.370 | 5.566 |
| #1 | -.0001 | -.0028 | .0076 | .0100 | -.0006 | .0963 | .0105 | .0524 | .0067 | .0109 |
| #2 | .0016 | -.0092 | .0054 | .0100 | -.0008 | .0964 | .0106 | .0513 | .0059 | .0101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0208 | .0000 |
| Stddev | .0020 | .0002 | .0002 |
| %RSD | 194.1 | 1.034 | 815.9 |
| #1 | .0024 | .0210 | -.0001 |
| #2 | -.0004 | .0207 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.8 | 56880. | 13556. |
| Stddev | 9.4 | 333. | 88. |
| %RSD | .41893 | .58487 | .65197 |
| #1 | 2236.2 | 56645. | 13618. |
| #2 | 2249.5 | 57115. | 13493. |





Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/4/2013 13:20:03 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | 515.4 | .0013 | .0056 | .0056 | .0000 | .0001 | 467.7 | -.0006 | -.0006 |
| Stddev | .0006 | 5.2 | .0012 | .0009 | .0008 | .0001 | .0000 | 7.1 | .0003 | .0003 |
| %RSD | 72.37 | 1.001 | 97.26 | 15.68 | 14.20 | 421.7 | 14.61 | 1.522 | 50.65 | 49.96 |
| #1 | -.0013 | 519.0 | .0021 | .0062 | .0062 | .0001 | .0001 | 472.7 | -.0008 | -.0004 |
| #2 | -.0004 | 511.7 | .0004 | .0050 | .0051 | .0000 | .0001 | 462.6 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0007 | 191.4 | .0610 | 515.9 | .0006 | -.0005 | .0790 | -.0014 | .0025 |
| Stddev | .0000 | .0002 | .4 | .0402 | 1.1 | .0001 | .0002 | .0113 | .0001 | .0004 |
| %RSD | 4.543 | 30.34 | .1838 | 65.97 | .2096 | 10.32 | 46.64 | 14.24 | 5.251 | 17.43 |
| #1 | -.0009 | -.0009 | 191.7 | .0325 | 516.7 | .0005 | -.0003 | .0711 | -.0014 | .0028 |
| #2 | -.0008 | -.0006 | 191.2 | .0894 | 515.2 | .0006 | -.0007 | .0870 | -.0015 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0362 | -.0251 | -.0003 | -.0023 | .0405 | -.0004 | .0014 | .0096 | -.0008 | -.0004 |
| Stddev | .0011 | .0121 | .0004 | .0020 | .0006 | .0002 | .0003 | .0002 | .0003 | .0011 |
| %RSD | 2.981 | 48.11 | 153.7 | 88.07 | 1.379 | 56.06 | 19.12 | 2.141 | 41.59 | 251.4 |
| #1 | -.0355 | -.0337 | .0000 | -.0009 | .0401 | -.0006 | .0012 | .0097 | -.0010 | -.0012 |
| #2 | -.0370 | -.0166 | -.0006 | -.0037 | .0409 | -.0002 | .0016 | .0094 | -.0005 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0428 | .0014 | .0003 |
| Stddev | .0040 | .0000 | .0002 |
| %RSD | 9.228 | 1.978 | 79.72 |
| #1 | -.0456 | .0014 | .0005 |
| #2 | -.0401 | .0015 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2086.8 | 53118. | 13355. |
| Stddev | 2.2 | 17. | 98. |
| %RSD | .10660 | .03157 | .73636 |
| #1 | 2085.2 | 53130. | 13285. |
| #2 | 2088.4 | 53106. | 13424. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/4/2013 13:24:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.079 | 511.2 | 2.036 | .5122 | 1.013 | .5148 | .4934 | 469.0 | 1.028 | .4782 |
| Stddev | .001 | 6.0 | .004 | .0010 | .003 | .0002 | .0010 | 1.6 | .001 | .0014 |
| %RSD | .1216 | 1.178 | .2062 | .2012 | .2524 | .0400 | .2079 | .3361 | .0771 | .2941 |
| #1 | 1.078 | 515.5 | 2.033 | .5114 | 1.011 | .5150 | .4941 | 470.1 | 1.027 | .4772 |
| #2 | 1.080 | 507.0 | 2.038 | .5129 | 1.015 | .5147 | .4927 | 467.9 | 1.028 | .4792 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5030 | .5343 | 190.4 | .0676 | 511.0 | .4867 | .9567 | .0819 | .8609 | .8978 |
| Stddev | .0011 | .0009 | .6 | .0085 | 1.7 | .0005 | .0027 | .0086 | .0007 | .0003 |
| %RSD | .2240 | .1675 | .2900 | 12.56 | .3290 | .1078 | .2801 | 10.50 | .0833 | .0373 |
| #1 | .5022 | .5349 | 190.8 | .0736 | 512.2 | .4863 | .9549 | .0758 | .8604 | .8976 |
| #2 | .5038 | .5336 | 190.0 | .0616 | 509.9 | .4870 | .9586 | .0880 | .8614 | .8980 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4928 | .4796 | 2.020 | 1.940 | 2.157 | .9503 | 1.011 | .5223 | 1.900 | .5224 |
| Stddev | .0035 | .0011 | .002 | .001 | .003 | .0020 | .001 | .0006 | .006 | .0004 |
| %RSD | .7021 | .2208 | .0945 | .0588 | .1246 | .2150 | .1069 | .1208 | .3081 | .0854 |
| #1 | .4904 | .4788 | 2.019 | 1.939 | 2.155 | .9489 | 1.012 | .5218 | 1.896 | .5227 |
| #2 | .4953 | .4803 | 2.021 | 1.940 | 2.159 | .9518 | 1.011 | .5227 | 1.904 | .5221 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.927 | .9094 | .4553 |
| Stddev | .006 | .0025 | .0012 |
| %RSD | .3203 | .2705 | .2678 |
| #1 | 1.923 | .9076 | .4544 |
| #2 | 1.931 | .9111 | .4562 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2083.1 | 53328. | 13425. |
| Stddev | 6.3 | 369. | 115. |
| %RSD | .30373 | .69260 | .85569 |
| #1 | 2087.5 | 53589. | 13344. |
| #2 | 2078.6 | 53067. | 13506. |

Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 13:28:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2117 | 2.205 | .5070 | -.0005 | .0034 | 2.027 | .5298 | 24.72 | .5071 | .5088 |
| Stddev | .0010 | .007 | .0027 | .0003 | .0006 | .005 | .0014 | .04 | .0019 | .0013 |
| %RSD | .4704 | .3341 | .5304 | 60.96 | 16.11 | .2402 | .2613 | .1664 | .3700 | .2577 |
| #1 | .2110 | 2.200 | .5089 | -.0003 | .0038 | 2.023 | .5288 | 24.69 | .5084 | .5098 |
| #2 | .2124 | 2.210 | .5051 | -.0007 | .0030 | 2.030 | .5308 | 24.75 | .5058 | .5079 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5331 | .4949 | 2.084 | 25.23 | 25.68 | .4886 | .0014 | 24.64 | .4759 | .9818 |
| Stddev | .0010 | .0028 | .003 | .04 | .04 | .0013 | .0003 | .06 | .0003 | .0032 |
| %RSD | .1833 | .5655 | .1258 | .1467 | .1447 | .2737 | 24.96 | .2525 | .0543 | .3291 |
| #1 | .5324 | .4929 | 2.082 | 25.26 | 25.70 | .4877 | .0016 | 24.60 | .4761 | .9841 |
| #2 | .5338 | .4969 | 2.085 | 25.21 | 25.65 | .4896 | .0011 | 24.69 | .4757 | .9795 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0032 | .4999 | .4973 | .0349 | -.0012 | .4927 | .4981 | .5061 | .5269 |
| Stddev | .0003 | .0094 | .0017 | .0034 | .0002 | .0003 | .0011 | .0026 | .0025 | .0022 |
| %RSD | 155.2 | 297.8 | .3451 | .6908 | .6974 | 26.96 | .2318 | .5169 | .4954 | .4167 |
| #1 | .0000 | -.0098 | .5011 | .4998 | .0350 | -.0014 | .4919 | .4962 | .5079 | .5254 |
| #2 | .0004 | .0035 | .4986 | .4949 | .0347 | -.0009 | .4935 | .4999 | .5043 | .5285 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .5116 | .0130 |
| Stddev | .0002 | .0009 | .0017 |
| %RSD | 5.390 | .1690 | 13.01 |
| #1 | .0038 | .5122 | .0141 |
| #2 | .0041 | .5110 | .0118 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.0 | 57454. | 13982. |
| Stddev | 2.8 | 139. | 88. |
| %RSD | .12588 | .24217 | .63270 |
| #1 | 2239.0 | 57552. | 13920. |
| #2 | 2242.9 | 57356. | 14045. |



Zoom In Zoom Out

Sample Name: MP21097-MB1 Acquired: 6/4/2013 13:32:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0113 | -.0006 | -.0002 | .0001 | .0009 | .0002 | .0053 | .0000 | .0004 |
| Stddev | .0003 | .0032 | .0018 | .0015 | .0004 | .0001 | .0000 | .0009 | .000 | .0002 |
| %RSD | 59.41 | 28.42 | 303.3 | 898.5 | 498.9 | 6.968 | 9.669 | 17.25 | 89.73 | 56.43 |
| #1 | -.0007 | -.0136 | -.0019 | -.0012 | .0004 | .0008 | .0002 | .0060 | .0000 | .0005 |
| #2 | -.0003 | -.0090 | .0007 | .0009 | -.0002 | .0009 | .0002 | .0047 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0003 | .0013 | .0331 | .0285 | .0007 | .0002 | .0254 | -.0003 | .0000 |
| Stddev | .0005 | .0001 | .0019 | .0086 | .0212 | .0000 | .0001 | .0004 | .0004 | .0000 |
| %RSD | 71.55 | 35.17 | 144.5 | 25.93 | 74.42 | 6.070 | 56.31 | 1.722 | 147.6 | 15.08 |
| #1 | -.0003 | -.0004 | .0026 | .0391 | .0135 | .0007 | .0001 | .0251 | .0000 | .0000 |
| #2 | -.0010 | -.0003 | .0000 | .0270 | .0435 | .0008 | .0002 | .0257 | -.0006 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0014 | .0006 | .0001 | .0401 | -.0003 | .0002 | .0002 | .0000 | .0001 |
| Stddev | .0005 | .0043 | .0003 | .0007 | .0005 | .0002 | .0000 | .0002 | .0005 | .0008 |
| %RSD | 63.36 | 308.6 | 45.67 | 755.3 | 1.177 | 60.00 | 11.19 | 112.7 | 949.0 | 1426. |
| #1 | .0011 | .0045 | .0008 | .0006 | .0398 | -.0004 | .0002 | .0003 | .0004 | .0006 |
| #2 | .0004 | -.0017 | .0004 | -.0004 | .0405 | -.0002 | .0001 | .0000 | -.0003 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0124 | .0001 | .0002 |
| Stddev | .0042 | .0000 | .0000 |
| %RSD | 33.99 | 28.23 | 10.81 |
| #1 | .0094 | .0001 | .0002 |
| #2 | .0154 | .0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.3 | 57667. | 13979. |
| Stddev | 6.9 | 380. | 149. |
| %RSD | .30957 | .65863 | 1.0686 |
| #1 | 2247.2 | 57936. | 13873. |
| #2 | 2237.4 | 57399. | 14084. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/4/2013 13:37:20 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2154 | 2.123 | .5326 | -.0007 | .0240 | 2.053 | .5293 | 49.32 | .5113 | .5096 |
| Stddev | .0011 | .007 | .0000 | .0001 | .0001 | .005 | .0007 | .10 | .0007 | .0007 |
| %RSD | .4999 | .3312 | .0087 | 22.21 | .5639 | .2470 | .1399 | .1985 | .1366 | .1388 |
| #1 | .2162 | 2.118 | .5326 | -.0008 | .0239 | 2.049 | .5288 | 49.25 | .5118 | .5101 |
| #2 | .2146 | 2.128 | .5326 | -.0006 | .0241 | 2.056 | .5298 | 49.39 | .5109 | .5091 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5328 | .5002 | 11.36 | 27.80 | 28.12 | .9851 | .0003 | 31.44 | .4777 | .9802 |
| Stddev | .0038 | .0005 | .05 | .08 | .05 | .0013 | .0000 | .08 | .0016 | .0001 |
| %RSD | .7154 | .1038 | .4630 | .2870 | .1888 | .1300 | 11.06 | .2615 | .3388 | .0079 |
| #1 | .5355 | .5006 | 11.32 | 27.74 | 28.08 | .9860 | .0004 | 31.38 | .4789 | .9801 |
| #2 | .5301 | .4998 | 11.40 | 27.85 | 28.16 | .9842 | .0003 | 31.49 | .4766 | .9802 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0007 | .5026 | .4946 | 2.738 | -.0012 | .6413 | .5040 | .5032 | .5264 |
| Stddev | .0002 | .0070 | .0013 | .0006 | .006 | .0002 | .0021 | .0003 | .0006 | .0015 |
| %RSD | 5.444 | 1023. | .2622 | .1152 | .2145 | 13.54 | .3252 | .0499 | .1246 | .2852 |
| #1 | -.0028 | -.0057 | .5035 | .4950 | 2.742 | -.0011 | .6398 | .5042 | .5028 | .5274 |
| #2 | -.0031 | .0043 | .5017 | .4942 | 2.734 | -.0013 | .6428 | .5038 | .5037 | .5253 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .5170 | .0002 |
| Stddev | .0006 | .0002 | .0002 |
| %RSD | 31.41 | .0331 | 112.9 |
| #1 | -.0014 | .5172 | .0003 |
| #2 | -.0022 | .5169 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2195.3 | 56426. | 13810. |
| Stddev | 2.8 | 249. | 49. |
| %RSD | .12875 | .44182 | .35292 |
| #1 | 2193.3 | 56250. | 13844. |
| #2 | 2197.3 | 56603. | 13775. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/4/2013 13:41:34 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2164 | 2.109 | .5361 | .0000 | .0241 | 2.067 | .5350 | 49.67 | .5151 | .5125 |
| Stddev | .0013 | .024 | .0002 | .0002 | .0003 | .013 | .0033 | .28 | .0006 | .0005 |
| %RSD | .5877 | 1.147 | .0286 | 2394. | 1.086 | .6084 | .6252 | .5615 | .1213 | .0962 |
| #1 | .2173 | 2.092 | .5360 | -.0001 | .0239 | 2.058 | .5326 | 49.47 | .5155 | .5129 |
| #2 | .2155 | 2.126 | .5362 | .0001 | .0242 | 2.076 | .5374 | 49.87 | .5146 | .5122 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5395 | .5062 | 11.44 | 28.11 | 28.54 | .9821 | .0004 | 31.43 | .4792 | .9840 |
| Stddev | .0031 | .0043 | .05 | .24 | .14 | .0061 | .0000 | .18 | .0002 | .0025 |
| %RSD | .5807 | .8513 | .4782 | .8568 | .4747 | .6250 | 12.42 | .5720 | .0376 | .2516 |
| #1 | .5417 | .5093 | 11.40 | 27.94 | 28.44 | .9865 | .0004 | 31.30 | .4794 | .9857 |
| #2 | .5373 | .5032 | 11.48 | 28.28 | 28.63 | .9778 | .0003 | 31.56 | .4791 | .9822 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0022 | .5047 | .4982 | 2.730 | -.0016 | .6534 | .5048 | .5055 | .5320 |
| Stddev | .0012 | .0092 | .0008 | .0018 | .003 | .0002 | .0039 | .0033 | .0006 | .0061 |
| %RSD | 29.41 | 425.5 | .1502 | .3611 | .1016 | 11.72 | .5983 | .6571 | .1183 | 1.156 |
| #1 | -.0050 | .0087 | .5052 | .4994 | 2.732 | -.0014 | .6507 | .5071 | .5051 | .5363 |
| #2 | -.0033 | -.0043 | .5041 | .4969 | 2.728 | -.0017 | .6562 | .5024 | .5060 | .5276 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .5288 | -.0012 |
| Stddev | .0009 | .0015 | .0004 |
| %RSD | 39.54 | .2916 | 30.53 |
| #1 | -.0016 | .5299 | -.0010 |
| #2 | -.0029 | .5277 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.8 | 56934. | 13714. |
| Stddev | 4.0 | 61. | 52. |
| %RSD | .18121 | .10638 | .38101 |
| #1 | 2211.0 | 56977. | 13751. |
| #2 | 2216.7 | 56891. | 13677. |

Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/4/2013 13:45:47 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0199 | .0288 | -.0013 | .0228 | .0142 | .0003 | 25.24 | .0003 | .0009 |
| Stddev | .0002 | .0003 | .0014 | .0027 | .0000 | .0001 | .0000 | .06 | .0000 | .0000 |
| %RSD | 92.22 | 1.499 | 5.013 | 211.2 | .1734 | .9923 | 11.68 | .2521 | 1.674 | 2.024 |
| #1 | -.0001 | .0201 | .0278 | .0006 | .0228 | .0141 | .0003 | 25.20 | .0003 | .0009 |
| #2 | -.0004 | .0197 | .0298 | -.0032 | .0227 | .0143 | .0003 | 25.29 | .0003 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0001 | 9.591 | 2.473 | 2.713 | .4967 | -.0001 | 6.562 | .0000 | -.0006 |
| Stddev | .0000 | .0002 | .022 | .018 | .043 | .0008 | .0001 | .032 | .000 | .0000 |
| %RSD | 6.716 | 300.5 | .2262 | .7203 | 1.583 | .1664 | 112.9 | .4851 | 1212. | 7.821 |
| #1 | .0004 | -.0002 | 9.576 | 2.460 | 2.682 | .4961 | .0000 | 6.540 | -.0001 | -.0006 |
| #2 | .0005 | .0001 | 9.607 | 2.486 | 2.743 | .4973 | -.0002 | 6.585 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0023 | .0003 | .0009 | 2.739 | -.0008 | .1474 | .0008 | .0007 | .0003 |
| Stddev | .0009 | .0024 | .0004 | .0005 | .002 | .0002 | .0005 | .0003 | .0005 | .0000 |
| %RSD | 69.07 | 103.7 | 131.8 | 61.45 | .0875 | 23.06 | .3671 | 42.96 | 72.54 | 3.310 |
| #1 | -.0007 | -.0006 | .0000 | .0013 | 2.741 | -.0009 | .1470 | .0005 | .0011 | .0003 |
| #2 | -.0019 | -.0040 | .0006 | .0005 | 2.738 | -.0006 | .1477 | .0010 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0019 | .0101 | -.0003 |
| Stddev | .0016 | .0001 | .0001 |
| %RSD | 86.08 | .6465 | 37.01 |
| #1 | -.0007 | .0102 | -.0002 |
| #2 | -.0030 | .0101 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.5 | 57161. | 13728. |
| Stddev | 5.0 | 245. | 18. |
| %RSD | .22598 | .42831 | .13059 |
| #1 | 2215.0 | 57334. | 13741. |
| #2 | 2208.0 | 56987. | 13715. |



Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/4/2013 13:50:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0020 | .0239 | .0002 | .0236 | .0148 | .0002 | 25.74 | .0001 | .0009 |
| Stddev | .0019 | .0475 | .0006 | .0046 | .0002 | .0002 | .0001 | .12 | .0010 | .0005 |
| %RSD | 40.17 | 2403. | 2.432 | 2193. | .8565 | 1.167 | 60.94 | .4840 | 1887. | 55.90 |
| #1 | -.0035 | .0355 | .0235 | .0034 | .0237 | .0147 | .0001 | 25.65 | -.0006 | .0012 |
| #2 | -.0062 | -.0316 | .0243 | -.0030 | .0234 | .0150 | .0002 | 25.82 | .0007 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0045 | 9.628 | 2.690 | 2.681 | .5044 | -.0010 | 6.647 | .0016 | .0020 |
| Stddev | .0011 | .0018 | .017 | .004 | .021 | .0042 | .0011 | .040 | .0003 | .0016 |
| %RSD | 243.9 | 39.46 | .1760 | .1669 | .7812 | .8283 | 111.3 | .6082 | 17.41 | 77.77 |
| #1 | -.0003 | -.0057 | 9.616 | 2.687 | 2.695 | .5014 | -.0017 | 6.619 | .0018 | .0009 |
| #2 | .0013 | -.0032 | 9.640 | 2.693 | 2.666 | .5073 | -.0002 | 6.676 | .0014 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0037 | .0021 | .0039 | 2.687 | .0027 | .1496 | -.0032 | .0064 | .0006 |
| Stddev | .0020 | .0106 | .0022 | .0050 | .000 | .0009 | .0010 | .0018 | .0025 | .0011 |
| %RSD | 209.8 | 286.2 | 105.6 | 130.2 | .0103 | 31.32 | .6868 | 57.52 | 38.61 | 184.0 |
| #1 | -.0005 | -.0038 | .0005 | .0074 | 2.687 | .0021 | .1489 | -.0019 | .0047 | -.0002 |
| #2 | .0024 | .0112 | .0037 | .0003 | 2.687 | .0034 | .1503 | -.0045 | .0082 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0112 | .0010 |
| Stddev | .0243 | .0001 | .0000 |
| %RSD | 144.3 | .5794 | .2965 |
| #1 | .0341 | .0113 | .0010 |
| #2 | -.0003 | .0112 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.0 | 57389. | 13592. |
| Stddev | 1.3 | 35. | 110. |
| %RSD | .05956 | .06094 | .80876 |
| #1 | 2262.9 | 57414. | 13514. |
| #2 | 2261.0 | 57365. | 13669. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/4/2013 13:54:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0260 | .2337 | .0007 | .1927 | .2719 | .0000 | 64.90 | .0023 | -.0005 |
| Stddev | .0005 | .0011 | .0003 | .0000 | .0002 | .0002 | .0001 | .05 | .0000 | .0001 |
| %RSD | 239.4 | 4.209 | .1353 | .1297 | .1177 | .0584 | 1119. | .0792 | 2.097 | 15.94 |
| #1 | .0001 | -.0268 | .2334 | .0007 | .1925 | .2721 | .0001 | 64.93 | .0023 | -.0005 |
| #2 | -.0006 | -.0252 | .2339 | .0007 | .1928 | .2718 | .0000 | 64.86 | .0022 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0012 | 54.34 | 16.95 | 8.141 | 1.352 | -.0003 | 21.62 | .0017 | -.0009 |
| Stddev | .0003 | .0001 | .02 | .02 | .042 | .008 | .0000 | .01 | .0002 | .0006 |
| %RSD | 35.07 | 8.260 | .0338 | .1077 | .5163 | .5747 | 9.133 | .0692 | 12.79 | 67.56 |
| #1 | -.0007 | -.0012 | 54.36 | 16.94 | 8.171 | 1.357 | -.0003 | 21.63 | .0018 | -.0005 |
| #2 | -.0011 | -.0013 | 54.33 | 16.96 | 8.111 | 1.346 | -.0003 | 21.61 | .0015 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0067 | .0001 | .0006 | 10.40 | -.0004 | .5857 | .0005 | -.0002 | .0005 |
| Stddev | .0015 | .0019 | .0002 | .0011 | .00 | .0000 | .0007 | .0002 | .0007 | .0001 |
| %RSD | 39.85 | 28.13 | 126.7 | 203.7 | .0221 | 4.317 | .1133 | 38.65 | 397.1 | 31.79 |
| #1 | -.0026 | .0054 | .0000 | .0013 | 10.40 | -.0004 | .5861 | .0004 | .0003 | .0006 |
| #2 | -.0047 | .0080 | .0003 | -.0002 | 10.40 | -.0004 | .5852 | .0006 | -.0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0067 | -.0022 |
| Stddev | .0032 | .0000 | .0001 |
| %RSD | 523.6 | .4980 | 3.120 |
| #1 | .0029 | .0067 | -.0023 |
| #2 | -.0017 | .0067 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.2 | 57427. | 13811. |
| Stddev | 3.9 | 515. | 3. |
| %RSD | .17482 | .89705 | .01980 |
| #1 | 2222.9 | 57063. | 13809. |
| #2 | 2217.4 | 57791. | 13813. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:58:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2574 | 9.775 | 1.913 | -.0003 | 1.951 | 1.990 | 2.058 | 9.935 | 1.961 | 2.008 |
| Stddev | .0019 | .046 | .003 | .0006 | .004 | .001 | .001 | .025 | .001 | .003 |
| %RSD | .7561 | .4726 | .1763 | 202.2 | .2140 | .0523 | .0408 | .2540 | .0653 | .1385 |
| #1 | .2560 | 9.807 | 1.911 | -.0007 | 1.948 | 1.991 | 2.058 | 9.953 | 1.962 | 2.006 |
| #2 | .2587 | 9.742 | 1.915 | .0001 | 1.954 | 1.990 | 2.057 | 9.917 | 1.961 | 2.010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.015 | 2.040 | 9.923 | 10.14 | 10.15 | 1.937 | 1.914 | 9.694 | 1.855 | 1.886 |
| Stddev | .009 | .016 | .042 | .04 | .02 | .011 | .006 | .011 | .003 | .003 |
| %RSD | .4227 | .7591 | .4184 | .3565 | .2430 | .5740 | .3011 | .1107 | .1357 | .1646 |
| #1 | 2.009 | 2.029 | 9.952 | 10.11 | 10.17 | 1.929 | 1.910 | 9.701 | 1.854 | 1.883 |
| #2 | 2.021 | 2.051 | 9.894 | 10.16 | 10.13 | 1.945 | 1.918 | 9.686 | 1.857 | 1.888 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0009 | 1.896 | 1.892 | .0129 | 1.853 | 2.030 | 1.967 | 1.946 | 2.016 |
| Stddev | .0006 | .0125 | .002 | .007 | .0004 | .005 | .002 | .013 | .002 | .014 |
| %RSD | 52.63 | 1359. | .1283 | .3818 | 2.872 | .2629 | .0791 | .6799 | .1230 | .6771 |
| #1 | .0007 | .0098 | 1.895 | 1.887 | .0131 | 1.850 | 2.031 | 1.958 | 1.948 | 2.006 |
| #2 | .0016 | -.0079 | 1.898 | 1.897 | .0126 | 1.857 | 2.029 | 1.976 | 1.945 | 2.025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | 1.930 | -.0030 |
| Stddev | .0046 | .003 | .0002 |
| %RSD | 57.57 | .1392 | 5.685 |
| #1 | -.0047 | 1.928 | -.0029 |
| #2 | -.0112 | 1.932 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.2 | 56403. | 13555. |
| Stddev | 1.0 | 267. | 207. |
| %RSD | .04208 | .47405 | 1.5239 |
| #1 | 2260.5 | 56592. | 13409. |
| #2 | 2261.9 | 56214. | 13701. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 14:06:33 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0154 | -.0006 | -.0005 | .0009 | .0001 | .0001 | -.0025 | .0001 | .0003 |
| Stddev | .0003 | .0028 | .0019 | .0003 | .0004 | .0000 | .0000 | .0023 | .0001 | .0001 |
| %RSD | 43.15 | 18.36 | 294.6 | 64.63 | 40.52 | 14.51 | 45.83 | 92.93 | 122.4 | 54.54 |
| #1 | -.0006 | -.0174 | .0007 | -.0002 | .0012 | .0001 | .0001 | -.0041 | .0001 | .0004 |
| #2 | -.0010 | -.0134 | -.0020 | -.0007 | .0006 | .0001 | .0001 | -.0008 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0008 | -.0005 | .0303 | -.0245 | .0002 | .0003 | .0087 | -.0002 | -.0004 |
| Stddev | .0000 | .0000 | .0006 | .0263 | .0282 | .0000 | .0001 | .0185 | .0001 | .0007 |
| %RSD | 1.336 | 3.187 | 106.4 | 86.73 | 115.0 | 7.699 | 26.75 | 213.0 | 43.79 | 160.8 |
| #1 | -.0003 | -.0008 | -.0010 | .0488 | -.0444 | .0002 | .0004 | .0218 | -.0001 | .0001 |
| #2 | -.0002 | -.0008 | -.0001 | .0117 | -.0046 | .0002 | .0003 | -.0044 | -.0002 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0038 | .0003 | -.0001 | -.0029 | .0004 | .0002 | .0001 | .0010 | .0004 |
| Stddev | .0002 | .0041 | .0005 | .0001 | .0000 | .0001 | .0001 | .0007 | .0004 | .0001 |
| %RSD | 54.58 | 107.5 | 208.0 | 178.3 | .3863 | 23.75 | 56.55 | 1491. | 33.97 | 20.11 |
| #1 | -.0002 | -.0009 | -.0001 | -.0001 | -.0029 | .0004 | .0001 | .0006 | .0008 | .0004 |
| #2 | -.0005 | -.0068 | .0006 | .0000 | -.0029 | .0003 | .0003 | -.0005 | .0013 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | -.0001 | .0001 |
| Stddev | .0077 | .0001 | .0000 |
| %RSD | 914.6 | 74.02 | 20.43 |
| #1 | -.0046 | -.0001 | .0002 |
| #2 | .0063 | .0000 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 56639. | 13461. |
| Stddev | 15.7 | 211. | 149. |
| %RSD | .69062 | .37239 | 1.1045 |
| #1 | 2261.9 | 56789. | 13566. |
| #2 | 2284.1 | 56490. | 13356. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/4/2013 14:10:53 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0313 | 1.034 | -.0017 | .0124 | .0815 | .0001 | 76.32 | .0101 | .0184 |
| Stddev | .0005 | .0028 | .004 | .0006 | .0001 | .0004 | .0001 | .19 | .0003 | .0001 |
| %RSD | 76.31 | 8.830 | .4342 | 33.68 | 1.206 | .4630 | 113.1 | .2430 | 2.919 | .7193 |
| #1 | -.0009 | -.0293 | 1.031 | -.0013 | .0125 | .0818 | .0000 | 76.45 | .0099 | .0183 |
| #2 | -.0003 | -.0332 | 1.037 | -.0021 | .0123 | .0812 | .0002 | 76.19 | .0103 | .0185 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0009 | 8.289 | 6.446 | 3.220 | 1.963 | .0021 | 6.716 | .0174 | -.0004 |
| Stddev | .0002 | .0005 | .026 | .021 | .007 | .029 | .0001 | .034 | .0001 | .0001 |
| %RSD | 120.9 | 53.57 | .3120 | .3334 | .2041 | 1.463 | 3.183 | .5091 | .3333 | 11.63 |
| #1 | .0004 | -.0012 | 8.308 | 6.431 | 3.224 | 1.943 | .0020 | 6.740 | .0175 | -.0004 |
| #2 | .0000 | -.0005 | 8.271 | 6.461 | 3.215 | 1.983 | .0021 | 6.692 | .0174 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0011 | .0009 | .0003 | 4.870 | -.0003 | .3212 | .0008 | -.0004 | .0005 |
| Stddev | .0020 | .0071 | .0007 | .0006 | .021 | .0001 | .0008 | .0002 | .0008 | .0004 |
| %RSD | 42.69 | 621.6 | 77.82 | 239.2 | .4415 | 24.39 | .2567 | 24.88 | 193.2 | 73.05 |
| #1 | -.0033 | -.0039 | .0014 | .0007 | 4.855 | -.0002 | .3218 | .0006 | .0001 | .0007 |
| #2 | -.0061 | .0061 | .0004 | -.0002 | 4.886 | -.0003 | .3206 | .0009 | -.0010 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0075 | -.0010 |
| Stddev | .0015 | .0002 | .0001 |
| %RSD | 31.67 | 2.208 | 12.92 |
| #1 | .0058 | .0074 | -.0011 |
| #2 | .0037 | .0076 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.3 | 56548. | 13694. |
| Stddev | 7.1 | 732. | 2. |
| %RSD | .31594 | 1.2940 | .01180 |
| #1 | 2252.3 | 57066. | 13695. |
| #2 | 2242.3 | 56031. | 13692. |



Zoom In Zoom Out

Sample Name: MC21202-6F Acquired: 6/4/2013 14:15:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0133 | .0003 | .0006 | .0005 | .0003 | .0001 | .0242 | .0001 | .0001 |
| Stddev | .0003 | .0067 | .0010 | .0005 | .0003 | .0000 | .0000 | .0014 | .0001 | .0001 |
| %RSD | 36.31 | 50.38 | 371.0 | 81.49 | 57.73 | 9.067 | 21.04 | 5.849 | 80.40 | 88.97 |
| #1 | -.0006 | -.0086 | .0009 | .0009 | .0007 | .0003 | .0001 | .0252 | .0000 | .0000 |
| #2 | -.0010 | -.0181 | -.0004 | .0002 | .0003 | .0003 | .0002 | .0232 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0011 | .0040 | .0661 | .0021 | .0009 | .0001 | .0127 | -.0004 | -.0002 |
| Stddev | .0004 | .0001 | .0022 | .0034 | .0092 | .0000 | .0000 | .0028 | .0001 | .0002 |
| %RSD | 259.7 | 12.77 | 55.55 | 5.072 | 435.8 | 1.214 | 22.18 | 22.20 | 36.87 | 84.34 |
| #1 | -.0001 | -.0010 | .0055 | .0638 | -.0044 | .0009 | .0001 | .0147 | -.0004 | -.0001 |
| #2 | .0005 | -.0011 | .0024 | .0685 | .0087 | .0010 | .0001 | .0107 | -.0003 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0001 | .0001 | -.0005 | .0365 | -.0003 | .0001 | -.0002 | .0000 | -.0007 |
| Stddev | .0004 | .0038 | .0005 | .0003 | .0013 | .0001 | .0000 | .0005 | .0002 | .0004 |
| %RSD | 34.75 | 4401. | 800.7 | 50.36 | 3.558 | 17.57 | 3.018 | 211.8 | 1328. | 53.65 |
| #1 | .0009 | .0028 | -.0003 | -.0003 | .0375 | -.0003 | .0001 | .0001 | .0002 | -.0004 |
| #2 | .0014 | -.0026 | .0004 | -.0007 | .0356 | -.0003 | .0001 | -.0006 | -.0002 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0072 | -.0001 |
| Stddev | .0008 | .0000 | .0003 |
| %RSD | 46.35 | .5195 | 197.5 |
| #1 | -.0022 | .0072 | .0001 |
| #2 | -.0011 | .0071 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.4 | 57321. | 13826. |
| Stddev | 1.0 | 15. | 52. |
| %RSD | .04482 | .02575 | .37625 |
| #1 | 2268.6 | 57332. | 13789. |
| #2 | 2270.1 | 57311. | 13862. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/4/2013 14:19:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0766 | .0306 | -.0015 | .1902 | .0111 | .0002 | 106.0 | .0006 | .0021 |
| Stddev | .0001 | .0059 | .0000 | .0014 | .0003 | .0001 | .0000 | .1 | .0002 | .0000 |
| %RSD | 56.97 | 7.742 | .0135 | 98.43 | .1433 | .4523 | 12.35 | .0655 | 32.72 | 2.123 |
| #1 | -.0001 | -.0808 | .0306 | -.0004 | .1904 | .0111 | .0001 | 105.9 | .0008 | .0021 |
| #2 | -.0001 | -.0724 | .0306 | -.0025 | .1900 | .0112 | .0002 | 106.0 | .0005 | .0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0004 | .4398 | 4.946 | 13.99 | 8.578 | .0013 | 27.12 | .0141 | -.0004 |
| Stddev | .0003 | .0000 | .0035 | .025 | .03 | .085 | .0001 | .01 | .0000 | .0001 |
| %RSD | 70.07 | 8.414 | .7970 | .5134 | .2255 | .9890 | 4.176 | .0486 | .1741 | 20.00 |
| #1 | .0006 | -.0004 | .4373 | 4.928 | 13.97 | 8.638 | .0013 | 27.11 | .0141 | -.0005 |
| #2 | .0002 | -.0003 | .4422 | 4.964 | 14.01 | 8.518 | .0012 | 27.13 | .0141 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0317 | .0006 | .0010 | 9.493 | -.0004 | .5834 | .0008 | -.0035 | -.0007 |
| Stddev | .0007 | .0037 | .0007 | .0001 | .028 | .0003 | .0016 | .0006 | .0011 | .0001 |
| %RSD | 9.053 | 11.77 | 118.6 | 9.525 | .2976 | 66.93 | .2739 | 68.29 | 32.68 | 10.32 |
| #1 | -.0074 | .0343 | .0011 | .0009 | 9.513 | -.0007 | .5846 | .0012 | -.0027 | -.0008 |
| #2 | -.0084 | .0290 | .0001 | .0010 | 9.473 | -.0002 | .5823 | .0004 | -.0043 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0008 | .0206 | -.0017 |
| Stddev | .0104 | .0001 | .0001 |
| %RSD | 1264. | .4912 | 6.272 |
| #1 | -.0082 | .0207 | -.0018 |
| #2 | .0066 | .0206 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.9 | 56716. | 13777. |
| Stddev | 12.7 | 40. | 67. |
| %RSD | .56885 | .07128 | .48340 |
| #1 | 2220.9 | 56688. | 13824. |
| #2 | 2238.9 | 56745. | 13730. |

Zoom In Zoom Out

Sample Name: MC21202-8F Acquired: 6/4/2013 14:23:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0175 | -.0016 | .0002 | .0049 | .0048 | .0000 | 6.795 | -.0001 | .0000 |
| Stddev | .0010 | .0077 | .0003 | .0003 | .0002 | .0002 | .0000 | .108 | .0000 | .000 |
| %RSD | 134.4 | 44.02 | 21.10 | 145.3 | 4.812 | 4.005 | 52.52 | 1.582 | 60.02 | 22.09 |
| #1 | -.0015 | -.0120 | -.0018 | .0004 | .0047 | .0049 | .0000 | 6.871 | .0000 | .0000 |
| #2 | .0000 | -.0229 | -.0013 | .0000 | .0050 | .0047 | .0001 | 6.719 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0011 | -.0043 | 1.399 | 1.223 | .0034 | .0001 | 5.973 | -.0004 | -.0005 |
| Stddev | .0004 | .0002 | .0024 | .005 | .033 | .0004 | .0000 | .004 | .0002 | .0002 |
| %RSD | 41.27 | 20.83 | 55.68 | .3581 | 2.709 | 11.86 | 13.46 | .0675 | 56.77 | 42.16 |
| #1 | .0007 | -.0013 | -.0059 | 1.402 | 1.246 | .0036 | .0001 | 5.970 | -.0002 | -.0004 |
| #2 | .0012 | -.0009 | -.0026 | 1.395 | 1.199 | .0031 | .0001 | 5.976 | -.0005 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0006 | .0010 | -.0006 | 7.857 | -.0006 | .0469 | -.0002 | .0008 | -.0006 |
| Stddev | .0028 | .0028 | .0006 | .0014 | .018 | .0002 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 294.4 | 476.4 | 56.60 | 234.0 | .2303 | 27.25 | .2434 | 58.14 | 47.93 | 3.800 |
| #1 | .0029 | .0014 | .0014 | -.0016 | 7.844 | -.0005 | .0468 | -.0003 | .0006 | -.0006 |
| #2 | -.0010 | -.0025 | .0006 | .0004 | 7.870 | -.0007 | .0469 | -.0001 | .0011 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0095 | -.0016 |
| Stddev | .0042 | .0001 | .0001 |
| %RSD | 51.68 | .6327 | 6.221 |
| #1 | .0110 | .0094 | -.0016 |
| #2 | .0051 | .0095 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.7 | 57457. | 13712. |
| Stddev | 3.6 | 297. | 51. |
| %RSD | .15703 | .51753 | .37522 |
| #1 | 2276.2 | 57246. | 13675. |
| #2 | 2281.3 | 57667. | 13748. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/4/2013 14:28:15 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0438 | .4153 | -.0009 | .1314 | .0390 | .0001 | 53.55 | .0041 | .0005 |
| Stddev | .0006 | .0031 | .0004 | .0011 | .0003 | .0007 | .0000 | .06 | .0000 | .0000 |
| %RSD | 69.36 | 6.989 | .1029 | 117.1 | .1959 | 1.796 | 23.56 | .1211 | .7969 | 6.823 |
| #1 | -.0013 | -.0416 | .4156 | -.0017 | .1312 | .0385 | .0001 | 53.51 | .0041 | .0005 |
| #2 | -.0004 | -.0460 | .4150 | -.0002 | .1315 | .0395 | .0001 | 53.60 | .0041 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0010 | 27.75 | 4.527 | 7.204 | 3.910 | -.0001 | 27.64 | .0017 | -.0007 |
| Stddev | .0002 | .0000 | .04 | .044 | .025 | .033 | .0000 | .06 | .0003 | .0002 |
| %RSD | 28.72 | .1859 | .1431 | .9636 | .3526 | .8430 | 53.04 | .2180 | 19.77 | 25.42 |
| #1 | -.0010 | -.0010 | 27.72 | 4.496 | 7.186 | 3.933 | -.0001 | 27.59 | .0020 | -.0009 |
| #2 | -.0007 | -.0010 | 27.78 | 4.558 | 7.222 | 3.887 | -.0001 | 27.68 | .0015 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0155 | .0005 | .0011 | 10.81 | -.0005 | .2262 | .0006 | -.0008 | -.0002 |
| Stddev | .0013 | .0030 | .0007 | .0007 | .00 | .0004 | .0000 | .0002 | .0003 | .0001 |
| %RSD | 37.75 | 19.56 | 140.9 | 58.10 | .0021 | 86.04 | .0111 | 38.41 | 31.24 | 72.56 |
| #1 | -.0025 | .0133 | .0010 | .0007 | 10.81 | -.0002 | .2262 | .0004 | -.0006 | -.0001 |
| #2 | -.0043 | .0176 | .0000 | .0016 | 10.81 | -.0008 | .2262 | .0007 | -.0010 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0203 | .0059 | -.0023 |
| Stddev | .0042 | .0001 | .0003 |
| %RSD | 20.63 | 1.361 | 13.06 |
| #1 | .0173 | .0059 | -.0021 |
| #2 | .0232 | .0058 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.6 | 56859. | 13836. |
| Stddev | 3.5 | 163. | 46. |
| %RSD | .15822 | .28686 | .33516 |
| #1 | 2237.1 | 56975. | 13803. |
| #2 | 2242.1 | 56744. | 13869. |



Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/4/2013 14:32:37 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0216 | -.0002 | .0001 | .0074 | .0014 | .0001 | 5.926 | -.0001 | .0001 |
| Stddev | .0000 | .0057 | .0005 | .0007 | .0001 | .0001 | .0001 | .061 | .0002 | .0001 |
| %RSD | 5.408 | 26.54 | 245.3 | 651.9 | .9899 | 4.285 | 95.84 | 1.024 | 204.8 | 71.43 |
| #1 | -.0006 | -.0175 | -.0006 | -.0004 | .0074 | .0014 | .0000 | 5.883 | -.0002 | .0001 |
| #2 | -.0006 | -.0256 | .0002 | .0006 | .0075 | .0015 | .0001 | 5.969 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | .0299 | .9824 | .6429 | .0106 | .0001 | 23.77 | .0002 | -.0006 |
| Stddev | .0002 | .0002 | .0030 | .0116 | .0106 | .0002 | .0000 | .20 | .0001 | .0003 |
| %RSD | 112.1 | 19.39 | 9.937 | 1.178 | 1.656 | 1.596 | 36.65 | .8440 | 29.67 | 47.64 |
| #1 | .0000 | -.0011 | .0278 | .9905 | .6353 | .0107 | .0000 | 23.63 | .0002 | -.0008 |
| #2 | -.0002 | -.0014 | .0320 | .9742 | .6504 | .0105 | .0001 | 23.92 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0011 | .0007 | .0013 | 3.638 | -.0003 | .0426 | .0001 | -.0002 | -.0003 |
| Stddev | .0012 | .0052 | .0002 | .0015 | .002 | .0001 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 71.84 | 483.0 | 31.08 | 117.3 | .0622 | 29.02 | .9767 | 106.0 | 54.55 | 27.13 |
| #1 | .0025 | -.0047 | .0005 | .0002 | 3.640 | -.0002 | .0423 | .0000 | -.0003 | -.0002 |
| #2 | .0008 | .0026 | .0008 | .0024 | 3.637 | -.0003 | .0429 | .0001 | -.0002 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0597 | -.0006 |
| Stddev | .0014 | .0003 | .0003 |
| %RSD | 139.7 | .4725 | 53.29 |
| #1 | .0000 | .0599 | -.0003 |
| #2 | .0020 | .0595 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.7 | 56936. | 13606. |
| Stddev | 1.4 | 747. | 140. |
| %RSD | .06126 | 1.3128 | 1.0325 |
| #1 | 2275.7 | 56407. | 13705. |
| #2 | 2277.7 | 57464. | 13507. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/4/2013 14:36:56 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0863 | 1.091 | .0022 | .2133 | .0453 | .0000 | 77.39 | .0111 | .0153 |
| Stddev | .0002 | .0053 | .003 | .0010 | .0014 | .0001 | .000 | .05 | .0001 | .0001 |
| %RSD | 17.29 | 6.171 | .2741 | 46.21 | .6451 | .2491 | 166.7 | .0634 | .5244 | .3871 |
| #1 | -.0013 | -.0825 | 1.093 | .0029 | .2143 | .0453 | .0000 | 77.42 | .0111 | .0153 |
| #2 | -.0010 | -.0901 | 1.089 | .0015 | .2123 | .0452 | .0000 | 77.35 | .0110 | .0153 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0007 | 30.28 | 8.478 | 12.29 | 9.515 | .0010 | 28.82 | .0046 | -.0003 |
| Stddev | .0002 | .0001 | .05 | .017 | .00 | .104 | .0001 | .02 | .0002 | .0008 |
| %RSD | 64.12 | 8.224 | .1668 | .2024 | .0182 | 1.091 | 7.806 | .0614 | 3.497 | 234.5 |
| #1 | -.0002 | -.0007 | 30.31 | 8.490 | 12.28 | 9.588 | .0011 | 28.81 | .0048 | -.0009 |
| #2 | -.0004 | -.0006 | 30.24 | 8.466 | 12.29 | 9.442 | .0009 | 28.83 | .0045 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0323 | .0004 | .0010 | 12.75 | -.0010 | 1.000 | .0001 | -.0032 | -.0005 |
| Stddev | .0028 | .0031 | .0006 | .0005 | .00 | .0000 | .000 | .0000 | .0007 | .0004 |
| %RSD | 48.14 | 9.704 | 140.2 | 44.54 | .0032 | .3177 | .0013 | 15.01 | 22.70 | 77.81 |
| #1 | -.0079 | .0345 | .0009 | .0013 | 12.75 | -.0010 | 1.000 | .0001 | -.0027 | -.0002 |
| #2 | -.0039 | .0301 | .0000 | .0007 | 12.75 | -.0010 | 1.000 | .0001 | -.0037 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0080 | -.0025 |
| Stddev | .0037 | .0001 | .0002 |
| %RSD | 13.43 | 1.055 | 6.989 |
| #1 | .0249 | .0079 | -.0024 |
| #2 | .0301 | .0080 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.8 | 56903. | 13834. |
| Stddev | 1.3 | 352. | 31. |
| %RSD | .05872 | .61851 | .22162 |
| #1 | 2254.7 | 56654. | 13812. |
| #2 | 2252.8 | 57151. | 13855. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/4/2013 14:41:17 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0269 | .9491 | .0009 | .1392 | .0948 | .0000 | 45.48 | .0094 | .0164 |
| Stddev | .0002 | .0062 | .0035 | .0006 | .0003 | .0017 | .000 | .05 | .0002 | .0000 |
| %RSD | 27.11 | 23.08 | .3641 | 62.84 | .2135 | 1.790 | 3581. | .1086 | 2.211 | .2459 |
| #1 | -.0007 | -.0313 | .9466 | .0005 | .1390 | .0936 | -.0001 | 45.44 | .0092 | .0164 |
| #2 | -.0011 | -.0225 | .9515 | .0014 | .1394 | .0960 | .0001 | 45.51 | .0095 | .0165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0018 | 74.97 | 11.20 | 7.248 | .9896 | .0006 | 16.57 | .0144 | -.0017 |
| Stddev | .0002 | .0004 | .20 | .07 | .004 | .0022 | .0001 | .00 | .0001 | .0000 |
| %RSD | 18.11 | 22.42 | .2671 | .6305 | .0512 | .2250 | 20.57 | .0271 | .7306 | .2389 |
| #1 | -.0012 | -.0020 | 74.83 | 11.15 | 7.245 | .9880 | .0007 | 16.57 | .0144 | -.0017 |
| #2 | -.0010 | -.0015 | 75.11 | 11.25 | 7.251 | .9912 | .0005 | 16.57 | .0145 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0071 | .0007 | .0010 | 13.63 | -.0004 | .4244 | .0002 | .0014 | -.0006 |
| Stddev | .0010 | .0032 | .0000 | .0008 | .01 | .0003 | .0011 | .0001 | .0001 | .0008 |
| %RSD | 44.70 | 44.66 | 2.356 | 82.69 | .0998 | 77.73 | .2596 | 41.96 | 8.949 | 135.9 |
| #1 | -.0015 | .0048 | .0007 | .0016 | 13.62 | -.0006 | .4236 | .0001 | .0014 | -.0011 |
| #2 | -.0029 | .0093 | .0007 | .0004 | 13.64 | -.0002 | .4252 | .0003 | .0013 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0166 | .0119 | -.0028 |
| Stddev | .0021 | .0001 | .0000 |
| %RSD | 12.49 | 1.070 | .0659 |
| #1 | .0151 | .0120 | -.0028 |
| #2 | .0181 | .0118 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.6 | 57202. | 13920. |
| Stddev | 1.6 | 393. | 81. |
| %RSD | .07218 | .68784 | .58006 |
| #1 | 2245.5 | 57480. | 13863. |
| #2 | 2247.8 | 56923. | 13978. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/4/2013 14:45:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.1005 | .0075 | .0022 | .2890 | .0418 | .0000 | 68.06 | .0005 | .0053 |
| Stddev | .0003 | .0042 | .0000 | .0006 | .0001 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 40.38 | 4.151 | .3039 | 26.46 | .0261 | .1760 | 281.3 | .0209 | 27.51 | 3.658 |
| #1 | -.0010 | -.0975 | .0075 | .0018 | .2890 | .0418 | .0000 | 68.07 | .0006 | .0052 |
| #2 | -.0005 | -.1034 | .0075 | .0026 | .2891 | .0419 | .0000 | 68.05 | .0004 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0010 | 2.199 | 14.03 | 11.79 | 11.98 | -.0001 | 30.03 | .0054 | .0003 |
| Stddev | .0002 | .0001 | .001 | .03 | .04 | .12 | .0001 | .05 | .0000 | .0001 |
| %RSD | 50.60 | 5.765 | .0229 | .2162 | .3782 | .9910 | 73.09 | .1657 | .7813 | 33.84 |
| #1 | .0003 | -.0011 | 2.199 | 14.05 | 11.76 | 12.07 | -.0001 | 30.07 | .0054 | .0003 |
| #2 | .0007 | -.0010 | 2.199 | 14.01 | 11.82 | 11.90 | -.0002 | 30.00 | .0054 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | .0432 | .0007 | .0010 | 7.849 | -.0009 | 1.282 | .0009 | -.0043 | .0006 |
| Stddev | .0004 | .0027 | .0006 | .0014 | .022 | .0003 | .002 | .0002 | .0011 | .0001 |
| %RSD | 6.037 | 6.140 | 89.52 | 132.9 | .2843 | 35.86 | .1269 | 19.89 | 25.02 | 20.83 |
| #1 | -.0066 | .0413 | .0002 | .0020 | 7.833 | -.0012 | 1.281 | .0008 | -.0051 | .0007 |
| #2 | -.0072 | .0451 | .0011 | .0001 | 7.865 | -.0007 | 1.283 | .0011 | -.0035 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0024 | .0074 | -.0014 |
| Stddev | .0046 | .0000 | .0000 |
| %RSD | 191.5 | .1700 | 2.217 |
| #1 | -.0009 | .0074 | -.0014 |
| #2 | .0057 | .0073 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.9 | 56889. | 13766. |
| Stddev | 4.6 | 95. | 18. |
| %RSD | .20523 | .16665 | .13304 |
| #1 | 2242.2 | 56822. | 13753. |
| #2 | 2235.7 | 56956. | 13779. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/4/2013 14:49:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0748 | .0302 | .0008 | .1928 | .0113 | .0001 | 108.3 | .0007 | .0021 |
| Stddev | .0010 | .0073 | .0007 | .0009 | .0005 | .0002 | .0000 | .5 | .0001 | .0000 |
| %RSD | 133.1 | 9.721 | 2.247 | 110.2 | .2498 | 1.757 | 17.51 | .4429 | 8.943 | 1.643 |
| #1 | -.0014 | -.0696 | .0307 | .0015 | .1931 | .0114 | .0001 | 108.6 | .0007 | .0021 |
| #2 | .0000 | -.0799 | .0297 | .0002 | .1924 | .0111 | .0001 | 107.9 | .0008 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0015 | .4532 | 5.074 | 14.36 | 8.659 | .0011 | 27.60 | .0146 | -.0005 |
| Stddev | .0001 | .0004 | .0003 | .026 | .01 | .003 | .0001 | .10 | .0000 | .0007 |
| %RSD | 21.82 | 27.09 | .0558 | .5155 | .0831 | .0335 | 4.889 | .3451 | .2036 | 128.0 |
| #1 | .0005 | -.0012 | .4530 | 5.093 | 14.37 | 8.661 | .0010 | 27.67 | .0146 | -.0001 |
| #2 | .0004 | -.0018 | .4534 | 5.056 | 14.35 | 8.657 | .0011 | 27.53 | .0146 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0342 | .0014 | .0010 | 9.594 | -.0011 | .6019 | .0008 | -.0029 | -.0003 |
| Stddev | .0016 | .0072 | .0000 | .0008 | .009 | .0000 | .0038 | .0005 | .0005 | .0000 |
| %RSD | 17.09 | 20.96 | 3.342 | 79.26 | .0908 | 1.351 | .6368 | 65.23 | 16.49 | 5.325 |
| #1 | -.0103 | .0291 | .0014 | .0004 | 9.601 | -.0011 | .6046 | .0012 | -.0032 | -.0003 |
| #2 | -.0081 | .0393 | .0014 | .0015 | 9.588 | -.0011 | .5992 | .0004 | -.0026 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0090 | .0213 | -.0021 |
| Stddev | .0000 | .0000 | .0001 |
| %RSD | .3821 | .1888 | 2.781 |
| #1 | .0090 | .0212 | -.0021 |
| #2 | .0090 | .0213 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.8 | 56881. | 13670. |
| Stddev | 8.5 | 52. | 19. |
| %RSD | .37975 | .09127 | .13957 |
| #1 | 2224.8 | 56917. | 13656. |
| #2 | 2236.8 | 56844. | 13683. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 14:54:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2584 | 9.776 | 1.924 | -.0004 | 1.956 | 2.005 | 2.078 | 10.01 | 1.962 | 2.011 |
| Stddev | .0004 | .069 | .004 | .0011 | .000 | .008 | .007 | .06 | .000 | .001 |
| %RSD | .1623 | .7087 | .2131 | 287.0 | .0031 | .4131 | .3432 | .6374 | .0183 | .0652 |
| #1 | .2582 | 9.825 | 1.921 | -.0011 | 1.956 | 2.011 | 2.083 | 10.06 | 1.961 | 2.010 |
| #2 | .2587 | 9.727 | 1.927 | .0004 | 1.956 | 1.999 | 2.073 | 9.966 | 1.962 | 2.012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.027 | 2.054 | 9.987 | 10.17 | 10.30 | 1.938 | 1.917 | 9.701 | 1.856 | 1.891 |
| Stddev | .010 | .005 | .041 | .03 | .01 | .006 | .004 | .058 | .001 | .000 |
| %RSD | .4719 | .2220 | .4073 | .2480 | .0565 | .3092 | .1850 | .5949 | .0695 | .0185 |
| #1 | 2.020 | 2.051 | 10.02 | 10.19 | 10.29 | 1.933 | 1.914 | 9.741 | 1.855 | 1.891 |
| #2 | 2.034 | 2.057 | 9.958 | 10.16 | 10.30 | 1.942 | 1.919 | 9.660 | 1.856 | 1.890 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0008 | 1.896 | 1.905 | .0159 | 1.851 | 2.058 | 1.976 | 1.949 | 2.025 |
| Stddev | .0032 | .0060 | .001 | .001 | .0016 | .001 | .007 | .007 | .001 | .006 |
| %RSD | 3471. | 724.3 | .0331 | .0345 | 10.20 | .0633 | .3351 | .3565 | .0236 | .2865 |
| #1 | .0021 | -.0034 | 1.896 | 1.905 | .0171 | 1.852 | 2.063 | 1.971 | 1.950 | 2.021 |
| #2 | -.0023 | .0050 | 1.895 | 1.904 | .0148 | 1.851 | 2.053 | 1.981 | 1.949 | 2.029 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0068 | 1.937 | -.0045 |
| Stddev | .0024 | .003 | .0002 |
| %RSD | 36.04 | .1353 | 4.495 |
| #1 | -.0085 | 1.939 | -.0046 |
| #2 | -.0050 | 1.935 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 57118. | 13613. |
| Stddev | .8 | 225. | 49. |
| %RSD | .03444 | .39307 | .35669 |
| #1 | 2279.8 | 57276. | 13579. |
| #2 | 2278.7 | 56959. | 13647. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 15:00:46 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0086 | -.0014 | -.0005 | .0014 | .0005 | .0002 | .0021 | .0002 | .0004 |
| Stddev | .0002 | .0076 | .0014 | .0006 | .0004 | .0000 | .0001 | .0004 | .0001 | .0001 |
| %RSD | 33.24 | 88.51 | 101.2 | 117.4 | 29.00 | 3.897 | 63.13 | 18.68 | 52.47 | 22.35 |
| #1 | -.0009 | -.0140 | -.0024 | -.0010 | .0011 | .0005 | .0001 | .0024 | .0001 | .0003 |
| #2 | -.0005 | -.0032 | -.0004 | -.0001 | .0016 | .0005 | .0003 | .0018 | .0002 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0018 | .0005 | .0450 | -.0207 | .0007 | .0009 | .0157 | .0002 | .0002 |
| Stddev | .0000 | .0006 | .0010 | .0086 | .0248 | .0001 | .0000 | .0058 | .0001 | .0007 |
| %RSD | 3.644 | 32.47 | 189.1 | 19.13 | 119.5 | 16.57 | 1.968 | 37.07 | 53.38 | 369.6 |
| #1 | -.0007 | -.0014 | .0013 | .0511 | -.0383 | .0006 | .0009 | .0198 | .0001 | -.0003 |
| #2 | -.0007 | -.0022 | -.0002 | .0389 | -.0032 | .0008 | .0009 | .0116 | .0003 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0041 | .0006 | .0005 | -.0014 | .0005 | .0002 | .0000 | .0017 | .0007 |
| Stddev | .0010 | .0007 | .0000 | .0001 | .0000 | .0002 | .0000 | .0005 | .0003 | .0001 |
| %RSD | 252.7 | 16.44 | 4.665 | 16.34 | 2.829 | 35.51 | 7.332 | 3921. | 17.88 | 11.35 |
| #1 | -.0003 | -.0036 | .0006 | .0006 | -.0014 | .0007 | .0002 | .0004 | .0014 | .0008 |
| #2 | .0011 | -.0046 | .0006 | .0005 | -.0015 | .0004 | .0002 | -.0003 | .0019 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0011 | .0001 | .0001 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 85.64 | 54.00 | 238.2 |
| #1 | -.0017 | .0002 | .0003 |
| #2 | -.0004 | .0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.3 | 57150. | 13537. |
| Stddev | 3.5 | 11. | 13. |
| %RSD | .15258 | .01974 | .09555 |
| #1 | 2282.8 | 57158. | 13546. |
| #2 | 2277.9 | 57142. | 13527. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/4/2013 15:05:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0298 | 1.290 | .0003 | .2209 | .0528 | .0000 | 71.52 | .0124 | -.0003 |
| Stddev | .0001 | .0129 | .006 | .0002 | .0001 | .0005 | .0001 | .52 | .0001 | .0000 |
| %RSD | 15.06 | 43.15 | .4728 | 70.88 | .0503 | .9421 | 166.6 | .7314 | .5859 | 15.30 |
| #1 | -.0006 | -.0389 | 1.295 | .0002 | .2208 | .0525 | .0000 | 71.15 | .0125 | -.0003 |
| #2 | -.0007 | -.0207 | 1.286 | .0005 | .2209 | .0532 | .0001 | 71.89 | .0124 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0015 | 43.19 | 10.76 | 11.99 | 1.279 | .0001 | 26.23 | .0001 | -.0011 |
| Stddev | .0003 | .0000 | .31 | .08 | .12 | .003 | .0000 | .14 | .0000 | .0005 |
| %RSD | 57.14 | .1735 | .7191 | .7140 | 1.021 | .2160 | 15.75 | .5211 | 12.59 | 44.57 |
| #1 | -.0006 | -.0015 | 42.97 | 10.71 | 11.91 | 1.277 | .0002 | 26.14 | .0001 | -.0014 |
| #2 | -.0003 | -.0015 | 43.41 | 10.82 | 12.08 | 1.281 | .0001 | 26.33 | .0001 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0018 | .0004 | .0014 | 14.56 | -.0006 | .7933 | .0007 | .0001 | .0002 |
| Stddev | .0023 | .0048 | .0000 | .0001 | .03 | .0004 | .0032 | .0007 | .0002 | .0002 |
| %RSD | 71.58 | 267.2 | 10.45 | 6.332 | .2016 | 57.65 | .3986 | 94.70 | 182.1 | 71.80 |
| #1 | -.0049 | .0052 | .0004 | .0015 | 14.58 | -.0004 | .7910 | .0011 | .0000 | .0001 |
| #2 | -.0016 | -.0016 | .0005 | .0013 | 14.54 | -.0009 | .7955 | .0002 | .0002 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0048 | -.0030 |
| Stddev | .0159 | .0001 | .0000 |
| %RSD | 1856. | 2.031 | .6925 |
| #1 | .0121 | .0047 | -.0030 |
| #2 | -.0104 | .0048 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2243.7 | 57191. | 13751. |
| Stddev | 2.5 | 309. | 185. |
| %RSD | .11287 | .54080 | 1.3449 |
| #1 | 2241.9 | 57410. | 13882. |
| #2 | 2245.5 | 56973. | 13620. |



Zoom In Zoom Out

Sample Name: MC21261-2F Acquired: 6/4/2013 15:09:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0061 | .0188 | .0006 | .0186 | .0616 | .0000 | 39.89 | .0001 | .0003 |
| Stddev | .0003 | .0132 | .0002 | .0014 | .0006 | .0005 | .0001 | .16 | .0000 | .0000 |
| %RSD | 39.27 | 217.9 | .8132 | 243.2 | 3.106 | .8196 | 965.9 | .3945 | 11.20 | 7.401 |
| #1 | -.0008 | .0033 | .0189 | -.0004 | .0190 | .0620 | .0001 | 39.78 | .0001 | .0003 |
| #2 | -.0005 | -.0154 | .0187 | .0015 | .0182 | .0613 | -.0001 | 40.00 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0016 | .5683 | 4.397 | 3.968 | .1403 | .0012 | 9.551 | .0001 | -.0004 |
| Stddev | .0001 | .0002 | .0029 | .074 | .028 | .0007 | .0001 | .030 | .0003 | .0008 |
| %RSD | 123.4 | 12.07 | .5069 | 1.673 | .6926 | .5217 | 5.407 | .3167 | 239.2 | 186.6 |
| #1 | .0001 | -.0017 | .5663 | 4.345 | 3.949 | .1408 | .0012 | 9.529 | -.0001 | .0001 |
| #2 | .0000 | -.0015 | .5704 | 4.449 | 3.988 | .1398 | .0013 | 9.572 | .0003 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0011 | .0006 | .0011 | 3.076 | -.0005 | .2838 | .0008 | .0006 | .0001 |
| Stddev | .0019 | .0032 | .0005 | .0007 | .009 | .0001 | .0002 | .0006 | .0006 | .0001 |
| %RSD | 76.20 | 285.8 | 87.79 | 68.70 | .2799 | 16.85 | .0864 | 76.04 | 100.1 | 123.3 |
| #1 | -.0012 | -.0011 | .0002 | .0005 | 3.082 | -.0004 | .2836 | .0012 | .0002 | .0000 |
| #2 | -.0039 | .0033 | .0010 | .0016 | 3.070 | -.0005 | .2840 | .0004 | .0011 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0282 | .0056 | -.0005 |
| Stddev | .0049 | .0000 | .0000 |
| %RSD | 17.29 | .7297 | 8.659 |
| #1 | .0248 | .0056 | -.0005 |
| #2 | .0317 | .0056 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.5 | 57233. | 13632. |
| Stddev | 12.6 | 59. | 99. |
| %RSD | .55472 | .10300 | .72318 |
| #1 | 2269.5 | 57274. | 13701. |
| #2 | 2287.4 | 57191. | 13562. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/4/2013 15:14:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0103 | .0063 | .0005 | .2632 | .0385 | .0000 | 105.2 | .0002 | .0031 |
| Stddev | .0006 | .0017 | .0005 | .0008 | .0005 | .0004 | .0001 | .2 | .0001 | .0000 |
| %RSD | 89.13 | 16.91 | 8.243 | 160.6 | .1893 | 1.168 | 198.0 | .2364 | 54.31 | .0331 |
| #1 | -.0003 | -.0115 | .0060 | -.0001 | .2636 | .0388 | .0000 | 105.4 | .0003 | .0031 |
| #2 | -.0011 | -.0091 | .0067 | .0010 | .2628 | .0382 | .0001 | 105.0 | .0001 | .0031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0005 | .5967 | 11.15 | 23.40 | 4.679 | .0095 | 40.94 | .0075 | .0003 |
| Stddev | .0002 | .0000 | .0021 | .02 | .05 | .028 | .0003 | .09 | .0001 | .0002 |
| %RSD | 54.13 | 3.685 | .3457 | .2069 | .2194 | .5871 | 2.756 | .2268 | 1.394 | 81.85 |
| #1 | .0006 | -.0005 | .5982 | 11.17 | 23.36 | 4.660 | .0097 | 41.00 | .0075 | .0001 |
| #2 | .0003 | -.0005 | .5953 | 11.14 | 23.43 | 4.699 | .0093 | 40.87 | .0074 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | .0182 | .0031 | -.0002 | 9.166 | -.0008 | .5433 | .0013 | -.0010 | .0021 |
| Stddev | .0006 | .0050 | .0003 | .0006 | .004 | .0003 | .0018 | .0002 | .0006 | .0008 |
| %RSD | 7.247 | 27.58 | 10.56 | 299.2 | .0409 | 38.62 | .3334 | 17.17 | 62.56 | 38.98 |
| #1 | -.0084 | .0218 | .0029 | .0002 | 9.163 | -.0006 | .5445 | .0014 | -.0006 | .0027 |
| #2 | -.0093 | .0147 | .0033 | -.0006 | 9.168 | -.0010 | .5420 | .0011 | -.0015 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0445 | .0036 | -.0017 |
| Stddev | .0016 | .0001 | .0000 |
| %RSD | 3.596 | 2.711 | .7677 |
| #1 | .0456 | .0036 | -.0017 |
| #2 | .0434 | .0035 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.4 | 56855. | 13692. |
| Stddev | 6.3 | 11. | 14. |
| %RSD | .28005 | .01928 | .10450 |
| #1 | 2244.8 | 56862. | 13682. |
| #2 | 2236.0 | 56847. | 13703. |

Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/4/2013 15:18:43 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0385 | 1.943 | .0013 | .0253 | .0575 | .0000 | 31.64 | .0183 | .0133 |
| Stddev | .0004 | .0057 | .003 | .0001 | .0002 | .0001 | .0001 | .09 | .0000 | .0002 |
| %RSD | 63.18 | 14.91 | .1477 | 11.53 | .9188 | .1649 | 392.6 | .2986 | .0514 | 1.631 |
| #1 | -.0009 | -.0425 | 1.941 | .0014 | .0255 | .0576 | .0001 | 31.71 | .0183 | .0135 |
| #2 | -.0004 | -.0344 | 1.945 | .0012 | .0251 | .0575 | .0000 | 31.58 | .0183 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0016 | 40.52 | 4.546 | 3.466 | 2.107 | .0029 | 78.33 | .0096 | -.0005 |
| Stddev | .0002 | .0005 | .22 | .055 | .030 | .005 | .0001 | .37 | .0000 | .0004 |
| %RSD | 38.77 | 30.82 | .5447 | 1.210 | .8785 | .2170 | 2.800 | .4712 | .3210 | 81.44 |
| #1 | -.0004 | -.0013 | 40.68 | 4.585 | 3.445 | 2.110 | .0030 | 78.59 | .0096 | -.0007 |
| #2 | -.0007 | -.0020 | 40.37 | 4.508 | 3.488 | 2.104 | .0029 | 78.07 | .0096 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0047 | .0008 | .0004 | 7.382 | -.0006 | .2793 | .0007 | .0002 | -.0002 |
| Stddev | .0002 | .0008 | .0000 | .0005 | .009 | .0000 | .0016 | .0000 | .0001 | .0003 |
| %RSD | 18.15 | 17.70 | 4.888 | 142.2 | .1158 | 7.479 | .5849 | 4.893 | 62.46 | 136.0 |
| #1 | .0013 | .0041 | .0008 | .0007 | 7.376 | -.0006 | .2805 | .0007 | .0001 | .0000 |
| #2 | .0010 | .0053 | .0008 | .0000 | 7.388 | -.0006 | .2782 | .0006 | .0002 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0071 | .0072 | -.0016 |
| Stddev | .0047 | .0001 | .0000 |
| %RSD | 65.63 | 1.406 | .3233 |
| #1 | .0104 | .0072 | -.0016 |
| #2 | .0038 | .0073 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.1 | 56939. | 13643. |
| Stddev | 3.9 | 283. | 134. |
| %RSD | .17083 | .49629 | .97985 |
| #1 | 2274.3 | 56740. | 13549. |
| #2 | 2279.8 | 57139. | 13738. |



Zoom In Zoom Out

Sample Name: MC21261-5F Acquired: 6/4/2013 15:23:01 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0164 | -.0005 | .0003 | .0003 | .0000 | .0001 | -.0034 | -.0001 | .0001 |
| Stddev | .0005 | .0024 | .0008 | .0004 | .0001 | .0001 | .0000 | .0023 | .0001 | .0003 |
| %RSD | 98.96 | 14.65 | 158.4 | 137.0 | 20.07 | 126.0 | 32.82 | 67.91 | 132.0 | 308.3 |
| #1 | -.0001 | -.0147 | -.0011 | .0005 | .0003 | .0000 | .0001 | -.0018 | -.0002 | .0003 |
| #2 | -.0008 | -.0180 | .0001 | .0000 | .0002 | .0001 | .0000 | -.0051 | .0000 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .0159 | .0772 | -.0117 | .0013 | -.0001 | .0813 | -.0004 | -.0003 |
| Stddev | .0003 | .0002 | .0022 | .0172 | .0210 | .0000 | .0002 | .0084 | .0001 | .0009 |
| %RSD | 70.87 | 9.348 | 14.10 | 22.24 | 179.8 | 3.063 | 133.3 | 10.33 | 33.58 | 349.4 |
| #1 | -.0005 | -.0022 | .0175 | .0894 | -.0265 | .0013 | -.0002 | .0872 | -.0003 | -.0009 |
| #2 | -.0002 | -.0025 | .0144 | .0651 | .0032 | .0013 | .0000 | .0753 | -.0005 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0014 | .0004 | -.0002 | .0358 | -.0001 | .0002 | -.0003 | .0006 | -.0005 |
| Stddev | .0008 | .0014 | .0008 | .0016 | .0014 | .0000 | .0000 | .0000 | .0004 | .0010 |
| %RSD | 78.71 | 100.2 | 181.2 | 740.9 | 3.877 | 35.51 | 3.810 | 9.874 | 59.27 | 206.7 |
| #1 | .0004 | -.0025 | -.0001 | -.0014 | .0368 | .0000 | .0002 | -.0003 | .0009 | -.0012 |
| #2 | .0015 | -.0004 | .0010 | .0009 | .0348 | -.0001 | .0002 | -.0003 | .0004 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0058 | -.0003 |
| Stddev | .0015 | .0001 | .0001 |
| %RSD | 25.31 | 1.651 | 25.08 |
| #1 | .0048 | .0059 | -.0003 |
| #2 | .0069 | .0057 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.3 | 57322. | 13683. |
| Stddev | .5 | 222. | 28. |
| %RSD | .02066 | .38667 | .20607 |
| #1 | 2295.0 | 57478. | 13663. |
| #2 | 2295.7 | 57165. | 13703. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/4/2013 15:27:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0529 | .3026 | .0006 | .2328 | .0777 | .0000 | 94.80 | .0032 | .0105 |
| Stddev | .0002 | .0002 | .0010 | .0008 | .0000 | .0011 | .0000 | .06 | .0000 | .0002 |
| %RSD | 27.28 | .4049 | .3299 | 133.0 | .0103 | 1.457 | 111.1 | .0584 | .2341 | 1.474 |
| #1 | -.0006 | -.0528 | .3019 | .0000 | .2329 | .0785 | .0001 | 94.83 | .0032 | .0104 |
| #2 | -.0009 | -.0531 | .3033 | .0012 | .2328 | .0769 | .0000 | 94.76 | .0031 | .0106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | 13.23 | 9.463 | 15.66 | 6.580 | .0068 | 34.18 | .0056 | -.0005 |
| Stddev | .0003 | .0005 | .00 | .027 | .10 | .044 | .0001 | .04 | .0002 | .0002 |
| %RSD | 122.8 | 22.67 | .0121 | .2859 | .6137 | .6626 | 2.049 | .1048 | 3.254 | 38.39 |
| #1 | -.0005 | -.0024 | 13.23 | 9.444 | 15.60 | 6.611 | .0069 | 34.21 | .0054 | -.0004 |
| #2 | .0000 | -.0018 | 13.23 | 9.483 | 15.73 | 6.549 | .0067 | 34.16 | .0057 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0249 | .0007 | .0009 | 13.72 | -.0006 | 1.338 | .0013 | -.0024 | .0004 |
| Stddev | .0007 | .0050 | .0004 | .0002 | .04 | .0005 | .004 | .0001 | .0003 | .0004 |
| %RSD | 8.705 | 20.09 | 55.29 | 22.28 | .2615 | 73.78 | .2682 | 4.499 | 11.88 | 90.98 |
| #1 | -.0084 | .0213 | .0004 | .0011 | 13.70 | -.0009 | 1.340 | .0012 | -.0026 | .0007 |
| #2 | -.0074 | .0284 | .0009 | .0008 | 13.75 | -.0003 | 1.335 | .0013 | -.0022 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0087 | -.0025 |
| Stddev | .0010 | .0001 | .0001 |
| %RSD | 114.2 | .7161 | 4.424 |
| #1 | .0016 | .0088 | -.0024 |
| #2 | .0002 | .0087 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 56395. | 13768. |
| Stddev | 2.6 | 230. | 175. |
| %RSD | .11565 | .40703 | 1.2707 |
| #1 | 2275.2 | 56232. | 13892. |
| #2 | 2271.5 | 56557. | 13645. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/4/2013 15:31:45 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0209 | -.0006 | -.0008 | .0163 | .0254 | .0000 | 59.38 | .0004 | .0017 |
| Stddev | .0008 | .0018 | .0001 | .0008 | .0001 | .0000 | .000 | .31 | .0001 | .0002 |
| %RSD | 92.58 | 8.840 | 19.64 | 93.70 | .5854 | .1806 | 147.4 | .5284 | 20.27 | 9.406 |
| #1 | -.0003 | -.0196 | -.0007 | -.0014 | .0164 | .0255 | -.0001 | 59.16 | .0005 | .0019 |
| #2 | -.0014 | -.0222 | -.0005 | -.0003 | .0162 | .0254 | .0000 | 59.61 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0013 | .0033 | 3.098 | 14.38 | .6621 | .0009 | 38.33 | .0033 | -.0002 |
| Stddev | .0001 | .0001 | .0037 | .024 | .04 | .0039 | .0000 | .15 | .0001 | .0005 |
| %RSD | 11.27 | 7.836 | 111.1 | .7595 | .2612 | .5843 | 2.167 | .4027 | 1.885 | 194.2 |
| #1 | .0005 | -.0014 | .0060 | 3.081 | 14.35 | .6648 | .0009 | 38.22 | .0032 | .0001 |
| #2 | .0004 | -.0012 | .0007 | 3.114 | 14.41 | .6593 | .0009 | 38.44 | .0033 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | -.0051 | .0008 | -.0004 | 5.988 | -.0004 | .5238 | .0004 | -.0009 | -.0006 |
| Stddev | .0008 | .0022 | .0004 | .0014 | .001 | .0004 | .0018 | .0000 | .0003 | .0006 |
| %RSD | 28.45 | 41.92 | 47.38 | 345.3 | .0154 | 93.32 | .3431 | 9.033 | 30.94 | 114.0 |
| #1 | -.0036 | -.0036 | .0005 | .0006 | 5.988 | -.0001 | .5225 | .0004 | -.0007 | -.0001 |
| #2 | -.0024 | -.0067 | .0010 | -.0014 | 5.989 | -.0007 | .5251 | .0005 | -.0011 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0067 | .0341 | -.0016 |
| Stddev | .0085 | .0001 | .0001 |
| %RSD | 126.9 | .1663 | 5.415 |
| #1 | .0127 | .0342 | -.0015 |
| #2 | .0007 | .0341 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.7 | 56817. | 13776. |
| Stddev | 2.2 | 515. | 80. |
| %RSD | .09895 | .90590 | .57833 |
| #1 | 2272.3 | 56453. | 13832. |
| #2 | 2269.1 | 57181. | 13719. |

Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/4/2013 15:36:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0184 | .0000 | .0004 | .0159 | .0257 | .0000 | 59.11 | .0005 | .0016 |
| Stddev | .0004 | .0003 | .0000 | .0020 | .0000 | .0002 | .0000 | .20 | .0000 | .0000 |
| %RSD | 26.61 | 1.744 | 147.0 | 528.5 | .2894 | .6042 | 58.84 | .3358 | 1.118 | 3.155 |
| #1 | -.0017 | -.0187 | .0000 | -.0011 | .0158 | .0258 | .0000 | 59.25 | .0005 | .0015 |
| #2 | -.0011 | -.0182 | .0000 | .0018 | .0159 | .0256 | .0000 | 58.97 | .0005 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0013 | -.0012 | 3.135 | 14.52 | .6595 | .0008 | 38.18 | .0031 | -.0001 |
| Stddev | .0002 | .0008 | .0011 | .009 | .02 | .0016 | .0001 | .08 | .0002 | .0008 |
| %RSD | 121.5 | 60.43 | 92.85 | .2745 | .1329 | .2365 | 12.89 | .2172 | 6.112 | 1275. |
| #1 | .0003 | -.0008 | -.0020 | 3.141 | 14.54 | .6584 | .0007 | 38.23 | .0033 | .0005 |
| #2 | .0000 | -.0019 | -.0004 | 3.129 | 14.51 | .6606 | .0009 | 38.12 | .0030 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0046 | .0010 | .0001 | .0006 | 5.938 | -.0004 | .5246 | .0007 | .0002 | -.0003 |
| Stddev | .0002 | .0042 | .0003 | .0003 | .001 | .0000 | .0013 | .0000 | .0009 | .0004 |
| %RSD | 3.561 | 435.4 | 234.6 | 51.31 | .0239 | 1.473 | .2573 | 3.506 | 423.5 | 136.3 |
| #1 | -.0045 | -.0020 | -.0001 | .0004 | 5.937 | -.0004 | .5255 | .0006 | -.0004 | .0000 |
| #2 | -.0047 | .0040 | .0003 | .0009 | 5.939 | -.0004 | .5236 | .0007 | .0008 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0157 | .0327 | -.0012 |
| Stddev | .0003 | .0001 | .0003 |
| %RSD | 1.602 | .4351 | 24.53 |
| #1 | .0156 | .0328 | -.0010 |
| #2 | .0159 | .0326 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.3 | 56843. | 13732. |
| Stddev | 1.8 | 70. | 172. |
| %RSD | .07835 | .12261 | 1.2516 |
| #1 | 2276.1 | 56892. | 13610. |
| #2 | 2278.6 | 56794. | 13853. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/4/2013 15:49:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2259 | 1.805 | .1965 | .0006 | 4.297 | 2.222 | .1822 | 64.14 | .1736 | 2.329 |
| Stddev | .0007 | .009 | .0009 | .0001 | .007 | .003 | .0003 | .06 | .0001 | .003 |
| %RSD | .3140 | .5282 | .4496 | 9.575 | .1714 | .1244 | .1494 | .0901 | .0771 | .1287 |
| #1 | .2254 | 1.812 | .1959 | .0005 | 4.302 | 2.220 | .1820 | 64.18 | .1737 | 2.331 |
| #2 | .2264 | 1.798 | .1971 | .0006 | 4.292 | 2.224 | .1824 | 64.10 | .1735 | 2.327 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4480 | 1.086 | 9.121 | 45.34 | 47.59 | 1.047 | 4.187 | 47.26 | 1.556 | .2087 |
| Stddev | .0010 | .002 | .011 | .01 | .08 | .003 | .001 | .03 | .003 | .0008 |
| %RSD | .2146 | .2099 | .1250 | .0312 | .1612 | .2590 | .0175 | .0584 | .1704 | .3643 |
| #1 | .4473 | 1.085 | 9.113 | 45.35 | 47.65 | 1.045 | 4.187 | 47.24 | 1.558 | .2082 |
| #2 | .4487 | 1.088 | 9.129 | 45.33 | 47.54 | 1.049 | 4.186 | 47.28 | 1.554 | .2092 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0057 | .2465 | .4160 | 2.621 | 4.025 | .5634 | 2.185 | .2165 | .4503 |
| Stddev | .0002 | .0033 | .0009 | .0006 | .001 | .002 | .0006 | .003 | .0003 | .0010 |
| %RSD | 4.952 | 57.11 | .3813 | .1533 | .0456 | .0419 | .1129 | .1404 | .1501 | .2242 |
| #1 | -.0047 | .0080 | .2472 | .4165 | 2.620 | 4.026 | .5630 | 2.183 | .2167 | .4495 |
| #2 | -.0044 | .0034 | .2458 | .4156 | 2.621 | 4.024 | .5639 | 2.187 | .2163 | .4510 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0113 | .8255 | -.0082 |
| Stddev | .0043 | .0018 | .0003 |
| %RSD | 38.40 | .2210 | 3.317 |
| #1 | -.0082 | .8268 | -.0080 |
| #2 | -.0144 | .8242 | -.0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 57180. | 13713. |
| Stddev | .1 | 202. | 67. |
| %RSD | .00287 | .35392 | .48707 |
| #1 | 2236.3 | 57037. | 13666. |
| #2 | 2236.2 | 57323. | 13761. |



Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 15:53:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2092 | 2.007 | .4878 | .0038 | .0214 | 2.020 | .5347 | 24.76 | .5055 | .5069 |
| Stddev | .0013 | .025 | .0034 | .0051 | .0047 | .002 | .0024 | .04 | .0015 | .0016 |
| %RSD | .5980 | 1.238 | .7068 | 133.0 | 22.05 | .0972 | .4446 | .1765 | .3021 | .3070 |
| #1 | .2101 | 2.025 | .4854 | .0002 | .0248 | 2.021 | .5364 | 24.73 | .5066 | .5080 |
| #2 | .2083 | 1.990 | .4902 | .0074 | .0181 | 2.018 | .5331 | 24.79 | .5044 | .5058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .5003 | 2.071 | 26.45 | 26.14 | .4935 | .0220 | 24.51 | .4672 | .9702 |
| Stddev | .0036 | .0027 | .004 | .08 | .02 | .0013 | .0046 | .11 | .0003 | .0046 |
| %RSD | .6838 | .5495 | .1927 | .2870 | .0832 | .2599 | 20.77 | .4597 | .0605 | .4697 |
| #1 | .5327 | .4983 | 2.068 | 26.40 | 26.16 | .4926 | .0253 | 24.43 | .4674 | .9670 |
| #2 | .5276 | .5022 | 2.073 | 26.50 | 26.13 | .4944 | .0188 | 24.59 | .4670 | .9735 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0169 | .4859 | .4843 | .0491 | .0046 | .4994 | .5036 | .5001 | .5350 |
| Stddev | .0041 | .0118 | .0014 | .0009 | .0044 | .0012 | .0023 | .0026 | .0021 | .0041 |
| %RSD | 770.2 | 69.85 | .2942 | .1899 | 8.999 | 25.59 | .4551 | .5122 | .4220 | .7684 |
| #1 | .0023 | .0085 | .4869 | .4850 | .0523 | .0037 | .5010 | .5054 | .4986 | .5379 |
| #2 | -.0034 | .0252 | .4849 | .4837 | .0460 | .0054 | .4978 | .5018 | .5015 | .5321 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0184 | .5169 | -.0032 |
| Stddev | .0106 | .0011 | .0011 |
| %RSD | 57.48 | .2077 | 34.48 |
| #1 | .0259 | .5161 | -.0040 |
| #2 | .0109 | .5176 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 56941. | 13730. |
| Stddev | 1.8 | 139. | 29. |
| %RSD | .07959 | .24498 | .20816 |
| #1 | 2280.5 | 57040. | 13710. |
| #2 | 2278.0 | 56842. | 13750. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 15:58:09 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2558 | 9.719 | 1.909 | .0002 | 1.941 | 1.982 | 2.063 | 9.901 | 1.943 | 1.996 |
| Stddev | .0010 | .005 | .003 | .0009 | .004 | .003 | .003 | .003 | .003 | .003 |
| %RSD | .3817 | .0523 | .1290 | 370.8 | .2106 | .1727 | .1532 | .0276 | .1583 | .1577 |
| #1 | .2564 | 9.715 | 1.907 | .0009 | 1.938 | 1.979 | 2.061 | 9.899 | 1.941 | 1.994 |
| #2 | .2551 | 9.722 | 1.911 | -.0004 | 1.944 | 1.984 | 2.065 | 9.903 | 1.945 | 1.998 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.016 | 2.039 | 9.853 | 10.11 | 10.20 | 1.932 | 1.902 | 9.630 | 1.838 | 1.876 |
| Stddev | .004 | .000 | .020 | .03 | .04 | .004 | .005 | .029 | .003 | .001 |
| %RSD | .1893 | .0034 | .2003 | .2800 | .4192 | .2333 | .2840 | .2967 | .1721 | .0322 |
| #1 | 2.019 | 2.039 | 9.839 | 10.09 | 10.17 | 1.935 | 1.898 | 9.609 | 1.836 | 1.875 |
| #2 | 2.013 | 2.039 | 9.867 | 10.13 | 10.23 | 1.929 | 1.906 | 9.650 | 1.841 | 1.876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0045 | 1.881 | 1.884 | .0128 | 1.838 | 2.030 | 1.965 | 1.936 | 2.018 |
| Stddev | .002 | .0020 | .002 | .001 | .0001 | .002 | .004 | .001 | .007 | .003 |
| %RSD | 37670. | 43.31 | .1148 | .0530 | .9550 | .1016 | .1940 | .0512 | .3667 | .1259 |
| #1 | -.0015 | .0059 | 1.880 | 1.885 | .0129 | 1.837 | 2.027 | 1.966 | 1.931 | 2.020 |
| #2 | .0015 | .0032 | 1.883 | 1.883 | .0127 | 1.840 | 2.033 | 1.965 | 1.941 | 2.016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0115 | 1.925 | -.0048 |
| Stddev | .0035 | .000 | .0004 |
| %RSD | 30.08 | .0033 | 7.698 |
| #1 | -.0091 | 1.924 | -.0051 |
| #2 | -.0139 | 1.925 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.2 | 57396. | 13710. |
| Stddev | 6.8 | 219. | 7. |
| %RSD | .29871 | .38083 | .05409 |
| #1 | 2294.0 | 57241. | 13705. |
| #2 | 2284.3 | 57550. | 13715. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:03:23 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0065 | .0001 | -.0008 | .0024 | .0007 | .0004 | .0010 | .0002 | .0003 |
| Stddev | .0008 | .0076 | .0019 | .0010 | .0007 | .0000 | .0001 | .0022 | .0002 | .0003 |
| %RSD | 259.5 | 117.3 | 3562. | 126.9 | 27.64 | 6.609 | 17.43 | 209.6 | 115.9 | 95.55 |
| #1 | .0003 | -.0011 | .0014 | -.0015 | .0029 | .0006 | .0005 | -.0005 | .0003 | .0005 |
| #2 | -.0009 | -.0119 | -.0013 | -.0001 | .0020 | .0007 | .0004 | .0026 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0019 | .0000 | .0727 | -.0193 | .0003 | .0014 | .0228 | -.0001 | -.0001 |
| Stddev | .0004 | .0006 | .0016 | .0275 | .0042 | .0000 | .0004 | .0097 | .0002 | .0001 |
| %RSD | 138.3 | 31.50 | 7086. | 37.85 | 21.75 | 10.62 | 28.29 | 42.40 | 145.6 | 61.31 |
| #1 | .0000 | -.0023 | -.0011 | .0922 | -.0163 | .0003 | .0016 | .0160 | .0000 | -.0001 |
| #2 | -.0006 | -.0015 | .0012 | .0533 | -.0222 | .0003 | .0011 | .0296 | -.0002 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0008 | .0005 | -.0009 | -.0022 | .0004 | .0004 | .0004 | .0013 | .0000 |
| Stddev | .0004 | .0049 | .0000 | .0001 | .0003 | .0001 | .0001 | .0001 | .0004 | .000 |
| %RSD | 153.1 | 597.8 | 1.431 | 11.88 | 13.71 | 34.39 | 21.84 | 36.28 | 33.43 | 47.27 |
| #1 | -.0006 | -.0026 | .0005 | -.0010 | -.0024 | .0003 | .0005 | .0005 | .0010 | .0000 |
| #2 | .0000 | .0043 | .0005 | -.0008 | -.0020 | .0005 | .0003 | .0003 | .0016 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0042 | .0001 | -.0001 |
| Stddev | .0017 | .0001 | .0002 |
| %RSD | 41.14 | 57.92 | 217.6 |
| #1 | .0030 | .0002 | -.0002 |
| #2 | .0055 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57350. | 13582. |
| Stddev | 4.4 | 9. | 78. |
| %RSD | .19178 | .01540 | .57582 |
| #1 | 2282.1 | 57344. | 13527. |
| #2 | 2288.3 | 57356. | 13638. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/4/2013 16:08:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2449 | -.0083 | .1873 | .0009 | 4.672 | 2.426 | .1998 | 5.100 | .1889 | 2.576 |
| Stddev | .0008 | .0029 | .0003 | .0004 | .006 | .002 | .0027 | .056 | .0003 | .002 |
| %RSD | .3355 | 34.65 | .1801 | 47.42 | .1230 | .0930 | 1.334 | 1.092 | .1465 | .0950 |
| #1 | .2443 | -.0063 | .1875 | .0006 | 4.668 | 2.428 | .1980 | 5.060 | .1887 | 2.574 |
| #2 | .2455 | -.0103 | .1870 | .0012 | 4.676 | 2.425 | .2017 | 5.139 | .1891 | 2.578 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4917 | 1.184 | -.0030 | 1.408 | .8532 | .6805 | 4.567 | 1.008 | 1.720 | .2316 |
| Stddev | .0006 | .004 | .0012 | .024 | .0049 | .0016 | .006 | .006 | .001 | .0003 |
| %RSD | .1288 | .3203 | 40.53 | 1.668 | .5751 | .2278 | .1269 | .5778 | .0348 | .1281 |
| #1 | .4912 | 1.182 | -.0039 | 1.391 | .8566 | .6794 | 4.563 | 1.012 | 1.721 | .2318 |
| #2 | .4921 | 1.187 | -.0022 | 1.424 | .8497 | .6816 | 4.571 | 1.004 | 1.720 | .2314 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0027 | .2676 | .4506 | 3.022 | 4.419 | .5189 | 2.387 | .2412 | .4886 |
| Stddev | .0006 | .0010 | .0010 | .0006 | .004 | .001 | .0003 | .009 | .0005 | .0057 |
| %RSD | 48.35 | 36.29 | .3899 | .1286 | .1361 | .0181 | .0521 | .3879 | .2112 | 1.166 |
| #1 | -.0009 | .0034 | .2669 | .4502 | 3.019 | 4.419 | .5191 | 2.381 | .2408 | .4927 |
| #2 | -.0018 | .0020 | .2683 | .4511 | 3.025 | 4.418 | .5187 | 2.394 | .2415 | .4846 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0157 | .9184 | -.0101 |
| Stddev | .0060 | .0001 | .0004 |
| %RSD | 37.95 | .0153 | 4.030 |
| #1 | -.0200 | .9185 | -.0098 |
| #2 | -.0115 | .9183 | -.0104 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 57478. | 13847. |
| Stddev | 2.4 | 133. | 97. |
| %RSD | .10700 | .23189 | .69773 |
| #1 | 2269.3 | 57572. | 13779. |
| #2 | 2265.9 | 57383. | 13916. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/4/2013 16:12:57 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0476 | -.0022 | -.0017 | .0167 | .0139 | .0003 | 10.09 | .0000 | .0007 |
| Stddev | .0007 | .0014 | .0035 | .0034 | .0011 | .0008 | .0001 | .01 | .0001 | .0003 |
| %RSD | 25.95 | 2.929 | 161.8 | 200.7 | 6.679 | 5.498 | 38.25 | .1384 | 3065. | 48.60 |
| #1 | -.0032 | -.0466 | .0003 | -.0041 | .0175 | .0134 | .0004 | 10.10 | -.0001 | .0009 |
| #2 | -.0022 | -.0486 | -.0047 | .0007 | .0159 | .0144 | .0002 | 10.08 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0035 | -.0039 | 1.130 | 1.639 | .0017 | .0089 | 14.78 | .0001 | .0000 |
| Stddev | .0012 | .0001 | .0024 | .011 | .011 | .0000 | .0025 | .05 | .0001 | .001 |
| %RSD | 233.1 | 2.968 | 59.97 | 1.007 | .6747 | 1.348 | 27.83 | .3299 | 82.19 | 3296. |
| #1 | .0003 | -.0034 | -.0056 | 1.122 | 1.646 | .0016 | .0106 | 14.81 | .0002 | -.0008 |
| #2 | -.0014 | -.0036 | -.0023 | 1.138 | 1.631 | .0017 | .0071 | 14.74 | .0001 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | .0084 | .0009 | .0006 | 6.235 | .0013 | .1003 | .0016 | .0008 | .0001 |
| Stddev | .0014 | .0013 | .0013 | .0007 | .028 | .0010 | .0002 | .0003 | .0002 | .0012 |
| %RSD | 32.85 | 15.23 | 156.7 | 120.9 | .4555 | 79.54 | .2155 | 17.57 | 25.30 | 2002. |
| #1 | -.0032 | .0093 | .0018 | .0001 | 6.215 | .0020 | .1004 | .0014 | .0010 | -.0008 |
| #2 | -.0052 | .0075 | -.0001 | .0011 | 6.255 | .0006 | .1001 | .0018 | .0007 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0119 | .0080 | -.0016 |
| Stddev | .0008 | .0002 | .0000 |
| %RSD | 6.787 | 2.425 | 2.633 |
| #1 | .0114 | .0079 | -.0016 |
| #2 | .0125 | .0082 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2286.7 | 56781. | 13596. |
| Stddev | 5.2 | 386. | 73. |
| %RSD | .22600 | .67973 | .54020 |
| #1 | 2290.4 | 57054. | 13544. |
| #2 | 2283.0 | 56508. | 13648. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:17:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.1066 | 1.308 | -.0006 | .1609 | .0395 | .0000 | 76.53 | .0131 | .0137 |
| Stddev | .0002 | .0329 | .002 | .0005 | .0004 | .0012 | .000 | .19 | .0000 | .0001 |
| %RSD | 6.667 | 30.82 | .1821 | 81.27 | .2307 | 3.139 | 1459. | .2469 | .3521 | .6607 |
| #1 | -.0025 | -.0834 | 1.310 | -.0010 | .1607 | .0386 | .0001 | 76.66 | .0131 | .0138 |
| #2 | -.0027 | -.1298 | 1.307 | -.0003 | .1612 | .0404 | -.0001 | 76.40 | .0130 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0029 | 19.48 | 8.281 | 12.72 | 9.768 | .0041 | 23.73 | .0071 | -.0021 |
| Stddev | .0015 | .0003 | .03 | .005 | .02 | .084 | .0003 | .04 | .0003 | .0010 |
| %RSD | 1110. | 8.678 | .1605 | .0626 | .1547 | .8565 | 8.123 | .1776 | 4.384 | 47.65 |
| #1 | .0009 | -.0028 | 19.51 | 8.285 | 12.73 | 9.709 | .0044 | 23.76 | .0073 | -.0014 |
| #2 | -.0012 | -.0031 | 19.46 | 8.277 | 12.71 | 9.827 | .0039 | 23.70 | .0069 | -.0028 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0400 | .0021 | .0009 | 11.93 | -.0007 | .7760 | .0009 | -.0028 | -.0006 |
| Stddev | .0017 | .0009 | .0004 | .0033 | .01 | .0014 | .0011 | .0000 | .0006 | .0006 |
| %RSD | 48.24 | 2.188 | 19.32 | 377.8 | .0845 | 208.8 | .1355 | 3.925 | 21.16 | 102.6 |
| #1 | -.0046 | .0406 | .0018 | .0032 | 11.93 | .0003 | .7767 | .0009 | -.0032 | -.0010 |
| #2 | -.0023 | .0393 | .0023 | -.0015 | 11.92 | -.0017 | .7752 | .0009 | -.0023 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0001 | .0127 | -.0026 |
| Stddev | .0109 | .0001 | .0006 |
| %RSD | 7459. | 1.162 | 24.32 |
| #1 | -.0076 | .0128 | -.0021 |
| #2 | .0079 | .0125 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.7 | 56793. | 13609. |
| Stddev | 5.5 | 323. | 98. |
| %RSD | .24107 | .56884 | .72218 |
| #1 | 2284.6 | 57021. | 13540. |
| #2 | 2276.8 | 56564. | 13679. |

Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:21:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.1221 | 1.302 | .0019 | .1609 | .0397 | -.0003 | 76.37 | .0129 | .0136 |
| Stddev | .0011 | .0185 | .002 | .0018 | .0009 | .0008 | .0000 | .09 | .0002 | .0002 |
| %RSD | 177.8 | 15.19 | .1163 | 90.76 | .5571 | 1.934 | 7.091 | .1230 | 1.537 | 1.314 |
| #1 | -.0014 | -.1090 | 1.303 | .0032 | .1616 | .0391 | -.0003 | 76.30 | .0130 | .0134 |
| #2 | .0002 | -.1352 | 1.301 | .0007 | .1603 | .0402 | -.0002 | 76.43 | .0127 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0057 | 19.93 | 8.396 | 12.74 | 9.670 | .0030 | 23.65 | .0070 | .0003 |
| Stddev | .0010 | .0013 | .10 | .074 | .17 | .086 | .0000 | .01 | .0004 | .0004 |
| %RSD | 88.18 | 23.27 | .4845 | .8824 | 1.340 | .8873 | .8867 | .0506 | 6.322 | 133.4 |
| #1 | -.0004 | -.0048 | 19.86 | 8.343 | 12.62 | 9.731 | .0031 | 23.64 | .0073 | .0000 |
| #2 | -.0019 | -.0066 | 20.00 | 8.448 | 12.86 | 9.609 | .0030 | 23.66 | .0066 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0339 | .0013 | -.0029 | 11.85 | -.0005 | .7802 | .0033 | .0024 | .0004 |
| Stddev | .0022 | .0110 | .0009 | .0003 | .01 | .0002 | .0004 | .0035 | .0037 | .0005 |
| %RSD | 20.91 | 32.38 | 68.43 | 10.45 | .0824 | 49.53 | .0505 | 104.5 | 157.5 | 131.0 |
| #1 | -.0119 | .0416 | .0020 | -.0026 | 11.84 | -.0003 | .7804 | .0009 | .0050 | .0000 |
| #2 | -.0088 | .0261 | .0007 | -.0031 | 11.85 | -.0007 | .7799 | .0058 | -.0003 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0146 | .0135 | -.0024 |
| Stddev | .0062 | .0000 | .0012 |
| %RSD | 42.36 | .2237 | 51.77 |
| #1 | -.0102 | .0135 | -.0015 |
| #2 | -.0190 | .0135 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57438. | 13660. |
| Stddev | 4.3 | 319. | 58. |
| %RSD | .18769 | .55466 | .42596 |
| #1 | 2282.2 | 57213. | 13701. |
| #2 | 2288.2 | 57664. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:26:07 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0182 | -.0001 | .0035 | .0270 | .0121 | .0002 | 19.96 | -.0002 | .0001 |
| Stddev | .0013 | .0117 | .0001 | .0002 | .0002 | .0000 | .0001 | .04 | .0001 | .0002 |
| %RSD | 114.6 | 64.13 | 98.33 | 5.513 | .6150 | .1758 | 51.45 | .2216 | 43.86 | 361.5 |
| #1 | -.0020 | -.0265 | .0000 | .0036 | .0271 | .0121 | .0003 | 19.99 | -.0002 | .0002 |
| #2 | -.0002 | -.0100 | -.0002 | .0034 | .0269 | .0121 | .0001 | 19.93 | -.0001 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | .0138 | 2.673 | 2.741 | .1837 | .0004 | 11.15 | .0001 | -.0005 |
| Stddev | .0001 | .0008 | .0005 | .090 | .011 | .0005 | .0001 | .00 | .0002 | .0013 |
| %RSD | 33.56 | 23.07 | 3.925 | 3.367 | .3969 | .2742 | 16.88 | .0381 | 206.1 | 242.1 |
| #1 | -.0002 | -.0042 | .0142 | 2.610 | 2.733 | .1841 | .0004 | 11.15 | .0003 | -.0014 |
| #2 | -.0003 | -.0030 | .0134 | 2.737 | 2.749 | .1834 | .0005 | 11.16 | -.0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0001 | .0013 | -.0019 | 3.934 | -.0002 | .1174 | .0002 | .0004 | -.0002 |
| Stddev | .0010 | .0012 | .0006 | .0009 | .010 | .0014 | .0003 | .0004 | .0005 | .0003 |
| %RSD | 52.03 | 831.9 | 47.78 | 49.20 | .2528 | 704.0 | .2703 | 214.9 | 111.5 | 121.5 |
| #1 | .0012 | -.0007 | .0018 | -.0025 | 3.927 | -.0012 | .1172 | .0005 | .0007 | .0000 |
| #2 | .0026 | .0010 | .0009 | -.0012 | 3.941 | .0008 | .1176 | -.0001 | .0001 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0053 | .0070 | -.0007 |
| Stddev | .0033 | .0001 | .0002 |
| %RSD | 62.20 | 1.216 | 29.58 |
| #1 | .0077 | .0070 | -.0006 |
| #2 | .0030 | .0071 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.0 | 56899. | 13643. |
| Stddev | 3.0 | 98. | 85. |
| %RSD | .13006 | .17286 | .62305 |
| #1 | 2307.9 | 56830. | 13583. |
| #2 | 2312.1 | 56969. | 13703. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:30:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0571 | -.0027 | .0002 | .0278 | .0118 | -.0001 | 19.99 | -.0003 | .0006 |
| Stddev | .0035 | .0108 | .0000 | .0033 | .0004 | .0002 | .0002 | .02 | .0006 | .0003 |
| %RSD | 183.4 | 18.84 | 1.094 | 2077. | 1.419 | 1.859 | 156.0 | .0937 | 186.3 | 47.69 |
| #1 | -.0044 | -.0495 | -.0027 | .0025 | .0276 | .0119 | .0000 | 20.01 | .0001 | .0008 |
| #2 | .0006 | -.0647 | -.0027 | -.0022 | .0281 | .0116 | -.0003 | 19.98 | -.0007 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0047 | .0031 | 2.644 | 2.718 | .1822 | .0004 | 11.17 | .0002 | .0013 |
| Stddev | .0001 | .0009 | .0047 | .060 | .052 | .0004 | .0003 | .01 | .0003 | .0008 |
| %RSD | 67.88 | 19.32 | 152.7 | 2.276 | 1.920 | .2267 | 65.66 | .0473 | 169.4 | 59.37 |
| #1 | -.0001 | -.0054 | .0064 | 2.687 | 2.681 | .1825 | .0002 | 11.17 | .0004 | .0018 |
| #2 | -.0003 | -.0041 | -.0002 | 2.602 | 2.755 | .1819 | .0006 | 11.18 | .0000 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0149 | -.0003 | .0004 | 3.939 | -.0002 | .1150 | -.0002 | .0036 | -.0003 |
| Stddev | .0001 | .0111 | .0008 | .0028 | .002 | .0018 | .0001 | .0014 | .0030 | .0018 |
| %RSD | 10.35 | 74.09 | 293.0 | 650.4 | .0515 | 894.5 | .0511 | 627.3 | 83.47 | 533.8 |
| #1 | -.0006 | .0228 | .0003 | -.0015 | 3.941 | -.0014 | .1151 | -.0013 | .0015 | .0010 |
| #2 | -.0006 | .0071 | -.0008 | .0024 | 3.938 | .0011 | .1150 | .0008 | .0058 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0107 | .0082 | -.0014 |
| Stddev | .0016 | .0002 | .0002 |
| %RSD | 15.07 | 2.591 | 14.38 |
| #1 | -.0119 | .0083 | -.0015 |
| #2 | -.0096 | .0080 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.0 | 56967. | 13675. |
| Stddev | 1.1 | 52. | 14. |
| %RSD | .04618 | .09130 | .10005 |
| #1 | 2285.7 | 56930. | 13666. |
| #2 | 2284.2 | 57003. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:34:49 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0462 | .6031 | .0001 | .1688 | .0518 | .0000 | 50.34 | .0056 | .0104 |
| Stddev | .0001 | .0118 | .0017 | .0008 | .0004 | .0006 | .000 | .01 | .0000 | .0002 |
| %RSD | 3.989 | 25.56 | .2857 | 1357. | .2187 | 1.068 | 311.5 | .0242 | .1882 | 1.543 |
| #1 | -.0024 | -.0546 | .6019 | -.0005 | .1685 | .0522 | .0001 | 50.33 | .0056 | .0105 |
| #2 | -.0023 | -.0379 | .6043 | .0006 | .1690 | .0514 | -.0002 | 50.35 | .0056 | .0103 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0032 | 57.13 | 11.09 | 6.269 | 1.372 | .0000 | 20.45 | .0057 | -.0007 |
| Stddev | .0007 | .0008 | .07 | .01 | .129 | .000 | .0002 | .03 | .0001 | .0001 |
| %RSD | 34.28 | 25.83 | .1189 | .1114 | 2.062 | .0185 | 1781. | .1267 | 2.495 | 16.32 |
| #1 | -.0025 | -.0038 | 57.08 | 11.08 | 6.178 | 1.372 | -.0001 | 20.47 | .0056 | -.0008 |
| #2 | -.0015 | -.0026 | 57.17 | 11.10 | 6.360 | 1.372 | .0001 | 20.43 | .0058 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0082 | .0012 | -.0006 | 10.06 | -.0008 | .4573 | -.0001 | .0019 | .0000 |
| Stddev | .0043 | .0115 | .0003 | .0013 | .01 | .0000 | .0013 | .0002 | .0003 | .001 |
| %RSD | 112.2 | 141.6 | 25.85 | 202.6 | .0850 | .5363 | .2855 | 243.9 | 17.88 | 23840. |
| #1 | -.0069 | .0163 | .0014 | -.0016 | 10.05 | -.0008 | .4564 | .0001 | .0017 | .0005 |
| #2 | -.0008 | .0000 | .0010 | .0003 | 10.07 | -.0008 | .4582 | -.0002 | .0021 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0069 | -.0021 |
| Stddev | .0053 | .0001 | .0006 |
| %RSD | 905.1 | 1.879 | 29.04 |
| #1 | -.0032 | .0070 | -.0017 |
| #2 | .0043 | .0068 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.3 | 56462. | 13520. |
| Stddev | 4.9 | 215. | 18. |
| %RSD | .21466 | .38092 | .13477 |
| #1 | 2292.8 | 56309. | 13533. |
| #2 | 2299.8 | 56614. | 13507. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:39:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0400 | .6065 | .0025 | .1691 | .0533 | .0000 | 50.54 | .0055 | .0109 |
| Stddev | .0013 | .0085 | .0035 | .0019 | .0007 | .0007 | .000 | .15 | .0003 | .0001 |
| %RSD | 36.14 | 21.25 | .5763 | 73.89 | .4206 | 1.399 | 722.4 | .3042 | 6.192 | .8983 |
| #1 | -.0044 | -.0460 | .6089 | .0012 | .1686 | .0528 | .0001 | 50.43 | .0057 | .0109 |
| #2 | -.0026 | -.0340 | .6040 | .0038 | .1696 | .0539 | -.0002 | 50.64 | .0052 | .0110 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | -.0056 | 57.38 | 11.18 | 6.186 | 1.389 | -.0002 | 20.46 | .0054 | -.0018 |
| Stddev | .0000 | .0000 | .23 | .03 | .008 | .003 | .0001 | .04 | .0000 | .0024 |
| %RSD | .2266 | .3830 | .4058 | .2777 | .1287 | .2462 | 39.09 | .1714 | .7773 | 135.6 |
| #1 | -.0016 | -.0056 | 57.22 | 11.16 | 6.192 | 1.386 | -.0002 | 20.44 | .0055 | -.0035 |
| #2 | -.0016 | -.0056 | 57.55 | 11.20 | 6.181 | 1.391 | -.0001 | 20.49 | .0054 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | .0082 | .0019 | .0040 | 10.10 | -.0008 | .4608 | .0001 | .0027 | -.0003 |
| Stddev | .0050 | .0141 | .0004 | .0011 | .01 | .0002 | .0020 | .0004 | .0015 | .0006 |
| %RSD | 151.7 | 171.6 | 21.43 | 27.84 | .0823 | 25.89 | .4329 | 455.0 | 54.47 | 186.5 |
| #1 | -.0002 | -.0018 | .0022 | .0032 | 10.09 | -.0007 | .4594 | -.0002 | .0038 | .0001 |
| #2 | .0068 | .0182 | .0017 | .0048 | 10.10 | -.0010 | .4622 | .0004 | .0017 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0080 | -.0019 |
| Stddev | .0147 | .0001 | .0004 |
| %RSD | 330.0 | 1.566 | 21.89 |
| #1 | .0148 | .0081 | -.0022 |
| #2 | -.0059 | .0079 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.1 | 56694. | 13816. |
| Stddev | 1.2 | 26. | 58. |
| %RSD | .05314 | .04600 | .42065 |
| #1 | 2311.0 | 56712. | 13857. |
| #2 | 2309.2 | 56675. | 13775. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:43:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0112 | -.0019 | -.0003 | .2020 | .0274 | .0001 | 150.0 | -.0001 | .0002 |
| Stddev | .0003 | .0045 | .0011 | .0009 | .0006 | .0001 | .0000 | .1 | .0003 | .0000 |
| %RSD | 18.20 | 40.19 | 59.00 | 255.9 | .3149 | .4603 | 20.65 | .0642 | 267.9 | 10.88 |
| #1 | -.0015 | -.0144 | -.0026 | .0003 | .2015 | .0275 | .0001 | 149.9 | .0001 | .0002 |
| #2 | -.0020 | -.0080 | -.0011 | -.0009 | .2024 | .0273 | .0001 | 150.1 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0012 | .0301 | 4.922 | 19.51 | .2488 | .0009 | 39.90 | .0038 | .0006 |
| Stddev | .0001 | .0004 | .0037 | .056 | .21 | .0004 | .0003 | .06 | .0003 | .0008 |
| %RSD | 13.71 | 36.48 | 12.16 | 1.140 | 1.097 | .1566 | 35.68 | .1528 | 9.206 | 127.6 |
| #1 | -.0009 | -.0009 | .0275 | 4.962 | 19.35 | .2485 | .0011 | 39.86 | .0035 | .0012 |
| #2 | -.0011 | -.0015 | .0327 | 4.883 | 19.66 | .2491 | .0007 | 39.95 | .0040 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0098 | -.0016 | .0025 | .0018 | 8.244 | -.0007 | .5027 | .0023 | .0009 | -.0001 |
| Stddev | .0066 | .0032 | .0011 | .0007 | .010 | .0006 | .0013 | .0001 | .0013 | .0003 |
| %RSD | 67.58 | 194.0 | 44.05 | 38.36 | .1189 | 75.52 | .2506 | 5.594 | 146.2 | 427.6 |
| #1 | -.0145 | -.0039 | .0033 | .0023 | 8.251 | -.0003 | .5018 | .0022 | .0000 | -.0003 |
| #2 | -.0051 | .0006 | .0017 | .0013 | 8.237 | -.0011 | .5036 | .0024 | .0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0375 | .0091 | -.0020 |
| Stddev | .0165 | .0000 | .0003 |
| %RSD | 43.90 | .4189 | 13.53 |
| #1 | .0492 | .0091 | -.0022 |
| #2 | .0259 | .0091 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.4 | 56378. | 13695. |
| Stddev | 6.0 | 562. | 5. |
| %RSD | .26490 | .99715 | .03749 |
| #1 | 2257.7 | 56776. | 13692. |
| #2 | 2249.2 | 55981. | 13699. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:47:50 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0678 | -.0029 | .0012 | .2044 | .0284 | -.0003 | 151.5 | -.0009 | .0003 |
| Stddev | .0013 | .0148 | .0032 | .0055 | .0025 | .0007 | .0001 | .1 | .0003 | .0004 |
| %RSD | 23.58 | 21.82 | 111.5 | 449.0 | 1.219 | 2.574 | 31.37 | .0522 | 33.45 | 129.8 |
| #1 | -.0066 | -.0574 | -.0006 | .0051 | .2026 | .0289 | -.0003 | 151.6 | -.0011 | .0000 |
| #2 | -.0047 | -.0783 | -.0051 | -.0027 | .2061 | .0279 | -.0002 | 151.4 | -.0007 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0091 | .0192 | 5.077 | 19.97 | .2538 | .0006 | 40.20 | .0026 | .0000 |
| Stddev | .0010 | .0014 | .0056 | .090 | .09 | .0023 | .0003 | .06 | .0010 | .0018 |
| %RSD | 175.0 | 14.91 | 29.22 | 1.771 | .4657 | .8947 | 50.01 | .1583 | 37.56 | 5764. |
| #1 | .0001 | -.0100 | .0153 | 5.141 | 19.91 | .2554 | .0008 | 40.24 | .0019 | -.0012 |
| #2 | -.0013 | -.0081 | .0232 | 5.014 | 20.04 | .2522 | .0004 | 40.15 | .0032 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0154 | .0052 | -.0028 | 8.203 | -.0023 | .5093 | .0032 | .0019 | -.0021 |
| Stddev | .0059 | .0054 | .0039 | .0133 | .006 | .0006 | .0004 | .0010 | .0031 | .0008 |
| %RSD | 179.7 | 34.94 | 75.14 | 470.6 | .0701 | 24.12 | .0718 | 32.20 | 162.5 | 37.19 |
| #1 | .0009 | -.0116 | .0080 | -.0122 | 8.199 | -.0027 | .5090 | .0039 | .0041 | -.0027 |
| #2 | -.0074 | -.0193 | .0025 | .0066 | 8.207 | -.0019 | .5096 | .0024 | -.0003 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0532 | .0098 | -.0021 |
| Stddev | .0286 | .0009 | .0016 |
| %RSD | 53.67 | 9.160 | 75.34 |
| #1 | .0734 | .0105 | -.0010 |
| #2 | .0330 | .0092 | -.0032 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.7 | 57019. | 13712. |
| Stddev | .7 | 316. | 32. |
| %RSD | .03015 | .55456 | .23220 |
| #1 | 2297.2 | 56795. | 13690. |
| #2 | 2296.3 | 57243. | 13735. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 16:52:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2579 | 9.795 | 1.905 | -.0002 | 1.951 | 1.991 | 2.082 | 9.983 | 1.950 | 2.001 |
| Stddev | .0002 | .004 | .007 | .0001 | .001 | .002 | .002 | .003 | .000 | .002 |
| %RSD | .0863 | .0398 | .3735 | 52.21 | .0337 | .1154 | .0763 | .0287 | .0031 | .1009 |
| #1 | .2577 | 9.792 | 1.910 | -.0003 | 1.951 | 1.989 | 2.081 | 9.981 | 1.950 | 2.002 |
| #2 | .2580 | 9.798 | 1.900 | -.0001 | 1.950 | 1.993 | 2.084 | 9.985 | 1.950 | 2.000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.035 | 2.057 | 9.840 | 10.11 | 10.23 | 1.951 | 1.912 | 9.722 | 1.835 | 1.874 |
| Stddev | .005 | .003 | .006 | .01 | .02 | .000 | .001 | .014 | .001 | .002 |
| %RSD | .2319 | .1197 | .0639 | .1033 | .2044 | .0031 | .0293 | .1466 | .0270 | .0854 |
| #1 | 2.031 | 2.055 | 9.836 | 10.11 | 10.22 | 1.951 | 1.913 | 9.712 | 1.835 | 1.875 |
| #2 | 2.038 | 2.058 | 9.845 | 10.12 | 10.25 | 1.951 | 1.912 | 9.732 | 1.834 | 1.873 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0024 | 1.885 | 1.889 | .0142 | 1.840 | 2.031 | 1.984 | 1.951 | 2.036 |
| Stddev | .0003 | .0006 | .000 | .001 | .0016 | .002 | .003 | .003 | .004 | .002 |
| %RSD | 25.11 | 26.35 | .0087 | .0734 | 10.95 | .1127 | .1480 | .1519 | .1966 | .0718 |
| #1 | -.0014 | .0029 | 1.885 | 1.890 | .0153 | 1.841 | 2.029 | 1.981 | 1.954 | 2.035 |
| #2 | -.0010 | .0020 | 1.885 | 1.888 | .0131 | 1.838 | 2.033 | 1.986 | 1.948 | 2.037 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0111 | 1.925 | -.0033 |
| Stddev | .0029 | .004 | .0002 |
| %RSD | 26.18 | .2118 | 6.611 |
| #1 | -.0132 | 1.928 | -.0031 |
| #2 | -.0091 | 1.922 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2291.2 | 56908. | 13755. |
| Stddev | 3.8 | 137. | 36. |
| %RSD | .16763 | .24137 | .26327 |
| #1 | 2293.9 | 57005. | 13729. |
| #2 | 2288.5 | 56811. | 13781. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:57:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0110 | -.0005 | .0011 | .0016 | .0005 | .0004 | .0006 | .0003 | .0006 |
| Stddev | .0003 | .0118 | .0006 | .0001 | .0004 | .0001 | .0000 | .0012 | .0000 | .0002 |
| %RSD | 29.92 | 107.2 | 115.4 | 7.744 | 24.01 | 15.14 | 10.16 | 194.4 | 16.52 | 39.55 |
| #1 | -.0009 | -.0027 | -.0009 | .0010 | .0019 | .0005 | .0004 | .0014 | .0003 | .0007 |
| #2 | -.0014 | -.0194 | -.0001 | .0011 | .0014 | .0006 | .0004 | -.0002 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0016 | .0021 | .0322 | -.0064 | .0004 | .0012 | .0115 | .0002 | .0006 |
| Stddev | .0001 | .0004 | .0003 | .0778 | .0062 | .0000 | .0004 | .0022 | .0002 | .0003 |
| %RSD | 35.55 | 24.63 | 15.69 | 242.0 | 97.65 | .9270 | 33.48 | 19.31 | 77.22 | 48.23 |
| #1 | .0002 | -.0013 | .0019 | -.0229 | -.0108 | .0004 | .0014 | .0100 | .0003 | .0004 |
| #2 | .0001 | -.0019 | .0024 | .0872 | -.0020 | .0004 | .0009 | .0131 | .0001 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0006 | .0016 | -.0003 | -.0023 | .0004 | .0005 | .0006 | .0016 | .0000 |
| Stddev | .0020 | .0007 | .0000 | .0002 | .0001 | .0000 | .0000 | .0003 | .0006 | .0003 |
| %RSD | 445.7 | 116.7 | 1.832 | 66.11 | 2.708 | 8.900 | .0801 | 45.80 | 37.57 | 1651. |
| #1 | .0018 | -.0001 | .0016 | -.0002 | -.0024 | .0004 | .0005 | .0004 | .0011 | -.0002 |
| #2 | -.0009 | -.0011 | .0017 | -.0005 | -.0023 | .0004 | .0005 | .0008 | .0020 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0002 | .0001 |
| Stddev | .0103 | .0001 | .0000 |
| %RSD | 689.5 | 46.36 | 4.261 |
| #1 | -.0058 | .0003 | .0001 |
| #2 | .0088 | .0002 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2307.5 | 57508. | 13676. |
| Stddev | 7.8 | 14. | 12. |
| %RSD | .33985 | .02486 | .08508 |
| #1 | 2301.9 | 57518. | 13684. |
| #2 | 2313.0 | 57498. | 13667. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/4/2013 17:01:51 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0536 | .6902 | .0028 | .1039 | .0149 | .0000 | 99.58 | .0066 | .0065 |
| Stddev | .0006 | .0084 | .0037 | .0000 | .0004 | .0000 | .0001 | .21 | .0002 | .0006 |
| %RSD | 45.77 | 15.65 | .5332 | 1.666 | .3964 | .3291 | 276.8 | .2090 | 3.277 | 9.465 |
| #1 | -.0009 | -.0477 | .6876 | .0027 | .1036 | .0149 | .0001 | 99.73 | .0065 | .0070 |
| #2 | -.0018 | -.0596 | .6928 | .0028 | .1042 | .0148 | .0000 | 99.44 | .0068 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0032 | 14.56 | 3.657 | 13.42 | 2.574 | .0054 | 113.7 | .0037 | .0006 |
| Stddev | .0010 | .0003 | .08 | .037 | .05 | .002 | .0002 | .3 | .0000 | .0012 |
| %RSD | 147.2 | 10.76 | .5157 | 1.003 | .3684 | .0949 | 3.898 | .2641 | .0535 | 199.1 |
| #1 | .0000 | -.0029 | 14.61 | 3.683 | 13.45 | 2.572 | .0056 | 113.9 | .0037 | -.0003 |
| #2 | -.0013 | -.0034 | 14.50 | 3.631 | 13.38 | 2.576 | .0053 | 113.5 | .0037 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0137 | .0014 | .0013 | 15.81 | -.0003 | .4516 | .0015 | .0010 | -.0011 |
| Stddev | .0000 | .0062 | .0004 | .0003 | .01 | .0012 | .0010 | .0011 | .0002 | .0006 |
| %RSD | .8946 | 45.33 | 27.23 | 18.83 | .0458 | 380.9 | .2177 | 71.30 | 16.28 | 52.39 |
| #1 | -.0053 | .0093 | .0016 | .0012 | 15.81 | .0005 | .4523 | .0007 | .0009 | -.0016 |
| #2 | -.0054 | .0180 | .0011 | .0015 | 15.82 | -.0011 | .4509 | .0022 | .0011 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0099 | -.0025 |
| Stddev | .0069 | .0000 | .0009 |
| %RSD | 890.1 | .0467 | 35.38 |
| #1 | -.0041 | .0099 | -.0019 |
| #2 | .0056 | .0098 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.1 | 57146. | 13757. |
| Stddev | .1 | 494. | 37. |
| %RSD | .00631 | .86524 | .27006 |
| #1 | 2279.9 | 57496. | 13730. |
| #2 | 2280.2 | 56797. | 13783. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/4/2013 17:06:12 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0645 | .7733 | .0019 | .0642 | .0340 | .0001 | 18.41 | .0073 | .0132 |
| Stddev | .0014 | .0078 | .0075 | .0045 | .0006 | .0003 | .0000 | .04 | .0002 | .0006 |
| %RSD | 38.74 | 12.14 | .9721 | 238.9 | .9269 | .9529 | 59.61 | .2020 | 2.067 | 4.894 |
| #1 | -.0026 | -.0700 | .7680 | .0050 | .0646 | .0338 | .0001 | 18.38 | .0072 | .0127 |
| #2 | -.0045 | -.0589 | .7786 | -.0013 | .0638 | .0342 | .0000 | 18.44 | .0074 | .0136 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0045 | 31.45 | 9.588 | 3.653 | .7947 | .0035 | 5.274 | .0032 | .0013 |
| Stddev | .0004 | .0005 | .04 | .066 | .029 | .0024 | .0000 | .006 | .0001 | .0013 |
| %RSD | 31.88 | 10.66 | .1413 | .6918 | .7957 | .2958 | 1.231 | .1098 | 3.319 | 99.14 |
| #1 | -.0010 | -.0048 | 31.42 | 9.541 | 3.632 | .7931 | .0034 | 5.278 | .0033 | .0004 |
| #2 | -.0016 | -.0041 | 31.48 | 9.635 | 3.673 | .7964 | .0035 | 5.270 | .0032 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0075 | .0030 | -.0003 | 6.466 | -.0013 | .2172 | .0000 | .0044 | -.0004 |
| Stddev | .0027 | .0083 | .0023 | .0009 | .001 | .0004 | .0002 | .000 | .0029 | .0002 |
| %RSD | 343.9 | 109.7 | 76.41 | 301.6 | .0219 | 30.92 | .1050 | 171.9 | 66.58 | 38.96 |
| #1 | .0027 | .0134 | .0047 | .0003 | 6.465 | -.0016 | .2170 | -.0001 | .0065 | -.0003 |
| #2 | -.0011 | .0017 | .0014 | -.0009 | 6.467 | -.0010 | .2173 | .0000 | .0023 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0126 | .0095 | -.0016 |
| Stddev | .0119 | .0000 | .0007 |
| %RSD | 94.28 | .1315 | 44.35 |
| #1 | .0042 | .0095 | -.0011 |
| #2 | .0210 | .0095 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2301.1 | 56529. | 13698. |
| Stddev | 4.3 | 33. | 52. |
| %RSD | .18645 | .05890 | .38221 |
| #1 | 2304.1 | 56553. | 13735. |
| #2 | 2298.0 | 56506. | 13661. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/4/2013 17:10:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0835 | .7175 | .0055 | .1298 | .1121 | -.0006 | 46.95 | .0059 | .0018 |
| Stddev | .0028 | .0148 | .0082 | .0025 | .0006 | .0007 | .0001 | .03 | .0004 | .0010 |
| %RSD | 70.77 | 17.76 | 1.140 | 45.54 | .4521 | .6120 | 13.14 | .0649 | 5.936 | 56.11 |
| #1 | -.0059 | -.0939 | .7232 | .0073 | .1293 | .1116 | -.0007 | 46.97 | .0057 | .0011 |
| #2 | -.0020 | -.0730 | .7117 | .0037 | .1302 | .1126 | -.0006 | 46.93 | .0062 | .0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0083 | 67.83 | 9.632 | 5.423 | 1.747 | -.0001 | 16.48 | .0005 | -.0024 |
| Stddev | .0018 | .0011 | .18 | .081 | .035 | .001 | .0006 | .16 | .0004 | .0038 |
| %RSD | 99.44 | 13.59 | .2706 | .8372 | .6528 | .0543 | 636.8 | .9697 | 76.09 | 157.6 |
| #1 | -.0031 | -.0075 | 67.96 | 9.689 | 5.448 | 1.748 | -.0005 | 16.36 | .0002 | .0003 |
| #2 | -.0005 | -.0091 | 67.70 | 9.575 | 5.398 | 1.747 | .0003 | 16.59 | .0008 | -.0051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | -.0100 | .0003 | .0014 | 13.36 | -.0015 | .4377 | .0007 | .0068 | -.0010 |
| Stddev | .0007 | .0012 | .0010 | .0073 | .01 | .0002 | .0058 | .0002 | .0002 | .0010 |
| %RSD | 16.10 | 11.64 | 355.8 | 513.8 | .0873 | 10.78 | 1.314 | 29.34 | 2.859 | 103.2 |
| #1 | .0050 | -.0108 | -.0004 | .0065 | 13.37 | -.0016 | .4337 | .0005 | .0067 | -.0017 |
| #2 | .0040 | -.0091 | .0010 | -.0037 | 13.35 | -.0014 | .4418 | .0008 | .0070 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0053 | -.0015 |
| Stddev | .0158 | .0003 | .0004 |
| %RSD | 631.7 | 5.867 | 28.04 |
| #1 | -.0087 | .0051 | -.0018 |
| #2 | .0137 | .0055 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2317.0 | 57410. | 13558. |
| Stddev | 1.1 | 94. | 63. |
| %RSD | .04953 | .16426 | .46284 |
| #1 | 2316.2 | 57477. | 13514. |
| #2 | 2317.8 | 57343. | 13603. |

Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/4/2013 17:14:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0461 | .2247 | .0007 | .2889 | .0501 | .0000 | 65.93 | .0019 | .0155 |
| Stddev | .0015 | .0183 | .0021 | .0001 | .0011 | .0000 | .000 | .07 | .0002 | .0004 |
| %RSD | 109.3 | 39.58 | .9538 | 7.581 | .3770 | .0560 | 36460. | .0993 | 9.916 | 2.799 |
| #1 | -.0003 | -.0332 | .2263 | .0007 | .2897 | .0501 | -.0002 | 65.89 | .0021 | .0158 |
| #2 | -.0025 | -.0591 | .2232 | .0008 | .2881 | .0501 | .0002 | 65.98 | .0018 | .0152 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | 49.07 | 9.551 | 11.29 | 2.918 | .0007 | 27.19 | .0023 | -.0010 |
| Stddev | .0002 | .0002 | .10 | .045 | .01 | .000 | .0003 | .06 | .0001 | .0002 |
| %RSD | 52.77 | 5.031 | .2029 | .4684 | .0934 | .0116 | 44.56 | .2261 | 4.060 | 19.81 |
| #1 | -.0004 | -.0035 | 49.14 | 9.519 | 11.28 | 2.918 | .0009 | 27.14 | .0023 | -.0012 |
| #2 | -.0002 | -.0038 | 49.00 | 9.583 | 11.30 | 2.918 | .0005 | 27.23 | .0024 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0096 | .0004 | .0020 | 7.094 | -.0008 | .4075 | .0011 | -.0004 | -.0004 |
| Stddev | .0042 | .0057 | .0016 | .0027 | .013 | .0001 | .0017 | .0001 | .0003 | .0004 |
| %RSD | 118.7 | 59.80 | 417.7 | 137.1 | .1814 | 15.15 | .4092 | 7.928 | 86.47 | 105.3 |
| #1 | -.0065 | .0137 | .0015 | .0039 | 7.103 | -.0009 | .4087 | .0011 | -.0001 | -.0007 |
| #2 | -.0006 | .0055 | -.0007 | .0001 | 7.084 | -.0007 | .4063 | .0012 | -.0006 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0020 | .0105 | -.0009 |
| Stddev | .0029 | .0001 | .0004 |
| %RSD | 143.7 | 1.086 | 37.26 |
| #1 | -.0040 | .0106 | -.0012 |
| #2 | .0000 | .0104 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.9 | 56653. | 13677. |
| Stddev | 3.1 | 206. | 17. |
| %RSD | .13785 | .36412 | .12386 |
| #1 | 2279.6 | 56798. | 13665. |
| #2 | 2284.1 | 56507. | 13689. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 17:19:13 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0043 | .1789 | .0031 | .0000 | .1002 | .0520 | .0045 | 5.102 | .0040 | .0516 |
| Stddev | .0006 | .0005 | .0011 | .0015 | .0005 | .0009 | .0001 | .093 | .0001 | .0001 |
| %RSD | 14.94 | .2726 | 34.06 | 3433. | .5181 | 1.797 | 2.207 | 1.821 | 2.063 | .2777 |
| #1 | .0048 | .1786 | .0038 | -.0010 | .0998 | .0514 | .0045 | 5.036 | .0041 | .0515 |
| #2 | .0039 | .1792 | .0023 | .0011 | .1006 | .0527 | .0046 | 5.167 | .0040 | .0517 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0101 | .0234 | .1151 | 5.253 | 5.266 | .0161 | .0987 | 4.890 | .0383 | .0051 |
| Stddev | .0001 | .0001 | .0027 | .099 | .126 | .0001 | .0002 | .067 | .0003 | .0002 |
| %RSD | .8472 | .4067 | 2.357 | 1.878 | 2.394 | .3541 | .2252 | 1.373 | .8792 | 4.410 |
| #1 | .0100 | .0235 | .1132 | 5.183 | 5.177 | .0162 | .0985 | 4.842 | .0380 | .0049 |
| #2 | .0101 | .0233 | .1170 | 5.323 | 5.355 | .0161 | .0988 | 4.937 | .0385 | .0053 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0000 | .0057 | .0101 | .0067 | .0940 | .0108 | .0523 | .0061 | .0107 |
| Stddev | .0022 | .0035 | .0009 | .0002 | .0003 | .0001 | .0002 | .0003 | .0001 | .0004 |
| %RSD | 141.8 | 35210. | 15.28 | 1.825 | 3.925 | .0732 | 1.689 | .5936 | 2.204 | 3.870 |
| #1 | .0031 | .0025 | .0064 | .0099 | .0068 | .0940 | .0106 | .0526 | .0060 | .0104 |
| #2 | .0000 | -.0025 | .0051 | .0102 | .0065 | .0941 | .0109 | .0521 | .0062 | .0110 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0208 | -.0003 |
| Stddev | .0016 | .0003 | .0001 |
| %RSD | 669.1 | 1.301 | 47.47 |
| #1 | -.0009 | .0206 | -.0004 |
| #2 | .0013 | .0210 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2313.8 | 57200. | 13439. |
| Stddev | .5 | 148. | 190. |
| %RSD | .02028 | .25801 | 1.4111 |
| #1 | 2313.5 | 57096. | 13573. |
| #2 | 2314.1 | 57305. | 13305. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 17:23:30 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2583 | 9.830 | 1.918 | -.0005 | 1.962 | 1.991 | 2.087 | 9.980 | 1.959 | 2.012 |
| Stddev | .0007 | .010 | .001 | .0006 | .004 | .003 | .002 | .004 | .001 | .001 |
| %RSD | .2673 | .0995 | .0429 | 117.7 | .1790 | .1563 | .1165 | .0447 | .0554 | .0544 |
| #1 | .2578 | 9.837 | 1.917 | -.0009 | 1.959 | 1.989 | 2.085 | 9.977 | 1.958 | 2.011 |
| #2 | .2588 | 9.823 | 1.918 | -.0001 | 1.964 | 1.993 | 2.089 | 9.984 | 1.959 | 2.013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.043 | 2.063 | 9.860 | 10.08 | 10.21 | 1.965 | 1.918 | 9.718 | 1.843 | 1.879 |
| Stddev | .005 | .006 | .003 | .01 | .03 | .004 | .004 | .009 | .002 | .003 |
| %RSD | .2469 | .2799 | .0333 | .0960 | .3005 | .2145 | .2033 | .0964 | .1015 | .1372 |
| #1 | 2.039 | 2.059 | 9.857 | 10.07 | 10.19 | 1.962 | 1.916 | 9.725 | 1.841 | 1.881 |
| #2 | 2.046 | 2.067 | 9.862 | 10.09 | 10.23 | 1.968 | 1.921 | 9.711 | 1.844 | 1.878 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0007 | 1.891 | 1.891 | .1436 | 1.845 | 2.032 | 1.991 | 1.955 | 2.051 |
| Stddev | .0001 | .0002 | .001 | .001 | .0002 | .000 | .002 | .001 | .002 | .002 |
| %RSD | 7.847 | 35.67 | .0280 | .0348 | .1255 | .0186 | .1171 | .0660 | .0875 | .0783 |
| #1 | -.0009 | -.0005 | 1.890 | 1.891 | .1435 | 1.845 | 2.030 | 1.990 | 1.954 | 2.049 |
| #2 | -.0010 | -.0008 | 1.891 | 1.890 | .1437 | 1.845 | 2.033 | 1.992 | 1.956 | 2.052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.932 | -.0017 |
| Stddev | .0029 | .000 | .0001 |
| %RSD | 19.91 | .0002 | 7.353 |
| #1 | -.0124 | 1.932 | -.0018 |
| #2 | -.0165 | 1.932 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.2 | 56235. | 13836. |
| Stddev | 4.5 | 366. | 64. |
| %RSD | .19464 | .65100 | .46002 |
| #1 | 2298.4 | 56494. | 13881. |
| #2 | 2292.0 | 55976. | 13791. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 17:30:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0072 | -.0005 | -.0004 | .0015 | .0006 | .0003 | -.0131 | .0001 | .0005 |
| Stddev | .0006 | .0007 | .0011 | .0002 | .0000 | .0001 | .0000 | .0016 | .0001 | .0000 |
| %RSD | 61.60 | 9.139 | 241.8 | 58.68 | 2.782 | 13.98 | 3.664 | 12.55 | 99.37 | 8.206 |
| #1 | -.0013 | -.0068 | .0003 | -.0002 | .0015 | .0005 | .0003 | -.0120 | .0001 | .0005 |
| #2 | -.0005 | -.0077 | -.0013 | -.0005 | .0016 | .0006 | .0003 | -.0143 | .0000 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0014 | .0001 | .0257 | .0039 | .0005 | .0008 | .0085 | .0001 | -.0004 |
| Stddev | .0001 | .0005 | .0003 | .0423 | .0207 | .0001 | .0002 | .0068 | .0000 | .0003 |
| %RSD | 148.7 | 34.59 | 225.9 | 164.6 | 527.9 | 17.42 | 24.59 | 79.93 | 46.84 | 63.53 |
| #1 | .0000 | -.0018 | -.0001 | .0557 | -.0107 | .0006 | .0009 | .0134 | .0000 | -.0002 |
| #2 | -.0002 | -.0011 | .0003 | -.0042 | .0186 | .0005 | .0007 | .0037 | .0001 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0027 | .0000 | .0004 | .0017 | .0003 | .0003 | .0003 | .0020 | -.0004 |
| Stddev | .0011 | .0067 | .0006 | .0008 | .0001 | .0002 | .0000 | .0002 | .0009 | .0003 |
| %RSD | 1856. | 252.0 | 3605. | 206.6 | 4.914 | 54.37 | 5.008 | 87.81 | 47.13 | 81.65 |
| #1 | .0008 | -.0074 | .0005 | .0010 | .0017 | .0004 | .0003 | .0001 | .0026 | -.0006 |
| #2 | -.0007 | .0021 | -.0004 | -.0002 | .0016 | .0002 | .0003 | .0004 | .0013 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0002 | .0000 |
| Stddev | .0085 | .0001 | .000 |
| %RSD | 260.2 | 42.70 | 4643. |
| #1 | -.0028 | .0003 | .0000 |
| #2 | .0093 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2316.0 | 57590. | 13649. |
| Stddev | .2 | 187. | 101. |
| %RSD | .00951 | .32511 | .74058 |
| #1 | 2316.2 | 57723. | 13578. |
| #2 | 2315.9 | 57458. | 13721. |



**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000172 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006301 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | -0.000137 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.000766 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000089 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000078 | 0.000000 | No |
| | | | | Mn | 0.000138 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000049 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000038 | 0.000000 | No |
| | | | | Cr | 0.010126 | 0.000000 | No |
| | | | | Mo | -0.003392 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000400 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | 0.000039 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000209 | 0.000000 | No |
| | | | | Mn | 0.000495 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001294 | 0.000000 | No |
| | | | | Cr | 0.000325 | 0.000000 | No |
| | | | | V | -0.026555 | 0.000000 | No |
| | | | | Co | 0.001673 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001617 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.000766 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0028 | .0011 | .0007 | .0001 | .0009 | .0083 | -.0001 | .0061 | .0029 |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0002 | .0004 | .0000 | .0001 | .0002 |
| %RSD | 4.644 | 18.58 | 11.07 | 8.497 | 23.00 | 4.518 | 47.28 | .8999 | 5.360 |
| #1 | -.0027 | .0009 | .0007 | .0001 | .0011 | .0081 | -.0001 | .0061 | .0028 |
| #2 | -.0029 | .0012 | .0008 | .0001 | .0008 | .0086 | -.0001 | .0062 | .0030 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0001 | .0002 | .0140 | .0007 | .0016 | -.0002 | .0010 | .0003 | .0008 |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0003 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 235.7 | 28.90 | .4961 | 24.87 | 17.79 | 100.9 | 3.334 | 39.39 | 40.56 |
| #1 | .0000 | .0001 | .0140 | .0008 | .0014 | .0000 | .0010 | .0003 | .0006 |
| #2 | .0001 | .0002 | .0141 | .0006 | .0018 | -.0003 | .0011 | .0002 | .0010 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0011 | -.0003 | .0001 | .0001 | .0001 | .0007 | .0269 | -.0004 | .0032 |
| Stddev | .0001 | .0002 | .0001 | .0001 | .0001 | .0001 | .0004 | .0001 | .0003 |
| %RSD | 8.003 | 68.26 | 123.8 | 96.43 | 117.4 | 11.05 | 1.469 | 37.79 | 9.546 |
| #1 | -.0012 | -.0001 | .0000 | .0000 | .0000 | .0006 | .0272 | -.0003 | .0034 |
| #2 | -.0010 | -.0004 | .0002 | .0002 | .0001 | .0007 | .0266 | -.0005 | .0030 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0002 | -.0007 | .0003 | -.0001 | .0008 | .0004 |
| Stddev | .0000 | .0001 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 9.703 | 9.132 | 33.23 | 175.3 | 21.55 | 35.46 |
| #1 | -.0002 | -.0008 | .0003 | -.0001 | .0009 | .0005 |
| #2 | -.0002 | -.0007 | .0002 | .0000 | .0007 | .0003 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2436.6 | 60774. | 15468. |
| Stddev | 27.8 | 152. | 122. |
| %RSD | 1.1391 | .24941 | .79097 |
| #1 | 2417.0 | 60882. | 15554. |
| #2 | 2456.2 | 60667. | 15381. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/5/2013 9:22:26 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1570 | .5432 | 2.076 | 15.09 | 15.85 | 8.830 | 8.257 | 1.031 | 1.870 | 6.198 |
| Stddev | .0008 | .0008 | .000 | .02 | .01 | .006 | .004 | .009 | .021 | .015 |
| %RSD | .5215 | .1411 | .0005 | .1404 | .0520 | .0631 | .0423 | .8487 | 1.123 | .2364 |
| #1 | .1575 | .5426 | 2.076 | 15.08 | 15.84 | 8.834 | 8.260 | 1.037 | 1.885 | 6.208 |
| #2 | .1564 | .5437 | 2.076 | 15.11 | 15.86 | 8.826 | 8.255 | 1.024 | 1.855 | 6.187 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6.972 | 7.209 | 2.845 | 1.529 | .7587 | 1.090 | 10.85 |
| Stddev | .001 | .001 | .002 | .000 | .0005 | .001 | .00 |
| %RSD | .0182 | .0092 | .0565 | .0190 | .0707 | .0956 | .0261 |
| #1 | 6.971 | 7.209 | 2.844 | 1.529 | .7591 | 1.091 | 10.85 |
| #2 | 6.973 | 7.209 | 2.847 | 1.528 | .7584 | 1.089 | 10.85 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2472.0 | 59342. | 13928. |
| Stddev | 2.3 | 145. | 77. |
| %RSD | .09474 | .24474 | .55287 |
| #1 | 2470.3 | 59240. | 13874. |
| #2 | 2473.6 | 59445. | 13983. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/5/2013 9:26:47 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.418 | 2.703 | 1.476 | .7017 | .2102 | 2.493 |
| Stddev | .002 | .004 | .006 | .0032 | .0009 | .001 |
| %RSD | .1709 | .1418 | .4225 | .4525 | .4520 | .0204 |
| #1 | 1.416 | 2.700 | 1.472 | .6995 | .2095 | 2.493 |
| #2 | 1.420 | 2.706 | 1.481 | .7040 | .2108 | 2.494 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13827. |
| Stddev | 45. |
| %RSD | .32895 |
| #1 | 13795. |
| #2 | 13859. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/5/2013 9:31:05 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2940 | .5144 | .0844 | 2.018 | 1.871 | 19.04 | 1.592 | 1.279 | .0759 | 3.060 |
| Stddev | .0002 | .0001 | .0001 | .005 | .003 | .78 | .002 | .002 | .0004 | .004 |
| %RSD | .0754 | .0199 | .1168 | .2439 | .1608 | 4.121 | .1124 | .1345 | .5683 | .1136 |
| #1 | .2939 | .5143 | .0843 | 2.015 | 1.869 | 18.49 | 1.593 | 1.278 | .0756 | 3.058 |
| #2 | .2942 | .5145 | .0845 | 2.022 | 1.873 | 19.59 | 1.591 | 1.280 | .0762 | 3.063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2522.0 | 58630. | 13794. |
| Stddev | .8 | 89. | 192. |
| %RSD | .03242 | .15146 | 1.3894 |
| #1 | 2522.6 | 58693. | 13929. |
| #2 | 2521.4 | 58567. | 13658. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/5/2013 9:35:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5148 | 15.75 | 2.986 | 2.983 | 3.031 | 3.047 | 3.016 | 18.13 | 2.963 | 2.957 |
| Stddev | .0031 | .03 | .002 | .018 | .001 | .010 | .012 | .05 | .002 | .003 |
| %RSD | .6010 | .2198 | .0709 | .6097 | .0451 | .3224 | .4027 | .2919 | .0634 | .0873 |
| #1 | .5126 | 15.72 | 2.985 | 2.970 | 3.032 | 3.040 | 3.008 | 18.09 | 2.965 | 2.959 |
| #2 | .5170 | 15.77 | 2.988 | 2.996 | 3.030 | 3.054 | 3.025 | 18.16 | 2.962 | 2.955 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.085 | 2.945 | 18.21 | 15.41 | 18.34 | 3.044 | 2.865 | 15.52 | 2.868 | 2.900 |
| Stddev | .021 | .013 | .06 | .06 | .15 | .019 | .000 | .04 | .003 | .002 |
| %RSD | .6771 | .4261 | .3108 | .3819 | .8188 | .6202 | .0014 | .2774 | .1122 | .0821 |
| #1 | 3.070 | 2.937 | 18.17 | 15.37 | 18.23 | 3.031 | 2.865 | 15.49 | 2.871 | 2.902 |
| #2 | 3.100 | 2.954 | 18.25 | 15.46 | 18.44 | 3.057 | 2.865 | 15.55 | 2.866 | 2.899 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.041 | 2.987 | 2.934 | 2.932 | 3.000 | 3.061 | 2.996 | 3.004 | 2.949 | 2.966 |
| Stddev | .008 | .028 | .002 | .005 | .004 | .003 | .014 | .016 | .003 | .018 |
| %RSD | .2756 | .9219 | .0778 | .1658 | .1398 | .0916 | .4800 | .5286 | .1130 | .5987 |
| #1 | 3.035 | 2.968 | 2.935 | 2.935 | 3.003 | 3.063 | 2.986 | 2.993 | 2.952 | 2.954 |
| #2 | 3.047 | 3.007 | 2.932 | 2.928 | 2.997 | 3.059 | 3.006 | 3.016 | 2.947 | 2.979 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 2.987 | 2.860 | 3.116 |
| Stddev | .012 | .004 | .019 |
| %RSD | .3925 | .1292 | .6088 |
| #1 | 2.978 | 2.863 | 3.102 |
| #2 | 2.995 | 2.857 | 3.129 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2490.8 | 58027. | 13825. |
| Stddev | 4.2 | 512. | 20. |
| %RSD | .16674 | .88276 | .14484 |
| #1 | 2487.9 | 58389. | 13839. |
| #2 | 2493.8 | 57665. | 13811. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/5/2013 9:40:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0095 | .0010 | .0041 | .0035 | .0004 | F.0005 | .0152 | .0000 |
| Stddev | .0005 | .0023 | .0003 | .0007 | .0004 | .0004 | .0000 | .0015 | .000 |
| %RSD | 88.39 | 24.61 | 24.54 | 17.77 | 12.47 | 109.7 | .6917 | 9.741 | 706.1 |
| #1 | -.0009 | .0112 | .0012 | .0046 | .0038 | .0007 | .0005 | .0162 | .0001 |
| #2 | -.0002 | .0079 | .0009 | .0036 | .0032 | .0001 | .0005 | .0141 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0000 | .0008 | .0037 | .0156 | .0126 | .0005 | .0018 | .0034 |
| Stddev | .0001 | .0003 | .0003 | .0045 | .0142 | .0099 | .0000 | .0003 | .0019 |
| %RSD | 26.09 | 1602. | 36.40 | 122.0 | 90.96 | 79.04 | 1.320 | 14.88 | 58.04 |
| #1 | .0005 | -.0002 | .0011 | .0005 | .0257 | .0055 | .0005 | .0020 | .0020 |
| #2 | .0003 | .0002 | .0006 | .0069 | .0056 | .0196 | .0005 | .0016 | .0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0005 | .0012 | -.0090 | .0001 | .0011 | -.0034 | .0010 | .0007 |
| Stddev | .0001 | .0002 | .0015 | .0029 | .0003 | .0014 | .0000 | .0002 | .0000 |
| %RSD | 61.76 | 33.85 | 121.8 | 32.49 | 185.8 | 124.1 | .2056 | 21.25 | 6.691 |
| #1 | .0003 | .0006 | .0022 | -.0069 | .0000 | .0020 | -.0034 | .0008 | .0007 |
| #2 | .0001 | .0004 | .0002 | -.0110 | .0003 | .0001 | -.0034 | .0011 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0007 | .0016 | .0116 | .0000 | .0018 |
| Stddev | .0004 | .0003 | .0006 | .0037 | .0002 | .0004 |
| %RSD | 53.94 | 49.08 | 35.87 | 31.79 | 1921. | 24.15 |
| #1 | .0004 | .0009 | .0012 | .0090 | .0001 | .0022 |
| #2 | .0010 | .0004 | .0019 | .0142 | -.0001 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2503.9 | 58652. | 13752. |
| Stddev | 5.7 | 72. | 5. |
| %RSD | .22576 | .12294 | .03885 |
| #1 | 2507.9 | 58703. | 13755. |
| #2 | 2499.9 | 58601. | 13748. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 9:45:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.979 | 1.953 | -.0013 | 1.971 | 1.948 | 1.993 | 9.879 | 1.946 | 2.035 |
| Stddev | .0008 | .001 | .005 | .0002 | .000 | .006 | .008 | .027 | .001 | .001 |
| %RSD | .3047 | .0113 | .2752 | 18.52 | .0094 | .3107 | .4188 | .2761 | .0511 | .0481 |
| #1 | .2482 | 9.980 | 1.949 | -.0015 | 1.971 | 1.953 | 1.999 | 9.898 | 1.945 | 2.036 |
| #2 | .2471 | 9.978 | 1.957 | -.0012 | 1.970 | 1.944 | 1.987 | 9.860 | 1.946 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.997 | 1.953 | 9.748 | 9.844 | 9.616 | 2.053 | 1.956 | 9.960 | 1.934 | 1.914 |
| Stddev | .001 | .002 | .041 | .017 | .033 | .005 | .001 | .028 | .002 | .000 |
| %RSD | .0435 | .0799 | .4219 | .1684 | .3413 | .2473 | .0540 | .2798 | .0932 | .0068 |
| #1 | 1.998 | 1.952 | 9.777 | 9.855 | 9.639 | 2.057 | 1.955 | 9.979 | 1.933 | 1.914 |
| #2 | 1.997 | 1.954 | 9.718 | 9.832 | 9.593 | 2.050 | 1.956 | 9.940 | 1.935 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0036 | 1.954 | 1.950 | -.0277 | 1.954 | 1.921 | 1.962 | 1.978 | 1.964 |
| Stddev | .0009 | .0049 | .001 | .002 | .0003 | .000 | .008 | .004 | .002 | .005 |
| %RSD | 45.64 | 136.5 | .0301 | .0801 | 1.027 | .0048 | .4365 | .2256 | .1143 | .2571 |
| #1 | -.0013 | .0071 | 1.953 | 1.949 | -.0279 | 1.954 | 1.927 | 1.965 | 1.980 | 1.967 |
| #2 | -.0026 | .0001 | 1.954 | 1.951 | -.0275 | 1.954 | 1.916 | 1.959 | 1.977 | 1.960 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | 1.927 | .0015 |
| Stddev | .0053 | .001 | .0005 |
| %RSD | 41.79 | .0436 | 33.44 |
| #1 | .0090 | 1.927 | .0018 |
| #2 | .0165 | 1.928 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2489.5 | 57676. | 13954. |
| Stddev | .2 | 562. | 103. |
| %RSD | .00887 | .97511 | .73466 |
| #1 | 2489.4 | 57278. | 14026. |
| #2 | 2489.7 | 58073. | 13881. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 9:51:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0184 | .0012 | .0026 | .0020 | .0000 | .0001 | .0115 | .0002 | .0004 |
| Stddev | .0002 | .0052 | .0001 | .0007 | .0002 | .000 | .0001 | .0006 | .0001 | .0002 |
| %RSD | 91.75 | 28.47 | 8.550 | 27.80 | 11.03 | 717.9 | 51.12 | 5.587 | 61.07 | 48.81 |
| #1 | -.0001 | .0221 | .0013 | .0021 | .0022 | .0001 | .0001 | .0120 | .0001 | .0003 |
| #2 | -.0004 | .0147 | .0011 | .0031 | .0019 | -.0002 | .0001 | .0111 | .0003 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0005 | -.0003 | -.0100 | .0023 | .0001 | .0009 | -.0006 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0005 | .0595 | .0159 | .0001 | .0000 | .0157 | .0000 | .0004 |
| %RSD | 46.57 | 200.7 | 177.3 | 592.5 | 694.4 | 60.78 | 1.699 | 2844. | 24.34 | 598.1 |
| #1 | -.0004 | -.0002 | -.0006 | -.0521 | -.0090 | .0001 | .0009 | -.0117 | .0001 | -.0004 |
| #2 | -.0008 | .0011 | .0001 | .0320 | .0136 | .0002 | .0009 | .0106 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0006 | .0003 | .0002 | -.0046 | .0006 | -.0001 | .0002 | -.0003 | .0012 |
| Stddev | .0009 | .0004 | .0014 | .0001 | .0007 | .0003 | .0000 | .0002 | .0000 | .0002 |
| %RSD | 61.72 | 60.36 | 534.8 | 64.91 | 14.10 | 40.16 | 24.64 | 147.6 | 2.529 | 18.27 |
| #1 | -.0008 | -.0004 | -.0008 | .0003 | -.0042 | .0005 | -.0001 | .0000 | -.0004 | .0010 |
| #2 | -.0020 | -.0009 | .0013 | .0001 | -.0051 | .0008 | -.0001 | .0003 | -.0003 | .0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0066 | .0002 | .0005 |
| Stddev | .0023 | .0002 | .0001 |
| %RSD | 34.61 | 98.51 | 20.13 |
| #1 | .0083 | .0001 | .0004 |
| #2 | .0050 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.0 | 58394. | 13869. |
| Stddev | .3 | 373. | 65. |
| %RSD | .01294 | .63823 | .47190 |
| #1 | 2508.2 | 58657. | 13822. |
| #2 | 2507.7 | 58130. | 13915. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 9:56:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .1979 | F.0055 | .0021 | .1029 | .0488 | .0042 | 4.878 | .0040 |
| Stddev | .0001 | .0002 | .0015 | .0009 | .0008 | .0021 | .0001 | .153 | .0001 |
| %RSD | 1.557 | .0956 | 26.84 | 43.84 | .7488 | 4.354 | 3.372 | 3.141 | 2.930 |
| #1 | .0047 | .1978 | .0065 | .0027 | .1034 | .0503 | .0043 | 4.986 | .0039 |
| #2 | .0048 | .1980 | .0044 | .0014 | .1023 | .0473 | .0041 | 4.769 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0521 | .0101 | .0255 | .0981 | 4.858 | 4.697 | .0163 | .1014 | 4.885 |
| Stddev | .0004 | .0002 | .0025 | .0030 | .199 | .192 | .0004 | .0001 | .162 |
| %RSD | .6729 | 1.840 | 9.671 | 3.085 | 4.101 | 4.094 | 2.442 | .0955 | 3.325 |
| #1 | .0524 | .0099 | .0273 | .1002 | 4.999 | 4.833 | .0166 | .1015 | 5.000 |
| #2 | .0519 | .0102 | .0238 | .0959 | 4.717 | 4.561 | .0160 | .1013 | 4.770 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0406 | .0051 | .0003 | -.0014 | .0066 | .0100 | -.0032 | .1004 | .0094 |
| Stddev | .0002 | .0004 | .0006 | .0023 | .0003 | .0010 | .0010 | .0005 | .0001 |
| %RSD | .5256 | 7.082 | 214.5 | 172.3 | 4.409 | 9.902 | 31.68 | .5181 | 1.271 |
| #1 | .0407 | .0053 | -.0002 | .0003 | .0064 | .0107 | -.0025 | .1008 | .0095 |
| #2 | .0404 | .0048 | .0008 | -.0030 | .0068 | .0093 | -.0039 | .1001 | .0094 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0520 | .0047 | .0108 | .0082 | .0203 | .0002 |
| Stddev | .0018 | .0007 | .0007 | .0009 | .0001 | .0000 |
| %RSD | 3.451 | 13.96 | 6.512 | 11.09 | .4250 | 11.76 |
| #1 | .0533 | .0042 | .0113 | .0075 | .0203 | .0002 |
| #2 | .0507 | .0051 | .0103 | .0088 | .0204 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2507.6 | 58037. | 14282. |
| Stddev | 1.1 | 955. | 578. |
| %RSD | .04256 | 1.6449 | 4.0497 |
| #1 | 2506.8 | 57362. | 13873. |
| #2 | 2508.3 | 58712. | 14691. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/5/2013 10:01:21 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 526.4 | .0000 | .0042 | .0059 | -.0002 | .0002 | 472.7 | .0002 | -.0010 |
| Stddev | .0001 | 6.3 | .0003 | .0017 | .0006 | .0000 | .0000 | 2.1 | .0002 | .0001 |
| %RSD | 514.9 | 1.198 | 908.6 | 41.20 | 10.22 | 24.99 | 17.92 | .4342 | 93.16 | 12.95 |
| #1 | -.0001 | 522.0 | .0002 | .0054 | .0063 | -.0002 | .0001 | 471.2 | .0003 | -.0009 |
| #2 | .0001 | 530.9 | -.0002 | .0030 | .0055 | -.0001 | .0002 | 474.1 | .0001 | -.0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | 190.2 | -.0075 | 489.3 | .0007 | -.0003 | .0693 | -.0025 | -.0004 |
| Stddev | .0004 | .0004 | 1.3 | .0202 | 3.5 | .0001 | .0003 | .0014 | .0002 | .0003 |
| %RSD | 424.1 | 85.76 | .7052 | 270.8 | .7057 | 8.073 | 120.7 | 2.044 | 6.790 | 80.51 |
| #1 | .0004 | .0002 | 189.3 | .0068 | 486.9 | .0006 | .0000 | .0703 | -.0024 | -.0002 |
| #2 | -.0002 | .0008 | 191.2 | -.0218 | 491.8 | .0007 | -.0005 | .0683 | -.0026 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0561 | -.0302 | -.0006 | -.0028 | .0442 | .0004 | .0006 | .0089 | -.0009 | .0005 |
| Stddev | .0006 | .0004 | .0003 | .0005 | .0011 | .0000 | .0002 | .0003 | .0015 | .0012 |
| %RSD | 1.026 | 1.174 | 43.81 | 18.85 | 2.466 | 1.459 | 34.82 | 3.607 | 159.9 | 227.4 |
| #1 | -.0565 | -.0304 | -.0004 | -.0024 | .0435 | .0004 | .0008 | .0087 | .0001 | .0014 |
| #2 | -.0557 | -.0299 | -.0008 | -.0032 | .0450 | .0004 | .0005 | .0091 | -.0020 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0305 | -.0006 | .0012 |
| Stddev | .0014 | .0001 | .0005 |
| %RSD | 4.477 | 24.17 | 39.47 |
| #1 | -.0295 | -.0005 | .0016 |
| #2 | -.0315 | -.0007 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2299.1 | 54315. | 13500. |
| Stddev | 7.5 | 346. | 150. |
| %RSD | .32817 | .63762 | 1.1079 |
| #1 | 2304.5 | 54070. | 13605. |
| #2 | 2293.8 | 54559. | 13394. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/5/2013 10:05:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.060 | 539.1 | 2.048 | .4964 | 1.032 | .5126 | .4903 | 469.8 | 1.029 | .4822 |
| Stddev | .004 | 1.4 | .002 | .0004 | .003 | .0012 | .0005 | 2.6 | .002 | .0003 |
| %RSD | .3402 | .2616 | .1023 | .0813 | .2460 | .2433 | .1000 | .5568 | .1528 | .0554 |
| #1 | 1.063 | 538.1 | 2.046 | .4967 | 1.030 | .5135 | .4907 | 471.7 | 1.028 | .4820 |
| #2 | 1.058 | 540.1 | 2.049 | .4961 | 1.034 | .5117 | .4900 | 468.0 | 1.030 | .4824 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5033 | .5192 | 191.1 | -.0388 | 491.7 | .5166 | .9727 | .0695 | .8895 | .9049 |
| Stddev | .0002 | .0035 | .4 | .0123 | .4 | .0015 | .0016 | .0075 | .0009 | .0027 |
| %RSD | .0338 | .6735 | .1840 | 31.66 | .0820 | .2959 | .1620 | 10.85 | .1028 | .3011 |
| #1 | .5031 | .5216 | 191.4 | -.0301 | 492.0 | .5177 | .9715 | .0748 | .8888 | .9069 |
| #2 | .5034 | .5167 | 190.9 | -.0475 | 491.4 | .5155 | .9738 | .0641 | .8901 | .9030 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4961 | .4914 | 2.077 | 1.962 | 2.224 | .9888 | .9744 | .5234 | 1.927 | .5116 |
| Stddev | .0019 | .0018 | .003 | .002 | .005 | .0004 | .0025 | .0024 | .001 | .0013 |
| %RSD | .3880 | .3678 | .1603 | .1220 | .2123 | .0401 | .2597 | .4506 | .0669 | .2525 |
| #1 | .4947 | .4927 | 2.074 | 1.960 | 2.221 | .9885 | .9762 | .5251 | 1.927 | .5126 |
| #2 | .4974 | .4901 | 2.079 | 1.963 | 2.228 | .9891 | .9726 | .5217 | 1.926 | .5107 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.917 | .8998 | .4601 |
| Stddev | .006 | .0004 | .0006 |
| %RSD | .2897 | .0406 | .1225 |
| #1 | 1.921 | .8995 | .4605 |
| #2 | 1.913 | .9000 | .4597 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.9 | 54083. | 13493. |
| Stddev | 1.1 | 270. | 89. |
| %RSD | .04835 | .50001 | .65788 |
| #1 | 2289.1 | 53891. | 13556. |
| #2 | 2290.6 | 54274. | 13430. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 10:10:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2059 | 2.260 | .5016 | -.0005 | .0032 | 1.982 | .5206 | 24.66 | .4971 | .5046 |
| Stddev | .0003 | .013 | .0023 | .0000 | .0002 | .014 | .0039 | .13 | .0003 | .0005 |
| %RSD | .1431 | .5766 | .4663 | 9.344 | 6.572 | .7063 | .7401 | .5419 | .0547 | .0897 |
| #1 | .2057 | 2.250 | .4999 | -.0005 | .0031 | 1.972 | .5179 | 24.57 | .4973 | .5043 |
| #2 | .2061 | 2.269 | .5032 | -.0005 | .0034 | 1.992 | .5233 | 24.76 | .4969 | .5050 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5241 | .4782 | 2.048 | 24.81 | 24.53 | .5106 | .0015 | 25.45 | .4816 | .9663 |
| Stddev | .0018 | .0010 | .001 | .16 | .27 | .0007 | .0005 | .18 | .0001 | .0013 |
| %RSD | .3341 | .2152 | .0596 | .6577 | 1.091 | .1311 | 31.47 | .7011 | .0161 | .1307 |
| #1 | .5229 | .4789 | 2.049 | 24.69 | 24.34 | .5101 | .0018 | 25.32 | .4815 | .9654 |
| #2 | .5254 | .4775 | 2.047 | 24.92 | 24.72 | .5111 | .0012 | 25.58 | .4817 | .9672 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0044 | .5020 | .4931 | .0418 | -.0009 | .4709 | .4936 | .5078 | .5104 |
| Stddev | .0027 | .0062 | .0006 | .0001 | .0009 | .0003 | .0036 | .0018 | .0013 | .0016 |
| %RSD | 331.4 | 139.8 | .1115 | .0205 | 2.044 | 32.00 | .7612 | .3599 | .2582 | .3230 |
| #1 | -.0027 | -.0088 | .5024 | .4931 | .0412 | -.0007 | .4684 | .4923 | .5087 | .5092 |
| #2 | .0011 | .0000 | .5016 | .4932 | .0424 | -.0011 | .4734 | .4948 | .5069 | .5115 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0113 | .4977 | .0137 |
| Stddev | .0046 | .0003 | .0015 |
| %RSD | 40.50 | .0572 | 10.82 |
| #1 | .0146 | .4975 | .0148 |
| #2 | .0081 | .4979 | .0127 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2483.1 | 58166. | 14155. |
| Stddev | 3.4 | 209. | 48. |
| %RSD | .13592 | .36005 | .34235 |
| #1 | 2480.7 | 58314. | 14189. |
| #2 | 2485.5 | 58018. | 14120. |



Zoom In Zoom Out

Sample Name: MP21104-MB1 Acquired: 6/5/2013 10:14:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0241 | .0008 | .0007 | .0009 | .0011 | .0003 | .0291 | -.0002 | .0001 |
| Stddev | .0001 | .0090 | .0011 | .0006 | .0001 | .0001 | .0000 | .0031 | .0000 | .0001 |
| %RSD | 8.664 | 37.29 | 147.1 | 80.05 | 15.88 | 6.472 | 7.273 | 10.58 | 18.76 | 75.29 |
| #1 | -.0008 | .0177 | .0000 | .0003 | .0008 | .0011 | .0003 | .0313 | -.0002 | .0000 |
| #2 | -.0009 | .0304 | .0015 | .0011 | .0009 | .0010 | .0004 | .0270 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0015 | .0106 | .0455 | .0358 | .0006 | .0003 | .0199 | .0001 | .0005 |
| Stddev | .0002 | .0002 | .0022 | .0234 | .0187 | .0000 | .0000 | .0087 | .0002 | .0004 |
| %RSD | 66.02 | 12.40 | 20.97 | 51.54 | 52.06 | .3755 | 9.522 | 43.73 | 193.7 | 78.31 |
| #1 | -.0002 | .0016 | .0090 | .0621 | .0226 | .0006 | .0003 | .0261 | .0000 | .0008 |
| #2 | -.0005 | .0013 | .0122 | .0289 | .0490 | .0006 | .0003 | .0138 | .0003 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0108 | .0003 | -.0003 | .0467 | -.0001 | .0003 | .0002 | -.0004 | .0003 |
| Stddev | .0003 | .0005 | .0009 | .0011 | .0012 | .0002 | .0001 | .0002 | .0000 | .0001 |
| %RSD | 35.74 | 4.410 | 298.3 | 305.5 | 2.628 | 125.1 | 17.39 | 102.1 | 3.468 | 22.13 |
| #1 | .0011 | -.0112 | .0009 | .0004 | .0476 | -.0002 | .0003 | .0003 | -.0004 | .0003 |
| #2 | .0007 | -.0105 | -.0003 | -.0011 | .0459 | .0000 | .0003 | .0001 | -.0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0105 | -.0001 | .0007 |
| Stddev | .0062 | .0002 | .0001 |
| %RSD | 58.63 | 221.9 | 8.019 |
| #1 | .0149 | .0000 | .0007 |
| #2 | .0062 | -.0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2502.2 | 57943. | 13948. |
| Stddev | 15.9 | 100. | 113. |
| %RSD | .63617 | .17336 | .81210 |
| #1 | 2491.0 | 58014. | 13868. |
| #2 | 2513.5 | 57872. | 14028. |





Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 10:18:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2077 | 2.118 | .5102 | -.0105 | .0294 | 2.015 | .5313 | 44.04 | .5059 | .5146 |
| Stddev | .0006 | .008 | .0017 | .0000 | .0002 | .002 | .0012 | .01 | .0008 | .0008 |
| %RSD | .2695 | .3762 | .3291 | .1981 | .8414 | .0826 | .2224 | .0314 | .1558 | .1650 |
| #1 | .2081 | 2.123 | .5113 | -.0105 | .0296 | 2.014 | .5305 | 44.03 | .5064 | .5152 |
| #2 | .2073 | 2.112 | .5090 | -.0105 | .0292 | 2.016 | .5321 | 44.05 | .5053 | .5140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5349 | .4895 | 2.138 | 26.91 | 26.26 | 6.630 | .0008 | 32.87 | .4898 | .9746 |
| Stddev | .0032 | .0022 | .010 | .02 | .01 | .028 | .0001 | .01 | .0002 | .0037 |
| %RSD | .5944 | .4467 | .4498 | .0828 | .0536 | .4258 | 6.878 | .0272 | .0503 | .3842 |
| #1 | .5371 | .4910 | 2.132 | 26.89 | 26.27 | 6.650 | .0009 | 32.87 | .4900 | .9772 |
| #2 | .5326 | .4879 | 2.145 | 26.93 | 26.25 | 6.610 | .0008 | 32.88 | .4897 | .9720 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0242 | .5112 | .4994 | 5.232 | -.0010 | .5811 | .5032 | .5138 | .5209 |
| Stddev | .0029 | .0058 | .0004 | .0000 | .004 | .0003 | .0006 | .0016 | .0001 | .0017 |
| %RSD | 66.44 | 24.01 | .0832 | .0053 | .0858 | 27.84 | .0982 | .3245 | .0207 | .3320 |
| #1 | -.0024 | .0283 | .5115 | .4994 | 5.235 | -.0008 | .5815 | .5043 | .5139 | .5221 |
| #2 | -.0065 | .0201 | .5109 | .4994 | 5.229 | -.0013 | .5807 | .5020 | .5137 | .5197 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .5100 | -.0001 |
| Stddev | .0028 | .0007 | .0003 |
| %RSD | 152.9 | .1392 | 324.8 |
| #1 | .0039 | .5105 | .0001 |
| #2 | -.0002 | .5095 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2480.6 | 58039. | 14134. |
| Stddev | 4.6 | 58. | 54. |
| %RSD | .18580 | .10071 | .37866 |
| #1 | 2477.4 | 57998. | 14096. |
| #2 | 2483.9 | 58081. | 14172. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 10:22:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2102 | 2.136 | .5131 | -.0125 | .0295 | 2.022 | .5358 | 44.47 | .5065 | .5158 |
| Stddev | .0009 | .023 | .0003 | .0004 | .0004 | .002 | .0010 | .10 | .0004 | .0001 |
| %RSD | .4513 | 1.086 | .0639 | 3.049 | 1.356 | .1085 | .1940 | .2179 | .0872 | .0248 |
| #1 | .2096 | 2.153 | .5134 | -.0123 | .0298 | 2.023 | .5365 | 44.54 | .5062 | .5157 |
| #2 | .2109 | 2.120 | .5129 | -.0128 | .0292 | 2.020 | .5350 | 44.40 | .5068 | .5159 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5393 | .4917 | 2.133 | 27.06 | 26.47 | 6.824 | .0006 | 33.17 | .4920 | .9770 |
| Stddev | .0033 | .0045 | .002 | .05 | .04 | .062 | .0002 | .07 | .0002 | .0012 |
| %RSD | .6071 | .9101 | .0784 | .1930 | .1389 | .9083 | 33.98 | .2073 | .0443 | .1265 |
| #1 | .5370 | .4886 | 2.134 | 27.10 | 26.49 | 6.781 | .0007 | 33.22 | .4919 | .9761 |
| #2 | .5417 | .4949 | 2.132 | 27.03 | 26.44 | 6.868 | .0004 | 33.12 | .4922 | .9779 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0251 | .5118 | .5017 | 5.297 | -.0010 | .5839 | .5064 | .5193 | .5237 |
| Stddev | .0008 | .0030 | .0017 | .0017 | .003 | .0001 | .0010 | .0028 | .0007 | .0030 |
| %RSD | 24.69 | 12.08 | .3344 | .3314 | .0475 | 13.30 | .1794 | .5623 | .1367 | .5721 |
| #1 | -.0028 | .0230 | .5130 | .5029 | 5.295 | -.0011 | .5846 | .5044 | .5198 | .5216 |
| #2 | -.0039 | .0272 | .5106 | .5006 | 5.298 | -.0009 | .5831 | .5084 | .5188 | .5259 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .5114 | -.0015 |
| Stddev | .0039 | .0009 | .0006 |
| %RSD | 61.61 | .1735 | 40.51 |
| #1 | .0036 | .5121 | -.0010 |
| #2 | .0091 | .5108 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2473.8 | 57655. | 14096. |
| Stddev | 2.8 | 416. | 79. |
| %RSD | .11262 | .72110 | .56278 |
| #1 | 2475.8 | 57949. | 14040. |
| #2 | 2471.8 | 57361. | 14152. |

Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 10:27:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0102 | .0020 | -.0106 | .0267 | .0050 | .0002 | 18.88 | .0004 | .0018 |
| Stddev | .0004 | .0052 | .0000 | .0005 | .0000 | .0001 | .0000 | .02 | .0001 | .0001 |
| %RSD | 261.5 | 51.42 | 1.149 | 5.147 | .0268 | 2.164 | 9.510 | .1031 | 19.55 | 5.597 |
| #1 | -.0001 | -.0139 | .0020 | -.0110 | .0267 | .0051 | .0002 | 18.89 | .0004 | .0017 |
| #2 | .0005 | -.0065 | .0020 | -.0102 | .0267 | .0049 | .0002 | 18.86 | .0003 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0018 | .1236 | 1.765 | 1.686 | 6.067 | .0004 | 6.899 | .0015 | .0001 |
| Stddev | .0002 | .0008 | .0026 | .007 | .004 | .036 | .0001 | .008 | .0001 | .0003 |
| %RSD | 148.5 | 42.11 | 2.132 | .4239 | .2438 | .6004 | 14.25 | .1123 | 5.197 | 475.1 |
| #1 | .0003 | .0023 | .1217 | 1.759 | 1.683 | 6.093 | .0003 | 6.893 | .0014 | .0003 |
| #2 | .0000 | .0013 | .1254 | 1.770 | 1.689 | 6.041 | .0004 | 6.904 | .0015 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0250 | .0004 | .0008 | 5.000 | .0001 | .0977 | .0001 | .0015 | .0006 |
| Stddev | .0014 | .0062 | .0008 | .0007 | .006 | .0004 | .0002 | .0003 | .0000 | .0004 |
| %RSD | 193.2 | 24.59 | 195.3 | 92.58 | .1275 | 464.6 | .2103 | 185.0 | 2.283 | 78.30 |
| #1 | .0003 | .0207 | -.0001 | .0003 | 5.005 | -.0002 | .0978 | .0000 | .0015 | .0009 |
| #2 | -.0017 | .0294 | .0009 | .0013 | 4.996 | .0003 | .0975 | .0003 | .0015 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0062 | -.0005 |
| Stddev | .0010 | .0001 | .0000 |
| %RSD | 465.1 | 1.125 | 6.530 |
| #1 | -.0005 | .0062 | -.0005 |
| #2 | .0009 | .0062 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.1 | 58080. | 14066. |
| Stddev | 2.4 | 614. | 36. |
| %RSD | .09385 | 1.0564 | .25438 |
| #1 | 2506.5 | 57646. | 14041. |
| #2 | 2509.8 | 58514. | 14092. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 10:31:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0211 | .0005 | -.0050 | .0278 | .0045 | .0001 | 19.75 | -.0003 | .0018 |
| Stddev | .0016 | .0310 | .0022 | .0004 | .0003 | .0007 | .0000 | .09 | .0012 | .0004 |
| %RSD | 231.8 | 146.6 | 439.1 | 7.754 | 1.165 | 15.27 | 22.27 | .4661 | 389.6 | 23.30 |
| #1 | -.0019 | .0008 | -.0010 | -.0053 | .0275 | .0040 | .0001 | 19.81 | .0005 | .0015 |
| #2 | .0005 | -.0430 | .0020 | -.0047 | .0280 | .0050 | .0001 | 19.68 | -.0012 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0055 | .1088 | 1.950 | 1.726 | 6.123 | .0005 | 7.116 | .0011 | .0004 |
| Stddev | .0009 | .0007 | .0025 | .011 | .018 | .019 | .0007 | .008 | .0000 | .0015 |
| %RSD | 25.58 | 11.95 | 2.334 | .5813 | 1.012 | .3043 | 145.4 | .1156 | .8529 | 339.8 |
| #1 | -.0029 | .0060 | .1106 | 1.958 | 1.714 | 6.110 | .0000 | 7.110 | .0011 | -.0006 |
| #2 | -.0042 | .0050 | .1070 | 1.942 | 1.738 | 6.136 | .0010 | 7.122 | .0011 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0138 | -.0030 | .0007 | 4.958 | .0030 | .0993 | -.0022 | .0020 | .0011 |
| Stddev | .0144 | .0419 | .0042 | .0025 | .017 | .0001 | .0004 | .0021 | .0005 | .0003 |
| %RSD | 272.0 | 304.3 | 140.7 | 369.7 | .3394 | 2.348 | .4005 | 97.78 | 25.90 | 23.62 |
| #1 | .0049 | .0434 | .0000 | .0024 | 4.970 | .0030 | .0996 | -.0037 | .0016 | .0012 |
| #2 | -.0155 | -.0159 | -.0060 | -.0011 | 4.946 | .0031 | .0991 | -.0007 | .0024 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0297 | .0054 | .0012 |
| Stddev | .0162 | .0000 | .0037 |
| %RSD | 54.62 | .8957 | 301.0 |
| #1 | .0412 | .0055 | -.0014 |
| #2 | .0183 | .0054 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2472.8 | 57369. | 13730. |
| Stddev | 1.9 | 545. | 44. |
| %RSD | .07500 | .94941 | .31945 |
| #1 | 2474.1 | 57755. | 13699. |
| #2 | 2471.5 | 56984. | 13761. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 10:36:00 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0005 | -.0034 | .2387 | .0609 | .0000 | 137.5 | .0001 | .0012 |
| Stddev | .0004 | .0054 | .0002 | .0002 | .0014 | .0002 | .000 | .3 | .0001 | .0002 |
| %RSD | 112.1 | 1719. | 39.56 | 4.900 | .5658 | .3983 | 92.53 | .1865 | 57.55 | 15.33 |
| #1 | -.0007 | .0041 | .0004 | -.0033 | .2377 | .0611 | .0000 | 137.3 | .0001 | .0013 |
| #2 | -.0001 | -.0035 | .0007 | -.0036 | .2397 | .0607 | -.0001 | 137.7 | .0002 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0025 | .0337 | 4.297 | 19.25 | 2.486 | .0011 | 41.78 | .0078 | -.0007 |
| Stddev | .0002 | .0001 | .0020 | .014 | .04 | .013 | .0000 | .02 | .0004 | .0003 |
| %RSD | 74.72 | 2.091 | 6.073 | .3162 | .2039 | .5060 | .5185 | .0536 | 5.130 | 47.64 |
| #1 | .0001 | .0025 | .0351 | 4.307 | 19.22 | 2.477 | .0011 | 41.76 | .0080 | -.0009 |
| #2 | .0004 | .0025 | .0322 | 4.288 | 19.28 | 2.495 | .0011 | 41.79 | .0075 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0110 | .0014 | .0016 | 7.756 | -.0004 | .5365 | .0010 | -.0016 | .0008 |
| Stddev | .0018 | .0053 | .0008 | .0014 | .030 | .0001 | .0000 | .0001 | .0005 | .0000 |
| %RSD | 19.33 | 48.00 | 54.84 | 86.07 | .3878 | 27.21 | .0088 | 11.44 | 30.03 | 1.245 |
| #1 | -.0108 | .0072 | .0009 | .0026 | 7.735 | -.0003 | .5365 | .0009 | -.0019 | .0008 |
| #2 | -.0082 | .0147 | .0020 | .0006 | 7.777 | -.0005 | .5365 | .0011 | -.0012 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0231 | .0075 | -.0011 |
| Stddev | .0040 | .0000 | .0004 |
| %RSD | 17.31 | .3146 | 33.21 |
| #1 | .0203 | .0075 | -.0014 |
| #2 | .0259 | .0075 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2424.6 | 57141. | 13756. |
| Stddev | 8.0 | 508. | 114. |
| %RSD | .33124 | .88832 | .82693 |
| #1 | 2430.3 | 57500. | 13836. |
| #2 | 2418.9 | 56782. | 13675. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 10:40:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2482 | 10.03 | 1.941 | -.0023 | 1.963 | 1.950 | 1.994 | 9.896 | 1.956 | 2.032 |
| Stddev | .0011 | .00 | .005 | .0004 | .002 | .001 | .002 | .020 | .003 | .003 |
| %RSD | .4630 | .0327 | .2477 | 18.49 | .0846 | .0358 | .1154 | .2053 | .1556 | .1481 |
| #1 | .2490 | 10.03 | 1.938 | -.0026 | 1.962 | 1.951 | 1.992 | 9.882 | 1.953 | 2.030 |
| #2 | .2473 | 10.03 | 1.945 | -.0020 | 1.964 | 1.950 | 1.996 | 9.911 | 1.958 | 2.035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.979 | 1.959 | 9.715 | 9.753 | 9.618 | 2.039 | 1.958 | 10.04 | 1.921 | 1.897 |
| Stddev | .002 | .002 | .007 | .033 | .024 | .001 | .004 | .01 | .002 | .000 |
| %RSD | .0992 | .1136 | .0743 | .3328 | .2479 | .0602 | .2237 | .0925 | .0837 | .0170 |
| #1 | 1.981 | 1.961 | 9.720 | 9.776 | 9.601 | 2.040 | 1.955 | 10.04 | 1.920 | 1.896 |
| #2 | 1.978 | 1.957 | 9.710 | 9.730 | 9.635 | 2.038 | 1.961 | 10.03 | 1.922 | 1.897 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 1.954 | 1.920 | -.0190 | 1.941 | 1.924 | 1.954 | 1.964 | 1.956 |
| Stddev | .0000 | .0034 | .001 | .001 | .0017 | .000 | .001 | .001 | .001 | .003 |
| %RSD | 8.388 | 146.2 | .0517 | .0675 | 8.855 | .0002 | .0310 | .0358 | .0298 | .1723 |
| #1 | -.0006 | .0048 | 1.955 | 1.919 | -.0178 | 1.941 | 1.924 | 1.954 | 1.964 | 1.958 |
| #2 | -.0006 | -.0001 | 1.953 | 1.921 | -.0202 | 1.941 | 1.925 | 1.953 | 1.965 | 1.953 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0120 | 1.905 | -.0037 |
| Stddev | .0025 | .004 | .0004 |
| %RSD | 21.24 | .1827 | 9.737 |
| #1 | .0102 | 1.903 | -.0034 |
| #2 | .0138 | 1.908 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2450.4 | 57542. | 13932. |
| Stddev | 5.5 | 27. | 59. |
| %RSD | .22537 | .04704 | .42230 |
| #1 | 2454.3 | 57561. | 13891. |
| #2 | 2446.5 | 57523. | 13974. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 10:44:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0106 | .0017 | .0013 | .0021 | .0006 | F.0005 | .0031 | .0002 |
| Stddev | .0001 | .0070 | .0013 | .0013 | .0006 | .0000 | .0000 | .0009 | .0002 |
| %RSD | 119.8 | 65.99 | 80.83 | 99.58 | 30.97 | .8348 | 6.322 | 28.33 | 79.28 |
| #1 | -.0001 | .0056 | .0026 | .0023 | .0025 | .0006 | .0006 | .0038 | .0001 |
| #2 | .0000 | .0155 | .0007 | .0004 | .0016 | .0006 | .0005 | .0025 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | .0004 | -.0001 | .0398 | .0402 | .0002 | .0022 | .0029 |
| Stddev | .0000 | .0000 | .0002 | .0011 | .0024 | .0058 | .0000 | .0003 | .0071 |
| %RSD | 15.92 | 343.9 | 55.82 | 1090. | 6.032 | 14.50 | 2.494 | 13.06 | 245.7 |
| #1 | .0003 | .0000 | .0006 | .0007 | .0381 | .0360 | .0002 | .0024 | .0080 |
| #2 | .0003 | .0000 | .0003 | -.0009 | .0415 | .0443 | .0002 | .0020 | -.0021 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | .0000 | .0008 | .0011 | .0005 | -.0081 | .0010 | .0004 |
| Stddev | .0004 | .0001 | .0009 | .0027 | .0004 | .0010 | .0017 | .0001 | .0001 |
| %RSD | 150.5 | 15.27 | 7776. | 316.7 | 40.75 | 180.8 | 20.57 | 5.823 | 30.03 |
| #1 | .0005 | .0006 | .0006 | -.0011 | .0014 | .0012 | -.0093 | .0010 | .0005 |
| #2 | .0000 | .0008 | -.0006 | .0027 | .0007 | -.0002 | -.0069 | .0009 | .0004 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0004 | .0010 | .0095 | -.0001 | .0006 |
| Stddev | .0006 | .0001 | .0001 | .0019 | .0000 | .0002 |
| %RSD | 309.2 | 29.28 | 7.088 | 19.82 | 37.24 | 36.98 |
| #1 | -.0006 | -.0003 | .0009 | .0108 | -.0002 | .0004 |
| #2 | .0002 | -.0004 | .0010 | .0081 | -.0001 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2448.5 | 57788. | 13733. |
| Stddev | 6.2 | 440. | 69. |
| %RSD | .25377 | .76083 | .50119 |
| #1 | 2452.9 | 57477. | 13685. |
| #2 | 2444.1 | 58099. | 13782. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 10:50:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0566 | -.0008 | -.0183 | .1360 | .0149 | .0001 | 81.67 | .0016 |
| Stddev | .0003 | .0209 | .0002 | .0020 | .0002 | .0000 | .0000 | .33 | .0001 |
| %RSD | 66.08 | 36.91 | 30.33 | 10.73 | .1706 | .0600 | 35.41 | .4012 | 7.258 |
| #1 | -.0003 | -.0713 | -.0009 | -.0197 | .1358 | .0149 | .0001 | 81.91 | .0015 |
| #2 | -.0008 | -.0418 | -.0006 | -.0169 | .1362 | .0149 | .0001 | 81.44 | .0016 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0082 | .0010 | .0014 | .0825 | 3.038 | 9.455 | F24.38 | .0006 | 23.57 |
| Stddev | .0002 | .0006 | .0002 | .0004 | .002 | .041 | .03 | .0001 | .06 |
| %RSD | 2.056 | 57.66 | 13.04 | .5380 | .0698 | .4301 | .1298 | 11.70 | .2649 |
| #1 | .0083 | .0006 | .0015 | .0828 | 3.036 | 9.484 | 24.40 | .0007 | 23.61 |
| #2 | .0081 | .0014 | .0012 | .0821 | 3.039 | 9.427 | 24.35 | .0006 | 23.52 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0154 | -.0011 | -.0096 | .1045 | .0005 | .0063 | 6.971 | -.0004 | .4528 |
| Stddev | .0002 | .0001 | .0011 | .0054 | .0009 | .0002 | .011 | .0002 | .0012 |
| %RSD | 1.051 | 13.58 | 11.33 | 5.192 | 197.7 | 3.169 | .1502 | 59.39 | .2706 |
| #1 | .0153 | -.0012 | -.0088 | .1006 | -.0002 | .0062 | 6.978 | -.0002 | .4537 |
| #2 | .0155 | -.0010 | -.0104 | .1083 | .0011 | .0065 | 6.963 | -.0005 | .4519 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0107 | .0009 | -.0010 | .0085 | -.0009 |
| Stddev | .0003 | .0010 | .0004 | .0023 | .0000 | .0003 |
| %RSD | 40.14 | 9.718 | 47.38 | 234.9 | .1756 | 35.89 |
| #1 | .0008 | .0100 | .0013 | -.0026 | .0085 | -.0007 |
| #2 | .0005 | .0114 | .0006 | .0006 | .0085 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.0 | 57300. | 13749. |
| Stddev | 8.3 | 16. | 54. |
| %RSD | .34636 | .02833 | .39585 |
| #1 | 2387.1 | 57288. | 13711. |
| #2 | 2398.9 | 57311. | 13788. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 10:55:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0097 | .0013 | -.0082 | .0544 | .0166 | .0000 | 42.87 | .0004 | .0016 |
| Stddev | .0000 | .0074 | .0006 | .0014 | .0001 | .0001 | .0001 | .02 | .0001 | .0000 |
| %RSD | 3.107 | 75.86 | 44.31 | 17.31 | .2061 | .8519 | 111.4 | .0406 | 14.70 | 1.868 |
| #1 | -.0008 | -.0045 | .0009 | -.0072 | .0543 | .0167 | .0001 | 42.88 | .0005 | .0015 |
| #2 | -.0007 | -.0149 | .0018 | -.0092 | .0545 | .0165 | .0000 | 42.86 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0005 | .0231 | 3.689 | 3.966 | 8.014 | .0036 | 10.78 | .0028 | -.0005 |
| Stddev | .0002 | .0008 | .0015 | .013 | .026 | .092 | .0001 | .00 | .0003 | .0011 |
| %RSD | 20.26 | 152.8 | 6.531 | .3462 | .6570 | 1.143 | 2.054 | .0303 | 12.18 | 227.2 |
| #1 | .0009 | .0000 | .0242 | 3.698 | 3.984 | 8.079 | .0037 | 10.78 | .0026 | .0003 |
| #2 | .0007 | .0010 | .0220 | 3.680 | 3.947 | 7.950 | .0036 | 10.78 | .0031 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0304 | .0004 | .0009 | 7.103 | -.0003 | .1919 | .0006 | .0021 | .0016 |
| Stddev | .0006 | .0016 | .0001 | .0021 | .024 | .0001 | .0002 | .0004 | .0002 | .0008 |
| %RSD | 14.75 | 5.396 | 40.22 | 228.3 | .3377 | 17.09 | .1040 | 61.49 | 7.376 | 51.26 |
| #1 | -.0045 | .0293 | .0003 | .0025 | 7.086 | -.0004 | .1921 | .0009 | .0020 | .0010 |
| #2 | -.0036 | .0316 | .0004 | -.0006 | 7.120 | -.0003 | .1918 | .0004 | .0022 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0071 | -.0011 |
| Stddev | .0061 | .0001 | .0001 |
| %RSD | 317.2 | 1.186 | 9.404 |
| #1 | -.0024 | .0071 | -.0010 |
| #2 | .0062 | .0070 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.1 | 57740. | 13797. |
| Stddev | 8.2 | 351. | 47. |
| %RSD | .34153 | .60856 | .33992 |
| #1 | 2407.9 | 57491. | 13764. |
| #2 | 2396.3 | 57988. | 13830. |



Zoom In Zoom Out

Sample Name: MC21261-13F Acquired: 6/5/2013 10:59:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0027 | -.0006 | .0017 | .0007 | .0000 | .0000 | .0080 | -.0002 | .0000 |
| Stddev | .0005 | .0047 | .0005 | .0010 | .0003 | .0001 | .000 | .0011 | .0000 | .000 |
| %RSD | 114.7 | 173.5 | 80.94 | 56.62 | 46.78 | 212.1 | 11.42 | 13.23 | 6.715 | 86.14 |
| #1 | -.0009 | .0060 | -.0009 | .0024 | .0004 | .0001 | .0000 | .0073 | -.0002 | .0000 |
| #2 | -.0001 | -.0006 | -.0003 | .0010 | .0009 | .0000 | .0000 | .0087 | -.0002 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0004 | -.0035 | -.0230 | .0146 | .0022 | .0003 | .0062 | -.0001 | -.0002 |
| Stddev | .000 | .0001 | .0008 | .0288 | .0014 | .0001 | .0002 | .0053 | .0000 | .0000 |
| %RSD | 151.7 | 20.14 | 21.28 | 125.1 | 9.907 | 4.570 | 76.90 | 86.05 | 26.07 | 16.86 |
| #1 | -.0001 | -.0005 | -.0041 | -.0434 | .0156 | .0022 | .0004 | .0100 | -.0001 | -.0002 |
| #2 | .0000 | -.0003 | -.0030 | -.0027 | .0136 | .0021 | .0001 | .0024 | -.0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0066 | -.0001 | .0002 | .0384 | .0001 | .0000 | -.0010 | -.0010 | .0007 |
| Stddev | .0005 | .0008 | .0000 | .0011 | .0000 | .0001 | .0003 | .0003 | .0010 | .0001 |
| %RSD | 25.92 | 11.43 | 5.529 | 508.0 | .0785 | 66.69 | 9027. | 36.40 | 96.43 | 12.03 |
| #1 | .0015 | -.0061 | -.0001 | -.0005 | .0385 | .0001 | .0000 | -.0012 | -.0003 | .0007 |
| #2 | .0022 | -.0071 | -.0001 | .0010 | .0384 | .0002 | .0000 | -.0007 | -.0017 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0058 | .0001 |
| Stddev | .0025 | .0000 | .0002 |
| %RSD | 99.02 | .0297 | 252.0 |
| #1 | .0043 | .0058 | -.0001 |
| #2 | .0008 | .0058 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2415.5 | 57853. | 13902. |
| Stddev | 1.5 | 87. | 99. |
| %RSD | .06111 | .15054 | .71265 |
| #1 | 2414.5 | 57915. | 13832. |
| #2 | 2416.6 | 57791. | 13972. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 11:03:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2248 | 1.791 | .1830 | -.0047 | 4.353 | 2.189 | .1729 | 58.31 | .1807 | 2.442 |
| Stddev | .0005 | .007 | .0008 | .0004 | .005 | .006 | .0003 | .06 | .0003 | .008 |
| %RSD | .2087 | .3685 | .4163 | 7.913 | .1225 | .2586 | .1999 | .0988 | .1767 | .3139 |
| #1 | .2252 | 1.796 | .1825 | -.0050 | 4.349 | 2.193 | .1731 | 58.35 | .1805 | 2.436 |
| #2 | .2245 | 1.787 | .1836 | -.0045 | 4.357 | 2.184 | .1726 | 58.27 | .1810 | 2.447 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4463 | 1.076 | .9616 | 44.15 | 45.68 | 5.731 | 4.432 | 48.65 | 1.642 | .2168 |
| Stddev | .0005 | .001 | .0023 | .00 | .49 | .042 | .013 | .12 | .003 | .0006 |
| %RSD | .1166 | .0737 | .2399 | .0085 | 1.062 | .7397 | .2967 | .2471 | .2054 | .2944 |
| #1 | .4466 | 1.075 | .9600 | 44.15 | 45.34 | 5.761 | 4.422 | 48.73 | 1.640 | .2164 |
| #2 | .4459 | 1.076 | .9633 | 44.15 | 46.02 | 5.701 | 4.441 | 48.56 | 1.645 | .2173 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0262 | .2906 | .4327 | 4.737 | 4.242 | .5084 | 2.174 | .2299 | .4489 |
| Stddev | .0006 | .0006 | .0010 | .0003 | .010 | .008 | .0015 | .001 | .0004 | .0011 |
| %RSD | 10.99 | 2.472 | .3356 | .0663 | .2066 | .1972 | .3041 | .0649 | .1696 | .2347 |
| #1 | -.0057 | .0257 | .2899 | .4325 | 4.730 | 4.236 | .5095 | 2.173 | .2301 | .4482 |
| #2 | -.0049 | .0266 | .2913 | .4329 | 4.744 | 4.248 | .5073 | 2.175 | .2296 | .4497 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0073 | .8467 | -.0093 |
| Stddev | .0059 | .0027 | .0003 |
| %RSD | 80.56 | .3233 | 2.873 |
| #1 | .0115 | .8448 | -.0091 |
| #2 | .0032 | .8486 | -.0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2368.7 | 57779. | 13868. |
| Stddev | 8.9 | 65. | 14. |
| %RSD | .37410 | .11185 | .09749 |
| #1 | 2375.0 | 57733. | 13859. |
| #2 | 2362.4 | 57825. | 13878. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:08:14 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0217 | 3.503 | -.0004 | .0524 | .0230 | .0005 | 29.70 | .0436 | .0084 |
| Stddev | .0028 | .0100 | .000 | .0001 | .0021 | .0010 | .0004 | .07 | .0005 | .0001 |
| %RSD | 210.6 | 46.14 | .0053 | 24.28 | 3.994 | 4.315 | 85.57 | .2358 | 1.154 | 1.222 |
| #1 | .0006 | -.0146 | 3.503 | -.0003 | .0539 | .0223 | .0008 | 29.75 | .0439 | .0084 |
| #2 | -.0033 | -.0288 | 3.503 | -.0005 | .0509 | .0237 | .0002 | 29.65 | .0432 | .0085 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0014 | 55.28 | 4.205 | 3.123 | 6.453 | .0261 | 5.735 | .0114 | -.0037 |
| Stddev | .0000 | .0055 | .16 | .064 | .027 | .021 | .0054 | .026 | .0000 | .0029 |
| %RSD | 3.533 | 392.6 | .2921 | 1.515 | .8565 | .3259 | 20.65 | .4595 | .1463 | 77.18 |
| #1 | -.0009 | .0025 | 55.39 | 4.159 | 3.142 | 6.468 | .0299 | 5.716 | .0114 | -.0017 |
| #2 | -.0009 | -.0052 | 55.16 | 4.250 | 3.104 | 6.438 | .0223 | 5.753 | .0114 | -.0058 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0116 | -.0217 | .0018 | .0032 | 8.402 | .0073 | .0993 | .0015 | -.0017 | .0018 |
| Stddev | .0093 | .0303 | .0045 | .0028 | .002 | .0008 | .0006 | .0005 | .0033 | .0022 |
| %RSD | 80.76 | 139.5 | 249.5 | 85.12 | .0243 | 11.43 | .6122 | 36.64 | 192.5 | 121.2 |
| #1 | -.0182 | -.0003 | -.0014 | .0013 | 8.404 | .0067 | .0988 | .0011 | .0006 | .0003 |
| #2 | -.0050 | -.0431 | .0050 | .0052 | 8.401 | .0078 | .0997 | .0019 | -.0041 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0142 | .0003 |
| Stddev | .0284 | .0004 | .0019 |
| %RSD | 1801. | 2.475 | 686.0 |
| #1 | -.0185 | .0140 | -.0011 |
| #2 | .0217 | .0145 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 57970. | 13704. |
| Stddev | 6.3 | 294. | 181. |
| %RSD | .26283 | .50767 | 1.3234 |
| #1 | 2408.2 | 57762. | 13575. |
| #2 | 2417.2 | 58178. | 13832. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:12:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0099 | -.0213 | 3.515 | .0069 | .0483 | .0211 | -.0003 | 29.97 | .0427 | .0058 |
| Stddev | .0050 | .0330 | .030 | .0102 | .0027 | .0001 | .0003 | .21 | .0018 | .0021 |
| %RSD | 50.14 | 154.9 | .8467 | 146.2 | 5.591 | .6479 | 97.49 | .6884 | 4.292 | 36.07 |
| #1 | -.0135 | -.0446 | 3.536 | .0141 | .0502 | .0210 | -.0006 | 29.83 | .0440 | .0043 |
| #2 | -.0064 | .0020 | 3.494 | -.0002 | .0464 | .0212 | -.0001 | 30.12 | .0414 | .0073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0055 | 56.30 | 3.791 | 2.814 | 6.421 | .0116 | 5.633 | .0087 | .0006 |
| Stddev | .0005 | .0071 | .32 | .229 | .111 | .002 | .0012 | .015 | .0011 | .0042 |
| %RSD | 15.38 | 128.3 | .5729 | 6.041 | 3.936 | .0333 | 10.03 | .2688 | 12.15 | 706.8 |
| #1 | -.0039 | -.0106 | 56.07 | 3.629 | 2.893 | 6.422 | .0124 | 5.643 | .0094 | -.0024 |
| #2 | -.0031 | -.0005 | 56.53 | 3.953 | 2.736 | 6.419 | .0108 | 5.622 | .0079 | .0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0247 | .0042 | .0046 | 8.387 | .0061 | .0976 | -.0006 | -.0069 | .0101 |
| Stddev | .0153 | .0616 | .0116 | .0170 | .048 | .0013 | .0002 | .0052 | .0024 | .0054 |
| %RSD | 1550. | 249.4 | 276.3 | 367.5 | .5769 | 21.92 | .1592 | 925.8 | 34.10 | 53.18 |
| #1 | -.0098 | .0683 | -.0040 | .0167 | 8.353 | .0051 | .0977 | .0031 | -.0086 | .0139 |
| #2 | .0118 | -.0189 | .0124 | -.0074 | 8.421 | .0070 | .0975 | -.0042 | -.0052 | .0063 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0174 | .0013 |
| Stddev | .0064 | .0006 | .0034 |
| %RSD | 58.42 | 3.168 | 271.6 |
| #1 | -.0064 | .0178 | -.0012 |
| #2 | -.0155 | .0170 | .0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.4 | 57886. | 13780. |
| Stddev | 1.0 | 7. | 77. |
| %RSD | .04280 | .01275 | .55753 |
| #1 | 2413.1 | 57891. | 13834. |
| #2 | 2411.7 | 57881. | 13725. |



Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:16:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0223 | .6762 | .0036 | .1453 | .0493 | .0001 | 57.14 | .0076 | -.0009 |
| Stddev | .0016 | .0035 | .0033 | .0007 | .0017 | .0010 | .0000 | .12 | .0009 | .0004 |
| %RSD | 36.45 | 15.75 | .4832 | 18.16 | 1.177 | 1.932 | 16.78 | .2186 | 11.72 | 46.34 |
| #1 | -.0054 | -.0248 | .6739 | .0041 | .1441 | .0486 | .0001 | 57.23 | .0082 | -.0006 |
| #2 | -.0032 | -.0198 | .6785 | .0032 | .1465 | .0499 | .0001 | 57.05 | .0070 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0043 | 40.13 | 8.560 | 8.569 | 2.945 | .0023 | 45.52 | .0003 | -.0038 |
| Stddev | .0006 | .0017 | .11 | .015 | .056 | .004 | .0001 | .04 | .0013 | .0010 |
| %RSD | 21.39 | 40.38 | .2856 | .1718 | .6576 | .1208 | 6.333 | .0842 | 421.0 | 27.25 |
| #1 | -.0022 | -.0031 | 40.21 | 8.550 | 8.529 | 2.947 | .0024 | 45.55 | -.0006 | -.0031 |
| #2 | -.0030 | -.0055 | 40.04 | 8.570 | 8.609 | 2.942 | .0022 | 45.49 | .0012 | -.0045 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0066 | -.0370 | .0047 | -.0078 | 13.77 | .0000 | .3178 | -.0010 | -.0036 | .0064 |
| Stddev | .0018 | .0259 | .0011 | .0018 | .00 | .0015 | .0003 | .0004 | .0011 | .0023 |
| %RSD | 27.17 | 70.00 | 24.03 | 23.20 | .0049 | 4023. | .0807 | 38.58 | 30.29 | 35.66 |
| #1 | -.0079 | -.0187 | .0039 | -.0091 | 13.77 | -.0010 | .3176 | -.0013 | -.0029 | .0048 |
| #2 | -.0053 | -.0554 | .0055 | -.0065 | 13.77 | .0011 | .3180 | -.0007 | -.0044 | .0080 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .0111 | -.0011 |
| Stddev | .0010 | .0005 | .0006 |
| %RSD | 13.52 | 4.293 | 51.83 |
| #1 | .0067 | .0115 | -.0007 |
| #2 | .0082 | .0108 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.7 | 58093. | 13804. |
| Stddev | 2.8 | 284. | 66. |
| %RSD | .11769 | .48863 | .47595 |
| #1 | 2418.7 | 57892. | 13757. |
| #2 | 2422.7 | 58294. | 13850. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:21:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0337 | .6869 | .0125 | .1509 | .0522 | .0000 | 59.47 | .0067 | -.0008 |
| Stddev | .0018 | .0634 | .0004 | .0065 | .0014 | .0037 | .001 | .39 | .0003 | .0003 |
| %RSD | 19.34 | 187.8 | .0628 | 51.88 | .9266 | 7.137 | 4397. | .6602 | 4.249 | 39.22 |
| #1 | -.0108 | -.0111 | .6872 | .0171 | .1499 | .0496 | .0008 | 59.20 | .0065 | -.0010 |
| #2 | -.0082 | .0785 | .6866 | .0079 | .1519 | .0548 | -.0008 | 59.75 | .0069 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0134 | 41.38 | 8.664 | 8.863 | 3.010 | .0025 | 46.41 | .0166 | -.0008 |
| Stddev | .0008 | .0047 | .23 | .091 | .061 | .007 | .0012 | .13 | .0038 | .0011 |
| %RSD | 14.39 | 34.94 | .5678 | 1.051 | .6853 | .2218 | 48.46 | .2751 | 22.64 | 144.6 |
| #1 | -.0048 | -.0101 | 41.21 | 8.728 | 8.820 | 3.006 | .0033 | 46.50 | .0193 | .0000 |
| #2 | -.0059 | -.0167 | 41.54 | 8.600 | 8.906 | 3.015 | .0016 | 46.32 | .0140 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | -.0488 | .0051 | -.0070 | 13.85 | .0022 | .3213 | -.0032 | .0017 | .0038 |
| Stddev | .0038 | .0004 | .0044 | .0067 | .03 | .0039 | .0030 | .0010 | .0073 | .0041 |
| %RSD | 37.22 | .7461 | 86.91 | 94.52 | .2101 | 177.7 | .9243 | 31.69 | 422.6 | 108.0 |
| #1 | -.0076 | -.0490 | .0020 | -.0117 | 13.82 | -.0006 | .3192 | -.0039 | .0069 | .0067 |
| #2 | -.0130 | -.0485 | .0082 | -.0023 | 13.87 | .0049 | .3234 | -.0025 | -.0034 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0187 | -.0013 |
| Stddev | .0485 | .0002 | .0033 |
| %RSD | 2671. | 1.062 | 244.3 |
| #1 | -.0361 | .0186 | -.0037 |
| #2 | .0325 | .0189 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.3 | 58033. | 13800. |
| Stddev | 8.6 | 28. | 28. |
| %RSD | .35537 | .04808 | .20562 |
| #1 | 2423.4 | 58013. | 13820. |
| #2 | 2411.2 | 58053. | 13780. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/5/2013 11:25:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | .0274 | .0048 | .0010 | .0257 | .0327 | .0000 | 14.02 | -.0001 | .0003 |
| Stddev | .0005 | .0190 | .0015 | .0011 | .0002 | .0000 | .000 | .17 | .0003 | .0004 |
| %RSD | 32.55 | 69.28 | 31.91 | 118.0 | .9504 | .0101 | 1.207 | 1.195 | 442.7 | 107.6 |
| #1 | -.0013 | .0408 | .0037 | .0018 | .0255 | .0327 | .0000 | 13.90 | -.0003 | .0006 |
| #2 | -.0020 | .0140 | .0058 | .0002 | .0259 | .0327 | -.0001 | 14.14 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0001 | .1574 | 2.908 | 2.749 | .3818 | .0004 | 6.705 | .0032 | -.0001 |
| Stddev | .0004 | .0013 | .0003 | .001 | .018 | .0017 | .0001 | .014 | .0002 | .0025 |
| %RSD | 39.60 | 1702. | .1864 | .0449 | .6739 | .4339 | 11.67 | .2099 | 7.181 | 3395. |
| #1 | -.0007 | .0009 | .1571 | 2.908 | 2.736 | .3806 | .0005 | 6.695 | .0033 | .0017 |
| #2 | -.0012 | -.0010 | .1576 | 2.909 | 2.762 | .3830 | .0004 | 6.715 | .0030 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0123 | .0010 | .0008 | 3.286 | -.0001 | .0948 | -.0015 | -.0021 | .0014 |
| Stddev | .0006 | .0003 | .0001 | .0016 | .001 | .0002 | .0007 | .0005 | .0011 | .0006 |
| %RSD | 388.5 | 2.668 | 11.43 | 185.5 | .0281 | 315.0 | .6907 | 30.02 | 49.14 | 44.10 |
| #1 | -.0003 | -.0120 | .0011 | .0020 | 3.286 | .0001 | .0944 | -.0019 | -.0029 | .0009 |
| #2 | .0006 | -.0125 | .0009 | -.0003 | 3.285 | -.0002 | .0953 | -.0012 | -.0014 | .0018 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0035 | .0096 | .0000 |
| Stddev | .0005 | .0001 | .000 |
| %RSD | 13.27 | .9298 | 1133. |
| #1 | .0031 | .0097 | .0002 |
| #2 | .0038 | .0096 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.2 | 57515. | 13689. |
| Stddev | 4.7 | 30. | 94. |
| %RSD | .19573 | .05238 | .68616 |
| #1 | 2406.8 | 57494. | 13623. |
| #2 | 2413.5 | 57536. | 13755. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/5/2013 11:29:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0216 | .0032 | .0055 | .0630 | .0631 | .0000 | 30.50 | -.0001 | .0005 |
| Stddev | .0008 | .0140 | .0034 | .0046 | .0005 | .0008 | .000 | .12 | .0000 | .0002 |
| %RSD | 22.69 | 65.00 | 108.9 | 84.25 | .8384 | 1.237 | 282.5 | .3855 | 32.62 | 37.03 |
| #1 | -.0040 | -.0315 | .0056 | .0088 | .0634 | .0637 | .0000 | 30.59 | -.0001 | .0003 |
| #2 | -.0029 | -.0117 | .0007 | .0022 | .0626 | .0626 | -.0001 | 30.42 | -.0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0022 | .0555 | 4.561 | 4.595 | .5061 | .0003 | 18.16 | .0033 | .0007 |
| Stddev | .0004 | .0014 | .0012 | .166 | .044 | .0008 | .0001 | .05 | .0001 | .0021 |
| %RSD | 1329. | 65.18 | 2.232 | 3.645 | .9571 | .1528 | 16.55 | .2672 | 4.279 | 308.7 |
| #1 | -.0003 | -.0032 | .0546 | 4.444 | 4.626 | .5055 | .0003 | 18.20 | .0032 | .0021 |
| #2 | .0003 | -.0012 | .0564 | 4.679 | 4.564 | .5066 | .0004 | 18.13 | .0034 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | -.0022 | .0014 | -.0030 | 5.181 | .0001 | .2137 | .0001 | -.0018 | .0028 |
| Stddev | .0010 | .0133 | .0027 | .0022 | .003 | .0008 | .0014 | .0004 | .0008 | .0004 |
| %RSD | 50.31 | 619.3 | 193.0 | 75.68 | .0650 | 506.1 | .6402 | 505.8 | 44.50 | 15.43 |
| #1 | .0026 | .0073 | .0034 | -.0014 | 5.179 | .0007 | .2127 | .0004 | -.0012 | .0031 |
| #2 | .0012 | -.0116 | -.0005 | -.0045 | 5.183 | -.0004 | .2146 | -.0002 | -.0024 | .0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0093 | -.0004 |
| Stddev | .0101 | .0002 | .0001 |
| %RSD | 1159. | 2.343 | 22.97 |
| #1 | .0062 | .0094 | -.0005 |
| #2 | -.0080 | .0091 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.2 | 58037. | 13857. |
| Stddev | 4.1 | 137. | 125. |
| %RSD | .16869 | .23527 | .89979 |
| #1 | 2440.3 | 57940. | 13769. |
| #2 | 2446.1 | 58133. | 13945. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 11:34:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2513 | 9.898 | 2.025 | -.0012 | 1.971 | 1.948 | 1.948 | 9.877 | 2.023 | 2.107 |
| Stddev | .0020 | .010 | .002 | .0018 | .003 | .001 | .003 | .006 | .000 | .001 |
| %RSD | .8149 | .0979 | .0998 | 143.2 | .1668 | .0590 | .1424 | .0617 | .0133 | .0663 |
| #1 | .2527 | 9.891 | 2.024 | .0000 | 1.969 | 1.949 | 1.949 | 9.873 | 2.023 | 2.108 |
| #2 | .2498 | 9.904 | 2.027 | -.0025 | 1.973 | 1.947 | 1.946 | 9.882 | 2.023 | 2.106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.008 | 2.001 | 9.644 | 9.870 | 9.893 | 2.020 | 2.015 | 9.826 | 1.958 | 1.967 |
| Stddev | .009 | .006 | .021 | .033 | .031 | .006 | .001 | .034 | .001 | .000 |
| %RSD | .4672 | .3043 | .2170 | .3320 | .3131 | .2854 | .0430 | .3491 | .0441 | .0216 |
| #1 | 2.014 | 2.005 | 9.659 | 9.847 | 9.871 | 2.024 | 2.015 | 9.850 | 1.957 | 1.966 |
| #2 | 2.001 | 1.997 | 9.629 | 9.893 | 9.915 | 2.016 | 2.016 | 9.802 | 1.958 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0005 | 1.995 | 1.995 | -.0210 | 1.961 | 1.970 | 1.959 | 1.965 | 2.002 |
| Stddev | .0010 | .0042 | .000 | .000 | .0007 | .003 | .002 | .004 | .004 | .008 |
| %RSD | 87.33 | 832.2 | .0148 | .0192 | 3.373 | .1639 | .0827 | .2008 | .2112 | .3923 |
| #1 | .0004 | .0024 | 1.995 | 1.994 | -.0215 | 1.958 | 1.971 | 1.962 | 1.962 | 2.007 |
| #2 | .0019 | -.0034 | 1.996 | 1.995 | -.0205 | 1.963 | 1.969 | 1.956 | 1.968 | 1.996 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | 2.007 | -.0050 |
| Stddev | .0006 | .001 | .0002 |
| %RSD | 12.04 | .0261 | 4.522 |
| #1 | .0045 | 2.008 | -.0048 |
| #2 | .0053 | 2.007 | -.0051 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2452.3 | 57866. | 13966. |
| Stddev | .9 | 210. | 29. |
| %RSD | .03501 | .36328 | .20873 |
| #1 | 2452.9 | 57718. | 13986. |
| #2 | 2451.6 | 58015. | 13945. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 11:38:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0025 | .0005 | .0017 | .0026 | .0005 | F.0006 | .0100 | F.0005 |
| Stddev | .0004 | .0049 | .0008 | .0015 | .0002 | .0002 | .0001 | .0030 | .0002 |
| %RSD | 38.86 | 198.3 | 166.4 | 88.68 | 7.348 | 29.99 | 16.80 | 30.11 | 40.88 |
| #1 | -.0007 | .0059 | -.0001 | .0006 | .0027 | .0004 | .0007 | .0079 | .0007 |
| #2 | -.0012 | -.0010 | .0011 | .0028 | .0024 | .0006 | .0005 | .0121 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | .0004 | -.0008 | .0119 | .0135 | .0004 | .0022 | .0061 |
| Stddev | .0001 | .0005 | .0012 | .0008 | .0161 | .0136 | .0000 | .0006 | .0003 |
| %RSD | 20.15 | 137.5 | 330.7 | 99.93 | 136.1 | 101.0 | 4.384 | 26.26 | 5.500 |
| #1 | .0005 | .0007 | -.0005 | -.0002 | .0233 | .0231 | .0004 | .0027 | .0059 |
| #2 | .0004 | .0000 | .0012 | -.0013 | .0004 | .0039 | .0003 | .0018 | .0064 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0012 | -.0071 | .0011 | -.0010 | -.0077 | .0011 | .0005 |
| Stddev | .0000 | .0006 | .0003 | .0022 | .0001 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 8.327 | 78.85 | 20.45 | 30.82 | 11.57 | 1.356 | 4.814 | 8.364 | 24.24 |
| #1 | .0003 | .0011 | .0014 | -.0055 | .0010 | -.0010 | -.0075 | .0011 | .0004 |
| #2 | .0004 | .0003 | .0011 | -.0086 | .0011 | -.0010 | -.0080 | .0012 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | -.0001 | .0007 | -.0003 | .0002 | .0002 |
| Stddev | .0001 | .0001 | .0007 | .0010 | .0001 | .0000 |
| %RSD | 18.01 | 102.8 | 101.0 | 338.4 | 40.89 | 14.70 |
| #1 | .0005 | -.0001 | .0012 | .0004 | .0002 | .0002 |
| #2 | .0004 | .0000 | .0002 | -.0010 | .0001 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2460.1 | 58078. | 13849. |
| Stddev | 2.5 | 150. | 46. |
| %RSD | .09994 | .25741 | .32933 |
| #1 | 2461.8 | 57972. | 13881. |
| #2 | 2458.3 | 58184. | 13817. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/5/2013 11:42:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0388 | .0061 | .0041 | .0668 | .0628 | .0001 | 30.92 | -.0004 | .0005 |
| Stddev | .0007 | .0143 | .0002 | .0052 | .0004 | .0011 | .0000 | .05 | .0006 | .0006 |
| %RSD | 1005. | 36.82 | 3.118 | 125.4 | .5496 | 1.780 | 68.59 | .1719 | 140.3 | 107.4 |
| #1 | .0004 | .0287 | .0060 | .0078 | .0666 | .0620 | .0001 | 30.96 | -.0009 | .0001 |
| #2 | -.0006 | .0489 | .0063 | .0005 | .0671 | .0636 | .0000 | 30.88 | .0000 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0007 | .0577 | 4.609 | 4.609 | .5146 | .0020 | 18.55 | .0038 | .0009 |
| Stddev | .0004 | .0006 | .0023 | .039 | .047 | .0005 | .0004 | .11 | .0002 | .0012 |
| %RSD | 697.2 | 75.09 | 4.045 | .8465 | 1.027 | .1028 | 18.44 | .5975 | 5.424 | 124.3 |
| #1 | .0002 | -.0011 | .0593 | 4.582 | 4.643 | .5149 | .0022 | 18.63 | .0036 | .0001 |
| #2 | -.0003 | -.0003 | .0560 | 4.637 | 4.576 | .5142 | .0017 | 18.47 | .0039 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0176 | .0017 | -.0007 | 5.210 | .0010 | .2107 | -.0013 | -.0004 | .0010 |
| Stddev | .0022 | .0018 | .0001 | .0013 | .018 | .0008 | .0001 | .0003 | .0020 | .0002 |
| %RSD | 403.1 | 10.28 | 6.042 | 179.0 | .3440 | 77.10 | .0546 | 19.61 | 465.1 | 24.48 |
| #1 | .0010 | -.0163 | .0017 | -.0017 | 5.197 | .0005 | .2107 | -.0012 | -.0018 | .0008 |
| #2 | -.0021 | -.0189 | .0018 | .0002 | 5.222 | .0016 | .2106 | -.0015 | .0010 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0137 | -.0001 |
| Stddev | .0018 | .0005 | .0004 |
| %RSD | 25.24 | 3.880 | 425.0 |
| #1 | .0060 | .0133 | -.0003 |
| #2 | .0085 | .0141 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.5 | 57931. | 13761. |
| Stddev | 4.1 | 66. | 138. |
| %RSD | .16673 | .11452 | 1.0025 |
| #1 | 2434.4 | 57884. | 13664. |
| #2 | 2428.6 | 57978. | 13859. |



Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/5/2013 11:47:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0143 | .4818 | -.0010 | .0334 | .0380 | .0003 | 24.61 | .0061 | .0010 |
| Stddev | .0014 | .0190 | .0014 | .0035 | .0010 | .0006 | .0001 | .03 | .0012 | .0006 |
| %RSD | 63.36 | 132.6 | .2910 | 349.1 | 3.023 | 1.595 | 49.04 | .1097 | 20.51 | 63.76 |
| #1 | -.0032 | -.0009 | .4808 | .0015 | .0342 | .0376 | .0002 | 24.63 | .0052 | .0014 |
| #2 | -.0012 | -.0278 | .4828 | -.0035 | .0327 | .0384 | .0004 | 24.59 | .0069 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0030 | 29.00 | 3.349 | 3.212 | 1.706 | .0011 | 9.746 | .0025 | .0007 |
| Stddev | .0005 | .0005 | .05 | .009 | .086 | .002 | .0001 | .043 | .0010 | .0019 |
| %RSD | 19.12 | 15.64 | .1787 | .2574 | 2.672 | .0999 | 4.826 | .4435 | 37.61 | 278.4 |
| #1 | -.0023 | -.0033 | 29.04 | 3.343 | 3.152 | 1.705 | .0011 | 9.716 | .0032 | -.0007 |
| #2 | -.0031 | -.0026 | 28.97 | 3.355 | 3.273 | 1.707 | .0011 | 9.777 | .0019 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0115 | .0024 | -.0008 | 8.742 | .0003 | .2462 | -.0010 | .0002 | .0027 |
| Stddev | .0032 | .0107 | .0024 | .0013 | .001 | .0007 | .0011 | .0009 | .0011 | .0011 |
| %RSD | 212.9 | 93.23 | 96.70 | 160.3 | .0084 | 217.6 | .4386 | 84.07 | 628.8 | 40.07 |
| #1 | -.0038 | -.0190 | .0008 | .0001 | 8.742 | .0008 | .2469 | -.0004 | -.0006 | .0035 |
| #2 | .0008 | -.0039 | .0041 | -.0018 | 8.741 | -.0002 | .2454 | -.0017 | .0010 | .0019 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0180 | -.0007 |
| Stddev | .0146 | .0006 | .0007 |
| %RSD | 259.5 | 3.109 | 93.49 |
| #1 | -.0047 | .0184 | -.0002 |
| #2 | .0159 | .0176 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2446.4 | 58336. | 13897. |
| Stddev | 2.4 | 424. | 31. |
| %RSD | .09751 | .72683 | .22443 |
| #1 | 2444.7 | 58036. | 13919. |
| #2 | 2448.1 | 58636. | 13875. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:51:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0165 | .6111 | .0018 | .1192 | .0673 | .0000 | 40.51 | .0077 | .0013 |
| Stddev | .0000 | .0047 | .0003 | .0030 | .0002 | .0007 | .0001 | .29 | .0002 | .0003 |
| %RSD | 2.062 | 28.52 | .0428 | 162.4 | .1836 | 1.090 | 587.7 | .7144 | 3.073 | 21.38 |
| #1 | -.0018 | -.0198 | .6113 | .0040 | .1193 | .0668 | -.0001 | 40.30 | .0075 | .0015 |
| #2 | -.0018 | -.0131 | .6109 | -.0003 | .1190 | .0679 | .0001 | 40.71 | .0079 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0010 | 54.90 | 10.52 | 5.482 | 1.426 | .0002 | 25.67 | .0024 | -.0006 |
| Stddev | .0004 | .0008 | .46 | .09 | .140 | .003 | .0000 | .17 | .0001 | .0013 |
| %RSD | 72.98 | 82.18 | .8378 | .8412 | 2.558 | .1918 | 1.575 | .6700 | 5.319 | 202.8 |
| #1 | -.0008 | -.0016 | 54.57 | 10.46 | 5.383 | 1.428 | .0002 | 25.55 | .0025 | .0003 |
| #2 | -.0003 | -.0004 | 55.22 | 10.58 | 5.581 | 1.424 | .0002 | 25.80 | .0023 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0074 | .0019 | -.0007 | 12.07 | .0005 | .2966 | .0000 | .0001 | .0014 |
| Stddev | .0002 | .0044 | .0005 | .0008 | .01 | .0005 | .0027 | .001 | .0012 | .0004 |
| %RSD | 5.875 | 59.77 | 23.95 | 107.8 | .0599 | 106.7 | .9104 | 6364. | 850.7 | 27.95 |
| #1 | -.0035 | -.0105 | .0016 | -.0013 | 12.06 | .0008 | .2947 | .0005 | .0010 | .0011 |
| #2 | -.0038 | -.0042 | .0023 | -.0002 | 12.07 | .0001 | .2985 | -.0005 | -.0007 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0164 | .0032 | -.0016 |
| Stddev | .0089 | .0001 | .0000 |
| %RSD | 54.01 | 1.918 | .2144 |
| #1 | .0101 | .0032 | -.0016 |
| #2 | .0226 | .0032 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2430.7 | 58095. | 13948. |
| Stddev | 8.7 | 184. | 123. |
| %RSD | .35964 | .31726 | .87858 |
| #1 | 2436.9 | 57965. | 14035. |
| #2 | 2424.5 | 58226. | 13861. |

Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:55:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0139 | .5986 | .0033 | .1169 | .0654 | .0001 | 39.44 | .0073 | .0008 |
| Stddev | .0007 | .0270 | .0038 | .0007 | .0004 | .0002 | .0002 | .24 | .0006 | .0003 |
| %RSD | 45.36 | 194.6 | .6295 | 20.49 | .3447 | .2529 | 124.5 | .6122 | 8.497 | 30.75 |
| #1 | -.0010 | -.0330 | .5959 | .0037 | .1166 | .0655 | .0003 | 39.61 | .0068 | .0006 |
| #2 | -.0020 | .0052 | .6013 | .0028 | .1172 | .0653 | .0000 | 39.27 | .0077 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0038 | 53.12 | 10.27 | 5.297 | 1.379 | .0001 | 24.93 | .0020 | -.0021 |
| Stddev | .0008 | .0024 | .40 | .19 | .144 | .003 | .0003 | .12 | .0003 | .0007 |
| %RSD | 242.4 | 63.45 | .7612 | 1.866 | 2.713 | .2171 | 238.4 | .4807 | 14.42 | 35.72 |
| #1 | -.0009 | -.0055 | 53.41 | 10.40 | 5.399 | 1.377 | .0004 | 25.02 | .0018 | -.0026 |
| #2 | .0002 | -.0021 | 52.84 | 10.13 | 5.196 | 1.382 | -.0001 | 24.85 | .0022 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0052 | .0022 | .0004 | 11.72 | -.0001 | .2879 | -.0005 | -.0008 | .0026 |
| Stddev | .0001 | .0003 | .0007 | .0029 | .01 | .0006 | .0022 | .0024 | .0014 | .0002 |
| %RSD | 4.667 | 6.528 | 33.98 | 806.8 | .1185 | 1057. | .7521 | 476.6 | 186.3 | 9.696 |
| #1 | -.0031 | -.0050 | .0016 | .0024 | 11.71 | -.0005 | .2894 | .0012 | .0002 | .0024 |
| #2 | -.0033 | -.0054 | .0027 | -.0017 | 11.73 | .0004 | .2864 | -.0022 | -.0018 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0112 | .0042 | -.0021 |
| Stddev | .0099 | .0001 | .0001 |
| %RSD | 88.60 | 2.279 | 5.388 |
| #1 | .0183 | .0042 | -.0021 |
| #2 | .0042 | .0041 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2436.2 | 58453. | 13758. |
| Stddev | .4 | 17. | 13. |
| %RSD | .01489 | .02942 | .09565 |
| #1 | 2436.5 | 58441. | 13748. |
| #2 | 2436.0 | 58465. | 13767. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:59:59 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0168 | .6113 | .0076 | .1236 | .0691 | .0001 | 40.89 | .0074 | .0008 |
| Stddev | .0018 | .0050 | .0001 | .0038 | .0013 | .0008 | .0003 | .00 | .0004 | .0011 |
| %RSD | 58.65 | 29.63 | .0156 | 50.92 | 1.074 | 1.193 | 428.8 | .0107 | 5.217 | 129.4 |
| #1 | -.0018 | -.0133 | .6113 | .0103 | .1245 | .0696 | .0003 | 40.89 | .0071 | .0001 |
| #2 | -.0045 | -.0204 | .6114 | .0048 | .1227 | .0685 | -.0001 | 40.90 | .0076 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0025 | 55.14 | 10.40 | 5.389 | 1.444 | -.0002 | 25.84 | .0012 | -.0024 |
| Stddev | .0016 | .0000 | .26 | .16 | .149 | .006 | .0008 | .09 | .0014 | .0033 |
| %RSD | 291.0 | .4081 | .4625 | 1.575 | 2.757 | .4274 | 447.6 | .3569 | 123.1 | 137.5 |
| #1 | -.0017 | -.0025 | 55.32 | 10.28 | 5.284 | 1.439 | -.0007 | 25.91 | .0022 | -.0001 |
| #2 | .0006 | -.0025 | 54.96 | 10.51 | 5.494 | 1.448 | .0004 | 25.78 | .0001 | -.0048 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0097 | -.0244 | .0043 | -.0052 | 12.06 | -.0003 | .3037 | -.0030 | -.0051 | .0026 |
| Stddev | .0000 | .0320 | .0018 | .0024 | .01 | .0004 | .0002 | .0010 | .0019 | .0010 |
| %RSD | .2409 | 131.3 | 41.06 | 46.47 | .1040 | 128.8 | .0764 | 31.53 | 37.51 | 39.35 |
| #1 | -.0097 | -.0470 | .0031 | -.0035 | 12.07 | -.0007 | .3039 | -.0037 | -.0065 | .0019 |
| #2 | -.0097 | -.0017 | .0056 | -.0069 | 12.05 | .0000 | .3035 | -.0023 | -.0037 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0094 | .0081 | -.0041 |
| Stddev | .0045 | .0004 | .0014 |
| %RSD | 48.16 | 5.141 | 34.79 |
| #1 | -.0125 | .0084 | -.0051 |
| #2 | -.0062 | .0079 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.4 | 58449. | 13891. |
| Stddev | 2.2 | 383. | 152. |
| %RSD | .09189 | .65537 | 1.0961 |
| #1 | 2445.0 | 58720. | 13999. |
| #2 | 2441.8 | 58178. | 13784. |





Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 12:04:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0739 | .6274 | .0049 | .1230 | .0691 | -.0001 | 42.15 | .0072 | -.0002 |
| Stddev | .0021 | .1429 | .0002 | .0057 | .0021 | .0001 | .0005 | .22 | .0001 | .0025 |
| %RSD | 20.21 | 193.4 | .0321 | 117.6 | 1.719 | .1820 | 557.4 | .5128 | .7410 | 1129. |
| #1 | -.0091 | .1750 | .6276 | .0008 | .1215 | .0690 | -.0004 | 42.00 | .0073 | -.0020 |
| #2 | -.0121 | -.0272 | .6273 | .0089 | .1244 | .0692 | .0003 | 42.30 | .0072 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0109 | 56.33 | 10.92 | 5.479 | 1.436 | .0008 | 26.42 | .0024 | -.0028 |
| Stddev | .0041 | .0111 | .10 | .35 | .151 | .006 | .0002 | .13 | .0001 | .0019 |
| %RSD | 91.55 | 101.6 | .1743 | 3.250 | 2.760 | .4493 | 23.96 | .4973 | 5.110 | 67.12 |
| #1 | -.0016 | -.0188 | 56.26 | 10.67 | 5.586 | 1.432 | .0007 | 26.33 | .0023 | -.0015 |
| #2 | -.0074 | -.0031 | 56.40 | 11.18 | 5.372 | 1.441 | .0010 | 26.52 | .0025 | -.0041 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0067 | -.0335 | .0055 | -.0030 | 12.08 | .0030 | .3037 | -.0049 | -.0058 | .0037 |
| Stddev | .0074 | .0566 | .0018 | .0028 | .02 | .0004 | .0037 | .0021 | .0071 | .0019 |
| %RSD | 110.5 | 169.3 | 33.69 | 91.14 | .1290 | 12.96 | 1.233 | 41.63 | 123.4 | 50.80 |
| #1 | -.0015 | -.0735 | .0042 | -.0050 | 12.07 | .0033 | .3010 | -.0035 | -.0108 | .0024 |
| #2 | -.0119 | .0066 | .0068 | -.0011 | 12.09 | .0027 | .3063 | -.0064 | -.0007 | .0051 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0139 | .0095 | .0006 |
| Stddev | .0626 | .0005 | .0032 |
| %RSD | 451.5 | 4.987 | 533.6 |
| #1 | .0304 | .0099 | -.0017 |
| #2 | -.0581 | .0092 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2434.7 | 58082. | 13802. |
| Stddev | 2.0 | 64. | 178. |
| %RSD | .08308 | .11103 | 1.2912 |
| #1 | 2436.2 | 58128. | 13928. |
| #2 | 2433.3 | 58036. | 13676. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:08:38 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0061 | .0026 | .0021 | .0477 | .1712 | .0000 | 140.9 | -.0004 | -.0004 |
| Stddev | .0013 | .0348 | .0002 | .0008 | .0017 | .0020 | .000 | .2 | .0003 | .0001 |
| %RSD | 159.5 | 573.6 | 7.882 | 40.76 | 3.468 | 1.160 | 46.50 | .1557 | 71.31 | 32.39 |
| #1 | -.0017 | -.0185 | .0028 | .0015 | .0465 | .1698 | .0000 | 141.1 | -.0002 | -.0005 |
| #2 | .0001 | .0306 | .0025 | .0027 | .0489 | .1726 | -.0001 | 140.8 | -.0006 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0003 | .0284 | 6.246 | 17.16 | .0399 | .0002 | 426.1 | .0023 | -.0003 |
| Stddev | .0002 | .0001 | .0001 | .030 | .07 | .0004 | .0002 | 4.5 | .0001 | .0009 |
| %RSD | 80.15 | 33.90 | .1934 | .4852 | .3986 | .8994 | 71.83 | 1.050 | 6.074 | 332.8 |
| #1 | .0004 | -.0002 | .0285 | 6.224 | 17.11 | .0397 | .0001 | 422.9 | .0024 | -.0009 |
| #2 | .0001 | -.0003 | .0284 | 6.267 | 17.21 | .0402 | .0003 | 429.2 | .0022 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0175 | .0032 | .0012 | 6.482 | -.0001 | .8066 | .0019 | -.0041 | .0018 |
| Stddev | .0000 | .0001 | .0010 | .0036 | .002 | .0009 | .0024 | .0001 | .0003 | .0005 |
| %RSD | .2070 | .8010 | 31.43 | 308.1 | .0236 | 966.8 | .3023 | 6.074 | 8.272 | 28.05 |
| #1 | -.0092 | -.0176 | .0039 | -.0014 | 6.481 | .0005 | .8083 | .0019 | -.0039 | .0021 |
| #2 | -.0092 | -.0174 | .0025 | .0037 | 6.483 | -.0007 | .8048 | .0018 | -.0044 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0036 | .0078 | -.0009 |
| Stddev | .0049 | .0002 | .0004 |
| %RSD | 136.4 | 2.232 | 41.68 |
| #1 | .0001 | .0079 | -.0006 |
| #2 | .0071 | .0076 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.7 | 57315. | 13820. |
| Stddev | 3.0 | 183. | 26. |
| %RSD | .12508 | .31870 | .19130 |
| #1 | 2384.8 | 57444. | 13839. |
| #2 | 2380.6 | 57185. | 13802. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:13:03 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0372 | .0126 | .0357 | .0527 | .1763 | -.0007 | 145.1 | -.0030 | -.0030 |
| Stddev | .0081 | .2364 | .0417 | .0322 | .0031 | .0042 | .0005 | .1 | .0003 | .0033 |
| %RSD | 109.8 | 636.2 | 329.5 | 90.18 | 5.957 | 2.398 | 81.95 | .0810 | 10.61 | 110.3 |
| #1 | -.0131 | .2043 | -.0168 | .0129 | .0549 | .1733 | -.0003 | 145.0 | -.0028 | -.0053 |
| #2 | -.0017 | -.1300 | .0421 | .0584 | .0504 | .1793 | -.0010 | 145.2 | -.0032 | -.0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0085 | -.0085 | -.0475 | 6.727 | 18.13 | .0342 | .0007 | 438.2 | .0001 | -.0017 |
| Stddev | .0066 | .0043 | .0335 | .662 | .28 | .0009 | .0015 | .1 | .0052 | .0053 |
| %RSD | 76.82 | 50.39 | 70.59 | 9.836 | 1.519 | 2.512 | 227.0 | .0157 | 5769. | 312.2 |
| #1 | -.0039 | -.0115 | -.0712 | 7.195 | 17.93 | .0336 | -.0004 | 438.2 | .0038 | -.0054 |
| #2 | -.0132 | -.0055 | -.0238 | 6.259 | 18.32 | .0348 | .0017 | 438.3 | -.0036 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | -.0591 | -.0059 | -.0030 | 6.435 | -.0008 | .8396 | -.0148 | -.0170 | .0201 |
| Stddev | .0515 | .0357 | .0060 | .0117 | .005 | .0028 | .0090 | .0027 | .0090 | .0113 |
| %RSD | 749.8 | 60.46 | 102.4 | 390.0 | .0708 | 351.9 | 1.075 | 18.62 | 52.87 | 56.32 |
| #1 | .0296 | -.0844 | -.0016 | .0053 | 6.431 | -.0027 | .8333 | -.0128 | -.0233 | .0281 |
| #2 | -.0433 | -.0338 | -.0102 | -.0113 | 6.438 | .0012 | .8460 | -.0167 | -.0106 | .0121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0282 | .0099 | .0062 |
| Stddev | .0334 | .0001 | .0030 |
| %RSD | 118.5 | .7390 | 48.76 |
| #1 | -.0518 | .0099 | .0041 |
| #2 | -.0046 | .0100 | .0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2432.3 | 58117. | 13817. |
| Stddev | 10.3 | 49. | 14. |
| %RSD | .42509 | .08365 | .10342 |
| #1 | 2425.0 | 58082. | 13828. |
| #2 | 2439.6 | 58151. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:17:25 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0583 | .0346 | .0527 | .0963 | .0414 | .1698 | -.0049 | 145.7 | -.0123 | -.0062 |
| Stddev | .0032 | .1995 | .0412 | .0172 | .0388 | .0044 | .0015 | 1.1 | .0093 | .0015 |
| %RSD | 5.448 | 576.9 | 78.30 | 17.89 | 93.75 | 2.596 | 30.78 | .7484 | 75.40 | 24.20 |
| #1 | -.0606 | -.1065 | .0818 | .1085 | .0139 | .1667 | -.0039 | 145.0 | -.0058 | -.0051 |
| #2 | -.0561 | .1757 | .0235 | .0841 | .0688 | .1729 | -.0060 | 146.5 | -.0189 | -.0072 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0220 | -.0495 | -.1850 | 6.875 | 17.92 | .0264 | .0037 | 431.5 | -.0094 | .0028 |
| Stddev | .0133 | .0520 | .0220 | 1.944 | .95 | .0048 | .0010 | 1.2 | .0022 | .0113 |
| %RSD | 60.66 | 105.1 | 11.91 | 28.27 | 5.327 | 18.37 | 27.25 | .2803 | 23.49 | 404.7 |
| #1 | -.0126 | -.0127 | -.1694 | 8.250 | 17.25 | .0298 | .0030 | 432.4 | -.0109 | -.0052 |
| #2 | -.0314 | -.0863 | -.2006 | 5.501 | 18.60 | .0229 | .0044 | 430.7 | -.0078 | .0108 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0292 | -.2688 | .0053 | -.0117 | 6.090 | .0224 | .8159 | -.0241 | -.0004 | .0381 |
| Stddev | .0208 | .1548 | .0300 | .0634 | .047 | .0077 | .0023 | .0171 | .0164 | .0262 |
| %RSD | 71.19 | 57.59 | 564.3 | 540.6 | .7711 | 34.27 | .2835 | 70.85 | 4068. | 68.80 |
| #1 | -.0145 | -.1593 | -.0159 | -.0566 | 6.123 | .0170 | .8143 | -.0120 | .0112 | .0566 |
| #2 | -.0439 | -.3783 | .0266 | .0331 | 6.057 | .0279 | .8176 | -.0362 | -.0120 | .0196 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0004 | .0023 | .0184 |
| Stddev | .0326 | .0006 | .0130 |
| %RSD | 8283. | 25.26 | 70.86 |
| #1 | .0235 | .0019 | .0092 |
| #2 | -.0227 | .0028 | .0276 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2426.2 | 57817. | 13798. |
| Stddev | 4.2 | 406. | 44. |
| %RSD | .17344 | .70280 | .31801 |
| #1 | 2429.2 | 57530. | 13829. |
| #2 | 2423.2 | 58104. | 13767. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:21:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0030 | .0020 | .0016 | .0459 | .1576 | .0000 | 129.6 | .0000 | .0000 |
| Stddev | .0013 | .0146 | .0036 | .0018 | .0014 | .0001 | .0002 | .2 | .0001 | .0004 |
| %RSD | 105.3 | 481.3 | 178.2 | 115.8 | 2.975 | .0597 | 1365. | .1596 | 1124. | 1073. |
| #1 | -.0022 | .0073 | .0045 | .0028 | .0468 | .1577 | .0001 | 129.5 | .0001 | -.0003 |
| #2 | -.0003 | -.0134 | -.0005 | .0003 | .0449 | .1575 | -.0001 | 129.7 | -.0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0013 | .1211 | 6.121 | 16.06 | .2129 | .0014 | 393.3 | .0031 | -.0024 |
| Stddev | .0005 | .0010 | .0007 | .005 | .14 | .0004 | .0000 | 3.8 | .0005 | .0010 |
| %RSD | 96.77 | 74.96 | .5728 | .0768 | .8703 | .1650 | 1.375 | .9719 | 16.19 | 42.75 |
| #1 | -.0002 | -.0020 | .1206 | 6.117 | 15.96 | .2131 | .0014 | 396.0 | .0027 | -.0032 |
| #2 | -.0008 | -.0006 | .1215 | 6.124 | 16.16 | .2126 | .0014 | 390.6 | .0035 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0054 | .0013 | .0011 | 6.188 | -.0005 | .7576 | .0010 | -.0033 | .0027 |
| Stddev | .0054 | .0047 | .0010 | .0020 | .010 | .0003 | .0023 | .0020 | .0006 | .0001 |
| %RSD | 71.52 | 87.94 | 73.09 | 187.6 | .1635 | 70.52 | .3083 | 209.8 | 17.05 | 2.350 |
| #1 | -.0037 | -.0020 | .0006 | .0025 | 6.195 | -.0002 | .7560 | .0024 | -.0037 | .0028 |
| #2 | -.0113 | -.0088 | .0020 | -.0004 | 6.181 | -.0007 | .7593 | -.0005 | -.0029 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0345 | .0095 | .0000 |
| Stddev | .0040 | .0002 | .000 |
| %RSD | 11.54 | 1.702 | 351.5 |
| #1 | .0374 | .0096 | .0001 |
| #2 | .0317 | .0093 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.3 | 57574. | 13768. |
| Stddev | 8.3 | 594. | 82. |
| %RSD | .35021 | 1.0310 | .59719 |
| #1 | 2366.4 | 57154. | 13827. |
| #2 | 2378.1 | 57994. | 13710. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 12:26:11 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.941 | 2.022 | .0003 | 1.967 | 1.964 | 1.949 | 9.925 | 2.047 | 2.117 |
| Stddev | .0019 | .153 | .002 | .0015 | .002 | .026 | .027 | .135 | .001 | .004 |
| %RSD | .7545 | 1.534 | .1044 | 495.7 | .0756 | 1.349 | 1.372 | 1.362 | .0470 | .1890 |
| #1 | .2513 | 10.05 | 2.024 | -.0008 | 1.968 | 1.983 | 1.968 | 10.02 | 2.047 | 2.120 |
| #2 | .2540 | 9.833 | 2.021 | .0014 | 1.966 | 1.946 | 1.930 | 9.829 | 2.046 | 2.114 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.004 | 2.016 | 9.718 | 9.933 | 10.03 | 2.000 | 2.031 | 9.993 | 1.957 | 1.970 |
| Stddev | .002 | .007 | .138 | .138 | .12 | .004 | .002 | .134 | .002 | .001 |
| %RSD | .1043 | .3431 | 1.417 | 1.384 | 1.206 | .2229 | .1193 | 1.339 | .0921 | .0571 |
| #1 | 2.003 | 2.011 | 9.816 | 10.03 | 10.11 | 1.997 | 2.033 | 10.09 | 1.958 | 1.971 |
| #2 | 2.006 | 2.021 | 9.621 | 9.836 | 9.942 | 2.004 | 2.029 | 9.898 | 1.956 | 1.969 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0005 | 2.006 | 1.994 | -.0130 | 1.953 | 1.993 | 1.956 | 1.956 | 1.999 |
| Stddev | .0008 | .0013 | .002 | .005 | .0004 | .004 | .024 | .007 | .005 | .005 |
| %RSD | 809.7 | 235.1 | .0916 | .2558 | 2.801 | .2219 | 1.195 | .3376 | .2753 | .2288 |
| #1 | .0005 | -.0004 | 2.007 | 1.998 | -.0127 | 1.956 | 2.010 | 1.951 | 1.960 | 1.996 |
| #2 | -.0007 | .0014 | 2.005 | 1.990 | -.0133 | 1.950 | 1.976 | 1.960 | 1.952 | 2.002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0079 | 2.010 | -.0049 |
| Stddev | .0050 | .003 | .0001 |
| %RSD | 62.58 | .1634 | 1.025 |
| #1 | .0114 | 2.013 | -.0049 |
| #2 | .0044 | 2.008 | -.0049 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.7 | 57993. | 13854. |
| Stddev | 2.5 | 15. | 227. |
| %RSD | .10232 | .02565 | 1.6409 |
| #1 | 2418.4 | 57982. | 13693. |
| #2 | 2414.9 | 58003. | 14015. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 12:30:23 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0012 | .0001 | .0020 | .0025 | .0005 | F.0005 | .0528 | .0004 |
| Stddev | .0001 | .0006 | .0030 | .0003 | .0002 | .0004 | .0000 | .0033 | .0000 |
| %RSD | 13.49 | 52.04 | 2714. | 15.99 | 10.01 | 74.80 | 6.253 | 6.214 | 1.312 |
| #1 | -.0007 | -.0008 | -.0020 | .0018 | .0027 | .0002 | .0005 | .0504 | .0004 |
| #2 | -.0006 | -.0017 | .0022 | .0023 | .0023 | .0008 | .0006 | .0551 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | -.0002 | .0005 | .0199 | .0161 | .0002 | .0024 | .0630 |
| Stddev | .0003 | .0002 | .0000 | .0051 | .0049 | .0118 | .0001 | .0003 | .0001 |
| %RSD | 90.74 | 427.0 | 7.606 | 1010. | 24.43 | 73.69 | 66.72 | 13.99 | .1360 |
| #1 | .0001 | .0002 | -.0002 | .0041 | .0165 | .0077 | .0003 | .0026 | .0629 |
| #2 | .0005 | -.0001 | -.0002 | -.0031 | .0234 | .0244 | .0001 | .0021 | .0630 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0013 | -.0066 | .0006 | .0006 | -.0076 | .0009 | .0005 |
| Stddev | .0001 | .0009 | .0034 | .0008 | .0006 | .0007 | .0002 | .0003 | .0001 |
| %RSD | 13.28 | 181.8 | 262.7 | 12.71 | 94.98 | 110.3 | 3.127 | 37.45 | 10.89 |
| #1 | .0005 | .0012 | .0037 | -.0060 | .0002 | .0001 | -.0078 | .0007 | .0006 |
| #2 | .0006 | -.0001 | -.0011 | -.0072 | .0010 | .0011 | -.0075 | .0011 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0010 | -.0021 | .0001 | .0005 |
| Stddev | .0001 | .0000 | .0008 | .0021 | .0001 | .0001 |
| %RSD | 32.38 | 7.512 | 85.21 | 99.66 | 61.94 | 12.10 |
| #1 | .0004 | .0007 | .0015 | -.0006 | .0001 | .0005 |
| #2 | .0003 | .0006 | .0004 | -.0035 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.3 | 57723. | 13770. |
| Stddev | .8 | 41. | 56. |
| %RSD | .03354 | .07170 | .40634 |
| #1 | 2422.8 | 57752. | 13730. |
| #2 | 2421.7 | 57694. | 13810. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:34:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0403 | .0240 | .0570 | .0719 | .1686 | .0026 | 136.4 | -.0016 | -.0011 |
| Stddev | .0038 | .0116 | .0028 | .0212 | .0027 | .0042 | .0021 | .8 | .0000 | .0005 |
| %RSD | 35.94 | 28.74 | 11.64 | 37.15 | 3.700 | 2.481 | 81.18 | .6228 | 1.919 | 48.90 |
| #1 | -.0132 | .0321 | .0260 | .0420 | .0738 | .1716 | .0042 | 135.8 | -.0016 | -.0007 |
| #2 | -.0079 | .0485 | .0221 | .0720 | .0700 | .1656 | .0011 | 137.0 | -.0016 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0246 | .0906 | 6.171 | 16.50 | .2178 | .0163 | 405.8 | .0050 | -.0058 |
| Stddev | .0185 | .0170 | .0464 | .296 | .56 | .0001 | .0033 | 1.0 | .0060 | .0091 |
| %RSD | 386.7 | 69.02 | 51.22 | 4.794 | 3.377 | .0480 | 20.09 | .2375 | 120.8 | 158.9 |
| #1 | -.0179 | -.0366 | .0578 | 5.962 | 16.10 | .2178 | .0186 | 405.2 | .0007 | .0007 |
| #2 | .0083 | -.0126 | .1235 | 6.380 | 16.89 | .2179 | .0140 | 406.5 | .0093 | -.0122 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0080 | -.0812 | .0133 | -.0102 | 6.141 | .0058 | .7837 | -.0045 | -.0179 | .0138 |
| Stddev | .0360 | .0919 | .0229 | .0041 | .010 | .0018 | .0029 | .0075 | .0083 | .0016 |
| %RSD | 446.8 | 113.1 | 172.2 | 39.99 | .1657 | 30.82 | .3697 | 166.6 | 46.34 | 11.23 |
| #1 | .0174 | -.0162 | -.0029 | -.0073 | 6.148 | .0045 | .7817 | .0008 | -.0238 | .0127 |
| #2 | -.0335 | -.1462 | .0295 | -.0131 | 6.134 | .0070 | .7858 | -.0099 | -.0121 | .0149 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1327 | .0143 | -.0026 |
| Stddev | .2096 | .0004 | .0009 |
| %RSD | 157.9 | 2.565 | 32.81 |
| #1 | -.0155 | .0140 | -.0032 |
| #2 | .2809 | .0145 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2425.8 | 57906. | 13903. |
| Stddev | 1.0 | 162. | 101. |
| %RSD | .04053 | .27990 | .72877 |
| #1 | 2426.5 | 58020. | 13975. |
| #2 | 2425.1 | 57791. | 13831. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:39:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0642 | .0647 | .0090 | .0834 | .0918 | .1602 | -.0001 | 135.2 | -.0015 | -.0040 |
| Stddev | .0326 | .4750 | .0072 | .0110 | .0095 | .0083 | .0023 | .2 | .0006 | .0036 |
| %RSD | 50.69 | 734.2 | 79.22 | 13.15 | 10.31 | 5.191 | 3646. | .1549 | 40.66 | 90.36 |
| #1 | -.0872 | .4006 | .0141 | .0756 | .0985 | .1661 | -.0017 | 135.3 | -.0011 | -.0065 |
| #2 | -.0412 | -.2712 | .0040 | .0911 | .0851 | .1543 | .0015 | 135.0 | -.0020 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0241 | -.0595 | -.1089 | 5.419 | 16.82 | .2029 | .0060 | 405.4 | -.0043 | -.0260 |
| Stddev | .0205 | .0111 | .0433 | 3.185 | 1.40 | .0035 | .0044 | .5 | .0040 | .0056 |
| %RSD | 85.30 | 18.67 | 39.77 | 58.77 | 8.314 | 1.739 | 73.53 | .1248 | 94.99 | 21.58 |
| #1 | -.0386 | -.0516 | -.1395 | 7.671 | 15.83 | .2054 | .0029 | 405.8 | -.0014 | -.0220 |
| #2 | -.0095 | -.0673 | -.0783 | 3.167 | 17.81 | .2004 | .0090 | 405.1 | -.0071 | -.0300 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0307 | -.2605 | .0459 | -.0175 | 5.850 | .0242 | .7757 | -.0316 | -.0195 | .0503 |
| Stddev | .0342 | .1801 | .0442 | .0017 | .051 | .0207 | .0032 | .0197 | .0339 | .0059 |
| %RSD | 111.2 | 69.14 | 96.26 | 9.603 | .8758 | 85.33 | .4141 | 62.44 | 173.6 | 11.67 |
| #1 | -.0066 | -.1331 | .0147 | -.0187 | 5.887 | .0096 | .7779 | -.0456 | .0044 | .0544 |
| #2 | -.0549 | -.3878 | .0772 | -.0163 | 5.814 | .0388 | .7734 | -.0177 | -.0435 | .0461 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0184 | .0089 |
| Stddev | .0072 | .0039 | .0090 |
| %RSD | 561.6 | 21.08 | 101.2 |
| #1 | -.0064 | .0156 | .0153 |
| #2 | .0038 | .0211 | .0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 58061. | 13847. |
| Stddev | 6.0 | 315. | 62. |
| %RSD | .25056 | .54184 | .45136 |
| #1 | 2408.4 | 58284. | 13891. |
| #2 | 2416.9 | 57839. | 13803. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/5/2013 12:43:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .0039 | .0005 | .0164 | .0130 | .0001 | 18.26 | .0002 | .0019 |
| Stddev | .0015 | .0042 | .0023 | .0041 | .0004 | .0001 | .0000 | .05 | .0002 | .0002 |
| %RSD | 87.30 | 51.74 | 57.86 | 798.2 | 2.443 | .6726 | 43.21 | .2948 | 117.0 | 12.12 |
| #1 | -.0027 | -.0051 | .0055 | .0034 | .0166 | .0129 | .0001 | 18.30 | .0003 | .0017 |
| #2 | -.0006 | -.0110 | .0023 | -.0024 | .0161 | .0131 | .0001 | 18.22 | .0000 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0017 | 1.419 | 2.750 | 3.415 | .6219 | .0001 | 2.566 | .0041 | -.0003 |
| Stddev | .0000 | .0006 | .006 | .088 | .055 | .0027 | .0000 | .014 | .0000 | .0011 |
| %RSD | 8.919 | 32.95 | .4599 | 3.210 | 1.596 | .4404 | 18.84 | .5470 | .1834 | 384.8 |
| #1 | -.0005 | -.0021 | 1.423 | 2.812 | 3.453 | .6238 | .0001 | 2.576 | .0041 | -.0011 |
| #2 | -.0005 | -.0013 | 1.414 | 2.687 | 3.376 | .6200 | .0001 | 2.556 | .0041 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0080 | .0014 | -.0003 | 6.035 | .0002 | .1152 | .0004 | -.0024 | .0017 |
| Stddev | .0016 | .0066 | .0001 | .0010 | .001 | .0006 | .0004 | .0003 | .0010 | .0006 |
| %RSD | 139.1 | 82.58 | 10.23 | 324.8 | .0224 | 299.2 | .3828 | 70.46 | 39.90 | 38.20 |
| #1 | .0023 | -.0126 | .0013 | -.0010 | 6.036 | .0006 | .1155 | .0005 | -.0031 | .0012 |
| #2 | .0000 | -.0033 | .0015 | .0004 | 6.034 | -.0002 | .1148 | .0002 | -.0017 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | .0128 | -.0012 |
| Stddev | .0072 | .0000 | .0005 |
| %RSD | 148.5 | .0606 | 42.96 |
| #1 | .0099 | .0128 | -.0009 |
| #2 | -.0002 | .0128 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.9 | 57768. | 13906. |
| Stddev | 7.4 | 248. | 37. |
| %RSD | .30739 | .42918 | .26718 |
| #1 | 2428.2 | 57593. | 13880. |
| #2 | 2417.6 | 57943. | 13933. |

Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:47:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2271 | 1.808 | .7023 | .0007 | 4.588 | 2.326 | .1720 | 99.56 | .1908 | 2.480 |
| Stddev | .0003 | .004 | .0037 | .0003 | .027 | .004 | .0003 | .17 | .0014 | .014 |
| %RSD | .1307 | .2351 | .5288 | 47.48 | .5821 | .1786 | .1740 | .1728 | .7128 | .5462 |
| #1 | .2273 | 1.811 | .7049 | .0010 | 4.607 | 2.329 | .1718 | 99.69 | .1918 | 2.489 |
| #2 | .2269 | 1.805 | .6997 | .0005 | 4.569 | 2.323 | .1722 | 99.44 | .1899 | 2.470 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4511 | 1.098 | 72.30 | 53.38 | 52.52 | 1.718 | 4.493 | 55.78 | 1.656 | .2182 |
| Stddev | .0006 | .002 | .15 | .03 | .05 | .007 | .024 | .13 | .008 | .0018 |
| %RSD | .1243 | .1777 | .2098 | .0495 | .0997 | .3960 | .5299 | .2388 | .4873 | .8204 |
| #1 | .4515 | 1.099 | 72.41 | 53.40 | 52.48 | 1.723 | 4.510 | 55.87 | 1.661 | .2194 |
| #2 | .4508 | 1.096 | 72.20 | 53.36 | 52.56 | 1.714 | 4.477 | 55.68 | 1.650 | .2169 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | .0043 | .2945 | .4342 | 12.52 | 4.261 | 1.102 | 2.190 | .2271 | .4550 |
| Stddev | .0009 | .0007 | .0016 | .0045 | .07 | .019 | .001 | .009 | .0011 | .0002 |
| %RSD | 10.64 | 16.67 | .5453 | 1.038 | .5597 | .4501 | .1195 | .4290 | .4920 | .0393 |
| #1 | -.0077 | .0048 | .2956 | .4374 | 12.57 | 4.275 | 1.103 | 2.197 | .2279 | .4551 |
| #2 | -.0090 | .0038 | .2934 | .4310 | 12.47 | 4.248 | 1.101 | 2.184 | .2263 | .4549 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .8597 | -.0116 |
| Stddev | .0043 | .0031 | .0003 |
| %RSD | 68.34 | .3642 | 2.224 |
| #1 | .0094 | .8619 | -.0114 |
| #2 | .0033 | .8575 | -.0117 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2340.9 | 57154. | 13748. |
| Stddev | 12.7 | 364. | 66. |
| %RSD | .54065 | .63660 | .48143 |
| #1 | 2332.0 | 56897. | 13795. |
| #2 | 2349.9 | 57411. | 13701. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:55:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2192 | 1.789 | .7019 | .0055 | 4.552 | 2.296 | .1722 | 100.1 | .1868 | 2.458 |
| Stddev | .0008 | .033 | .0043 | .0143 | .017 | .000 | .0002 | .1 | .0010 | .005 |
| %RSD | .3573 | 1.854 | .6171 | 258.8 | .3641 | .0025 | .1104 | .0768 | .5562 | .2197 |
| #1 | .2197 | 1.766 | .6988 | -.0046 | 4.564 | 2.296 | .1721 | 100.1 | .1861 | 2.462 |
| #2 | .2186 | 1.813 | .7049 | .0156 | 4.540 | 2.296 | .1724 | 100.2 | .1875 | 2.454 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4476 | 1.076 | 71.99 | 53.54 | 52.38 | 1.722 | 4.423 | 55.54 | 1.657 | .2171 |
| Stddev | .0045 | .002 | .21 | .11 | .30 | .003 | .001 | .03 | .004 | .0032 |
| %RSD | 1.001 | .1460 | .2964 | .2116 | .5667 | .1904 | .0254 | .0538 | .2537 | 1.484 |
| #1 | .4507 | 1.077 | 72.14 | 53.62 | 52.17 | 1.725 | 4.424 | 55.52 | 1.660 | .2149 |
| #2 | .4444 | 1.075 | 71.84 | 53.46 | 52.59 | 1.720 | 4.422 | 55.56 | 1.654 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0360 | .2926 | .4336 | 11.89 | 4.285 | 1.070 | 2.183 | .2239 | .4523 |
| Stddev | .0009 | .0448 | .0010 | .0032 | .01 | .002 | .002 | .001 | .0030 | .0002 |
| %RSD | 37.25 | 124.2 | .3447 | .7337 | .0606 | .0385 | .1634 | .0580 | 1.338 | .0393 |
| #1 | -.0030 | -.0677 | .2934 | .4359 | 11.90 | 4.286 | 1.068 | 2.183 | .2260 | .4522 |
| #2 | -.0018 | -.0044 | .2919 | .4314 | 11.89 | 4.283 | 1.071 | 2.182 | .2218 | .4524 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .8707 | -.0106 |
| Stddev | .0356 | .0006 | .0017 |
| %RSD | 757.2 | .0639 | 16.01 |
| #1 | -.0205 | .8710 | -.0118 |
| #2 | .0299 | .8703 | -.0094 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2411.9 | 57909. | 13809. |
| Stddev | 5.5 | 57. | 104. |
| %RSD | .22845 | .09861 | .75426 |
| #1 | 2415.8 | 57869. | 13735. |
| #2 | 2408.0 | 57949. | 13882. |





Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2083 | 1.795 | .7034 | .0216 | 4.613 | 2.314 | .1759 | 101.0 | .1877 | 2.489 |
| Stddev | .0065 | .118 | .0001 | .0108 | .009 | .002 | .0002 | .4 | .0004 | .003 |
| %RSD | 3.141 | 6.580 | .0149 | 50.00 | .1983 | .0860 | .1145 | .3705 | .2153 | .1275 |
| #1 | .2129 | 1.711 | .7033 | .0293 | 4.606 | 2.312 | .1758 | 100.7 | .1880 | 2.486 |
| #2 | .2037 | 1.878 | .7034 | .0140 | 4.619 | 2.315 | .1760 | 101.2 | .1875 | 2.491 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4526 | 1.088 | 74.16 | 54.63 | 53.59 | 1.750 | 4.477 | 55.88 | 1.680 | .2252 |
| Stddev | .0012 | .012 | .05 | .74 | .08 | .002 | .004 | .22 | .007 | .0032 |
| %RSD | .2751 | 1.122 | .0725 | 1.360 | .1469 | .1323 | .0890 | .3974 | .3984 | 1.440 |
| #1 | .4535 | 1.079 | 74.20 | 54.10 | 53.65 | 1.749 | 4.475 | 55.72 | 1.675 | .2275 |
| #2 | .4517 | 1.096 | 74.12 | 55.16 | 53.54 | 1.752 | 4.480 | 56.03 | 1.685 | .2229 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.1036 | .2925 | .4263 | 11.91 | 4.343 | 1.081 | 2.261 | .2295 | .4623 |
| Stddev | .0010 | .0181 | .0041 | .0066 | .02 | .009 | .000 | .010 | .0032 | .0090 |
| %RSD | 38.88 | 17.42 | 1.396 | 1.557 | .1852 | .2123 | .0109 | .4343 | 1.397 | 1.945 |
| #1 | .0032 | -.0908 | .2954 | .4310 | 11.89 | 4.350 | 1.081 | 2.268 | .2318 | .4686 |
| #2 | .0018 | -.1164 | .2897 | .4216 | 11.93 | 4.337 | 1.081 | 2.254 | .2273 | .4559 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0152 | .9214 | -.0086 |
| Stddev | .0029 | .0025 | .0032 |
| %RSD | 19.27 | .2677 | 37.77 |
| #1 | .0173 | .9231 | -.0108 |
| #2 | .0132 | .9196 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2429.8 | 58023. | 13918. |
| Stddev | 9.5 | 75. | 2. |
| %RSD | .39195 | .12868 | .01640 |
| #1 | 2436.6 | 57970. | 13917. |
| #2 | 2423.1 | 58075. | 13920. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/5/2013 13:04:07 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0496 | .0030 | .6629 | .0926 | .3285 | .1502 | .0001 | 68.26 | -.0001 | .0030 |
| Stddev | .0256 | .1995 | .0234 | .0012 | .0273 | .0125 | .0029 | .36 | .0020 | .0084 |
| %RSD | 51.57 | 6755. | 3.524 | 1.329 | 8.306 | 8.334 | 3506. | .5263 | 1359. | 281.0 |
| #1 | -.0315 | -.1381 | .6463 | .0934 | .3092 | .1413 | .0021 | 68.00 | .0012 | .0089 |
| #2 | -.0677 | .1440 | .6794 | .0917 | .3478 | .1590 | -.0020 | 68.51 | -.0015 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0193 | -.0499 | 84.49 | 14.81 | 10.84 | 1.275 | .0545 | 16.05 | -.0007 | -.0268 |
| Stddev | .0189 | .0052 | .92 | 1.80 | 1.31 | .007 | .0139 | .07 | .0027 | .0039 |
| %RSD | 97.72 | 10.49 | 1.091 | 12.16 | 12.11 | .5793 | 25.53 | .4655 | 398.4 | 14.66 |
| #1 | -.0327 | -.0536 | 83.84 | 13.54 | 11.77 | 1.270 | .0643 | 16.10 | .0013 | -.0296 |
| #2 | -.0060 | -.0462 | 85.14 | 16.09 | 9.914 | 1.280 | .0446 | 16.00 | -.0026 | -.0240 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.2068 | .0082 | -.0701 | 13.44 | .0304 | .7759 | -.0065 | -.0490 | .0496 |
| Stddev | .0802 | .1261 | .0481 | .1038 | .01 | .0151 | .0028 | .0100 | .0399 | .0270 |
| %RSD | 6964. | 60.98 | 589.7 | 148.1 | .0850 | 49.52 | .3644 | 153.4 | 81.35 | 54.44 |
| #1 | -.0555 | -.2960 | -.0259 | -.1434 | 13.45 | .0411 | .7779 | .0006 | -.0772 | .0305 |
| #2 | .0578 | -.1176 | .0422 | .0033 | 13.43 | .0198 | .7739 | -.0136 | -.0208 | .0686 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0264 | .0019 | -.0006 |
| Stddev | .1036 | .0009 | .0207 |
| %RSD | 391.9 | 45.77 | 3618. |
| #1 | .0468 | .0026 | -.0152 |
| #2 | -.0997 | .0013 | .0141 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.1 | 57813. | 13756. |
| Stddev | 1.3 | 389. | 79. |
| %RSD | .05329 | .67301 | .57716 |
| #1 | 2427.2 | 58088. | 13812. |
| #2 | 2429.0 | 57538. | 13700. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 13:09:54 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2060 | 2.045 | .5295 | .0080 | .0070 | 1.977 | .5045 | 25.12 | .5317 | .5338 |
| Stddev | .0028 | .016 | .0058 | .0019 | .0007 | .008 | .0035 | .16 | .0018 | .0012 |
| %RSD | 1.361 | .7795 | 1.101 | 23.68 | 10.16 | .3821 | .7010 | .6341 | .3393 | .2182 |
| #1 | .2040 | 2.056 | .5336 | .0093 | .0065 | 1.983 | .5070 | 25.24 | .5304 | .5330 |
| #2 | .2080 | 2.034 | .5254 | .0066 | .0075 | 1.972 | .5020 | 25.01 | .5330 | .5346 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .4969 | 1.980 | 25.68 | 25.77 | .5122 | .0017 | 24.93 | .4948 | 1.025 |
| Stddev | .0004 | .0018 | .030 | .05 | .41 | .0013 | .0002 | .11 | .0002 | .002 |
| %RSD | .0772 | .3617 | 1.493 | .1835 | 1.584 | .2468 | 8.873 | .4280 | .0381 | .1714 |
| #1 | .5305 | .4956 | 2.001 | 25.65 | 26.05 | .5113 | .0016 | 25.00 | .4949 | 1.023 |
| #2 | .5299 | .4982 | 1.960 | 25.71 | 25.48 | .5131 | .0018 | 24.85 | .4947 | 1.026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0194 | .5116 | .5080 | .0300 | -.0007 | .4850 | .5018 | .5024 | .5342 |
| Stddev | .0031 | .0089 | .0029 | .0078 | .0232 | .0014 | .0021 | .0019 | .0002 | .0017 |
| %RSD | 150.6 | 45.90 | .5734 | 1.535 | 77.30 | 208.4 | .4295 | .3725 | .0378 | .3173 |
| #1 | -.0042 | -.0131 | .5136 | .5025 | .0464 | .0003 | .4865 | .5031 | .5022 | .5330 |
| #2 | .0001 | -.0257 | .5095 | .5135 | .0136 | -.0017 | .4836 | .5005 | .5025 | .5354 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0233 | .5358 | -.0001 |
| Stddev | .0123 | .0018 | .0007 |
| %RSD | 52.96 | .3329 | 946.4 |
| #1 | .0145 | .5346 | .0004 |
| #2 | .0320 | .5371 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.9 | 58161. | 13953. |
| Stddev | 5.1 | 41. | 130. |
| %RSD | .21112 | .07094 | .93015 |
| #1 | 2425.5 | 58190. | 13861. |
| #2 | 2418.3 | 58131. | 14045. |



Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 13:14:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2120 | 2.112 | .5471 | -.0056 | .0314 | 2.043 | .5200 | 44.96 | .5486 | .5514 |
| Stddev | .0044 | .061 | .0084 | .0002 | .0000 | .004 | .0015 | .17 | .0001 | .0017 |
| %RSD | 2.082 | 2.887 | 1.543 | 3.209 | .1586 | .2171 | .2926 | .3880 | .0273 | .3030 |
| #1 | .2151 | 2.069 | .5531 | -.0055 | .0314 | 2.040 | .5189 | 44.83 | .5485 | .5502 |
| #2 | .2089 | 2.155 | .5411 | -.0057 | .0315 | 2.047 | .5211 | 45.08 | .5487 | .5526 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5473 | .5138 | 2.185 | 28.31 | 28.68 | 6.653 | .0008 | 32.45 | .5120 | 1.046 |
| Stddev | .0004 | .0018 | .010 | .19 | .17 | .014 | .0008 | .09 | .0036 | .007 |
| %RSD | .0775 | .3575 | .4723 | .6663 | .5946 | .2066 | 93.14 | .2806 | .7036 | .6474 |
| #1 | .5476 | .5125 | 2.192 | 28.18 | 28.55 | 6.662 | .0014 | 32.39 | .5094 | 1.041 |
| #2 | .5470 | .5151 | 2.178 | 28.45 | 28.80 | 6.643 | .0003 | 32.52 | .5145 | 1.051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .5256 | .5185 | 5.297 | -.0007 | .6096 | .5176 | .5129 | .5553 |
| Stddev | .0016 | .0173 | .0006 | .0040 | .004 | .0018 | .0004 | .0000 | .0011 | .0013 |
| %RSD | 91.83 | 213.6 | .1051 | .7620 | .0808 | 239.9 | .0731 | .0011 | .2055 | .2380 |
| #1 | -.0028 | -.0203 | .5252 | .5157 | 5.294 | .0005 | .6093 | .5176 | .5122 | .5563 |
| #2 | -.0006 | .0041 | .5260 | .5213 | 5.300 | -.0020 | .6099 | .5176 | .5137 | .5544 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0032 | .5601 | -.0010 |
| Stddev | .0337 | .0017 | .0001 |
| %RSD | 1065. | .3032 | 9.820 |
| #1 | .0270 | .5589 | -.0011 |
| #2 | -.0206 | .5613 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.6 | 57799. | 13863. |
| Stddev | .5 | 724. | 190. |
| %RSD | .02109 | 1.2526 | 1.3712 |
| #1 | 2422.0 | 57287. | 13998. |
| #2 | 2421.2 | 58311. | 13729. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 13:18:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2133 | 2.101 | .5502 | .0031 | .0315 | 2.033 | .5200 | 45.08 | .5515 | .5556 |
| Stddev | .0006 | .025 | .0022 | .0093 | .0004 | .010 | .0016 | .10 | .0010 | .0005 |
| %RSD | .2998 | 1.208 | .3978 | 303.3 | 1.143 | .4918 | .3130 | .2314 | .1854 | .0924 |
| #1 | .2138 | 2.119 | .5517 | -.0035 | .0312 | 2.040 | .5211 | 45.16 | .5508 | .5552 |
| #2 | .2129 | 2.083 | .5487 | .0096 | .0317 | 2.026 | .5188 | 45.01 | .5522 | .5560 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5440 | .5105 | 2.147 | 28.29 | 28.22 | 6.734 | .0009 | 32.56 | .5120 | 1.052 |
| Stddev | .0012 | .0014 | .014 | .12 | .01 | .009 | .0007 | .13 | .0009 | .005 |
| %RSD | .2276 | .2839 | .6566 | .4126 | .0495 | .1367 | 77.14 | .3985 | .1848 | .4876 |
| #1 | .5449 | .5095 | 2.157 | 28.20 | 28.21 | 6.727 | .0004 | 32.65 | .5113 | 1.049 |
| #2 | .5431 | .5115 | 2.137 | 28.37 | 28.23 | 6.740 | .0014 | 32.47 | .5127 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0028 | .5291 | .5277 | 5.358 | -.0007 | .6056 | .5205 | .5168 | .5566 |
| Stddev | .0099 | .0011 | .0037 | .0033 | .012 | .0001 | .0010 | .0035 | .0041 | .0021 |
| %RSD | 174.2 | 38.24 | .6900 | .6248 | .2235 | 8.811 | .1686 | .6770 | .7863 | .3760 |
| #1 | .0013 | -.0035 | .5316 | .5300 | 5.350 | -.0007 | .6063 | .5180 | .5197 | .5551 |
| #2 | -.0127 | -.0020 | .5265 | .5253 | 5.367 | -.0008 | .6049 | .5230 | .5139 | .5580 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | .5624 | -.0012 |
| Stddev | .0114 | .0008 | .0002 |
| %RSD | 153.7 | .1438 | 13.67 |
| #1 | -.0154 | .5619 | -.0011 |
| #2 | .0006 | .5630 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.5 | 57844. | 14059. |
| Stddev | 5.9 | 104. | 1. |
| %RSD | .24423 | .17977 | .00895 |
| #1 | 2414.7 | 57918. | 14060. |
| #2 | 2406.4 | 57771. | 14058. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 13:22:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2527 | 9.913 | 2.024 | -.0014 | 1.958 | 1.956 | 1.931 | 9.882 | 2.047 |
| Stddev | .0002 | .034 | .006 | .0009 | .007 | .008 | .007 | .005 | .003 |
| %RSD | .0807 | .3453 | .3183 | 61.28 | .3815 | .3948 | .3729 | .0537 | .1637 |
| #1 | .2529 | 9.889 | 2.019 | -.0008 | 1.952 | 1.950 | 1.926 | 9.878 | 2.045 |
| #2 | .2526 | 9.937 | 2.028 | -.0021 | 1.963 | 1.961 | 1.937 | 9.885 | 2.049 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.116 | 2.013 | 2.019 | 9.649 | 9.955 | 10.000 | 1.999 | 2.028 | 9.789 |
| Stddev | .005 | .003 | .001 | .006 | .080 | .0463 | .002 | .007 | .018 |
| %RSD | .2568 | .1510 | .0495 | .0679 | .8002 | .4631 | .1155 | .3248 | .1877 |
| #1 | 2.112 | 2.015 | 2.019 | 9.645 | 9.899 | 9.967 | 2.001 | 2.024 | 9.776 |
| #2 | 2.120 | 2.011 | 2.020 | 9.654 | 10.01 | 10.03 | 1.997 | 2.033 | 9.802 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.950 | 1.967 | -.0014 | .0010 | 1.998 | 1.994 | -.0123 | 1.949 | 1.993 |
| Stddev | .004 | .005 | .0002 | .0029 | .007 | .008 | .0007 | .006 | .008 |
| %RSD | .1839 | .2603 | 13.61 | 282.6 | .3342 | .4114 | 5.420 | .2889 | .4074 |
| #1 | 1.948 | 1.963 | -.0016 | -.0010 | 1.993 | 1.988 | -.0128 | 1.945 | 1.987 |
| #2 | 1.953 | 1.970 | -.0013 | .0031 | 2.003 | 1.999 | -.0118 | 1.953 | 1.999 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | 1.959 | 1.948 | 2.006 | .0042 | 2.014 | -.0048 |
| Stddev | .002 | .008 | .001 | .0041 | .005 | .0001 |
| %RSD | .1055 | .4011 | .0384 | 98.60 | .2475 | 1.411 |
| #1 | 1.960 | 1.942 | 2.005 | .0013 | 2.010 | -.0047 |
| #2 | 1.957 | 1.953 | 2.006 | .0071 | 2.017 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.2 | 57385. | 13730. |
| Stddev | 2.1 | 409. | 8. |
| %RSD | .08667 | .71328 | .06157 |
| #1 | 2415.7 | 57095. | 13724. |
| #2 | 2418.6 | 57674. | 13736. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 13:27:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0086 | .0002 | .0013 | .0025 | .0006 | F.0005 | -.0004 | .0002 |
| Stddev | .0004 | .0058 | .0014 | .0000 | .0000 | .0000 | .0000 | .0014 | .0002 |
| %RSD | 37.44 | 67.28 | 738.1 | .0464 | 1.622 | 1.783 | .3535 | 387.8 | 120.5 |
| #1 | -.0013 | .0045 | -.0008 | .0013 | .0025 | .0006 | .0005 | -.0013 | .0003 |
| #2 | -.0008 | .0127 | .0011 | .0013 | .0025 | .0006 | .0005 | .0006 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0002 | -.0007 | .0016 | .0701 | .0166 | .0002 | .0022 | .0074 |
| Stddev | .0002 | .0001 | .0005 | .0006 | .0733 | .0035 | .0000 | .0006 | .0001 |
| %RSD | 53.97 | 30.90 | 74.71 | 38.75 | 104.4 | 21.23 | 9.940 | 26.59 | 1.999 |
| #1 | .0002 | .0003 | -.0003 | .0021 | .1219 | .0141 | .0002 | .0027 | .0073 |
| #2 | .0004 | .0002 | -.0010 | .0012 | .0183 | .0191 | .0002 | .0018 | .0075 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | -.0004 | -.0106 | .0006 | -.0004 | -.0087 | .0011 | .0005 |
| Stddev | .0001 | .0003 | .0017 | .0018 | .0002 | .0005 | .0012 | .0002 | .0000 |
| %RSD | 47.96 | 108.8 | 396.9 | 17.24 | 36.00 | 136.3 | 13.44 | 21.36 | 1.923 |
| #1 | .0001 | .0006 | -.0017 | -.0093 | .0007 | -.0007 | -.0079 | .0012 | .0005 |
| #2 | .0002 | .0001 | .0008 | -.0119 | .0004 | .0000 | -.0095 | .0009 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | .0010 | -.0014 | .0000 | .0004 |
| Stddev | .0002 | .0011 | .0004 | .0050 | .0000 | .0001 |
| %RSD | 56.26 | 251.8 | 40.62 | 362.8 | 114.1 | 14.22 |
| #1 | .0002 | .0012 | .0007 | -.0049 | .0000 | .0004 |
| #2 | .0004 | -.0003 | .0013 | .0022 | .0000 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.2 | 58655. | 13851. |
| Stddev | 5.5 | 295. | 22. |
| %RSD | .22689 | .50318 | .15961 |
| #1 | 2420.1 | 58446. | 13835. |
| #2 | 2412.4 | 58864. | 13866. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:31:24 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0052 | .0015 | -.0040 | .0283 | .0046 | .0002 | 18.89 | .0005 | .0019 |
| Stddev | .0003 | .0298 | .0015 | .0011 | .0008 | .0001 | .0001 | .03 | .0001 | .0002 |
| %RSD | 23.10 | 570.7 | 98.56 | 27.13 | 2.794 | 3.200 | 58.43 | .1692 | 16.87 | 9.785 |
| #1 | -.0009 | .0159 | .0025 | -.0033 | .0278 | .0047 | .0003 | 18.87 | .0005 | .0020 |
| #2 | -.0013 | -.0263 | .0005 | -.0048 | .0289 | .0045 | .0001 | 18.91 | .0004 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0029 | .1207 | 1.819 | 1.856 | 5.867 | .0015 | 6.778 | .0012 | .0004 |
| Stddev | .0004 | .0019 | .0025 | .076 | .029 | .002 | .0003 | .045 | .0001 | .0008 |
| %RSD | 133.0 | 63.67 | 2.112 | 4.190 | 1.589 | .0413 | 16.79 | .6685 | 7.355 | 233.0 |
| #1 | .0000 | -.0016 | .1189 | 1.766 | 1.835 | 5.869 | .0017 | 6.811 | .0012 | -.0002 |
| #2 | -.0006 | -.0043 | .1225 | 1.873 | 1.877 | 5.866 | .0013 | 6.746 | .0013 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0126 | .0005 | .0013 | 5.083 | .0004 | .1062 | -.0003 | .0014 | .0007 |
| Stddev | .0003 | .0050 | .0010 | .0007 | .005 | .0005 | .0007 | .0003 | .0006 | .0003 |
| %RSD | 6.367 | 39.64 | 184.3 | 51.32 | .1086 | 101.0 | .6540 | 91.92 | 38.59 | 37.92 |
| #1 | -.0041 | .0161 | -.0002 | .0018 | 5.079 | .0001 | .1057 | -.0006 | .0011 | .0005 |
| #2 | -.0038 | .0091 | .0012 | .0008 | 5.087 | .0008 | .1067 | -.0001 | .0018 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0098 | .0075 | -.0007 |
| Stddev | .0015 | .0000 | .0000 |
| %RSD | 14.88 | .0690 | 3.460 |
| #1 | -.0108 | .0075 | -.0007 |
| #2 | -.0087 | .0075 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2413.3 | 58691. | 13934. |
| Stddev | 2.6 | 32. | 13. |
| %RSD | .10607 | .05481 | .09443 |
| #1 | 2411.5 | 58669. | 13943. |
| #2 | 2415.2 | 58714. | 13925. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:35:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | -.0029 | .0069 | .0054 | .0311 | .0043 | .0001 | 19.79 | .0001 | .0016 |
| Stddev | .0022 | .0169 | .0036 | .0014 | .0019 | .0018 | .0004 | .39 | .0006 | .0004 |
| %RSD | 35.70 | 574.5 | 51.61 | 25.58 | 5.994 | 40.64 | 541.7 | 1.955 | 996.6 | 28.36 |
| #1 | -.0076 | -.0149 | .0044 | .0044 | .0297 | .0031 | -.0002 | 20.07 | .0005 | .0013 |
| #2 | -.0045 | .0090 | .0095 | .0063 | .0324 | .0055 | .0004 | 19.52 | -.0004 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0088 | .1063 | 1.784 | 1.847 | 5.967 | .0015 | 6.857 | .0007 | -.0019 |
| Stddev | .0010 | .0018 | .0170 | .144 | .146 | .042 | .0008 | .062 | .0004 | .0007 |
| %RSD | 1050. | 19.98 | 15.96 | 8.093 | 7.886 | .7068 | 54.85 | .9091 | 61.44 | 36.50 |
| #1 | -.0006 | -.0075 | .1183 | 1.682 | 1.950 | 5.997 | .0021 | 6.901 | .0004 | -.0024 |
| #2 | .0008 | -.0100 | .0943 | 1.886 | 1.744 | 5.937 | .0009 | 6.813 | .0010 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0223 | .0034 | .0036 | 5.065 | .0003 | .1060 | -.0032 | .0012 | .0026 |
| Stddev | .0086 | .0032 | .0023 | .0035 | .003 | .0006 | .0030 | .0006 | .0019 | .0039 |
| %RSD | 1980. | 14.19 | 66.65 | 99.18 | .0513 | 204.9 | 2.807 | 20.07 | 166.4 | 147.6 |
| #1 | -.0065 | .0245 | .0051 | .0011 | 5.067 | .0007 | .1081 | -.0037 | -.0002 | .0054 |
| #2 | .0056 | .0200 | .0018 | .0061 | 5.064 | -.0001 | .1039 | -.0028 | .0025 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0265 | .0093 | -.0005 |
| Stddev | .0298 | .0017 | .0005 |
| %RSD | 112.3 | 18.29 | 102.2 |
| #1 | .0475 | .0081 | -.0008 |
| #2 | .0054 | .0105 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.3 | 57945. | 13883. |
| Stddev | 6.3 | 337. | 212. |
| %RSD | .26091 | .58156 | 1.5260 |
| #1 | 2413.7 | 58183. | 13733. |
| #2 | 2404.8 | 57706. | 14033. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:40:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0452 | -.0036 | .0115 | .0308 | .0027 | .0009 | 19.66 | -.0001 | .0015 |
| Stddev | .0017 | .0146 | .0120 | .0056 | .0049 | .0027 | .0007 | .02 | .0005 | .0011 |
| %RSD | 10.74 | 32.21 | 334.7 | 48.84 | 16.08 | 98.27 | 79.23 | .0876 | 577.8 | 76.60 |
| #1 | -.0169 | -.0349 | .0049 | .0075 | .0273 | .0008 | .0004 | 19.65 | .0003 | .0007 |
| #2 | -.0146 | -.0555 | -.0121 | .0155 | .0343 | .0046 | .0014 | 19.67 | -.0005 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0246 | .1020 | 2.132 | 1.823 | 5.973 | .0020 | 6.944 | -.0001 | -.0070 |
| Stddev | .0001 | .0031 | .0227 | .202 | .095 | .049 | .0004 | .077 | .0006 | .0027 |
| %RSD | 3.003 | 12.55 | 22.31 | 9.479 | 5.221 | .8177 | 19.42 | 1.105 | 523.4 | 38.37 |
| #1 | -.0033 | -.0224 | .0859 | 1.989 | 1.890 | 5.938 | .0022 | 6.889 | -.0006 | -.0051 |
| #2 | -.0034 | -.0267 | .1181 | 2.275 | 1.755 | 6.007 | .0017 | 6.998 | .0003 | -.0089 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0109 | -.0156 | -.0051 | -.0101 | 5.143 | .0029 | .1053 | -.0039 | -.0049 | .0097 |
| Stddev | .0142 | .0144 | .0022 | .0017 | .008 | .0010 | .0012 | .0049 | .0033 | .0008 |
| %RSD | 131.0 | 92.19 | 42.23 | 16.82 | .1583 | 34.83 | 1.136 | 125.3 | 67.53 | 8.481 |
| #1 | .0008 | -.0054 | -.0036 | -.0089 | 5.137 | .0036 | .1045 | -.0004 | -.0073 | .0092 |
| #2 | .0209 | -.0257 | -.0067 | -.0113 | 5.149 | .0022 | .1062 | -.0073 | -.0026 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0214 | .0064 | .0014 |
| Stddev | .0172 | .0001 | .0019 |
| %RSD | 80.72 | 1.662 | 131.3 |
| #1 | .0092 | .0064 | .0028 |
| #2 | .0336 | .0065 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.4 | 58086. | 13792. |
| Stddev | 2.3 | 313. | 35. |
| %RSD | .09402 | .53936 | .25115 |
| #1 | 2418.8 | 58307. | 13816. |
| #2 | 2422.0 | 57864. | 13767. |

Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:44:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0226 | .2082 | -.0232 | .0159 | .0357 | .0026 | .0000 | 21.19 | -.0039 | .0000 |
| Stddev | .0157 | .2585 | .0238 | .0183 | .0021 | .0022 | .0002 | .25 | .0050 | .0042 |
| %RSD | 69.40 | 124.2 | 102.7 | 115.3 | 5.820 | 83.69 | 748.2 | 1.203 | 129.0 | 19760. |
| #1 | -.0336 | .0254 | -.0063 | .0288 | .0343 | .0011 | .0001 | 21.37 | -.0074 | -.0030 |
| #2 | -.0115 | .3910 | -.0400 | .0029 | .0372 | .0041 | -.0001 | 21.01 | -.0003 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0200 | -.0298 | .0190 | 2.476 | 1.847 | 5.982 | .0004 | 6.907 | -.0022 | -.0144 |
| Stddev | .0080 | .0037 | .0158 | 1.427 | .734 | .001 | .0002 | .178 | .0032 | .0160 |
| %RSD | 39.91 | 12.54 | 83.27 | 57.63 | 39.74 | .0175 | 43.15 | 2.584 | 147.4 | 111.4 |
| #1 | -.0144 | -.0272 | .0302 | 3.484 | 2.367 | 5.981 | .0003 | 7.033 | .0001 | -.0030 |
| #2 | -.0256 | -.0325 | .0078 | 1.467 | 1.328 | 5.983 | .0005 | 6.781 | -.0044 | -.0257 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.1627 | -.0027 | -.0104 | 5.029 | .0038 | .1073 | -.0130 | -.0332 | .0264 |
| Stddev | .0087 | .0697 | .0056 | .0516 | .009 | .0061 | .0015 | .0044 | .0004 | .0003 |
| %RSD | 152.9 | 42.84 | 208.2 | 497.6 | .1869 | 160.4 | 1.403 | 34.05 | 1.105 | 1.315 |
| #1 | -.0118 | -.2120 | -.0067 | -.0468 | 5.022 | -.0005 | .1084 | -.0161 | -.0335 | .0266 |
| #2 | .0005 | -.1134 | .0013 | .0261 | 5.036 | .0082 | .1063 | -.0098 | -.0329 | .0261 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0923 | .0134 | .0026 |
| Stddev | .0801 | .0000 | .0043 |
| %RSD | 86.77 | .0321 | 164.9 |
| #1 | -.0357 | .0134 | .0056 |
| #2 | -.1490 | .0134 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.3 | 57971. | 13814. |
| Stddev | 6.9 | 254. | 21. |
| %RSD | .28694 | .43736 | .14847 |
| #1 | 2409.2 | 57791. | 13829. |
| #2 | 2399.4 | 58150. | 13800. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:48:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0084 | .0015 | -.0029 | .2374 | .0623 | -.0001 | 137.8 | .0001 | .0006 |
| Stddev | .0025 | .0078 | .0045 | .0070 | .0000 | .0003 | .0000 | .1 | .0001 | .0001 |
| %RSD | 106.0 | 93.35 | 294.3 | 242.8 | .0075 | .4262 | 19.00 | .0601 | 78.00 | 22.69 |
| #1 | -.0006 | -.0140 | .0047 | .0021 | .2374 | .0621 | -.0002 | 137.9 | .0000 | .0005 |
| #2 | -.0041 | -.0029 | -.0016 | -.0079 | .2374 | .0625 | -.0001 | 137.8 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0033 | .0243 | 4.284 | 20.09 | 2.450 | .0015 | 40.30 | .0087 | -.0010 |
| Stddev | .0008 | .0015 | .0003 | .058 | .06 | .001 | .0001 | .02 | .0002 | .0002 |
| %RSD | 64.26 | 45.59 | 1.165 | 1.359 | .2925 | .0521 | 6.909 | .0380 | 1.919 | 21.46 |
| #1 | -.0007 | -.0044 | .0245 | 4.242 | 20.13 | 2.451 | .0016 | 40.29 | .0088 | -.0008 |
| #2 | -.0018 | -.0023 | .0241 | 4.325 | 20.05 | 2.449 | .0015 | 40.31 | .0086 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0017 | .0021 | .0018 | 7.736 | -.0011 | .5504 | .0007 | -.0009 | .0022 |
| Stddev | .0010 | .0003 | .0001 | .0045 | .013 | .0003 | .0000 | .0003 | .0020 | .0004 |
| %RSD | 19.55 | 15.35 | 5.349 | 250.2 | .1654 | 30.88 | .0022 | 39.21 | 221.5 | 15.69 |
| #1 | -.0055 | .0015 | .0020 | -.0014 | 7.745 | -.0009 | .5504 | .0009 | -.0023 | .0025 |
| #2 | -.0042 | .0019 | .0022 | .0050 | 7.727 | -.0013 | .5504 | .0005 | .0005 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0393 | .0086 | -.0013 |
| Stddev | .0073 | .0003 | .0004 |
| %RSD | 18.57 | 3.234 | 32.42 |
| #1 | .0342 | .0088 | -.0010 |
| #2 | .0445 | .0084 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.1 | 57380. | 13897. |
| Stddev | 1.4 | 76. | 42. |
| %RSD | .05658 | .13261 | .29961 |
| #1 | 2413.1 | 57327. | 13868. |
| #2 | 2415.0 | 57434. | 13927. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:53:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0068 | -.0024 | .0050 | .0069 | .2387 | .0638 | .0001 | 140.3 | -.0003 | -.0001 |
| Stddev | .0017 | .0220 | .0009 | .0030 | .0038 | .0014 | .0002 | 2.9 | .0001 | .0010 |
| %RSD | 25.25 | 922.0 | 18.51 | 43.47 | 1.583 | 2.168 | 174.7 | 2.065 | 37.31 | 881.6 |
| #1 | -.0055 | .0132 | .0044 | .0048 | .2413 | .0648 | .0002 | 142.3 | -.0002 | .0006 |
| #2 | -.0080 | -.0179 | .0057 | .0091 | .2360 | .0628 | .0000 | 138.2 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0039 | .0169 | 4.316 | 20.47 | 2.450 | .0008 | 41.22 | .0064 | -.0027 |
| Stddev | .0003 | .0018 | .0027 | .163 | .39 | .001 | .0010 | .84 | .0007 | .0012 |
| %RSD | 34.31 | 45.64 | 16.23 | 3.773 | 1.891 | .0372 | 119.3 | 2.032 | 11.31 | 45.43 |
| #1 | -.0008 | -.0052 | .0188 | 4.201 | 20.75 | 2.451 | .0001 | 41.81 | .0069 | -.0018 |
| #2 | -.0012 | -.0027 | .0149 | 4.431 | 20.20 | 2.450 | .0015 | 40.62 | .0059 | -.0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0173 | .0036 | -.0008 | 7.693 | -.0022 | .5561 | .0003 | .0012 | .0050 |
| Stddev | .0006 | .0013 | .0031 | .0021 | .014 | .0015 | .0118 | .0013 | .0027 | .0017 |
| %RSD | 7.794 | 7.464 | 87.14 | 255.3 | .1764 | 68.08 | 2.128 | 415.4 | 225.8 | 34.31 |
| #1 | -.0078 | -.0164 | .0014 | .0007 | 7.683 | -.0032 | .5645 | -.0006 | .0031 | .0038 |
| #2 | -.0070 | -.0183 | .0058 | -.0023 | 7.703 | -.0011 | .5477 | .0012 | -.0007 | .0062 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0069 | -.0003 |
| Stddev | .0074 | .0001 | .0010 |
| %RSD | 30.60 | 1.063 | 303.8 |
| #1 | .0296 | .0070 | -.0011 |
| #2 | .0191 | .0069 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.4 | 57536. | 13689. |
| Stddev | 1.6 | 167. | 278. |
| %RSD | .06452 | .29017 | 2.0285 |
| #1 | 2403.3 | 57418. | 13493. |
| #2 | 2405.5 | 57654. | 13886. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:57:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | -.1137 | -.0041 | .0447 | .2358 | .0604 | .0014 | 137.3 | -.0027 | -.0017 |
| Stddev | .0120 | .0961 | .0430 | .0076 | .0013 | .0057 | .0013 | .1 | .0011 | .0016 |
| %RSD | 136.3 | 84.57 | 1038. | 16.99 | .5448 | 9.356 | 95.11 | .0588 | 40.61 | 92.43 |
| #1 | -.0173 | -.0457 | -.0345 | .0500 | .2367 | .0644 | .0005 | 137.2 | -.0019 | -.0028 |
| #2 | -.0003 | -.1817 | .0262 | .0393 | .2349 | .0564 | .0023 | 137.4 | -.0034 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | -.0247 | -.0434 | 4.895 | 20.21 | 2.411 | .0028 | 40.91 | .0055 | -.0056 |
| Stddev | .0055 | .0008 | .0205 | .029 | .13 | .003 | .0013 | .01 | .0012 | .0082 |
| %RSD | 92.73 | 3.251 | 47.22 | .5994 | .6201 | .1068 | 45.92 | .0341 | 22.52 | 145.4 |
| #1 | -.0020 | -.0252 | -.0289 | 4.874 | 20.12 | 2.409 | .0019 | 40.90 | .0064 | -.0115 |
| #2 | -.0098 | -.0241 | -.0579 | 4.915 | 20.30 | 2.412 | .0038 | 40.92 | .0047 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0132 | -.0722 | .0128 | -.0055 | 7.501 | .0058 | .5501 | -.0084 | -.0272 | .0170 |
| Stddev | .0071 | .0512 | .0127 | .0152 | .002 | .0026 | .0007 | .0029 | .0107 | .0022 |
| %RSD | 53.59 | 70.92 | 99.56 | 277.3 | .0230 | 44.90 | .1346 | 34.28 | 39.54 | 13.20 |
| #1 | .0182 | -.1084 | .0218 | .0053 | 7.503 | .0076 | .5506 | -.0064 | -.0348 | .0154 |
| #2 | .0082 | -.0360 | .0038 | -.0163 | 7.500 | .0039 | .5495 | -.0105 | -.0196 | .0186 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0236 | .0326 | -.0020 |
| Stddev | .0357 | .0029 | .0001 |
| %RSD | 151.6 | 8.887 | 4.010 |
| #1 | .0489 | .0346 | -.0020 |
| #2 | -.0017 | .0305 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.3 | 58221. | 13938. |
| Stddev | 6.8 | 85. | 33. |
| %RSD | .28013 | .14671 | .23473 |
| #1 | 2436.1 | 58281. | 13915. |
| #2 | 2426.5 | 58161. | 13961. |

Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:01:53 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0866 | .0002 | -.0182 | .1383 | .0152 | .0000 | 81.95 | .0012 | .0084 |
| Stddev | .0021 | .0345 | .0009 | .0037 | .0005 | .0002 | .000 | .22 | .0005 | .0007 |
| %RSD | 124.9 | 39.88 | 458.6 | 20.35 | .3863 | 1.022 | 4529. | .2720 | 42.91 | 8.172 |
| #1 | -.0031 | -.0622 | .0008 | -.0209 | .1387 | .0153 | .0002 | 81.79 | .0008 | .0079 |
| #2 | -.0002 | -.1110 | -.0004 | -.0156 | .1380 | .0151 | -.0002 | 82.10 | .0015 | .0089 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0034 | .0784 | 2.965 | 9.714 | 25.89 | .0004 | 23.14 | .0149 | -.0008 |
| Stddev | .0006 | .0011 | .0079 | .052 | .087 | .11 | .0003 | .09 | .0000 | .0013 |
| %RSD | 178.9 | 33.98 | 10.05 | 1.768 | .8947 | .4062 | 63.68 | .3980 | .1403 | 168.0 |
| #1 | .0001 | -.0025 | .0728 | 3.002 | 9.653 | 25.96 | .0002 | 23.07 | .0149 | .0001 |
| #2 | -.0007 | -.0042 | .0840 | 2.928 | 9.775 | 25.82 | .0006 | 23.20 | .0149 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0974 | -.0012 | .0036 | 6.985 | -.0014 | .4528 | .0004 | .0091 | .0006 |
| Stddev | .0027 | .0101 | .0010 | .0026 | .006 | .0005 | .0032 | .0001 | .0006 | .0002 |
| %RSD | 26.24 | 10.33 | 85.82 | 72.95 | .0934 | 34.99 | .6964 | 33.58 | 7.075 | 28.77 |
| #1 | -.0122 | .0903 | -.0005 | .0054 | 6.990 | -.0010 | .4506 | .0005 | .0096 | .0008 |
| #2 | -.0084 | .1045 | -.0019 | .0017 | 6.980 | -.0017 | .4551 | .0003 | .0087 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0112 | -.0014 |
| Stddev | .0143 | .0005 | .0006 |
| %RSD | 306.8 | 4.055 | 43.69 |
| #1 | .0148 | .0109 | -.0018 |
| #2 | -.0055 | .0115 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.3 | 57911. | 13880. |
| Stddev | 3.3 | 222. | 46. |
| %RSD | .13840 | .38317 | .33276 |
| #1 | 2410.0 | 57754. | 13913. |
| #2 | 2414.7 | 58068. | 13847. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:06:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | -.0748 | .0059 | -.0288 | .1359 | .0141 | -.0003 | 83.03 | .0001 | .0060 |
| Stddev | .0011 | .0401 | .0097 | .0067 | .0003 | .0027 | .0010 | .07 | .0000 | .0001 |
| %RSD | 21.49 | 53.63 | 164.5 | 23.22 | .2240 | 19.11 | 296.8 | .0879 | 7.619 | 1.157 |
| #1 | -.0045 | -.0464 | .0128 | -.0335 | .1361 | .0160 | .0004 | 83.08 | .0001 | .0060 |
| #2 | -.0061 | -.1032 | -.0010 | -.0241 | .1357 | .0122 | -.0010 | 82.98 | .0001 | .0059 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0089 | .0472 | 2.876 | 9.716 | 26.60 | -.0002 | 23.95 | .0140 | -.0053 |
| Stddev | .0027 | .0004 | .0023 | .579 | .103 | .15 | .0020 | .11 | .0009 | .0058 |
| %RSD | 62.40 | 4.185 | 4.884 | 20.11 | 1.060 | .5692 | 1168. | .4729 | 6.180 | 109.2 |
| #1 | -.0024 | -.0092 | .0488 | 2.467 | 9.789 | 26.71 | -.0016 | 24.03 | .0147 | -.0094 |
| #2 | -.0062 | -.0087 | .0456 | 3.286 | 9.643 | 26.49 | .0013 | 23.87 | .0134 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0163 | .0666 | .0003 | -.0065 | 6.931 | .0017 | .4667 | -.0023 | .0047 | .0033 |
| Stddev | .0096 | .0168 | .0029 | .0069 | .012 | .0004 | .0005 | .0049 | .0037 | .0077 |
| %RSD | 58.87 | 25.19 | 1044. | 106.0 | .1712 | 22.43 | .1162 | 216.4 | 77.67 | 234.3 |
| #1 | -.0095 | .0547 | .0023 | -.0113 | 6.939 | .0019 | .4670 | .0012 | .0073 | -.0022 |
| #2 | -.0231 | .0784 | -.0017 | -.0016 | 6.922 | .0014 | .4663 | -.0057 | .0021 | .0087 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0340 | .0431 | -.0021 |
| Stddev | .0844 | .0010 | .0008 |
| %RSD | 248.5 | 2.230 | 36.25 |
| #1 | .0257 | .0424 | -.0027 |
| #2 | -.0936 | .0438 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.7 | 57987. | 13951. |
| Stddev | 2.5 | 67. | 129. |
| %RSD | .10403 | .11622 | .92570 |
| #1 | 2429.9 | 57940. | 13859. |
| #2 | 2433.5 | 58035. | 14042. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:10:37 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0208 | -.0132 | .0191 | .0006 | .1485 | .0117 | -.0003 | 84.57 | -.0022 | .0048 |
| Stddev | .0011 | .2843 | .0298 | .0448 | .0023 | .0000 | .0010 | .24 | .0036 | .0033 |
| %RSD | 5.177 | 2155. | 156.4 | 7090. | 1.543 | .0427 | 323.0 | .2885 | 166.8 | 67.73 |
| #1 | -.0200 | .1878 | -.0020 | -.0311 | .1501 | .0117 | .0004 | 84.75 | -.0047 | .0025 |
| #2 | -.0215 | -.2142 | .0402 | .0323 | .1468 | .0117 | -.0010 | 84.40 | .0004 | .0071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0166 | .0167 | 3.518 | 10.03 | 26.39 | -.0018 | 23.83 | .0155 | -.0019 |
| Stddev | .0006 | .0122 | .0208 | .793 | .42 | .16 | .0014 | .03 | .0007 | .0067 |
| %RSD | 5.520 | 73.38 | 124.2 | 22.54 | 4.189 | .6000 | 79.35 | .1389 | 4.555 | 352.2 |
| #1 | -.0097 | -.0253 | .0020 | 2.957 | 10.32 | 26.50 | -.0027 | 23.86 | .0160 | .0028 |
| #2 | -.0105 | -.0080 | .0314 | 4.078 | 9.729 | 26.28 | -.0008 | 23.81 | .0150 | -.0067 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0183 | -.0507 | .0216 | .0091 | 6.857 | .0050 | .4579 | -.0144 | .0124 | .0110 |
| Stddev | .0128 | .0984 | .0188 | .0092 | .048 | .0000 | .0025 | .0088 | .0033 | .0038 |
| %RSD | 70.22 | 194.1 | 87.36 | 101.0 | .6958 | .6791 | .5510 | 60.79 | 26.85 | 34.65 |
| #1 | -.0274 | -.1202 | .0082 | .0157 | 6.890 | .0050 | .4561 | -.0206 | .0101 | .0083 |
| #2 | -.0092 | .0189 | .0349 | .0026 | 6.823 | .0051 | .4596 | -.0082 | .0148 | .0138 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0182 | .0041 | .0045 |
| Stddev | .0199 | .0016 | .0022 |
| %RSD | 109.6 | 38.83 | 49.91 |
| #1 | -.0041 | .0029 | .0061 |
| #2 | -.0323 | .0052 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2437.6 | 58192. | 13860. |
| Stddev | 14.5 | 107. | 148. |
| %RSD | .59324 | .18446 | 1.0645 |
| #1 | 2427.4 | 58268. | 13756. |
| #2 | 2447.8 | 58116. | 13965. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 14:14:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2523 | 9.941 | 2.009 | -.0008 | 1.956 | 1.956 | 1.951 | 9.924 | 2.026 | 2.099 |
| Stddev | .0009 | .035 | .001 | .0014 | .002 | .000 | .002 | .005 | .002 | .000 |
| %RSD | .3531 | .3480 | .0446 | 183.0 | .1129 | .0103 | .0787 | .0540 | .0772 | .0039 |
| #1 | .2529 | 9.966 | 2.008 | .0002 | 1.954 | 1.956 | 1.952 | 9.920 | 2.024 | 2.099 |
| #2 | .2516 | 9.917 | 2.009 | -.0018 | 1.958 | 1.955 | 1.950 | 9.928 | 2.027 | 2.099 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.001 | 2.003 | 9.663 | 9.899 | 9.959 | 2.005 | 2.017 | 9.859 | 1.936 | 1.949 |
| Stddev | .010 | .008 | .018 | .029 | .038 | .007 | .003 | .005 | .000 | .001 |
| %RSD | .4904 | .3890 | .1827 | .2876 | .3822 | .3427 | .1297 | .0558 | .0044 | .0535 |
| #1 | 2.008 | 2.009 | 9.675 | 9.919 | 9.932 | 2.010 | 2.015 | 9.863 | 1.936 | 1.950 |
| #2 | 1.995 | 1.998 | 9.650 | 9.879 | 9.986 | 2.000 | 2.018 | 9.855 | 1.936 | 1.949 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0045 | 1.989 | 1.976 | -.0155 | 1.945 | 1.979 | 1.953 | 1.945 | 1.993 |
| Stddev | .0009 | .0014 | .002 | .003 | .0002 | .003 | .000 | .005 | .001 | .011 |
| %RSD | 51.86 | 30.76 | .1205 | .1297 | 1.160 | .1393 | .0089 | .2783 | .0573 | .5395 |
| #1 | -.0023 | -.0036 | 1.987 | 1.978 | -.0154 | 1.947 | 1.979 | 1.957 | 1.944 | 2.001 |
| #2 | -.0011 | -.0055 | 1.991 | 1.975 | -.0157 | 1.943 | 1.979 | 1.949 | 1.946 | 1.986 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | 1.989 | -.0051 |
| Stddev | .0001 | .003 | .0001 |
| %RSD | .9990 | .1359 | 1.573 |
| #1 | .0051 | 1.991 | -.0051 |
| #2 | .0051 | 1.988 | -.0052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2440.6 | 57854. | 13812. |
| Stddev | 1.8 | 3. | 40. |
| %RSD | .07206 | .00513 | .28717 |
| #1 | 2439.4 | 57856. | 13840. |
| #2 | 2441.9 | 57852. | 13784. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 14:28:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0019 | .0016 | .0012 | .0006 | -.0001 | .0001 | -.0063 | -.0002 | .0001 |
| Stddev | .0000 | .0091 | .0001 | .0004 | .0004 | .0002 | .0002 | .0014 | .0003 | .0002 |
| %RSD | 1.594 | 473.2 | 3.749 | 32.03 | 75.83 | 469.8 | 211.0 | 22.69 | 174.4 | 351.2 |
| #1 | -.0008 | -.0084 | .0016 | .0014 | .0003 | .0001 | .0002 | -.0074 | -.0004 | -.0001 |
| #2 | -.0008 | .0045 | .0015 | .0009 | .0009 | -.0002 | .0000 | -.0053 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0014 | -.0052 | .0064 | .0188 | -.0001 | .0002 | -.0070 | -.0001 | -.0004 |
| Stddev | .0004 | .0007 | .0014 | .0281 | .0039 | .0000 | .0000 | .0018 | .0001 | .0000 |
| %RSD | 169.4 | 50.02 | 26.93 | 436.5 | 20.78 | 33.07 | 27.32 | 25.64 | 56.08 | 11.26 |
| #1 | .0000 | -.0009 | -.0062 | .0263 | .0216 | -.0001 | .0001 | -.0083 | -.0001 | -.0003 |
| #2 | -.0005 | -.0020 | -.0042 | -.0134 | .0161 | -.0002 | .0002 | -.0057 | -.0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0067 | .0002 | -.0011 | -.0086 | .0002 | .0000 | -.0001 | -.0003 | .0010 |
| Stddev | .0018 | .0097 | .0005 | .0002 | .0003 | .0002 | .000 | .0002 | .0009 | .0001 |
| %RSD | 1617. | 145.4 | 332.0 | 20.32 | 3.321 | 119.3 | 481.4 | 213.6 | 295.0 | 13.13 |
| #1 | -.0014 | -.0135 | -.0002 | -.0013 | -.0084 | .0004 | -.0001 | -.0002 | -.0009 | .0010 |
| #2 | .0011 | .0002 | .0005 | -.0010 | -.0088 | .0000 | .0000 | .0000 | .0003 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | -.0004 | .0001 |
| Stddev | .0091 | .0001 | .0004 |
| %RSD | 4426. | 19.02 | 717.9 |
| #1 | -.0062 | -.0004 | -.0002 |
| #2 | .0067 | -.0003 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.7 | 57927. | 13697. |
| Stddev | 3.0 | 51. | 2. |
| %RSD | .12617 | .08806 | .01454 |
| #1 | 2404.8 | 57891. | 13699. |
| #2 | 2400.5 | 57963. | 13696. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:33:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0159 | .0012 | -.0036 | .0540 | .0164 | .0001 | 42.78 | .0003 | .0015 |
| Stddev | .0012 | .0219 | .0025 | .0036 | .0008 | .0003 | .0001 | .37 | .0003 | .0001 |
| %RSD | 67.82 | 138.0 | 209.4 | 99.58 | 1.419 | 2.081 | 94.97 | .8573 | 78.78 | 7.802 |
| #1 | -.0025 | -.0004 | .0030 | -.0011 | .0546 | .0162 | .0001 | 43.04 | .0001 | .0016 |
| #2 | -.0009 | -.0314 | -.0006 | -.0062 | .0535 | .0166 | .0000 | 42.52 | .0005 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0037 | .0185 | 3.629 | 4.071 | 7.961 | .0037 | 10.63 | .0026 | -.0002 |
| Stddev | .0004 | .0017 | .0036 | .061 | .047 | .096 | .0004 | .09 | .0001 | .0004 |
| %RSD | 472.9 | 46.10 | 19.24 | 1.689 | 1.160 | 1.204 | 9.883 | .8069 | 3.007 | 205.5 |
| #1 | -.0004 | -.0049 | .0210 | 3.672 | 4.104 | 8.029 | .0035 | 10.69 | .0026 | -.0004 |
| #2 | .0002 | -.0025 | .0160 | 3.586 | 4.037 | 7.894 | .0040 | 10.57 | .0027 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0245 | .0003 | .0053 | 7.049 | -.0004 | .1961 | -.0007 | .0008 | .0021 |
| Stddev | .0033 | .0024 | .0027 | .0006 | .018 | .0009 | .0014 | .0004 | .0001 | .0006 |
| %RSD | 6571. | 9.658 | 966.3 | 11.58 | .2556 | 211.0 | .7006 | 62.43 | 6.753 | 26.06 |
| #1 | -.0023 | .0228 | .0022 | .0049 | 7.037 | -.0010 | .1970 | -.0010 | .0009 | .0025 |
| #2 | .0024 | .0261 | -.0016 | .0058 | 7.062 | .0002 | .1951 | -.0004 | .0008 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0079 | -.0010 |
| Stddev | .0021 | .0001 | .0006 |
| %RSD | 155.3 | 1.814 | 57.49 |
| #1 | -.0028 | .0080 | -.0013 |
| #2 | .0001 | .0078 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.5 | 57787. | 13864. |
| Stddev | 4.1 | 614. | 212. |
| %RSD | .17009 | 1.0630 | 1.5286 |
| #1 | 2388.4 | 57353. | 13715. |
| #2 | 2382.6 | 58221. | 14014. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:37:44 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0056 | .0028 | .0027 | .0556 | .0163 | .0000 | 44.17 | -.0001 | .0008 |
| Stddev | .0013 | .0031 | .0002 | .0093 | .0001 | .0000 | .0005 | 1.05 | .0005 | .0005 |
| %RSD | 36.82 | 55.08 | 6.991 | 339.7 | .1129 | .2093 | 1225. | 2.390 | 482.6 | 57.97 |
| #1 | -.0044 | .0034 | .0030 | -.0038 | .0555 | .0163 | .0004 | 43.42 | .0002 | .0011 |
| #2 | -.0026 | .0078 | .0027 | .0093 | .0556 | .0163 | -.0003 | 44.91 | -.0005 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0080 | .0066 | 3.796 | 4.237 | 7.964 | .0030 | 10.98 | .0029 | -.0007 |
| Stddev | .0007 | .0014 | .0014 | .101 | .013 | .046 | .0001 | .28 | .0009 | .0029 |
| %RSD | 37.12 | 17.38 | 21.62 | 2.666 | .3127 | .5799 | 3.976 | 2.523 | 30.12 | 401.6 |
| #1 | -.0024 | -.0070 | .0076 | 3.724 | 4.246 | 7.931 | .0029 | 10.78 | .0035 | -.0028 |
| #2 | -.0014 | -.0090 | .0056 | 3.867 | 4.228 | 7.997 | .0031 | 11.18 | .0023 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0223 | .0036 | .0018 | 7.108 | .0017 | .2058 | -.0018 | -.0020 | .0033 |
| Stddev | .0128 | .0231 | .0039 | .0035 | .004 | .0012 | .0040 | .0003 | .0064 | .0007 |
| %RSD | 1094. | 103.3 | 110.0 | 193.9 | .0638 | 68.86 | 1.944 | 16.64 | 321.5 | 21.03 |
| #1 | .0079 | -.0060 | .0008 | -.0007 | 7.111 | .0009 | .2030 | -.0020 | .0025 | .0037 |
| #2 | -.0102 | -.0386 | .0064 | .0043 | 7.104 | .0025 | .2086 | -.0016 | -.0065 | .0028 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0210 | .0080 | -.0007 |
| Stddev | .0116 | .0003 | .0008 |
| %RSD | 55.26 | 3.487 | 114.0 |
| #1 | .0292 | .0078 | -.0013 |
| #2 | .0128 | .0082 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2369.9 | 58486. | 13573. |
| Stddev | 2.4 | 147. | 230. |
| %RSD | .10272 | .25131 | 1.6975 |
| #1 | 2368.2 | 58590. | 13736. |
| #2 | 2371.6 | 58382. | 13410. |



Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:42:04 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2204 | 1.756 | .1846 | -.0006 | 4.354 | 2.184 | .1688 | 59.21 | .1893 | 2.535 |
| Stddev | .0001 | .009 | .0088 | .0087 | .004 | .003 | .0008 | .00 | .0008 | .003 |
| %RSD | .0294 | .4945 | 4.785 | 1500. | .0832 | .1191 | .4840 | .0041 | .3971 | .0973 |
| #1 | .2204 | 1.762 | .1784 | -.0067 | 4.351 | 2.186 | .1694 | 59.21 | .1888 | 2.533 |
| #2 | .2205 | 1.750 | .1909 | .0055 | 4.356 | 2.183 | .1682 | 59.21 | .1898 | 2.537 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4509 | 1.096 | .9497 | 45.51 | 47.14 | 5.692 | 4.555 | 47.62 | 1.675 | .2218 |
| Stddev | .0005 | .001 | .0150 | .06 | .13 | .000 | .010 | .12 | .001 | .0034 |
| %RSD | .1103 | .0710 | 1.579 | .1348 | .2722 | .0009 | .2284 | .2618 | .0370 | 1.541 |
| #1 | .4512 | 1.096 | .9603 | 45.46 | 47.05 | 5.692 | 4.548 | 47.53 | 1.674 | .2242 |
| #2 | .4505 | 1.097 | .9391 | 45.55 | 47.24 | 5.692 | 4.563 | 47.71 | 1.675 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0001 | .2961 | .4402 | 4.622 | 4.297 | .5220 | 2.187 | .2262 | .4599 |
| Stddev | .0008 | .0011 | .0034 | .0063 | .009 | .004 | .0007 | .006 | .0064 | .0035 |
| %RSD | 20.73 | 1217. | 1.136 | 1.441 | .1962 | .0836 | .1393 | .2978 | 2.829 | .7581 |
| #1 | -.0032 | .0007 | .2937 | .4357 | 4.616 | 4.300 | .5225 | 2.191 | .2217 | .4624 |
| #2 | -.0043 | -.0009 | .2984 | .4447 | 4.629 | 4.295 | .5215 | 2.182 | .2307 | .4574 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0252 | .9063 | -.0073 |
| Stddev | .0242 | .0016 | .0009 |
| %RSD | 96.06 | .1759 | 12.63 |
| #1 | .0424 | .9052 | -.0079 |
| #2 | .0081 | .9075 | -.0066 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2359.1 | 57516. | 13821. |
| Stddev | 1.2 | 129. | 2. |
| %RSD | .05000 | .22398 | .01340 |
| #1 | 2360.0 | 57425. | 13822. |
| #2 | 2358.3 | 57607. | 13819. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:46:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2076 | 1.815 | .1984 | .0126 | 4.350 | 2.148 | .1680 | 59.51 | .1872 | 2.534 |
| Stddev | .0039 | .083 | .0177 | .0085 | .027 | .075 | .0059 | 2.02 | .0013 | .018 |
| %RSD | 1.878 | 4.586 | 8.908 | 67.51 | .6222 | 3.509 | 3.514 | 3.389 | .7120 | .7113 |
| #1 | .2049 | 1.756 | .2109 | .0186 | 4.369 | 2.201 | .1722 | 60.93 | .1882 | 2.546 |
| #2 | .2104 | 1.873 | .1859 | .0066 | 4.331 | 2.094 | .1638 | 58.08 | .1863 | 2.521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4338 | 1.055 | .9042 | 44.74 | 46.75 | 5.560 | 4.543 | 46.98 | 1.682 | .2260 |
| Stddev | .0105 | .040 | .0497 | 1.64 | 1.29 | .204 | .026 | 1.67 | .008 | .0014 |
| %RSD | 2.419 | 3.812 | 5.499 | 3.669 | 2.757 | 3.665 | .5769 | 3.550 | .4499 | .6352 |
| #1 | .4264 | 1.027 | .9393 | 45.90 | 47.67 | 5.416 | 4.562 | 48.16 | 1.688 | .2250 |
| #2 | .4412 | 1.083 | .8690 | 43.58 | 45.84 | 5.704 | 4.525 | 45.80 | 1.677 | .2271 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0040 | -.0088 | .2989 | .4452 | 4.551 | 4.275 | .5228 | 2.173 | .2201 | .4476 |
| Stddev | .0041 | .0191 | .0027 | .0020 | .032 | .031 | .0145 | .078 | .0018 | .0107 |
| %RSD | 104.3 | 217.4 | .8982 | .4521 | .7118 | .7214 | 2.767 | 3.597 | .8083 | 2.382 |
| #1 | .0010 | -.0223 | .2970 | .4466 | 4.574 | 4.297 | .5330 | 2.118 | .2189 | .4400 |
| #2 | .0069 | .0047 | .3008 | .4438 | 4.528 | 4.254 | .5125 | 2.229 | .2214 | .4551 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0503 | .9301 | -.0077 |
| Stddev | .0023 | .0107 | .0020 |
| %RSD | 4.657 | 1.148 | 25.98 |
| #1 | .0486 | .9376 | -.0091 |
| #2 | .0520 | .9225 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2362.5 | 58545. | 13772. |
| Stddev | 13.3 | 1875. | 503. |
| %RSD | .56469 | 3.2033 | 3.6487 |
| #1 | 2353.1 | 59871. | 13417. |
| #2 | 2371.9 | 57219. | 14128. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/5/2013 14:50:35 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2123 | 2.182 | .5827 | .0096 | .0290 | 2.029 | .5021 | 50.04 | .5563 | .5574 |
| Stddev | .0053 | .090 | .0012 | .0066 | .0029 | .004 | .0020 | .07 | .0029 | .0022 |
| %RSD | 2.487 | 4.122 | .2137 | 68.27 | 9.983 | .1715 | .3903 | .1368 | .5206 | .4019 |
| #1 | .2086 | 2.118 | .5818 | .0142 | .0310 | 2.032 | .5007 | 49.99 | .5583 | .5590 |
| #2 | .2160 | 2.245 | .5836 | .0050 | .0270 | 2.027 | .5035 | 50.09 | .5542 | .5558 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5436 | .5138 | 11.15 | 28.10 | 29.37 | 1.007 | .0041 | 31.39 | .5056 | 1.057 |
| Stddev | .0029 | .0025 | .02 | .05 | .09 | .004 | .0018 | .03 | .0028 | .001 |
| %RSD | .5261 | .4877 | .2017 | .1614 | .2950 | .4393 | 43.68 | .1078 | .5602 | .1199 |
| #1 | .5416 | .5120 | 11.13 | 28.13 | 29.31 | 1.004 | .0054 | 31.42 | .5076 | 1.058 |
| #2 | .5456 | .5156 | 11.16 | 28.07 | 29.43 | 1.010 | .0029 | 31.37 | .5036 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0165 | .5280 | .5211 | 2.816 | .0013 | .6489 | .5177 | .4932 | .5583 |
| Stddev | .0045 | .0082 | .0014 | .0014 | .017 | .0017 | .0006 | .0024 | .0066 | .0019 |
| %RSD | 2040. | 49.69 | .2707 | .2612 | .5842 | 128.4 | .0899 | .4662 | 1.344 | .3375 |
| #1 | -.0034 | -.0223 | .5290 | .5220 | 2.828 | .0025 | .6485 | .5159 | .4979 | .5569 |
| #2 | .0029 | -.0107 | .5270 | .5201 | 2.804 | .0001 | .6493 | .5194 | .4885 | .5596 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0197 | .5765 | -.0006 |
| Stddev | .0247 | .0023 | .0001 |
| %RSD | 125.6 | .4006 | 21.75 |
| #1 | -.0022 | .5782 | -.0007 |
| #2 | -.0371 | .5749 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.7 | 57548. | 13867. |
| Stddev | 3.8 | 196. | 11. |
| %RSD | .15754 | .34019 | .07814 |
| #1 | 2388.0 | 57686. | 13860. |
| #2 | 2393.4 | 57409. | 13875. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/5/2013 14:54:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2139 | 2.102 | .5805 | .0050 | .0265 | 2.030 | .5035 | 49.82 | .5573 | .5574 |
| Stddev | .0024 | .054 | .0023 | .0002 | .0022 | .001 | .0012 | .16 | .0014 | .0005 |
| %RSD | 1.120 | 2.569 | .3884 | 4.599 | 8.370 | .0354 | .2306 | .3282 | .2496 | .0813 |
| #1 | .2156 | 2.063 | .5789 | .0052 | .0281 | 2.031 | .5043 | 49.94 | .5563 | .5577 |
| #2 | .2122 | 2.140 | .5821 | .0049 | .0250 | 2.030 | .5027 | 49.71 | .5582 | .5571 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5419 | .5115 | 11.08 | 28.12 | 29.40 | .9963 | .0012 | 31.38 | .5064 | 1.054 |
| Stddev | .0054 | .0002 | .02 | .13 | .21 | .0030 | .0003 | .06 | .0015 | .007 |
| %RSD | .9951 | .0455 | .2079 | .4599 | .7268 | .2997 | 20.95 | .1786 | .2904 | .6662 |
| #1 | .5457 | .5117 | 11.09 | 28.03 | 29.55 | .9984 | .0014 | 31.34 | .5054 | 1.049 |
| #2 | .5381 | .5114 | 11.06 | 28.22 | 29.24 | .9942 | .0010 | 31.42 | .5074 | 1.059 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0271 | .5278 | .5273 | 2.800 | .0003 | .6489 | .5131 | .5052 | .5534 |
| Stddev | .0108 | .0123 | .0007 | .0109 | .005 | .0027 | .0008 | .0027 | .0006 | .0005 |
| %RSD | 291.4 | 45.28 | .1379 | 2.076 | .1836 | 1050. | .1158 | .5307 | .1187 | .0939 |
| #1 | .0039 | -.0358 | .5283 | .5196 | 2.796 | .0021 | .6484 | .5150 | .5056 | .5537 |
| #2 | -.0113 | -.0184 | .5273 | .5351 | 2.804 | -.0016 | .6494 | .5112 | .5048 | .5530 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .5811 | -.0019 |
| Stddev | .0069 | .0020 | .0010 |
| %RSD | 131.4 | .3466 | 50.91 |
| #1 | .0004 | .5797 | -.0012 |
| #2 | .0101 | .5826 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.9 | 58006. | 13817. |
| Stddev | .5 | 105. | 98. |
| %RSD | .01979 | .18076 | .71184 |
| #1 | 2387.5 | 57932. | 13748. |
| #2 | 2388.2 | 58080. | 13887. |



Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/5/2013 14:59:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0514 | .0314 | .0055 | .0234 | .0139 | .0002 | 25.38 | .0003 | .0004 |
| Stddev | .0000 | .0061 | .0006 | .0048 | .0005 | .0005 | .0004 | .04 | .0001 | .0004 |
| %RSD | 1.941 | 11.89 | 2.011 | 88.09 | 2.305 | 3.591 | 209.9 | .1772 | 33.26 | 98.19 |
| #1 | -.0025 | .0557 | .0318 | .0089 | .0230 | .0136 | -.0001 | 25.35 | .0004 | .0001 |
| #2 | -.0024 | .0471 | .0309 | .0021 | .0238 | .0143 | .0005 | 25.42 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0053 | 9.477 | 2.483 | 2.778 | .5058 | .0007 | 6.637 | -.0001 | -.0011 |
| Stddev | .0005 | .0012 | .032 | .036 | .011 | .0000 | .0001 | .025 | .0003 | .0009 |
| %RSD | 188.0 | 21.65 | .3342 | 1.466 | .3853 | .0035 | 18.51 | .3849 | 271.6 | 83.29 |
| #1 | -.0006 | -.0061 | 9.454 | 2.508 | 2.786 | .5059 | .0008 | 6.619 | -.0003 | -.0017 |
| #2 | .0001 | -.0045 | 9.499 | 2.457 | 2.771 | .5058 | .0006 | 6.655 | .0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | -.0035 | .0022 | -.0016 | 2.836 | .0001 | .1507 | -.0014 | -.0033 | .0014 |
| Stddev | .0009 | .0063 | .0014 | .0006 | .001 | .0009 | .0015 | .0002 | .0030 | .0028 |
| %RSD | 24.10 | 181.7 | 64.10 | 40.54 | .0205 | 966.9 | 1.004 | 12.86 | 91.19 | 197.0 |
| #1 | .0044 | .0010 | .0012 | -.0020 | 2.836 | -.0005 | .1497 | -.0015 | -.0012 | .0034 |
| #2 | .0031 | -.0079 | .0031 | -.0011 | 2.836 | .0007 | .1518 | -.0013 | -.0054 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0034 | .0159 | .0001 |
| Stddev | .0133 | .0002 | .0005 |
| %RSD | 394.2 | 1.017 | 862.3 |
| #1 | -.0060 | .0160 | .0004 |
| #2 | .0128 | .0157 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.6 | 58359. | 14012. |
| Stddev | .5 | 197. | 6. |
| %RSD | .02126 | .33687 | .04059 |
| #1 | 2400.3 | 58220. | 14008. |
| #2 | 2401.0 | 58498. | 14016. |

Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/5/2013 15:03:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 15.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0060 | .0375 | .0432 | .0196 | .0275 | .0142 | -.0010 | 26.14 | -.0013 | -.0019 |
| Stddev | .0021 | .1084 | .0145 | .0099 | .0052 | .0005 | .0007 | .05 | .0016 | .0008 |
| %RSD | 34.98 | 288.6 | 33.59 | 50.55 | 18.93 | 3.191 | 73.10 | .1990 | 119.3 | 40.81 |
| #1 | -.0075 | -.0391 | .0329 | .0267 | .0312 | .0145 | -.0015 | 26.10 | -.0025 | -.0025 |
| #2 | -.0045 | .1142 | .0534 | .0126 | .0238 | .0139 | -.0005 | 26.17 | -.0002 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0352 | 9.486 | 3.053 | 3.011 | .5163 | .0027 | 6.469 | .0014 | -.0050 |
| Stddev | .0003 | .0005 | .029 | .376 | .270 | .0069 | .0013 | .105 | .0008 | .0085 |
| %RSD | 12.94 | 1.375 | .3006 | 12.33 | 8.964 | 1.346 | 47.97 | 1.622 | 58.74 | 172.5 |
| #1 | -.0028 | -.0348 | 9.466 | 3.319 | 3.202 | .5212 | .0018 | 6.543 | .0020 | -.0110 |
| #2 | -.0023 | -.0355 | 9.506 | 2.787 | 2.821 | .5113 | .0036 | 6.395 | .0008 | .0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | -.0948 | .0006 | .0015 | 2.756 | -.0005 | .1517 | -.0066 | -.0032 | .0118 |
| Stddev | .0072 | .0048 | .0084 | .0080 | .007 | .0025 | .0015 | .0122 | .0080 | .0002 |
| %RSD | 72.20 | 5.056 | 1308. | 538.7 | .2561 | 490.5 | .9737 | 183.8 | 247.6 | 1.477 |
| #1 | .0048 | -.0914 | .0065 | .0071 | 2.751 | .0012 | .1506 | .0020 | -.0089 | .0117 |
| #2 | .0150 | -.0981 | -.0053 | -.0042 | 2.761 | -.0022 | .1527 | -.0153 | .0024 | .0120 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0242 | .0124 | .0011 |
| Stddev | .0078 | .0007 | .0012 |
| %RSD | 32.03 | 5.421 | 113.1 |
| #1 | -.0297 | .0119 | .0002 |
| #2 | -.0188 | .0129 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.6 | 58036. | 13829. |
| Stddev | 6.3 | 31. | 91. |
| %RSD | .26386 | .05412 | .65642 |
| #1 | 2398.2 | 58058. | 13765. |
| #2 | 2407.1 | 58013. | 13894. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:07:47 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2213 | 1.859 | .2097 | .0098 | 4.368 | 2.206 | .1713 | 65.98 | .1860 | 2.521 |
| Stddev | .0063 | .008 | .0027 | .0075 | .006 | .004 | .0004 | .07 | .0005 | .005 |
| %RSD | 2.851 | .4323 | 1.278 | 75.83 | .1342 | .1684 | .2548 | .1078 | .2478 | .1922 |
| #1 | .2168 | 1.853 | .2078 | .0151 | 4.372 | 2.208 | .1716 | 66.03 | .1863 | 2.525 |
| #2 | .2257 | 1.865 | .2116 | .0046 | 4.364 | 2.203 | .1710 | 65.93 | .1857 | 2.518 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4537 | 1.097 | 9.095 | 46.11 | 48.41 | 1.094 | 4.527 | 48.82 | 1.675 | .2227 |
| Stddev | .0028 | .005 | .004 | .15 | .40 | .001 | .001 | .03 | .004 | .0008 |
| %RSD | .6214 | .4351 | .0417 | .3166 | .8171 | .0958 | .0292 | .0623 | .2218 | .3699 |
| #1 | .4517 | 1.094 | 9.097 | 46.21 | 48.69 | 1.093 | 4.526 | 48.84 | 1.677 | .2233 |
| #2 | .4557 | 1.100 | 9.092 | 46.00 | 48.13 | 1.094 | 4.528 | 48.80 | 1.672 | .2221 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0161 | .2945 | .4388 | 2.623 | 4.333 | .5582 | 2.199 | .2262 | .4567 |
| Stddev | .0090 | .0123 | .0016 | .0086 | .018 | .008 | .0001 | .001 | .0002 | .0060 |
| %RSD | 186.6 | 76.58 | .5331 | 1.960 | .6679 | .1874 | .0106 | .0491 | .1010 | 1.308 |
| #1 | -.0111 | -.0248 | .2934 | .4449 | 2.636 | 4.339 | .5582 | 2.200 | .2263 | .4524 |
| #2 | .0015 | -.0074 | .2956 | .4327 | 2.611 | 4.328 | .5583 | 2.198 | .2260 | .4609 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0029 | .9065 | -.0098 |
| Stddev | .0418 | .0005 | .0003 |
| %RSD | 1460. | .0540 | 2.844 |
| #1 | .0267 | .9068 | -.0096 |
| #2 | -.0324 | .9061 | -.0100 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2406.2 | 58178. | 13856. |
| Stddev | 4.5 | 15. | 28. |
| %RSD | .18543 | .02525 | .19851 |
| #1 | 2409.3 | 58168. | 13875. |
| #2 | 2403.0 | 58189. | 13836. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:12:02 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2186 | 1.857 | .2110 | .0094 | 4.389 | 2.196 | .1747 | 66.56 | .1830 | 2.515 |
| Stddev | .0020 | .024 | .0156 | .0201 | .014 | .004 | .0008 | 1.33 | .0003 | .007 |
| %RSD | .8957 | 1.285 | 7.414 | 212.5 | .3160 | .1698 | .4726 | 2.003 | .1751 | .2802 |
| #1 | .2199 | 1.874 | .2221 | .0236 | 4.379 | 2.198 | .1741 | 65.62 | .1828 | 2.510 |
| #2 | .2172 | 1.840 | .1999 | -.0047 | 4.399 | 2.193 | .1752 | 67.50 | .1833 | 2.520 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4494 | 1.078 | 9.121 | 46.71 | 48.54 | 1.119 | 4.525 | 48.55 | 1.690 | .2261 |
| Stddev | .0089 | .009 | .028 | 1.06 | .12 | .001 | .005 | .10 | .003 | .0022 |
| %RSD | 1.971 | .8243 | .3027 | 2.271 | .2516 | .0536 | .1144 | .1970 | .1597 | .9844 |
| #1 | .4557 | 1.084 | 9.101 | 45.96 | 48.45 | 1.119 | 4.522 | 48.48 | 1.688 | .2245 |
| #2 | .4432 | 1.071 | 9.140 | 47.46 | 48.63 | 1.119 | 4.529 | 48.61 | 1.692 | .2277 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0807 | .2963 | .4436 | 2.555 | 4.326 | .5661 | 2.234 | .2181 | .4579 |
| Stddev | .0114 | .0026 | .0017 | .0010 | .006 | .004 | .0015 | .013 | .0110 | .0030 |
| %RSD | 398.1 | 3.166 | .5755 | .2214 | .2230 | .0891 | .2590 | .5888 | 5.060 | .6458 |
| #1 | -.0110 | -.0825 | .2975 | .4429 | 2.551 | 4.324 | .5671 | 2.243 | .2103 | .4600 |
| #2 | .0052 | -.0789 | .2951 | .4442 | 2.559 | 4.329 | .5650 | 2.224 | .2259 | .4558 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | .9198 | -.0106 |
| Stddev | .0129 | .0034 | .0009 |
| %RSD | 100.6 | .3745 | 8.270 |
| #1 | .0220 | .9174 | -.0100 |
| #2 | .0037 | .9223 | -.0112 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.0 | 57707. | 13836. |
| Stddev | 3.3 | 128. | 5. |
| %RSD | .13774 | .22148 | .03743 |
| #1 | 2411.7 | 57798. | 13839. |
| #2 | 2416.4 | 57617. | 13832. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 15:16:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2568 | 9.868 | 2.048 | -.0013 | 1.965 | 1.960 | 1.926 | 9.923 | 2.075 | 2.144 |
| Stddev | .0013 | .006 | .001 | .0002 | .006 | .003 | .001 | .004 | .008 | .008 |
| %RSD | .5107 | .0596 | .0462 | 15.75 | .3134 | .1627 | .0412 | .0380 | .3642 | .3772 |
| #1 | .2558 | 9.872 | 2.049 | -.0012 | 1.970 | 1.962 | 1.927 | 9.926 | 2.080 | 2.150 |
| #2 | .2577 | 9.864 | 2.047 | -.0015 | 1.961 | 1.958 | 1.926 | 9.920 | 2.070 | 2.138 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.041 | 2.049 | 9.648 | 9.954 | 10.08 | 2.010 | 2.059 | 9.764 | 1.958 | 1.985 |
| Stddev | .020 | .011 | .021 | .005 | .01 | .020 | .006 | .007 | .008 | .009 |
| %RSD | .9830 | .5448 | .2166 | .0520 | .0862 | .9731 | .2857 | .0745 | .4089 | .4569 |
| #1 | 2.027 | 2.041 | 9.662 | 9.958 | 10.07 | 1.997 | 2.064 | 9.769 | 1.964 | 1.992 |
| #2 | 2.055 | 2.057 | 9.633 | 9.950 | 10.08 | 2.024 | 2.055 | 9.759 | 1.952 | 1.979 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0033 | 2.019 | 2.008 | -.0187 | 1.959 | 2.008 | 1.981 | 1.948 | 2.037 |
| Stddev | .0009 | .0053 | .008 | .010 | .0000 | .007 | .003 | .014 | .002 | .018 |
| %RSD | 1278. | 159.7 | .4090 | .4810 | .1639 | .3848 | .1222 | .7286 | .1085 | .9016 |
| #1 | -.0007 | -.0004 | 2.025 | 2.015 | -.0187 | 1.965 | 2.009 | 1.970 | 1.949 | 2.024 |
| #2 | .0006 | .0070 | 2.014 | 2.001 | -.0188 | 1.954 | 2.006 | 1.991 | 1.946 | 2.050 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | 2.040 | -.0053 |
| Stddev | .0000 | .010 | .0003 |
| %RSD | .5090 | .4934 | 5.149 |
| #1 | .0049 | 2.047 | -.0051 |
| #2 | .0050 | 2.033 | -.0055 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.7 | 57083. | 13868. |
| Stddev | 4.5 | 1306. | 15. |
| %RSD | .18607 | 2.2871 | .10570 |
| #1 | 2404.5 | 58006. | 13858. |
| #2 | 2410.9 | 56160. | 13879. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 15:20:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0021 | .0015 | .0009 | .0031 | .0007 | F.0007 | .0015 | F.0004 |
| Stddev | .0002 | .0021 | .0014 | .0005 | .0005 | .0001 | .0000 | .0000 | .0001 |
| %RSD | 22.06 | 99.20 | 94.24 | 64.51 | 15.12 | 12.16 | 6.513 | .1982 | 27.56 |
| #1 | -.0013 | .0006 | .0005 | .0012 | .0034 | .0006 | .0007 | .0015 | .0005 |
| #2 | -.0009 | .0036 | .0025 | .0005 | .0027 | .0007 | .0006 | .0015 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | -.0012 | .0007 | .0436 | -.0055 | .0003 | .0025 | -.0010 |
| Stddev | .0001 | .0002 | .0005 | .0007 | .0220 | .0003 | .0000 | .0007 | .0060 |
| %RSD | 17.59 | 77.15 | 38.38 | 101.8 | 50.49 | 5.853 | 5.922 | 28.53 | 594.3 |
| #1 | .0005 | .0001 | -.0009 | .0002 | .0280 | -.0057 | .0002 | .0030 | .0032 |
| #2 | .0004 | .0004 | -.0015 | .0013 | .0592 | -.0053 | .0003 | .0020 | -.0053 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0003 | .0016 | -.0020 | .0006 | -.0010 | -.0080 | .0011 | .0006 |
| Stddev | .0003 | .0000 | .0012 | .0030 | .0011 | .0005 | .0004 | .0000 | .0000 |
| %RSD | 88.16 | 13.59 | 75.83 | 149.7 | 192.9 | 49.44 | 4.676 | 3.690 | 3.506 |
| #1 | .0005 | .0003 | .0024 | .0001 | .0013 | -.0006 | -.0077 | .0011 | .0006 |
| #2 | .0001 | .0002 | .0007 | -.0042 | -.0002 | -.0013 | -.0082 | .0010 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0010 | .0013 | -.0027 | .0001 | .0003 |
| Stddev | .0001 | .0006 | .0000 | .0061 | .0000 | .0003 |
| %RSD | 36.86 | 66.25 | 1.893 | 224.6 | 5.265 | 88.71 |
| #1 | .0002 | .0005 | .0013 | .0016 | .0001 | .0006 |
| #2 | .0004 | .0014 | .0013 | -.0071 | .0001 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.9 | 58063. | 13786. |
| Stddev | 2.5 | 472. | 110. |
| %RSD | .10576 | .81375 | .79878 |
| #1 | 2403.7 | 57729. | 13864. |
| #2 | 2400.1 | 58397. | 13708. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:24:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0251 | .2444 | .0040 | .1915 | .2733 | .0004 | 65.11 | .0027 | -.0008 |
| Stddev | .0015 | .0062 | .0018 | .0005 | .0004 | .0001 | .0004 | .09 | .0002 | .0000 |
| %RSD | 63.92 | 24.60 | .7475 | 11.95 | .1924 | .0229 | 123.0 | .1373 | 6.469 | 3.398 |
| #1 | -.0035 | -.0295 | .2431 | .0037 | .1913 | .2733 | .0007 | 65.05 | .0026 | -.0008 |
| #2 | -.0013 | -.0207 | .2457 | .0043 | .1918 | .2732 | .0000 | 65.18 | .0029 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0062 | 52.77 | 17.13 | 8.347 | 1.391 | .0017 | 21.79 | .0009 | -.0008 |
| Stddev | .0022 | .0002 | .14 | .32 | .001 | .005 | .0001 | .05 | .0002 | .0049 |
| %RSD | 216.0 | 2.476 | .2693 | 1.850 | .0130 | .3852 | 6.403 | .2160 | 19.99 | 642.0 |
| #1 | .0005 | -.0061 | 52.67 | 17.36 | 8.348 | 1.387 | .0016 | 21.76 | .0008 | .0027 |
| #2 | -.0026 | -.0063 | 52.87 | 16.91 | 8.347 | 1.395 | .0018 | 21.83 | .0011 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0204 | .0024 | .0011 | 10.79 | .0003 | .5731 | -.0001 | -.0026 | .0015 |
| Stddev | .0081 | .0015 | .0002 | .0004 | .01 | .0008 | .0011 | .0001 | .0018 | .0007 |
| %RSD | 200.7 | 7.512 | 6.618 | 34.17 | .0686 | 312.5 | .1928 | 94.07 | 69.13 | 46.30 |
| #1 | -.0097 | -.0193 | .0025 | .0014 | 10.78 | .0009 | .5723 | .0000 | -.0038 | .0020 |
| #2 | .0017 | -.0215 | .0023 | .0008 | 10.79 | -.0003 | .5738 | -.0002 | -.0013 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0100 | -.0011 |
| Stddev | .0133 | .0002 | .0003 |
| %RSD | 247.1 | 1.584 | 27.51 |
| #1 | -.0148 | .0101 | -.0009 |
| #2 | .0040 | .0099 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.9 | 57876. | 13890. |
| Stddev | 6.1 | 446. | 47. |
| %RSD | .25528 | .77146 | .33499 |
| #1 | 2393.3 | 58191. | 13923. |
| #2 | 2384.6 | 57560. | 13858. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:29:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | -.0011 | .2527 | .0252 | .2006 | .2748 | .0005 | 67.27 | .0023 | -.0020 |
| Stddev | .0007 | .0041 | .0062 | .0132 | .0044 | .0001 | .0006 | .29 | .0011 | .0013 |
| %RSD | 9.693 | 377.5 | 2.458 | 52.19 | 2.210 | .0248 | 110.9 | .4331 | 47.47 | 68.15 |
| #1 | -.0078 | -.0039 | .2570 | .0345 | .1974 | .2748 | .0009 | 67.48 | .0016 | -.0010 |
| #2 | -.0068 | .0018 | .2483 | .0159 | .2037 | .2749 | .0001 | 67.06 | .0031 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0161 | 54.56 | 17.31 | 8.561 | 1.386 | .0020 | 22.20 | .0022 | -.0005 |
| Stddev | .0079 | .0029 | .32 | .43 | .078 | .015 | .0004 | .12 | .0007 | .0072 |
| %RSD | 294.6 | 17.97 | .5832 | 2.466 | .9060 | 1.111 | 20.54 | .5179 | 32.60 | 1396. |
| #1 | -.0083 | -.0141 | 54.78 | 17.61 | 8.616 | 1.397 | .0023 | 22.28 | .0017 | -.0056 |
| #2 | .0029 | -.0181 | 54.33 | 17.01 | 8.506 | 1.376 | .0017 | 22.12 | .0027 | .0046 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0267 | .0061 | .0005 | 10.82 | .0018 | .5949 | -.0052 | -.0024 | .0070 |
| Stddev | .0097 | .0135 | .0017 | .0090 | .00 | .0001 | .0029 | .0049 | .0104 | .0020 |
| %RSD | 62.13 | 50.48 | 27.94 | 1807. | .0313 | 8.275 | .4914 | 92.76 | 437.3 | 28.87 |
| #1 | -.0226 | -.0362 | .0049 | .0069 | 10.82 | .0017 | .5970 | -.0087 | .0050 | .0056 |
| #2 | -.0088 | -.0172 | .0073 | -.0059 | 10.82 | .0019 | .5929 | -.0018 | -.0098 | .0084 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0288 | .0222 | -.0017 |
| Stddev | .0256 | .0011 | .0024 |
| %RSD | 88.99 | 5.084 | 139.3 |
| #1 | -.0107 | .0214 | .0000 |
| #2 | -.0469 | .0230 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2378.9 | 58242. | 13831. |
| Stddev | 4.1 | 464. | 36. |
| %RSD | .17347 | .79628 | .26107 |
| #1 | 2381.8 | 57914. | 13857. |
| #2 | 2376.0 | 58570. | 13806. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/5/2013 15:50:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0191 | -.0424 | 1.109 | .0107 | .0159 | .0797 | .0002 | 77.22 | .0116 | .0169 |
| Stddev | .0010 | .0606 | .002 | .0075 | .0001 | .0023 | .0007 | .42 | .0026 | .0009 |
| %RSD | 5.217 | 143.0 | .1926 | 70.31 | .8549 | 2.928 | 271.8 | .5455 | 22.46 | 5.127 |
| #1 | -.0184 | .0005 | 1.107 | .0054 | .0160 | .0781 | .0007 | 76.92 | .0098 | .0176 |
| #2 | -.0198 | -.0852 | 1.110 | .0160 | .0158 | .0814 | -.0002 | 77.52 | .0135 | .0163 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0223 | 8.186 | 6.212 | 3.102 | 2.006 | .0024 | 6.791 | .0159 | -.0087 |
| Stddev | .0025 | .0007 | .087 | .300 | .079 | .011 | .0005 | .145 | .0008 | .0023 |
| %RSD | 27.11 | 3.201 | 1.058 | 4.825 | 2.558 | .5680 | 23.22 | 2.134 | 4.830 | 26.44 |
| #1 | -.0110 | -.0228 | 8.125 | 6.000 | 3.158 | 2.015 | .0027 | 6.689 | .0154 | -.0071 |
| #2 | -.0075 | -.0218 | 8.247 | 6.424 | 3.045 | 1.998 | .0020 | 6.894 | .0165 | -.0103 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0727 | .0017 | .0012 | 5.023 | .0045 | .3216 | -.0044 | -.0087 | .0004 |
| Stddev | .0107 | .0340 | .0080 | .0095 | .000 | .0041 | .0034 | .0008 | .0091 | .0001 |
| %RSD | 105.5 | 46.74 | 480.3 | 797.4 | .0017 | 92.51 | 1.067 | 17.45 | 105.4 | 17.92 |
| #1 | -.0026 | -.0968 | -.0040 | -.0055 | 5.023 | .0015 | .3192 | -.0039 | -.0022 | .0003 |
| #2 | -.0177 | -.0487 | .0073 | .0079 | 5.023 | .0074 | .3240 | -.0050 | -.0151 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0299 | .0284 | .0018 |
| Stddev | .0219 | .0003 | .0028 |
| %RSD | 73.05 | .8876 | 152.9 |
| #1 | .0454 | .0282 | .0038 |
| #2 | .0145 | .0286 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.1 | 58598. | 13843. |
| Stddev | .5 | 66. | 187. |
| %RSD | .02090 | .11197 | 1.3534 |
| #1 | 2408.8 | 58552. | 13976. |
| #2 | 2409.5 | 58644. | 13711. |

Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:54:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0142 | .0354 | -.0018 | .1862 | .0107 | .0002 | 106.3 | .0007 | .0018 |
| Stddev | .0008 | .0026 | .0003 | .0013 | .0001 | .0003 | .0000 | .3 | .0001 | .0002 |
| %RSD | 38.11 | 18.34 | .7987 | 75.65 | .0496 | 2.732 | 10.53 | .3253 | 15.71 | 9.281 |
| #1 | -.0025 | -.0160 | .0352 | -.0008 | .1862 | .0105 | .0002 | 106.5 | .0006 | .0019 |
| #2 | -.0014 | -.0123 | .0356 | -.0027 | .1863 | .0109 | .0002 | 106.0 | .0008 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .4266 | 4.823 | 14.07 | 8.856 | .0014 | 27.29 | .0152 | -.0012 |
| Stddev | .0004 | .0000 | .0037 | .089 | .01 | .056 | .0002 | .05 | .0000 | .0005 |
| %RSD | 93.40 | .4328 | .8726 | 1.848 | .0489 | .6374 | 15.66 | .1786 | .2015 | 40.28 |
| #1 | -.0001 | -.0023 | .4240 | 4.760 | 14.07 | 8.816 | .0013 | 27.33 | .0152 | -.0009 |
| #2 | -.0007 | -.0023 | .4292 | 4.886 | 14.08 | 8.896 | .0016 | 27.26 | .0152 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0237 | .0016 | .0017 | 9.969 | -.0008 | .5769 | .0001 | .0027 | .0000 |
| Stddev | .0029 | .0023 | .0007 | .0016 | .015 | .0003 | .0019 | .0000 | .0001 | .0011 |
| %RSD | 39.03 | 9.737 | 47.07 | 91.63 | .1510 | 31.48 | .3207 | 29.03 | 2.281 | 3452. |
| #1 | -.0054 | .0253 | .0010 | .0006 | 9.958 | -.0010 | .5782 | .0001 | .0026 | .0008 |
| #2 | -.0095 | .0221 | .0021 | .0029 | 9.980 | -.0006 | .5756 | .0001 | .0027 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0028 | .0223 | -.0014 |
| Stddev | .0108 | .0001 | .0003 |
| %RSD | 389.3 | .6403 | 17.58 |
| #1 | .0104 | .0222 | -.0012 |
| #2 | -.0049 | .0224 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.2 | 57915. | 13813. |
| Stddev | 5.9 | 238. | 32. |
| %RSD | .24670 | .41024 | .23396 |
| #1 | 2381.0 | 58083. | 13790. |
| #2 | 2389.3 | 57747. | 13836. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:59:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0623 | .0368 | -.0011 | .1870 | .0115 | -.0003 | 107.1 | .0006 | .0009 |
| Stddev | .0006 | .0157 | .0015 | .0164 | .0005 | .0009 | .0002 | .2 | .0001 | .0001 |
| %RSD | 18.36 | 25.14 | 3.966 | 1474. | .2798 | 8.201 | 60.16 | .2210 | 13.24 | 12.34 |
| #1 | -.0040 | -.0512 | .0358 | -.0127 | .1867 | .0109 | -.0002 | 107.3 | .0007 | .0008 |
| #2 | -.0031 | -.0733 | .0379 | .0105 | .1874 | .0122 | -.0004 | 106.9 | .0006 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0073 | .4216 | 5.028 | 14.21 | 9.030 | .0019 | 27.26 | .0161 | -.0006 |
| Stddev | .0025 | .0015 | .0123 | .097 | .00 | .035 | .0003 | .07 | .0002 | .0001 |
| %RSD | 1035. | 20.41 | 2.917 | 1.924 | .0097 | .3896 | 14.35 | .2600 | 1.551 | 10.53 |
| #1 | .0020 | -.0062 | .4303 | 5.096 | 14.21 | 9.005 | .0017 | 27.31 | .0162 | -.0007 |
| #2 | -.0015 | -.0083 | .4129 | 4.960 | 14.21 | 9.055 | .0021 | 27.21 | .0159 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0150 | .0052 | -.0014 | 9.925 | -.0001 | .5836 | .0008 | .0017 | .0026 |
| Stddev | .0033 | .0128 | .0027 | .0043 | .000 | .0000 | .0010 | .0005 | .0007 | .0000 |
| %RSD | 101.8 | 84.98 | 52.28 | 305.5 | .0032 | 1.758 | .1659 | 62.27 | 38.82 | .3121 |
| #1 | -.0009 | .0060 | .0071 | -.0044 | 9.925 | -.0001 | .5843 | .0012 | .0012 | .0026 |
| #2 | -.0056 | .0240 | .0033 | .0016 | 9.925 | -.0001 | .5829 | .0005 | .0022 | .0026 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0070 | .0241 | -.0022 |
| Stddev | .0012 | .0002 | .0004 |
| %RSD | 17.57 | .8217 | 16.33 |
| #1 | .0061 | .0239 | -.0025 |
| #2 | .0079 | .0242 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.1 | 58393. | 13959. |
| Stddev | 3.2 | 238. | 107. |
| %RSD | .13181 | .40775 | .76469 |
| #1 | 2388.9 | 58562. | 13884. |
| #2 | 2393.3 | 58225. | 14035. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 16:03:31 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0169 | .0285 | .0469 | .0093 | .1978 | .0128 | .0011 | 114.0 | .0001 | .0009 |
| Stddev | .0034 | .0100 | .0208 | .0089 | .0143 | .0040 | .0018 | .2 | .0000 | .0016 |
| %RSD | 19.98 | 35.08 | 44.30 | 95.80 | 7.237 | 31.46 | 167.6 | .1821 | 34.17 | 187.9 |
| #1 | -.0193 | .0356 | .0616 | .0156 | .2079 | .0099 | -.0002 | 113.8 | .0001 | .0020 |
| #2 | -.0145 | .0214 | .0322 | .0030 | .1876 | .0156 | .0024 | 114.1 | .0002 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0383 | .3812 | 5.799 | 14.67 | 9.238 | -.0004 | 28.75 | .0166 | -.0062 |
| Stddev | .0005 | .0133 | .0009 | .252 | .36 | .004 | .0006 | .13 | .0018 | .0092 |
| %RSD | 12.18 | 34.74 | .2308 | 4.341 | 2.422 | .0424 | 162.5 | .4450 | 11.08 | 149.5 |
| #1 | -.0041 | -.0477 | .3806 | 5.977 | 14.92 | 9.235 | .0001 | 28.85 | .0179 | -.0127 |
| #2 | -.0049 | -.0289 | .3818 | 5.621 | 14.42 | 9.240 | -.0008 | 28.66 | .0153 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0291 | -.0193 | .0163 | .0080 | 10.07 | .0088 | .6075 | -.0004 | -.0187 | .0108 |
| Stddev | .0380 | .1044 | .0087 | .0099 | .06 | .0031 | .0017 | .0011 | .0075 | .0101 |
| %RSD | 130.6 | 541.5 | 53.76 | 123.4 | .5663 | 35.53 | .2848 | 267.1 | 40.03 | 93.64 |
| #1 | -.0560 | .0545 | .0101 | .0150 | 10.03 | .0110 | .6087 | .0004 | -.0134 | .0179 |
| #2 | -.0022 | -.0931 | .0224 | .0010 | 10.11 | .0066 | .6063 | -.0012 | -.0239 | .0036 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0313 | .0591 | .0001 |
| Stddev | .0021 | .0007 | .0020 |
| %RSD | 6.583 | 1.220 | 1527. |
| #1 | -.0298 | .0586 | -.0013 |
| #2 | -.0327 | .0596 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.2 | 57965. | 13817. |
| Stddev | 9.6 | 49. | 4. |
| %RSD | .40190 | .08419 | .03171 |
| #1 | 2395.0 | 58000. | 13820. |
| #2 | 2381.4 | 57931. | 13814. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:07:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0094 | .4455 | .0022 | .1287 | .0391 | .0002 | 53.03 | .0053 | -.0003 |
| Stddev | .0003 | .0051 | .0046 | .0018 | .0011 | .0013 | .0001 | .06 | .0006 | .0001 |
| %RSD | 9.113 | 54.72 | 1.030 | 82.17 | .8188 | 3.273 | 47.34 | .1046 | 10.70 | 29.55 |
| #1 | -.0041 | -.0058 | .4423 | .0034 | .1294 | .0382 | .0002 | 52.99 | .0057 | -.0003 |
| #2 | -.0036 | -.0130 | .4487 | .0009 | .1279 | .0400 | .0001 | 53.07 | .0049 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0047 | 27.09 | 4.448 | 7.324 | 3.926 | -.0001 | 27.39 | .0020 | -.0022 |
| Stddev | .0032 | .0004 | .04 | .051 | .019 | .010 | .0005 | .00 | .0003 | .0019 |
| %RSD | 296.5 | 9.499 | .1418 | 1.136 | .2578 | .2587 | 617.9 | .0107 | 14.38 | 83.11 |
| #1 | .0012 | -.0044 | 27.11 | 4.413 | 7.337 | 3.919 | -.0004 | 27.39 | .0018 | -.0009 |
| #2 | -.0034 | -.0050 | 27.06 | 4.484 | 7.311 | 3.933 | .0003 | 27.39 | .0022 | -.0035 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0107 | .0023 | .0024 | 11.17 | .0007 | .2322 | .0017 | .0005 | .0024 |
| Stddev | .0017 | .0039 | .0005 | .0011 | .00 | .0008 | .0001 | .0002 | .0007 | .0009 |
| %RSD | 77.09 | 36.46 | 19.81 | 44.15 | .0344 | 110.6 | .0219 | 11.73 | 135.9 | 36.40 |
| #1 | -.0034 | .0134 | .0026 | .0017 | 11.17 | .0002 | .2322 | .0016 | .0010 | .0018 |
| #2 | -.0010 | .0079 | .0020 | .0032 | 11.17 | .0013 | .2322 | .0019 | .0000 | .0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0083 | .0069 | -.0022 |
| Stddev | .0022 | .0005 | .0004 |
| %RSD | 26.64 | 7.002 | 19.93 |
| #1 | .0098 | .0065 | -.0025 |
| #2 | .0067 | .0072 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.5 | 57801. | 13811. |
| Stddev | 1.2 | 320. | 55. |
| %RSD | .04818 | .55289 | .39894 |
| #1 | 2385.7 | 57575. | 13850. |
| #2 | 2387.4 | 58027. | 13772. |

Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:12:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0134 | .0365 | .4423 | -.0051 | .1303 | .0372 | .0007 | 54.47 | .0029 | -.0018 |
| Stddev | .0017 | .0142 | .0107 | .0281 | .0022 | .0001 | .0005 | .04 | .0020 | .0011 |
| %RSD | 12.84 | 38.93 | 2.421 | 554.8 | 1.716 | .1477 | 63.07 | .0683 | 67.85 | 60.39 |
| #1 | -.0146 | .0264 | .4498 | -.0250 | .1319 | .0373 | .0004 | 54.45 | .0043 | -.0011 |
| #2 | -.0122 | .0465 | .4347 | .0148 | .1287 | .0372 | .0011 | 54.50 | .0015 | -.0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0229 | 27.64 | 4.501 | 7.417 | 3.948 | .0000 | 27.98 | .0019 | -.0040 |
| Stddev | .0036 | .0023 | .07 | .219 | .053 | .007 | .0007 | .04 | .0015 | .0135 |
| %RSD | 155.8 | 10.14 | .2427 | 4.858 | .7155 | .1910 | 3286. | .1328 | 79.14 | 335.8 |
| #1 | .0002 | -.0212 | 27.59 | 4.655 | 7.379 | 3.942 | -.0005 | 27.95 | .0029 | .0055 |
| #2 | -.0049 | -.0245 | 27.68 | 4.346 | 7.454 | 3.953 | .0005 | 28.00 | .0008 | -.0135 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | -.0359 | .0094 | .0057 | 11.08 | .0037 | .2299 | -.0032 | -.0016 | .0080 |
| Stddev | .0143 | .0591 | .0071 | .0068 | .01 | .0026 | .0024 | .0036 | .0095 | .0005 |
| %RSD | 438.0 | 164.6 | 76.23 | 118.8 | .0810 | 70.71 | 1.024 | 114.3 | 577.2 | 6.111 |
| #1 | -.0068 | .0059 | .0144 | .0106 | 11.07 | .0056 | .2282 | -.0057 | -.0083 | .0083 |
| #2 | .0134 | -.0777 | .0043 | .0009 | 11.09 | .0019 | .2315 | -.0006 | .0051 | .0076 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0181 | .0126 | .0006 |
| Stddev | .0656 | .0007 | .0002 |
| %RSD | 362.4 | 5.360 | 42.32 |
| #1 | -.0283 | .0131 | .0008 |
| #2 | .0645 | .0122 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.9 | 58301. | 13935. |
| Stddev | 9.0 | 274. | 180. |
| %RSD | .37764 | .47002 | 1.2887 |
| #1 | 2402.3 | 58495. | 13808. |
| #2 | 2389.5 | 58107. | 14061. |



Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/5/2013 16:16:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0017 | .0004 | .0023 | .0074 | .0017 | -.0001 | 6.520 | -.0003 | -.0001 |
| Stddev | .0016 | .0102 | .0045 | .0016 | .0004 | .0001 | .0002 | .051 | .0001 | .0004 |
| %RSD | 79.85 | 587.3 | 1272. | 70.32 | 5.590 | 5.386 | 147.0 | .7851 | 44.15 | 381.3 |
| #1 | -.0031 | .0090 | -.0028 | .0012 | .0077 | .0017 | .0000 | 6.484 | -.0002 | -.0004 |
| #2 | -.0008 | -.0055 | .0036 | .0034 | .0071 | .0018 | -.0003 | 6.557 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0066 | .0193 | .8912 | .5959 | .0101 | .0000 | 23.81 | -.0002 | -.0012 |
| Stddev | .0002 | .0019 | .0032 | .0364 | .0064 | .0001 | .0002 | .02 | .0007 | .0005 |
| %RSD | 8.522 | 28.27 | 16.54 | 4.089 | 1.069 | 1.101 | 1124. | .0796 | 405.8 | 45.20 |
| #1 | -.0024 | -.0080 | .0171 | .8654 | .6004 | .0100 | -.0001 | 23.80 | -.0006 | -.0008 |
| #2 | -.0027 | -.0053 | .0216 | .9170 | .5914 | .0102 | .0002 | 23.82 | .0003 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | -.0133 | .0017 | -.0027 | 3.855 | .0010 | .0430 | -.0003 | -.0035 | .0016 |
| Stddev | .0060 | .0018 | .0000 | .0004 | .003 | .0019 | .0002 | .0004 | .0004 | .0005 |
| %RSD | 246.6 | 13.48 | 1.655 | 13.92 | .0692 | 190.5 | .4388 | 123.7 | 11.83 | 31.92 |
| #1 | -.0018 | -.0120 | .0017 | -.0024 | 3.857 | -.0003 | .0428 | .0000 | -.0032 | .0013 |
| #2 | .0067 | -.0146 | .0017 | -.0030 | 3.853 | .0023 | .0431 | -.0006 | -.0037 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0041 | .0640 | -.0007 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 42.92 | .0306 | 18.59 |
| #1 | -.0053 | .0640 | -.0007 |
| #2 | -.0029 | .0640 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2396.6 | 58312. | 13834. |
| Stddev | 3.1 | 245. | 73. |
| %RSD | .13030 | .41931 | .52657 |
| #1 | 2394.4 | 58484. | 13886. |
| #2 | 2398.8 | 58139. | 13783. |





Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:20:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0363 | 1.161 | -.0027 | .2058 | .0437 | -.0002 | 76.37 | .0133 | .0158 |
| Stddev | .0005 | .0065 | .003 | .0040 | .0003 | .0007 | .0001 | .21 | .0001 | .0002 |
| %RSD | 41.11 | 17.93 | .2238 | 149.5 | .1226 | 1.566 | 70.22 | .2747 | .4496 | 1.578 |
| #1 | -.0017 | -.0317 | 1.159 | -.0055 | .2056 | .0433 | -.0001 | 76.22 | .0133 | .0160 |
| #2 | -.0009 | -.0409 | 1.163 | .0002 | .2060 | .0442 | -.0002 | 76.52 | .0133 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | 29.26 | 8.277 | 12.15 | 9.889 | .0008 | 28.55 | .0053 | -.0009 |
| Stddev | .0007 | .0002 | .06 | .013 | .17 | .129 | .0001 | .03 | .0003 | .0012 |
| %RSD | 177.2 | 6.198 | .2151 | .1596 | 1.429 | 1.306 | 12.57 | .1154 | 5.512 | 136.8 |
| #1 | .0001 | -.0038 | 29.22 | 8.267 | 12.03 | 9.980 | .0007 | 28.53 | .0055 | .0000 |
| #2 | -.0009 | -.0035 | 29.31 | 8.286 | 12.28 | 9.798 | .0008 | 28.58 | .0051 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0087 | .0312 | .0005 | .0027 | 13.27 | -.0004 | .9736 | .0006 | .0038 | .0015 |
| Stddev | .0015 | .0094 | .0004 | .0002 | .01 | .0004 | .0007 | .0016 | .0027 | .0008 |
| %RSD | 16.94 | 30.18 | 79.13 | 7.526 | .0503 | 87.42 | .0719 | 271.2 | 71.30 | 52.87 |
| #1 | -.0097 | .0378 | .0002 | .0029 | 13.26 | -.0002 | .9731 | .0017 | .0056 | .0010 |
| #2 | -.0076 | .0245 | .0008 | .0026 | 13.27 | -.0007 | .9741 | -.0005 | .0019 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0225 | .0089 | -.0020 |
| Stddev | .0024 | .0000 | .0003 |
| %RSD | 10.82 | .1185 | 14.09 |
| #1 | .0208 | .0089 | -.0018 |
| #2 | .0243 | .0089 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.4 | 57827. | 13958. |
| Stddev | 5.0 | 198. | 144. |
| %RSD | .20899 | .34198 | 1.0322 |
| #1 | 2383.9 | 57967. | 14059. |
| #2 | 2376.9 | 57688. | 13856. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 16:25:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2560 | 9.781 | 2.060 | .0007 | 1.959 | 1.947 | 1.895 | 9.819 | 2.099 | 2.158 |
| Stddev | .0003 | .000 | .003 | .0019 | .001 | .001 | .002 | .013 | .003 | .002 |
| %RSD | .1348 | .0035 | .1207 | 271.7 | .0550 | .0735 | .1092 | .1299 | .1558 | .0695 |
| #1 | .2557 | 9.781 | 2.062 | .0020 | 1.958 | 1.948 | 1.896 | 9.810 | 2.101 | 2.159 |
| #2 | .2562 | 9.780 | 2.058 | -.0006 | 1.960 | 1.946 | 1.893 | 9.828 | 2.097 | 2.157 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.009 | 2.038 | 9.555 | 9.880 | 10.11 | 1.963 | 2.069 | 9.655 | 1.961 | 1.998 |
| Stddev | .003 | .002 | .007 | .018 | .02 | .004 | .002 | .005 | .000 | .002 |
| %RSD | .1471 | .0741 | .0716 | .1873 | .2252 | .1816 | .0880 | .0551 | .0020 | .0922 |
| #1 | 2.006 | 2.037 | 9.550 | 9.867 | 10.13 | 1.960 | 2.068 | 9.659 | 1.961 | 1.999 |
| #2 | 2.011 | 2.039 | 9.560 | 9.893 | 10.10 | 1.965 | 2.071 | 9.651 | 1.961 | 1.997 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0011 | 2.027 | 2.017 | .0043 | 1.947 | 2.014 | 1.946 | 1.931 | 2.012 |
| Stddev | .0015 | .0039 | .000 | .003 | .0007 | .002 | .001 | .004 | .002 | .003 |
| %RSD | 175.4 | 352.8 | .0041 | .1709 | 16.79 | .1063 | .0500 | .2184 | .0943 | .1672 |
| #1 | -.0002 | -.0039 | 2.027 | 2.014 | .0048 | 1.945 | 2.015 | 1.943 | 1.930 | 2.010 |
| #2 | .0019 | .0017 | 2.027 | 2.019 | .0038 | 1.948 | 2.013 | 1.949 | 1.933 | 2.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0098 | 2.056 | -.0053 |
| Stddev | .0014 | .001 | .0004 |
| %RSD | 14.69 | .0289 | 8.439 |
| #1 | .0108 | 2.056 | -.0049 |
| #2 | .0088 | 2.055 | -.0056 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.0 | 57667. | 13853. |
| Stddev | 4.9 | 68. | 16. |
| %RSD | .20391 | .11843 | .11274 |
| #1 | 2381.6 | 57715. | 13842. |
| #2 | 2388.5 | 57619. | 13864. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 16:29:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0043 | .0014 | .0019 | .0022 | .0007 | F.0006 | .0143 | .0002 |
| Stddev | .0007 | .0068 | .0005 | .0015 | .0003 | .0002 | .0000 | .0002 | .0002 |
| %RSD | 62.38 | 160.2 | 35.13 | 76.39 | 15.72 | 25.47 | .1128 | 1.247 | 154.4 |
| #1 | -.0007 | .0091 | .0010 | .0009 | .0025 | .0009 | .0006 | .0144 | .0003 |
| #2 | -.0017 | -.0006 | .0017 | .0029 | .0020 | .0006 | .0006 | .0142 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | -.0018 | .0013 | .0196 | .0024 | .0004 | .0021 | -.0047 |
| Stddev | .0001 | .0004 | .0010 | .0003 | .0326 | .0394 | .0001 | .0006 | .0049 |
| %RSD | 44.44 | 81.58 | 55.42 | 23.67 | 166.7 | 1627. | 13.29 | 28.92 | 105.3 |
| #1 | .0003 | .0002 | -.0026 | .0011 | .0426 | .0303 | .0004 | .0025 | -.0012 |
| #2 | .0002 | .0007 | -.0011 | .0015 | -.0035 | -.0255 | .0004 | .0017 | -.0082 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0002 | -.0050 | .0012 | .0005 | -.0064 | .0008 | .0006 |
| Stddev | .0000 | .0007 | .0019 | .0050 | .0004 | .0017 | .0002 | .0005 | .0001 |
| %RSD | 9.161 | 81.12 | 804.1 | 101.5 | 37.24 | 318.5 | 3.128 | 64.01 | 17.87 |
| #1 | .0003 | .0004 | -.0011 | -.0014 | .0009 | -.0007 | -.0065 | .0011 | .0005 |
| #2 | .0003 | .0014 | .0016 | -.0085 | .0015 | .0017 | -.0063 | .0004 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0001 | .0000 | .0013 | -.0002 | .0000 | .0000 |
| Stddev | .0002 | .001 | .0010 | .0032 | .0002 | .0002 |
| %RSD | 154.4 | 2197. | 77.56 | 1448. | 10150. | 504.2 |
| #1 | -.0002 | .0004 | .0006 | -.0025 | .0002 | .0002 |
| #2 | .0000 | -.0005 | .0020 | .0020 | -.0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.0 | 58347. | 13819. |
| Stddev | 3.6 | 80. | 250. |
| %RSD | .14811 | .13712 | 1.8061 |
| #1 | 2403.5 | 58404. | 13996. |
| #2 | 2398.5 | 58291. | 13643. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:33:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | .0048 | 1.139 | .0004 | .2058 | .0430 | .0004 | 76.03 | .0131 | .0155 |
| Stddev | .0005 | .0203 | .001 | .0016 | .0010 | .0019 | .0004 | 1.87 | .0005 | .0001 |
| %RSD | 7.379 | 418.9 | .0417 | 425.6 | .4625 | 4.524 | 89.60 | 2.462 | 4.103 | .6979 |
| #1 | -.0064 | -.0095 | 1.139 | -.0008 | .2051 | .0416 | .0002 | 74.70 | .0134 | .0154 |
| #2 | -.0058 | .0192 | 1.139 | .0015 | .2064 | .0443 | .0007 | 77.35 | .0127 | .0155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0079 | 30.04 | 8.428 | 12.22 | 9.683 | .0034 | 28.31 | .0057 | -.0010 |
| Stddev | .0008 | .0017 | .96 | .385 | .13 | .088 | .0000 | .64 | .0015 | .0044 |
| %RSD | 33.05 | 21.49 | 3.208 | 4.564 | 1.087 | .9098 | 1.146 | 2.270 | 27.09 | 453.0 |
| #1 | -.0030 | -.0091 | 29.35 | 8.156 | 12.12 | 9.621 | .0034 | 27.85 | .0046 | -.0041 |
| #2 | -.0018 | -.0067 | 30.72 | 8.700 | 12.31 | 9.745 | .0034 | 28.76 | .0068 | .0021 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0086 | .0028 | -.0002 | 12.92 | .0150 | .9695 | .0031 | .0031 | .0053 |
| Stddev | .0053 | .0110 | .0034 | .0031 | .01 | .0007 | .0260 | .0058 | .0046 | .0017 |
| %RSD | 473.3 | 127.6 | 122.2 | 1403. | .0826 | 4.820 | 2.684 | 186.7 | 147.8 | 31.61 |
| #1 | -.0026 | .0008 | .0052 | .0020 | 12.91 | .0155 | .9511 | .0072 | -.0001 | .0041 |
| #2 | .0049 | .0164 | .0004 | -.0025 | 12.92 | .0145 | .9879 | -.0010 | .0064 | .0065 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0090 | -.0013 |
| Stddev | .0007 | .0010 | .0004 |
| %RSD | 8.955 | 11.53 | 32.80 |
| #1 | .0075 | .0083 | -.0010 |
| #2 | .0085 | .0097 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.2 | 58555. | 13787. |
| Stddev | 5.9 | 65. | 321. |
| %RSD | .24556 | .11068 | 2.3284 |
| #1 | 2395.4 | 58601. | 14014. |
| #2 | 2387.1 | 58509. | 13560. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:38:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0122 | -.0264 | 1.166 | .0118 | .2115 | .0451 | .0006 | 77.75 | .0130 | .0161 |
| Stddev | .0074 | .0224 | .001 | .0016 | .0040 | .0008 | .0008 | .10 | .0006 | .0008 |
| %RSD | 60.93 | 84.97 | .0823 | 13.90 | 1.871 | 1.691 | 123.5 | .1261 | 4.703 | 4.980 |
| #1 | -.0175 | -.0105 | 1.166 | .0107 | .2087 | .0445 | .0001 | 77.82 | .0126 | .0155 |
| #2 | -.0070 | -.0422 | 1.167 | .0130 | .2143 | .0456 | .0011 | 77.68 | .0135 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0246 | 30.34 | 8.469 | 12.52 | 9.948 | .0034 | 29.46 | .0058 | -.0005 |
| Stddev | .0016 | .0028 | .10 | .117 | .33 | .013 | .0002 | .28 | .0018 | .0019 |
| %RSD | 55.04 | 11.34 | .3180 | 1.379 | 2.668 | .1310 | 4.454 | .9494 | 31.80 | 402.4 |
| #1 | -.0017 | -.0226 | 30.27 | 8.552 | 12.76 | 9.957 | .0033 | 29.26 | .0071 | .0009 |
| #2 | -.0039 | -.0266 | 30.40 | 8.387 | 12.28 | 9.938 | .0035 | 29.66 | .0045 | -.0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0257 | .0113 | -.0072 | 13.21 | -.0033 | .9852 | -.0023 | -.0033 | .0112 |
| Stddev | .0030 | .0166 | .0101 | .0002 | .04 | .0040 | .0031 | .0034 | .0143 | .0081 |
| %RSD | 319.3 | 64.84 | 88.98 | 2.308 | .2681 | 121.4 | .3186 | 147.7 | 432.9 | 72.08 |
| #1 | .0012 | -.0374 | .0184 | -.0071 | 13.24 | -.0005 | .9874 | -.0047 | .0068 | .0055 |
| #2 | -.0031 | -.0139 | .0042 | -.0073 | 13.19 | -.0061 | .9830 | .0001 | -.0134 | .0169 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0453 | .0112 | -.0007 |
| Stddev | .0614 | .0002 | .0017 |
| %RSD | 135.6 | 1.981 | 246.8 |
| #1 | .0019 | .0114 | .0005 |
| #2 | .0887 | .0111 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.0 | 58055. | 13627. |
| Stddev | 2.1 | 34. | 206. |
| %RSD | .08975 | .05919 | 1.5085 |
| #1 | 2369.5 | 58030. | 13481. |
| #2 | 2372.5 | 58079. | 13772. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:42:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0034 | 1.026 | .0031 | .1369 | .0948 | .0001 | 46.22 | .0109 | .0176 |
| Stddev | .0001 | .0260 | .002 | .0031 | .0013 | .0006 | .0001 | .13 | .0003 | .0002 |
| %RSD | 4.186 | 764.7 | .1599 | 102.0 | .9420 | .6784 | 81.17 | .2866 | 2.702 | 1.329 |
| #1 | -.0027 | -.0217 | 1.027 | .0053 | .1360 | .0943 | .0002 | 46.13 | .0107 | .0178 |
| #2 | -.0029 | .0150 | 1.025 | .0009 | .1378 | .0952 | .0000 | 46.31 | .0111 | .0175 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0043 | 73.31 | 11.05 | 7.388 | 1.002 | .0011 | 17.02 | .0151 | -.0011 |
| Stddev | .0000 | .0013 | .28 | .03 | .069 | .003 | .0004 | .04 | .0004 | .0017 |
| %RSD | 10.24 | 29.24 | .3833 | .2720 | .9400 | .2747 | 37.62 | .2540 | 2.671 | 163.2 |
| #1 | -.0002 | -.0052 | 73.11 | 11.07 | 7.339 | .9996 | .0008 | 16.99 | .0154 | -.0023 |
| #2 | -.0002 | -.0034 | 73.51 | 11.03 | 7.437 | 1.003 | .0014 | 17.05 | .0148 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0091 | .0034 | -.0026 | 14.34 | .0009 | .4264 | .0002 | -.0025 | .0024 |
| Stddev | .0015 | .0054 | .0016 | .0029 | .00 | .0010 | .0004 | .0004 | .0008 | .0003 |
| %RSD | 27.61 | 59.89 | 45.51 | 113.1 | .0308 | 112.3 | .0978 | 202.6 | 29.51 | 12.72 |
| #1 | -.0043 | -.0052 | .0045 | -.0005 | 14.34 | .0015 | .4261 | .0004 | -.0031 | .0022 |
| #2 | -.0065 | -.0129 | .0023 | -.0047 | 14.34 | .0002 | .4267 | -.0001 | -.0020 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0156 | .0134 | -.0031 |
| Stddev | .0071 | .0000 | .0000 |
| %RSD | 45.75 | .1532 | .3091 |
| #1 | .0206 | .0134 | -.0031 |
| #2 | .0105 | .0134 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2367.6 | 57985. | 13808. |
| Stddev | .8 | 268. | 35. |
| %RSD | .03443 | .46210 | .25368 |
| #1 | 2367.0 | 58174. | 13833. |
| #2 | 2368.2 | 57795. | 13783. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:46:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0231 | 1.031 | .0083 | .1356 | .0918 | -.0001 | 45.88 | .0102 | .0170 |
| Stddev | .0021 | .0664 | .007 | .0047 | .0010 | .0006 | .0001 | .08 | .0000 | .0004 |
| %RSD | 37.38 | 287.5 | .7216 | 56.60 | .7598 | .6707 | 225.5 | .1845 | .4842 | 2.509 |
| #1 | -.0073 | .0239 | 1.026 | .0050 | .1348 | .0914 | -.0001 | 45.94 | .0102 | .0173 |
| #2 | -.0042 | -.0701 | 1.036 | .0116 | .1363 | .0923 | .0000 | 45.82 | .0103 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0142 | 73.05 | 11.10 | 7.371 | 1.006 | .0004 | 16.99 | .0148 | -.0014 |
| Stddev | .0019 | .0014 | .41 | .01 | .006 | .003 | .0005 | .04 | .0005 | .0022 |
| %RSD | 67.79 | 10.12 | .5632 | .0812 | .0792 | .2438 | 140.9 | .2123 | 3.723 | 159.3 |
| #1 | -.0042 | -.0152 | 73.34 | 11.10 | 7.367 | 1.004 | .0007 | 16.96 | .0144 | -.0029 |
| #2 | -.0015 | -.0132 | 72.76 | 11.09 | 7.376 | 1.008 | .0000 | 17.01 | .0151 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0272 | .0039 | -.0049 | 14.19 | .0014 | .4312 | -.0017 | -.0034 | .0067 |
| Stddev | .0092 | .0047 | .0007 | .0033 | .00 | .0013 | .0002 | .0011 | .0022 | .0020 |
| %RSD | 2691. | 17.31 | 17.07 | 68.39 | .0047 | 93.17 | .0425 | 61.55 | 62.42 | 30.54 |
| #1 | -.0068 | -.0305 | .0034 | -.0072 | 14.19 | .0023 | .4314 | -.0010 | -.0050 | .0052 |
| #2 | .0061 | -.0239 | .0044 | -.0025 | 14.19 | .0005 | .4311 | -.0025 | -.0019 | .0081 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0366 | .0130 | -.0029 |
| Stddev | .0110 | .0002 | .0000 |
| %RSD | 30.01 | 1.347 | .9396 |
| #1 | .0289 | .0129 | -.0029 |
| #2 | .0444 | .0132 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2376.0 | 58322. | 14027. |
| Stddev | 5.8 | 54. | 108. |
| %RSD | .24314 | .09330 | .76758 |
| #1 | 2380.0 | 58361. | 14103. |
| #2 | 2371.9 | 58284. | 13951. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:51:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0055 | -.0304 | 1.051 | .0149 | .1419 | .0941 | .0001 | 47.59 | .0094 | .0174 |
| Stddev | .0043 | .1571 | .012 | .0130 | .0019 | .0001 | .0007 | .07 | .0020 | .0005 |
| %RSD | 78.74 | 517.4 | 1.175 | 86.99 | 1.350 | .1200 | 506.6 | .1465 | 21.44 | 3.109 |
| #1 | -.0085 | -.1414 | 1.042 | .0058 | .1432 | .0942 | -.0004 | 47.54 | .0109 | .0178 |
| #2 | -.0024 | .0807 | 1.059 | .0241 | .1405 | .0940 | .0006 | 47.64 | .0080 | .0171 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0076 | -.0202 | 73.17 | 11.28 | 7.454 | 1.036 | -.0002 | 17.21 | .0151 | -.0001 |
| Stddev | .0033 | .0080 | .18 | .06 | .127 | .004 | .0007 | .09 | .0002 | .0053 |
| %RSD | 43.89 | 39.46 | .2476 | .5477 | 1.705 | .3675 | 266.2 | .5256 | 1.068 | 3604. |
| #1 | -.0052 | -.0146 | 73.04 | 11.24 | 7.544 | 1.038 | .0002 | 17.27 | .0152 | .0036 |
| #2 | -.0099 | -.0259 | 73.30 | 11.33 | 7.364 | 1.033 | -.0007 | 17.14 | .0149 | -.0039 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0074 | -.0654 | -.0025 | -.0105 | 14.17 | .0033 | .4332 | -.0046 | -.0048 | .0057 |
| Stddev | .0169 | .0308 | .0088 | .0046 | .02 | .0006 | .0028 | .0027 | .0037 | .0004 |
| %RSD | 228.0 | 47.11 | 346.6 | 43.62 | .1598 | 16.69 | .6517 | 60.15 | 77.92 | 7.379 |
| #1 | .0194 | -.0436 | -.0088 | -.0073 | 14.15 | .0037 | .4312 | -.0065 | -.0022 | .0060 |
| #2 | -.0045 | -.0871 | .0037 | -.0138 | 14.19 | .0029 | .4352 | -.0026 | -.0074 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0437 | .0265 | -.0011 |
| Stddev | .0328 | .0004 | .0002 |
| %RSD | 75.05 | 1.528 | 21.73 |
| #1 | -.0205 | .0262 | -.0013 |
| #2 | -.0669 | .0268 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57859. | 13801. |
| Stddev | 6.3 | 353. | 22. |
| %RSD | .26463 | .61039 | .15683 |
| #1 | 2383.1 | 57609. | 13786. |
| #2 | 2392.0 | 58109. | 13817. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:55:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0370 | .0116 | -.0020 | .2780 | .0411 | .0000 | 67.54 | .0006 | .0056 |
| Stddev | .0007 | .0010 | .0009 | .0034 | .0003 | .0004 | .000 | .46 | .0003 | .0004 |
| %RSD | 42.21 | 2.634 | 7.707 | 164.6 | .1184 | .9075 | 138.7 | .6872 | 55.15 | 7.027 |
| #1 | -.0023 | -.0377 | .0122 | .0003 | .2777 | .0414 | .0000 | 67.21 | .0004 | .0053 |
| #2 | -.0012 | -.0363 | .0110 | -.0044 | .2782 | .0409 | .0000 | 67.87 | .0008 | .0058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0041 | 2.109 | 14.05 | 11.78 | 12.37 | .0001 | 29.96 | .0058 | -.0016 |
| Stddev | .0007 | .0003 | .021 | .14 | .16 | .13 | .0002 | .14 | .0001 | .0013 |
| %RSD | 103.1 | 6.715 | .9732 | 1.026 | 1.365 | 1.025 | 199.5 | .4605 | 1.557 | 84.31 |
| #1 | -.0012 | -.0039 | 2.094 | 13.95 | 11.66 | 12.28 | .0003 | 29.86 | .0059 | -.0006 |
| #2 | -.0002 | -.0043 | 2.123 | 14.15 | 11.89 | 12.46 | .0000 | 30.06 | .0057 | -.0025 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0401 | .0009 | .0027 | 8.144 | -.0006 | 1.259 | -.0004 | .0055 | .0017 |
| Stddev | .0011 | .0036 | .0009 | .0010 | .001 | .0009 | .009 | .0006 | .0028 | .0004 |
| %RSD | 17.80 | 8.948 | 104.9 | 36.96 | .0164 | 138.5 | .7338 | 170.2 | 50.19 | 24.70 |
| #1 | -.0067 | .0375 | .0002 | .0034 | 8.145 | -.0012 | 1.252 | .0001 | .0075 | .0014 |
| #2 | -.0052 | .0426 | .0015 | .0020 | 8.143 | .0000 | 1.265 | -.0008 | .0036 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0073 | -.0006 |
| Stddev | .0089 | .0003 | .0009 |
| %RSD | 156.9 | 4.424 | 142.9 |
| #1 | .0119 | .0075 | .0000 |
| #2 | -.0006 | .0070 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.9 | 58207. | 13752. |
| Stddev | 3.2 | 164. | 65. |
| %RSD | .13497 | .28102 | .47152 |
| #1 | 2375.1 | 58322. | 13798. |
| #2 | 2370.6 | 58091. | 13706. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0351 | .0157 | -.0013 | .2773 | .0413 | .0002 | 67.19 | .0006 | .0059 |
| Stddev | .0006 | .0203 | .0018 | .0031 | .0000 | .0004 | .0002 | .11 | .0000 | .0004 |
| %RSD | 40.49 | 57.69 | 11.32 | 236.8 | .0117 | 1.048 | 94.35 | .1578 | 5.342 | 6.303 |
| #1 | -.0011 | -.0495 | .0144 | -.0035 | .2773 | .0410 | .0001 | 67.12 | .0006 | .0056 |
| #2 | -.0019 | -.0208 | .0169 | .0009 | .2774 | .0416 | .0004 | 67.27 | .0006 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0064 | 2.104 | 14.10 | 11.77 | 12.30 | .0002 | 29.67 | .0053 | -.0024 |
| Stddev | .0010 | .0008 | .000 | .04 | .06 | .00 | .0002 | .02 | .0002 | .0007 |
| %RSD | 98.67 | 13.13 | .0033 | .3098 | .4797 | .0165 | 78.17 | .0794 | 3.741 | 30.93 |
| #1 | -.0018 | -.0059 | 2.104 | 14.07 | 11.81 | 12.30 | .0003 | 29.65 | .0055 | -.0029 |
| #2 | -.0003 | -.0070 | 2.104 | 14.13 | 11.73 | 12.31 | .0001 | 29.68 | .0052 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0081 | .0328 | .0029 | .0027 | 8.107 | -.0003 | 1.252 | -.0001 | .0039 | .0006 |
| Stddev | .0002 | .0134 | .0000 | .0013 | .006 | .0013 | .000 | .0010 | .0022 | .0016 |
| %RSD | 2.163 | 40.80 | .0494 | 48.45 | .0702 | 472.0 | .0078 | 1317. | 56.60 | 291.3 |
| #1 | -.0082 | .0423 | .0029 | .0018 | 8.111 | -.0012 | 1.252 | -.0008 | .0023 | -.0006 |
| #2 | -.0080 | .0234 | .0029 | .0037 | 8.103 | .0007 | 1.252 | .0006 | .0054 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0122 | .0097 | -.0008 |
| Stddev | .0088 | .0004 | .0004 |
| %RSD | 72.06 | 4.136 | 53.91 |
| #1 | -.0060 | .0100 | -.0005 |
| #2 | -.0185 | .0094 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2399.7 | 58644. | 13848. |
| Stddev | .4 | 169. | 91. |
| %RSD | .01650 | .28739 | .65545 |
| #1 | 2399.5 | 58524. | 13784. |
| #2 | 2400.0 | 58763. | 13912. |

Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 17:04:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0160 | -.0500 | .0013 | .0092 | .2803 | .0389 | -.0004 | 68.78 | -.0005 | .0035 |
| Stddev | .0015 | .0277 | .0131 | .0113 | .0004 | .0003 | .0002 | .19 | .0004 | .0022 |
| %RSD | 9.362 | 55.35 | 1019. | 122.5 | .1299 | .6719 | 55.05 | .2833 | 71.23 | 62.66 |
| #1 | -.0171 | -.0695 | .0106 | .0012 | .2805 | .0391 | -.0002 | 68.64 | -.0003 | .0050 |
| #2 | -.0149 | -.0304 | -.0080 | .0172 | .2800 | .0387 | -.0005 | 68.92 | -.0008 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0052 | -.0224 | 2.076 | 14.21 | 11.78 | 12.61 | -.0007 | 30.65 | .0053 | -.0052 |
| Stddev | .0030 | .0014 | .003 | .51 | .21 | .06 | .0005 | .09 | .0017 | .0004 |
| %RSD | 57.52 | 6.242 | .1322 | 3.602 | 1.775 | .4873 | 76.25 | .3069 | 32.06 | 7.834 |
| #1 | -.0074 | -.0234 | 2.078 | 13.85 | 11.63 | 12.56 | -.0010 | 30.59 | .0041 | -.0055 |
| #2 | -.0031 | -.0214 | 2.074 | 14.57 | 11.93 | 12.65 | -.0003 | 30.72 | .0065 | -.0049 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0363 | -.0008 | -.0041 | 8.042 | .0021 | 1.237 | -.0011 | .0011 | .0049 |
| Stddev | .0030 | .0160 | .0158 | .0045 | .003 | .0032 | .002 | .0025 | .0016 | .0022 |
| %RSD | 109.8 | 44.15 | 2058. | 110.7 | .0417 | 152.0 | .1957 | 220.6 | 145.3 | 44.96 |
| #1 | .0006 | .0250 | -.0119 | -.0009 | 8.040 | .0044 | 1.235 | -.0029 | .0022 | .0033 |
| #2 | .0048 | .0477 | .0104 | -.0073 | 8.044 | -.0002 | 1.239 | .0006 | .0000 | .0064 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0293 | .0163 | .0038 |
| Stddev | .0013 | .0008 | .0017 |
| %RSD | 4.335 | 4.652 | 44.04 |
| #1 | .0302 | .0168 | .0049 |
| #2 | .0284 | .0157 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.3 | 57892. | 13814. |
| Stddev | .9 | 349. | 122. |
| %RSD | .03711 | .60310 | .88125 |
| #1 | 2386.0 | 58139. | 13900. |
| #2 | 2384.7 | 57645. | 13728. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:08:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0150 | .0328 | -.0008 | .1890 | .0111 | .0002 | 107.6 | .0007 | .0021 |
| Stddev | .0003 | .0007 | .0009 | .0023 | .0002 | .0000 | .0001 | .4 | .0001 | .0004 |
| %RSD | 29.72 | 4.478 | 2.734 | 295.5 | .0814 | .1879 | 46.47 | .4110 | 14.84 | 19.87 |
| #1 | -.0009 | -.0155 | .0322 | .0008 | .1891 | .0112 | .0002 | 107.3 | .0007 | .0018 |
| #2 | -.0013 | -.0146 | .0334 | -.0024 | .1889 | .0111 | .0001 | 107.9 | .0006 | .0024 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0044 | .4322 | 4.982 | 14.36 | 9.109 | .0012 | 27.49 | .0153 | -.0001 |
| Stddev | .0000 | .0022 | .0041 | .132 | .03 | .001 | .0003 | .13 | .0006 | .0025 |
| %RSD | 3.782 | 50.06 | .9454 | 2.641 | .2265 | .0112 | 26.33 | .4787 | 3.892 | 1658. |
| #1 | .0003 | -.0028 | .4351 | 4.889 | 14.34 | 9.108 | .0015 | 27.40 | .0149 | -.0019 |
| #2 | .0003 | -.0060 | .4294 | 5.075 | 14.39 | 9.110 | .0010 | 27.58 | .0158 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0335 | .0016 | .0023 | 10.14 | -.0004 | .5886 | .0005 | .0019 | .0013 |
| Stddev | .0007 | .0078 | .0020 | .0016 | .01 | .0005 | .0008 | .0007 | .0009 | .0014 |
| %RSD | 8.517 | 23.12 | 129.3 | 72.74 | .0505 | 135.4 | .1426 | 136.6 | 46.21 | 107.4 |
| #1 | -.0074 | .0280 | .0001 | .0011 | 10.14 | .0000 | .5880 | .0000 | .0013 | .0003 |
| #2 | -.0083 | .0390 | .0030 | .0034 | 10.14 | -.0008 | .5892 | .0010 | .0025 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0244 | -.0015 |
| Stddev | .0049 | .0004 | .0010 |
| %RSD | 89.83 | 1.578 | 68.51 |
| #1 | .0020 | .0241 | -.0008 |
| #2 | .0089 | .0247 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.3 | 58041. | 13850. |
| Stddev | 5.5 | 1. | 61. |
| %RSD | .23102 | .00253 | .43830 |
| #1 | 2384.2 | 58040. | 13893. |
| #2 | 2376.4 | 58042. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:13:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0459 | .0381 | -.0044 | .1911 | .0117 | .0005 | 109.1 | .0008 | .0012 |
| Stddev | .0003 | .0358 | .0049 | .0137 | .0005 | .0004 | .0001 | .1 | .0008 | .0005 |
| %RSD | 8.996 | 77.88 | 12.92 | 313.8 | .2820 | 3.769 | 20.55 | .1197 | 99.23 | 44.03 |
| #1 | -.0040 | -.0206 | .0416 | .0053 | .1907 | .0114 | .0004 | 109.2 | .0002 | .0008 |
| #2 | -.0035 | -.0712 | .0346 | -.0140 | .1915 | .0120 | .0006 | 109.0 | .0013 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0105 | .4231 | 5.324 | 14.64 | 9.204 | .0014 | 27.84 | .0145 | .0018 |
| Stddev | .0024 | .0028 | .0234 | .134 | .29 | .032 | .0005 | .09 | .0007 | .0011 |
| %RSD | 108.2 | 26.45 | 5.536 | 2.510 | 1.989 | .3511 | 35.77 | .3384 | 4.603 | 58.48 |
| #1 | -.0005 | -.0086 | .4396 | 5.418 | 14.43 | 9.227 | .0018 | 27.90 | .0141 | .0011 |
| #2 | -.0039 | -.0125 | .4065 | 5.229 | 14.85 | 9.181 | .0011 | 27.77 | .0150 | .0026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0150 | .0007 | .0029 | 10.11 | -.0002 | .5954 | .0024 | .0002 | .0032 |
| Stddev | .0078 | .0010 | .0018 | .0013 | .02 | .0004 | .0036 | .0006 | .0021 | .0017 |
| %RSD | 177.0 | 6.539 | 254.1 | 45.58 | .2081 | 178.5 | .5981 | 23.56 | 1230. | 53.85 |
| #1 | .0011 | .0157 | .0020 | .0020 | 10.12 | -.0006 | .5980 | .0020 | .0017 | .0020 |
| #2 | -.0099 | .0143 | -.0006 | .0039 | 10.09 | .0001 | .5929 | .0028 | -.0013 | .0044 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0099 | .0234 | -.0001 |
| Stddev | .0053 | .0002 | .0001 |
| %RSD | 52.81 | .6994 | 231.6 |
| #1 | -.0137 | .0232 | .0000 |
| #2 | -.0062 | .0235 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2375.6 | 57791. | 13866. |
| Stddev | 4.6 | 254. | 95. |
| %RSD | .19366 | .43903 | .68543 |
| #1 | 2378.8 | 57612. | 13934. |
| #2 | 2372.3 | 57970. | 13799. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:17:22 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2546 | 9.802 | 2.068 | .0007 | 1.961 | 1.956 | 1.906 | 9.892 | 2.100 | 2.163 |
| Stddev | .0005 | .006 | .007 | .0002 | .006 | .002 | .000 | .004 | .004 | .004 |
| %RSD | .1951 | .0608 | .3369 | 33.46 | .2902 | .0777 | .0216 | .0401 | .2136 | .1956 |
| #1 | .2549 | 9.806 | 2.063 | .0005 | 1.957 | 1.955 | 1.905 | 9.889 | 2.097 | 2.160 |
| #2 | .2542 | 9.798 | 2.073 | .0008 | 1.965 | 1.957 | 1.906 | 9.895 | 2.103 | 2.166 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.012 | 2.040 | 9.618 | 9.882 | 10.10 | 1.970 | 2.072 | 9.701 | 1.965 | 2.002 |
| Stddev | .007 | .005 | .004 | .005 | .08 | .006 | .005 | .031 | .004 | .005 |
| %RSD | .3499 | .2249 | .0468 | .0531 | .7657 | .2960 | .2467 | .3239 | .2070 | .2550 |
| #1 | 2.007 | 2.036 | 9.615 | 9.879 | 10.16 | 1.966 | 2.069 | 9.679 | 1.962 | 1.998 |
| #2 | 2.017 | 2.043 | 9.621 | 9.886 | 10.05 | 1.974 | 2.076 | 9.723 | 1.967 | 2.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0025 | 2.031 | 2.025 | -.0060 | 1.953 | 2.019 | 1.951 | 1.938 | 2.015 |
| Stddev | .000 | .0008 | .003 | .003 | .0005 | .006 | .000 | .001 | .008 | .008 |
| %RSD | 2357. | 30.79 | .1664 | .1459 | 8.611 | .3265 | .0057 | .0474 | .4291 | .4114 |
| #1 | .0002 | -.0030 | 2.029 | 2.023 | -.0064 | 1.948 | 2.019 | 1.950 | 1.932 | 2.009 |
| #2 | -.0002 | -.0019 | 2.034 | 2.027 | -.0056 | 1.957 | 2.019 | 1.952 | 1.944 | 2.021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | 2.065 | -.0047 |
| Stddev | .0055 | .004 | .0002 |
| %RSD | 5199. | .2084 | 4.510 |
| #1 | -.0040 | 2.062 | -.0048 |
| #2 | .0037 | 2.068 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.9 | 57862. | 13926. |
| Stddev | 7.4 | 248. | 96. |
| %RSD | .31021 | .42936 | .68993 |
| #1 | 2392.1 | 58038. | 13994. |
| #2 | 2381.7 | 57687. | 13859. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:21:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0056 | .0019 | .0010 | .0022 | .0009 | F.0009 | .0016 | .0003 |
| Stddev | .0005 | .0063 | .0009 | .0007 | .0004 | .0001 | .0000 | .0025 | .0001 |
| %RSD | 47.43 | 112.4 | 46.39 | 73.16 | 17.00 | 7.232 | 1.182 | 155.0 | 22.28 |
| #1 | -.0007 | .0011 | .0025 | .0015 | .0025 | .0008 | .0009 | -.0002 | .0004 |
| #2 | -.0013 | .0101 | .0013 | .0005 | .0019 | .0009 | .0009 | .0034 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | -.0012 | .0012 | .0675 | .0077 | .0008 | .0022 | .0061 |
| Stddev | .0003 | .0002 | .0006 | .0051 | .0346 | .0021 | .0001 | .0006 | .0091 |
| %RSD | 74.74 | 48.85 | 46.63 | 434.2 | 51.26 | 27.91 | 10.48 | 27.36 | 149.5 |
| #1 | .0007 | .0002 | -.0008 | -.0024 | .0430 | .0062 | .0009 | .0026 | .0126 |
| #2 | .0002 | .0004 | -.0016 | .0048 | .0920 | .0092 | .0007 | .0017 | -.0004 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | -.0002 | -.0039 | .0008 | .0012 | -.0076 | .0006 | .0008 |
| Stddev | .0004 | .0004 | .0005 | .0088 | .0003 | .0019 | .0005 | .0006 | .0001 |
| %RSD | 181.2 | 461.6 | 287.2 | 226.3 | 37.13 | 156.5 | 6.491 | 88.04 | 11.99 |
| #1 | .0005 | .0002 | .0002 | -.0101 | .0010 | .0026 | -.0073 | .0010 | .0009 |
| #2 | -.0001 | -.0004 | -.0006 | .0023 | .0006 | -.0001 | -.0080 | .0002 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | .0001 | .0013 | -.0017 | -.0001 | -.0002 |
| Stddev | .0000 | .0005 | .0007 | .0052 | .0002 | .0004 |
| %RSD | 2.493 | 387.1 | 53.17 | 310.3 | 390.4 | 252.3 |
| #1 | .0004 | .0005 | .0008 | .0020 | .0001 | .0001 |
| #2 | .0004 | -.0002 | .0018 | -.0054 | -.0002 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2381.0 | 57951. | 13686. |
| Stddev | 7.2 | 53. | 158. |
| %RSD | .30171 | .09154 | 1.1576 |
| #1 | 2386.1 | 57914. | 13798. |
| #2 | 2375.9 | 57989. | 13574. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:25:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0199 | -.0752 | .0509 | .0233 | .2131 | .0191 | .0022 | 113.6 | .0015 | .0015 |
| Stddev | .0160 | .0559 | .0331 | .0360 | .0043 | .0015 | .0012 | .1 | .0007 | .0049 |
| %RSD | 80.56 | 74.34 | 65.08 | 154.7 | 2.012 | 7.985 | 54.21 | .1048 | 47.11 | 335.5 |
| #1 | -.0312 | -.0357 | .0743 | -.0022 | .2161 | .0202 | .0030 | 113.7 | .0020 | .0050 |
| #2 | -.0086 | -.1147 | .0275 | .0488 | .2100 | .0180 | .0014 | 113.5 | .0010 | -.0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0112 | -.0404 | .3741 | 5.909 | 15.03 | 9.212 | .0136 | 28.46 | .0147 | -.0038 |
| Stddev | .0107 | .0046 | .0447 | .586 | .26 | .027 | .0014 | .23 | .0062 | .0053 |
| %RSD | 95.55 | 11.41 | 11.95 | 9.917 | 1.745 | .2951 | 10.39 | .8057 | 42.26 | 140.0 |
| #1 | -.0188 | -.0436 | .4057 | 6.324 | 15.21 | 9.193 | .0146 | 28.62 | .0190 | -.0075 |
| #2 | -.0036 | -.0371 | .3424 | 5.495 | 14.84 | 9.231 | .0126 | 28.30 | .0103 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0161 | -.1259 | .0070 | -.0356 | 10.12 | .0069 | .6199 | -.0066 | .0013 | .0074 |
| Stddev | .0194 | .0674 | .0109 | .0013 | .00 | .0040 | .0046 | .0023 | .0190 | .0080 |
| %RSD | 120.8 | 53.48 | 155.7 | 3.677 | .0374 | 58.29 | .7380 | 34.35 | 1431. | 107.7 |
| #1 | -.0023 | -.0783 | .0146 | -.0346 | 10.13 | .0098 | .6232 | -.0050 | .0147 | .0018 |
| #2 | -.0298 | -.1736 | -.0007 | -.0365 | 10.12 | .0041 | .6167 | -.0082 | -.0121 | .0131 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0608 | .0643 | .0037 |
| Stddev | .0396 | .0003 | .0073 |
| %RSD | 65.14 | .4515 | 194.5 |
| #1 | .0328 | .0641 | .0089 |
| #2 | .0888 | .0645 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.1 | 58376. | 13790. |
| Stddev | 2.7 | 242. | 71. |
| %RSD | .11273 | .41528 | .51806 |
| #1 | 2392.0 | 58548. | 13740. |
| #2 | 2388.2 | 58205. | 13841. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 17:30:15 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .1991 | F.0061 | .0015 | .1012 | .0507 | .0041 | 4.998 | .0043 |
| Stddev | .0011 | .0085 | .0002 | .0002 | .0005 | .0004 | .0000 | .005 | .0001 |
| %RSD | 23.27 | 4.270 | 4.043 | 12.55 | .4838 | .7365 | .5160 | .1038 | 2.534 |
| #1 | .0040 | .1931 | .0063 | .0014 | .1015 | .0504 | .0041 | 4.994 | .0043 |
| #2 | .0055 | .2051 | .0059 | .0017 | .1008 | .0510 | .0041 | 5.001 | .0044 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0554 | .0101 | .0232 | .0989 | 5.076 | 5.130 | .0158 | .1075 | 4.829 |
| Stddev | .0000 | .0004 | .0005 | .0023 | .011 | .049 | .0001 | .0001 | .001 |
| %RSD | .0152 | 3.648 | 2.051 | 2.295 | .2140 | .9504 | .6215 | .0942 | .0299 |
| #1 | .0554 | .0098 | .0235 | .0973 | 5.069 | 5.164 | .0158 | .1074 | 4.828 |
| #2 | .0554 | .0103 | .0229 | .1006 | 5.084 | 5.095 | .0157 | .1075 | 4.830 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | -.0006 | -.0094 | .0077 | .0092 | .0005 | .0999 | .0103 |
| Stddev | .0001 | .0003 | .0001 | .0074 | .0001 | .0000 | .0013 | .0003 | .0000 |
| %RSD | .3129 | 6.296 | 21.92 | 79.05 | 1.271 | .0275 | 245.9 | .3017 | .4032 |
| #1 | .0409 | .0053 | -.0005 | -.0041 | .0078 | .0092 | .0014 | .0997 | .0103 |
| #2 | .0411 | .0057 | -.0006 | -.0146 | .0076 | .0092 | -.0004 | .1001 | .0103 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0515 | .0050 | .0110 | -.0026 | .0221 | -.0002 |
| Stddev | .0003 | .0002 | .0001 | .0002 | .0001 | .0000 |
| %RSD | .5170 | 3.203 | 1.258 | 8.030 | .3998 | 9.832 |
| #1 | .0514 | .0049 | .0111 | -.0028 | .0220 | -.0002 |
| #2 | .0517 | .0051 | .0109 | -.0025 | .0222 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.0 | 58065. | 13852. |
| Stddev | 2.4 | 375. | 25. |
| %RSD | .10237 | .64519 | .18376 |
| #1 | 2388.3 | 57800. | 13834. |
| #2 | 2391.8 | 58330. | 13870. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:34:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2538 | 9.795 | 2.055 | .0003 | 1.950 | 1.950 | 1.899 | 9.847 | 2.090 | 2.150 |
| Stddev | .0003 | .018 | .000 | .0007 | .005 | .000 | .001 | .001 | .005 | .006 |
| %RSD | .1120 | .1812 | .0030 | 236.6 | .2831 | .0223 | .0368 | .0097 | .2595 | .2598 |
| #1 | .2540 | 9.782 | 2.055 | .0008 | 1.946 | 1.950 | 1.899 | 9.847 | 2.086 | 2.146 |
| #2 | .2536 | 9.807 | 2.055 | -.0002 | 1.954 | 1.950 | 1.898 | 9.848 | 2.094 | 2.154 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.002 | 2.030 | 9.585 | 9.890 | 10.12 | 1.961 | 2.062 | 9.678 | 1.955 | 1.992 |
| Stddev | .002 | .005 | .035 | .042 | .06 | .002 | .006 | .019 | .004 | .004 |
| %RSD | .1053 | .2252 | .3699 | .4289 | .6038 | .1098 | .2845 | .2003 | .2129 | .2135 |
| #1 | 2.003 | 2.026 | 9.560 | 9.860 | 10.08 | 1.963 | 2.058 | 9.692 | 1.952 | 1.989 |
| #2 | 2.000 | 2.033 | 9.611 | 9.920 | 10.16 | 1.960 | 2.066 | 9.664 | 1.958 | 1.995 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0018 | 2.021 | 2.013 | -.0106 | 1.940 | 2.014 | 1.945 | 1.931 | 2.008 |
| Stddev | .0007 | .0048 | .006 | .004 | .0005 | .003 | .003 | .002 | .007 | .002 |
| %RSD | 100.7 | 268.1 | .3105 | .1980 | 4.549 | .1480 | .1603 | .1256 | .3397 | .1002 |
| #1 | .0002 | -.0016 | 2.017 | 2.010 | -.0102 | 1.938 | 2.012 | 1.947 | 1.927 | 2.007 |
| #2 | .0012 | .0052 | 2.025 | 2.015 | -.0109 | 1.942 | 2.017 | 1.944 | 1.936 | 2.010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0015 | 2.050 | -.0048 |
| Stddev | .0005 | .004 | .0001 |
| %RSD | 34.15 | .1821 | 2.492 |
| #1 | -.0011 | 2.047 | -.0049 |
| #2 | -.0018 | 2.053 | -.0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57823. | 13810. |
| Stddev | .1 | 209. | 134. |
| %RSD | .00463 | .36064 | .96673 |
| #1 | 2387.5 | 57675. | 13904. |
| #2 | 2387.7 | 57970. | 13715. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:38:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0054 | .0012 | .0021 | .0023 | .0012 | F.0011 | .0046 | .0003 |
| Stddev | .0005 | .0037 | .0019 | .0010 | .0004 | .0001 | .0003 | .0013 | .0001 |
| %RSD | 48.69 | 68.01 | 158.8 | 46.09 | 19.62 | 9.944 | 26.10 | 28.07 | 29.74 |
| #1 | -.0006 | .0028 | .0025 | .0014 | .0026 | .0011 | .0013 | .0037 | .0004 |
| #2 | -.0013 | .0081 | -.0001 | .0028 | .0019 | .0013 | .0009 | .0055 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | -.0011 | .0029 | .0432 | .0252 | .0006 | .0024 | -.0028 |
| Stddev | .0001 | .0004 | .0001 | .0008 | .0062 | .0119 | .0001 | .0006 | .0062 |
| %RSD | 17.71 | 86.14 | 7.973 | 26.89 | 14.40 | 47.23 | 14.41 | 23.08 | 224.0 |
| #1 | .0006 | .0007 | -.0010 | .0034 | .0388 | .0168 | .0007 | .0028 | .0016 |
| #2 | .0007 | .0002 | -.0012 | .0023 | .0476 | .0337 | .0005 | .0020 | -.0072 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0002 | -.0025 | .0016 | -.0007 | -.0067 | .0008 | .0010 |
| Stddev | .0002 | .0001 | .0010 | .0035 | .0004 | .0009 | .0003 | .0002 | .0000 |
| %RSD | 39.18 | 22.02 | 563.6 | 140.7 | 23.80 | 125.1 | 4.777 | 26.19 | 4.290 |
| #1 | .0006 | .0004 | -.0005 | -.0049 | .0013 | -.0014 | -.0069 | .0010 | .0010 |
| #2 | .0004 | .0006 | .0009 | .0000 | .0018 | -.0001 | -.0064 | .0007 | .0009 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0005 | .0010 | .0013 | .0001 | .0002 | .0002 |
| Stddev | .0000 | .0001 | .0001 | .0024 | .0001 | .0003 |
| %RSD | 2.969 | 11.59 | 9.665 | 2684. | 55.31 | 115.9 |
| #1 | .0006 | .0011 | .0014 | .0018 | .0002 | .0000 |
| #2 | .0005 | .0009 | .0012 | -.0016 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2379.0 | 58344. | 13682. |
| Stddev | 3.3 | 82. | 89. |
| %RSD | .13879 | .14130 | .65076 |
| #1 | 2376.7 | 58402. | 13619. |
| #2 | 2381.4 | 58286. | 13745. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000062 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.002525 | 0.000000 | No |
| | | | Mo | 0.040763 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000039 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.001250 | 0.000000 | No |
| | | | Fe | 0.000024 | 0.000000 | No |
| | | | Mn | 0.000103 | 0.000000 | No |
| | | | Ca | 0.000007 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Cr | 0.000267 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000010 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | | Mn | 0.000128 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Fe | 0.000022 | 0.000000 | No |
| | | | | Mg | -0.000000 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000077 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000007 | 0.000000 | No |
| | | | | Cr | 0.011608 | 0.000000 | No |
| | | | | Mo | -0.004351 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000523 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | -0.000166 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000243 | 0.000000 | No |
| | | | | Mn | 0.000306 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001008 | 0.000000 | No |
| | | | | Cr | 0.000167 | 0.000000 | No |
| | | | | V | -0.025372 | 0.000000 | No |
| | | | | Co | 0.001277 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001435 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.001092 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13F06m00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\001CAL
Date Acquired: Jun 6 2013 12:52 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 05 2013 03:15 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1866858.00 | A | 4754.00 | 0.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 47.78 | P | 13.88 | 29.05 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 1254.54 | P | 60.59 | 4.83 |
| 11 | B | 32.22 | P | 10.71 | 33.24 |
| 23 | Na | 564356.38 | P | 7835.00 | 1.39 |
| 23 | Na | 61353.70 | P | 767.80 | 1.25 |
| 24 | Mg | 7746.60 | P | 203.20 | 2.62 |
| 24 | Mg | 467.80 | P | 50.59 | 10.81 |
| 27 | Al | 43189.76 | P | 1267.00 | 2.93 |
| 27 | Al | 1017.85 | P | 69.96 | 6.87 |
| 39 | K | 3893646.00 | A | 11090.00 | 0.28 |
| 44 | Ca | 39316.13 | P | 636.10 | 1.62 |
| 45 | Sc | 2710064.00 | A | 2510.00 | 0.09 |
| 45 | Sc | 305987.59 | P | 516.60 | 0.17 |
| 47 | Ti | 276.69 | P | 46.69 | 16.87 |
| 51 | V | 2682.94 | P | 71.58 | 2.67 |
| 52 | Cr | 1985.94 | P | 29.25 | 1.47 |
| 55 | Mn | 2392.67 | P | 54.73 | 2.29 |
| 56 | Fe | 43656.55 | P | 580.90 | 1.33 |
| 59 | Co | 82.67 | P | 5.81 | 7.03 |
| 60 | Ni | 200.00 | P | 12.72 | 6.36 |
| 63 | Cu | 1489.87 | P | 54.81 | 3.68 |
| 66 | Zn | 157.34 | P | 17.37 | 11.04 |
| 72 | Ge | 566431.50 | P | 4615.00 | 0.81 |
| 72 | Ge | 125863.50 | P | 256.60 | 0.20 |
| 75 | As | 97.56 | P | 8.04 | 8.24 |
| 78 | Se | 123.11 | P | 11.48 | 9.32 |
| 88 | Sr | 538.92 | P | 42.21 | 7.83 |
| 98 | Mo | 148.89 | P | 30.06 | 20.19 |
| 103 | Rh | 3235236.00 | A | 27290.00 | 0.84 |
| 107 | Ag | 164.45 | P | 31.68 | 19.26 |

C:\ICPCHEM\1\DATA\13F06m00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 5.56 | P | 1.93 | 34.65 |
| 115 | In | 3565393.00 | A | 17820.00 | 0.50 |
| 115 | In | 1111976.00 | P | 4555.00 | 0.41 |
| 118 | (In) | 543.36 | P | 76.24 | 14.03 |
| 118 | (In) | 195.56 | P | 12.62 | 6.45 |
| 120 | Sn | 707.82 | P | 36.87 | 5.21 |
| 121 | Sb | 504.47 | P | 23.65 | 4.69 |
| 137 | Ba | 602.26 | P | 45.38 | 7.54 |
| 159 | Tb | 4810382.00 | A | 22000.00 | 0.46 |
| 175 | Lu | 4719770.00 | A | 27410.00 | 0.58 |
| 205 | Tl | 1894.65 | P | 45.02 | 2.38 |
| 206 | (Pb) | 350.02 | P | 43.72 | 12.49 |
| 207 | (Pb) | 257.79 | P | 5.09 | 1.97 |
| 208 | Pb | 2155.74 | P | 95.83 | 4.45 |
| 209 | Bi | 2897618.00 | A | 22430.00 | 0.77 |

C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\002CAL
Date Acquired: Jun 6 2013 12:59 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 12:55 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1872800.00 | A | 20860.00 | 1.11 |
| 7 | (Li) | | P | | |
| 9 | Be | 58.89 | P | 19.53 | 33.16 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 1305.66 | P | 106.00 | 8.12 |
| 11 | B | 25.56 | P | 3.85 | 15.06 |
| 23 | Na | 547462.13 | P | 3660.00 | 0.67 |
| 23 | Na | 59762.47 | P | 471.50 | 0.79 |
| 24 | Mg | 7823.33 | P | 68.86 | 0.88 |
| 24 | Mg | 334.46 | P | 41.68 | 12.46 |
| 27 | Al | 43676.13 | P | 1661.00 | 3.80 |
| 27 | Al | 992.29 | P | 73.82 | 7.44 |
| 39 | K | 3832362.00 | A | 25820.00 | 0.67 |
| 44 | Ca | 37663.26 | P | 381.20 | 1.01 |
| 45 | Sc | 2694091.00 | A | 19060.00 | 0.71 |
| 45 | Sc | 307818.59 | P | 6242.00 | 2.03 |
| 47 | Ti | 224.46 | P | 35.64 | 15.88 |
| 51 | V | 2636.71 | P | 45.76 | 1.74 |
| 52 | Cr | 1777.46 | P | 64.77 | 3.64 |
| 55 | Mn | 2382.00 | P | 59.79 | 2.51 |
| 56 | Fe | 43066.94 | P | 251.70 | 0.58 |
| 59 | Co | 77.78 | P | 2.04 | 2.62 |
| 60 | Ni | 191.12 | P | 8.57 | 4.49 |
| 63 | Cu | 1467.65 | P | 65.56 | 4.47 |
| 66 | Zn | 155.78 | P | 5.39 | 3.46 |
| 72 | Ge | 562442.81 | P | 3296.00 | 0.59 |
| 72 | Ge | 127696.10 | P | 2420.00 | 1.90 |
| 75 | As | 105.11 | P | 7.34 | 6.99 |
| 78 | Se | 126.67 | P | 8.74 | 6.90 |
| 88 | Sr | 540.03 | P | 3.33 | 0.62 |
| 98 | Mo | 126.67 | P | 5.77 | 4.56 |
| 103 | Rh | 3225131.00 | A | 24430.00 | 0.76 |
| 107 | Ag | 176.67 | P | 21.86 | 12.37 |

C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 3540560.00 | A | 13820.00 | 0.39 |
| 115 | In | 1130477.00 | P | 22940.00 | 2.03 |
| 118 | (In) | 542.25 | P | 28.74 | 5.30 |
| 118 | (In) | 177.79 | P | 30.97 | 17.42 |
| 120 | Sn | 685.60 | P | 56.70 | 8.27 |
| 121 | Sb | 405.58 | P | 41.95 | 10.34 |
| 137 | Ba | 603.37 | P | 11.55 | 1.91 |
| 159 | Tb | 4800257.00 | A | 57030.00 | 1.19 |
| 175 | Lu | 4666574.00 | A | 20830.00 | 0.45 |
| 205 | Tl | 1369.01 | P | 23.66 | 1.73 |
| 206 | (Pb) | 338.91 | P | 32.03 | 9.45 |
| 207 | (Pb) | 262.23 | P | 10.71 | 4.08 |
| 208 | Pb | 2011.27 | P | 73.75 | 3.67 |
| 209 | Bi | 2883202.00 | A | 41590.00 | 1.44 |

C:\ICPCHEM\1\DATA\13F06m00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\003CALS.D\003CALS.D#
Date Acquired: Jun 6 2013 01:06 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:02 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1876030.00 | A | 12790.00 | 0.68 |
| 7 | (Li) | | P | | |
| 9 | Be | 3074.85 | P | 97.17 | 3.16 |
| 9 | Be | 136.67 | P | 14.53 | 10.63 |
| 11 | B | 2536.96 | P | 61.74 | 2.43 |
| 11 | B | 50.00 | P | 11.55 | 23.10 |
| 23 | Na | 609136.63 | P | 6155.00 | 1.01 |
| 23 | Na | 63170.58 | P | 575.50 | 0.91 |
| 24 | Mg | 25450.21 | P | 609.60 | 2.40 |
| 24 | Mg | 1282.31 | P | 44.39 | 3.46 |
| 27 | Al | 43260.99 | P | 797.60 | 1.84 |
| 27 | Al | 1074.53 | P | 16.78 | 1.56 |
| 39 | K | 3859143.00 | A | 21010.00 | 0.54 |
| 44 | Ca | 42922.35 | P | 322.60 | 0.75 |
| 45 | Sc | 2636451.00 | A | 62070.00 | 2.35 |
| 45 | Sc | 304683.41 | P | 1246.00 | 0.41 |
| 47 | Ti | 1455.68 | P | 53.37 | 3.67 |
| 51 | V | 6274.24 | P | 133.90 | 2.13 |
| 52 | Cr | 5628.21 | P | 85.74 | 1.52 |
| 55 | Mn | 4958.20 | P | 130.50 | 2.63 |
| 56 | Fe | 29913.39 | P | 243.70 | 0.81 |
| 59 | Co | 5421.92 | P | 73.35 | 1.35 |
| 60 | Ni | 1674.78 | P | 26.77 | 1.60 |
| 63 | Cu | 4911.08 | P | 70.15 | 1.43 |
| 66 | Zn | 1169.83 | P | 15.78 | 1.35 |
| 72 | Ge | 556516.13 | P | 7176.00 | 1.29 |
| 72 | Ge | 126108.60 | P | 550.30 | 0.44 |
| 75 | As | 590.90 | P | 6.84 | 1.16 |
| 78 | Se | 184.00 | P | 6.96 | 3.78 |
| 88 | Sr | 22295.01 | P | 356.70 | 1.60 |
| 98 | Mo | 5784.65 | P | 90.76 | 1.57 |
| 103 | Rh | 3157731.00 | A | 54490.00 | 1.73 |
| 107 | Ag | 9417.75 | P | 135.10 | 1.43 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 928.95 | P | 21.43 | 2.31 |
| 115 | In | 3514589.00 | A | 40820.00 | 1.16 |
| 115 | In | 1117322.00 | P | 4453.00 | 0.40 |
| 118 | (In) | 6510.57 | P | 194.90 | 2.99 |
| 118 | (In) | 2110.23 | P | 92.63 | 4.39 |
| 120 | Sn | 8918.57 | P | 231.30 | 2.59 |
| 121 | Sb | 8449.39 | P | 129.20 | 1.53 |
| 137 | Ba | 3620.58 | P | 141.90 | 3.92 |
| 159 | Tb | 4775800.00 | A | 38380.00 | 0.80 |
| 175 | Lu | 4652328.00 | A | 64350.00 | 1.38 |
| 205 | Tl | 14997.51 | P | 530.80 | 3.54 |
| 206 | (Pb) | 6920.87 | P | 155.60 | 2.25 |
| 207 | (Pb) | 5863.69 | P | 164.00 | 2.80 |
| 208 | Pb | 27942.28 | P | 309.50 | 1.11 |
| 209 | Bi | 2852982.00 | A | 38480.00 | 1.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1876029.80 | 0.68 | 1872799.80 | 100.2 | 70 - 130 | |
| 45 | Sc | 2636450.80 | 2.35 | 2694090.50 | 97.9 | 70 - 130 | |
| 45 | Sc | 304683.41 | 0.41 | 307818.59 | 99.0 | 70 - 130 | |
| 72 | Ge | 556516.13 | 1.29 | 562442.81 | 98.9 | 70 - 130 | |
| 72 | Ge | 126108.55 | 0.44 | 127696.13 | 98.8 | 70 - 130 | |
| 103 | Rh | 3157731.50 | 1.73 | 3225130.50 | 97.9 | 70 - 130 | |
| 115 | In | 3514588.80 | 1.16 | 3540560.30 | 99.3 | 70 - 130 | |
| 115 | In | 1117322.10 | 0.40 | 1130476.90 | 98.8 | 70 - 130 | |
| 159 | Tb | 4775800.00 | 0.80 | 4800257.00 | 99.5 | 70 - 130 | |
| 175 | Lu | 4652328.50 | 1.38 | 4666573.50 | 99.7 | 70 - 130 | |
| 209 | Bi | 2852981.80 | 1.35 | 2883202.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#
Date Acquired: Jun 6 2013 01:13 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:09 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1887210.00 | A | 11890.00 | 0.63 |
| 7 | (Li) | | P | | |
| 9 | Be | 30849.50 | P | 468.50 | 1.52 |
| 9 | Be | 1264.54 | P | 40.05 | 3.17 |
| 11 | B | 19709.41 | P | 430.60 | 2.18 |
| 11 | B | 452.24 | P | 8.39 | 1.85 |
| 23 | Na | 716865.38 | P | 9215.00 | 1.29 |
| 23 | Na | 69740.62 | P | 683.20 | 0.98 |
| 24 | Mg | 114697.80 | P | 954.50 | 0.83 |
| 24 | Mg | 5781.25 | P | 252.60 | 4.37 |
| 27 | Al | 157150.00 | P | 1313.00 | 0.84 |
| 27 | Al | 3802.81 | P | 127.10 | 3.34 |
| 39 | K | 3983392.00 | A | 24620.00 | 0.62 |
| 44 | Ca | 46153.03 | P | 195.80 | 0.42 |
| 45 | Sc | 2698951.00 | A | 12200.00 | 0.45 |
| 45 | Sc | 305378.69 | P | 536.50 | 0.18 |
| 47 | Ti | 11584.71 | P | 72.23 | 0.62 |
| 51 | V | 36747.75 | P | 420.80 | 1.15 |
| 52 | Cr | 39645.68 | P | 166.50 | 0.42 |
| 55 | Mn | 30923.19 | P | 383.10 | 1.24 |
| 56 | Fe | 60709.96 | P | 319.50 | 0.53 |
| 59 | Co | 52676.45 | P | 97.69 | 0.19 |
| 60 | Ni | 13454.49 | P | 124.60 | 0.93 |
| 63 | Cu | 35136.41 | P | 36.94 | 0.11 |
| 66 | Zn | 6734.41 | P | 85.01 | 1.26 |
| 72 | Ge | 558267.31 | P | 4495.00 | 0.81 |
| 72 | Ge | 126038.10 | P | 940.90 | 0.75 |
| 75 | As | 4867.92 | P | 18.75 | 0.39 |
| 78 | Se | 681.13 | P | 8.15 | 1.20 |
| 88 | Sr | 210886.50 | P | 661.60 | 0.31 |
| 98 | Mo | 56746.63 | P | 209.20 | 0.37 |
| 103 | Rh | 3242975.00 | A | 12790.00 | 0.39 |
| 107 | Ag | 93541.33 | P | 926.30 | 0.99 |

C:\ICPCHEM\1\DATA\13F06m00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8160.32 | P | 112.20 | 1.37 |
| 115 | In | 3533330.00 | A | 8854.00 | 0.25 |
| 115 | In | 1106318.00 | P | 6075.00 | 0.55 |
| 118 | (In) | 59429.66 | P | 306.10 | 0.52 |
| 118 | (In) | 19787.24 | P | 294.90 | 1.49 |
| 120 | Sn | 82252.64 | P | 785.50 | 0.95 |
| 121 | Sb | 80325.40 | P | 799.80 | 1.00 |
| 137 | Ba | 30436.00 | P | 464.70 | 1.53 |
| 159 | Tb | 4826929.00 | A | 42210.00 | 0.87 |
| 175 | Lu | 4727257.00 | A | 17950.00 | 0.38 |
| 205 | Tl | 149733.41 | P | 1703.00 | 1.14 |
| 206 | (Pb) | 60103.37 | P | 591.70 | 0.98 |
| 207 | (Pb) | 50256.64 | P | 210.60 | 0.42 |
| 208 | Pb | 234231.41 | P | 1075.00 | 0.46 |
| 209 | Bi | 2903210.00 | A | 17100.00 | 0.59 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1887209.80 | 0.63 | 1872799.80 | 100.8 | 70 - 130 | |
| 45 | Sc | 2698951.00 | 0.45 | 2694090.50 | 100.2 | 70 - 130 | |
| 45 | Sc | 305378.72 | 0.18 | 307818.59 | 99.2 | 70 - 130 | |
| 72 | Ge | 558267.31 | 0.81 | 562442.81 | 99.3 | 70 - 130 | |
| 72 | Ge | 126038.13 | 0.75 | 127696.13 | 98.7 | 70 - 130 | |
| 103 | Rh | 3242974.80 | 0.39 | 3225130.50 | 100.6 | 70 - 130 | |
| 115 | In | 3533330.30 | 0.25 | 3540560.30 | 99.8 | 70 - 130 | |
| 115 | In | 1106317.60 | 0.55 | 1130476.90 | 97.9 | 70 - 130 | |
| 159 | Tb | 4826928.50 | 0.87 | 4800257.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 4727257.50 | 0.38 | 4666573.50 | 101.3 | 70 - 130 | |
| 209 | Bi | 2903209.80 | 0.59 | 2883202.00 | 100.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#
Date Acquired: Jun 6 2013 01:20 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:17 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1932279.00 | A | 31460.00 | 1.63 |
| 7 | (Li) | | P | | |
| 9 | Be | 149575.30 | P | 937.00 | 0.63 |
| 9 | Be | 6186.96 | P | 55.83 | 0.90 |
| 11 | B | 95381.82 | P | 521.30 | 0.55 |
| 11 | B | 2166.89 | P | 97.37 | 4.49 |
| 23 | Na | 1373901.00 | A | 11340.00 | 0.83 |
| 23 | Na | 109264.10 | P | 1014.00 | 0.93 |
| 24 | Mg | 514714.69 | P | 5082.00 | 0.99 |
| 24 | Mg | 25615.95 | P | 141.30 | 0.55 |
| 27 | Al | 658479.13 | P | 10310.00 | 1.57 |
| 27 | Al | 16037.57 | P | 422.00 | 2.63 |
| 39 | K | 4519961.00 | A | 14580.00 | 0.32 |
| 44 | Ca | 67728.52 | P | 962.00 | 1.42 |
| 45 | Sc | 2764715.00 | A | 46410.00 | 1.68 |
| 45 | Sc | 305177.59 | P | 1595.00 | 0.52 |
| 47 | Ti | 56166.42 | P | 1195.00 | 2.13 |
| 51 | V | 171407.80 | P | 142.00 | 0.08 |
| 52 | Cr | 189211.91 | P | 1295.00 | 0.68 |
| 55 | Mn | 148567.80 | P | 551.60 | 0.37 |
| 56 | Fe | 198477.59 | P | 1192.00 | 0.60 |
| 59 | Co | 259319.20 | P | 2981.00 | 1.15 |
| 60 | Ni | 65140.36 | P | 469.60 | 0.72 |
| 63 | Cu | 165822.59 | P | 540.90 | 0.33 |
| 66 | Zn | 31725.48 | P | 115.30 | 0.36 |
| 72 | Ge | 562705.69 | P | 9477.00 | 1.68 |
| 72 | Ge | 125520.10 | P | 301.40 | 0.24 |
| 75 | As | 23363.54 | P | 114.40 | 0.49 |
| 78 | Se | 2857.17 | P | 28.70 | 1.00 |
| 88 | Sr | 1025375.00 | P | 11960.00 | 1.17 |
| 98 | Mo | 276117.41 | P | 717.20 | 0.26 |
| 103 | Rh | 3280628.00 | A | 53850.00 | 1.64 |
| 107 | Ag | 450887.19 | P | 8603.00 | 1.91 |

C:\ICPCHEM\1\DATA\13F06m00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40950.75 | P | 63.62 | 0.16 |
| 115 | In | 3621348.00 | A | 67100.00 | 1.85 |
| 115 | In | 1098779.00 | P | 2398.00 | 0.22 |
| 118 | (In) | 286148.31 | P | 2704.00 | 0.94 |
| 118 | (In) | 97472.56 | P | 919.80 | 0.94 |
| 120 | Sn | 397456.91 | P | 8277.00 | 2.08 |
| 121 | Sb | 378877.19 | P | 5110.00 | 1.35 |
| 137 | Ba | 146050.80 | P | 2426.00 | 1.66 |
| 159 | Tb | 4932978.00 | A | 118000.00 | 2.39 |
| 175 | Lu | 4821680.00 | A | 88370.00 | 1.83 |
| 205 | Tl | 789119.50 | P | 7081.00 | 0.90 |
| 206 | (Pb) | 287851.31 | P | 4301.00 | 1.49 |
| 207 | (Pb) | 242051.50 | P | 2543.00 | 1.05 |
| 208 | Pb | 1122355.00 | P | 14380.00 | 1.28 |
| 209 | Bi | 2967401.00 | A | 61610.00 | 2.08 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1932278.80 | 1.63 | 1872799.80 | 103.2 | 70 - 130 | |
| 45 | Sc | 2764715.00 | 1.68 | 2694090.50 | 102.6 | 70 - 130 | |
| 45 | Sc | 305177.59 | 0.52 | 307818.59 | 99.1 | 70 - 130 | |
| 72 | Ge | 562705.69 | 1.68 | 562442.81 | 100.0 | 70 - 130 | |
| 72 | Ge | 125520.06 | 0.24 | 127696.13 | 98.3 | 70 - 130 | |
| 103 | Rh | 3280627.80 | 1.64 | 3225130.50 | 101.7 | 70 - 130 | |
| 115 | In | 3621348.30 | 1.85 | 3540560.30 | 102.3 | 70 - 130 | |
| 115 | In | 1098778.60 | 0.22 | 1130476.90 | 97.2 | 70 - 130 | |
| 159 | Tb | 4932978.00 | 2.39 | 4800257.00 | 102.8 | 70 - 130 | |
| 175 | Lu | 4821679.50 | 1.83 | 4666573.50 | 103.3 | 70 - 130 | |
| 209 | Bi | 2967401.00 | 2.08 | 2883202.00 | 102.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#
Date Acquired: Jun 6 2013 01:27 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1880111.00 | A | 14380.00 | 0.76 |
| 7 | (Li) | | P | | |
| 9 | Be | 302646.09 | P | 1611.00 | 0.53 |
| 9 | Be | 12597.59 | P | 128.50 | 1.02 |
| 11 | B | 191501.70 | P | 1139.00 | 0.59 |
| 11 | B | 4370.75 | P | 108.40 | 2.48 |
| 23 | Na | 2235105.00 | A | 10090.00 | 0.45 |
| 23 | Na | 159997.00 | P | 1071.00 | 0.67 |
| 24 | Mg | 1041667.00 | A | 8560.00 | 0.82 |
| 24 | Mg | 52105.91 | P | 231.30 | 0.44 |
| 27 | Al | 1346443.00 | A | 8432.00 | 0.63 |
| 27 | Al | 31790.72 | P | 247.50 | 0.78 |
| 39 | K | 5308674.00 | A | 20420.00 | 0.38 |
| 44 | Ca | 129146.00 | P | 1455.00 | 1.13 |
| 45 | Sc | 2672475.00 | A | 14400.00 | 0.54 |
| 45 | Sc | 299204.81 | P | 1359.00 | 0.45 |
| 47 | Ti | 114309.80 | P | 655.60 | 0.57 |
| 51 | V | 341182.91 | P | 1033.00 | 0.30 |
| 52 | Cr | 377777.81 | P | 1291.00 | 0.34 |
| 55 | Mn | 295112.09 | P | 1137.00 | 0.39 |
| 56 | Fe | 379160.81 | P | 1687.00 | 0.44 |
| 59 | Co | 517049.91 | P | 212.70 | 0.04 |
| 60 | Ni | 130216.70 | P | 546.20 | 0.42 |
| 63 | Cu | 329392.50 | P | 799.80 | 0.24 |
| 66 | Zn | 65289.76 | P | 515.80 | 0.79 |
| 72 | Ge | 547599.63 | P | 2575.00 | 0.47 |
| 72 | Ge | 123382.90 | P | 694.60 | 0.56 |
| 75 | As | 46800.17 | P | 64.21 | 0.14 |
| 78 | Se | 5601.07 | P | 82.93 | 1.48 |
| 88 | Sr | 2061582.00 | A | 4285.00 | 0.21 |
| 98 | Mo | 558024.31 | P | 4110.00 | 0.74 |
| 103 | Rh | 3215940.00 | A | 11140.00 | 0.35 |
| 107 | Ag | 919971.19 | P | 8939.00 | 0.97 |

C:\ICPCHEM\1\DATA\13F06m00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 81985.53 | P | 545.40 | 0.67 |
| 115 | In | 3509252.00 | A | 11660.00 | 0.33 |
| 115 | In | 1078749.00 | P | 10970.00 | 1.02 |
| 118 | (In) | 581573.38 | P | 2595.00 | 0.45 |
| 118 | (In) | 196606.70 | P | 1650.00 | 0.84 |
| 120 | Sn | 803880.38 | P | 4992.00 | 0.62 |
| 121 | Sb | 760144.50 | P | 4569.00 | 0.60 |
| 137 | Ba | 295039.41 | P | 2862.00 | 0.97 |
| 159 | Tb | 4812180.00 | A | 38890.00 | 0.81 |
| 175 | Lu | 4691269.00 | A | 32110.00 | 0.68 |
| 205 | Tl | 1639109.00 | A | 18630.00 | 1.14 |
| 206 | (Pb) | 584475.38 | P | 2549.00 | 0.44 |
| 207 | (Pb) | 494429.69 | P | 1093.00 | 0.22 |
| 208 | Pb | 2281573.00 | P | 5065.00 | 0.22 |
| 209 | Bi | 2858018.00 | A | 18370.00 | 0.64 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1880111.40 | 0.76 | 1872799.80 | 100.4 | 70 - 130 | |
| 45 | Sc | 2672474.80 | 0.54 | 2694090.50 | 99.2 | 70 - 130 | |
| 45 | Sc | 299204.84 | 0.45 | 307818.59 | 97.2 | 70 - 130 | |
| 72 | Ge | 547599.63 | 0.47 | 562442.81 | 97.4 | 70 - 130 | |
| 72 | Ge | 123382.90 | 0.56 | 127696.13 | 96.6 | 70 - 130 | |
| 103 | Rh | 3215939.80 | 0.35 | 3225130.50 | 99.7 | 70 - 130 | |
| 115 | In | 3509252.00 | 0.33 | 3540560.30 | 99.1 | 70 - 130 | |
| 115 | In | 1078748.50 | 1.02 | 1130476.90 | 95.4 | 70 - 130 | |
| 159 | Tb | 4812180.50 | 0.81 | 4800257.00 | 100.2 | 70 - 130 | |
| 175 | Lu | 4691269.00 | 0.68 | 4666573.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2858017.80 | 0.64 | 2883202.00 | 99.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#
Date Acquired: Jun 6 2013 01:34 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:32 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1898222.00 | A | 50260.00 | 2.65 |
| 7 | (Li) | | P | | |
| 9 | Be | 609044.00 | P | 8864.00 | 1.46 |
| 9 | Be | 25039.34 | P | 151.50 | 0.61 |
| 11 | B | 387898.91 | P | 3450.00 | 0.89 |
| 11 | B | 9029.53 | P | 113.00 | 1.25 |
| 23 | Na | 3502635.00 | A | 73760.00 | 2.11 |
| 23 | Na | 238136.91 | P | 1906.00 | 0.80 |
| 24 | Mg | 2043471.00 | A | 23970.00 | 1.17 |
| 24 | Mg | 102720.40 | P | 102.30 | 0.10 |
| 27 | Al | 2537196.00 | A | 22730.00 | 0.90 |
| 27 | Al | 60847.80 | P | 1038.00 | 1.71 |
| 39 | K | 6517827.00 | A | 88320.00 | 1.36 |
| 44 | Ca | 149852.20 | P | 1718.00 | 1.15 |
| 45 | Sc | 2705025.00 | A | 20430.00 | 0.76 |
| 45 | Sc | 301222.19 | P | 2855.00 | 0.95 |
| 47 | Ti | 228954.50 | P | 2317.00 | 1.01 |
| 51 | V | 678191.19 | P | 1488.00 | 0.22 |
| 52 | Cr | 753869.88 | P | 3074.00 | 0.41 |
| 55 | Mn | 589792.31 | P | 4843.00 | 0.82 |
| 56 | Fe | 719503.69 | P | 4116.00 | 0.57 |
| 59 | Co | 1032874.00 | P | 913.60 | 0.09 |
| 60 | Ni | 258809.20 | P | 834.00 | 0.32 |
| 63 | Cu | 656544.38 | P | 2756.00 | 0.42 |
| 66 | Zn | 125232.00 | P | 586.80 | 0.47 |
| 72 | Ge | 551164.63 | P | 10060.00 | 1.83 |
| 72 | Ge | 123902.40 | P | 914.80 | 0.74 |
| 75 | As | 93209.34 | P | 507.80 | 0.54 |
| 78 | Se | 10892.18 | P | 130.70 | 1.20 |
| 88 | Sr | 4033401.00 | A | 23400.00 | 0.58 |
| 98 | Mo | 1124763.00 | P | 5414.00 | 0.48 |
| 103 | Rh | 3227053.00 | A | 21980.00 | 0.68 |
| 107 | Ag | 1812240.00 | A | 8861.00 | 0.49 |

C:\ICPCHEM\1\DATA\13F06m00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 161839.09 | P | 819.50 | 0.51 |
| 115 | In | 3545162.00 | A | 25370.00 | 0.72 |
| 115 | In | 1075216.00 | P | 14770.00 | 1.37 |
| 118 | (In) | 1163585.00 | P | 14930.00 | 1.28 |
| 118 | (In) | 391320.00 | P | 1513.00 | 0.39 |
| 120 | Sn | 1605118.00 | A | 6485.00 | 0.40 |
| 121 | Sb | 1482147.00 | A | 8267.00 | 0.56 |
| 137 | Ba | 585927.69 | P | 7213.00 | 1.23 |
| 159 | Tb | 4814434.00 | A | 57570.00 | 1.20 |
| 175 | Lu | 4707696.00 | A | 67820.00 | 1.44 |
| 205 | Tl | 3265889.00 | A | 9982.00 | 0.31 |
| 206 | (Pb) | 1163228.00 | P | 11130.00 | 0.96 |
| 207 | (Pb) | 979822.13 | P | 12980.00 | 1.32 |
| 208 | Pb | 4458663.00 | A | 40360.00 | 0.91 |
| 209 | Bi | 2898726.00 | A | 55350.00 | 1.91 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1898221.60 | 2.65 | 1872799.80 | 101.4 | 70 - 130 | |
| 45 | Sc | 2705025.30 | 0.76 | 2694090.50 | 100.4 | 70 - 130 | |
| 45 | Sc | 301222.16 | 0.95 | 307818.59 | 97.9 | 70 - 130 | |
| 72 | Ge | 551164.63 | 1.83 | 562442.81 | 98.0 | 70 - 130 | |
| 72 | Ge | 123902.37 | 0.74 | 127696.13 | 97.0 | 70 - 130 | |
| 103 | Rh | 3227052.80 | 0.68 | 3225130.50 | 100.1 | 70 - 130 | |
| 115 | In | 3545161.50 | 0.72 | 3540560.30 | 100.1 | 70 - 130 | |
| 115 | In | 1075215.90 | 1.37 | 1130476.90 | 95.1 | 70 - 130 | |
| 159 | Tb | 4814433.50 | 1.20 | 4800257.00 | 100.3 | 70 - 130 | |
| 175 | Lu | 4707696.00 | 1.44 | 4666573.50 | 100.9 | 70 - 130 | |
| 209 | Bi | 2898726.00 | 1.91 | 2883202.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#
Date Acquired: Jun 6 2013 01:41 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:38 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1907516.00 | A | 16940.00 | 0.89 |
| 7 | (Li) | | P | | |
| 9 | Be | 131.12 | P | 30.97 | 23.62 |
| 9 | Be | 6.67 | P | 6.67 | 100.00 |
| 11 | B | 2269.13 | P | 154.60 | 6.81 |
| 11 | B | 52.22 | P | 10.71 | 20.51 |
| 23 | Na | 29166900.00 | A | 158600.00 | 0.54 |
| 23 | Na | 1770444.00 | A | 6342.00 | 0.36 |
| 24 | Mg | 19280690.00 | A | 46310.00 | 0.24 |
| 24 | Mg | 1010275.00 | P | 6428.00 | 0.64 |
| 27 | Al | 24403630.00 | A | 56550.00 | 0.23 |
| 27 | Al | 616265.19 | P | 2233.00 | 0.36 |
| 39 | K | 30498210.00 | A | 181200.00 | 0.59 |
| 44 | Ca | 887525.38 | P | 3214.00 | 0.36 |
| 45 | Sc | 2699887.00 | A | 8113.00 | 0.30 |
| 45 | Sc | 306804.41 | P | 733.70 | 0.24 |
| 47 | Ti | 285.57 | P | 54.81 | 19.19 |
| 51 | V | 2619.81 | P | 34.81 | 1.33 |
| 52 | Cr | 1667.67 | P | 13.49 | 0.81 |
| 55 | Mn | 1567.21 | P | 98.44 | 6.28 |
| 56 | Fe | 6577851.00 | A | 53220.00 | 0.81 |
| 59 | Co | 284.01 | P | 9.61 | 3.39 |
| 60 | Ni | 293.78 | P | 11.95 | 4.07 |
| 63 | Cu | 1568.55 | P | 93.62 | 5.97 |
| 66 | Zn | 251.34 | P | 12.98 | 5.16 |
| 72 | Ge | 563371.69 | P | 3052.00 | 0.54 |
| 72 | Ge | 126535.50 | P | 420.60 | 0.33 |
| 75 | As | 115.33 | P | 2.67 | 2.31 |
| 78 | Se | 129.78 | P | 11.24 | 8.66 |
| 88 | Sr | 2448.07 | P | 122.20 | 4.99 |
| 98 | Mo | 4012.90 | P | 31.00 | 0.77 |
| 103 | Rh | 3170036.00 | A | 15640.00 | 0.49 |
| 107 | Ag | 448.91 | P | 29.12 | 6.49 |

C:\ICPCHEM\1\DATA\13F06m00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 21.11 | P | 1.93 | 9.12 |
| 115 | In | 3543432.00 | A | 27290.00 | 0.77 |
| 115 | In | 1107099.00 | P | 5693.00 | 0.51 |
| 118 | (In) | 2136.90 | P | 177.90 | 8.33 |
| 118 | (In) | 988.96 | P | 75.75 | 7.66 |
| 120 | Sn | 3028.20 | P | 262.70 | 8.68 |
| 121 | Sb | 4180.74 | P | 268.60 | 6.42 |
| 137 | Ba | 638.93 | P | 17.11 | 2.68 |
| 159 | Tb | 4764727.00 | A | 27650.00 | 0.58 |
| 175 | Lu | 4654503.00 | A | 36960.00 | 0.79 |
| 205 | Tl | 6651.84 | P | 144.50 | 2.17 |
| 206 | (Pb) | 387.80 | P | 38.64 | 9.96 |
| 207 | (Pb) | 351.13 | P | 5.09 | 1.45 |
| 208 | Pb | 2362.42 | P | 18.95 | 0.80 |
| 209 | Bi | 2852993.00 | A | 34100.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1907515.80 | 0.89 | 1872799.80 | 101.9 | 70 - 130 | |
| 45 | Sc | 2699887.00 | 0.30 | 2694090.50 | 100.2 | 70 - 130 | |
| 45 | Sc | 306804.41 | 0.24 | 307818.59 | 99.7 | 70 - 130 | |
| 72 | Ge | 563371.69 | 0.54 | 562442.81 | 100.2 | 70 - 130 | |
| 72 | Ge | 126535.48 | 0.33 | 127696.13 | 99.1 | 70 - 130 | |
| 103 | Rh | 3170035.80 | 0.49 | 3225130.50 | 98.3 | 70 - 130 | |
| 115 | In | 3543432.50 | 0.77 | 3540560.30 | 100.1 | 70 - 130 | |
| 115 | In | 1107099.60 | 0.51 | 1130476.90 | 97.9 | 70 - 130 | |
| 159 | Tb | 4764727.50 | 0.58 | 4800257.00 | 99.3 | 70 - 130 | |
| 175 | Lu | 4654503.00 | 0.79 | 4666573.50 | 99.7 | 70 - 130 | |
| 209 | Bi | 2852993.50 | 1.20 | 2883202.00 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#
Date Acquired: Jun 6 2013 01:48 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 06 2013 01:45 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858814.00 | A | 14180.00 | 0.76 |
| 7 | (Li) | | P | | |
| 9 | Be | 87.78 | P | 7.70 | 8.77 |
| 9 | Be | 2.22 | P | 3.85 | 173.19 |
| 11 | B | 1282.33 | P | 19.26 | 1.50 |
| 11 | B | 27.78 | P | 8.39 | 30.20 |
| 23 | Na | 281856900.00 | A | 706300.00 | 0.25 |
| 23 | Na | 16288820.00 | A | 136800.00 | 0.84 |
| 24 | Mg | 189049700.00 | A | 333200.00 | 0.18 |
| 24 | Mg | 9168579.00 | A | 85960.00 | 0.94 |
| 27 | Al | 240771600.00 | A | 318700.00 | 0.13 |
| 27 | Al | 5633067.00 | A | 55280.00 | 0.98 |
| 39 | K | 266287200.00 | A | 885700.00 | 0.33 |
| 44 | Ca | 7894927.00 | A | 44000.00 | 0.56 |
| 45 | Sc | 2721220.00 | A | 11690.00 | 0.43 |
| 45 | Sc | 302482.59 | P | 23430.00 | 7.75 |
| 47 | Ti | 233.34 | P | 37.86 | 16.23 |
| 51 | V | 2706.94 | P | 72.76 | 2.69 |
| 52 | Cr | 2394.44 | P | 22.01 | 0.92 |
| 55 | Mn | 2681.61 | P | 53.19 | 1.98 |
| 56 | Fe | 63407088.00 | A | 315600.00 | 0.50 |
| 59 | Co | 1587.22 | P | 56.77 | 3.58 |
| 60 | Ni | 662.69 | P | 34.64 | 5.23 |
| 63 | Cu | 1729.01 | P | 24.01 | 1.39 |
| 66 | Zn | 848.47 | P | 24.23 | 2.86 |
| 72 | Ge | 575199.50 | P | 1687.00 | 0.29 |
| 72 | Ge | 125141.80 | P | 8980.00 | 7.18 |
| 75 | As | 125.33 | P | 5.46 | 4.35 |
| 78 | Se | 130.89 | P | 5.09 | 3.89 |
| 88 | Sr | 16746.50 | P | 104.90 | 0.63 |
| 98 | Mo | 1213.43 | P | 37.57 | 3.10 |
| 103 | Rh | 3112281.00 | A | 29860.00 | 0.96 |
| 107 | Ag | 987.85 | P | 105.40 | 10.67 |

C:\ICPCHEM\1\DATA\13F06m00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 17.78 | P | 7.70 | 43.30 |
| 115 | In | 3447678.00 | A | 19310.00 | 0.56 |
| 115 | In | 1040019.00 | M | 54680.00 | 5.26 |
| 118 | (In) | 882.28 | P | 17.11 | 1.94 |
| 118 | (In) | 391.13 | P | 43.38 | 11.09 |
| 120 | Sn | 1167.87 | P | 137.50 | 11.77 |
| 121 | Sb | 1927.98 | P | 68.68 | 3.56 |
| 137 | Ba | 1138.98 | P | 106.30 | 9.33 |
| 159 | Tb | 4783142.00 | A | 25710.00 | 0.54 |
| 175 | Lu | 4659000.00 | A | 35540.00 | 0.76 |
| 205 | Tl | 2901.51 | P | 93.43 | 3.22 |
| 206 | (Pb) | 427.80 | P | 25.24 | 5.90 |
| 207 | (Pb) | 385.58 | P | 13.88 | 3.60 |
| 208 | Pb | 2535.78 | P | 95.84 | 3.78 |
| 209 | Bi | 2705850.00 | A | 6293.00 | 0.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858813.90 | 0.76 | 1872799.80 | 99.3 | 70 - 130 | |
| 45 | Sc | 2721220.50 | 0.43 | 2694090.50 | 101.0 | 70 - 130 | |
| 45 | Sc | 302482.66 | 7.75 | 307818.59 | 98.3 | 70 - 130 | |
| 72 | Ge | 575199.50 | 0.29 | 562442.81 | 102.3 | 70 - 130 | |
| 72 | Ge | 125141.81 | 7.18 | 127696.13 | 98.0 | 70 - 130 | |
| 103 | Rh | 3112281.00 | 0.96 | 3225130.50 | 96.5 | 70 - 130 | |
| 115 | In | 3447677.80 | 0.56 | 3540560.30 | 97.4 | 70 - 130 | |
| 115 | In | 1040019.10 | 5.26 | 1130476.90 | 92.0 | 70 - 130 | |
| 159 | Tb | 4783142.50 | 0.54 | 4800257.00 | 99.6 | 70 - 130 | |
| 175 | Lu | 4659000.50 | 0.76 | 4666573.50 | 99.8 | 70 - 130 | |
| 209 | Bi | 2705849.80 | 0.23 | 2883202.00 | 93.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#
Date Acquired: Jun 6 2013 01:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 61.27 | 61.27 | ppb | 0.34 | 900.00 | |
| 9 Be | 45 | 2 | 57.50 | 57.50 | ppb | 8.60 | 900.00 | |
| 11 B | 6 | 1 | 59.92 | 59.92 | ppb | 0.14 | 900.00 | |
| 11 B | 45 | 2 | 53.87 | 53.87 | ppb | 4.62 | 900.00 | |
| 23 Na | 45 | 1 | 5446.00 | 5446.00 | ppb | 0.11 | 90000.00 | |
| 23 Na | 45 | 2 | 5090.00 | 5090.00 | ppb | 8.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 5492.00 | 5492.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 5187.00 | 5187.00 | ppb | 8.17 | 90000.00 | |
| 27 Al | 45 | 1 | 5579.00 | 5579.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 5323.00 | 5323.00 | ppb | 8.88 | 90000.00 | |
| 39 K | 45 | 1 | 5503.00 | 5503.00 | ppb | 0.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 5521.00 | 5521.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 61.10 | 61.10 | ppb | 0.58 | 900.00 | |
| 51 V | 45 | 2 | 57.64 | 57.64 | ppb | 8.58 | 900.00 | |
| 52 Cr | 45 | 2 | 56.27 | 56.27 | ppb | 9.02 | 900.00 | |
| 55 Mn | 45 | 2 | 56.23 | 56.23 | ppb | 8.32 | 900.00 | |
| 56 Fe | 45 | 2 | 5116.00 | 5116.00 | ppb | 8.06 | 90000.00 | |
| 59 Co | 45 | 2 | 55.88 | 55.88 | ppb | 8.53 | 900.00 | |
| 60 Ni | 45 | 2 | 55.93 | 55.93 | ppb | 8.77 | 900.00 | |
| 63 Cu | 72 | 2 | 55.19 | 55.19 | ppb | 7.24 | 900.00 | |
| 66 Zn | 72 | 2 | 56.02 | 56.02 | ppb | 7.42 | 900.00 | |
| 75 As | 72 | 2 | 57.80 | 57.80 | ppb | 7.02 | 900.00 | |
| 78 Se | 72 | 2 | 57.29 | 57.29 | ppb | 7.98 | 900.00 | |
| 88 Sr | 103 | 1 | 62.61 | 62.61 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 63.50 | 63.50 | ppb | 0.83 | 900.00 | |
| 107 Ag | 115 | 1 | 62.68 | 62.68 | ppb | 0.35 | 180.00 | |
| 111 Cd | 115 | 2 | 57.48 | 57.48 | ppb | 8.01 | 900.00 | |
| 120 Sn | 115 | 1 | 62.05 | 62.05 | ppb | 0.57 | 900.00 | |
| 121 Sb | 115 | 1 | 64.26 | 64.26 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 60.72 | 60.72 | ppb | 2.05 | 900.00 | |
| 205 Tl | 209 | 1 | 58.41 | 58.41 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.33 | 60.33 | ppb | 1.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1871565 | 0.30 | 1872800 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2715327 | 0.19 | 2694091 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 323348 | 8.49 | 307819 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 558335 | 0.48 | 562443 | 99.3 | 70 - | 130 |
| 72 | Ge | 2 | 131923 | 6.92 | 127696 | 103.3 | 70 - | 130 |
| 103 | Rh | 1 | 3163717 | 0.94 | 3225131 | 98.1 | 70 - | 130 |
| 115 | In | 1 | 3492384 | 0.88 | 3540560 | 98.6 | 70 - | 130 |
| 115 | In | 2 | 1130239 | 7.22 | 1130477 | 100.0 | 70 - | 130 |
| 159 | Tb | 1 | 4816589 | 1.31 | 4800257 | 100.3 | 70 - | 130 |
| 175 | Lu | 1 | 4691554 | 0.25 | 4666574 | 100.5 | 70 - | 130 |
| 209 | Bi | 1 | 2790329 | 1.61 | 2883202 | 96.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F06m00.B\011SMPL.D\011SMPL.D#
**Date Acquired:** Jun 6 2013 02:02 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** ICB
**Misc Info:**
**Vial Number:** 2102
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 06 2013 01:52 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 21.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 170.71 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 9.88 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 123.11 | 900.00 | |
| 23 Na | 45 | 1 | 1.06 | 1.06 | ppb | 25.24 | 90000.00 | |
| 23 Na | 45 | 2 | 1.16 | 1.16 | ppb | 64.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.79 | 0.79 | ppb | 10.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.87 | 0.87 | ppb | 9.71 | 90000.00 | |
| 27 Al | 45 | 1 | -0.02 | -0.02 | ppb | 420.98 | 90000.00 | |
| 27 Al | 45 | 2 | -0.06 | -0.06 | ppb | 226.97 | 90000.00 | |
| 39 K | 45 | 1 | 1.81 | 1.81 | ppb | 77.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.90 | 3.90 | ppb | 11.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 15.93 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 1897.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 17.18 | 900.00 | |
| 55 Mn | 45 | 2 | -0.15 | -0.15 | ppb | 10.31 | 900.00 | |
| 56 Fe | 45 | 2 | -1.65 | -1.65 | ppb | 4.56 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 14.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 29.35 | 900.00 | |
| 66 Zn | 72 | 2 | 0.20 | 0.20 | ppb | 2.74 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 152.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 67.43 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 12.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.80 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 86.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 14.45 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.03 | ppb | 10.30 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 27.00 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 48.98 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1897078 | 0.99 | 1872800 | 101.3 | 70 - 130 | |
| 45 Sc | 1 | 2663838 | 0.52 | 2694091 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 307114 | 1.02 | 307819 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 566049 | 0.60 | 562443 | 100.6 | 70 | - | 130 |
| 72 Ge | 2 | 127528 | 0.67 | 127696 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3233557 | 0.28 | 3225131 | 100.3 | 70 | - | 130 |
| 115 In | 1 | 3564374 | 0.58 | 3540560 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1124310 | 0.34 | 1130477 | 99.5 | 70 | - | 130 |
| 159 Tb | 1 | 4826672 | 0.90 | 4800257 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 4705069 | 0.90 | 4666574 | 100.8 | 70 | - | 130 |
| 209 Bi | 1 | 2884957 | 0.46 | 2883202 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#
Date Acquired: Jun 6 2013 02:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.25 | 52.25 | ppb | 1.07 | 900.00 | |
| 9 Be | 45 | 2 | 50.63 | 50.63 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 51.88 | 51.88 | ppb | 1.22 | 900.00 | |
| 11 B | 45 | 2 | 49.29 | 49.29 | ppb | 1.62 | 900.00 | |
| 23 Na | 45 | 1 | 5220.00 | 5220.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 5144.00 | 5144.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 1 | 5153.00 | 5153.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 5192.00 | 5192.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 5185.00 | 5185.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 5249.00 | 5249.00 | ppb | 0.52 | 90000.00 | |
| 39 K | 45 | 1 | 5217.00 | 5217.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 5281.00 | 5281.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.32 | 51.32 | ppb | 0.95 | 900.00 | |
| 51 V | 45 | 2 | 51.17 | 51.17 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | 50.29 | 50.29 | ppb | 0.63 | 900.00 | |
| 55 Mn | 45 | 2 | 50.21 | 50.21 | ppb | 0.41 | 900.00 | |
| 56 Fe | 45 | 2 | 5128.00 | 5128.00 | ppb | 0.25 | 90000.00 | |
| 59 Co | 45 | 2 | 50.26 | 50.26 | ppb | 0.70 | 900.00 | |
| 60 Ni | 45 | 2 | 50.39 | 50.39 | ppb | 1.19 | 900.00 | |
| 63 Cu | 72 | 2 | 49.65 | 49.65 | ppb | 1.12 | 900.00 | |
| 66 Zn | 72 | 2 | 51.44 | 51.44 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 51.17 | 51.17 | ppb | 1.15 | 900.00 | |
| 78 Se | 72 | 2 | 50.46 | 50.46 | ppb | 0.93 | 900.00 | |
| 88 Sr | 103 | 1 | 53.61 | 53.61 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 52.90 | 52.90 | ppb | 0.93 | 900.00 | |
| 107 Ag | 115 | 1 | 51.48 | 51.48 | ppb | 0.37 | 180.00 | |
| 111 Cd | 115 | 2 | 51.23 | 51.23 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 52.80 | 52.80 | ppb | 0.86 | 900.00 | |
| 121 Sb | 115 | 1 | 55.33 | 55.33 | ppb | 0.40 | 900.00 | |
| 137 Ba | 159 | 1 | 51.88 | 51.88 | ppb | 1.24 | 900.00 | |
| 205 Tl | 209 | 1 | 49.82 | 49.82 | ppb | 1.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 53.15 | 53.15 | ppb | 0.29 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1887056 | 0.93 | 1872800 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2726116 | 1.01 | 2694091 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 303514 | 0.93 | 307819 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 556138 | 0.89 | 562443 | 98.9 | 70 - | 130 |
| 72 | Ge | 2 | 124795 | 1.09 | 127696 | 97.7 | 70 - | 130 |
| 103 | Rh | 1 | 3120577 | 0.39 | 3225131 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 3476001 | 0.23 | 3540560 | 98.2 | 70 - | 130 |
| 115 | In | 2 | 1069811 | 1.20 | 1130477 | 94.6 | 70 - | 130 |
| 159 | Tb | 1 | 4781935 | 0.41 | 4800257 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 4684410 | 0.22 | 4666574 | 100.4 | 70 - | 130 |
| 209 | Bi | 1 | 2766541 | 0.12 | 2883202 | 96.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#
Date Acquired: Jun 6 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 10.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 24238.00 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 5.37 | 900.00 | |
| 11 B | 45 | 2 | 0.26 | 0.26 | ppb | 58.72 | 900.00 | |
| 23 Na | 45 | 1 | 0.98 | 0.98 | ppb | 21.84 | 90000.00 | |
| 23 Na | 45 | 2 | 2.49 | 2.49 | ppb | 17.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.98 | 0.98 | ppb | 2.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.51 | 1.51 | ppb | 20.45 | 90000.00 | |
| 27 Al | 45 | 1 | 0.11 | 0.11 | ppb | 47.45 | 90000.00 | |
| 27 Al | 45 | 2 | 0.51 | 0.51 | ppb | 36.15 | 90000.00 | |
| 39 K | 45 | 1 | 1.06 | 1.06 | ppb | 161.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.02 | 5.02 | ppb | 15.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 37.28 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 121.42 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 6.63 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 0.99 | 900.00 | |
| 56 Fe | 45 | 2 | -1.11 | -1.11 | ppb | 27.90 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 39.91 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 41.55 | 900.00 | |
| 66 Zn | 72 | 2 | 0.32 | 0.32 | ppb | 3.30 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 76.71 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 141.85 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 2.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.17 | ppb | 1.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 13.13 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 49.47 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 7.83 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.28 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 18.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.40 | 0.40 | ppb | 3.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 15.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1926956 | 0.84 | 1872800 | 102.9 | 70 - 130 | |
| 45 Sc | 1 | 2733055 | 1.31 | 2694091 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 309178 | 0.68 | 307819 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569326 | 1.13 | 562443 | 101.2 | 70 - | 130 |
| 72 | Ge | 2 | 127877 | 0.10 | 127696 | 100.1 | 70 - | 130 |
| 103 | Rh | 1 | 3250653 | 0.80 | 3225131 | 100.8 | 70 - | 130 |
| 115 | In | 1 | 3574358 | 0.63 | 3540560 | 101.0 | 70 - | 130 |
| 115 | In | 2 | 1125075 | 0.44 | 1130477 | 99.5 | 70 - | 130 |
| 159 | Tb | 1 | 4832595 | 1.01 | 4800257 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 4701804 | 0.71 | 4666574 | 100.8 | 70 - | 130 |
| 209 | Bi | 1 | 2892531 | 0.92 | 2883202 | 100.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#
Date Acquired: Jun 6 2013 02:23 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 3.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 22.52 | 900.00 | |
| 11 B | 6 | 1 | 5.03 | 5.03 | ppb | 1.79 | 900.00 | |
| 11 B | 45 | 2 | 5.36 | 5.36 | ppb | 10.27 | 900.00 | |
| 23 Na | 45 | 1 | 255.70 | 255.70 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 271.30 | 271.30 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.50 | 261.50 | ppb | 1.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 274.30 | 274.30 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 26.20 | 26.20 | ppb | 1.63 | 90000.00 | |
| 27 Al | 45 | 2 | 26.31 | 26.31 | ppb | 2.03 | 90000.00 | |
| 39 K | 45 | 1 | 253.40 | 253.40 | ppb | 1.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 268.80 | 268.80 | ppb | 1.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 1.04 | ppb | 5.55 | 900.00 | |
| 51 V | 45 | 2 | 0.99 | 0.99 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.91 | 0.91 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.86 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 25.65 | 25.65 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.11 | 900.00 | |
| 60 Ni | 45 | 2 | 0.99 | 0.99 | ppb | 1.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.69 | 900.00 | |
| 66 Zn | 72 | 2 | 2.02 | 2.02 | ppb | 1.33 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 4.14 | 900.00 | |
| 78 Se | 72 | 2 | 0.57 | 0.57 | ppb | 9.99 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.82 | 900.00 | |
| 98 Mo | 103 | 1 | 1.07 | 1.07 | ppb | 1.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 2.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 6.72 | 900.00 | |
| 120 Sn | 115 | 1 | 4.99 | 4.99 | ppb | 1.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 2.88 | 900.00 | |
| 137 Ba | 159 | 1 | 1.08 | 1.08 | ppb | 1.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 2.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 2.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1909798 | 0.93 | 1872800 | 102.0 | 70 - 130 | |
| 45 Sc | 1 | 2705731 | 0.63 | 2694091 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 307684 | 0.08 | 307819 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 561064 | 0.98 | 562443 | 99.8 | 70 - | 130 |
| 72 | Ge | 2 | 126838 | 0.15 | 127696 | 99.3 | 70 - | 130 |
| 103 | Rh | 1 | 3254163 | 0.61 | 3225131 | 100.9 | 70 - | 130 |
| 115 | In | 1 | 3595268 | 0.54 | 3540560 | 101.5 | 70 - | 130 |
| 115 | In | 2 | 1119965 | 0.13 | 1130477 | 99.1 | 70 - | 130 |
| 159 | Tb | 1 | 4822729 | 0.57 | 4800257 | 100.5 | 70 - | 130 |
| 175 | Lu | 1 | 4741934 | 1.25 | 4666574 | 101.6 | 70 - | 130 |
| 209 | Bi | 1 | 2901060 | 0.32 | 2883202 | 100.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#
Date Acquired: Jun 6 2013 02:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 57.56 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 141.17 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 55.86 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 46.76 | 900.00 | |
| 23 Na | 45 | 1 | 93830.00 | 93830.00 | ppb | 0.48 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93580.00 | 93580.00 | ppb | 0.39 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 93570.00 | 93570.00 | ppb | 0.87 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93250.00 | 93250.00 | ppb | 0.58 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 93200.00 | 93200.00 | ppb | 0.36 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 91710.00 | 91710.00 | ppb | 0.32 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 96310.00 | 96310.00 | ppb | 0.46 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 95230.00 | 95230.00 | ppb | 0.28 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2010.00 | 2010.00 | ppb | 0.68 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 3.54 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.12 | 0.12 | ppb | 12.69 | 900.00 | |
| 56 Fe | 45 | 2 | 93880.00 | 93880.00 | ppb | 0.34 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.06 | 0.06 | ppb | 11.99 | 900.00 | |
| 60 Ni | 45 | 2 | 0.73 | 0.73 | ppb | 0.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.48 | ppb | 14.24 | 900.00 | |
| 66 Zn | 72 | 2 | 1.76 | 1.76 | ppb | 2.74 | 900.00 | |
| 75 As | 72 | 2 | 0.21 | 0.21 | ppb | 5.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 9079.60 | 900.00 | |
| 88 Sr | 103 | 1 | 4.96 | 4.96 | ppb | 0.77 | 900.00 | |
| 98 Mo | 103 | 1 | 2107.00 | 2107.00 | ppb | 1.25 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 5.38 | 180.00 | |
| 111 Cd | 115 | 2 | 1.42 | 1.42 | ppb | 2.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 12.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 4.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 4.47 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 3.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 1.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1719490 | 0.95 | 1872800 | 91.8 | 70 - 130 | |
| 45 Sc | 1 | 2610746 | 0.88 | 2694091 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 287980 | 0.29 | 307819 | 93.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 630532 | 0.65 | 562443 | 112.1 | 70 | - | 130 |
| 72 | Ge | 2 | 131519 | 0.23 | 127696 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2858468 | 0.84 | 3225131 | 88.6 | 70 | - | 130 |
| 115 | In | 1 | 3254349 | 0.79 | 3540560 | 91.9 | 70 | - | 130 |
| 115 | In | 2 | 992264 | 0.85 | 1130477 | 87.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4708697 | 0.79 | 4800257 | 98.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4623964 | 0.44 | 4666574 | 99.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2556791 | 0.88 | 2883202 | 88.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#
Date Acquired: Jun 6 2013 02:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 21282.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1345.60 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 28.30 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 84.20 | 900.00 | |
| 23 Na | 45 | 1 | 96820.00 | 96820.00 | ppb | 1.14 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 97210.00 | 97210.00 | ppb | 0.20 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96360.00 | 96360.00 | ppb | 1.13 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 96470.00 | 96470.00 | ppb | 0.41 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 95510.00 | 95510.00 | ppb | 0.64 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 93220.00 | 93220.00 | ppb | 0.31 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 98620.00 | 98620.00 | ppb | 1.03 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 97760.00 | 97760.00 | ppb | 0.68 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2058.00 | 2058.00 | ppb | 1.14 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 21.05 | 900.00 | |
| 52 Cr | 45 | 2 | 20.69 | 20.69 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 19.60 | 19.60 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 96090.00 | 96090.00 | ppb | 0.41 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.47 | 19.47 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 19.74 | 19.74 | ppb | 0.24 | 900.00 | |
| 63 Cu | 72 | 2 | 17.07 | 17.07 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 18.38 | 18.38 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 18.95 | 18.95 | ppb | 0.24 | 900.00 | |
| 78 Se | 72 | 2 | -0.02 | -0.02 | ppb | 91.90 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 2148.00 | 2148.00 | ppb | 0.56 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.79 | 19.79 | ppb | 1.13 | 180.00 | |
| 111 Cd | 115 | 2 | 21.17 | 21.17 | ppb | 0.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 14.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 4.69 | 900.00 | |
| 137 Ba | 159 | 1 | 0.57 | 0.57 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 13.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 1.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1845549 | 1.34 | 1872800 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 2669475 | 0.65 | 2694091 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 288785 | 0.22 | 307819 | 93.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 631520 | 0.85 | 562443 | 112.3 | 70 | - | 130 |
| 72 | Ge | 2 | 130942 | 0.19 | 127696 | 102.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2915018 | 0.14 | 3225131 | 90.4 | 70 | - | 130 |
| 115 | In | 1 | 3331963 | 1.01 | 3540560 | 94.1 | 70 | - | 130 |
| 115 | In | 2 | 983368 | 0.43 | 1130477 | 87.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4845451 | 1.21 | 4800257 | 100.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4776700 | 1.00 | 4666574 | 102.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2616739 | 0.81 | 2883202 | 90.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\017SMPL.D\017SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\017SMPL.D\017SMPL.D#
Date Acquired: Jun 6 2013 02:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.27 | 0.27 | ppb | 9.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.33 | 0.33 | ppb | 8.72 | 900.00 | |
| 11 B | 6 | 1 | 0.08 | 0.08 | ppb | 14.31 | 900.00 | |
| 11 B | 45 | 2 | 0.18 | 0.18 | ppb | 63.86 | 900.00 | |
| 23 Na | 45 | 1 | 18.67 | 18.67 | ppb | 8.15 | 90000.00 | |
| 23 Na | 45 | 2 | 31.11 | 31.11 | ppb | 16.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 10.09 | 10.09 | ppb | 8.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 16.96 | 16.96 | ppb | 30.22 | 90000.00 | |
| 27 Al | 45 | 1 | 10.38 | 10.38 | ppb | 7.15 | 90000.00 | |
| 27 Al | 45 | 2 | 16.16 | 16.16 | ppb | 24.66 | 90000.00 | |
| 39 K | 45 | 1 | 7.39 | 7.39 | ppb | 15.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 25.00 | 25.00 | ppb | 7.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.63 | 0.63 | ppb | 1.89 | 900.00 | |
| 51 V | 45 | 2 | 0.09 | 0.09 | ppb | 20.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.21 | ppb | 8.61 | 900.00 | |
| 55 Mn | 45 | 2 | 0.47 | 0.47 | ppb | 8.61 | 900.00 | |
| 56 Fe | 45 | 2 | 18.62 | 18.62 | ppb | 20.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.34 | ppb | 6.59 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.36 | ppb | 8.07 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.45 | ppb | 5.59 | 900.00 | |
| 66 Zn | 72 | 2 | 1.35 | 1.35 | ppb | 8.00 | 900.00 | |
| 75 As | 72 | 2 | 0.27 | 0.27 | ppb | 5.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.37 | ppb | 39.24 | 900.00 | |
| 88 Sr | 103 | 1 | 0.31 | 0.31 | ppb | 1.76 | 900.00 | |
| 98 Mo | 103 | 1 | 3.36 | 3.36 | ppb | 2.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.24 | 0.24 | ppb | 3.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.34 | 0.34 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.60 | 0.60 | ppb | 3.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 3.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.32 | 0.32 | ppb | 7.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 6.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.30 | ppb | 3.54 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153474 | 0.59 | 1872800 | 115.0 | 70 - 130 | |
| 45 Sc | 1 | 2922534 | 0.32 | 2694091 | 108.5 | 70 - 130 | |
| 45 Sc | 2 | 304114 | 4.34 | 307819 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 607813 | 0.77 | 562443 | 108.1 | 70 - | 130 |
| 72 | Ge | 2 | 128467 | 3.59 | 127696 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 3497513 | 0.54 | 3225131 | 108.4 | 70 - | 130 |
| 115 | In | 1 | 3873798 | 0.46 | 3540560 | 109.4 | 70 - | 130 |
| 115 | In | 2 | 1104533 | 4.22 | 1130477 | 97.7 | 70 - | 130 |
| 159 | Tb | 1 | 5270379 | 0.64 | 4800257 | 109.8 | 70 - | 130 |
| 175 | Lu | 1 | 5197486 | 0.86 | 4666574 | 111.4 | 70 - | 130 |
| 209 | Bi | 1 | 3194035 | 0.96 | 2883202 | 110.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#
Date Acquired: Jun 6 2013 02:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 77.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 169.78 | 900.00 | |
| 11 B | 6 | 1 | -0.04 | -0.02 | ppb | 55.81 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.12 | ppb | 82.16 | 900.00 | |
| 23 Na | 45 | 1 | 21.08 | 10.54 | ppb | 5.73 | 90000.00 | |
| 23 Na | 45 | 2 | 35.80 | 17.90 | ppb | 1.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.55 | 1.28 | ppb | 4.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.50 | 1.25 | ppb | 6.75 | 90000.00 | |
| 27 Al | 45 | 1 | 2.60 | 1.30 | ppb | 17.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2.08 | 1.04 | ppb | 12.66 | 90000.00 | |
| 39 K | 45 | 1 | 6.71 | 3.35 | ppb | 82.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.91 | 3.96 | ppb | 24.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.68 | 0.34 | ppb | 5.17 | 900.00 | |
| 51 V | 45 | 2 | 2.03 | 1.01 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 5.73 | 900.00 | |
| 55 Mn | 45 | 2 | 0.64 | 0.32 | ppb | 2.44 | 900.00 | |
| 56 Fe | 45 | 2 | 8.80 | 4.40 | ppb | 1.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 62.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.20 | 0.10 | ppb | 3.75 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.20 | ppb | 5.71 | 900.00 | |
| 66 Zn | 72 | 2 | 0.66 | 0.33 | ppb | 7.13 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 5.08 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.02 | ppb | 177.65 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 9.79 | 900.00 | |
| 98 Mo | 103 | 1 | 1.83 | 0.91 | ppb | 2.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.16 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 177.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.09 | ppb | 9.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.07 | ppb | 2.99 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.03 | ppb | 36.39 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 2.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 11.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2292320 | 0.52 | 1872800 | 122.4 | 70 - 130 | |
| 45 Sc | 1 | 2946070 | 1.34 | 2694091 | 109.4 | 70 - 130 | |
| 45 Sc | 2 | 312663 | 0.45 | 307819 | 101.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 604934 | 0.61 | 562443 | 107.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129117 | 0.22 | 127696 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3423324 | 0.81 | 3225131 | 106.1 | 70 | - | 130 |
| 115 | In | 1 | 3803045 | 0.33 | 3540560 | 107.4 | 70 | - | 130 |
| 115 | In | 2 | 1095051 | 0.28 | 1130477 | 96.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5247836 | 0.41 | 4800257 | 109.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5216597 | 0.63 | 4666574 | 111.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3177842 | 0.81 | 2883202 | 110.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#
Date Acquired: Jun 6 2013 03:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-7F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.05 | 0.00 | ppb | 36.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.01 | ppb | 321.73 | 900.00 | |
| 11 B | 6 | 1 | 241.20 | 12.06 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 232.60 | 11.63 | ppb | 8.46 | 900.00 | |
| 23 Na | 45 | 1 | 15380.00 | 769.00 | ppb | 1.11 | 90000.00 | |
| 23 Na | 45 | 2 | 15320.00 | 766.00 | ppb | 6.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 9888.00 | 494.40 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 10092.00 | 504.60 | ppb | 5.78 | 90000.00 | |
| 27 Al | 45 | 1 | 27.94 | 1.40 | ppb | 4.71 | 90000.00 | |
| 27 Al | 45 | 2 | 32.22 | 1.61 | ppb | 22.68 | 90000.00 | |
| 39 K | 45 | 1 | 11998.00 | 599.90 | ppb | 1.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 69460.00 | 3473.00 | ppb | 1.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.10 | 0.21 | ppb | 16.24 | 900.00 | |
| 51 V | 45 | 2 | -4.03 | -0.20 | ppb | 4.42 | 900.00 | |
| 52 Cr | 45 | 2 | -2.07 | -0.10 | ppb | 8.66 | 900.00 | |
| 55 Mn | 45 | 2 | 1164.80 | 58.24 | ppb | 5.28 | 900.00 | |
| 56 Fe | 45 | 2 | 81440.00 | 4072.00 | ppb | 5.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.02 | ppb | 9.01 | 900.00 | |
| 60 Ni | 45 | 2 | 2.32 | 0.12 | ppb | 10.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.08 | 0.05 | ppb | 17.88 | 900.00 | |
| 66 Zn | 72 | 2 | 9.35 | 0.47 | ppb | 6.71 | 900.00 | |
| 75 As | 72 | 2 | 565.00 | 28.25 | ppb | 5.01 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.01 | ppb | 367.05 | 900.00 | |
| 88 Sr | 103 | 1 | 795.20 | 39.76 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 4.54 | 0.23 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 67.61 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 4.29 | 900.00 | |
| 120 Sn | 115 | 1 | -0.29 | -0.01 | ppb | 59.71 | 900.00 | |
| 121 Sb | 115 | 1 | -0.17 | -0.01 | ppb | 33.60 | 900.00 | |
| 137 Ba | 159 | 1 | 146.56 | 7.33 | ppb | 0.44 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | 0.00 | ppb | 169.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.00 | ppb | 40.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2211039 | 0.38 | 1872800 | 118.1 | 70 - 130 | |
| 45 Sc | 1 | 2972522 | 1.03 | 2694091 | 110.3 | 70 - 130 | |
| 45 Sc | 2 | 326956 | 5.30 | 307819 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 614482 | 0.58 | 562443 | 109.3 | 70 - | 130 |
| 72 | Ge | 2 | 134498 | 4.75 | 127696 | 105.3 | 70 - | 130 |
| 103 | Rh | 1 | 3393502 | 0.67 | 3225131 | 105.2 | 70 - | 130 |
| 115 | In | 1 | 3810301 | 0.45 | 3540560 | 107.6 | 70 - | 130 |
| 115 | In | 2 | 1128653 | 3.29 | 1130477 | 99.8 | 70 - | 130 |
| 159 | Tb | 1 | 5237601 | 0.50 | 4800257 | 109.1 | 70 - | 130 |
| 175 | Lu | 1 | 5114056 | 1.05 | 4666574 | 109.6 | 70 - | 130 |
| 209 | Bi | 1 | 3150426 | 1.30 | 2883202 | 109.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D# |
| Date Acquired: | Jun 6 2013 03:12 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21073A-SD1 |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 100.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 100.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.38 | 0.00 | ppb | 16.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 84042.00 | 900.00 | |
| 11 B | 6 | 1 | 217.10 | 2.17 | ppb | 3.57 | 900.00 | |
| 11 B | 45 | 2 | 236.60 | 2.37 | ppb | 10.69 | 900.00 | |
| 23 Na | 45 | 1 | 16130.00 | 161.30 | ppb | 1.59 | 90000.00 | |
| 23 Na | 45 | 2 | 17420.00 | 174.20 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 10470.00 | 104.70 | ppb | 1.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 10710.00 | 107.10 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 129.20 | 1.29 | ppb | 14.45 | 90000.00 | |
| 27 Al | 45 | 2 | 146.90 | 1.47 | ppb | 24.42 | 90000.00 | |
| 39 K | 45 | 1 | 11750.00 | 117.50 | ppb | 1.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 73080.00 | 730.80 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.22 | 0.06 | ppb | 28.69 | 900.00 | |
| 51 V | 45 | 2 | -30.68 | -0.31 | ppb | 1.62 | 900.00 | |
| 52 Cr | 45 | 2 | -14.18 | -0.14 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 1246.00 | 12.46 | ppb | 0.15 | 900.00 | |
| 56 Fe | 45 | 2 | 82290.00 | 822.90 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.00 | ppb | 47.01 | 900.00 | |
| 60 Ni | 45 | 2 | 3.20 | 0.03 | ppb | 27.14 | 900.00 | |
| 63 Cu | 72 | 2 | 7.64 | 0.08 | ppb | 2.96 | 900.00 | |
| 66 Zn | 72 | 2 | 16.15 | 0.16 | ppb | 4.66 | 900.00 | |
| 75 As | 72 | 2 | 579.20 | 5.79 | ppb | 2.12 | 900.00 | |
| 78 Se | 72 | 2 | 2.69 | 0.03 | ppb | 124.83 | 900.00 | |
| 88 Sr | 103 | 1 | 807.70 | 8.08 | ppb | 1.30 | 900.00 | |
| 98 Mo | 103 | 1 | 9.99 | 0.10 | ppb | 9.87 | 900.00 | |
| 107 Ag | 115 | 1 | -0.39 | 0.00 | ppb | 34.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.87 | 0.01 | ppb | 26.43 | 900.00 | |
| 120 Sn | 115 | 1 | -2.91 | -0.03 | ppb | 3.62 | 900.00 | |
| 121 Sb | 115 | 1 | -1.89 | -0.02 | ppb | 3.14 | 900.00 | |
| 137 Ba | 159 | 1 | 145.00 | 1.45 | ppb | 1.91 | 900.00 | |
| 205 Tl | 209 | 1 | -0.57 | -0.01 | ppb | 18.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.00 | ppb | 924.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2150280 | 0.98 | 1872800 | 114.8 | 70 - 130 | |
| 45 Sc | 1 | 2878281 | 1.16 | 2694091 | 106.8 | 70 - 130 | |
| 45 Sc | 2 | 311633 | 0.19 | 307819 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596789 | 0.72 | 562443 | 106.1 | 70 - | 130 |
| 72 | Ge | 2 | 130121 | 0.54 | 127696 | 101.9 | 70 - | 130 |
| 103 | Rh | 1 | 3386871 | 0.49 | 3225131 | 105.0 | 70 - | 130 |
| 115 | In | 1 | 3792081 | 0.62 | 3540560 | 107.1 | 70 - | 130 |
| 115 | In | 2 | 1112132 | 0.21 | 1130477 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 5115401 | 0.46 | 4800257 | 106.6 | 70 - | 130 |
| 175 | Lu | 1 | 5001699 | 0.35 | 4666574 | 107.2 | 70 - | 130 |
| 209 | Bi | 1 | 3052848 | 1.35 | 2883202 | 105.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D#
Date Acquired: Jun 6 2013 03:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-1F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 16.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 350.04 | 900.00 | |
| 11 B | 6 | 1 | 47.40 | 23.70 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 49.12 | 24.56 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 14616.00 | 7308.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 15132.00 | 7566.00 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 3088.00 | 1544.00 | ppb | 0.64 | 90000.00 | |
| 24 Mg | 45 | 2 | 3280.00 | 1640.00 | ppb | 0.86 | 90000.00 | |
| 27 Al | 45 | 1 | 9.53 | 4.76 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 10.19 | 5.10 | ppb | 7.36 | 90000.00 | |
| 39 K | 45 | 1 | 4788.00 | 2394.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 22800.00 | 11400.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.56 | 1.28 | ppb | 1.91 | 900.00 | |
| 51 V | 45 | 2 | 1.84 | 0.92 | ppb | 2.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.79 | 0.39 | ppb | 0.99 | 900.00 | |
| 55 Mn | 45 | 2 | 2378.00 | 1189.00 | ppb | 2.42 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 64780.00 | 32390.00 | ppb | 2.11 | 90000.00 | |
| 59 Co | 45 | 2 | 8.62 | 4.31 | ppb | 0.90 | 900.00 | |
| 60 Ni | 45 | 2 | 7.03 | 3.51 | ppb | 1.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.25 | ppb | 5.30 | 900.00 | |
| 66 Zn | 72 | 2 | 8.37 | 4.19 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 431.20 | 215.60 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | -0.08 | -0.04 | ppb | 233.83 | 900.00 | |
| 88 Sr | 103 | 1 | 100.36 | 50.18 | ppb | 0.24 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.33 | ppb | 4.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 33.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 88.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 6.33 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 4.34 | 900.00 | |
| 137 Ba | 159 | 1 | 42.60 | 21.30 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 5.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 8.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2267682 | 0.48 | 1872800 | 121.1 | 70 - 130 | |
| 45 Sc | 1 | 2995605 | 0.40 | 2694091 | 111.2 | 70 - 130 | |
| 45 Sc | 2 | 309325 | 0.65 | 307819 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 627677 | 0.63 | 562443 | 111.6 | 70 | - | 130 |
| 72 Ge | 2 | 133799 | 0.81 | 127696 | 104.8 | 70 | - | 130 |
| 103 Rh | 1 | 3217076 | 0.34 | 3225131 | 99.8 | 70 | - | 130 |
| 115 In | 1 | 3665406 | 0.06 | 3540560 | 103.5 | 70 | - | 130 |
| 115 In | 2 | 1063103 | 1.43 | 1130477 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 5116287 | 0.75 | 4800257 | 106.6 | 70 | - | 130 |
| 175 Lu | 1 | 5055701 | 0.71 | 4666574 | 108.3 | 70 | - | 130 |
| 209 Bi | 1 | 2953161 | 0.46 | 2883202 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#
Date Acquired: Jun 6 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-2F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | 0.00 | ppb | 13.46 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 180.93 | 900.00 | |
| 11 B | 6 | 1 | 41.50 | 2.08 | ppb | 4.03 | 900.00 | |
| 11 B | 45 | 2 | 45.20 | 2.26 | ppb | 5.75 | 900.00 | |
| 23 Na | 45 | 1 | 14686.00 | 734.30 | ppb | 0.93 | 90000.00 | |
| 23 Na | 45 | 2 | 15694.00 | 784.70 | ppb | 3.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 3258.00 | 162.90 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 3498.00 | 174.90 | ppb | 2.91 | 90000.00 | |
| 27 Al | 45 | 1 | 21.38 | 1.07 | ppb | 5.01 | 90000.00 | |
| 27 Al | 45 | 2 | 27.56 | 1.38 | ppb | 23.26 | 90000.00 | |
| 39 K | 45 | 1 | 4828.00 | 241.40 | ppb | 1.02 | 90000.00 | |
| 44 Ca | 45 | 1 | 24320.00 | 1216.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.68 | 0.13 | ppb | 16.60 | 900.00 | |
| 51 V | 45 | 2 | -4.34 | -0.22 | ppb | 2.33 | 900.00 | |
| 52 Cr | 45 | 2 | -1.94 | -0.10 | ppb | 7.60 | 900.00 | |
| 55 Mn | 45 | 2 | 2598.00 | 129.90 | ppb | 3.41 | 900.00 | |
| 56 Fe | 45 | 2 | 65720.00 | 3286.00 | ppb | 4.00 | 90000.00 | |
| 59 Co | 45 | 2 | 8.72 | 0.44 | ppb | 4.70 | 900.00 | |
| 60 Ni | 45 | 2 | 7.01 | 0.35 | ppb | 3.69 | 900.00 | |
| 63 Cu | 72 | 2 | 1.38 | 0.07 | ppb | 9.49 | 900.00 | |
| 66 Zn | 72 | 2 | 11.09 | 0.55 | ppb | 5.17 | 900.00 | |
| 75 As | 72 | 2 | 464.40 | 23.22 | ppb | 3.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.52 | 0.08 | ppb | 231.66 | 900.00 | |
| 88 Sr | 103 | 1 | 99.30 | 4.97 | ppb | 0.71 | 900.00 | |
| 98 Mo | 103 | 1 | 1.27 | 0.06 | ppb | 4.08 | 900.00 | |
| 107 Ag | 115 | 1 | -0.07 | 0.00 | ppb | 13.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.01 | ppb | 89.10 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 7.88 | 900.00 | |
| 121 Sb | 115 | 1 | -0.22 | -0.01 | ppb | 12.23 | 900.00 | |
| 137 Ba | 159 | 1 | 42.24 | 2.11 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | -0.26 | -0.01 | ppb | 23.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.05 | 0.00 | ppb | 55.88 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2233736 | 0.59 | 1872800 | 119.3 | 70 - 130 | |
| 45 Sc | 1 | 2975210 | 1.05 | 2694091 | 110.4 | 70 - 130 | |
| 45 Sc | 2 | 310134 | 3.66 | 307819 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 616049 | 0.30 | 562443 | 109.5 | 70 - | 130 |
| 72 | Ge | 2 | 129074 | 3.44 | 127696 | 101.1 | 70 - | 130 |
| 103 | Rh | 1 | 3376480 | 0.38 | 3225131 | 104.7 | 70 - | 130 |
| 115 | In | 1 | 3818390 | 0.74 | 3540560 | 107.8 | 70 - | 130 |
| 115 | In | 2 | 1078627 | 4.74 | 1130477 | 95.4 | 70 - | 130 |
| 159 | Tb | 1 | 5176506 | 0.17 | 4800257 | 107.8 | 70 - | 130 |
| 175 | Lu | 1 | 5093135 | 0.68 | 4666574 | 109.1 | 70 - | 130 |
| 209 | Bi | 1 | 3141730 | 1.00 | 2883202 | 109.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 03:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2202 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 200.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 200.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -1.07 | -0.01 | ppb | 21.11 | 900.00 | |
| 9 Be | 45 | 2 | -0.05 | 0.00 | ppb | 13.45 | 900.00 | |
| 11 B | 6 | 1 | 34.60 | 0.17 | ppb | 3.04 | 900.00 | |
| 11 B | 45 | 2 | 66.42 | 0.33 | ppb | 61.46 | 900.00 | |
| 23 Na | 45 | 1 | 7084.00 | 35.42 | ppb | 2.46 | 90000.00 | |
| 23 Na | 45 | 2 | 8250.00 | 41.25 | ppb | 2.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 4102.00 | 20.51 | ppb | 2.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4128.00 | 20.64 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 1 | 196.00 | 0.98 | ppb | 9.63 | 90000.00 | |
| 27 Al | 45 | 2 | 159.40 | 0.80 | ppb | 73.04 | 90000.00 | |
| 39 K | 45 | 1 | 6316.00 | 31.58 | ppb | 4.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 51060.00 | 255.30 | ppb | 2.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.91 | 0.00 | ppb | 223.44 | 900.00 | |
| 51 V | 45 | 2 | -65.24 | -0.33 | ppb | 0.28 | 900.00 | |
| 52 Cr | 45 | 2 | -29.56 | -0.15 | ppb | 3.30 | 900.00 | |
| 55 Mn | 45 | 2 | 3022.00 | 15.11 | ppb | 0.70 | 900.00 | |
| 56 Fe | 45 | 2 | 81020.00 | 405.10 | ppb | 0.99 | 90000.00 | |
| 59 Co | 45 | 2 | 20.94 | 0.10 | ppb | 0.14 | 900.00 | |
| 60 Ni | 45 | 2 | 9.40 | 0.05 | ppb | 6.37 | 900.00 | |
| 63 Cu | 72 | 2 | 10.25 | 0.05 | ppb | 11.66 | 900.00 | |
| 66 Zn | 72 | 2 | 64.08 | 0.32 | ppb | 7.72 | 900.00 | |
| 75 As | 72 | 2 | 5544.00 | 27.72 | ppb | 0.11 | 900.00 | |
| 78 Se | 72 | 2 | -1.56 | -0.01 | ppb | 1075.60 | 900.00 | |
| 88 Sr | 103 | 1 | 256.40 | 1.28 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 4.83 | 0.02 | ppb | 11.86 | 900.00 | |
| 107 Ag | 115 | 1 | -0.92 | 0.00 | ppb | 4.43 | 180.00 | |
| 111 Cd | 115 | 2 | 1.44 | 0.01 | ppb | 41.36 | 900.00 | |
| 120 Sn | 115 | 1 | -6.00 | -0.03 | ppb | 4.61 | 900.00 | |
| 121 Sb | 115 | 1 | -2.94 | -0.01 | ppb | 51.09 | 900.00 | |
| 137 Ba | 159 | 1 | 32.68 | 0.16 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | -1.12 | -0.01 | ppb | 25.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.25 | 0.00 | ppb | 151.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2192123 | 0.73 | 1872800 | 117.1 | 70 - 130 | |
| 45 Sc | 1 | 2981784 | 1.00 | 2694091 | 110.7 | 70 - 130 | |
| 45 Sc | 2 | 318305 | 0.28 | 307819 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 608299 | 1.01 | 562443 | 108.2 | 70 | - | 130 |
| 72 | Ge | 2 | 131844 | 0.38 | 127696 | 103.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3427764 | 0.68 | 3225131 | 106.3 | 70 | - | 130 |
| 115 | In | 1 | 3818275 | 0.68 | 3540560 | 107.8 | 70 | - | 130 |
| 115 | In | 2 | 1128385 | 0.22 | 1130477 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5151969 | 0.72 | 4800257 | 107.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5080573 | 0.83 | 4666574 | 108.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3090115 | 1.90 | 2883202 | 107.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#
Date Acquired: Jun 6 2013 03:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.72 | 50.72 | ppb | 0.75 | 900.00 | |
| 9 Be | 45 | 2 | 52.65 | 52.65 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 49.76 | 49.76 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 51.10 | 51.10 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5213.00 | 5213.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5270.00 | 5270.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 1 | 5180.00 | 5180.00 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 5180.00 | 5180.00 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 5145.00 | 5145.00 | ppb | 0.21 | 90000.00 | |
| 27 Al | 45 | 2 | 5110.00 | 5110.00 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 5156.00 | 5156.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 5208.00 | 5208.00 | ppb | 0.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.27 | 50.27 | ppb | 0.17 | 900.00 | |
| 51 V | 45 | 2 | 51.14 | 51.14 | ppb | 0.17 | 900.00 | |
| 52 Cr | 45 | 2 | 50.71 | 50.71 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 49.30 | 49.30 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5069.00 | 5069.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 50.64 | 50.64 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 50.46 | 50.46 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 50.38 | 50.38 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 50.36 | 50.36 | ppb | 0.43 | 900.00 | |
| 75 As | 72 | 2 | 50.79 | 50.79 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 49.67 | 49.67 | ppb | 1.28 | 900.00 | |
| 88 Sr | 103 | 1 | 52.72 | 52.72 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 51.67 | 51.67 | ppb | 1.18 | 900.00 | |
| 107 Ag | 115 | 1 | 50.56 | 50.56 | ppb | 0.29 | 180.00 | |
| 111 Cd | 115 | 2 | 51.46 | 51.46 | ppb | 0.64 | 900.00 | |
| 120 Sn | 115 | 1 | 51.50 | 51.50 | ppb | 0.38 | 900.00 | |
| 121 Sb | 115 | 1 | 54.86 | 54.86 | ppb | 0.53 | 900.00 | |
| 137 Ba | 159 | 1 | 50.86 | 50.86 | ppb | 0.36 | 900.00 | |
| 205 Tl | 209 | 1 | 49.57 | 49.57 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.73 | 52.73 | ppb | 0.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153756 | 0.36 | 1872800 | 115.0 | 70 - 130 | |
| 45 Sc | 1 | 2913564 | 0.27 | 2694091 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 314662 | 0.34 | 307819 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 584856 | 0.99 | 562443 | 104.0 | 70 | - | 130 |
| 72 | Ge | 2 | 128825 | 0.15 | 127696 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3297593 | 0.46 | 3225131 | 102.2 | 70 | - | 130 |
| 115 | In | 1 | 3680762 | 0.40 | 3540560 | 104.0 | 70 | - | 130 |
| 115 | In | 2 | 1076864 | 0.33 | 1130477 | 95.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5114593 | 0.49 | 4800257 | 106.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5071426 | 0.91 | 4666574 | 108.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2967483 | 0.53 | 2883202 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#
Date Acquired: Jun 6 2013 04:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 33.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 324.02 | 900.00 | |
| 11 B | 6 | 1 | -0.11 | -0.11 | ppb | 14.31 | 900.00 | |
| 11 B | 45 | 2 | -0.07 | -0.07 | ppb | 176.46 | 900.00 | |
| 23 Na | 45 | 1 | 2.85 | 2.85 | ppb | 20.22 | 90000.00 | |
| 23 Na | 45 | 2 | 8.21 | 8.21 | ppb | 1.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.95 | 0.95 | ppb | 2.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.02 | 1.02 | ppb | 8.45 | 90000.00 | |
| 27 Al | 45 | 1 | -0.34 | -0.34 | ppb | 15.34 | 90000.00 | |
| 27 Al | 45 | 2 | -0.17 | -0.17 | ppb | 160.02 | 90000.00 | |
| 39 K | 45 | 1 | 0.67 | 0.67 | ppb | 341.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.42 | 3.42 | ppb | 46.22 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 105.55 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 25.16 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 19.53 | 900.00 | |
| 55 Mn | 45 | 2 | -0.16 | -0.16 | ppb | 4.28 | 900.00 | |
| 56 Fe | 45 | 2 | -2.13 | -2.13 | ppb | 5.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 565.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 48.77 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 3.58 | 900.00 | |
| 66 Zn | 72 | 2 | 0.22 | 0.22 | ppb | 8.66 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 66.97 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 1115.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 9.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 2.19 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 40.52 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 43.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 11.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 10.78 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 554.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.13 | ppb | 0.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 118.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2244193 | 1.35 | 1872800 | 119.8 | 70 - 130 | |
| 45 Sc | 1 | 2954645 | 1.41 | 2694091 | 109.7 | 70 - 130 | |
| 45 Sc | 2 | 319473 | 0.14 | 307819 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 601523 | 0.10 | 562443 | 106.9 | 70 - | 130 |
| 72 | Ge | 2 | 130399 | 0.38 | 127696 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 3415320 | 0.91 | 3225131 | 105.9 | 70 - | 130 |
| 115 | In | 1 | 3765325 | 1.35 | 3540560 | 106.3 | 70 - | 130 |
| 115 | In | 2 | 1116533 | 0.63 | 1130477 | 98.8 | 70 - | 130 |
| 159 | Tb | 1 | 5160441 | 0.41 | 4800257 | 107.5 | 70 - | 130 |
| 175 | Lu | 1 | 5061001 | 1.02 | 4666574 | 108.5 | 70 - | 130 |
| 209 | Bi | 1 | 3092938 | 0.92 | 2883202 | 107.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D# |
| Date Acquired: | Jun 6 2013 04:15 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-4F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.06 | 0.00 | ppb | 220.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 84.61 | 900.00 | |
| 11 B | 6 | 1 | 106.25 | 2.13 | ppb | 1.31 | 900.00 | |
| 11 B | 45 | 2 | 104.15 | 2.08 | ppb | 13.09 | 900.00 | |
| 23 Na | 45 | 1 | 24975.00 | 499.50 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 26325.00 | 526.50 | ppb | 1.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 9055.00 | 181.10 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 9450.00 | 189.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 40.40 | 0.81 | ppb | 13.78 | 90000.00 | |
| 27 Al | 45 | 2 | 57.75 | 1.16 | ppb | 5.81 | 90000.00 | |
| 39 K | 45 | 1 | 9180.00 | 183.60 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 57300.00 | 1146.00 | ppb | 1.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.69 | 0.07 | ppb | 28.95 | 900.00 | |
| 51 V | 45 | 2 | -13.64 | -0.27 | ppb | 2.28 | 900.00 | |
| 52 Cr | 45 | 2 | -6.42 | -0.13 | ppb | 4.82 | 900.00 | |
| 55 Mn | 45 | 2 | 2310.50 | 46.21 | ppb | 0.82 | 900.00 | |
| 56 Fe | 45 | 2 | 47220.00 | 944.40 | ppb | 0.34 | 90000.00 | |
| 59 Co | 45 | 2 | 0.94 | 0.02 | ppb | 14.58 | 900.00 | |
| 60 Ni | 45 | 2 | 4.76 | 0.10 | ppb | 12.12 | 900.00 | |
| 63 Cu | 72 | 2 | 2.81 | 0.06 | ppb | 6.94 | 900.00 | |
| 66 Zn | 72 | 2 | 11.88 | 0.24 | ppb | 4.64 | 900.00 | |
| 75 As | 72 | 2 | 900.00 | 18.00 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | -1.02 | -0.02 | ppb | 643.38 | 900.00 | |
| 88 Sr | 103 | 1 | 613.50 | 12.27 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.54 | 0.03 | ppb | 18.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.12 | 0.00 | ppb | 76.00 | 180.00 | |
| 111 Cd | 115 | 2 | 0.56 | 0.01 | ppb | 66.51 | 900.00 | |
| 120 Sn | 115 | 1 | -1.18 | -0.02 | ppb | 8.45 | 900.00 | |
| 121 Sb | 115 | 1 | -0.86 | -0.02 | ppb | 12.95 | 900.00 | |
| 137 Ba | 159 | 1 | 88.50 | 1.77 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 2.40 | 0.05 | ppb | 3.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.00 | ppb | 63.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2151646 | 0.86 | 1872800 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 2949925 | 0.52 | 2694091 | 109.5 | 70 - 130 | |
| 45 Sc | 2 | 317340 | 0.33 | 307819 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 599881 | 1.03 | 562443 | 106.7 | 70 - | 130 |
| 72 | Ge | 2 | 130832 | 0.19 | 127696 | 102.5 | 70 - | 130 |
| 103 | Rh | 1 | 3386746 | 0.79 | 3225131 | 105.0 | 70 - | 130 |
| 115 | In | 1 | 3782705 | 0.89 | 3540560 | 106.8 | 70 - | 130 |
| 115 | In | 2 | 1125339 | 0.61 | 1130477 | 99.5 | 70 - | 130 |
| 159 | Tb | 1 | 5137971 | 0.22 | 4800257 | 107.0 | 70 - | 130 |
| 175 | Lu | 1 | 5084852 | 0.30 | 4666574 | 109.0 | 70 - | 130 |
| 209 | Bi | 1 | 3075958 | 0.90 | 2883202 | 106.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Jun 6 2013 04:22 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21156-5F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 06 2013 01:52 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.10 | 0.00 | ppb | 33.90 | 900.00 | |
| 9 Be | 45 | 2 | -0.26 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 41.58 | 2.08 | ppb | 3.34 | 900.00 | |
| 11 B | 45 | 2 | 43.44 | 2.17 | ppb | 7.24 | 900.00 | |
| 23 Na | 45 | 1 | 8790.00 | 439.50 | ppb | 0.30 | 90000.00 | |
| 23 Na | 45 | 2 | 9264.00 | 463.20 | ppb | 1.01 | 90000.00 | |
| 24 Mg | 45 | 1 | 1410.20 | 70.51 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 1422.20 | 71.11 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 18.65 | 0.93 | ppb | 10.21 | 90000.00 | |
| 27 Al | 45 | 2 | 22.80 | 1.14 | ppb | 6.96 | 90000.00 | |
| 39 K | 45 | 1 | 4430.00 | 221.50 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 12904.00 | 645.20 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.44 | 0.12 | ppb | 9.34 | 900.00 | |
| 51 V | 45 | 2 | -3.80 | -0.19 | ppb | 1.36 | 900.00 | |
| 52 Cr | 45 | 2 | -1.96 | -0.10 | ppb | 8.62 | 900.00 | |
| 55 Mn | 45 | 2 | 259.80 | 12.99 | ppb | 0.92 | 900.00 | |
| 56 Fe | 45 | 2 | 10300.00 | 515.00 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.20 | 0.01 | ppb | 10.39 | 900.00 | |
| 60 Ni | 45 | 2 | 15.37 | 0.77 | ppb | 3.25 | 900.00 | |
| 63 Cu | 72 | 2 | 1.36 | 0.07 | ppb | 20.17 | 900.00 | |
| 66 Zn | 72 | 2 | 15.37 | 0.77 | ppb | 3.54 | 900.00 | |
| 75 As | 72 | 2 | 411.60 | 20.58 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 1.14 | 0.06 | ppb | 36.26 | 900.00 | |
| 88 Sr | 103 | 1 | 99.30 | 4.97 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.92 | 0.05 | ppb | 6.64 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 55.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.13 | 0.01 | ppb | 75.82 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 5.56 | 900.00 | |
| 121 Sb | 115 | 1 | -0.21 | -0.01 | ppb | 28.87 | 900.00 | |
| 137 Ba | 159 | 1 | 28.02 | 1.40 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.01 | ppb | 14.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.00 | ppb | 926.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2143574 | 0.92 | 1872800 | 114.5 | 70 - 130 | |
| 45 Sc | 1 | 2891802 | 0.16 | 2694091 | 107.3 | 70 - 130 | |
| 45 Sc | 2 | 317833 | 0.72 | 307819 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 590993 | 0.16 | 562443 | 105.1 | 70 - | 130 |
| 72 | Ge | 2 | 130475 | 0.63 | 127696 | 102.2 | 70 - | 130 |
| 103 | Rh | 1 | 3350209 | 0.43 | 3225131 | 103.9 | 70 - | 130 |
| 115 | In | 1 | 3745938 | 0.27 | 3540560 | 105.8 | 70 - | 130 |
| 115 | In | 2 | 1128243 | 0.78 | 1130477 | 99.8 | 70 - | 130 |
| 159 | Tb | 1 | 5116048 | 0.19 | 4800257 | 106.6 | 70 - | 130 |
| 175 | Lu | 1 | 4991495 | 0.62 | 4666574 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3054628 | 0.55 | 2883202 | 105.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Jun 6 2013 04:29 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-6F |
| Misc Info: | |
| Vial Number: | 2207 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.15 | 0.00 | ppb | 33.16 | 900.00 | |
| 9 Be | 45 | 2 | -0.21 | 0.00 | ppb | 179.50 | 900.00 | |
| 11 B | 6 | 1 | 194.20 | 3.88 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 217.15 | 4.34 | ppb | 5.25 | 900.00 | |
| 23 Na | 45 | 1 | 30170.00 | 603.40 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 32000.00 | 640.00 | ppb | 2.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 7530.00 | 150.60 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 7975.00 | 159.50 | ppb | 2.08 | 90000.00 | |
| 27 Al | 45 | 1 | 55.45 | 1.11 | ppb | 21.15 | 90000.00 | |
| 27 Al | 45 | 2 | 54.90 | 1.10 | ppb | 23.54 | 90000.00 | |
| 39 K | 45 | 1 | 13365.00 | 267.30 | ppb | 1.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 59700.00 | 1194.00 | ppb | 1.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.56 | 0.09 | ppb | 5.09 | 900.00 | |
| 51 V | 45 | 2 | -14.03 | -0.28 | ppb | 1.76 | 900.00 | |
| 52 Cr | 45 | 2 | -6.49 | -0.13 | ppb | 4.69 | 900.00 | |
| 55 Mn | 45 | 2 | 2852.00 | 57.04 | ppb | 2.09 | 900.00 | |
| 56 Fe | 45 | 2 | 97600.00 | 1952.00 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 4.37 | 0.09 | ppb | 3.15 | 900.00 | |
| 60 Ni | 45 | 2 | 6.40 | 0.13 | ppb | 4.51 | 900.00 | |
| 63 Cu | 72 | 2 | 3.53 | 0.07 | ppb | 10.33 | 900.00 | |
| 66 Zn | 72 | 2 | 29.75 | 0.59 | ppb | 3.36 | 900.00 | |
| 75 As | 72 | 2 | 1207.50 | 24.15 | ppb | 2.11 | 900.00 | |
| 78 Se | 72 | 2 | 3.14 | 0.06 | ppb | 117.65 | 900.00 | |
| 88 Sr | 103 | 1 | 678.00 | 13.56 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 1.44 | 0.03 | ppb | 19.40 | 900.00 | |
| 107 Ag | 115 | 1 | -0.24 | 0.00 | ppb | 9.27 | 180.00 | |
| 111 Cd | 115 | 2 | 0.17 | 0.00 | ppb | 64.39 | 900.00 | |
| 120 Sn | 115 | 1 | -1.27 | -0.03 | ppb | 5.78 | 900.00 | |
| 121 Sb | 115 | 1 | -0.88 | -0.02 | ppb | 8.86 | 900.00 | |
| 137 Ba | 159 | 1 | 100.40 | 2.01 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.00 | ppb | 43.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.09 | 0.00 | ppb | 153.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2112392 | 0.31 | 1872800 | 112.8 | 70 - 130 | |
| 45 Sc | 1 | 2920911 | 0.68 | 2694091 | 108.4 | 70 - 130 | |
| 45 Sc | 2 | 306270 | 1.98 | 307819 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 601599 | 0.65 | 562443 | 107.0 | 70 - | 130 |
| 72 | Ge | 2 | 128015 | 1.99 | 127696 | 100.3 | 70 - | 130 |
| 103 | Rh | 1 | 3347062 | 1.53 | 3225131 | 103.8 | 70 - | 130 |
| 115 | In | 1 | 3726230 | 0.70 | 3540560 | 105.2 | 70 - | 130 |
| 115 | In | 2 | 1094159 | 2.00 | 1130477 | 96.8 | 70 - | 130 |
| 159 | Tb | 1 | 5144519 | 0.63 | 4800257 | 107.2 | 70 - | 130 |
| 175 | Lu | 1 | 5036523 | 0.75 | 4666574 | 107.9 | 70 - | 130 |
| 209 | Bi | 1 | 3046227 | 1.43 | 2883202 | 105.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D#
Date Acquired: Jun 6 2013 04:36 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-8F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.46 | 0.00 | ppb | 4.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.82 | 0.01 | ppb | 235.72 | 900.00 | |
| 11 B | 6 | 1 | 123.60 | 1.24 | ppb | 5.14 | 900.00 | |
| 11 B | 45 | 2 | 113.60 | 1.14 | ppb | 15.04 | 900.00 | |
| 23 Na | 45 | 1 | 17900.00 | 179.00 | ppb | 3.63 | 90000.00 | |
| 23 Na | 45 | 2 | 19430.00 | 194.30 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 7342.00 | 73.42 | ppb | 4.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 7512.00 | 75.12 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 60.04 | 0.60 | ppb | 8.43 | 90000.00 | |
| 27 Al | 45 | 2 | 59.46 | 0.59 | ppb | 40.16 | 90000.00 | |
| 39 K | 45 | 1 | 10690.00 | 106.90 | ppb | 8.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 39720.00 | 397.20 | ppb | 3.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.05 | 0.04 | ppb | 41.27 | 900.00 | |
| 51 V | 45 | 2 | -30.96 | -0.31 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | -14.45 | -0.14 | ppb | 0.62 | 900.00 | |
| 55 Mn | 45 | 2 | 1956.00 | 19.56 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 103000.00 | 1030.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 27.83 | 0.28 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 9.32 | 0.09 | ppb | 2.11 | 900.00 | |
| 63 Cu | 72 | 2 | 4.80 | 0.05 | ppb | 2.43 | 900.00 | |
| 66 Zn | 72 | 2 | 28.05 | 0.28 | ppb | 6.81 | 900.00 | |
| 75 As | 72 | 2 | 1981.00 | 19.81 | ppb | 0.68 | 900.00 | |
| 78 Se | 72 | 2 | 16.55 | 0.17 | ppb | 52.21 | 900.00 | |
| 88 Sr | 103 | 1 | 512.40 | 5.12 | ppb | 4.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2.74 | 0.03 | ppb | 10.45 | 900.00 | |
| 107 Ag | 115 | 1 | -0.40 | 0.00 | ppb | 16.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.72 | 0.01 | ppb | 40.70 | 900.00 | |
| 120 Sn | 115 | 1 | -3.10 | -0.03 | ppb | 0.69 | 900.00 | |
| 121 Sb | 115 | 1 | -1.86 | -0.02 | ppb | 8.77 | 900.00 | |
| 137 Ba | 159 | 1 | 77.15 | 0.77 | ppb | 6.65 | 900.00 | |
| 205 Tl | 209 | 1 | -0.05 | 0.00 | ppb | 333.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.39 | 0.00 | ppb | 32.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122546 | 3.09 | 1872800 | 113.3 | 70 - 130 | |
| 45 Sc | 1 | 2931086 | 2.69 | 2694091 | 108.8 | 70 - 130 | |
| 45 Sc | 2 | 317559 | 0.76 | 307819 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 605518 | 3.04 | 562443 | 107.7 | 70 | - | 130 |
| 72 | Ge | 2 | 130158 | 0.35 | 127696 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3429354 | 3.53 | 3225131 | 106.3 | 70 | - | 130 |
| 115 | In | 1 | 3811410 | 3.22 | 3540560 | 107.6 | 70 | - | 130 |
| 115 | In | 2 | 1124016 | 0.78 | 1130477 | 99.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5220389 | 4.62 | 4800257 | 108.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5114950 | 3.45 | 4666574 | 109.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3039315 | 1.60 | 2883202 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#
Date Acquired: Jun 6 2013 04:43 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-9F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 40.62 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 175.67 | 900.00 | |
| 11 B | 6 | 1 | 83.10 | 4.16 | ppb | 1.93 | 900.00 | |
| 11 B | 45 | 2 | 85.68 | 4.28 | ppb | 4.30 | 900.00 | |
| 23 Na | 45 | 1 | 25500.00 | 1275.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 26180.00 | 1309.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 6942.00 | 347.10 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 7346.00 | 367.30 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 20.46 | 1.02 | ppb | 16.34 | 90000.00 | |
| 27 Al | 45 | 2 | 21.16 | 1.06 | ppb | 16.13 | 90000.00 | |
| 39 K | 45 | 1 | 6576.00 | 328.80 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 50760.00 | 2538.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.49 | 0.17 | ppb | 32.61 | 900.00 | |
| 51 V | 45 | 2 | -4.14 | -0.21 | ppb | 3.44 | 900.00 | |
| 52 Cr | 45 | 2 | -2.16 | -0.11 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 2484.00 | 124.20 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 19778.00 | 988.90 | ppb | 0.61 | 90000.00 | |
| 59 Co | 45 | 2 | 3.50 | 0.18 | ppb | 1.80 | 900.00 | |
| 60 Ni | 45 | 2 | 5.03 | 0.25 | ppb | 2.57 | 900.00 | |
| 63 Cu | 72 | 2 | 1.34 | 0.07 | ppb | 5.85 | 900.00 | |
| 66 Zn | 72 | 2 | 12.89 | 0.64 | ppb | 3.57 | 900.00 | |
| 75 As | 72 | 2 | 496.20 | 24.81 | ppb | 0.58 | 900.00 | |
| 78 Se | 72 | 2 | -1.84 | -0.09 | ppb | 145.26 | 900.00 | |
| 88 Sr | 103 | 1 | 365.00 | 18.25 | ppb | 0.61 | 900.00 | |
| 98 Mo | 103 | 1 | 3.06 | 0.15 | ppb | 4.90 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 67.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.00 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | -0.54 | -0.03 | ppb | 1.47 | 900.00 | |
| 121 Sb | 115 | 1 | -0.18 | -0.01 | ppb | 40.09 | 900.00 | |
| 137 Ba | 159 | 1 | 85.06 | 4.25 | ppb | 1.34 | 900.00 | |
| 205 Tl | 209 | 1 | -0.28 | -0.01 | ppb | 2.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.02 | 0.00 | ppb | 245.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2085821 | 0.05 | 1872800 | 111.4 | 70 - 130 | |
| 45 Sc | 1 | 2865397 | 0.62 | 2694091 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 310377 | 0.18 | 307819 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588771 | 0.67 | 562443 | 104.7 | 70 - | 130 |
| 72 | Ge | 2 | 129093 | 0.15 | 127696 | 101.1 | 70 - | 130 |
| 103 | Rh | 1 | 3298538 | 0.32 | 3225131 | 102.3 | 70 - | 130 |
| 115 | In | 1 | 3717187 | 0.83 | 3540560 | 105.0 | 70 - | 130 |
| 115 | In | 2 | 1108209 | 0.53 | 1130477 | 98.0 | 70 - | 130 |
| 159 | Tb | 1 | 5004554 | 0.96 | 4800257 | 104.3 | 70 - | 130 |
| 175 | Lu | 1 | 4950781 | 1.48 | 4666574 | 106.1 | 70 - | 130 |
| 209 | Bi | 1 | 2978194 | 0.19 | 2883202 | 103.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#
Date Acquired: Jun 6 2013 04:50 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-10F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 101.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 47.41 | 900.00 | |
| 11 B | 6 | 1 | -0.32 | -0.16 | ppb | 3.08 | 900.00 | |
| 11 B | 45 | 2 | -0.20 | -0.10 | ppb | 60.72 | 900.00 | |
| 23 Na | 45 | 1 | 6.59 | 3.29 | ppb | 3.03 | 90000.00 | |
| 23 Na | 45 | 2 | 17.03 | 8.52 | ppb | 3.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.58 | 0.79 | ppb | 7.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.02 | 1.01 | ppb | 7.02 | 90000.00 | |
| 27 Al | 45 | 1 | 2.53 | 1.26 | ppb | 29.71 | 90000.00 | |
| 27 Al | 45 | 2 | 2.22 | 1.11 | ppb | 21.86 | 90000.00 | |
| 39 K | 45 | 1 | 0.34 | 0.17 | ppb | 322.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 21.92 | 10.96 | ppb | 1.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.05 | ppb | 38.26 | 900.00 | |
| 51 V | 45 | 2 | -0.41 | -0.21 | ppb | 2.99 | 900.00 | |
| 52 Cr | 45 | 2 | -0.22 | -0.11 | ppb | 2.27 | 900.00 | |
| 55 Mn | 45 | 2 | 0.77 | 0.39 | ppb | 7.69 | 900.00 | |
| 56 Fe | 45 | 2 | 6.13 | 3.07 | ppb | 5.47 | 90000.00 | |
| 59 Co | 45 | 2 | -0.01 | 0.00 | ppb | 40.07 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 19.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.14 | 0.07 | ppb | 1.63 | 900.00 | |
| 66 Zn | 72 | 2 | 1.24 | 0.62 | ppb | 1.43 | 900.00 | |
| 75 As | 72 | 2 | -0.06 | -0.03 | ppb | 7.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.00 | ppb | 323.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 13.56 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.01 | ppb | 29.13 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 25.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 165.92 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | -0.02 | ppb | 15.87 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | -0.01 | ppb | 24.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.03 | ppb | 12.38 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | -0.01 | ppb | 24.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 45.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2126321 | 0.94 | 1872800 | 113.5 | 70 - 130 | |
| 45 Sc | 1 | 2877811 | 0.52 | 2694091 | 106.8 | 70 - 130 | |
| 45 Sc | 2 | 313909 | 0.32 | 307819 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 592980 | 0.90 | 562443 | 105.4 | 70 | - | 130 |
| 72 Ge | 2 | 129650 | 0.19 | 127696 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 3366471 | 0.31 | 3225131 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 3733863 | 0.07 | 3540560 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1119458 | 0.43 | 1130477 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 5101601 | 0.75 | 4800257 | 106.3 | 70 | - | 130 |
| 175 Lu | 1 | 4970477 | 1.08 | 4666574 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 3046107 | 1.53 | 2883202 | 105.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D# |
| Date Acquired: | Jun 6 2013 04:59 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-11F |
| Misc Info: | |
| Vial Number: | 2211 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 200.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 200.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.82 | 0.00 | ppb | 19.91 | 900.00 | |
| 9 Be | 45 | 2 | 0.89 | 0.00 | ppb | 432.41 | 900.00 | |
| 11 B | 6 | 1 | -9.40 | -0.05 | ppb | 7.29 | 900.00 | |
| 11 B | 45 | 2 | -22.32 | -0.11 | ppb | 149.64 | 900.00 | |
| 23 Na | 45 | 1 | 5986.00 | 29.93 | ppb | 3.41 | 90000.00 | |
| 23 Na | 45 | 2 | 7490.00 | 37.45 | ppb | 6.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 3216.00 | 16.08 | ppb | 3.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 3412.00 | 17.06 | ppb | 2.83 | 90000.00 | |
| 27 Al | 45 | 1 | 151.74 | 0.76 | ppb | 53.16 | 90000.00 | |
| 27 Al | 45 | 2 | 234.60 | 1.17 | ppb | 22.00 | 90000.00 | |
| 39 K | 45 | 1 | 1114.20 | 5.57 | ppb | 19.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 31200.00 | 156.00 | ppb | 2.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.17 | 0.02 | ppb | 40.36 | 900.00 | |
| 51 V | 45 | 2 | -63.36 | -0.32 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | -28.44 | -0.14 | ppb | 5.35 | 900.00 | |
| 55 Mn | 45 | 2 | 6748.00 | 33.74 | ppb | 3.60 | 900.00 | |
| 56 Fe | 45 | 2 | 55280.00 | 276.40 | ppb | 4.68 | 90000.00 | |
| 59 Co | 45 | 2 | 6.16 | 0.03 | ppb | 7.15 | 900.00 | |
| 60 Ni | 45 | 2 | 12.94 | 0.06 | ppb | 13.67 | 900.00 | |
| 63 Cu | 72 | 2 | 9.72 | 0.05 | ppb | 4.93 | 900.00 | |
| 66 Zn | 72 | 2 | 26.58 | 0.13 | ppb | 5.44 | 900.00 | |
| 75 As | 72 | 2 | 3580.00 | 17.90 | ppb | 1.76 | 900.00 | |
| 78 Se | 72 | 2 | 3.43 | 0.02 | ppb | 465.52 | 900.00 | |
| 88 Sr | 103 | 1 | 103.94 | 0.52 | ppb | 5.20 | 900.00 | |
| 98 Mo | 103 | 1 | 0.58 | 0.00 | ppb | 197.88 | 900.00 | |
| 107 Ag | 115 | 1 | -0.76 | 0.00 | ppb | 59.81 | 180.00 | |
| 111 Cd | 115 | 2 | 1.50 | 0.01 | ppb | 43.35 | 900.00 | |
| 120 Sn | 115 | 1 | -6.64 | -0.03 | ppb | 3.78 | 900.00 | |
| 121 Sb | 115 | 1 | -4.00 | -0.02 | ppb | 3.63 | 900.00 | |
| 137 Ba | 159 | 1 | 19.12 | 0.10 | ppb | 20.87 | 900.00 | |
| 205 Tl | 209 | 1 | -0.97 | 0.00 | ppb | 66.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.25 | 0.00 | ppb | 229.28 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2187153 | 2.56 | 1872800 | 116.8 | 70 - 130 | |
| 45 Sc | 1 | 3024463 | 0.80 | 2694091 | 112.3 | 70 - 130 | |
| 45 Sc | 2 | 304004 | 4.10 | 307819 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 612057 | 1.22 | 562443 | 108.8 | 70 | - | 130 |
| 72 | Ge | 2 | 128229 | 1.98 | 127696 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3500126 | 1.57 | 3225131 | 108.5 | 70 | - | 130 |
| 115 | In | 1 | 3905870 | 0.59 | 3540560 | 110.3 | 70 | - | 130 |
| 115 | In | 2 | 1096804 | 2.94 | 1130477 | 97.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5329956 | 0.66 | 4800257 | 111.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5233337 | 1.37 | 4666574 | 112.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3106618 | 1.23 | 2883202 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 05:06 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-12F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2212 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.10 | 0.00 | ppb | 31.21 | 900.00 | |
| 9 Be | 45 | 2 | -0.17 | -0.01 | ppb | 85.82 | 900.00 | |
| 11 B | 6 | 1 | 138.28 | 6.91 | ppb | 0.33 | 900.00 | |
| 11 B | 45 | 2 | 130.58 | 6.53 | ppb | 3.00 | 900.00 | |
| 23 Na | 45 | 1 | 47700.00 | 2385.00 | ppb | 0.22 | 90000.00 | |
| 23 Na | 45 | 2 | 47720.00 | 2386.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 8722.00 | 436.10 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 9144.00 | 457.20 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 25.46 | 1.27 | ppb | 6.56 | 90000.00 | |
| 27 Al | 45 | 2 | 27.80 | 1.39 | ppb | 10.81 | 90000.00 | |
| 39 K | 45 | 1 | 8408.00 | 420.40 | ppb | 1.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 60200.00 | 3010.00 | ppb | 0.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.01 | 0.25 | ppb | 22.10 | 900.00 | |
| 51 V | 45 | 2 | -4.06 | -0.20 | ppb | 2.54 | 900.00 | |
| 52 Cr | 45 | 2 | -2.02 | -0.10 | ppb | 0.80 | 900.00 | |
| 55 Mn | 45 | 2 | 2906.00 | 145.30 | ppb | 0.78 | 900.00 | |
| 56 Fe | 45 | 2 | 41060.00 | 2053.00 | ppb | 0.68 | 90000.00 | |
| 59 Co | 45 | 2 | 0.54 | 0.03 | ppb | 9.19 | 900.00 | |
| 60 Ni | 45 | 2 | 2.94 | 0.15 | ppb | 8.28 | 900.00 | |
| 63 Cu | 72 | 2 | 1.79 | 0.09 | ppb | 13.94 | 900.00 | |
| 66 Zn | 72 | 2 | 24.38 | 1.22 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 659.20 | 32.96 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.00 | ppb | 2121.80 | 900.00 | |
| 88 Sr | 103 | 1 | 338.40 | 16.92 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.95 | 0.05 | ppb | 8.47 | 900.00 | |
| 107 Ag | 115 | 1 | -0.06 | 0.00 | ppb | 10.53 | 180.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.01 | ppb | 43.16 | 900.00 | |
| 120 Sn | 115 | 1 | -0.47 | -0.02 | ppb | 5.13 | 900.00 | |
| 121 Sb | 115 | 1 | -0.20 | -0.01 | ppb | 24.69 | 900.00 | |
| 137 Ba | 159 | 1 | 48.28 | 2.41 | ppb | 1.37 | 900.00 | |
| 205 Tl | 209 | 1 | -0.35 | -0.02 | ppb | 4.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.00 | ppb | 44.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2095264 | 0.38 | 1872800 | 111.9 | 70 - 130 | |
| 45 Sc | 1 | 2880890 | 0.59 | 2694091 | 106.9 | 70 - 130 | |
| 45 Sc | 2 | 314327 | 0.25 | 307819 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 595309 | 0.27 | 562443 | 105.8 | 70 - | 130 |
| 72 | Ge | 2 | 130222 | 0.21 | 127696 | 102.0 | 70 - | 130 |
| 103 | Rh | 1 | 3307194 | 0.15 | 3225131 | 102.5 | 70 - | 130 |
| 115 | In | 1 | 3737822 | 0.38 | 3540560 | 105.6 | 70 - | 130 |
| 115 | In | 2 | 1122739 | 0.11 | 1130477 | 99.3 | 70 - | 130 |
| 159 | Tb | 1 | 5075609 | 0.32 | 4800257 | 105.7 | 70 - | 130 |
| 175 | Lu | 1 | 4997244 | 0.66 | 4666574 | 107.1 | 70 - | 130 |
| 209 | Bi | 1 | 3043387 | 0.19 | 2883202 | 105.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D# |
| Date Acquired: | Jun 6 2013 05:13 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21156-13F |
| Misc Info: | |
| Vial Number: | 2301 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 06 2013 01:52 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 166.23 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 311.19 | 900.00 | |
| 11 B | 6 | 1 | 26.46 | 13.23 | ppb | 1.57 | 900.00 | |
| 11 B | 45 | 2 | 27.66 | 13.83 | ppb | 2.77 | 900.00 | |
| 23 Na | 45 | 1 | 6890.00 | 3445.00 | ppb | 0.78 | 90000.00 | |
| 23 Na | 45 | 2 | 7002.00 | 3501.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 2788.00 | 1394.00 | ppb | 0.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 2890.00 | 1445.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 14.14 | 7.07 | ppb | 3.45 | 90000.00 | |
| 27 Al | 45 | 2 | 13.68 | 6.84 | ppb | 1.84 | 90000.00 | |
| 39 K | 45 | 1 | 2864.00 | 1432.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 14216.00 | 7108.00 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.28 | 0.64 | ppb | 3.42 | 900.00 | |
| 51 V | 45 | 2 | 2.15 | 1.08 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 2.21 | 900.00 | |
| 55 Mn | 45 | 2 | 364.60 | 182.30 | ppb | 2.18 | 900.00 | |
| 56 Fe | 45 | 2 | 174.74 | 87.37 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.94 | 0.47 | ppb | 1.90 | 900.00 | |
| 60 Ni | 45 | 2 | 3.34 | 1.67 | ppb | 2.14 | 900.00 | |
| 63 Cu | 72 | 2 | 2.08 | 1.04 | ppb | 2.45 | 900.00 | |
| 66 Zn | 72 | 2 | 19.07 | 9.53 | ppb | 0.27 | 900.00 | |
| 75 As | 72 | 2 | 1.95 | 0.97 | ppb | 1.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.16 | 0.08 | ppb | 127.02 | 900.00 | |
| 88 Sr | 103 | 1 | 99.78 | 49.89 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.06 | ppb | 3.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.75 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 37.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 14.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.14 | ppb | 3.90 | 900.00 | |
| 137 Ba | 159 | 1 | 32.78 | 16.39 | ppb | 1.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 29.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 10.23 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2375502 | 1.30 | 1872800 | 126.8 | 70 - 130 | |
| 45 Sc | 1 | 3038209 | 1.17 | 2694091 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 321370 | 0.87 | 307819 | 104.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 615211 | 0.64 | 562443 | 109.4 | 70 - | 130 |
| 72 | Ge | 2 | 130666 | 0.49 | 127696 | 102.3 | 70 - | 130 |
| 103 | Rh | 1 | 3309237 | 0.83 | 3225131 | 102.6 | 70 - | 130 |
| 115 | In | 1 | 3769647 | 1.01 | 3540560 | 106.5 | 70 - | 130 |
| 115 | In | 2 | 1085966 | 0.33 | 1130477 | 96.1 | 70 - | 130 |
| 159 | Tb | 1 | 5217940 | 0.39 | 4800257 | 108.7 | 70 - | 130 |
| 175 | Lu | 1 | 5154640 | 0.73 | 4666574 | 110.5 | 70 - | 130 |
| 209 | Bi | 1 | 3062134 | 0.75 | 2883202 | 106.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#
**Date Acquired:** Jun 6 2013 05:20 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21156-14F
**Misc Info:**
**Vial Number:** 2302
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 06 2013 01:52 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 188.70 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 80.77 | 900.00 | |
| 11 B | 6 | 1 | 65.94 | 32.97 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 66.48 | 33.24 | ppb | 12.92 | 900.00 | |
| 23 Na | 45 | 1 | 18524.00 | 9262.00 | ppb | 0.77 | 90000.00 | |
| 23 Na | 45 | 2 | 18128.00 | 9064.00 | ppb | 6.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 4508.00 | 2254.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 4486.00 | 2243.00 | ppb | 5.84 | 90000.00 | |
| 27 Al | 45 | 1 | 4.15 | 2.08 | ppb | 3.07 | 90000.00 | |
| 27 Al | 45 | 2 | 3.62 | 1.81 | ppb | 2.67 | 90000.00 | |
| 39 K | 45 | 1 | 4448.00 | 2224.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 30360.00 | 15180.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.67 | 0.84 | ppb | 3.51 | 900.00 | |
| 51 V | 45 | 2 | 2.50 | 1.25 | ppb | 9.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.55 | 0.28 | ppb | 14.75 | 900.00 | |
| 55 Mn | 45 | 2 | 446.60 | 223.30 | ppb | 6.25 | 900.00 | |
| 56 Fe | 45 | 2 | 58.84 | 29.42 | ppb | 7.43 | 90000.00 | |
| 59 Co | 45 | 2 | 0.84 | 0.42 | ppb | 9.55 | 900.00 | |
| 60 Ni | 45 | 2 | 3.31 | 1.66 | ppb | 6.14 | 900.00 | |
| 63 Cu | 72 | 2 | 1.23 | 0.62 | ppb | 6.50 | 900.00 | |
| 66 Zn | 72 | 2 | 9.10 | 4.55 | ppb | 6.03 | 900.00 | |
| 75 As | 72 | 2 | 2.57 | 1.28 | ppb | 4.65 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 41.43 | 900.00 | |
| 88 Sr | 103 | 1 | 218.60 | 109.30 | ppb | 2.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.18 | ppb | 7.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 9.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 3.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 3.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.62 | 0.31 | ppb | 3.63 | 900.00 | |
| 137 Ba | 159 | 1 | 61.58 | 30.79 | ppb | 1.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 1.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 2.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2409836 | 0.99 | 1872800 | 128.7 | 70 - 130 | |
| 45 Sc | 1 | 3105723 | 0.69 | 2694091 | 115.3 | 70 - 130 | |
| 45 Sc | 2 | 340703 | 6.18 | 307819 | 110.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 624141 | 0.75 | 562443 | 111.0 | 70 | - | 130 |
| 72 Ge | 2 | 136607 | 5.18 | 127696 | 107.0 | 70 | - | 130 |
| 103 Rh | 1 | 3309737 | 1.18 | 3225131 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 3769372 | 0.70 | 3540560 | 106.5 | 70 | - | 130 |
| 115 In | 2 | 1135552 | 6.03 | 1130477 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 5225854 | 1.46 | 4800257 | 108.9 | 70 | - | 130 |
| 175 Lu | 1 | 5138251 | 0.92 | 4666574 | 110.1 | 70 | - | 130 |
| 209 Bi | 1 | 3024040 | 0.33 | 2883202 | 104.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#
Date Acquired: Jun 6 2013 05:27 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.78 | 50.78 | ppb | 2.25 | 900.00 | |
| 9 Be | 45 | 2 | 52.98 | 52.98 | ppb | 0.39 | 900.00 | |
| 11 B | 6 | 1 | 50.49 | 50.49 | ppb | 2.44 | 900.00 | |
| 11 B | 45 | 2 | 50.80 | 50.80 | ppb | 3.32 | 900.00 | |
| 23 Na | 45 | 1 | 5364.00 | 5364.00 | ppb | 4.82 | 90000.00 | |
| 23 Na | 45 | 2 | 5269.00 | 5269.00 | ppb | 1.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 5280.00 | 5280.00 | ppb | 4.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 5232.00 | 5232.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 5266.00 | 5266.00 | ppb | 4.90 | 90000.00 | |
| 27 Al | 45 | 2 | 5137.00 | 5137.00 | ppb | 0.22 | 90000.00 | |
| 39 K | 45 | 1 | 5284.00 | 5284.00 | ppb | 4.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 5338.00 | 5338.00 | ppb | 4.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 51.56 | 51.56 | ppb | 4.72 | 900.00 | |
| 51 V | 45 | 2 | 50.86 | 50.86 | ppb | 0.48 | 900.00 | |
| 52 Cr | 45 | 2 | 50.13 | 50.13 | ppb | 0.20 | 900.00 | |
| 55 Mn | 45 | 2 | 49.01 | 49.01 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 49.79 | 49.79 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 49.84 | 49.84 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 50.14 | 50.14 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 50.75 | 50.75 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 50.32 | 50.32 | ppb | 0.97 | 900.00 | |
| 78 Se | 72 | 2 | 48.38 | 48.38 | ppb | 0.68 | 900.00 | |
| 88 Sr | 103 | 1 | 54.24 | 54.24 | ppb | 4.42 | 900.00 | |
| 98 Mo | 103 | 1 | 53.30 | 53.30 | ppb | 4.13 | 900.00 | |
| 107 Ag | 115 | 1 | 51.07 | 51.07 | ppb | 4.22 | 180.00 | |
| 111 Cd | 115 | 2 | 51.06 | 51.06 | ppb | 0.28 | 900.00 | |
| 120 Sn | 115 | 1 | 52.80 | 52.80 | ppb | 4.51 | 900.00 | |
| 121 Sb | 115 | 1 | 55.43 | 55.43 | ppb | 4.91 | 900.00 | |
| 137 Ba | 159 | 1 | 51.65 | 51.65 | ppb | 4.39 | 900.00 | |
| 205 Tl | 209 | 1 | 49.58 | 49.58 | ppb | 2.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 53.29 | 53.29 | ppb | 3.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2161054 | 2.37 | 1872800 | 115.4 | 70 - 130 | |
| 45 Sc | 1 | 2894687 | 4.14 | 2694091 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 315915 | 0.05 | 307819 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 577913 | 2.75 | 562443 | 102.8 | 70 | - | 130 |
| 72 Ge | 2 | 128251 | 0.34 | 127696 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 3208518 | 4.34 | 3225131 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3617743 | 4.30 | 3540560 | 102.2 | 70 | - | 130 |
| 115 In | 2 | 1079139 | 0.07 | 1130477 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 4987684 | 3.73 | 4800257 | 103.9 | 70 | - | 130 |
| 175 Lu | 1 | 4934259 | 3.58 | 4666574 | 105.7 | 70 | - | 130 |
| 209 Bi | 1 | 2910132 | 3.27 | 2883202 | 100.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#
Date Acquired: Jun 6 2013 05:34 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 26.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 234.91 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 88.87 | 900.00 | |
| 11 B | 45 | 2 | -0.04 | -0.04 | ppb | 256.95 | 900.00 | |
| 23 Na | 45 | 1 | 2.86 | 2.86 | ppb | 11.27 | 90000.00 | |
| 23 Na | 45 | 2 | 9.03 | 9.03 | ppb | 6.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.33 | 1.33 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.07 | 2.07 | ppb | 18.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.30 | 0.30 | ppb | 11.86 | 90000.00 | |
| 27 Al | 45 | 2 | 0.83 | 0.83 | ppb | 20.08 | 90000.00 | |
| 39 K | 45 | 1 | 4.38 | 4.38 | ppb | 24.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5.05 | 5.05 | ppb | 22.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 15.66 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 67.77 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 10.56 | 900.00 | |
| 55 Mn | 45 | 2 | -0.13 | -0.13 | ppb | 6.14 | 900.00 | |
| 56 Fe | 45 | 2 | -0.58 | -0.58 | ppb | 42.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 46.92 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 67.20 | 900.00 | |
| 66 Zn | 72 | 2 | 0.23 | 0.23 | ppb | 5.13 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 55.95 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.13 | ppb | 63.04 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 7.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 2.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 24.23 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 34.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 5.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 12.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 31.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 1.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 27.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2202326 | 0.76 | 1872800 | 117.6 | 70 - 130 | |
| 45 Sc | 1 | 2909233 | 0.59 | 2694091 | 108.0 | 70 - 130 | |
| 45 Sc | 2 | 316288 | 0.66 | 307819 | 102.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 594047 | 0.92 | 562443 | 105.6 | 70 - | 130 |
| 72 | Ge | 2 | 128921 | 0.09 | 127696 | 101.0 | 70 - | 130 |
| 103 | Rh | 1 | 3362726 | 0.57 | 3225131 | 104.3 | 70 - | 130 |
| 115 | In | 1 | 3761378 | 0.97 | 3540560 | 106.2 | 70 - | 130 |
| 115 | In | 2 | 1109568 | 0.39 | 1130477 | 98.2 | 70 - | 130 |
| 159 | Tb | 1 | 5106561 | 0.64 | 4800257 | 106.4 | 70 - | 130 |
| 175 | Lu | 1 | 4995445 | 0.13 | 4666574 | 107.0 | 70 - | 130 |
| 209 | Bi | 1 | 3062977 | 0.41 | 2883202 | 106.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#
Date Acquired: Jun 6 2013 05:41 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-15F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 70.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 179.35 | 900.00 | |
| 11 B | 6 | 1 | 67.54 | 33.77 | ppb | 2.01 | 900.00 | |
| 11 B | 45 | 2 | 70.30 | 35.15 | ppb | 4.04 | 900.00 | |
| 23 Na | 45 | 1 | 19016.00 | 9508.00 | ppb | 1.01 | 90000.00 | |
| 23 Na | 45 | 2 | 19078.00 | 9539.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 4540.00 | 2270.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 4690.00 | 2345.00 | ppb | 0.08 | 90000.00 | |
| 27 Al | 45 | 1 | 5.62 | 2.81 | ppb | 2.08 | 90000.00 | |
| 27 Al | 45 | 2 | 5.91 | 2.95 | ppb | 3.19 | 90000.00 | |
| 39 K | 45 | 1 | 4474.00 | 2237.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 30400.00 | 15200.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.75 | 0.88 | ppb | 6.69 | 900.00 | |
| 51 V | 45 | 2 | 2.66 | 1.33 | ppb | 2.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.64 | 0.32 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 467.60 | 233.80 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 65.92 | 32.96 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.92 | 0.46 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | 3.91 | 1.96 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.69 | 0.84 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 11.58 | 5.79 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 2.65 | 1.33 | ppb | 1.11 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 573.92 | 900.00 | |
| 88 Sr | 103 | 1 | 217.60 | 108.80 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.45 | 0.23 | ppb | 1.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 8.57 | 180.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 30.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 4.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.60 | 0.30 | ppb | 1.40 | 900.00 | |
| 137 Ba | 159 | 1 | 61.44 | 30.72 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 0.32 | 0.16 | ppb | 2.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 1.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2367609 | 0.57 | 1872800 | 126.4 | 70 - 130 | |
| 45 Sc | 1 | 3032723 | 0.70 | 2694091 | 112.6 | 70 - 130 | |
| 45 Sc | 2 | 322659 | 0.35 | 307819 | 104.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 612433 | 0.61 | 562443 | 108.9 | 70 | - | 130 |
| 72 Ge | 2 | 130096 | 0.50 | 127696 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3246687 | 0.72 | 3225131 | 100.7 | 70 | - | 130 |
| 115 In | 1 | 3714473 | 0.91 | 3540560 | 104.9 | 70 | - | 130 |
| 115 In | 2 | 1078884 | 0.57 | 1130477 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 5157702 | 1.17 | 4800257 | 107.4 | 70 | - | 130 |
| 175 Lu | 1 | 5044999 | 0.93 | 4666574 | 108.1 | 70 | - | 130 |
| 209 Bi | 1 | 2941784 | 0.45 | 2883202 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 05:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21156-16F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.07 | 0.00 | ppb | 40.60 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | 0.00 | ppb | 362.98 | 900.00 | |
| 11 B | 6 | 1 | 29.52 | 1.48 | ppb | 4.86 | 900.00 | |
| 11 B | 45 | 2 | 31.38 | 1.57 | ppb | 8.38 | 900.00 | |
| 23 Na | 45 | 1 | 10132.00 | 506.60 | ppb | 0.05 | 90000.00 | |
| 23 Na | 45 | 2 | 10998.00 | 549.90 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 3322.00 | 166.10 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 3494.00 | 174.70 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 1 | 21.84 | 1.09 | ppb | 23.60 | 90000.00 | |
| 27 Al | 45 | 2 | 27.22 | 1.36 | ppb | 27.88 | 90000.00 | |
| 39 K | 45 | 1 | 3412.00 | 170.60 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 26220.00 | 1311.00 | ppb | 0.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.85 | 0.14 | ppb | 10.22 | 900.00 | |
| 51 V | 45 | 2 | -3.18 | -0.16 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | -2.06 | -0.10 | ppb | 4.95 | 900.00 | |
| 55 Mn | 45 | 2 | 1713.80 | 85.69 | ppb | 0.54 | 900.00 | |
| 56 Fe | 45 | 2 | 29960.00 | 1498.00 | ppb | 0.66 | 90000.00 | |
| 59 Co | 45 | 2 | 1.61 | 0.08 | ppb | 2.41 | 900.00 | |
| 60 Ni | 45 | 2 | 3.10 | 0.16 | ppb | 11.50 | 900.00 | |
| 63 Cu | 72 | 2 | 1.22 | 0.06 | ppb | 10.17 | 900.00 | |
| 66 Zn | 72 | 2 | 15.18 | 0.76 | ppb | 1.82 | 900.00 | |
| 75 As | 72 | 2 | 484.40 | 24.22 | ppb | 0.22 | 900.00 | |
| 78 Se | 72 | 2 | 1.15 | 0.06 | ppb | 123.63 | 900.00 | |
| 88 Sr | 103 | 1 | 266.40 | 13.32 | ppb | 0.45 | 900.00 | |
| 98 Mo | 103 | 1 | 0.51 | 0.03 | ppb | 19.26 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 29.42 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.00 | ppb | 50.13 | 900.00 | |
| 120 Sn | 115 | 1 | -0.45 | -0.02 | ppb | 13.16 | 900.00 | |
| 121 Sb | 115 | 1 | -0.14 | -0.01 | ppb | 18.31 | 900.00 | |
| 137 Ba | 159 | 1 | 38.28 | 1.91 | ppb | 2.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.03 | ppb | 12.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.00 | ppb | 168.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2103455 | 0.84 | 1872800 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 2862611 | 0.84 | 2694091 | 106.3 | 70 - 130 | |
| 45 Sc | 2 | 306082 | 0.30 | 307819 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 589988 | 0.63 | 562443 | 104.9 | 70 | - | 130 |
| 72 | Ge | 2 | 127403 | 0.28 | 127696 | 99.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3303011 | 0.25 | 3225131 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 3694930 | 1.20 | 3540560 | 104.4 | 70 | - | 130 |
| 115 | In | 2 | 1094965 | 0.89 | 1130477 | 96.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5037779 | 0.33 | 4800257 | 104.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4939929 | 0.56 | 4666574 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3009548 | 1.12 | 2883202 | 104.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#
Date Acquired: Jun 6 2013 05:56 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-17F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 28.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 17153.00 | 900.00 | |
| 11 B | 6 | 1 | 113.88 | 5.69 | ppb | 1.74 | 900.00 | |
| 11 B | 45 | 2 | 116.04 | 5.80 | ppb | 11.81 | 900.00 | |
| 23 Na | 45 | 1 | 26660.00 | 1333.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 27120.00 | 1356.00 | ppb | 1.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 5628.00 | 281.40 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 5932.00 | 296.60 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 19.58 | 0.98 | ppb | 14.17 | 90000.00 | |
| 27 Al | 45 | 2 | 20.42 | 1.02 | ppb | 7.78 | 90000.00 | |
| 39 K | 45 | 1 | 10464.00 | 523.20 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 43420.00 | 2171.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.55 | 0.18 | ppb | 7.95 | 900.00 | |
| 51 V | 45 | 2 | -3.73 | -0.19 | ppb | 2.43 | 900.00 | |
| 52 Cr | 45 | 2 | -2.10 | -0.11 | ppb | 5.09 | 900.00 | |
| 55 Mn | 45 | 2 | 1413.40 | 70.67 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 56040.00 | 2802.00 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 2.31 | 0.12 | ppb | 1.93 | 900.00 | |
| 60 Ni | 45 | 2 | 2.90 | 0.15 | ppb | 5.78 | 900.00 | |
| 63 Cu | 72 | 2 | 1.33 | 0.07 | ppb | 8.48 | 900.00 | |
| 66 Zn | 72 | 2 | 15.21 | 0.76 | ppb | 3.60 | 900.00 | |
| 75 As | 72 | 2 | 609.80 | 30.49 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | -0.22 | -0.01 | ppb | 963.27 | 900.00 | |
| 88 Sr | 103 | 1 | 323.40 | 16.17 | ppb | 1.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.02 | ppb | 29.61 | 900.00 | |
| 107 Ag | 115 | 1 | -0.07 | 0.00 | ppb | 28.50 | 180.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.00 | ppb | 0.90 | 900.00 | |
| 120 Sn | 115 | 1 | -0.40 | -0.02 | ppb | 36.80 | 900.00 | |
| 121 Sb | 115 | 1 | -0.20 | -0.01 | ppb | 14.81 | 900.00 | |
| 137 Ba | 159 | 1 | 68.40 | 3.42 | ppb | 1.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 182.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 1906.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2078455 | 1.42 | 1872800 | 111.0 | 70 - 130 | |
| 45 Sc | 1 | 2844760 | 0.29 | 2694091 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 306849 | 0.53 | 307819 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 589144 | 0.92 | 562443 | 104.7 | 70 | - | 130 |
| 72 | Ge | 2 | 127241 | 0.38 | 127696 | 99.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3255785 | 0.22 | 3225131 | 101.0 | 70 | - | 130 |
| 115 | In | 1 | 3660865 | 0.48 | 3540560 | 103.4 | 70 | - | 130 |
| 115 | In | 2 | 1100243 | 0.61 | 1130477 | 97.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4943253 | 0.32 | 4800257 | 103.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4896571 | 0.37 | 4666574 | 104.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3000224 | 1.06 | 2883202 | 104.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D#
Date Acquired: Jun 6 2013 06:03 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-1F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 24.43 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 89.76 | 900.00 | |
| 11 B | 6 | 1 | 48.40 | 24.20 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 51.26 | 25.63 | ppb | 2.60 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 439200.00 | 219600.00 | ppb | 0.26 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 16790.00 | 8395.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 17198.00 | 8599.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 4.55 | 2.28 | ppb | 2.18 | 90000.00 | |
| 27 Al | 45 | 2 | 4.58 | 2.29 | ppb | 5.02 | 90000.00 | |
| 39 K | 45 | 1 | 6072.00 | 3036.00 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 140780.00 | 70390.00 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 1.06 | ppb | 4.73 | 900.00 | |
| 51 V | 45 | 2 | 2.52 | 1.26 | ppb | 3.12 | 900.00 | |
| 52 Cr | 45 | 2 | 0.67 | 0.34 | ppb | 4.40 | 900.00 | |
| 55 Mn | 45 | 2 | 37.02 | 18.51 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 37.00 | 18.50 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.24 | 0.12 | ppb | 5.29 | 900.00 | |
| 60 Ni | 45 | 2 | 3.34 | 1.67 | ppb | 2.33 | 900.00 | |
| 63 Cu | 72 | 2 | 1.66 | 0.83 | ppb | 2.88 | 900.00 | |
| 66 Zn | 72 | 2 | 12.14 | 6.07 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 1.50 | 0.75 | ppb | 2.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.19 | ppb | 57.17 | 900.00 | |
| 88 Sr | 103 | 1 | 874.40 | 437.20 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.25 | ppb | 0.77 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.05 | ppb | 5.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 7.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 2.59 | 900.00 | |
| 137 Ba | 159 | 1 | 172.66 | 86.33 | ppb | 1.10 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 22.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 4.72 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2240261 | 0.66 | 1872800 | 119.6 | 70 - 130 | |
| 45 Sc | 1 | 2917378 | 0.57 | 2694091 | 108.3 | 70 - 130 | |
| 45 Sc | 2 | 304812 | 0.23 | 307819 | 99.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563824 | 0.81 | 562443 | 100.2 | 70 - | 130 |
| 72 | Ge | 2 | 119886 | 0.67 | 127696 | 93.9 | 70 - | 130 |
| 103 | Rh | 1 | 2953300 | 0.52 | 3225131 | 91.6 | 70 - | 130 |
| 115 | In | 1 | 3432306 | 0.73 | 3540560 | 96.9 | 70 - | 130 |
| 115 | In | 2 | 982938 | 0.64 | 1130477 | 86.9 | 70 - | 130 |
| 159 | Tb | 1 | 4834817 | 0.27 | 4800257 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 4799235 | 0.83 | 4666574 | 102.8 | 70 - | 130 |
| 209 | Bi | 1 | 2677445 | 0.16 | 2883202 | 92.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#
Date Acquired: Jun 6 2013 06:10 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-2F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 112.41 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 93.98 | 900.00 | |
| 11 B | 6 | 1 | 45.98 | 22.99 | ppb | 0.69 | 900.00 | |
| 11 B | 45 | 2 | 47.44 | 23.72 | ppb | 5.09 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 404400.00 | 202200.00 | ppb | 0.32 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 15466.00 | 7733.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 15622.00 | 7811.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 2.69 | 1.34 | ppb | 1.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.97 | 1.49 | ppb | 3.20 | 90000.00 | |
| 39 K | 45 | 1 | 5930.00 | 2965.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 129140.00 | 64570.00 | ppb | 0.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.00 | 1.00 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.69 | 0.34 | ppb | 4.63 | 900.00 | |
| 55 Mn | 45 | 2 | 196.70 | 98.35 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 138.00 | 69.00 | ppb | 0.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.95 | 0.47 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 3.93 | 1.96 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1.43 | 0.72 | ppb | 2.55 | 900.00 | |
| 66 Zn | 72 | 2 | 9.76 | 4.88 | ppb | 2.89 | 900.00 | |
| 75 As | 72 | 2 | 1.49 | 0.74 | ppb | 4.32 | 900.00 | |
| 78 Se | 72 | 2 | 0.13 | 0.06 | ppb | 45.82 | 900.00 | |
| 88 Sr | 103 | 1 | 797.20 | 398.60 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.69 | 0.85 | ppb | 2.28 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.03 | ppb | 3.71 | 180.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.04 | ppb | 5.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 12.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.64 | 900.00 | |
| 137 Ba | 159 | 1 | 156.86 | 78.43 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 25.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 3.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2151553 | 0.58 | 1872800 | 114.9 | 70 - 130 | |
| 45 Sc | 1 | 2796448 | 0.34 | 2694091 | 103.8 | 70 - 130 | |
| 45 Sc | 2 | 295837 | 0.28 | 307819 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553631 | 0.70 | 562443 | 98.4 | 70 - | 130 |
| 72 | Ge | 2 | 117056 | 0.54 | 127696 | 91.7 | 70 - | 130 |
| 103 | Rh | 1 | 2918082 | 0.92 | 3225131 | 90.5 | 70 - | 130 |
| 115 | In | 1 | 3370189 | 0.69 | 3540560 | 95.2 | 70 - | 130 |
| 115 | In | 2 | 975776 | 0.76 | 1130477 | 86.3 | 70 - | 130 |
| 159 | Tb | 1 | 4782345 | 0.73 | 4800257 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 4750284 | 0.33 | 4666574 | 101.8 | 70 - | 130 |
| 209 | Bi | 1 | 2609678 | 1.03 | 2883202 | 90.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D# | | |
| **Date Acquired:** | Jun 6 2013 06:17 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21202-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2310 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 06 2013 01:52 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 55.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 311.83 | 900.00 | |
| 11 B | 6 | 1 | 16.86 | 8.43 | ppb | 1.39 | 900.00 | |
| 11 B | 45 | 2 | 17.38 | 8.69 | ppb | 2.56 | 900.00 | |
| 23 Na | 45 | 1 | 2532.00 | 1266.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 2672.00 | 1336.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 3244.00 | 1622.00 | ppb | 1.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 3456.00 | 1728.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 4.35 | 2.18 | ppb | 2.28 | 90000.00 | |
| 27 Al | 45 | 2 | 4.10 | 2.05 | ppb | 8.32 | 90000.00 | |
| 39 K | 45 | 1 | 2634.00 | 1317.00 | ppb | 2.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 17956.00 | 8978.00 | ppb | 1.50 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.10 | 1.05 | ppb | 3.52 | 900.00 | |
| 51 V | 45 | 2 | 2.16 | 1.08 | ppb | 1.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.60 | 0.30 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 579.00 | 289.50 | ppb | 1.81 | 900.00 | |
| 56 Fe | 45 | 2 | 1451.00 | 725.50 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 2.51 | 1.26 | ppb | 1.40 | 900.00 | |
| 60 Ni | 45 | 2 | 5.17 | 2.59 | ppb | 1.68 | 900.00 | |
| 63 Cu | 72 | 2 | 0.80 | 0.40 | ppb | 2.82 | 900.00 | |
| 66 Zn | 72 | 2 | 25.82 | 12.91 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 3.77 | 1.89 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 119.63 | 900.00 | |
| 88 Sr | 103 | 1 | 117.66 | 58.83 | ppb | 1.28 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.02 | ppb | 17.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 42.09 | 180.00 | |
| 111 Cd | 115 | 2 | 0.16 | 0.08 | ppb | 3.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 13.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 10.87 | 900.00 | |
| 137 Ba | 159 | 1 | 13.30 | 6.65 | ppb | 1.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 1.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 19.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2327684 | 1.11 | 1872800 | 124.3 | 70 - 130 | |
| 45 Sc | 1 | 2980999 | 0.59 | 2694091 | 110.6 | 70 - 130 | |
| 45 Sc | 2 | 309253 | 1.30 | 307819 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 605509 | 1.18 | 562443 | 107.7 | 70 | - | 130 |
| 72 | Ge | 2 | 125932 | 0.78 | 127696 | 98.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3268766 | 0.36 | 3225131 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 3708973 | 0.85 | 3540560 | 104.8 | 70 | - | 130 |
| 115 | In | 2 | 1064344 | 0.63 | 1130477 | 94.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5139589 | 1.17 | 4800257 | 107.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5072300 | 1.01 | 4666574 | 108.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2980928 | 1.18 | 2883202 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#
Date Acquired: Jun 6 2013 06:24 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-PS1
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 17.24 | 0.86 | ppb | 0.66 | 900.00 | |
| 9 Be | 45 | 2 | 17.44 | 0.87 | ppb | 11.67 | 900.00 | |
| 11 B | 6 | 1 | 213.60 | 10.68 | ppb | 0.82 | 900.00 | |
| 11 B | 45 | 2 | 230.80 | 11.54 | ppb | 4.36 | 900.00 | |
| 23 Na | 45 | 1 | 13000.00 | 650.00 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 13396.00 | 669.80 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 8270.00 | 413.50 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 2 | 8704.00 | 435.20 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 1 | 39.32 | 1.97 | ppb | 8.77 | 90000.00 | |
| 27 Al | 45 | 2 | 37.20 | 1.86 | ppb | 15.86 | 90000.00 | |
| 39 K | 45 | 1 | 10262.00 | 513.10 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 58460.00 | 2923.00 | ppb | 1.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 21.20 | 1.06 | ppb | 3.41 | 900.00 | |
| 51 V | 45 | 2 | 13.04 | 0.65 | ppb | 2.14 | 900.00 | |
| 52 Cr | 45 | 2 | 14.47 | 0.72 | ppb | 5.16 | 900.00 | |
| 55 Mn | 45 | 2 | 1032.00 | 51.60 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 69860.00 | 3493.00 | ppb | 1.65 | 90000.00 | |
| 59 Co | 45 | 2 | 17.20 | 0.86 | ppb | 2.47 | 900.00 | |
| 60 Ni | 45 | 2 | 18.74 | 0.94 | ppb | 3.80 | 900.00 | |
| 63 Cu | 72 | 2 | 18.14 | 0.91 | ppb | 1.50 | 900.00 | |
| 66 Zn | 72 | 2 | 26.00 | 1.30 | ppb | 2.72 | 900.00 | |
| 75 As | 72 | 2 | 495.40 | 24.77 | ppb | 1.23 | 900.00 | |
| 78 Se | 72 | 2 | 17.81 | 0.89 | ppb | 14.49 | 900.00 | |
| 88 Sr | 103 | 1 | 680.20 | 34.01 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 15.10 | 0.76 | ppb | 1.94 | 900.00 | |
| 107 Ag | 115 | 1 | 16.71 | 0.84 | ppb | 1.60 | 180.00 | |
| 111 Cd | 115 | 2 | 17.15 | 0.86 | ppb | 2.52 | 900.00 | |
| 120 Sn | 115 | 1 | 16.59 | 0.83 | ppb | 3.23 | 900.00 | |
| 121 Sb | 115 | 1 | 18.18 | 0.91 | ppb | 1.67 | 900.00 | |
| 137 Ba | 159 | 1 | 139.44 | 6.97 | ppb | 1.62 | 900.00 | |
| 205 Tl | 209 | 1 | 13.46 | 0.67 | ppb | 0.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.87 | 0.89 | ppb | 2.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1983564 | 0.17 | 1872800 | 105.9 | 70 - 130 | |
| 45 Sc | 1 | 2728371 | 1.17 | 2694091 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 300128 | 1.16 | 307819 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 572452 | 0.56 | 562443 | 101.8 | 70 | - | 130 |
| 72 | Ge | 2 | 124931 | 0.36 | 127696 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3179602 | 0.56 | 3225131 | 98.6 | 70 | - | 130 |
| 115 | In | 1 | 3578458 | 0.27 | 3540560 | 101.1 | 70 | - | 130 |
| 115 | In | 2 | 1085900 | 1.17 | 1130477 | 96.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4871653 | 1.07 | 4800257 | 101.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4768240 | 0.77 | 4666574 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2896896 | 0.94 | 2883202 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#
Date Acquired: Jun 6 2013 06:31 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-S1
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.00 | 10.02 | ppb | 0.07 | 900.00 | |
| 9 Be | 45 | 2 | 503.00 | 10.06 | ppb | 0.68 | 900.00 | |
| 11 B | 6 | 1 | 230.75 | 4.62 | ppb | 0.47 | 900.00 | |
| 11 B | 45 | 2 | 235.60 | 4.71 | ppb | 4.14 | 900.00 | |
| 23 Na | 45 | 1 | 41465.00 | 829.30 | ppb | 1.73 | 90000.00 | |
| 23 Na | 45 | 2 | 42960.00 | 859.20 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 35965.00 | 719.30 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 38125.00 | 762.50 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 1 | 2236.50 | 44.73 | ppb | 1.36 | 90000.00 | |
| 27 Al | 45 | 2 | 2277.00 | 45.54 | ppb | 1.37 | 90000.00 | |
| 39 K | 45 | 1 | 38090.00 | 761.80 | ppb | 3.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 97250.00 | 1945.00 | ppb | 1.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 503.00 | 10.06 | ppb | 1.72 | 900.00 | |
| 51 V | 45 | 2 | 502.50 | 10.05 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 496.75 | 9.94 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 1715.00 | 34.30 | ppb | 0.07 | 900.00 | |
| 56 Fe | 45 | 2 | 85000.00 | 1700.00 | ppb | 0.84 | 90000.00 | |
| 59 Co | 45 | 2 | 511.50 | 10.23 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 503.00 | 10.06 | ppb | 0.51 | 900.00 | |
| 63 Cu | 72 | 2 | 512.00 | 10.24 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 562.00 | 11.24 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 1098.50 | 21.97 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 523.00 | 10.46 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 1323.00 | 26.46 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.01 | ppb | 31.57 | 900.00 | |
| 107 Ag | 115 | 1 | 205.15 | 4.10 | ppb | 2.37 | 180.00 | |
| 111 Cd | 115 | 2 | 502.00 | 10.04 | ppb | 0.25 | 900.00 | |
| 120 Sn | 115 | 1 | -1.25 | -0.02 | ppb | 17.20 | 900.00 | |
| 121 Sb | 115 | 1 | 536.50 | 10.73 | ppb | 1.65 | 900.00 | |
| 137 Ba | 159 | 1 | 2185.50 | 43.71 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 460.00 | 9.20 | ppb | 3.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1037.00 | 20.74 | ppb | 0.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1962468 | 1.08 | 1872800 | 104.8 | 70 - 130 | |
| 45 Sc | 1 | 2746103 | 2.14 | 2694091 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 301824 | 0.15 | 307819 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563743 | 1.57 | 562443 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 125230 | 0.36 | 127696 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3230661 | 1.36 | 3225131 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3596320 | 1.82 | 3540560 | 101.6 | 70 | - | 130 |
| 115 | In | 2 | 1093239 | 0.58 | 1130477 | 96.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4868461 | 0.99 | 4800257 | 101.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4774384 | 1.34 | 4666574 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2877335 | 1.18 | 2883202 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#
Date Acquired: Jun 6 2013 06:38 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-S2
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 522.50 | 10.45 | ppb | 0.39 | 900.00 | |
| 9 Be | 45 | 2 | 502.50 | 10.05 | ppb | 2.98 | 900.00 | |
| 11 B | 6 | 1 | 235.95 | 4.72 | ppb | 2.35 | 900.00 | |
| 11 B | 45 | 2 | 229.85 | 4.60 | ppb | 8.67 | 900.00 | |
| 23 Na | 45 | 1 | 42130.00 | 842.60 | ppb | 1.34 | 90000.00 | |
| 23 Na | 45 | 2 | 43280.00 | 865.60 | ppb | 1.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 36650.00 | 733.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 39070.00 | 781.40 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2322.00 | 46.44 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2368.00 | 47.36 | ppb | 0.93 | 90000.00 | |
| 39 K | 45 | 1 | 38660.00 | 773.20 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 98600.00 | 1972.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 512.50 | 10.25 | ppb | 1.19 | 900.00 | |
| 51 V | 45 | 2 | 506.00 | 10.12 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 503.00 | 10.06 | ppb | 1.54 | 900.00 | |
| 55 Mn | 45 | 2 | 1745.50 | 34.91 | ppb | 0.45 | 900.00 | |
| 56 Fe | 45 | 2 | 86000.00 | 1720.00 | ppb | 0.54 | 90000.00 | |
| 59 Co | 45 | 2 | 515.00 | 10.30 | ppb | 0.97 | 900.00 | |
| 60 Ni | 45 | 2 | 505.50 | 10.11 | ppb | 0.22 | 900.00 | |
| 63 Cu | 72 | 2 | 517.50 | 10.35 | ppb | 0.27 | 900.00 | |
| 66 Zn | 72 | 2 | 577.00 | 11.54 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 1124.50 | 22.49 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 529.00 | 10.58 | ppb | 3.48 | 900.00 | |
| 88 Sr | 103 | 1 | 1352.50 | 27.05 | ppb | 1.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.01 | ppb | 13.52 | 900.00 | |
| 107 Ag | 115 | 1 | 209.80 | 4.20 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 515.00 | 10.30 | ppb | 2.70 | 900.00 | |
| 120 Sn | 115 | 1 | -1.35 | -0.03 | ppb | 5.73 | 900.00 | |
| 121 Sb | 115 | 1 | 547.00 | 10.94 | ppb | 0.34 | 900.00 | |
| 137 Ba | 159 | 1 | 2226.00 | 44.52 | ppb | 1.85 | 900.00 | |
| 205 Tl | 209 | 1 | 471.10 | 9.42 | ppb | 2.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1057.00 | 21.14 | ppb | 1.13 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1921768 | 1.04 | 1872800 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 2727397 | 0.90 | 2694091 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 301178 | 0.64 | 307819 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 559135 | 1.02 | 562443 | 99.4 | 70 | - | 130 |
| 72 | Ge | 2 | 124116 | 0.29 | 127696 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3185205 | 0.61 | 3225131 | 98.8 | 70 | - | 130 |
| 115 | In | 1 | 3557965 | 0.67 | 3540560 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1087903 | 0.24 | 1130477 | 96.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4810113 | 0.32 | 4800257 | 100.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4699412 | 0.20 | 4666574 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2830153 | 0.46 | 2883202 | 98.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D#
Date Acquired: Jun 6 2013 06:45 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21073A-B1
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 506.20 | 25.31 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 508.00 | 25.40 | ppb | 3.23 | 900.00 | |
| 11 B | 6 | 1 | -1.99 | -0.10 | ppb | 11.07 | 900.00 | |
| 11 B | 45 | 2 | -0.62 | -0.03 | ppb | 147.45 | 900.00 | |
| 23 Na | 45 | 1 | 25940.00 | 1297.00 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 26300.00 | 1315.00 | ppb | 5.61 | 90000.00 | |
| 24 Mg | 45 | 1 | 26040.00 | 1302.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 26800.00 | 1340.00 | ppb | 6.51 | 90000.00 | |
| 27 Al | 45 | 1 | 2182.00 | 109.10 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 2244.00 | 112.20 | ppb | 6.74 | 90000.00 | |
| 39 K | 45 | 1 | 26080.00 | 1304.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 26500.00 | 1325.00 | ppb | 1.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 503.80 | 25.19 | ppb | 1.72 | 900.00 | |
| 51 V | 45 | 2 | 508.80 | 25.44 | ppb | 6.24 | 900.00 | |
| 52 Cr | 45 | 2 | 502.00 | 25.10 | ppb | 5.62 | 900.00 | |
| 55 Mn | 45 | 2 | 499.40 | 24.97 | ppb | 5.87 | 900.00 | |
| 56 Fe | 45 | 2 | 2216.00 | 110.80 | ppb | 6.29 | 90000.00 | |
| 59 Co | 45 | 2 | 506.40 | 25.32 | ppb | 5.72 | 900.00 | |
| 60 Ni | 45 | 2 | 498.20 | 24.91 | ppb | 6.18 | 900.00 | |
| 63 Cu | 72 | 2 | 505.40 | 25.27 | ppb | 4.58 | 900.00 | |
| 66 Zn | 72 | 2 | 544.00 | 27.20 | ppb | 4.92 | 900.00 | |
| 75 As | 72 | 2 | 517.40 | 25.87 | ppb | 3.87 | 900.00 | |
| 78 Se | 72 | 2 | 508.80 | 25.44 | ppb | 6.94 | 900.00 | |
| 88 Sr | 103 | 1 | 514.60 | 25.73 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 0.44 | 0.02 | ppb | 19.48 | 900.00 | |
| 107 Ag | 115 | 1 | 206.00 | 10.30 | ppb | 0.83 | 180.00 | |
| 111 Cd | 115 | 2 | 511.80 | 25.59 | ppb | 4.66 | 900.00 | |
| 120 Sn | 115 | 1 | -0.40 | -0.02 | ppb | 3.82 | 900.00 | |
| 121 Sb | 115 | 1 | 535.00 | 26.75 | ppb | 0.44 | 900.00 | |
| 137 Ba | 159 | 1 | 2036.00 | 101.80 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 473.20 | 23.66 | ppb | 2.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1017.60 | 50.88 | ppb | 0.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1949569 | 1.03 | 1872800 | 104.1 | 70 - 130 | |
| 45 Sc | 1 | 2712983 | 0.67 | 2694091 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 298704 | 5.16 | 307819 | 97.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553979 | 1.20 | 562443 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 123361 | 4.32 | 127696 | 96.6 | 70 - | 130 |
| 103 | Rh | 1 | 3222160 | 0.96 | 3225131 | 99.9 | 70 - | 130 |
| 115 | In | 1 | 3552664 | 0.70 | 3540560 | 100.3 | 70 - | 130 |
| 115 | In | 2 | 1065001 | 3.75 | 1130477 | 94.2 | 70 - | 130 |
| 159 | Tb | 1 | 4787249 | 0.85 | 4800257 | 99.7 | 70 - | 130 |
| 175 | Lu | 1 | 4698556 | 0.42 | 4666574 | 100.7 | 70 - | 130 |
| 209 | Bi | 1 | 2872078 | 0.89 | 2883202 | 99.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D#
Date Acquired: Jun 6 2013 06:52 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.18 | 51.18 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 53.38 | 53.38 | ppb | 2.79 | 900.00 | |
| 11 B | 6 | 1 | 50.44 | 50.44 | ppb | 1.27 | 900.00 | |
| 11 B | 45 | 2 | 50.77 | 50.77 | ppb | 3.76 | 900.00 | |
| 23 Na | 45 | 1 | 5189.00 | 5189.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5221.00 | 5221.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 5139.00 | 5139.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.13 | 90000.00 | |
| 27 Al | 45 | 1 | 5111.00 | 5111.00 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 2 | 5255.00 | 5255.00 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 5202.00 | 5202.00 | ppb | 0.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 5255.00 | 5255.00 | ppb | 0.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.46 | 50.46 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 51.50 | 51.50 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 50.72 | 50.72 | ppb | 0.30 | 900.00 | |
| 55 Mn | 45 | 2 | 50.07 | 50.07 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5134.00 | 5134.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 50.69 | 50.69 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 50.40 | 50.40 | ppb | 0.76 | 900.00 | |
| 63 Cu | 72 | 2 | 49.77 | 49.77 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 51.09 | 51.09 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 51.22 | 51.22 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 50.70 | 50.70 | ppb | 0.85 | 900.00 | |
| 88 Sr | 103 | 1 | 53.73 | 53.73 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 52.16 | 52.16 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 50.43 | 50.43 | ppb | 0.46 | 180.00 | |
| 111 Cd | 115 | 2 | 51.40 | 51.40 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 51.96 | 51.96 | ppb | 0.51 | 900.00 | |
| 121 Sb | 115 | 1 | 54.62 | 54.62 | ppb | 0.44 | 900.00 | |
| 137 Ba | 159 | 1 | 51.04 | 51.04 | ppb | 0.18 | 900.00 | |
| 205 Tl | 209 | 1 | 49.18 | 49.18 | ppb | 1.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.25 | 52.25 | ppb | 0.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1976885 | 0.91 | 1872800 | 105.6 | 70 - 130 | |
| 45 Sc | 1 | 2766703 | 0.29 | 2694091 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 297282 | 0.40 | 307819 | 96.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 555702 | 0.29 | 562443 | 98.8 | 70 | - | 130 |
| 72 | Ge | 2 | 122487 | 0.16 | 127696 | 95.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3138575 | 0.70 | 3225131 | 97.3 | 70 | - | 130 |
| 115 | In | 1 | 3517948 | 0.57 | 3540560 | 99.4 | 70 | - | 130 |
| 115 | In | 2 | 1056691 | 0.12 | 1130477 | 93.5 | 70 | - | 130 |
| 159 | Tb | 1 | 4892124 | 0.43 | 4800257 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4796537 | 0.11 | 4666574 | 102.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2851520 | 0.59 | 2883202 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#
Date Acquired: Jun 6 2013 06:59 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 27.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 111.61 | 900.00 | |
| 11 B | 6 | 1 | 0.01 | 0.01 | ppb | 132.62 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 48.55 | 900.00 | |
| 23 Na | 45 | 1 | 4.72 | 4.72 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 7.14 | 7.14 | ppb | 5.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.51 | 1.51 | ppb | 6.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.46 | 1.46 | ppb | 6.78 | 90000.00 | |
| 27 Al | 45 | 1 | 0.50 | 0.50 | ppb | 24.65 | 90000.00 | |
| 27 Al | 45 | 2 | 0.47 | 0.47 | ppb | 50.17 | 90000.00 | |
| 39 K | 45 | 1 | 7.04 | 7.04 | ppb | 11.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.97 | 0.97 | ppb | 74.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 100.08 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 117.73 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 10.60 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 2.65 | 900.00 | |
| 56 Fe | 45 | 2 | -0.80 | -0.80 | ppb | 3.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 19.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 42.55 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 38.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.30 | 0.30 | ppb | 5.43 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 132.08 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 68.05 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 19.59 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 1.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.76 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 34.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 15.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 25.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.36 | 0.36 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2012709 | 1.10 | 1872800 | 107.5 | 70 - 130 | |
| 45 Sc | 1 | 2753789 | 0.67 | 2694091 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 301295 | 0.21 | 307819 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569342 | 0.82 | 562443 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124119 | 0.69 | 127696 | 97.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3255324 | 0.81 | 3225131 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 3628550 | 0.68 | 3540560 | 102.5 | 70 | - | 130 |
| 115 | In | 2 | 1097957 | 0.28 | 1130477 | 97.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4893243 | 0.57 | 4800257 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4821593 | 1.18 | 4666574 | 103.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2967235 | 0.37 | 2883202 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#
Date Acquired: Jun 6 2013 07:06 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21156-1F
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 177.20 | 900.00 | |
| 9 Be | 45 | 2 | 0.28 | 0.01 | ppb | 169.82 | 900.00 | |
| 11 B | 6 | 1 | 41.16 | 2.06 | ppb | 1.62 | 900.00 | |
| 11 B | 45 | 2 | 41.28 | 2.06 | ppb | 11.56 | 900.00 | |
| 23 Na | 45 | 1 | 15278.00 | 763.90 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 15380.00 | 769.00 | ppb | 3.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 3362.00 | 168.10 | ppb | 1.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 3384.00 | 169.20 | ppb | 2.51 | 90000.00 | |
| 27 Al | 45 | 1 | 24.92 | 1.25 | ppb | 14.84 | 90000.00 | |
| 27 Al | 45 | 2 | 26.92 | 1.35 | ppb | 7.67 | 90000.00 | |
| 39 K | 45 | 1 | 5086.00 | 254.30 | ppb | 2.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 25300.00 | 1265.00 | ppb | 1.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.17 | 0.16 | ppb | 14.03 | 900.00 | |
| 51 V | 45 | 2 | -3.57 | -0.18 | ppb | 2.89 | 900.00 | |
| 52 Cr | 45 | 2 | -1.97 | -0.10 | ppb | 0.72 | 900.00 | |
| 55 Mn | 45 | 2 | 2556.00 | 127.80 | ppb | 2.93 | 900.00 | |
| 56 Fe | 45 | 2 | 64300.00 | 3215.00 | ppb | 2.63 | 90000.00 | |
| 59 Co | 45 | 2 | 8.23 | 0.41 | ppb | 4.36 | 900.00 | |
| 60 Ni | 45 | 2 | 7.43 | 0.37 | ppb | 7.86 | 900.00 | |
| 63 Cu | 72 | 2 | 1.99 | 0.10 | ppb | 25.09 | 900.00 | |
| 66 Zn | 72 | 2 | 12.86 | 0.64 | ppb | 4.95 | 900.00 | |
| 75 As | 72 | 2 | 459.80 | 22.99 | ppb | 2.92 | 900.00 | |
| 78 Se | 72 | 2 | 2.51 | 0.13 | ppb | 76.41 | 900.00 | |
| 88 Sr | 103 | 1 | 100.34 | 5.02 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 0.64 | 0.03 | ppb | 1.77 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | 0.00 | ppb | 101.28 | 180.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.01 | ppb | 34.79 | 900.00 | |
| 120 Sn | 115 | 1 | -0.38 | -0.02 | ppb | 9.94 | 900.00 | |
| 121 Sb | 115 | 1 | -0.16 | -0.01 | ppb | 17.38 | 900.00 | |
| 137 Ba | 159 | 1 | 43.78 | 2.19 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 1.94 | 0.10 | ppb | 1.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.01 | ppb | 9.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1965647 | 0.26 | 1872800 | 105.0 | 70 - 130 | |
| 45 Sc | 1 | 2719152 | 0.97 | 2694091 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 302322 | 2.50 | 307819 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570849 | 0.58 | 562443 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 125494 | 2.41 | 127696 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3193462 | 0.14 | 3225131 | 99.0 | 70 | - | 130 |
| 115 | In | 1 | 3581977 | 0.06 | 3540560 | 101.2 | 70 | - | 130 |
| 115 | In | 2 | 1104469 | 3.04 | 1130477 | 97.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4869255 | 0.70 | 4800257 | 101.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4768537 | 0.08 | 4666574 | 102.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2936889 | 0.82 | 2883202 | 101.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D# | | |
| Date Acquired: | Jun 6 2013 07:13 pm | | |
| Acq. Method: | EPA6020V.M | Data Results: | |
| Operator: | METALS | Analytes: | Pass |
| Sample Name: | RINSECONF | ISTD: | Pass |
| Misc Info: | | | |
| Vial Number: | 2406 | | |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| Last Cal. Update: | Jun 06 2013 01:52 pm | | |
| Sample Type: | Sample | | |
| Dilution Factor: | 1.00 | | |
| Autodil Factor: | Undiluted | | |
| Final Dil Factor: | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.22 | 0.22 | ppb | 2.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.17 | 0.17 | ppb | 27.88 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 41.88 | 900.00 | |
| 11 B | 45 | 2 | 0.10 | 0.10 | ppb | 126.18 | 900.00 | |
| 23 Na | 45 | 1 | 14.50 | 14.50 | ppb | 2.69 | 90000.00 | |
| 23 Na | 45 | 2 | 15.61 | 15.61 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 12.75 | 12.75 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 13.09 | 13.09 | ppb | 1.43 | 90000.00 | |
| 27 Al | 45 | 1 | 12.96 | 12.96 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 2 | 13.26 | 13.26 | ppb | 5.42 | 90000.00 | |
| 39 K | 45 | 1 | 17.42 | 17.42 | ppb | 8.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 31.90 | 31.90 | ppb | 4.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.49 | 0.49 | ppb | 6.00 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 25.09 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.11 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.31 | 0.31 | ppb | 6.99 | 900.00 | |
| 56 Fe | 45 | 2 | 13.24 | 13.24 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 0.22 | 0.22 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.25 | ppb | 11.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.29 | ppb | 3.40 | 900.00 | |
| 66 Zn | 72 | 2 | 1.95 | 1.95 | ppb | 2.57 | 900.00 | |
| 75 As | 72 | 2 | 0.17 | 0.17 | ppb | 15.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.29 | 0.29 | ppb | 27.72 | 900.00 | |
| 88 Sr | 103 | 1 | 0.25 | 0.25 | ppb | 1.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.45 | 0.45 | ppb | 0.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.19 | 0.19 | ppb | 6.14 | 180.00 | |
| 111 Cd | 115 | 2 | 0.21 | 0.21 | ppb | 7.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.68 | 0.68 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.22 | ppb | 4.76 | 900.00 | |
| 137 Ba | 159 | 1 | 0.25 | 0.25 | ppb | 5.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.24 | ppb | 2.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.23 | 0.23 | ppb | 2.04 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1970188 | 0.38 | 1872800 | 105.2 | 70 - 130 | |
| 45 Sc | 1 | 2755027 | 0.24 | 2694091 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 302510 | 0.32 | 307819 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 566278 | 0.71 | 562443 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 125026 | 0.24 | 127696 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3288402 | 0.34 | 3225131 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 3631155 | 0.88 | 3540560 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1109610 | 0.62 | 1130477 | 98.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4920324 | 0.52 | 4800257 | 102.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4837002 | 0.10 | 4666574 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2968976 | 0.69 | 2883202 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#
Date Acquired: Jun 6 2013 07:20 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 2.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.43 | 0.43 | ppb | 10.45 | 900.00 | |
| 11 B | 6 | 1 | 4.74 | 4.74 | ppb | 2.80 | 900.00 | |
| 11 B | 45 | 2 | 4.36 | 4.36 | ppb | 11.46 | 900.00 | |
| 23 Na | 45 | 1 | 259.80 | 259.80 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 279.20 | 279.20 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.50 | 261.50 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 278.10 | 278.10 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 26.34 | 26.34 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 26.64 | 26.64 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 259.60 | 259.60 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.10 | 264.10 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.02 | 1.02 | ppb | 3.91 | 900.00 | |
| 51 V | 45 | 2 | 0.99 | 0.99 | ppb | 1.51 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.93 | ppb | 1.13 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.86 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 25.94 | 25.94 | ppb | 1.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.02 | 900.00 | |
| 60 Ni | 45 | 2 | 1.02 | 1.02 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 0.96 | 0.96 | ppb | 2.16 | 900.00 | |
| 66 Zn | 72 | 2 | 3.75 | 3.75 | ppb | 0.82 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 6.34 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 9.96 | 900.00 | |
| 88 Sr | 103 | 1 | 5.11 | 5.11 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 2.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.95 | 180.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.47 | ppb | 2.83 | 900.00 | |
| 120 Sn | 115 | 1 | 4.96 | 4.96 | ppb | 0.30 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 3.79 | 900.00 | |
| 137 Ba | 159 | 1 | 1.04 | 1.04 | ppb | 0.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 3.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 1.42 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2028463 | 1.48 | 1872800 | 108.3 | 70 - 130 | |
| 45 Sc | 1 | 2777362 | 0.57 | 2694091 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 302122 | 1.04 | 307819 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570832 | 0.96 | 562443 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 124712 | 0.50 | 127696 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3301284 | 1.06 | 3225131 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 3669111 | 0.17 | 3540560 | 103.6 | 70 | - | 130 |
| 115 | In | 2 | 1100592 | 0.29 | 1130477 | 97.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4966931 | 0.77 | 4800257 | 103.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4869093 | 1.44 | 4666574 | 104.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3014217 | 0.67 | 2883202 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#
Date Acquired: Jun 6 2013 07:28 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.89 | 50.89 | ppb | 1.32 | 900.00 | |
| 9 Be | 45 | 2 | 53.91 | 53.91 | ppb | 3.08 | 900.00 | |
| 11 B | 6 | 1 | 50.18 | 50.18 | ppb | 0.87 | 900.00 | |
| 11 B | 45 | 2 | 51.37 | 51.37 | ppb | 3.22 | 900.00 | |
| 23 Na | 45 | 1 | 5198.00 | 5198.00 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5231.00 | 5231.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 5142.00 | 5142.00 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 5251.00 | 5251.00 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 1 | 5128.00 | 5128.00 | ppb | 1.37 | 90000.00 | |
| 27 Al | 45 | 2 | 5248.00 | 5248.00 | ppb | 1.31 | 90000.00 | |
| 39 K | 45 | 1 | 5200.00 | 5200.00 | ppb | 1.48 | 90000.00 | |
| 44 Ca | 45 | 1 | 5230.00 | 5230.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.23 | 50.23 | ppb | 0.64 | 900.00 | |
| 51 V | 45 | 2 | 51.67 | 51.67 | ppb | 0.91 | 900.00 | |
| 52 Cr | 45 | 2 | 50.85 | 50.85 | ppb | 1.36 | 900.00 | |
| 55 Mn | 45 | 2 | 50.26 | 50.26 | ppb | 1.33 | 900.00 | |
| 56 Fe | 45 | 2 | 5168.00 | 5168.00 | ppb | 1.67 | 90000.00 | |
| 59 Co | 45 | 2 | 50.80 | 50.80 | ppb | 1.48 | 900.00 | |
| 60 Ni | 45 | 2 | 50.61 | 50.61 | ppb | 1.00 | 900.00 | |
| 63 Cu | 72 | 2 | 50.29 | 50.29 | ppb | 1.18 | 900.00 | |
| 66 Zn | 72 | 2 | 51.36 | 51.36 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 51.54 | 51.54 | ppb | 1.35 | 900.00 | |
| 78 Se | 72 | 2 | 50.44 | 50.44 | ppb | 1.44 | 900.00 | |
| 88 Sr | 103 | 1 | 53.10 | 53.10 | ppb | 0.40 | 900.00 | |
| 98 Mo | 103 | 1 | 51.68 | 51.68 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 50.40 | 50.40 | ppb | 1.50 | 180.00 | |
| 111 Cd | 115 | 2 | 51.09 | 51.09 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 51.38 | 51.38 | ppb | 0.83 | 900.00 | |
| 121 Sb | 115 | 1 | 54.39 | 54.39 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 51.18 | 51.18 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 49.21 | 49.21 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.58 | 52.58 | ppb | 0.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2020798 | 0.92 | 1872800 | 107.9 | 70 - 130 | |
| 45 Sc | 1 | 2811780 | 1.08 | 2694091 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 300707 | 0.92 | 307819 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 567212 | 0.49 | 562443 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 123584 | 0.57 | 127696 | 96.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3228182 | 0.94 | 3225131 | 100.1 | 70 | - | 130 |
| 115 | In | 1 | 3605802 | 0.75 | 3540560 | 101.8 | 70 | - | 130 |
| 115 | In | 2 | 1066381 | 0.72 | 1130477 | 94.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4967154 | 1.01 | 4800257 | 103.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4934140 | 1.81 | 4666574 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2924805 | 0.72 | 2883202 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#
Date Acquired: Jun 6 2013 07:35 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 06 2013 01:52 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 44.11 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2939.50 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 96.66 | 900.00 | |
| 11 B | 45 | 2 | -0.06 | -0.06 | ppb | 116.94 | 900.00 | |
| 23 Na | 45 | 1 | 3.46 | 3.46 | ppb | 10.62 | 90000.00 | |
| 23 Na | 45 | 2 | 6.09 | 6.09 | ppb | 4.08 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.26 | 1.26 | ppb | 3.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.56 | 1.56 | ppb | 10.54 | 90000.00 | |
| 27 Al | 45 | 1 | 0.37 | 0.37 | ppb | 16.26 | 90000.00 | |
| 27 Al | 45 | 2 | 0.66 | 0.66 | ppb | 19.71 | 90000.00 | |
| 39 K | 45 | 1 | 8.74 | 8.74 | ppb | 19.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.20 | 6.20 | ppb | 11.22 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 44.29 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 50.79 | 900.00 | |
| 52 Cr | 45 | 2 | -0.04 | -0.04 | ppb | 9.56 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 5.91 | 900.00 | |
| 56 Fe | 45 | 2 | -0.91 | -0.91 | ppb | 21.76 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 56.05 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 43.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 29.16 | 900.00 | |
| 66 Zn | 72 | 2 | 0.76 | 0.76 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 66.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 106.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 5.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 8.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 20.06 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 62.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.26 | ppb | 4.68 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 6.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 3.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2031570 | 1.17 | 1872800 | 108.5 | 70 - 130 | |
| 45 Sc | 1 | 2776448 | 0.70 | 2694091 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 301768 | 0.61 | 307819 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F06m00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 574672 | 0.27 | 562443 | 102.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124705 | 0.27 | 127696 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3281486 | 0.74 | 3225131 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 3629640 | 1.20 | 3540560 | 102.5 | 70 | - | 130 |
| 115 | In | 2 | 1105458 | 0.54 | 1130477 | 97.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4940967 | 1.14 | 4800257 | 102.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4865948 | 0.67 | 4666574 | 104.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3024042 | 1.29 | 2883202 | 104.9 | 70 | - | 130 |

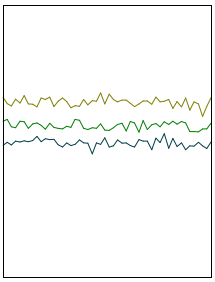
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F06m00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

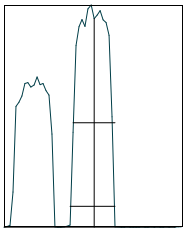
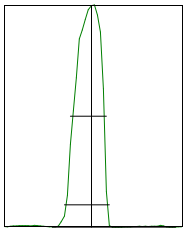
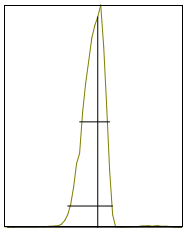
# Tune Report

Tune File : nogas.u
Comment : 060613



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2495.0 | 2467.8 | 2.82 | 2.30 |
| 89 | 10,000 | 5684.0 | 5577.6 | 2.43 | 1.50 |
| 205 | 5,000 | 3312.0 | 3221.5 | 2.46 | 6.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.471%
Doubly Charged: 70/140 3.627%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,383 | 5,587 | 3,639 |
| Axis: | 7.05 | 89.00 | 205.10 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 117 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9983 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.01 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 229.3 | 7.76 |
| 59 | 1117.1 | 3.77 |
| 89 | 1293.7 | 3.74 |

Integration Time: 0.1000sec



Generated : Jun 06, 2013 08:58:05
Printed : Jun 06, 2013 08:58:55

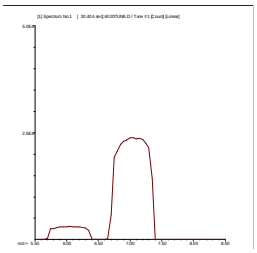
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Jun 6 2013 09:11 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

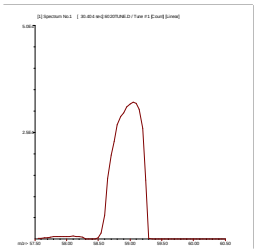
**QC Tune Summary:**
**Pass**

**RSD%**

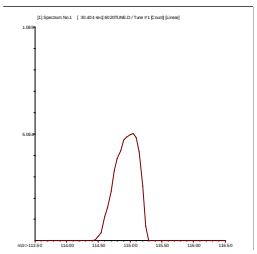
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.70 | 5.00 | 0 |
| 59 Co | 0.53 | 5.00 | |
| 115 In | 0.78 | 5.00 | |
| 205 Tl | 3.09 | 5.00 | |



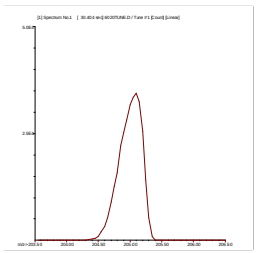
**7 Li**
**Mass Calib.**
Actual: 7.10
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

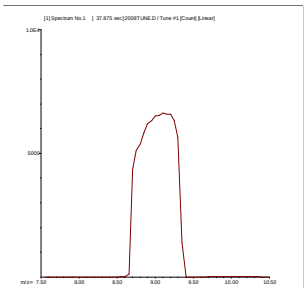
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13F06j00.B\2008TUNE.D
**Date Acquired:** Jun 6 2013 09:17 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

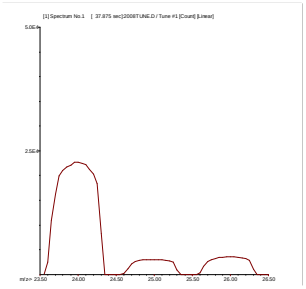


**RSD (%)**

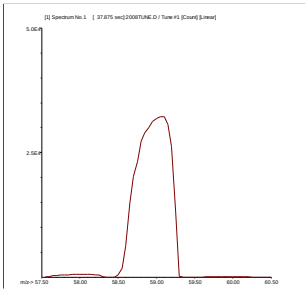
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 39731 | 39208 | 39855 | 39699 | 40036 | 39857 | **0.77** | 5.00 | |
| 24 Mg | 136277 | 136003 | 136135 | 135850 | 136259 | 137136 | **1.13** | 5.00 | |
| 59 Co | 175115 | 174949 | 174512 | 176639 | 174540 | 174933 | **0.92** | 5.00 | |
| 115 In | 247453 | 244990 | 247672 | 248411 | 247642 | 248552 | **0.49** | 5.00 | |
| 208 Pb | 119684 | 117467 | 119480 | 120263 | 120590 | 120620 | **0.87** | 5.00 | |



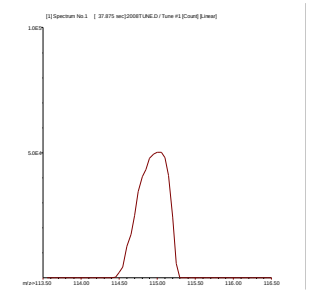
**9 Be**
**Mass Calib.**
Actual: 9.10
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



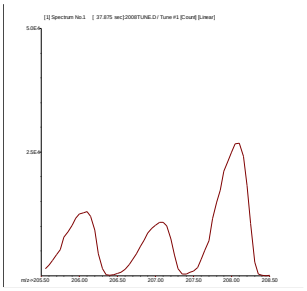
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.05
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:

**Tune Result:** Pass

7.4.2

7

Last Calib: Jun 07, 2013 10:40 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

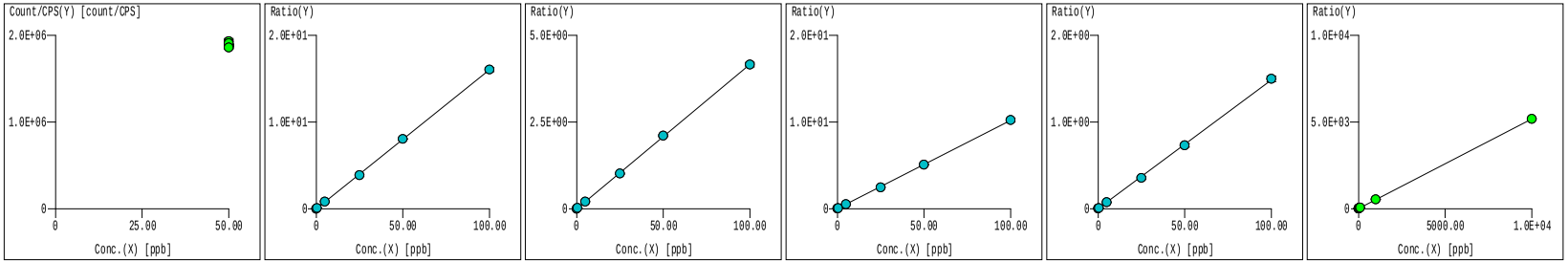
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13f06m00.b\002calb.d\002calb.d# | STDA | Jun 6 2013 12:59 pm |
| 2 | c:\icpchem\1\data\13f06m00.b\003cals.d\003cals.d# | STDB | Jun 6 2013 01:06 pm |
| 3 | c:\icpchem\1\data\13f06m00.b\004cals.d\004cals.d# | STDC | Jun 6 2013 01:13 pm |
| 4 | c:\icpchem\1\data\13f06m00.b\005cals.d\005cals.d# | STDD | Jun 6 2013 01:20 pm |
| 5 | c:\icpchem\1\data\13f06m00.b\006cals.d\006cals.d# | STDE | Jun 6 2013 01:27 pm |
| 6 | c:\icpchem\1\data\13f06m00.b\007cals.d\007cals.d# | STDF | Jun 6 2013 01:34 pm |
| 7 | c:\icpchem\1\data\13f06m00.b\008cals.d\008cals.d# | STDG | Jun 6 2013 01:41 pm |
| 8 | c:\icpchem\1\data\13f06m00.b\009cals.d\009cals.d# | STDH | Jun 6 2013 01:48 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

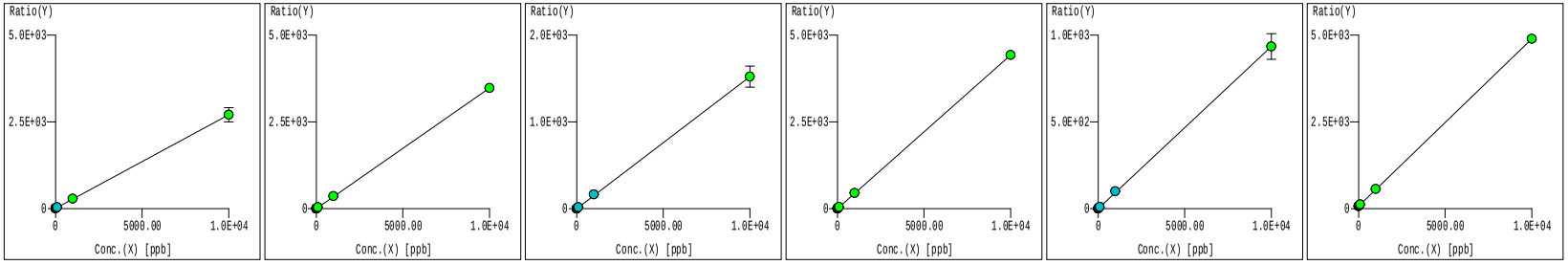
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 1.0000 |
| < DL > | --- ppb | 9.614E-03 ppb | 3.819E-02 ppb | 9.283E-02 ppb | 1.313E-01 ppb | 2.808E-01 ppb |
| < BEC > | --- ppb | 9.795E-03 ppb | 1.284E-02 ppb | 3.436E-01 ppb | 2.803E-01 ppb | 19.65 ppb |



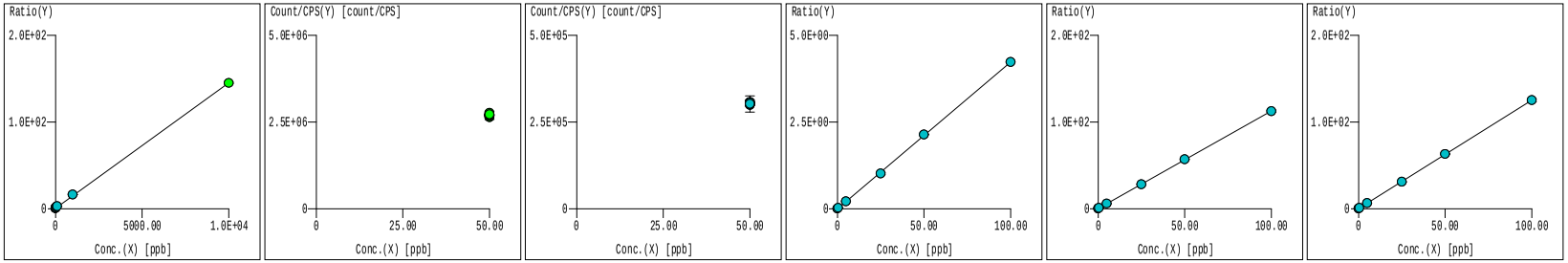

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.610 ppb | 1.145E-02 ppb | 1.185E-01 ppb | 2.486E-01 ppb | 2.898E-01 ppb | 3.523 ppb |
| < BEC > | 36.04 ppb | 4.179E-01 ppb | 3.564E-01 ppb | 1.833 ppb | 1.722 ppb | 147.5 ppb |



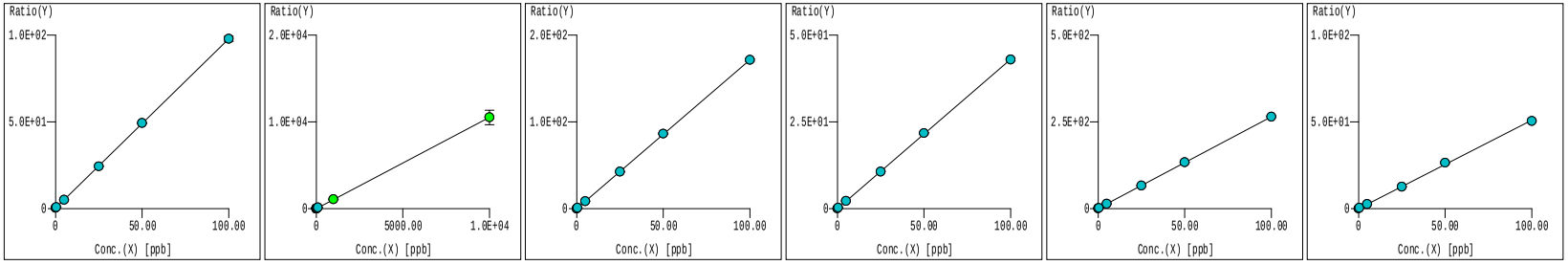
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 1.0000 | 1.0000 |
| < DL > | 7.711E-01 ppb | --- ppb | --- ppb | 4.911E-02 ppb | 1.510E-02 ppb | 3.626E-02 ppb |
| < BEC > | 48.37 ppb | --- ppb | --- ppb | 9.862E-02 ppb | 3.815E-01 ppb | 2.313E-01 ppb |



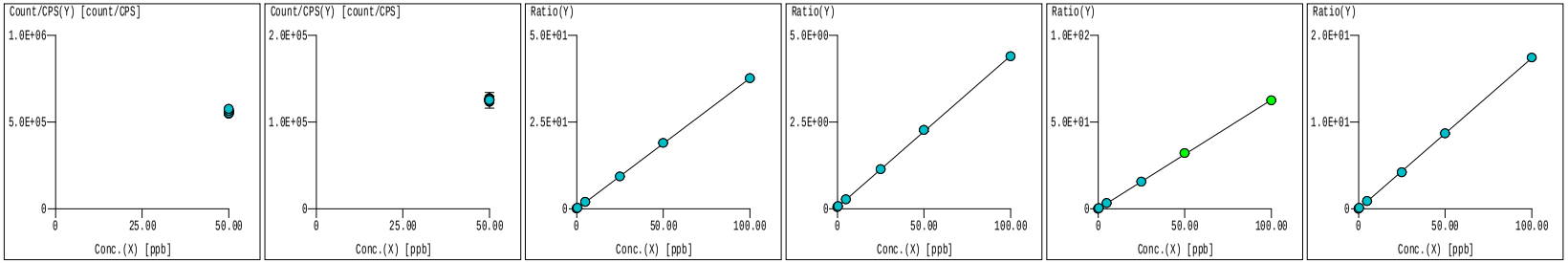

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9997 |
| < DL > | 1.955E-02 ppb | 4.267E-01 ppb | 1.003E-03 ppb | 6.605E-03 ppb | 3.277E-02 ppb | 9.604E-03 ppb |
| < BEC > | 3.969E-01 ppb | 6.652 ppb | 7.366E-03 ppb | 7.215E-02 ppb | 2.173E-01 ppb | 1.198E-01 ppb |



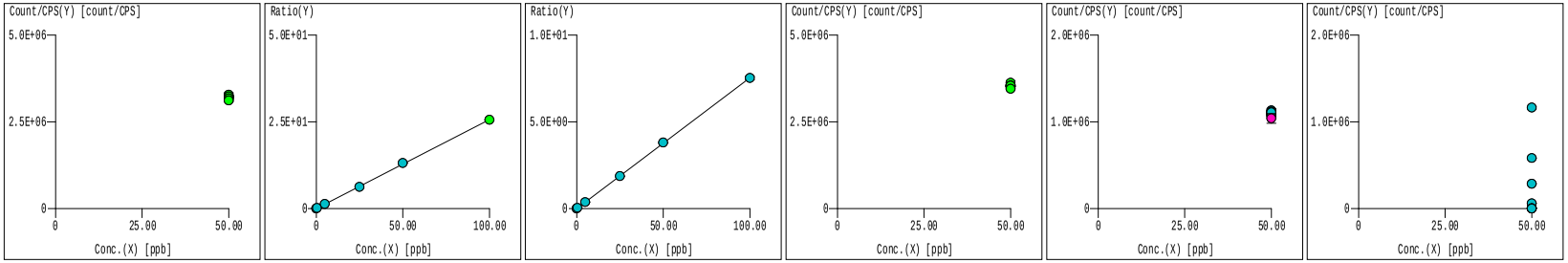
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 0.9999 | 0.9999 | 1.0000 |
| < DL > | --- ppb | --- ppb | 1.839E-02 ppb | 2.799E-01 ppb | 1.108E-04 ppb | 1.791E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.094E-01 ppb | 1.137 ppb | 1.333E-02 ppb | 1.130E-02 ppb |



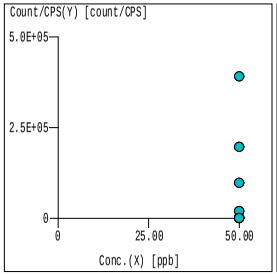

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 3.676E-03 ppb | 5.748E-03 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 9.728E-03 ppb | 1.942E-03 ppb | --- ppb | --- ppb | --- ppb |

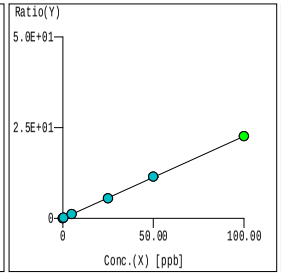


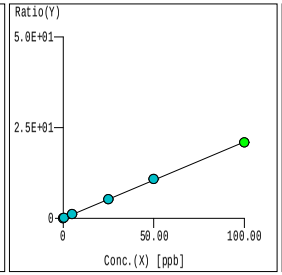
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

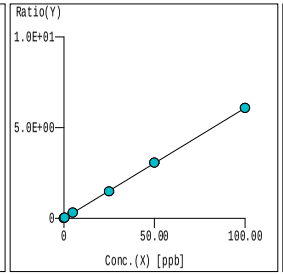
=== Graph Summary ===
Page: 4/4

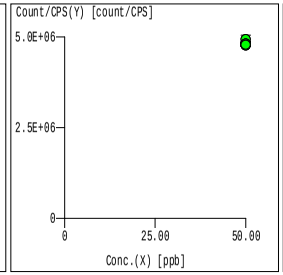
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 0.9998 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.011E-02 ppb | 8.603E-03 ppb | 8.464E-03 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 4.275E-02 ppb | 2.722E-02 ppb | 1.034E-01 ppb | --- ppb | --- ppb |

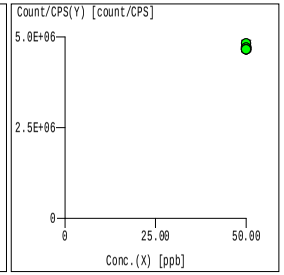


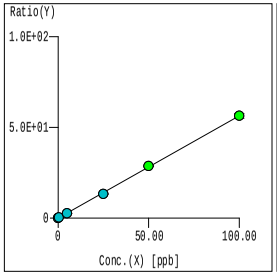



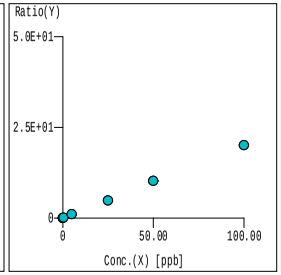



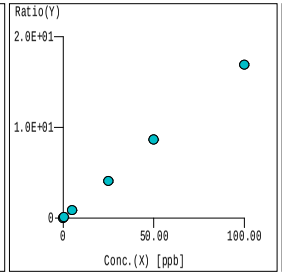



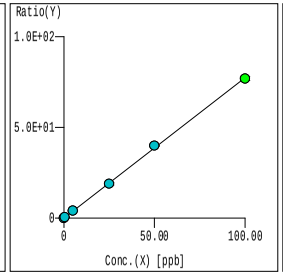



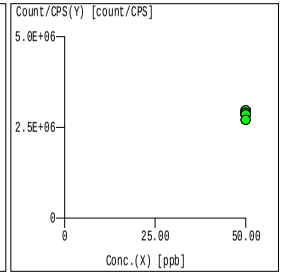

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 0.9998 | 0.9999 | 0.9999 | 0.9998 | 0.0000 |
| < DL > | 1.266E-03 ppb | --- ppb | --- ppb | 6.786E-03 ppb | --- ppb |
| < BEC > | 4.213E-02 ppb | --- ppb | --- ppb | 4.510E-02 ppb | --- ppb |



C:\ICPCHEM\1\DATA\13F07j01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\001CAL
Date Acquired: Jun 7 2013 09:34 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1856535.00 | A | 14330.00 | 0.77 |
| 7 | (Li) | | P | | |
| 9 | Be | 62.22 | P | 11.71 | 18.82 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 1302.32 | P | 89.53 | 6.87 |
| 11 | B | 31.11 | P | 6.94 | 22.30 |
| 23 | Na | 579185.00 | P | 6507.00 | 1.12 |
| 23 | Na | 62086.79 | P | 427.60 | 0.69 |
| 24 | Mg | 14598.34 | P | 624.60 | 4.28 |
| 24 | Mg | 711.15 | P | 70.66 | 9.94 |
| 27 | Al | 42241.60 | P | 1299.00 | 3.08 |
| 27 | Al | 998.96 | P | 29.13 | 2.92 |
| 39 | K | 3639772.00 | A | 19420.00 | 0.53 |
| 44 | Ca | 36982.81 | P | 380.10 | 1.03 |
| 45 | Sc | 2636644.00 | A | 4071.00 | 0.15 |
| 45 | Sc | 290274.91 | P | 6519.00 | 2.25 |
| 47 | Ti | 236.68 | P | 15.28 | 6.46 |
| 51 | V | 2412.23 | P | 58.30 | 2.42 |
| 52 | Cr | 1444.53 | P | 54.24 | 3.75 |
| 55 | Mn | 2390.89 | P | 82.06 | 3.43 |
| 56 | Fe | 42386.58 | P | 625.70 | 1.48 |
| 59 | Co | 119.56 | P | 9.08 | 7.59 |
| 60 | Ni | 171.11 | P | 28.51 | 16.66 |
| 63 | Cu | 1528.99 | P | 80.68 | 5.28 |
| 66 | Zn | 142.00 | P | 15.07 | 10.61 |
| 72 | Ge | 618104.13 | P | 9344.00 | 1.51 |
| 72 | Ge | 134349.41 | P | 962.30 | 0.72 |
| 75 | As | 90.67 | P | 22.04 | 24.31 |
| 78 | Se | 105.11 | P | 1.02 | 0.97 |
| 88 | Sr | 557.81 | P | 63.01 | 11.30 |
| 98 | Mo | 224.45 | P | 10.18 | 4.54 |
| 103 | Rh | 3128589.00 | A | 3693.00 | 0.12 |
| 107 | Ag | 158.90 | P | 25.02 | 15.75 |

C:\ICPCHEM\1\DATA\13F07j01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 1.93 | 24.75 |
| 115 | In | 3427975.00 | A | 39660.00 | 1.16 |
| 115 | In | 1079412.00 | P | 22010.00 | 2.04 |
| 118 | (In) | 613.37 | P | 40.96 | 6.68 |
| 118 | (In) | 234.45 | P | 25.02 | 10.67 |
| 120 | Sn | 798.94 | P | 24.57 | 3.08 |
| 121 | Sb | 202.23 | P | 7.70 | 3.81 |
| 137 | Ba | 602.26 | P | 69.47 | 11.54 |
| 159 | Tb | 4736210.00 | A | 24360.00 | 0.51 |
| 175 | Lu | 4672936.00 | A | 43530.00 | 0.93 |
| 205 | Tl | 2514.76 | P | 28.74 | 1.14 |
| 206 | (Pb) | 281.12 | P | 52.32 | 18.61 |
| 207 | (Pb) | 252.23 | P | 36.72 | 14.56 |
| 208 | Pb | 2241.32 | P | 164.70 | 7.35 |
| 209 | Bi | 2891261.00 | A | 16090.00 | 0.56 |

C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\002CAL
Date Acquired: Jun 7 2013 09:41 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1866118.00 | A | 16770.00 | 0.90 |
| 7 | (Li) | | P | | |
| 9 | Be | 46.67 | P | 8.82 | 18.90 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 1320.10 | P | 125.50 | 9.51 |
| 11 | B | 21.11 | P | 3.85 | 18.23 |
| 23 | Na | 572105.19 | P | 5751.00 | 1.01 |
| 23 | Na | 62596.42 | P | 336.00 | 0.54 |
| 24 | Mg | 13915.56 | P | 301.30 | 2.17 |
| 24 | Mg | 664.48 | P | 18.36 | 2.76 |
| 27 | Al | 42675.56 | P | 1157.00 | 2.71 |
| 27 | Al | 974.51 | P | 91.99 | 9.44 |
| 39 | K | 3647994.00 | A | 11670.00 | 0.32 |
| 44 | Ca | 36255.41 | P | 270.10 | 0.74 |
| 45 | Sc | 2660105.00 | A | 16830.00 | 0.63 |
| 45 | Sc | 293973.19 | P | 1676.00 | 0.57 |
| 47 | Ti | 222.23 | P | 9.62 | 4.33 |
| 51 | V | 2398.00 | P | 66.09 | 2.76 |
| 52 | Cr | 1302.30 | P | 59.49 | 4.57 |
| 55 | Mn | 2358.43 | P | 64.02 | 2.71 |
| 56 | Fe | 42293.54 | P | 278.40 | 0.66 |
| 59 | Co | 103.56 | P | 26.34 | 25.44 |
| 60 | Ni | 200.45 | P | 16.88 | 8.42 |
| 63 | Cu | 1544.99 | P | 92.68 | 6.00 |
| 66 | Zn | 151.78 | P | 6.01 | 3.96 |
| 72 | Ge | 561821.38 | P | 3203.00 | 0.57 |
| 72 | Ge | 124164.50 | P | 910.00 | 0.73 |
| 75 | As | 100.89 | P | 7.95 | 7.88 |
| 78 | Se | 116.67 | P | 4.62 | 3.96 |
| 88 | Sr | 588.92 | P | 40.05 | 6.80 |
| 98 | Mo | 142.23 | P | 15.03 | 10.57 |
| 103 | Rh | 3161327.00 | A | 28530.00 | 0.90 |
| 107 | Ag | 114.45 | P | 10.18 | 8.89 |

C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10.00 | P | 0.00 | 0.00 |
| 115 | In | 3455998.00 | A | 10590.00 | 0.31 |
| 115 | In | 1091146.00 | P | 3589.00 | 0.33 |
| 118 | (In) | 560.03 | P | 38.44 | 6.86 |
| 118 | (In) | 236.68 | P | 37.57 | 15.87 |
| 120 | Sn | 823.39 | P | 29.06 | 3.53 |
| 121 | Sb | 176.67 | P | 28.48 | 16.12 |
| 137 | Ba | 601.15 | P | 22.69 | 3.77 |
| 159 | Tb | 4795045.00 | A | 31320.00 | 0.65 |
| 175 | Lu | 4757918.00 | A | 42740.00 | 0.90 |
| 205 | Tl | 1689.06 | P | 25.90 | 1.53 |
| 206 | (Pb) | 305.57 | P | 35.02 | 11.46 |
| 207 | (Pb) | 275.57 | P | 18.36 | 6.66 |
| 208 | Pb | 2418.01 | P | 81.41 | 3.37 |
| 209 | Bi | 2963190.00 | A | 27990.00 | 0.94 |

C:\ICPCHEM\1\DATA\13F07j01.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\003CALS.D\003CALS.D#
Date Acquired: Jun 7 2013 09:48 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1868205.00 | A | 4374.00 | 0.23 |
| 7 | (Li) | | P | | |
| 9 | Be | 2992.60 | P | 50.93 | 1.70 |
| 9 | Be | 141.12 | P | 27.76 | 19.67 |
| 11 | B | 2531.40 | P | 70.12 | 2.77 |
| 11 | B | 63.34 | P | 17.64 | 27.85 |
| 23 | Na | 638800.63 | P | 6338.00 | 0.99 |
| 23 | Na | 66193.24 | P | 408.00 | 0.62 |
| 24 | Mg | 30308.98 | P | 456.10 | 1.50 |
| 24 | Mg | 1477.90 | P | 66.20 | 4.48 |
| 27 | Al | 44842.36 | P | 3590.00 | 8.01 |
| 27 | Al | 1000.08 | P | 91.73 | 9.17 |
| 39 | K | 3705055.00 | A | 22340.00 | 0.60 |
| 44 | Ca | 40920.46 | P | 670.10 | 1.64 |
| 45 | Sc | 2668327.00 | A | 6028.00 | 0.23 |
| 45 | Sc | 292750.81 | P | 2829.00 | 0.97 |
| 47 | Ti | 1362.33 | P | 73.97 | 5.43 |
| 51 | V | 5941.22 | P | 126.50 | 2.13 |
| 52 | Cr | 5137.81 | P | 114.30 | 2.22 |
| 55 | Mn | 4982.21 | P | 39.76 | 0.80 |
| 56 | Fe | 30609.89 | P | 554.00 | 1.81 |
| 59 | Co | 5474.38 | P | 69.52 | 1.27 |
| 60 | Ni | 1596.11 | P | 75.10 | 4.71 |
| 63 | Cu | 4919.08 | P | 88.01 | 1.79 |
| 66 | Zn | 1169.39 | P | 7.03 | 0.60 |
| 72 | Ge | 554072.38 | P | 2396.00 | 0.43 |
| 72 | Ge | 123631.20 | P | 1101.00 | 0.89 |
| 75 | As | 575.35 | P | 15.33 | 2.66 |
| 78 | Se | 173.34 | P | 18.04 | 10.41 |
| 88 | Sr | 21502.62 | P | 228.90 | 1.06 |
| 98 | Mo | 5765.76 | P | 225.10 | 3.90 |
| 103 | Rh | 3154552.00 | A | 22180.00 | 0.70 |
| 107 | Ag | 9128.70 | P | 172.20 | 1.89 |

C:\ICPCHEM\1\DATA\13F07j01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 862.28 | P | 48.57 | 5.63 |
| 115 | In | 3462003.00 | A | 19410.00 | 0.56 |
| 115 | In | 1087637.00 | P | 4107.00 | 0.38 |
| 118 | (In) | 6190.41 | P | 75.19 | 1.21 |
| 118 | (In) | 2206.92 | P | 48.43 | 2.19 |
| 120 | Sn | 8690.66 | P | 21.43 | 0.25 |
| 121 | Sb | 8043.58 | P | 124.90 | 1.55 |
| 137 | Ba | 3736.17 | P | 28.77 | 0.77 |
| 159 | Tb | 4779705.00 | A | 25290.00 | 0.53 |
| 175 | Lu | 4783228.00 | A | 19870.00 | 0.42 |
| 205 | Tl | 15984.19 | P | 242.50 | 1.52 |
| 206 | (Pb) | 7189.88 | P | 194.00 | 2.70 |
| 207 | (Pb) | 6104.91 | P | 54.60 | 0.89 |
| 208 | Pb | 29283.43 | P | 61.78 | 0.21 |
| 209 | Bi | 2957070.00 | A | 24060.00 | 0.81 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1868204.80 | 0.23 | 1866118.10 | 100.1 | 70 - 130 | |
| 45 | Sc | 2668326.80 | 0.23 | 2660104.80 | 100.3 | 70 - 130 | |
| 45 | Sc | 292750.78 | 0.97 | 293973.25 | 99.6 | 70 - 130 | |
| 72 | Ge | 554072.38 | 0.43 | 561821.44 | 98.6 | 70 - 130 | |
| 72 | Ge | 123631.25 | 0.89 | 124164.54 | 99.6 | 70 - 130 | |
| 103 | Rh | 3154552.30 | 0.70 | 3161326.80 | 99.8 | 70 - 130 | |
| 115 | In | 3462003.00 | 0.56 | 3455998.30 | 100.2 | 70 - 130 | |
| 115 | In | 1087636.60 | 0.38 | 1091146.30 | 99.7 | 70 - 130 | |
| 159 | Tb | 4779705.50 | 0.53 | 4795045.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 4783228.00 | 0.42 | 4757918.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2957069.80 | 0.81 | 2963190.00 | 99.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\004CALS.D\004CALS.D#
Date Acquired: Jun 7 2013 09:55 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858682.00 | A | 10220.00 | 0.55 |
| 7 | (Li) | | P | | |
| 9 | Be | 29908.83 | P | 400.50 | 1.34 |
| 9 | Be | 1226.75 | P | 14.53 | 1.18 |
| 11 | B | 19801.80 | P | 515.70 | 2.60 |
| 11 | B | 438.91 | P | 27.96 | 6.37 |
| 23 | Na | 729800.50 | P | 6264.00 | 0.86 |
| 23 | Na | 72059.81 | P | 135.20 | 0.19 |
| 24 | Mg | 118411.80 | P | 646.00 | 0.55 |
| 24 | Mg | 5763.47 | P | 61.67 | 1.07 |
| 27 | Al | 156467.70 | P | 3685.00 | 2.36 |
| 27 | Al | 3590.55 | P | 29.06 | 0.81 |
| 39 | K | 3795364.00 | A | 18650.00 | 0.49 |
| 44 | Ca | 43535.34 | P | 609.70 | 1.40 |
| 45 | Sc | 2646122.00 | A | 22850.00 | 0.86 |
| 45 | Sc | 293087.00 | P | 606.80 | 0.21 |
| 47 | Ti | 11377.94 | P | 147.40 | 1.30 |
| 51 | V | 35555.25 | P | 231.30 | 0.65 |
| 52 | Cr | 38485.39 | P | 344.50 | 0.90 |
| 55 | Mn | 30538.90 | P | 67.82 | 0.22 |
| 56 | Fe | 59092.54 | P | 312.20 | 0.53 |
| 59 | Co | 52364.21 | P | 37.45 | 0.07 |
| 60 | Ni | 13200.94 | P | 139.10 | 1.05 |
| 63 | Cu | 34921.28 | P | 124.80 | 0.36 |
| 66 | Zn | 6681.72 | P | 34.33 | 0.51 |
| 72 | Ge | 551047.13 | P | 4230.00 | 0.77 |
| 72 | Ge | 122840.40 | P | 230.60 | 0.19 |
| 75 | As | 4707.64 | P | 45.59 | 0.97 |
| 78 | Se | 650.69 | P | 35.30 | 5.43 |
| 88 | Sr | 205589.50 | P | 720.10 | 0.35 |
| 98 | Mo | 55752.89 | P | 181.10 | 0.32 |
| 103 | Rh | 3136038.00 | A | 31200.00 | 0.99 |
| 107 | Ag | 90853.70 | P | 940.40 | 1.04 |

C:\ICPCHEM\1\DATA\13F07j01.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8287.06 | P | 86.11 | 1.04 |
| 115 | In | 3456649.00 | A | 19320.00 | 0.56 |
| 115 | In | 1088599.00 | P | 5983.00 | 0.55 |
| 118 | (In) | 57657.22 | P | 478.90 | 0.83 |
| 118 | (In) | 19909.64 | P | 656.10 | 3.30 |
| 120 | Sn | 80448.36 | P | 1034.00 | 1.29 |
| 121 | Sb | 78359.38 | P | 370.10 | 0.47 |
| 137 | Ba | 29616.59 | P | 51.06 | 0.17 |
| 159 | Tb | 4815634.00 | A | 25230.00 | 0.52 |
| 175 | Lu | 4775621.00 | A | 34270.00 | 0.72 |
| 205 | Tl | 151873.00 | P | 2414.00 | 1.59 |
| 206 | (Pb) | 61498.36 | P | 478.90 | 0.78 |
| 207 | (Pb) | 51948.15 | P | 714.30 | 1.38 |
| 208 | Pb | 241158.20 | P | 2314.00 | 0.96 |
| 209 | Bi | 2964909.00 | A | 10180.00 | 0.34 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858681.60 | 0.55 | 1866118.10 | 99.6 | 70 - 130 | |
| 45 | Sc | 2646122.30 | 0.86 | 2660104.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 293087.00 | 0.21 | 293973.25 | 99.7 | 70 - 130 | |
| 72 | Ge | 551047.06 | 0.77 | 561821.44 | 98.1 | 70 - 130 | |
| 72 | Ge | 122840.41 | 0.19 | 124164.54 | 98.9 | 70 - 130 | |
| 103 | Rh | 3136038.00 | 0.99 | 3161326.80 | 99.2 | 70 - 130 | |
| 115 | In | 3456648.80 | 0.56 | 3455998.30 | 100.0 | 70 - 130 | |
| 115 | In | 1088598.90 | 0.55 | 1091146.30 | 99.8 | 70 - 130 | |
| 159 | Tb | 4815634.50 | 0.52 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4775621.00 | 0.72 | 4757918.50 | 100.4 | 70 - 130 | |
| 209 | Bi | 2964909.00 | 0.34 | 2963190.00 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#
Date Acquired: Jun 7 2013 10:02 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1854574.00 | A | 22470.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 146325.50 | P | 662.00 | 0.45 |
| 9 | Be | 6069.13 | P | 189.40 | 3.12 |
| 11 | B | 93985.94 | P | 187.70 | 0.20 |
| 11 | B | 2222.45 | P | 106.50 | 4.79 |
| 23 | Na | 1352484.00 | A | 724.80 | 0.05 |
| 23 | Na | 108607.40 | P | 940.90 | 0.87 |
| 24 | Mg | 507514.09 | P | 1525.00 | 0.30 |
| 24 | Mg | 25220.98 | P | 3.39 | 0.01 |
| 27 | Al | 640078.63 | P | 3275.00 | 0.51 |
| 27 | Al | 15180.10 | P | 353.80 | 2.33 |
| 39 | K | 4265718.00 | A | 14880.00 | 0.35 |
| 44 | Ca | 62699.46 | P | 195.30 | 0.31 |
| 45 | Sc | 2645720.00 | A | 19370.00 | 0.73 |
| 45 | Sc | 295032.81 | P | 504.20 | 0.17 |
| 47 | Ti | 55231.89 | P | 322.20 | 0.58 |
| 51 | V | 167308.70 | P | 798.40 | 0.48 |
| 52 | Cr | 185745.09 | P | 1187.00 | 0.64 |
| 55 | Mn | 143916.00 | P | 458.70 | 0.32 |
| 56 | Fe | 194561.00 | P | 828.60 | 0.43 |
| 59 | Co | 255971.91 | P | 797.10 | 0.31 |
| 60 | Ni | 64550.88 | P | 301.40 | 0.47 |
| 63 | Cu | 163726.91 | P | 466.50 | 0.28 |
| 66 | Zn | 31094.88 | P | 291.30 | 0.94 |
| 72 | Ge | 540540.69 | P | 4649.00 | 0.86 |
| 72 | Ge | 123092.80 | P | 376.50 | 0.31 |
| 75 | As | 22905.95 | P | 79.38 | 0.35 |
| 78 | Se | 2731.15 | P | 70.57 | 2.58 |
| 88 | Sr | 996652.88 | P | 840.30 | 0.08 |
| 98 | Mo | 269769.31 | P | 1929.00 | 0.72 |
| 103 | Rh | 3120736.00 | A | 19890.00 | 0.64 |
| 107 | Ag | 442589.91 | P | 2451.00 | 0.55 |

C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40465.12 | P | 256.80 | 0.63 |
| 115 | In | 3437968.00 | A | 15990.00 | 0.47 |
| 115 | In | 1083072.00 | P | 6344.00 | 0.59 |
| 118 | (In) | 280711.81 | P | 615.50 | 0.22 |
| 118 | (In) | 96260.46 | P | 572.10 | 0.59 |
| 120 | Sn | 388700.19 | P | 3099.00 | 0.80 |
| 121 | Sb | 370809.50 | P | 1185.00 | 0.32 |
| 137 | Ba | 141662.00 | P | 567.00 | 0.40 |
| 159 | Tb | 4779030.00 | A | 24460.00 | 0.51 |
| 175 | Lu | 4751724.00 | A | 10890.00 | 0.23 |
| 205 | Tl | 811419.13 | P | 5821.00 | 0.72 |
| 206 | (Pb) | 296389.41 | P | 656.70 | 0.22 |
| 207 | (Pb) | 250823.09 | P | 2186.00 | 0.87 |
| 208 | Pb | 1159228.00 | P | 5830.00 | 0.50 |
| 209 | Bi | 2950045.00 | A | 34830.00 | 1.18 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1854573.90 | 1.21 | 1866118.10 | 99.4 | 70 - 130 | |
| 45 | Sc | 2645720.50 | 0.73 | 2660104.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 295032.78 | 0.17 | 293973.25 | 100.4 | 70 - 130 | |
| 72 | Ge | 540540.75 | 0.86 | 561821.44 | 96.2 | 70 - 130 | |
| 72 | Ge | 123092.76 | 0.31 | 124164.54 | 99.1 | 70 - 130 | |
| 103 | Rh | 3120735.80 | 0.64 | 3161326.80 | 98.7 | 70 - 130 | |
| 115 | In | 3437968.00 | 0.47 | 3455998.30 | 99.5 | 70 - 130 | |
| 115 | In | 1083072.30 | 0.59 | 1091146.30 | 99.3 | 70 - 130 | |
| 159 | Tb | 4779029.50 | 0.51 | 4795045.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 4751724.50 | 0.23 | 4757918.50 | 99.9 | 70 - 130 | |
| 209 | Bi | 2950045.30 | 1.18 | 2963190.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#
Date Acquired: Jun 7 2013 10:10 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858476.00 | A | 15120.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 296617.81 | P | 87.84 | 0.03 |
| 9 | Be | 12488.63 | P | 202.90 | 1.62 |
| 11 | B | 190903.30 | P | 454.30 | 0.24 |
| 11 | B | 4381.86 | P | 223.50 | 5.10 |
| 23 | Na | 2137606.00 | A | 15210.00 | 0.71 |
| 23 | Na | 154725.20 | P | 1061.00 | 0.69 |
| 24 | Mg | 1016801.00 | M | 1937.00 | 0.19 |
| 24 | Mg | 50700.38 | P | 368.40 | 0.73 |
| 27 | Al | 1304136.00 | A | 7705.00 | 0.59 |
| 27 | Al | 30691.94 | P | 425.90 | 1.39 |
| 39 | K | 5008195.00 | A | 34560.00 | 0.69 |
| 44 | Ca | 108388.50 | P | 822.90 | 0.76 |
| 45 | Sc | 2622459.00 | A | 20530.00 | 0.78 |
| 45 | Sc | 293149.59 | P | 1316.00 | 0.45 |
| 47 | Ti | 111773.70 | P | 617.00 | 0.55 |
| 51 | V | 334229.00 | P | 961.90 | 0.29 |
| 52 | Cr | 371027.69 | P | 1294.00 | 0.35 |
| 55 | Mn | 289794.00 | P | 322.00 | 0.11 |
| 56 | Fe | 370725.59 | P | 1369.00 | 0.37 |
| 59 | Co | 512154.81 | P | 1619.00 | 0.32 |
| 60 | Ni | 129305.10 | P | 295.40 | 0.23 |
| 63 | Cu | 328168.81 | P | 1971.00 | 0.60 |
| 66 | Zn | 63781.22 | P | 102.00 | 0.16 |
| 72 | Ge | 539790.69 | P | 3839.00 | 0.71 |
| 72 | Ge | 121873.80 | P | 459.80 | 0.38 |
| 75 | As | 45807.59 | P | 316.30 | 0.69 |
| 78 | Se | 5347.86 | P | 13.07 | 0.24 |
| 88 | Sr | 1983843.00 | A | 8885.00 | 0.45 |
| 98 | Mo | 543813.19 | P | 1208.00 | 0.22 |
| 103 | Rh | 3118717.00 | A | 11460.00 | 0.37 |
| 107 | Ag | 899320.69 | P | 2978.00 | 0.33 |

C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 81324.14 | P | 454.80 | 0.56 |
| 115 | In | 3440740.00 | A | 8439.00 | 0.25 |
| 115 | In | 1072512.00 | P | 2331.00 | 0.22 |
| 118 | (In) | 564929.31 | P | 4539.00 | 0.80 |
| 118 | (In) | 195025.80 | P | 1917.00 | 0.98 |
| 120 | Sn | 783323.88 | P | 6524.00 | 0.83 |
| 121 | Sb | 739806.38 | P | 1329.00 | 0.18 |
| 137 | Ba | 288135.81 | P | 1436.00 | 0.50 |
| 159 | Tb | 4799049.00 | A | 38250.00 | 0.80 |
| 175 | Lu | 4787660.00 | A | 11820.00 | 0.25 |
| 205 | Tl | 1693157.00 | A | 4030.00 | 0.24 |
| 206 | (Pb) | 601653.19 | P | 2259.00 | 0.38 |
| 207 | (Pb) | 508173.00 | P | 114.30 | 0.02 |
| 208 | Pb | 2345586.00 | P | 7368.00 | 0.31 |
| 209 | Bi | 2998875.00 | A | 2989.00 | 0.10 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858476.40 | 0.81 | 1866118.10 | 99.6 | 70 - 130 | |
| 45 | Sc | 2622458.50 | 0.78 | 2660104.80 | 98.6 | 70 - 130 | |
| 45 | Sc | 293149.66 | 0.45 | 293973.25 | 99.7 | 70 - 130 | |
| 72 | Ge | 539790.69 | 0.71 | 561821.44 | 96.1 | 70 - 130 | |
| 72 | Ge | 121873.85 | 0.38 | 124164.54 | 98.2 | 70 - 130 | |
| 103 | Rh | 3118716.80 | 0.37 | 3161326.80 | 98.7 | 70 - 130 | |
| 115 | In | 3440740.00 | 0.25 | 3455998.30 | 99.6 | 70 - 130 | |
| 115 | In | 1072512.30 | 0.22 | 1091146.30 | 98.3 | 70 - 130 | |
| 159 | Tb | 4799049.50 | 0.80 | 4795045.00 | 100.1 | 70 - 130 | |
| 175 | Lu | 4787660.00 | 0.25 | 4757918.50 | 100.6 | 70 - 130 | |
| 209 | Bi | 2998874.80 | 0.10 | 2963190.00 | 101.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#
Date Acquired: Jun 7 2013 10:18 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1836609.00 | A | 22890.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 593501.38 | P | 4049.00 | 0.68 |
| 9 | Be | 24272.53 | P | 501.00 | 2.06 |
| 11 | B | 380315.50 | P | 586.50 | 0.15 |
| 11 | B | 8763.81 | P | 68.32 | 0.78 |
| 23 | Na | 3425325.00 | A | 3183.00 | 0.09 |
| 23 | Na | 234897.30 | P | 771.60 | 0.33 |
| 24 | Mg | 1999108.00 | A | 11600.00 | 0.58 |
| 24 | Mg | 99713.31 | P | 825.50 | 0.83 |
| 27 | Al | 2457794.00 | A | 12260.00 | 0.50 |
| 27 | Al | 59048.55 | P | 272.80 | 0.46 |
| 39 | K | 6197849.00 | A | 17770.00 | 0.29 |
| 44 | Ca | 143111.30 | P | 1733.00 | 1.21 |
| 45 | Sc | 2630238.00 | A | 12920.00 | 0.49 |
| 45 | Sc | 292112.50 | P | 3930.00 | 1.35 |
| 47 | Ti | 224002.70 | P | 594.90 | 0.27 |
| 51 | V | 667420.31 | P | 2100.00 | 0.31 |
| 52 | Cr | 742609.81 | P | 2546.00 | 0.34 |
| 55 | Mn | 574869.69 | P | 1206.00 | 0.21 |
| 56 | Fe | 704951.00 | P | 1616.00 | 0.23 |
| 59 | Co | 1025118.00 | P | 5947.00 | 0.58 |
| 60 | Ni | 257537.09 | P | 650.00 | 0.25 |
| 63 | Cu | 652014.69 | P | 1857.00 | 0.28 |
| 66 | Zn | 123823.40 | P | 321.30 | 0.26 |
| 72 | Ge | 538309.88 | P | 5027.00 | 0.93 |
| 72 | Ge | 120815.20 | P | 546.30 | 0.45 |
| 75 | As | 91399.07 | P | 323.40 | 0.35 |
| 78 | Se | 10545.72 | P | 113.90 | 1.08 |
| 88 | Sr | 3909572.00 | A | 4725.00 | 0.12 |
| 98 | Mo | 1090781.00 | P | 1557.00 | 0.14 |
| 103 | Rh | 3128525.00 | A | 13520.00 | 0.43 |
| 107 | Ag | 1748102.00 | A | 6074.00 | 0.35 |

C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 162379.09 | P | 486.70 | 0.30 |
| 115 | In | 3397116.00 | A | 14850.00 | 0.44 |
| 115 | In | 1063789.00 | P | 17460.00 | 1.64 |
| 118 | (In) | 1131739.00 | P | 5829.00 | 0.52 |
| 118 | (In) | 389603.50 | P | 667.70 | 0.17 |
| 120 | Sn | 1549984.00 | A | 13080.00 | 0.84 |
| 121 | Sb | 1440518.00 | A | 20090.00 | 1.39 |
| 137 | Ba | 571060.63 | P | 2249.00 | 0.39 |
| 159 | Tb | 4816497.00 | A | 15620.00 | 0.32 |
| 175 | Lu | 4746929.00 | A | 11510.00 | 0.24 |
| 205 | Tl | 3374838.00 | A | 35580.00 | 1.05 |
| 206 | (Pb) | 1204328.00 | P | 5533.00 | 0.46 |
| 207 | (Pb) | 1017922.00 | P | 3160.00 | 0.31 |
| 208 | Pb | 4630879.00 | A | 30270.00 | 0.65 |
| 209 | Bi | 3006162.00 | A | 24710.00 | 0.82 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1836608.90 | 1.25 | 1866118.10 | 98.4 | 70 - 130 | |
| 45 | Sc | 2630238.30 | 0.49 | 2660104.80 | 98.9 | 70 - 130 | |
| 45 | Sc | 292112.50 | 1.35 | 293973.25 | 99.4 | 70 - 130 | |
| 72 | Ge | 538309.94 | 0.93 | 561821.44 | 95.8 | 70 - 130 | |
| 72 | Ge | 120815.24 | 0.45 | 124164.54 | 97.3 | 70 - 130 | |
| 103 | Rh | 3128525.30 | 0.43 | 3161326.80 | 99.0 | 70 - 130 | |
| 115 | In | 3397116.50 | 0.44 | 3455998.30 | 98.3 | 70 - 130 | |
| 115 | In | 1063789.30 | 1.64 | 1091146.30 | 97.5 | 70 - 130 | |
| 159 | Tb | 4816496.50 | 0.32 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4746929.00 | 0.24 | 4757918.50 | 99.8 | 70 - 130 | |
| 209 | Bi | 3006162.00 | 0.82 | 2963190.00 | 101.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#
Date Acquired: Jun 7 2013 10:25 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1850436.00 | A | 22560.00 | 1.22 |
| 7 | (Li) | | P | | |
| 9 | Be | 124.45 | P | 12.62 | 10.14 |
| 9 | Be | 7.78 | P | 1.93 | 24.75 |
| 11 | B | 2388.04 | P | 17.11 | 0.72 |
| 11 | B | 47.78 | P | 13.88 | 29.05 |
| 23 | Na | 28581440.00 | A | 340400.00 | 1.19 |
| 23 | Na | 1729030.00 | A | 12030.00 | 0.70 |
| 24 | Mg | 18935510.00 | A | 37460.00 | 0.20 |
| 24 | Mg | 994264.38 | P | 5069.00 | 0.51 |
| 27 | Al | 23817150.00 | A | 102400.00 | 0.43 |
| 27 | Al | 599853.50 | P | 3649.00 | 0.61 |
| 39 | K | 29342830.00 | A | 111000.00 | 0.38 |
| 44 | Ca | 866305.31 | P | 6319.00 | 0.73 |
| 45 | Sc | 2639131.00 | A | 87700.00 | 3.32 |
| 45 | Sc | 297077.19 | P | 1619.00 | 0.54 |
| 47 | Ti | 213.34 | P | 6.67 | 3.13 |
| 51 | V | 2466.46 | P | 32.89 | 1.33 |
| 52 | Cr | 1360.08 | P | 34.95 | 2.57 |
| 55 | Mn | 1686.78 | P | 15.38 | 0.91 |
| 56 | Fe | 6456509.00 | A | 35300.00 | 0.55 |
| 59 | Co | 351.56 | P | 57.73 | 16.42 |
| 60 | Ni | 295.56 | P | 8.57 | 2.90 |
| 63 | Cu | 1577.88 | P | 74.37 | 4.71 |
| 66 | Zn | 254.89 | P | 10.71 | 4.20 |
| 72 | Ge | 554332.19 | P | 8273.00 | 1.49 |
| 72 | Ge | 124839.00 | P | 617.20 | 0.49 |
| 75 | As | 120.00 | P | 4.62 | 3.85 |
| 78 | Se | 126.67 | P | 14.89 | 11.76 |
| 88 | Sr | 2472.52 | P | 121.20 | 4.90 |
| 98 | Mo | 3449.40 | P | 99.71 | 2.89 |
| 103 | Rh | 3114065.00 | A | 99700.00 | 3.20 |
| 107 | Ag | 377.80 | P | 33.72 | 8.93 |

C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 24.45 | P | 3.85 | 15.75 |
| 115 | In | 3456814.00 | A | 80620.00 | 2.33 |
| 115 | In | 1095520.00 | P | 8646.00 | 0.79 |
| 118 | (In) | 2134.68 | P | 169.40 | 7.94 |
| 118 | (In) | 883.39 | P | 76.24 | 8.63 |
| 120 | Sn | 2962.63 | P | 317.10 | 10.70 |
| 121 | Sb | 4049.59 | P | 251.50 | 6.21 |
| 137 | Ba | 744.49 | P | 27.15 | 3.65 |
| 159 | Tb | 4829879.00 | A | 146300.00 | 3.03 |
| 175 | Lu | 4789296.00 | A | 135200.00 | 2.82 |
| 205 | Tl | 6829.70 | P | 169.50 | 2.48 |
| 206 | (Pb) | 333.35 | P | 40.42 | 12.13 |
| 207 | (Pb) | 331.13 | P | 25.89 | 7.82 |
| 208 | Pb | 2879.21 | P | 88.49 | 3.07 |
| 209 | Bi | 2979552.00 | A | 52020.00 | 1.75 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1850436.00 | 1.22 | 1866118.10 | 99.2 | 70 - 130 | |
| 45 | Sc | 2639131.50 | 3.32 | 2660104.80 | 99.2 | 70 - 130 | |
| 45 | Sc | 297077.22 | 0.54 | 293973.25 | 101.1 | 70 - 130 | |
| 72 | Ge | 554332.19 | 1.49 | 561821.44 | 98.7 | 70 - 130 | |
| 72 | Ge | 124839.00 | 0.49 | 124164.54 | 100.5 | 70 - 130 | |
| 103 | Rh | 3114064.50 | 3.20 | 3161326.80 | 98.5 | 70 - 130 | |
| 115 | In | 3456814.30 | 2.33 | 3455998.30 | 100.0 | 70 - 130 | |
| 115 | In | 1095520.50 | 0.79 | 1091146.30 | 100.4 | 70 - 130 | |
| 159 | Tb | 4829879.00 | 3.03 | 4795045.00 | 100.7 | 70 - 130 | |
| 175 | Lu | 4789296.00 | 2.82 | 4757918.50 | 100.7 | 70 - 130 | |
| 209 | Bi | 2979551.50 | 1.75 | 2963190.00 | 100.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#
Date Acquired: Jun 7 2013 10:32 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1819591.00 | A | 6644.00 | 0.37 |
| 7 | (Li) | | P | | |
| 9 | Be | 80.00 | P | 6.67 | 8.33 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1356.77 | P | 99.40 | 7.33 |
| 11 | B | 30.00 | P | 14.53 | 48.43 |
| 23 | Na | 276424800.00 | A | 2130000.00 | 0.77 |
| 23 | Na | 15934210.00 | A | 77870.00 | 0.49 |
| 24 | Mg | 184538800.00 | A | 122500.00 | 0.07 |
| 24 | Mg | 9015164.00 | A | 23620.00 | 0.26 |
| 27 | Al | 234347300.00 | A | 646200.00 | 0.28 |
| 27 | Al | 5490174.00 | A | 15060.00 | 0.27 |
| 39 | K | 257719600.00 | A | 1126000.00 | 0.44 |
| 44 | Ca | 7706194.00 | A | 57380.00 | 0.74 |
| 45 | Sc | 2674280.00 | A | 6295.00 | 0.24 |
| 45 | Sc | 300384.41 | P | 896.30 | 0.30 |
| 47 | Ti | 205.56 | P | 24.57 | 11.95 |
| 51 | V | 2583.81 | P | 58.44 | 2.26 |
| 52 | Cr | 2031.72 | P | 45.27 | 2.23 |
| 55 | Mn | 2838.97 | P | 74.36 | 2.62 |
| 56 | Fe | 62469312.00 | A | 320200.00 | 0.51 |
| 59 | Co | 1523.65 | P | 27.01 | 1.77 |
| 60 | Ni | 652.02 | P | 22.27 | 3.42 |
| 63 | Cu | 1786.80 | P | 33.18 | 1.86 |
| 66 | Zn | 875.59 | P | 29.97 | 3.42 |
| 72 | Ge | 564863.50 | P | 4167.00 | 0.74 |
| 72 | Ge | 125640.90 | P | 423.10 | 0.34 |
| 75 | As | 132.67 | P | 4.62 | 3.48 |
| 78 | Se | 124.22 | P | 10.96 | 8.82 |
| 88 | Sr | 16342.74 | P | 166.10 | 1.02 |
| 98 | Mo | 1168.97 | P | 67.36 | 5.76 |
| 103 | Rh | 3020158.00 | A | 19890.00 | 0.66 |
| 107 | Ag | 897.84 | P | 25.02 | 2.79 |

C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 20.00 | P | 14.53 | 72.65 | |
| 115 | In | 3356052.00 | A | 7420.00 | 0.22 | |
| 115 | In | 1074836.00 | P | 8310.00 | 0.77 | |
| 118 | (In) | 905.62 | P | 65.52 | 7.23 | |
| 118 | (In) | 384.46 | P | 26.95 | 7.01 | |
| 120 | Sn | 1264.54 | P | 116.50 | 9.21 | |
| 121 | Sb | 1871.30 | P | 80.45 | 4.30 | |
| 137 | Ba | 1192.31 | P | 19.25 | 1.61 | |
| 159 | Tb | 4812920.00 | A | 47660.00 | 0.99 | |
| 175 | Lu | 4780551.00 | A | 14440.00 | 0.30 | |
| 205 | Tl | 3113.80 | P | 263.20 | 8.45 | |
| 206 | (Pb) | 460.02 | P | 64.90 | 14.11 | |
| 207 | (Pb) | 407.80 | P | 11.71 | 2.87 | |
| 208 | Pb | 3113.67 | P | 96.86 | 3.11 | |
| 209 | Bi | 2859352.00 | A | 21780.00 | 0.76 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1819591.00 | 0.37 | 1866118.10 | 97.5 | 70 - 130 | |
| 45 | Sc | 2674280.30 | 0.24 | 2660104.80 | 100.5 | 70 - 130 | |
| 45 | Sc | 300384.44 | 0.30 | 293973.25 | 102.2 | 70 - 130 | |
| 72 | Ge | 564863.56 | 0.74 | 561821.44 | 100.5 | 70 - 130 | |
| 72 | Ge | 125640.94 | 0.34 | 124164.54 | 101.2 | 70 - 130 | |
| 103 | Rh | 3020157.80 | 0.66 | 3161326.80 | 95.5 | 70 - 130 | |
| 115 | In | 3356052.00 | 0.22 | 3455998.30 | 97.1 | 70 - 130 | |
| 115 | In | 1074835.50 | 0.77 | 1091146.30 | 98.5 | 70 - 130 | |
| 159 | Tb | 4812920.50 | 0.99 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4780551.00 | 0.30 | 4757918.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2859351.80 | 0.76 | 2963190.00 | 96.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#
Date Acquired: Jun 7 2013 10:39 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 61.39 | 61.39 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 61.54 | 61.54 | ppb | 1.59 | 900.00 | |
| 11 B | 6 | 1 | 60.69 | 60.69 | ppb | 0.24 | 900.00 | |
| 11 B | 45 | 2 | 60.19 | 60.19 | ppb | 3.47 | 900.00 | |
| 23 Na | 45 | 1 | 5494.00 | 5494.00 | ppb | 1.07 | 90000.00 | |
| 23 Na | 45 | 2 | 5333.00 | 5333.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 5515.00 | 5515.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5492.00 | 5492.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 5578.00 | 5578.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 5587.00 | 5587.00 | ppb | 0.15 | 90000.00 | |
| 39 K | 45 | 1 | 5409.00 | 5409.00 | ppb | 0.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 5509.00 | 5509.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 61.70 | 61.70 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 61.61 | 61.61 | ppb | 0.24 | 900.00 | |
| 52 Cr | 45 | 2 | 60.35 | 60.35 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 59.90 | 59.90 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 5457.00 | 5457.00 | ppb | 0.33 | 90000.00 | |
| 59 Co | 45 | 2 | 60.07 | 60.07 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 60.23 | 60.23 | ppb | 1.30 | 900.00 | |
| 63 Cu | 72 | 2 | 58.97 | 58.97 | ppb | 0.80 | 900.00 | |
| 66 Zn | 72 | 2 | 59.13 | 59.13 | ppb | 0.41 | 900.00 | |
| 75 As | 72 | 2 | 60.90 | 60.90 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 59.56 | 59.56 | ppb | 0.92 | 900.00 | |
| 88 Sr | 103 | 1 | 63.16 | 63.16 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 64.30 | 64.30 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 63.31 | 63.31 | ppb | 0.84 | 180.00 | |
| 111 Cd | 115 | 2 | 60.54 | 60.54 | ppb | 0.82 | 900.00 | |
| 120 Sn | 115 | 1 | 62.72 | 62.72 | ppb | 0.94 | 900.00 | |
| 121 Sb | 115 | 1 | 65.12 | 65.12 | ppb | 0.99 | 900.00 | |
| 137 Ba | 159 | 1 | 59.41 | 59.41 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 58.04 | 58.04 | ppb | 1.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 61.07 | 61.07 | ppb | 0.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1839090 | 0.65 | 1866118 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 2648095 | 0.40 | 2660105 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 297041 | 0.30 | 293973 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 547562 | 1.09 | 561821 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 123257 | 0.31 | 124165 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 3044042 | 0.32 | 3161327 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 3375398 | 0.41 | 3455998 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 1068358 | 0.40 | 1091146 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 4814476 | 0.31 | 4795045 | 100.4 | 70 | - | 130 |
| 175 Lu | 1 | 4829063 | 0.77 | 4757919 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 2908058 | 0.25 | 2963190 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#
Date Acquired: Jun 7 2013 10:50 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 399.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2800.00 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.02 | ppb | 70.15 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 186.05 | 900.00 | |
| 23 Na | 45 | 1 | 1.77 | 1.77 | ppb | 12.64 | 90000.00 | |
| 23 Na | 45 | 2 | 4.57 | 4.57 | ppb | 3.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.44 | 0.44 | ppb | 2.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.90 | 0.90 | ppb | 29.94 | 90000.00 | |
| 27 Al | 45 | 1 | -0.59 | -0.59 | ppb | 7.60 | 90000.00 | |
| 27 Al | 45 | 2 | -0.21 | -0.21 | ppb | 102.68 | 90000.00 | |
| 39 K | 45 | 1 | -2.35 | -2.35 | ppb | 21.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.46 | 0.46 | ppb | 64.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 59.30 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 51.86 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 51.51 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 1.15 | 900.00 | |
| 56 Fe | 45 | 2 | -2.16 | -2.16 | ppb | 9.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 31.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 31.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 72.98 | 900.00 | |
| 66 Zn | 72 | 2 | 0.13 | 0.13 | ppb | 9.64 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 1384.20 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.06 | ppb | 143.82 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 17.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 6.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 21.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 15.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 14.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 21.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 568.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1849698 | 0.82 | 1866118 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 2635220 | 0.16 | 2660105 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 301217 | 0.48 | 293973 | 102.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553916 | 0.63 | 561821 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 125489 | 0.52 | 124165 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3145279 | 0.52 | 3161327 | 99.5 | 70 | - | 130 |
| 115 | In | 1 | 3461518 | 0.30 | 3455998 | 100.2 | 70 | - | 130 |
| 115 | In | 2 | 1110695 | 0.38 | 1091146 | 101.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4803078 | 0.16 | 4795045 | 100.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4783674 | 1.12 | 4757919 | 100.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3002383 | 1.00 | 2963190 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 10:57 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2103 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.71 | 52.71 | ppb | 0.09 | 900.00 | |
| 9 Be | 45 | 2 | 51.13 | 51.13 | ppb | 2.19 | 900.00 | |
| 11 B | 6 | 1 | 51.60 | 51.60 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 50.17 | 50.17 | ppb | 2.69 | 900.00 | |
| 23 Na | 45 | 1 | 5092.00 | 5092.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 5005.00 | 5005.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5096.00 | 5096.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5091.00 | 5091.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 5062.00 | 5062.00 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 2 | 5113.00 | 5113.00 | ppb | 0.43 | 90000.00 | |
| 39 K | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 5167.00 | 5167.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.32 | 50.32 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 51.30 | 51.30 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 50.81 | 50.81 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.97 | 49.97 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 50.63 | 50.63 | ppb | 0.10 | 900.00 | |
| 60 Ni | 45 | 2 | 50.28 | 50.28 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 49.51 | 49.51 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 50.05 | 50.05 | ppb | 0.32 | 900.00 | |
| 75 As | 72 | 2 | 51.14 | 51.14 | ppb | 0.86 | 900.00 | |
| 78 Se | 72 | 2 | 49.58 | 49.58 | ppb | 0.52 | 900.00 | |
| 88 Sr | 103 | 1 | 52.24 | 52.24 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 51.48 | 51.48 | ppb | 0.47 | 900.00 | |
| 107 Ag | 115 | 1 | 51.55 | 51.55 | ppb | 0.85 | 180.00 | |
| 111 Cd | 115 | 2 | 51.01 | 51.01 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 51.28 | 51.28 | ppb | 0.96 | 900.00 | |
| 121 Sb | 115 | 1 | 55.19 | 55.19 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 50.11 | 50.11 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 48.66 | 48.66 | ppb | 1.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.52 | 52.52 | ppb | 0.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1829757 | 0.54 | 1866118 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2639694 | 0.59 | 2660105 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 297223 | 0.35 | 293973 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 542386 | 0.16 | 561821 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 122956 | 0.10 | 124165 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 3057691 | 0.59 | 3161327 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3381715 | 1.11 | 3455998 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1067438 | 0.55 | 1091146 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 4798333 | 1.04 | 4795045 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 4731292 | 0.52 | 4757919 | 99.4 | 70 | - | 130 |
| 209 Bi | 1 | 2919010 | 0.56 | 2963190 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 11:04 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2104 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 208.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 147.13 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 24.43 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 35.20 | 900.00 | |
| 23 Na | 45 | 1 | 1.56 | 1.56 | ppb | 10.05 | 90000.00 | |
| 23 Na | 45 | 2 | 4.64 | 4.64 | ppb | 8.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.39 | 0.39 | ppb | 15.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.90 | 0.90 | ppb | 26.96 | 90000.00 | |
| 27 Al | 45 | 1 | -0.61 | -0.61 | ppb | 7.27 | 90000.00 | |
| 27 Al | 45 | 2 | -0.08 | -0.08 | ppb | 136.59 | 90000.00 | |
| 39 K | 45 | 1 | -4.50 | -4.50 | ppb | 10.59 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.86 | -3.86 | ppb | 8.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 53.92 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 32.83 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 14.29 | 900.00 | |
| 55 Mn | 45 | 2 | -0.15 | -0.15 | ppb | 5.35 | 900.00 | |
| 56 Fe | 45 | 2 | -1.67 | -1.67 | ppb | 11.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.83 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 36.17 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 16.90 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 3444.90 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 81.96 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 31.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 37.91 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 85.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.02 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 41.95 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 427.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 4.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 10.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1859643 | 0.34 | 1866118 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 2637293 | 0.22 | 2660105 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 296342 | 1.61 | 293973 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 551272 | 0.96 | 561821 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 124544 | 0.43 | 124165 | 100.3 | 70 | - | 130 |
| 103 Rh | 1 | 3122635 | 0.61 | 3161327 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 3451577 | 0.54 | 3455998 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 1102678 | 0.64 | 1091146 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 4810674 | 0.50 | 4795045 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 4770679 | 0.44 | 4757919 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3014040 | 1.41 | 2963190 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#
Date Acquired: Jun 7 2013 11:11 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 10.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.46 | 0.46 | ppb | 20.25 | 900.00 | |
| 11 B | 6 | 1 | 4.74 | 4.74 | ppb | 9.81 | 900.00 | |
| 11 B | 45 | 2 | 5.20 | 5.20 | ppb | 15.31 | 900.00 | |
| 23 Na | 45 | 1 | 237.90 | 237.90 | ppb | 10.57 | 90000.00 | |
| 23 Na | 45 | 2 | 272.80 | 272.80 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 244.40 | 244.40 | ppb | 9.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 274.80 | 274.80 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 1 | 24.34 | 24.34 | ppb | 9.91 | 90000.00 | |
| 27 Al | 45 | 2 | 26.88 | 26.88 | ppb | 1.42 | 90000.00 | |
| 39 K | 45 | 1 | 222.90 | 222.90 | ppb | 14.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 246.10 | 246.10 | ppb | 10.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 11.74 | 900.00 | |
| 51 V | 45 | 2 | 0.96 | 0.96 | ppb | 2.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.88 | 0.88 | ppb | 1.17 | 900.00 | |
| 55 Mn | 45 | 2 | 0.84 | 0.84 | ppb | 2.89 | 900.00 | |
| 56 Fe | 45 | 2 | 25.63 | 25.63 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.47 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 4.25 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.96 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 2.28 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 11.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 5.01 | 900.00 | |
| 88 Sr | 103 | 1 | 4.81 | 4.81 | ppb | 9.78 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 9.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.46 | 0.46 | ppb | 7.92 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 1.00 | 900.00 | |
| 120 Sn | 115 | 1 | 4.75 | 4.75 | ppb | 8.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 9.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.94 | 0.94 | ppb | 9.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.49 | 0.49 | ppb | 12.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 9.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1944098 | 8.20 | 1866118 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 2831243 | 9.03 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 300364 | 1.34 | 293973 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 582500 | 8.97 | 561821 | 103.7 | 70 | - | 130 |
| 72 Ge | 2 | 125166 | 0.81 | 124165 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 3330614 | 9.83 | 3161327 | 105.4 | 70 | - | 130 |
| 115 In | 1 | 3655443 | 7.75 | 3455998 | 105.8 | 70 | - | 130 |
| 115 In | 2 | 1105065 | 1.31 | 1091146 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5121924 | 8.48 | 4795045 | 106.8 | 70 | - | 130 |
| 175 Lu | 1 | 5106579 | 8.66 | 4757919 | 107.3 | 70 | - | 130 |
| 209 Bi | 1 | 3177391 | 8.51 | 2963190 | 107.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#
Date Acquired: Jun 7 2013 11:19 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 147.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1077.40 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 38.42 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 201.38 | 900.00 | |
| 23 Na | 45 | 1 | 92070.00 | 92070.00 | ppb | 2.53 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93280.00 | 93280.00 | ppb | 0.36 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92390.00 | 92390.00 | ppb | 2.77 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93150.00 | 93150.00 | ppb | 0.54 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 91270.00 | 91270.00 | ppb | 3.12 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 90750.00 | 90750.00 | ppb | 0.51 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 93150.00 | 93150.00 | ppb | 2.71 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92650.00 | 92650.00 | ppb | 2.82 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1978.00 | 1978.00 | ppb | 2.96 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 4.87 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 1.02 | ppb | 1.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.15 | 0.15 | ppb | 7.74 | 900.00 | |
| 56 Fe | 45 | 2 | 94060.00 | 94060.00 | ppb | 1.05 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 7.56 | 900.00 | |
| 60 Ni | 45 | 2 | 0.71 | 0.71 | ppb | 3.41 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.41 | ppb | 10.27 | 900.00 | |
| 66 Zn | 72 | 2 | 1.78 | 1.78 | ppb | 1.67 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 7.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.11 | ppb | 44.35 | 900.00 | |
| 88 Sr | 103 | 1 | 4.84 | 4.84 | ppb | 3.09 | 900.00 | |
| 98 Mo | 103 | 1 | 2067.00 | 2067.00 | ppb | 3.84 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 9.36 | 180.00 | |
| 111 Cd | 115 | 2 | 1.36 | 1.36 | ppb | 3.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 4.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 4.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 6.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 3.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1719054 | 2.28 | 1866118 | 92.1 | 70 - 130 | |
| 45 Sc | 1 | 2584798 | 2.70 | 2660105 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 283478 | 0.36 | 293973 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 599759 | 1.74 | 561821 | 106.8 | 70 | - | 130 |
| 72 | Ge | 2 | 127935 | 0.14 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2817618 | 3.10 | 3161327 | 89.1 | 70 | - | 130 |
| 115 | In | 1 | 3228944 | 2.06 | 3455998 | 93.4 | 70 | - | 130 |
| 115 | In | 2 | 992660 | 0.40 | 1091146 | 91.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4779271 | 2.84 | 4795045 | 99.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4789551 | 3.23 | 4757919 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2721454 | 2.93 | 2963190 | 91.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#
Date Acquired: Jun 7 2013 11:26 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 100.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 15.54 | 900.00 | |
| 11 B | 45 | 2 | 0.01 | 0.01 | ppb | 1158.20 | 900.00 | |
| 23 Na | 45 | 1 | 95840.00 | 95840.00 | ppb | 0.78 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 95890.00 | 95890.00 | ppb | 0.43 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 95880.00 | 95880.00 | ppb | 1.18 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 95630.00 | 95630.00 | ppb | 0.20 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94590.00 | 94590.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92510.00 | 92510.00 | ppb | 0.06 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97420.00 | 97420.00 | ppb | 0.98 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96320.00 | 96320.00 | ppb | 1.16 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2051.00 | 2051.00 | ppb | 1.02 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 36.06 | 900.00 | |
| 52 Cr | 45 | 2 | 20.68 | 20.68 | ppb | 0.78 | 900.00 | |
| 55 Mn | 45 | 2 | 19.40 | 19.40 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 96020.00 | 96020.00 | ppb | 0.49 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.60 | 19.60 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 19.73 | 19.73 | ppb | 1.17 | 900.00 | |
| 63 Cu | 72 | 2 | 17.59 | 17.59 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 18.68 | 18.68 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 19.29 | 19.29 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 671.74 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 2147.00 | 2147.00 | ppb | 1.13 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.62 | 19.62 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 20.82 | 20.82 | ppb | 1.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 6.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.60 | 0.60 | ppb | 1.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 17.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 1.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1811392 | 1.35 | 1866118 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 2604935 | 0.27 | 2660105 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 283515 | 0.28 | 293973 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596996 | 0.59 | 561821 | 106.3 | 70 - | 130 |
| 72 | Ge | 2 | 126769 | 0.11 | 124165 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 2815875 | 0.46 | 3161327 | 89.1 | 70 - | 130 |
| 115 | In | 1 | 3288158 | 0.70 | 3455998 | 95.1 | 70 - | 130 |
| 115 | In | 2 | 982270 | 0.39 | 1091146 | 90.0 | 70 - | 130 |
| 159 | Tb | 1 | 4876139 | 1.21 | 4795045 | 101.7 | 70 - | 130 |
| 175 | Lu | 1 | 4906217 | 0.18 | 4757919 | 103.1 | 70 - | 130 |
| 209 | Bi | 1 | 2748621 | 0.80 | 2963190 | 92.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#
Date Acquired: Jun 7 2013 11:33 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 45.61 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 34.35 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 3.51 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.05 | ppb | 226.87 | 900.00 | |
| 23 Na | 45 | 1 | 18.40 | 18.40 | ppb | 7.01 | 90000.00 | |
| 23 Na | 45 | 2 | 22.50 | 22.50 | ppb | 1.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.56 | 5.56 | ppb | 15.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.17 | 3.17 | ppb | 18.86 | 90000.00 | |
| 27 Al | 45 | 1 | 4.49 | 4.49 | ppb | 19.84 | 90000.00 | |
| 27 Al | 45 | 2 | 2.07 | 2.07 | ppb | 18.71 | 90000.00 | |
| 39 K | 45 | 1 | 0.53 | 0.53 | ppb | 348.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.87 | 6.87 | ppb | 16.02 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.24 | 0.24 | ppb | 10.38 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 67.40 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 1.85 | 900.00 | |
| 55 Mn | 45 | 2 | -0.11 | -0.11 | ppb | 10.45 | 900.00 | |
| 56 Fe | 45 | 2 | 2.81 | 2.81 | ppb | 18.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.00 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 18.90 | 900.00 | |
| 63 Cu | 72 | 2 | 0.33 | 0.33 | ppb | 0.32 | 900.00 | |
| 66 Zn | 72 | 2 | 0.82 | 0.82 | ppb | 5.10 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 436.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 222.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 18.84 | 900.00 | |
| 98 Mo | 103 | 1 | 2.92 | 2.92 | ppb | 4.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 42.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.22 | ppb | 1.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 88.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 60.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 30.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 9.70 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2120404 | 0.92 | 1866118 | 113.6 | 70 - 130 | |
| 45 Sc | 1 | 2852367 | 0.18 | 2660105 | 107.2 | 70 - 130 | |
| 45 Sc | 2 | 305900 | 0.57 | 293973 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 593330 | 0.72 | 561821 | 105.6 | 70 | - | 130 |
| 72 Ge | 2 | 128788 | 0.21 | 124165 | 103.7 | 70 | - | 130 |
| 103 Rh | 1 | 3363671 | 0.56 | 3161327 | 106.4 | 70 | - | 130 |
| 115 In | 1 | 3739709 | 0.54 | 3455998 | 108.2 | 70 | - | 130 |
| 115 In | 2 | 1122450 | 0.35 | 1091146 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 5216288 | 0.55 | 4795045 | 108.8 | 70 | - | 130 |
| 175 Lu | 1 | 5236542 | 1.04 | 4757919 | 110.1 | 70 | - | 130 |
| 209 Bi | 1 | 3287754 | 0.84 | 2963190 | 111.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#
Date Acquired: Jun 7 2013 11:40 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 28.14 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 362.80 | 900.00 | |
| 11 B | 6 | 1 | 0.01 | 0.01 | ppb | 287.77 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.11 | ppb | 149.50 | 900.00 | |
| 23 Na | 45 | 1 | 47.22 | 23.61 | ppb | 13.66 | 90000.00 | |
| 23 Na | 45 | 2 | 57.56 | 28.78 | ppb | 2.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.37 | 2.69 | ppb | 10.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.83 | 2.42 | ppb | 8.75 | 90000.00 | |
| 27 Al | 45 | 1 | 8.10 | 4.05 | ppb | 12.03 | 90000.00 | |
| 27 Al | 45 | 2 | 6.87 | 3.44 | ppb | 4.31 | 90000.00 | |
| 39 K | 45 | 1 | 26.68 | 13.34 | ppb | 91.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 195.86 | 97.93 | ppb | 12.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.96 | 0.48 | ppb | 7.31 | 900.00 | |
| 51 V | 45 | 2 | 1.83 | 0.91 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.12 | ppb | 5.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.92 | 0.46 | ppb | 5.18 | 900.00 | |
| 56 Fe | 45 | 2 | 11.14 | 5.57 | ppb | 3.96 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 38.84 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 17.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.22 | ppb | 5.81 | 900.00 | |
| 66 Zn | 72 | 2 | 22.82 | 11.41 | ppb | 1.59 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 4.56 | 900.00 | |
| 78 Se | 72 | 2 | -0.10 | -0.05 | ppb | 268.83 | 900.00 | |
| 88 Sr | 103 | 1 | 0.16 | 0.08 | ppb | 5.97 | 900.00 | |
| 98 Mo | 103 | 1 | 2.33 | 1.16 | ppb | 8.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 43.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.09 | ppb | 5.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 8.21 | 900.00 | |
| 137 Ba | 159 | 1 | 0.29 | 0.14 | ppb | 7.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 15.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.20 | ppb | 6.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2089273 | 5.81 | 1866118 | 112.0 | 70 - 130 | |
| 45 Sc | 1 | 2677388 | 7.65 | 2660105 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 307125 | 0.35 | 293973 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 553764 | 5.83 | 561821 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 128351 | 0.23 | 124165 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 3116248 | 6.60 | 3161327 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 3439029 | 6.16 | 3455998 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1108922 | 0.69 | 1091146 | 101.6 | 70 | - | 130 |
| 159 Tb | 1 | 4898851 | 7.81 | 4795045 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4880727 | 7.25 | 4757919 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 3047219 | 6.78 | 2963190 | 102.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\019SMPL.D\019SMPL.D#
**Date Acquired:** Jun 7 2013 11:47 am
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21261-9F
**Misc Info:**
**Vial Number:** 2110
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 100.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 369.96 | 900.00 | |
| 11 B | 6 | 1 | 28.36 | 14.18 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 28.32 | 14.16 | ppb | 5.56 | 900.00 | |
| 23 Na | 45 | 1 | 6886.00 | 3443.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 7002.00 | 3501.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 1793.00 | 896.50 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 1928.60 | 964.30 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 5.11 | 2.56 | ppb | 3.10 | 90000.00 | |
| 27 Al | 45 | 2 | 5.28 | 2.64 | ppb | 3.93 | 90000.00 | |
| 39 K | 45 | 1 | 1680.60 | 840.30 | ppb | 1.18 | 90000.00 | |
| 44 Ca | 45 | 1 | 19282.00 | 9641.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.69 | 0.84 | ppb | 4.86 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 1.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 7.91 | 900.00 | |
| 55 Mn | 45 | 2 | 5436.00 | 2718.00 | ppb | 0.49 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 143.18 | 71.59 | ppb | 0.12 | 90000.00 | |
| 59 Co | 45 | 2 | 2.16 | 1.08 | ppb | 1.77 | 900.00 | |
| 60 Ni | 45 | 2 | 1.83 | 0.91 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 3.70 | 900.00 | |
| 66 Zn | 72 | 2 | 11.90 | 5.95 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 1.34 | 0.67 | ppb | 4.10 | 900.00 | |
| 78 Se | 72 | 2 | -0.10 | -0.05 | ppb | 61.58 | 900.00 | |
| 88 Sr | 103 | 1 | 110.70 | 55.35 | ppb | 0.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.19 | 0.60 | ppb | 1.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 54.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 4.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 6.36 | 900.00 | |
| 137 Ba | 159 | 1 | 4.51 | 2.25 | ppb | 1.58 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 10.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 3.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2214546 | 0.85 | 1866118 | 118.7 | 70 - 130 | |
| 45 Sc | 1 | 2905384 | 0.76 | 2660105 | 109.2 | 70 - 130 | |
| 45 Sc | 2 | 305852 | 0.24 | 293973 | 104.0 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 593533 | 1.12 | 561821 | 105.6 | 70 | - | 130 |
| 72 Ge | 2 | 127615 | 0.11 | 124165 | 102.8 | 70 | - | 130 |
| 103 Rh | 1 | 3234473 | 0.59 | 3161327 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 3689966 | 0.54 | 3455998 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1094454 | 0.34 | 1091146 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 5276442 | 0.76 | 4795045 | 110.0 | 70 | - | 130 |
| 175 Lu | 1 | 5260137 | 0.35 | 4757919 | 110.6 | 70 | - | 130 |
| 209 Bi | 1 | 3166484 | 0.40 | 2963190 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\020SMPL.D\020SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 11:54 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21104A-SD1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2111 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 36.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.01 | ppb | 86.01 | 900.00 | |
| 11 B | 6 | 1 | 25.43 | 2.54 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 26.89 | 2.69 | ppb | 1.39 | 900.00 | |
| 23 Na | 45 | 1 | 7019.00 | 701.90 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 7342.00 | 734.20 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1852.00 | 185.20 | ppb | 0.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 1944.00 | 194.40 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 13.68 | 1.37 | ppb | 3.62 | 90000.00 | |
| 27 Al | 45 | 2 | 15.99 | 1.60 | ppb | 15.86 | 90000.00 | |
| 39 K | 45 | 1 | 1629.00 | 162.90 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 20060.00 | 2006.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 0.21 | ppb | 12.66 | 900.00 | |
| 51 V | 45 | 2 | -0.67 | -0.07 | ppb | 10.85 | 900.00 | |
| 52 Cr | 45 | 2 | -0.81 | -0.08 | ppb | 9.26 | 900.00 | |
| 55 Mn | 45 | 2 | 5597.00 | 559.70 | ppb | 0.68 | 900.00 | |
| 56 Fe | 45 | 2 | 156.70 | 15.67 | ppb | 1.01 | 90000.00 | |
| 59 Co | 45 | 2 | 2.17 | 0.22 | ppb | 4.04 | 900.00 | |
| 60 Ni | 45 | 2 | 2.10 | 0.21 | ppb | 10.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.84 | 0.08 | ppb | 9.73 | 900.00 | |
| 66 Zn | 72 | 2 | 13.39 | 1.34 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.74 | 0.07 | ppb | 24.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.02 | ppb | 766.54 | 900.00 | |
| 88 Sr | 103 | 1 | 111.20 | 11.12 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 1.59 | 0.16 | ppb | 1.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 50.61 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 78.54 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.02 | ppb | 7.27 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | 0.00 | ppb | 75.70 | 900.00 | |
| 137 Ba | 159 | 1 | 4.67 | 0.47 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.07 | -0.01 | ppb | 39.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.49 | 0.05 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2183385 | 0.91 | 1866118 | 117.0 | 70 - 130 | |
| 45 Sc | 1 | 2910325 | 0.22 | 2660105 | 109.4 | 70 - 130 | |
| 45 Sc | 2 | 310478 | 0.04 | 293973 | 105.6 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 597066 | 0.78 | 561821 | 106.3 | 70 - | 130 |
| 72 | Ge | 2 | 129908 | 0.74 | 124165 | 104.6 | 70 - | 130 |
| 103 | Rh | 1 | 3328996 | 0.07 | 3161327 | 105.3 | 70 - | 130 |
| 115 | In | 1 | 3778789 | 1.09 | 3455998 | 109.3 | 70 - | 130 |
| 115 | In | 2 | 1123645 | 0.78 | 1091146 | 103.0 | 70 - | 130 |
| 159 | Tb | 1 | 5269384 | 0.27 | 4795045 | 109.9 | 70 - | 130 |
| 175 | Lu | 1 | 5284154 | 0.79 | 4757919 | 111.1 | 70 - | 130 |
| 209 | Bi | 1 | 3317790 | 0.49 | 2963190 | 112.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Jun 7 2013 12:01 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21261-10F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 126.09 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 88.06 | 900.00 | |
| 11 B | 6 | 1 | 256.40 | 128.20 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 257.60 | 128.80 | ppb | 0.89 | 900.00 | |
| 23 Na | 45 | 1 | 41340.00 | 20670.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 41580.00 | 20790.00 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 19648.00 | 9824.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 19810.00 | 9905.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 5.47 | 2.74 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 2 | 5.64 | 2.82 | ppb | 6.41 | 90000.00 | |
| 39 K | 45 | 1 | 4124.00 | 2062.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 136700.00 | 68350.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.19 | 1.10 | ppb | 5.23 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 1.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 2.85 | 900.00 | |
| 55 Mn | 45 | 2 | 2188.00 | 1094.00 | ppb | 1.37 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 42.20 | 21.10 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 1.56 | 0.78 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 8.73 | 4.37 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 1.17 | 0.59 | ppb | 1.22 | 900.00 | |
| 66 Zn | 72 | 2 | 8.90 | 4.45 | ppb | 0.19 | 900.00 | |
| 75 As | 72 | 2 | 1.45 | 0.73 | ppb | 1.85 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 287.47 | 900.00 | |
| 88 Sr | 103 | 1 | 585.20 | 292.60 | ppb | 0.06 | 900.00 | |
| 98 Mo | 103 | 1 | 1.58 | 0.79 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 43.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 32.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 7.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 8.73 | 900.00 | |
| 137 Ba | 159 | 1 | 60.98 | 30.49 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 54.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.43 | 0.22 | ppb | 1.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2198501 | 0.08 | 1866118 | 117.8 | 70 - 130 | |
| 45 Sc | 1 | 2930837 | 0.47 | 2660105 | 110.2 | 70 - 130 | |
| 45 Sc | 2 | 308603 | 0.09 | 293973 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 580258 | 0.57 | 561821 | 103.3 | 70 | - | 130 |
| 72 | Ge | 2 | 125028 | 0.15 | 124165 | 100.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3096760 | 0.26 | 3161327 | 98.0 | 70 | - | 130 |
| 115 | In | 1 | 3557674 | 0.52 | 3455998 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1058731 | 0.55 | 1091146 | 97.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5153089 | 0.57 | 4795045 | 107.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5164694 | 0.68 | 4757919 | 108.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3001446 | 1.00 | 2963190 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#
Date Acquired: Jun 7 2013 12:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-11F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 19.58 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 86.74 | 900.00 | |
| 11 B | 6 | 1 | 146.44 | 73.22 | ppb | 1.42 | 900.00 | |
| 11 B | 45 | 2 | 152.20 | 76.10 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 23480.00 | 11740.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 23720.00 | 11860.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 9500.00 | 4750.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 9588.00 | 4794.00 | ppb | 1.13 | 90000.00 | |
| 27 Al | 45 | 1 | 8.03 | 4.02 | ppb | 3.81 | 90000.00 | |
| 27 Al | 45 | 2 | 8.70 | 4.35 | ppb | 6.54 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 1430.00 | ppb | 1.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 80760.00 | 40380.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.15 | 1.07 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.97 | ppb | 1.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.19 | ppb | 5.75 | 900.00 | |
| 55 Mn | 45 | 2 | 23220.00 | 11610.00 | ppb | 1.18 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 93.48 | 46.74 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 8.60 | 4.30 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 16.22 | 8.11 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.90 | 0.45 | ppb | 2.24 | 900.00 | |
| 66 Zn | 72 | 2 | 10.27 | 5.13 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 1.70 | 0.85 | ppb | 1.68 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 2.22 | 900.00 | |
| 88 Sr | 103 | 1 | 472.60 | 236.30 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 1.59 | 0.80 | ppb | 1.92 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 51.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.23 | 0.11 | ppb | 17.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 6.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.09 | ppb | 5.63 | 900.00 | |
| 137 Ba | 159 | 1 | 14.55 | 7.27 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 14.05 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 0.75 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2244520 | 1.49 | 1866118 | 120.3 | 70 - 130 | |
| 45 Sc | 1 | 2959568 | 1.14 | 2660105 | 111.3 | 70 - 130 | |
| 45 Sc | 2 | 312298 | 0.33 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 591519 | 0.89 | 561821 | 105.3 | 70 - | 130 |
| 72 | Ge | 2 | 127436 | 0.13 | 124165 | 102.6 | 70 - | 130 |
| 103 | Rh | 1 | 3155921 | 0.84 | 3161327 | 99.8 | 70 - | 130 |
| 115 | In | 1 | 3622760 | 0.75 | 3455998 | 104.8 | 70 - | 130 |
| 115 | In | 2 | 1075560 | 0.30 | 1091146 | 98.6 | 70 - | 130 |
| 159 | Tb | 1 | 5226960 | 0.11 | 4795045 | 109.0 | 70 - | 130 |
| 175 | Lu | 1 | 5232395 | 1.12 | 4757919 | 110.0 | 70 - | 130 |
| 209 | Bi | 1 | 3077430 | 1.26 | 2963190 | 103.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Jun 7 2013 12:15 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21261-12F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 158.60 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 169.41 | 900.00 | |
| 11 B | 6 | 1 | 58.14 | 29.07 | ppb | 0.41 | 900.00 | |
| 11 B | 45 | 2 | 59.06 | 29.53 | ppb | 0.50 | 900.00 | |
| 23 Na | 45 | 1 | 10846.00 | 5423.00 | ppb | 0.79 | 90000.00 | |
| 23 Na | 45 | 2 | 10974.00 | 5487.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 3952.00 | 1976.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 4118.00 | 2059.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 20.06 | 10.03 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 19.95 | 9.97 | ppb | 2.86 | 90000.00 | |
| 39 K | 45 | 1 | 3544.00 | 1772.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 42680.00 | 21340.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.17 | 1.09 | ppb | 0.97 | 900.00 | |
| 51 V | 45 | 2 | 2.60 | 1.30 | ppb | 2.50 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 4.92 | 900.00 | |
| 55 Mn | 45 | 2 | 7172.00 | 3586.00 | ppb | 0.45 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 31.98 | 15.99 | ppb | 1.07 | 90000.00 | |
| 59 Co | 45 | 2 | 1.98 | 0.99 | ppb | 0.83 | 900.00 | |
| 60 Ni | 45 | 2 | 3.22 | 1.61 | ppb | 2.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 4.75 | 900.00 | |
| 66 Zn | 72 | 2 | 8.05 | 4.03 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 2.48 | 1.24 | ppb | 2.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 274.56 | 900.00 | |
| 88 Sr | 103 | 1 | 204.80 | 102.40 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 4.11 | 2.05 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 42.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 22.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 1.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.16 | ppb | 2.48 | 900.00 | |
| 137 Ba | 159 | 1 | 16.33 | 8.17 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 530.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.39 | 0.19 | ppb | 2.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2261122 | 0.44 | 1866118 | 121.2 | 70 - 130 | |
| 45 Sc | 1 | 2967397 | 0.26 | 2660105 | 111.6 | 70 - 130 | |
| 45 Sc | 2 | 313730 | 0.40 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 594760 | 0.64 | 561821 | 105.9 | 70 | - | 130 |
| 72 Ge | 2 | 128418 | 0.58 | 124165 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 3175123 | 0.26 | 3161327 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 3644609 | 0.65 | 3455998 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1092125 | 0.37 | 1091146 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 5221869 | 0.80 | 4795045 | 108.9 | 70 | - | 130 |
| 175 Lu | 1 | 5221104 | 0.57 | 4757919 | 109.7 | 70 | - | 130 |
| 209 Bi | 1 | 3155944 | 0.44 | 2963190 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#
Date Acquired: Jun 7 2013 12:22 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.66 | 50.66 | ppb | 0.91 | 900.00 | |
| 9 Be | 45 | 2 | 52.58 | 52.58 | ppb | 4.63 | 900.00 | |
| 11 B | 6 | 1 | 50.05 | 50.05 | ppb | 0.22 | 900.00 | |
| 11 B | 45 | 2 | 49.97 | 49.97 | ppb | 6.87 | 900.00 | |
| 23 Na | 45 | 1 | 5216.00 | 5216.00 | ppb | 1.20 | 90000.00 | |
| 23 Na | 45 | 2 | 5063.00 | 5063.00 | ppb | 4.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 5149.00 | 5149.00 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 5044.00 | 5044.00 | ppb | 5.35 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 2 | 4944.00 | 4944.00 | ppb | 5.69 | 90000.00 | |
| 39 K | 45 | 1 | 5066.00 | 5066.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 5170.00 | 5170.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.39 | 49.39 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 49.95 | 49.95 | ppb | 5.69 | 900.00 | |
| 52 Cr | 45 | 2 | 49.36 | 49.36 | ppb | 5.33 | 900.00 | |
| 55 Mn | 45 | 2 | 48.49 | 48.49 | ppb | 5.05 | 900.00 | |
| 56 Fe | 45 | 2 | 4896.00 | 4896.00 | ppb | 4.57 | 90000.00 | |
| 59 Co | 45 | 2 | 49.41 | 49.41 | ppb | 4.99 | 900.00 | |
| 60 Ni | 45 | 2 | 49.42 | 49.42 | ppb | 6.03 | 900.00 | |
| 63 Cu | 72 | 2 | 49.28 | 49.28 | ppb | 4.64 | 900.00 | |
| 66 Zn | 72 | 2 | 48.58 | 48.58 | ppb | 4.88 | 900.00 | |
| 75 As | 72 | 2 | 49.28 | 49.28 | ppb | 5.14 | 900.00 | |
| 78 Se | 72 | 2 | 47.25 | 47.25 | ppb | 6.43 | 900.00 | |
| 88 Sr | 103 | 1 | 52.95 | 52.95 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 51.89 | 51.89 | ppb | 1.25 | 900.00 | |
| 107 Ag | 115 | 1 | 50.27 | 50.27 | ppb | 0.74 | 180.00 | |
| 111 Cd | 115 | 2 | 49.81 | 49.81 | ppb | 5.78 | 900.00 | |
| 120 Sn | 115 | 1 | 51.38 | 51.38 | ppb | 0.45 | 900.00 | |
| 121 Sb | 115 | 1 | 55.33 | 55.33 | ppb | 0.86 | 900.00 | |
| 137 Ba | 159 | 1 | 49.92 | 49.92 | ppb | 0.45 | 900.00 | |
| 205 Tl | 209 | 1 | 48.67 | 48.67 | ppb | 1.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.02 | 52.02 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2177271 | 0.59 | 1866118 | 116.7 | 70 - 130 | |
| 45 Sc | 1 | 2908130 | 1.15 | 2660105 | 109.3 | 70 - 130 | |
| 45 Sc | 2 | 317577 | 5.07 | 293973 | 108.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575488 | 0.49 | 561821 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 130117 | 4.67 | 124165 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3212372 | 0.79 | 3161327 | 101.6 | 70 | - | 130 |
| 115 | In | 1 | 3615845 | 0.47 | 3455998 | 104.6 | 70 | - | 130 |
| 115 | In | 2 | 1106740 | 5.48 | 1091146 | 101.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5149217 | 1.14 | 4795045 | 107.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5132403 | 0.92 | 4757919 | 107.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3135038 | 0.53 | 2963190 | 105.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#
Date Acquired: Jun 7 2013 12:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 111.69 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.60 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 212.29 | 900.00 | |
| 23 Na | 45 | 1 | 4.60 | 4.60 | ppb | 3.03 | 90000.00 | |
| 23 Na | 45 | 2 | 11.35 | 11.35 | ppb | 3.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.96 | 0.96 | ppb | 3.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.17 | 1.17 | ppb | 16.17 | 90000.00 | |
| 27 Al | 45 | 1 | -0.49 | -0.49 | ppb | 19.80 | 90000.00 | |
| 27 Al | 45 | 2 | -0.44 | -0.44 | ppb | 38.86 | 90000.00 | |
| 39 K | 45 | 1 | 1.15 | 1.15 | ppb | 26.27 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.13 | -0.13 | ppb | 272.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.74 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 299.48 | 900.00 | |
| 52 Cr | 45 | 2 | -0.08 | -0.08 | ppb | 7.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 12.00 | 900.00 | |
| 56 Fe | 45 | 2 | -1.80 | -1.80 | ppb | 3.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 1664.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 55.90 | 900.00 | |
| 66 Zn | 72 | 2 | 0.45 | 0.45 | ppb | 5.98 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 85.82 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 204.96 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 23.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 3.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 70.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 99.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.23 | 0.23 | ppb | 4.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 58.60 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 72.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 42.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2199351 | 0.30 | 1866118 | 117.9 | 70 - 130 | |
| 45 Sc | 1 | 2875765 | 0.32 | 2660105 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 311486 | 0.03 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 585551 | 0.55 | 561821 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 127993 | 0.08 | 124165 | 103.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3288010 | 0.73 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3666697 | 0.63 | 3455998 | 106.1 | 70 | - | 130 |
| 115 | In | 2 | 1112385 | 0.34 | 1091146 | 101.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5140576 | 0.33 | 4795045 | 107.2 | 70 | - | 130 |
| 175 | Lu | 1 | 5091349 | 0.95 | 4757919 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3203447 | 0.87 | 2963190 | 108.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#
Date Acquired: Jun 7 2013 12:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-13F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 40.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 232.78 | 900.00 | |
| 11 B | 6 | 1 | 0.72 | 0.36 | ppb | 15.29 | 900.00 | |
| 11 B | 45 | 2 | 1.08 | 0.54 | ppb | 34.76 | 900.00 | |
| 23 Na | 45 | 1 | 21.78 | 10.89 | ppb | 10.85 | 90000.00 | |
| 23 Na | 45 | 2 | 41.08 | 20.54 | ppb | 2.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.16 | 2.08 | ppb | 4.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.63 | 2.31 | ppb | 6.00 | 90000.00 | |
| 27 Al | 45 | 1 | 5.15 | 2.58 | ppb | 13.59 | 90000.00 | |
| 27 Al | 45 | 2 | 5.48 | 2.74 | ppb | 5.89 | 90000.00 | |
| 39 K | 45 | 1 | -2.23 | -1.12 | ppb | 694.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 95.16 | 47.58 | ppb | 10.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.73 | 0.37 | ppb | 16.49 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 1.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.43 | ppb | 2.99 | 900.00 | |
| 56 Fe | 45 | 2 | 3.74 | 1.87 | ppb | 3.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 24.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.11 | 0.06 | ppb | 13.65 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.05 | ppb | 11.02 | 900.00 | |
| 66 Zn | 72 | 2 | 13.70 | 6.85 | ppb | 0.94 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.25 | ppb | 8.61 | 900.00 | |
| 78 Se | 72 | 2 | -0.11 | -0.05 | ppb | 116.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.12 | 0.06 | ppb | 5.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.08 | ppb | 9.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 5.44 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 220.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 27.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 8.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.21 | 0.10 | ppb | 5.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.11 | ppb | 11.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 5.86 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2410689 | 5.69 | 1866118 | 129.2 | 70 - 130 | |
| 45 Sc | 1 | 3048608 | 4.51 | 2660105 | 114.6 | 70 - 130 | |
| 45 Sc | 2 | 315131 | 0.37 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 610462 | 6.06 | 561821 | 108.7 | 70 | - | 130 |
| 72 | Ge | 2 | 128765 | 0.59 | 124165 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3420610 | 5.24 | 3161327 | 108.2 | 70 | - | 130 |
| 115 | In | 1 | 3810224 | 4.99 | 3455998 | 110.2 | 70 | - | 130 |
| 115 | In | 2 | 1105084 | 0.82 | 1091146 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5420016 | 5.20 | 4795045 | 113.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5423317 | 5.74 | 4757919 | 114.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3346101 | 5.12 | 2963190 | 112.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#** | | |
| **Date Acquired:** | **Jun 7 2013 12:44 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **MP21104A-PS1** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2206** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Jun 07 2013 02:14 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **2.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **2.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.38 | 8.19 | ppb | 1.12 | 900.00 | |
| 9 Be | 45 | 2 | 17.81 | 8.91 | ppb | 5.93 | 900.00 | |
| 11 B | 6 | 1 | 40.32 | 20.16 | ppb | 0.23 | 900.00 | |
| 11 B | 45 | 2 | 41.22 | 20.61 | ppb | 2.70 | 900.00 | |
| 23 Na | 45 | 1 | 5846.00 | 2923.00 | ppb | 0.13 | 90000.00 | |
| 23 Na | 45 | 2 | 5872.00 | 2936.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 1527.20 | 763.60 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 1632.40 | 816.20 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 22.44 | 11.22 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 22.16 | 11.08 | ppb | 1.26 | 90000.00 | |
| 39 K | 45 | 1 | 1429.80 | 714.90 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 16214.00 | 8107.00 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.27 | 9.14 | ppb | 1.61 | 900.00 | |
| 51 V | 45 | 2 | 18.42 | 9.21 | ppb | 0.83 | 900.00 | |
| 52 Cr | 45 | 2 | 17.18 | 8.59 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 4474.00 | 2237.00 | ppb | 0.84 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 132.32 | 66.16 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 18.54 | 9.27 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 18.22 | 9.11 | ppb | 2.03 | 900.00 | |
| 63 Cu | 72 | 2 | 17.09 | 8.54 | ppb | 1.62 | 900.00 | |
| 66 Zn | 72 | 2 | 37.40 | 18.70 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 17.44 | 8.72 | ppb | 2.40 | 900.00 | |
| 78 Se | 72 | 2 | 14.78 | 7.39 | ppb | 1.12 | 900.00 | |
| 88 Sr | 103 | 1 | 109.96 | 54.98 | ppb | 1.22 | 900.00 | |
| 98 Mo | 103 | 1 | 18.44 | 9.22 | ppb | 1.07 | 900.00 | |
| 107 Ag | 115 | 1 | 16.61 | 8.30 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 16.68 | 8.34 | ppb | 2.99 | 900.00 | |
| 120 Sn | 115 | 1 | 17.57 | 8.78 | ppb | 0.24 | 900.00 | |
| 121 Sb | 115 | 1 | 17.42 | 8.71 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 19.96 | 9.98 | ppb | 0.23 | 900.00 | |
| 205 Tl | 209 | 1 | 16.87 | 8.44 | ppb | 0.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.47 | 8.74 | ppb | 1.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2318541 | 0.68 | 1866118 | 124.2 | 70 - 130 | |
| 45 Sc | 1 | 2971516 | 0.26 | 2660105 | 111.7 | 70 - 130 | |
| 45 Sc | 2 | 316918 | 0.56 | 293973 | 107.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 596269 | 0.39 | 561821 | 106.1 | 70 | - | 130 |
| 72 Ge | 2 | 129433 | 0.72 | 124165 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 3254582 | 0.28 | 3161327 | 102.9 | 70 | - | 130 |
| 115 In | 1 | 3717565 | 0.15 | 3455998 | 107.6 | 70 | - | 130 |
| 115 In | 2 | 1103224 | 0.81 | 1091146 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 5256473 | 0.67 | 4795045 | 109.6 | 70 | - | 130 |
| 175 Lu | 1 | 5244104 | 0.65 | 4757919 | 110.2 | 70 | - | 130 |
| 209 Bi | 1 | 3234444 | 0.67 | 2963190 | 109.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D#
Date Acquired: Jun 7 2013 12:51 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-S1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 536.00 | 26.80 | ppb | 14.37 | 900.00 | |
| 9 Be | 45 | 2 | 541.00 | 27.05 | ppb | 0.86 | 900.00 | |
| 11 B | 6 | 1 | 27.74 | 1.39 | ppb | 14.85 | 900.00 | |
| 11 B | 45 | 2 | 34.44 | 1.72 | ppb | 27.99 | 900.00 | |
| 23 Na | 45 | 1 | 36280.00 | 1814.00 | ppb | 12.46 | 90000.00 | |
| 23 Na | 45 | 2 | 34520.00 | 1726.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 30640.00 | 1532.00 | ppb | 13.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 29840.00 | 1492.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 1 | 2362.00 | 118.10 | ppb | 13.77 | 90000.00 | |
| 27 Al | 45 | 2 | 2300.00 | 115.00 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 29820.00 | 1491.00 | ppb | 13.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 50400.00 | 2520.00 | ppb | 13.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 539.00 | 26.95 | ppb | 13.04 | 900.00 | |
| 51 V | 45 | 2 | 527.20 | 26.36 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 518.20 | 25.91 | ppb | 0.51 | 900.00 | |
| 55 Mn | 45 | 2 | 6316.00 | 315.80 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 2374.00 | 118.70 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 524.20 | 26.21 | ppb | 0.16 | 900.00 | |
| 60 Ni | 45 | 2 | 517.20 | 25.86 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 523.60 | 26.18 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 563.80 | 28.19 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 529.80 | 26.49 | ppb | 0.74 | 900.00 | |
| 78 Se | 72 | 2 | 523.20 | 26.16 | ppb | 2.73 | 900.00 | |
| 88 Sr | 103 | 1 | 681.00 | 34.05 | ppb | 17.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.43 | 0.07 | ppb | 28.86 | 900.00 | |
| 107 Ag | 115 | 1 | 226.20 | 11.31 | ppb | 16.44 | 180.00 | |
| 111 Cd | 115 | 2 | 523.80 | 26.19 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 1.93 | 0.10 | ppb | 22.16 | 900.00 | |
| 121 Sb | 115 | 1 | 587.40 | 29.37 | ppb | 15.84 | 900.00 | |
| 137 Ba | 159 | 1 | 2150.00 | 107.50 | ppb | 16.59 | 900.00 | |
| 205 Tl | 209 | 1 | 510.80 | 25.54 | ppb | 13.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1111.20 | 55.56 | ppb | 12.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2096307 | 12.55 | 1866118 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 2764961 | 10.80 | 2660105 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 312751 | 0.41 | 293973 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563107 | 13.24 | 561821 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 129039 | 0.27 | 124165 | 103.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3160676 | 13.33 | 3161327 | 100.0 | 70 | - | 130 |
| 115 | In | 1 | 3533090 | 13.84 | 3455998 | 102.2 | 70 | - | 130 |
| 115 | In | 2 | 1104818 | 0.57 | 1091146 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4955777 | 14.41 | 4795045 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4963853 | 14.13 | 4757919 | 104.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3066212 | 10.93 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#
Date Acquired: Jun 7 2013 12:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-S2
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.60 | 25.43 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 532.00 | 26.60 | ppb | 0.88 | 900.00 | |
| 11 B | 6 | 1 | 24.98 | 1.25 | ppb | 4.33 | 900.00 | |
| 11 B | 45 | 2 | 24.58 | 1.23 | ppb | 15.16 | 900.00 | |
| 23 Na | 45 | 1 | 33880.00 | 1694.00 | ppb | 1.48 | 90000.00 | |
| 23 Na | 45 | 2 | 34140.00 | 1707.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 28820.00 | 1441.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 29620.00 | 1481.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 2222.00 | 111.10 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 2276.00 | 113.80 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 27840.00 | 1392.00 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 47500.00 | 2375.00 | ppb | 1.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.40 | 25.42 | ppb | 2.57 | 900.00 | |
| 51 V | 45 | 2 | 522.60 | 26.13 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 512.00 | 25.60 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 6360.00 | 318.00 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 2372.00 | 118.60 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 523.20 | 26.16 | ppb | 1.09 | 900.00 | |
| 60 Ni | 45 | 2 | 514.00 | 25.70 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 520.80 | 26.04 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 573.80 | 28.69 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 527.40 | 26.37 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 526.40 | 26.32 | ppb | 3.00 | 900.00 | |
| 88 Sr | 103 | 1 | 637.00 | 31.85 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 0.06 | ppb | 5.78 | 900.00 | |
| 107 Ag | 115 | 1 | 211.00 | 10.55 | ppb | 0.25 | 180.00 | |
| 111 Cd | 115 | 2 | 516.60 | 25.83 | ppb | 1.14 | 900.00 | |
| 120 Sn | 115 | 1 | -0.41 | -0.02 | ppb | 3.50 | 900.00 | |
| 121 Sb | 115 | 1 | 548.60 | 27.43 | ppb | 1.12 | 900.00 | |
| 137 Ba | 159 | 1 | 2004.00 | 100.20 | ppb | 1.54 | 900.00 | |
| 205 Tl | 209 | 1 | 491.60 | 24.58 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1065.60 | 53.28 | ppb | 1.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2161897 | 1.08 | 1866118 | 115.8 | 70 - 130 | |
| 45 Sc | 1 | 2899208 | 1.28 | 2660105 | 109.0 | 70 - 130 | |
| 45 Sc | 2 | 312987 | 0.26 | 293973 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 581242 | 0.76 | 561821 | 103.5 | 70 | - | 130 |
| 72 Ge | 2 | 128838 | 0.17 | 124165 | 103.8 | 70 | - | 130 |
| 103 Rh | 1 | 3303294 | 0.60 | 3161327 | 104.5 | 70 | - | 130 |
| 115 In | 1 | 3697875 | 0.47 | 3455998 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1118529 | 0.20 | 1091146 | 102.5 | 70 | - | 130 |
| 159 Tb | 1 | 5183529 | 0.78 | 4795045 | 108.1 | 70 | - | 130 |
| 175 Lu | 1 | 5143578 | 0.22 | 4757919 | 108.1 | 70 | - | 130 |
| 209 Bi | 1 | 3178334 | 0.82 | 2963190 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#
Date Acquired: Jun 7 2013 01:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-B1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.00 | 25.05 | ppb | 0.93 | 900.00 | |
| 9 Be | 45 | 2 | 530.40 | 26.52 | ppb | 2.62 | 900.00 | |
| 11 B | 6 | 1 | -1.18 | -0.06 | ppb | 20.73 | 900.00 | |
| 11 B | 45 | 2 | 0.85 | 0.04 | ppb | 265.06 | 900.00 | |
| 23 Na | 45 | 1 | 26340.00 | 1317.00 | ppb | 0.19 | 90000.00 | |
| 23 Na | 45 | 2 | 26920.00 | 1346.00 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 26460.00 | 1323.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 27240.00 | 1362.00 | ppb | 2.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2202.00 | 110.10 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 2 | 2260.00 | 113.00 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 25780.00 | 1289.00 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 26660.00 | 1333.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 24.94 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 512.80 | 25.64 | ppb | 2.70 | 900.00 | |
| 52 Cr | 45 | 2 | 504.00 | 25.20 | ppb | 2.00 | 900.00 | |
| 55 Mn | 45 | 2 | 502.40 | 25.12 | ppb | 2.52 | 900.00 | |
| 56 Fe | 45 | 2 | 2186.00 | 109.30 | ppb | 2.71 | 90000.00 | |
| 59 Co | 45 | 2 | 510.00 | 25.50 | ppb | 2.24 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 515.00 | 25.75 | ppb | 2.78 | 900.00 | |
| 66 Zn | 72 | 2 | 553.00 | 27.65 | ppb | 2.93 | 900.00 | |
| 75 As | 72 | 2 | 522.00 | 26.10 | ppb | 3.11 | 900.00 | |
| 78 Se | 72 | 2 | 527.60 | 26.38 | ppb | 3.89 | 900.00 | |
| 88 Sr | 103 | 1 | 521.80 | 26.09 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.74 | 0.04 | ppb | 1.82 | 900.00 | |
| 107 Ag | 115 | 1 | 208.60 | 10.43 | ppb | 0.54 | 180.00 | |
| 111 Cd | 115 | 2 | 517.60 | 25.88 | ppb | 1.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.53 | -0.03 | ppb | 3.47 | 900.00 | |
| 121 Sb | 115 | 1 | 541.20 | 27.06 | ppb | 0.80 | 900.00 | |
| 137 Ba | 159 | 1 | 1980.80 | 99.04 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 480.40 | 24.02 | ppb | 2.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 51.95 | ppb | 0.71 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122473 | 0.67 | 1866118 | 113.7 | 70 - 130 | |
| 45 Sc | 1 | 2867853 | 0.35 | 2660105 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 315016 | 2.01 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575988 | 0.88 | 561821 | 102.5 | 70 | - | 130 |
| 72 | Ge | 2 | 127895 | 2.79 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3287704 | 0.16 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3658672 | 0.29 | 3455998 | 105.9 | 70 | - | 130 |
| 115 | In | 2 | 1091657 | 1.38 | 1091146 | 100.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5136964 | 0.25 | 4795045 | 107.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5108947 | 1.02 | 4757919 | 107.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3178024 | 0.16 | 2963190 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 01:12 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21097A-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 288.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 4605.00 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.01 | ppb | 199.26 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.04 | ppb | 96.37 | 900.00 | |
| 23 Na | 45 | 1 | 14.35 | 7.17 | ppb | 2.94 | 90000.00 | |
| 23 Na | 45 | 2 | 29.34 | 14.67 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.04 | 1.52 | ppb | 2.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.15 | 1.58 | ppb | 2.53 | 90000.00 | |
| 27 Al | 45 | 1 | 2.49 | 1.24 | ppb | 11.08 | 90000.00 | |
| 27 Al | 45 | 2 | 2.53 | 1.27 | ppb | 16.04 | 90000.00 | |
| 39 K | 45 | 1 | 9.64 | 4.82 | ppb | 27.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.78 | 1.39 | ppb | 42.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.88 | 0.44 | ppb | 4.17 | 900.00 | |
| 51 V | 45 | 2 | 2.05 | 1.03 | ppb | 1.56 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 14.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.98 | 0.49 | ppb | 2.50 | 900.00 | |
| 56 Fe | 45 | 2 | 0.83 | 0.42 | ppb | 8.67 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.40 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 5.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 7.06 | 900.00 | |
| 66 Zn | 72 | 2 | 1.18 | 0.59 | ppb | 1.50 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 6.78 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 1448.50 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 8.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.02 | ppb | 10.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 11.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 56.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 2.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 0.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 25.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.25 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.04 | ppb | 9.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2328509 | 0.58 | 1866118 | 124.8 | 70 - 130 | |
| 45 Sc | 1 | 2961593 | 0.41 | 2660105 | 111.3 | 70 - 130 | |
| 45 Sc | 2 | 318836 | 0.18 | 293973 | 108.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 598830 | 0.77 | 561821 | 106.6 | 70 | - | 130 |
| 72 Ge | 2 | 129239 | 0.59 | 124165 | 104.1 | 70 | - | 130 |
| 103 Rh | 1 | 3341960 | 0.06 | 3161327 | 105.7 | 70 | - | 130 |
| 115 In | 1 | 3698463 | 0.62 | 3455998 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1108629 | 0.18 | 1091146 | 101.6 | 70 | - | 130 |
| 159 Tb | 1 | 5239185 | 0.75 | 4795045 | 109.3 | 70 | - | 130 |
| 175 Lu | 1 | 5215963 | 0.54 | 4757919 | 109.6 | 70 | - | 130 |
| 209 Bi | 1 | 3265428 | 0.59 | 2963190 | 110.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5

C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 01:19 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21202-14F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 249.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 323.31 | 900.00 | |
| 11 B | 6 | 1 | 23.12 | 11.56 | ppb | 1.31 | 900.00 | |
| 11 B | 45 | 2 | 24.14 | 12.07 | ppb | 5.09 | 900.00 | |
| 23 Na | 45 | 1 | 6904.00 | 3452.00 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 6992.00 | 3496.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 2716.00 | 1358.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 2848.00 | 1424.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 55.14 | 27.57 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 2 | 55.74 | 27.87 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 2354.00 | 1177.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 25640.00 | 12820.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.73 | 0.86 | ppb | 6.16 | 900.00 | |
| 51 V | 45 | 2 | 2.10 | 1.05 | ppb | 2.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.84 | 0.42 | ppb | 1.64 | 900.00 | |
| 55 Mn | 45 | 2 | 483.00 | 241.50 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 9556.00 | 4778.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 1.07 | 0.53 | ppb | 2.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.52 | 0.26 | ppb | 6.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 2.72 | 900.00 | |
| 66 Zn | 72 | 2 | 11.33 | 5.66 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 29.98 | 14.99 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 32.11 | 900.00 | |
| 88 Sr | 103 | 1 | 155.48 | 77.74 | ppb | 1.55 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.09 | ppb | 5.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 3.04 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 255.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.66 | 900.00 | |
| 137 Ba | 159 | 1 | 13.04 | 6.52 | ppb | 0.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.08 | ppb | 5.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2313227 | 0.25 | 1866118 | 124.0 | 70 - 130 | |
| 45 Sc | 1 | 2986352 | 0.69 | 2660105 | 112.3 | 70 - 130 | |
| 45 Sc | 2 | 320281 | 0.68 | 293973 | 108.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 600844 | 0.64 | 561821 | 106.9 | 70 - | 130 |
| 72 | Ge | 2 | 131237 | 0.50 | 124165 | 105.7 | 70 - | 130 |
| 103 | Rh | 1 | 3219099 | 0.79 | 3161327 | 101.8 | 70 - | 130 |
| 115 | In | 1 | 3664289 | 0.11 | 3455998 | 106.0 | 70 - | 130 |
| 115 | In | 2 | 1098077 | 0.87 | 1091146 | 100.6 | 70 - | 130 |
| 159 | Tb | 1 | 5217916 | 0.46 | 4795045 | 108.8 | 70 - | 130 |
| 175 | Lu | 1 | 5200053 | 1.33 | 4757919 | 109.3 | 70 - | 130 |
| 209 | Bi | 1 | 3158519 | 0.42 | 2963190 | 106.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

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7

C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D# |
| Date Acquired: | Jun 7 2013 01:26 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21097A-SD1 |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | 0.00 | ppb | 64.37 | 900.00 | |
| 9 Be | 45 | 2 | -0.13 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 20.22 | 2.02 | ppb | 2.68 | 900.00 | |
| 11 B | 45 | 2 | 21.21 | 2.12 | ppb | 8.63 | 900.00 | |
| 23 Na | 45 | 1 | 7006.00 | 700.60 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 7263.00 | 726.30 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 2767.00 | 276.70 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 2942.00 | 294.20 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 64.25 | 6.43 | ppb | 3.11 | 90000.00 | |
| 27 Al | 45 | 2 | 66.12 | 6.61 | ppb | 1.12 | 90000.00 | |
| 39 K | 45 | 1 | 2376.00 | 237.60 | ppb | 1.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 26830.00 | 2683.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.09 | 0.21 | ppb | 11.24 | 900.00 | |
| 51 V | 45 | 2 | -0.48 | -0.05 | ppb | 10.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.35 | -0.04 | ppb | 6.93 | 900.00 | |
| 55 Mn | 45 | 2 | 506.10 | 50.61 | ppb | 0.46 | 900.00 | |
| 56 Fe | 45 | 2 | 9657.00 | 965.70 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 1.03 | 0.10 | ppb | 7.43 | 900.00 | |
| 60 Ni | 45 | 2 | 0.54 | 0.05 | ppb | 8.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.02 | ppb | 64.36 | 900.00 | |
| 66 Zn | 72 | 2 | 17.66 | 1.77 | ppb | 1.43 | 900.00 | |
| 75 As | 72 | 2 | 30.32 | 3.03 | ppb | 1.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.80 | 0.08 | ppb | 112.23 | 900.00 | |
| 88 Sr | 103 | 1 | 156.30 | 15.63 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.27 | 0.03 | ppb | 12.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 136.98 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 21.23 | 900.00 | |
| 120 Sn | 115 | 1 | -0.16 | -0.02 | ppb | 18.71 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | 0.00 | ppb | 148.68 | 900.00 | |
| 137 Ba | 159 | 1 | 13.80 | 1.38 | ppb | 2.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.03 | ppb | 6.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 13.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2181191 | 0.40 | 1866118 | 116.9 | 70 - 130 | |
| 45 Sc | 1 | 2906545 | 0.86 | 2660105 | 109.3 | 70 - 130 | |
| 45 Sc | 2 | 316821 | 0.08 | 293973 | 107.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595346 | 0.63 | 561821 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 130292 | 0.26 | 124165 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 3301443 | 0.63 | 3161327 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 3709070 | 0.78 | 3455998 | 107.3 | 70 | - | 130 |
| 115 In | 2 | 1122562 | 0.33 | 1091146 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 5170251 | 0.84 | 4795045 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 5150329 | 0.23 | 4757919 | 108.2 | 70 | - | 130 |
| 209 Bi | 1 | 3240405 | 0.47 | 2963190 | 109.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 01:33 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21202-4F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2301 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 113.65 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | 0.00 | ppb | 182.99 | 900.00 | |
| 11 B | 6 | 1 | 188.60 | 18.86 | ppb | 0.77 | 900.00 | |
| 11 B | 45 | 2 | 191.70 | 19.17 | ppb | 5.50 | 900.00 | |
| 23 Na | 45 | 1 | 23090.00 | 2309.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 23370.00 | 2337.00 | ppb | 2.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 8391.00 | 839.10 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 9020.00 | 902.00 | ppb | 1.69 | 90000.00 | |
| 27 Al | 45 | 1 | 11.89 | 1.19 | ppb | 1.58 | 90000.00 | |
| 27 Al | 45 | 2 | 17.66 | 1.77 | ppb | 3.40 | 90000.00 | |
| 39 K | 45 | 1 | 17120.00 | 1712.00 | ppb | 0.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 67740.00 | 6774.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.10 | 0.31 | ppb | 5.95 | 900.00 | |
| 51 V | 45 | 2 | -0.51 | -0.05 | ppb | 22.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.43 | -0.04 | ppb | 12.32 | 900.00 | |
| 55 Mn | 45 | 2 | 1397.00 | 139.70 | ppb | 1.80 | 900.00 | |
| 56 Fe | 45 | 2 | 55210.00 | 5521.00 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.40 | 0.04 | ppb | 1.15 | 900.00 | |
| 60 Ni | 45 | 2 | 2.57 | 0.26 | ppb | 3.41 | 900.00 | |
| 63 Cu | 72 | 2 | -0.15 | -0.01 | ppb | 76.89 | 900.00 | |
| 66 Zn | 72 | 2 | 10.67 | 1.07 | ppb | 2.56 | 900.00 | |
| 75 As | 72 | 2 | 244.40 | 24.44 | ppb | 2.21 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.04 | ppb | 92.32 | 900.00 | |
| 88 Sr | 103 | 1 | 605.30 | 60.53 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.01 | ppb | 9.65 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 103.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.00 | ppb | 190.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.14 | -0.01 | ppb | 15.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.01 | ppb | 55.38 | 900.00 | |
| 137 Ba | 159 | 1 | 271.40 | 27.14 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.01 | ppb | 53.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 2.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2132304 | 0.39 | 1866118 | 114.3 | 70 - 130 | |
| 45 Sc | 1 | 2861390 | 0.50 | 2660105 | 107.6 | 70 - 130 | |
| 45 Sc | 2 | 308429 | 1.25 | 293973 | 104.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588708 | 1.05 | 561821 | 104.8 | 70 | - | 130 |
| 72 | Ge | 2 | 127635 | 1.49 | 124165 | 102.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3221905 | 0.51 | 3161327 | 101.9 | 70 | - | 130 |
| 115 | In | 1 | 3619302 | 0.54 | 3455998 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1093232 | 1.55 | 1091146 | 100.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5097330 | 0.53 | 4795045 | 106.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5079546 | 0.71 | 4757919 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3158297 | 0.42 | 2963190 | 106.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#
Date Acquired: Jun 7 2013 01:40 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-5F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | 0.00 | ppb | 20.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.22 | 0.00 | ppb | 168.10 | 900.00 | |
| 11 B | 6 | 1 | 5.28 | 0.11 | ppb | 13.17 | 900.00 | |
| 11 B | 45 | 2 | 12.73 | 0.25 | ppb | 120.71 | 900.00 | |
| 23 Na | 45 | 1 | 7545.00 | 150.90 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 8260.00 | 165.20 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 3469.00 | 69.38 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3565.00 | 71.30 | ppb | 1.13 | 90000.00 | |
| 27 Al | 45 | 1 | 34.93 | 0.70 | ppb | 11.67 | 90000.00 | |
| 27 Al | 45 | 2 | 46.41 | 0.93 | ppb | 11.00 | 90000.00 | |
| 39 K | 45 | 1 | 6100.00 | 122.00 | ppb | 1.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 82850.00 | 1657.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.98 | 0.06 | ppb | 12.03 | 900.00 | |
| 51 V | 45 | 2 | -13.97 | -0.28 | ppb | 1.85 | 900.00 | |
| 52 Cr | 45 | 2 | -6.86 | -0.14 | ppb | 3.73 | 900.00 | |
| 55 Mn | 45 | 2 | 2034.50 | 40.69 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 8415.00 | 168.30 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 18.94 | 0.38 | ppb | 2.63 | 900.00 | |
| 60 Ni | 45 | 2 | 20.37 | 0.41 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.01 | ppb | 71.03 | 900.00 | |
| 66 Zn | 72 | 2 | 33.26 | 0.67 | ppb | 3.36 | 900.00 | |
| 75 As | 72 | 2 | 1090.00 | 21.80 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | -2.44 | -0.05 | ppb | 191.57 | 900.00 | |
| 88 Sr | 103 | 1 | 343.50 | 6.87 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 1.94 | 0.04 | ppb | 10.33 | 900.00 | |
| 107 Ag | 115 | 1 | -0.17 | 0.00 | ppb | 69.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.33 | 0.01 | ppb | 75.80 | 900.00 | |
| 120 Sn | 115 | 1 | -1.57 | -0.03 | ppb | 2.67 | 900.00 | |
| 121 Sb | 115 | 1 | -0.82 | -0.02 | ppb | 8.45 | 900.00 | |
| 137 Ba | 159 | 1 | 82.50 | 1.65 | ppb | 1.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.00 | ppb | 32.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.62 | 0.01 | ppb | 15.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2081264 | 0.91 | 1866118 | 111.5 | 70 - 130 | |
| 45 Sc | 1 | 2857026 | 0.58 | 2660105 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 315115 | 0.33 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586847 | 0.98 | 561821 | 104.5 | 70 | - | 130 |
| 72 | Ge | 2 | 129792 | 0.34 | 124165 | 104.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3287962 | 0.51 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3673008 | 0.39 | 3455998 | 106.3 | 70 | - | 130 |
| 115 | In | 2 | 1130595 | 0.42 | 1091146 | 103.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5050683 | 0.37 | 4795045 | 105.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5010826 | 0.32 | 4757919 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3168870 | 1.14 | 2963190 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 01:47 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2303 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.54 | 50.54 | ppb | 0.58 | 900.00 | |
| 9 Be | 45 | 2 | 52.39 | 52.39 | ppb | 0.39 | 900.00 | |
| 11 B | 6 | 1 | 49.79 | 49.79 | ppb | 0.47 | 900.00 | |
| 11 B | 45 | 2 | 49.54 | 49.54 | ppb | 1.15 | 900.00 | |
| 23 Na | 45 | 1 | 5231.00 | 5231.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 5223.00 | 5223.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 5196.00 | 5196.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 5146.00 | 5146.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 5166.00 | 5166.00 | ppb | 0.94 | 90000.00 | |
| 39 K | 45 | 1 | 5148.00 | 5148.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 5232.00 | 5232.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.48 | 50.48 | ppb | 0.83 | 900.00 | |
| 51 V | 45 | 2 | 51.29 | 51.29 | ppb | 0.13 | 900.00 | |
| 52 Cr | 45 | 2 | 50.48 | 50.48 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 49.53 | 49.53 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 50.57 | 50.57 | ppb | 0.20 | 900.00 | |
| 60 Ni | 45 | 2 | 50.48 | 50.48 | ppb | 0.77 | 900.00 | |
| 63 Cu | 72 | 2 | 49.92 | 49.92 | ppb | 0.19 | 900.00 | |
| 66 Zn | 72 | 2 | 49.68 | 49.68 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 50.73 | 50.73 | ppb | 1.04 | 900.00 | |
| 78 Se | 72 | 2 | 48.97 | 48.97 | ppb | 0.61 | 900.00 | |
| 88 Sr | 103 | 1 | 52.76 | 52.76 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 51.54 | 51.54 | ppb | 0.27 | 900.00 | |
| 107 Ag | 115 | 1 | 50.41 | 50.41 | ppb | 0.84 | 180.00 | |
| 111 Cd | 115 | 2 | 51.26 | 51.26 | ppb | 1.47 | 900.00 | |
| 120 Sn | 115 | 1 | 51.35 | 51.35 | ppb | 1.52 | 900.00 | |
| 121 Sb | 115 | 1 | 55.16 | 55.16 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 50.06 | 50.06 | ppb | 0.90 | 900.00 | |
| 205 Tl | 209 | 1 | 48.74 | 48.74 | ppb | 2.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.54 | 52.54 | ppb | 0.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2102376 | 0.57 | 1866118 | 112.7 | 70 - 130 | |
| 45 Sc | 1 | 2829064 | 0.50 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 309836 | 0.05 | 293973 | 105.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570557 | 0.46 | 561821 | 101.6 | 70 | - | 130 |
| 72 | Ge | 2 | 127271 | 0.50 | 124165 | 102.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3190102 | 0.49 | 3161327 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 3569380 | 1.00 | 3455998 | 103.3 | 70 | - | 130 |
| 115 | In | 2 | 1080302 | 0.65 | 1091146 | 99.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5081953 | 1.26 | 4795045 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5048351 | 1.22 | 4757919 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3044634 | 0.46 | 2963190 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#
Date Acquired: Jun 7 2013 01:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 84.81 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 88.54 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 47.36 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 177.98 | 900.00 | |
| 23 Na | 45 | 1 | 2.78 | 2.78 | ppb | 2.67 | 90000.00 | |
| 23 Na | 45 | 2 | 8.30 | 8.30 | ppb | 16.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.87 | 0.87 | ppb | 5.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.93 | 0.93 | ppb | 13.86 | 90000.00 | |
| 27 Al | 45 | 1 | -0.15 | -0.15 | ppb | 15.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.11 | 0.11 | ppb | 165.16 | 90000.00 | |
| 39 K | 45 | 1 | 0.56 | 0.56 | ppb | 132.53 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.87 | -5.87 | ppb | 10.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 42.73 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 3048.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 8.49 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 10.64 | 900.00 | |
| 56 Fe | 45 | 2 | -1.52 | -1.52 | ppb | 14.14 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 6.18 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 69.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 78.00 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 15.57 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 74.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.04 | ppb | 317.99 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 13.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.14 | ppb | 3.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 39.19 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 50.25 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 9.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 36.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 641.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 4.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2167478 | 1.11 | 1866118 | 116.1 | 70 - 130 | |
| 45 Sc | 1 | 2847532 | 0.66 | 2660105 | 107.0 | 70 - 130 | |
| 45 Sc | 2 | 314887 | 2.93 | 293973 | 107.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 583873 | 1.06 | 561821 | 103.9 | 70 | - | 130 |
| 72 | Ge | 2 | 129087 | 2.63 | 124165 | 104.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3283879 | 1.72 | 3161327 | 103.9 | 70 | - | 130 |
| 115 | In | 1 | 3654870 | 1.88 | 3455998 | 105.8 | 70 | - | 130 |
| 115 | In | 2 | 1121503 | 2.84 | 1091146 | 102.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5107891 | 0.48 | 4795045 | 106.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5044679 | 0.88 | 4757919 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3155854 | 0.48 | 2963190 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#
Date Acquired: Jun 7 2013 02:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-6F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 555.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 79.42 | 900.00 | |
| 11 B | 6 | 1 | 0.57 | 0.29 | ppb | 10.18 | 900.00 | |
| 11 B | 45 | 2 | 0.81 | 0.41 | ppb | 35.41 | 900.00 | |
| 23 Na | 45 | 1 | 17.09 | 8.55 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 28.58 | 14.29 | ppb | 12.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.01 | 2.51 | ppb | 1.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.00 | 2.50 | ppb | 7.79 | 90000.00 | |
| 27 Al | 45 | 1 | 4.23 | 2.12 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 4.09 | 2.04 | ppb | 18.61 | 90000.00 | |
| 39 K | 45 | 1 | 14.01 | 7.01 | ppb | 14.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.00 | 17.50 | ppb | 5.00 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.90 | 0.45 | ppb | 5.35 | 900.00 | |
| 51 V | 45 | 2 | 1.79 | 0.90 | ppb | 6.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.20 | ppb | 8.81 | 900.00 | |
| 55 Mn | 45 | 2 | 0.72 | 0.36 | ppb | 9.50 | 900.00 | |
| 56 Fe | 45 | 2 | 3.47 | 1.74 | ppb | 18.94 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 49.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.16 | 0.08 | ppb | 12.61 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.01 | ppb | 52.52 | 900.00 | |
| 66 Zn | 72 | 2 | 8.46 | 4.23 | ppb | 3.94 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 4.69 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 1034.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 2.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.06 | ppb | 12.18 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 35.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 88.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 8.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 13.86 | 900.00 | |
| 137 Ba | 159 | 1 | 0.15 | 0.07 | ppb | 16.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.11 | ppb | 5.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 5.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2329959 | 1.02 | 1866118 | 124.9 | 70 - 130 | |
| 45 Sc | 1 | 2938173 | 0.39 | 2660105 | 110.5 | 70 - 130 | |
| 45 Sc | 2 | 333807 | 3.96 | 293973 | 113.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595485 | 1.02 | 561821 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 134232 | 3.11 | 124165 | 108.1 | 70 | - | 130 |
| 103 Rh | 1 | 3319609 | 0.54 | 3161327 | 105.0 | 70 | - | 130 |
| 115 In | 1 | 3683045 | 0.65 | 3455998 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 1132025 | 1.53 | 1091146 | 103.7 | 70 | - | 130 |
| 159 Tb | 1 | 5180298 | 0.20 | 4795045 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 5176293 | 0.20 | 4757919 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3221933 | 0.92 | 2963190 | 108.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D#
Date Acquired: Jun 7 2013 02:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-7F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.04 | ppb | 12.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 50.76 | 900.00 | |
| 11 B | 6 | 1 | 200.80 | 100.40 | ppb | 1.20 | 900.00 | |
| 11 B | 45 | 2 | 199.90 | 99.95 | ppb | 11.18 | 900.00 | |
| 23 Na | 45 | 1 | 28100.00 | 14050.00 | ppb | 0.93 | 90000.00 | |
| 23 Na | 45 | 2 | 27640.00 | 13820.00 | ppb | 9.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 13710.00 | 6855.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 13516.00 | 6758.00 | ppb | 9.89 | 90000.00 | |
| 27 Al | 45 | 1 | 2.66 | 1.33 | ppb | 6.19 | 90000.00 | |
| 27 Al | 45 | 2 | 2.67 | 1.33 | ppb | 20.50 | 90000.00 | |
| 39 K | 45 | 1 | 4692.00 | 2346.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 105800.00 | 52900.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.72 | 1.36 | ppb | 4.12 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 11.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.44 | 0.22 | ppb | 16.57 | 900.00 | |
| 55 Mn | 45 | 2 | 7788.00 | 3894.00 | ppb | 9.90 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 437.60 | 218.80 | ppb | 9.65 | 90000.00 | |
| 59 Co | 45 | 2 | 2.26 | 1.13 | ppb | 9.69 | 900.00 | |
| 60 Ni | 45 | 2 | 14.81 | 7.40 | ppb | 10.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.03 | ppb | 68.68 | 900.00 | |
| 66 Zn | 72 | 2 | 21.02 | 10.51 | ppb | 9.98 | 900.00 | |
| 75 As | 72 | 2 | 33.28 | 16.64 | ppb | 8.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 725.78 | 900.00 | |
| 88 Sr | 103 | 1 | 606.20 | 303.10 | ppb | 0.44 | 900.00 | |
| 98 Mo | 103 | 1 | 1.87 | 0.94 | ppb | 2.63 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 21.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 35.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 11.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 14.47 | 900.00 | |
| 137 Ba | 159 | 1 | 10.95 | 5.48 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.06 | ppb | 9.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 5.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2269183 | 0.44 | 1866118 | 121.6 | 70 - 130 | |
| 45 Sc | 1 | 2999583 | 0.61 | 2660105 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 332609 | 9.44 | 293973 | 113.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 585672 | 0.52 | 561821 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 131980 | 8.71 | 124165 | 106.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3113200 | 0.57 | 3161327 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 3564761 | 1.49 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1094687 | 6.59 | 1091146 | 100.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5113998 | 1.13 | 4795045 | 106.7 | 70 | - | 130 |
| 175 | Lu | 1 | 5080376 | 0.94 | 4757919 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2972083 | 0.76 | 2963190 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#
Date Acquired: Jun 7 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-8F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 41.68 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 3661.20 | 900.00 | |
| 11 B | 6 | 1 | 5.87 | 2.93 | ppb | 1.34 | 900.00 | |
| 11 B | 45 | 2 | 5.89 | 2.95 | ppb | 21.83 | 900.00 | |
| 23 Na | 45 | 1 | 6286.00 | 3143.00 | ppb | 0.21 | 90000.00 | |
| 23 Na | 45 | 2 | 6480.00 | 3240.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 1199.40 | 599.70 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 1329.80 | 664.90 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 2.52 | 1.26 | ppb | 2.90 | 90000.00 | |
| 27 Al | 45 | 2 | 3.65 | 1.82 | ppb | 32.03 | 90000.00 | |
| 39 K | 45 | 1 | 1296.60 | 648.30 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 6864.00 | 3432.00 | ppb | 0.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.67 | 1.33 | ppb | 2.36 | 900.00 | |
| 51 V | 45 | 2 | 2.75 | 1.38 | ppb | 1.91 | 900.00 | |
| 52 Cr | 45 | 2 | 1.55 | 0.78 | ppb | 0.69 | 900.00 | |
| 55 Mn | 45 | 2 | 1.42 | 0.71 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | 0.29 | 0.14 | ppb | 35.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 14.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.15 | ppb | 9.18 | 900.00 | |
| 66 Zn | 72 | 2 | 10.13 | 5.06 | ppb | 0.72 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.47 | ppb | 7.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 104.36 | 900.00 | |
| 88 Sr | 103 | 1 | 48.90 | 24.45 | ppb | 0.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.24 | 0.12 | ppb | 5.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 42.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 89.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.43 | 0.22 | ppb | 4.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 2.80 | 900.00 | |
| 137 Ba | 159 | 1 | 4.39 | 2.20 | ppb | 3.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 10.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2305001 | 0.54 | 1866118 | 123.5 | 70 - 130 | |
| 45 Sc | 1 | 3001158 | 0.26 | 2660105 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 320497 | 0.50 | 293973 | 109.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 597258 | 0.48 | 561821 | 106.3 | 70 | - | 130 |
| 72 | Ge | 2 | 130210 | 0.63 | 124165 | 104.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3239702 | 0.20 | 3161327 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 3664373 | 1.08 | 3455998 | 106.0 | 70 | - | 130 |
| 115 | In | 2 | 1107739 | 0.83 | 1091146 | 101.5 | 70 | - | 130 |
| 159 | Tb | 1 | 5122656 | 0.77 | 4795045 | 106.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5108596 | 0.19 | 4757919 | 107.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3131784 | 1.18 | 2963190 | 105.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 02:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21202-9F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2308 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 49.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 34298.00 | 900.00 | |
| 11 B | 6 | 1 | 131.50 | 6.58 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 137.52 | 6.88 | ppb | 7.48 | 900.00 | |
| 23 Na | 45 | 1 | 30840.00 | 1542.00 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 30340.00 | 1517.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 7732.00 | 386.60 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 8002.00 | 400.10 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 9.04 | 0.45 | ppb | 11.15 | 90000.00 | |
| 27 Al | 45 | 2 | 14.20 | 0.71 | ppb | 8.54 | 90000.00 | |
| 39 K | 45 | 1 | 4696.00 | 234.80 | ppb | 2.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 59320.00 | 2966.00 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.23 | 0.21 | ppb | 15.18 | 900.00 | |
| 51 V | 45 | 2 | -3.41 | -0.17 | ppb | 2.00 | 900.00 | |
| 52 Cr | 45 | 2 | -2.33 | -0.12 | ppb | 4.36 | 900.00 | |
| 55 Mn | 45 | 2 | 3882.00 | 194.10 | ppb | 0.74 | 900.00 | |
| 56 Fe | 45 | 2 | 28280.00 | 1414.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 0.95 | 0.05 | ppb | 10.09 | 900.00 | |
| 60 Ni | 45 | 2 | 2.74 | 0.14 | ppb | 16.89 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.01 | ppb | 29.33 | 900.00 | |
| 66 Zn | 72 | 2 | 12.17 | 0.61 | ppb | 3.80 | 900.00 | |
| 75 As | 72 | 2 | 441.20 | 22.06 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 2.17 | 0.11 | ppb | 146.72 | 900.00 | |
| 88 Sr | 103 | 1 | 254.00 | 12.70 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.02 | ppb | 13.84 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 51.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.01 | ppb | 94.01 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | -0.26 | -0.01 | ppb | 5.88 | 900.00 | |
| 137 Ba | 159 | 1 | 39.74 | 1.99 | ppb | 2.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.01 | ppb | 18.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.22 | 0.01 | ppb | 10.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2059747 | 0.75 | 1866118 | 110.4 | 70 - 130 | |
| 45 Sc | 1 | 2743405 | 1.27 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 311619 | 0.49 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 571948 | 1.09 | 561821 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 129135 | 0.41 | 124165 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 3152260 | 1.18 | 3161327 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 3547952 | 0.78 | 3455998 | 102.7 | 70 | - | 130 |
| 115 In | 2 | 1120090 | 0.41 | 1091146 | 102.7 | 70 | - | 130 |
| 159 Tb | 1 | 4898294 | 0.83 | 4795045 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4840931 | 0.83 | 4757919 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 3034072 | 0.68 | 2963190 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#
Date Acquired: Jun 7 2013 02:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-10F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1042.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 8.21 | 4.11 | ppb | 1.72 | 900.00 | |
| 11 B | 45 | 2 | 8.82 | 4.41 | ppb | 6.23 | 900.00 | |
| 23 Na | 45 | 1 | 25320.00 | 12660.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 25360.00 | 12680.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 640.20 | 320.10 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 689.60 | 344.80 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 6.82 | 3.41 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 6.93 | 3.46 | ppb | 6.72 | 90000.00 | |
| 39 K | 45 | 1 | 920.80 | 460.40 | ppb | 1.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 6092.00 | 3046.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.75 | ppb | 4.71 | 900.00 | |
| 51 V | 45 | 2 | 2.50 | 1.25 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.77 | 0.38 | ppb | 3.72 | 900.00 | |
| 55 Mn | 45 | 2 | 9.87 | 4.94 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 28.18 | 14.09 | ppb | 2.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.14 | 0.07 | ppb | 2.58 | 900.00 | |
| 60 Ni | 45 | 2 | 0.34 | 0.17 | ppb | 4.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.40 | 0.20 | ppb | 5.53 | 900.00 | |
| 66 Zn | 72 | 2 | 59.20 | 29.60 | ppb | 0.30 | 900.00 | |
| 75 As | 72 | 2 | 1.05 | 0.52 | ppb | 2.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.02 | ppb | 442.51 | 900.00 | |
| 88 Sr | 103 | 1 | 45.56 | 22.78 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.07 | ppb | 8.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 49.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 47.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 6.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.02 | 900.00 | |
| 137 Ba | 159 | 1 | 1.35 | 0.68 | ppb | 4.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 34.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 3.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2254137 | 0.86 | 1866118 | 120.8 | 70 - 130 | |
| 45 Sc | 1 | 2896473 | 0.88 | 2660105 | 108.9 | 70 - 130 | |
| 45 Sc | 2 | 315643 | 0.52 | 293973 | 107.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 587962 | 0.84 | 561821 | 104.7 | 70 | - | 130 |
| 72 | Ge | 2 | 128795 | 0.33 | 124165 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3150920 | 1.18 | 3161327 | 99.7 | 70 | - | 130 |
| 115 | In | 1 | 3582915 | 1.54 | 3455998 | 103.7 | 70 | - | 130 |
| 115 | In | 2 | 1099103 | 0.49 | 1091146 | 100.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5054166 | 0.61 | 4795045 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5049114 | 1.32 | 4757919 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3078849 | 0.78 | 2963190 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#
Date Acquired: Jun 7 2013 02:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-11F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.20 | 0.00 | ppb | 40.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.21 | 0.00 | ppb | 458.75 | 900.00 | |
| 11 B | 6 | 1 | 199.60 | 3.99 | ppb | 4.25 | 900.00 | |
| 11 B | 45 | 2 | 226.10 | 4.52 | ppb | 20.70 | 900.00 | |
| 23 Na | 45 | 1 | 31490.00 | 629.80 | ppb | 0.41 | 90000.00 | |
| 23 Na | 45 | 2 | 32220.00 | 644.40 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 12820.00 | 256.40 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 13445.00 | 268.90 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 20.94 | 0.42 | ppb | 22.66 | 90000.00 | |
| 27 Al | 45 | 2 | 30.26 | 0.61 | ppb | 42.80 | 90000.00 | |
| 39 K | 45 | 1 | 8310.00 | 166.20 | ppb | 0.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 85050.00 | 1701.00 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.06 | 0.10 | ppb | 54.63 | 900.00 | |
| 51 V | 45 | 2 | -12.36 | -0.25 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | -6.89 | -0.14 | ppb | 2.11 | 900.00 | |
| 55 Mn | 45 | 2 | 9865.00 | 197.30 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 30350.00 | 607.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 15.70 | 0.31 | ppb | 4.28 | 900.00 | |
| 60 Ni | 45 | 2 | 6.01 | 0.12 | ppb | 2.26 | 900.00 | |
| 63 Cu | 72 | 2 | -0.68 | -0.01 | ppb | 105.56 | 900.00 | |
| 66 Zn | 72 | 2 | 31.58 | 0.63 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 1150.50 | 23.01 | ppb | 0.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.60 | -0.01 | ppb | 929.82 | 900.00 | |
| 88 Sr | 103 | 1 | 1057.50 | 21.15 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.37 | 0.03 | ppb | 17.44 | 900.00 | |
| 107 Ag | 115 | 1 | -0.17 | 0.00 | ppb | 16.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.36 | 0.01 | ppb | 78.76 | 900.00 | |
| 120 Sn | 115 | 1 | -1.29 | -0.03 | ppb | 4.09 | 900.00 | |
| 121 Sb | 115 | 1 | -0.92 | -0.02 | ppb | 1.82 | 900.00 | |
| 137 Ba | 159 | 1 | 45.67 | 0.91 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.00 | ppb | 766.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.45 | 0.01 | ppb | 17.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2049412 | 0.84 | 1866118 | 109.8 | 70 - 130 | |
| 45 Sc | 1 | 2799449 | 0.82 | 2660105 | 105.2 | 70 - 130 | |
| 45 Sc | 2 | 312175 | 0.13 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 576183 | 1.21 | 561821 | 102.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129134 | 0.52 | 124165 | 104.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3238699 | 0.70 | 3161327 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 3636003 | 0.49 | 3455998 | 105.2 | 70 | - | 130 |
| 115 | In | 2 | 1137952 | 0.25 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4998015 | 0.49 | 4795045 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4978391 | 0.48 | 4757919 | 104.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3095287 | 1.00 | 2963190 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#
Date Acquired: Jun 7 2013 02:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-12F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | 0.00 | ppb | 23.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 87.05 | 900.00 | |
| 11 B | 6 | 1 | 128.55 | 2.57 | ppb | 2.02 | 900.00 | |
| 11 B | 45 | 2 | 148.75 | 2.98 | ppb | 3.63 | 900.00 | |
| 23 Na | 45 | 1 | 18415.00 | 368.30 | ppb | 1.36 | 90000.00 | |
| 23 Na | 45 | 2 | 19960.00 | 399.20 | ppb | 1.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 7800.00 | 156.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 8255.00 | 165.10 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 1 | 17.62 | 0.35 | ppb | 46.67 | 90000.00 | |
| 27 Al | 45 | 2 | 23.46 | 0.47 | ppb | 3.18 | 90000.00 | |
| 39 K | 45 | 1 | 11020.00 | 220.40 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 51400.00 | 1028.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.18 | 0.12 | ppb | 9.65 | 900.00 | |
| 51 V | 45 | 2 | -13.07 | -0.26 | ppb | 3.78 | 900.00 | |
| 52 Cr | 45 | 2 | -6.86 | -0.14 | ppb | 3.95 | 900.00 | |
| 55 Mn | 45 | 2 | 1068.00 | 21.36 | ppb | 2.46 | 900.00 | |
| 56 Fe | 45 | 2 | 77500.00 | 1550.00 | ppb | 2.17 | 90000.00 | |
| 59 Co | 45 | 2 | 17.73 | 0.35 | ppb | 2.71 | 900.00 | |
| 60 Ni | 45 | 2 | 17.17 | 0.34 | ppb | 7.24 | 900.00 | |
| 63 Cu | 72 | 2 | -1.55 | -0.03 | ppb | 21.90 | 900.00 | |
| 66 Zn | 72 | 2 | 21.20 | 0.42 | ppb | 6.82 | 900.00 | |
| 75 As | 72 | 2 | 1018.50 | 20.37 | ppb | 1.86 | 900.00 | |
| 78 Se | 72 | 2 | 4.20 | 0.08 | ppb | 134.09 | 900.00 | |
| 88 Sr | 103 | 1 | 456.50 | 9.13 | ppb | 1.47 | 900.00 | |
| 98 Mo | 103 | 1 | 0.81 | 0.02 | ppb | 27.03 | 900.00 | |
| 107 Ag | 115 | 1 | -0.24 | 0.00 | ppb | 11.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.23 | 0.00 | ppb | 106.17 | 900.00 | |
| 120 Sn | 115 | 1 | -1.64 | -0.03 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | -0.93 | -0.02 | ppb | 3.66 | 900.00 | |
| 137 Ba | 159 | 1 | 95.50 | 1.91 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | -0.33 | -0.01 | ppb | 36.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.01 | ppb | 33.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2011900 | 0.75 | 1866118 | 107.8 | 70 - 130 | |
| 45 Sc | 1 | 2780652 | 0.30 | 2660105 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 308463 | 1.97 | 293973 | 104.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 572806 | 0.65 | 561821 | 102.0 | 70 | - | 130 |
| 72 | Ge | 2 | 128543 | 1.07 | 124165 | 103.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3226517 | 1.33 | 3161327 | 102.1 | 70 | - | 130 |
| 115 | In | 1 | 3611961 | 0.32 | 3455998 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1119717 | 1.93 | 1091146 | 102.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5011499 | 0.21 | 4795045 | 104.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4944998 | 1.10 | 4757919 | 103.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3066188 | 1.68 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 02:51 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21202-13F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2312 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 194.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 173.19 | 900.00 | |
| 11 B | 6 | 1 | 301.40 | 150.70 | ppb | 0.41 | 900.00 | |
| 11 B | 45 | 2 | 317.40 | 158.70 | ppb | 0.25 | 900.00 | |
| 23 Na | 45 | 1 | 30940.00 | 15470.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 31500.00 | 15750.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 11330.00 | 5665.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 11638.00 | 5819.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 5.02 | 2.51 | ppb | 3.82 | 90000.00 | |
| 27 Al | 45 | 2 | 5.70 | 2.85 | ppb | 5.06 | 90000.00 | |
| 39 K | 45 | 1 | 13590.00 | 6795.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 67820.00 | 33910.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.62 | 1.31 | ppb | 0.22 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.42 | 0.21 | ppb | 7.42 | 900.00 | |
| 55 Mn | 45 | 2 | 11604.00 | 5802.00 | ppb | 0.48 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 2130.00 | 1065.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 5.73 | 2.87 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 6.12 | 3.06 | ppb | 2.34 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 5.83 | 900.00 | |
| 66 Zn | 72 | 2 | 9.21 | 4.61 | ppb | 1.00 | 900.00 | |
| 75 As | 72 | 2 | 10.42 | 5.21 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 249.79 | 900.00 | |
| 88 Sr | 103 | 1 | 1285.60 | 642.80 | ppb | 1.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.29 | ppb | 6.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 89.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 7.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 11.33 | 900.00 | |
| 137 Ba | 159 | 1 | 40.64 | 20.32 | ppb | 0.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 154.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 10.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2196232 | 0.87 | 1866118 | 117.7 | 70 - 130 | |
| 45 Sc | 1 | 2892171 | 0.44 | 2660105 | 108.7 | 70 - 130 | |
| 45 Sc | 2 | 310996 | 0.41 | 293973 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 571110 | 0.75 | 561821 | 101.7 | 70 - | 130 |
| 72 | Ge | 2 | 126289 | 0.41 | 124165 | 101.7 | 70 - | 130 |
| 103 | Rh | 1 | 3061018 | 0.84 | 3161327 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 3521845 | 0.79 | 3455998 | 101.9 | 70 - | 130 |
| 115 | In | 2 | 1072733 | 0.75 | 1091146 | 98.3 | 70 - | 130 |
| 159 | Tb | 1 | 5008263 | 0.93 | 4795045 | 104.4 | 70 - | 130 |
| 175 | Lu | 1 | 4983689 | 0.76 | 4757919 | 104.7 | 70 - | 130 |
| 209 | Bi | 1 | 2943551 | 0.61 | 2963190 | 99.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 02:58 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21202-15F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2401 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.10 | 0.05 | ppb | 13.55 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 65.71 | 900.00 | |
| 11 B | 6 | 1 | 204.20 | 102.10 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 214.00 | 107.00 | ppb | 2.25 | 900.00 | |
| 23 Na | 45 | 1 | 28680.00 | 14340.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 28940.00 | 14470.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 13992.00 | 6996.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 14200.00 | 7100.00 | ppb | 0.10 | 90000.00 | |
| 27 Al | 45 | 1 | 3.98 | 1.99 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 4.26 | 2.13 | ppb | 2.85 | 90000.00 | |
| 39 K | 45 | 1 | 4778.00 | 2389.00 | ppb | 0.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 107600.00 | 53800.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.89 | 1.45 | ppb | 4.02 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 1.44 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 4.91 | 900.00 | |
| 55 Mn | 45 | 2 | 8210.00 | 4105.00 | ppb | 0.12 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 454.40 | 227.20 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 2.37 | 1.19 | ppb | 1.57 | 900.00 | |
| 60 Ni | 45 | 2 | 15.74 | 7.87 | ppb | 1.62 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.04 | ppb | 23.09 | 900.00 | |
| 66 Zn | 72 | 2 | 21.68 | 10.84 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 34.08 | 17.04 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 160.23 | 900.00 | |
| 88 Sr | 103 | 1 | 611.00 | 305.50 | ppb | 0.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.82 | 0.91 | ppb | 1.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 27.04 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 48.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 1.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 14.13 | 900.00 | |
| 137 Ba | 159 | 1 | 11.10 | 5.55 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 35.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 3.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2209607 | 0.46 | 1866118 | 118.4 | 70 - 130 | |
| 45 Sc | 1 | 2900456 | 0.67 | 2660105 | 109.0 | 70 - 130 | |
| 45 Sc | 2 | 313699 | 0.47 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 575062 | 0.19 | 561821 | 102.4 | 70 | - | 130 |
| 72 Ge | 2 | 125864 | 0.64 | 124165 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 3073983 | 0.70 | 3161327 | 97.2 | 70 | - | 130 |
| 115 In | 1 | 3512025 | 0.38 | 3455998 | 101.6 | 70 | - | 130 |
| 115 In | 2 | 1076494 | 0.17 | 1091146 | 98.7 | 70 | - | 130 |
| 159 Tb | 1 | 5046065 | 0.97 | 4795045 | 105.2 | 70 | - | 130 |
| 175 Lu | 1 | 5040564 | 1.16 | 4757919 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 2970969 | 1.27 | 2963190 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#** | | |
| **Date Acquired:** | **Jun 7 2013 03:05 pm** | | |
| **Acq. Method:** | **EPA6020V.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MC21261-1F** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2402** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020V.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020V.C** | | |
| **Last Cal. Update:** | **Jun 07 2013 02:14 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **50.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **50.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.26 | -0.01 | ppb | 9.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 87.35 | 900.00 | |
| 11 B | 6 | 1 | 227.10 | 4.54 | ppb | 1.01 | 900.00 | |
| 11 B | 45 | 2 | 239.65 | 4.79 | ppb | 12.76 | 900.00 | |
| 23 Na | 45 | 1 | 28775.00 | 575.50 | ppb | 0.24 | 90000.00 | |
| 23 Na | 45 | 2 | 29210.00 | 584.20 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 12520.00 | 250.40 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 13135.00 | 262.70 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 5.76 | 0.12 | ppb | 73.97 | 90000.00 | |
| 27 Al | 45 | 2 | 9.31 | 0.19 | ppb | 74.06 | 90000.00 | |
| 39 K | 45 | 1 | 10580.00 | 211.60 | ppb | 1.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 79000.00 | 1580.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.09 | 0.10 | ppb | 12.51 | 900.00 | |
| 51 V | 45 | 2 | -13.51 | -0.27 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -7.21 | -0.14 | ppb | 0.86 | 900.00 | |
| 55 Mn | 45 | 2 | 1454.50 | 29.09 | ppb | 0.77 | 900.00 | |
| 56 Fe | 45 | 2 | 42300.00 | 846.00 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.21 | 0.00 | ppb | 39.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.74 | 0.01 | ppb | 20.03 | 900.00 | |
| 63 Cu | 72 | 2 | -3.18 | -0.06 | ppb | 10.22 | 900.00 | |
| 66 Zn | 72 | 2 | 14.68 | 0.29 | ppb | 8.01 | 900.00 | |
| 75 As | 72 | 2 | 1350.50 | 27.01 | ppb | 0.99 | 900.00 | |
| 78 Se | 72 | 2 | 3.65 | 0.07 | ppb | 124.86 | 900.00 | |
| 88 Sr | 103 | 1 | 838.50 | 16.77 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 0.37 | 0.01 | ppb | 26.21 | 900.00 | |
| 107 Ag | 115 | 1 | -0.20 | 0.00 | ppb | 32.66 | 180.00 | |
| 111 Cd | 115 | 2 | 0.26 | 0.01 | ppb | 114.40 | 900.00 | |
| 120 Sn | 115 | 1 | -1.49 | -0.03 | ppb | 2.07 | 900.00 | |
| 121 Sb | 115 | 1 | -1.03 | -0.02 | ppb | 2.70 | 900.00 | |
| 137 Ba | 159 | 1 | 51.55 | 1.03 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | -0.52 | -0.01 | ppb | 4.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.01 | ppb | 20.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1994292 | 0.80 | 1866118 | 106.9 | 70 - 130 | |
| 45 Sc | 1 | 2740098 | 0.77 | 2660105 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 311671 | 0.59 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569540 | 1.04 | 561821 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 128972 | 0.62 | 124165 | 103.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3168264 | 0.72 | 3161327 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3562790 | 0.81 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1138306 | 0.87 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4945248 | 1.06 | 4795045 | 103.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4899589 | 0.54 | 4757919 | 103.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3052650 | 0.85 | 2963190 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#
Date Acquired: Jun 7 2013 03:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.93 | 50.93 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 53.38 | 53.38 | ppb | 1.40 | 900.00 | |
| 11 B | 6 | 1 | 50.59 | 50.59 | ppb | 0.21 | 900.00 | |
| 11 B | 45 | 2 | 52.63 | 52.63 | ppb | 3.82 | 900.00 | |
| 23 Na | 45 | 1 | 5205.00 | 5205.00 | ppb | 1.06 | 90000.00 | |
| 23 Na | 45 | 2 | 5156.00 | 5156.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5145.00 | 5145.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 5190.00 | 5190.00 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 1 | 5098.00 | 5098.00 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.57 | 90000.00 | |
| 39 K | 45 | 1 | 5115.00 | 5115.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 5172.00 | 5172.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.83 | 49.83 | ppb | 0.69 | 900.00 | |
| 51 V | 45 | 2 | 50.95 | 50.95 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | 49.97 | 49.97 | ppb | 0.54 | 900.00 | |
| 55 Mn | 45 | 2 | 50.19 | 50.19 | ppb | 0.54 | 900.00 | |
| 56 Fe | 45 | 2 | 5055.00 | 5055.00 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 49.98 | 49.98 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 49.73 | 49.73 | ppb | 0.94 | 900.00 | |
| 63 Cu | 72 | 2 | 49.21 | 49.21 | ppb | 0.78 | 900.00 | |
| 66 Zn | 72 | 2 | 49.39 | 49.39 | ppb | 0.81 | 900.00 | |
| 75 As | 72 | 2 | 50.89 | 50.89 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 49.82 | 49.82 | ppb | 0.82 | 900.00 | |
| 88 Sr | 103 | 1 | 52.94 | 52.94 | ppb | 0.19 | 900.00 | |
| 98 Mo | 103 | 1 | 51.83 | 51.83 | ppb | 0.26 | 900.00 | |
| 107 Ag | 115 | 1 | 50.88 | 50.88 | ppb | 0.45 | 180.00 | |
| 111 Cd | 115 | 2 | 50.99 | 50.99 | ppb | 1.35 | 900.00 | |
| 120 Sn | 115 | 1 | 51.46 | 51.46 | ppb | 0.56 | 900.00 | |
| 121 Sb | 115 | 1 | 55.22 | 55.22 | ppb | 0.51 | 900.00 | |
| 137 Ba | 159 | 1 | 49.65 | 49.65 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 48.20 | 48.20 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.79 | 51.79 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991838 | 0.38 | 1866118 | 106.7 | 70 - 130 | |
| 45 Sc | 1 | 2734663 | 0.48 | 2660105 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 303782 | 0.27 | 293973 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 554166 | 0.85 | 561821 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 124883 | 0.66 | 124165 | 100.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3094070 | 0.37 | 3161327 | 97.9 | 70 | - | 130 |
| 115 | In | 1 | 3455312 | 0.19 | 3455998 | 100.0 | 70 | - | 130 |
| 115 | In | 2 | 1076799 | 0.26 | 1091146 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4947069 | 0.40 | 4795045 | 103.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4918828 | 0.65 | 4757919 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2998990 | 1.11 | 2963190 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#
Date Acquired: Jun 7 2013 03:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 203.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 171.09 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 25.46 | 900.00 | |
| 11 B | 45 | 2 | 0.37 | 0.37 | ppb | 10.01 | 900.00 | |
| 23 Na | 45 | 1 | 3.08 | 3.08 | ppb | 2.19 | 90000.00 | |
| 23 Na | 45 | 2 | 6.83 | 6.83 | ppb | 4.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.80 | 0.80 | ppb | 4.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.99 | 0.99 | ppb | 7.73 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 28.60 | 90000.00 | |
| 27 Al | 45 | 2 | -0.01 | -0.01 | ppb | 1014.80 | 90000.00 | |
| 39 K | 45 | 1 | 1.94 | 1.94 | ppb | 42.40 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.54 | -0.54 | ppb | 66.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 36.84 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 81.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 7.18 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 119.15 | 900.00 | |
| 56 Fe | 45 | 2 | -1.39 | -1.39 | ppb | 11.70 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 181.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 10.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.45 | 0.45 | ppb | 1.47 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 75.94 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 219.71 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 16.72 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 3.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 47.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 45.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.21 | ppb | 2.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 119.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 9.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.33 | 0.33 | ppb | 2.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 6.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2044236 | 0.81 | 1866118 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 2742962 | 0.73 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 310464 | 0.16 | 293973 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 565497 | 0.58 | 561821 | 100.7 | 70 | - | 130 |
| 72 | Ge | 2 | 127925 | 0.43 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3205348 | 0.34 | 3161327 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 3563483 | 0.62 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1124606 | 0.23 | 1091146 | 103.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4932497 | 0.24 | 4795045 | 102.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4916679 | 0.78 | 4757919 | 103.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3063120 | 1.15 | 2963190 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#
Date Acquired: Jun 7 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-2F
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 205.26 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 170.01 | 900.00 | |
| 11 B | 6 | 1 | 19.25 | 9.63 | ppb | 0.52 | 900.00 | |
| 11 B | 45 | 2 | 20.04 | 10.02 | ppb | 10.18 | 900.00 | |
| 23 Na | 45 | 1 | 10036.00 | 5018.00 | ppb | 1.37 | 90000.00 | |
| 23 Na | 45 | 2 | 9810.00 | 4905.00 | ppb | 5.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 3918.00 | 1959.00 | ppb | 1.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 3972.00 | 1986.00 | ppb | 5.82 | 90000.00 | |
| 27 Al | 45 | 1 | 25.88 | 12.94 | ppb | 1.69 | 90000.00 | |
| 27 Al | 45 | 2 | 25.90 | 12.95 | ppb | 5.86 | 90000.00 | |
| 39 K | 45 | 1 | 4176.00 | 2088.00 | ppb | 1.25 | 90000.00 | |
| 44 Ca | 45 | 1 | 40000.00 | 20000.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.59 | 0.79 | ppb | 5.69 | 900.00 | |
| 51 V | 45 | 2 | 2.10 | 1.05 | ppb | 6.86 | 900.00 | |
| 52 Cr | 45 | 2 | 0.78 | 0.39 | ppb | 7.16 | 900.00 | |
| 55 Mn | 45 | 2 | 137.84 | 68.92 | ppb | 5.68 | 900.00 | |
| 56 Fe | 45 | 2 | 547.40 | 273.70 | ppb | 5.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.46 | 0.23 | ppb | 5.33 | 900.00 | |
| 60 Ni | 45 | 2 | 0.46 | 0.23 | ppb | 11.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 582.32 | 900.00 | |
| 66 Zn | 72 | 2 | 5.96 | 2.98 | ppb | 5.64 | 900.00 | |
| 75 As | 72 | 2 | 19.66 | 9.83 | ppb | 5.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 159.22 | 900.00 | |
| 88 Sr | 103 | 1 | 291.20 | 145.60 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 1.45 | 0.72 | ppb | 2.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 33.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 69.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.15 | ppb | 4.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 17.96 | 900.00 | |
| 137 Ba | 159 | 1 | 59.16 | 29.58 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.12 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 4.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2213976 | 0.61 | 1866118 | 118.6 | 70 - 130 | |
| 45 Sc | 1 | 2882304 | 0.84 | 2660105 | 108.4 | 70 - 130 | |
| 45 Sc | 2 | 321987 | 4.45 | 293973 | 109.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 584733 | 0.72 | 561821 | 104.1 | 70 - | 130 |
| 72 | Ge | 2 | 131372 | 4.66 | 124165 | 105.8 | 70 - | 130 |
| 103 | Rh | 1 | 3139337 | 0.50 | 3161327 | 99.3 | 70 - | 130 |
| 115 | In | 1 | 3589767 | 0.35 | 3455998 | 103.9 | 70 - | 130 |
| 115 | In | 2 | 1112008 | 2.00 | 1091146 | 101.9 | 70 - | 130 |
| 159 | Tb | 1 | 5145955 | 0.65 | 4795045 | 107.3 | 70 - | 130 |
| 175 | Lu | 1 | 5094617 | 0.70 | 4757919 | 107.1 | 70 - | 130 |
| 209 | Bi | 1 | 3050826 | 0.39 | 2963190 | 103.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 03:33 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21261-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2406 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 34.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 225.65 | 900.00 | |
| 11 B | 6 | 1 | 275.60 | 137.80 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 291.40 | 145.70 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | 42340.00 | 21170.00 | ppb | 1.25 | 90000.00 | |
| 23 Na | 45 | 2 | 43340.00 | 21670.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 22260.00 | 11130.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 22960.00 | 11480.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 39.72 | 19.86 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 40.98 | 20.49 | ppb | 1.25 | 90000.00 | |
| 39 K | 45 | 1 | 10456.00 | 5228.00 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 104100.00 | 52050.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.85 | 1.42 | ppb | 2.51 | 900.00 | |
| 51 V | 45 | 2 | 4.19 | 2.09 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 0.86 | 0.43 | ppb | 1.68 | 900.00 | |
| 55 Mn | 45 | 2 | 4442.00 | 2221.00 | ppb | 1.18 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 602.60 | 301.30 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 3.36 | 1.68 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 9.00 | 4.50 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 0.53 | ppb | 0.97 | 900.00 | |
| 66 Zn | 72 | 2 | 4.95 | 2.47 | ppb | 2.01 | 900.00 | |
| 75 As | 72 | 2 | 8.94 | 4.47 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 39.17 | 900.00 | |
| 88 Sr | 103 | 1 | 551.80 | 275.90 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 11.25 | 5.62 | ppb | 0.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 54.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 13.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.09 | ppb | 5.10 | 900.00 | |
| 121 Sb | 115 | 1 | 1.80 | 0.90 | ppb | 2.61 | 900.00 | |
| 137 Ba | 159 | 1 | 37.56 | 18.78 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 3.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 1.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2177772 | 0.39 | 1866118 | 116.7 | 70 - 130 | |
| 45 Sc | 1 | 2878492 | 0.28 | 2660105 | 108.2 | 70 - 130 | |
| 45 Sc | 2 | 309104 | 0.28 | 293973 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 567334 | 0.76 | 561821 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 125609 | 0.42 | 124165 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 3027822 | 0.29 | 3161327 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 3493731 | 0.37 | 3455998 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1053566 | 0.97 | 1091146 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 4972809 | 0.68 | 4795045 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 5022121 | 0.59 | 4757919 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2942589 | 0.83 | 2963190 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D#
Date Acquired: Jun 7 2013 03:40 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-4F
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.35 | 0.00 | ppb | 50.65 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 19328.00 | 900.00 | |
| 11 B | 6 | 1 | 50.06 | 0.50 | ppb | 3.59 | 900.00 | |
| 11 B | 45 | 2 | 58.86 | 0.59 | ppb | 40.33 | 900.00 | |
| 23 Na | 45 | 1 | 87340.00 | 873.40 | ppb | 1.57 | 90000.00 | |
| 23 Na | 45 | 2 | 88640.00 | 886.40 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 4134.00 | 41.34 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 4417.00 | 44.17 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 10.72 | 0.11 | ppb | 112.13 | 90000.00 | |
| 27 Al | 45 | 2 | 32.64 | 0.33 | ppb | 55.06 | 90000.00 | |
| 39 K | 45 | 1 | 4547.00 | 45.47 | ppb | 4.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 37070.00 | 370.70 | ppb | 0.93 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.51 | 0.06 | ppb | 8.49 | 900.00 | |
| 51 V | 45 | 2 | -28.43 | -0.28 | ppb | 3.06 | 900.00 | |
| 52 Cr | 45 | 2 | -14.37 | -0.14 | ppb | 3.18 | 900.00 | |
| 55 Mn | 45 | 2 | 2358.00 | 23.58 | ppb | 2.05 | 900.00 | |
| 56 Fe | 45 | 2 | 39590.00 | 395.90 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 13.72 | 0.14 | ppb | 5.50 | 900.00 | |
| 60 Ni | 45 | 2 | 10.83 | 0.11 | ppb | 11.07 | 900.00 | |
| 63 Cu | 72 | 2 | -6.15 | -0.06 | ppb | 17.78 | 900.00 | |
| 66 Zn | 72 | 2 | 88.10 | 0.88 | ppb | 7.57 | 900.00 | |
| 75 As | 72 | 2 | 2057.00 | 20.57 | ppb | 2.71 | 900.00 | |
| 78 Se | 72 | 2 | 6.03 | 0.06 | ppb | 140.86 | 900.00 | |
| 88 Sr | 103 | 1 | 304.30 | 3.04 | ppb | 2.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.19 | 0.02 | ppb | 8.15 | 900.00 | |
| 107 Ag | 115 | 1 | -0.51 | -0.01 | ppb | 10.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.45 | 0.00 | ppb | 88.04 | 900.00 | |
| 120 Sn | 115 | 1 | -2.55 | -0.03 | ppb | 0.77 | 900.00 | |
| 121 Sb | 115 | 1 | -2.00 | -0.02 | ppb | 6.15 | 900.00 | |
| 137 Ba | 159 | 1 | 60.24 | 0.60 | ppb | 6.24 | 900.00 | |
| 205 Tl | 209 | 1 | 1.84 | 0.02 | ppb | 20.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.96 | 0.01 | ppb | 32.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972863 | 1.39 | 1866118 | 105.7 | 70 - 130 | |
| 45 Sc | 1 | 2710408 | 0.82 | 2660105 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 310750 | 1.50 | 293973 | 105.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 564917 | 0.21 | 561821 | 100.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129533 | 2.27 | 124165 | 104.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3215530 | 1.32 | 3161327 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 3566160 | 1.35 | 3455998 | 103.2 | 70 | - | 130 |
| 115 | In | 2 | 1138512 | 2.03 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4888031 | 0.86 | 4795045 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4867904 | 1.71 | 4757919 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3006472 | 1.93 | 2963190 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D#
Date Acquired: Jun 7 2013 03:48 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-5F
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 23.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 308.97 | 900.00 | |
| 11 B | 6 | 1 | 0.83 | 0.41 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 1.22 | 0.61 | ppb | 34.26 | 900.00 | |
| 23 Na | 45 | 1 | 13.72 | 6.86 | ppb | 4.70 | 90000.00 | |
| 23 Na | 45 | 2 | 24.16 | 12.08 | ppb | 7.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.55 | 1.27 | ppb | 3.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.68 | 1.34 | ppb | 2.87 | 90000.00 | |
| 27 Al | 45 | 1 | 1.83 | 0.91 | ppb | 18.71 | 90000.00 | |
| 27 Al | 45 | 2 | 1.82 | 0.91 | ppb | 14.46 | 90000.00 | |
| 39 K | 45 | 1 | 19.89 | 9.95 | ppb | 14.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.50 | 1.25 | ppb | 69.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.91 | 0.46 | ppb | 7.15 | 900.00 | |
| 51 V | 45 | 2 | 2.13 | 1.07 | ppb | 2.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 2.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.95 | 0.47 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 4.03 | 2.01 | ppb | 4.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 181.95 | 900.00 | |
| 60 Ni | 45 | 2 | 0.22 | 0.11 | ppb | 5.08 | 900.00 | |
| 63 Cu | 72 | 2 | -0.02 | -0.01 | ppb | 155.66 | 900.00 | |
| 66 Zn | 72 | 2 | 6.60 | 3.30 | ppb | 1.82 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.29 | ppb | 3.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.04 | ppb | 66.07 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 11.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.02 | ppb | 4.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.87 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 98.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.02 | ppb | 17.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 5.90 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 8.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 46.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 11.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2181163 | 0.85 | 1866118 | 116.9 | 70 - 130 | |
| 45 Sc | 1 | 2776546 | 0.50 | 2660105 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 311133 | 0.86 | 293973 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 568696 | 0.54 | 561821 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 126473 | 0.38 | 124165 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3206371 | 0.99 | 3161327 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 3562719 | 0.41 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1108276 | 0.59 | 1091146 | 101.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5021451 | 0.41 | 4795045 | 104.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4984061 | 0.60 | 4757919 | 104.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3096290 | 1.16 | 2963190 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#
Date Acquired: Jun 7 2013 03:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-6F
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 46.33 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | 0.00 | ppb | 178.33 | 900.00 | |
| 11 B | 6 | 1 | 234.20 | 23.42 | ppb | 3.65 | 900.00 | |
| 11 B | 45 | 2 | 244.00 | 24.40 | ppb | 4.34 | 900.00 | |
| 23 Na | 45 | 1 | 36860.00 | 3686.00 | ppb | 5.39 | 90000.00 | |
| 23 Na | 45 | 2 | 35730.00 | 3573.00 | ppb | 3.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 15900.00 | 1590.00 | ppb | 5.72 | 90000.00 | |
| 24 Mg | 45 | 2 | 16060.00 | 1606.00 | ppb | 3.02 | 90000.00 | |
| 27 Al | 45 | 1 | 13.32 | 1.33 | ppb | 15.69 | 90000.00 | |
| 27 Al | 45 | 2 | 12.40 | 1.24 | ppb | 6.61 | 90000.00 | |
| 39 K | 45 | 1 | 9504.00 | 950.40 | ppb | 6.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 100200.00 | 10020.00 | ppb | 5.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.44 | 0.44 | ppb | 12.85 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.03 | ppb | 23.38 | 900.00 | |
| 52 Cr | 45 | 2 | -0.67 | -0.07 | ppb | 7.46 | 900.00 | |
| 55 Mn | 45 | 2 | 6433.00 | 643.30 | ppb | 2.53 | 900.00 | |
| 56 Fe | 45 | 2 | 13350.00 | 1335.00 | ppb | 2.83 | 90000.00 | |
| 59 Co | 45 | 2 | 10.85 | 1.09 | ppb | 3.30 | 900.00 | |
| 60 Ni | 45 | 2 | 6.60 | 0.66 | ppb | 5.42 | 900.00 | |
| 63 Cu | 72 | 2 | -0.29 | -0.03 | ppb | 41.32 | 900.00 | |
| 66 Zn | 72 | 2 | 14.52 | 1.45 | ppb | 1.01 | 900.00 | |
| 75 As | 72 | 2 | 317.70 | 31.77 | ppb | 2.54 | 900.00 | |
| 78 Se | 72 | 2 | 0.96 | 0.10 | ppb | 87.76 | 900.00 | |
| 88 Sr | 103 | 1 | 1342.00 | 134.20 | ppb | 5.25 | 900.00 | |
| 98 Mo | 103 | 1 | 7.78 | 0.78 | ppb | 5.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 190.77 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.00 | ppb | 46.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.03 | ppb | 22.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.01 | ppb | 22.23 | 900.00 | |
| 137 Ba | 159 | 1 | 79.88 | 7.99 | ppb | 5.98 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | 0.00 | ppb | 101.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.02 | ppb | 13.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982613 | 3.07 | 1866118 | 106.2 | 70 - 130 | |
| 45 Sc | 1 | 2693475 | 5.33 | 2660105 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 306302 | 1.66 | 293973 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 560890 | 5.00 | 561821 | 99.8 | 70 | - | 130 |
| 72 | Ge | 2 | 126548 | 1.39 | 124165 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3102167 | 4.99 | 3161327 | 98.1 | 70 | - | 130 |
| 115 | In | 1 | 3470002 | 4.67 | 3455998 | 100.4 | 70 | - | 130 |
| 115 | In | 2 | 1112475 | 2.11 | 1091146 | 102.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4869839 | 5.85 | 4795045 | 101.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4830162 | 5.14 | 4757919 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3014776 | 4.59 | 2963190 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#
Date Acquired: Jun 7 2013 04:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-7F
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.46 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 85.71 | 900.00 | |
| 11 B | 6 | 1 | 17.60 | 8.80 | ppb | 1.20 | 900.00 | |
| 11 B | 45 | 2 | 19.11 | 9.55 | ppb | 4.15 | 900.00 | |
| 23 Na | 45 | 1 | 40060.00 | 20030.00 | ppb | 0.38 | 90000.00 | |
| 23 Na | 45 | 2 | 40140.00 | 20070.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 13940.00 | 6970.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 13950.00 | 6975.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 3.19 | 1.60 | ppb | 2.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4.58 | 2.29 | ppb | 43.62 | 90000.00 | |
| 39 K | 45 | 1 | 2962.00 | 1481.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 59820.00 | 29910.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.16 | 1.08 | ppb | 9.44 | 900.00 | |
| 51 V | 45 | 2 | 2.20 | 1.10 | ppb | 0.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.70 | 0.35 | ppb | 3.39 | 900.00 | |
| 55 Mn | 45 | 2 | 636.80 | 318.40 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 2.75 | 1.37 | ppb | 17.69 | 90000.00 | |
| 59 Co | 45 | 2 | 1.78 | 0.89 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 3.95 | 1.97 | ppb | 0.33 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.25 | ppb | 6.30 | 900.00 | |
| 66 Zn | 72 | 2 | 34.66 | 17.33 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 1.01 | 0.50 | ppb | 3.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 157.40 | 900.00 | |
| 88 Sr | 103 | 1 | 537.00 | 268.50 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 1.23 | 0.61 | ppb | 2.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.25 | ppb | 15.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.14 | ppb | 4.51 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 12.25 | 900.00 | |
| 137 Ba | 159 | 1 | 25.00 | 12.50 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 18.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 5.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2135617 | 1.04 | 1866118 | 114.4 | 70 - 130 | |
| 45 Sc | 1 | 2830989 | 1.27 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 313714 | 0.15 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578513 | 0.10 | 561821 | 103.0 | 70 | - | 130 |
| 72 Ge | 2 | 127627 | 0.32 | 124165 | 102.8 | 70 | - | 130 |
| 103 Rh | 1 | 3061975 | 0.56 | 3161327 | 96.9 | 70 | - | 130 |
| 115 In | 1 | 3530126 | 0.90 | 3455998 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1094581 | 0.19 | 1091146 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 5023591 | 1.51 | 4795045 | 104.8 | 70 | - | 130 |
| 175 Lu | 1 | 4996568 | 1.15 | 4757919 | 105.0 | 70 | - | 130 |
| 209 Bi | 1 | 2965337 | 0.37 | 2963190 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#
Date Acquired: Jun 7 2013 04:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-8F
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 32.52 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 74.45 | 900.00 | |
| 11 B | 6 | 1 | 17.43 | 8.72 | ppb | 1.18 | 900.00 | |
| 11 B | 45 | 2 | 16.85 | 8.43 | ppb | 10.69 | 900.00 | |
| 23 Na | 45 | 1 | 39580.00 | 19790.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 38520.00 | 19260.00 | ppb | 6.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 13718.00 | 6859.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 13536.00 | 6768.00 | ppb | 6.67 | 90000.00 | |
| 27 Al | 45 | 1 | 3.55 | 1.78 | ppb | 7.00 | 90000.00 | |
| 27 Al | 45 | 2 | 3.55 | 1.77 | ppb | 10.90 | 90000.00 | |
| 39 K | 45 | 1 | 2948.00 | 1474.00 | ppb | 1.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 59260.00 | 29630.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.08 | 1.04 | ppb | 8.67 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.12 | ppb | 8.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.64 | 0.32 | ppb | 14.09 | 900.00 | |
| 55 Mn | 45 | 2 | 608.40 | 304.20 | ppb | 7.01 | 900.00 | |
| 56 Fe | 45 | 2 | 1.64 | 0.82 | ppb | 58.89 | 90000.00 | |
| 59 Co | 45 | 2 | 1.69 | 0.84 | ppb | 5.74 | 900.00 | |
| 60 Ni | 45 | 2 | 3.70 | 1.85 | ppb | 7.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.74 | 0.37 | ppb | 7.65 | 900.00 | |
| 66 Zn | 72 | 2 | 31.24 | 15.62 | ppb | 5.76 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.48 | ppb | 9.51 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 989.66 | 900.00 | |
| 88 Sr | 103 | 1 | 528.20 | 264.10 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 1.23 | 0.61 | ppb | 1.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 49.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.23 | ppb | 13.83 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 12.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 15.39 | 900.00 | |
| 137 Ba | 159 | 1 | 25.20 | 12.60 | ppb | 1.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 14.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2170528 | 0.48 | 1866118 | 116.3 | 70 - 130 | |
| 45 Sc | 1 | 2835472 | 0.83 | 2660105 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 321725 | 6.49 | 293973 | 109.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578782 | 0.51 | 561821 | 103.0 | 70 | - | 130 |
| 72 Ge | 2 | 130212 | 5.33 | 124165 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 3062142 | 1.12 | 3161327 | 96.9 | 70 | - | 130 |
| 115 In | 1 | 3528324 | 1.46 | 3455998 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1123268 | 6.20 | 1091146 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 5008487 | 1.04 | 4795045 | 104.5 | 70 | - | 130 |
| 175 Lu | 1 | 5025084 | 1.34 | 4757919 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2957633 | 0.96 | 2963190 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D# |
| Date Acquired: | Jun 7 2013 04:16 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21097A-PS1 |
| Misc Info: | |
| Vial Number: | 2412 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.64 | 8.32 | ppb | 1.34 | 900.00 | |
| 9 Be | 45 | 2 | 18.26 | 9.13 | ppb | 1.76 | 900.00 | |
| 11 B | 6 | 1 | 37.02 | 18.51 | ppb | 1.79 | 900.00 | |
| 11 B | 45 | 2 | 40.18 | 20.09 | ppb | 7.97 | 900.00 | |
| 23 Na | 45 | 1 | 5780.00 | 2890.00 | ppb | 2.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5890.00 | 2945.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 2300.00 | 1150.00 | ppb | 3.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 2440.00 | 1220.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 64.50 | 32.25 | ppb | 2.83 | 90000.00 | |
| 27 Al | 45 | 2 | 66.14 | 33.07 | ppb | 1.29 | 90000.00 | |
| 39 K | 45 | 1 | 2006.00 | 1003.00 | ppb | 2.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 21840.00 | 10920.00 | ppb | 2.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.15 | 9.08 | ppb | 2.96 | 900.00 | |
| 51 V | 45 | 2 | 18.69 | 9.35 | ppb | 0.90 | 900.00 | |
| 52 Cr | 45 | 2 | 17.54 | 8.77 | ppb | 1.72 | 900.00 | |
| 55 Mn | 45 | 2 | 433.60 | 216.80 | ppb | 1.51 | 900.00 | |
| 56 Fe | 45 | 2 | 8166.00 | 4083.00 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 17.96 | 8.98 | ppb | 1.67 | 900.00 | |
| 60 Ni | 45 | 2 | 17.36 | 8.68 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 16.75 | 8.38 | ppb | 1.87 | 900.00 | |
| 66 Zn | 72 | 2 | 31.58 | 15.79 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 41.60 | 20.80 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 15.60 | 7.80 | ppb | 2.21 | 900.00 | |
| 88 Sr | 103 | 1 | 146.84 | 73.42 | ppb | 1.99 | 900.00 | |
| 98 Mo | 103 | 1 | 18.23 | 9.11 | ppb | 2.24 | 900.00 | |
| 107 Ag | 115 | 1 | 16.95 | 8.48 | ppb | 1.90 | 180.00 | |
| 111 Cd | 115 | 2 | 16.34 | 8.17 | ppb | 2.80 | 900.00 | |
| 120 Sn | 115 | 1 | 17.67 | 8.84 | ppb | 2.83 | 900.00 | |
| 121 Sb | 115 | 1 | 17.86 | 8.93 | ppb | 2.42 | 900.00 | |
| 137 Ba | 159 | 1 | 27.78 | 13.89 | ppb | 1.77 | 900.00 | |
| 205 Tl | 209 | 1 | 14.94 | 7.47 | ppb | 3.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.53 | 8.77 | ppb | 2.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2152192 | 0.47 | 1866118 | 115.3 | 70 - 130 | |
| 45 Sc | 1 | 2808444 | 2.04 | 2660105 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 308081 | 0.91 | 293973 | 104.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 569860 | 2.38 | 561821 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 127900 | 0.47 | 124165 | 103.0 | 70 | - | 130 |
| 103 Rh | 1 | 3148690 | 1.41 | 3161327 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 3559525 | 1.94 | 3455998 | 103.0 | 70 | - | 130 |
| 115 In | 2 | 1090167 | 1.50 | 1091146 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 5013181 | 1.55 | 4795045 | 104.5 | 70 | - | 130 |
| 175 Lu | 1 | 4988865 | 2.65 | 4757919 | 104.9 | 70 | - | 130 |
| 209 Bi | 1 | 3065764 | 2.42 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 04:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21097A-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 466.60 | 23.33 | ppb | 7.48 | 900.00 | |
| 9 Be | 45 | 2 | 523.20 | 26.16 | ppb | 0.47 | 900.00 | |
| 11 B | 6 | 1 | 18.90 | 0.95 | ppb | 8.72 | 900.00 | |
| 11 B | 45 | 2 | 18.63 | 0.93 | ppb | 24.15 | 900.00 | |
| 23 Na | 45 | 1 | 30280.00 | 1514.00 | ppb | 6.63 | 90000.00 | |
| 23 Na | 45 | 2 | 33520.00 | 1676.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 26640.00 | 1332.00 | ppb | 6.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 30460.00 | 1523.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 2060.00 | 103.00 | ppb | 7.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2398.00 | 119.90 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 25800.00 | 1290.00 | ppb | 7.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 48580.00 | 2429.00 | ppb | 7.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 466.20 | 23.31 | ppb | 6.12 | 900.00 | |
| 51 V | 45 | 2 | 520.40 | 26.02 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 503.40 | 25.17 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 1007.00 | 50.35 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 11688.00 | 584.40 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 510.40 | 25.52 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 500.60 | 25.03 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 502.00 | 25.10 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 566.20 | 28.31 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 558.40 | 27.92 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 545.00 | 27.25 | ppb | 0.96 | 900.00 | |
| 88 Sr | 103 | 1 | 617.20 | 30.86 | ppb | 8.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.04 | ppb | 17.69 | 900.00 | |
| 107 Ag | 115 | 1 | 195.00 | 9.75 | ppb | 7.82 | 180.00 | |
| 111 Cd | 115 | 2 | 509.80 | 25.49 | ppb | 2.42 | 900.00 | |
| 120 Sn | 115 | 1 | -0.51 | -0.03 | ppb | 12.09 | 900.00 | |
| 121 Sb | 115 | 1 | 501.80 | 25.09 | ppb | 8.01 | 900.00 | |
| 137 Ba | 159 | 1 | 1878.00 | 93.90 | ppb | 7.44 | 900.00 | |
| 205 Tl | 209 | 1 | 439.60 | 21.98 | ppb | 7.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 965.80 | 48.29 | ppb | 5.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2138567 | 6.53 | 1866118 | 114.6 | 70 - 130 | |
| 45 Sc | 1 | 2981500 | 6.19 | 2660105 | 112.1 | 70 - 130 | |
| 45 Sc | 2 | 306311 | 0.41 | 293973 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 604320 | 7.10 | 561821 | 107.6 | 70 | - | 130 |
| 72 Ge | 2 | 126696 | 0.28 | 124165 | 102.0 | 70 | - | 130 |
| 103 Rh | 1 | 3465014 | 6.97 | 3161327 | 109.6 | 70 | - | 130 |
| 115 In | 1 | 3857088 | 7.20 | 3455998 | 111.6 | 70 | - | 130 |
| 115 In | 2 | 1105768 | 0.49 | 1091146 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5367958 | 6.98 | 4795045 | 111.9 | 70 | - | 130 |
| 175 Lu | 1 | 5312988 | 7.28 | 4757919 | 111.7 | 70 | - | 130 |
| 209 Bi | 1 | 3299702 | 5.26 | 2963190 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#
Date Acquired: Jun 7 2013 04:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-S2
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 511.00 | 25.55 | ppb | 1.56 | 900.00 | |
| 9 Be | 45 | 2 | 520.40 | 26.02 | ppb | 1.51 | 900.00 | |
| 11 B | 6 | 1 | 19.90 | 0.99 | ppb | 6.96 | 900.00 | |
| 11 B | 45 | 2 | 22.92 | 1.15 | ppb | 20.84 | 900.00 | |
| 23 Na | 45 | 1 | 33120.00 | 1656.00 | ppb | 0.34 | 90000.00 | |
| 23 Na | 45 | 2 | 33280.00 | 1664.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 29220.00 | 1461.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 30340.00 | 1517.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 2250.00 | 112.50 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 2 | 2394.00 | 119.70 | ppb | 0.46 | 90000.00 | |
| 39 K | 45 | 1 | 28400.00 | 1420.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 53540.00 | 2677.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 509.00 | 25.45 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 514.60 | 25.73 | ppb | 0.18 | 900.00 | |
| 52 Cr | 45 | 2 | 502.00 | 25.10 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 1002.40 | 50.12 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 11628.00 | 581.40 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 508.00 | 25.40 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 497.80 | 24.89 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 499.60 | 24.98 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 572.80 | 28.64 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 556.80 | 27.84 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 539.40 | 26.97 | ppb | 0.97 | 900.00 | |
| 88 Sr | 103 | 1 | 666.00 | 33.30 | ppb | 0.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 16.77 | 900.00 | |
| 107 Ag | 115 | 1 | 214.80 | 10.74 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 501.80 | 25.09 | ppb | 1.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.51 | -0.03 | ppb | 11.67 | 900.00 | |
| 121 Sb | 115 | 1 | 548.20 | 27.41 | ppb | 0.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2066.00 | 103.30 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 480.40 | 24.02 | ppb | 0.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1045.20 | 52.26 | ppb | 0.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1940220 | 1.65 | 1866118 | 104.0 | 70 - 130 | |
| 45 Sc | 1 | 2699716 | 0.25 | 2660105 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 304810 | 0.44 | 293973 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553187 | 0.91 | 561821 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 125897 | 0.27 | 124165 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 3178050 | 0.27 | 3161327 | 100.5 | 70 - | 130 |
| 115 | In | 1 | 3507852 | 0.29 | 3455998 | 101.5 | 70 - | 130 |
| 115 | In | 2 | 1110864 | 0.46 | 1091146 | 101.8 | 70 - | 130 |
| 159 | Tb | 1 | 4866142 | 0.55 | 4795045 | 101.5 | 70 - | 130 |
| 175 | Lu | 1 | 4841294 | 0.63 | 4757919 | 101.8 | 70 - | 130 |
| 209 | Bi | 1 | 3033695 | 0.29 | 2963190 | 102.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#
Date Acquired: Jun 7 2013 04:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.22 | 49.22 | ppb | 8.34 | 900.00 | |
| 9 Be | 45 | 2 | 52.09 | 52.09 | ppb | 0.85 | 900.00 | |
| 11 B | 6 | 1 | 48.01 | 48.01 | ppb | 8.25 | 900.00 | |
| 11 B | 45 | 2 | 50.99 | 50.99 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 4940.00 | 4940.00 | ppb | 7.59 | 90000.00 | |
| 23 Na | 45 | 2 | 5078.00 | 5078.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 4936.00 | 4936.00 | ppb | 7.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 5141.00 | 5141.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 4872.00 | 4872.00 | ppb | 7.93 | 90000.00 | |
| 27 Al | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.16 | 90000.00 | |
| 39 K | 45 | 1 | 4912.00 | 4912.00 | ppb | 7.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 4991.00 | 4991.00 | ppb | 7.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.10 | 48.10 | ppb | 8.77 | 900.00 | |
| 51 V | 45 | 2 | 50.51 | 50.51 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 49.56 | 49.56 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 49.47 | 49.47 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 5005.00 | 5005.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 49.39 | 49.39 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 49.12 | 49.12 | ppb | 1.18 | 900.00 | |
| 63 Cu | 72 | 2 | 48.42 | 48.42 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.05 | 49.05 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 50.55 | 50.55 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 50.67 | 50.67 | ppb | 1.28 | 900.00 | |
| 88 Sr | 103 | 1 | 50.74 | 50.74 | ppb | 7.58 | 900.00 | |
| 98 Mo | 103 | 1 | 49.44 | 49.44 | ppb | 8.21 | 900.00 | |
| 107 Ag | 115 | 1 | 48.73 | 48.73 | ppb | 7.62 | 180.00 | |
| 111 Cd | 115 | 2 | 50.33 | 50.33 | ppb | 0.55 | 900.00 | |
| 120 Sn | 115 | 1 | 49.41 | 49.41 | ppb | 7.66 | 900.00 | |
| 121 Sb | 115 | 1 | 52.80 | 52.80 | ppb | 7.81 | 900.00 | |
| 137 Ba | 159 | 1 | 47.97 | 47.97 | ppb | 8.66 | 900.00 | |
| 205 Tl | 209 | 1 | 47.01 | 47.01 | ppb | 9.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 8.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1986193 | 7.26 | 1866118 | 106.4 | 70 - 130 | |
| 45 Sc | 1 | 2770382 | 7.35 | 2660105 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 301530 | 0.40 | 293973 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 566092 | 7.78 | 561821 | 100.8 | 70 | - | 130 |
| 72 Ge | 2 | 124045 | 0.32 | 124165 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3187518 | 6.86 | 3161327 | 100.8 | 70 | - | 130 |
| 115 In | 1 | 3547783 | 7.16 | 3455998 | 102.7 | 70 | - | 130 |
| 115 In | 2 | 1071409 | 0.42 | 1091146 | 98.2 | 70 | - | 130 |
| 159 Tb | 1 | 5066896 | 7.99 | 4795045 | 105.7 | 70 | - | 130 |
| 175 Lu | 1 | 4988752 | 7.50 | 4757919 | 104.9 | 70 | - | 130 |
| 209 Bi | 1 | 3024294 | 7.45 | 2963190 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D#
Date Acquired: Jun 7 2013 04:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1088.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 167.11 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 61.65 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 259.94 | 900.00 | |
| 23 Na | 45 | 1 | 2.19 | 2.19 | ppb | 4.29 | 90000.00 | |
| 23 Na | 45 | 2 | 5.76 | 5.76 | ppb | 8.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.75 | 0.75 | ppb | 4.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.97 | 0.97 | ppb | 10.40 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 12.51 | 90000.00 | |
| 27 Al | 45 | 2 | -0.05 | -0.05 | ppb | 167.97 | 90000.00 | |
| 39 K | 45 | 1 | -0.71 | -0.71 | ppb | 250.85 | 90000.00 | |
| 44 Ca | 45 | 1 | -4.03 | -4.03 | ppb | 21.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.09 | 0.09 | ppb | 67.84 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 256.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 7.45 | 900.00 | |
| 55 Mn | 45 | 2 | -0.10 | -0.10 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | -1.58 | -1.58 | ppb | 2.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 44.57 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 13.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 205.56 | 900.00 | |
| 66 Zn | 72 | 2 | 0.14 | 0.14 | ppb | 5.44 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 43.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 133.99 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 3.03 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 5.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 4.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 44.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 10.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 27.20 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 72.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.41 | 0.41 | ppb | 1.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 20.36 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2004302 | 1.09 | 1866118 | 107.4 | 70 - 130 | |
| 45 Sc | 1 | 2763147 | 1.61 | 2660105 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 305355 | 1.48 | 293973 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 568649 | 1.56 | 561821 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 126509 | 0.92 | 124165 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3240935 | 0.78 | 3161327 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 3600214 | 1.05 | 3455998 | 104.2 | 70 | - | 130 |
| 115 In | 2 | 1124384 | 1.38 | 1091146 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 4974557 | 0.72 | 4795045 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 4951245 | 0.74 | 4757919 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 3104737 | 0.71 | 2963190 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 04:51 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21097A-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2505 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.40 | 25.22 | ppb | 1.05 | 900.00 | |
| 9 Be | 45 | 2 | 506.00 | 25.30 | ppb | 2.12 | 900.00 | |
| 11 B | 6 | 1 | -0.86 | -0.04 | ppb | 55.37 | 900.00 | |
| 11 B | 45 | 2 | 0.40 | 0.02 | ppb | 754.99 | 900.00 | |
| 23 Na | 45 | 1 | 26060.00 | 1303.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 25840.00 | 1292.00 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 26240.00 | 1312.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 26760.00 | 1338.00 | ppb | 1.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2186.00 | 109.30 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2282.00 | 114.10 | ppb | 2.08 | 90000.00 | |
| 39 K | 45 | 1 | 25900.00 | 1295.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 26660.00 | 1333.00 | ppb | 1.00 | 90000.00 | |
| 47 Ti | 45 | 1 | 501.40 | 25.07 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 499.80 | 24.99 | ppb | 1.79 | 900.00 | |
| 52 Cr | 45 | 2 | 486.60 | 24.33 | ppb | 1.60 | 900.00 | |
| 55 Mn | 45 | 2 | 486.20 | 24.31 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 2126.00 | 106.30 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 494.60 | 24.73 | ppb | 1.44 | 900.00 | |
| 60 Ni | 45 | 2 | 482.80 | 24.14 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 487.60 | 24.38 | ppb | 1.70 | 900.00 | |
| 66 Zn | 72 | 2 | 536.40 | 26.82 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 510.80 | 25.54 | ppb | 1.58 | 900.00 | |
| 78 Se | 72 | 2 | 521.40 | 26.07 | ppb | 1.81 | 900.00 | |
| 88 Sr | 103 | 1 | 521.40 | 26.07 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.79 | 0.04 | ppb | 3.91 | 900.00 | |
| 107 Ag | 115 | 1 | 210.20 | 10.51 | ppb | 0.47 | 180.00 | |
| 111 Cd | 115 | 2 | 496.60 | 24.83 | ppb | 2.91 | 900.00 | |
| 120 Sn | 115 | 1 | -0.35 | -0.02 | ppb | 16.34 | 900.00 | |
| 121 Sb | 115 | 1 | 538.40 | 26.92 | ppb | 0.37 | 900.00 | |
| 137 Ba | 159 | 1 | 2016.00 | 100.80 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | 470.40 | 23.52 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1033.80 | 51.69 | ppb | 1.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1939742 | 0.99 | 1866118 | 103.9 | 70 - 130 | |
| 45 Sc | 1 | 2713329 | 0.46 | 2660105 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 312224 | 1.46 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 554463 | 0.41 | 561821 | 98.7 | 70 - | 130 |
| 72 | Ge | 2 | 128398 | 1.70 | 124165 | 103.4 | 70 - | 130 |
| 103 | Rh | 1 | 3167939 | 0.38 | 3161327 | 100.2 | 70 - | 130 |
| 115 | In | 1 | 3529498 | 0.30 | 3455998 | 102.1 | 70 - | 130 |
| 115 | In | 2 | 1135155 | 1.48 | 1091146 | 104.0 | 70 - | 130 |
| 159 | Tb | 1 | 4896369 | 0.81 | 4795045 | 102.1 | 70 - | 130 |
| 175 | Lu | 1 | 4878880 | 0.95 | 4757919 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 3037193 | 1.15 | 2963190 | 102.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D#
Date Acquired: Jun 7 2013 04:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-MB1
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 95.76 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 347.65 | 900.00 | |
| 11 B | 6 | 1 | -0.10 | -0.05 | ppb | 2.22 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.06 | ppb | 99.56 | 900.00 | |
| 23 Na | 45 | 1 | 7.74 | 3.87 | ppb | 7.23 | 90000.00 | |
| 23 Na | 45 | 2 | 18.34 | 9.17 | ppb | 3.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.79 | 0.89 | ppb | 7.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.87 | 0.94 | ppb | 1.88 | 90000.00 | |
| 27 Al | 45 | 1 | 1.24 | 0.62 | ppb | 19.63 | 90000.00 | |
| 27 Al | 45 | 2 | 1.55 | 0.78 | ppb | 29.12 | 90000.00 | |
| 39 K | 45 | 1 | 6.11 | 3.06 | ppb | 29.89 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.30 | -3.65 | ppb | 30.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.71 | 0.35 | ppb | 1.67 | 900.00 | |
| 51 V | 45 | 2 | 1.46 | 0.73 | ppb | 1.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.09 | ppb | 2.29 | 900.00 | |
| 55 Mn | 45 | 2 | 0.52 | 0.26 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | -0.32 | -0.16 | ppb | 26.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.06 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.02 | ppb | 38.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.01 | ppb | 44.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.53 | 0.26 | ppb | 4.28 | 900.00 | |
| 75 As | 72 | 2 | 0.39 | 0.19 | ppb | 4.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.32 | 0.16 | ppb | 58.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 9.79 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.02 | ppb | 17.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 90.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 9.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 27.99 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.22 | ppb | 2.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 9.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2164480 | 0.64 | 1866118 | 116.0 | 70 - 130 | |
| 45 Sc | 1 | 2814044 | 0.59 | 2660105 | 105.8 | 70 - 130 | |
| 45 Sc | 2 | 311761 | 0.39 | 293973 | 106.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 572290 | 0.42 | 561821 | 101.9 | 70 | - | 130 |
| 72 | Ge | 2 | 126815 | 0.39 | 124165 | 102.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3233857 | 0.71 | 3161327 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 3609558 | 0.68 | 3455998 | 104.4 | 70 | - | 130 |
| 115 | In | 2 | 1115182 | 0.44 | 1091146 | 102.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5063828 | 0.49 | 4795045 | 105.6 | 70 | - | 130 |
| 175 | Lu | 1 | 5009418 | 0.67 | 4757919 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3148929 | 1.06 | 2963190 | 106.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D#
Date Acquired: Jun 7 2013 05:11 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 5.30 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 10.44 | 900.00 | |
| 11 B | 6 | 1 | 4.67 | 4.67 | ppb | 1.97 | 900.00 | |
| 11 B | 45 | 2 | 5.36 | 5.36 | ppb | 1.76 | 900.00 | |
| 23 Na | 45 | 1 | 253.90 | 253.90 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 275.80 | 275.80 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 256.00 | 256.00 | ppb | 1.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.80 | 276.80 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 25.82 | 25.82 | ppb | 1.53 | 90000.00 | |
| 27 Al | 45 | 2 | 27.46 | 27.46 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 245.40 | 245.40 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 254.10 | 254.10 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 1.07 | ppb | 4.50 | 900.00 | |
| 51 V | 45 | 2 | 1.02 | 1.02 | ppb | 0.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.89 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.89 | 0.89 | ppb | 3.43 | 900.00 | |
| 56 Fe | 45 | 2 | 25.39 | 25.39 | ppb | 1.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 2.24 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.98 | ppb | 2.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.92 | 0.92 | ppb | 1.19 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 3.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.46 | ppb | 16.78 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.16 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 0.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 4.42 | 900.00 | |
| 120 Sn | 115 | 1 | 4.96 | 4.96 | ppb | 1.31 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 2.46 | 900.00 | |
| 137 Ba | 159 | 1 | 0.99 | 0.99 | ppb | 1.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 4.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2002361 | 1.37 | 1866118 | 107.3 | 70 - 130 | |
| 45 Sc | 1 | 2780537 | 1.03 | 2660105 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 311765 | 0.72 | 293973 | 106.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569401 | 1.29 | 561821 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 127550 | 0.41 | 124165 | 102.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3253937 | 1.18 | 3161327 | 102.9 | 70 | - | 130 |
| 115 | In | 1 | 3606331 | 0.32 | 3455998 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1128451 | 0.63 | 1091146 | 103.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5012260 | 0.56 | 4795045 | 104.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4922576 | 0.67 | 4757919 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3079191 | 2.18 | 2963190 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.5
7

C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#
Date Acquired: Jun 7 2013 05:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.74 | 50.74 | ppb | 1.17 | 900.00 | |
| 9 Be | 45 | 2 | 51.44 | 51.44 | ppb | 1.20 | 900.00 | |
| 11 B | 6 | 1 | 49.62 | 49.62 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 50.94 | 50.94 | ppb | 1.93 | 900.00 | |
| 23 Na | 45 | 1 | 5114.00 | 5114.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5093.00 | 5093.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 5081.00 | 5081.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5160.00 | 5160.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 5050.00 | 5050.00 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 5234.00 | 5234.00 | ppb | 0.27 | 90000.00 | |
| 39 K | 45 | 1 | 5069.00 | 5069.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5178.00 | 5178.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.01 | 50.01 | ppb | 1.38 | 900.00 | |
| 51 V | 45 | 2 | 50.48 | 50.48 | ppb | 0.06 | 900.00 | |
| 52 Cr | 45 | 2 | 49.29 | 49.29 | ppb | 0.48 | 900.00 | |
| 55 Mn | 45 | 2 | 49.62 | 49.62 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 4966.00 | 4966.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 49.06 | 49.06 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 48.93 | 48.93 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 48.68 | 48.68 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 49.54 | 49.54 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 50.70 | 50.70 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 51.34 | 51.34 | ppb | 2.34 | 900.00 | |
| 88 Sr | 103 | 1 | 52.68 | 52.68 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 51.32 | 51.32 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 50.48 | 50.48 | ppb | 0.44 | 180.00 | |
| 111 Cd | 115 | 2 | 50.17 | 50.17 | ppb | 0.44 | 900.00 | |
| 120 Sn | 115 | 1 | 51.05 | 51.05 | ppb | 0.55 | 900.00 | |
| 121 Sb | 115 | 1 | 54.49 | 54.49 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 49.98 | 49.98 | ppb | 0.38 | 900.00 | |
| 205 Tl | 209 | 1 | 47.79 | 47.79 | ppb | 2.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.77 | 51.77 | ppb | 0.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1979639 | 0.70 | 1866118 | 106.1 | 70 - 130 | |
| 45 Sc | 1 | 2741871 | 0.65 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 309154 | 0.23 | 293973 | 105.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 557065 | 0.25 | 561821 | 99.2 | 70 | - | 130 |
| 72 | Ge | 2 | 126388 | 0.37 | 124165 | 101.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3135165 | 0.36 | 3161327 | 99.2 | 70 | - | 130 |
| 115 | In | 1 | 3492788 | 0.54 | 3455998 | 101.1 | 70 | - | 130 |
| 115 | In | 2 | 1098188 | 0.20 | 1091146 | 100.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4926247 | 0.54 | 4795045 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4879021 | 0.36 | 4757919 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2992222 | 0.40 | 2963190 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#
Date Acquired: Jun 7 2013 05:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 18.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 169.64 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 104.20 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 548.82 | 900.00 | |
| 23 Na | 45 | 1 | 2.03 | 2.03 | ppb | 7.08 | 90000.00 | |
| 23 Na | 45 | 2 | 5.42 | 5.42 | ppb | 14.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.32 | 1.32 | ppb | 6.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.35 | 1.35 | ppb | 9.70 | 90000.00 | |
| 27 Al | 45 | 1 | 0.45 | 0.45 | ppb | 3.46 | 90000.00 | |
| 27 Al | 45 | 2 | 0.43 | 0.43 | ppb | 60.59 | 90000.00 | |
| 39 K | 45 | 1 | -0.40 | -0.40 | ppb | 95.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.01 | -8.01 | ppb | 3.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 4.00 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 64.97 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 4.89 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 4.70 | 900.00 | |
| 56 Fe | 45 | 2 | -1.14 | -1.14 | ppb | 7.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 165.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 239.87 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 9.33 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 33.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 143.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 28.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 4.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.31 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 45.35 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 3.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 32.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 704.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 3.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 8.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982927 | 0.78 | 1866118 | 106.3 | 70 - 130 | |
| 45 Sc | 1 | 2744252 | 0.53 | 2660105 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 309020 | 1.31 | 293973 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 568808 | 1.09 | 561821 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 127591 | 0.94 | 124165 | 102.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3243323 | 0.31 | 3161327 | 102.6 | 70 | - | 130 |
| 115 | In | 1 | 3574051 | 0.59 | 3455998 | 103.4 | 70 | - | 130 |
| 115 | In | 2 | 1124844 | 1.07 | 1091146 | 103.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4953385 | 0.27 | 4795045 | 103.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4918514 | 0.33 | 4757919 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3093644 | 0.08 | 2963190 | 104.4 | 70 | - | 130 |

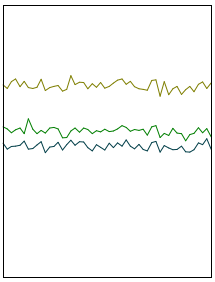
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

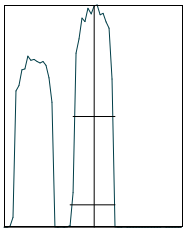
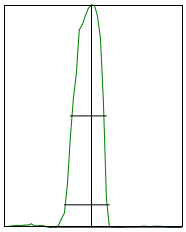
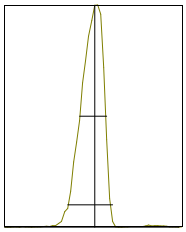
# Tune Report

Tune File : nogas.u
Comment : 060713



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2353.0 | 2411.5 | 2.75 | 1.80 |
| 89 | 10,000 | 5165.0 | 5385.3 | 2.63 | 2.50 |
| 205 | 5,000 | 3579.0 | 3525.0 | 2.31 | 5.20 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.461%
Doubly Charged: 70/140 4.299%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,428 | 5,328 | 3,801 |
| Axis: | 7.05 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 117 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9983 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.01 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 232.0 | 7.60 | |
| QP Focus: | -8 V | 59 | 1108.6 | 3.72 | |
| Cell Exit: | -34 V | 89 | 1302.9 | 3.99 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Jun 07, 2013 08:54:50
Printed : Jun 07, 2013 08:55:40

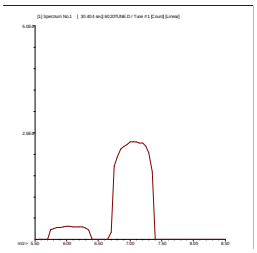
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Jun 7 2013 09:10 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

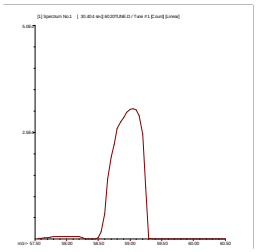
**QC Tune Summary:**
**Pass**

**RSD%**

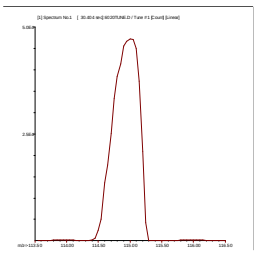
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.94 | 5.00 | 0 |
| 59 Co | 0.54 | 5.00 | |
| 115 In | 0.62 | 5.00 | |
| 205 Tl | 2.88 | 5.00 | |



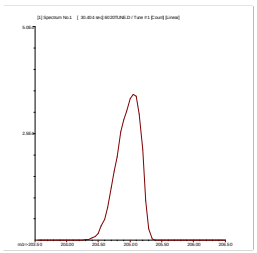
**7 Li**
**Mass Calib.**
Actual: 7.10
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

Last Calib: Jun 07, 2013 02:14 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

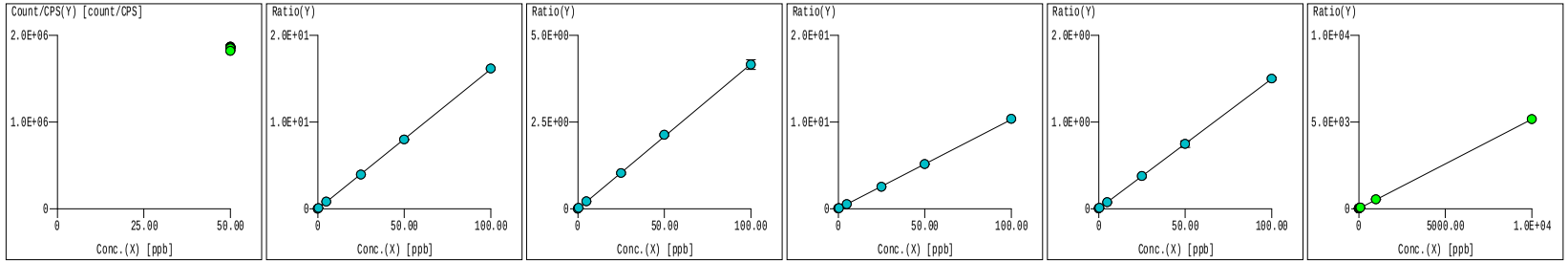
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13f07j01.b\002calb.d\002calb.d# | STDA | Jun 7 2013 09:41 am |
| 2 | c:\icpchem\1\data\13f07j01.b\003cals.d\003cals.d# | STDB | Jun 7 2013 09:48 am |
| 3 | c:\icpchem\1\data\13f07j01.b\004cals.d\004cals.d# | STDC | Jun 7 2013 09:55 am |
| 4 | c:\icpchem\1\data\13f07j01.b\005cals.d\005cals.d# | STDD | Jun 7 2013 10:02 am |
| 5 | c:\icpchem\1\data\13f07j01.b\006cals.d\006cals.d# | STDE | Jun 7 2013 10:10 am |
| 6 | c:\icpchem\1\data\13f07j01.b\007cals.d\007cals.d# | STDF | Jun 7 2013 10:18 am |
| 7 | c:\icpchem\1\data\13f07j01.b\008cals.d\008cals.d# | STDG | Jun 7 2013 10:25 am |
| 8 | c:\icpchem\1\data\13f07j01.b\009cals.d\009cals.d# | STDH | Jun 7 2013 10:32 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

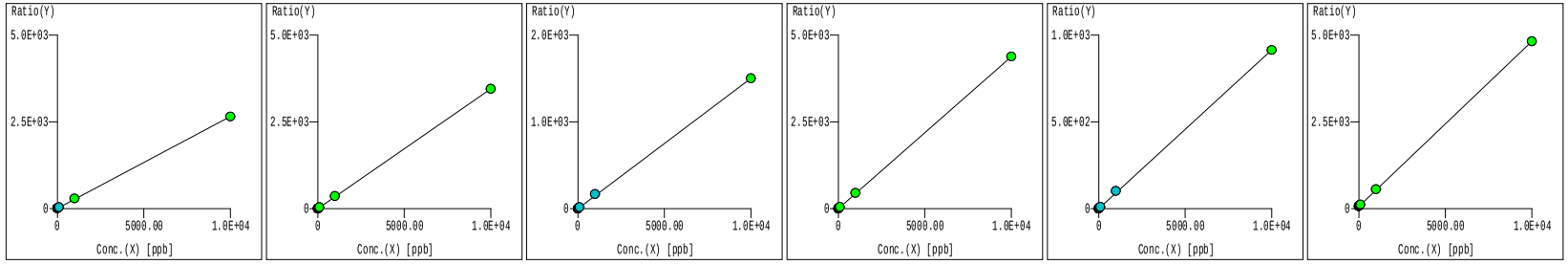
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 4.493E-03 ppb | 4.099E-02 ppb | 9.194E-02 ppb | 1.347E-01 ppb | 5.536E-01 ppb |
| < BEC > | --- ppb | 7.770E-03 ppb | 1.364E-02 ppb | 3.439E-01 ppb | 2.404E-01 ppb | 20.84 ppb |



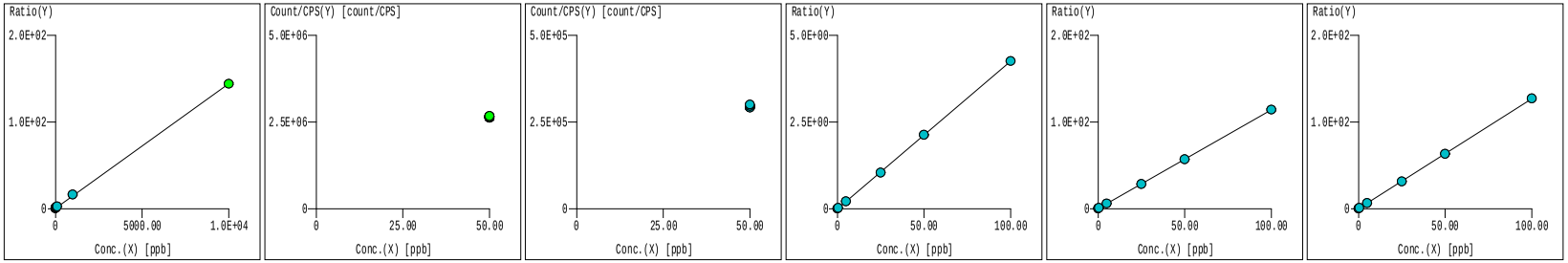

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | 1.253E-01 ppb | 3.692E-02 ppb | 4.947E-02 ppb | 1.801E-01 ppb | 5.068E-01 ppb | 4.088 ppb |
| < BEC > | 40.28 ppb | 7.578E-01 ppb | 7.523E-01 ppb | 1.831 ppb | 1.812 ppb | 144.3 ppb |



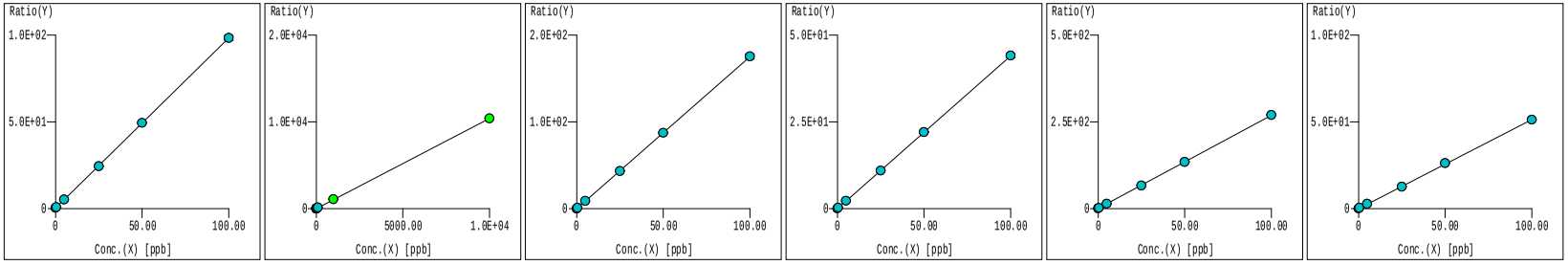
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.391 ppb | --- ppb | --- ppb | 1.443E-02 ppb | 2.372E-02 ppb | 2.366E-02 ppb |
| < BEC > | 47.47 ppb | --- ppb | --- ppb | 9.832E-02 ppb | 3.589E-01 ppb | 1.749E-01 ppb |



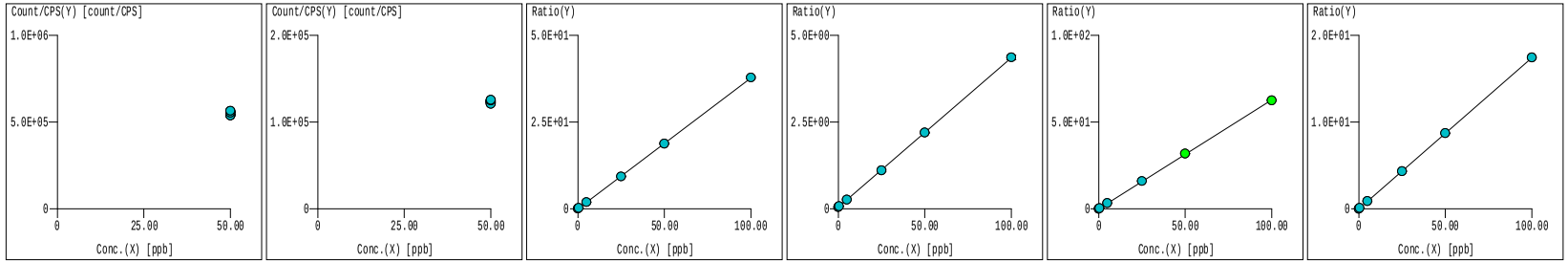

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 2.635E-02 ppb | 2.993E-02 ppb | 7.635E-03 ppb | 1.985E-02 ppb | 3.866E-02 ppb | 1.558E-02 ppb |
| < BEC > | 4.096E-01 ppb | 6.920 ppb | 1.005E-02 ppb | 7.744E-02 ppb | 2.315E-01 ppb | 1.191E-01 ppb |



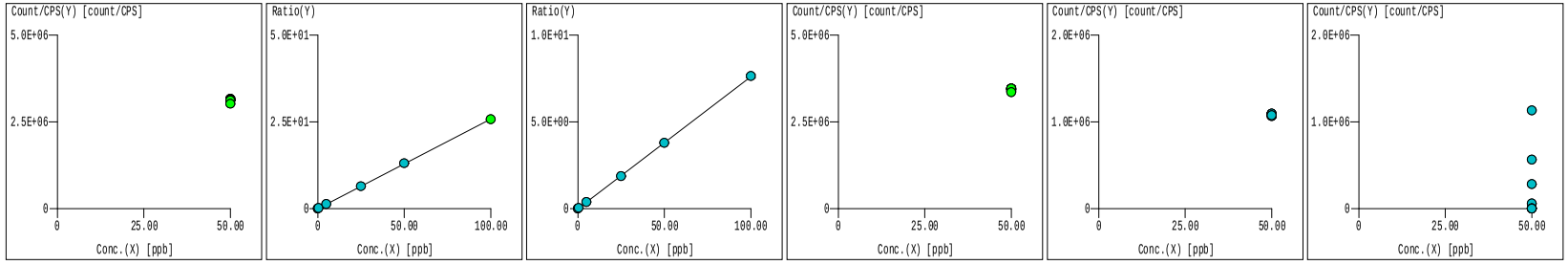
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 2.549E-02 ppb | 1.504E-01 ppb | 3.347E-03 ppb | 3.858E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.078E-01 ppb | 1.090 ppb | 1.485E-02 ppb | 1.290E-02 ppb |



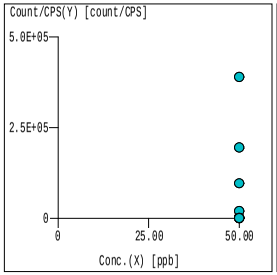

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.710E-03 ppb | 5.927E-05 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.416E-03 ppb | 6.018E-03 ppb | --- ppb | --- ppb | --- ppb |

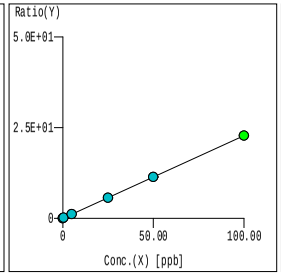


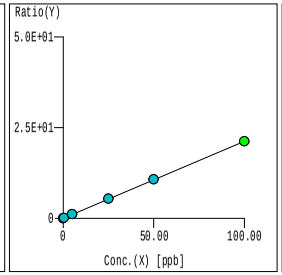
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

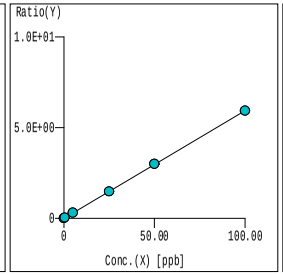
=== Graph Summary ===
Page: 4/4

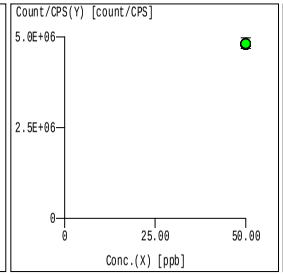
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 5.096E-03 ppb | 5.789E-03 ppb | 1.075E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.229E-02 ppb | 1.201E-02 ppb | 1.056E-01 ppb | --- ppb | --- ppb |

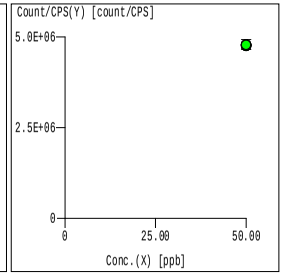


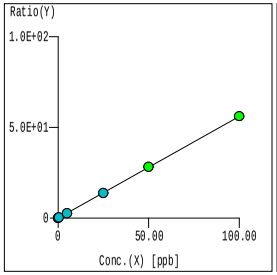



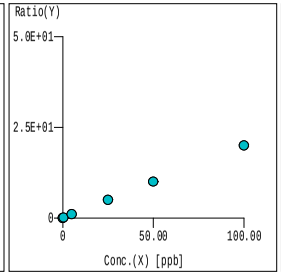



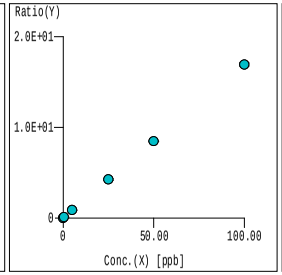



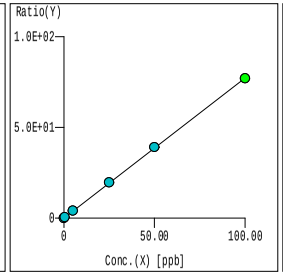



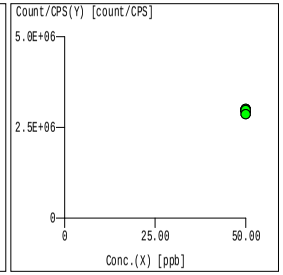

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 3.088E-03 ppb | --- ppb | --- ppb | 6.441E-03 ppb | --- ppb |
| < BEC > | 5.081E-02 ppb | --- ppb | --- ppb | 5.281E-02 ppb | --- ppb |



ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 11:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21073 |
| QC Sample ID: | MC21156-7F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 94 | Factor | -1.5 | Corrected Temp C | 92.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21073-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21073-B1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-S1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-13F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-16F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-17F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-1F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-2F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-6F | 50 | 50 | | | | 3 | 5 | | |
| 15 | MC21156-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-3F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/03/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 05/29/13 |
|---|---|
| Time | 11:05 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21073A |
| QC Sample ID: | MC21156-7F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35822-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MH21KK06 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35738-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35739-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 94 | Factor | -1.5 | Corrected Temp C | 92.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21073A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21073A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 15 | MP21073A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-13F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-16F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-17F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-1F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-2F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-4F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-6F | 50 | 50 | | | | 3 | 5 | | |
| 15 | MC21156-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21156-8F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21156-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-3F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/04/13

**(Format edits must be done by dept. Manager)**

7.6.2

7

ACCUTEST

| Date: | 06/03/13 |
|---|---|
| Time | 10:10 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21097 |
| QC Sample ID: | MC21202-14F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21097-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21097-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-13F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC21202-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-5F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21202-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-4F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21261-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-6F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-7F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/05/13

**(Format edits must be done by dept. Manager)**

7.6.3

7

Prep QC: MP21097A

ACCUTEST

| Date: | 06/03/13 |
|---|---|
| Time | 10:10 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21097A |
| QC Sample ID: | MC21202-14F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21097A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21097A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-13F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC21202-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-5F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21202-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-4F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21261-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-6F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-7F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/04/13

**(Format edits must be done by dept. Manager)**

7.6.4

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43087 | 5.0 | 1.1 | mg/l | 250 | 264 | 105.6 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43130 | 5.0 | 1.1 | mg/l | 250 | 259 | 103.6 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43151 | 5.0 | 0.0 | mg/l | 250 | 261 | 104.4 | 80-120% |
| Chloride | GN43149 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Dissolved Organic Carbon | GN43123 | 1.0 | 0.0 | mg/l | 10 | 9.63 | 96.3 | 80-120% |
| Nitrogen, Ammonia | GP16152/GN43157 | 0.10 | 0.0 | mg/l | 0.5 | 0.46 | 92.0 | 80-120% |
| Nitrogen, Ammonia | GP16156/GN43172 | 0.10 | 0.036 | mg/l | 0.5 | 0.44 | 88.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | 0.10 | 0.0 | mg/l | 2 | 2.10 | 105.0 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16145/GN43132 | 0.10 | 0.0 | mg/l | 2 | 2.04 | 102.0 | 90-110% |
| Nitrogen, Nitrite | GP16102/GN42982 | 0.010 | 0.0 | mg/l | 0.020 | 0.019 | 95.0 | 80-120% |
| Nitrogen, Nitrite | GP16116/GN43015 | 0.010 | 0.0 | mg/l | 0.02 | 0.021 | 105.0 | 80-120% |
| Sulfate | GN43160 | 5.0 | 0.0 | mg/l | 20 | 20.5 | 102.5 | 80-120% |
| Sulfate | GN43161 | 5.0 | 0.0 | mg/l | 20 | 20.3 | 101.5 | 80-120% |
| Sulfide | GN42995 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |
| Sulfide | GN43128 | 2.0 | 0.0 | mg/l | 13.4 | 11.0 | 82.1 | 80-120% |

Associated Samples:
Batch GN42995: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GN43087: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GN43123: MC21202-1F, MC21202-2F, MC21202-3F, MC21202-4F, MC21202-5F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F
Batch GN43128: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43130: MC21202-5, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43149: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43151: MC21202-7, MC21202-8
Batch GN43160: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GN43161: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16102: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GP16116: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16144: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16145: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GP16152: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GP16156: MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43087 | MC21156-12 | mg/l | 227 | 227 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43130 | MC21202-14 | mg/l | 88.4 | 88.4 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43151 | MC21202-7 | mg/l | 396 | 392 | 1.0 | 0-20% |
| Chloride | GN43149 | MC21202-14 | mg/l | 5.5 | 5.5 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN43123 | MC21202-14F | mg/l | 4.6 | 5.4 | 16.0 | 0-20% |
| Nitrogen, Ammonia | GP16152/GN43157 | MC21156-7 | mg/l | 9.0 | 9.0 | 0.0 | 0-20% |
| Nitrogen, Ammonia | GP16156/GN43172 | MC21202-14 | mg/l | 0.61 | 0.61 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | MC21202-14 | mg/l | 0.15 | 0.15 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16145/GN43132 | MC21202-1 | mg/l | 0.47 | 0.47 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16102/GN42982 | MC21202-1 | mg/l | 0.0040 | 0.0043 | 7.2 | 0-20% |
| Nitrogen, Nitrite | GP16116/GN43015 | MC21202-14 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |
| Sulfate | GN43160 | MC21202-3 | mg/l | 12.6 | 12.4 | 1.6 | 0-20% |
| Sulfate | GN43161 | MC21202-14 | mg/l | 1.5 U | 3.4 | 2.9 | 0-20% |
| Sulfide | GN42995 | MC21156-14 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN43128 | MC21202-14 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN42995: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GN43087: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GN43123: MC21202-1F, MC21202-2F, MC21202-3F, MC21202-4F, MC21202-5F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F
Batch GN43128: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43130: MC21202-5, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43149: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43151: MC21202-7, MC21202-8
Batch GN43160: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GN43161: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16102: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GP16116: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16144: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16145: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GP16152: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GP16156: MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43087 | MC21156-12 | mg/l | 227 | 250 | 486 | 103.6 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43130 | MC21202-14 | mg/l | 88.4 | 250 | 351 | 105.0 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43151 | MC21202-7 | mg/l | 396 | 250 | 662 | 106.4 | 75-125% |
| Chloride | GN43149 | MC21202-14 | mg/l | 5.5 | 10 | 15.5 | 100.0 | 75-125% |
| Dissolved Organic Carbon | GN43123 | MC21202-14F | mg/l | 4.6 | 10 | 16.1 | 115.0 | 75-125% |
| Nitrogen, Ammonia | GP16152/GN43157 | MC21156-7 | mg/l | 9.0 | 0.5 | 9.4 | 80.0 | 75-125% |
| Nitrogen, Ammonia | GP16156/GN43172 | MC21202-14 | mg/l | 0.61 | 0.5 | 1.1 | 98.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16144/GN43132 | MC21202-14 | mg/l | 0.15 | 2 | 2.1 | 97.5 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16145/GN43132 | MC21202-1 | mg/l | 0.47 | 2 | 2.6 | 106.5 | 90-110% |
| Nitrogen, Nitrite | GP16102/GN42982 | MC21202-1 | mg/l | 0.0040 | 0.020 | 0.021 | 85.0 | 75-125% |
| Nitrogen, Nitrite | GP16116/GN43015 | MC21202-14 | mg/l | 0.0017 U | 0.02 | 0.020 | 100.0 | 75-125% |
| Sulfate | GN43160 | MC21202-3 | mg/l | 12.6 | 20 | 32.0 | 97.0 | 75-125% |
| Sulfate | GN43161 | MC21202-14 | mg/l | 1.5 U | 20 | 24.7 | 106.0 | 75-125% |
| Sulfide | GN42995 | MC21156-14 | mg/l | 0.49 U | 13.4 | 12.0 | 89.6 | 75-125% |
| Sulfide | GN43128 | MC21202-14 | mg/l | 0.49 U | 11.2 | 9.2 | 82.1 | 75-125% |

Associated Samples:
Batch GN42995: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GN43087: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GN43123: MC21202-1F, MC21202-2F, MC21202-3F, MC21202-4F, MC21202-5F, MC21202-7F, MC21202-8F, MC21202-9F, MC21202-10F, MC21202-11F, MC21202-12F, MC21202-13F, MC21202-14F, MC21202-15F
Batch GN43128: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43130: MC21202-5, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43149: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GN43151: MC21202-7, MC21202-8
Batch GN43160: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GN43161: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16102: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5
Batch GP16116: MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16144: MC21202-12, MC21202-13, MC21202-14, MC21202-15
Batch GP16145: MC21202-1, MC21202-2, MC21202-3, MC21202-4, MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11
Batch GP16152: MC21202-1, MC21202-2, MC21202-3, MC21202-4
Batch GP16156: MC21202-5, MC21202-7, MC21202-8, MC21202-9, MC21202-10, MC21202-11, MC21202-12, MC21202-13, MC21202-14, MC21202-15
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC060413W1.TXT  Date Analyzed: 06/04/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN43123
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:33 | GN43123-CCV1 | 1 | | |
| 10:47 | GN43123-CCB1 | 1 | | |
| 10:58 | ZZZZZZ | 1 | | |
| 11:11 | GN43123-ICV1 | 1 | | |
| 11:24 | GN43123-MB1 | 1 | | |
| 11:37 | GN43123-B1 | 1 | | |
| 11:50 | GN43123-S1 | 1 | | |
| 12:03 | GN43123-D1 | 1 | | |
| 12:16 | MC21202-14F | 1 | | |
| 12:29 | MC21202-1F | 1 | | |
| 12:42 | MC21202-2F | 1 | | |
| 12:55 | MC21202-3F | 1 | | |
| 13:08 | GN43123-CCV2 | 1 | | |
| 13:19 | GN43123-CCB2 | 1 | | |
| 13:33 | MC21202-4F | 1 | | |
| 13:46 | MC21202-5F | 1 | | |
| 13:59 | MC21202-7F | 1 | | |
| 14:12 | MC21202-8F | 1 | | |
| 14:25 | MC21202-9F | 1 | | |
| 14:38 | MC21202-10F | 1 | | |
| 14:51 | MC21202-11F | 1 | | |
| 15:04 | MC21202-12F | 1 | | |
| 15:17 | MC21202-13F | 1 | | |
| 15:30 | MC21202-15F | 1 | | |
| 15:43 | GN43123-CCV3 | 1 | | |
| 15:56 | GN43123-CCB3 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC060413W1.TXT  Date Analyzed: 06/04/13  Methods: SM21 5310 B
Run ID: GN43123  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43123-CCV1 | Dissolved Organic Carbon | 21.2 | 1.0 | 0.23 | 20 | 106.0 | 90-110 |
| GN43123-CCB1 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN43123-ICV1 | Dissolved Organic Carbon | 32.0 | 1.0 | 0.23 | 30 | 106.7 | 90-110 |
| GN43123-CCV2 | Dissolved Organic Carbon | 18.8 | 1.0 | 0.23 | 20 | 94.0 | 90-110 |
| GN43123-CCB2 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN43123-CCV3 | Dissolved Organic Carbon | 20.6 | 1.0 | 0.23 | 20 | 103.0 | 90-110 |
| GN43123-CCB3 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:22 | GN43132-STD1 | 1 | | STDA5.0 |
| 13:23 | GN43132-STD2 | 1 | | STDB2.0 |
| 13:25 | GN43132-STD3 | 1 | | STDC1.0 |
| 13:26 | GN43132-STD4 | 1 | | STDD0.80 |
| 13:27 | GN43132-STD5 | 1 | | STDE0.50 |
| 13:28 | GN43132-STD6 | 1 | | STDF0.30 |
| 13:30 | GN43132-STD7 | 1 | | STDG0.10 |
| 13:31 | GN43132-STD8 | 1 | | STDH0.0 |
| 13:33 | GN43132-ICV1 | 1 | | |
| 13:34 | GN43132-ICB1 | 1 | | |
| 13:36 | GN43132-CCV1 | 1 | | |
| 13:37 | GN43132-CCB1 | 1 | | |
| 13:38 | ZZZZZZ | 1 | | Column efficiency. |
| 13:39 | GP16143-MB1 | 1 | | |
| 13:41 | GP16143-B1 | 1 | | |
| 13:42 | GP16143-S1 | 1 | | |
| 13:43 | GP16143-D1 | 1 | | |
| 13:44 | MC21156-7 | 1 | | (sample used for QC only; not part of login MC21202) |
| 13:46 | ZZZZZZ | 1 | | |
| 13:47 | ZZZZZZ | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:49 | ZZZZZZ | 1 | | |
| 13:50 | GN43132-CCV2 | 1 | | |
| 13:52 | GN43132-CCB2 | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:55 | ZZZZZZ | 1 | | |
| 13:57 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 13:59 | GN43132-CCV3 | 1 | | |
| 14:00 | GN43132-CCB3 | 1 | | |
| 14:02 | GN43132-ICV2 | 1 | | |
| 14:03 | GN43132-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:04 | GN43132-CCV4 | 1 | | |
| 14:05 | GN43132-CCB4 | 1 | | |
| 14:07 | ZZZZZZ | 1 | | Column efficiency. |
| 14:08 | GP16144-MB1 | 1 | | |
| 14:09 | GP16144-B1 | 1 | | |
| 14:10 | GP16144-S1 | 1 | | |
| 14:12 | GP16144-D1 | 1 | | |
| 14:13 | MC21202-14 | 1 | | |
| 14:14 | ZZZZZZ | 1 | | |
| 14:15 | ZZZZZZ | 1 | | |
| 14:17 | ZZZZZZ | 1 | | |
| 14:18 | ZZZZZZ | 1 | | |
| 14:19 | GN43132-CCV5 | 1 | | |
| 14:20 | GN43132-CCB5 | 1 | | |
| 14:22 | ZZZZZZ | 1 | | |
| 14:23 | ZZZZZZ | 1 | | |
| 14:24 | MC21202-12 | 1 | | |
| 14:25 | MC21202-13 | 1 | | |
| 14:26 | MC21202-15 | 1 | | |
| 14:28 | GN43132-CCV6 | 1 | | |
| 14:29 | GN43132-CCB6 | 1 | | |
| 15:01 | GN43132-STD9 | 1 | | STDA5.0 |
| 15:02 | GN43132-STD10 | 1 | | STDB2.0 |
| 15:04 | GN43132-STD11 | 1 | | STDC1.0 |
| 15:05 | GN43132-STD12 | 1 | | STDD0.80 |
| 15:06 | GN43132-STD13 | 1 | | STDE0.50 |
| 15:07 | GN43132-STD14 | 1 | | STDF0.30 |
| 15:09 | GN43132-STD15 | 1 | | STDG0.10 |
| 15:10 | GN43132-STD16 | 1 | | STDH0.0 |
| 15:12 | GN43132-ICV3 | 1 | | |
| 15:13 | GN43132-ICB3 | 1 | | |
| 15:15 | GN43132-CCV7 | 1 | | |
| 15:16 | GN43132-CCB7 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43132
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:17 | ZZZZZZ | 1 | | Column efficiency. |
| 15:18 | GP16145-MB1 | 1 | | |
| 15:20 | GP16145-B1 | 1 | | |
| 15:21 | GP16145-S1 | 1 | | |
| 15:22 | GP16145-D1 | 1 | | |
| 15:23 | MC21202-1 | 1 | | |
| 15:25 | MC21202-2 | 1 | | |
| 15:26 | MC21202-3 | 1 | | |
| 15:27 | MC21202-4 | 1 | | |
| 15:28 | MC21202-5 | 1 | | |
| 15:30 | GN43132-CCV8 | 1 | | |
| 15:31 | GN43132-CCB8 | 1 | | |
| 15:32 | MC21202-7 | 1 | | |
| 15:33 | MC21202-8 | 1 | | |
| 15:35 | MC21202-9 | 1 | | |
| 15:36 | MC21202-10 | 1 | | |
| 15:37 | MC21202-11 | 1 | | |
| 15:38 | GN43132-CCV9 | 1 | | |
| 15:40 | GN43132-CCB9 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21202
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W3.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Run ID: GN43132 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43132-ICV1 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN43132-ICB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV1 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV2 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV3 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-ICV2 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN43132-ICB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV5 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV6 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43132-CCB6 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN43132-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV7 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB7 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV8 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43132-CCV9 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43132-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

**Test:** Nitrogen, Nitrite
**Product:** NO2
**Method:** SM 21TH 4500 NO2 B (Aqueous) ◉ SM 21TH 4500 NO2 B M (Solids) ○ **Units:** mg/l as N mg/kg as I

**Analyst:** CRYSTALL
**GN Batch ID:** GN42982
**GP Batch ID:** GP16102
**Date:** 5/25/2013
**Instrument ID:** spectronic 543nm

Original Calibration Information — Calibration Date: 5/25/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.036 | 0.070 | 0.172 | 0.336 | 0.673 | 1.318 | | | | |
| Actual Value: | -0.001 | 0.009 | 0.020 | 0.051 | 0.100 | 0.203 | 0.398 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-29986-NO2 | Reagent | |
| CCV | GNSTD-29986-NO2-4 | Reagent | |
| ICV | GNSTD-29987-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99995
Slope = 0.30343
Intercept = -0.00149

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-1 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC21202-1 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.021 | % Rec: | 105% | |
| MB Prep Date: | 05/25/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 05/25/13 | Res: | 0.019 | Spike Amt: | 0.02 | % Rec: | 95% | | | |
| SB Prep Date: | 05/25/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% | |
| CCV (1) Res: | 0.2039 | Known: | 0.20 | % Rec: | 102% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:58 | CCV | N/A | | 50 | 50 | 1 | 0.677 | 0.000 | 0.204 | 0.2039 | 0.010 |
| 11:18 | CCB | N/A | | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:18 | ICV | N/A | | 50 | 50 | 1 | 0.337 | 0.000 | 0.101 | 0.1008 | 0.010 |
| 11:18 | GP16102-MB1 | N/A | | 50 | 50 | 1 | 0.003 | 0.000 | -0.001 | -0.0006 | 0.010 |
| 11:18 | GP16102-B1 | N/A | | 50 | 50 | 1 | 0.069 | 0.000 | 0.019 | 0.0194 | 0.010 |
| 11:18 | GP16102-S1 | 7 | 1 | 50 | 50 | 1 | 0.075 | 0.000 | 0.021 | 0.0213 | 0.010 |
| 11:18 | GP16102-D1 | 7 | 1 | 50 | 50 | 1 | 0.019 | 0.000 | 0.004 | 0.0043 | 0.010 |
| 11:18 | MC21202-1 | 7 | 1 | 50 | 50 | 1 | 0.018 | 0.000 | 0.004 | 0.0040 | 0.010 |
| 11:18 | MC21202-2 | 7 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.002 | 0.0018 | 0.010 |
| 11:18 | MC21202-3 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.001 | 0.0006 | 0.010 |
| 11:18 | MC21202-4 | 7 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 11:18 | MC21202-5 | 7 | 1 | 50 | 50 | 1 | 0.014 | 0.000 | 0.003 | 0.0028 | 0.010 |
| 11:18 | CCV | N/A | | 50 | 50 | 1 | 0.665 | 0.000 | 0.200 | 0.2003 | 0.010 |
| 11:23 | CCB | N/A | | 50 | 50 | 1 | 0.006 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 11:23 | MC21156-12 | 8 | 1 | 50 | 50 | 1 | 0.015 | 0.000 | 0.003 | 0.0031 | 0.010 |
| 11:23 | MC21156-13 | 7 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 11:23 | MC21156-14 | 7 | 1 | 50 | 50 | 1 | 0.001 | 0.000 | -0.001 | -0.0012 | 0.010 |
| 11:23 | MC21156-15 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |
| 11:23 | MC21156-16 | 7 | 1 | 50 | 50 | 1 | 0.010 | 0.000 | 0.002 | 0.0015 | 0.010 |
| 11:23 | MC21156-17 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.000 | 0.0003 | 0.010 |
| 11:23 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.201 | 0.2006 | 0.010 |
| 11:25 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |
| 11:25 | MC21232-2 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:25 | MC21232-1 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | -0.0003 | 0.010 |
| 11:25 | CCV | N/A | | 50 | 50 | 1 | 0.666 | 0.000 | 0.201 | 0.2006 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0015 | 0.010 |

CW 5-25-13
Analyst: Crystal Woodall Date: 5-25-13 QC Reviewer: 5.28.13 Date:

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN42995
Date: 05/28/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35483-S |
| External QC- ICV: | | GNSTD-29929-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-29990-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21156-14 | Original: | <2 | MS: | 12 | Spk Amt | 13.4 | %REC | 90% |
| Dup Sample ID: | MC21156-14 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date: | 5/28/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 05/08/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | | |
| External QC (ICV): | GNSTD-29929-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC | 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN42995-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN42995-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 1 | GN42995-S1 | 20 | 200 | 19 | 33 | 14.00 | 12.0 | 12.0 | 2 |
| 1 | GN42995-D1 | 5 | 200 | 33 | 38 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-14 | 5 | 260 | 38 | 43 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-15 | 5 | 260 | 43 | 48 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-16 | 5 | 280 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21156-17 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-1 | 5 | 250 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-2 | 5 | 230 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-3 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-4 | 5 | 255 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-5 | 5 | 240 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21224-1 | 5 | 280 | 35 | 38.7 | 3.70 | 1.9 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

5-28-13 BIJ

Analyst: BIJ Date: 5-28-13 QC Reviewer: 5.29.13 Date:

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

**Test:** Nitrogen, Nitrite
**Product:** NO2
**Method:** SM 21TH 4500 NO2 B (Aqueous) ◉ SM 21TH 4500 NO2 B M (Solids) ○ **Units:** mg/l as N mg/kg as I

**Analyst:** CRYSTALL
**GN Batch ID:** GN43015
**GP Batch ID:** GP16116
**Date:** 5/29/2013
**Instrument ID:** spectronic 543nm

Original Calibration Information — Calibration Date: 5/29/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.035 | 0.069 | 0.170 | 0.338 | 0.662 | 1.318 | | | | |
| Actual Value: | -0.001 | 0.010 | 0.020 | 0.051 | 0.102 | 0.200 | 0.399 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30014-NO2 | Reagent | |
| CCV | GNSTD-30014-NO2-4 | Reagent | |
| ICV | GNSTD-30015-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99998
Slope = 0.30395
Intercept = -0.00112

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-14 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | | |
| MS Sample ID: | MC21202-14 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.02 | % Rec: | 100% | | |
| MB Prep Date: | 05/29/13 | | | RL: | 0.01 | <RL ?: | Y | | | | |
| SB Prep Date: | 05/29/13 | Res: | 0.021 | Spike Amt: | 0.02 | % Rec: | 105% | | | | |
| SB Prep Date: | 05/29/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.102 | % Rec: | 102% | | |
| CCV (1) Res: | 0.1998 | Known: | 0.20 | % Rec: | 100% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: | |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:31 | CCV | N/A | | 50 | 50 | 1 | 0.661 | 0.000 | 0.200 | 0.1998 | 0.010 |
| 18:52 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | ICV | N/A | | 50 | 50 | 1 | 0.339 | 0.000 | 0.102 | 0.1019 | 0.010 |
| 18:52 | GP16116-MB1 | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | GP16116-B1 | N/A | | 50 | 50 | 1 | 0.072 | 0.000 | 0.021 | 0.0208 | 0.010 |
| 18:52 | GP16116-S1 | 7 | 1 | 50 | 50 | 1 | 0.071 | 0.000 | 0.020 | 0.0205 | 0.010 |
| 18:52 | GP16116-D1 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 18:52 | MC21202-14 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 18:52 | MC21202-7 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | MC21202-8 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:52 | MC21202-9 | 7 | 1 | 50 | 50 | 1 | 0.015 | 0.000 | 0.003 | 0.0034 | 0.010 |
| 18:52 | MC21202-10 | 6 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 18:52 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| 18:56 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:56 | MC21202-11 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 18:56 | MC21202-12 | 7 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 18:56 | MC21202-13 | 8 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 18:56 | MC21202-15 | 8 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:56 | MC21261-1 | 7 | 1 | 50 | 50 | 1 | 0.009 | 0.000 | 0.002 | 0.0016 | 0.010 |
| 18:56 | MC21261-2 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:56 | MC21261-3 | 7 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.002 | 0.0022 | 0.010 |
| 18:56 | MC21261-4 | 7 | 1 | 50 | 50 | 1 | 0.069 | 0.000 | 0.020 | 0.0199 | 0.010 |
| 18:56 | MC21261-6 | 6 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.000 | 0.0004 | 0.010 |
| 18:56 | MC21261-7 | 6 | 1 | 50 | 50 | 1 | 0.044 | 0.000 | 0.012 | 0.0123 | 0.010 |
| 18:56 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| 19:00 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | MC21261-8 | 6 | 1 | 50 | 50 | 1 | 0.046 | 0.000 | 0.013 | 0.0129 | 0.010 |
| 19:00 | MC21261-9 | 7 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | -0.0002 | 0.010 |
| 19:00 | MC21261-10 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | MC21261-11 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 19:00 | MC21261-12 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |

Analyst: [signature] Date: 5-29-13 QC Reviewer: [signature] Date: 5/30/13

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43087** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/1/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21156-12 Original: 227 MS: 486 Spk Amt: 250 % Rec: 104%

Dup Sample ID: MC21156-12 Original: 227 Duplicate: 227 % RPD: 0%

MB Date: 6/1/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 264 Spike Amt: 250 % Rec: 105.6

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 50.8 % REC: 101.6

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43087-MB1 | 100 | 5.23 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43087-B1 | 100 | 8.88 | 0.1 | 24.0 | 23.9 | | | 264.1 | 264.095 | 5 |
| 1 | GN43087-S1 | 100 | 7.20 | 24.0 | 68.0 | 44.0 | | | 486.2 | 486.2 | 5 |
| 1 | GN43087-D1 | 100 | 6.44 | 18.0 | 38.5 | 20.5 | | | 226.5 | 226.525 | 5 |
| 1 | MC21156-12 | 100 | 6.45 | 38.5 | 59.0 | 20.5 | | | 226.5 | 226.525 | 5 |
| 1 | MC21156-13 | 100 | 6.09 | 9.0 | 13.2 | 4.2 | | | 46.4 | 46.41 | 5 |
| 1 | MC21156-14 | 100 | 6.27 | 13.2 | 24.3 | 11.1 | | | 122.7 | 122.655 | 5 |
| 1 | MC21156-15 | 100 | 6.28 | 24.3 | 36.0 | 11.7 | | | 129.3 | 129.285 | 5 |
| 1 | MC21156-16 | 100 | 6.11 | 36.0 | 45.5 | 9.5 | | | 105.0 | 104.975 | 5 |
| 1 | MC21156-17 | 100 | 6.18 | 45.5 | 61.0 | 15.5 | | | 171.3 | 171.275 | 5 |
| 1 | MC21202-1 | 100 | 6.66 | 11.0 | 17.5 | 6.5 | | | 71.8 | 71.825 | 5 |
| 1 | MC21202-2 | 100 | 6.45 | 17.5 | 23.5 | 6.0 | | | 66.3 | 66.3 | 5 |
| 1 | MC21202-3 | 100 | 6.12 | 23.5 | 28.5 | 5.0 | | | 55.3 | 55.25 | 5 |
| 1 | MC21202-4 | 100 | 6.15 | 28.5 | 55.0 | 26.5 | | | 292.8 | 292.825 | 5 |
| | ICV | 100 | 8.61 | 5.0 | 9.6 | 4.6 | | | 50.8 | 50.83 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/1/2013 3:00:02 PM

ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MEHDIA | **Test/Analysis** | DOC SM21 5310-B |
| **Date** | 6/4/13 | **Analysis Batch ID** | GN43123 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | |
| **File ID** | TOC060413W1.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 30067-TOC | **1:1 Phosphoric Acid** | RGT- | 34715-TOC |
| **ICV** | GNSTD- | 30069-TOC-1 | | | |
| **CCV** | GNSTD- | 30068-TOC-1 | | | |
| **Sparger check STD** | GNSTD- | 30066-TOC-1 | | | |
| **2 M HCL** | RGT- | 35504-TOC | | | |

**Standardization**

| | | | | | |
|---|---|---|---|---|---|
| **Reagent/Stock Std:** | | NA ◉ | Cyanide ○ | | |
| - | | - | - | - | |
| - | | | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN43123-S1 | 23,22 | < 2 | MC21202-9F | 6 | < 2 | | | | | | |
| GN43123-D1 | 21 | < 2 | MC21202-10F | 6 | < 2 | | | | | | |
| MC21202-14F | 20 | < 2 | MC21202-11F | 6 | < 2 | | | | | | |
| MC21202-1F | 6 | < 2 | MC21202-12F | 6 | < 2 | | | | | | |
| MC21202-2F | 6 | < 2 | MC21202-13F | 6 | < 2 | | | | | | |
| MC21202-3F | 6 | < 2 | MC21202-15F | 6 | < 2 | | | | | | |
| MC21202-4F | 6 | < 2 | | | | | | | | | |
| MC21202-5F | 6 | < 2 | | | | | | | | | |
| MC21202-7F | 6 | < 2 | | | | | | | | | |
| MC21202-8F | 6 | < 2 | | | | | | | | | |

**COMMENTS**

**QC Review** **Date:** 6/5/13

GN43123

QC Reports:

Raw Data GN43123: Dissolved Organic Carbon page 1 of 17

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

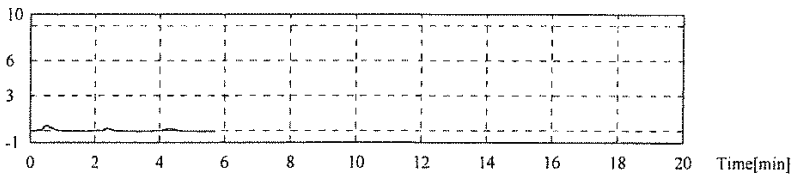
| | |
|---|---|
| Sample Name: | STD |
| Sample ID: | |
| Cal. Curve: | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal |
| Status | Completed |

| Type | Anal |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj Vol | Aut. Di | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7430 | 50uL | 1.000 | ******* | E | 6/4/2013 9:01:40 AM |
| 2 | 0.2353 | 50uL | 1.000 | ******* | | 6/4/2013 9:03:49 AM |
| 3 | 0.2771 | 50uL | 1.000 | ******* | | 6/4/2013 9:05:58 AM |

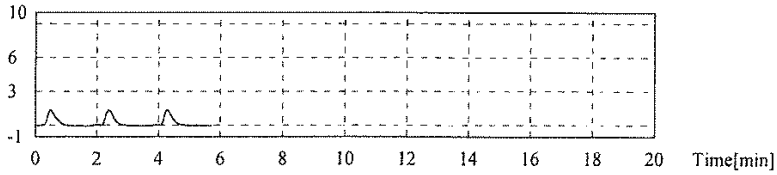
| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 0.2562 |




Conc: 1.000mg/L

| No. | Area | Inj Vol | Aut. Di | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 2.779 | 50uL | 1.000 | ******* | E | 6/4/2013 9:14:43 AM |
| 2 | 2.461 | 50uL | 1.000 | ******* | | 6/4/2013 9:16:53 AM |
| 3 | 2.542 | 50uL | 1.000 | ******* | | 6/4/2013 9:19:02 AM |

| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 2.502 |




Conc: 5.000mg/L

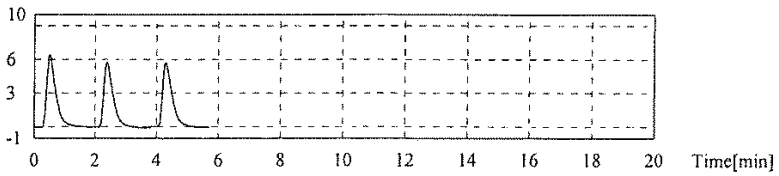
| No. | Area | Inj Vol | Aut. Di | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 13.26 | 50uL | 8.000 | ******* | E | 6/4/2013 9:28:28 AM |
| 2 | 12.10 | 50uL | 8.000 | ******* | | 6/4/2013 9:30:38 AM |
| 3 | 12.29 | 50uL | 8.000 | ******* | | 6/4/2013 9:32:47 AM |

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

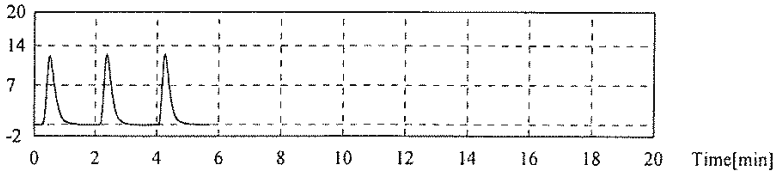
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 12.20




Conc: 10.00mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 24.24 | 50uL | 4.000 | ******* | E | 6/4/2013 9:40:17 AM |
| 2 | 22.44 | 50uL | 4.000 | ******* | | 6/4/2013 9:42:26 AM |
| 3 | 22.01 | 50uL | 4.000 | ******* | | 6/4/2013 9:44:35 AM |

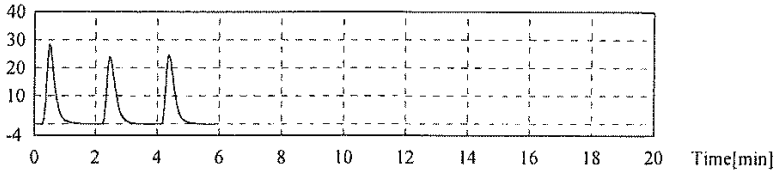
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 22.23




Conc: 20.00mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 53.62 | 50uL | 2.000 | ******* | E | 6/4/2013 9:52:12 AM |
| 2 | 48.61 | 50uL | 2.000 | ******* | | 6/4/2013 9:54:18 AM |
| 3 | 49.16 | 50uL | 2.000 | ******* | | 6/4/2013 9:56:31 AM |

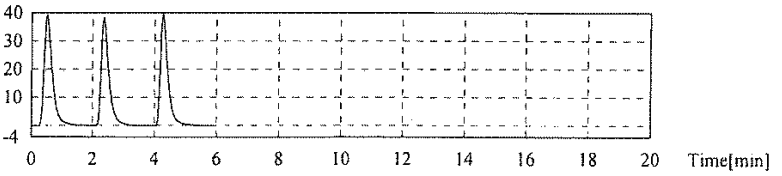
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 48.89




Conc: 30.00mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 73.56 | 50uL | 1.000 | ******* | E | 6/4/2013 10:05:30 AM |
| 2 | 67.66 | 50uL | 1.000 | ******* | | 6/4/2013 10:07:40 AM |
| 3 | 68.06 | 50uL | 1.000 | ******* | | 6/4/2013 10:10:05 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 67.86




Conc: 40.00mg/L

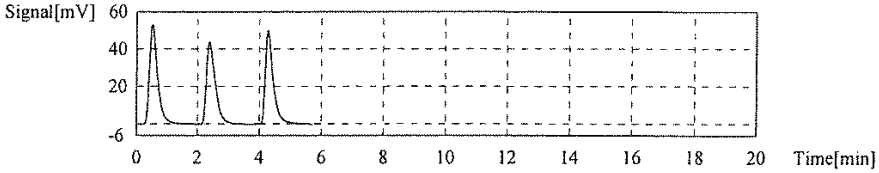
6/5/13

# TOC-Control L Report

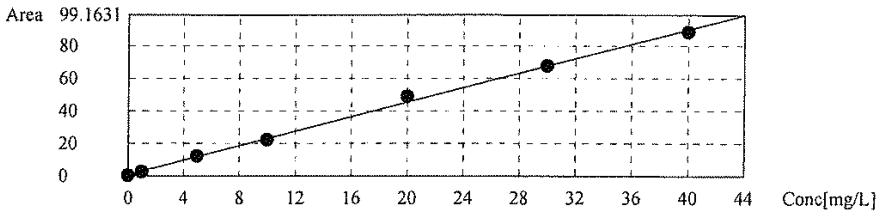
Wetchem
TOC060413W1.tlx

| No | Area | Inj. Vol | Anl. Dil. | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 98.50 | 50uL | 1.000 | ******* | E | 6/4/2013 10:18:48 AM |
| 2 | 87.43 | 50uL | 1.000 | ******* | | 6/4/2013 10:20:53 AM |
| 3 | 89.88 | 50uL | 1.000 | ******* | | 6/4/2013 10:23:02 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 88.66




Slope: 2.233
Intercept 0.8471
r^2 0.9978
r 0.9989
Zero Shift No




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

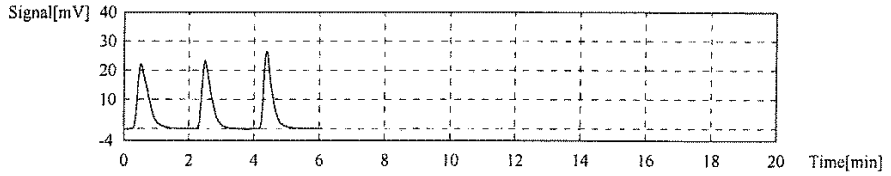
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:21.19mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Anl. Dil. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.13 | 22.97mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:31:54 AM |
| 2 | 47.99 | 21.12mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:33:59 AM |
| 3 | 48.31 | 21.26mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:36:22 AM |

Mean Area 48.15
Mean Conc. 21.19mg/L




**Sample**

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

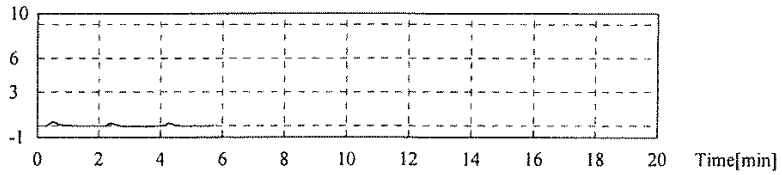
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC,-0.2128mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5431 | -0.1362mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:45:07 AM |
| 2 | 0.3732 | -0.2123mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:47:14 AM |
| 3 | 0.3707 | -0.2134mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:49:23 AM |

Mean Area 0.3720
Mean Conc. -0.2128mg/L




**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

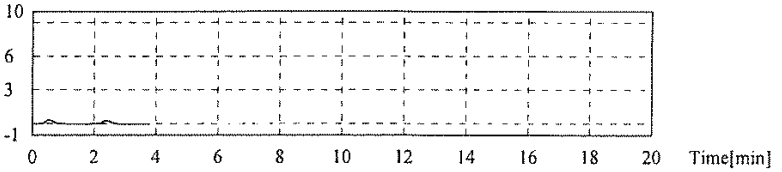
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC,-0.1370mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5896 | -0.1153mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 10:58:08 AM |
| 2 | 0.4926 | -0.1588mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:00:18 AM |

Mean Area 0.5411
Mean Conc. -0.1370mg/L




**Sample**

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

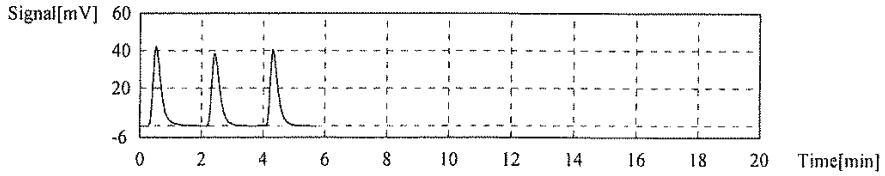
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:32.04mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 78.70 | 34.87mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:09:08 AM |
| 2 | 72.41 | 32.05mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:11:13 AM |
| 3 | 72.35 | 32.03mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:13:22 AM |

Mean Area 72.38
Mean Conc. 32.04mg/L




**Sample**

Sample Name: GN43123-MB1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

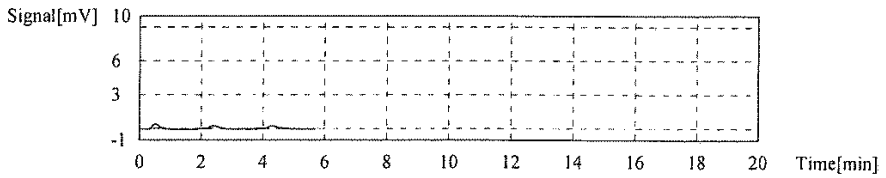
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1867mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.7232 | -0.05548mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:22:04 AM |
| 2 | 0.4779 | -0.1654mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:24:14 AM |
| 3 | 0.3825 | -0.2081mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:26:23 AM |

Mean Area 0.4302
Mean Conc. -0.1867mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

**Sample**

Sample Name: GN43123-B1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

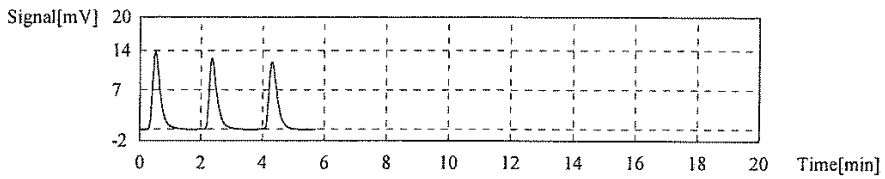
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:9.625mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 24.32 | 10.51mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:35:06 AM |
| 2 | 22.17 | 9.551mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:37:15 AM |
| 3 | 22.50 | 9.699mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:39:24 AM |

Mean Area 22.34
Mean Conc. 9.625mg/L




**Sample**

Sample Name: GN43123-S1
Sample ID: MC21202-14F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

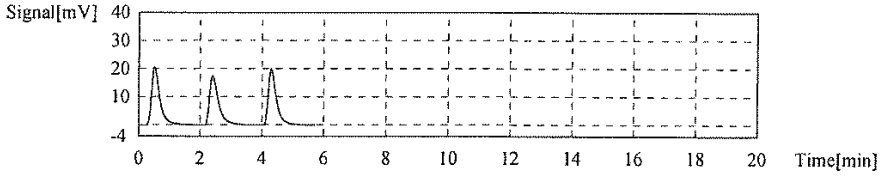
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:16.09mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 39.03 | 17.10mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:48:10 AM |
| 2 | 36.55 | 15.99mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:50:15 AM |
| 3 | 36.97 | 16.18mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 11:52:20 AM |

Mean Area 36.76
Mean Conc. 16.09mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

**Sample**

Sample Name: GN43123-D1
Sample ID: MC21202-14F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

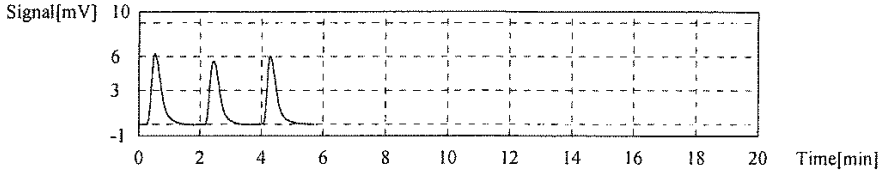
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:5.430mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 14.37 | 6.057mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:01:05 PM |
| 2 | 12.94 | 5.417mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:03:14 PM |
| 3 | 13.00 | 5.444mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:05:19 PM |

Mean Area 12.97
Mean Conc. 5.430mg/L




**Sample**

Sample Name: MC21202-14F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

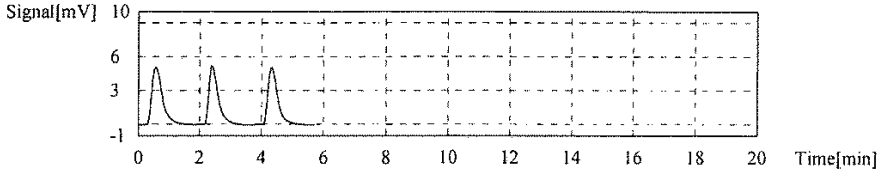
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.628mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 12.33 | 5.143mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:14:02 PM |
| 2 | 11.12 | 4.601mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:16:11 PM |
| 3 | 11.24 | 4.655mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:18:16 PM |

Mean Area 11.18
Mean Conc. 4.628mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

**Sample**

Sample Name: MC21202-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

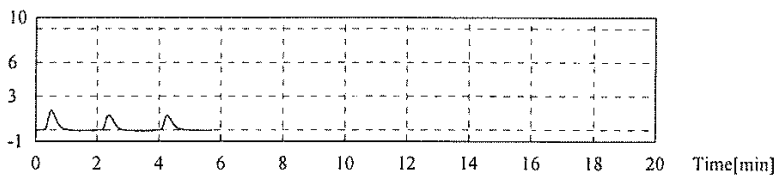
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.7231mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.325 | 1.110mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:27:01 PM |
| 2 | 2.488 | 0.7350mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:29:10 PM |
| 3 | 2.435 | 0.7113mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:31:20 PM |

Mean Area 2.462
Mean Conc. 0.7231mg/L




**Sample**

Sample Name: MC21202-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5227mg/L |

1. Det

Anal.: NPOC

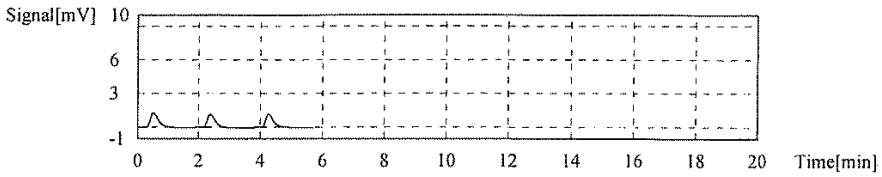
| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 2.488 | 0.7350mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:40:05 PM |
| 2 | 1.973 | 0.5043mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:42:13 PM |
| 3 | 2.055 | 0.5411mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:44:22 PM |

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

Mean Area 2.014
Mean Conc. 0.5227mg/L




**Sample**

Sample Name: MC21202-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

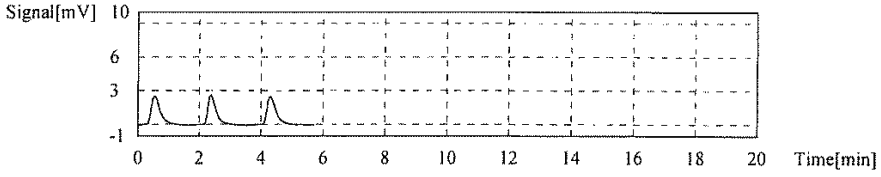
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.821mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.221 | 1.959mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:53:07 PM |
| 2 | 4.892 | 1.812mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:55:16 PM |
| 3 | 4.931 | 1.829mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 12:57:25 PM |

Mean Area 4.912
Mean Conc. 1.821mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:18.81mg/L |

1. Det

Anal.: NPOC

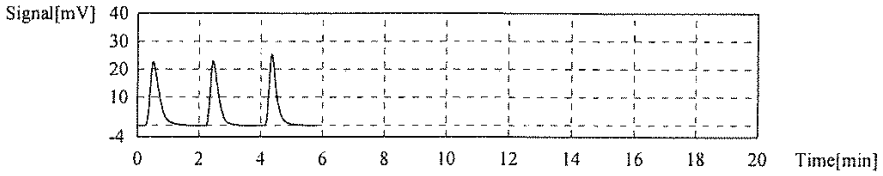
6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 47.61 | 20.95mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:06:16 PM |
| 2 | 42.79 | 18.79mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:08:23 PM |
| 3 | 42.91 | 18.84mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:10:32 PM |

Mean Area 42.85
Mean Conc. 18.81mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

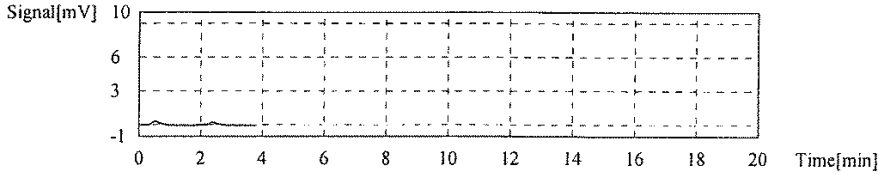
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1794mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5073 | -0.1522mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:19:18 PM |
| 2 | 0.3858 | -0.2066mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:21:26 PM |

Mean Area 0.4466
Mean Conc. -0.1794mg/L




**Sample**

Sample Name: MC21202-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:29.46mg/L |

1. Det

Anal.: NPOC

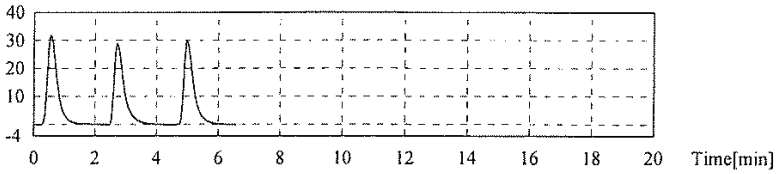
6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 70.99 | 31.42mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:30:35 PM |
| 2 | 66.77 | 29.53mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:33:06 PM |
| 3 | 66.47 | 29.39mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:35:22 PM |

Mean Area 66.62
Mean Conc. 29.46mg/L




**Sample**

Sample Name: MC21202-5F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

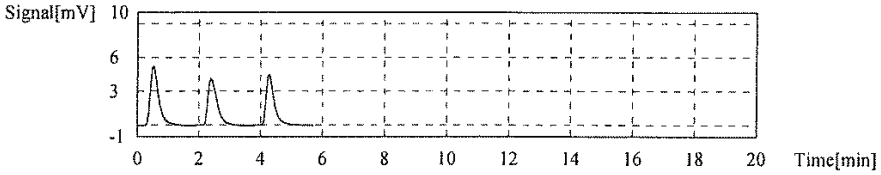
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.386mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.859 | 4.037mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:44:05 PM |
| 2 | 8.677 | 3.507mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:46:14 PM |
| 3 | 8.137 | 3.265mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:48:19 PM |

Mean Area 8.407
Mean Conc. 3.386mg/L




**Sample**

Sample Name: MC21202-7F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.186mg/L |

1. Det

6/5/13

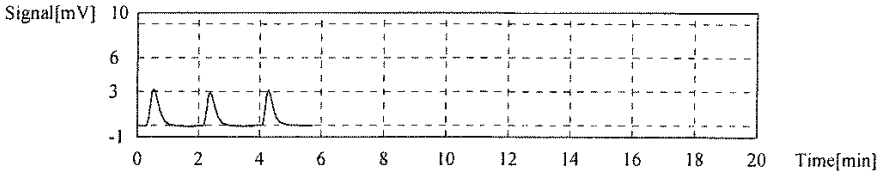
# TOC-Control L Report

Wetchem
TOC060413W1.tlx

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.635 | 2.593mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:57:02 PM |
| 2 | 5.724 | 2.184mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 1:59:11 PM |
| 3 | 5.729 | 2.187mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:01:20 PM |

Mean Area 5.726
Mean Conc. 2.186mg/L




**Sample**

Sample Name: MC21202-8F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

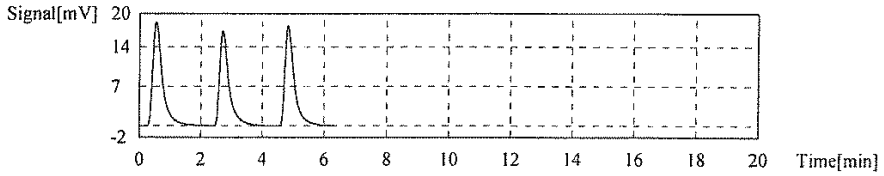
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:16.21mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 40.50 | 17.76mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:10:25 PM |
| 2 | 36.97 | 16.18mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:12:48 PM |
| 3 | 37.10 | 16.24mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:14:55 PM |

Mean Area 37.03
Mean Conc. 16.21mg/L




**Sample**

Sample Name: MC21202-9F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.364mg/L |

6/5/13

# TOC-Control L Report

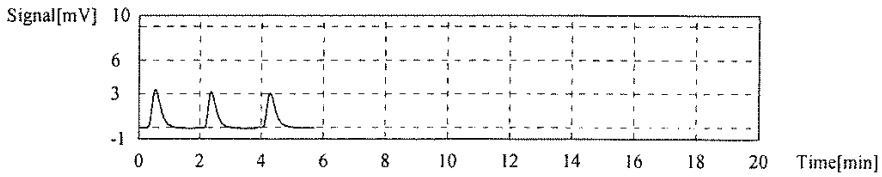
Wetchem
TOC060413W1.tlx

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.017 | 2.764mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:23:38 PM |
| 2 | 6.128 | 2.365mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:25:47 PM |
| 3 | 6.122 | 2.363mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:27:57 PM |

Mean Area 6.125
Mean Conc. 2.364mg/L




**Sample**

Sample Name: MC21202-10F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

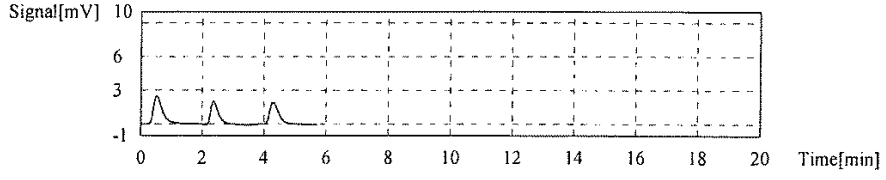
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.343mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.058 | 1.886mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:36:45 PM |
| 2 | 3.754 | 1.302mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:38:50 PM |
| 3 | 3.937 | 1.384mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:40:59 PM |

Mean Area 3.846
Mean Conc. 1.343mg/L




**Sample**

Sample Name: MC21202-11F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

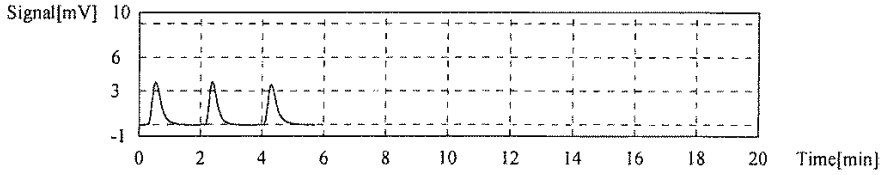
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 2.873mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.959 | 3.186mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:49:44 PM |
| 2 | 7.135 | 2.817mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:51:52 PM |
| 3 | 7.386 | 2.929mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 2:53:57 PM |

Mean Area 7.261
Mean Conc. 2.873mg/L




**Sample**

Sample Name: MC21202-12F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

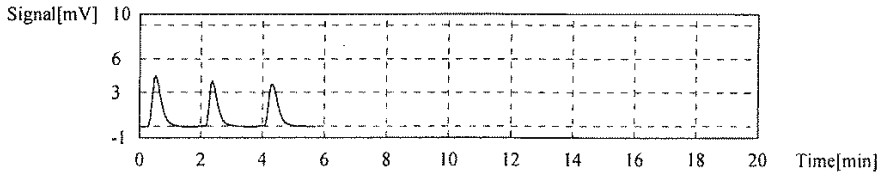
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 3.117mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.379 | 3.822mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:02:40 PM |
| 2 | 7.753 | 3.093mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:04:49 PM |
| 3 | 7.858 | 3.140mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:06:58 PM |

Mean Area 7.806
Mean Conc. 3.117mg/L




**Sample**

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

Sample Name: MC21202-13F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

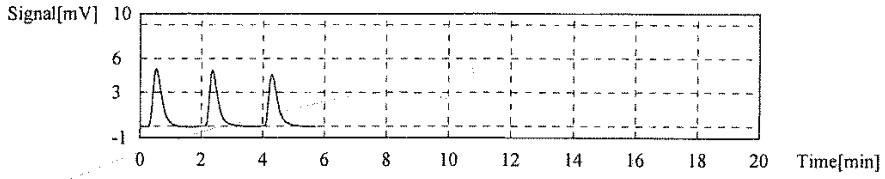
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.836mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.64 | 4.386mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:15:41 PM |
| 2 | 9.482 | 3.868mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:17:50 PM |
| 3 | 9.342 | 3.805mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:19:55 PM |

Mean Area 9.412
Mean Conc. 3.836mg/L




**Sample**

Sample Name: MC21202-15F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

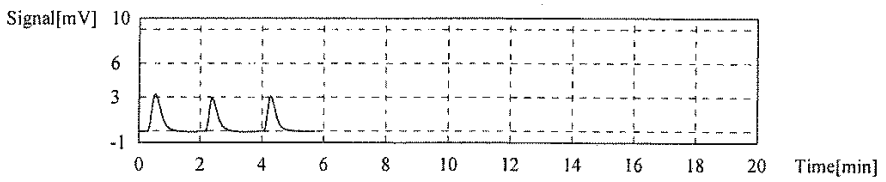
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.244mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.069 | 2.787mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:28:39 PM |
| 2 | 5.896 | 2.262mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:30:48 PM |
| 3 | 5.817 | 2.226mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:32:57 PM |

Mean Area 5.857
Mean Conc. 2.244mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W1.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

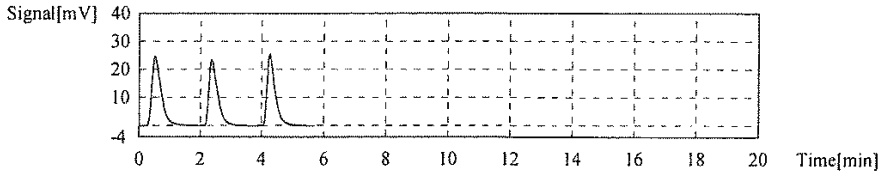
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.64mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.42 | 22.65mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:41:43 PM |
| 2 | 46.87 | 20.61mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:43:48 PM |
| 3 | 47.00 | 20.67mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:45:53 PM |

Mean Area 46.94
Mean Conc. 20.64mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

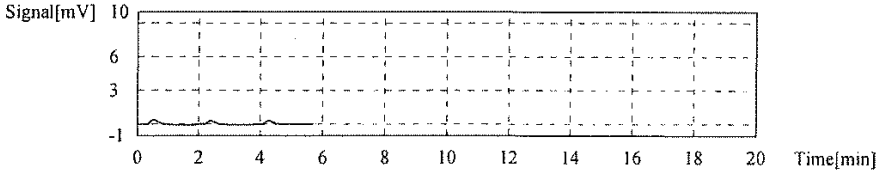
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1504mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.7321 | -0.05150mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:54:38 PM |
| 2 | 0.5037 | -0.1538mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:56:47 PM |
| 3 | 0.5188 | -0.1470mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:58:56 PM |

Mean Area 0.5112
Mean Conc. -0.1504mg/L




6/5/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN43128
Date: 06/04/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35928-S |
| External QC- ICV: | | GNSTD-30070-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-30071-S-1 |

Iodine Standardization

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21202-14 | Original: | <2 | MS: | 9.2 | Spk Amt | 11.2 | %REC | 82% |
| Dup Sample ID: | MC21202-14 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date: | 6/4/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 06/14/13 | Result: | 11 | SPK AMT. | 13.4 | %Rec | 82.1% | | |
| External QC (ICV): | GNSTD-30070-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 13 | %REC | 97% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN43128-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN43128-B1 | 20 | 200 | 5 | 19.5 | 14.50 | 11.0 | 11.0 | 2 |
| 9 | GN43128-S1 | 20 | 240 | 19.5 | 34 | 14.50 | 9.2 | 9.2 | 2 |
| 8 | GN43128-D1 | 5 | 260 | 34 | 39 | 5.00 | 0.0 | <2 | 2 |
| 7 | MC21202-14 | 5 | 240 | 39 | 44 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-7 | 5 | 255 | 44 | 49 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-8 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-9 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-10 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-11 | 5 | 270 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-12 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-13 | 5 | 260 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-15 | 5 | 260 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-1 | 5 | 255 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.5 | 13.50 | 13.0 | 13.0 | 2 |

Analyst: BIJ Date: 6-4-13 QC Reviewer: Date: 6/5/13

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43130** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/4/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21202-14 Original: 88.4 MS: 351 Spk Amt: 250 % Rec: 105%

Dup Sample ID: MC21202-14 Original: 88.4 Duplicate: 88.4 % RPD: 0%

MB Date: 6/4/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 259 Spike Amt: 250 % Rec: 103.6

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 50.8 % REC: 101.6

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43130-MB1 | 100 | 4.65 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43130-B1 | 100 | 8.71 | 0.1 | 23.5 | 23.4 | | | 258.6 | 258.57 | 5 |
| 3 | GN43130-S1 | 100 | 7.35 | 23.5 | 55.3 | 31.8 | | | 351.4 | 351.39 | 5 |
| 3 | GN43130-D1 | 100 | 5.83 | 5.3 | 13.3 | 8.0 | | | 88.4 | 88.4 | 5 |
| 3 | MC21202-14 | 100 | 5.85 | 13.3 | 21.3 | 8.0 | | | 88.4 | 88.4 | 5 |
| 1 | MC21202-5 | 100 | 6.26 | 21.3 | 39.0 | 17.7 | | | 195.6 | 195.585 | 5 |
| 1 | MC21202-9 | 100 | 6.07 | 39.0 | 57.2 | 18.2 | | | 201.1 | 201.11 | 5 |
| 1 | MC21202-10 | 100 | 5.89 | 7.2 | 9.0 | 1.8 | 0.3 | 2.1 | 16.6 | 16.57 | 5 |
| 1 | MC21202-11 | 100 | 6.31 | 9.3 | 39.8 | 30.5 | | | 337.0 | 337.025 | 5 |
| 1 | MC21202-12 | 100 | 6.10 | 39.8 | 63.5 | 23.7 | | | 261.9 | 261.885 | 5 |
| 1 | MC21202-13 | 100 | 6.17 | 13.5 | 42.3 | 28.8 | | | 318.2 | 318.24 | 5 |
| 1 | MC21202-15 | 100 | 6.62 | 42.3 | 78.5 | 36.2 | | | 400.0 | 400.01 | 5 |
| 1 | MC21261-1 | 100 | 6.29 | 28.5 | 56.5 | 28.0 | | | 309.4 | 309.4 | 5 |
| 1 | MC21261-2 | 100 | 7.29 | 6.5 | 18.5 | 12.0 | | | 132.6 | 132.6 | 5 |
| | ICV | 100 | 8.55 | 18.5 | 23.1 | 4.6 | | | 50.8 | 50.83 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/5/2013 4:59:56 PM

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 6/4/13 | **Analysis Batch ID** | GN43132 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16143,GP16144,GP16145 |
| **File ID** | 060413W3.NO3,060413W4.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 30077-NO3 | **Color Reagent** | RGT- | 35565-NO3 |
| **ICV** | GNSTD- | 30078-NO3-2 | **Buffer** | RGT- | 35706-NO3 |
| **CCV** | GNSTD- | 30077-NO3-4 | | | |
| **Column EFF STD** | GNSTD- | 30079-NO3-2 | | | |
| **Ammonium Hydroxide** | VENDOR- | 12241 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16143-S1 | 22 | 7.5 | MC21156-9 | 7 | 8.7 | MC21156-17 | 2 | 8.9 | MC21202-5 | 2 | 8.6 |
| GP16143-D1 | 22 | 7.5 | MC21156-11 | 7 | 8.1 | MC21202-12 | 2 | 9.0 | MC21202-7 | 2 | 8.9 |
| MC21156-7 | 22 | 7.5 | GP16144-S1 | 6 | 7.1 | MC21202-13 | 2 | 7.1 | MC21202-8 | 2 | 7.6 |
| MC21156-1 | 7 | 7.5 | GP16144-D1 | 6 | 7.1 | MC21202-15 | 2 | 6.7 | MC21202-9 | 2 | 7.9 |
| MC21156-2 | 7 | 7.3 | MC21202-14 | 6 | 7.1 | GP16145-S1 | 2 | 8.6 | MC21202-10 | 2 | 7.6 |
| MC21156-3 | 7 | 7.6 | MC21156-12 | 2 | 7.8 | GP16145-D1 | 2 | 8.6 | MC21202-11 | 2 | 8.6 |
| MC21156-4 | 7 | 7.6 | MC21156-13 | 2 | 8.4 | MC21202-1 | 2 | 8.6 | | | |
| MC21156-5 | 7 | 7.5 | MC21156-14 | 2 | 8.1 | MC21202-2 | 2 | 8.9 | | | |
| MC21156-6 | 7 | 8.2 | MC21156-15 | 2 | 8.1 | MC21202-3 | 2 | 7.5 | | | |
| MC21156-8 | 7 | 8.4 | MC21156-16 | 2 | 7.7 | MC21202-4 | 2 | 7.7 | | | |

**COMMENTS**

**QC Review** Date: 6/5/13

Author: chemistry

Date : 6/4/2013

Original Run Filename: OM_6-4-2013_01-21-39PM.OMN Created: 6/4/2013 1:21:39 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_01-21-39PM.OMN Last Modified: 6/4/2013 2:59:23 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.08 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0156 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0160 | |
| COLEFFCONF | 1 | 2.11 | |
| GP16143-MB1 | 1 | 0.0143 | |
| GP16143-B1 | 1 | 2.02 | |
| GP16143-S1 | 1 | 1.23 | |
| GP16143-D1 | 1 | 0.138 | |
| MC21156-7 | 1 | 0.138 | |
| MC21156-1 | 1 | 0.305 | |
| MC21156-2 | 1 | 0.237 | |
| MC21156-3 | 1 | 0.194 | |
| MC21156-4 | 1 | 0.260 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0151 | |
| MC21156-5 | 1 | 0.353 | |
| MC21156-6 | 1 | 0.259 | |
| MC21156-8 | 1 | 0.290 | |
| MC21156-9 | 1 | 0.304 | |
| MC21156-11 | 1 | 0.406 | |
| CCV | 1 | 2.15 | |
| CCB | 1 | 0.0171 | |
| ICV | 1 | 3.22 | |
| ICB | 1 | 0.0167 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0182 | |
| COLEFFCONF | 1 | 2.11 | |
| GP16144-MB1 | 1 | 0.0159 | |
| GP16144-B1 | 1 | 2.10 | |
| GP16144-S1 | 1 | 2.09 | |
| GP16144-D1 | 1 | 0.150 | |
| MC21202-14 | 1 | 0.152 | |
| MC21156-12 | 1 | 0.505 | |
| MC21156-13 | 1 | 0.949 | |
| MC21156-14 | 1 | 0.0303 | |
| MC21156-15 | 1 | 0.0346 | |
| CCV | 1 | 2.16 | |
| CCB | 1 | 0.0152 | |
| MC21156-16 | 1 | 0.498 | |
| MC21156-17 | 1 | 0.383 | |
| MC21202-12 | 1 | 0.403 | |
| MC21202-13 | 1 | 0.0430 | |
| MC21202-15 | 1 | 0.0446 | |
| CCV | 1 | 2.18 | |
| CCB | 1 | 0.0156 | |
| ICV | 1 | 3.25 | |
| ICB | 1 | 0.0153 | |
| CCV | 1 | 2.16 | |
| CCB | 1 | 0.0159 | |
| COLEFFCONF | 1 | 2.20 | |

DNR CCV FAILS

6/5/13

- 1 -

9.8

9

Author: chemistry

Date : 6/4/2013

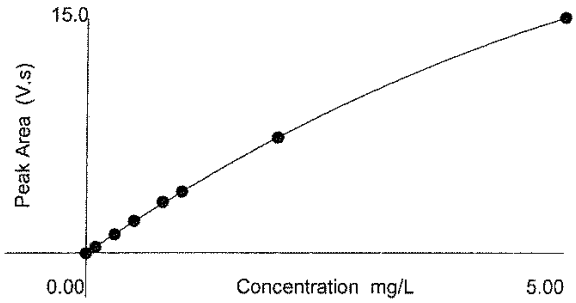
| | | | |
|---|---|---|---|
| GP16145-MB1 | 1 | 0.0166 | |
| GP15145-B1 | 1 | 2.16 | |
| GP16145-S1 | 1 | 2.82 | |
| GP16145-D1 | 1 | 0.505 | |
| MC21202-1 | 1 | 0.517 | |
| MC21202-2 | 1 | 0.507 | |
| MC21202-3 | 1 | 0.354 | |
| MC21202-4 | 1 | 0.331 | |
| MC21202-5 | 1 | 0.0300 | |
| CCV | 1 | 2.27 | |
| CCB | 1 | 0.0282 | |
| MC21202-7 | 1 | 0.0154 | |
| MC21202-8 | 1 | 0.256 | |
| MC21202-9 | 1 | 0.343 | |
| MC21202-10 | 1 | 0.950 | |
| MC21202-11 | 1 | 0.378 | |
| CCV | 1 | 2.25 | |
| CCB | 1 | 0.0170 | |

D NR CCV FAILS

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.0 | 1.30 | 0.0 | 0.0 | 5.00 | 6/4/2013 | 1:22:36 PM |
| 2 | 2.00 | 1 | 7.33 | 0.716 | 0.0 | 0.5 | 2.02 | 6/4/2013 | 1:23:51 PM |
| 3 | 1.00 | 1 | 3.89 | 0.390 | 0.0 | 0.4 | 0.979 | 6/4/2013 | 1:25:06 PM |
| 4 | 0.800 | 1 | 3.25 | 0.327 | 0.0 | -2.8 | 0.805 | 6/4/2013 | 1:26:21 PM |
| 5 | 0.500 | 1 | 2.03 | 0.203 | 0.0 | -1.2 | 0.492 | 6/4/2013 | 1:27:37 PM |
| 6 | 0.300 | 1 | 1.17 | 0.118 | 0.0 | 3.6 | 0.284 | 6/4/2013 | 1:28:52 PM |
| 7 | 0.100 | 1 | 0.391 | 0.0392 | 0.0 | 3.2 | 0.106 | 6/4/2013 | 1:30:07 PM |
| 8 | 0.00 | 1 | -0.0146 | -2.42e-3 | | | 0.0169 | 6/4/2013 | 1:31:23 PM |

Figure : 1 (NO3)




Area = - 0.229 * Conc^2 + 4.15 * Conc - 7.86e-3
Conc = 7.67e-3 * Area^2 + 0.217 * Area + 0.0200
Correlation Coefficient (r) = 0.99997

Weighting : None

6/5/13

Author: chemistry Date : 6/4/2013

Original Run Filename: OM_6-4-2013_03-00-45PM.OMN Created: 6/4/2013 3:00:45 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_03-00-45PM.OMN Last Modified: 6/4/2013 3:41:26 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.07 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | -3.42e-3 | |
| CCV | 1 | 2.05 | |
| CCB | 1 | 0.0227 | |
| COLEFFCONF | 1 | 2.07 | |
| GP16145-MB1 | 1 | 0.0230 | |
| ~~GP15145~~-B1 | 1 | 2.04 | |
| GP16145-S1 | 1 | 2.62 | |
| GP16145-D1 | 1 | 0.470 | |
| MC21202-1 | 1 | 0.474 | |
| MC21202-2 | 1 | 0.467 | |
| MC21202-3 | 1 | 0.324 | |
| MC21202-4 | 1 | 0.317 | |
| MC21202-5 | 1 | 0.0330 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0245 | |
| MC21202-7 | 1 | 0.0222 | |
| MC21202-8 | 1 | 0.239 | |
| MC21202-9 | 1 | 0.320 | |
| MC21202-10 | 1 | 0.867 | |
| MC21202-11 | 1 | 0.355 | |
| CCV | 1 | 2.10 | |
| CCB | 1 | 0.0237 | |

GP16145 Aw TWPC 6-4-13

9.8

Table : 1 (NO3)

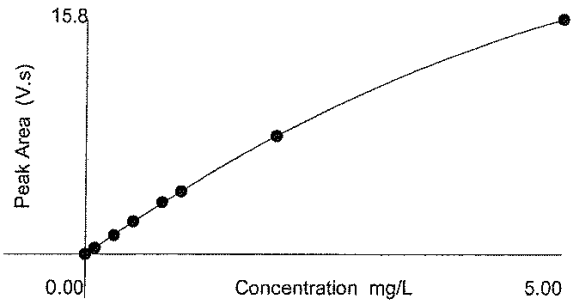
| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.8 | 1.33 | 0.0 | -5.8e-3 | 4.99 | 6/4/2013 | 3:01:41 PM |
| 2 | 2.00 | 1 | 7.94 | 0.763 | 0.0 | 0.1 | 2.04 | 6/4/2013 | 3:02:56 PM |
| 3 | 1.00 | 1 | 4.22 | 0.415 | 0.0 | 0.5 | 0.974 | 6/4/2013 | 3:04:11 PM |
| 4 | 0.800 | 1 | 3.49 | 0.344 | 0.0 | -1.5 | 0.789 | 6/4/2013 | 3:05:27 PM |
| 5 | 0.500 | 1 | 2.19 | 0.217 | 0.0 | -0.4 | 0.484 | 6/4/2013 | 3:06:42 PM |
| 6 | 0.300 | 1 | 1.28 | 0.127 | 0.0 | 3.1 | 0.285 | 6/4/2013 | 3:07:57 PM |
| 7 | 0.100 | 1 | 0.432 | 0.0421 | 0.0 | 1.2 | 0.110 | 6/4/2013 | 3:09:13 PM |
| 8 | 0.00 | 1 | 8.89e-4 | 1.34e-3 | | | 0.0260 | 6/4/2013 | 3:10:28 PM |

6/5/13

Author: chemistry

Date : 6/4/2013

Figure : 1 (NO3)




Area = - 0.272 * Conc^2 + 4.53 * Conc - 0.0130
Conc = 7.71e-3 * Area^2 + 0.192 * Area + 0.0259
Correlation Coefficient (r) = 0.99999

Weighting : None

9.8

9

6/5/13

ACCUTEST LABORATORIES

# Chloride





| | |
|---|---|
| **GN Batch ID:** | **GN43149** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 6/5/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN43149-MB1 | Date: | 6/5/2013 | Res: | <1 | RL: | 1 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN43149-B1 | Date: | 6/5/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC21202-14 | Smpl Res:: | 5.5 | Dup Res: | 5.5 | % RPD: | 0% | | | | |
| MS ID: | MC21202-14 | Smpl Res: | 5.5 | MS Res: | 10 | Spike: | 10 | % Rec: | 45% | | |
| External: | GNSTD-29135-CHL | | | Result: | 5 | Known: | 5 | % Rec: | 100% | | |
| ml of Blank (A): | 0.1 | Mercuric Nitrate Normality: | | 0.0141 | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43149-MB1 | 2.54 | 50.0 | 1 | 0.0 | 0.1000 | 0.1000 | 0.000 | 0.0 | 0 | 1 |
| | GN43149-B1 | 2.54 | 50.0 | 1 | 0.0 | 1.1250 | 1.1250 | 1.025 | 10.3 | 10.25 | 1 |
| 1 | GN43149-S1 | 2.52 | 50.0 | 1 | 0.0 | 1.6500 | 1.6500 | 1.550 | 15.5 | 15.5 | 1 |
| 1 | GN43149-D1 | 2.52 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.550 | 5.5 | 5.5 | 1 |
| 1 | MC21202-14 | 2.52 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.550 | 5.5 | 5.5 | 1 |
| 1 | MC21202-1 | 2.47 | 50.0 | 10 | 0.0 | 8.8000 | 8.8000 | 8.700 | 87.0 | 869.7 | 10 |
| 1 | MC21202-2 | 2.46 | 50.0 | 10 | 0.0 | 8.8000 | 8.8000 | 8.700 | 87.0 | 869.7 | 10 |
| 1 | MC21202-3 | 2.56 | 50.0 | 1 | 0.0 | 0.2000 | 0.2000 | 0.100 | 1.0 | 1 | 1 |
| 1 | MC21202-4 | 2.58 | 50.0 | 1 | 0.0 | 5.2000 | 5.2000 | 5.100 | 51.0 | 50.98 | 1 |
| 1 | MC21202-5 | 2.54 | 50.0 | 1 | 0.0 | 0.8500 | 0.8500 | 0.750 | 7.5 | 7.5 | 1 |
| 1 | MC21202-7 | 2.53 | 50.0 | 1 | 0.0 | 2.1500 | 2.1500 | 2.050 | 20.5 | 20.49 | 1 |
| 1 | MC21202-8 | 2.43 | 50.0 | 1 | 0.0 | 0.7000 | 0.7000 | 0.600 | 6.0 | 6 | 1 |
| 1 | MC21202-9 | 2.51 | 50.0 | 1 | 0.0 | 3.9000 | 3.9000 | 3.800 | 38.0 | 37.99 | 1 |
| 1 | MC21202-10 | 2.45 | 50.0 | 1 | 0.0 | 2.9500 | 2.9500 | 2.850 | 28.5 | 28.49 | 1 |
| 1 | MC21202-11 | 2.52 | 50.0 | 1 | 0.0 | 2.2500 | 2.2500 | 2.150 | 21.5 | 21.49 | 1 |
| 1 | MC21202-12 | 2.5 | 50.0 | 1 | 0.0 | 2.1000 | 2.1000 | 2.000 | 20.0 | 19.99 | 1 |
| 1 | MC21202-13 | 2.5 | 50.0 | 1 | 0.0 | 2.5000 | 2.5000 | 2.400 | 24.0 | 23.99 | 1 |
| 1 | MC21202-15 | 2.52 | 50.0 | 1 | 0.0 | 2.0500 | 2.0500 | 1.950 | 19.5 | 19.49 | 1 |
| 1 | MC21261-1 | 2.54 | 50.0 | 1 | 0.0 | 2.2000 | 2.2000 | 2.100 | 21.0 | 20.99 | 1 |
| 1 | MC21261-2 | 2.43 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.000 | 10.0 | 10 | 1 |
| 1 | MC21261-3 | 2.53 | 50.0 | 1 | 0.0 | 3.8000 | 3.8000 | 3.700 | 37.0 | 36.99 | 1 |
| 1 | MC21261-4 | 2.42 | 50.0 | 10 | 0.0 | 2.1000 | 2.1000 | 2.000 | 20.0 | 199.9 | 10 |
| 1 | MC21261-6 | 2.51 | 50.0 | 1 | 0.0 | 4.0000 | 4.0000 | 3.900 | 39.0 | 38.99 | 1 |
| 1 | MC21261-7 | 2.51 | 50.0 | 1 | 0.0 | 8.4000 | 8.4000 | 8.300 | 83.0 | 82.97 | 1 |
| | ICV | 2.54 | 50.0 | 1 | 0.0 | 0.6000 | 0.6000 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13478 | #4 | | |
| #2 | Acidic Indicator | RGT-35908-CHL | #5 | | |
| #3 | Spike | GNSTD-29478 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-13475, Result (2.04)

**Approved By:** mehdia **Date:** 6/5/2013 5:05:15 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43151** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 6/5/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC20202-7 Original: 396 MS: 662 Spk Amt: 250 % Rec: 106%

Dup Sample ID: MC20202-7 Original: 396 Duplicate: 393 % RPD: 1%

MB Date: 6/5/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 261 Spike Amt: 250 % Rec: 104.4

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 53.0 % REC: 106.0

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43151-MB1 | 100 | 4.83 | 0.0 | 0.1 | 0.1 | | | 0.6 | <5 | 5 |
| | GN43151-B1 | 100 | 8.99 | 0.1 | 23.7 | 23.6 | | | 261.3 | 261.3325 | 5 |
| 1 | GN43151-S1 | 100 | 7.05 | 0.0 | 59.9 | 59.9 | | | 661.9 | 661.895 | 5 |
| 1 | GN43151-D1 | 100 | 6.47 | 9.9 | 45.4 | 35.5 | | | 392.3 | 392.275 | 5 |
| 1 | MC21202-7 | 100 | 6.48 | 0.0 | 35.8 | 35.8 | | | 395.6 | 395.59 | 5 |
| 1 | MC21202-8 | 100 | 6.42 | 0.0 | 2.0 | 2.0 | | | 22.1 | 22.1 | 5 |
| 1 | MC21261-3 | 100 | 6.95 | 2.0 | 40.3 | 38.3 | | | 423.2 | 423.215 | 5 |
| 1 | MC21261-4 | 100 | 5.89 | 0.0 | 3.6 | 3.6 | | | 39.8 | 39.78 | 5 |
| 1 | MC21261-6 | 100 | 6.50 | 3.6 | 37.3 | 33.7 | | | 372.4 | 372.385 | 5 |
| 1 | MC21261-7 | 100 | 6.12 | 37.3 | 46.3 | 9.0 | | | 99.5 | 99.45 | 5 |
| 1 | MC21261-8 | 100 | 6.14 | 0.0 | 8.5 | 8.5 | | | 93.9 | 93.925 | 5 |
| 1 | MC21261-9 | 100 | 6.58 | 8.5 | 15.1 | 6.6 | | | 72.9 | 72.93 | 5 |
| 1 | MC21261-10 | 100 | 6.56 | 0.0 | 40.2 | 40.2 | | | 444.2 | 444.21 | 5 |
| 1 | MC21261-11 | 100 | 6.78 | 0.0 | 31.0 | 31.0 | | | 342.6 | 342.55 | 5 |
| | ICV | 100 | 8.75 | 0.0 | 4.8 | 4.8 | | | 53.0 | 53.04 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|---|
| #1 | | | | $ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$ | $ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | | |
| #3 | | | | | |
| #4 | | | | | |
| #5 | | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/5/2013 5:03:51 PM

ACCUTEST

**Protected Worksheet** MGN 100-C
(Format edits must be done by Dept. Manager)

**Test:** Nitrogen, Ammonia
**Product:** AMN
**Method:** SM 18TH 4500 NH3-C (Aqueous) ◉ **Units:** mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

**Analyst:** BIJANF
**GN Batch ID:** GN43157
**GP Batch ID:** GP16152
**Date:** 6/6/2013
**Instrument ID:** spectronic 425nm

**Original Calibration Information** **Calibration Date:** 6/6/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.065 | 0.189 | 0.330 | 0.492 | 0.610 | 1.322 | | | | |
| Actual Value: | 0.017 | 0.116 | 0.305 | 0.519 | 0.766 | 0.946 | 2.031 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30103-AMN | Reagent | |
| CCV | GNSTD-30103-AMN-6 | Reagent | |
| ICV | RGT-35464-AMN | Reagent | |
| Reagent | VENDOR-13402 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99895
Slope = 1.52378
Intercept = 0.01664

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21156-7 | Orig: | 9 | | | Dup: | 9 | | RPD: | 0% | |
| MS Sample ID: | MC21156-7 | Orig: | 9 | | | Spike Amt: | 0.5 | MS Res: | 9.4 | % Rec: | 80% |
| MB Prep Date: | 06/06/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | | | | | |
| SB Prep Date: | 06/06/13 | Res: | 0.46 | Spike Amt: | 0.5 | % Rec: | 92% | | | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | | | |
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 19.198 | % Rec: | 104% | | |
| CCV (1) Res: | 1.007 | Known: | 1.00 | % Rec: | 101% | CCV (2) Res: | 1.019 | Known: | 1.00 | % Rec: | 102% |
| CCV (3) Res: | 1.024 | Known: | 1.00 | % Rec: | 102% | CCV (4) Res: | 1.028 | Known: | 1.00 | % Rec: | 103% |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: | |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | CCV | | 50 | 50 | 1 | 0.650 | 0.000 | 1.007 | 1.007 | 0.100 | mg/l |
| 13:40 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 13:40 | ICV | | 50 | 50 | 10 | 1.249 | 0.000 | 1.920 | 19.198 | 1.000 | mg/l |
| 13:40 | GP16152-MB1 | | 50 | 50 | 1 | 0.003 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 13:40 | GP16152-B1 | | 50 | 50 | 1 | 0.290 | 0.000 | 0.459 | 0.459 | 0.100 | mg/l |
| 13:40 | GP16152-S1 | | 50 | 50 | 10 | 0.608 | 0.000 | 0.943 | 9.431 | 1.000 | mg/l |
| 13:40 | GP16152-D1 | | 50 | 50 | 5 | 1.166 | 0.000 | 1.793 | 8.967 | 0.500 | mg/l |
| 13:40 | MC21156-7 | | 50 | 50 | 5 | 1.167 | 0.000 | 1.795 | 8.974 | 0.500 | mg/l |
| 13:40 | MC21156-1 | | 50 | 50 | 5 | 0.501 | 0.000 | 0.780 | 3.900 | 0.500 | mg/l |
| 13:40 | MC21156-2 | | 50 | 50 | 5 | 0.489 | 0.000 | 0.762 | 3.809 | 0.500 | mg/l |
| 13:40 | MC21156-3 | | 50 | 50 | 5 | 0.958 | 0.000 | 1.476 | 7.382 | 0.500 | mg/l |
| 13:40 | MC21156-4 | | 50 | 50 | 5 | 0.674 | 0.000 | 1.044 | 5.218 | 0.500 | mg/l |
| 13:40 | CCV | | 50 | 50 | 1 | 0.658 | 0.000 | 1.019 | 1.019 | 0.100 | mg/l |
| 13:50 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 13:50 | MC21156-5 | | 50 | 50 | 2 | 0.938 | 0.000 | 1.446 | 2.892 | 0.200 | mg/l |
| 13:50 | MC21156-6 | | 50 | 50 | 5 | 0.982 | 0.000 | 1.513 | 7.565 | 0.500 | mg/l |
| 13:50 | MC21156-8 | | 50 | 50 | 10 | 0.545 | 0.000 | 0.847 | 8.471 | 1.000 | mg/l |
| 13:50 | MC21156-9 | | 50 | 50 | 2 | 0.817 | 0.000 | 1.262 | 2.523 | 0.200 | mg/l |
| 13:50 | MC21156-11 | | 50 | 50 | 2 | 1.031 | 0.000 | 1.588 | 3.175 | 0.200 | mg/l |
| 13:50 | MC21156-12 | | 50 | 50 | 2 | 0.934 | 0.000 | 1.440 | 2.880 | 0.200 | mg/l |
| 13:50 | MC21156-13 | | 50 | 50 | 1 | 0.046 | 0.000 | 0.087 | 0.087 | 0.100 | mg/l |
| 13:50 | MC21156-14 | | 50 | 50 | 1 | 0.881 | 0.000 | 1.359 | 1.359 | 0.100 | mg/l |
| 13:50 | MC21156-15 | | 50 | 50 | 5 | 1.152 | 0.000 | 1.772 | 8.860 | 0.500 | mg/l |
| 13:50 | MC21156-16 | | 50 | 50 | 1 | 0.682 | 0.000 | 1.056 | 1.056 | 0.100 | mg/l |
| 13:50 | CCV | | 50 | 50 | 1 | 0.661 | 0.000 | 1.024 | 1.024 | 0.100 | mg/l |
| 14:00 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 14:00 | MC21156-17 | | 50 | 50 | 5 | 0.826 | 0.000 | 1.275 | 6.376 | 0.500 | mg/l |
| 14:00 | MC21202-1 | | 50 | 50 | 1 | 0.004 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |
| 14:00 | MC21202-2 | | 50 | 50 | 1 | 0.003 | 0.000 | 0.021 | 0.021 | 0.100 | mg/l |
| 14:00 | MC21202-3 | | 50 | 50 | 1 | 0.051 | 0.000 | 0.094 | 0.094 | 0.100 | mg/l |
| 14:00 | MC21202-4 | | 50 | 50 | 10 | 0.967 | 0.000 | 1.490 | 14.901 | 1.000 | mg/l |
| 14:00 | CCV | | 50 | 50 | 1 | 0.664 | 0.000 | 1.028 | 1.028 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |

6-6-13 AM

Analyst: [signature] Date: 6-6-13 QC Reviewer: [signature] Date: 6/7/13

9.11 9

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/6/13 | Batch ID | GP16152 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21156-7 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

Analysis Type

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16152-MB1 | | N/A | N/D | <2 | 9.96 | 100 | 100 | 7:40 | 8:00 | |
| GP16152-B1 | | N/A | N/D | <2 | 9.97 | 100 | 100 | 7:40 | 8:00 | 5.0 ML OF SPIKE |
| GP16152-S1 | 7 | N/A | N/D | <2 | 9.98 | 100 | 100 | 7:40 | 8:00 | 5.0 ML OF SPIKE |
| GP16152-D1 | 7 | N/A | N/D | <2 | 9.99 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-7 | 7 | N/A | N/D | <2 | 9.68 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-1 | 7 | N/A | N/D | <2 | 9.66 | 100 | 100 | 7:40 | 8:00 | |
| MC21156-2 | 7 | N/A | N/D | <2 | 9.89 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-3 | 7 | N/A | N/D | <2 | 9.89 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-4 | 7 | N/A | N/D | <2 | 9.94 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-5 | 7 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-6 | 7 | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-8 | 7 | N/A | N/D | <2 | 9.56 | 100 | 100 | 8:50 | 9:10 | |
| MC21156-9 | 7 | N/A | N/D | <2 | 9.55 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-11 | 7 | N/A | N/D | <2 | 9.67 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-12 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-13 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-14 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-15 | 2 | N/A | N/D | <2 | 9.75 | 100 | 100 | 9:35 | 9:55 | |
| MC21156-16 | 2 | N/A | N/D | <2 | 9.75 | 100 | 100 | 10:30 | 10:50 | |
| MC21156-17 | 2 | N/A | N/D | <2 | 9.77 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-1 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-2 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-3 | 2 | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:30 | 10:50 | |
| MC21202-4 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:30 | 10:50 | |
| ICV | | N/A | N/D | <2 | 9.97 | 10 | 100 | 11:00 | 11:20 | ( 1:10 DILUTION ) |
| 6-6-13 DV | | | | | | | | | | |

Reagent Lot #

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30102-AMN-1 |
| Boric Acid | RGT-35945-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/7/13

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/6/13 | Batch ID | GP16152 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21156-7 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| RB | | N/A | N/D | <2 | 9.98 | 100 | 100 | 11:00 | 11:20 | |
| CAL.STD.1 | | N/A | N/D | <2 | 9.96 | 100 | 100 | 11:00 | 11:20 | 1.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.3 | | N/A | N/D | <2 | 9.97 | 100 | 100 | 11:00 | 11:20 | 3.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.5 | | N/A | N/D | <2 | 9.84 | 100 | 100 | 11:00 | 11:20 | 5.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD.8 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 11:00 | 11:20 | 8.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD1.0 | | N/A | N/D | <2 | 9.55 | 100 | 100 | 12:00 | 12:20 | 10.0 ML OFGNSTD-30103-AMN-1 |
| CAL.STD2.0 | | N/A | N/D | <2 | 9.66 | 100 | 100 | 12:00 | 12:20 | 20.0 ML OFGNSTD-30103-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.87 | 100 | 100 | 12:00 | 12:20 | 10.0 ML OFGNSTD-30103-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.54 | 100 | 100 | 12:00 | 12:20 | |

pH 6.63

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30102-AMN-1 |
| Boric Acid | RGT-35945-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

QC Review _____ Date 6/7/13

9.11 9

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils) ○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43160
GP Batch ID:
Date: 6/6/2013

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 10.000 | 10.400 | 10.800 | 10.900 | 11.000 | 11.100 | 11.300 | 11.300 | 11.3 |
| 10.0 | 23.200 | 23.200 | 23.300 | 23.300 | 23.200 | 23.200 | 23.100 | 23.000 | 23.3 |
| 20.0 | 52.200 | 52.200 | 51.700 | 51.500 | 51.300 | 51.100 | 51.000 | 50.800 | 52.2 |
| 30.0 | 76.800 | 76.300 | 76.000 | 75.700 | 75.500 | 75.400 | 75.200 | 74.800 | 76.8 |
| 40.0 | 97.100 | 96.500 | 96.000 | 95.800 | 95.700 | 95.500 | 95.300 | 94.900 | 97.10 |

Instrument ID : TURBIDITY I

Correlation Coeff. = 0.99863
Slope = 0.40019
Intercept = 0.11184

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30108-SO4 | Reagent | |
| CCV | GNSTD-30109-SO4 | Reagent | |
| ICV | GNSTD-30110-SO4 | Reagent | |
| Reagent | RGT-35948-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-3 | Original Res. | 12.60 | Duplicate Res. | 12.40 | | | %RPD: | 1.6% |
| MS Sample ID: | MC21202-3 | Original Res. | 12.60 | Spike Amount: | 20 | MS Res.: | 32.00 | %REC: | 97% |
| SB Prep Date: | 06/06/13 | Result: | 20.50 | Spike Amount: | 20 | | | %REC: | 103% |
| MB Prep Date: | 06/06/13 | Result: | <5.0 | RL | 5.0 | | | <RL? | Y |
| ICV: | GNSTD-30110-SO4 | Known | 25 | Range | 90-110% | Res.: | 25.9 | %REC: | 104% |
| CCV (1) Res. | 21.2 | Known: | 20 | %REC.: | 106.0% | CCV (2) Res. | 20.1 | Known: | 20 | %REC: | 100.5% |
| CCV (3) Res. | | Known: | | %REC.: | | CCV (4) Res. | | Known: | | %REC: | |

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 64.4 | 64 | 63.9 | 63.7 | 63.4 | 63.2 | 63 | 62.9 | 64.40 | 0.000 | 25.884 | 25.884 | 5.000 | mg/l |
| | GN43160-MB1 | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | 0.112 | 0.112 | 5.000 | mg/l |
| | GN43160-B1 | | 100 | 100 | 1 | 51 | 50.9 | 50.6 | 50.4 | 50.1 | 50 | 49.9 | 49.7 | 51.00 | 0.000 | 20.521 | 20.521 | 5.000 | mg/l |
| 1 | GN43160-D1 | | 100 | 100 | 1 | 30.6 | 30.5 | 30.4 | 30.3 | 30.3 | 30.2 | 30.1 | 29.9 | 30.60 | 0.000 | 12.358 | 12.358 | 5.000 | mg/l |
| 1 | GN43160-S1 | | 100 | 100 | 1 | 79.8 | 79.2 | 78.6 | 78 | 77.7 | 77.1 | 76.8 | 76.5 | 79.80 | 0.000 | 32.047 | 32.047 | 5.000 | mg/l |
| 1 | MC21202-3 | | 100 | 100 | 1 | 31 | 31.1 | 31.1 | 31 | 30.9 | 30.7 | 30.6 | 30.6 | 31.10 | 0.000 | 12.558 | 12.558 | 5.000 | mg/l |
| 1 | MC21202-1 | | 100 | 100 | 1 | 88.3 | 87.8 | 87.1 | 86.7 | 86.1 | 85.8 | 85.4 | 85 | 88.30 | 0.000 | 35.448 | 35.448 | 5.000 | mg/l |
| 1 | MC21202-2 | | 100 | 100 | 2 | 49.3 | 49.1 | 48.9 | 48.8 | 48.6 | 48.5 | 48.3 | 48.2 | 49.30 | 0.000 | 19.841 | 39.682 | 10.000 | mg/l |
| 1 | MC21202-4 | | 100 | 100 | 1 | 25.8 | 25.8 | 25.6 | 25.4 | 25.1 | 25 | 25 | 24.8 | 25.80 | 0.000 | 10.437 | 10.437 | 5.000 | mg/l |
| 1 | MC21202-5 | | 100 | 100 | 1 | 17.3 | 18 | 18 | 18.1 | 18.2 | 18.1 | 18.2 | 18.1 | 18.20 | 0.000 | 7.395 | 7.395 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 52.7 | 52.4 | 52.2 | 51.9 | 51.8 | 51.6 | 51.4 | 51.3 | 52.70 | 0.000 | 21.202 | 21.202 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.10 | 0.000 | 0.152 | 0.152 | 5.000 | mg/l |
| 1 | MC21202-7 | | 100 | 100 | 1 | 13.2 | 13.3 | 13.3 | 13.4 | 13.4 | 13.5 | 13.5 | 13.5 | 13.50 | 0.000 | 5.514 | 5.514 | 5.000 | mg/l |
| 1 | MC21202-8 | | 100 | 100 | 1 | 14 | 14.4 | 14.8 | 15 | 15.1 | 15.2 | 15.3 | 15.3 | 15.30 | 0.000 | 6.235 | 6.235 | 5.000 | mg/l |
| 1 | MC21202-9 | | 100 | 100 | 1 | 33.6 | 33.6 | 33.4 | 33.3 | 33.2 | 33 | 32.8 | 32.7 | 33.60 | 0.000 | 13.558 | 13.558 | 5.000 | mg/l |
| 1 | MC21202-10 | | 100 | 100 | 1 | 14.2 | 14.8 | 15 | 15.3 | 15.4 | 15.5 | 15.6 | 15.6 | 15.60 | 0.000 | 6.355 | 6.355 | 5.000 | mg/l |
| 1 | MC21202-11 | | 100 | 100 | 1 | 8.3 | 8.9 | 9.7 | 10.1 | 10.2 | 10.3 | 10.3 | 10.4 | 10.40 | 0.000 | 4.274 | 4.274 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50 | 49.6 | 49.4 | 49.3 | 49.2 | 49 | 48.9 | 48.7 | 50.00 | 0.000 | 20.121 | 20.121 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0 | 0.20 | 0.000 | 0.192 | 0.192 | 5.000 | mg/l |

MM 6/12/13

Analyst: MirandaMarcus Date: 6/12/13 QC Reviewer: Date: 6/6/13

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils) ○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43161
GP Batch ID:
Date: 6/6/2013

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 10.000 | 10.400 | 10.800 | 10.900 | 11.000 | 11.100 | 11.300 | 11.300 | 11.3 |
| 10.0 | 23.200 | 23.200 | 23.300 | 23.300 | 23.200 | 23.200 | 23.100 | 23.000 | 23.3 |
| 20.0 | 52.200 | 52.200 | 51.700 | 51.500 | 51.300 | 51.100 | 51.000 | 50.800 | 52.2 |
| 30.0 | 76.800 | 76.300 | 76.000 | 75.700 | 75.500 | 75.400 | 75.200 | 74.800 | 76.8 |
| 40.0 | 97.100 | 96.500 | 96.000 | 95.800 | 95.700 | 95.500 | 95.300 | 94.900 | 97.10 |

Instrument ID : TURBIDITY I

Correlation Coeff. = 0.99863
Slope = 0.40019
Intercept = 0.11184

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30108-SO4 | Reagent | |
| CCV | GNSTD-30109-SO4 | Reagent | |
| ICV | GNSTD-30110-SO4 | Reagent | |
| Reagent | RGT-35948-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-14 | Original Res. | 3.50 | Duplicate Res. | 3.40 | | | %RPD: | 2.9% |
| MS Sample ID: | MC21202-14 | Original Res. | 3.50 | Spike Amount: | 20 | MS Res.: | 24.70 | %REC: | 106% |
| SB Prep Date: | 06/06/13 | Result: | 20.30 | Spike Amount: | 20 | | | %REC: | 102% |
| MB Prep Date: | 06/06/13 | Result: | <5.0 | RL | 5.0 | | | <RL? | Y |
| ICV: | GNSTD-30110-SO4 | Known | 25 | Range | 90-110% | Res.: | 26.0 | %REC: | 104% |
| CCV (1) Res. | 20.3 | Known: | 20 | %REC.: | 101.5% | CCV (2) Res. | 20.2 | Known: | 20 | %REC: | 101.0% |
| CCV (3) Res. | | Known: | | %REC.: | | CCV (4) Res. | | Known: | | %REC: | |

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 64.8 | 64.3 | 64 | 63.7 | 63.4 | 63.1 | 62.8 | 62.6 | 64.80 | 0.000 | 26.044 | 26.044 | 5.000 | mg/l |
| | GN43161-MB1 | | 100 | 100 | 1 | 0.3 | 0.3 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.30 | 0.000 | 0.232 | 0.232 | 5.000 | mg/l |
| | GN43161-B1 | | 100 | 100 | 1 | 50.4 | 50 | 49.9 | 49.7 | 49.5 | 49.3 | 49.1 | 49 | 50.40 | 0.000 | 20.281 | 20.281 | 5.000 | mg/l |
| 1 | GN43161-D1 | | 100 | 100 | 1 | 5.2 | 6.1 | 7 | 7.5 | 7.8 | 8 | 8.2 | 8.3 | 8.30 | 0.000 | 3.433 | 3.433 | 5.000 | mg/l |
| 1 | GN43161-S1 | | 100 | 100 | 1 | 61.4 | 61.4 | 61.4 | 61.4 | 61.4 | 61.3 | 61.3 | 61.3 | 61.40 | 0.000 | 24.683 | 24.683 | 5.000 | mg/l |
| 1 | MC21202-14 | | 100 | 100 | 1 | 4.7 | 6 | 6.9 | 7.3 | 7.7 | 8.1 | 8.2 | 8.4 | 8.40 | 0.000 | 3.473 | 3.473 | 5.000 | mg/l |
| 1 | MC21234-6 | | 100 | 100 | 1 | 43.8 | 43.5 | 43.3 | 43 | 42.8 | 42.6 | 42.4 | 42.2 | 43.80 | 0.000 | 17.640 | 17.640 | 5.000 | mg/l |
| 1 | MC21202-12 | | 100 | 100 | 1 | 16.3 | 16.6 | 16.5 | 16.2 | 16.2 | 16.1 | 15.9 | 15.8 | 16.60 | 0.000 | 6.755 | 6.755 | 5.000 | mg/l |
| 1 | MC21202-13 | | 100 | 100 | 1 | 1.6 | 3.2 | 3.6 | 3.7 | 3.8 | 4.2 | 4.4 | 4.7 | 4.70 | 0.000 | 1.993 | 1.993 | 5.000 | mg/l |
| 1 | MC21202-15 | | 100 | 100 | 1 | 13.6 | 13.5 | 13.6 | 13.8 | 14.1 | 14 | 14 | 14.1 | 14.10 | 0.000 | 5.754 | 5.754 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50.4 | 50.2 | 50 | 49.8 | 49.6 | 49.5 | 49.4 | 49.2 | 50.40 | 0.000 | 20.281 | 20.281 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.5 | 0.5 | 0.3 | 0.5 | 0.4 | 0.4 | 0.5 | 0.3 | 0.50 | 0.000 | 0.312 | 0.312 | 5.000 | mg/l |
| 1 | MC21434-1 | | 100 | 100 | 1 | 44.7 | 44.6 | 44.7 | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 | 44.80 | 0.000 | 18.040 | 18.040 | 5.000 | mg/l |
| 1 | MC21434-2 | | 100 | 100 | 1 | 31.7 | 31.7 | 31.7 | 31.7 | 31.6 | 31.5 | 31.4 | 31.4 | 31.70 | 0.000 | 12.798 | 12.798 | 5.000 | mg/l |
| 1 | MC21434-3 | | 100 | 100 | 1 | 32.8 | 32.8 | 32.8 | 32.8 | 32.7 | 32.7 | 32.6 | 32.5 | 32.80 | 0.000 | 13.238 | 13.238 | 5.000 | mg/l |
| 1 | MC21434-4 | | 100 | 100 | 1 | 56.3 | 56.1 | 55.7 | 55.3 | 55 | 54.7 | 54.2 | 54 | 56.30 | 0.000 | 22.642 | 22.642 | 5.000 | mg/l |
| 1 | MC21261-1 | | 100 | 100 | 1 | 11.5 | 11.3 | 11.3 | 11 | 10.7 | 10.6 | 10.1 | 9.9 | 11.50 | 0.000 | 4.714 | 4.714 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50.3 | 50.2 | 49.9 | 49.7 | 49.4 | 49.3 | 49.2 | 49.1 | 50.30 | 0.000 | 20.241 | 20.241 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.4 | 0.6 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.60 | 0.000 | 0.352 | 0.352 | 5.000 | mg/l |

Main weights

Analyst: [signature] Date: 6/10/13 QC Reviewer: [signature] Date: 6/17/13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN43172
GP Batch ID: GP16156
Date: 6/7/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 6/7/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.059 | 0.179 | 0.292 | 0.474 | 0.672 | 1.341 | | | | |
| Actual Value: | 0.035 | 0.122 | 0.299 | 0.466 | 0.735 | 1.027 | 2.016 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30115-AMN | Reagent | |
| CCV | GNSTD-30115-AMN-6 | Reagent | |
| ICV | RGT-35464-AMN | Reagent | |
| Reagent | VENDOR-13402 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99858
Slope = 1.47730
Intercept = 0.03471

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-14 | Orig: | 0.61 | | Dup: | 0.61 | | RPD: | 0% | |
| MS Sample ID: | MC21202-14 | Orig: | 0.61 | | Spike Amt: | 0.5 | MS Res: | 1.1 | % Rec: | 98% |
| MB Prep Date: | 06/07/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | Y | | | |
| SB Prep Date: | 06/07/13 | Res: | 0.44 | Spike Amt: | 0.5 | % Rec: | 88% | | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 18.178 | % Rec: | 98% | |
| CCV (1) Res: | 0.992 | Known: | 1.00 | % Rec: | 99% | CCV (2) Res: | 0.996 | Known: | 1.00 | % Rec: 100% |
| CCV (3) Res: | 1.008 | Known: | 1.00 | % Rec: | 101% | CCV (4) Res: | | Known: | 1.00 | % Rec: |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16:00 | CCV | | 50 | 50 | 1 | 0.648 | 0.000 | 0.992 | 0.992 | 0.100 | mg/l |
| 16:05 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.035 | 0.035 | 0.100 | mg/l |
| 16:05 | ICV | | 50 | 50 | 10 | 1.207 | 0.000 | 1.818 | 18.178 | 1.000 | mg/l |
| 16:05 | GP16156-MB1 | | 50 | 50 | 1 | 0.001 | 0.000 | 0.036 | 0.036 | 0.100 | mg/l |
| 16:05 | GP16156-B1 | | 50 | 50 | 1 | 0.275 | 0.000 | 0.441 | 0.441 | 0.100 | mg/l |
| 16:05 | GP16156-S1 | | 50 | 50 | 1 | 0.713 | 0.000 | 1.088 | 1.088 | 0.100 | mg/l |
| 16:05 | GP16156-D1 | | 50 | 50 | 1 | 0.390 | 0.000 | 0.611 | 0.611 | 0.100 | mg/l |
| 16:05 | MC21202-14 | | 50 | 50 | 1 | 0.388 | 0.000 | 0.608 | 0.608 | 0.100 | mg/l |
| 16:05 | MC21202-5 | | 50 | 50 | 1 | 0.936 | 0.000 | 1.417 | 1.417 | 0.100 | mg/l |
| 16:05 | MC21202-7 | | 50 | 50 | 1 | 0.163 | 0.000 | 0.276 | 0.276 | 0.100 | mg/l |
| 16:05 | MC21202-8 | | 50 | 50 | 1 | 0.031 | 0.000 | 0.081 | 0.081 | 0.100 | mg/l |
| 16:05 | MC21202-9 | | 50 | 50 | 1 | 0.951 | 0.000 | 1.440 | 1.440 | 0.100 | mg/l |
| 16:05 | CCV | | 50 | 50 | 1 | 0.651 | 0.000 | 0.996 | 0.996 | 0.100 | mg/l |
| 16:10 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.035 | 0.035 | 0.100 | mg/l |
| 16:10 | MC21202-10 | | 50 | 50 | 1 | 0.024 | 0.000 | 0.070 | 0.070 | 0.100 | mg/l |
| 16:10 | MC21202-11 | | 50 | 50 | 1 | 0.824 | 0.000 | 1.252 | 1.252 | 0.100 | mg/l |
| 16:10 | MC21202-12 | | 50 | 50 | 5 | 1.101 | 0.000 | 1.661 | 8.306 | 0.500 | mg/l |
| 16:10 | MC21202-13 | | 50 | 50 | 2 | 1.260 | 0.000 | 1.896 | 3.792 | 0.200 | mg/l |
| 16:10 | MC21202-15 | | 50 | 50 | 1 | 0.161 | 0.000 | 0.273 | 0.273 | 0.100 | mg/l |
| 16:10 | CCV | | 50 | 50 | 1 | 0.659 | 0.000 | 1.008 | 1.008 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.035 | 0.035 | 0.100 | mg/l |

6-7-13 BIJ

Analyst: BIJ Date: 6-7-13 QC Reviewer: Date: 6/10/13

9.14 9

ACCUTEST. Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/7/13 | Batch ID | GP16156 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21202-14 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16156-MB1 | | N/A | N/D | <2 | 9.68 | 100 | 100 | 8:20 | 8:40 | |
| GP16156-B1 | | N/A | N/D | <2 | 9.87 | 100 | 100 | 8:20 | 8:40 | 5.0 ML OF SPIKE |
| GP16156-S1 | 6 | N/A | N/D | <2 | 9.67 | 100 | 100 | 8:20 | 8:40 | 5.0 ML OF SPIKE |
| GP16156-D1 | 6 | N/A | N/D | <2 | 9.58 | 100 | 100 | 8:20 | 8:40 | |
| MC21202-14 | 6 | N/A | N/D | <2 | 9.68 | 100 | 100 | 8:20 | 8:40 | |
| MC21202-5 | 2 | N/A | N/D | <2 | 9.57 | 100 | 100 | 8:20 | 8:40 | |
| MC21202-7 | 2 | N/A | N/D | <2 | 9.76 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-8 | 2 | N/A | N/D | <2 | 9.77 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-9 | 2 | N/A | N/D | <2 | 9.86 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-10 | 2 | N/A | N/D | <2 | 9.85 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-11 | 2 | N/A | N/D | <2 | 9.84 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-12 | 2 | N/A | N/D | <2 | 9.68 | 100 | 100 | 9:15 | 9:35 | |
| MC21202-13 | 2 | N/A | N/D | <2 | 9.55 | 100 | 100 | 10:00 | 10:20 | |
| MC21202-15 | 2 | N/A | N/D | <2 | 9.86 | 100 | 100 | 10:00 | 10:20 | |
| ICV | | N/A | N/D | <2 | 9.76 | 10 | 100 | 10:00 | 10:20 | ( 1:10 DILUTION ) |
| RB | | N/A | N/D | <2 | 9.88 | 100 | 100 | 10:00 | 10:20 | |
| CAL.STD 0.1 | | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:00 | 10:20 | 1.0 ML OFGNSTD-30115-AMN-1 |
| CAL.STD 0.3 | | N/A | N/D | <2 | 9.84 | 100 | 100 | 10:00 | 10:20 | 3.0 ML OFGNSTD-30115-AMN-1 |
| CAL.STD 0.5 | | N/A | N/D | <2 | 9.85 | 100 | 100 | 11:00 | 11:20 | 5.0 ML OFGNSTD-30115-AMN-1 |
| CAL.STD 0.8 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 11:00 | 11:20 | 8.0 ML OFGNSTD-30115-AMN-1 |
| CAL.STD 1.0 | | N/A | N/D | <2 | 9.86 | 100 | 100 | 11:00 | 11:20 | 10.0 ML OFGNSTD-30115-AMN-1 |
| CAL.STD 2.0 | | N/A | N/D | <2 | 9.78 | 100 | 100 | 11:00 | 11:20 | 20.0 ML OFGNSTD-30115-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.77 | 100 | 100 | 11:00 | 11:20 | 10.0 ML OFGNSTD-30115-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.85 | 100 | 100 | 11:00 | 11:20 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

6-7-13

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30114-AMN-1 |
| Boric Acid | RGT-36037-AMN | ICV Solution | RGT-35464-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/10/13

9.14 9

New England ACCUTEST LABORATORIES

06/24/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C

Accutest Job Number: MC21261

Sampling Dates: 05/28/13 - 05/29/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **461**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21261-1 | 05/28/13 | 11:18 | MMJG | 05/28/13 | AQ | Ground Water | SHM-10-16-052813 |
| MC21261-1F | 05/28/13 | 11:18 | MMJG | 05/28/13 | AQ | Groundwater Filtered | SHM-10-16-052813 |
| MC21261-2 | 05/28/13 | 12:05 | MMJG | 05/28/13 | AQ | Ground Water | SHM-93-22C-052813 |
| MC21261-2F | 05/28/13 | 12:05 | MMJG | 05/28/13 | AQ | Groundwater Filtered | SHM-93-22C-052813 |
| MC21261-3 | 05/28/13 | 12:40 | MMJG | 05/28/13 | AQ | Ground Water | SHM-13-05-052813 |
| MC21261-3F | 05/28/13 | 12:40 | MMJG | 05/28/13 | AQ | Groundwater Filtered | SHM-13-05-052813 |
| MC21261-4 | 05/28/13 | 13:45 | MMJG | 05/28/13 | AQ | Ground Water | SHM-13-04-052813 |
| MC21261-4F | 05/28/13 | 13:45 | MMJG | 05/28/13 | AQ | Groundwater Filtered | SHM-13-04-052813 |
| MC21261-5F | 05/28/13 | 13:00 | MMJG | 05/28/13 | AQ | Equip Blank Filtered | RB-052813 |
| MC21261-6 | 05/29/13 | 09:15 | MMJG | 05/29/13 | AQ | Ground Water | SHM-13-03-052913 |
| MC21261-6F | 05/29/13 | 09:15 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-13-03-052913 |
| MC21261-7 | 05/29/13 | 09:30 | MMJG | 05/29/13 | AQ | Ground Water | SHM-10-04-052913 |
| MC21261-7F | 05/29/13 | 09:30 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-10-04-052913 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21261-8 | 05/29/13 | 00:00 | MMJG | 05/29/13 | AQ | Ground Water | DUP-052913 |
| MC21261-8F | 05/29/13 | 00:00 | MMJG | 05/29/13 | AQ | Groundwater Filtered | DUP-052913 |
| MC21261-9 | 05/29/13 | 09:30 | MMJG | 05/29/13 | AQ | Ground Water | SHM-10-01-052913 |
| MC21261-9F | 05/29/13 | 09:30 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-10-01-052913 |
| MC21261-10 | 05/29/13 | 11:15 | MMJG | 05/29/13 | AQ | Ground Water | SHM-10-02-052913 |
| MC21261-10F | 05/29/13 | 11:15 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-10-02-052913 |
| MC21261-11 | 05/29/13 | 10:40 | MMJG | 05/29/13 | AQ | Ground Water | SHM-10-10-052913 |
| MC21261-11F | 05/29/13 | 10:40 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-10-10-052913 |
| MC21261-12 | 05/29/13 | 10:57 | MMJG | 05/29/13 | AQ | Ground Water | SHM-13-02-052913 |
| MC21261-12F | 05/29/13 | 10:57 | MMJG | 05/29/13 | AQ | Groundwater Filtered | SHM-13-02-052913 |
| MC21261-13F | 05/29/13 | 12:30 | MMJG | 05/29/13 | AQ | Equip Blank Filtered | RB-052913 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC21261 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 6/24/2013 10:15:44 AM |

13 Sample(s) were collected on between 05/28/2013 and 05/29/2013 and were received at Accutest between 05/28/2013 and 05/29/2013 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of MC21261. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21097

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14FMS, MC21202-14FMSD, MC21202-14FPS, MC21202-14FSDL were used as the QC samples for metals.
- MSD for Iron: Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

**Matrix** AQ **Batch ID:** MP21104

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-9FMS, MC21261-9FMSD, MC21261-9FPS, MC21261-9FSDL were used as the QC samples for metals.
- Sample(s) MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F, MC21261-9F have compounds reported with "D" qualifiers indicating results from the diluted analysis.
- MS/MSD Recovery(s) for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Iron, Potassium are outside control limits for sample MP21104-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MC21261-9F for Manganese: Matrix spike and matrix spike duplicate recoveries outside of the control limits.

## Metals By Method SW846 6020A

| Matrix | AQ | Batch ID: | MP21097A |
|---|---|---|---|

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14FMS, MC21202-14FMSD, MC21202-14FPS, MC21202-14FSDL were used as the QC samples for metals.

| Matrix | AQ | Batch ID: | MP21104A |
|---|---|---|---|

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-9FMS, MC21261-9FMSD, MC21261-9FPS, MC21261-9FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP21104A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

## Wet Chemistry By Method ASTM516-90,02

| Matrix | AQ | Batch ID: | GN43161 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Sulfate.

| Matrix | AQ | Batch ID: | GN43207 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-3DUP, MC21261-3MS were used as the QC samples for Sulfate.

## Wet Chemistry By Method EPA 353.2

**Matrix** AQ **Batch ID:** GP16141

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-1DUP, MC21261-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

**Matrix** AQ **Batch ID:** GP16142

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-12DUP, MC21261-12MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** R33054

- MC21261-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33055

- MC21261-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33056

- MC21261-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33057

- MC21261-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33058

- MC21261-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33059

- MC21261-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33060

- MC21261-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33061

- MC21261-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33062

- MC21261-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33064

- MC21261-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33065

- MC21261-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix** AQ **Batch ID:** GP16116

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

| Matrix | AQ | Batch ID: | GP16171 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-1DUP, MC21261-1MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

| Matrix | AQ | Batch ID: | GN43130 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN43151 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-7DUP, MC21202-7MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN43183 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-12DUP, MC21261-12MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

| Matrix | AQ | Batch ID: | GN43128 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Sulfide.

| Matrix | AQ | Batch ID: | GN43129 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-2DUP, MC21261-2MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN43149 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21202-14DUP, MC21202-14MS were used as the QC samples for Chloride.

| Matrix | AQ | Batch ID: | GN43150 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-8DUP, MC21261-8MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

**Matrix** AQ **Batch ID:** GN43124

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21261-1FDUP, MC21261-1FMS were used as the QC samples for Dissolved Organic Carbon.
- Matrix Spike Recovery(s) for Dissolved Organic Carbon are outside control limits. Spike recovery indicates possible nonhomogeneity between sample bottles.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC21261).

# Summary of Hits



**Job Number:** MC21261
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/28/13 thru 05/29/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21261-1** | **SHM-10-16-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 309 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 21.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 5.4 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.18 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.18 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 4.7 J | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-1F** | **SHM-10-16-052813** | | | | | |
| Arsenic | | 1350 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 72900 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 42700 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 11600 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 1280 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 10600 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 26500 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-2** | **SHM-93-22C-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 133 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 10.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Sulfate | | 7.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-2F** | **SHM-93-22C-052813** | | | | | |
| Arsenic | | 19.7 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 40000 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 568 | 100 | 30 | ug/l | SW846 6010C |
| Manganese | | 140 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 9550 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.6 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-3** | **SHM-13-05-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 423 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 37.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.70 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 12.3 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-3F** | **SHM-13-05-052813** | | | | | |
| Arsenic | | 8.9 | 1.0 | 0.50 | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC21261
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/28/13 thru 05/29/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Calcium | | 111000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 597 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 22800 | 15000 | 600 | ug/l | SW846 6010C |
| Manganese | | 4680 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 11000 | 10000 | 1000 | ug/l | SW846 6010C |
| Sodium | | 42400 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.7 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-4** | **SHM-13-04-052813** | | | | | |
| Alkalinity, Total as CaCO3 | | 39.8 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 200 | 10 | 7.5 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.2 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.57 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.59 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.020 | 0.010 | 0.0040 | mg/l | SM 21 4500 NO2 B |
| Sulfate | | 10 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-4F** | **SHM-13-04-052813** | | | | | |
| Arsenic | | 2060 | 50 | 25 | ug/l | SW846 6020A |
| Calcium | | 33100 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 40900 | 500 | 150 | ug/l | SW846 6010C |
| Manganese | | 2130 | 75 | 13 | ug/l | SW846 6010C |
| Sodium | | 80200 | 50000 | 2000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-5F** | **RB-052813** | | | | | |
| Arsenic | | 0.58 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| **MC21261-6** | **SHM-13-03-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 372 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 39.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.71 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.35 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.35 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 5.6 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-6F** | **SHM-13-03-052913** | | | | | |
| Arsenic | | 318 | 5.0 | 2.5 | ug/l | SW846 6020A |
| Calcium | | 97700 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 13600 | 200 | 60 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC21261
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/28/13 thru 05/29/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Magnesium | | 15000 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 6740 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 9460 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 35400 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.4 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-7** | **SHM-10-04-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 99.5 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 83.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.13 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 6.5 | 0.51 | 0.38 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 6.5 | 0.50 | 0.38 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.012 | 0.010 | 0.0040 | mg/l | SM 21 4500 NO2 B |
| Sulfate | | 81.7 | 25 | 23 | mg/l | ASTM516-90,02 |
| **MC21261-7F** | **SHM-10-04-052913** | | | | | |
| Arsenic | | 1.0 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 61500 | 50000 | 1500 | ug/l | SW846 6010C |
| Magnesium | | 13700 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 662 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 39300 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-8** | **DUP-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 93.9 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 82.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.13 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 6.9 | 0.51 | 0.38 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 6.9 | 0.50 | 0.38 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.013 | 0.010 | 0.0040 | mg/l | SM 21 4500 NO2 B |
| Sulfate | | 82.3 | 25 | 23 | mg/l | ASTM516-90,02 |
| **MC21261-8F** | **DUP-052913** | | | | | |
| Arsenic | | 0.95 J | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 61200 | 50000 | 1500 | ug/l | SW846 6010C |
| Magnesium | | 14000 | 10000 | 400 | ug/l | SW846 6010C |
| Manganese | | 660 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 39000 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.7 | 1.0 | 0.64 | mg/l | SM21 5310 B |

# Summary of Hits

**Job Number:** MC21261
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/28/13 thru 05/29/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21261-9** | **SHM-10-01-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 72.9 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 4.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.26 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 6.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-9F** | **SHM-10-01-052913** | | | | | |
| Arsenic | | 1.3 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 18900 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 124 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1690 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese [b] | | 5970 J | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 1770 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 6900 | 5000 | 200 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 5.3 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-10** | **SHM-10-02-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 444 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 61.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.35 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 8.8 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-10F** | **SHM-10-02-052913** | | | | | |
| Arsenic | | 1.5 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 137000 | 100000 | 3000 | ug/l | SW846 6010C |
| Iron | | 33.7 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 20100 | 15000 | 600 | ug/l | SW846 6010C |
| Manganese | | 2450 | 45 | 7.5 | ug/l | SW846 6010C |
| Potassium | | 4300 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 41200 | 25000 | 1000 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-11** | **SHM-10-10-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 343 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 18.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.25 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| **MC21261-11F** | **SHM-10-10-052913** | | | | | |
| Arsenic | | 1.7 | 1.0 | 0.50 | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC21261
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 05/28/13 thru 05/29/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Calcium | | 83000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 82.5 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 9460 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 26400 | 300 | 50 | ug/l | SW846 6010C |
| Potassium | | 3040 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 23100 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.9 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-12** | **SHM-13-02-052913** | | | | | |
| Alkalinity, Total as CaCO3 | | 160 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 9.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.13 | 0.10 | 0.081 | mg/l | SM18 4500NH3-C |
| Sulfate | | 6.5 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21261-12F** | **SHM-13-02-052913** | | | | | |
| Arsenic | | 2.5 | 1.0 | 0.50 | ug/l | SW846 6020A |
| Calcium | | 44200 | 25000 | 750 | ug/l | SW846 6010C |
| Magnesium | | 3970 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 7960 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 3690 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 10600 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 33.6 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21261-13F** | **RB-052913** | | | | | |
| Arsenic | | 0.51 J | 1.0 | 0.50 | ug/l | SW846 6020A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Matrix spike and matrix spike duplicate recoveries outside of the control limits.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-10-16-052813
**Lab Sample ID:** MC21261-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 309 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 21.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 5.4 | 0.50 | 0.41 | mg/l | 5 | 06/11/13 15:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.18 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:15 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.18 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:15 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.7 J | 5.0 | 4.5 | mg/l | 1 | 06/06/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-16-052813
**Lab Sample ID:** MC21261-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1350 | 25 | 13 | ug/l | 50 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 72900 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 42700 | 500 | 150 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 11600 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 1280 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 10600 | 10000 | 1000 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 26500 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-16-052813 | | |
| **Lab Sample ID:** | MC21261-1F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.8 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 17:23 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22C-052813
**Lab Sample ID:** MC21261-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 133 | 5.0 | 2.3 | mg/l | 1 | 06/04/13 | BF | SM21 2320B |
| Chloride | 10.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.081 U | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:17 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:17 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.5 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22C-052813
**Lab Sample ID:** MC21261-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 19.7 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 40000 | 25000 | 750 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 568 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 140 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 9550 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-93-22C-052813 | | |
| **Lab Sample ID:** | MC21261-2F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.6 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 17:36 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-05-052813
**Lab Sample ID:** MC21261-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 423 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 37.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.70 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:18 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:18 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 12.3 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-05-052813
**Lab Sample ID:** MC21261-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 8.9 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 111000 | 100000 | 3000 | ug/l | 20 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 597 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 22800 | 15000 | 600 | ug/l | 3 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 4680 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 11000 | 10000 | 1000 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 42400 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-05-052813 | | |
| **Lab Sample ID:** | MC21261-3F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.7 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 17:49 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-04-052813
**Lab Sample ID:** MC21261-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 39.8 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 200 | 10 | 7.5 | mg/l | 10 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 1.2 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.57 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:19 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.59 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:19 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.020 | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 10 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-04-052813
**Lab Sample ID:** MC21261-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2060 | 50 | 25 | ug/l | 100 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 33100 | 25000 | 750 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 40900 | 500 | 150 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 2130 | 75 | 13 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 80200 | 50000 | 2000 | ug/l | 10 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-04-052813 | | |
| **Lab Sample ID:** | MC21261-4F | **Date Sampled:** | 05/28/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/28/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.8 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 18:02 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052813
**Lab Sample ID:** MC21261-5F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/28/13
**Date Received:** 05/28/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.58 J | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | < 5000 | 5000 | 150 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | < 15 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | < 5000 | 5000 | 200 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21097
(4) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-03-052913
**Lab Sample ID:** MC21261-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 372 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 39.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.71 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.35 | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:20 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.35 | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:20 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 5.6 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-03-052913
**Lab Sample ID:** MC21261-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 318 | 5.0 | 2.5 | ug/l | 10 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 97700 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 13600 | 200 | 60 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 15000 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 6740 | 75 | 13 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 9460 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 35400 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-03-052913 | | |
| **Lab Sample ID:** | MC21261-6F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.4 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 18:39 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-04-052913
**Lab Sample ID:** MC21261-7
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 99.5 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 83.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.13 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 6.5 | 0.51 | 0.38 | mg/l | 1 | 06/04/13 13:05 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 6.5 | 0.50 | 0.38 | mg/l | 5 | 06/04/13 13:05 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.012 | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 18:56 | CF | SM 21 4500 NO2 B |
| Sulfate | 81.7 | 25 | 23 | mg/l | 5 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-04-052913
**Lab Sample ID:** MC21261-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.0 | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 61500 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 13700 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 662 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 39300 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-04-052913 | | |
| **Lab Sample ID:** | MC21261-7F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.9 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 18:53 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052913
**Lab Sample ID:** MC21261-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 93.9 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 82.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.13 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 6.9 | 0.51 | 0.38 | mg/l | 1 | 06/04/13 13:09 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 6.9 | 0.50 | 0.38 | mg/l | 5 | 06/04/13 13:09 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.013 | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 19:00 | CF | SM 21 4500 NO2 B |
| Sulfate | 82.3 | 25 | 23 | mg/l | 5 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-052913
**Lab Sample ID:** MC21261-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.95 J | 1.0 | 0.50 | ug/l | 2 | 06/03/13 | 06/07/13 | PY | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 61200 | 50000 | 1500 | ug/l | 10 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | < 100 | 100 | 30 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 14000 | 10000 | 400 | ug/l | 2 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 660 | 15 | 2.5 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | < 5000 | 5000 | 500 | ug/l | 1 | 06/03/13 | 06/04/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 39000 | 25000 | 1000 | ug/l | 5 | 06/03/13 | 06/06/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA15701
(2) Instrument QC Batch: MA15715
(3) Instrument QC Batch: MA15721
(4) Prep QC Batch: MP21097
(5) Prep QC Batch: MP21097A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-052913 | | |
| **Lab Sample ID:** | MC21261-8F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.7 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 19:06 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-01-052913
**Lab Sample ID:** MC21261-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 72.9 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 4.0 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.26 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:26 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:26 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 19:00 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.5 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-01-052913 | | |
| **Lab Sample ID:** | MC21261-9F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.3 | 1.0 | 0.50 | ug/l | 2 | 06/04/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 18900 | 10000 | 300 | ug/l | 2 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 124 | 100 | 30 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1690 J | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese [a] | 5970 J | 75 | 13 | ug/l | 5 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1770 J | 5000 | 500 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 6900 | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15707
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21104
(4) Prep QC Batch: MP21104A

(a) Matrix spike and matrix spike duplicate recoveries outside of the control limits.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-01-052913 | | |
| **Lab Sample ID:** | MC21261-9F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 5.3 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 19:18 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-02-052913
**Lab Sample ID:** MC21261-10
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 444 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 61.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.35 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:28 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:28 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 19:00 | CF | SM 21 4500 NO2 B |
| Sulfate | 8.8 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-02-052913
**Lab Sample ID:** MC21261-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.5 | 1.0 | 0.50 | ug/l | 2 | 06/04/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 137000 | 100000 | 3000 | ug/l | 20 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 33.7 J | 100 | 30 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 20100 | 15000 | 600 | ug/l | 3 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2450 | 45 | 7.5 | ug/l | 3 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 4300 J | 5000 | 500 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 41200 | 25000 | 1000 | ug/l | 5 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15707
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21104
(4) Prep QC Batch: MP21104A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-02-052913 | | |
| **Lab Sample ID:** | MC21261-10F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.8 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 19:31 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-10-052913
**Lab Sample ID:** MC21261-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 343 | 5.0 | 2.3 | mg/l | 1 | 06/05/13 | CF | SM21 2320B |
| Chloride | 18.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.25 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 12:29 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 12:29 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 19:00 | CF | SM 21 4500 NO2 B |
| Sulfate | 4.5 U | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-10-052913
**Lab Sample ID:** MC21261-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.7 | 1.0 | 0.50 | ug/l | 2 | 06/04/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 83000 | 50000 | 1500 | ug/l | 10 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 82.5 J | 100 | 30 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 9460 | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 26400 | 300 | 50 | ug/l | 20 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 3040 J | 5000 | 500 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 23100 | 15000 | 600 | ug/l | 3 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15707
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21104
(4) Prep QC Batch: MP21104A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-10-052913 | | |
| **Lab Sample ID:** | MC21261-11F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.9 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 19:44 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-02-052913
**Lab Sample ID:** MC21261-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 160 | 5.0 | 2.3 | mg/l | 1 | 06/07/13 | MC | SM21 2320B |
| Chloride | 9.5 | 1.0 | 0.75 | mg/l | 1 | 06/05/13 | CF | SM21 4500CL C |
| Nitrogen, Ammonia | 0.13 | 0.10 | 0.081 | mg/l | 1 | 06/11/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.079 U | 0.11 | 0.079 | mg/l | 1 | 06/04/13 13:00 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.075 U | 0.10 | 0.075 | mg/l | 1 | 06/04/13 13:00 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 05/29/13 19:00 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.5 | 5.0 | 4.5 | mg/l | 1 | 06/10/13 | HS | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/04/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-02-052913
**Lab Sample ID:** MC21261-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.5 | 1.0 | 0.50 | ug/l | 2 | 06/04/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 44200 | 25000 | 750 | ug/l | 5 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 3970 J | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 7960 | 75 | 13 | ug/l | 5 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 3690 J | 5000 | 500 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 10600 | 10000 | 400 | ug/l | 2 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15707
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21104
(4) Prep QC Batch: MP21104A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-02-052913 | | |
| **Lab Sample ID:** | MC21261-12F | **Date Sampled:** | 05/29/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 05/29/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 33.6 | 1.0 | 0.64 | mg/l | 1 | 06/04/13 19:57 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-052913
**Lab Sample ID:** MC21261-13F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 05/29/13
**Date Received:** 05/29/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.51 J | 1.0 | 0.50 | ug/l | 2 | 06/04/13 | 06/07/13 | PY | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 06/04/13 | 06/05/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15707
(2) Instrument QC Batch: MA15721
(3) Prep QC Batch: MP21104
(4) Prep QC Batch: MP21104A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

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FED-EX Tracking # | Bottle Order Control #

Accutest Quote # FQ- 2013- 119 | Accutest Job # MC21261

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | PAL3 | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHM-10-16-052813 | | 5-28-13 | 1118 | JM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -2F | SHM-73-22C-052813 | | | 1205 | JG | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -3F | SHM-13-05-052813 | | | 1240 | SV | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -4F | SHM-13-04-052813 | | | 1345 | JM | GW | 8 | X | X | X | X | | | | | X | X | X | X | X | X | X | X | X | X | |
| -5F | RB-052813 | | | 1300 | JG | RB | 2 | | | X | | | | | | X | X | X | | | | | | | | 3A, 5F |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
All samples were field filtered -> (Metals + DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #005: Open

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5/28/13 1600 | 1 | 2 | 5/29/13 1610 | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | Custody Seal # | Intact / Not Intact | Preserved where applicable / On Ice / Cooler Temp. 1.3° |

5.1 5

**MC21261: Chain of Custody**
**Page 1 of 3**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
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www.accutest.com

PAGE 12 OF 12

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # FQ-2013-119 | Accutest Job # MC21261

## Client / Reporting Information

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Phone #

## Project Information

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order # State Zip
Project Manager: Steve Passafaro

## Requested Analysis ( see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Preserved: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -6F | SHM-13-03-052913 | | 5-29-13 | 0915 | EF | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -7F | SHM-10-04-052913 | | | 0930 | JG | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -8F | DUP-052913 | | | — | JG | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -9F | SHM-10-01-052913 | | | 0950 | MM | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -10F | SHM-10-02-052913 | | | 1115 | JG | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | |
| -11F | SHM-10-10-052913 | | | 1040 | EF | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | LAC |
| -12F | SHM-13-02-052913 | | | 1057 | MM | GW | 8 | X | | X | X | X | | | X | X | X | X | X | X | X | X | X | X | 3C, |
| -13F | RB-052913 | | | 1230 | EF | RB | 2 | | | X | | | | | | X | X | | | | | | | | SE, |

## Turnaround Time ( Business days)

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

## Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

## Comments / Special Instructions

See Project QAPP for all specific project requirements
samples were field filtered (Metals & DOC)
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #005: Closed

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 5-29-13/1415 | 1 | 2 | 1526 5-29-13 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # ☐ Intact ☐ Not Intact | Preserved where applicable ☐ | On Ice ☐ Cooler Temp 2,9C |

**MC21261: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21261 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 5/29/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** DEVENS/OPEN 1ST **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21261: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-1 Collected: 28-MAY-13 11:18 By: MMJG Received: 28-MAY-13 By: BA SHM-10-16-052813 | | | | | | |
| MC21261-1 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-1 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21261-1 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-1 | EPA 353.2 | 04-JUN-13 12:15 | CF | | | NO3O |
| MC21261-1 | EPA 353.2 | 04-JUN-13 12:15 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-1 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-1 | ASTM516-90,02 | 06-JUN-13 | MC | | | SO4 |
| MC21261-1 | SM18 4500NH3-C | 11-JUN-13 15:20 | BF | 11-JUN-13 | BF | AMN |
| MC21261-2 Collected: 28-MAY-13 12:05 By: MMJG Received: 28-MAY-13 By: BA SHM-93-22C-052813 | | | | | | |
| MC21261-2 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-2 | SM21 2320B | 04-JUN-13 | BF | | | ALK |
| MC21261-2 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-2 | EPA 353.2 | 04-JUN-13 12:17 | CF | | | NO3O |
| MC21261-2 | EPA 353.2 | 04-JUN-13 12:17 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-2 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-2 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-2 | SM18 4500NH3-C | 11-JUN-13 15:20 | BF | 11-JUN-13 | BF | AMN |
| MC21261-3 Collected: 28-MAY-13 12:40 By: MMJG Received: 28-MAY-13 By: BA SHM-13-05-052813 | | | | | | |
| MC21261-3 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-3 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-3 | EPA 353.2 | 04-JUN-13 12:18 | CF | | | NO3O |
| MC21261-3 | EPA 353.2 | 04-JUN-13 12:18 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-3 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-3 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-3 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-3 | SM18 4500NH3-C | 11-JUN-13 15:20 | BF | 11-JUN-13 | BF | AMN |
| MC21261-4 Collected: 28-MAY-13 13:45 By: MMJG Received: 28-MAY-13 By: BA SHM-13-04-052813 | | | | | | |
| MC21261-4 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-4 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-4 | EPA 353.2 | 04-JUN-13 12:19 | CF | | | NO3O |
| MC21261-4 | EPA 353.2 | 04-JUN-13 12:19 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-4 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-4 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-4 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-4 | SM18 4500NH3-C | 11-JUN-13 15:20 | BF | 11-JUN-13 | BF | AMN |
| MC21261-6 Collected: 29-MAY-13 09:15 By: MMJG Received: 29-MAY-13 By: NT SHM-13-03-052913 | | | | | | |
| MC21261-6 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-6 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-6 | EPA 353.2 | 04-JUN-13 12:20 | CF | | | NO3O |
| MC21261-6 | EPA 353.2 | 04-JUN-13 12:20 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-6 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-6 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-6 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-6 | SM18 4500NH3-C | 11-JUN-13 15:20 | BF | 11-JUN-13 | BF | AMN |
| MC21261-7 Collected: 29-MAY-13 09:30 By: MMJG Received: 29-MAY-13 By: NT SHM-10-04-052913 | | | | | | |
| MC21261-7 | SM 21 4500 NO2 B | 29-MAY-13 18:56 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-7 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-7 | EPA 353.2 | 04-JUN-13 13:05 | CF | | | NO3O |
| MC21261-7 | EPA 353.2 | 04-JUN-13 13:05 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-7 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-7 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-7 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-7 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |
| MC21261-8 Collected: 29-MAY-13 00:00 By: MMJG Received: 29-MAY-13 By: NT DUP-052913 | | | | | | |
| MC21261-8 | SM 21 4500 NO2 B | 29-MAY-13 19:00 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-8 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-8 | EPA 353.2 | 04-JUN-13 13:09 | CF | | | NO3O |
| MC21261-8 | EPA 353.2 | 04-JUN-13 13:09 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-8 | SM21 2320B | 05-JUN-13 | CF | | | ALK |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-8 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-8 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-8 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |
| MC21261-9 | Collected: 29-MAY-13 09:30 By: MMJG Received: 29-MAY-13 By: NT | | | | | |
| SHM-10-01-052913 | | | | | | |
| MC21261-9 | SM 21 4500 NO2 B | 29-MAY-13 19:00 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-9 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-9 | EPA 353.2 | 04-JUN-13 12:26 | CF | | | NO3O |
| MC21261-9 | EPA 353.2 | 04-JUN-13 12:26 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-9 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-9 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-9 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-9 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |
| MC21261-10 | Collected: 29-MAY-13 11:15 By: MMJG Received: 29-MAY-13 By: NT | | | | | |
| SHM-10-02-052913 | | | | | | |
| MC21261-10 | SM 21 4500 NO2 B | 29-MAY-13 19:00 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-10 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-10 | EPA 353.2 | 04-JUN-13 12:28 | CF | | | NO3O |
| MC21261-10 | EPA 353.2 | 04-JUN-13 12:28 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-10 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-10 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-10 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-10 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |
| MC21261-11 | Collected: 29-MAY-13 10:40 By: MMJG Received: 29-MAY-13 By: NT | | | | | |
| SHM-10-10-052913 | | | | | | |
| MC21261-11 | SM 21 4500 NO2 B | 29-MAY-13 19:00 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-11 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-11 | EPA 353.2 | 04-JUN-13 12:29 | CF | | | NO3O |
| MC21261-11 | EPA 353.2 | 04-JUN-13 12:29 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-11 | SM21 2320B | 05-JUN-13 | CF | | | ALK |
| MC21261-11 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-11 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-11 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-12 | Collected: 29-MAY-13 10:57 By: MMJG | | Received: 29-MAY-13 | By: NT | | |
| SHM-13-02-052913 | | | | | | |
| MC21261-12 | SM 21 4500 NO2 B | 29-MAY-13 19:00 | CF | 29-MAY-13 | CF | NO2 |
| MC21261-12 | SM21 4500 S F | 04-JUN-13 | BF | | | S |
| MC21261-12 | EPA 353.2 | 04-JUN-13 13:00 | CF | | | NO3O |
| MC21261-12 | EPA 353.2 | 04-JUN-13 13:00 | CF | 04-JUN-13 | CF | NO32 |
| MC21261-12 | SM21 4500CL C | 05-JUN-13 | CF | | | CHL |
| MC21261-12 | SM21 2320B | 07-JUN-13 | MC | | | ALK |
| MC21261-12 | ASTM516-90,02 | 10-JUN-13 | HS | | | SO4 |
| MC21261-12 | SM18 4500NH3-C | 11-JUN-13 15:30 | BF | 11-JUN-13 | BF | AMN |
| MC21261-1F | Collected: 28-MAY-13 11:18 By: MMJG | | Received: 28-MAY-13 | By: BA | | |
| SHM-10-16-052813 | | | | | | |
| MC21261-1F | SW846 6010C | 04-JUN-13 15:05 | EAL | 03-JUN-13 | DA | MN |
| MC21261-1F | SM21 5310 B | 04-JUN-13 17:23 | MA | | | DOC |
| MC21261-1F | SW846 6010C | 06-JUN-13 13:26 | EAL | 03-JUN-13 | DA | K,MG |
| MC21261-1F | SW846 6010C | 06-JUN-13 13:30 | EAL | 03-JUN-13 | DA | FE,NA |
| MC21261-1F | SW846 6010C | 06-JUN-13 13:34 | EAL | 03-JUN-13 | DA | CA |
| MC21261-1F | SW846 6020A | 07-JUN-13 15:05 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-2F | Collected: 28-MAY-13 12:05 By: MMJG | | Received: 28-MAY-13 | By: BA | | |
| SHM-93-22C-052813 | | | | | | |
| MC21261-2F | SW846 6010C | 04-JUN-13 15:09 | EAL | 03-JUN-13 | DA | FE,K,MG,MN,NA |
| MC21261-2F | SM21 5310 B | 04-JUN-13 17:36 | MA | | | DOC |
| MC21261-2F | SW846 6010C | 06-JUN-13 13:39 | EAL | 03-JUN-13 | DA | CA |
| MC21261-2F | SW846 6020A | 07-JUN-13 15:26 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-3F | Collected: 28-MAY-13 12:40 By: MMJG | | Received: 28-MAY-13 | By: BA | | |
| SHM-13-05-052813 | | | | | | |
| MC21261-3F | SW846 6010C | 04-JUN-13 15:14 | EAL | 03-JUN-13 | DA | FE,MN |
| MC21261-3F | SM21 5310 B | 04-JUN-13 17:49 | MA | | | DOC |
| MC21261-3F | SW846 6010C | 06-JUN-13 13:43 | EAL | 03-JUN-13 | DA | K |
| MC21261-3F | SW846 6010C | 06-JUN-13 13:47 | EAL | 03-JUN-13 | DA | MG |
| MC21261-3F | SW846 6010C | 06-JUN-13 13:52 | EAL | 03-JUN-13 | DA | NA |
| MC21261-3F | SW846 6010C | 06-JUN-13 13:56 | EAL | 03-JUN-13 | DA | CA |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-3E | SW846 6020A | 07-JUN-13 15:33 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-4F | Collected: 28-MAY-13 13:45 By: MMJG Received: 28-MAY-13 By: BA<br>SHM-13-04-052813 | | | | | |
| MC21261-4E | SW846 6010C | 04-JUN-13 15:18 | EAL | 03-JUN-13 | DA | K,MG |
| MC21261-4E | SM21 5310 B | 04-JUN-13 18:02 | MA | | | DOC |
| MC21261-4E | SW846 6010C | 06-JUN-13 14:01 | EAL | 03-JUN-13 | DA | CA,FE,MN |
| MC21261-4E | SW846 6010C | 06-JUN-13 14:05 | EAL | 03-JUN-13 | DA | NA |
| MC21261-4E | SW846 6020A | 07-JUN-13 15:40 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-5F | Collected: 28-MAY-13 13:00 By: MMJG Received: 28-MAY-13 By: BA<br>RB-052813 | | | | | |
| MC21261-5E | SW846 6010C | 04-JUN-13 15:23 | EAL | 03-JUN-13 | DA | CA,FE,K,MG,MN,NA |
| MC21261-5E | SW846 6020A | 07-JUN-13 15:48 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-6F | Collected: 29-MAY-13 09:15 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-13-03-052913 | | | | | |
| MC21261-6E | SW846 6010C | 04-JUN-13 15:27 | EAL | 03-JUN-13 | DA | K |
| MC21261-6E | SM21 5310 B | 04-JUN-13 18:39 | MA | | | DOC |
| MC21261-6E | SW846 6010C | 06-JUN-13 14:18 | EAL | 03-JUN-13 | DA | FE,MG |
| MC21261-6E | SW846 6010C | 06-JUN-13 14:22 | EAL | 03-JUN-13 | DA | MN,NA |
| MC21261-6E | SW846 6010C | 06-JUN-13 14:27 | EAL | 03-JUN-13 | DA | CA |
| MC21261-6E | SW846 6020A | 07-JUN-13 15:55 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-7F | Collected: 29-MAY-13 09:30 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-10-04-052913 | | | | | |
| MC21261-7E | SW846 6010C | 04-JUN-13 15:31 | EAL | 03-JUN-13 | DA | FE,K,MN |
| MC21261-7E | SM21 5310 B | 04-JUN-13 18:53 | MA | | | DOC |
| MC21261-7E | SW846 6010C | 06-JUN-13 14:31 | EAL | 03-JUN-13 | DA | MG |
| MC21261-7E | SW846 6010C | 06-JUN-13 14:35 | EAL | 03-JUN-13 | DA | NA |
| MC21261-7E | SW846 6010C | 06-JUN-13 14:40 | EAL | 03-JUN-13 | DA | CA |
| MC21261-7E | SW846 6020A | 07-JUN-13 16:02 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-8F | Collected: 29-MAY-13 00:00 By: MMJG Received: 29-MAY-13 By: NT<br>DUP-052913 | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-8 | SW846 6010C | 04-JUN-13 15:36 | EAL | 03-JUN-13 | DA | FE,K,MN |
| MC21261-8 | SM21 5310 B | 04-JUN-13 19:06 | MA | | | DOC |
| MC21261-8 | SW846 6010C | 06-JUN-13 14:44 | EAL | 03-JUN-13 | DA | MG |
| MC21261-8 | SW846 6010C | 06-JUN-13 14:48 | EAL | 03-JUN-13 | DA | NA |
| MC21261-8 | SW846 6010C | 06-JUN-13 14:53 | EAL | 03-JUN-13 | DA | CA |
| MC21261-8 | SW846 6020A | 07-JUN-13 16:09 | PY | 03-JUN-13 | DA | ASMS |
| MC21261-9 | Collected: 29-MAY-13 09:30 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-10-01-052913 | | | | | |
| MC21261-9 | SM21 5310 B | 04-JUN-13 19:18 | MA | | | DOC |
| MC21261-9 | SW846 6010C | 05-JUN-13 10:27 | EAL | 04-JUN-13 | DA | FE,K,MG,NA |
| MC21261-9 | SW846 6010C | 05-JUN-13 13:31 | EAL | 04-JUN-13 | DA | CA |
| MC21261-9 | SW846 6010C | 05-JUN-13 13:35 | EAL | 04-JUN-13 | DA | MN |
| MC21261-9 | SW846 6020A | 07-JUN-13 11:47 | PY | 04-JUN-13 | DA | ASMS |
| MC21261-10 | Collected: 29-MAY-13 11:15 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-10-02-052913 | | | | | |
| MC21261-10 | SM21 5310 B | 04-JUN-13 19:31 | MA | | | DOC |
| MC21261-10 | SW846 6010C | 05-JUN-13 10:36 | EAL | 04-JUN-13 | DA | FE,K |
| MC21261-10 | SW846 6010C | 05-JUN-13 13:48 | EAL | 04-JUN-13 | DA | MG,MN |
| MC21261-10 | SW846 6010C | 05-JUN-13 13:53 | EAL | 04-JUN-13 | DA | NA |
| MC21261-10 | SW846 6010C | 05-JUN-13 13:57 | EAL | 04-JUN-13 | DA | CA |
| MC21261-10 | SW846 6020A | 07-JUN-13 12:01 | PY | 04-JUN-13 | DA | ASMS |
| MC21261-11 | Collected: 29-MAY-13 10:40 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-10-10-052913 | | | | | |
| MC21261-11 | SM21 5310 B | 04-JUN-13 19:44 | MA | | | DOC |
| MC21261-11 | SW846 6010C | 05-JUN-13 10:50 | EAL | 04-JUN-13 | DA | FE,K,MG |
| MC21261-11 | SW846 6010C | 05-JUN-13 14:01 | EAL | 04-JUN-13 | DA | NA |
| MC21261-11 | SW846 6010C | 05-JUN-13 14:06 | EAL | 04-JUN-13 | DA | CA |
| MC21261-11 | SW846 6010C | 05-JUN-13 14:10 | EAL | 04-JUN-13 | DA | MN |
| MC21261-11 | SW846 6020A | 07-JUN-13 12:08 | PY | 04-JUN-13 | DA | ASMS |
| MC21261-12 | Collected: 29-MAY-13 10:57 By: MMJG Received: 29-MAY-13 By: NT<br>SHM-13-02-052913 | | | | | |
| MC21261-12 | SM21 5310 B | 04-JUN-13 19:57 | MA | | | DOC |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21261

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21261-12 | SW846 6010C | 05-JUN-13 10:55 | EAL | 04-JUN-13 | DA | FE,K,MG |
| MC21261-12 | SW846 6010C | 05-JUN-13 14:33 | EAL | 04-JUN-13 | DA | NA |
| MC21261-12 | SW846 6010C | 05-JUN-13 14:37 | EAL | 04-JUN-13 | DA | CA,MN |
| MC21261-12 | SW846 6020A | 07-JUN-13 12:15 | PY | 04-JUN-13 | DA | ASMS |
| MC21261-13 | Collected: 29-MAY-13 12:30 By: MMJG Received: 29-MAY-13 By: NT | | | | | |
| RB-052913 | | | | | | |
| MC21261-13 | SW846 6010C | 05-JUN-13 10:59 | EAL | 04-JUN-13 | DA | CA,FE,K,MG,MN,NA |
| MC21261-13 | SW846 6020A | 07-JUN-13 12:37 | PY | 04-JUN-13 | DA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-1.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-1.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-1.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21261-1.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21261-1.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-1.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-1.1 | Walk In Ref #5 | Miranda Cardullo | 06/06/13 09:03 | Retrieve from Storage |
| MC21261-1.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 08:11 | Return to Storage |
| MC21261-1.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-1.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-1.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-1.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-1.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-1.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-1.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-1.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-1.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-1.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-1.7 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-1.7 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-1.7 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-1.7 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-1.8 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-1.8 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-1.8 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-1.8 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-1F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-1F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-2.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-2.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-2.1 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 07:18 | Retrieve from Storage |
| MC21261-2.1 | Bijan Firowznin | Walk In Ref #5 | 06/04/13 10:15 | Return to Storage |
| MC21261-2.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-2.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-2.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-2.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-2.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-2.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-2.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-2.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-2.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-2.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-2.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-2.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-2.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-2.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-2F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-2F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-3.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-3.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-3.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-3.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-3.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-3.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-3.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-3.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-3.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-3.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-3.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-3.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-3.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-3.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-3.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-3.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-3F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-3F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-4.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-4.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-4.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-4.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-4.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-4.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-4.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-4.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-4.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-4.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-4.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-4.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-4.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-4.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-4.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-4.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-4F.5 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-4F.5 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-5F.2 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-5F.2 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-6.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-6.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-6.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-6.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-6.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-6.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-6.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-6.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-6.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-6.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-6.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-6.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-6.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-6.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-6.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-6.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-6F.4 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-6F.4 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-7.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-7.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-7.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-7.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-7.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-7.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-7.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-7.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-7.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-7.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-7.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-7.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-7.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-7.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-7.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-7.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-7F.4 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |
| MC21261-7F.4 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-8.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-8.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-8.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-8.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-8.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-8.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-8.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-8.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-8.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-8.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-8.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-8.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-8.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-8.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-8.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-8.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-8F.4 | Walk In Ref #5 | Dorina Antonovici | 06/03/13 09:48 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-8F.4 | Dorina Antonovici | Walk In Ref #5 | 06/03/13 17:15 | Return to Storage |
| MC21261-9.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-9.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-9.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-9.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-9.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-9.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-9.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-9.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-9.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-9.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-9.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-9.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-9.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-9.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-9.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-9.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-9F.4 | Walk In Ref #5 | Dorina Antonovici | 06/04/13 08:23 | Retrieve from Storage |
| MC21261-9F.4 | Dorina Antonovici | Walk In Ref #5 | 06/04/13 11:30 | Return to Storage |
| MC21261-10.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-10.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-10.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-10.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-10.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-10.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-10.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-10.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-10.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-10.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-10.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-10.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-10.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-10.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-10.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-10.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-10F.4 | Walk In Ref #5 | Dorina Antonovici | 06/04/13 08:23 | Retrieve from Storage |
| MC21261-10F.4 | Dorina Antonovici | Walk In Ref #5 | 06/04/13 11:30 | Return to Storage |
| MC21261-11.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-11.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-11.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-11.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-11.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-11.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-11.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-11.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-11.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-11.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-11.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-11.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |
| MC21261-11.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-11.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-11.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-11.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-11F.4 | Walk In Ref #5 | Dorina Antonovici | 06/04/13 08:23 | Retrieve from Storage |
| MC21261-11F.4 | Dorina Antonovici | Walk In Ref #5 | 06/04/13 11:30 | Return to Storage |
| MC21261-12.1 | Walk In Ref #5 | Crystall Woodruff | 05/29/13 17:45 | Retrieve from Storage |
| MC21261-12.1 | Crystall Woodruff | Walk In Ref #5 | 05/29/13 18:22 | Return to Storage |
| MC21261-12.1 | Walk In Ref #5 | Crystall Woodruff | 06/05/13 10:24 | Retrieve from Storage |
| MC21261-12.1 | Crystall Woodruff | Walk In Ref #5 | 06/05/13 17:26 | Return to Storage |
| MC21261-12.1 | Walk In Ref #5 | Miranda Cardullo | 06/07/13 15:34 | Retrieve from Storage |
| MC21261-12.1 | Miranda Cardullo | Walk In Ref #5 | 06/07/13 16:21 | Return to Storage |
| MC21261-12.1 | Walk In Ref #5 | Hamid Siamak | 06/10/13 12:04 | Retrieve from Storage |
| MC21261-12.1 | Hamid Siamak | Walk In Ref #5 | 06/10/13 16:21 | Return to Storage |
| MC21261-12.2 | Walk In Ref #5 | Crystall Woodruff | 06/04/13 10:23 | Retrieve from Storage |
| MC21261-12.2 | Crystall Woodruff | Walk In Ref #5 | 06/04/13 16:27 | Return to Storage |
| MC21261-12.2 | Walk In Ref #5 | Bijan Firowznin | 06/11/13 08:15 | Retrieve from Storage |
| MC21261-12.2 | Bijan Firowznin | Walk In Ref #5 | 06/11/13 08:18 | Return to Storage |
| MC21261-12.3 | Walk In Ref #5 | Bijan Firowznin | 06/04/13 10:38 | Retrieve from Storage |
| MC21261-12.3 | Bijan Firowznin | | 06/04/13 13:56 | Depleted |

# Accutest Internal Chain of Custody



**Job Number:** MC21261
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 05/28/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21261-12.6 | Walk In Ref #5 | Mehdi Abdolrahim | 06/04/13 07:30 | Retrieve from Storage |
| MC21261-12.6 | Mehdi Abdolrahim | TOC1 | 06/04/13 08:33 | Load on Instrument |
| MC21261-12.6 | TOC1 | Mehdi Abdolrahim | 06/05/13 09:28 | Unload from Instrument |
| MC21261-12.6 | Mehdi Abdolrahim | Walk In Ref #5 | 06/05/13 09:28 | Return to Storage |
| MC21261-12F.4 | Walk In Ref #5 | Dorina Antonovici | 06/04/13 08:23 | Retrieve from Storage |
| MC21261-12F.4 | Dorina Antonovici | Walk In Ref #5 | 06/04/13 11:30 | Return to Storage |
| MC21261-13F.4 | Walk In Ref #5 | Dorina Antonovici | 06/04/13 08:23 | Retrieve from Storage |
| MC21261-13F.4 | Dorina Antonovici | Walk In Ref #5 | 06/04/13 11:30 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

# QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 1 | | STD1 |
| 12:35 | MA15701-STD2 | 1 | | STD2 |
| 12:39 | MA15701-STD3 | 1 | | STD3 |
| 12:43 | MA15701-STD4 | 1 | | STD4 |
| 12:48 | MA15701-ICV1 | 1 | | |
| 12:54 | MA15701-ICB1 | 1 | | |
| 13:01 | MA15701-CCV1 | 1 | | |
| 13:07 | MA15701-CCB1 | 1 | | |
| 13:12 | MA15701-CRI1 | 1 | | |
| 13:20 | MA15701-ICSA1 | 1 | | |
| 13:24 | MA15701-ICSAB1 | 1 | | |
| 13:28 | MP21097-B1 | 1 | | |
| 13:32 | MP21097-MB1 | 1 | | |
| 13:37 | MP21097-S1 | 1 | | |
| 13:41 | MP21097-S2 | 1 | | |
| 13:45 | MC21202-14F | 1 | | (sample used for QC only; not part of login MC21261) |
| 13:50 | MP21097-SD1 | 5 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:58 | MA15701-CCV2 | 1 | | |
| 14:06 | MA15701-CCB2 | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:15 | ZZZZZZ | 1 | | |
| 14:19 | ZZZZZZ | 1 | | |
| 14:23 | ZZZZZZ | 1 | | |
| 14:28 | ZZZZZZ | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |
| 14:36 | ZZZZZZ | 1 | | |
| 14:41 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:49 | ZZZZZZ | 1 | | |
| 14:54 | MA15701-CCV3 | 1 | | |
| 15:00 | MA15701-CCB3 | 1 | | |
| 15:05 | MC21261-1F | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:09 | MC21261-2F | 1 | | |
| 15:14 | MC21261-3F | 1 | | |
| 15:18 | MC21261-4F | 1 | | |
| 15:23 | MC21261-5F | 1 | | |
| 15:27 | MC21261-6F | 1 | | |
| 15:31 | MC21261-7F | 1 | | |
| 15:36 | MC21261-8F | 1 | | |
| 15:49 | MP21097-PS1 | 1 | | |
| 15:53 | MP21097-B1 | 5 | | |
| ----------> | Last reportable sample/prep for job MC21261 | | | |
| 15:58 | MA15701-CCV4 | 1 | | |
| 16:03 | MA15701-CCB4 | 1 | | |
| 16:08 | MP21072-PS1 | 1 | | |
| 16:12 | ZZZZZZ | 2 | | |
| 16:17 | ZZZZZZ | 2 | | |
| 16:21 | ZZZZZZ | 3 | | |
| 16:26 | ZZZZZZ | 2 | | |
| 16:30 | ZZZZZZ | 3 | | |
| 16:34 | ZZZZZZ | 2 | | |
| 16:39 | ZZZZZZ | 3 | | |
| 16:43 | ZZZZZZ | 2 | | |
| 16:47 | ZZZZZZ | 5 | | |
| 16:52 | MA15701-CCV5 | 1 | | |
| 16:57 | MA15701-CCB5 | 1 | | |
| 17:01 | ZZZZZZ | 2 | | |
| 17:06 | ZZZZZZ | 3 | | |
| 17:10 | ZZZZZZ | 5 | | |
| 17:14 | ZZZZZZ | 2 | | |
| 17:19 | MA15701-CRI2 | 1 | | |
| 17:23 | MA15701-CCV6 | 1 | | |
| 17:30 | MA15701-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC21261 | | | |
| 17:34 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 17:39 | ZZZZZZ | 1 | | DNR: NOT NEEDED. |
| 17:52 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 10 | | |
| 18:03 | ZZZZZZ | 2 | | |
| 18:08 | ZZZZZZ | 3 | | |
| 18:12 | ZZZZZZ | 10 | | |
| 18:16 | ZZZZZZ | 5 | | |
| 18:21 | ZZZZZZ | 10 | | |
| 18:25 | ZZZZZZ | 3 | | |
| 18:29 | MA15701-CCV7 | 1 | | |
| 18:33 | MA15701-CCB7 | 1 | | |
| 18:38 | ZZZZZZ | 10 | | |
| 18:42 | ZZZZZZ | 2 | | |
| 18:46 | ZZZZZZ | 2 | | |
| 18:51 | ZZZZZZ | 3 | | |
| 18:55 | ZZZZZZ | 10 | | |
| 18:59 | ZZZZZZ | 2 | | |
| 19:04 | ZZZZZZ | 5 | | |
| 19:08 | ZZZZZZ | 10 | | |
| 19:12 | ZZZZZZ | 3 | | |
| 19:17 | ZZZZZZ | 10 | | |
| 19:21 | MA15701-CCV8 | 1 | | |
| 19:25 | MA15701-CCB8 | 1 | | |
| 19:30 | MA15701-CRI3 | 1 | | |
| 19:34 | MA15701-CCV9 | 1 | | |
| 19:38 | MA15701-CCB9 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:30 | MA15701-STD1 | 2200 R | 58015 R | 13767 R |
| 12:35 | MA15701-STD2 | 2185 | 57495 | 13748 |
| 12:39 | MA15701-STD3 | | | 13805 |
| 12:43 | MA15701-STD4 | 2201 | 57208 | 13734 |
| 12:48 | MA15701-ICV1 | 2190 | 56672 | 13783 |
| 12:54 | MA15701-ICB1 | 2217 | 57161 | 13583 |
| 13:01 | MA15701-CCV1 | 2214 | 56212 | 13633 |
| 13:07 | MA15701-CCB1 | 2240 | 57042 | 13578 |
| 13:12 | MA15701-CRI1 | 2243 | 56880 | 13556 |
| 13:20 | MA15701-ICSA1 | 2087 | 53118 | 13355 |
| 13:24 | MA15701-ICSAB1 | 2083 | 53328 | 13425 |
| 13:28 | MP21097-B1 | 2241 | 57454 | 13982 |
| 13:32 | MP21097-MB1 | 2242 | 57667 | 13979 |
| 13:37 | MP21097-S1 | 2195 | 56426 | 13810 |
| 13:41 | MP21097-S2 | 2214 | 56934 | 13714 |
| 13:45 | MC21202-14F | 2212 | 57161 | 13728 |
| 13:50 | MP21097-SD1 | 2262 | 57389 | 13592 |
| 13:54 | ZZZZZZ | 2220 | 57427 | 13811 |
| 13:58 | MA15701-CCV2 | 2261 | 56403 | 13555 |
| 14:06 | MA15701-CCB2 | 2273 | 56639 | 13461 |
| 14:10 | ZZZZZZ | 2247 | 56548 | 13694 |
| 14:15 | ZZZZZZ | 2269 | 57321 | 13826 |
| 14:19 | ZZZZZZ | 2230 | 56716 | 13777 |
| 14:23 | ZZZZZZ | 2279 | 57457 | 13712 |
| 14:28 | ZZZZZZ | 2240 | 56859 | 13836 |
| 14:32 | ZZZZZZ | 2277 | 56936 | 13606 |
| 14:36 | ZZZZZZ | 2254 | 56903 | 13834 |
| 14:41 | ZZZZZZ | 2247 | 57202 | 13920 |
| 14:45 | ZZZZZZ | 2239 | 56889 | 13766 |
| 14:49 | ZZZZZZ | 2231 | 56881 | 13670 |
| 14:54 | MA15701-CCV3 | 2279 | 57118 | 13613 |
| 15:00 | MA15701-CCB3 | 2280 | 57150 | 13537 |
| 15:05 | MC21261-1F | 2244 | 57191 | 13751 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:09 | MC21261-2F | 2279 | 57233 | 13632 |
| 15:14 | MC21261-3F | 2240 | 56855 | 13692 |
| 15:18 | MC21261-4F | 2277 | 56939 | 13643 |
| 15:23 | MC21261-5F | 2295 | 57322 | 13683 |
| 15:27 | MC21261-6F | 2273 | 56395 | 13768 |
| 15:31 | MC21261-7F | 2271 | 56817 | 13776 |
| 15:36 | MC21261-8F | 2277 | 56843 | 13732 |
| 15:49 | MP21097-PS1 | 2236 | 57180 | 13713 |
| 15:53 | MP21097-B1 | 2279 | 56941 | 13730 |
| 15:58 | MA15701-CCV4 | 2289 | 57396 | 13710 |
| 16:03 | MA15701-CCB4 | 2285 | 57350 | 13582 |
| 16:08 | MP21072-PS1 | 2268 | 57478 | 13847 |
| 16:12 | ZZZZZZ | 2287 | 56781 | 13596 |
| 16:17 | ZZZZZZ | 2281 | 56793 | 13609 |
| 16:21 | ZZZZZZ | 2285 | 57438 | 13660 |
| 16:26 | ZZZZZZ | 2310 | 56899 | 13643 |
| 16:30 | ZZZZZZ | 2285 | 56967 | 13675 |
| 16:34 | ZZZZZZ | 2296 | 56462 | 13520 |
| 16:39 | ZZZZZZ | 2310 | 56694 | 13816 |
| 16:43 | ZZZZZZ | 2253 | 56378 | 13695 |
| 16:47 | ZZZZZZ | 2297 | 57019 | 13712 |
| 16:52 | MA15701-CCV5 | 2291 | 56908 | 13755 |
| 16:57 | MA15701-CCB5 | 2308 | 57508 | 13676 |
| 17:01 | ZZZZZZ | 2280 | 57146 | 13757 |
| 17:06 | ZZZZZZ | 2301 | 56529 | 13698 |
| 17:10 | ZZZZZZ | 2317 | 57410 | 13558 |
| 17:14 | ZZZZZZ | 2282 | 56653 | 13677 |
| 17:19 | MA15701-CRI2 | 2314 | 57200 | 13439 |
| 17:23 | MA15701-CCV6 | 2295 | 56235 | 13836 |
| 17:30 | MA15701-CCB6 | 2316 | 57590 | 13649 |
| 17:34 | ZZZZZZ | 2301 | 57343 | 13746 |
| 17:39 | ZZZZZZ | 2247 | 56787 | 13684 |
| 17:52 | ZZZZZZ | 2275 | 57048 | 13801 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15701
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:56 | ZZZZZZ | 2278 | 56975 | 13648 |
| 18:03 | ZZZZZZ | 2270 | 57247 | 13654 |
| 18:08 | ZZZZZZ | 2285 | 58073 | 13770 |
| 18:12 | ZZZZZZ | 2289 | 57285 | 13728 |
| 18:16 | ZZZZZZ | 2257 | 57086 | 13740 |
| 18:21 | ZZZZZZ | 2275 | 57584 | 13748 |
| 18:25 | ZZZZZZ | 2286 | 57525 | 13827 |
| 18:29 | MA15701-CCV7 | 2266 | 56810 | 13714 |
| 18:33 | MA15701-CCB7 | 2296 | 57554 | 13706 |
| 18:38 | ZZZZZZ | 2296 | 57386 | 13816 |
| 18:42 | ZZZZZZ | 2256 | 57175 | 13887 |
| 18:46 | ZZZZZZ | 2252 | 57486 | 13702 |
| 18:51 | ZZZZZZ | 2273 | 57492 | 13614 |
| 18:55 | ZZZZZZ | 2269 | 57598 | 13764 |
| 18:59 | ZZZZZZ | 2257 | 57216 | 13704 |
| 19:04 | ZZZZZZ | 2280 | 57560 | 13739 |
| 19:08 | ZZZZZZ | 2273 | 57081 | 13700 |
| 19:12 | ZZZZZZ | 2261 | 56913 | 13643 |
| 19:17 | ZZZZZZ | 2285 | 57482 | 13582 |
| 19:21 | MA15701-CCV8 | 2285 | 56684 | 13902 |
| 19:25 | MA15701-CCB8 | 2267 | 56973 | 13606 |
| 19:30 | MA15701-CRI3 | 2283 | 57006 | 13613 |
| 19:34 | MA15701-CCV9 | 2284 | 57286 | 13828 |
| 19:38 | MA15701-CCB9 | 2276 | 57344 | 13713 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 12:54 ICB1 | | 13:07 CCB1 | | 14:06 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 1.8 | <5000 | 59.8 | <5000 | -2.5 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 0.60 | <100 | 1.2 | <100 | -0.50 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -11 | <5000 | -4.0 | <5000 | -25 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.40 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.9 | <5000 | 12.9 | <5000 | 30.3 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 4.6 | <5000 | 0.30 | <5000 | 8.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: / Sample ID: | | | | 15:00 CCB3 | | 16:03 CCB4 | | 16:57 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 2.1 | <5000 | 1.0 | <5000 | 0.60 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 0.50 | <100 | 0.0 | <100 | 2.1 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | -21 | <5000 | -19 | <5000 | -6.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.70 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 45.0 | <5000 | 72.7 | <5000 | 32.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 15.7 | <5000 | 22.8 | <5000 | 11.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| Time: | | | | 17:30 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 12 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | |
| Barium | 50 | .32 | 2.5 | | |
| Beryllium | 4.0 | .1 | 0.90 | | |
| Boron | 100 | 1.1 | 5.0 | | |
| Cadmium | 4.0 | .25 | 1.9 | | |
| Calcium | 5000 | 21 | 150 | -13 | <5000 |
| Chromium | 10 | .48 | 5.0 | | |
| Cobalt | 50 | .29 | 1.5 | | |
| Copper | 25 | .93 | 8.0 | | |
| Gold | 50 | 1.5 | 8.0 | | |
| Iron | 100 | 3.5 | 30 | 0.10 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | |
| Magnesium | 5000 | 30 | 200 | 3.9 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2.2 | 30 | | |
| Platinum | 50 | 6.4 | 30 | | |
| Potassium | 5000 | 54 | 500 | 25.7 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | |
| Silicon | 100 | 2 | 50 | | |
| Silver | 5.0 | .81 | 3.5 | | |
| Sodium | 5000 | 16 | 200 | 8.5 | <5000 |
| Strontium | 10 | .12 | 0.90 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 5.0 | | |
| Titanium | 50 | .66 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .82 | 8.0 | | |
| Zinc | 20 | .45 | 1.5 | | |
| Zirconium | 50 | .45 | 8.0 | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15701  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 12:48 | | | 13:01 | | | 13:58 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9940 | 99.4 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 9900 | 99.0 | 10000 | 9920 | 99.2 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18600 | 103.3 | 10000 | 9990 | 99.9 | 10000 | 10200 | 102.0 |
| Manganese | 3000 | 2950 | 98.3 | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9990 | 99.9 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15300 | 102.0 | 10000 | 9780 | 97.8 | 10000 | 9690 | 96.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 14:54 | | | 15:58 | | | 16:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 10000 | 100.0 | 10000 | 9900 | 99.0 | 10000 | 9980 | 99.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9990 | 99.9 | 10000 | 9850 | 98.5 | 10000 | 9840 | 98.4 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 10300 | 103.0 | 10000 | 10200 | 102.0 | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1940 | 97.0 | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 10200 | 102.0 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9630 | 96.3 | 10000 | 9720 | 97.2 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | 17:23 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | | | |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | 10000 | 9980 | 99.8 |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Gold | | | |
| Iron | 10000 | 9860 | 98.6 |
| Lead | | | |
| Magnesium | 10000 | 10200 | 102.0 |
| Manganese | 2000 | 1970 | 98.5 |
| Molybdenum | | | |
| Nickel | | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 10100 | 101.0 |
| Selenium | | | |
| Silicon | | | |
| Silver | | | |
| Sodium | 10000 | 9720 | 97.2 |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | | | |
| Zirconium | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP Date Analyzed: 06/04/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15701 Units: ug/l

| Time: | | | 13:12 | | 17:19 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5020 | 100.4 | 5100 | 102.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 102 | 102.0 | 115 | 115.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 5080 | 101.6 | 5270 | 105.4 |
| Manganese | 15 | 15 | 15.3 | 102.0 | 16.1 | 107.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5150 | 103.0 | 5250 | 105.0 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4890 | 97.8 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | | | 13:20 | | 13:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 515000 | 103.0 | 511000 | 102.2 |
| Antimony | | 2000 | -0.30 | | 2020 | 101.0 |
| Arsenic | | 2000 | 1.3 | | 2040 | 102.0 |
| Barium | | 500 | 0.0 | | 515 | 103.0 |
| Beryllium | | 500 | 0.10 | | 493 | 98.6 |
| Boron | | 1000 | 5.6* | | 1010 | 101.0 |
| Cadmium | | 1000 | -0.60 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 468000 | 93.6 | 469000 | 93.8 |
| Chromium | | 500 | -0.80 | | 503 | 100.6 |
| Cobalt | | 500 | -0.60 | | 478 | 95.6 |
| Copper | | 500 | -0.70 | | 534 | 106.8 |
| Gold | | 500 | 5.6 | | 512 | 102.4 |
| Iron | 200000 | 200000 | 191000 | 95.5 | 190000 | 95.0 |
| Lead | | 1000 | 2.5* | | 898 | 89.8 |
| Magnesium | 500000 | 500000 | 516000 | 103.2 | 511000 | 102.2 |
| Manganese | | 500 | 0.60 | | 487 | 97.4 |
| Molybdenum | | 1000 | -0.50 | | 957 | 95.7 |
| Nickel | | 1000 | -1.4 | | 861 | 86.1 |
| Palladium | | 500 | -36* | | 493 | 98.6 |
| Platinum | | 500 | -25 | | 480 | 96.0 |
| Potassium | | | 61.0 | | 67.6 | |
| Selenium | | 2000 | -2.3 | | 1940 | 97.0 |
| Silicon | | 2000 | 40.5 | | 2160 | 108.0 |
| Silver | | 1000 | -0.90 | | 1080 | 108.0 |
| Sodium | | | 79.0 | | 81.9 | |
| Strontium | | 1000 | 1.4* | | 1010 | 101.0 |
| Thallium | | 2000 | -0.80 | | 1900 | 95.0 |
| Tin | | 1000 | -0.40 | | 950 | 95.0 |
| Titanium | | 500 | 9.6* | | 522 | 104.4 |
| Tungsten | | 2000 | -43* | | 1930 | 96.5 |
| Vanadium | | 500 | -0.40 | | 522 | 104.4 |
| Zinc | | 1000 | 1.4 | | 909 | 90.9 |
| Zirconium | | 500 | 0.30 | | 455 | 91.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060413M2L.ICP  Date Analyzed: 06/04/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15701  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 1 | | STD1 |
| 09:22 | MA15707-STD2 | 1 | | STD2 |
| 09:26 | MA15707-STD3 | 1 | | STD3 |
| 09:31 | MA15707-STD4 | 1 | | STD4 |
| 09:35 | MA15707-ICV1 | 1 | | |
| 09:40 | MA15707-ICB1 | 1 | | |
| 09:45 | MA15707-CCV1 | 1 | | |
| 09:51 | MA15707-CCB1 | 1 | | |
| 09:56 | MA15707-CRI1 | 1 | | |
| 10:01 | MA15707-ICSA1 | 1 | | |
| 10:05 | MA15707-ICSAB1 | 1 | | |
| 10:10 | MP21104-B1 | 1 | | |
| 10:14 | MP21104-MB1 | 1 | | |
| 10:18 | MP21104-S1 | 1 | | |
| 10:22 | MP21104-S2 | 1 | | |
| 10:27 | MC21261-9F | 1 | | |
| 10:31 | MP21104-SD1 | 5 | | |
| 10:36 | MC21261-10F | 1 | | |
| 10:40 | MA15707-CCV2 | 1 | | |
| 10:44 | MA15707-CCB2 | 1 | | |
| 10:50 | MC21261-11F | 1 | | |
| 10:55 | MC21261-12F | 1 | | |
| 10:59 | MC21261-13F | 1 | | |
| 11:03 | MP21104-PS1 | 1 | | |
| 11:08 | ZZZZZZ | 5 | | |
| 11:12 | ZZZZZZ | 10 | | |
| 11:16 | ZZZZZZ | 5 | | |
| 11:21 | ZZZZZZ | 10 | | |
| 11:25 | ZZZZZZ | 2 | | |
| 11:29 | ZZZZZZ | 3 | | |
| 11:34 | MA15707-CCV3 | 1 | | |
| 11:38 | MA15707-CCB3 | 1 | | |
| 11:42 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:47 | ZZZZZZ | 3 | | |
| 11:51 | ZZZZZZ | 2 | | |
| 11:55 | ZZZZZZ | 3 | | |
| 11:59 | ZZZZZZ | 5 | | |
| 12:04 | ZZZZZZ | 10 | | |
| 12:08 | ZZZZZZ | 2 | | |
| 12:13 | ZZZZZZ | 20 | | |
| 12:17 | ZZZZZZ | 50 | | |
| 12:21 | ZZZZZZ | 2 | | |
| 12:26 | MA15707-CCV4 | 1 | | |
| 12:30 | MA15707-CCB4 | 1 | | |
| 12:34 | ZZZZZZ | 20 | | |
| 12:39 | ZZZZZZ | 50 | | |
| 12:43 | ZZZZZZ | 2 | | |
| 12:47 | MP21073-PS1 | 1 | | |
| 12:55 | MP21073-PS1 | 5 | | |
| 12:59 | MP21073-PS1 | 10 | | |
| 13:04 | ZZZZZZ | 50 | | DNR: NOT NEEDED. |
| 13:09 | MP21104-B1 | 5 | | |
| 13:14 | MP21104-S1 | 5 | | |
| 13:18 | MP21104-S2 | 5 | | |
| 13:22 | MA15707-CCV5 | 1 | | |
| 13:27 | MA15707-CCB5 | 1 | | |
| 13:31 | MC21261-9F | 2 | | |
| 13:35 | MC21261-9F | 5 | | |
| 13:40 | MP21104-SD1 | 10 | | |
| 13:44 | MP21104-SD1 | 25 | | |
| 13:48 | MC21261-10F | 3 | | |
| 13:53 | MC21261-10F | 5 | | |
| 13:57 | MC21261-10F | 20 | | |
| 14:01 | MC21261-11F | 3 | | |
| 14:06 | MC21261-11F | 10 | | |
| 14:10 | MC21261-11F | 20 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 1 | | |
| 14:28 | MA15707-CCB6 | 1 | | |
| 14:33 | MC21261-12F | 2 | | |
| 14:37 | MC21261-12F | 5 | | |
| 14:42 | MP21104-PS1 | 5 | | |
| 14:46 | MP21104-PS1 | 10 | | |
| 14:50 | MP21097-S1 | 5 | | |
| 14:54 | MP21097-S2 | 5 | | |
| 14:59 | MC21202-14F | 3 | | (sample used for QC only; not part of login MC21261) |
| 15:03 | MP21097-SD1 | 15 | | |
| 15:07 | MP21097-PS1 | 5 | | |
| 15:12 | MP21097-PS1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC21261 | | | |
| 15:16 | MA15707-CCV7 | 1 | | |
| 15:20 | MA15707-CCB7 | 1 | | |
| 15:24 | ZZZZZZ | 3 | | |
| 15:29 | ZZZZZZ | 10 | | |
| 15:50 | ZZZZZZ | 10 | | |
| 15:54 | ZZZZZZ | 2 | | |
| 15:59 | ZZZZZZ | 5 | | |
| 16:03 | ZZZZZZ | 20 | | |
| 16:07 | ZZZZZZ | 3 | | |
| 16:12 | ZZZZZZ | 10 | | |
| 16:16 | ZZZZZZ | 3 | | |
| 16:20 | ZZZZZZ | 2 | | |
| 16:25 | MA15707-CCV8 | 1 | | |
| 16:29 | MA15707-CCB8 | 1 | | |
| 16:33 | ZZZZZZ | 5 | | |
| 16:38 | ZZZZZZ | 10 | | |
| 16:42 | ZZZZZZ | 2 | | |
| 16:46 | ZZZZZZ | 5 | | |
| 16:51 | ZZZZZZ | 10 | | |
| 16:55 | ZZZZZZ | 2 | | |
| 16:59 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:04 | ZZZZZZ | 10 | | |
| 17:08 | ZZZZZZ | 2 | | |
| 17:13 | ZZZZZZ | 5 | | |
| 17:17 | MA15707-CCV9 | 1 | | |
| 17:21 | MA15707-CCB9 | 1 | | |
| 17:25 | ZZZZZZ | 20 | | |
| 17:30 | MA15707-CRI2 | 1 | | |
| 17:34 | MA15707-CCV10 | 1 | | |
| 17:38 | MA15707-CCB10 | 1 | | |

----------> Last reportable CCB for job MC21261
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 09:18 | MA15707-STD1 | 2437 R | 60774 R | 15468 R |
| 09:22 | MA15707-STD2 | 2472 | 59342 | 13928 |
| 09:26 | MA15707-STD3 | | | 13827 |
| 09:31 | MA15707-STD4 | 2522 | 58630 | 13794 |
| 09:35 | MA15707-ICV1 | 2491 | 58027 | 13825 |
| 09:40 | MA15707-ICB1 | 2504 | 58652 | 13752 |
| 09:45 | MA15707-CCV1 | 2490 | 57676 | 13954 |
| 09:51 | MA15707-CCB1 | 2508 | 58394 | 13869 |
| 09:56 | MA15707-CRI1 | 2508 | 58037 | 14282 |
| 10:01 | MA15707-ICSA1 | 2299 | 54315 | 13500 |
| 10:05 | MA15707-ICSAB1 | 2290 | 54083 | 13493 |
| 10:10 | MP21104-B1 | 2483 | 58166 | 14155 |
| 10:14 | MP21104-MB1 | 2502 | 57943 | 13948 |
| 10:18 | MP21104-S1 | 2481 | 58039 | 14134 |
| 10:22 | MP21104-S2 | 2474 | 57655 | 14096 |
| 10:27 | MC21261-9F | 2508 | 58080 | 14066 |
| 10:31 | MP21104-SD1 | 2473 | 57369 | 13730 |
| 10:36 | MC21261-10F | 2425 | 57141 | 13756 |
| 10:40 | MA15707-CCV2 | 2450 | 57542 | 13932 |
| 10:44 | MA15707-CCB2 | 2449 | 57788 | 13733 |
| 10:50 | MC21261-11F | 2393 | 57300 | 13749 |
| 10:55 | MC21261-12F | 2402 | 57740 | 13797 |
| 10:59 | MC21261-13F | 2416 | 57853 | 13902 |
| 11:03 | MP21104-PS1 | 2369 | 57779 | 13868 |
| 11:08 | ZZZZZZ | 2413 | 57970 | 13704 |
| 11:12 | ZZZZZZ | 2412 | 57886 | 13780 |
| 11:16 | ZZZZZZ | 2421 | 58093 | 13804 |
| 11:21 | ZZZZZZ | 2417 | 58033 | 13800 |
| 11:25 | ZZZZZZ | 2410 | 57515 | 13689 |
| 11:29 | ZZZZZZ | 2443 | 58037 | 13857 |
| 11:34 | MA15707-CCV3 | 2452 | 57866 | 13966 |
| 11:38 | MA15707-CCB3 | 2460 | 58078 | 13849 |
| 11:42 | ZZZZZZ | 2432 | 57931 | 13761 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 11:47 | ZZZZZZ | 2446 | 58336 | 13897 |
| 11:51 | ZZZZZZ | 2431 | 58095 | 13948 |
| 11:55 | ZZZZZZ | 2436 | 58453 | 13758 |
| 11:59 | ZZZZZZ | 2443 | 58449 | 13891 |
| 12:04 | ZZZZZZ | 2435 | 58082 | 13802 |
| 12:08 | ZZZZZZ | 2383 | 57315 | 13820 |
| 12:13 | ZZZZZZ | 2432 | 58117 | 13817 |
| 12:17 | ZZZZZZ | 2426 | 57817 | 13798 |
| 12:21 | ZZZZZZ | 2372 | 57574 | 13768 |
| 12:26 | MA15707-CCV4 | 2417 | 57993 | 13854 |
| 12:30 | MA15707-CCB4 | 2422 | 57723 | 13770 |
| 12:34 | ZZZZZZ | 2426 | 57906 | 13903 |
| 12:39 | ZZZZZZ | 2413 | 58061 | 13847 |
| 12:43 | ZZZZZZ | 2423 | 57768 | 13906 |
| 12:47 | MP21073-PS1 | 2341 | 57154 | 13748 |
| 12:55 | MP21073-PS1 | 2412 | 57909 | 13809 |
| 12:59 | MP21073-PS1 | 2430 | 58023 | 13918 |
| 13:04 | ZZZZZZ | 2428 | 57813 | 13756 |
| 13:09 | MP21104-B1 | 2422 | 58161 | 13953 |
| 13:14 | MP21104-S1 | 2422 | 57799 | 13863 |
| 13:18 | MP21104-S2 | 2411 | 57844 | 14059 |
| 13:22 | MA15707-CCV5 | 2417 | 57385 | 13730 |
| 13:27 | MA15707-CCB5 | 2416 | 58655 | 13851 |
| 13:31 | MC21261-9F | 2413 | 58691 | 13934 |
| 13:35 | MC21261-9F | 2409 | 57945 | 13883 |
| 13:40 | MP21104-SD1 | 2420 | 58086 | 13792 |
| 13:44 | MP21104-SD1 | 2404 | 57971 | 13814 |
| 13:48 | MC21261-10F | 2414 | 57380 | 13897 |
| 13:53 | MC21261-10F | 2404 | 57536 | 13689 |
| 13:57 | MC21261-10F | 2431 | 58221 | 13938 |
| 14:01 | MC21261-11F | 2412 | 57911 | 13880 |
| 14:06 | MC21261-11F | 2432 | 57987 | 13951 |
| 14:10 | MC21261-11F | 2438 | 58192 | 13860 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 14:14 | MA15707-CCV6 | 2441 | 57854 | 13812 |
| 14:28 | MA15707-CCB6 | 2403 | 57927 | 13697 |
| 14:33 | MC21261-12F | 2386 | 57787 | 13864 |
| 14:37 | MC21261-12F | 2370 | 58486 | 13573 |
| 14:42 | MP21104-PS1 | 2359 | 57516 | 13821 |
| 14:46 | MP21104-PS1 | 2363 | 58545 | 13772 |
| 14:50 | MP21097-S1 | 2391 | 57548 | 13867 |
| 14:54 | MP21097-S2 | 2388 | 58006 | 13817 |
| 14:59 | MC21202-14F | 2401 | 58359 | 14012 |
| 15:03 | MP21097-SD1 | 2403 | 58036 | 13829 |
| 15:07 | MP21097-PS1 | 2406 | 58178 | 13856 |
| 15:12 | MP21097-PS1 | 2414 | 57707 | 13836 |
| 15:16 | MA15707-CCV7 | 2408 | 57083 | 13868 |
| 15:20 | MA15707-CCB7 | 2402 | 58063 | 13786 |
| 15:24 | ZZZZZZ | 2389 | 57876 | 13890 |
| 15:29 | ZZZZZZ | 2379 | 58242 | 13831 |
| 15:50 | ZZZZZZ | 2409 | 58598 | 13843 |
| 15:54 | ZZZZZZ | 2385 | 57915 | 13813 |
| 15:59 | ZZZZZZ | 2391 | 58393 | 13959 |
| 16:03 | ZZZZZZ | 2388 | 57965 | 13817 |
| 16:07 | ZZZZZZ | 2387 | 57801 | 13811 |
| 16:12 | ZZZZZZ | 2396 | 58301 | 13935 |
| 16:16 | ZZZZZZ | 2397 | 58312 | 13834 |
| 16:20 | ZZZZZZ | 2380 | 57827 | 13958 |
| 16:25 | MA15707-CCV8 | 2385 | 57667 | 13853 |
| 16:29 | MA15707-CCB8 | 2401 | 58347 | 13819 |
| 16:33 | ZZZZZZ | 2391 | 58555 | 13787 |
| 16:38 | ZZZZZZ | 2371 | 58055 | 13627 |
| 16:42 | ZZZZZZ | 2368 | 57985 | 13808 |
| 16:46 | ZZZZZZ | 2376 | 58322 | 14027 |
| 16:51 | ZZZZZZ | 2388 | 57859 | 13801 |
| 16:55 | ZZZZZZ | 2373 | 58207 | 13752 |
| 16:59 | ZZZZZZ | 2400 | 58644 | 13848 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15707
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:04 | ZZZZZZ | 2385 | 57892 | 13814 |
| 17:08 | ZZZZZZ | 2380 | 58041 | 13850 |
| 17:13 | ZZZZZZ | 2376 | 57791 | 13866 |
| 17:17 | MA15707-CCV9 | 2387 | 57862 | 13926 |
| 17:21 | MA15707-CCB9 | 2381 | 57951 | 13686 |
| 17:25 | ZZZZZZ | 2390 | 58376 | 13790 |
| 17:30 | MA15707-CRI2 | 2390 | 58065 | 13852 |
| 17:34 | MA15707-CCV10 | 2388 | 57823 | 13810 |
| 17:38 | MA15707-CCB10 | 2379 | 58344 | 13682 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 09:40 ICB1 | | 09:51 CCB1 | | 10:44 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 15.2 | <5000 | 11.5 | <5000 | 3.1 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 3.7 | <100 | -0.30 | <100 | -0.10 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 12.6 | <5000 | 2.3 | <5000 | 40.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.50 | <15 | 0.10 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 15.6 | <5000 | -10 | <5000 | 39.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 3.4 | <5000 | -0.60 | <5000 | 2.9 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 11:38 CCB3 | | 12:30 CCB4 | | 13:27 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 10.0 | <5000 | 52.8 | <5000 | -0.40 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -0.80 | <100 | 0.50 | <100 | 1.6 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 13.5 | <5000 | 16.1 | <5000 | 16.6 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.40 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 11.9 | <5000 | 19.9 | <5000 | 70.1 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | 63.0 | <5000 | 7.4 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 14:28 CCB6 | | 15:20 CCB7 | | 16:29 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | -6.3 | <5000 | 1.5 | <5000 | 14.3 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -5.2 | <100 | 0.70 | <100 | 1.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 18.8 | <5000 | -5.5 | <5000 | 2.4 | <5000 |
| Manganese | 15 | .16 | 2.5 | -0.10 | <15 | 0.30 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 6.4 | <5000 | 43.6 | <5000 | 19.6 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -7.0 | <5000 | -1.0 | <5000 | -4.7 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| Time: / Sample ID: | | | | 17:21 CCB9 | | 17:38 CCB10 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | 1.6 | <5000 | 4.6 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 1.2 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 7.7 | <5000 | 25.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.80 | <15 | 0.60 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 67.5 | <5000 | 43.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 6.1 | <5000 | -2.8 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15707  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 09:35 | | | 09:45 | | | 10:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18100 | 100.6 | 10000 | 9880 | 98.8 | 10000 | 9900 | 99.0 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18200 | 101.1 | 10000 | 9750 | 97.5 | 10000 | 9720 | 97.2 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9620 | 96.2 | 10000 | 9620 | 96.2 |
| Manganese | 3000 | 3040 | 101.3 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9840 | 98.4 | 10000 | 9750 | 97.5 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15500 | 103.3 | 10000 | 9960 | 99.6 | 10000 | 10000 | 100.0 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 11:34 | | | 12:26 | | | 13:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9880 | 98.8 | 10000 | 9930 | 99.3 | 10000 | 9880 | 98.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9640 | 96.4 | 10000 | 9720 | 97.2 | 10000 | 9650 | 96.5 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9890 | 98.9 | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9870 | 98.7 | 10000 | 9930 | 99.3 | 10000 | 9960 | 99.6 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9830 | 98.3 | 10000 | 9990 | 99.9 | 10000 | 9790 | 97.9 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 14:14 | | | 15:16 | | | 16:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9920 | 99.2 | 10000 | 9920 | 99.2 | 10000 | 9820 | 98.2 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9660 | 96.6 | 10000 | 9650 | 96.5 | 10000 | 9560 | 95.6 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9960 | 99.6 | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9900 | 99.0 | 10000 | 9950 | 99.5 | 10000 | 9880 | 98.8 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9860 | 98.6 | 10000 | 9760 | 97.6 | 10000 | 9660 | 96.6 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | 17:17 | | | 17:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9890 | 98.9 | 10000 | 9850 | 98.5 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9620 | 96.2 | 10000 | 9590 | 95.9 |
| Lead | | | | | | |
| Magnesium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9880 | 98.8 | 10000 | 9890 | 98.9 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9700 | 97.0 | 10000 | 9680 | 96.8 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP Date Analyzed: 06/05/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15707 Units: ug/l

| Time: | | | 09:56 | | 17:30 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4880 | 97.6 | 5000 | 100.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 98.1 | 98.1 | 98.9 | 98.9 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4700 | 94.0 | 5130 | 102.6 |
| Manganese | 15 | 15 | 16.3 | 108.7 | 15.8 | 105.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4860 | 97.2 | 5080 | 101.6 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4890 | 97.8 | 4830 | 96.6 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | | | 10:01 | | 10:05 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 526000 | 105.2 | 539000 | 107.8 |
| Antimony | | 2000 | -0.60 | | 2080 | 104.0 |
| Arsenic | | 2000 | 0.0 | | 2050 | 102.5 |
| Barium | | 500 | -0.20 | | 513 | 102.6 |
| Beryllium | | 500 | 0.20 | | 490 | 98.0 |
| Boron | | 1000 | 5.9* | | 1030 | 103.0 |
| Cadmium | | 1000 | 0.20 | | 1030 | 103.0 |
| Calcium | 500000 | 500000 | 473000 | 94.6 | 470000 | 94.0 |
| Chromium | | 500 | 0.10 | | 503 | 100.6 |
| Cobalt | | 500 | -1.0 | | 482 | 96.4 |
| Copper | | 500 | 0.50 | | 519 | 103.8 |
| Gold | | 500 | 4.2 | | 496 | 99.2 |
| Iron | 200000 | 200000 | 190000 | 95.0 | 191000 | 95.5 |
| Lead | | 1000 | -0.40 | | 905 | 90.5 |
| Magnesium | 500000 | 500000 | 489000 | 97.8 | 492000 | 98.4 |
| Manganese | | 500 | 0.70 | | 517 | 103.4 |
| Molybdenum | | 1000 | -0.30 | | 973 | 97.3 |
| Nickel | | 1000 | -2.5* | | 890 | 89.0 |
| Palladium | | 500 | -56* | | 496 | 99.2 |
| Platinum | | 500 | -30* | | 491 | 98.2 |
| Potassium | | | -7.5 | | -39 | |
| Selenium | | 2000 | -2.8 | | 1960 | 98.0 |
| Silicon | | 2000 | 44.2 | | 2220 | 111.0 |
| Silver | | 1000 | 0.0 | | 1060 | 106.0 |
| Sodium | | | 69.3 | | 69.5 | |
| Strontium | | 1000 | 0.60 | | 974 | 97.4 |
| Thallium | | 2000 | -0.90 | | 1930 | 96.5 |
| Tin | | 1000 | 0.40 | | 989 | 98.9 |
| Titanium | | 500 | 8.9* | | 523 | 104.6 |
| Tungsten | | 2000 | -31* | | 1920 | 96.0 |
| Vanadium | | 500 | 0.50 | | 512 | 102.4 |
| Zinc | | 1000 | -0.60 | | 900 | 90.0 |
| Zirconium | | 500 | 1.2 | | 460 | 92.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060513M1L.ICP  Date Analyzed: 06/05/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15707  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:50 | MA15715-STD1 | 1 | | STD1 |
| 10:54 | MA15715-STD2 | 1 | | STD2 |
| 10:59 | MA15715-STD3 | 1 | | STD3 |
| 11:03 | MA15715-STD4 | 1 | | STD4 |
| 11:08 | MA15715-ICV1 | 1 | | |
| 11:12 | MA15715-ICB1 | 1 | | |
| 11:17 | MA15715-CCV1 | 1 | | |
| 11:21 | MA15715-CCB1 | 1 | | |
| 11:26 | MA15715-CRI1 | 1 | | |
| 11:30 | MA15715-ICSA1 | 1 | | |
| 11:35 | MA15715-ICSAB1 | 1 | | |
| 11:39 | ZZZZZZ | 1 | | |
| 11:43 | ZZZZZZ | 1 | | |
| 11:48 | ZZZZZZ | 1 | | |
| 11:52 | ZZZZZZ | 1 | | |
| 11:56 | ZZZZZZ | 1 | | |
| 12:01 | ZZZZZZ | 1 | | |
| 12:05 | ZZZZZZ | 1 | | |
| 12:09 | MA15715-CCV2 | 1 | | |
| 12:13 | MA15715-CCB2 | 1 | | |
| 12:18 | ZZZZZZ | 1 | | |
| 12:22 | ZZZZZZ | 1 | | |
| 12:27 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:31 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:35 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:40 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:44 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:48 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 12:53 | ZZZZZZ | 1 | | DNR: FOR CONFIRMATION ONLY. |
| 13:02 | MA15715-CCV3 | 1 | | |
| 13:21 | MA15715-CCB3 | 1 | | |
| 13:26 | MC21261-1F | 2 | | |
| 13:30 | MC21261-1F | 5 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:34 | MC21261-1F | 10 | | |
| 13:39 | MC21261-2F | 5 | | |
| 13:43 | MC21261-3F | 2 | | |
| 13:47 | MC21261-3F | 3 | | |
| 13:52 | MC21261-3F | 5 | | |
| 13:56 | MC21261-3F | 20 | | |
| 14:01 | MC21261-4F | 5 | | |
| 14:05 | MC21261-4F | 10 | | |
| 14:09 | MA15715-CCV4 | 1 | | |
| 14:13 | MA15715-CCB4 | 1 | | |
| 14:18 | MC21261-6F | 2 | | |
| 14:22 | MC21261-6F | 5 | | |
| 14:27 | MC21261-6F | 10 | | |
| 14:31 | MC21261-7F | 2 | | |
| 14:35 | MC21261-7F | 5 | | |
| 14:40 | MC21261-7F | 10 | | |
| 14:44 | MC21261-8F | 2 | | |
| 14:48 | MC21261-8F | 5 | | |
| 14:53 | MC21261-8F | 10 | | |
| ----------> | Last reportable sample/prep for job MC21261 | | | |
| 14:57 | ZZZZZZ | 2 | | |
| 15:02 | MA15715-CCV5 | 1 | | |
| 15:37 | MA15715-CCB5 | 1 | | |
| 15:49 | ZZZZZZ | 2 | | |
| 15:53 | ZZZZZZ | 3 | | |
| 15:58 | ZZZZZZ | 10 | | |
| 16:02 | ZZZZZZ | 3 | | |
| 16:09 | ZZZZZZ | 10 | | |
| 16:13 | ZZZZZZ | 5 | | |
| 16:17 | ZZZZZZ | 10 | | |
| 16:22 | ZZZZZZ | 3 | | |
| 16:26 | ZZZZZZ | 5 | | |
| 16:30 | ZZZZZZ | 10 | | |
| 16:35 | MA15715-CCV6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:39 | MA15715-CCB6 | 1 | | |
| 16:43 | ZZZZZZ | 2 | | |
| 16:48 | ZZZZZZ | 2 | | |
| 16:52 | ZZZZZZ | 5 | | |
| 16:57 | ZZZZZZ | 10 | | |
| 17:01 | ZZZZZZ | 2 | | |
| 17:05 | ZZZZZZ | 5 | | |
| 17:10 | ZZZZZZ | 20 | | |
| 17:14 | ZZZZZZ | 3 | | |
| 17:18 | ZZZZZZ | 5 | | |
| 17:23 | MA15715-CRI2 | 1 | | |
| 17:27 | MA15715-CCV7 | 1 | | |
| 17:35 | MA15715-CCB7 | 1 | | |

----------> Last reportable CCB for job MC21261
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 10:50 | MA15715-STD1 | 2392 R | 78347 R | 15501 R |
| 10:54 | MA15715-STD2 | 2386 | 77966 | 15424 |
| 10:59 | MA15715-STD3 | | | 15482 |
| 11:03 | MA15715-STD4 | 2435 | 78944 | 15473 |
| 11:08 | MA15715-ICV1 | 2405 | 78574 | 15520 |
| 11:12 | MA15715-ICB1 | 2412 | 79156 | 15403 |
| 11:17 | MA15715-CCV1 | 2424 | 79074 | 15479 |
| 11:21 | MA15715-CCB1 | 2413 | 78710 | 15402 |
| 11:26 | MA15715-CRI1 | 2460 | 78857 | 15810 |
| 11:30 | MA15715-ICSA1 | 2310 | 73564 | 15462 |
| 11:35 | MA15715-ICSAB1 | 2303 | 73643 | 15546 |
| 11:39 | ZZZZZZ | 2430 | 78479 | 15709 |
| 11:43 | ZZZZZZ | 2429 | 79044 | 15725 |
| 11:48 | ZZZZZZ | 2409 | 78157 | 15724 |
| 11:52 | ZZZZZZ | 2411 | 78123 | 15646 |
| 11:56 | ZZZZZZ | 2401 | 78231 | 15584 |
| 12:01 | ZZZZZZ | 2394 | 78483 | 15654 |
| 12:05 | ZZZZZZ | 2391 | 78703 | 15842 |
| 12:09 | MA15715-CCV2 | 2453 | 80040 | 15650 |
| 12:13 | MA15715-CCB2 | 2417 | 78526 | 15492 |
| 12:18 | ZZZZZZ | 2400 | 78777 | 15809 |
| 12:22 | ZZZZZZ | 2401 | 78261 | 15582 |
| 12:27 | ZZZZZZ | 2395 | 78552 | 15646 |
| 12:31 | ZZZZZZ | 2383 | 77678 | 15664 |
| 12:35 | ZZZZZZ | 2404 | 78554 | 15846 |
| 12:40 | ZZZZZZ | 2402 | 78248 | 15685 |
| 12:44 | ZZZZZZ | 2375 | 78239 | 15736 |
| 12:48 | ZZZZZZ | 2398 | 78018 | 15575 |
| 12:53 | ZZZZZZ | 2372 | 78282 | 15879 |
| 13:02 | MA15715-CCV3 | 2428 | 78861 | 15678 |
| 13:21 | MA15715-CCB3 | 2410 | 78081 | 15540 |
| 13:26 | MC21261-1F | 2366 | 77530 | 15522 |
| 13:30 | MC21261-1F | 2382 | 78065 | 15529 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 13:34 | MC21261-1F | 2382 | 78076 | 15548 |
| 13:39 | MC21261-2F | 2387 | 78355 | 15488 |
| 13:43 | MC21261-3F | 2351 | 77547 | 15532 |
| 13:47 | MC21261-3F | 2376 | 78760 | 15583 |
| 13:52 | MC21261-3F | 2384 | 78735 | 15470 |
| 13:56 | MC21261-3F | 2394 | 78668 | 15627 |
| 14:01 | MC21261-4F | 2384 | 78289 | 15259 |
| 14:05 | MC21261-4F | 2387 | 77804 | 15619 |
| 14:09 | MA15715-CCV4 | 2404 | 79301 | 15503 |
| 14:13 | MA15715-CCB4 | 2402 | 78713 | 15654 |
| 14:18 | MC21261-6F | 2369 | 77992 | 15600 |
| 14:22 | MC21261-6F | 2407 | 79014 | 15647 |
| 14:27 | MC21261-6F | 2405 | 78915 | 15589 |
| 14:31 | MC21261-7F | 2388 | 78339 | 15550 |
| 14:35 | MC21261-7F | 2402 | 78234 | 15767 |
| 14:40 | MC21261-7F | 2386 | 78682 | 15533 |
| 14:44 | MC21261-8F | 2385 | 78631 | 15620 |
| 14:48 | MC21261-8F | 2383 | 78128 | 15495 |
| 14:53 | MC21261-8F | 2389 | 79051 | 15546 |
| 14:57 | ZZZZZZ | 2371 | 78147 | 15576 |
| 15:02 | MA15715-CCV5 | 2404 | 79082 | 15618 |
| 15:37 | MA15715-CCB5 | 2383 | 78448 | 15289 |
| 15:49 | ZZZZZZ | 2387 | 78295 | 15543 |
| 15:53 | ZZZZZZ | 2407 | 78795 | 15575 |
| 15:58 | ZZZZZZ | 2391 | 78910 | 15582 |
| 16:02 | ZZZZZZ | 2394 | 78879 | 15455 |
| 16:09 | ZZZZZZ | 2391 | 78872 | 15620 |
| 16:13 | ZZZZZZ | 2382 | 78537 | 15575 |
| 16:17 | ZZZZZZ | 2379 | 78720 | 15683 |
| 16:22 | ZZZZZZ | 2368 | 78537 | 15469 |
| 16:26 | ZZZZZZ | 2370 | 78875 | 15585 |
| 16:30 | ZZZZZZ | 2375 | 78600 | 15512 |
| 16:35 | MA15715-CCV6 | 2404 | 78640 | 15527 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15715
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 16:39 | MA15715-CCB6 | 2361 | 77488 | 15519 |
| 16:43 | ZZZZZZ | 2371 | 78218 | 15454 |
| 16:48 | ZZZZZZ | 2388 | 77870 | 15697 |
| 16:52 | ZZZZZZ | 2418 | 78697 | 15639 |
| 16:57 | ZZZZZZ | 2413 | 78457 | 15596 |
| 17:01 | ZZZZZZ | 2391 | 78349 | 15691 |
| 17:05 | ZZZZZZ | 2401 | 79424 | 15675 |
| 17:10 | ZZZZZZ | 2381 | 78467 | 15527 |
| 17:14 | ZZZZZZ | 2383 | 78398 | 15383 |
| 17:18 | ZZZZZZ | 2395 | 78249 | 15639 |
| 17:23 | MA15715-CRI2 | 2385 | 78385 | 15472 |
| 17:27 | MA15715-CCV7 | 2410 | 78971 | 15624 |
| 17:35 | MA15715-CCB7 | 2400 | 77928 | 15675 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 11:12 ICB1 | | 11:21 CCB1 | | 12:13 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 46.9 | <5000 | 43.5 | <5000 | 11.5 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 7.5 | <100 | 7.2 | <100 | 21.0 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 2.3 | <5000 | 22.4 | <5000 | 17.5 | <5000 |
| Manganese | 15 | .16 | 2.5 | 1.0 | <15 | 0.80 | <15 | 0.90 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 23.6 | <5000 | 24.4 | <5000 | 0.0 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 16.4 | <5000 | 8.3 | <5000 | 35.3 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 13:21 CCB3 | | 14:13 CCB4 | | 15:37 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | -0.40 | <5000 | 5.4 | <5000 | 2.6 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | 2.4 | <100 | 5.2 | <100 | 1.4 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 17.3 | <5000 | 5.1 | <5000 | 17.6 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.10 | <15 | 0.60 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 12.0 | <5000 | 2.2 | <5000 | 19.2 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | 9.2 | <5000 | 24.1 | <5000 | 9.8 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| Time: / Sample ID: | | | | 16:39 CCB6 | | 17:35 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | 86.8 | <5000 | 39.1 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | 6.7 | <100 | 3.5 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | -7.1 | <5000 | 14.3 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.60 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 28.9 | <5000 | 31.5 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 21.4 | <5000 | 16.3 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15715  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 11:08 | | | 11:17 | | | 12:09 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17800 | 98.9 | 10000 | 9770 | 97.7 | 10000 | 9780 | 97.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 9790 | 97.9 | 10000 | 9850 | 98.5 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18000 | 100.0 | 10000 | 9570 | 95.7 | 10000 | 9530 | 95.3 |
| Manganese | 3000 | 2840 | 94.7 | 2000 | 1920 | 96.0 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 9730 | 97.3 | 10000 | 9710 | 97.1 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15200 | 101.3 | 10000 | 9740 | 97.4 | 10000 | 9780 | 97.8 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 13:02 | | | 14:09 | | | 15:02 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9720 | 97.2 | 10000 | 9830 | 98.3 | 10000 | 9870 | 98.7 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9790 | 97.9 | 10000 | 9770 | 97.7 | 10000 | 9780 | 97.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9530 | 95.3 | 10000 | 9710 | 97.1 | 10000 | 9730 | 97.3 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1910 | 95.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9710 | 97.1 | 10000 | 9840 | 98.4 | 10000 | 9840 | 98.4 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9740 | 97.4 | 10000 | 9790 | 97.9 | 10000 | 9820 | 98.2 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | 16:35 | | | 17:27 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9890 | 98.9 | 10000 | 9840 | 98.4 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9830 | 98.3 | 10000 | 9780 | 97.8 |
| Lead | | | | | | |
| Magnesium | 10000 | 9760 | 97.6 | 10000 | 9720 | 97.2 |
| Manganese | 2000 | 1930 | 96.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9850 | 98.5 | 10000 | 9860 | 98.6 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9810 | 98.1 | 10000 | 9790 | 97.9 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP Date Analyzed: 06/06/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15715 Units: ug/l

| Time: | | | 11:26 | | 17:23 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5020 | 100.4 | 5020 | 100.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 105 | 105.0 | 105 | 105.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 4910 | 98.2 |
| Manganese | 15 | 15 | 15.7 | 104.7 | 15.8 | 105.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5000 | 100.0 | 5020 | 100.4 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4920 | 98.4 | 4910 | 98.2 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | | | 11:30 | | 11:35 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 508000 | 101.6 | 512000 | 102.4 |
| Antimony | | 2000 | 0.30 | | 1950 | 97.5 |
| Arsenic | | 2000 | -0.30 | | 1950 | 97.5 |
| Barium | | 500 | -0.10 | | 491 | 98.2 |
| Beryllium | | 500 | 0.10 | | 473 | 94.6 |
| Boron | | 1000 | 5.0* | | 968 | 96.8 |
| Cadmium | | 1000 | -0.10 | | 980 | 98.0 |
| Calcium | 500000 | 500000 | 455000 | 91.0 | 458000 | 91.6 |
| Chromium | | 500 | 0.0 | | 467 | 93.4 |
| Cobalt | | 500 | 0.50 | | 446 | 89.2 |
| Copper | | 500 | 1.1 | | 482 | 96.4 |
| Gold | | 500 | 4.5 | | 472 | 94.4 |
| Iron | 200000 | 200000 | 188000 | 94.0 | 190000 | 95.0 |
| Lead | | 1000 | -0.80 | | 848 | 84.8 |
| Magnesium | 500000 | 500000 | 479000 | 95.8 | 472000 | 94.4 |
| Manganese | | 500 | 0.70 | | 473 | 94.6 |
| Molybdenum | | 1000 | -1.0 | | 898 | 89.8 |
| Nickel | | 1000 | -2.4* | | 831 | 83.1 |
| Palladium | | 500 | -35* | | 489 | 97.8 |
| Platinum | | 500 | -32* | | 477 | 95.4 |
| Potassium | | | -3.4 | | 16.5 | |
| Selenium | | 2000 | -5.1 | | 1890 | 94.5 |
| Silicon | | 2000 | 33.0 | | 2080 | 104.0 |
| Silver | | 1000 | 0.10 | | 1000 | 100.0 |
| Sodium | | | 158 | | 152 | |
| Strontium | | 1000 | 1.5* | | 989 | 98.9 |
| Thallium | | 2000 | -0.40 | | 1790 | 89.5 |
| Tin | | 1000 | -0.10 | | 922 | 92.2 |
| Titanium | | 500 | 7.9* | | 491 | 98.2 |
| Tungsten | | 2000 | -29 | | 1810 | 90.5 |
| Vanadium | | 500 | 0.20 | | 473 | 94.6 |
| Zinc | | 1000 | -1.3 | | 850 | 85.0 |
| Zirconium | | 500 | 0.20 | | 464 | 92.8 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB060613M1L.ICP  Date Analyzed: 06/06/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15715  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF Date Analyzed: 06/07/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15721
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:41 | MA15721-STD1 | 1 | | STDA |
| 09:48 | MA15721-STD2 | 1 | | STDB |
| 09:55 | MA15721-STD3 | 1 | | STDC |
| 10:02 | MA15721-STD4 | 1 | | STDD |
| 10:10 | MA15721-STD5 | 1 | | STDE |
| 10:18 | MA15721-STD6 | 1 | | STDF |
| 10:25 | MA15721-STD7 | 1 | | STDG |
| 10:32 | MA15721-STD8 | 1 | | STDH |
| 10:39 | MA15721-ICV1 | 1 | | |
| 10:50 | MA15721-ICB1 | 1 | | |
| 10:57 | MA15721-CCV1 | 1 | | |
| 11:04 | MA15721-CCB1 | 1 | | |
| 11:11 | MA15721-CRI1 | 1 | | |
| 11:19 | MA15721-ICSA1 | 1 | | |
| 11:26 | MA15721-ICSAB1 | 1 | | |
| 11:33 | ZZZZZZ | 1 | | RINSECONF |
| 11:40 | MP21104A-MB1 | 2 | | |
| 11:47 | MC21261-9F | 2 | | |
| 11:54 | MP21104A-SD1 | 10 | | |
| 12:01 | MC21261-10F | 2 | | |
| 12:08 | MC21261-11F | 2 | | |
| 12:15 | MC21261-12F | 2 | | |
| 12:22 | MA15721-CCV2 | 1 | | |
| 12:29 | MA15721-CCB2 | 1 | | |
| 12:37 | MC21261-13F | 2 | | |
| 12:44 | MP21104A-PS1 | 2 | | |
| 12:51 | MP21104A-S1 | 20 | | |
| 12:58 | MP21104A-S2 | 20 | | |
| 13:05 | MP21104A-B1 | 20 | | |
| 13:12 | ZZZZZZ | 2 | | DNR: SEE RERUN. |
| 13:19 | MC21202-14F | 2 | | (sample used for QC only; not part of login MC21261) |
| 13:26 | MP21097A-SD1 | 10 | | |
| 13:33 | ZZZZZZ | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:40 | ZZZZZZ | 50 | | |
| 13:47 | MA15721-CCV3 | 1 | | |
| 13:54 | MA15721-CCB3 | 1 | | |
| 14:01 | ZZZZZZ | 2 | | |
| 14:09 | ZZZZZZ | 2 | | |
| 14:16 | ZZZZZZ | 2 | | |
| 14:23 | ZZZZZZ | 20 | | |
| 14:30 | ZZZZZZ | 2 | | |
| 14:37 | ZZZZZZ | 50 | | |
| 14:44 | ZZZZZZ | 50 | | |
| 14:51 | ZZZZZZ | 2 | | |
| 14:58 | ZZZZZZ | 2 | | |
| 15:05 | MC21261-1F | 50 | | |
| 15:12 | MA15721-CCV4 | 1 | | |
| 15:19 | MA15721-CCB4 | 1 | | |
| 15:26 | MC21261-2F | 2 | | |
| 15:33 | MC21261-3F | 2 | | |
| 15:40 | MC21261-4F | 100 | | |
| 15:48 | MC21261-5F | 2 | | |
| 15:55 | MC21261-6F | 10 | | |
| 16:02 | MC21261-7F | 2 | | |
| 16:09 | MC21261-8F | 2 | | |
| 16:16 | MP21097A-PS1 | 2 | | |
| 16:23 | MP21097A-S1 | 20 | | |
| 16:30 | MP21097A-S2 | 20 | | |
| 16:37 | MA15721-CCV5 | 1 | | |
| 16:44 | MA15721-CCB5 | 1 | | |
| 16:51 | MP21097A-B1 | 20 | | |
| 16:58 | MP21097A-MB1 | 2 | | |
| ----------> | Last reportable sample/prep for job MC21261 | | | |
| 17:11 | MA15721-CRI2 | 1 | | |
| 17:18 | MA15721-CCV6 | 1 | | |
| 17:25 | MA15721-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC21261 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 09:41 | MA15721-STD1 | 1866118 R | 2660105 R | 293973 R | 561821 R | 124165 R | 3161327 R | 3455998 R | 1091146 R |
| 09:48 | MA15721-STD2 | 1868205 | 2668327 | 292751 | 554072 | 123631 | 3154552 | 3462003 | 1087637 |
| 09:55 | MA15721-STD3 | 1858682 | 2646122 | 293087 | 551047 | 122840 | 3136038 | 3456649 | 1088599 |
| 10:02 | MA15721-STD4 | 1854574 | 2645720 | 295033 | 540541 | 123093 | 3120736 | 3437968 | 1083072 |
| 10:10 | MA15721-STD5 | 1858476 | 2622459 | 293150 | 539791 | 121874 | 3118717 | 3440740 | 1072512 |
| 10:18 | MA15721-STD6 | 1836609 | 2630238 | 292113 | 538310 | 120815 | 3128525 | 3397116 | 1063789 |
| 10:25 | MA15721-STD7 | 1850436 | 2639131 | 297077 | 554332 | 124839 | 3114065 | 3456814 | 1095520 |
| 10:32 | MA15721-STD8 | 1819591 | 2674280 | 300384 | 564864 | 125641 | 3020158 | 3356052 | 1074836 |
| 10:39 | MA15721-ICV1 | 1839090 | 2648095 | 297041 | 547562 | 123257 | 3044042 | 3375397 | 1068358 |
| 10:50 | MA15721-ICB1 | 1849698 | 2635220 | 301217 | 553916 | 125489 | 3145279 | 3461518 | 1110695 |
| 10:57 | MA15721-CCV1 | 1829757 | 2639693 | 297223 | 542386 | 122956 | 3057691 | 3381715 | 1067438 |
| 11:04 | MA15721-CCB1 | 1859643 | 2637293 | 296342 | 551272 | 124544 | 3122635 | 3451577 | 1102678 |
| 11:11 | MA15721-CRI1 | 1944098 | 2831243 | 300364 | 582500 | 125166 | 3330613 | 3655443 | 1105064 |
| 11:19 | MA15721-ICSA1 | 1719054 | 2584798 | 283478 | 599759 | 127935 | 2817618 | 3228944 | 992660 |
| 11:26 | MA15721-ICSAB1 | 1811392 | 2604935 | 283515 | 596996 | 126769 | 2815875 | 3288157 | 982270 |
| 11:33 | ZZZZZZ | 2120404 | 2852367 | 305900 | 593330 | 128788 | 3363671 | 3739709 | 1122450 |
| 11:40 | MP21104A-MB1 | 2089273 | 2677388 | 307125 | 553764 | 128351 | 3116248 | 3439029 | 1108921 |
| 11:47 | MC21261-9F | 2214545 | 2905384 | 305852 | 593533 | 127615 | 3234472 | 3689966 | 1094454 |
| 11:54 | MP21104A-SD1 | 2183385 | 2910325 | 310478 | 597066 | 129908 | 3328996 | 3778789 | 1123645 |
| 12:01 | MC21261-10F | 2198501 | 2930837 | 308603 | 580258 | 125028 | 3096760 | 3557674 | 1058731 |
| 12:08 | MC21261-11F | 2244520 | 2959568 | 312298 | 591519 | 127436 | 3155921 | 3622760 | 1075560 |
| 12:15 | MC21261-12F | 2261121 | 2967397 | 313730 | 594760 | 128418 | 3175123 | 3644609 | 1092125 |
| 12:22 | MA15721-CCV2 | 2177271 | 2908129 | 317577 | 575488 | 130117 | 3212371 | 3615845 | 1106740 |
| 12:29 | MA15721-CCB2 | 2199351 | 2875765 | 311486 | 585551 | 127993 | 3288010 | 3666697 | 1112385 |
| 12:37 | MC21261-13F | 2410689 | 3048608 | 315131 | 610462 | 128765 | 3420610 | 3810224 | 1105084 |
| 12:44 | MP21104A-PS1 | 2318541 | 2971516 | 316918 | 596269 | 129433 | 3254582 | 3717565 | 1103224 |
| 12:51 | MP21104A-S1 | 2096307 | 2764960 | 312751 | 563107 | 129039 | 3160676 | 3533090 | 1104818 |
| 12:58 | MP21104A-S2 | 2161897 | 2899208 | 312987 | 581242 | 128838 | 3303294 | 3697875 | 1118529 |
| 13:05 | MP21104A-B1 | 2122473 | 2867853 | 315016 | 575988 | 127896 | 3287704 | 3658672 | 1091657 |
| 13:12 | ZZZZZZ | 2328509 | 2961593 | 318836 | 598830 | 129239 | 3341960 | 3698462 | 1108629 |
| 13:19 | MC21202-14F | 2313227 | 2986351 | 320282 | 600844 | 131237 | 3219099 | 3664289 | 1098077 |
| 13:26 | MP21097A-SD1 | 2181191 | 2906545 | 316821 | 595346 | 130292 | 3301443 | 3709070 | 1122562 |
| 13:33 | ZZZZZZ | 2132303 | 2861390 | 308429 | 588708 | 127635 | 3221905 | 3619302 | 1093232 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:40 | ZZZZZZ | 2081263 | 2857026 | 315115 | 586847 | 129792 | 3287962 | 3673008 | 1130595 |
| 13:47 | MA15721-CCV3 | 2102376 | 2829064 | 309836 | 570557 | 127271 | 3190102 | 3569380 | 1080302 |
| 13:54 | MA15721-CCB3 | 2167478 | 2847532 | 314887 | 583873 | 129087 | 3283879 | 3654870 | 1121503 |
| 14:01 | ZZZZZZ | 2329959 | 2938173 | 333807 | 595485 | 134232 | 3319609 | 3683044 | 1132025 |
| 14:09 | ZZZZZZ | 2269183 | 2999583 | 332609 | 585672 | 131980 | 3113200 | 3564761 | 1094687 |
| 14:16 | ZZZZZZ | 2305001 | 3001158 | 320497 | 597258 | 130210 | 3239702 | 3664372 | 1107739 |
| 14:23 | ZZZZZZ | 2059747 | 2743405 | 311619 | 571948 | 129135 | 3152260 | 3547952 | 1120090 |
| 14:30 | ZZZZZZ | 2254137 | 2896472 | 315643 | 587962 | 128795 | 3150920 | 3582914 | 1099103 |
| 14:37 | ZZZZZZ | 2049412 | 2799449 | 312175 | 576183 | 129134 | 3238698 | 3636002 | 1137952 |
| 14:44 | ZZZZZZ | 2011900 | 2780651 | 308463 | 572806 | 128543 | 3226517 | 3611961 | 1119717 |
| 14:51 | ZZZZZZ | 2196232 | 2892171 | 310996 | 571110 | 126289 | 3061018 | 3521844 | 1072733 |
| 14:58 | ZZZZZZ | 2209606 | 2900456 | 313699 | 575062 | 125864 | 3073983 | 3512025 | 1076494 |
| 15:05 | MC21261-1F | 1994292 | 2740098 | 311671 | 569540 | 128972 | 3168264 | 3562790 | 1138306 |
| 15:12 | MA15721-CCV4 | 1991838 | 2734662 | 303782 | 554166 | 124883 | 3094070 | 3455311 | 1076799 |
| 15:19 | MA15721-CCB4 | 2044236 | 2742962 | 310464 | 565497 | 127925 | 3205348 | 3563482 | 1124606 |
| 15:26 | MC21261-2F | 2213976 | 2882304 | 321987 | 584733 | 131372 | 3139336 | 3589767 | 1112008 |
| 15:33 | MC21261-3F | 2177772 | 2878492 | 309105 | 567334 | 125609 | 3027822 | 3493731 | 1053566 |
| 15:40 | MC21261-4F | 1972863 | 2710408 | 310750 | 564917 | 129533 | 3215530 | 3566159 | 1138512 |
| 15:48 | MC21261-5F | 2181162 | 2776546 | 311133 | 568696 | 126473 | 3206371 | 3562719 | 1108276 |
| 15:55 | MC21261-6F | 1982613 | 2693475 | 306302 | 560890 | 126548 | 3102167 | 3470002 | 1112475 |
| 16:02 | MC21261-7F | 2135617 | 2830988 | 313714 | 578513 | 127627 | 3061975 | 3530126 | 1094581 |
| 16:09 | MC21261-8F | 2170527 | 2835472 | 321725 | 578782 | 130212 | 3062142 | 3528324 | 1123268 |
| 16:16 | MP21097A-PS1 | 2152192 | 2808443 | 308081 | 569860 | 127901 | 3148690 | 3559525 | 1090166 |
| 16:23 | MP21097A-S1 | 2138567 | 2981500 | 306311 | 604320 | 126696 | 3465014 | 3857087 | 1105768 |
| 16:30 | MP21097A-S2 | 1940220 | 2699716 | 304810 | 553187 | 125897 | 3178050 | 3507852 | 1110864 |
| 16:37 | MA15721-CCV5 | 1986193 | 2770382 | 301530 | 566092 | 124045 | 3187518 | 3547783 | 1071409 |
| 16:44 | MA15721-CCB5 | 2004302 | 2763147 | 305355 | 568649 | 126509 | 3240935 | 3600214 | 1124384 |
| 16:51 | MP21097A-B1 | 1939742 | 2713329 | 312224 | 554463 | 128398 | 3167939 | 3529498 | 1135155 |
| 16:58 | MP21097A-MB1 | 2164480 | 2814044 | 311761 | 572290 | 126815 | 3233856 | 3609558 | 1115182 |
| 17:11 | MA15721-CRI2 | 2002361 | 2780537 | 311766 | 569401 | 127550 | 3253936 | 3606331 | 1128451 |
| 17:18 | MA15721-CCV6 | 1979639 | 2741871 | 309154 | 557065 | 126388 | 3135165 | 3492787 | 1098188 |
| 17:25 | MA15721-CCB6 | 1982927 | 2744252 | 309020 | 568808 | 127591 | 3243322 | 3574051 | 1124844 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF Date Analyzed: 06/07/13 Methods: SW846 6020A
Analyst: PY Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 09:41 | MA15721-STD1 | 4795045 R | 2963190 R |
| 09:48 | MA15721-STD2 | 4779705 | 2957070 |
| 09:55 | MA15721-STD3 | 4815634 | 2964909 |
| 10:02 | MA15721-STD4 | 4779030 | 2950045 |
| 10:10 | MA15721-STD5 | 4799049 | 2998875 |
| 10:18 | MA15721-STD6 | 4816497 | 3006162 |
| 10:25 | MA15721-STD7 | 4829879 | 2979552 |
| 10:32 | MA15721-STD8 | 4812920 | 2859352 |
| 10:39 | MA15721-ICV1 | 4814476 | 2908058 |
| 10:50 | MA15721-ICB1 | 4803077 | 3002383 |
| 10:57 | MA15721-CCV1 | 4798332 | 2919010 |
| 11:04 | MA15721-CCB1 | 4810674 | 3014040 |
| 11:11 | MA15721-CRI1 | 5121924 | 3177391 |
| 11:19 | MA15721-ICSA1 | 4779270 | 2721454 |
| 11:26 | MA15721-ICSAB1 | 4876139 | 2748620 |
| 11:33 | ZZZZZZ | 5216287 | 3287754 |
| 11:40 | MP21104A-MB1 | 4898851 | 3047218 |
| 11:47 | MC21261-9F | 5276442 | 3166484 |
| 11:54 | MP21104A-SD1 | 5269384 | 3317790 |
| 12:01 | MC21261-10F | 5153088 | 3001446 |
| 12:08 | MC21261-11F | 5226960 | 3077430 |
| 12:15 | MC21261-12F | 5221869 | 3155944 |
| 12:22 | MA15721-CCV2 | 5149217 | 3135038 |
| 12:29 | MA15721-CCB2 | 5140576 | 3203447 |
| 12:37 | MC21261-13F | 5420016 | 3346101 |
| 12:44 | MP21104A-PS1 | 5256473 | 3234443 |
| 12:51 | MP21104A-S1 | 4955776 | 3066211 |
| 12:58 | MP21104A-S2 | 5183529 | 3178334 |
| 13:05 | MP21104A-B1 | 5136964 | 3178024 |
| 13:12 | ZZZZZZ | 5239185 | 3265428 |
| 13:19 | MC21202-14F | 5217916 | 3158519 |
| 13:26 | MP21097A-SD1 | 5170250 | 3240405 |
| 13:33 | ZZZZZZ | 5097329 | 3158296 |

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:40 | ZZZZZZ | 5050682 | 3168870 |
| 13:47 | MA15721-CCV3 | 5081953 | 3044633 |
| 13:54 | MA15721-CCB3 | 5107890 | 3155854 |
| 14:01 | ZZZZZZ | 5180297 | 3221933 |
| 14:09 | ZZZZZZ | 5113997 | 2972083 |
| 14:16 | ZZZZZZ | 5122656 | 3131784 |
| 14:23 | ZZZZZZ | 4898293 | 3034071 |
| 14:30 | ZZZZZZ | 5054165 | 3078849 |
| 14:37 | ZZZZZZ | 4998015 | 3095287 |
| 14:44 | ZZZZZZ | 5011499 | 3066188 |
| 14:51 | ZZZZZZ | 5008263 | 2943551 |
| 14:58 | ZZZZZZ | 5046065 | 2970969 |
| 15:05 | MC21261-1F | 4945248 | 3052649 |
| 15:12 | MA15721-CCV4 | 4947069 | 2998990 |
| 15:19 | MA15721-CCB4 | 4932497 | 3063120 |
| 15:26 | MC21261-2F | 5145955 | 3050826 |
| 15:33 | MC21261-3F | 4972809 | 2942589 |
| 15:40 | MC21261-4F | 4888030 | 3006472 |
| 15:48 | MC21261-5F | 5021450 | 3096290 |
| 15:55 | MC21261-6F | 4869838 | 3014776 |
| 16:02 | MC21261-7F | 5023590 | 2965336 |
| 16:09 | MC21261-8F | 5008487 | 2957633 |
| 16:16 | MP21097A-PS1 | 5013181 | 3065764 |
| 16:23 | MP21097A-S1 | 5367958 | 3299702 |
| 16:30 | MP21097A-S2 | 4866142 | 3033695 |
| 16:37 | MA15721-CCV5 | 5066895 | 3024294 |
| 16:44 | MA15721-CCB5 | 4974557 | 3104737 |
| 16:51 | MP21097A-B1 | 4896369 | 3037193 |
| 16:58 | MP21097A-MB1 | 5063827 | 3148929 |
| 17:11 | MA15721-CRI2 | 5012259 | 3079191 |
| 17:18 | MA15721-CCV6 | 4926247 | 2992222 |
| 17:25 | MA15721-CCB6 | 4953385 | 3093644 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
Analyst: PY  Run ID: MA15721
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: / Sample ID: | | | | 10:50 ICB1 | | 11:04 CCB1 | | 12:29 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0011 | <0.50 | 0.00020 | <0.50 | 0.0076 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: / Sample ID: | | | | 13:54 CCB3 | | 15:19 CCB4 | | 16:44 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.011 | <0.50 | 0.014 | <0.50 | 0.013 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15721  Units: ug/l

| Time: | | | | 17:25 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0061 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 10:39 | | | 10:57 | | | 12:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.9 | 101.5 | 50 | 51.1 | 102.2 | 50 | 49.3 | 98.6 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 13:47 | | | 15:12 | | | 16:37 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 50.7 | 101.4 | 50 | 50.9 | 101.8 | 50 | 50.6 | 101.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | 17:18 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 50.7 | 101.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | | 11:11 | | 17:11 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.52 | 104.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA060713W1L.AGF  Date Analyzed: 06/07/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15721  Units: ug/l

| Time: | | | 11:19 | | 11:26 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 91300 | 91.3 | 94600 | 94.6 |
| Antimony | | | 0.29* | | 0.29* | |
| Arsenic | | 20 | 0.22 | | 19.3 | 96.5 |
| Barium | | | 0.22 | | 0.60* | |
| Beryllium | | | 0.0013 | | 0.0034 | |
| Boron | | | 0.043 | | 0.049 | |
| Cadmium | | 20 | 1.4* | | 20.8 | 104.0 |
| Calcium | 100000 | 100000 | 92700 | 92.7 | 96300 | 96.3 |
| Chromium | | 20 | 1.0* | | 20.7 | 103.5 |
| Cobalt | | 20 | 0.049 | | 19.6 | 98.0 |
| Copper | | 20 | 0.41 | | 17.6 | 88.0 |
| Iron | 100000 | 100000 | 94100 | 94.1 | 96000 | 96.0 |
| Lead | | | 0.14 | | 0.15 | |
| Magnesium | 100000 | 100000 | 92400 | 92.4 | 95900 | 95.9 |
| Manganese | | 20 | 0.15 | | 19.4 | 97.0 |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2150 | 107.5 |
| Nickel | | 20 | 0.71* | | 19.7 | 98.5 |
| Potassium | 100000 | 100000 | 93200 | 93.2 | 97400 | 97.4 |
| Selenium | | | 0.11 | | -0.011 | |
| Silver | | 20 | 0.059 | | 19.6 | 98.0 |
| Sodium | 100000 | 100000 | 92100 | 92.1 | 95800 | 95.8 |
| Strontium | | | 4.8* | | 5.0* | |
| Thallium | | | 0.080 | | 0.034 | |
| Tin | | | 0.11 | | 0.092 | |
| Titanium | 2000 | 2000 | 1980 | 99.0 | 2050 | 102.5 |
| Vanadium | | | 0.037 | | 0.040 | |
| Zinc | | 20 | 1.8* | | 18.7 | 93.5 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 5.3 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 1.3 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 28.5 | <5000 |
| Manganese | 15 | .16 | .81 | 0.70 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 33.1 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | 25.4 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 25400 | 50000 | 25000 | 98.4 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 9590 | 11200 | 2000 | 80.5 | 75-125 |
| Lead | | | | | |
| Magnesium | 2710 | 29400 | 25000 | 106.8 | 75-125 |
| Manganese | 497 | 985 | 500 | 97.6 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 2470 | 28100 | 25000 | 102.5 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |
| Zirconium | | | | | |

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 25400 | 49800 | 25000 | 97.6 | 0.4 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 9590 | 11100 | 2000 | 75.5 (a) | 0.9 | 20 |
| Lead | | | | | | |
| Magnesium | 2710 | 29400 | 25000 | 106.8 | 0.0 | 20 |
| Manganese | 497 | 982 | 500 | 97.0 | 0.3 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 2470 | 28100 | 25000 | 102.5 | 0.0 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 24800 | 25000 | 99.2 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2080 | 2000 | 104.0 | 80-120 |
| Lead | | | | |
| Magnesium | 26100 | 25000 | 104.4 | 80-120 |
| Manganese | 489 | 500 | 97.8 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 26500 | 25000 | 106.0 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 24500 | 25000 | 98.0 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25400 | 26100 | 3.0 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 9590 | 9630 | 0.4 | 0-10 |
| Lead | | | | |
| Magnesium | 2710 | 2680 | 1.2 | 0-10 |
| Manganese | 497 | 504 | 1.6 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 2470 | 2690 | 8.8 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 6560 | 6650 | 1.3 | 0-10 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/03/13

| Metal | Sample ml | Final ml | MC21202-14F Raw | MC21202-14F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 25380 | 22069.57 | 66560 | 1 | 500 | 43478.26 | 102.3 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 9591 | 8340 | 9121 | 1 | 10 | 869.5652 | 89.8 | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 2713 | 2359.13 | 48410 | 1 | 500 | 43478.26 | 105.9 | 80-120 |
| Manganese | 10 | 11.5 | 496.7 | 431.913 | 1047 | .5 | 15 | 652.1739 | 94.3 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 2473 | 2150.435 | 46110 | 1 | 500 | 43478.26 | 101.1 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 6562 | 5706.087 | 48820 | 1 | 500 | 43478.26 | 99.2 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21097: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.39 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 30.0 | 559 | 500 | 105.8 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 30.0 | 557 | 500 | 105.4 | 0.4 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 511 | 500 | 102.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | MC21202-14F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 30.0 | 30.3 | 1.1 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21097A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/03/13

| Metal | Sample ml | Final ml | MC21202-14F Raw | MC21202-14F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 29.98 | 24.98333 | 41.6 | 2 | .1 | 16.66667 | 99.7 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21097A: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-5F, MC21261-6F, MC21261-7F, MC21261-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/04/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 29.1 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 10.6 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 35.8 | <5000 |
| Manganese | 15 | .16 | .81 | 0.60 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 45.5 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | 19.9 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 18900 | 45000 | 25000 | 104.4 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 124 | 2140 | 2000 | 100.8 | 75-125 |
| Lead | | | | | |
| Magnesium | 1690 | 28700 | 25000 | 108.0 | 75-125 |
| Manganese | 5970 | 6650 | 500 | 136.0(a) | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 1770 | 28300 | 25000 | 106.1 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 6900 | 32500 | 25000 | 102.4 | 75-125 |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |
| Zirconium | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 18900 | 45100 | 25000 | 101.2 | 0.2 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 124 | 2130 | 2000 | 100.3 | 0.5 | 20 |
| Lead | | | | | | |
| Magnesium | 1690 | 28200 | 25000 | 105.4 | 1.8 | 20 |
| Manganese | 5970 | 6730 | 500 | 152.0(a) | 1.2 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 1770 | 28300 | 25000 | 106.1 | 0.0 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 6900 | 32600 | 25000 | 103.0 | 0.3 | 20 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/04/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25100 | 25000 | 100.4 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2050 | 2000 | 102.5 | 80-120 |
| Lead | | | | |
| Magnesium | 25800 | 25000 | 103.2 | 80-120 |
| Manganese | 511 | 500 | 102.2 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25700 | 25000 | 102.8 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 24900 | 25000 | 99.6 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 18900 | 19700 | 4.1 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 124 | 109 | 12.0 (a) | 0-10 |
| Lead | | | | |
| Magnesium | 1690 | 1730 | 2.4 | 0-10 |
| Manganese | 5970 | 5980 | 0.3 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 1770 | 1950 | 10.5 (a) | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 6900 | 7120 | 3.1 | 0-10 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/04/13

| Metal | Sample ml | Final ml | MC21261-9F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 18890 | 16426.09 | 59510 | 1 | 500 | 43478.26 | 99.1 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 123.6 | 107.4783 | 961.6 | 1 | 10 | 869.5652 | 98.2 | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 1686 | 1466.087 | 47140 | 1 | 500 | 43478.26 | 105.1 | 80-120 |
| Manganese | 10 | 11.5 | 5967 | 5188.696 | 5692 | .5 | 15 | 652.1739 | 77.2 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 1765 | 1534.783 | 45510 | 1 | 500 | 43478.26 | 101.1 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 6899 | 5999.13 | 47620 | 1 | 500 | 43478.26 | 95.7 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21104: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.44 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.3 | 530 | 500 | 105.7 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.3 | 527 | 500 | 105.1 | 0.6 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 522 | 500 | 104.4 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | MC21261-9F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.34 | 0.737 | 44.8 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21104A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/04/13

| Metal | Sample ml | Final ml | MC21261-9F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 1.335 | 1.1125 | 17.44 | 2 | .1 | 16.66667 | 98.0 | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21104A: MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F, MC21261-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0029 | .0023 | .0009 | .0002 | .0013 | .0081 | .0000 | .0073 | .0031 |
| Stddev | .0000 | .0001 | .0001 | .0000 | .0001 | .0005 | .000 | .0003 | .0001 |
| %RSD | .9425 | 2.205 | 5.730 | 7.866 | 10.65 | 5.696 | 258.2 | 4.128 | 3.952 |
| #1 | -.0029 | .0023 | .0009 | .0002 | .0014 | .0078 | .0000 | .0075 | .0030 |
| #2 | -.0029 | .0022 | .0009 | .0002 | .0012 | .0084 | -.0001 | .0070 | .0032 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0005 | .0002 | .0137 | .0008 | -.0006 | .0001 | .0009 | .0004 | -.0005 |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0002 | .0001 | .0000 | .0000 | .0008 |
| %RSD | 16.24 | 32.12 | 1.113 | 8.129 | 42.28 | 150.9 | .9389 | 7.566 | 147.0 |
| #1 | -.0005 | .0003 | .0136 | .0008 | -.0007 | .0001 | .0009 | .0004 | -.0011 |
| #2 | -.0004 | .0002 | .0138 | .0008 | -.0004 | .0000 | .0009 | .0005 | .0000 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0009 | .0008 | .0001 | .0000 | .0001 | .0004 | .0299 | -.0002 | .0030 |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0003 | .0003 | .0004 | .0000 | .0002 |
| %RSD | 28.26 | 9.681 | 66.28 | 110.4 | 371.3 | 79.33 | 1.442 | 2.815 | 7.313 |
| #1 | -.0007 | .0007 | .0001 | .0001 | -.0001 | .0002 | .0296 | -.0002 | .0029 |
| #2 | -.0010 | .0008 | .0001 | .0000 | .0003 | .0006 | .0303 | -.0002 | .0032 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0003 | -.0013 | .0006 | -.0002 | .0008 | .0006 |
| Stddev | .0002 | .0000 | .0000 | .0000 | .0001 | .0002 |
| %RSD | 83.77 | 1.393 | 4.586 | 12.62 | 14.65 | 39.13 |
| #1 | -.0001 | -.0013 | .0005 | -.0002 | .0007 | .0008 |
| #2 | -.0004 | -.0012 | .0006 | -.0002 | .0009 | .0004 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/4/2013 12:30:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2200.3 | 58015. | 13767. |
| Stddev | .6 | 35. | 11. |
| %RSD | .02792 | .06063 | .08124 |
| #1 | 2200.7 | 57990. | 13775. |
| #2 | 2199.8 | 58040. | 13759. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/4/2013 12:35:10 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1619 | .6279 | 2.081 | 15.24 | 14.29 | 10.19 | 9.508 | 1.058 | 1.957 | 6.331 |
| Stddev | .0002 | .0007 | .004 | .03 | .03 | .02 | .018 | .004 | .001 | .103 |
| %RSD | .1275 | .1099 | .1742 | .2204 | .2076 | .1507 | .1876 | .3317 | .0491 | 1.624 |
| #1 | .1617 | .6274 | 2.079 | 15.21 | 14.27 | 10.18 | 9.496 | 1.060 | 1.958 | 6.404 |
| #2 | .1620 | .6284 | 2.084 | 15.26 | 14.31 | 10.20 | 9.521 | 1.055 | 1.957 | 6.258 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.058 | 8.010 | 3.218 | 1.729 | .8648 | 1.158 | 12.41 |
| Stddev | .022 | .008 | .006 | .002 | .0011 | .004 | .02 |
| %RSD | .2723 | .1035 | .1728 | .1333 | .1218 | .3098 | .1415 |
| #1 | 8.043 | 8.005 | 3.214 | 1.727 | .8656 | 1.156 | 12.40 |
| #2 | 8.074 | 8.016 | 3.222 | 1.730 | .8641 | 1.161 | 12.42 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2185.2 | 57495. | 13748. |
| Stddev | 2.1 | 394. | 80. |
| %RSD | .09608 | .68550 | .58218 |
| #1 | 2186.7 | 57216. | 13805. |
| #2 | 2183.7 | 57773. | 13692. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/4/2013 12:39:31 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.440 | 2.746 | 1.461 | .7127 | .2178 | 2.514 |
| Stddev | .004 | .006 | .002 | .0008 | .0001 | .006 |
| %RSD | .3127 | .2240 | .1181 | .1160 | .0295 | .2473 |
| #1 | 1.437 | 2.742 | 1.460 | .7121 | .2178 | 2.509 |
| #2 | 1.443 | 2.750 | 1.462 | .7133 | .2177 | 2.518 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13805. |
| Stddev | 71. |
| %RSD | .51225 |
| #1 | 13755. |
| #2 | 13855. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/4/2013 12:43:50 Type: Cal
Method: Accutest -SS2(v183) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3020 | .5111 | .0839 | 2.253 | 2.034 | 19.79 | 1.607 | 1.323 | .0705 | 3.087 |
| Stddev | .0003 | .0004 | .0002 | .003 | .001 | .09 | .001 | .003 | .0002 | .003 |
| %RSD | .0828 | .0759 | .2115 | .1228 | .0690 | .4721 | .0733 | .1886 | .3232 | .1007 |
| #1 | .3022 | .5108 | .0838 | 2.251 | 2.033 | 19.72 | 1.606 | 1.321 | .0707 | 3.085 |
| #2 | .3019 | .5113 | .0841 | 2.255 | 2.035 | 19.86 | 1.608 | 1.324 | .0704 | 3.089 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2201.4 | 57208. | 13734. |
| Stddev | 2.3 | 101. | 17. |
| %RSD | .10482 | .17661 | .12449 |
| #1 | 2199.7 | 57279. | 13722. |
| #2 | 2203.0 | 57136. | 13747. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/4/2013 12:48:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5235 | 15.61 | 2.998 | 3.044 | 3.066 | 3.099 | 3.052 | 18.09 | 3.018 | 2.972 |
| Stddev | .0011 | .03 | .014 | .001 | .008 | .007 | .011 | .08 | .008 | .008 |
| %RSD | .2194 | .2020 | .4623 | .0301 | .2677 | .2244 | .3730 | .4693 | .2554 | .2689 |
| #1 | .5243 | 15.63 | 3.008 | 3.044 | 3.072 | 3.104 | 3.060 | 18.15 | 3.023 | 2.978 |
| #2 | .5227 | 15.58 | 2.988 | 3.043 | 3.060 | 3.094 | 3.044 | 18.03 | 3.012 | 2.966 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.091 | 3.009 | 18.50 | 15.62 | 18.56 | 2.950 | 2.872 | 15.34 | 2.865 | 2.920 |
| Stddev | .002 | .004 | .02 | .04 | .04 | .005 | .005 | .04 | .011 | .012 |
| %RSD | .0512 | .1229 | .0832 | .2652 | .2141 | .1672 | .1586 | .2619 | .3957 | .4255 |
| #1 | 3.092 | 3.006 | 18.51 | 15.65 | 18.59 | 2.953 | 2.875 | 15.37 | 2.873 | 2.928 |
| #2 | 3.089 | 3.011 | 18.48 | 15.59 | 18.53 | 2.946 | 2.869 | 15.31 | 2.857 | 2.911 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.045 | 2.988 | 2.911 | 2.933 | 3.036 | 3.056 | 3.057 | 3.039 | 2.953 | 3.014 |
| Stddev | .003 | .001 | .006 | .015 | .013 | .012 | .013 | .003 | .004 | .001 |
| %RSD | .1059 | .0255 | .2071 | .5192 | .4124 | .3957 | .4138 | .0953 | .1528 | .0363 |
| #1 | 3.043 | 2.987 | 2.915 | 2.944 | 3.045 | 3.064 | 3.066 | 3.042 | 2.956 | 3.015 |
| #2 | 3.047 | 2.988 | 2.907 | 2.922 | 3.027 | 3.047 | 3.048 | 3.037 | 2.950 | 3.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 3.011 | 2.882 | 3.154 |
| Stddev | .001 | .010 | .000 |
| %RSD | .0334 | .3412 | .0043 |
| #1 | 3.011 | 2.889 | 3.153 |
| #2 | 3.010 | 2.875 | 3.154 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2190.3 | 56672. | 13783. |
| Stddev | 1.7 | 134. | 9. |
| %RSD | .07866 | .23702 | .06400 |
| #1 | 2189.1 | 56578. | 13777. |
| #2 | 2191.5 | 56767. | 13790. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/4/2013 12:54:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0082 | .0002 | .0016 | .0027 | .0008 | .0004 | .0018 | .0003 |
| Stddev | .0010 | .0021 | .0015 | .0015 | .0002 | .0001 | .0000 | .0011 | .0001 |
| %RSD | 152.5 | 25.23 | 910.9 | 90.84 | 6.834 | 17.22 | 11.80 | 58.81 | 45.48 |
| #1 | .0001 | -.0067 | .0012 | .0006 | .0026 | .0009 | .0004 | .0026 | .0004 |
| #2 | -.0014 | -.0096 | -.0009 | .0027 | .0028 | .0007 | .0004 | .0011 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0004 | -.0008 | .0006 | .0459 | -.0111 | .0005 | .0013 | .0046 |
| Stddev | .0000 | .0002 | .0005 | .0014 | .0025 | .0262 | .0000 | .0000 | .0018 |
| %RSD | 2.607 | 61.86 | 60.25 | 220.8 | 5.413 | 236.8 | 5.746 | 2.226 | 38.71 |
| #1 | .0005 | -.0005 | -.0004 | .0016 | .0441 | .0075 | .0005 | .0013 | .0034 |
| #2 | .0006 | -.0002 | -.0011 | -.0004 | .0476 | -.0296 | .0004 | .0012 | .0059 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | .0016 | .0027 | .0009 | .0004 | .0001 | .0002 | .0006 |
| Stddev | .0002 | .0001 | .0016 | .0063 | .0004 | .0009 | .0001 | .0005 | .0000 |
| %RSD | 124.4 | 15.10 | 99.23 | 236.4 | 41.56 | 196.4 | 154.8 | 240.3 | 5.428 |
| #1 | .0003 | .0003 | .0027 | -.0018 | .0011 | -.0002 | .0002 | -.0002 | .0005 |
| #2 | .0000 | .0004 | .0005 | .0071 | .0006 | .0010 | .0000 | .0006 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | F.0023 | .0002 | .0081 | .0003 | .0011 |
| Stddev | .0001 | .0000 | .0002 | .0066 | .0002 | .0002 |
| %RSD | 14.27 | .3720 | 101.7 | 80.70 | 61.95 | 21.09 |
| #1 | .0008 | .0023 | .0003 | .0035 | .0005 | .0009 |
| #2 | .0009 | .0023 | .0000 | .0128 | .0002 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2217.3 | 57161. | 13583. |
| Stddev | 1.6 | 305. | 151. |
| %RSD | .07129 | .53356 | 1.1096 |
| #1 | 2218.5 | 56945. | 13476. |
| #2 | 2216.2 | 57376. | 13689. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:01:36 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2557 | 9.844 | 1.920 | -.0001 | 1.962 | 1.989 | 2.033 | 9.875 | 1.968 | 2.016 |
| Stddev | .0006 | .011 | .004 | .0000 | .001 | .004 | .008 | .037 | .002 | .001 |
| %RSD | .2465 | .1126 | .2273 | 17.60 | .0464 | .2266 | .3887 | .3703 | .0878 | .0309 |
| #1 | .2552 | 9.836 | 1.917 | -.0001 | 1.962 | 1.986 | 2.027 | 9.849 | 1.967 | 2.016 |
| #2 | .2561 | 9.852 | 1.923 | -.0001 | 1.963 | 1.992 | 2.038 | 9.901 | 1.970 | 2.017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.998 | 2.020 | 9.896 | 9.992 | 9.990 | 1.947 | 1.929 | 9.776 | 1.881 | 1.895 |
| Stddev | .002 | .003 | .034 | .015 | .046 | .001 | .001 | .023 | .000 | .001 |
| %RSD | .1117 | .1587 | .3418 | .1534 | .4627 | .0659 | .0457 | .2308 | .0044 | .0683 |
| #1 | 1.997 | 2.022 | 9.872 | 9.981 | 9.957 | 1.946 | 1.928 | 9.760 | 1.881 | 1.894 |
| #2 | 2.000 | 2.018 | 9.919 | 10.00 | 10.02 | 1.947 | 1.929 | 9.792 | 1.881 | 1.896 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0015 | 1.917 | 1.903 | .0134 | 1.882 | 2.006 | 1.965 | 1.952 | 1.992 |
| Stddev | .0010 | .0001 | .001 | .003 | .0004 | .002 | .006 | .001 | .001 | .001 |
| %RSD | 1917. | 5.652 | .0671 | .1643 | 3.022 | .1212 | .3023 | .0523 | .0516 | .0451 |
| #1 | .0008 | .0016 | 1.916 | 1.901 | .0131 | 1.884 | 2.001 | 1.964 | 1.951 | 1.992 |
| #2 | -.0007 | .0015 | 1.918 | 1.906 | .0137 | 1.881 | 2.010 | 1.965 | 1.953 | 1.991 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0051 | 1.926 | .0015 |
| Stddev | .0018 | .004 | .0011 |
| %RSD | 35.26 | .2147 | 71.49 |
| #1 | -.0063 | 1.923 | .0022 |
| #2 | -.0038 | 1.928 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.6 | 56212. | 13633. |
| Stddev | 5.7 | 127. | 10. |
| %RSD | .25631 | .22552 | .07218 |
| #1 | 2209.6 | 56302. | 13640. |
| #2 | 2217.7 | 56123. | 13626. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 13:07:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0067 | -.0006 | .0008 | .0017 | .0003 | .0003 | .0598 | .0001 | .0003 |
| Stddev | .0003 | .0069 | .0006 | .0008 | .0004 | .0003 | .0000 | .0016 | .0001 | .0001 |
| %RSD | 28.81 | 103.5 | 89.62 | 103.0 | 23.97 | 116.7 | 2.067 | 2.665 | 77.71 | 19.62 |
| #1 | -.0011 | -.0116 | -.0002 | .0002 | .0019 | .0001 | .0003 | .0609 | .0000 | .0003 |
| #2 | -.0007 | -.0018 | -.0010 | .0014 | .0014 | .0005 | .0003 | .0586 | .0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0011 | .0012 | .0129 | -.0040 | .0004 | .0008 | .0003 | .0001 | -.0001 |
| Stddev | .0001 | .0005 | .0028 | .0319 | .0021 | .0000 | .0001 | .0007 | .0001 | .0005 |
| %RSD | 13.10 | 48.62 | 241.9 | 246.6 | 51.36 | 3.897 | 14.68 | 214.6 | 88.76 | 532.6 |
| #1 | -.0005 | -.0015 | .0032 | -.0096 | -.0026 | .0004 | .0009 | -.0002 | .0001 | -.0005 |
| #2 | -.0004 | -.0007 | -.0008 | .0355 | -.0055 | .0004 | .0007 | .0008 | .0000 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.0043 | .0011 | .0004 | -.0012 | .0003 | .0003 | .0003 | .0019 | .0002 |
| Stddev | .0003 | .0051 | .0001 | .0009 | .0009 | .0001 | .0001 | .0002 | .0001 | .0005 |
| %RSD | 12.06 | 118.4 | 8.163 | 244.8 | 71.64 | 38.28 | 21.46 | 83.70 | 2.764 | 353.3 |
| #1 | .0027 | -.0080 | .0011 | -.0003 | -.0006 | .0004 | .0004 | .0004 | .0019 | -.0002 |
| #2 | .0023 | -.0007 | .0010 | .0010 | -.0019 | .0002 | .0003 | .0001 | .0020 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0002 | -.0001 |
| Stddev | .0065 | .0000 | .0006 |
| %RSD | 119.7 | 8.170 | 413.9 |
| #1 | .0008 | .0002 | .0003 |
| #2 | .0100 | .0001 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.2 | 57042. | 13578. |
| Stddev | 5.3 | 774. | 6. |
| %RSD | .23646 | 1.3562 | .04469 |
| #1 | 2243.9 | 57589. | 13583. |
| #2 | 2236.4 | 56495. | 13574. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 13:12:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .1865 | .0029 | -.0008 | .1017 | .0516 | .0044 | 5.015 | .0041 | .0523 |
| Stddev | .0003 | .0024 | .0001 | .0011 | .0002 | .0001 | .0000 | .015 | .0001 | .0000 |
| %RSD | 5.361 | 1.290 | 3.152 | 135.7 | .1674 | .2810 | .1828 | .3058 | 2.669 | .0174 |
| #1 | .0051 | .1848 | .0029 | -.0016 | .1019 | .0517 | .0044 | 5.004 | .0041 | .0523 |
| #2 | .0055 | .1882 | .0030 | .0000 | .1016 | .0515 | .0044 | 5.026 | .0042 | .0523 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | .0244 | .1019 | 5.147 | 5.083 | .0153 | .1002 | 4.888 | .0392 | .0055 |
| Stddev | .0004 | .0006 | .0004 | .028 | .005 | .0002 | .0006 | .012 | .0000 | .0008 |
| %RSD | 3.991 | 2.268 | .3874 | .5518 | .0931 | 1.404 | .6165 | .2434 | .0118 | 13.70 |
| #1 | .0102 | .0248 | .1017 | 5.127 | 5.080 | .0155 | .1007 | 4.879 | .0392 | .0050 |
| #2 | .0096 | .0240 | .1022 | 5.168 | 5.086 | .0152 | .0998 | 4.896 | .0392 | .0060 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0060 | .0065 | .0100 | -.0007 | .0963 | .0105 | .0518 | .0063 | .0105 |
| Stddev | .0012 | .0045 | .0015 | .0000 | .0002 | .0001 | .0000 | .0008 | .0006 | .0006 |
| %RSD | 151.8 | 75.70 | 23.72 | .1279 | 24.03 | .1372 | .2193 | 1.538 | 9.370 | 5.566 |
| #1 | -.0001 | -.0028 | .0076 | .0100 | -.0006 | .0963 | .0105 | .0524 | .0067 | .0109 |
| #2 | .0016 | -.0092 | .0054 | .0100 | -.0008 | .0964 | .0106 | .0513 | .0059 | .0101 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0208 | .0000 |
| Stddev | .0020 | .0002 | .0002 |
| %RSD | 194.1 | 1.034 | 815.9 |
| #1 | .0024 | .0210 | -.0001 |
| #2 | -.0004 | .0207 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.8 | 56880. | 13556. |
| Stddev | 9.4 | 333. | 88. |
| %RSD | .41893 | .58487 | .65197 |
| #1 | 2236.2 | 56645. | 13618. |
| #2 | 2249.5 | 57115. | 13493. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/4/2013 13:20:03 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | 515.4 | .0013 | .0056 | .0056 | .0000 | .0001 | 467.7 | -.0006 | -.0006 |
| Stddev | .0006 | 5.2 | .0012 | .0009 | .0008 | .0001 | .0000 | 7.1 | .0003 | .0003 |
| %RSD | 72.37 | 1.001 | 97.26 | 15.68 | 14.20 | 421.7 | 14.61 | 1.522 | 50.65 | 49.96 |
| #1 | -.0013 | 519.0 | .0021 | .0062 | .0062 | .0001 | .0001 | 472.7 | -.0008 | -.0004 |
| #2 | -.0004 | 511.7 | .0004 | .0050 | .0051 | .0000 | .0001 | 462.6 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0007 | 191.4 | .0610 | 515.9 | .0006 | -.0005 | .0790 | -.0014 | .0025 |
| Stddev | .0000 | .0002 | .4 | .0402 | 1.1 | .0001 | .0002 | .0113 | .0001 | .0004 |
| %RSD | 4.543 | 30.34 | .1838 | 65.97 | .2096 | 10.32 | 46.64 | 14.24 | 5.251 | 17.43 |
| #1 | -.0009 | -.0009 | 191.7 | .0325 | 516.7 | .0005 | -.0003 | .0711 | -.0014 | .0028 |
| #2 | -.0008 | -.0006 | 191.2 | .0894 | 515.2 | .0006 | -.0007 | .0870 | -.0015 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0362 | -.0251 | -.0003 | -.0023 | .0405 | -.0004 | .0014 | .0096 | -.0008 | -.0004 |
| Stddev | .0011 | .0121 | .0004 | .0020 | .0006 | .0002 | .0003 | .0002 | .0003 | .0011 |
| %RSD | 2.981 | 48.11 | 153.7 | 88.07 | 1.379 | 56.06 | 19.12 | 2.141 | 41.59 | 251.4 |
| #1 | -.0355 | -.0337 | .0000 | -.0009 | .0401 | -.0006 | .0012 | .0097 | -.0010 | -.0012 |
| #2 | -.0370 | -.0166 | -.0006 | -.0037 | .0409 | -.0002 | .0016 | .0094 | -.0005 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0428 | .0014 | .0003 |
| Stddev | .0040 | .0000 | .0002 |
| %RSD | 9.228 | 1.978 | 79.72 |
| #1 | -.0456 | .0014 | .0005 |
| #2 | -.0401 | .0015 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2086.8 | 53118. | 13355. |
| Stddev | 2.2 | 17. | 98. |
| %RSD | .10660 | .03157 | .73636 |
| #1 | 2085.2 | 53130. | 13285. |
| #2 | 2088.4 | 53106. | 13424. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/4/2013 13:24:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.079 | 511.2 | 2.036 | .5122 | 1.013 | .5148 | .4934 | 469.0 | 1.028 | .4782 |
| Stddev | .001 | 6.0 | .004 | .0010 | .003 | .0002 | .0010 | 1.6 | .001 | .0014 |
| %RSD | .1216 | 1.178 | .2062 | .2012 | .2524 | .0400 | .2079 | .3361 | .0771 | .2941 |
| #1 | 1.078 | 515.5 | 2.033 | .5114 | 1.011 | .5150 | .4941 | 470.1 | 1.027 | .4772 |
| #2 | 1.080 | 507.0 | 2.038 | .5129 | 1.015 | .5147 | .4927 | 467.9 | 1.028 | .4792 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5030 | .5343 | 190.4 | .0676 | 511.0 | .4867 | .9567 | .0819 | .8609 | .8978 |
| Stddev | .0011 | .0009 | .6 | .0085 | 1.7 | .0005 | .0027 | .0086 | .0007 | .0003 |
| %RSD | .2240 | .1675 | .2900 | 12.56 | .3290 | .1078 | .2801 | 10.50 | .0833 | .0373 |
| #1 | .5022 | .5349 | 190.8 | .0736 | 512.2 | .4863 | .9549 | .0758 | .8604 | .8976 |
| #2 | .5038 | .5336 | 190.0 | .0616 | 509.9 | .4870 | .9586 | .0880 | .8614 | .8980 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4928 | .4796 | 2.020 | 1.940 | 2.157 | .9503 | 1.011 | .5223 | 1.900 | .5224 |
| Stddev | .0035 | .0011 | .002 | .001 | .003 | .0020 | .001 | .0006 | .006 | .0004 |
| %RSD | .7021 | .2208 | .0945 | .0588 | .1246 | .2150 | .1069 | .1208 | .3081 | .0854 |
| #1 | .4904 | .4788 | 2.019 | 1.939 | 2.155 | .9489 | 1.012 | .5218 | 1.896 | .5227 |
| #2 | .4953 | .4803 | 2.021 | 1.940 | 2.159 | .9518 | 1.011 | .5227 | 1.904 | .5221 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.927 | .9094 | .4553 |
| Stddev | .006 | .0025 | .0012 |
| %RSD | .3203 | .2705 | .2678 |
| #1 | 1.923 | .9076 | .4544 |
| #2 | 1.931 | .9111 | .4562 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2083.1 | 53328. | 13425. |
| Stddev | 6.3 | 369. | 115. |
| %RSD | .30373 | .69260 | .85569 |
| #1 | 2087.5 | 53589. | 13344. |
| #2 | 2078.6 | 53067. | 13506. |

Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 13:28:48 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2117 | 2.205 | .5070 | -.0005 | .0034 | 2.027 | .5298 | 24.72 | .5071 | .5088 |
| Stddev | .0010 | .007 | .0027 | .0003 | .0006 | .005 | .0014 | .04 | .0019 | .0013 |
| %RSD | .4704 | .3341 | .5304 | 60.96 | 16.11 | .2402 | .2613 | .1664 | .3700 | .2577 |
| #1 | .2110 | 2.200 | .5089 | -.0003 | .0038 | 2.023 | .5288 | 24.69 | .5084 | .5098 |
| #2 | .2124 | 2.210 | .5051 | -.0007 | .0030 | 2.030 | .5308 | 24.75 | .5058 | .5079 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5331 | .4949 | 2.084 | 25.23 | 25.68 | .4886 | .0014 | 24.64 | .4759 | .9818 |
| Stddev | .0010 | .0028 | .003 | .04 | .04 | .0013 | .0003 | .06 | .0003 | .0032 |
| %RSD | .1833 | .5655 | .1258 | .1467 | .1447 | .2737 | 24.96 | .2525 | .0543 | .3291 |
| #1 | .5324 | .4929 | 2.082 | 25.26 | 25.70 | .4877 | .0016 | 24.60 | .4761 | .9841 |
| #2 | .5338 | .4969 | 2.085 | 25.21 | 25.65 | .4896 | .0011 | 24.69 | .4757 | .9795 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0032 | .4999 | .4973 | .0349 | -.0012 | .4927 | .4981 | .5061 | .5269 |
| Stddev | .0003 | .0094 | .0017 | .0034 | .0002 | .0003 | .0011 | .0026 | .0025 | .0022 |
| %RSD | 155.2 | 297.8 | .3451 | .6908 | .6974 | 26.96 | .2318 | .5169 | .4954 | .4167 |
| #1 | .0000 | -.0098 | .5011 | .4998 | .0350 | -.0014 | .4919 | .4962 | .5079 | .5254 |
| #2 | .0004 | .0035 | .4986 | .4949 | .0347 | -.0009 | .4935 | .4999 | .5043 | .5285 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0039 | .5116 | .0130 |
| Stddev | .0002 | .0009 | .0017 |
| %RSD | 5.390 | .1690 | 13.01 |
| #1 | .0038 | .5122 | .0141 |
| #2 | .0041 | .5110 | .0118 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2241.0 | 57454. | 13982. |
| Stddev | 2.8 | 139. | 88. |
| %RSD | .12588 | .24217 | .63270 |
| #1 | 2239.0 | 57552. | 13920. |
| #2 | 2242.9 | 57356. | 14045. |



Zoom In Zoom Out

Sample Name: MP21097-MB1 Acquired: 6/4/2013 13:32:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0113 | -.0006 | -.0002 | .0001 | .0009 | .0002 | .0053 | .0000 | .0004 |
| Stddev | .0003 | .0032 | .0018 | .0015 | .0004 | .0001 | .0000 | .0009 | .000 | .0002 |
| %RSD | 59.41 | 28.42 | 303.3 | 898.5 | 498.9 | 6.968 | 9.669 | 17.25 | 89.73 | 56.43 |
| #1 | -.0007 | -.0136 | -.0019 | -.0012 | .0004 | .0008 | .0002 | .0060 | .0000 | .0005 |
| #2 | -.0003 | -.0090 | .0007 | .0009 | -.0002 | .0009 | .0002 | .0047 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0003 | .0013 | .0331 | .0285 | .0007 | .0002 | .0254 | -.0003 | .0000 |
| Stddev | .0005 | .0001 | .0019 | .0086 | .0212 | .0000 | .0001 | .0004 | .0004 | .0000 |
| %RSD | 71.55 | 35.17 | 144.5 | 25.93 | 74.42 | 6.070 | 56.31 | 1.722 | 147.6 | 15.08 |
| #1 | -.0003 | -.0004 | .0026 | .0391 | .0135 | .0007 | .0001 | .0251 | .0000 | .0000 |
| #2 | -.0010 | -.0003 | .0000 | .0270 | .0435 | .0008 | .0002 | .0257 | -.0006 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0014 | .0006 | .0001 | .0401 | -.0003 | .0002 | .0002 | .0000 | .0001 |
| Stddev | .0005 | .0043 | .0003 | .0007 | .0005 | .0002 | .0000 | .0002 | .0005 | .0008 |
| %RSD | 63.36 | 308.6 | 45.67 | 755.3 | 1.177 | 60.00 | 11.19 | 112.7 | 949.0 | 1426. |
| #1 | .0011 | .0045 | .0008 | .0006 | .0398 | -.0004 | .0002 | .0003 | .0004 | .0006 |
| #2 | .0004 | -.0017 | .0004 | -.0004 | .0405 | -.0002 | .0001 | .0000 | -.0003 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0124 | .0001 | .0002 |
| Stddev | .0042 | .0000 | .0000 |
| %RSD | 33.99 | 28.23 | 10.81 |
| #1 | .0094 | .0001 | .0002 |
| #2 | .0154 | .0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2242.3 | 57667. | 13979. |
| Stddev | 6.9 | 380. | 149. |
| %RSD | .30957 | .65863 | 1.0686 |
| #1 | 2247.2 | 57936. | 13873. |
| #2 | 2237.4 | 57399. | 14084. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/4/2013 13:37:20 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2154 | 2.123 | .5326 | -.0007 | .0240 | 2.053 | .5293 | 49.32 | .5113 | .5096 |
| Stddev | .0011 | .007 | .0000 | .0001 | .0001 | .005 | .0007 | .10 | .0007 | .0007 |
| %RSD | .4999 | .3312 | .0087 | 22.21 | .5639 | .2470 | .1399 | .1985 | .1366 | .1388 |
| #1 | .2162 | 2.118 | .5326 | -.0008 | .0239 | 2.049 | .5288 | 49.25 | .5118 | .5101 |
| #2 | .2146 | 2.128 | .5326 | -.0006 | .0241 | 2.056 | .5298 | 49.39 | .5109 | .5091 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5328 | .5002 | 11.36 | 27.80 | 28.12 | .9851 | .0003 | 31.44 | .4777 | .9802 |
| Stddev | .0038 | .0005 | .05 | .08 | .05 | .0013 | .0000 | .08 | .0016 | .0001 |
| %RSD | .7154 | .1038 | .4630 | .2870 | .1888 | .1300 | 11.06 | .2615 | .3388 | .0079 |
| #1 | .5355 | .5006 | 11.32 | 27.74 | 28.08 | .9860 | .0004 | 31.38 | .4789 | .9801 |
| #2 | .5301 | .4998 | 11.40 | 27.85 | 28.16 | .9842 | .0003 | 31.49 | .4766 | .9802 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0007 | .5026 | .4946 | 2.738 | -.0012 | .6413 | .5040 | .5032 | .5264 |
| Stddev | .0002 | .0070 | .0013 | .0006 | .006 | .0002 | .0021 | .0003 | .0006 | .0015 |
| %RSD | 5.444 | 1023. | .2622 | .1152 | .2145 | 13.54 | .3252 | .0499 | .1246 | .2852 |
| #1 | -.0028 | -.0057 | .5035 | .4950 | 2.742 | -.0011 | .6398 | .5042 | .5028 | .5274 |
| #2 | -.0031 | .0043 | .5017 | .4942 | 2.734 | -.0013 | .6428 | .5038 | .5037 | .5253 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .5170 | .0002 |
| Stddev | .0006 | .0002 | .0002 |
| %RSD | 31.41 | .0331 | 112.9 |
| #1 | -.0014 | .5172 | .0003 |
| #2 | -.0022 | .5169 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2195.3 | 56426. | 13810. |
| Stddev | 2.8 | 249. | 49. |
| %RSD | .12875 | .44182 | .35292 |
| #1 | 2193.3 | 56250. | 13844. |
| #2 | 2197.3 | 56603. | 13775. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/4/2013 13:41:34 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2164 | 2.109 | .5361 | .0000 | .0241 | 2.067 | .5350 | 49.67 | .5151 | .5125 |
| Stddev | .0013 | .024 | .0002 | .0002 | .0003 | .013 | .0033 | .28 | .0006 | .0005 |
| %RSD | .5877 | 1.147 | .0286 | 2394. | 1.086 | .6084 | .6252 | .5615 | .1213 | .0962 |
| #1 | .2173 | 2.092 | .5360 | -.0001 | .0239 | 2.058 | .5326 | 49.47 | .5155 | .5129 |
| #2 | .2155 | 2.126 | .5362 | .0001 | .0242 | 2.076 | .5374 | 49.87 | .5146 | .5122 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5395 | .5062 | 11.44 | 28.11 | 28.54 | .9821 | .0004 | 31.43 | .4792 | .9840 |
| Stddev | .0031 | .0043 | .05 | .24 | .14 | .0061 | .0000 | .18 | .0002 | .0025 |
| %RSD | .5807 | .8513 | .4782 | .8568 | .4747 | .6250 | 12.42 | .5720 | .0376 | .2516 |
| #1 | .5417 | .5093 | 11.40 | 27.94 | 28.44 | .9865 | .0004 | 31.30 | .4794 | .9857 |
| #2 | .5373 | .5032 | 11.48 | 28.28 | 28.63 | .9778 | .0003 | 31.56 | .4791 | .9822 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0022 | .5047 | .4982 | 2.730 | -.0016 | .6534 | .5048 | .5055 | .5320 |
| Stddev | .0012 | .0092 | .0008 | .0018 | .003 | .0002 | .0039 | .0033 | .0006 | .0061 |
| %RSD | 29.41 | 425.5 | .1502 | .3611 | .1016 | 11.72 | .5983 | .6571 | .1183 | 1.156 |
| #1 | -.0050 | .0087 | .5052 | .4994 | 2.732 | -.0014 | .6507 | .5071 | .5051 | .5363 |
| #2 | -.0033 | -.0043 | .5041 | .4969 | 2.728 | -.0017 | .6562 | .5024 | .5060 | .5276 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0023 | .5288 | -.0012 |
| Stddev | .0009 | .0015 | .0004 |
| %RSD | 39.54 | .2916 | 30.53 |
| #1 | -.0016 | .5299 | -.0010 |
| #2 | -.0029 | .5277 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2213.8 | 56934. | 13714. |
| Stddev | 4.0 | 61. | 52. |
| %RSD | .18121 | .10638 | .38101 |
| #1 | 2211.0 | 56977. | 13751. |
| #2 | 2216.7 | 56891. | 13677. |

Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/4/2013 13:45:47 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0199 | .0288 | -.0013 | .0228 | .0142 | .0003 | 25.24 | .0003 | .0009 |
| Stddev | .0002 | .0003 | .0014 | .0027 | .0000 | .0001 | .0000 | .06 | .0000 | .0000 |
| %RSD | 92.22 | 1.499 | 5.013 | 211.2 | .1734 | .9923 | 11.68 | .2521 | 1.674 | 2.024 |
| #1 | -.0001 | .0201 | .0278 | .0006 | .0228 | .0141 | .0003 | 25.20 | .0003 | .0009 |
| #2 | -.0004 | .0197 | .0298 | -.0032 | .0227 | .0143 | .0003 | 25.29 | .0003 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0001 | 9.591 | 2.473 | 2.713 | .4967 | -.0001 | 6.562 | .0000 | -.0006 |
| Stddev | .0000 | .0002 | .022 | .018 | .043 | .0008 | .0001 | .032 | .000 | .0000 |
| %RSD | 6.716 | 300.5 | .2262 | .7203 | 1.583 | .1664 | 112.9 | .4851 | 1212. | 7.821 |
| #1 | .0004 | -.0002 | 9.576 | 2.460 | 2.682 | .4961 | .0000 | 6.540 | -.0001 | -.0006 |
| #2 | .0005 | .0001 | 9.607 | 2.486 | 2.743 | .4973 | -.0002 | 6.585 | .0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0023 | .0003 | .0009 | 2.739 | -.0008 | .1474 | .0008 | .0007 | .0003 |
| Stddev | .0009 | .0024 | .0004 | .0005 | .002 | .0002 | .0005 | .0003 | .0005 | .0000 |
| %RSD | 69.07 | 103.7 | 131.8 | 61.45 | .0875 | 23.06 | .3671 | 42.96 | 72.54 | 3.310 |
| #1 | -.0007 | -.0006 | .0000 | .0013 | 2.741 | -.0009 | .1470 | .0005 | .0011 | .0003 |
| #2 | -.0019 | -.0040 | .0006 | .0005 | 2.738 | -.0006 | .1477 | .0010 | .0003 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0019 | .0101 | -.0003 |
| Stddev | .0016 | .0001 | .0001 |
| %RSD | 86.08 | .6465 | 37.01 |
| #1 | -.0007 | .0102 | -.0002 |
| #2 | -.0030 | .0101 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2211.5 | 57161. | 13728. |
| Stddev | 5.0 | 245. | 18. |
| %RSD | .22598 | .42831 | .13059 |
| #1 | 2215.0 | 57334. | 13741. |
| #2 | 2208.0 | 56987. | 13715. |



Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/4/2013 13:50:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0020 | .0239 | .0002 | .0236 | .0148 | .0002 | 25.74 | .0001 | .0009 |
| Stddev | .0019 | .0475 | .0006 | .0046 | .0002 | .0002 | .0001 | .12 | .0010 | .0005 |
| %RSD | 40.17 | 2403. | 2.432 | 2193. | .8565 | 1.167 | 60.94 | .4840 | 1887. | 55.90 |
| #1 | -.0035 | .0355 | .0235 | .0034 | .0237 | .0147 | .0001 | 25.65 | -.0006 | .0012 |
| #2 | -.0062 | -.0316 | .0243 | -.0030 | .0234 | .0150 | .0002 | 25.82 | .0007 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0045 | 9.628 | 2.690 | 2.681 | .5044 | -.0010 | 6.647 | .0016 | .0020 |
| Stddev | .0011 | .0018 | .017 | .004 | .021 | .0042 | .0011 | .040 | .0003 | .0016 |
| %RSD | 243.9 | 39.46 | .1760 | .1669 | .7812 | .8283 | 111.3 | .6082 | 17.41 | 77.77 |
| #1 | -.0003 | -.0057 | 9.616 | 2.687 | 2.695 | .5014 | -.0017 | 6.619 | .0018 | .0009 |
| #2 | .0013 | -.0032 | 9.640 | 2.693 | 2.666 | .5073 | -.0002 | 6.676 | .0014 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0037 | .0021 | .0039 | 2.687 | .0027 | .1496 | -.0032 | .0064 | .0006 |
| Stddev | .0020 | .0106 | .0022 | .0050 | .000 | .0009 | .0010 | .0018 | .0025 | .0011 |
| %RSD | 209.8 | 286.2 | 105.6 | 130.2 | .0103 | 31.32 | .6868 | 57.52 | 38.61 | 184.0 |
| #1 | -.0005 | -.0038 | .0005 | .0074 | 2.687 | .0021 | .1489 | -.0019 | .0047 | -.0002 |
| #2 | .0024 | .0112 | .0037 | .0003 | 2.687 | .0034 | .1503 | -.0045 | .0082 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0169 | .0112 | .0010 |
| Stddev | .0243 | .0001 | .0000 |
| %RSD | 144.3 | .5794 | .2965 |
| #1 | .0341 | .0113 | .0010 |
| #2 | -.0003 | .0112 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2262.0 | 57389. | 13592. |
| Stddev | 1.3 | 35. | 110. |
| %RSD | .05956 | .06094 | .80876 |
| #1 | 2262.9 | 57414. | 13514. |
| #2 | 2261.0 | 57365. | 13669. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/4/2013 13:54:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0260 | .2337 | .0007 | .1927 | .2719 | .0000 | 64.90 | .0023 | -.0005 |
| Stddev | .0005 | .0011 | .0003 | .0000 | .0002 | .0002 | .0001 | .05 | .0000 | .0001 |
| %RSD | 239.4 | 4.209 | .1353 | .1297 | .1177 | .0584 | 1119. | .0792 | 2.097 | 15.94 |
| #1 | .0001 | -.0268 | .2334 | .0007 | .1925 | .2721 | .0001 | 64.93 | .0023 | -.0005 |
| #2 | -.0006 | -.0252 | .2339 | .0007 | .1928 | .2718 | .0000 | 64.86 | .0022 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0012 | 54.34 | 16.95 | 8.141 | 1.352 | -.0003 | 21.62 | .0017 | -.0009 |
| Stddev | .0003 | .0001 | .02 | .02 | .042 | .008 | .0000 | .01 | .0002 | .0006 |
| %RSD | 35.07 | 8.260 | .0338 | .1077 | .5163 | .5747 | 9.133 | .0692 | 12.79 | 67.56 |
| #1 | -.0007 | -.0012 | 54.36 | 16.94 | 8.171 | 1.357 | -.0003 | 21.63 | .0018 | -.0005 |
| #2 | -.0011 | -.0013 | 54.33 | 16.96 | 8.111 | 1.346 | -.0003 | 21.61 | .0015 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0067 | .0001 | .0006 | 10.40 | -.0004 | .5857 | .0005 | -.0002 | .0005 |
| Stddev | .0015 | .0019 | .0002 | .0011 | .00 | .0000 | .0007 | .0002 | .0007 | .0001 |
| %RSD | 39.85 | 28.13 | 126.7 | 203.7 | .0221 | 4.317 | .1133 | 38.65 | 397.1 | 31.79 |
| #1 | -.0026 | .0054 | .0000 | .0013 | 10.40 | -.0004 | .5861 | .0004 | .0003 | .0006 |
| #2 | -.0047 | .0080 | .0003 | -.0002 | 10.40 | -.0004 | .5852 | .0006 | -.0007 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0067 | -.0022 |
| Stddev | .0032 | .0000 | .0001 |
| %RSD | 523.6 | .4980 | 3.120 |
| #1 | .0029 | .0067 | -.0023 |
| #2 | -.0017 | .0067 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2220.2 | 57427. | 13811. |
| Stddev | 3.9 | 515. | 3. |
| %RSD | .17482 | .89705 | .01980 |
| #1 | 2222.9 | 57063. | 13809. |
| #2 | 2217.4 | 57791. | 13813. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 13:58:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2574 | 9.775 | 1.913 | -.0003 | 1.951 | 1.990 | 2.058 | 9.935 | 1.961 | 2.008 |
| Stddev | .0019 | .046 | .003 | .0006 | .004 | .001 | .001 | .025 | .001 | .003 |
| %RSD | .7561 | .4726 | .1763 | 202.2 | .2140 | .0523 | .0408 | .2540 | .0653 | .1385 |
| #1 | .2560 | 9.807 | 1.911 | -.0007 | 1.948 | 1.991 | 2.058 | 9.953 | 1.962 | 2.006 |
| #2 | .2587 | 9.742 | 1.915 | .0001 | 1.954 | 1.990 | 2.057 | 9.917 | 1.961 | 2.010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.015 | 2.040 | 9.923 | 10.14 | 10.15 | 1.937 | 1.914 | 9.694 | 1.855 | 1.886 |
| Stddev | .009 | .016 | .042 | .04 | .02 | .011 | .006 | .011 | .003 | .003 |
| %RSD | .4227 | .7591 | .4184 | .3565 | .2430 | .5740 | .3011 | .1107 | .1357 | .1646 |
| #1 | 2.009 | 2.029 | 9.952 | 10.11 | 10.17 | 1.929 | 1.910 | 9.701 | 1.854 | 1.883 |
| #2 | 2.021 | 2.051 | 9.894 | 10.16 | 10.13 | 1.945 | 1.918 | 9.686 | 1.857 | 1.888 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0009 | 1.896 | 1.892 | .0129 | 1.853 | 2.030 | 1.967 | 1.946 | 2.016 |
| Stddev | .0006 | .0125 | .002 | .007 | .0004 | .005 | .002 | .013 | .002 | .014 |
| %RSD | 52.63 | 1359. | .1283 | .3818 | 2.872 | .2629 | .0791 | .6799 | .1230 | .6771 |
| #1 | .0007 | .0098 | 1.895 | 1.887 | .0131 | 1.850 | 2.031 | 1.958 | 1.948 | 2.006 |
| #2 | .0016 | -.0079 | 1.898 | 1.897 | .0126 | 1.857 | 2.029 | 1.976 | 1.945 | 2.025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0080 | 1.930 | -.0030 |
| Stddev | .0046 | .003 | .0002 |
| %RSD | 57.57 | .1392 | 5.685 |
| #1 | -.0047 | 1.928 | -.0029 |
| #2 | -.0112 | 1.932 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2261.2 | 56403. | 13555. |
| Stddev | 1.0 | 267. | 207. |
| %RSD | .04208 | .47405 | 1.5239 |
| #1 | 2260.5 | 56592. | 13409. |
| #2 | 2261.9 | 56214. | 13701. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 14:06:33 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0154 | -.0006 | -.0005 | .0009 | .0001 | .0001 | -.0025 | .0001 | .0003 |
| Stddev | .0003 | .0028 | .0019 | .0003 | .0004 | .0000 | .0000 | .0023 | .0001 | .0001 |
| %RSD | 43.15 | 18.36 | 294.6 | 64.63 | 40.52 | 14.51 | 45.83 | 92.93 | 122.4 | 54.54 |
| #1 | -.0006 | -.0174 | .0007 | -.0002 | .0012 | .0001 | .0001 | -.0041 | .0001 | .0004 |
| #2 | -.0010 | -.0134 | -.0020 | -.0007 | .0006 | .0001 | .0001 | -.0008 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0008 | -.0005 | .0303 | -.0245 | .0002 | .0003 | .0087 | -.0002 | -.0004 |
| Stddev | .0000 | .0000 | .0006 | .0263 | .0282 | .0000 | .0001 | .0185 | .0001 | .0007 |
| %RSD | 1.336 | 3.187 | 106.4 | 86.73 | 115.0 | 7.699 | 26.75 | 213.0 | 43.79 | 160.8 |
| #1 | -.0003 | -.0008 | -.0010 | .0488 | -.0444 | .0002 | .0004 | .0218 | -.0001 | .0001 |
| #2 | -.0002 | -.0008 | -.0001 | .0117 | -.0046 | .0002 | .0003 | -.0044 | -.0002 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0038 | .0003 | -.0001 | -.0029 | .0004 | .0002 | .0001 | .0010 | .0004 |
| Stddev | .0002 | .0041 | .0005 | .0001 | .0000 | .0001 | .0001 | .0007 | .0004 | .0001 |
| %RSD | 54.58 | 107.5 | 208.0 | 178.3 | .3863 | 23.75 | 56.55 | 1491. | 33.97 | 20.11 |
| #1 | -.0002 | -.0009 | -.0001 | -.0001 | -.0029 | .0004 | .0001 | .0006 | .0008 | .0004 |
| #2 | -.0005 | -.0068 | .0006 | .0000 | -.0029 | .0003 | .0003 | -.0005 | .0013 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | -.0001 | .0001 |
| Stddev | .0077 | .0001 | .0000 |
| %RSD | 914.6 | 74.02 | 20.43 |
| #1 | -.0046 | -.0001 | .0002 |
| #2 | .0063 | .0000 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.0 | 56639. | 13461. |
| Stddev | 15.7 | 211. | 149. |
| %RSD | .69062 | .37239 | 1.1045 |
| #1 | 2261.9 | 56789. | 13566. |
| #2 | 2284.1 | 56490. | 13356. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/4/2013 14:10:53 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0313 | 1.034 | -.0017 | .0124 | .0815 | .0001 | 76.32 | .0101 | .0184 |
| Stddev | .0005 | .0028 | .004 | .0006 | .0001 | .0004 | .0001 | .19 | .0003 | .0001 |
| %RSD | 76.31 | 8.830 | .4342 | 33.68 | 1.206 | .4630 | 113.1 | .2430 | 2.919 | .7193 |
| #1 | -.0009 | -.0293 | 1.031 | -.0013 | .0125 | .0818 | .0000 | 76.45 | .0099 | .0183 |
| #2 | -.0003 | -.0332 | 1.037 | -.0021 | .0123 | .0812 | .0002 | 76.19 | .0103 | .0185 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0009 | 8.289 | 6.446 | 3.220 | 1.963 | .0021 | 6.716 | .0174 | -.0004 |
| Stddev | .0002 | .0005 | .026 | .021 | .007 | .029 | .0001 | .034 | .0001 | .0001 |
| %RSD | 120.9 | 53.57 | .3120 | .3334 | .2041 | 1.463 | 3.183 | .5091 | .3333 | 11.63 |
| #1 | .0004 | -.0012 | 8.308 | 6.431 | 3.224 | 1.943 | .0020 | 6.740 | .0175 | -.0004 |
| #2 | .0000 | -.0005 | 8.271 | 6.461 | 3.215 | 1.983 | .0021 | 6.692 | .0174 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0011 | .0009 | .0003 | 4.870 | -.0003 | .3212 | .0008 | -.0004 | .0005 |
| Stddev | .0020 | .0071 | .0007 | .0006 | .021 | .0001 | .0008 | .0002 | .0008 | .0004 |
| %RSD | 42.69 | 621.6 | 77.82 | 239.2 | .4415 | 24.39 | .2567 | 24.88 | 193.2 | 73.05 |
| #1 | -.0033 | -.0039 | .0014 | .0007 | 4.855 | -.0002 | .3218 | .0006 | .0001 | .0007 |
| #2 | -.0061 | .0061 | .0004 | -.0002 | 4.886 | -.0003 | .3206 | .0009 | -.0010 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0075 | -.0010 |
| Stddev | .0015 | .0002 | .0001 |
| %RSD | 31.67 | 2.208 | 12.92 |
| #1 | .0058 | .0074 | -.0011 |
| #2 | .0037 | .0076 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2247.3 | 56548. | 13694. |
| Stddev | 7.1 | 732. | 2. |
| %RSD | .31594 | 1.2940 | .01180 |
| #1 | 2252.3 | 57066. | 13695. |
| #2 | 2242.3 | 56031. | 13692. |



Zoom In Zoom Out

Sample Name: MC21202-6F Acquired: 6/4/2013 14:15:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0133 | .0003 | .0006 | .0005 | .0003 | .0001 | .0242 | .0001 | .0001 |
| Stddev | .0003 | .0067 | .0010 | .0005 | .0003 | .0000 | .0000 | .0014 | .0001 | .0001 |
| %RSD | 36.31 | 50.38 | 371.0 | 81.49 | 57.73 | 9.067 | 21.04 | 5.849 | 80.40 | 88.97 |
| #1 | -.0006 | -.0086 | .0009 | .0009 | .0007 | .0003 | .0001 | .0252 | .0000 | .0000 |
| #2 | -.0010 | -.0181 | -.0004 | .0002 | .0003 | .0003 | .0002 | .0232 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0011 | .0040 | .0661 | .0021 | .0009 | .0001 | .0127 | -.0004 | -.0002 |
| Stddev | .0004 | .0001 | .0022 | .0034 | .0092 | .0000 | .0000 | .0028 | .0001 | .0002 |
| %RSD | 259.7 | 12.77 | 55.55 | 5.072 | 435.8 | 1.214 | 22.18 | 22.20 | 36.87 | 84.34 |
| #1 | -.0001 | -.0010 | .0055 | .0638 | -.0044 | .0009 | .0001 | .0147 | -.0004 | -.0001 |
| #2 | .0005 | -.0011 | .0024 | .0685 | .0087 | .0010 | .0001 | .0107 | -.0003 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0001 | .0001 | -.0005 | .0365 | -.0003 | .0001 | -.0002 | .0000 | -.0007 |
| Stddev | .0004 | .0038 | .0005 | .0003 | .0013 | .0001 | .0000 | .0005 | .0002 | .0004 |
| %RSD | 34.75 | 4401. | 800.7 | 50.36 | 3.558 | 17.57 | 3.018 | 211.8 | 1328. | 53.65 |
| #1 | .0009 | .0028 | -.0003 | -.0003 | .0375 | -.0003 | .0001 | .0001 | .0002 | -.0004 |
| #2 | .0014 | -.0026 | .0004 | -.0007 | .0356 | -.0003 | .0001 | -.0006 | -.0002 | -.0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0017 | .0072 | -.0001 |
| Stddev | .0008 | .0000 | .0003 |
| %RSD | 46.35 | .5195 | 197.5 |
| #1 | -.0022 | .0072 | .0001 |
| #2 | -.0011 | .0071 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2269.4 | 57321. | 13826. |
| Stddev | 1.0 | 15. | 52. |
| %RSD | .04482 | .02575 | .37625 |
| #1 | 2268.6 | 57332. | 13789. |
| #2 | 2270.1 | 57311. | 13862. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/4/2013 14:19:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0766 | .0306 | -.0015 | .1902 | .0111 | .0002 | 106.0 | .0006 | .0021 |
| Stddev | .0001 | .0059 | .0000 | .0014 | .0003 | .0001 | .0000 | .1 | .0002 | .0000 |
| %RSD | 56.97 | 7.742 | .0135 | 98.43 | .1433 | .4523 | 12.35 | .0655 | 32.72 | 2.123 |
| #1 | -.0001 | -.0808 | .0306 | -.0004 | .1904 | .0111 | .0001 | 105.9 | .0008 | .0021 |
| #2 | -.0001 | -.0724 | .0306 | -.0025 | .1900 | .0112 | .0002 | 106.0 | .0005 | .0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0004 | .4398 | 4.946 | 13.99 | 8.578 | .0013 | 27.12 | .0141 | -.0004 |
| Stddev | .0003 | .0000 | .0035 | .025 | .03 | .085 | .0001 | .01 | .0000 | .0001 |
| %RSD | 70.07 | 8.414 | .7970 | .5134 | .2255 | .9890 | 4.176 | .0486 | .1741 | 20.00 |
| #1 | .0006 | -.0004 | .4373 | 4.928 | 13.97 | 8.638 | .0013 | 27.11 | .0141 | -.0005 |
| #2 | .0002 | -.0003 | .4422 | 4.964 | 14.01 | 8.518 | .0012 | 27.13 | .0141 | -.0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0317 | .0006 | .0010 | 9.493 | -.0004 | .5834 | .0008 | -.0035 | -.0007 |
| Stddev | .0007 | .0037 | .0007 | .0001 | .028 | .0003 | .0016 | .0006 | .0011 | .0001 |
| %RSD | 9.053 | 11.77 | 118.6 | 9.525 | .2976 | 66.93 | .2739 | 68.29 | 32.68 | 10.32 |
| #1 | -.0074 | .0343 | .0011 | .0009 | 9.513 | -.0007 | .5846 | .0012 | -.0027 | -.0008 |
| #2 | -.0084 | .0290 | .0001 | .0010 | 9.473 | -.0002 | .5823 | .0004 | -.0043 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0008 | .0206 | -.0017 |
| Stddev | .0104 | .0001 | .0001 |
| %RSD | 1264. | .4912 | 6.272 |
| #1 | -.0082 | .0207 | -.0018 |
| #2 | .0066 | .0206 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2229.9 | 56716. | 13777. |
| Stddev | 12.7 | 40. | 67. |
| %RSD | .56885 | .07128 | .48340 |
| #1 | 2220.9 | 56688. | 13824. |
| #2 | 2238.9 | 56745. | 13730. |

Zoom In Zoom Out

Sample Name: MC21202-8F Acquired: 6/4/2013 14:23:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0175 | -.0016 | .0002 | .0049 | .0048 | .0000 | 6.795 | -.0001 | .0000 |
| Stddev | .0010 | .0077 | .0003 | .0003 | .0002 | .0002 | .0000 | .108 | .0000 | .000 |
| %RSD | 134.4 | 44.02 | 21.10 | 145.3 | 4.812 | 4.005 | 52.52 | 1.582 | 60.02 | 22.09 |
| #1 | -.0015 | -.0120 | -.0018 | .0004 | .0047 | .0049 | .0000 | 6.871 | .0000 | .0000 |
| #2 | .0000 | -.0229 | -.0013 | .0000 | .0050 | .0047 | .0001 | 6.719 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0011 | -.0043 | 1.399 | 1.223 | .0034 | .0001 | 5.973 | -.0004 | -.0005 |
| Stddev | .0004 | .0002 | .0024 | .005 | .033 | .0004 | .0000 | .004 | .0002 | .0002 |
| %RSD | 41.27 | 20.83 | 55.68 | .3581 | 2.709 | 11.86 | 13.46 | .0675 | 56.77 | 42.16 |
| #1 | .0007 | -.0013 | -.0059 | 1.402 | 1.246 | .0036 | .0001 | 5.970 | -.0002 | -.0004 |
| #2 | .0012 | -.0009 | -.0026 | 1.395 | 1.199 | .0031 | .0001 | 5.976 | -.0005 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0006 | .0010 | -.0006 | 7.857 | -.0006 | .0469 | -.0002 | .0008 | -.0006 |
| Stddev | .0028 | .0028 | .0006 | .0014 | .018 | .0002 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 294.4 | 476.4 | 56.60 | 234.0 | .2303 | 27.25 | .2434 | 58.14 | 47.93 | 3.800 |
| #1 | .0029 | .0014 | .0014 | -.0016 | 7.844 | -.0005 | .0468 | -.0003 | .0006 | -.0006 |
| #2 | -.0010 | -.0025 | .0006 | .0004 | 7.870 | -.0007 | .0469 | -.0001 | .0011 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0095 | -.0016 |
| Stddev | .0042 | .0001 | .0001 |
| %RSD | 51.68 | .6327 | 6.221 |
| #1 | .0110 | .0094 | -.0016 |
| #2 | .0051 | .0095 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.7 | 57457. | 13712. |
| Stddev | 3.6 | 297. | 51. |
| %RSD | .15703 | .51753 | .37522 |
| #1 | 2276.2 | 57246. | 13675. |
| #2 | 2281.3 | 57667. | 13748. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/4/2013 14:28:15 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0438 | .4153 | -.0009 | .1314 | .0390 | .0001 | 53.55 | .0041 | .0005 |
| Stddev | .0006 | .0031 | .0004 | .0011 | .0003 | .0007 | .0000 | .06 | .0000 | .0000 |
| %RSD | 69.36 | 6.989 | .1029 | 117.1 | .1959 | 1.796 | 23.56 | .1211 | .7969 | 6.823 |
| #1 | -.0013 | -.0416 | .4156 | -.0017 | .1312 | .0385 | .0001 | 53.51 | .0041 | .0005 |
| #2 | -.0004 | -.0460 | .4150 | -.0002 | .1315 | .0395 | .0001 | 53.60 | .0041 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0010 | 27.75 | 4.527 | 7.204 | 3.910 | -.0001 | 27.64 | .0017 | -.0007 |
| Stddev | .0002 | .0000 | .04 | .044 | .025 | .033 | .0000 | .06 | .0003 | .0002 |
| %RSD | 28.72 | .1859 | .1431 | .9636 | .3526 | .8430 | 53.04 | .2180 | 19.77 | 25.42 |
| #1 | -.0010 | -.0010 | 27.72 | 4.496 | 7.186 | 3.933 | -.0001 | 27.59 | .0020 | -.0009 |
| #2 | -.0007 | -.0010 | 27.78 | 4.558 | 7.222 | 3.887 | -.0001 | 27.68 | .0015 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0155 | .0005 | .0011 | 10.81 | -.0005 | .2262 | .0006 | -.0008 | -.0002 |
| Stddev | .0013 | .0030 | .0007 | .0007 | .00 | .0004 | .0000 | .0002 | .0003 | .0001 |
| %RSD | 37.75 | 19.56 | 140.9 | 58.10 | .0021 | 86.04 | .0111 | 38.41 | 31.24 | 72.56 |
| #1 | -.0025 | .0133 | .0010 | .0007 | 10.81 | -.0002 | .2262 | .0004 | -.0006 | -.0001 |
| #2 | -.0043 | .0176 | .0000 | .0016 | 10.81 | -.0008 | .2262 | .0007 | -.0010 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0203 | .0059 | -.0023 |
| Stddev | .0042 | .0001 | .0003 |
| %RSD | 20.63 | 1.361 | 13.06 |
| #1 | .0173 | .0059 | -.0021 |
| #2 | .0232 | .0058 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2239.6 | 56859. | 13836. |
| Stddev | 3.5 | 163. | 46. |
| %RSD | .15822 | .28686 | .33516 |
| #1 | 2237.1 | 56975. | 13803. |
| #2 | 2242.1 | 56744. | 13869. |



Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/4/2013 14:32:37 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0216 | -.0002 | .0001 | .0074 | .0014 | .0001 | 5.926 | -.0001 | .0001 |
| Stddev | .0000 | .0057 | .0005 | .0007 | .0001 | .0001 | .0001 | .061 | .0002 | .0001 |
| %RSD | 5.408 | 26.54 | 245.3 | 651.9 | .9899 | 4.285 | 95.84 | 1.024 | 204.8 | 71.43 |
| #1 | -.0006 | -.0175 | -.0006 | -.0004 | .0074 | .0014 | .0000 | 5.883 | -.0002 | .0001 |
| #2 | -.0006 | -.0256 | .0002 | .0006 | .0075 | .0015 | .0001 | 5.969 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | .0299 | .9824 | .6429 | .0106 | .0001 | 23.77 | .0002 | -.0006 |
| Stddev | .0002 | .0002 | .0030 | .0116 | .0106 | .0002 | .0000 | .20 | .0001 | .0003 |
| %RSD | 112.1 | 19.39 | 9.937 | 1.178 | 1.656 | 1.596 | 36.65 | .8440 | 29.67 | 47.64 |
| #1 | .0000 | -.0011 | .0278 | .9905 | .6353 | .0107 | .0000 | 23.63 | .0002 | -.0008 |
| #2 | -.0002 | -.0014 | .0320 | .9742 | .6504 | .0105 | .0001 | 23.92 | .0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | -.0011 | .0007 | .0013 | 3.638 | -.0003 | .0426 | .0001 | -.0002 | -.0003 |
| Stddev | .0012 | .0052 | .0002 | .0015 | .002 | .0001 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 71.84 | 483.0 | 31.08 | 117.3 | .0622 | 29.02 | .9767 | 106.0 | 54.55 | 27.13 |
| #1 | .0025 | -.0047 | .0005 | .0002 | 3.640 | -.0002 | .0423 | .0000 | -.0003 | -.0002 |
| #2 | .0008 | .0026 | .0008 | .0024 | 3.637 | -.0003 | .0429 | .0001 | -.0002 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0010 | .0597 | -.0006 |
| Stddev | .0014 | .0003 | .0003 |
| %RSD | 139.7 | .4725 | 53.29 |
| #1 | .0000 | .0599 | -.0003 |
| #2 | .0020 | .0595 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2276.7 | 56936. | 13606. |
| Stddev | 1.4 | 747. | 140. |
| %RSD | .06126 | 1.3128 | 1.0325 |
| #1 | 2275.7 | 56407. | 13705. |
| #2 | 2277.7 | 57464. | 13507. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/4/2013 14:36:56 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0863 | 1.091 | .0022 | .2133 | .0453 | .0000 | 77.39 | .0111 | .0153 |
| Stddev | .0002 | .0053 | .003 | .0010 | .0014 | .0001 | .000 | .05 | .0001 | .0001 |
| %RSD | 17.29 | 6.171 | .2741 | 46.21 | .6451 | .2491 | 166.7 | .0634 | .5244 | .3871 |
| #1 | -.0013 | -.0825 | 1.093 | .0029 | .2143 | .0453 | .0000 | 77.42 | .0111 | .0153 |
| #2 | -.0010 | -.0901 | 1.089 | .0015 | .2123 | .0452 | .0000 | 77.35 | .0110 | .0153 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0007 | 30.28 | 8.478 | 12.29 | 9.515 | .0010 | 28.82 | .0046 | -.0003 |
| Stddev | .0002 | .0001 | .05 | .017 | .00 | .104 | .0001 | .02 | .0002 | .0008 |
| %RSD | 64.12 | 8.224 | .1668 | .2024 | .0182 | 1.091 | 7.806 | .0614 | 3.497 | 234.5 |
| #1 | -.0002 | -.0007 | 30.31 | 8.490 | 12.28 | 9.588 | .0011 | 28.81 | .0048 | -.0009 |
| #2 | -.0004 | -.0006 | 30.24 | 8.466 | 12.29 | 9.442 | .0009 | 28.83 | .0045 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0323 | .0004 | .0010 | 12.75 | -.0010 | 1.000 | .0001 | -.0032 | -.0005 |
| Stddev | .0028 | .0031 | .0006 | .0005 | .00 | .0000 | .000 | .0000 | .0007 | .0004 |
| %RSD | 48.14 | 9.704 | 140.2 | 44.54 | .0032 | .3177 | .0013 | 15.01 | 22.70 | 77.81 |
| #1 | -.0079 | .0345 | .0009 | .0013 | 12.75 | -.0010 | 1.000 | .0001 | -.0027 | -.0002 |
| #2 | -.0039 | .0301 | .0000 | .0007 | 12.75 | -.0010 | 1.000 | .0001 | -.0037 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0275 | .0080 | -.0025 |
| Stddev | .0037 | .0001 | .0002 |
| %RSD | 13.43 | 1.055 | 6.989 |
| #1 | .0249 | .0079 | -.0024 |
| #2 | .0301 | .0080 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.8 | 56903. | 13834. |
| Stddev | 1.3 | 352. | 31. |
| %RSD | .05872 | .61851 | .22162 |
| #1 | 2254.7 | 56654. | 13812. |
| #2 | 2252.8 | 57151. | 13855. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/4/2013 14:41:17 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0269 | .9491 | .0009 | .1392 | .0948 | .0000 | 45.48 | .0094 | .0164 |
| Stddev | .0002 | .0062 | .0035 | .0006 | .0003 | .0017 | .000 | .05 | .0002 | .0000 |
| %RSD | 27.11 | 23.08 | .3641 | 62.84 | .2135 | 1.790 | 3581. | .1086 | 2.211 | .2459 |
| #1 | -.0007 | -.0313 | .9466 | .0005 | .1390 | .0936 | -.0001 | 45.44 | .0092 | .0164 |
| #2 | -.0011 | -.0225 | .9515 | .0014 | .1394 | .0960 | .0001 | 45.51 | .0095 | .0165 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0018 | 74.97 | 11.20 | 7.248 | .9896 | .0006 | 16.57 | .0144 | -.0017 |
| Stddev | .0002 | .0004 | .20 | .07 | .004 | .0022 | .0001 | .00 | .0001 | .0000 |
| %RSD | 18.11 | 22.42 | .2671 | .6305 | .0512 | .2250 | 20.57 | .0271 | .7306 | .2389 |
| #1 | -.0012 | -.0020 | 74.83 | 11.15 | 7.245 | .9880 | .0007 | 16.57 | .0144 | -.0017 |
| #2 | -.0010 | -.0015 | 75.11 | 11.25 | 7.251 | .9912 | .0005 | 16.57 | .0145 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0071 | .0007 | .0010 | 13.63 | -.0004 | .4244 | .0002 | .0014 | -.0006 |
| Stddev | .0010 | .0032 | .0000 | .0008 | .01 | .0003 | .0011 | .0001 | .0001 | .0008 |
| %RSD | 44.70 | 44.66 | 2.356 | 82.69 | .0998 | 77.73 | .2596 | 41.96 | 8.949 | 135.9 |
| #1 | -.0015 | .0048 | .0007 | .0016 | 13.62 | -.0006 | .4236 | .0001 | .0014 | -.0011 |
| #2 | -.0029 | .0093 | .0007 | .0004 | 13.64 | -.0002 | .4252 | .0003 | .0013 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0166 | .0119 | -.0028 |
| Stddev | .0021 | .0001 | .0000 |
| %RSD | 12.49 | 1.070 | .0659 |
| #1 | .0151 | .0120 | -.0028 |
| #2 | .0181 | .0118 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2246.6 | 57202. | 13920. |
| Stddev | 1.6 | 393. | 81. |
| %RSD | .07218 | .68784 | .58006 |
| #1 | 2245.5 | 57480. | 13863. |
| #2 | 2247.8 | 56923. | 13978. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/4/2013 14:45:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.1005 | .0075 | .0022 | .2890 | .0418 | .0000 | 68.06 | .0005 | .0053 |
| Stddev | .0003 | .0042 | .0000 | .0006 | .0001 | .0001 | .0000 | .01 | .0001 | .0002 |
| %RSD | 40.38 | 4.151 | .3039 | 26.46 | .0261 | .1760 | 281.3 | .0209 | 27.51 | 3.658 |
| #1 | -.0010 | -.0975 | .0075 | .0018 | .2890 | .0418 | .0000 | 68.07 | .0006 | .0052 |
| #2 | -.0005 | -.1034 | .0075 | .0026 | .2891 | .0419 | .0000 | 68.05 | .0004 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0010 | 2.199 | 14.03 | 11.79 | 11.98 | -.0001 | 30.03 | .0054 | .0003 |
| Stddev | .0002 | .0001 | .001 | .03 | .04 | .12 | .0001 | .05 | .0000 | .0001 |
| %RSD | 50.60 | 5.765 | .0229 | .2162 | .3782 | .9910 | 73.09 | .1657 | .7813 | 33.84 |
| #1 | .0003 | -.0011 | 2.199 | 14.05 | 11.76 | 12.07 | -.0001 | 30.07 | .0054 | .0003 |
| #2 | .0007 | -.0010 | 2.199 | 14.01 | 11.82 | 11.90 | -.0002 | 30.00 | .0054 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | .0432 | .0007 | .0010 | 7.849 | -.0009 | 1.282 | .0009 | -.0043 | .0006 |
| Stddev | .0004 | .0027 | .0006 | .0014 | .022 | .0003 | .002 | .0002 | .0011 | .0001 |
| %RSD | 6.037 | 6.140 | 89.52 | 132.9 | .2843 | 35.86 | .1269 | 19.89 | 25.02 | 20.83 |
| #1 | -.0066 | .0413 | .0002 | .0020 | 7.833 | -.0012 | 1.281 | .0008 | -.0051 | .0007 |
| #2 | -.0072 | .0451 | .0011 | .0001 | 7.865 | -.0007 | 1.283 | .0011 | -.0035 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0024 | .0074 | -.0014 |
| Stddev | .0046 | .0000 | .0000 |
| %RSD | 191.5 | .1700 | 2.217 |
| #1 | -.0009 | .0074 | -.0014 |
| #2 | .0057 | .0073 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2238.9 | 56889. | 13766. |
| Stddev | 4.6 | 95. | 18. |
| %RSD | .20523 | .16665 | .13304 |
| #1 | 2242.2 | 56822. | 13753. |
| #2 | 2235.7 | 56956. | 13779. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/4/2013 14:49:55 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0748 | .0302 | .0008 | .1928 | .0113 | .0001 | 108.3 | .0007 | .0021 |
| Stddev | .0010 | .0073 | .0007 | .0009 | .0005 | .0002 | .0000 | .5 | .0001 | .0000 |
| %RSD | 133.1 | 9.721 | 2.247 | 110.2 | .2498 | 1.757 | 17.51 | .4429 | 8.943 | 1.643 |
| #1 | -.0014 | -.0696 | .0307 | .0015 | .1931 | .0114 | .0001 | 108.6 | .0007 | .0021 |
| #2 | .0000 | -.0799 | .0297 | .0002 | .1924 | .0111 | .0001 | 107.9 | .0008 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0015 | .4532 | 5.074 | 14.36 | 8.659 | .0011 | 27.60 | .0146 | -.0005 |
| Stddev | .0001 | .0004 | .0003 | .026 | .01 | .003 | .0001 | .10 | .0000 | .0007 |
| %RSD | 21.82 | 27.09 | .0558 | .5155 | .0831 | .0335 | 4.889 | .3451 | .2036 | 128.0 |
| #1 | .0005 | -.0012 | .4530 | 5.093 | 14.37 | 8.661 | .0010 | 27.67 | .0146 | -.0001 |
| #2 | .0004 | -.0018 | .4534 | 5.056 | 14.35 | 8.657 | .0011 | 27.53 | .0146 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0342 | .0014 | .0010 | 9.594 | -.0011 | .6019 | .0008 | -.0029 | -.0003 |
| Stddev | .0016 | .0072 | .0000 | .0008 | .009 | .0000 | .0038 | .0005 | .0005 | .0000 |
| %RSD | 17.09 | 20.96 | 3.342 | 79.26 | .0908 | 1.351 | .6368 | 65.23 | 16.49 | 5.325 |
| #1 | -.0103 | .0291 | .0014 | .0004 | 9.601 | -.0011 | .6046 | .0012 | -.0032 | -.0003 |
| #2 | -.0081 | .0393 | .0014 | .0015 | 9.588 | -.0011 | .5992 | .0004 | -.0026 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0090 | .0213 | -.0021 |
| Stddev | .0000 | .0000 | .0001 |
| %RSD | .3821 | .1888 | 2.781 |
| #1 | .0090 | .0212 | -.0021 |
| #2 | .0090 | .0213 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2230.8 | 56881. | 13670. |
| Stddev | 8.5 | 52. | 19. |
| %RSD | .37975 | .09127 | .13957 |
| #1 | 2224.8 | 56917. | 13656. |
| #2 | 2236.8 | 56844. | 13683. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 14:54:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2584 | 9.776 | 1.924 | -.0004 | 1.956 | 2.005 | 2.078 | 10.01 | 1.962 | 2.011 |
| Stddev | .0004 | .069 | .004 | .0011 | .000 | .008 | .007 | .06 | .000 | .001 |
| %RSD | .1623 | .7087 | .2131 | 287.0 | .0031 | .4131 | .3432 | .6374 | .0183 | .0652 |
| #1 | .2582 | 9.825 | 1.921 | -.0011 | 1.956 | 2.011 | 2.083 | 10.06 | 1.961 | 2.010 |
| #2 | .2587 | 9.727 | 1.927 | .0004 | 1.956 | 1.999 | 2.073 | 9.966 | 1.962 | 2.012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.027 | 2.054 | 9.987 | 10.17 | 10.30 | 1.938 | 1.917 | 9.701 | 1.856 | 1.891 |
| Stddev | .010 | .005 | .041 | .03 | .01 | .006 | .004 | .058 | .001 | .000 |
| %RSD | .4719 | .2220 | .4073 | .2480 | .0565 | .3092 | .1850 | .5949 | .0695 | .0185 |
| #1 | 2.020 | 2.051 | 10.02 | 10.19 | 10.29 | 1.933 | 1.914 | 9.741 | 1.855 | 1.891 |
| #2 | 2.034 | 2.057 | 9.958 | 10.16 | 10.30 | 1.942 | 1.919 | 9.660 | 1.856 | 1.890 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0008 | 1.896 | 1.905 | .0159 | 1.851 | 2.058 | 1.976 | 1.949 | 2.025 |
| Stddev | .0032 | .0060 | .001 | .001 | .0016 | .001 | .007 | .007 | .001 | .006 |
| %RSD | 3471. | 724.3 | .0331 | .0345 | 10.20 | .0633 | .3351 | .3565 | .0236 | .2865 |
| #1 | .0021 | -.0034 | 1.896 | 1.905 | .0171 | 1.852 | 2.063 | 1.971 | 1.950 | 2.021 |
| #2 | -.0023 | .0050 | 1.895 | 1.904 | .0148 | 1.851 | 2.053 | 1.981 | 1.949 | 2.029 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0068 | 1.937 | -.0045 |
| Stddev | .0024 | .003 | .0002 |
| %RSD | 36.04 | .1353 | 4.495 |
| #1 | -.0085 | 1.939 | -.0046 |
| #2 | -.0050 | 1.935 | -.0043 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 57118. | 13613. |
| Stddev | .8 | 225. | 49. |
| %RSD | .03444 | .39307 | .35669 |
| #1 | 2279.8 | 57276. | 13579. |
| #2 | 2278.7 | 56959. | 13647. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 15:00:46 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0086 | -.0014 | -.0005 | .0014 | .0005 | .0002 | .0021 | .0002 | .0004 |
| Stddev | .0002 | .0076 | .0014 | .0006 | .0004 | .0000 | .0001 | .0004 | .0001 | .0001 |
| %RSD | 33.24 | 88.51 | 101.2 | 117.4 | 29.00 | 3.897 | 63.13 | 18.68 | 52.47 | 22.35 |
| #1 | -.0009 | -.0140 | -.0024 | -.0010 | .0011 | .0005 | .0001 | .0024 | .0001 | .0003 |
| #2 | -.0005 | -.0032 | -.0004 | -.0001 | .0016 | .0005 | .0003 | .0018 | .0002 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0018 | .0005 | .0450 | -.0207 | .0007 | .0009 | .0157 | .0002 | .0002 |
| Stddev | .0000 | .0006 | .0010 | .0086 | .0248 | .0001 | .0000 | .0058 | .0001 | .0007 |
| %RSD | 3.644 | 32.47 | 189.1 | 19.13 | 119.5 | 16.57 | 1.968 | 37.07 | 53.38 | 369.6 |
| #1 | -.0007 | -.0014 | .0013 | .0511 | -.0383 | .0006 | .0009 | .0198 | .0001 | -.0003 |
| #2 | -.0007 | -.0022 | -.0002 | .0389 | -.0032 | .0008 | .0009 | .0116 | .0003 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0041 | .0006 | .0005 | -.0014 | .0005 | .0002 | .0000 | .0017 | .0007 |
| Stddev | .0010 | .0007 | .0000 | .0001 | .0000 | .0002 | .0000 | .0005 | .0003 | .0001 |
| %RSD | 252.7 | 16.44 | 4.665 | 16.34 | 2.829 | 35.51 | 7.332 | 3921. | 17.88 | 11.35 |
| #1 | -.0003 | -.0036 | .0006 | .0006 | -.0014 | .0007 | .0002 | .0004 | .0014 | .0008 |
| #2 | .0011 | -.0046 | .0006 | .0005 | -.0015 | .0004 | .0002 | -.0003 | .0019 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0011 | .0001 | .0001 |
| Stddev | .0009 | .0001 | .0003 |
| %RSD | 85.64 | 54.00 | 238.2 |
| #1 | -.0017 | .0002 | .0003 |
| #2 | -.0004 | .0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.3 | 57150. | 13537. |
| Stddev | 3.5 | 11. | 13. |
| %RSD | .15258 | .01974 | .09555 |
| #1 | 2282.8 | 57158. | 13546. |
| #2 | 2277.9 | 57142. | 13527. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/4/2013 15:05:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0298 | 1.290 | .0003 | .2209 | .0528 | .0000 | 71.52 | .0124 | -.0003 |
| Stddev | .0001 | .0129 | .006 | .0002 | .0001 | .0005 | .0001 | .52 | .0001 | .0000 |
| %RSD | 15.06 | 43.15 | .4728 | 70.88 | .0503 | .9421 | 166.6 | .7314 | .5859 | 15.30 |
| #1 | -.0006 | -.0389 | 1.295 | .0002 | .2208 | .0525 | .0000 | 71.15 | .0125 | -.0003 |
| #2 | -.0007 | -.0207 | 1.286 | .0005 | .2209 | .0532 | .0001 | 71.89 | .0124 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0015 | 43.19 | 10.76 | 11.99 | 1.279 | .0001 | 26.23 | .0001 | -.0011 |
| Stddev | .0003 | .0000 | .31 | .08 | .12 | .003 | .0000 | .14 | .0000 | .0005 |
| %RSD | 57.14 | .1735 | .7191 | .7140 | 1.021 | .2160 | 15.75 | .5211 | 12.59 | 44.57 |
| #1 | -.0006 | -.0015 | 42.97 | 10.71 | 11.91 | 1.277 | .0002 | 26.14 | .0001 | -.0014 |
| #2 | -.0003 | -.0015 | 43.41 | 10.82 | 12.08 | 1.281 | .0001 | 26.33 | .0001 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0018 | .0004 | .0014 | 14.56 | -.0006 | .7933 | .0007 | .0001 | .0002 |
| Stddev | .0023 | .0048 | .0000 | .0001 | .03 | .0004 | .0032 | .0007 | .0002 | .0002 |
| %RSD | 71.58 | 267.2 | 10.45 | 6.332 | .2016 | 57.65 | .3986 | 94.70 | 182.1 | 71.80 |
| #1 | -.0049 | .0052 | .0004 | .0015 | 14.58 | -.0004 | .7910 | .0011 | .0000 | .0001 |
| #2 | -.0016 | -.0016 | .0005 | .0013 | 14.54 | -.0009 | .7955 | .0002 | .0002 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0048 | -.0030 |
| Stddev | .0159 | .0001 | .0000 |
| %RSD | 1856. | 2.031 | .6925 |
| #1 | .0121 | .0047 | -.0030 |
| #2 | -.0104 | .0048 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2243.7 | 57191. | 13751. |
| Stddev | 2.5 | 309. | 185. |
| %RSD | .11287 | .54080 | 1.3449 |
| #1 | 2241.9 | 57410. | 13882. |
| #2 | 2245.5 | 56973. | 13620. |



Zoom In Zoom Out

Sample Name: MC21261-2F Acquired: 6/4/2013 15:09:59 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0061 | .0188 | .0006 | .0186 | .0616 | .0000 | 39.89 | .0001 | .0003 |
| Stddev | .0003 | .0132 | .0002 | .0014 | .0006 | .0005 | .0001 | .16 | .0000 | .0000 |
| %RSD | 39.27 | 217.9 | .8132 | 243.2 | 3.106 | .8196 | 965.9 | .3945 | 11.20 | 7.401 |
| #1 | -.0008 | .0033 | .0189 | -.0004 | .0190 | .0620 | .0001 | 39.78 | .0001 | .0003 |
| #2 | -.0005 | -.0154 | .0187 | .0015 | .0182 | .0613 | -.0001 | 40.00 | .0000 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0016 | .5683 | 4.397 | 3.968 | .1403 | .0012 | 9.551 | .0001 | -.0004 |
| Stddev | .0001 | .0002 | .0029 | .074 | .028 | .0007 | .0001 | .030 | .0003 | .0008 |
| %RSD | 123.4 | 12.07 | .5069 | 1.673 | .6926 | .5217 | 5.407 | .3167 | 239.2 | 186.6 |
| #1 | .0001 | -.0017 | .5663 | 4.345 | 3.949 | .1408 | .0012 | 9.529 | -.0001 | .0001 |
| #2 | .0000 | -.0015 | .5704 | 4.449 | 3.988 | .1398 | .0013 | 9.572 | .0003 | -.0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0011 | .0006 | .0011 | 3.076 | -.0005 | .2838 | .0008 | .0006 | .0001 |
| Stddev | .0019 | .0032 | .0005 | .0007 | .009 | .0001 | .0002 | .0006 | .0006 | .0001 |
| %RSD | 76.20 | 285.8 | 87.79 | 68.70 | .2799 | 16.85 | .0864 | 76.04 | 100.1 | 123.3 |
| #1 | -.0012 | -.0011 | .0002 | .0005 | 3.082 | -.0004 | .2836 | .0012 | .0002 | .0000 |
| #2 | -.0039 | .0033 | .0010 | .0016 | 3.070 | -.0005 | .2840 | .0004 | .0011 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0282 | .0056 | -.0005 |
| Stddev | .0049 | .0000 | .0000 |
| %RSD | 17.29 | .7297 | 8.659 |
| #1 | .0248 | .0056 | -.0005 |
| #2 | .0317 | .0056 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2278.5 | 57233. | 13632. |
| Stddev | 12.6 | 59. | 99. |
| %RSD | .55472 | .10300 | .72318 |
| #1 | 2269.5 | 57274. | 13701. |
| #2 | 2287.4 | 57191. | 13562. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/4/2013 15:14:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0103 | .0063 | .0005 | .2632 | .0385 | .0000 | 105.2 | .0002 | .0031 |
| Stddev | .0006 | .0017 | .0005 | .0008 | .0005 | .0004 | .0001 | .2 | .0001 | .0000 |
| %RSD | 89.13 | 16.91 | 8.243 | 160.6 | .1893 | 1.168 | 198.0 | .2364 | 54.31 | .0331 |
| #1 | -.0003 | -.0115 | .0060 | -.0001 | .2636 | .0388 | .0000 | 105.4 | .0003 | .0031 |
| #2 | -.0011 | -.0091 | .0067 | .0010 | .2628 | .0382 | .0001 | 105.0 | .0001 | .0031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0005 | .5967 | 11.15 | 23.40 | 4.679 | .0095 | 40.94 | .0075 | .0003 |
| Stddev | .0002 | .0000 | .0021 | .02 | .05 | .028 | .0003 | .09 | .0001 | .0002 |
| %RSD | 54.13 | 3.685 | .3457 | .2069 | .2194 | .5871 | 2.756 | .2268 | 1.394 | 81.85 |
| #1 | .0006 | -.0005 | .5982 | 11.17 | 23.36 | 4.660 | .0097 | 41.00 | .0075 | .0001 |
| #2 | .0003 | -.0005 | .5953 | 11.14 | 23.43 | 4.699 | .0093 | 40.87 | .0074 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | .0182 | .0031 | -.0002 | 9.166 | -.0008 | .5433 | .0013 | -.0010 | .0021 |
| Stddev | .0006 | .0050 | .0003 | .0006 | .004 | .0003 | .0018 | .0002 | .0006 | .0008 |
| %RSD | 7.247 | 27.58 | 10.56 | 299.2 | .0409 | 38.62 | .3334 | 17.17 | 62.56 | 38.98 |
| #1 | -.0084 | .0218 | .0029 | .0002 | 9.163 | -.0006 | .5445 | .0014 | -.0006 | .0027 |
| #2 | -.0093 | .0147 | .0033 | -.0006 | 9.168 | -.0010 | .5420 | .0011 | -.0015 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0445 | .0036 | -.0017 |
| Stddev | .0016 | .0001 | .0000 |
| %RSD | 3.596 | 2.711 | .7677 |
| #1 | .0456 | .0036 | -.0017 |
| #2 | .0434 | .0035 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2240.4 | 56855. | 13692. |
| Stddev | 6.3 | 11. | 14. |
| %RSD | .28005 | .01928 | .10450 |
| #1 | 2244.8 | 56862. | 13682. |
| #2 | 2236.0 | 56847. | 13703. |

Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/4/2013 15:18:43 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0385 | 1.943 | .0013 | .0253 | .0575 | .0000 | 31.64 | .0183 | .0133 |
| Stddev | .0004 | .0057 | .003 | .0001 | .0002 | .0001 | .0001 | .09 | .0000 | .0002 |
| %RSD | 63.18 | 14.91 | .1477 | 11.53 | .9188 | .1649 | 392.6 | .2986 | .0514 | 1.631 |
| #1 | -.0009 | -.0425 | 1.941 | .0014 | .0255 | .0576 | .0001 | 31.71 | .0183 | .0135 |
| #2 | -.0004 | -.0344 | 1.945 | .0012 | .0251 | .0575 | .0000 | 31.58 | .0183 | .0132 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0016 | 40.52 | 4.546 | 3.466 | 2.107 | .0029 | 78.33 | .0096 | -.0005 |
| Stddev | .0002 | .0005 | .22 | .055 | .030 | .005 | .0001 | .37 | .0000 | .0004 |
| %RSD | 38.77 | 30.82 | .5447 | 1.210 | .8785 | .2170 | 2.800 | .4712 | .3210 | 81.44 |
| #1 | -.0004 | -.0013 | 40.68 | 4.585 | 3.445 | 2.110 | .0030 | 78.59 | .0096 | -.0007 |
| #2 | -.0007 | -.0020 | 40.37 | 4.508 | 3.488 | 2.104 | .0029 | 78.07 | .0096 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0047 | .0008 | .0004 | 7.382 | -.0006 | .2793 | .0007 | .0002 | -.0002 |
| Stddev | .0002 | .0008 | .0000 | .0005 | .009 | .0000 | .0016 | .0000 | .0001 | .0003 |
| %RSD | 18.15 | 17.70 | 4.888 | 142.2 | .1158 | 7.479 | .5849 | 4.893 | 62.46 | 136.0 |
| #1 | .0013 | .0041 | .0008 | .0007 | 7.376 | -.0006 | .2805 | .0007 | .0001 | .0000 |
| #2 | .0010 | .0053 | .0008 | .0000 | 7.388 | -.0006 | .2782 | .0006 | .0002 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0071 | .0072 | -.0016 |
| Stddev | .0047 | .0001 | .0000 |
| %RSD | 65.63 | 1.406 | .3233 |
| #1 | .0104 | .0072 | -.0016 |
| #2 | .0038 | .0073 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.1 | 56939. | 13643. |
| Stddev | 3.9 | 283. | 134. |
| %RSD | .17083 | .49629 | .97985 |
| #1 | 2274.3 | 56740. | 13549. |
| #2 | 2279.8 | 57139. | 13738. |



Zoom In Zoom Out

Sample Name: MC21261-5F Acquired: 6/4/2013 15:23:01 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0164 | -.0005 | .0003 | .0003 | .0000 | .0001 | -.0034 | -.0001 | .0001 |
| Stddev | .0005 | .0024 | .0008 | .0004 | .0001 | .0001 | .0000 | .0023 | .0001 | .0003 |
| %RSD | 98.96 | 14.65 | 158.4 | 137.0 | 20.07 | 126.0 | 32.82 | 67.91 | 132.0 | 308.3 |
| #1 | -.0001 | -.0147 | -.0011 | .0005 | .0003 | .0000 | .0001 | -.0018 | -.0002 | .0003 |
| #2 | -.0008 | -.0180 | .0001 | .0000 | .0002 | .0001 | .0000 | -.0051 | .0000 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .0159 | .0772 | -.0117 | .0013 | -.0001 | .0813 | -.0004 | -.0003 |
| Stddev | .0003 | .0002 | .0022 | .0172 | .0210 | .0000 | .0002 | .0084 | .0001 | .0009 |
| %RSD | 70.87 | 9.348 | 14.10 | 22.24 | 179.8 | 3.063 | 133.3 | 10.33 | 33.58 | 349.4 |
| #1 | -.0005 | -.0022 | .0175 | .0894 | -.0265 | .0013 | -.0002 | .0872 | -.0003 | -.0009 |
| #2 | -.0002 | -.0025 | .0144 | .0651 | .0032 | .0013 | .0000 | .0753 | -.0005 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0014 | .0004 | -.0002 | .0358 | -.0001 | .0002 | -.0003 | .0006 | -.0005 |
| Stddev | .0008 | .0014 | .0008 | .0016 | .0014 | .0000 | .0000 | .0000 | .0004 | .0010 |
| %RSD | 78.71 | 100.2 | 181.2 | 740.9 | 3.877 | 35.51 | 3.810 | 9.874 | 59.27 | 206.7 |
| #1 | .0004 | -.0025 | -.0001 | -.0014 | .0368 | .0000 | .0002 | -.0003 | .0009 | -.0012 |
| #2 | .0015 | -.0004 | .0010 | .0009 | .0348 | -.0001 | .0002 | -.0003 | .0004 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0059 | .0058 | -.0003 |
| Stddev | .0015 | .0001 | .0001 |
| %RSD | 25.31 | 1.651 | 25.08 |
| #1 | .0048 | .0059 | -.0003 |
| #2 | .0069 | .0057 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.3 | 57322. | 13683. |
| Stddev | .5 | 222. | 28. |
| %RSD | .02066 | .38667 | .20607 |
| #1 | 2295.0 | 57478. | 13663. |
| #2 | 2295.7 | 57165. | 13703. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/4/2013 15:27:22 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0529 | .3026 | .0006 | .2328 | .0777 | .0000 | 94.80 | .0032 | .0105 |
| Stddev | .0002 | .0002 | .0010 | .0008 | .0000 | .0011 | .0000 | .06 | .0000 | .0002 |
| %RSD | 27.28 | .4049 | .3299 | 133.0 | .0103 | 1.457 | 111.1 | .0584 | .2341 | 1.474 |
| #1 | -.0006 | -.0528 | .3019 | .0000 | .2329 | .0785 | .0001 | 94.83 | .0032 | .0104 |
| #2 | -.0009 | -.0531 | .3033 | .0012 | .2328 | .0769 | .0000 | 94.76 | .0031 | .0106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | 13.23 | 9.463 | 15.66 | 6.580 | .0068 | 34.18 | .0056 | -.0005 |
| Stddev | .0003 | .0005 | .00 | .027 | .10 | .044 | .0001 | .04 | .0002 | .0002 |
| %RSD | 122.8 | 22.67 | .0121 | .2859 | .6137 | .6626 | 2.049 | .1048 | 3.254 | 38.39 |
| #1 | -.0005 | -.0024 | 13.23 | 9.444 | 15.60 | 6.611 | .0069 | 34.21 | .0054 | -.0004 |
| #2 | .0000 | -.0018 | 13.23 | 9.483 | 15.73 | 6.549 | .0067 | 34.16 | .0057 | -.0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0249 | .0007 | .0009 | 13.72 | -.0006 | 1.338 | .0013 | -.0024 | .0004 |
| Stddev | .0007 | .0050 | .0004 | .0002 | .04 | .0005 | .004 | .0001 | .0003 | .0004 |
| %RSD | 8.705 | 20.09 | 55.29 | 22.28 | .2615 | 73.78 | .2682 | 4.499 | 11.88 | 90.98 |
| #1 | -.0084 | .0213 | .0004 | .0011 | 13.70 | -.0009 | 1.340 | .0012 | -.0026 | .0007 |
| #2 | -.0074 | .0284 | .0009 | .0008 | 13.75 | -.0003 | 1.335 | .0013 | -.0022 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0009 | .0087 | -.0025 |
| Stddev | .0010 | .0001 | .0001 |
| %RSD | 114.2 | .7161 | 4.424 |
| #1 | .0016 | .0088 | -.0024 |
| #2 | .0002 | .0087 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2273.3 | 56395. | 13768. |
| Stddev | 2.6 | 230. | 175. |
| %RSD | .11565 | .40703 | 1.2707 |
| #1 | 2275.2 | 56232. | 13892. |
| #2 | 2271.5 | 56557. | 13645. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/4/2013 15:31:45 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0209 | -.0006 | -.0008 | .0163 | .0254 | .0000 | 59.38 | .0004 | .0017 |
| Stddev | .0008 | .0018 | .0001 | .0008 | .0001 | .0000 | .000 | .31 | .0001 | .0002 |
| %RSD | 92.58 | 8.840 | 19.64 | 93.70 | .5854 | .1806 | 147.4 | .5284 | 20.27 | 9.406 |
| #1 | -.0003 | -.0196 | -.0007 | -.0014 | .0164 | .0255 | -.0001 | 59.16 | .0005 | .0019 |
| #2 | -.0014 | -.0222 | -.0005 | -.0003 | .0162 | .0254 | .0000 | 59.61 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0013 | .0033 | 3.098 | 14.38 | .6621 | .0009 | 38.33 | .0033 | -.0002 |
| Stddev | .0001 | .0001 | .0037 | .024 | .04 | .0039 | .0000 | .15 | .0001 | .0005 |
| %RSD | 11.27 | 7.836 | 111.1 | .7595 | .2612 | .5843 | 2.167 | .4027 | 1.885 | 194.2 |
| #1 | .0005 | -.0014 | .0060 | 3.081 | 14.35 | .6648 | .0009 | 38.22 | .0032 | .0001 |
| #2 | .0004 | -.0012 | .0007 | 3.114 | 14.41 | .6593 | .0009 | 38.44 | .0033 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | -.0051 | .0008 | -.0004 | 5.988 | -.0004 | .5238 | .0004 | -.0009 | -.0006 |
| Stddev | .0008 | .0022 | .0004 | .0014 | .001 | .0004 | .0018 | .0000 | .0003 | .0006 |
| %RSD | 28.45 | 41.92 | 47.38 | 345.3 | .0154 | 93.32 | .3431 | 9.033 | 30.94 | 114.0 |
| #1 | -.0036 | -.0036 | .0005 | .0006 | 5.988 | -.0001 | .5225 | .0004 | -.0007 | -.0001 |
| #2 | -.0024 | -.0067 | .0010 | -.0014 | 5.989 | -.0007 | .5251 | .0005 | -.0011 | -.0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0067 | .0341 | -.0016 |
| Stddev | .0085 | .0001 | .0001 |
| %RSD | 126.9 | .1663 | 5.415 |
| #1 | .0127 | .0342 | -.0015 |
| #2 | .0007 | .0341 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2270.7 | 56817. | 13776. |
| Stddev | 2.2 | 515. | 80. |
| %RSD | .09895 | .90590 | .57833 |
| #1 | 2272.3 | 56453. | 13832. |
| #2 | 2269.1 | 57181. | 13719. |

Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/4/2013 15:36:04 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0184 | .0000 | .0004 | .0159 | .0257 | .0000 | 59.11 | .0005 | .0016 |
| Stddev | .0004 | .0003 | .0000 | .0020 | .0000 | .0002 | .0000 | .20 | .0000 | .0000 |
| %RSD | 26.61 | 1.744 | 147.0 | 528.5 | .2894 | .6042 | 58.84 | .3358 | 1.118 | 3.155 |
| #1 | -.0017 | -.0187 | .0000 | -.0011 | .0158 | .0258 | .0000 | 59.25 | .0005 | .0015 |
| #2 | -.0011 | -.0182 | .0000 | .0018 | .0159 | .0256 | .0000 | 58.97 | .0005 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0013 | -.0012 | 3.135 | 14.52 | .6595 | .0008 | 38.18 | .0031 | -.0001 |
| Stddev | .0002 | .0008 | .0011 | .009 | .02 | .0016 | .0001 | .08 | .0002 | .0008 |
| %RSD | 121.5 | 60.43 | 92.85 | .2745 | .1329 | .2365 | 12.89 | .2172 | 6.112 | 1275. |
| #1 | .0003 | -.0008 | -.0020 | 3.141 | 14.54 | .6584 | .0007 | 38.23 | .0033 | .0005 |
| #2 | .0000 | -.0019 | -.0004 | 3.129 | 14.51 | .6606 | .0009 | 38.12 | .0030 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0046 | .0010 | .0001 | .0006 | 5.938 | -.0004 | .5246 | .0007 | .0002 | -.0003 |
| Stddev | .0002 | .0042 | .0003 | .0003 | .001 | .0000 | .0013 | .0000 | .0009 | .0004 |
| %RSD | 3.561 | 435.4 | 234.6 | 51.31 | .0239 | 1.473 | .2573 | 3.506 | 423.5 | 136.3 |
| #1 | -.0045 | -.0020 | -.0001 | .0004 | 5.937 | -.0004 | .5255 | .0006 | -.0004 | .0000 |
| #2 | -.0047 | .0040 | .0003 | .0009 | 5.939 | -.0004 | .5236 | .0007 | .0008 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0157 | .0327 | -.0012 |
| Stddev | .0003 | .0001 | .0003 |
| %RSD | 1.602 | .4351 | 24.53 |
| #1 | .0156 | .0328 | -.0010 |
| #2 | .0159 | .0326 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2277.3 | 56843. | 13732. |
| Stddev | 1.8 | 70. | 172. |
| %RSD | .07835 | .12261 | 1.2516 |
| #1 | 2276.1 | 56892. | 13610. |
| #2 | 2278.6 | 56794. | 13853. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/4/2013 15:49:39 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2259 | 1.805 | .1965 | .0006 | 4.297 | 2.222 | .1822 | 64.14 | .1736 | 2.329 |
| Stddev | .0007 | .009 | .0009 | .0001 | .007 | .003 | .0003 | .06 | .0001 | .003 |
| %RSD | .3140 | .5282 | .4496 | 9.575 | .1714 | .1244 | .1494 | .0901 | .0771 | .1287 |
| #1 | .2254 | 1.812 | .1959 | .0005 | 4.302 | 2.220 | .1820 | 64.18 | .1737 | 2.331 |
| #2 | .2264 | 1.798 | .1971 | .0006 | 4.292 | 2.224 | .1824 | 64.10 | .1735 | 2.327 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4480 | 1.086 | 9.121 | 45.34 | 47.59 | 1.047 | 4.187 | 47.26 | 1.556 | .2087 |
| Stddev | .0010 | .002 | .011 | .01 | .08 | .003 | .001 | .03 | .003 | .0008 |
| %RSD | .2146 | .2099 | .1250 | .0312 | .1612 | .2590 | .0175 | .0584 | .1704 | .3643 |
| #1 | .4473 | 1.085 | 9.113 | 45.35 | 47.65 | 1.045 | 4.187 | 47.24 | 1.558 | .2082 |
| #2 | .4487 | 1.088 | 9.129 | 45.33 | 47.54 | 1.049 | 4.186 | 47.28 | 1.554 | .2092 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0057 | .2465 | .4160 | 2.621 | 4.025 | .5634 | 2.185 | .2165 | .4503 |
| Stddev | .0002 | .0033 | .0009 | .0006 | .001 | .002 | .0006 | .003 | .0003 | .0010 |
| %RSD | 4.952 | 57.11 | .3813 | .1533 | .0456 | .0419 | .1129 | .1404 | .1501 | .2242 |
| #1 | -.0047 | .0080 | .2472 | .4165 | 2.620 | 4.026 | .5630 | 2.183 | .2167 | .4495 |
| #2 | -.0044 | .0034 | .2458 | .4156 | 2.621 | 4.024 | .5639 | 2.187 | .2163 | .4510 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0113 | .8255 | -.0082 |
| Stddev | .0043 | .0018 | .0003 |
| %RSD | 38.40 | .2210 | 3.317 |
| #1 | -.0082 | .8268 | -.0080 |
| #2 | -.0144 | .8242 | -.0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2236.2 | 57180. | 13713. |
| Stddev | .1 | 202. | 67. |
| %RSD | .00287 | .35392 | .48707 |
| #1 | 2236.3 | 57037. | 13666. |
| #2 | 2236.2 | 57323. | 13761. |



Zoom In Zoom Out

Sample Name: MP21097-B1 Acquired: 6/4/2013 15:53:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2092 | 2.007 | .4878 | .0038 | .0214 | 2.020 | .5347 | 24.76 | .5055 | .5069 |
| Stddev | .0013 | .025 | .0034 | .0051 | .0047 | .002 | .0024 | .04 | .0015 | .0016 |
| %RSD | .5980 | 1.238 | .7068 | 133.0 | 22.05 | .0972 | .4446 | .1765 | .3021 | .3070 |
| #1 | .2101 | 2.025 | .4854 | .0002 | .0248 | 2.021 | .5364 | 24.73 | .5066 | .5080 |
| #2 | .2083 | 1.990 | .4902 | .0074 | .0181 | 2.018 | .5331 | 24.79 | .5044 | .5058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .5003 | 2.071 | 26.45 | 26.14 | .4935 | .0220 | 24.51 | .4672 | .9702 |
| Stddev | .0036 | .0027 | .004 | .08 | .02 | .0013 | .0046 | .11 | .0003 | .0046 |
| %RSD | .6838 | .5495 | .1927 | .2870 | .0832 | .2599 | 20.77 | .4597 | .0605 | .4697 |
| #1 | .5327 | .4983 | 2.068 | 26.40 | 26.16 | .4926 | .0253 | 24.43 | .4674 | .9670 |
| #2 | .5276 | .5022 | 2.073 | 26.50 | 26.13 | .4944 | .0188 | 24.59 | .4670 | .9735 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0169 | .4859 | .4843 | .0491 | .0046 | .4994 | .5036 | .5001 | .5350 |
| Stddev | .0041 | .0118 | .0014 | .0009 | .0044 | .0012 | .0023 | .0026 | .0021 | .0041 |
| %RSD | 770.2 | 69.85 | .2942 | .1899 | 8.999 | 25.59 | .4551 | .5122 | .4220 | .7684 |
| #1 | .0023 | .0085 | .4869 | .4850 | .0523 | .0037 | .5010 | .5054 | .4986 | .5379 |
| #2 | -.0034 | .0252 | .4849 | .4837 | .0460 | .0054 | .4978 | .5018 | .5015 | .5321 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0184 | .5169 | -.0032 |
| Stddev | .0106 | .0011 | .0011 |
| %RSD | 57.48 | .2077 | 34.48 |
| #1 | .0259 | .5161 | -.0040 |
| #2 | .0109 | .5176 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2279.3 | 56941. | 13730. |
| Stddev | 1.8 | 139. | 29. |
| %RSD | .07959 | .24498 | .20816 |
| #1 | 2280.5 | 57040. | 13710. |
| #2 | 2278.0 | 56842. | 13750. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 15:58:09 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2558 | 9.719 | 1.909 | .0002 | 1.941 | 1.982 | 2.063 | 9.901 | 1.943 | 1.996 |
| Stddev | .0010 | .005 | .003 | .0009 | .004 | .003 | .003 | .003 | .003 | .003 |
| %RSD | .3817 | .0523 | .1290 | 370.8 | .2106 | .1727 | .1532 | .0276 | .1583 | .1577 |
| #1 | .2564 | 9.715 | 1.907 | .0009 | 1.938 | 1.979 | 2.061 | 9.899 | 1.941 | 1.994 |
| #2 | .2551 | 9.722 | 1.911 | -.0004 | 1.944 | 1.984 | 2.065 | 9.903 | 1.945 | 1.998 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.016 | 2.039 | 9.853 | 10.11 | 10.20 | 1.932 | 1.902 | 9.630 | 1.838 | 1.876 |
| Stddev | .004 | .000 | .020 | .03 | .04 | .004 | .005 | .029 | .003 | .001 |
| %RSD | .1893 | .0034 | .2003 | .2800 | .4192 | .2333 | .2840 | .2967 | .1721 | .0322 |
| #1 | 2.019 | 2.039 | 9.839 | 10.09 | 10.17 | 1.935 | 1.898 | 9.609 | 1.836 | 1.875 |
| #2 | 2.013 | 2.039 | 9.867 | 10.13 | 10.23 | 1.929 | 1.906 | 9.650 | 1.841 | 1.876 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0045 | 1.881 | 1.884 | .0128 | 1.838 | 2.030 | 1.965 | 1.936 | 2.018 |
| Stddev | .002 | .0020 | .002 | .001 | .0001 | .002 | .004 | .001 | .007 | .003 |
| %RSD | 37670. | 43.31 | .1148 | .0530 | .9550 | .1016 | .1940 | .0512 | .3667 | .1259 |
| #1 | -.0015 | .0059 | 1.880 | 1.885 | .0129 | 1.837 | 2.027 | 1.966 | 1.931 | 2.020 |
| #2 | .0015 | .0032 | 1.883 | 1.883 | .0127 | 1.840 | 2.033 | 1.965 | 1.941 | 2.016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0115 | 1.925 | -.0048 |
| Stddev | .0035 | .000 | .0004 |
| %RSD | 30.08 | .0033 | 7.698 |
| #1 | -.0091 | 1.924 | -.0051 |
| #2 | -.0139 | 1.925 | -.0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.2 | 57396. | 13710. |
| Stddev | 6.8 | 219. | 7. |
| %RSD | .29871 | .38083 | .05409 |
| #1 | 2294.0 | 57241. | 13705. |
| #2 | 2284.3 | 57550. | 13715. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:03:23 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0065 | .0001 | -.0008 | .0024 | .0007 | .0004 | .0010 | .0002 | .0003 |
| Stddev | .0008 | .0076 | .0019 | .0010 | .0007 | .0000 | .0001 | .0022 | .0002 | .0003 |
| %RSD | 259.5 | 117.3 | 3562. | 126.9 | 27.64 | 6.609 | 17.43 | 209.6 | 115.9 | 95.55 |
| #1 | .0003 | -.0011 | .0014 | -.0015 | .0029 | .0006 | .0005 | -.0005 | .0003 | .0005 |
| #2 | -.0009 | -.0119 | -.0013 | -.0001 | .0020 | .0007 | .0004 | .0026 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0019 | .0000 | .0727 | -.0193 | .0003 | .0014 | .0228 | -.0001 | -.0001 |
| Stddev | .0004 | .0006 | .0016 | .0275 | .0042 | .0000 | .0004 | .0097 | .0002 | .0001 |
| %RSD | 138.3 | 31.50 | 7086. | 37.85 | 21.75 | 10.62 | 28.29 | 42.40 | 145.6 | 61.31 |
| #1 | .0000 | -.0023 | -.0011 | .0922 | -.0163 | .0003 | .0016 | .0160 | .0000 | -.0001 |
| #2 | -.0006 | -.0015 | .0012 | .0533 | -.0222 | .0003 | .0011 | .0296 | -.0002 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0008 | .0005 | -.0009 | -.0022 | .0004 | .0004 | .0004 | .0013 | .0000 |
| Stddev | .0004 | .0049 | .0000 | .0001 | .0003 | .0001 | .0001 | .0001 | .0004 | .000 |
| %RSD | 153.1 | 597.8 | 1.431 | 11.88 | 13.71 | 34.39 | 21.84 | 36.28 | 33.43 | 47.27 |
| #1 | -.0006 | -.0026 | .0005 | -.0010 | -.0024 | .0003 | .0005 | .0005 | .0010 | .0000 |
| #2 | .0000 | .0043 | .0005 | -.0008 | -.0020 | .0005 | .0003 | .0003 | .0016 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0042 | .0001 | -.0001 |
| Stddev | .0017 | .0001 | .0002 |
| %RSD | 41.14 | 57.92 | 217.6 |
| #1 | .0030 | .0002 | -.0002 |
| #2 | .0055 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57350. | 13582. |
| Stddev | 4.4 | 9. | 78. |
| %RSD | .19178 | .01540 | .57582 |
| #1 | 2282.1 | 57344. | 13527. |
| #2 | 2288.3 | 57356. | 13638. |



Zoom In Zoom Out

Sample Name: MP21072-PS1 Acquired: 6/4/2013 16:08:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2449 | -.0083 | .1873 | .0009 | 4.672 | 2.426 | .1998 | 5.100 | .1889 | 2.576 |
| Stddev | .0008 | .0029 | .0003 | .0004 | .006 | .002 | .0027 | .056 | .0003 | .002 |
| %RSD | .3355 | 34.65 | .1801 | 47.42 | .1230 | .0930 | 1.334 | 1.092 | .1465 | .0950 |
| #1 | .2443 | -.0063 | .1875 | .0006 | 4.668 | 2.428 | .1980 | 5.060 | .1887 | 2.574 |
| #2 | .2455 | -.0103 | .1870 | .0012 | 4.676 | 2.425 | .2017 | 5.139 | .1891 | 2.578 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4917 | 1.184 | -.0030 | 1.408 | .8532 | .6805 | 4.567 | 1.008 | 1.720 | .2316 |
| Stddev | .0006 | .004 | .0012 | .024 | .0049 | .0016 | .006 | .006 | .001 | .0003 |
| %RSD | .1288 | .3203 | 40.53 | 1.668 | .5751 | .2278 | .1269 | .5778 | .0348 | .1281 |
| #1 | .4912 | 1.182 | -.0039 | 1.391 | .8566 | .6794 | 4.563 | 1.012 | 1.721 | .2318 |
| #2 | .4921 | 1.187 | -.0022 | 1.424 | .8497 | .6816 | 4.571 | 1.004 | 1.720 | .2314 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0027 | .2676 | .4506 | 3.022 | 4.419 | .5189 | 2.387 | .2412 | .4886 |
| Stddev | .0006 | .0010 | .0010 | .0006 | .004 | .001 | .0003 | .009 | .0005 | .0057 |
| %RSD | 48.35 | 36.29 | .3899 | .1286 | .1361 | .0181 | .0521 | .3879 | .2112 | 1.166 |
| #1 | -.0009 | .0034 | .2669 | .4502 | 3.019 | 4.419 | .5191 | 2.381 | .2408 | .4927 |
| #2 | -.0018 | .0020 | .2683 | .4511 | 3.025 | 4.418 | .5187 | 2.394 | .2415 | .4846 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0157 | .9184 | -.0101 |
| Stddev | .0060 | .0001 | .0004 |
| %RSD | 37.95 | .0153 | 4.030 |
| #1 | -.0200 | .9185 | -.0098 |
| #2 | -.0115 | .9183 | -.0104 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2267.6 | 57478. | 13847. |
| Stddev | 2.4 | 133. | 97. |
| %RSD | .10700 | .23189 | .69773 |
| #1 | 2269.3 | 57572. | 13779. |
| #2 | 2265.9 | 57383. | 13916. |



Zoom In Zoom Out

Sample Name: MC21083-1F Acquired: 6/4/2013 16:12:57 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0476 | -.0022 | -.0017 | .0167 | .0139 | .0003 | 10.09 | .0000 | .0007 |
| Stddev | .0007 | .0014 | .0035 | .0034 | .0011 | .0008 | .0001 | .01 | .0001 | .0003 |
| %RSD | 25.95 | 2.929 | 161.8 | 200.7 | 6.679 | 5.498 | 38.25 | .1384 | 3065. | 48.60 |
| #1 | -.0032 | -.0466 | .0003 | -.0041 | .0175 | .0134 | .0004 | 10.10 | -.0001 | .0009 |
| #2 | -.0022 | -.0486 | -.0047 | .0007 | .0159 | .0144 | .0002 | 10.08 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0035 | -.0039 | 1.130 | 1.639 | .0017 | .0089 | 14.78 | .0001 | .0000 |
| Stddev | .0012 | .0001 | .0024 | .011 | .011 | .0000 | .0025 | .05 | .0001 | .001 |
| %RSD | 233.1 | 2.968 | 59.97 | 1.007 | .6747 | 1.348 | 27.83 | .3299 | 82.19 | 3296. |
| #1 | .0003 | -.0034 | -.0056 | 1.122 | 1.646 | .0016 | .0106 | 14.81 | .0002 | -.0008 |
| #2 | -.0014 | -.0036 | -.0023 | 1.138 | 1.631 | .0017 | .0071 | 14.74 | .0001 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | .0084 | .0009 | .0006 | 6.235 | .0013 | .1003 | .0016 | .0008 | .0001 |
| Stddev | .0014 | .0013 | .0013 | .0007 | .028 | .0010 | .0002 | .0003 | .0002 | .0012 |
| %RSD | 32.85 | 15.23 | 156.7 | 120.9 | .4555 | 79.54 | .2155 | 17.57 | 25.30 | 2002. |
| #1 | -.0032 | .0093 | .0018 | .0001 | 6.215 | .0020 | .1004 | .0014 | .0010 | -.0008 |
| #2 | -.0052 | .0075 | -.0001 | .0011 | 6.255 | .0006 | .1001 | .0018 | .0007 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0119 | .0080 | -.0016 |
| Stddev | .0008 | .0002 | .0000 |
| %RSD | 6.787 | 2.425 | 2.633 |
| #1 | .0114 | .0079 | -.0016 |
| #2 | .0125 | .0082 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2286.7 | 56781. | 13596. |
| Stddev | 5.2 | 386. | 73. |
| %RSD | .22600 | .67973 | .54020 |
| #1 | 2290.4 | 57054. | 13544. |
| #2 | 2283.0 | 56508. | 13648. |



Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:17:19 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.1066 | 1.308 | -.0006 | .1609 | .0395 | .0000 | 76.53 | .0131 | .0137 |
| Stddev | .0002 | .0329 | .002 | .0005 | .0004 | .0012 | .000 | .19 | .0000 | .0001 |
| %RSD | 6.667 | 30.82 | .1821 | 81.27 | .2307 | 3.139 | 1459. | .2469 | .3521 | .6607 |
| #1 | -.0025 | -.0834 | 1.310 | -.0010 | .1607 | .0386 | .0001 | 76.66 | .0131 | .0138 |
| #2 | -.0027 | -.1298 | 1.307 | -.0003 | .1612 | .0404 | -.0001 | 76.40 | .0130 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0029 | 19.48 | 8.281 | 12.72 | 9.768 | .0041 | 23.73 | .0071 | -.0021 |
| Stddev | .0015 | .0003 | .03 | .005 | .02 | .084 | .0003 | .04 | .0003 | .0010 |
| %RSD | 1110. | 8.678 | .1605 | .0626 | .1547 | .8565 | 8.123 | .1776 | 4.384 | 47.65 |
| #1 | .0009 | -.0028 | 19.51 | 8.285 | 12.73 | 9.709 | .0044 | 23.76 | .0073 | -.0014 |
| #2 | -.0012 | -.0031 | 19.46 | 8.277 | 12.71 | 9.827 | .0039 | 23.70 | .0069 | -.0028 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0400 | .0021 | .0009 | 11.93 | -.0007 | .7760 | .0009 | -.0028 | -.0006 |
| Stddev | .0017 | .0009 | .0004 | .0033 | .01 | .0014 | .0011 | .0000 | .0006 | .0006 |
| %RSD | 48.24 | 2.188 | 19.32 | 377.8 | .0845 | 208.8 | .1355 | 3.925 | 21.16 | 102.6 |
| #1 | -.0046 | .0406 | .0018 | .0032 | 11.93 | .0003 | .7767 | .0009 | -.0032 | -.0010 |
| #2 | -.0023 | .0393 | .0023 | -.0015 | 11.92 | -.0017 | .7752 | .0009 | -.0023 | -.0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0001 | .0127 | -.0026 |
| Stddev | .0109 | .0001 | .0006 |
| %RSD | 7459. | 1.162 | 24.32 |
| #1 | -.0076 | .0128 | -.0021 |
| #2 | .0079 | .0125 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.7 | 56793. | 13609. |
| Stddev | 5.5 | 323. | 98. |
| %RSD | .24107 | .56884 | .72218 |
| #1 | 2284.6 | 57021. | 13540. |
| #2 | 2276.8 | 56564. | 13679. |

Zoom In Zoom Out

Sample Name: MC21083-2F Acquired: 6/4/2013 16:21:42 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.1221 | 1.302 | .0019 | .1609 | .0397 | -.0003 | 76.37 | .0129 | .0136 |
| Stddev | .0011 | .0185 | .002 | .0018 | .0009 | .0008 | .0000 | .09 | .0002 | .0002 |
| %RSD | 177.8 | 15.19 | .1163 | 90.76 | .5571 | 1.934 | 7.091 | .1230 | 1.537 | 1.314 |
| #1 | -.0014 | -.1090 | 1.303 | .0032 | .1616 | .0391 | -.0003 | 76.30 | .0130 | .0134 |
| #2 | .0002 | -.1352 | 1.301 | .0007 | .1603 | .0402 | -.0002 | 76.43 | .0127 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0057 | 19.93 | 8.396 | 12.74 | 9.670 | .0030 | 23.65 | .0070 | .0003 |
| Stddev | .0010 | .0013 | .10 | .074 | .17 | .086 | .0000 | .01 | .0004 | .0004 |
| %RSD | 88.18 | 23.27 | .4845 | .8824 | 1.340 | .8873 | .8867 | .0506 | 6.322 | 133.4 |
| #1 | -.0004 | -.0048 | 19.86 | 8.343 | 12.62 | 9.731 | .0031 | 23.64 | .0073 | .0000 |
| #2 | -.0019 | -.0066 | 20.00 | 8.448 | 12.86 | 9.609 | .0030 | 23.66 | .0066 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0339 | .0013 | -.0029 | 11.85 | -.0005 | .7802 | .0033 | .0024 | .0004 |
| Stddev | .0022 | .0110 | .0009 | .0003 | .01 | .0002 | .0004 | .0035 | .0037 | .0005 |
| %RSD | 20.91 | 32.38 | 68.43 | 10.45 | .0824 | 49.53 | .0505 | 104.5 | 157.5 | 131.0 |
| #1 | -.0119 | .0416 | .0020 | -.0026 | 11.84 | -.0003 | .7804 | .0009 | .0050 | .0000 |
| #2 | -.0088 | .0261 | .0007 | -.0031 | 11.85 | -.0007 | .7799 | .0058 | -.0003 | .0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0146 | .0135 | -.0024 |
| Stddev | .0062 | .0000 | .0012 |
| %RSD | 42.36 | .2237 | 51.77 |
| #1 | -.0102 | .0135 | -.0015 |
| #2 | -.0190 | .0135 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.2 | 57438. | 13660. |
| Stddev | 4.3 | 319. | 58. |
| %RSD | .18769 | .55466 | .42596 |
| #1 | 2282.2 | 57213. | 13701. |
| #2 | 2288.2 | 57664. | 13619. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:26:07 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0182 | -.0001 | .0035 | .0270 | .0121 | .0002 | 19.96 | -.0002 | .0001 |
| Stddev | .0013 | .0117 | .0001 | .0002 | .0002 | .0000 | .0001 | .04 | .0001 | .0002 |
| %RSD | 114.6 | 64.13 | 98.33 | 5.513 | .6150 | .1758 | 51.45 | .2216 | 43.86 | 361.5 |
| #1 | -.0020 | -.0265 | .0000 | .0036 | .0271 | .0121 | .0003 | 19.99 | -.0002 | .0002 |
| #2 | -.0002 | -.0100 | -.0002 | .0034 | .0269 | .0121 | .0001 | 19.93 | -.0001 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | .0138 | 2.673 | 2.741 | .1837 | .0004 | 11.15 | .0001 | -.0005 |
| Stddev | .0001 | .0008 | .0005 | .090 | .011 | .0005 | .0001 | .00 | .0002 | .0013 |
| %RSD | 33.56 | 23.07 | 3.925 | 3.367 | .3969 | .2742 | 16.88 | .0381 | 206.1 | 242.1 |
| #1 | -.0002 | -.0042 | .0142 | 2.610 | 2.733 | .1841 | .0004 | 11.15 | .0003 | -.0014 |
| #2 | -.0003 | -.0030 | .0134 | 2.737 | 2.749 | .1834 | .0005 | 11.16 | -.0001 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0001 | .0013 | -.0019 | 3.934 | -.0002 | .1174 | .0002 | .0004 | -.0002 |
| Stddev | .0010 | .0012 | .0006 | .0009 | .010 | .0014 | .0003 | .0004 | .0005 | .0003 |
| %RSD | 52.03 | 831.9 | 47.78 | 49.20 | .2528 | 704.0 | .2703 | 214.9 | 111.5 | 121.5 |
| #1 | .0012 | -.0007 | .0018 | -.0025 | 3.927 | -.0012 | .1172 | .0005 | .0007 | .0000 |
| #2 | .0026 | .0010 | .0009 | -.0012 | 3.941 | .0008 | .1176 | -.0001 | .0001 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0053 | .0070 | -.0007 |
| Stddev | .0033 | .0001 | .0002 |
| %RSD | 62.20 | 1.216 | 29.58 |
| #1 | .0077 | .0070 | -.0006 |
| #2 | .0030 | .0071 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.0 | 56899. | 13643. |
| Stddev | 3.0 | 98. | 85. |
| %RSD | .13006 | .17286 | .62305 |
| #1 | 2307.9 | 56830. | 13583. |
| #2 | 2312.1 | 56969. | 13703. |



Zoom In Zoom Out

Sample Name: MC21083-3F Acquired: 6/4/2013 16:30:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0571 | -.0027 | .0002 | .0278 | .0118 | -.0001 | 19.99 | -.0003 | .0006 |
| Stddev | .0035 | .0108 | .0000 | .0033 | .0004 | .0002 | .0002 | .02 | .0006 | .0003 |
| %RSD | 183.4 | 18.84 | 1.094 | 2077. | 1.419 | 1.859 | 156.0 | .0937 | 186.3 | 47.69 |
| #1 | -.0044 | -.0495 | -.0027 | .0025 | .0276 | .0119 | .0000 | 20.01 | .0001 | .0008 |
| #2 | .0006 | -.0647 | -.0027 | -.0022 | .0281 | .0116 | -.0003 | 19.98 | -.0007 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0047 | .0031 | 2.644 | 2.718 | .1822 | .0004 | 11.17 | .0002 | .0013 |
| Stddev | .0001 | .0009 | .0047 | .060 | .052 | .0004 | .0003 | .01 | .0003 | .0008 |
| %RSD | 67.88 | 19.32 | 152.7 | 2.276 | 1.920 | .2267 | 65.66 | .0473 | 169.4 | 59.37 |
| #1 | -.0001 | -.0054 | .0064 | 2.687 | 2.681 | .1825 | .0002 | 11.17 | .0004 | .0018 |
| #2 | -.0003 | -.0041 | -.0002 | 2.602 | 2.755 | .1819 | .0006 | 11.18 | .0000 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0149 | -.0003 | .0004 | 3.939 | -.0002 | .1150 | -.0002 | .0036 | -.0003 |
| Stddev | .0001 | .0111 | .0008 | .0028 | .002 | .0018 | .0001 | .0014 | .0030 | .0018 |
| %RSD | 10.35 | 74.09 | 293.0 | 650.4 | .0515 | 894.5 | .0511 | 627.3 | 83.47 | 533.8 |
| #1 | -.0006 | .0228 | .0003 | -.0015 | 3.941 | -.0014 | .1151 | -.0013 | .0015 | .0010 |
| #2 | -.0006 | .0071 | -.0008 | .0024 | 3.938 | .0011 | .1150 | .0008 | .0058 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0107 | .0082 | -.0014 |
| Stddev | .0016 | .0002 | .0002 |
| %RSD | 15.07 | 2.591 | 14.38 |
| #1 | -.0119 | .0083 | -.0015 |
| #2 | -.0096 | .0080 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2285.0 | 56967. | 13675. |
| Stddev | 1.1 | 52. | 14. |
| %RSD | .04618 | .09130 | .10005 |
| #1 | 2285.7 | 56930. | 13666. |
| #2 | 2284.2 | 57003. | 13685. |



Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:34:49 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0462 | .6031 | .0001 | .1688 | .0518 | .0000 | 50.34 | .0056 | .0104 |
| Stddev | .0001 | .0118 | .0017 | .0008 | .0004 | .0006 | .000 | .01 | .0000 | .0002 |
| %RSD | 3.989 | 25.56 | .2857 | 1357. | .2187 | 1.068 | 311.5 | .0242 | .1882 | 1.543 |
| #1 | -.0024 | -.0546 | .6019 | -.0005 | .1685 | .0522 | .0001 | 50.33 | .0056 | .0105 |
| #2 | -.0023 | -.0379 | .6043 | .0006 | .1690 | .0514 | -.0002 | 50.35 | .0056 | .0103 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0032 | 57.13 | 11.09 | 6.269 | 1.372 | .0000 | 20.45 | .0057 | -.0007 |
| Stddev | .0007 | .0008 | .07 | .01 | .129 | .000 | .0002 | .03 | .0001 | .0001 |
| %RSD | 34.28 | 25.83 | .1189 | .1114 | 2.062 | .0185 | 1781. | .1267 | 2.495 | 16.32 |
| #1 | -.0025 | -.0038 | 57.08 | 11.08 | 6.178 | 1.372 | -.0001 | 20.47 | .0056 | -.0008 |
| #2 | -.0015 | -.0026 | 57.17 | 11.10 | 6.360 | 1.372 | .0001 | 20.43 | .0058 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0082 | .0012 | -.0006 | 10.06 | -.0008 | .4573 | -.0001 | .0019 | .0000 |
| Stddev | .0043 | .0115 | .0003 | .0013 | .01 | .0000 | .0013 | .0002 | .0003 | .001 |
| %RSD | 112.2 | 141.6 | 25.85 | 202.6 | .0850 | .5363 | .2855 | 243.9 | 17.88 | 23840. |
| #1 | -.0069 | .0163 | .0014 | -.0016 | 10.05 | -.0008 | .4564 | .0001 | .0017 | .0005 |
| #2 | -.0008 | .0000 | .0010 | .0003 | 10.07 | -.0008 | .4582 | -.0002 | .0021 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0006 | .0069 | -.0021 |
| Stddev | .0053 | .0001 | .0006 |
| %RSD | 905.1 | 1.879 | 29.04 |
| #1 | -.0032 | .0070 | -.0017 |
| #2 | .0043 | .0068 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.3 | 56462. | 13520. |
| Stddev | 4.9 | 215. | 18. |
| %RSD | .21466 | .38092 | .13477 |
| #1 | 2292.8 | 56309. | 13533. |
| #2 | 2299.8 | 56614. | 13507. |

Zoom In Zoom Out

Sample Name: MC21083-4F Acquired: 6/4/2013 16:39:08 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0400 | .6065 | .0025 | .1691 | .0533 | .0000 | 50.54 | .0055 | .0109 |
| Stddev | .0013 | .0085 | .0035 | .0019 | .0007 | .0007 | .000 | .15 | .0003 | .0001 |
| %RSD | 36.14 | 21.25 | .5763 | 73.89 | .4206 | 1.399 | 722.4 | .3042 | 6.192 | .8983 |
| #1 | -.0044 | -.0460 | .6089 | .0012 | .1686 | .0528 | .0001 | 50.43 | .0057 | .0109 |
| #2 | -.0026 | -.0340 | .6040 | .0038 | .1696 | .0539 | -.0002 | 50.64 | .0052 | .0110 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | -.0056 | 57.38 | 11.18 | 6.186 | 1.389 | -.0002 | 20.46 | .0054 | -.0018 |
| Stddev | .0000 | .0000 | .23 | .03 | .008 | .003 | .0001 | .04 | .0000 | .0024 |
| %RSD | .2266 | .3830 | .4058 | .2777 | .1287 | .2462 | 39.09 | .1714 | .7773 | 135.6 |
| #1 | -.0016 | -.0056 | 57.22 | 11.16 | 6.192 | 1.386 | -.0002 | 20.44 | .0055 | -.0035 |
| #2 | -.0016 | -.0056 | 57.55 | 11.20 | 6.181 | 1.391 | -.0001 | 20.49 | .0054 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | .0082 | .0019 | .0040 | 10.10 | -.0008 | .4608 | .0001 | .0027 | -.0003 |
| Stddev | .0050 | .0141 | .0004 | .0011 | .01 | .0002 | .0020 | .0004 | .0015 | .0006 |
| %RSD | 151.7 | 171.6 | 21.43 | 27.84 | .0823 | 25.89 | .4329 | 455.0 | 54.47 | 186.5 |
| #1 | -.0002 | -.0018 | .0022 | .0032 | 10.09 | -.0007 | .4594 | -.0002 | .0038 | .0001 |
| #2 | .0068 | .0182 | .0017 | .0048 | 10.10 | -.0010 | .4622 | .0004 | .0017 | -.0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0080 | -.0019 |
| Stddev | .0147 | .0001 | .0004 |
| %RSD | 330.0 | 1.566 | 21.89 |
| #1 | .0148 | .0081 | -.0022 |
| #2 | -.0059 | .0079 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2310.1 | 56694. | 13816. |
| Stddev | 1.2 | 26. | 58. |
| %RSD | .05314 | .04600 | .42065 |
| #1 | 2311.0 | 56712. | 13857. |
| #2 | 2309.2 | 56675. | 13775. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:43:29 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0112 | -.0019 | -.0003 | .2020 | .0274 | .0001 | 150.0 | -.0001 | .0002 |
| Stddev | .0003 | .0045 | .0011 | .0009 | .0006 | .0001 | .0000 | .1 | .0003 | .0000 |
| %RSD | 18.20 | 40.19 | 59.00 | 255.9 | .3149 | .4603 | 20.65 | .0642 | 267.9 | 10.88 |
| #1 | -.0015 | -.0144 | -.0026 | .0003 | .2015 | .0275 | .0001 | 149.9 | .0001 | .0002 |
| #2 | -.0020 | -.0080 | -.0011 | -.0009 | .2024 | .0273 | .0001 | 150.1 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0012 | .0301 | 4.922 | 19.51 | .2488 | .0009 | 39.90 | .0038 | .0006 |
| Stddev | .0001 | .0004 | .0037 | .056 | .21 | .0004 | .0003 | .06 | .0003 | .0008 |
| %RSD | 13.71 | 36.48 | 12.16 | 1.140 | 1.097 | .1566 | 35.68 | .1528 | 9.206 | 127.6 |
| #1 | -.0009 | -.0009 | .0275 | 4.962 | 19.35 | .2485 | .0011 | 39.86 | .0035 | .0012 |
| #2 | -.0011 | -.0015 | .0327 | 4.883 | 19.66 | .2491 | .0007 | 39.95 | .0040 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0098 | -.0016 | .0025 | .0018 | 8.244 | -.0007 | .5027 | .0023 | .0009 | -.0001 |
| Stddev | .0066 | .0032 | .0011 | .0007 | .010 | .0006 | .0013 | .0001 | .0013 | .0003 |
| %RSD | 67.58 | 194.0 | 44.05 | 38.36 | .1189 | 75.52 | .2506 | 5.594 | 146.2 | 427.6 |
| #1 | -.0145 | -.0039 | .0033 | .0023 | 8.251 | -.0003 | .5018 | .0022 | .0000 | -.0003 |
| #2 | -.0051 | .0006 | .0017 | .0013 | 8.237 | -.0011 | .5036 | .0024 | .0018 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0375 | .0091 | -.0020 |
| Stddev | .0165 | .0000 | .0003 |
| %RSD | 43.90 | .4189 | 13.53 |
| #1 | .0492 | .0091 | -.0022 |
| #2 | .0259 | .0091 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2253.4 | 56378. | 13695. |
| Stddev | 6.0 | 562. | 5. |
| %RSD | .26490 | .99715 | .03749 |
| #1 | 2257.7 | 56776. | 13692. |
| #2 | 2249.2 | 55981. | 13699. |



Zoom In Zoom Out

Sample Name: MC21083-5F Acquired: 6/4/2013 16:47:50 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0678 | -.0029 | .0012 | .2044 | .0284 | -.0003 | 151.5 | -.0009 | .0003 |
| Stddev | .0013 | .0148 | .0032 | .0055 | .0025 | .0007 | .0001 | .1 | .0003 | .0004 |
| %RSD | 23.58 | 21.82 | 111.5 | 449.0 | 1.219 | 2.574 | 31.37 | .0522 | 33.45 | 129.8 |
| #1 | -.0066 | -.0574 | -.0006 | .0051 | .2026 | .0289 | -.0003 | 151.6 | -.0011 | .0000 |
| #2 | -.0047 | -.0783 | -.0051 | -.0027 | .2061 | .0279 | -.0002 | 151.4 | -.0007 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0091 | .0192 | 5.077 | 19.97 | .2538 | .0006 | 40.20 | .0026 | .0000 |
| Stddev | .0010 | .0014 | .0056 | .090 | .09 | .0023 | .0003 | .06 | .0010 | .0018 |
| %RSD | 175.0 | 14.91 | 29.22 | 1.771 | .4657 | .8947 | 50.01 | .1583 | 37.56 | 5764. |
| #1 | .0001 | -.0100 | .0153 | 5.141 | 19.91 | .2554 | .0008 | 40.24 | .0019 | -.0012 |
| #2 | -.0013 | -.0081 | .0232 | 5.014 | 20.04 | .2522 | .0004 | 40.15 | .0032 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0154 | .0052 | -.0028 | 8.203 | -.0023 | .5093 | .0032 | .0019 | -.0021 |
| Stddev | .0059 | .0054 | .0039 | .0133 | .006 | .0006 | .0004 | .0010 | .0031 | .0008 |
| %RSD | 179.7 | 34.94 | 75.14 | 470.6 | .0701 | 24.12 | .0718 | 32.20 | 162.5 | 37.19 |
| #1 | .0009 | -.0116 | .0080 | -.0122 | 8.199 | -.0027 | .5090 | .0039 | .0041 | -.0027 |
| #2 | -.0074 | -.0193 | .0025 | .0066 | 8.207 | -.0019 | .5096 | .0024 | -.0003 | -.0016 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0532 | .0098 | -.0021 |
| Stddev | .0286 | .0009 | .0016 |
| %RSD | 53.67 | 9.160 | 75.34 |
| #1 | .0734 | .0105 | -.0010 |
| #2 | .0330 | .0092 | -.0032 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2296.7 | 57019. | 13712. |
| Stddev | .7 | 316. | 32. |
| %RSD | .03015 | .55456 | .23220 |
| #1 | 2297.2 | 56795. | 13690. |
| #2 | 2296.3 | 57243. | 13735. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 16:52:11 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2579 | 9.795 | 1.905 | -.0002 | 1.951 | 1.991 | 2.082 | 9.983 | 1.950 | 2.001 |
| Stddev | .0002 | .004 | .007 | .0001 | .001 | .002 | .002 | .003 | .000 | .002 |
| %RSD | .0863 | .0398 | .3735 | 52.21 | .0337 | .1154 | .0763 | .0287 | .0031 | .1009 |
| #1 | .2577 | 9.792 | 1.910 | -.0003 | 1.951 | 1.989 | 2.081 | 9.981 | 1.950 | 2.002 |
| #2 | .2580 | 9.798 | 1.900 | -.0001 | 1.950 | 1.993 | 2.084 | 9.985 | 1.950 | 2.000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.035 | 2.057 | 9.840 | 10.11 | 10.23 | 1.951 | 1.912 | 9.722 | 1.835 | 1.874 |
| Stddev | .005 | .003 | .006 | .01 | .02 | .000 | .001 | .014 | .001 | .002 |
| %RSD | .2319 | .1197 | .0639 | .1033 | .2044 | .0031 | .0293 | .1466 | .0270 | .0854 |
| #1 | 2.031 | 2.055 | 9.836 | 10.11 | 10.22 | 1.951 | 1.913 | 9.712 | 1.835 | 1.875 |
| #2 | 2.038 | 2.058 | 9.845 | 10.12 | 10.25 | 1.951 | 1.912 | 9.732 | 1.834 | 1.873 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0024 | 1.885 | 1.889 | .0142 | 1.840 | 2.031 | 1.984 | 1.951 | 2.036 |
| Stddev | .0003 | .0006 | .000 | .001 | .0016 | .002 | .003 | .003 | .004 | .002 |
| %RSD | 25.11 | 26.35 | .0087 | .0734 | 10.95 | .1127 | .1480 | .1519 | .1966 | .0718 |
| #1 | -.0014 | .0029 | 1.885 | 1.890 | .0153 | 1.841 | 2.029 | 1.981 | 1.954 | 2.035 |
| #2 | -.0010 | .0020 | 1.885 | 1.888 | .0131 | 1.838 | 2.033 | 1.986 | 1.948 | 2.037 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0111 | 1.925 | -.0033 |
| Stddev | .0029 | .004 | .0002 |
| %RSD | 26.18 | .2118 | 6.611 |
| #1 | -.0132 | 1.928 | -.0031 |
| #2 | -.0091 | 1.922 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2291.2 | 56908. | 13755. |
| Stddev | 3.8 | 137. | 36. |
| %RSD | .16763 | .24137 | .26327 |
| #1 | 2293.9 | 57005. | 13729. |
| #2 | 2288.5 | 56811. | 13781. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 16:57:28 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0110 | -.0005 | .0011 | .0016 | .0005 | .0004 | .0006 | .0003 | .0006 |
| Stddev | .0003 | .0118 | .0006 | .0001 | .0004 | .0001 | .0000 | .0012 | .0000 | .0002 |
| %RSD | 29.92 | 107.2 | 115.4 | 7.744 | 24.01 | 15.14 | 10.16 | 194.4 | 16.52 | 39.55 |
| #1 | -.0009 | -.0027 | -.0009 | .0010 | .0019 | .0005 | .0004 | .0014 | .0003 | .0007 |
| #2 | -.0014 | -.0194 | -.0001 | .0011 | .0014 | .0006 | .0004 | -.0002 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0016 | .0021 | .0322 | -.0064 | .0004 | .0012 | .0115 | .0002 | .0006 |
| Stddev | .0001 | .0004 | .0003 | .0778 | .0062 | .0000 | .0004 | .0022 | .0002 | .0003 |
| %RSD | 35.55 | 24.63 | 15.69 | 242.0 | 97.65 | .9270 | 33.48 | 19.31 | 77.22 | 48.23 |
| #1 | .0002 | -.0013 | .0019 | -.0229 | -.0108 | .0004 | .0014 | .0100 | .0003 | .0004 |
| #2 | .0001 | -.0019 | .0024 | .0872 | -.0020 | .0004 | .0009 | .0131 | .0001 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0006 | .0016 | -.0003 | -.0023 | .0004 | .0005 | .0006 | .0016 | .0000 |
| Stddev | .0020 | .0007 | .0000 | .0002 | .0001 | .0000 | .0000 | .0003 | .0006 | .0003 |
| %RSD | 445.7 | 116.7 | 1.832 | 66.11 | 2.708 | 8.900 | .0801 | 45.80 | 37.57 | 1651. |
| #1 | .0018 | -.0001 | .0016 | -.0002 | -.0024 | .0004 | .0005 | .0004 | .0011 | -.0002 |
| #2 | -.0009 | -.0011 | .0017 | -.0005 | -.0023 | .0004 | .0005 | .0008 | .0020 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0015 | .0002 | .0001 |
| Stddev | .0103 | .0001 | .0000 |
| %RSD | 689.5 | 46.36 | 4.261 |
| #1 | -.0058 | .0003 | .0001 |
| #2 | .0088 | .0002 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2307.5 | 57508. | 13676. |
| Stddev | 7.8 | 14. | 12. |
| %RSD | .33985 | .02486 | .08508 |
| #1 | 2301.9 | 57518. | 13684. |
| #2 | 2313.0 | 57498. | 13667. |



Zoom In Zoom Out

Sample Name: MC21083-8F Acquired: 6/4/2013 17:01:51 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0536 | .6902 | .0028 | .1039 | .0149 | .0000 | 99.58 | .0066 | .0065 |
| Stddev | .0006 | .0084 | .0037 | .0000 | .0004 | .0000 | .0001 | .21 | .0002 | .0006 |
| %RSD | 45.77 | 15.65 | .5332 | 1.666 | .3964 | .3291 | 276.8 | .2090 | 3.277 | 9.465 |
| #1 | -.0009 | -.0477 | .6876 | .0027 | .1036 | .0149 | .0001 | 99.73 | .0065 | .0070 |
| #2 | -.0018 | -.0596 | .6928 | .0028 | .1042 | .0148 | .0000 | 99.44 | .0068 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0032 | 14.56 | 3.657 | 13.42 | 2.574 | .0054 | 113.7 | .0037 | .0006 |
| Stddev | .0010 | .0003 | .08 | .037 | .05 | .002 | .0002 | .3 | .0000 | .0012 |
| %RSD | 147.2 | 10.76 | .5157 | 1.003 | .3684 | .0949 | 3.898 | .2641 | .0535 | 199.1 |
| #1 | .0000 | -.0029 | 14.61 | 3.683 | 13.45 | 2.572 | .0056 | 113.9 | .0037 | -.0003 |
| #2 | -.0013 | -.0034 | 14.50 | 3.631 | 13.38 | 2.576 | .0053 | 113.5 | .0037 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0137 | .0014 | .0013 | 15.81 | -.0003 | .4516 | .0015 | .0010 | -.0011 |
| Stddev | .0000 | .0062 | .0004 | .0003 | .01 | .0012 | .0010 | .0011 | .0002 | .0006 |
| %RSD | .8946 | 45.33 | 27.23 | 18.83 | .0458 | 380.9 | .2177 | 71.30 | 16.28 | 52.39 |
| #1 | -.0053 | .0093 | .0016 | .0012 | 15.81 | .0005 | .4523 | .0007 | .0009 | -.0016 |
| #2 | -.0054 | .0180 | .0011 | .0015 | 15.82 | -.0011 | .4509 | .0022 | .0011 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0008 | .0099 | -.0025 |
| Stddev | .0069 | .0000 | .0009 |
| %RSD | 890.1 | .0467 | 35.38 |
| #1 | -.0041 | .0099 | -.0019 |
| #2 | .0056 | .0098 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2280.1 | 57146. | 13757. |
| Stddev | .1 | 494. | 37. |
| %RSD | .00631 | .86524 | .27006 |
| #1 | 2279.9 | 57496. | 13730. |
| #2 | 2280.2 | 56797. | 13783. |



Zoom In Zoom Out

Sample Name: MC21083-9F Acquired: 6/4/2013 17:06:12 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0645 | .7733 | .0019 | .0642 | .0340 | .0001 | 18.41 | .0073 | .0132 |
| Stddev | .0014 | .0078 | .0075 | .0045 | .0006 | .0003 | .0000 | .04 | .0002 | .0006 |
| %RSD | 38.74 | 12.14 | .9721 | 238.9 | .9269 | .9529 | 59.61 | .2020 | 2.067 | 4.894 |
| #1 | -.0026 | -.0700 | .7680 | .0050 | .0646 | .0338 | .0001 | 18.38 | .0072 | .0127 |
| #2 | -.0045 | -.0589 | .7786 | -.0013 | .0638 | .0342 | .0000 | 18.44 | .0074 | .0136 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0045 | 31.45 | 9.588 | 3.653 | .7947 | .0035 | 5.274 | .0032 | .0013 |
| Stddev | .0004 | .0005 | .04 | .066 | .029 | .0024 | .0000 | .006 | .0001 | .0013 |
| %RSD | 31.88 | 10.66 | .1413 | .6918 | .7957 | .2958 | 1.231 | .1098 | 3.319 | 99.14 |
| #1 | -.0010 | -.0048 | 31.42 | 9.541 | 3.632 | .7931 | .0034 | 5.278 | .0033 | .0004 |
| #2 | -.0016 | -.0041 | 31.48 | 9.635 | 3.673 | .7964 | .0035 | 5.270 | .0032 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0075 | .0030 | -.0003 | 6.466 | -.0013 | .2172 | .0000 | .0044 | -.0004 |
| Stddev | .0027 | .0083 | .0023 | .0009 | .001 | .0004 | .0002 | .000 | .0029 | .0002 |
| %RSD | 343.9 | 109.7 | 76.41 | 301.6 | .0219 | 30.92 | .1050 | 171.9 | 66.58 | 38.96 |
| #1 | .0027 | .0134 | .0047 | .0003 | 6.465 | -.0016 | .2170 | -.0001 | .0065 | -.0003 |
| #2 | -.0011 | .0017 | .0014 | -.0009 | 6.467 | -.0010 | .2173 | .0000 | .0023 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0126 | .0095 | -.0016 |
| Stddev | .0119 | .0000 | .0007 |
| %RSD | 94.28 | .1315 | 44.35 |
| #1 | .0042 | .0095 | -.0011 |
| #2 | .0210 | .0095 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2301.1 | 56529. | 13698. |
| Stddev | 4.3 | 33. | 52. |
| %RSD | .18645 | .05890 | .38221 |
| #1 | 2304.1 | 56553. | 13735. |
| #2 | 2298.0 | 56506. | 13661. |



Zoom In Zoom Out

Sample Name: MC21083-11F Acquired: 6/4/2013 17:10:32 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0835 | .7175 | .0055 | .1298 | .1121 | -.0006 | 46.95 | .0059 | .0018 |
| Stddev | .0028 | .0148 | .0082 | .0025 | .0006 | .0007 | .0001 | .03 | .0004 | .0010 |
| %RSD | 70.77 | 17.76 | 1.140 | 45.54 | .4521 | .6120 | 13.14 | .0649 | 5.936 | 56.11 |
| #1 | -.0059 | -.0939 | .7232 | .0073 | .1293 | .1116 | -.0007 | 46.97 | .0057 | .0011 |
| #2 | -.0020 | -.0730 | .7117 | .0037 | .1302 | .1126 | -.0006 | 46.93 | .0062 | .0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0083 | 67.83 | 9.632 | 5.423 | 1.747 | -.0001 | 16.48 | .0005 | -.0024 |
| Stddev | .0018 | .0011 | .18 | .081 | .035 | .001 | .0006 | .16 | .0004 | .0038 |
| %RSD | 99.44 | 13.59 | .2706 | .8372 | .6528 | .0543 | 636.8 | .9697 | 76.09 | 157.6 |
| #1 | -.0031 | -.0075 | 67.96 | 9.689 | 5.448 | 1.748 | -.0005 | 16.36 | .0002 | .0003 |
| #2 | -.0005 | -.0091 | 67.70 | 9.575 | 5.398 | 1.747 | .0003 | 16.59 | .0008 | -.0051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | -.0100 | .0003 | .0014 | 13.36 | -.0015 | .4377 | .0007 | .0068 | -.0010 |
| Stddev | .0007 | .0012 | .0010 | .0073 | .01 | .0002 | .0058 | .0002 | .0002 | .0010 |
| %RSD | 16.10 | 11.64 | 355.8 | 513.8 | .0873 | 10.78 | 1.314 | 29.34 | 2.859 | 103.2 |
| #1 | .0050 | -.0108 | -.0004 | .0065 | 13.37 | -.0016 | .4337 | .0005 | .0067 | -.0017 |
| #2 | .0040 | -.0091 | .0010 | -.0037 | 13.35 | -.0014 | .4418 | .0008 | .0070 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0053 | -.0015 |
| Stddev | .0158 | .0003 | .0004 |
| %RSD | 631.7 | 5.867 | 28.04 |
| #1 | -.0087 | .0051 | -.0018 |
| #2 | .0137 | .0055 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2317.0 | 57410. | 13558. |
| Stddev | 1.1 | 94. | 63. |
| %RSD | .04953 | .16426 | .46284 |
| #1 | 2316.2 | 57477. | 13514. |
| #2 | 2317.8 | 57343. | 13603. |

Zoom In Zoom Out

Sample Name: MC21083-16F Acquired: 6/4/2013 17:14:52 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0461 | .2247 | .0007 | .2889 | .0501 | .0000 | 65.93 | .0019 | .0155 |
| Stddev | .0015 | .0183 | .0021 | .0001 | .0011 | .0000 | .000 | .07 | .0002 | .0004 |
| %RSD | 109.3 | 39.58 | .9538 | 7.581 | .3770 | .0560 | 36460. | .0993 | 9.916 | 2.799 |
| #1 | -.0003 | -.0332 | .2263 | .0007 | .2897 | .0501 | -.0002 | 65.89 | .0021 | .0158 |
| #2 | -.0025 | -.0591 | .2232 | .0008 | .2881 | .0501 | .0002 | 65.98 | .0018 | .0152 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0036 | 49.07 | 9.551 | 11.29 | 2.918 | .0007 | 27.19 | .0023 | -.0010 |
| Stddev | .0002 | .0002 | .10 | .045 | .01 | .000 | .0003 | .06 | .0001 | .0002 |
| %RSD | 52.77 | 5.031 | .2029 | .4684 | .0934 | .0116 | 44.56 | .2261 | 4.060 | 19.81 |
| #1 | -.0004 | -.0035 | 49.14 | 9.519 | 11.28 | 2.918 | .0009 | 27.14 | .0023 | -.0012 |
| #2 | -.0002 | -.0038 | 49.00 | 9.583 | 11.30 | 2.918 | .0005 | 27.23 | .0024 | -.0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0096 | .0004 | .0020 | 7.094 | -.0008 | .4075 | .0011 | -.0004 | -.0004 |
| Stddev | .0042 | .0057 | .0016 | .0027 | .013 | .0001 | .0017 | .0001 | .0003 | .0004 |
| %RSD | 118.7 | 59.80 | 417.7 | 137.1 | .1814 | 15.15 | .4092 | 7.928 | 86.47 | 105.3 |
| #1 | -.0065 | .0137 | .0015 | .0039 | 7.103 | -.0009 | .4087 | .0011 | -.0001 | -.0007 |
| #2 | -.0006 | .0055 | -.0007 | .0001 | 7.084 | -.0007 | .4063 | .0012 | -.0006 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0020 | .0105 | -.0009 |
| Stddev | .0029 | .0001 | .0004 |
| %RSD | 143.7 | 1.086 | 37.26 |
| #1 | -.0040 | .0106 | -.0012 |
| #2 | .0000 | .0104 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2281.9 | 56653. | 13677. |
| Stddev | 3.1 | 206. | 17. |
| %RSD | .13785 | .36412 | .12386 |
| #1 | 2279.6 | 56798. | 13665. |
| #2 | 2284.1 | 56507. | 13689. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/4/2013 17:19:13 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0043 | .1789 | .0031 | .0000 | .1002 | .0520 | .0045 | 5.102 | .0040 | .0516 |
| Stddev | .0006 | .0005 | .0011 | .0015 | .0005 | .0009 | .0001 | .093 | .0001 | .0001 |
| %RSD | 14.94 | .2726 | 34.06 | 3433. | .5181 | 1.797 | 2.207 | 1.821 | 2.063 | .2777 |
| #1 | .0048 | .1786 | .0038 | -.0010 | .0998 | .0514 | .0045 | 5.036 | .0041 | .0515 |
| #2 | .0039 | .1792 | .0023 | .0011 | .1006 | .0527 | .0046 | 5.167 | .0040 | .0517 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0101 | .0234 | .1151 | 5.253 | 5.266 | .0161 | .0987 | 4.890 | .0383 | .0051 |
| Stddev | .0001 | .0001 | .0027 | .099 | .126 | .0001 | .0002 | .067 | .0003 | .0002 |
| %RSD | .8472 | .4067 | 2.357 | 1.878 | 2.394 | .3541 | .2252 | 1.373 | .8792 | 4.410 |
| #1 | .0100 | .0235 | .1132 | 5.183 | 5.177 | .0162 | .0985 | 4.842 | .0380 | .0049 |
| #2 | .0101 | .0233 | .1170 | 5.323 | 5.355 | .0161 | .0988 | 4.937 | .0385 | .0053 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0000 | .0057 | .0101 | .0067 | .0940 | .0108 | .0523 | .0061 | .0107 |
| Stddev | .0022 | .0035 | .0009 | .0002 | .0003 | .0001 | .0002 | .0003 | .0001 | .0004 |
| %RSD | 141.8 | 35210. | 15.28 | 1.825 | 3.925 | .0732 | 1.689 | .5936 | 2.204 | 3.870 |
| #1 | .0031 | .0025 | .0064 | .0099 | .0068 | .0940 | .0106 | .0526 | .0060 | .0104 |
| #2 | .0000 | -.0025 | .0051 | .0102 | .0065 | .0941 | .0109 | .0521 | .0062 | .0110 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0208 | -.0003 |
| Stddev | .0016 | .0003 | .0001 |
| %RSD | 669.1 | 1.301 | 47.47 |
| #1 | -.0009 | .0206 | -.0004 |
| #2 | .0013 | .0210 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2313.8 | 57200. | 13439. |
| Stddev | .5 | 148. | 190. |
| %RSD | .02028 | .25801 | 1.4111 |
| #1 | 2313.5 | 57096. | 13573. |
| #2 | 2314.1 | 57305. | 13305. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/4/2013 17:23:30 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2583 | 9.830 | 1.918 | -.0005 | 1.962 | 1.991 | 2.087 | 9.980 | 1.959 | 2.012 |
| Stddev | .0007 | .010 | .001 | .0006 | .004 | .003 | .002 | .004 | .001 | .001 |
| %RSD | .2673 | .0995 | .0429 | 117.7 | .1790 | .1563 | .1165 | .0447 | .0554 | .0544 |
| #1 | .2578 | 9.837 | 1.917 | -.0009 | 1.959 | 1.989 | 2.085 | 9.977 | 1.958 | 2.011 |
| #2 | .2588 | 9.823 | 1.918 | -.0001 | 1.964 | 1.993 | 2.089 | 9.984 | 1.959 | 2.013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.043 | 2.063 | 9.860 | 10.08 | 10.21 | 1.965 | 1.918 | 9.718 | 1.843 | 1.879 |
| Stddev | .005 | .006 | .003 | .01 | .03 | .004 | .004 | .009 | .002 | .003 |
| %RSD | .2469 | .2799 | .0333 | .0960 | .3005 | .2145 | .2033 | .0964 | .1015 | .1372 |
| #1 | 2.039 | 2.059 | 9.857 | 10.07 | 10.19 | 1.962 | 1.916 | 9.725 | 1.841 | 1.881 |
| #2 | 2.046 | 2.067 | 9.862 | 10.09 | 10.23 | 1.968 | 1.921 | 9.711 | 1.844 | 1.878 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0007 | 1.891 | 1.891 | .1436 | 1.845 | 2.032 | 1.991 | 1.955 | 2.051 |
| Stddev | .0001 | .0002 | .001 | .001 | .0002 | .000 | .002 | .001 | .002 | .002 |
| %RSD | 7.847 | 35.67 | .0280 | .0348 | .1255 | .0186 | .1171 | .0660 | .0875 | .0783 |
| #1 | -.0009 | -.0005 | 1.890 | 1.891 | .1435 | 1.845 | 2.030 | 1.990 | 1.954 | 2.049 |
| #2 | -.0010 | -.0008 | 1.891 | 1.890 | .1437 | 1.845 | 2.033 | 1.992 | 1.956 | 2.052 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0145 | 1.932 | -.0017 |
| Stddev | .0029 | .000 | .0001 |
| %RSD | 19.91 | .0002 | 7.353 |
| #1 | -.0124 | 1.932 | -.0018 |
| #2 | -.0165 | 1.932 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2295.2 | 56235. | 13836. |
| Stddev | 4.5 | 366. | 64. |
| %RSD | .19464 | .65100 | .46002 |
| #1 | 2298.4 | 56494. | 13881. |
| #2 | 2292.0 | 55976. | 13791. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/4/2013 17:30:14 Type: Unk
Method: Accutest -SS2(v183) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0072 | -.0005 | -.0004 | .0015 | .0006 | .0003 | -.0131 | .0001 | .0005 |
| Stddev | .0006 | .0007 | .0011 | .0002 | .0000 | .0001 | .0000 | .0016 | .0001 | .0000 |
| %RSD | 61.60 | 9.139 | 241.8 | 58.68 | 2.782 | 13.98 | 3.664 | 12.55 | 99.37 | 8.206 |
| #1 | -.0013 | -.0068 | .0003 | -.0002 | .0015 | .0005 | .0003 | -.0120 | .0001 | .0005 |
| #2 | -.0005 | -.0077 | -.0013 | -.0005 | .0016 | .0006 | .0003 | -.0143 | .0000 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0014 | .0001 | .0257 | .0039 | .0005 | .0008 | .0085 | .0001 | -.0004 |
| Stddev | .0001 | .0005 | .0003 | .0423 | .0207 | .0001 | .0002 | .0068 | .0000 | .0003 |
| %RSD | 148.7 | 34.59 | 225.9 | 164.6 | 527.9 | 17.42 | 24.59 | 79.93 | 46.84 | 63.53 |
| #1 | .0000 | -.0018 | -.0001 | .0557 | -.0107 | .0006 | .0009 | .0134 | .0000 | -.0002 |
| #2 | -.0002 | -.0011 | .0003 | -.0042 | .0186 | .0005 | .0007 | .0037 | .0001 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0027 | .0000 | .0004 | .0017 | .0003 | .0003 | .0003 | .0020 | -.0004 |
| Stddev | .0011 | .0067 | .0006 | .0008 | .0001 | .0002 | .0000 | .0002 | .0009 | .0003 |
| %RSD | 1856. | 252.0 | 3605. | 206.6 | 4.914 | 54.37 | 5.008 | 87.81 | 47.13 | 81.65 |
| #1 | .0008 | -.0074 | .0005 | .0010 | .0017 | .0004 | .0003 | .0001 | .0026 | -.0006 |
| #2 | -.0007 | .0021 | -.0004 | -.0002 | .0016 | .0002 | .0003 | .0004 | .0013 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0033 | .0002 | .0000 |
| Stddev | .0085 | .0001 | .000 |
| %RSD | 260.2 | 42.70 | 4643. |
| #1 | -.0028 | .0003 | .0000 |
| #2 | .0093 | .0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2316.0 | 57590. | 13649. |
| Stddev | .2 | 187. | 101. |
| %RSD | .00951 | .32511 | .74058 |
| #1 | 2316.2 | 57723. | 13578. |
| #2 | 2315.9 | 57458. | 13721. |



**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000172 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.006301 | 0.000000 | No |
| | | | Mo | 0.042788 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | -0.000137 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.000766 | 0.000000 | No |
| | | | Fe | 0.000001 | 0.000000 | No |
| | | | Mn | 0.000185 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000089 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000013 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000078 | 0.000000 | No |
| | | | | Mn | 0.000138 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000049 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | 0.000038 | 0.000000 | No |
| | | | | Cr | 0.010126 | 0.000000 | No |
| | | | | Mo | -0.003392 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000400 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000001 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | 0.000039 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000209 | 0.000000 | No |
| | | | | Mn | 0.000495 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001294 | 0.000000 | No |
| | | | | Cr | 0.000325 | 0.000000 | No |
| | | | | V | -0.026555 | 0.000000 | No |
| | | | | Co | 0.001673 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001617 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.000766 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0028 | .0011 | .0007 | .0001 | .0009 | .0083 | -.0001 | .0061 | .0029 |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0002 | .0004 | .0000 | .0001 | .0002 |
| %RSD | 4.644 | 18.58 | 11.07 | 8.497 | 23.00 | 4.518 | 47.28 | .8999 | 5.360 |
| #1 | -.0027 | .0009 | .0007 | .0001 | .0011 | .0081 | -.0001 | .0061 | .0028 |
| #2 | -.0029 | .0012 | .0008 | .0001 | .0008 | .0086 | -.0001 | .0062 | .0030 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0001 | .0002 | .0140 | .0007 | .0016 | -.0002 | .0010 | .0003 | .0008 |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0003 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 235.7 | 28.90 | .4961 | 24.87 | 17.79 | 100.9 | 3.334 | 39.39 | 40.56 |
| #1 | .0000 | .0001 | .0140 | .0008 | .0014 | .0000 | .0010 | .0003 | .0006 |
| #2 | .0001 | .0002 | .0141 | .0006 | .0018 | -.0003 | .0011 | .0002 | .0010 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0011 | -.0003 | .0001 | .0001 | .0001 | .0007 | .0269 | -.0004 | .0032 |
| Stddev | .0001 | .0002 | .0001 | .0001 | .0001 | .0001 | .0004 | .0001 | .0003 |
| %RSD | 8.003 | 68.26 | 123.8 | 96.43 | 117.4 | 11.05 | 1.469 | 37.79 | 9.546 |
| #1 | -.0012 | -.0001 | .0000 | .0000 | .0000 | .0006 | .0272 | -.0003 | .0034 |
| #2 | -.0010 | -.0004 | .0002 | .0002 | .0001 | .0007 | .0266 | -.0005 | .0030 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0002 | -.0007 | .0003 | -.0001 | .0008 | .0004 |
| Stddev | .0000 | .0001 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 9.703 | 9.132 | 33.23 | 175.3 | 21.55 | 35.46 |
| #1 | -.0002 | -.0008 | .0003 | -.0001 | .0009 | .0005 |
| #2 | -.0002 | -.0007 | .0002 | .0000 | .0007 | .0003 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/5/2013 9:18:04 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2436.6 | 60774. | 15468. |
| Stddev | 27.8 | 152. | 122. |
| %RSD | 1.1391 | .24941 | .79097 |
| #1 | 2417.0 | 60882. | 15554. |
| #2 | 2456.2 | 60667. | 15381. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/5/2013 9:22:26 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1570 | .5432 | 2.076 | 15.09 | 15.85 | 8.830 | 8.257 | 1.031 | 1.870 | 6.198 |
| Stddev | .0008 | .0008 | .000 | .02 | .01 | .006 | .004 | .009 | .021 | .015 |
| %RSD | .5215 | .1411 | .0005 | .1404 | .0520 | .0631 | .0423 | .8487 | 1.123 | .2364 |
| #1 | .1575 | .5426 | 2.076 | 15.08 | 15.84 | 8.834 | 8.260 | 1.037 | 1.885 | 6.208 |
| #2 | .1564 | .5437 | 2.076 | 15.11 | 15.86 | 8.826 | 8.255 | 1.024 | 1.855 | 6.187 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 6.972 | 7.209 | 2.845 | 1.529 | .7587 | 1.090 | 10.85 |
| Stddev | .001 | .001 | .002 | .000 | .0005 | .001 | .00 |
| %RSD | .0182 | .0092 | .0565 | .0190 | .0707 | .0956 | .0261 |
| #1 | 6.971 | 7.209 | 2.844 | 1.529 | .7591 | 1.091 | 10.85 |
| #2 | 6.973 | 7.209 | 2.847 | 1.528 | .7584 | 1.089 | 10.85 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2472.0 | 59342. | 13928. |
| Stddev | 2.3 | 145. | 77. |
| %RSD | .09474 | .24474 | .55287 |
| #1 | 2470.3 | 59240. | 13874. |
| #2 | 2473.6 | 59445. | 13983. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/5/2013 9:26:47 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.418 | 2.703 | 1.476 | .7017 | .2102 | 2.493 |
| Stddev | .002 | .004 | .006 | .0032 | .0009 | .001 |
| %RSD | .1709 | .1418 | .4225 | .4525 | .4520 | .0204 |
| #1 | 1.416 | 2.700 | 1.472 | .6995 | .2095 | 2.493 |
| #2 | 1.420 | 2.706 | 1.481 | .7040 | .2108 | 2.494 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 13827. |
| Stddev | 45. |
| %RSD | .32895 |
| #1 | 13795. |
| #2 | 13859. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/5/2013 9:31:05 Type: Cal
Method: Accutest -SS2(v189) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2940 | .5144 | .0844 | 2.018 | 1.871 | 19.04 | 1.592 | 1.279 | .0759 | 3.060 |
| Stddev | .0002 | .0001 | .0001 | .005 | .003 | .78 | .002 | .002 | .0004 | .004 |
| %RSD | .0754 | .0199 | .1168 | .2439 | .1608 | 4.121 | .1124 | .1345 | .5683 | .1136 |
| #1 | .2939 | .5143 | .0843 | 2.015 | 1.869 | 18.49 | 1.593 | 1.278 | .0756 | 3.058 |
| #2 | .2942 | .5145 | .0845 | 2.022 | 1.873 | 19.59 | 1.591 | 1.280 | .0762 | 3.063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2522.0 | 58630. | 13794. |
| Stddev | .8 | 89. | 192. |
| %RSD | .03242 | .15146 | 1.3894 |
| #1 | 2522.6 | 58693. | 13929. |
| #2 | 2521.4 | 58567. | 13658. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/5/2013 9:35:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5148 | 15.75 | 2.986 | 2.983 | 3.031 | 3.047 | 3.016 | 18.13 | 2.963 | 2.957 |
| Stddev | .0031 | .03 | .002 | .018 | .001 | .010 | .012 | .05 | .002 | .003 |
| %RSD | .6010 | .2198 | .0709 | .6097 | .0451 | .3224 | .4027 | .2919 | .0634 | .0873 |
| #1 | .5126 | 15.72 | 2.985 | 2.970 | 3.032 | 3.040 | 3.008 | 18.09 | 2.965 | 2.959 |
| #2 | .5170 | 15.77 | 2.988 | 2.996 | 3.030 | 3.054 | 3.025 | 18.16 | 2.962 | 2.955 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.085 | 2.945 | 18.21 | 15.41 | 18.34 | 3.044 | 2.865 | 15.52 | 2.868 | 2.900 |
| Stddev | .021 | .013 | .06 | .06 | .15 | .019 | .000 | .04 | .003 | .002 |
| %RSD | .6771 | .4261 | .3108 | .3819 | .8188 | .6202 | .0014 | .2774 | .1122 | .0821 |
| #1 | 3.070 | 2.937 | 18.17 | 15.37 | 18.23 | 3.031 | 2.865 | 15.49 | 2.871 | 2.902 |
| #2 | 3.100 | 2.954 | 18.25 | 15.46 | 18.44 | 3.057 | 2.865 | 15.55 | 2.866 | 2.899 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.041 | 2.987 | 2.934 | 2.932 | 3.000 | 3.061 | 2.996 | 3.004 | 2.949 | 2.966 |
| Stddev | .008 | .028 | .002 | .005 | .004 | .003 | .014 | .016 | .003 | .018 |
| %RSD | .2756 | .9219 | .0778 | .1658 | .1398 | .0916 | .4800 | .5286 | .1130 | .5987 |
| #1 | 3.035 | 2.968 | 2.935 | 2.935 | 3.003 | 3.063 | 2.986 | 2.993 | 2.952 | 2.954 |
| #2 | 3.047 | 3.007 | 2.932 | 2.928 | 2.997 | 3.059 | 3.006 | 3.016 | 2.947 | 2.979 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 2.987 | 2.860 | 3.116 |
| Stddev | .012 | .004 | .019 |
| %RSD | .3925 | .1292 | .6088 |
| #1 | 2.978 | 2.863 | 3.102 |
| #2 | 2.995 | 2.857 | 3.129 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2490.8 | 58027. | 13825. |
| Stddev | 4.2 | 512. | 20. |
| %RSD | .16674 | .88276 | .14484 |
| #1 | 2487.9 | 58389. | 13839. |
| #2 | 2493.8 | 57665. | 13811. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/5/2013 9:40:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0095 | .0010 | .0041 | .0035 | .0004 | F.0005 | .0152 | .0000 |
| Stddev | .0005 | .0023 | .0003 | .0007 | .0004 | .0004 | .0000 | .0015 | .000 |
| %RSD | 88.39 | 24.61 | 24.54 | 17.77 | 12.47 | 109.7 | .6917 | 9.741 | 706.1 |
| #1 | -.0009 | .0112 | .0012 | .0046 | .0038 | .0007 | .0005 | .0162 | .0001 |
| #2 | -.0002 | .0079 | .0009 | .0036 | .0032 | .0001 | .0005 | .0141 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0000 | .0008 | .0037 | .0156 | .0126 | .0005 | .0018 | .0034 |
| Stddev | .0001 | .0003 | .0003 | .0045 | .0142 | .0099 | .0000 | .0003 | .0019 |
| %RSD | 26.09 | 1602. | 36.40 | 122.0 | 90.96 | 79.04 | 1.320 | 14.88 | 58.04 |
| #1 | .0005 | -.0002 | .0011 | .0005 | .0257 | .0055 | .0005 | .0020 | .0020 |
| #2 | .0003 | .0002 | .0006 | .0069 | .0056 | .0196 | .0005 | .0016 | .0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0005 | .0012 | -.0090 | .0001 | .0011 | -.0034 | .0010 | .0007 |
| Stddev | .0001 | .0002 | .0015 | .0029 | .0003 | .0014 | .0000 | .0002 | .0000 |
| %RSD | 61.76 | 33.85 | 121.8 | 32.49 | 185.8 | 124.1 | .2056 | 21.25 | 6.691 |
| #1 | .0003 | .0006 | .0022 | -.0069 | .0000 | .0020 | -.0034 | .0008 | .0007 |
| #2 | .0001 | .0004 | .0002 | -.0110 | .0003 | .0001 | -.0034 | .0011 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0007 | .0016 | .0116 | .0000 | .0018 |
| Stddev | .0004 | .0003 | .0006 | .0037 | .0002 | .0004 |
| %RSD | 53.94 | 49.08 | 35.87 | 31.79 | 1921. | 24.15 |
| #1 | .0004 | .0009 | .0012 | .0090 | .0001 | .0022 |
| #2 | .0010 | .0004 | .0019 | .0142 | -.0001 | .0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2503.9 | 58652. | 13752. |
| Stddev | 5.7 | 72. | 5. |
| %RSD | .22576 | .12294 | .03885 |
| #1 | 2507.9 | 58703. | 13755. |
| #2 | 2499.9 | 58601. | 13748. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 9:45:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2477 | 9.979 | 1.953 | -.0013 | 1.971 | 1.948 | 1.993 | 9.879 | 1.946 | 2.035 |
| Stddev | .0008 | .001 | .005 | .0002 | .000 | .006 | .008 | .027 | .001 | .001 |
| %RSD | .3047 | .0113 | .2752 | 18.52 | .0094 | .3107 | .4188 | .2761 | .0511 | .0481 |
| #1 | .2482 | 9.980 | 1.949 | -.0015 | 1.971 | 1.953 | 1.999 | 9.898 | 1.945 | 2.036 |
| #2 | .2471 | 9.978 | 1.957 | -.0012 | 1.970 | 1.944 | 1.987 | 9.860 | 1.946 | 2.034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.997 | 1.953 | 9.748 | 9.844 | 9.616 | 2.053 | 1.956 | 9.960 | 1.934 | 1.914 |
| Stddev | .001 | .002 | .041 | .017 | .033 | .005 | .001 | .028 | .002 | .000 |
| %RSD | .0435 | .0799 | .4219 | .1684 | .3413 | .2473 | .0540 | .2798 | .0932 | .0068 |
| #1 | 1.998 | 1.952 | 9.777 | 9.855 | 9.639 | 2.057 | 1.955 | 9.979 | 1.933 | 1.914 |
| #2 | 1.997 | 1.954 | 9.718 | 9.832 | 9.593 | 2.050 | 1.956 | 9.940 | 1.935 | 1.914 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0036 | 1.954 | 1.950 | -.0277 | 1.954 | 1.921 | 1.962 | 1.978 | 1.964 |
| Stddev | .0009 | .0049 | .001 | .002 | .0003 | .000 | .008 | .004 | .002 | .005 |
| %RSD | 45.64 | 136.5 | .0301 | .0801 | 1.027 | .0048 | .4365 | .2256 | .1143 | .2571 |
| #1 | -.0013 | .0071 | 1.953 | 1.949 | -.0279 | 1.954 | 1.927 | 1.965 | 1.980 | 1.967 |
| #2 | -.0026 | .0001 | 1.954 | 1.951 | -.0275 | 1.954 | 1.916 | 1.959 | 1.977 | 1.960 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | 1.927 | .0015 |
| Stddev | .0053 | .001 | .0005 |
| %RSD | 41.79 | .0436 | 33.44 |
| #1 | .0090 | 1.927 | .0018 |
| #2 | .0165 | 1.928 | .0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2489.5 | 57676. | 13954. |
| Stddev | .2 | 562. | 103. |
| %RSD | .00887 | .97511 | .73466 |
| #1 | 2489.4 | 57278. | 14026. |
| #2 | 2489.7 | 58073. | 13881. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 9:51:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0184 | .0012 | .0026 | .0020 | .0000 | .0001 | .0115 | .0002 | .0004 |
| Stddev | .0002 | .0052 | .0001 | .0007 | .0002 | .000 | .0001 | .0006 | .0001 | .0002 |
| %RSD | 91.75 | 28.47 | 8.550 | 27.80 | 11.03 | 717.9 | 51.12 | 5.587 | 61.07 | 48.81 |
| #1 | -.0001 | .0221 | .0013 | .0021 | .0022 | .0001 | .0001 | .0120 | .0001 | .0003 |
| #2 | -.0004 | .0147 | .0011 | .0031 | .0019 | -.0002 | .0001 | .0111 | .0003 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0005 | -.0003 | -.0100 | .0023 | .0001 | .0009 | -.0006 | .0001 | -.0001 |
| Stddev | .0003 | .0009 | .0005 | .0595 | .0159 | .0001 | .0000 | .0157 | .0000 | .0004 |
| %RSD | 46.57 | 200.7 | 177.3 | 592.5 | 694.4 | 60.78 | 1.699 | 2844. | 24.34 | 598.1 |
| #1 | -.0004 | -.0002 | -.0006 | -.0521 | -.0090 | .0001 | .0009 | -.0117 | .0001 | -.0004 |
| #2 | -.0008 | .0011 | .0001 | .0320 | .0136 | .0002 | .0009 | .0106 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0006 | .0003 | .0002 | -.0046 | .0006 | -.0001 | .0002 | -.0003 | .0012 |
| Stddev | .0009 | .0004 | .0014 | .0001 | .0007 | .0003 | .0000 | .0002 | .0000 | .0002 |
| %RSD | 61.72 | 60.36 | 534.8 | 64.91 | 14.10 | 40.16 | 24.64 | 147.6 | 2.529 | 18.27 |
| #1 | -.0008 | -.0004 | -.0008 | .0003 | -.0042 | .0005 | -.0001 | .0000 | -.0004 | .0010 |
| #2 | -.0020 | -.0009 | .0013 | .0001 | -.0051 | .0008 | -.0001 | .0003 | -.0003 | .0013 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0066 | .0002 | .0005 |
| Stddev | .0023 | .0002 | .0001 |
| %RSD | 34.61 | 98.51 | 20.13 |
| #1 | .0083 | .0001 | .0004 |
| #2 | .0050 | .0003 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.0 | 58394. | 13869. |
| Stddev | .3 | 373. | 65. |
| %RSD | .01294 | .63823 | .47190 |
| #1 | 2508.2 | 58657. | 13822. |
| #2 | 2507.7 | 58130. | 13915. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 9:56:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .1979 | F.0055 | .0021 | .1029 | .0488 | .0042 | 4.878 | .0040 |
| Stddev | .0001 | .0002 | .0015 | .0009 | .0008 | .0021 | .0001 | .153 | .0001 |
| %RSD | 1.557 | .0956 | 26.84 | 43.84 | .7488 | 4.354 | 3.372 | 3.141 | 2.930 |
| #1 | .0047 | .1978 | .0065 | .0027 | .1034 | .0503 | .0043 | 4.986 | .0039 |
| #2 | .0048 | .1980 | .0044 | .0014 | .1023 | .0473 | .0041 | 4.769 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0521 | .0101 | .0255 | .0981 | 4.858 | 4.697 | .0163 | .1014 | 4.885 |
| Stddev | .0004 | .0002 | .0025 | .0030 | .199 | .192 | .0004 | .0001 | .162 |
| %RSD | .6729 | 1.840 | 9.671 | 3.085 | 4.101 | 4.094 | 2.442 | .0955 | 3.325 |
| #1 | .0524 | .0099 | .0273 | .1002 | 4.999 | 4.833 | .0166 | .1015 | 5.000 |
| #2 | .0519 | .0102 | .0238 | .0959 | 4.717 | 4.561 | .0160 | .1013 | 4.770 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0406 | .0051 | .0003 | -.0014 | .0066 | .0100 | -.0032 | .1004 | .0094 |
| Stddev | .0002 | .0004 | .0006 | .0023 | .0003 | .0010 | .0010 | .0005 | .0001 |
| %RSD | .5256 | 7.082 | 214.5 | 172.3 | 4.409 | 9.902 | 31.68 | .5181 | 1.271 |
| #1 | .0407 | .0053 | -.0002 | .0003 | .0064 | .0107 | -.0025 | .1008 | .0095 |
| #2 | .0404 | .0048 | .0008 | -.0030 | .0068 | .0093 | -.0039 | .1001 | .0094 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0520 | .0047 | .0108 | .0082 | .0203 | .0002 |
| Stddev | .0018 | .0007 | .0007 | .0009 | .0001 | .0000 |
| %RSD | 3.451 | 13.96 | 6.512 | 11.09 | .4250 | 11.76 |
| #1 | .0533 | .0042 | .0113 | .0075 | .0203 | .0002 |
| #2 | .0507 | .0051 | .0103 | .0088 | .0204 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2507.6 | 58037. | 14282. |
| Stddev | 1.1 | 955. | 578. |
| %RSD | .04256 | 1.6449 | 4.0497 |
| #1 | 2506.8 | 57362. | 13873. |
| #2 | 2508.3 | 58712. | 14691. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/5/2013 10:01:21 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 526.4 | .0000 | .0042 | .0059 | -.0002 | .0002 | 472.7 | .0002 | -.0010 |
| Stddev | .0001 | 6.3 | .0003 | .0017 | .0006 | .0000 | .0000 | 2.1 | .0002 | .0001 |
| %RSD | 514.9 | 1.198 | 908.6 | 41.20 | 10.22 | 24.99 | 17.92 | .4342 | 93.16 | 12.95 |
| #1 | -.0001 | 522.0 | .0002 | .0054 | .0063 | -.0002 | .0001 | 471.2 | .0003 | -.0009 |
| #2 | .0001 | 530.9 | -.0002 | .0030 | .0055 | -.0001 | .0002 | 474.1 | .0001 | -.0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | 190.2 | -.0075 | 489.3 | .0007 | -.0003 | .0693 | -.0025 | -.0004 |
| Stddev | .0004 | .0004 | 1.3 | .0202 | 3.5 | .0001 | .0003 | .0014 | .0002 | .0003 |
| %RSD | 424.1 | 85.76 | .7052 | 270.8 | .7057 | 8.073 | 120.7 | 2.044 | 6.790 | 80.51 |
| #1 | .0004 | .0002 | 189.3 | .0068 | 486.9 | .0006 | .0000 | .0703 | -.0024 | -.0002 |
| #2 | -.0002 | .0008 | 191.2 | -.0218 | 491.8 | .0007 | -.0005 | .0683 | -.0026 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0561 | -.0302 | -.0006 | -.0028 | .0442 | .0004 | .0006 | .0089 | -.0009 | .0005 |
| Stddev | .0006 | .0004 | .0003 | .0005 | .0011 | .0000 | .0002 | .0003 | .0015 | .0012 |
| %RSD | 1.026 | 1.174 | 43.81 | 18.85 | 2.466 | 1.459 | 34.82 | 3.607 | 159.9 | 227.4 |
| #1 | -.0565 | -.0304 | -.0004 | -.0024 | .0435 | .0004 | .0008 | .0087 | .0001 | .0014 |
| #2 | -.0557 | -.0299 | -.0008 | -.0032 | .0450 | .0004 | .0005 | .0091 | -.0020 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0305 | -.0006 | .0012 |
| Stddev | .0014 | .0001 | .0005 |
| %RSD | 4.477 | 24.17 | 39.47 |
| #1 | -.0295 | -.0005 | .0016 |
| #2 | -.0315 | -.0007 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2299.1 | 54315. | 13500. |
| Stddev | 7.5 | 346. | 150. |
| %RSD | .32817 | .63762 | 1.1079 |
| #1 | 2304.5 | 54070. | 13605. |
| #2 | 2293.8 | 54559. | 13394. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/5/2013 10:05:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.060 | 539.1 | 2.048 | .4964 | 1.032 | .5126 | .4903 | 469.8 | 1.029 | .4822 |
| Stddev | .004 | 1.4 | .002 | .0004 | .003 | .0012 | .0005 | 2.6 | .002 | .0003 |
| %RSD | .3402 | .2616 | .1023 | .0813 | .2460 | .2433 | .1000 | .5568 | .1528 | .0554 |
| #1 | 1.063 | 538.1 | 2.046 | .4967 | 1.030 | .5135 | .4907 | 471.7 | 1.028 | .4820 |
| #2 | 1.058 | 540.1 | 2.049 | .4961 | 1.034 | .5117 | .4900 | 468.0 | 1.030 | .4824 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5033 | .5192 | 191.1 | -.0388 | 491.7 | .5166 | .9727 | .0695 | .8895 | .9049 |
| Stddev | .0002 | .0035 | .4 | .0123 | .4 | .0015 | .0016 | .0075 | .0009 | .0027 |
| %RSD | .0338 | .6735 | .1840 | 31.66 | .0820 | .2959 | .1620 | 10.85 | .1028 | .3011 |
| #1 | .5031 | .5216 | 191.4 | -.0301 | 492.0 | .5177 | .9715 | .0748 | .8888 | .9069 |
| #2 | .5034 | .5167 | 190.9 | -.0475 | 491.4 | .5155 | .9738 | .0641 | .8901 | .9030 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4961 | .4914 | 2.077 | 1.962 | 2.224 | .9888 | .9744 | .5234 | 1.927 | .5116 |
| Stddev | .0019 | .0018 | .003 | .002 | .005 | .0004 | .0025 | .0024 | .001 | .0013 |
| %RSD | .3880 | .3678 | .1603 | .1220 | .2123 | .0401 | .2597 | .4506 | .0669 | .2525 |
| #1 | .4947 | .4927 | 2.074 | 1.960 | 2.221 | .9885 | .9762 | .5251 | 1.927 | .5126 |
| #2 | .4974 | .4901 | 2.079 | 1.963 | 2.228 | .9891 | .9726 | .5217 | 1.926 | .5107 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.917 | .8998 | .4601 |
| Stddev | .006 | .0004 | .0006 |
| %RSD | .2897 | .0406 | .1225 |
| #1 | 1.921 | .8995 | .4605 |
| #2 | 1.913 | .9000 | .4597 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2289.9 | 54083. | 13493. |
| Stddev | 1.1 | 270. | 89. |
| %RSD | .04835 | .50001 | .65788 |
| #1 | 2289.1 | 53891. | 13556. |
| #2 | 2290.6 | 54274. | 13430. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 10:10:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2059 | 2.260 | .5016 | -.0005 | .0032 | 1.982 | .5206 | 24.66 | .4971 | .5046 |
| Stddev | .0003 | .013 | .0023 | .0000 | .0002 | .014 | .0039 | .13 | .0003 | .0005 |
| %RSD | .1431 | .5766 | .4663 | 9.344 | 6.572 | .7063 | .7401 | .5419 | .0547 | .0897 |
| #1 | .2057 | 2.250 | .4999 | -.0005 | .0031 | 1.972 | .5179 | 24.57 | .4973 | .5043 |
| #2 | .2061 | 2.269 | .5032 | -.0005 | .0034 | 1.992 | .5233 | 24.76 | .4969 | .5050 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5241 | .4782 | 2.048 | 24.81 | 24.53 | .5106 | .0015 | 25.45 | .4816 | .9663 |
| Stddev | .0018 | .0010 | .001 | .16 | .27 | .0007 | .0005 | .18 | .0001 | .0013 |
| %RSD | .3341 | .2152 | .0596 | .6577 | 1.091 | .1311 | 31.47 | .7011 | .0161 | .1307 |
| #1 | .5229 | .4789 | 2.049 | 24.69 | 24.34 | .5101 | .0018 | 25.32 | .4815 | .9654 |
| #2 | .5254 | .4775 | 2.047 | 24.92 | 24.72 | .5111 | .0012 | 25.58 | .4817 | .9672 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0044 | .5020 | .4931 | .0418 | -.0009 | .4709 | .4936 | .5078 | .5104 |
| Stddev | .0027 | .0062 | .0006 | .0001 | .0009 | .0003 | .0036 | .0018 | .0013 | .0016 |
| %RSD | 331.4 | 139.8 | .1115 | .0205 | 2.044 | 32.00 | .7612 | .3599 | .2582 | .3230 |
| #1 | -.0027 | -.0088 | .5024 | .4931 | .0412 | -.0007 | .4684 | .4923 | .5087 | .5092 |
| #2 | .0011 | .0000 | .5016 | .4932 | .0424 | -.0011 | .4734 | .4948 | .5069 | .5115 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0113 | .4977 | .0137 |
| Stddev | .0046 | .0003 | .0015 |
| %RSD | 40.50 | .0572 | 10.82 |
| #1 | .0146 | .4975 | .0148 |
| #2 | .0081 | .4979 | .0127 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2483.1 | 58166. | 14155. |
| Stddev | 3.4 | 209. | 48. |
| %RSD | .13592 | .36005 | .34235 |
| #1 | 2480.7 | 58314. | 14189. |
| #2 | 2485.5 | 58018. | 14120. |



Zoom In Zoom Out

Sample Name: MP21104-MB1 Acquired: 6/5/2013 10:14:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0241 | .0008 | .0007 | .0009 | .0011 | .0003 | .0291 | -.0002 | .0001 |
| Stddev | .0001 | .0090 | .0011 | .0006 | .0001 | .0001 | .0000 | .0031 | .0000 | .0001 |
| %RSD | 8.664 | 37.29 | 147.1 | 80.05 | 15.88 | 6.472 | 7.273 | 10.58 | 18.76 | 75.29 |
| #1 | -.0008 | .0177 | .0000 | .0003 | .0008 | .0011 | .0003 | .0313 | -.0002 | .0000 |
| #2 | -.0009 | .0304 | .0015 | .0011 | .0009 | .0010 | .0004 | .0270 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0015 | .0106 | .0455 | .0358 | .0006 | .0003 | .0199 | .0001 | .0005 |
| Stddev | .0002 | .0002 | .0022 | .0234 | .0187 | .0000 | .0000 | .0087 | .0002 | .0004 |
| %RSD | 66.02 | 12.40 | 20.97 | 51.54 | 52.06 | .3755 | 9.522 | 43.73 | 193.7 | 78.31 |
| #1 | -.0002 | .0016 | .0090 | .0621 | .0226 | .0006 | .0003 | .0261 | .0000 | .0008 |
| #2 | -.0005 | .0013 | .0122 | .0289 | .0490 | .0006 | .0003 | .0138 | .0003 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0108 | .0003 | -.0003 | .0467 | -.0001 | .0003 | .0002 | -.0004 | .0003 |
| Stddev | .0003 | .0005 | .0009 | .0011 | .0012 | .0002 | .0001 | .0002 | .0000 | .0001 |
| %RSD | 35.74 | 4.410 | 298.3 | 305.5 | 2.628 | 125.1 | 17.39 | 102.1 | 3.468 | 22.13 |
| #1 | .0011 | -.0112 | .0009 | .0004 | .0476 | -.0002 | .0003 | .0003 | -.0004 | .0003 |
| #2 | .0007 | -.0105 | -.0003 | -.0011 | .0459 | .0000 | .0003 | .0001 | -.0004 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0105 | -.0001 | .0007 |
| Stddev | .0062 | .0002 | .0001 |
| %RSD | 58.63 | 221.9 | 8.019 |
| #1 | .0149 | .0000 | .0007 |
| #2 | .0062 | -.0002 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2502.2 | 57943. | 13948. |
| Stddev | 15.9 | 100. | 113. |
| %RSD | .63617 | .17336 | .81210 |
| #1 | 2491.0 | 58014. | 13868. |
| #2 | 2513.5 | 57872. | 14028. |





Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 10:18:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2077 | 2.118 | .5102 | -.0105 | .0294 | 2.015 | .5313 | 44.04 | .5059 | .5146 |
| Stddev | .0006 | .008 | .0017 | .0000 | .0002 | .002 | .0012 | .01 | .0008 | .0008 |
| %RSD | .2695 | .3762 | .3291 | .1981 | .8414 | .0826 | .2224 | .0314 | .1558 | .1650 |
| #1 | .2081 | 2.123 | .5113 | -.0105 | .0296 | 2.014 | .5305 | 44.03 | .5064 | .5152 |
| #2 | .2073 | 2.112 | .5090 | -.0105 | .0292 | 2.016 | .5321 | 44.05 | .5053 | .5140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5349 | .4895 | 2.138 | 26.91 | 26.26 | 6.630 | .0008 | 32.87 | .4898 | .9746 |
| Stddev | .0032 | .0022 | .010 | .02 | .01 | .028 | .0001 | .01 | .0002 | .0037 |
| %RSD | .5944 | .4467 | .4498 | .0828 | .0536 | .4258 | 6.878 | .0272 | .0503 | .3842 |
| #1 | .5371 | .4910 | 2.132 | 26.89 | 26.27 | 6.650 | .0009 | 32.87 | .4900 | .9772 |
| #2 | .5326 | .4879 | 2.145 | 26.93 | 26.25 | 6.610 | .0008 | 32.88 | .4897 | .9720 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0242 | .5112 | .4994 | 5.232 | -.0010 | .5811 | .5032 | .5138 | .5209 |
| Stddev | .0029 | .0058 | .0004 | .0000 | .004 | .0003 | .0006 | .0016 | .0001 | .0017 |
| %RSD | 66.44 | 24.01 | .0832 | .0053 | .0858 | 27.84 | .0982 | .3245 | .0207 | .3320 |
| #1 | -.0024 | .0283 | .5115 | .4994 | 5.235 | -.0008 | .5815 | .5043 | .5139 | .5221 |
| #2 | -.0065 | .0201 | .5109 | .4994 | 5.229 | -.0013 | .5807 | .5020 | .5137 | .5197 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .5100 | -.0001 |
| Stddev | .0028 | .0007 | .0003 |
| %RSD | 152.9 | .1392 | 324.8 |
| #1 | .0039 | .5105 | .0001 |
| #2 | -.0002 | .5095 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2480.6 | 58039. | 14134. |
| Stddev | 4.6 | 58. | 54. |
| %RSD | .18580 | .10071 | .37866 |
| #1 | 2477.4 | 57998. | 14096. |
| #2 | 2483.9 | 58081. | 14172. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 10:22:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2102 | 2.136 | .5131 | -.0125 | .0295 | 2.022 | .5358 | 44.47 | .5065 | .5158 |
| Stddev | .0009 | .023 | .0003 | .0004 | .0004 | .002 | .0010 | .10 | .0004 | .0001 |
| %RSD | .4513 | 1.086 | .0639 | 3.049 | 1.356 | .1085 | .1940 | .2179 | .0872 | .0248 |
| #1 | .2096 | 2.153 | .5134 | -.0123 | .0298 | 2.023 | .5365 | 44.54 | .5062 | .5157 |
| #2 | .2109 | 2.120 | .5129 | -.0128 | .0292 | 2.020 | .5350 | 44.40 | .5068 | .5159 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5393 | .4917 | 2.133 | 27.06 | 26.47 | 6.824 | .0006 | 33.17 | .4920 | .9770 |
| Stddev | .0033 | .0045 | .002 | .05 | .04 | .062 | .0002 | .07 | .0002 | .0012 |
| %RSD | .6071 | .9101 | .0784 | .1930 | .1389 | .9083 | 33.98 | .2073 | .0443 | .1265 |
| #1 | .5370 | .4886 | 2.134 | 27.10 | 26.49 | 6.781 | .0007 | 33.22 | .4919 | .9761 |
| #2 | .5417 | .4949 | 2.132 | 27.03 | 26.44 | 6.868 | .0004 | 33.12 | .4922 | .9779 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0251 | .5118 | .5017 | 5.297 | -.0010 | .5839 | .5064 | .5193 | .5237 |
| Stddev | .0008 | .0030 | .0017 | .0017 | .003 | .0001 | .0010 | .0028 | .0007 | .0030 |
| %RSD | 24.69 | 12.08 | .3344 | .3314 | .0475 | 13.30 | .1794 | .5623 | .1367 | .5721 |
| #1 | -.0028 | .0230 | .5130 | .5029 | 5.295 | -.0011 | .5846 | .5044 | .5198 | .5216 |
| #2 | -.0039 | .0272 | .5106 | .5006 | 5.298 | -.0009 | .5831 | .5084 | .5188 | .5259 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .5114 | -.0015 |
| Stddev | .0039 | .0009 | .0006 |
| %RSD | 61.61 | .1735 | 40.51 |
| #1 | .0036 | .5121 | -.0010 |
| #2 | .0091 | .5108 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2473.8 | 57655. | 14096. |
| Stddev | 2.8 | 416. | 79. |
| %RSD | .11262 | .72110 | .56278 |
| #1 | 2475.8 | 57949. | 14040. |
| #2 | 2471.8 | 57361. | 14152. |

Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 10:27:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0102 | .0020 | -.0106 | .0267 | .0050 | .0002 | 18.88 | .0004 | .0018 |
| Stddev | .0004 | .0052 | .0000 | .0005 | .0000 | .0001 | .0000 | .02 | .0001 | .0001 |
| %RSD | 261.5 | 51.42 | 1.149 | 5.147 | .0268 | 2.164 | 9.510 | .1031 | 19.55 | 5.597 |
| #1 | -.0001 | -.0139 | .0020 | -.0110 | .0267 | .0051 | .0002 | 18.89 | .0004 | .0017 |
| #2 | .0005 | -.0065 | .0020 | -.0102 | .0267 | .0049 | .0002 | 18.86 | .0003 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0018 | .1236 | 1.765 | 1.686 | 6.067 | .0004 | 6.899 | .0015 | .0001 |
| Stddev | .0002 | .0008 | .0026 | .007 | .004 | .036 | .0001 | .008 | .0001 | .0003 |
| %RSD | 148.5 | 42.11 | 2.132 | .4239 | .2438 | .6004 | 14.25 | .1123 | 5.197 | 475.1 |
| #1 | .0003 | .0023 | .1217 | 1.759 | 1.683 | 6.093 | .0003 | 6.893 | .0014 | .0003 |
| #2 | .0000 | .0013 | .1254 | 1.770 | 1.689 | 6.041 | .0004 | 6.904 | .0015 | -.0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0250 | .0004 | .0008 | 5.000 | .0001 | .0977 | .0001 | .0015 | .0006 |
| Stddev | .0014 | .0062 | .0008 | .0007 | .006 | .0004 | .0002 | .0003 | .0000 | .0004 |
| %RSD | 193.2 | 24.59 | 195.3 | 92.58 | .1275 | 464.6 | .2103 | 185.0 | 2.283 | 78.30 |
| #1 | .0003 | .0207 | -.0001 | .0003 | 5.005 | -.0002 | .0978 | .0000 | .0015 | .0009 |
| #2 | -.0017 | .0294 | .0009 | .0013 | 4.996 | .0003 | .0975 | .0003 | .0015 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | .0062 | -.0005 |
| Stddev | .0010 | .0001 | .0000 |
| %RSD | 465.1 | 1.125 | 6.530 |
| #1 | -.0005 | .0062 | -.0005 |
| #2 | .0009 | .0062 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2508.1 | 58080. | 14066. |
| Stddev | 2.4 | 614. | 36. |
| %RSD | .09385 | 1.0564 | .25438 |
| #1 | 2506.5 | 57646. | 14041. |
| #2 | 2509.8 | 58514. | 14092. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 10:31:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0211 | .0005 | -.0050 | .0278 | .0045 | .0001 | 19.75 | -.0003 | .0018 |
| Stddev | .0016 | .0310 | .0022 | .0004 | .0003 | .0007 | .0000 | .09 | .0012 | .0004 |
| %RSD | 231.8 | 146.6 | 439.1 | 7.754 | 1.165 | 15.27 | 22.27 | .4661 | 389.6 | 23.30 |
| #1 | -.0019 | .0008 | -.0010 | -.0053 | .0275 | .0040 | .0001 | 19.81 | .0005 | .0015 |
| #2 | .0005 | -.0430 | .0020 | -.0047 | .0280 | .0050 | .0001 | 19.68 | -.0012 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0055 | .1088 | 1.950 | 1.726 | 6.123 | .0005 | 7.116 | .0011 | .0004 |
| Stddev | .0009 | .0007 | .0025 | .011 | .018 | .019 | .0007 | .008 | .0000 | .0015 |
| %RSD | 25.58 | 11.95 | 2.334 | .5813 | 1.012 | .3043 | 145.4 | .1156 | .8529 | 339.8 |
| #1 | -.0029 | .0060 | .1106 | 1.958 | 1.714 | 6.110 | .0000 | 7.110 | .0011 | -.0006 |
| #2 | -.0042 | .0050 | .1070 | 1.942 | 1.738 | 6.136 | .0010 | 7.122 | .0011 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0138 | -.0030 | .0007 | 4.958 | .0030 | .0993 | -.0022 | .0020 | .0011 |
| Stddev | .0144 | .0419 | .0042 | .0025 | .017 | .0001 | .0004 | .0021 | .0005 | .0003 |
| %RSD | 272.0 | 304.3 | 140.7 | 369.7 | .3394 | 2.348 | .4005 | 97.78 | 25.90 | 23.62 |
| #1 | .0049 | .0434 | .0000 | .0024 | 4.970 | .0030 | .0996 | -.0037 | .0016 | .0012 |
| #2 | -.0155 | -.0159 | -.0060 | -.0011 | 4.946 | .0031 | .0991 | -.0007 | .0024 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0297 | .0054 | .0012 |
| Stddev | .0162 | .0000 | .0037 |
| %RSD | 54.62 | .8957 | 301.0 |
| #1 | .0412 | .0055 | -.0014 |
| #2 | .0183 | .0054 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2472.8 | 57369. | 13730. |
| Stddev | 1.9 | 545. | 44. |
| %RSD | .07500 | .94941 | .31945 |
| #1 | 2474.1 | 57755. | 13699. |
| #2 | 2471.5 | 56984. | 13761. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 10:36:00 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0005 | -.0034 | .2387 | .0609 | .0000 | 137.5 | .0001 | .0012 |
| Stddev | .0004 | .0054 | .0002 | .0002 | .0014 | .0002 | .000 | .3 | .0001 | .0002 |
| %RSD | 112.1 | 1719. | 39.56 | 4.900 | .5658 | .3983 | 92.53 | .1865 | 57.55 | 15.33 |
| #1 | -.0007 | .0041 | .0004 | -.0033 | .2377 | .0611 | .0000 | 137.3 | .0001 | .0013 |
| #2 | -.0001 | -.0035 | .0007 | -.0036 | .2397 | .0607 | -.0001 | 137.7 | .0002 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0025 | .0337 | 4.297 | 19.25 | 2.486 | .0011 | 41.78 | .0078 | -.0007 |
| Stddev | .0002 | .0001 | .0020 | .014 | .04 | .013 | .0000 | .02 | .0004 | .0003 |
| %RSD | 74.72 | 2.091 | 6.073 | .3162 | .2039 | .5060 | .5185 | .0536 | 5.130 | 47.64 |
| #1 | .0001 | .0025 | .0351 | 4.307 | 19.22 | 2.477 | .0011 | 41.76 | .0080 | -.0009 |
| #2 | .0004 | .0025 | .0322 | 4.288 | 19.28 | 2.495 | .0011 | 41.79 | .0075 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0110 | .0014 | .0016 | 7.756 | -.0004 | .5365 | .0010 | -.0016 | .0008 |
| Stddev | .0018 | .0053 | .0008 | .0014 | .030 | .0001 | .0000 | .0001 | .0005 | .0000 |
| %RSD | 19.33 | 48.00 | 54.84 | 86.07 | .3878 | 27.21 | .0088 | 11.44 | 30.03 | 1.245 |
| #1 | -.0108 | .0072 | .0009 | .0026 | 7.735 | -.0003 | .5365 | .0009 | -.0019 | .0008 |
| #2 | -.0082 | .0147 | .0020 | .0006 | 7.777 | -.0005 | .5365 | .0011 | -.0012 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0231 | .0075 | -.0011 |
| Stddev | .0040 | .0000 | .0004 |
| %RSD | 17.31 | .3146 | 33.21 |
| #1 | .0203 | .0075 | -.0014 |
| #2 | .0259 | .0075 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2424.6 | 57141. | 13756. |
| Stddev | 8.0 | 508. | 114. |
| %RSD | .33124 | .88832 | .82693 |
| #1 | 2430.3 | 57500. | 13836. |
| #2 | 2418.9 | 56782. | 13675. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 10:40:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2482 | 10.03 | 1.941 | -.0023 | 1.963 | 1.950 | 1.994 | 9.896 | 1.956 | 2.032 |
| Stddev | .0011 | .00 | .005 | .0004 | .002 | .001 | .002 | .020 | .003 | .003 |
| %RSD | .4630 | .0327 | .2477 | 18.49 | .0846 | .0358 | .1154 | .2053 | .1556 | .1481 |
| #1 | .2490 | 10.03 | 1.938 | -.0026 | 1.962 | 1.951 | 1.992 | 9.882 | 1.953 | 2.030 |
| #2 | .2473 | 10.03 | 1.945 | -.0020 | 1.964 | 1.950 | 1.996 | 9.911 | 1.958 | 2.035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.979 | 1.959 | 9.715 | 9.753 | 9.618 | 2.039 | 1.958 | 10.04 | 1.921 | 1.897 |
| Stddev | .002 | .002 | .007 | .033 | .024 | .001 | .004 | .01 | .002 | .000 |
| %RSD | .0992 | .1136 | .0743 | .3328 | .2479 | .0602 | .2237 | .0925 | .0837 | .0170 |
| #1 | 1.981 | 1.961 | 9.720 | 9.776 | 9.601 | 2.040 | 1.955 | 10.04 | 1.920 | 1.896 |
| #2 | 1.978 | 1.957 | 9.710 | 9.730 | 9.635 | 2.038 | 1.961 | 10.03 | 1.922 | 1.897 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0024 | 1.954 | 1.920 | -.0190 | 1.941 | 1.924 | 1.954 | 1.964 | 1.956 |
| Stddev | .0000 | .0034 | .001 | .001 | .0017 | .000 | .001 | .001 | .001 | .003 |
| %RSD | 8.388 | 146.2 | .0517 | .0675 | 8.855 | .0002 | .0310 | .0358 | .0298 | .1723 |
| #1 | -.0006 | .0048 | 1.955 | 1.919 | -.0178 | 1.941 | 1.924 | 1.954 | 1.964 | 1.958 |
| #2 | -.0006 | -.0001 | 1.953 | 1.921 | -.0202 | 1.941 | 1.925 | 1.953 | 1.965 | 1.953 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0120 | 1.905 | -.0037 |
| Stddev | .0025 | .004 | .0004 |
| %RSD | 21.24 | .1827 | 9.737 |
| #1 | .0102 | 1.903 | -.0034 |
| #2 | .0138 | 1.908 | -.0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2450.4 | 57542. | 13932. |
| Stddev | 5.5 | 27. | 59. |
| %RSD | .22537 | .04704 | .42230 |
| #1 | 2454.3 | 57561. | 13891. |
| #2 | 2446.5 | 57523. | 13974. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 10:44:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0106 | .0017 | .0013 | .0021 | .0006 | F.0005 | .0031 | .0002 |
| Stddev | .0001 | .0070 | .0013 | .0013 | .0006 | .0000 | .0000 | .0009 | .0002 |
| %RSD | 119.8 | 65.99 | 80.83 | 99.58 | 30.97 | .8348 | 6.322 | 28.33 | 79.28 |
| #1 | -.0001 | .0056 | .0026 | .0023 | .0025 | .0006 | .0006 | .0038 | .0001 |
| #2 | .0000 | .0155 | .0007 | .0004 | .0016 | .0006 | .0005 | .0025 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | .0004 | -.0001 | .0398 | .0402 | .0002 | .0022 | .0029 |
| Stddev | .0000 | .0000 | .0002 | .0011 | .0024 | .0058 | .0000 | .0003 | .0071 |
| %RSD | 15.92 | 343.9 | 55.82 | 1090. | 6.032 | 14.50 | 2.494 | 13.06 | 245.7 |
| #1 | .0003 | .0000 | .0006 | .0007 | .0381 | .0360 | .0002 | .0024 | .0080 |
| #2 | .0003 | .0000 | .0003 | -.0009 | .0415 | .0443 | .0002 | .0020 | -.0021 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0007 | .0000 | .0008 | .0011 | .0005 | -.0081 | .0010 | .0004 |
| Stddev | .0004 | .0001 | .0009 | .0027 | .0004 | .0010 | .0017 | .0001 | .0001 |
| %RSD | 150.5 | 15.27 | 7776. | 316.7 | 40.75 | 180.8 | 20.57 | 5.823 | 30.03 |
| #1 | .0005 | .0006 | .0006 | -.0011 | .0014 | .0012 | -.0093 | .0010 | .0005 |
| #2 | .0000 | .0008 | -.0006 | .0027 | .0007 | -.0002 | -.0069 | .0009 | .0004 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0004 | .0010 | .0095 | -.0001 | .0006 |
| Stddev | .0006 | .0001 | .0001 | .0019 | .0000 | .0002 |
| %RSD | 309.2 | 29.28 | 7.088 | 19.82 | 37.24 | 36.98 |
| #1 | -.0006 | -.0003 | .0009 | .0108 | -.0002 | .0004 |
| #2 | .0002 | -.0004 | .0010 | .0081 | -.0001 | .0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2448.5 | 57788. | 13733. |
| Stddev | 6.2 | 440. | 69. |
| %RSD | .25377 | .76083 | .50119 |
| #1 | 2452.9 | 57477. | 13685. |
| #2 | 2444.1 | 58099. | 13782. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 10:50:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0566 | -.0008 | -.0183 | .1360 | .0149 | .0001 | 81.67 | .0016 |
| Stddev | .0003 | .0209 | .0002 | .0020 | .0002 | .0000 | .0000 | .33 | .0001 |
| %RSD | 66.08 | 36.91 | 30.33 | 10.73 | .1706 | .0600 | 35.41 | .4012 | 7.258 |
| #1 | -.0003 | -.0713 | -.0009 | -.0197 | .1358 | .0149 | .0001 | 81.91 | .0015 |
| #2 | -.0008 | -.0418 | -.0006 | -.0169 | .1362 | .0149 | .0001 | 81.44 | .0016 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0082 | .0010 | .0014 | .0825 | 3.038 | 9.455 | F24.38 | .0006 | 23.57 |
| Stddev | .0002 | .0006 | .0002 | .0004 | .002 | .041 | .03 | .0001 | .06 |
| %RSD | 2.056 | 57.66 | 13.04 | .5380 | .0698 | .4301 | .1298 | 11.70 | .2649 |
| #1 | .0083 | .0006 | .0015 | .0828 | 3.036 | 9.484 | 24.40 | .0007 | 23.61 |
| #2 | .0081 | .0014 | .0012 | .0821 | 3.039 | 9.427 | 24.35 | .0006 | 23.52 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0154 | -.0011 | -.0096 | .1045 | .0005 | .0063 | 6.971 | -.0004 | .4528 |
| Stddev | .0002 | .0001 | .0011 | .0054 | .0009 | .0002 | .011 | .0002 | .0012 |
| %RSD | 1.051 | 13.58 | 11.33 | 5.192 | 197.7 | 3.169 | .1502 | 59.39 | .2706 |
| #1 | .0153 | -.0012 | -.0088 | .1006 | -.0002 | .0062 | 6.978 | -.0002 | .4537 |
| #2 | .0155 | -.0010 | -.0104 | .1083 | .0011 | .0065 | 6.963 | -.0005 | .4519 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0007 | .0107 | .0009 | -.0010 | .0085 | -.0009 |
| Stddev | .0003 | .0010 | .0004 | .0023 | .0000 | .0003 |
| %RSD | 40.14 | 9.718 | 47.38 | 234.9 | .1756 | 35.89 |
| #1 | .0008 | .0100 | .0013 | -.0026 | .0085 | -.0007 |
| #2 | .0005 | .0114 | .0006 | .0006 | .0085 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.0 | 57300. | 13749. |
| Stddev | 8.3 | 16. | 54. |
| %RSD | .34636 | .02833 | .39585 |
| #1 | 2387.1 | 57288. | 13711. |
| #2 | 2398.9 | 57311. | 13788. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 10:55:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0097 | .0013 | -.0082 | .0544 | .0166 | .0000 | 42.87 | .0004 | .0016 |
| Stddev | .0000 | .0074 | .0006 | .0014 | .0001 | .0001 | .0001 | .02 | .0001 | .0000 |
| %RSD | 3.107 | 75.86 | 44.31 | 17.31 | .2061 | .8519 | 111.4 | .0406 | 14.70 | 1.868 |
| #1 | -.0008 | -.0045 | .0009 | -.0072 | .0543 | .0167 | .0001 | 42.88 | .0005 | .0015 |
| #2 | -.0007 | -.0149 | .0018 | -.0092 | .0545 | .0165 | .0000 | 42.86 | .0004 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0005 | .0231 | 3.689 | 3.966 | 8.014 | .0036 | 10.78 | .0028 | -.0005 |
| Stddev | .0002 | .0008 | .0015 | .013 | .026 | .092 | .0001 | .00 | .0003 | .0011 |
| %RSD | 20.26 | 152.8 | 6.531 | .3462 | .6570 | 1.143 | 2.054 | .0303 | 12.18 | 227.2 |
| #1 | .0009 | .0000 | .0242 | 3.698 | 3.984 | 8.079 | .0037 | 10.78 | .0026 | .0003 |
| #2 | .0007 | .0010 | .0220 | 3.680 | 3.947 | 7.950 | .0036 | 10.78 | .0031 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0304 | .0004 | .0009 | 7.103 | -.0003 | .1919 | .0006 | .0021 | .0016 |
| Stddev | .0006 | .0016 | .0001 | .0021 | .024 | .0001 | .0002 | .0004 | .0002 | .0008 |
| %RSD | 14.75 | 5.396 | 40.22 | 228.3 | .3377 | 17.09 | .1040 | 61.49 | 7.376 | 51.26 |
| #1 | -.0045 | .0293 | .0003 | .0025 | 7.086 | -.0004 | .1921 | .0009 | .0020 | .0010 |
| #2 | -.0036 | .0316 | .0004 | -.0006 | 7.120 | -.0003 | .1918 | .0004 | .0022 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0019 | .0071 | -.0011 |
| Stddev | .0061 | .0001 | .0001 |
| %RSD | 317.2 | 1.186 | 9.404 |
| #1 | -.0024 | .0071 | -.0010 |
| #2 | .0062 | .0070 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.1 | 57740. | 13797. |
| Stddev | 8.2 | 351. | 47. |
| %RSD | .34153 | .60856 | .33992 |
| #1 | 2407.9 | 57491. | 13764. |
| #2 | 2396.3 | 57988. | 13830. |



Zoom In Zoom Out

Sample Name: MC21261-13F Acquired: 6/5/2013 10:59:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0027 | -.0006 | .0017 | .0007 | .0000 | .0000 | .0080 | -.0002 | .0000 |
| Stddev | .0005 | .0047 | .0005 | .0010 | .0003 | .0001 | .000 | .0011 | .0000 | .000 |
| %RSD | 114.7 | 173.5 | 80.94 | 56.62 | 46.78 | 212.1 | 11.42 | 13.23 | 6.715 | 86.14 |
| #1 | -.0009 | .0060 | -.0009 | .0024 | .0004 | .0001 | .0000 | .0073 | -.0002 | .0000 |
| #2 | -.0001 | -.0006 | -.0003 | .0010 | .0009 | .0000 | .0000 | .0087 | -.0002 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0004 | -.0035 | -.0230 | .0146 | .0022 | .0003 | .0062 | -.0001 | -.0002 |
| Stddev | .000 | .0001 | .0008 | .0288 | .0014 | .0001 | .0002 | .0053 | .0000 | .0000 |
| %RSD | 151.7 | 20.14 | 21.28 | 125.1 | 9.907 | 4.570 | 76.90 | 86.05 | 26.07 | 16.86 |
| #1 | -.0001 | -.0005 | -.0041 | -.0434 | .0156 | .0022 | .0004 | .0100 | -.0001 | -.0002 |
| #2 | .0000 | -.0003 | -.0030 | -.0027 | .0136 | .0021 | .0001 | .0024 | -.0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0066 | -.0001 | .0002 | .0384 | .0001 | .0000 | -.0010 | -.0010 | .0007 |
| Stddev | .0005 | .0008 | .0000 | .0011 | .0000 | .0001 | .0001 | .0003 | .0010 | .0001 |
| %RSD | 25.92 | 11.43 | 5.529 | 508.0 | .0785 | 66.69 | 9027. | 36.40 | 96.43 | 12.03 |
| #1 | .0015 | -.0061 | -.0001 | -.0005 | .0385 | .0001 | .0000 | -.0012 | -.0003 | .0007 |
| #2 | .0022 | -.0071 | -.0001 | .0010 | .0384 | .0002 | .0000 | -.0007 | -.0017 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0025 | .0058 | .0001 |
| Stddev | .0025 | .0000 | .0002 |
| %RSD | 99.02 | .0297 | 252.0 |
| #1 | .0043 | .0058 | -.0001 |
| #2 | .0008 | .0058 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2415.5 | 57853. | 13902. |
| Stddev | 1.5 | 87. | 99. |
| %RSD | .06111 | .15054 | .71265 |
| #1 | 2414.5 | 57915. | 13832. |
| #2 | 2416.6 | 57791. | 13972. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 11:03:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2248 | 1.791 | .1830 | -.0047 | 4.353 | 2.189 | .1729 | 58.31 | .1807 | 2.442 |
| Stddev | .0005 | .007 | .0008 | .0004 | .005 | .006 | .0003 | .06 | .0003 | .008 |
| %RSD | .2087 | .3685 | .4163 | 7.913 | .1225 | .2586 | .1999 | .0988 | .1767 | .3139 |
| #1 | .2252 | 1.796 | .1825 | -.0050 | 4.349 | 2.193 | .1731 | 58.35 | .1805 | 2.436 |
| #2 | .2245 | 1.787 | .1836 | -.0045 | 4.357 | 2.184 | .1726 | 58.27 | .1810 | 2.447 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4463 | 1.076 | .9616 | 44.15 | 45.68 | 5.731 | 4.432 | 48.65 | 1.642 | .2168 |
| Stddev | .0005 | .001 | .0023 | .00 | .49 | .042 | .013 | .12 | .003 | .0006 |
| %RSD | .1166 | .0737 | .2399 | .0085 | 1.062 | .7397 | .2967 | .2471 | .2054 | .2944 |
| #1 | .4466 | 1.075 | .9600 | 44.15 | 45.34 | 5.761 | 4.422 | 48.73 | 1.640 | .2164 |
| #2 | .4459 | 1.076 | .9633 | 44.15 | 46.02 | 5.701 | 4.441 | 48.56 | 1.645 | .2173 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | .0262 | .2906 | .4327 | 4.737 | 4.242 | .5084 | 2.174 | .2299 | .4489 |
| Stddev | .0006 | .0006 | .0010 | .0003 | .010 | .008 | .0015 | .001 | .0004 | .0011 |
| %RSD | 10.99 | 2.472 | .3356 | .0663 | .2066 | .1972 | .3041 | .0649 | .1696 | .2347 |
| #1 | -.0057 | .0257 | .2899 | .4325 | 4.730 | 4.236 | .5095 | 2.173 | .2301 | .4482 |
| #2 | -.0049 | .0266 | .2913 | .4329 | 4.744 | 4.248 | .5073 | 2.175 | .2296 | .4497 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0073 | .8467 | -.0093 |
| Stddev | .0059 | .0027 | .0003 |
| %RSD | 80.56 | .3233 | 2.873 |
| #1 | .0115 | .8448 | -.0091 |
| #2 | .0032 | .8486 | -.0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2368.7 | 57779. | 13868. |
| Stddev | 8.9 | 65. | 14. |
| %RSD | .37410 | .11185 | .09749 |
| #1 | 2375.0 | 57733. | 13859. |
| #2 | 2362.4 | 57825. | 13878. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:08:14 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0217 | 3.503 | -.0004 | .0524 | .0230 | .0005 | 29.70 | .0436 | .0084 |
| Stddev | .0028 | .0100 | .000 | .0001 | .0021 | .0010 | .0004 | .07 | .0005 | .0001 |
| %RSD | 210.6 | 46.14 | .0053 | 24.28 | 3.994 | 4.315 | 85.57 | .2358 | 1.154 | 1.222 |
| #1 | .0006 | -.0146 | 3.503 | -.0003 | .0539 | .0223 | .0008 | 29.75 | .0439 | .0084 |
| #2 | -.0033 | -.0288 | 3.503 | -.0005 | .0509 | .0237 | .0002 | 29.65 | .0432 | .0085 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0014 | 55.28 | 4.205 | 3.123 | 6.453 | .0261 | 5.735 | .0114 | -.0037 |
| Stddev | .0000 | .0055 | .16 | .064 | .027 | .021 | .0054 | .026 | .0000 | .0029 |
| %RSD | 3.533 | 392.6 | .2921 | 1.515 | .8565 | .3259 | 20.65 | .4595 | .1463 | 77.18 |
| #1 | -.0009 | .0025 | 55.39 | 4.159 | 3.142 | 6.468 | .0299 | 5.716 | .0114 | -.0017 |
| #2 | -.0009 | -.0052 | 55.16 | 4.250 | 3.104 | 6.438 | .0223 | 5.753 | .0114 | -.0058 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0116 | -.0217 | .0018 | .0032 | 8.402 | .0073 | .0993 | .0015 | -.0017 | .0018 |
| Stddev | .0093 | .0303 | .0045 | .0028 | .002 | .0008 | .0006 | .0005 | .0033 | .0022 |
| %RSD | 80.76 | 139.5 | 249.5 | 85.12 | .0243 | 11.43 | .6122 | 36.64 | 192.5 | 121.2 |
| #1 | -.0182 | -.0003 | -.0014 | .0013 | 8.404 | .0067 | .0988 | .0011 | .0006 | .0003 |
| #2 | -.0050 | -.0431 | .0050 | .0052 | 8.401 | .0078 | .0997 | .0019 | -.0041 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0142 | .0003 |
| Stddev | .0284 | .0004 | .0019 |
| %RSD | 1801. | 2.475 | 686.0 |
| #1 | -.0185 | .0140 | -.0011 |
| #2 | .0217 | .0145 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 57970. | 13704. |
| Stddev | 6.3 | 294. | 181. |
| %RSD | .26283 | .50767 | 1.3234 |
| #1 | 2408.2 | 57762. | 13575. |
| #2 | 2417.2 | 58178. | 13832. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/5/2013 11:12:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0099 | -.0213 | 3.515 | .0069 | .0483 | .0211 | -.0003 | 29.97 | .0427 | .0058 |
| Stddev | .0050 | .0330 | .030 | .0102 | .0027 | .0001 | .0003 | .21 | .0018 | .0021 |
| %RSD | 50.14 | 154.9 | .8467 | 146.2 | 5.591 | .6479 | 97.49 | .6884 | 4.292 | 36.07 |
| #1 | -.0135 | -.0446 | 3.536 | .0141 | .0502 | .0210 | -.0006 | 29.83 | .0440 | .0043 |
| #2 | -.0064 | .0020 | 3.494 | -.0002 | .0464 | .0212 | -.0001 | 30.12 | .0414 | .0073 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0055 | 56.30 | 3.791 | 2.814 | 6.421 | .0116 | 5.633 | .0087 | .0006 |
| Stddev | .0005 | .0071 | .32 | .229 | .111 | .002 | .0012 | .015 | .0011 | .0042 |
| %RSD | 15.38 | 128.3 | .5729 | 6.041 | 3.936 | .0333 | 10.03 | .2688 | 12.15 | 706.8 |
| #1 | -.0039 | -.0106 | 56.07 | 3.629 | 2.893 | 6.422 | .0124 | 5.643 | .0094 | -.0024 |
| #2 | -.0031 | -.0005 | 56.53 | 3.953 | 2.736 | 6.419 | .0108 | 5.622 | .0079 | .0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0247 | .0042 | .0046 | 8.387 | .0061 | .0976 | -.0006 | -.0069 | .0101 |
| Stddev | .0153 | .0616 | .0116 | .0170 | .048 | .0013 | .0002 | .0052 | .0024 | .0054 |
| %RSD | 1550. | 249.4 | 276.3 | 367.5 | .5769 | 21.92 | .1592 | 925.8 | 34.10 | 53.18 |
| #1 | -.0098 | .0683 | -.0040 | .0167 | 8.353 | .0051 | .0977 | .0031 | -.0086 | .0139 |
| #2 | .0118 | -.0189 | .0124 | -.0074 | 8.421 | .0070 | .0975 | -.0042 | -.0052 | .0063 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0110 | .0174 | .0013 |
| Stddev | .0064 | .0006 | .0034 |
| %RSD | 58.42 | 3.168 | 271.6 |
| #1 | -.0064 | .0178 | -.0012 |
| #2 | -.0155 | .0170 | .0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.4 | 57886. | 13780. |
| Stddev | 1.0 | 7. | 77. |
| %RSD | .04280 | .01275 | .55753 |
| #1 | 2413.1 | 57891. | 13834. |
| #2 | 2411.7 | 57881. | 13725. |



Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:16:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0223 | .6762 | .0036 | .1453 | .0493 | .0001 | 57.14 | .0076 | -.0009 |
| Stddev | .0016 | .0035 | .0033 | .0007 | .0017 | .0010 | .0000 | .12 | .0009 | .0004 |
| %RSD | 36.45 | 15.75 | .4832 | 18.16 | 1.177 | 1.932 | 16.78 | .2186 | 11.72 | 46.34 |
| #1 | -.0054 | -.0248 | .6739 | .0041 | .1441 | .0486 | .0001 | 57.23 | .0082 | -.0006 |
| #2 | -.0032 | -.0198 | .6785 | .0032 | .1465 | .0499 | .0001 | 57.05 | .0070 | -.0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0043 | 40.13 | 8.560 | 8.569 | 2.945 | .0023 | 45.52 | .0003 | -.0038 |
| Stddev | .0006 | .0017 | .11 | .015 | .056 | .004 | .0001 | .04 | .0013 | .0010 |
| %RSD | 21.39 | 40.38 | .2856 | .1718 | .6576 | .1208 | 6.333 | .0842 | 421.0 | 27.25 |
| #1 | -.0022 | -.0031 | 40.21 | 8.550 | 8.529 | 2.947 | .0024 | 45.55 | -.0006 | -.0031 |
| #2 | -.0030 | -.0055 | 40.04 | 8.570 | 8.609 | 2.942 | .0022 | 45.49 | .0012 | -.0045 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0066 | -.0370 | .0047 | -.0078 | 13.77 | .0000 | .3178 | -.0010 | -.0036 | .0064 |
| Stddev | .0018 | .0259 | .0011 | .0018 | .00 | .0015 | .0003 | .0004 | .0011 | .0023 |
| %RSD | 27.17 | 70.00 | 24.03 | 23.20 | .0049 | 4023. | .0807 | 38.58 | 30.29 | 35.66 |
| #1 | -.0079 | -.0187 | .0039 | -.0091 | 13.77 | -.0010 | .3176 | -.0013 | -.0029 | .0048 |
| #2 | -.0053 | -.0554 | .0055 | -.0065 | 13.77 | .0011 | .3180 | -.0007 | -.0044 | .0080 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0075 | .0111 | -.0011 |
| Stddev | .0010 | .0005 | .0006 |
| %RSD | 13.52 | 4.293 | 51.83 |
| #1 | .0067 | .0115 | -.0007 |
| #2 | .0082 | .0108 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.7 | 58093. | 13804. |
| Stddev | 2.8 | 284. | 66. |
| %RSD | .11769 | .48863 | .47595 |
| #1 | 2418.7 | 57892. | 13757. |
| #2 | 2422.7 | 58294. | 13850. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/5/2013 11:21:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0095 | .0337 | .6869 | .0125 | .1509 | .0522 | .0000 | 59.47 | .0067 | -.0008 |
| Stddev | .0018 | .0634 | .0004 | .0065 | .0014 | .0037 | .001 | .39 | .0003 | .0003 |
| %RSD | 19.34 | 187.8 | .0628 | 51.88 | .9266 | 7.137 | 4397. | .6602 | 4.249 | 39.22 |
| #1 | -.0108 | -.0111 | .6872 | .0171 | .1499 | .0496 | .0008 | 59.20 | .0065 | -.0010 |
| #2 | -.0082 | .0785 | .6866 | .0079 | .1519 | .0548 | -.0008 | 59.75 | .0069 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0134 | 41.38 | 8.664 | 8.863 | 3.010 | .0025 | 46.41 | .0166 | -.0008 |
| Stddev | .0008 | .0047 | .23 | .091 | .061 | .007 | .0012 | .13 | .0038 | .0011 |
| %RSD | 14.39 | 34.94 | .5678 | 1.051 | .6853 | .2218 | 48.46 | .2751 | 22.64 | 144.6 |
| #1 | -.0048 | -.0101 | 41.21 | 8.728 | 8.820 | 3.006 | .0033 | 46.50 | .0193 | .0000 |
| #2 | -.0059 | -.0167 | 41.54 | 8.600 | 8.906 | 3.015 | .0016 | 46.32 | .0140 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | -.0488 | .0051 | -.0070 | 13.85 | .0022 | .3213 | -.0032 | .0017 | .0038 |
| Stddev | .0038 | .0004 | .0044 | .0067 | .03 | .0039 | .0030 | .0010 | .0073 | .0041 |
| %RSD | 37.22 | .7461 | 86.91 | 94.52 | .2101 | 177.7 | .9243 | 31.69 | 422.6 | 108.0 |
| #1 | -.0076 | -.0490 | .0020 | -.0117 | 13.82 | -.0006 | .3192 | -.0039 | .0069 | .0067 |
| #2 | -.0130 | -.0485 | .0082 | -.0023 | 13.87 | .0049 | .3234 | -.0025 | -.0034 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0018 | .0187 | -.0013 |
| Stddev | .0485 | .0002 | .0033 |
| %RSD | 2671. | 1.062 | 244.3 |
| #1 | -.0361 | .0186 | -.0037 |
| #2 | .0325 | .0189 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.3 | 58033. | 13800. |
| Stddev | 8.6 | 28. | 28. |
| %RSD | .35537 | .04808 | .20562 |
| #1 | 2423.4 | 58013. | 13820. |
| #2 | 2411.2 | 58053. | 13780. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/5/2013 11:25:29 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | .0274 | .0048 | .0010 | .0257 | .0327 | .0000 | 14.02 | -.0001 | .0003 |
| Stddev | .0005 | .0190 | .0015 | .0011 | .0002 | .0000 | .000 | .17 | .0003 | .0004 |
| %RSD | 32.55 | 69.28 | 31.91 | 118.0 | .9504 | .0101 | 1.207 | 1.195 | 442.7 | 107.6 |
| #1 | -.0013 | .0408 | .0037 | .0018 | .0255 | .0327 | .0000 | 13.90 | -.0003 | .0006 |
| #2 | -.0020 | .0140 | .0058 | .0002 | .0259 | .0327 | -.0001 | 14.14 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0001 | .1574 | 2.908 | 2.749 | .3818 | .0004 | 6.705 | .0032 | -.0001 |
| Stddev | .0004 | .0013 | .0003 | .001 | .018 | .0017 | .0001 | .014 | .0002 | .0025 |
| %RSD | 39.60 | 1702. | .1864 | .0449 | .6739 | .4339 | 11.67 | .2099 | 7.181 | 3395. |
| #1 | -.0007 | .0009 | .1571 | 2.908 | 2.736 | .3806 | .0005 | 6.695 | .0033 | .0017 |
| #2 | -.0012 | -.0010 | .1576 | 2.909 | 2.762 | .3830 | .0004 | 6.715 | .0030 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0123 | .0010 | .0008 | 3.286 | -.0001 | .0948 | -.0015 | -.0021 | .0014 |
| Stddev | .0006 | .0003 | .0001 | .0016 | .001 | .0002 | .0007 | .0005 | .0011 | .0006 |
| %RSD | 388.5 | 2.668 | 11.43 | 185.5 | .0281 | 315.0 | .6907 | 30.02 | 49.14 | 44.10 |
| #1 | -.0003 | -.0120 | .0011 | .0020 | 3.286 | .0001 | .0944 | -.0019 | -.0029 | .0009 |
| #2 | .0006 | -.0125 | .0009 | -.0003 | 3.285 | -.0002 | .0953 | -.0012 | -.0014 | .0018 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0035 | .0096 | .0000 |
| Stddev | .0005 | .0001 | .000 |
| %RSD | 13.27 | .9298 | 1133. |
| #1 | .0031 | .0097 | .0002 |
| #2 | .0038 | .0096 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.2 | 57515. | 13689. |
| Stddev | 4.7 | 30. | 94. |
| %RSD | .19573 | .05238 | .68616 |
| #1 | 2406.8 | 57494. | 13623. |
| #2 | 2413.5 | 57536. | 13755. |





Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/5/2013 11:29:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0216 | .0032 | .0055 | .0630 | .0631 | .0000 | 30.50 | -.0001 | .0005 |
| Stddev | .0008 | .0140 | .0034 | .0046 | .0005 | .0008 | .000 | .12 | .0000 | .0002 |
| %RSD | 22.69 | 65.00 | 108.9 | 84.25 | .8384 | 1.237 | 282.5 | .3855 | 32.62 | 37.03 |
| #1 | -.0040 | -.0315 | .0056 | .0088 | .0634 | .0637 | .0000 | 30.59 | -.0001 | .0003 |
| #2 | -.0029 | -.0117 | .0007 | .0022 | .0626 | .0626 | -.0001 | 30.42 | -.0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0022 | .0555 | 4.561 | 4.595 | .5061 | .0003 | 18.16 | .0033 | .0007 |
| Stddev | .0004 | .0014 | .0012 | .166 | .044 | .0008 | .0001 | .05 | .0001 | .0021 |
| %RSD | 1329. | 65.18 | 2.232 | 3.645 | .9571 | .1528 | 16.55 | .2672 | 4.279 | 308.7 |
| #1 | -.0003 | -.0032 | .0546 | 4.444 | 4.626 | .5055 | .0003 | 18.20 | .0032 | .0021 |
| #2 | .0003 | -.0012 | .0564 | 4.679 | 4.564 | .5066 | .0004 | 18.13 | .0034 | -.0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | -.0022 | .0014 | -.0030 | 5.181 | .0001 | .2137 | .0001 | -.0018 | .0028 |
| Stddev | .0010 | .0133 | .0027 | .0022 | .003 | .0008 | .0014 | .0004 | .0008 | .0004 |
| %RSD | 50.31 | 619.3 | 193.0 | 75.68 | .0650 | 506.1 | .6402 | 505.8 | 44.50 | 15.43 |
| #1 | .0026 | .0073 | .0034 | -.0014 | 5.179 | .0007 | .2127 | .0004 | -.0012 | .0031 |
| #2 | .0012 | -.0116 | -.0005 | -.0045 | 5.183 | -.0004 | .2146 | -.0002 | -.0024 | .0025 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0009 | .0093 | -.0004 |
| Stddev | .0101 | .0002 | .0001 |
| %RSD | 1159. | 2.343 | 22.97 |
| #1 | .0062 | .0094 | -.0005 |
| #2 | -.0080 | .0091 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.2 | 58037. | 13857. |
| Stddev | 4.1 | 137. | 125. |
| %RSD | .16869 | .23527 | .89979 |
| #1 | 2440.3 | 57940. | 13769. |
| #2 | 2446.1 | 58133. | 13945. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 11:34:09 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2513 | 9.898 | 2.025 | -.0012 | 1.971 | 1.948 | 1.948 | 9.877 | 2.023 | 2.107 |
| Stddev | .0020 | .010 | .002 | .0018 | .003 | .001 | .003 | .006 | .000 | .001 |
| %RSD | .8149 | .0979 | .0998 | 143.2 | .1668 | .0590 | .1424 | .0617 | .0133 | .0663 |
| #1 | .2527 | 9.891 | 2.024 | .0000 | 1.969 | 1.949 | 1.949 | 9.873 | 2.023 | 2.108 |
| #2 | .2498 | 9.904 | 2.027 | -.0025 | 1.973 | 1.947 | 1.946 | 9.882 | 2.023 | 2.106 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.008 | 2.001 | 9.644 | 9.870 | 9.893 | 2.020 | 2.015 | 9.826 | 1.958 | 1.967 |
| Stddev | .009 | .006 | .021 | .033 | .031 | .006 | .001 | .034 | .001 | .000 |
| %RSD | .4672 | .3043 | .2170 | .3320 | .3131 | .2854 | .0430 | .3491 | .0441 | .0216 |
| #1 | 2.014 | 2.005 | 9.659 | 9.847 | 9.871 | 2.024 | 2.015 | 9.850 | 1.957 | 1.966 |
| #2 | 2.001 | 1.997 | 9.629 | 9.893 | 9.915 | 2.016 | 2.016 | 9.802 | 1.958 | 1.967 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0005 | 1.995 | 1.995 | -.0210 | 1.961 | 1.970 | 1.959 | 1.965 | 2.002 |
| Stddev | .0010 | .0042 | .000 | .000 | .0007 | .003 | .002 | .004 | .004 | .008 |
| %RSD | 87.33 | 832.2 | .0148 | .0192 | 3.373 | .1639 | .0827 | .2008 | .2112 | .3923 |
| #1 | .0004 | .0024 | 1.995 | 1.994 | -.0215 | 1.958 | 1.971 | 1.962 | 1.962 | 2.007 |
| #2 | .0019 | -.0034 | 1.996 | 1.995 | -.0205 | 1.963 | 1.969 | 1.956 | 1.968 | 1.996 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | 2.007 | -.0050 |
| Stddev | .0006 | .001 | .0002 |
| %RSD | 12.04 | .0261 | 4.522 |
| #1 | .0045 | 2.008 | -.0048 |
| #2 | .0053 | 2.007 | -.0051 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2452.3 | 57866. | 13966. |
| Stddev | .9 | 210. | 29. |
| %RSD | .03501 | .36328 | .20873 |
| #1 | 2452.9 | 57718. | 13986. |
| #2 | 2451.6 | 58015. | 13945. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 11:38:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0025 | .0005 | .0017 | .0026 | .0005 | F.0006 | .0100 | F.0005 |
| Stddev | .0004 | .0049 | .0008 | .0015 | .0002 | .0002 | .0001 | .0030 | .0002 |
| %RSD | 38.86 | 198.3 | 166.4 | 88.68 | 7.348 | 29.99 | 16.80 | 30.11 | 40.88 |
| #1 | -.0007 | .0059 | -.0001 | .0006 | .0027 | .0004 | .0007 | .0079 | .0007 |
| #2 | -.0012 | -.0010 | .0011 | .0028 | .0024 | .0006 | .0005 | .0121 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | .0004 | -.0008 | .0119 | .0135 | .0004 | .0022 | .0061 |
| Stddev | .0001 | .0005 | .0012 | .0008 | .0161 | .0136 | .0000 | .0006 | .0003 |
| %RSD | 20.15 | 137.5 | 330.7 | 99.93 | 136.1 | 101.0 | 4.384 | 26.26 | 5.500 |
| #1 | .0005 | .0007 | -.0005 | -.0002 | .0233 | .0231 | .0004 | .0027 | .0059 |
| #2 | .0004 | .0000 | .0012 | -.0013 | .0004 | .0039 | .0003 | .0018 | .0064 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0012 | -.0071 | .0011 | -.0010 | -.0077 | .0011 | .0005 |
| Stddev | .0000 | .0006 | .0003 | .0022 | .0001 | .0000 | .0004 | .0001 | .0001 |
| %RSD | 8.327 | 78.85 | 20.45 | 30.82 | 11.57 | 1.356 | 4.814 | 8.364 | 24.24 |
| #1 | .0003 | .0011 | .0014 | -.0055 | .0010 | -.0010 | -.0075 | .0011 | .0004 |
| #2 | .0004 | .0003 | .0011 | -.0086 | .0011 | -.0010 | -.0080 | .0012 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | -.0001 | .0007 | -.0003 | .0002 | .0002 |
| Stddev | .0001 | .0001 | .0007 | .0010 | .0001 | .0000 |
| %RSD | 18.01 | 102.8 | 101.0 | 338.4 | 40.89 | 14.70 |
| #1 | .0005 | -.0001 | .0012 | .0004 | .0002 | .0002 |
| #2 | .0004 | .0000 | .0002 | -.0010 | .0001 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2460.1 | 58078. | 13849. |
| Stddev | 2.5 | 150. | 46. |
| %RSD | .09994 | .25741 | .32933 |
| #1 | 2461.8 | 57972. | 13881. |
| #2 | 2458.3 | 58184. | 13817. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/5/2013 11:42:41 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0388 | .0061 | .0041 | .0668 | .0628 | .0001 | 30.92 | -.0004 | .0005 |
| Stddev | .0007 | .0143 | .0002 | .0052 | .0004 | .0011 | .0000 | .05 | .0006 | .0006 |
| %RSD | 1005. | 36.82 | 3.118 | 125.4 | .5496 | 1.780 | 68.59 | .1719 | 140.3 | 107.4 |
| #1 | .0004 | .0287 | .0060 | .0078 | .0666 | .0620 | .0001 | 30.96 | -.0009 | .0001 |
| #2 | -.0006 | .0489 | .0063 | .0005 | .0671 | .0636 | .0000 | 30.88 | .0000 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0007 | .0577 | 4.609 | 4.609 | .5146 | .0020 | 18.55 | .0038 | .0009 |
| Stddev | .0004 | .0006 | .0023 | .039 | .047 | .0005 | .0004 | .11 | .0002 | .0012 |
| %RSD | 697.2 | 75.09 | 4.045 | .8465 | 1.027 | .1028 | 18.44 | .5975 | 5.424 | 124.3 |
| #1 | .0002 | -.0011 | .0593 | 4.582 | 4.643 | .5149 | .0022 | 18.63 | .0036 | .0001 |
| #2 | -.0003 | -.0003 | .0560 | 4.637 | 4.576 | .5142 | .0017 | 18.47 | .0039 | .0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0176 | .0017 | -.0007 | 5.210 | .0010 | .2107 | -.0013 | -.0004 | .0010 |
| Stddev | .0022 | .0018 | .0001 | .0013 | .018 | .0008 | .0001 | .0003 | .0020 | .0002 |
| %RSD | 403.1 | 10.28 | 6.042 | 179.0 | .3440 | 77.10 | .0546 | 19.61 | 465.1 | 24.48 |
| #1 | .0010 | -.0163 | .0017 | -.0017 | 5.197 | .0005 | .2107 | -.0012 | -.0018 | .0008 |
| #2 | -.0021 | -.0189 | .0018 | .0002 | 5.222 | .0016 | .2106 | -.0015 | .0010 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0072 | .0137 | -.0001 |
| Stddev | .0018 | .0005 | .0004 |
| %RSD | 25.24 | 3.880 | 425.0 |
| #1 | .0060 | .0133 | -.0003 |
| #2 | .0085 | .0141 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.5 | 57931. | 13761. |
| Stddev | 4.1 | 66. | 138. |
| %RSD | .16673 | .11452 | 1.0025 |
| #1 | 2434.4 | 57884. | 13664. |
| #2 | 2428.6 | 57978. | 13859. |



Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/5/2013 11:47:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0143 | .4818 | -.0010 | .0334 | .0380 | .0003 | 24.61 | .0061 | .0010 |
| Stddev | .0014 | .0190 | .0014 | .0035 | .0010 | .0006 | .0001 | .03 | .0012 | .0006 |
| %RSD | 63.36 | 132.6 | .2910 | 349.1 | 3.023 | 1.595 | 49.04 | .1097 | 20.51 | 63.76 |
| #1 | -.0032 | -.0009 | .4808 | .0015 | .0342 | .0376 | .0002 | 24.63 | .0052 | .0014 |
| #2 | -.0012 | -.0278 | .4828 | -.0035 | .0327 | .0384 | .0004 | 24.59 | .0069 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0030 | 29.00 | 3.349 | 3.212 | 1.706 | .0011 | 9.746 | .0025 | .0007 |
| Stddev | .0005 | .0005 | .05 | .009 | .086 | .002 | .0001 | .043 | .0010 | .0019 |
| %RSD | 19.12 | 15.64 | .1787 | .2574 | 2.672 | .0999 | 4.826 | .4435 | 37.61 | 278.4 |
| #1 | -.0023 | -.0033 | 29.04 | 3.343 | 3.152 | 1.705 | .0011 | 9.716 | .0032 | -.0007 |
| #2 | -.0031 | -.0026 | 28.97 | 3.355 | 3.273 | 1.707 | .0011 | 9.777 | .0019 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0115 | .0024 | -.0008 | 8.742 | .0003 | .2462 | -.0010 | .0002 | .0027 |
| Stddev | .0032 | .0107 | .0024 | .0013 | .001 | .0007 | .0011 | .0009 | .0011 | .0011 |
| %RSD | 212.9 | 93.23 | 96.70 | 160.3 | .0084 | 217.6 | .4386 | 84.07 | 628.8 | 40.07 |
| #1 | -.0038 | -.0190 | .0008 | .0001 | 8.742 | .0008 | .2469 | -.0004 | -.0006 | .0035 |
| #2 | .0008 | -.0039 | .0041 | -.0018 | 8.741 | -.0002 | .2454 | -.0017 | .0010 | .0019 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0056 | .0180 | -.0007 |
| Stddev | .0146 | .0006 | .0007 |
| %RSD | 259.5 | 3.109 | 93.49 |
| #1 | -.0047 | .0184 | -.0002 |
| #2 | .0159 | .0176 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2446.4 | 58336. | 13897. |
| Stddev | 2.4 | 424. | 31. |
| %RSD | .09751 | .72683 | .22443 |
| #1 | 2444.7 | 58036. | 13919. |
| #2 | 2448.1 | 58636. | 13875. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:51:20 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0165 | .6111 | .0018 | .1192 | .0673 | .0000 | 40.51 | .0077 | .0013 |
| Stddev | .0000 | .0047 | .0003 | .0030 | .0002 | .0007 | .0001 | .29 | .0002 | .0003 |
| %RSD | 2.062 | 28.52 | .0428 | 162.4 | .1836 | 1.090 | 587.7 | .7144 | 3.073 | 21.38 |
| #1 | -.0018 | -.0198 | .6113 | .0040 | .1193 | .0668 | -.0001 | 40.30 | .0075 | .0015 |
| #2 | -.0018 | -.0131 | .6109 | -.0003 | .1190 | .0679 | .0001 | 40.71 | .0079 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0010 | 54.90 | 10.52 | 5.482 | 1.426 | .0002 | 25.67 | .0024 | -.0006 |
| Stddev | .0004 | .0008 | .46 | .09 | .140 | .003 | .0000 | .17 | .0001 | .0013 |
| %RSD | 72.98 | 82.18 | .8378 | .8412 | 2.558 | .1918 | 1.575 | .6700 | 5.319 | 202.8 |
| #1 | -.0008 | -.0016 | 54.57 | 10.46 | 5.383 | 1.428 | .0002 | 25.55 | .0025 | .0003 |
| #2 | -.0003 | -.0004 | 55.22 | 10.58 | 5.581 | 1.424 | .0002 | 25.80 | .0023 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0074 | .0019 | -.0007 | 12.07 | .0005 | .2966 | .0000 | .0001 | .0014 |
| Stddev | .0002 | .0044 | .0005 | .0008 | .01 | .0005 | .0027 | .001 | .0012 | .0004 |
| %RSD | 5.875 | 59.77 | 23.95 | 107.8 | .0599 | 106.7 | .9104 | 6364. | 850.7 | 27.95 |
| #1 | -.0035 | -.0105 | .0016 | -.0013 | 12.06 | .0008 | .2947 | .0005 | .0010 | .0011 |
| #2 | -.0038 | -.0042 | .0023 | -.0002 | 12.07 | .0001 | .2985 | -.0005 | -.0007 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0164 | .0032 | -.0016 |
| Stddev | .0089 | .0001 | .0000 |
| %RSD | 54.01 | 1.918 | .2144 |
| #1 | .0101 | .0032 | -.0016 |
| #2 | .0226 | .0032 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2430.7 | 58095. | 13948. |
| Stddev | 8.7 | 184. | 123. |
| %RSD | .35964 | .31726 | .87858 |
| #1 | 2436.9 | 57965. | 14035. |
| #2 | 2424.5 | 58226. | 13861. |

Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:55:40 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0139 | .5986 | .0033 | .1169 | .0654 | .0001 | 39.44 | .0073 | .0008 |
| Stddev | .0007 | .0270 | .0038 | .0007 | .0004 | .0002 | .0002 | .24 | .0006 | .0003 |
| %RSD | 45.36 | 194.6 | .6295 | 20.49 | .3447 | .2529 | 124.5 | .6122 | 8.497 | 30.75 |
| #1 | -.0010 | -.0330 | .5959 | .0037 | .1166 | .0655 | .0003 | 39.61 | .0068 | .0006 |
| #2 | -.0020 | .0052 | .6013 | .0028 | .1172 | .0653 | .0000 | 39.27 | .0077 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0038 | 53.12 | 10.27 | 5.297 | 1.379 | .0001 | 24.93 | .0020 | -.0021 |
| Stddev | .0008 | .0024 | .40 | .19 | .144 | .003 | .0003 | .12 | .0003 | .0007 |
| %RSD | 242.4 | 63.45 | .7612 | 1.866 | 2.713 | .2171 | 238.4 | .4807 | 14.42 | 35.72 |
| #1 | -.0009 | -.0055 | 53.41 | 10.40 | 5.399 | 1.377 | .0004 | 25.02 | .0018 | -.0026 |
| #2 | .0002 | -.0021 | 52.84 | 10.13 | 5.196 | 1.382 | -.0001 | 24.85 | .0022 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0052 | .0022 | .0004 | 11.72 | -.0001 | .2879 | -.0005 | -.0008 | .0026 |
| Stddev | .0001 | .0003 | .0007 | .0029 | .01 | .0006 | .0022 | .0024 | .0014 | .0002 |
| %RSD | 4.667 | 6.528 | 33.98 | 806.8 | .1185 | 1057. | .7521 | 476.6 | 186.3 | 9.696 |
| #1 | -.0031 | -.0050 | .0016 | .0024 | 11.71 | -.0005 | .2894 | .0012 | .0002 | .0024 |
| #2 | -.0033 | -.0054 | .0027 | -.0017 | 11.73 | .0004 | .2864 | -.0022 | -.0018 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0112 | .0042 | -.0021 |
| Stddev | .0099 | .0001 | .0001 |
| %RSD | 88.60 | 2.279 | 5.388 |
| #1 | .0183 | .0042 | -.0021 |
| #2 | .0042 | .0041 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2436.2 | 58453. | 13758. |
| Stddev | .4 | 17. | 13. |
| %RSD | .01489 | .02942 | .09565 |
| #1 | 2436.5 | 58441. | 13748. |
| #2 | 2436.0 | 58465. | 13767. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 11:59:59 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0168 | .6113 | .0076 | .1236 | .0691 | .0001 | 40.89 | .0074 | .0008 |
| Stddev | .0018 | .0050 | .0001 | .0038 | .0013 | .0008 | .0003 | .00 | .0004 | .0011 |
| %RSD | 58.65 | 29.63 | .0156 | 50.92 | 1.074 | 1.193 | 428.8 | .0107 | 5.217 | 129.4 |
| #1 | -.0018 | -.0133 | .6113 | .0103 | .1245 | .0696 | .0003 | 40.89 | .0071 | .0001 |
| #2 | -.0045 | -.0204 | .6114 | .0048 | .1227 | .0685 | -.0001 | 40.90 | .0076 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0025 | 55.14 | 10.40 | 5.389 | 1.444 | -.0002 | 25.84 | .0012 | -.0024 |
| Stddev | .0016 | .0000 | .26 | .16 | .149 | .006 | .0008 | .09 | .0014 | .0033 |
| %RSD | 291.0 | .4081 | .4625 | 1.575 | 2.757 | .4274 | 447.6 | .3569 | 123.1 | 137.5 |
| #1 | -.0017 | -.0025 | 55.32 | 10.28 | 5.284 | 1.439 | -.0007 | 25.91 | .0022 | -.0001 |
| #2 | .0006 | -.0025 | 54.96 | 10.51 | 5.494 | 1.448 | .0004 | 25.78 | .0001 | -.0048 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0097 | -.0244 | .0043 | -.0052 | 12.06 | -.0003 | .3037 | -.0030 | -.0051 | .0026 |
| Stddev | .0000 | .0320 | .0018 | .0024 | .01 | .0004 | .0002 | .0010 | .0019 | .0010 |
| %RSD | .2409 | 131.3 | 41.06 | 46.47 | .1040 | 128.8 | .0764 | 31.53 | 37.51 | 39.35 |
| #1 | -.0097 | -.0470 | .0031 | -.0035 | 12.07 | -.0007 | .3039 | -.0037 | -.0065 | .0019 |
| #2 | -.0097 | -.0017 | .0056 | -.0069 | 12.05 | .0000 | .3035 | -.0023 | -.0037 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0094 | .0081 | -.0041 |
| Stddev | .0045 | .0004 | .0014 |
| %RSD | 48.16 | 5.141 | 34.79 |
| #1 | -.0125 | .0084 | -.0051 |
| #2 | -.0062 | .0079 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2443.4 | 58449. | 13891. |
| Stddev | 2.2 | 383. | 152. |
| %RSD | .09189 | .65537 | 1.0961 |
| #1 | 2445.0 | 58720. | 13999. |
| #2 | 2441.8 | 58178. | 13784. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/5/2013 12:04:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0739 | .6274 | .0049 | .1230 | .0691 | -.0001 | 42.15 | .0072 | -.0002 |
| Stddev | .0021 | .1429 | .0002 | .0057 | .0021 | .0001 | .0005 | .22 | .0001 | .0025 |
| %RSD | 20.21 | 193.4 | .0321 | 117.6 | 1.719 | .1820 | 557.4 | .5128 | .7410 | 1129. |
| #1 | -.0091 | .1750 | .6276 | .0008 | .1215 | .0690 | -.0004 | 42.00 | .0073 | -.0020 |
| #2 | -.0121 | -.0272 | .6273 | .0089 | .1244 | .0692 | .0003 | 42.30 | .0072 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0109 | 56.33 | 10.92 | 5.479 | 1.436 | .0008 | 26.42 | .0024 | -.0028 |
| Stddev | .0041 | .0111 | .10 | .35 | .151 | .006 | .0002 | .13 | .0001 | .0019 |
| %RSD | 91.55 | 101.6 | .1743 | 3.250 | 2.760 | .4493 | 23.96 | .4973 | 5.110 | 67.12 |
| #1 | -.0016 | -.0188 | 56.26 | 10.67 | 5.586 | 1.432 | .0007 | 26.33 | .0023 | -.0015 |
| #2 | -.0074 | -.0031 | 56.40 | 11.18 | 5.372 | 1.441 | .0010 | 26.52 | .0025 | -.0041 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0067 | -.0335 | .0055 | -.0030 | 12.08 | .0030 | .3037 | -.0049 | -.0058 | .0037 |
| Stddev | .0074 | .0566 | .0018 | .0028 | .02 | .0004 | .0037 | .0021 | .0071 | .0019 |
| %RSD | 110.5 | 169.3 | 33.69 | 91.14 | .1290 | 12.96 | 1.233 | 41.63 | 123.4 | 50.80 |
| #1 | -.0015 | -.0735 | .0042 | -.0050 | 12.07 | .0033 | .3010 | -.0035 | -.0108 | .0024 |
| #2 | -.0119 | .0066 | .0068 | -.0011 | 12.09 | .0027 | .3063 | -.0064 | -.0007 | .0051 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0139 | .0095 | .0006 |
| Stddev | .0626 | .0005 | .0032 |
| %RSD | 451.5 | 4.987 | 533.6 |
| #1 | .0304 | .0099 | -.0017 |
| #2 | -.0581 | .0092 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2434.7 | 58082. | 13802. |
| Stddev | 2.0 | 64. | 178. |
| %RSD | .08308 | .11103 | 1.2912 |
| #1 | 2436.2 | 58128. | 13928. |
| #2 | 2433.3 | 58036. | 13676. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:08:38 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0061 | .0026 | .0021 | .0477 | .1712 | .0000 | 140.9 | -.0004 | -.0004 |
| Stddev | .0013 | .0348 | .0002 | .0008 | .0017 | .0020 | .000 | .2 | .0003 | .0001 |
| %RSD | 159.5 | 573.6 | 7.882 | 40.76 | 3.468 | 1.160 | 46.50 | .1557 | 71.31 | 32.39 |
| #1 | -.0017 | -.0185 | .0028 | .0015 | .0465 | .1698 | .0000 | 141.1 | -.0002 | -.0005 |
| #2 | .0001 | .0306 | .0025 | .0027 | .0489 | .1726 | -.0001 | 140.8 | -.0006 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0003 | .0284 | 6.246 | 17.16 | .0399 | .0002 | 426.1 | .0023 | -.0003 |
| Stddev | .0002 | .0001 | .0001 | .030 | .07 | .0004 | .0002 | 4.5 | .0001 | .0009 |
| %RSD | 80.15 | 33.90 | .1934 | .4852 | .3986 | .8994 | 71.83 | 1.050 | 6.074 | 332.8 |
| #1 | .0004 | -.0002 | .0285 | 6.224 | 17.11 | .0397 | .0001 | 422.9 | .0024 | -.0009 |
| #2 | .0001 | -.0003 | .0284 | 6.267 | 17.21 | .0402 | .0003 | 429.2 | .0022 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0175 | .0032 | .0012 | 6.482 | -.0001 | .8066 | .0019 | -.0041 | .0018 |
| Stddev | .0000 | .0001 | .0010 | .0036 | .002 | .0009 | .0024 | .0001 | .0003 | .0005 |
| %RSD | .2070 | .8010 | 31.43 | 308.1 | .0236 | 966.8 | .3023 | 6.074 | 8.272 | 28.05 |
| #1 | -.0092 | -.0176 | .0039 | -.0014 | 6.481 | .0005 | .8083 | .0019 | -.0039 | .0021 |
| #2 | -.0092 | -.0174 | .0025 | .0037 | 6.483 | -.0007 | .8048 | .0018 | -.0044 | .0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0036 | .0078 | -.0009 |
| Stddev | .0049 | .0002 | .0004 |
| %RSD | 136.4 | 2.232 | 41.68 |
| #1 | .0001 | .0079 | -.0006 |
| #2 | .0071 | .0076 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.7 | 57315. | 13820. |
| Stddev | 3.0 | 183. | 26. |
| %RSD | .12508 | .31870 | .19130 |
| #1 | 2384.8 | 57444. | 13839. |
| #2 | 2380.6 | 57185. | 13802. |

Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:13:03 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0372 | .0126 | .0357 | .0527 | .1763 | -.0007 | 145.1 | -.0030 | -.0030 |
| Stddev | .0081 | .2364 | .0417 | .0322 | .0031 | .0042 | .0005 | .1 | .0003 | .0033 |
| %RSD | 109.8 | 636.2 | 329.5 | 90.18 | 5.957 | 2.398 | 81.95 | .0810 | 10.61 | 110.3 |
| #1 | -.0131 | .2043 | -.0168 | .0129 | .0549 | .1733 | -.0003 | 145.0 | -.0028 | -.0053 |
| #2 | -.0017 | -.1300 | .0421 | .0584 | .0504 | .1793 | -.0010 | 145.2 | -.0032 | -.0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0085 | -.0085 | -.0475 | 6.727 | 18.13 | .0342 | .0007 | 438.2 | .0001 | -.0017 |
| Stddev | .0066 | .0043 | .0335 | .662 | .28 | .0009 | .0015 | .1 | .0052 | .0053 |
| %RSD | 76.82 | 50.39 | 70.59 | 9.836 | 1.519 | 2.512 | 227.0 | .0157 | 5769. | 312.2 |
| #1 | -.0039 | -.0115 | -.0712 | 7.195 | 17.93 | .0336 | -.0004 | 438.2 | .0038 | -.0054 |
| #2 | -.0132 | -.0055 | -.0238 | 6.259 | 18.32 | .0348 | .0017 | 438.3 | -.0036 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0069 | -.0591 | -.0059 | -.0030 | 6.435 | -.0008 | .8396 | -.0148 | -.0170 | .0201 |
| Stddev | .0515 | .0357 | .0060 | .0117 | .005 | .0028 | .0090 | .0027 | .0090 | .0113 |
| %RSD | 749.8 | 60.46 | 102.4 | 390.0 | .0708 | 351.9 | 1.075 | 18.62 | 52.87 | 56.32 |
| #1 | .0296 | -.0844 | -.0016 | .0053 | 6.431 | -.0027 | .8333 | -.0128 | -.0233 | .0281 |
| #2 | -.0433 | -.0338 | -.0102 | -.0113 | 6.438 | .0012 | .8460 | -.0167 | -.0106 | .0121 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0282 | .0099 | .0062 |
| Stddev | .0334 | .0001 | .0030 |
| %RSD | 118.5 | .7390 | 48.76 |
| #1 | -.0518 | .0099 | .0041 |
| #2 | -.0046 | .0100 | .0084 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2432.3 | 58117. | 13817. |
| Stddev | 10.3 | 49. | 14. |
| %RSD | .42509 | .08365 | .10342 |
| #1 | 2425.0 | 58082. | 13828. |
| #2 | 2439.6 | 58151. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-1F Acquired: 6/5/2013 12:17:25 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0583 | .0346 | .0527 | .0963 | .0414 | .1698 | -.0049 | 145.7 | -.0123 | -.0062 |
| Stddev | .0032 | .1995 | .0412 | .0172 | .0388 | .0044 | .0015 | 1.1 | .0093 | .0015 |
| %RSD | 5.448 | 576.9 | 78.30 | 17.89 | 93.75 | 2.596 | 30.78 | .7484 | 75.40 | 24.20 |
| #1 | -.0606 | -.1065 | .0818 | .1085 | .0139 | .1667 | -.0039 | 145.0 | -.0058 | -.0051 |
| #2 | -.0561 | .1757 | .0235 | .0841 | .0688 | .1729 | -.0060 | 146.5 | -.0189 | -.0072 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0220 | -.0495 | -.1850 | 6.875 | 17.92 | .0264 | .0037 | 431.5 | -.0094 | .0028 |
| Stddev | .0133 | .0520 | .0220 | 1.944 | .95 | .0048 | .0010 | 1.2 | .0022 | .0113 |
| %RSD | 60.66 | 105.1 | 11.91 | 28.27 | 5.327 | 18.37 | 27.25 | .2803 | 23.49 | 404.7 |
| #1 | -.0126 | -.0127 | -.1694 | 8.250 | 17.25 | .0298 | .0030 | 432.4 | -.0109 | -.0052 |
| #2 | -.0314 | -.0863 | -.2006 | 5.501 | 18.60 | .0229 | .0044 | 430.7 | -.0078 | .0108 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0292 | -.2688 | .0053 | -.0117 | 6.090 | .0224 | .8159 | -.0241 | -.0004 | .0381 |
| Stddev | .0208 | .1548 | .0300 | .0634 | .047 | .0077 | .0023 | .0171 | .0164 | .0262 |
| %RSD | 71.19 | 57.59 | 564.3 | 540.6 | .7711 | 34.27 | .2835 | 70.85 | 4068. | 68.80 |
| #1 | -.0145 | -.1593 | -.0159 | -.0566 | 6.123 | .0170 | .8143 | -.0120 | .0112 | .0566 |
| #2 | -.0439 | -.3783 | .0266 | .0331 | 6.057 | .0279 | .8176 | -.0362 | -.0120 | .0196 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0004 | .0023 | .0184 |
| Stddev | .0326 | .0006 | .0130 |
| %RSD | 8283. | 25.26 | 70.86 |
| #1 | .0235 | .0019 | .0092 |
| #2 | -.0227 | .0028 | .0276 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2426.2 | 57817. | 13798. |
| Stddev | 4.2 | 406. | 44. |
| %RSD | .17344 | .70280 | .31801 |
| #1 | 2429.2 | 57530. | 13829. |
| #2 | 2423.2 | 58104. | 13767. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:21:46 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0030 | .0020 | .0016 | .0459 | .1576 | .0000 | 129.6 | .0000 | .0000 |
| Stddev | .0013 | .0146 | .0036 | .0018 | .0014 | .0001 | .0002 | .2 | .0001 | .0004 |
| %RSD | 105.3 | 481.3 | 178.2 | 115.8 | 2.975 | .0597 | 1365. | .1596 | 1124. | 1073. |
| #1 | -.0022 | .0073 | .0045 | .0028 | .0468 | .1577 | .0001 | 129.5 | .0001 | -.0003 |
| #2 | -.0003 | -.0134 | -.0005 | .0003 | .0449 | .1575 | -.0001 | 129.7 | -.0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0013 | .1211 | 6.121 | 16.06 | .2129 | .0014 | 393.3 | .0031 | -.0024 |
| Stddev | .0005 | .0010 | .0007 | .005 | .14 | .0004 | .0000 | 3.8 | .0005 | .0010 |
| %RSD | 96.77 | 74.96 | .5728 | .0768 | .8703 | .1650 | 1.375 | .9719 | 16.19 | 42.75 |
| #1 | -.0002 | -.0020 | .1206 | 6.117 | 15.96 | .2131 | .0014 | 396.0 | .0027 | -.0032 |
| #2 | -.0008 | -.0006 | .1215 | 6.124 | 16.16 | .2126 | .0014 | 390.6 | .0035 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0075 | -.0054 | .0013 | .0011 | 6.188 | -.0005 | .7576 | .0010 | -.0033 | .0027 |
| Stddev | .0054 | .0047 | .0010 | .0020 | .010 | .0003 | .0023 | .0020 | .0006 | .0001 |
| %RSD | 71.52 | 87.94 | 73.09 | 187.6 | .1635 | 70.52 | .3083 | 209.8 | 17.05 | 2.350 |
| #1 | -.0037 | -.0020 | .0006 | .0025 | 6.195 | -.0002 | .7560 | .0024 | -.0037 | .0028 |
| #2 | -.0113 | -.0088 | .0020 | -.0004 | 6.181 | -.0007 | .7593 | -.0005 | -.0029 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0345 | .0095 | .0000 |
| Stddev | .0040 | .0002 | .000 |
| %RSD | 11.54 | 1.702 | 351.5 |
| #1 | .0374 | .0096 | .0001 |
| #2 | .0317 | .0093 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.3 | 57574. | 13768. |
| Stddev | 8.3 | 594. | 82. |
| %RSD | .35021 | 1.0310 | .59719 |
| #1 | 2366.4 | 57154. | 13827. |
| #2 | 2378.1 | 57994. | 13710. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 12:26:11 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.941 | 2.022 | .0003 | 1.967 | 1.964 | 1.949 | 9.925 | 2.047 | 2.117 |
| Stddev | .0019 | .153 | .002 | .0015 | .002 | .026 | .027 | .135 | .001 | .004 |
| %RSD | .7545 | 1.534 | .1044 | 495.7 | .0756 | 1.349 | 1.372 | 1.362 | .0470 | .1890 |
| #1 | .2513 | 10.05 | 2.024 | -.0008 | 1.968 | 1.983 | 1.968 | 10.02 | 2.047 | 2.120 |
| #2 | .2540 | 9.833 | 2.021 | .0014 | 1.966 | 1.946 | 1.930 | 9.829 | 2.046 | 2.114 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.004 | 2.016 | 9.718 | 9.933 | 10.03 | 2.000 | 2.031 | 9.993 | 1.957 | 1.970 |
| Stddev | .002 | .007 | .138 | .138 | .12 | .004 | .002 | .134 | .002 | .001 |
| %RSD | .1043 | .3431 | 1.417 | 1.384 | 1.206 | .2229 | .1193 | 1.339 | .0921 | .0571 |
| #1 | 2.003 | 2.011 | 9.816 | 10.03 | 10.11 | 1.997 | 2.033 | 10.09 | 1.958 | 1.971 |
| #2 | 2.006 | 2.021 | 9.621 | 9.836 | 9.942 | 2.004 | 2.029 | 9.898 | 1.956 | 1.969 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0005 | 2.006 | 1.994 | -.0130 | 1.953 | 1.993 | 1.956 | 1.956 | 1.999 |
| Stddev | .0008 | .0013 | .002 | .005 | .0004 | .004 | .024 | .007 | .005 | .005 |
| %RSD | 809.7 | 235.1 | .0916 | .2558 | 2.801 | .2219 | 1.195 | .3376 | .2753 | .2288 |
| #1 | .0005 | -.0004 | 2.007 | 1.998 | -.0127 | 1.956 | 2.010 | 1.951 | 1.960 | 1.996 |
| #2 | -.0007 | .0014 | 2.005 | 1.990 | -.0133 | 1.950 | 1.976 | 1.960 | 1.952 | 2.002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0079 | 2.010 | -.0049 |
| Stddev | .0050 | .003 | .0001 |
| %RSD | 62.58 | .1634 | 1.025 |
| #1 | .0114 | 2.013 | -.0049 |
| #2 | .0044 | 2.008 | -.0049 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.7 | 57993. | 13854. |
| Stddev | 2.5 | 15. | 227. |
| %RSD | .10232 | .02565 | 1.6409 |
| #1 | 2418.4 | 57982. | 13693. |
| #2 | 2414.9 | 58003. | 14015. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 12:30:23 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0012 | .0001 | .0020 | .0025 | .0005 | F.0005 | .0528 | .0004 |
| Stddev | .0001 | .0006 | .0030 | .0003 | .0002 | .0004 | .0000 | .0033 | .0000 |
| %RSD | 13.49 | 52.04 | 2714. | 15.99 | 10.01 | 74.80 | 6.253 | 6.214 | 1.312 |
| #1 | -.0007 | -.0008 | -.0020 | .0018 | .0027 | .0002 | .0005 | .0504 | .0004 |
| #2 | -.0006 | -.0017 | .0022 | .0023 | .0023 | .0008 | .0006 | .0551 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | -.0002 | .0005 | .0199 | .0161 | .0002 | .0024 | .0630 |
| Stddev | .0003 | .0002 | .0000 | .0051 | .0049 | .0118 | .0001 | .0003 | .0001 |
| %RSD | 90.74 | 427.0 | 7.606 | 1010. | 24.43 | 73.69 | 66.72 | 13.99 | .1360 |
| #1 | .0001 | .0002 | -.0002 | .0041 | .0165 | .0077 | .0003 | .0026 | .0629 |
| #2 | .0005 | -.0001 | -.0002 | -.0031 | .0234 | .0244 | .0001 | .0021 | .0630 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0013 | -.0066 | .0006 | .0006 | -.0076 | .0009 | .0005 |
| Stddev | .0001 | .0009 | .0034 | .0008 | .0006 | .0007 | .0002 | .0003 | .0001 |
| %RSD | 13.28 | 181.8 | 262.7 | 12.71 | 94.98 | 110.3 | 3.127 | 37.45 | 10.89 |
| #1 | .0005 | .0012 | .0037 | -.0060 | .0002 | .0001 | -.0078 | .0007 | .0006 |
| #2 | .0006 | -.0001 | -.0011 | -.0072 | .0010 | .0011 | -.0075 | .0011 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0006 | .0010 | -.0021 | .0001 | .0005 |
| Stddev | .0001 | .0000 | .0008 | .0021 | .0001 | .0001 |
| %RSD | 32.38 | 7.512 | 85.21 | 99.66 | 61.94 | 12.10 |
| #1 | .0004 | .0007 | .0015 | -.0006 | .0001 | .0005 |
| #2 | .0003 | .0006 | .0004 | -.0035 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.3 | 57723. | 13770. |
| Stddev | .8 | 41. | 56. |
| %RSD | .03354 | .07170 | .40634 |
| #1 | 2422.8 | 57752. | 13730. |
| #2 | 2421.7 | 57694. | 13810. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:34:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0106 | .0403 | .0240 | .0570 | .0719 | .1686 | .0026 | 136.4 | -.0016 | -.0011 |
| Stddev | .0038 | .0116 | .0028 | .0212 | .0027 | .0042 | .0021 | .8 | .0000 | .0005 |
| %RSD | 35.94 | 28.74 | 11.64 | 37.15 | 3.700 | 2.481 | 81.18 | .6228 | 1.919 | 48.90 |
| #1 | -.0132 | .0321 | .0260 | .0420 | .0738 | .1716 | .0042 | 135.8 | -.0016 | -.0007 |
| #2 | -.0079 | .0485 | .0221 | .0720 | .0700 | .1656 | .0011 | 137.0 | -.0016 | -.0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0246 | .0906 | 6.171 | 16.50 | .2178 | .0163 | 405.8 | .0050 | -.0058 |
| Stddev | .0185 | .0170 | .0464 | .296 | .56 | .0001 | .0033 | 1.0 | .0060 | .0091 |
| %RSD | 386.7 | 69.02 | 51.22 | 4.794 | 3.377 | .0480 | 20.09 | .2375 | 120.8 | 158.9 |
| #1 | -.0179 | -.0366 | .0578 | 5.962 | 16.10 | .2178 | .0186 | 405.2 | .0007 | .0007 |
| #2 | .0083 | -.0126 | .1235 | 6.380 | 16.89 | .2179 | .0140 | 406.5 | .0093 | -.0122 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0080 | -.0812 | .0133 | -.0102 | 6.141 | .0058 | .7837 | -.0045 | -.0179 | .0138 |
| Stddev | .0360 | .0919 | .0229 | .0041 | .010 | .0018 | .0029 | .0075 | .0083 | .0016 |
| %RSD | 446.8 | 113.1 | 172.2 | 39.99 | .1657 | 30.82 | .3697 | 166.6 | 46.34 | 11.23 |
| #1 | .0174 | -.0162 | -.0029 | -.0073 | 6.148 | .0045 | .7817 | .0008 | -.0238 | .0127 |
| #2 | -.0335 | -.1462 | .0295 | -.0131 | 6.134 | .0070 | .7858 | -.0099 | -.0121 | .0149 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .1327 | .0143 | -.0026 |
| Stddev | .2096 | .0004 | .0009 |
| %RSD | 157.9 | 2.565 | 32.81 |
| #1 | -.0155 | .0140 | -.0032 |
| #2 | .2809 | .0145 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2425.8 | 57906. | 13903. |
| Stddev | 1.0 | 162. | 101. |
| %RSD | .04053 | .27990 | .72877 |
| #1 | 2426.5 | 58020. | 13975. |
| #2 | 2425.1 | 57791. | 13831. |



Zoom In Zoom Out

Sample Name: MC21202-2F Acquired: 6/5/2013 12:39:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0642 | .0647 | .0090 | .0834 | .0918 | .1602 | -.0001 | 135.2 | -.0015 | -.0040 |
| Stddev | .0326 | .4750 | .0072 | .0110 | .0095 | .0083 | .0023 | .2 | .0006 | .0036 |
| %RSD | 50.69 | 734.2 | 79.22 | 13.15 | 10.31 | 5.191 | 3646. | .1549 | 40.66 | 90.36 |
| #1 | -.0872 | .4006 | .0141 | .0756 | .0985 | .1661 | -.0017 | 135.3 | -.0011 | -.0065 |
| #2 | -.0412 | -.2712 | .0040 | .0911 | .0851 | .1543 | .0015 | 135.0 | -.0020 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0241 | -.0595 | -.1089 | 5.419 | 16.82 | .2029 | .0060 | 405.4 | -.0043 | -.0260 |
| Stddev | .0205 | .0111 | .0433 | 3.185 | 1.40 | .0035 | .0044 | .5 | .0040 | .0056 |
| %RSD | 85.30 | 18.67 | 39.77 | 58.77 | 8.314 | 1.739 | 73.53 | .1248 | 94.99 | 21.58 |
| #1 | -.0386 | -.0516 | -.1395 | 7.671 | 15.83 | .2054 | .0029 | 405.8 | -.0014 | -.0220 |
| #2 | -.0095 | -.0673 | -.0783 | 3.167 | 17.81 | .2004 | .0090 | 405.1 | -.0071 | -.0300 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0307 | -.2605 | .0459 | -.0175 | 5.850 | .0242 | .7757 | -.0316 | -.0195 | .0503 |
| Stddev | .0342 | .1801 | .0442 | .0017 | .051 | .0207 | .0032 | .0197 | .0339 | .0059 |
| %RSD | 111.2 | 69.14 | 96.26 | 9.603 | .8758 | 85.33 | .4141 | 62.44 | 173.6 | 11.67 |
| #1 | -.0066 | -.1331 | .0147 | -.0187 | 5.887 | .0096 | .7779 | -.0456 | .0044 | .0544 |
| #2 | -.0549 | -.3878 | .0772 | -.0163 | 5.814 | .0388 | .7734 | -.0177 | -.0435 | .0461 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0184 | .0089 |
| Stddev | .0072 | .0039 | .0090 |
| %RSD | 561.6 | 21.08 | 101.2 |
| #1 | -.0064 | .0156 | .0153 |
| #2 | .0038 | .0211 | .0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.7 | 58061. | 13847. |
| Stddev | 6.0 | 315. | 62. |
| %RSD | .25056 | .54184 | .45136 |
| #1 | 2408.4 | 58284. | 13891. |
| #2 | 2416.9 | 57839. | 13803. |



Zoom In Zoom Out

Sample Name: MC21202-3F Acquired: 6/5/2013 12:43:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .0039 | .0005 | .0164 | .0130 | .0001 | 18.26 | .0002 | .0019 |
| Stddev | .0015 | .0042 | .0023 | .0041 | .0004 | .0001 | .0000 | .05 | .0002 | .0002 |
| %RSD | 87.30 | 51.74 | 57.86 | 798.2 | 2.443 | .6726 | 43.21 | .2948 | 117.0 | 12.12 |
| #1 | -.0027 | -.0051 | .0055 | .0034 | .0166 | .0129 | .0001 | 18.30 | .0003 | .0017 |
| #2 | -.0006 | -.0110 | .0023 | -.0024 | .0161 | .0131 | .0001 | 18.22 | .0000 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0017 | 1.419 | 2.750 | 3.415 | .6219 | .0001 | 2.566 | .0041 | -.0003 |
| Stddev | .0000 | .0006 | .006 | .088 | .055 | .0027 | .0000 | .014 | .0000 | .0011 |
| %RSD | 8.919 | 32.95 | .4599 | 3.210 | 1.596 | .4404 | 18.84 | .5470 | .1834 | 384.8 |
| #1 | -.0005 | -.0021 | 1.423 | 2.812 | 3.453 | .6238 | .0001 | 2.576 | .0041 | -.0011 |
| #2 | -.0005 | -.0013 | 1.414 | 2.687 | 3.376 | .6200 | .0001 | 2.556 | .0041 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0080 | .0014 | -.0003 | 6.035 | .0002 | .1152 | .0004 | -.0024 | .0017 |
| Stddev | .0016 | .0066 | .0001 | .0010 | .001 | .0006 | .0004 | .0003 | .0010 | .0006 |
| %RSD | 139.1 | 82.58 | 10.23 | 324.8 | .0224 | 299.2 | .3828 | 70.46 | 39.90 | 38.20 |
| #1 | .0023 | -.0126 | .0013 | -.0010 | 6.036 | .0006 | .1155 | .0005 | -.0031 | .0012 |
| #2 | .0000 | -.0033 | .0015 | .0004 | 6.034 | -.0002 | .1148 | .0002 | -.0017 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0049 | .0128 | -.0012 |
| Stddev | .0072 | .0000 | .0005 |
| %RSD | 148.5 | .0606 | 42.96 |
| #1 | .0099 | .0128 | -.0009 |
| #2 | -.0002 | .0128 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2422.9 | 57768. | 13906. |
| Stddev | 7.4 | 248. | 37. |
| %RSD | .30739 | .42918 | .26718 |
| #1 | 2428.2 | 57593. | 13880. |
| #2 | 2417.6 | 57943. | 13933. |

Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:47:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2271 | 1.808 | .7023 | .0007 | 4.588 | 2.326 | .1720 | 99.56 | .1908 | 2.480 |
| Stddev | .0003 | .004 | .0037 | .0003 | .027 | .004 | .0003 | .17 | .0014 | .014 |
| %RSD | .1307 | .2351 | .5288 | 47.48 | .5821 | .1786 | .1740 | .1728 | .7128 | .5462 |
| #1 | .2273 | 1.811 | .7049 | .0010 | 4.607 | 2.329 | .1718 | 99.69 | .1918 | 2.489 |
| #2 | .2269 | 1.805 | .6997 | .0005 | 4.569 | 2.323 | .1722 | 99.44 | .1899 | 2.470 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4511 | 1.098 | 72.30 | 53.38 | 52.52 | 1.718 | 4.493 | 55.78 | 1.656 | .2182 |
| Stddev | .0006 | .002 | .15 | .03 | .05 | .007 | .024 | .13 | .008 | .0018 |
| %RSD | .1243 | .1777 | .2098 | .0495 | .0997 | .3960 | .5299 | .2388 | .4873 | .8204 |
| #1 | .4515 | 1.099 | 72.41 | 53.40 | 52.48 | 1.723 | 4.510 | 55.87 | 1.661 | .2194 |
| #2 | .4508 | 1.096 | 72.20 | 53.36 | 52.56 | 1.714 | 4.477 | 55.68 | 1.650 | .2169 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | .0043 | .2945 | .4342 | 12.52 | 4.261 | 1.102 | 2.190 | .2271 | .4550 |
| Stddev | .0009 | .0007 | .0016 | .0045 | .07 | .019 | .001 | .009 | .0011 | .0002 |
| %RSD | 10.64 | 16.67 | .5453 | 1.038 | .5597 | .4501 | .1195 | .4290 | .4920 | .0393 |
| #1 | -.0077 | .0048 | .2956 | .4374 | 12.57 | 4.275 | 1.103 | 2.197 | .2279 | .4551 |
| #2 | -.0090 | .0038 | .2934 | .4310 | 12.47 | 4.248 | 1.101 | 2.184 | .2263 | .4549 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .8597 | -.0116 |
| Stddev | .0043 | .0031 | .0003 |
| %RSD | 68.34 | .3642 | 2.224 |
| #1 | .0094 | .8619 | -.0114 |
| #2 | .0033 | .8575 | -.0117 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2340.9 | 57154. | 13748. |
| Stddev | 12.7 | 364. | 66. |
| %RSD | .54065 | .63660 | .48143 |
| #1 | 2332.0 | 56897. | 13795. |
| #2 | 2349.9 | 57411. | 13701. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:55:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2192 | 1.789 | .7019 | .0055 | 4.552 | 2.296 | .1722 | 100.1 | .1868 | 2.458 |
| Stddev | .0008 | .033 | .0043 | .0143 | .017 | .000 | .0002 | .1 | .0010 | .005 |
| %RSD | .3573 | 1.854 | .6171 | 258.8 | .3641 | .0025 | .1104 | .0768 | .5562 | .2197 |
| #1 | .2197 | 1.766 | .6988 | -.0046 | 4.564 | 2.296 | .1721 | 100.1 | .1861 | 2.462 |
| #2 | .2186 | 1.813 | .7049 | .0156 | 4.540 | 2.296 | .1724 | 100.2 | .1875 | 2.454 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4476 | 1.076 | 71.99 | 53.54 | 52.38 | 1.722 | 4.423 | 55.54 | 1.657 | .2171 |
| Stddev | .0045 | .002 | .21 | .11 | .30 | .003 | .001 | .03 | .004 | .0032 |
| %RSD | 1.001 | .1460 | .2964 | .2116 | .5667 | .1904 | .0254 | .0538 | .2537 | 1.484 |
| #1 | .4507 | 1.077 | 72.14 | 53.62 | 52.17 | 1.725 | 4.424 | 55.52 | 1.660 | .2149 |
| #2 | .4444 | 1.075 | 71.84 | 53.46 | 52.59 | 1.720 | 4.422 | 55.56 | 1.654 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0360 | .2926 | .4336 | 11.89 | 4.285 | 1.070 | 2.183 | .2239 | .4523 |
| Stddev | .0009 | .0448 | .0010 | .0032 | .01 | .002 | .002 | .001 | .0030 | .0002 |
| %RSD | 37.25 | 124.2 | .3447 | .7337 | .0606 | .0385 | .1634 | .0580 | 1.338 | .0393 |
| #1 | -.0030 | -.0677 | .2934 | .4359 | 11.90 | 4.286 | 1.068 | 2.183 | .2260 | .4522 |
| #2 | -.0018 | -.0044 | .2919 | .4314 | 11.89 | 4.283 | 1.071 | 2.182 | .2218 | .4524 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .8707 | -.0106 |
| Stddev | .0356 | .0006 | .0017 |
| %RSD | 757.2 | .0639 | 16.01 |
| #1 | -.0205 | .8710 | -.0118 |
| #2 | .0299 | .8703 | -.0094 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2411.9 | 57909. | 13809. |
| Stddev | 5.5 | 57. | 104. |
| %RSD | .22845 | .09861 | .75426 |
| #1 | 2415.8 | 57869. | 13735. |
| #2 | 2408.0 | 57949. | 13882. |



Zoom In Zoom Out

Sample Name: MP21073-PS1 Acquired: 6/5/2013 12:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2083 | 1.795 | .7034 | .0216 | 4.613 | 2.314 | .1759 | 101.0 | .1877 | 2.489 |
| Stddev | .0065 | .118 | .0001 | .0108 | .009 | .002 | .0002 | .4 | .0004 | .003 |
| %RSD | 3.141 | 6.580 | .0149 | 50.00 | .1983 | .0860 | .1145 | .3705 | .2153 | .1275 |
| #1 | .2129 | 1.711 | .7033 | .0293 | 4.606 | 2.312 | .1758 | 100.7 | .1880 | 2.486 |
| #2 | .2037 | 1.878 | .7034 | .0140 | 4.619 | 2.315 | .1760 | 101.2 | .1875 | 2.491 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4526 | 1.088 | 74.16 | 54.63 | 53.59 | 1.750 | 4.477 | 55.88 | 1.680 | .2252 |
| Stddev | .0012 | .012 | .05 | .74 | .08 | .002 | .004 | .22 | .007 | .0032 |
| %RSD | .2751 | 1.122 | .0725 | 1.360 | .1469 | .1323 | .0890 | .3974 | .3984 | 1.440 |
| #1 | .4535 | 1.079 | 74.20 | 54.10 | 53.65 | 1.749 | 4.475 | 55.72 | 1.675 | .2275 |
| #2 | .4517 | 1.096 | 74.12 | 55.16 | 53.54 | 1.752 | 4.480 | 56.03 | 1.685 | .2229 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.1036 | .2925 | .4263 | 11.91 | 4.343 | 1.081 | 2.261 | .2295 | .4623 |
| Stddev | .0010 | .0181 | .0041 | .0066 | .02 | .009 | .000 | .010 | .0032 | .0090 |
| %RSD | 38.88 | 17.42 | 1.396 | 1.557 | .1852 | .2123 | .0109 | .4343 | 1.397 | 1.945 |
| #1 | .0032 | -.0908 | .2954 | .4310 | 11.89 | 4.350 | 1.081 | 2.268 | .2318 | .4686 |
| #2 | .0018 | -.1164 | .2897 | .4216 | 11.93 | 4.337 | 1.081 | 2.254 | .2273 | .4559 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0152 | .9214 | -.0086 |
| Stddev | .0029 | .0025 | .0032 |
| %RSD | 19.27 | .2677 | 37.77 |
| #1 | .0173 | .9231 | -.0108 |
| #2 | .0132 | .9196 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2429.8 | 58023. | 13918. |
| Stddev | 9.5 | 75. | 2. |
| %RSD | .39195 | .12868 | .01640 |
| #1 | 2436.6 | 57970. | 13917. |
| #2 | 2423.1 | 58075. | 13920. |



Zoom In Zoom Out

Sample Name: MP21073-SD1 Acquired: 6/5/2013 13:04:07 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0496 | .0030 | .6629 | .0926 | .3285 | .1502 | .0001 | 68.26 | -.0001 | .0030 |
| Stddev | .0256 | .1995 | .0234 | .0012 | .0273 | .0125 | .0029 | .36 | .0020 | .0084 |
| %RSD | 51.57 | 6755. | 3.524 | 1.329 | 8.306 | 8.334 | 3506. | .5263 | 1359. | 281.0 |
| #1 | -.0315 | -.1381 | .6463 | .0934 | .3092 | .1413 | .0021 | 68.00 | .0012 | .0089 |
| #2 | -.0677 | .1440 | .6794 | .0917 | .3478 | .1590 | -.0020 | 68.51 | -.0015 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0193 | -.0499 | 84.49 | 14.81 | 10.84 | 1.275 | .0545 | 16.05 | -.0007 | -.0268 |
| Stddev | .0189 | .0052 | .92 | 1.80 | 1.31 | .007 | .0139 | .07 | .0027 | .0039 |
| %RSD | 97.72 | 10.49 | 1.091 | 12.16 | 12.11 | .5793 | 25.53 | .4655 | 398.4 | 14.66 |
| #1 | -.0327 | -.0536 | 83.84 | 13.54 | 11.77 | 1.270 | .0643 | 16.10 | .0013 | -.0296 |
| #2 | -.0060 | -.0462 | 85.14 | 16.09 | 9.914 | 1.280 | .0446 | 16.00 | -.0026 | -.0240 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.2068 | .0082 | -.0701 | 13.44 | .0304 | .7759 | -.0065 | -.0490 | .0496 |
| Stddev | .0802 | .1261 | .0481 | .1038 | .01 | .0151 | .0028 | .0100 | .0399 | .0270 |
| %RSD | 6964. | 60.98 | 589.7 | 148.1 | .0850 | 49.52 | .3644 | 153.4 | 81.35 | 54.44 |
| #1 | -.0555 | -.2960 | -.0259 | -.1434 | 13.45 | .0411 | .7779 | .0006 | -.0772 | .0305 |
| #2 | .0578 | -.1176 | .0422 | .0033 | 13.43 | .0198 | .7739 | -.0136 | -.0208 | .0686 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0264 | .0019 | -.0006 |
| Stddev | .1036 | .0009 | .0207 |
| %RSD | 391.9 | 45.77 | 3618. |
| #1 | .0468 | .0026 | -.0152 |
| #2 | -.0997 | .0013 | .0141 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.1 | 57813. | 13756. |
| Stddev | 1.3 | 389. | 79. |
| %RSD | .05329 | .67301 | .57716 |
| #1 | 2427.2 | 58088. | 13812. |
| #2 | 2429.0 | 57538. | 13700. |

Zoom In Zoom Out

Sample Name: MP21104-B1 Acquired: 6/5/2013 13:09:54 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2060 | 2.045 | .5295 | .0080 | .0070 | 1.977 | .5045 | 25.12 | .5317 | .5338 |
| Stddev | .0028 | .016 | .0058 | .0019 | .0007 | .008 | .0035 | .16 | .0018 | .0012 |
| %RSD | 1.361 | .7795 | 1.101 | 23.68 | 10.16 | .3821 | .7010 | .6341 | .3393 | .2182 |
| #1 | .2040 | 2.056 | .5336 | .0093 | .0065 | 1.983 | .5070 | 25.24 | .5304 | .5330 |
| #2 | .2080 | 2.034 | .5254 | .0066 | .0075 | 1.972 | .5020 | 25.01 | .5330 | .5346 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5302 | .4969 | 1.980 | 25.68 | 25.77 | .5122 | .0017 | 24.93 | .4948 | 1.025 |
| Stddev | .0004 | .0018 | .030 | .05 | .41 | .0013 | .0002 | .11 | .0002 | .002 |
| %RSD | .0772 | .3617 | 1.493 | .1835 | 1.584 | .2468 | 8.873 | .4280 | .0381 | .1714 |
| #1 | .5305 | .4956 | 2.001 | 25.65 | 26.05 | .5113 | .0016 | 25.00 | .4949 | 1.023 |
| #2 | .5299 | .4982 | 1.960 | 25.71 | 25.48 | .5131 | .0018 | 24.85 | .4947 | 1.026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0194 | .5116 | .5080 | .0300 | -.0007 | .4850 | .5018 | .5024 | .5342 |
| Stddev | .0031 | .0089 | .0029 | .0078 | .0232 | .0014 | .0021 | .0019 | .0002 | .0017 |
| %RSD | 150.6 | 45.90 | .5734 | 1.535 | 77.30 | 208.4 | .4295 | .3725 | .0378 | .3173 |
| #1 | -.0042 | -.0131 | .5136 | .5025 | .0464 | .0003 | .4865 | .5031 | .5022 | .5330 |
| #2 | .0001 | -.0257 | .5095 | .5135 | .0136 | -.0017 | .4836 | .5005 | .5025 | .5354 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0233 | .5358 | -.0001 |
| Stddev | .0123 | .0018 | .0007 |
| %RSD | 52.96 | .3329 | 946.4 |
| #1 | .0145 | .5346 | .0004 |
| #2 | .0320 | .5371 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.9 | 58161. | 13953. |
| Stddev | 5.1 | 41. | 130. |
| %RSD | .21112 | .07094 | .93015 |
| #1 | 2425.5 | 58190. | 13861. |
| #2 | 2418.3 | 58131. | 14045. |



Zoom In Zoom Out

Sample Name: MP21104-S1 Acquired: 6/5/2013 13:14:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2120 | 2.112 | .5471 | -.0056 | .0314 | 2.043 | .5200 | 44.96 | .5486 | .5514 |
| Stddev | .0044 | .061 | .0084 | .0002 | .0000 | .004 | .0015 | .17 | .0001 | .0017 |
| %RSD | 2.082 | 2.887 | 1.543 | 3.209 | .1586 | .2171 | .2926 | .3880 | .0273 | .3030 |
| #1 | .2151 | 2.069 | .5531 | -.0055 | .0314 | 2.040 | .5189 | 44.83 | .5485 | .5502 |
| #2 | .2089 | 2.155 | .5411 | -.0057 | .0315 | 2.047 | .5211 | 45.08 | .5487 | .5526 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5473 | .5138 | 2.185 | 28.31 | 28.68 | 6.653 | .0008 | 32.45 | .5120 | 1.046 |
| Stddev | .0004 | .0018 | .010 | .19 | .17 | .014 | .0008 | .09 | .0036 | .007 |
| %RSD | .0775 | .3575 | .4723 | .6663 | .5946 | .2066 | 93.14 | .2806 | .7036 | .6474 |
| #1 | .5476 | .5125 | 2.192 | 28.18 | 28.55 | 6.662 | .0014 | 32.39 | .5094 | 1.041 |
| #2 | .5470 | .5151 | 2.178 | 28.45 | 28.80 | 6.643 | .0003 | 32.52 | .5145 | 1.051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0081 | .5256 | .5185 | 5.297 | -.0007 | .6096 | .5176 | .5129 | .5553 |
| Stddev | .0016 | .0173 | .0006 | .0040 | .004 | .0018 | .0004 | .0000 | .0011 | .0013 |
| %RSD | 91.83 | 213.6 | .1051 | .7620 | .0808 | 239.9 | .0731 | .0011 | .2055 | .2380 |
| #1 | -.0028 | -.0203 | .5252 | .5157 | 5.294 | .0005 | .6093 | .5176 | .5122 | .5563 |
| #2 | -.0006 | .0041 | .5260 | .5213 | 5.300 | -.0020 | .6099 | .5176 | .5137 | .5544 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0032 | .5601 | -.0010 |
| Stddev | .0337 | .0017 | .0001 |
| %RSD | 1065. | .3032 | 9.820 |
| #1 | .0270 | .5589 | -.0011 |
| #2 | -.0206 | .5613 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2421.6 | 57799. | 13863. |
| Stddev | .5 | 724. | 190. |
| %RSD | .02109 | 1.2526 | 1.3712 |
| #1 | 2422.0 | 57287. | 13998. |
| #2 | 2421.2 | 58311. | 13729. |



Zoom In Zoom Out

Sample Name: MP21104-S2 Acquired: 6/5/2013 13:18:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2133 | 2.101 | .5502 | .0031 | .0315 | 2.033 | .5200 | 45.08 | .5515 | .5556 |
| Stddev | .0006 | .025 | .0022 | .0093 | .0004 | .010 | .0016 | .10 | .0010 | .0005 |
| %RSD | .2998 | 1.208 | .3978 | 303.3 | 1.143 | .4918 | .3130 | .2314 | .1854 | .0924 |
| #1 | .2138 | 2.119 | .5517 | -.0035 | .0312 | 2.040 | .5211 | 45.16 | .5508 | .5552 |
| #2 | .2129 | 2.083 | .5487 | .0096 | .0317 | 2.026 | .5188 | 45.01 | .5522 | .5560 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5440 | .5105 | 2.147 | 28.29 | 28.22 | 6.734 | .0009 | 32.56 | .5120 | 1.052 |
| Stddev | .0012 | .0014 | .014 | .12 | .01 | .009 | .0007 | .13 | .0009 | .005 |
| %RSD | .2276 | .2839 | .6566 | .4126 | .0495 | .1367 | 77.14 | .3985 | .1848 | .4876 |
| #1 | .5449 | .5095 | 2.157 | 28.20 | 28.21 | 6.727 | .0004 | 32.65 | .5113 | 1.049 |
| #2 | .5431 | .5115 | 2.137 | 28.37 | 28.23 | 6.740 | .0014 | 32.47 | .5127 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0028 | .5291 | .5277 | 5.358 | -.0007 | .6056 | .5205 | .5168 | .5566 |
| Stddev | .0099 | .0011 | .0037 | .0033 | .012 | .0001 | .0010 | .0035 | .0041 | .0021 |
| %RSD | 174.2 | 38.24 | .6900 | .6248 | .2235 | 8.811 | .1686 | .6770 | .7863 | .3760 |
| #1 | .0013 | -.0035 | .5316 | .5300 | 5.350 | -.0007 | .6063 | .5180 | .5197 | .5551 |
| #2 | -.0127 | -.0020 | .5265 | .5253 | 5.367 | -.0008 | .6049 | .5230 | .5139 | .5580 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0074 | .5624 | -.0012 |
| Stddev | .0114 | .0008 | .0002 |
| %RSD | 153.7 | .1438 | 13.67 |
| #1 | -.0154 | .5619 | -.0011 |
| #2 | .0006 | .5630 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.5 | 57844. | 14059. |
| Stddev | 5.9 | 104. | 1. |
| %RSD | .24423 | .17977 | .00895 |
| #1 | 2414.7 | 57918. | 14060. |
| #2 | 2406.4 | 57771. | 14058. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 13:22:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2527 | 9.913 | 2.024 | -.0014 | 1.958 | 1.956 | 1.931 | 9.882 | 2.047 |
| Stddev | .0002 | .034 | .006 | .0009 | .007 | .008 | .007 | .005 | .003 |
| %RSD | .0807 | .3453 | .3183 | 61.28 | .3815 | .3948 | .3729 | .0537 | .1637 |
| #1 | .2529 | 9.889 | 2.019 | -.0008 | 1.952 | 1.950 | 1.926 | 9.878 | 2.045 |
| #2 | .2526 | 9.937 | 2.028 | -.0021 | 1.963 | 1.961 | 1.937 | 9.885 | 2.049 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.116 | 2.013 | 2.019 | 9.649 | 9.955 | 10.000 | 1.999 | 2.028 | 9.789 |
| Stddev | .005 | .003 | .001 | .006 | .080 | .0463 | .002 | .007 | .018 |
| %RSD | .2568 | .1510 | .0495 | .0679 | .8002 | .4631 | .1155 | .3248 | .1877 |
| #1 | 2.112 | 2.015 | 2.019 | 9.645 | 9.899 | 9.967 | 2.001 | 2.024 | 9.776 |
| #2 | 2.120 | 2.011 | 2.020 | 9.654 | 10.01 | 10.03 | 1.997 | 2.033 | 9.802 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.950 | 1.967 | -.0014 | .0010 | 1.998 | 1.994 | -.0123 | 1.949 | 1.993 |
| Stddev | .004 | .005 | .0002 | .0029 | .007 | .008 | .0007 | .006 | .008 |
| %RSD | .1839 | .2603 | 13.61 | 282.6 | .3342 | .4114 | 5.420 | .2889 | .4074 |
| #1 | 1.948 | 1.963 | -.0016 | -.0010 | 1.993 | 1.988 | -.0128 | 1.945 | 1.987 |
| #2 | 1.953 | 1.970 | -.0013 | .0031 | 2.003 | 1.999 | -.0118 | 1.953 | 1.999 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | 1.959 | 1.948 | 2.006 | .0042 | 2.014 | -.0048 |
| Stddev | .002 | .008 | .001 | .0041 | .005 | .0001 |
| %RSD | .1055 | .4011 | .0384 | 98.60 | .2475 | 1.411 |
| #1 | 1.960 | 1.942 | 2.005 | .0013 | 2.010 | -.0047 |
| #2 | 1.957 | 1.953 | 2.006 | .0071 | 2.017 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.2 | 57385. | 13730. |
| Stddev | 2.1 | 409. | 8. |
| %RSD | .08667 | .71328 | .06157 |
| #1 | 2415.7 | 57095. | 13724. |
| #2 | 2418.6 | 57674. | 13736. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 13:27:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0086 | .0002 | .0013 | .0025 | .0006 | F.0005 | -.0004 | .0002 |
| Stddev | .0004 | .0058 | .0014 | .0000 | .0000 | .0000 | .0000 | .0014 | .0002 |
| %RSD | 37.44 | 67.28 | 738.1 | .0464 | 1.622 | 1.783 | .3535 | 387.8 | 120.5 |
| #1 | -.0013 | .0045 | -.0008 | .0013 | .0025 | .0006 | .0005 | -.0013 | .0003 |
| #2 | -.0008 | .0127 | .0011 | .0013 | .0025 | .0006 | .0005 | .0006 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0002 | -.0007 | .0016 | .0701 | .0166 | .0002 | .0022 | .0074 |
| Stddev | .0002 | .0001 | .0005 | .0006 | .0733 | .0035 | .0000 | .0006 | .0001 |
| %RSD | 53.97 | 30.90 | 74.71 | 38.75 | 104.4 | 21.23 | 9.940 | 26.59 | 1.999 |
| #1 | .0002 | .0003 | -.0003 | .0021 | .1219 | .0141 | .0002 | .0027 | .0073 |
| #2 | .0004 | .0002 | -.0010 | .0012 | .0183 | .0191 | .0002 | .0018 | .0075 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | -.0004 | -.0106 | .0006 | -.0004 | -.0087 | .0011 | .0005 |
| Stddev | .0001 | .0003 | .0017 | .0018 | .0002 | .0005 | .0012 | .0002 | .0000 |
| %RSD | 47.96 | 108.8 | 396.9 | 17.24 | 36.00 | 136.3 | 13.44 | 21.36 | 1.923 |
| #1 | .0001 | .0006 | -.0017 | -.0093 | .0007 | -.0007 | -.0079 | .0012 | .0005 |
| #2 | .0002 | .0001 | .0008 | -.0119 | .0004 | .0000 | -.0095 | .0009 | .0005 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | .0010 | -.0014 | .0000 | .0004 |
| Stddev | .0002 | .0011 | .0004 | .0050 | .0000 | .0001 |
| %RSD | 56.26 | 251.8 | 40.62 | 362.8 | 114.1 | 14.22 |
| #1 | .0002 | .0012 | .0007 | -.0049 | .0000 | .0004 |
| #2 | .0004 | -.0003 | .0013 | .0022 | .0000 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.2 | 58655. | 13851. |
| Stddev | 5.5 | 295. | 22. |
| %RSD | .22689 | .50318 | .15961 |
| #1 | 2420.1 | 58446. | 13835. |
| #2 | 2412.4 | 58864. | 13866. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:31:24 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0052 | .0015 | -.0040 | .0283 | .0046 | .0002 | 18.89 | .0005 | .0019 |
| Stddev | .0003 | .0298 | .0015 | .0011 | .0008 | .0001 | .0001 | .03 | .0001 | .0002 |
| %RSD | 23.10 | 570.7 | 98.56 | 27.13 | 2.794 | 3.200 | 58.43 | .1692 | 16.87 | 9.785 |
| #1 | -.0009 | .0159 | .0025 | -.0033 | .0278 | .0047 | .0003 | 18.87 | .0005 | .0020 |
| #2 | -.0013 | -.0263 | .0005 | -.0048 | .0289 | .0045 | .0001 | 18.91 | .0004 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0029 | .1207 | 1.819 | 1.856 | 5.867 | .0015 | 6.778 | .0012 | .0004 |
| Stddev | .0004 | .0019 | .0025 | .076 | .029 | .002 | .0003 | .045 | .0001 | .0008 |
| %RSD | 133.0 | 63.67 | 2.112 | 4.190 | 1.589 | .0413 | 16.79 | .6685 | 7.355 | 233.0 |
| #1 | .0000 | -.0016 | .1189 | 1.766 | 1.835 | 5.869 | .0017 | 6.811 | .0012 | -.0002 |
| #2 | -.0006 | -.0043 | .1225 | 1.873 | 1.877 | 5.866 | .0013 | 6.746 | .0013 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | .0126 | .0005 | .0013 | 5.083 | .0004 | .1062 | -.0003 | .0014 | .0007 |
| Stddev | .0003 | .0050 | .0010 | .0007 | .005 | .0005 | .0007 | .0003 | .0006 | .0003 |
| %RSD | 6.367 | 39.64 | 184.3 | 51.32 | .1086 | 101.0 | .6540 | 91.92 | 38.59 | 37.92 |
| #1 | -.0041 | .0161 | -.0002 | .0018 | 5.079 | .0001 | .1057 | -.0006 | .0011 | .0005 |
| #2 | -.0038 | .0091 | .0012 | .0008 | 5.087 | .0008 | .1067 | -.0001 | .0018 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0098 | .0075 | -.0007 |
| Stddev | .0015 | .0000 | .0000 |
| %RSD | 14.88 | .0690 | 3.460 |
| #1 | -.0108 | .0075 | -.0007 |
| #2 | -.0087 | .0075 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2413.3 | 58691. | 13934. |
| Stddev | 2.6 | 32. | 13. |
| %RSD | .10607 | .05481 | .09443 |
| #1 | 2411.5 | 58669. | 13943. |
| #2 | 2415.2 | 58714. | 13925. |



Zoom In Zoom Out

Sample Name: MC21261-9F Acquired: 6/5/2013 13:35:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | -.0029 | .0069 | .0054 | .0311 | .0043 | .0001 | 19.79 | .0001 | .0016 |
| Stddev | .0022 | .0169 | .0036 | .0014 | .0019 | .0018 | .0004 | .39 | .0006 | .0004 |
| %RSD | 35.70 | 574.5 | 51.61 | 25.58 | 5.994 | 40.64 | 541.7 | 1.955 | 996.6 | 28.36 |
| #1 | -.0076 | -.0149 | .0044 | .0044 | .0297 | .0031 | -.0002 | 20.07 | .0005 | .0013 |
| #2 | -.0045 | .0090 | .0095 | .0063 | .0324 | .0055 | .0004 | 19.52 | -.0004 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0088 | .1063 | 1.784 | 1.847 | 5.967 | .0015 | 6.857 | .0007 | -.0019 |
| Stddev | .0010 | .0018 | .0170 | .144 | .146 | .042 | .0008 | .062 | .0004 | .0007 |
| %RSD | 1050. | 19.98 | 15.96 | 8.093 | 7.886 | .7068 | 54.85 | .9091 | 61.44 | 36.50 |
| #1 | -.0006 | -.0075 | .1183 | 1.682 | 1.950 | 5.997 | .0021 | 6.901 | .0004 | -.0024 |
| #2 | .0008 | -.0100 | .0943 | 1.886 | 1.744 | 5.937 | .0009 | 6.813 | .0010 | -.0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0223 | .0034 | .0036 | 5.065 | .0003 | .1060 | -.0032 | .0012 | .0026 |
| Stddev | .0086 | .0032 | .0023 | .0035 | .003 | .0006 | .0030 | .0006 | .0019 | .0039 |
| %RSD | 1980. | 14.19 | 66.65 | 99.18 | .0513 | 204.9 | 2.807 | 20.07 | 166.4 | 147.6 |
| #1 | -.0065 | .0245 | .0051 | .0011 | 5.067 | .0007 | .1081 | -.0037 | -.0002 | .0054 |
| #2 | .0056 | .0200 | .0018 | .0061 | 5.064 | -.0001 | .1039 | -.0028 | .0025 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0265 | .0093 | -.0005 |
| Stddev | .0298 | .0017 | .0005 |
| %RSD | 112.3 | 18.29 | 102.2 |
| #1 | .0475 | .0081 | -.0008 |
| #2 | .0054 | .0105 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.3 | 57945. | 13883. |
| Stddev | 6.3 | 337. | 212. |
| %RSD | .26091 | .58156 | 1.5260 |
| #1 | 2413.7 | 58183. | 13733. |
| #2 | 2404.8 | 57706. | 14033. |



Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:40:06 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0452 | -.0036 | .0115 | .0308 | .0027 | .0009 | 19.66 | -.0001 | .0015 |
| Stddev | .0017 | .0146 | .0120 | .0056 | .0049 | .0027 | .0007 | .02 | .0005 | .0011 |
| %RSD | 10.74 | 32.21 | 334.7 | 48.84 | 16.08 | 98.27 | 79.23 | .0876 | 577.8 | 76.60 |
| #1 | -.0169 | -.0349 | .0049 | .0075 | .0273 | .0008 | .0004 | 19.65 | .0003 | .0007 |
| #2 | -.0146 | -.0555 | -.0121 | .0155 | .0343 | .0046 | .0014 | 19.67 | -.0005 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | -.0246 | .1020 | 2.132 | 1.823 | 5.973 | .0020 | 6.944 | -.0001 | -.0070 |
| Stddev | .0001 | .0031 | .0227 | .202 | .095 | .049 | .0004 | .077 | .0006 | .0027 |
| %RSD | 3.003 | 12.55 | 22.31 | 9.479 | 5.221 | .8177 | 19.42 | 1.105 | 523.4 | 38.37 |
| #1 | -.0033 | -.0224 | .0859 | 1.989 | 1.890 | 5.938 | .0022 | 6.889 | -.0006 | -.0051 |
| #2 | -.0034 | -.0267 | .1181 | 2.275 | 1.755 | 6.007 | .0017 | 6.998 | .0003 | -.0089 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0109 | -.0156 | -.0051 | -.0101 | 5.143 | .0029 | .1053 | -.0039 | -.0049 | .0097 |
| Stddev | .0142 | .0144 | .0022 | .0017 | .008 | .0010 | .0012 | .0049 | .0033 | .0008 |
| %RSD | 131.0 | 92.19 | 42.23 | 16.82 | .1583 | 34.83 | 1.136 | 125.3 | 67.53 | 8.481 |
| #1 | .0008 | -.0054 | -.0036 | -.0089 | 5.137 | .0036 | .1045 | -.0004 | -.0073 | .0092 |
| #2 | .0209 | -.0257 | -.0067 | -.0113 | 5.149 | .0022 | .1062 | -.0073 | -.0026 | .0103 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0214 | .0064 | .0014 |
| Stddev | .0172 | .0001 | .0019 |
| %RSD | 80.72 | 1.662 | 131.3 |
| #1 | .0092 | .0064 | .0028 |
| #2 | .0336 | .0065 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2420.4 | 58086. | 13792. |
| Stddev | 2.3 | 313. | 35. |
| %RSD | .09402 | .53936 | .25115 |
| #1 | 2418.8 | 58307. | 13816. |
| #2 | 2422.0 | 57864. | 13767. |

Zoom In Zoom Out

Sample Name: MP21104-SD1 Acquired: 6/5/2013 13:44:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0226 | .2082 | -.0232 | .0159 | .0357 | .0026 | .0000 | 21.19 | -.0039 | .0000 |
| Stddev | .0157 | .2585 | .0238 | .0183 | .0021 | .0022 | .0002 | .25 | .0050 | .0042 |
| %RSD | 69.40 | 124.2 | 102.7 | 115.3 | 5.820 | 83.69 | 748.2 | 1.203 | 129.0 | 19760. |
| #1 | -.0336 | .0254 | -.0063 | .0288 | .0343 | .0011 | .0001 | 21.37 | -.0074 | -.0030 |
| #2 | -.0115 | .3910 | -.0400 | .0029 | .0372 | .0041 | -.0001 | 21.01 | -.0003 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0200 | -.0298 | .0190 | 2.476 | 1.847 | 5.982 | .0004 | 6.907 | -.0022 | -.0144 |
| Stddev | .0080 | .0037 | .0158 | 1.427 | .734 | .001 | .0002 | .178 | .0032 | .0160 |
| %RSD | 39.91 | 12.54 | 83.27 | 57.63 | 39.74 | .0175 | 43.15 | 2.584 | 147.4 | 111.4 |
| #1 | -.0144 | -.0272 | .0302 | 3.484 | 2.367 | 5.981 | .0003 | 7.033 | .0001 | -.0030 |
| #2 | -.0256 | -.0325 | .0078 | 1.467 | 1.328 | 5.983 | .0005 | 6.781 | -.0044 | -.0257 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.1627 | -.0027 | -.0104 | 5.029 | .0038 | .1073 | -.0130 | -.0332 | .0264 |
| Stddev | .0087 | .0697 | .0056 | .0516 | .009 | .0061 | .0015 | .0044 | .0004 | .0003 |
| %RSD | 152.9 | 42.84 | 208.2 | 497.6 | .1869 | 160.4 | 1.403 | 34.05 | 1.105 | 1.315 |
| #1 | -.0118 | -.2120 | -.0067 | -.0468 | 5.022 | -.0005 | .1084 | -.0161 | -.0335 | .0266 |
| #2 | .0005 | -.1134 | .0013 | .0261 | 5.036 | .0082 | .1063 | -.0098 | -.0329 | .0261 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0923 | .0134 | .0026 |
| Stddev | .0801 | .0000 | .0043 |
| %RSD | 86.77 | .0321 | 164.9 |
| #1 | -.0357 | .0134 | .0056 |
| #2 | -.1490 | .0134 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.3 | 57971. | 13814. |
| Stddev | 6.9 | 254. | 21. |
| %RSD | .28694 | .43736 | .14847 |
| #1 | 2409.2 | 57791. | 13829. |
| #2 | 2399.4 | 58150. | 13800. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:48:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0084 | .0015 | -.0029 | .2374 | .0623 | -.0001 | 137.8 | .0001 | .0006 |
| Stddev | .0025 | .0078 | .0045 | .0070 | .0000 | .0003 | .0000 | .1 | .0001 | .0001 |
| %RSD | 106.0 | 93.35 | 294.3 | 242.8 | .0075 | .4262 | 19.00 | .0601 | 78.00 | 22.69 |
| #1 | -.0006 | -.0140 | .0047 | .0021 | .2374 | .0621 | -.0002 | 137.9 | .0000 | .0005 |
| #2 | -.0041 | -.0029 | -.0016 | -.0079 | .2374 | .0625 | -.0001 | 137.8 | .0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0033 | .0243 | 4.284 | 20.09 | 2.450 | .0015 | 40.30 | .0087 | -.0010 |
| Stddev | .0008 | .0015 | .0003 | .058 | .06 | .001 | .0001 | .02 | .0002 | .0002 |
| %RSD | 64.26 | 45.59 | 1.165 | 1.359 | .2925 | .0521 | 6.909 | .0380 | 1.919 | 21.46 |
| #1 | -.0007 | -.0044 | .0245 | 4.242 | 20.13 | 2.451 | .0016 | 40.29 | .0088 | -.0008 |
| #2 | -.0018 | -.0023 | .0241 | 4.325 | 20.05 | 2.449 | .0015 | 40.31 | .0086 | -.0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0049 | .0017 | .0021 | .0018 | 7.736 | -.0011 | .5504 | .0007 | -.0009 | .0022 |
| Stddev | .0010 | .0003 | .0001 | .0045 | .013 | .0003 | .0000 | .0003 | .0020 | .0004 |
| %RSD | 19.55 | 15.35 | 5.349 | 250.2 | .1654 | 30.88 | .0022 | 39.21 | 221.5 | 15.69 |
| #1 | -.0055 | .0015 | .0020 | -.0014 | 7.745 | -.0009 | .5504 | .0009 | -.0023 | .0025 |
| #2 | -.0042 | .0019 | .0022 | .0050 | 7.727 | -.0013 | .5504 | .0005 | .0005 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0393 | .0086 | -.0013 |
| Stddev | .0073 | .0003 | .0004 |
| %RSD | 18.57 | 3.234 | 32.42 |
| #1 | .0342 | .0088 | -.0010 |
| #2 | .0445 | .0084 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.1 | 57380. | 13897. |
| Stddev | 1.4 | 76. | 42. |
| %RSD | .05658 | .13261 | .29961 |
| #1 | 2413.1 | 57327. | 13868. |
| #2 | 2415.0 | 57434. | 13927. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:53:10 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0068 | -.0024 | .0050 | .0069 | .2387 | .0638 | .0001 | 140.3 | -.0003 | -.0001 |
| Stddev | .0017 | .0220 | .0009 | .0030 | .0038 | .0014 | .0002 | 2.9 | .0001 | .0010 |
| %RSD | 25.25 | 922.0 | 18.51 | 43.47 | 1.583 | 2.168 | 174.7 | 2.065 | 37.31 | 881.6 |
| #1 | -.0055 | .0132 | .0044 | .0048 | .2413 | .0648 | .0002 | 142.3 | -.0002 | .0006 |
| #2 | -.0080 | -.0179 | .0057 | .0091 | .2360 | .0628 | .0000 | 138.2 | -.0004 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0039 | .0169 | 4.316 | 20.47 | 2.450 | .0008 | 41.22 | .0064 | -.0027 |
| Stddev | .0003 | .0018 | .0027 | .163 | .39 | .001 | .0010 | .84 | .0007 | .0012 |
| %RSD | 34.31 | 45.64 | 16.23 | 3.773 | 1.891 | .0372 | 119.3 | 2.032 | 11.31 | 45.43 |
| #1 | -.0008 | -.0052 | .0188 | 4.201 | 20.75 | 2.451 | .0001 | 41.81 | .0069 | -.0018 |
| #2 | -.0012 | -.0027 | .0149 | 4.431 | 20.20 | 2.450 | .0015 | 40.62 | .0059 | -.0036 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | -.0173 | .0036 | -.0008 | 7.693 | -.0022 | .5561 | .0003 | .0012 | .0050 |
| Stddev | .0006 | .0013 | .0031 | .0021 | .014 | .0015 | .0118 | .0013 | .0027 | .0017 |
| %RSD | 7.794 | 7.464 | 87.14 | 255.3 | .1764 | 68.08 | 2.128 | 415.4 | 225.8 | 34.31 |
| #1 | -.0078 | -.0164 | .0014 | .0007 | 7.683 | -.0032 | .5645 | -.0006 | .0031 | .0038 |
| #2 | -.0070 | -.0183 | .0058 | -.0023 | 7.703 | -.0011 | .5477 | .0012 | -.0007 | .0062 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0243 | .0069 | -.0003 |
| Stddev | .0074 | .0001 | .0010 |
| %RSD | 30.60 | 1.063 | 303.8 |
| #1 | .0296 | .0070 | -.0011 |
| #2 | .0191 | .0069 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.4 | 57536. | 13689. |
| Stddev | 1.6 | 167. | 278. |
| %RSD | .06452 | .29017 | 2.0285 |
| #1 | 2403.3 | 57418. | 13493. |
| #2 | 2405.5 | 57654. | 13886. |



Zoom In Zoom Out

Sample Name: MC21261-10F Acquired: 6/5/2013 13:57:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0088 | -.1137 | -.0041 | .0447 | .2358 | .0604 | .0014 | 137.3 | -.0027 | -.0017 |
| Stddev | .0120 | .0961 | .0430 | .0076 | .0013 | .0057 | .0013 | .1 | .0011 | .0016 |
| %RSD | 136.3 | 84.57 | 1038. | 16.99 | .5448 | 9.356 | 95.11 | .0588 | 40.61 | 92.43 |
| #1 | -.0173 | -.0457 | -.0345 | .0500 | .2367 | .0644 | .0005 | 137.2 | -.0019 | -.0028 |
| #2 | -.0003 | -.1817 | .0262 | .0393 | .2349 | .0564 | .0023 | 137.4 | -.0034 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | -.0247 | -.0434 | 4.895 | 20.21 | 2.411 | .0028 | 40.91 | .0055 | -.0056 |
| Stddev | .0055 | .0008 | .0205 | .029 | .13 | .003 | .0013 | .01 | .0012 | .0082 |
| %RSD | 92.73 | 3.251 | 47.22 | .5994 | .6201 | .1068 | 45.92 | .0341 | 22.52 | 145.4 |
| #1 | -.0020 | -.0252 | -.0289 | 4.874 | 20.12 | 2.409 | .0019 | 40.90 | .0064 | -.0115 |
| #2 | -.0098 | -.0241 | -.0579 | 4.915 | 20.30 | 2.412 | .0038 | 40.92 | .0047 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0132 | -.0722 | .0128 | -.0055 | 7.501 | .0058 | .5501 | -.0084 | -.0272 | .0170 |
| Stddev | .0071 | .0512 | .0127 | .0152 | .002 | .0026 | .0007 | .0029 | .0107 | .0022 |
| %RSD | 53.59 | 70.92 | 99.56 | 277.3 | .0230 | 44.90 | .1346 | 34.28 | 39.54 | 13.20 |
| #1 | .0182 | -.1084 | .0218 | .0053 | 7.503 | .0076 | .5506 | -.0064 | -.0348 | .0154 |
| #2 | .0082 | -.0360 | .0038 | -.0163 | 7.500 | .0039 | .5495 | -.0105 | -.0196 | .0186 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0236 | .0326 | -.0020 |
| Stddev | .0357 | .0029 | .0001 |
| %RSD | 151.6 | 8.887 | 4.010 |
| #1 | .0489 | .0346 | -.0020 |
| #2 | -.0017 | .0305 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.3 | 58221. | 13938. |
| Stddev | 6.8 | 85. | 33. |
| %RSD | .28013 | .14671 | .23473 |
| #1 | 2436.1 | 58281. | 13915. |
| #2 | 2426.5 | 58161. | 13961. |

Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:01:53 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0866 | .0002 | -.0182 | .1383 | .0152 | .0000 | 81.95 | .0012 | .0084 |
| Stddev | .0021 | .0345 | .0009 | .0037 | .0005 | .0002 | .000 | .22 | .0005 | .0007 |
| %RSD | 124.9 | 39.88 | 458.6 | 20.35 | .3863 | 1.022 | 4529. | .2720 | 42.91 | 8.172 |
| #1 | -.0031 | -.0622 | .0008 | -.0209 | .1387 | .0153 | .0002 | 81.79 | .0008 | .0079 |
| #2 | -.0002 | -.1110 | -.0004 | -.0156 | .1380 | .0151 | -.0002 | 82.10 | .0015 | .0089 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0034 | .0784 | 2.965 | 9.714 | 25.89 | .0004 | 23.14 | .0149 | -.0008 |
| Stddev | .0006 | .0011 | .0079 | .052 | .087 | .11 | .0003 | .09 | .0000 | .0013 |
| %RSD | 178.9 | 33.98 | 10.05 | 1.768 | .8947 | .4062 | 63.68 | .3980 | .1403 | 168.0 |
| #1 | .0001 | -.0025 | .0728 | 3.002 | 9.653 | 25.96 | .0002 | 23.07 | .0149 | .0001 |
| #2 | -.0007 | -.0042 | .0840 | 2.928 | 9.775 | 25.82 | .0006 | 23.20 | .0149 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | .0974 | -.0012 | .0036 | 6.985 | -.0014 | .4528 | .0004 | .0091 | .0006 |
| Stddev | .0027 | .0101 | .0010 | .0026 | .006 | .0005 | .0032 | .0001 | .0006 | .0002 |
| %RSD | 26.24 | 10.33 | 85.82 | 72.95 | .0934 | 34.99 | .6964 | 33.58 | 7.075 | 28.77 |
| #1 | -.0122 | .0903 | -.0005 | .0054 | 6.990 | -.0010 | .4506 | .0005 | .0096 | .0008 |
| #2 | -.0084 | .1045 | -.0019 | .0017 | 6.980 | -.0017 | .4551 | .0003 | .0087 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | .0112 | -.0014 |
| Stddev | .0143 | .0005 | .0006 |
| %RSD | 306.8 | 4.055 | 43.69 |
| #1 | .0148 | .0109 | -.0018 |
| #2 | -.0055 | .0115 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.3 | 57911. | 13880. |
| Stddev | 3.3 | 222. | 46. |
| %RSD | .13840 | .38317 | .33276 |
| #1 | 2410.0 | 57754. | 13913. |
| #2 | 2414.7 | 58068. | 13847. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:06:19 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0053 | -.0748 | .0059 | -.0288 | .1359 | .0141 | -.0003 | 83.03 | .0001 | .0060 |
| Stddev | .0011 | .0401 | .0097 | .0067 | .0003 | .0027 | .0010 | .07 | .0000 | .0001 |
| %RSD | 21.49 | 53.63 | 164.5 | 23.22 | .2240 | 19.11 | 296.8 | .0879 | 7.619 | 1.157 |
| #1 | -.0045 | -.0464 | .0128 | -.0335 | .1361 | .0160 | .0004 | 83.08 | .0001 | .0060 |
| #2 | -.0061 | -.1032 | -.0010 | -.0241 | .1357 | .0122 | -.0010 | 82.98 | .0001 | .0059 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0089 | .0472 | 2.876 | 9.716 | 26.60 | -.0002 | 23.95 | .0140 | -.0053 |
| Stddev | .0027 | .0004 | .0023 | .579 | .103 | .15 | .0020 | .11 | .0009 | .0058 |
| %RSD | 62.40 | 4.185 | 4.884 | 20.11 | 1.060 | .5692 | 1168. | .4729 | 6.180 | 109.2 |
| #1 | -.0024 | -.0092 | .0488 | 2.467 | 9.789 | 26.71 | -.0016 | 24.03 | .0147 | -.0094 |
| #2 | -.0062 | -.0087 | .0456 | 3.286 | 9.643 | 26.49 | .0013 | 23.87 | .0134 | -.0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0163 | .0666 | .0003 | -.0065 | 6.931 | .0017 | .4667 | -.0023 | .0047 | .0033 |
| Stddev | .0096 | .0168 | .0029 | .0069 | .012 | .0004 | .0005 | .0049 | .0037 | .0077 |
| %RSD | 58.87 | 25.19 | 1044. | 106.0 | .1712 | 22.43 | .1162 | 216.4 | 77.67 | 234.3 |
| #1 | -.0095 | .0547 | .0023 | -.0113 | 6.939 | .0019 | .4670 | .0012 | .0073 | -.0022 |
| #2 | -.0231 | .0784 | -.0017 | -.0016 | 6.922 | .0014 | .4663 | -.0057 | .0021 | .0087 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0340 | .0431 | -.0021 |
| Stddev | .0844 | .0010 | .0008 |
| %RSD | 248.5 | 2.230 | 36.25 |
| #1 | .0257 | .0424 | -.0027 |
| #2 | -.0936 | .0438 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2431.7 | 57987. | 13951. |
| Stddev | 2.5 | 67. | 129. |
| %RSD | .10403 | .11622 | .92570 |
| #1 | 2429.9 | 57940. | 13859. |
| #2 | 2433.5 | 58035. | 14042. |



Zoom In Zoom Out

Sample Name: MC21261-11F Acquired: 6/5/2013 14:10:37 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0208 | -.0132 | .0191 | .0006 | .1485 | .0117 | -.0003 | 84.57 | -.0022 | .0048 |
| Stddev | .0011 | .2843 | .0298 | .0448 | .0023 | .0000 | .0010 | .24 | .0036 | .0033 |
| %RSD | 5.177 | 2155. | 156.4 | 7090. | 1.543 | .0427 | 323.0 | .2885 | 166.8 | 67.73 |
| #1 | -.0200 | .1878 | -.0020 | -.0311 | .1501 | .0117 | .0004 | 84.75 | -.0047 | .0025 |
| #2 | -.0215 | -.2142 | .0402 | .0323 | .1468 | .0117 | -.0010 | 84.40 | .0004 | .0071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0166 | .0167 | 3.518 | 10.03 | 26.39 | -.0018 | 23.83 | .0155 | -.0019 |
| Stddev | .0006 | .0122 | .0208 | .793 | .42 | .16 | .0014 | .03 | .0007 | .0067 |
| %RSD | 5.520 | 73.38 | 124.2 | 22.54 | 4.189 | .6000 | 79.35 | .1389 | 4.555 | 352.2 |
| #1 | -.0097 | -.0253 | .0020 | 2.957 | 10.32 | 26.50 | -.0027 | 23.86 | .0160 | .0028 |
| #2 | -.0105 | -.0080 | .0314 | 4.078 | 9.729 | 26.28 | -.0008 | 23.81 | .0150 | -.0067 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0183 | -.0507 | .0216 | .0091 | 6.857 | .0050 | .4579 | -.0144 | .0124 | .0110 |
| Stddev | .0128 | .0984 | .0188 | .0092 | .048 | .0000 | .0025 | .0088 | .0033 | .0038 |
| %RSD | 70.22 | 194.1 | 87.36 | 101.0 | .6958 | .6791 | .5510 | 60.79 | 26.85 | 34.65 |
| #1 | -.0274 | -.1202 | .0082 | .0157 | 6.890 | .0050 | .4561 | -.0206 | .0101 | .0083 |
| #2 | -.0092 | .0189 | .0349 | .0026 | 6.823 | .0051 | .4596 | -.0082 | .0148 | .0138 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0182 | .0041 | .0045 |
| Stddev | .0199 | .0016 | .0022 |
| %RSD | 109.6 | 38.83 | 49.91 |
| #1 | -.0041 | .0029 | .0061 |
| #2 | -.0323 | .0052 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2437.6 | 58192. | 13860. |
| Stddev | 14.5 | 107. | 148. |
| %RSD | .59324 | .18446 | 1.0645 |
| #1 | 2427.4 | 58268. | 13756. |
| #2 | 2447.8 | 58116. | 13965. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 14:14:58 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2523 | 9.941 | 2.009 | -.0008 | 1.956 | 1.956 | 1.951 | 9.924 | 2.026 | 2.099 |
| Stddev | .0009 | .035 | .001 | .0014 | .002 | .000 | .002 | .005 | .002 | .000 |
| %RSD | .3531 | .3480 | .0446 | 183.0 | .1129 | .0103 | .0787 | .0540 | .0772 | .0039 |
| #1 | .2529 | 9.966 | 2.008 | .0002 | 1.954 | 1.956 | 1.952 | 9.920 | 2.024 | 2.099 |
| #2 | .2516 | 9.917 | 2.009 | -.0018 | 1.958 | 1.955 | 1.950 | 9.928 | 2.027 | 2.099 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.001 | 2.003 | 9.663 | 9.899 | 9.959 | 2.005 | 2.017 | 9.859 | 1.936 | 1.949 |
| Stddev | .010 | .008 | .018 | .029 | .038 | .007 | .003 | .005 | .000 | .001 |
| %RSD | .4904 | .3890 | .1827 | .2876 | .3822 | .3427 | .1297 | .0558 | .0044 | .0535 |
| #1 | 2.008 | 2.009 | 9.675 | 9.919 | 9.932 | 2.010 | 2.015 | 9.863 | 1.936 | 1.950 |
| #2 | 1.995 | 1.998 | 9.650 | 9.879 | 9.986 | 2.000 | 2.018 | 9.855 | 1.936 | 1.949 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0045 | 1.989 | 1.976 | -.0155 | 1.945 | 1.979 | 1.953 | 1.945 | 1.993 |
| Stddev | .0009 | .0014 | .002 | .003 | .0002 | .003 | .000 | .005 | .001 | .011 |
| %RSD | 51.86 | 30.76 | .1205 | .1297 | 1.160 | .1393 | .0089 | .2783 | .0573 | .5395 |
| #1 | -.0023 | -.0036 | 1.987 | 1.978 | -.0154 | 1.947 | 1.979 | 1.957 | 1.944 | 2.001 |
| #2 | -.0011 | -.0055 | 1.991 | 1.975 | -.0157 | 1.943 | 1.979 | 1.949 | 1.946 | 1.986 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | 1.989 | -.0051 |
| Stddev | .0001 | .003 | .0001 |
| %RSD | .9990 | .1359 | 1.573 |
| #1 | .0051 | 1.991 | -.0051 |
| #2 | .0051 | 1.988 | -.0052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2440.6 | 57854. | 13812. |
| Stddev | 1.8 | 3. | 40. |
| %RSD | .07206 | .00513 | .28717 |
| #1 | 2439.4 | 57856. | 13840. |
| #2 | 2441.9 | 57852. | 13784. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 14:28:55 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0019 | .0016 | .0012 | .0006 | -.0001 | .0001 | -.0063 | -.0002 | .0001 |
| Stddev | .0000 | .0091 | .0001 | .0004 | .0004 | .0002 | .0002 | .0014 | .0003 | .0002 |
| %RSD | 1.594 | 473.2 | 3.749 | 32.03 | 75.83 | 469.8 | 211.0 | 22.69 | 174.4 | 351.2 |
| #1 | -.0008 | -.0084 | .0016 | .0014 | .0003 | .0001 | .0002 | -.0074 | -.0004 | -.0001 |
| #2 | -.0008 | .0045 | .0015 | .0009 | .0009 | -.0002 | .0000 | -.0053 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0014 | -.0052 | .0064 | .0188 | -.0001 | .0002 | -.0070 | -.0001 | -.0004 |
| Stddev | .0004 | .0007 | .0014 | .0281 | .0039 | .0000 | .0000 | .0018 | .0001 | .0000 |
| %RSD | 169.4 | 50.02 | 26.93 | 436.5 | 20.78 | 33.07 | 27.32 | 25.64 | 56.08 | 11.26 |
| #1 | .0000 | -.0009 | -.0062 | .0263 | .0216 | -.0001 | .0001 | -.0083 | -.0001 | -.0003 |
| #2 | -.0005 | -.0020 | -.0042 | -.0134 | .0161 | -.0002 | .0002 | -.0057 | -.0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0067 | .0002 | -.0011 | -.0086 | .0002 | .0000 | -.0001 | -.0003 | .0010 |
| Stddev | .0018 | .0097 | .0005 | .0002 | .0003 | .0002 | .000 | .0002 | .0009 | .0001 |
| %RSD | 1617. | 145.4 | 332.0 | 20.32 | 3.321 | 119.3 | 481.4 | 213.6 | 295.0 | 13.13 |
| #1 | -.0014 | -.0135 | -.0002 | -.0013 | -.0084 | .0004 | -.0001 | -.0002 | -.0009 | .0010 |
| #2 | .0011 | .0002 | .0005 | -.0010 | -.0088 | .0000 | .0000 | .0000 | .0003 | .0009 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0002 | -.0004 | .0001 |
| Stddev | .0091 | .0001 | .0004 |
| %RSD | 4426. | 19.02 | 717.9 |
| #1 | -.0062 | -.0004 | -.0002 |
| #2 | .0067 | -.0003 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.7 | 57927. | 13697. |
| Stddev | 3.0 | 51. | 2. |
| %RSD | .12617 | .08806 | .01454 |
| #1 | 2404.8 | 57891. | 13699. |
| #2 | 2400.5 | 57963. | 13696. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:33:17 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0159 | .0012 | -.0036 | .0540 | .0164 | .0001 | 42.78 | .0003 | .0015 |
| Stddev | .0012 | .0219 | .0025 | .0036 | .0008 | .0003 | .0001 | .37 | .0003 | .0001 |
| %RSD | 67.82 | 138.0 | 209.4 | 99.58 | 1.419 | 2.081 | 94.97 | .8573 | 78.78 | 7.802 |
| #1 | -.0025 | -.0004 | .0030 | -.0011 | .0546 | .0162 | .0001 | 43.04 | .0001 | .0016 |
| #2 | -.0009 | -.0314 | -.0006 | -.0062 | .0535 | .0166 | .0000 | 42.52 | .0005 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0037 | .0185 | 3.629 | 4.071 | 7.961 | .0037 | 10.63 | .0026 | -.0002 |
| Stddev | .0004 | .0017 | .0036 | .061 | .047 | .096 | .0004 | .09 | .0001 | .0004 |
| %RSD | 472.9 | 46.10 | 19.24 | 1.689 | 1.160 | 1.204 | 9.883 | .8069 | 3.007 | 205.5 |
| #1 | -.0004 | -.0049 | .0210 | 3.672 | 4.104 | 8.029 | .0035 | 10.69 | .0026 | -.0004 |
| #2 | .0002 | -.0025 | .0160 | 3.586 | 4.037 | 7.894 | .0040 | 10.57 | .0027 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0245 | .0003 | .0053 | 7.049 | -.0004 | .1961 | -.0007 | .0008 | .0021 |
| Stddev | .0033 | .0024 | .0027 | .0006 | .018 | .0009 | .0014 | .0004 | .0001 | .0006 |
| %RSD | 6571. | 9.658 | 966.3 | 11.58 | .2556 | 211.0 | .7006 | 62.43 | 6.753 | 26.06 |
| #1 | -.0023 | .0228 | .0022 | .0049 | 7.037 | -.0010 | .1970 | -.0010 | .0009 | .0025 |
| #2 | .0024 | .0261 | -.0016 | .0058 | 7.062 | .0002 | .1951 | -.0004 | .0008 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0013 | .0079 | -.0010 |
| Stddev | .0021 | .0001 | .0006 |
| %RSD | 155.3 | 1.814 | 57.49 |
| #1 | -.0028 | .0080 | -.0013 |
| #2 | .0001 | .0078 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.5 | 57787. | 13864. |
| Stddev | 4.1 | 614. | 212. |
| %RSD | .17009 | 1.0630 | 1.5286 |
| #1 | 2388.4 | 57353. | 13715. |
| #2 | 2382.6 | 58221. | 14014. |



Zoom In Zoom Out

Sample Name: MC21261-12F Acquired: 6/5/2013 14:37:44 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | .0056 | .0028 | .0027 | .0556 | .0163 | .0000 | 44.17 | -.0001 | .0008 |
| Stddev | .0013 | .0031 | .0002 | .0093 | .0001 | .0000 | .0005 | 1.05 | .0005 | .0005 |
| %RSD | 36.82 | 55.08 | 6.991 | 339.7 | .1129 | .2093 | 1225. | 2.390 | 482.6 | 57.97 |
| #1 | -.0044 | .0034 | .0030 | -.0038 | .0555 | .0163 | .0004 | 43.42 | .0002 | .0011 |
| #2 | -.0026 | .0078 | .0027 | .0093 | .0556 | .0163 | -.0003 | 44.91 | -.0005 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0080 | .0066 | 3.796 | 4.237 | 7.964 | .0030 | 10.98 | .0029 | -.0007 |
| Stddev | .0007 | .0014 | .0014 | .101 | .013 | .046 | .0001 | .28 | .0009 | .0029 |
| %RSD | 37.12 | 17.38 | 21.62 | 2.666 | .3127 | .5799 | 3.976 | 2.523 | 30.12 | 401.6 |
| #1 | -.0024 | -.0070 | .0076 | 3.724 | 4.246 | 7.931 | .0029 | 10.78 | .0035 | -.0028 |
| #2 | -.0014 | -.0090 | .0056 | 3.867 | 4.228 | 7.997 | .0031 | 11.18 | .0023 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0223 | .0036 | .0018 | 7.108 | .0017 | .2058 | -.0018 | -.0020 | .0033 |
| Stddev | .0128 | .0231 | .0039 | .0035 | .004 | .0012 | .0040 | .0003 | .0064 | .0007 |
| %RSD | 1094. | 103.3 | 110.0 | 193.9 | .0638 | 68.86 | 1.944 | 16.64 | 321.5 | 21.03 |
| #1 | .0079 | -.0060 | .0008 | -.0007 | 7.111 | .0009 | .2030 | -.0020 | .0025 | .0037 |
| #2 | -.0102 | -.0386 | .0064 | .0043 | 7.104 | .0025 | .2086 | -.0016 | -.0065 | .0028 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0210 | .0080 | -.0007 |
| Stddev | .0116 | .0003 | .0008 |
| %RSD | 55.26 | 3.487 | 114.0 |
| #1 | .0292 | .0078 | -.0013 |
| #2 | .0128 | .0082 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2369.9 | 58486. | 13573. |
| Stddev | 2.4 | 147. | 230. |
| %RSD | .10272 | .25131 | 1.6975 |
| #1 | 2368.2 | 58590. | 13736. |
| #2 | 2371.6 | 58382. | 13410. |



Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:42:04 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2204 | 1.756 | .1846 | -.0006 | 4.354 | 2.184 | .1688 | 59.21 | .1893 | 2.535 |
| Stddev | .0001 | .009 | .0088 | .0087 | .004 | .003 | .0008 | .00 | .0008 | .003 |
| %RSD | .0294 | .4945 | 4.785 | 1500. | .0832 | .1191 | .4840 | .0041 | .3971 | .0973 |
| #1 | .2204 | 1.762 | .1784 | -.0067 | 4.351 | 2.186 | .1694 | 59.21 | .1888 | 2.533 |
| #2 | .2205 | 1.750 | .1909 | .0055 | 4.356 | 2.183 | .1682 | 59.21 | .1898 | 2.537 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4509 | 1.096 | .9497 | 45.51 | 47.14 | 5.692 | 4.555 | 47.62 | 1.675 | .2218 |
| Stddev | .0005 | .001 | .0150 | .06 | .13 | .000 | .010 | .12 | .001 | .0034 |
| %RSD | .1103 | .0710 | 1.579 | .1348 | .2722 | .0009 | .2284 | .2618 | .0370 | 1.541 |
| #1 | .4512 | 1.096 | .9603 | 45.46 | 47.05 | 5.692 | 4.548 | 47.53 | 1.674 | .2242 |
| #2 | .4505 | 1.097 | .9391 | 45.55 | 47.24 | 5.692 | 4.563 | 47.71 | 1.675 | .2194 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0001 | .2961 | .4402 | 4.622 | 4.297 | .5220 | 2.187 | .2262 | .4599 |
| Stddev | .0008 | .0011 | .0034 | .0063 | .009 | .004 | .0007 | .006 | .0064 | .0035 |
| %RSD | 20.73 | 1217. | 1.136 | 1.441 | .1962 | .0836 | .1393 | .2978 | 2.829 | .7581 |
| #1 | -.0032 | .0007 | .2937 | .4357 | 4.616 | 4.300 | .5225 | 2.191 | .2217 | .4624 |
| #2 | -.0043 | -.0009 | .2984 | .4447 | 4.629 | 4.295 | .5215 | 2.182 | .2307 | .4574 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0252 | .9063 | -.0073 |
| Stddev | .0242 | .0016 | .0009 |
| %RSD | 96.06 | .1759 | 12.63 |
| #1 | .0424 | .9052 | -.0079 |
| #2 | .0081 | .9075 | -.0066 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2359.1 | 57516. | 13821. |
| Stddev | 1.2 | 129. | 2. |
| %RSD | .05000 | .22398 | .01340 |
| #1 | 2360.0 | 57425. | 13822. |
| #2 | 2358.3 | 57607. | 13819. |

Zoom In Zoom Out

Sample Name: MP21104-PS1 Acquired: 6/5/2013 14:46:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2076 | 1.815 | .1984 | .0126 | 4.350 | 2.148 | .1680 | 59.51 | .1872 | 2.534 |
| Stddev | .0039 | .083 | .0177 | .0085 | .027 | .075 | .0059 | 2.02 | .0013 | .018 |
| %RSD | 1.878 | 4.586 | 8.908 | 67.51 | .6222 | 3.509 | 3.514 | 3.389 | .7120 | .7113 |
| #1 | .2049 | 1.756 | .2109 | .0186 | 4.369 | 2.201 | .1722 | 60.93 | .1882 | 2.546 |
| #2 | .2104 | 1.873 | .1859 | .0066 | 4.331 | 2.094 | .1638 | 58.08 | .1863 | 2.521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4338 | 1.055 | .9042 | 44.74 | 46.75 | 5.560 | 4.543 | 46.98 | 1.682 | .2260 |
| Stddev | .0105 | .040 | .0497 | 1.64 | 1.29 | .204 | .026 | 1.67 | .008 | .0014 |
| %RSD | 2.419 | 3.812 | 5.499 | 3.669 | 2.757 | 3.665 | .5769 | 3.550 | .4499 | .6352 |
| #1 | .4264 | 1.027 | .9393 | 45.90 | 47.67 | 5.416 | 4.562 | 48.16 | 1.688 | .2250 |
| #2 | .4412 | 1.083 | .8690 | 43.58 | 45.84 | 5.704 | 4.525 | 45.80 | 1.677 | .2271 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0040 | -.0088 | .2989 | .4452 | 4.551 | 4.275 | .5228 | 2.173 | .2201 | .4476 |
| Stddev | .0041 | .0191 | .0027 | .0020 | .032 | .031 | .0145 | .078 | .0018 | .0107 |
| %RSD | 104.3 | 217.4 | .8982 | .4521 | .7118 | .7214 | 2.767 | 3.597 | .8083 | 2.382 |
| #1 | .0010 | -.0223 | .2970 | .4466 | 4.574 | 4.297 | .5330 | 2.118 | .2189 | .4400 |
| #2 | .0069 | .0047 | .3008 | .4438 | 4.528 | 4.254 | .5125 | 2.229 | .2214 | .4551 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0503 | .9301 | -.0077 |
| Stddev | .0023 | .0107 | .0020 |
| %RSD | 4.657 | 1.148 | 25.98 |
| #1 | .0486 | .9376 | -.0091 |
| #2 | .0520 | .9225 | -.0063 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2362.5 | 58545. | 13772. |
| Stddev | 13.3 | 1875. | 503. |
| %RSD | .56469 | 3.2033 | 3.6487 |
| #1 | 2353.1 | 59871. | 13417. |
| #2 | 2371.9 | 57219. | 14128. |



Zoom In Zoom Out

Sample Name: MP21097-S1 Acquired: 6/5/2013 14:50:35 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2123 | 2.182 | .5827 | .0096 | .0290 | 2.029 | .5021 | 50.04 | .5563 | .5574 |
| Stddev | .0053 | .090 | .0012 | .0066 | .0029 | .004 | .0020 | .07 | .0029 | .0022 |
| %RSD | 2.487 | 4.122 | .2137 | 68.27 | 9.983 | .1715 | .3903 | .1368 | .5206 | .4019 |
| #1 | .2086 | 2.118 | .5818 | .0142 | .0310 | 2.032 | .5007 | 49.99 | .5583 | .5590 |
| #2 | .2160 | 2.245 | .5836 | .0050 | .0270 | 2.027 | .5035 | 50.09 | .5542 | .5558 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5436 | .5138 | 11.15 | 28.10 | 29.37 | 1.007 | .0041 | 31.39 | .5056 | 1.057 |
| Stddev | .0029 | .0025 | .02 | .05 | .09 | .004 | .0018 | .03 | .0028 | .001 |
| %RSD | .5261 | .4877 | .2017 | .1614 | .2950 | .4393 | 43.68 | .1078 | .5602 | .1199 |
| #1 | .5416 | .5120 | 11.13 | 28.13 | 29.31 | 1.004 | .0054 | 31.42 | .5076 | 1.058 |
| #2 | .5456 | .5156 | 11.16 | 28.07 | 29.43 | 1.010 | .0029 | 31.37 | .5036 | 1.056 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0165 | .5280 | .5211 | 2.816 | .0013 | .6489 | .5177 | .4932 | .5583 |
| Stddev | .0045 | .0082 | .0014 | .0014 | .017 | .0017 | .0006 | .0024 | .0066 | .0019 |
| %RSD | 2040. | 49.69 | .2707 | .2612 | .5842 | 128.4 | .0899 | .4662 | 1.344 | .3375 |
| #1 | -.0034 | -.0223 | .5290 | .5220 | 2.828 | .0025 | .6485 | .5159 | .4979 | .5569 |
| #2 | .0029 | -.0107 | .5270 | .5201 | 2.804 | .0001 | .6493 | .5194 | .4885 | .5596 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0197 | .5765 | -.0006 |
| Stddev | .0247 | .0023 | .0001 |
| %RSD | 125.6 | .4006 | 21.75 |
| #1 | -.0022 | .5782 | -.0007 |
| #2 | -.0371 | .5749 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.7 | 57548. | 13867. |
| Stddev | 3.8 | 196. | 11. |
| %RSD | .15754 | .34019 | .07814 |
| #1 | 2388.0 | 57686. | 13860. |
| #2 | 2393.4 | 57409. | 13875. |



Zoom In Zoom Out

Sample Name: MP21097-S2 Acquired: 6/5/2013 14:54:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2139 | 2.102 | .5805 | .0050 | .0265 | 2.030 | .5035 | 49.82 | .5573 | .5574 |
| Stddev | .0024 | .054 | .0023 | .0002 | .0022 | .001 | .0012 | .16 | .0014 | .0005 |
| %RSD | 1.120 | 2.569 | .3884 | 4.599 | 8.370 | .0354 | .2306 | .3282 | .2496 | .0813 |
| #1 | .2156 | 2.063 | .5789 | .0052 | .0281 | 2.031 | .5043 | 49.94 | .5563 | .5577 |
| #2 | .2122 | 2.140 | .5821 | .0049 | .0250 | 2.030 | .5027 | 49.71 | .5582 | .5571 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5419 | .5115 | 11.08 | 28.12 | 29.40 | .9963 | .0012 | 31.38 | .5064 | 1.054 |
| Stddev | .0054 | .0002 | .02 | .13 | .21 | .0030 | .0003 | .06 | .0015 | .007 |
| %RSD | .9951 | .0455 | .2079 | .4599 | .7268 | .2997 | 20.95 | .1786 | .2904 | .6662 |
| #1 | .5457 | .5117 | 11.09 | 28.03 | 29.55 | .9984 | .0014 | 31.34 | .5054 | 1.049 |
| #2 | .5381 | .5114 | 11.06 | 28.22 | 29.24 | .9942 | .0010 | 31.42 | .5074 | 1.059 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0271 | .5278 | .5273 | 2.800 | .0003 | .6489 | .5131 | .5052 | .5534 |
| Stddev | .0108 | .0123 | .0007 | .0109 | .005 | .0027 | .0008 | .0027 | .0006 | .0005 |
| %RSD | 291.4 | 45.28 | .1379 | 2.076 | .1836 | 1050. | .1158 | .5307 | .1187 | .0939 |
| #1 | .0039 | -.0358 | .5283 | .5196 | 2.796 | .0021 | .6484 | .5150 | .5056 | .5537 |
| #2 | -.0113 | -.0184 | .5273 | .5351 | 2.804 | -.0016 | .6494 | .5112 | .5048 | .5530 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0052 | .5811 | -.0019 |
| Stddev | .0069 | .0020 | .0010 |
| %RSD | 131.4 | .3466 | 50.91 |
| #1 | .0004 | .5797 | -.0012 |
| #2 | .0101 | .5826 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.9 | 58006. | 13817. |
| Stddev | .5 | 105. | 98. |
| %RSD | .01979 | .18076 | .71184 |
| #1 | 2387.5 | 57932. | 13748. |
| #2 | 2388.2 | 58080. | 13887. |



Zoom In Zoom Out

Sample Name: MC21202-14F Acquired: 6/5/2013 14:59:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0514 | .0314 | .0055 | .0234 | .0139 | .0002 | 25.38 | .0003 | .0004 |
| Stddev | .0000 | .0061 | .0006 | .0048 | .0005 | .0005 | .0004 | .04 | .0001 | .0004 |
| %RSD | 1.941 | 11.89 | 2.011 | 88.09 | 2.305 | 3.591 | 209.9 | .1772 | 33.26 | 98.19 |
| #1 | -.0025 | .0557 | .0318 | .0089 | .0230 | .0136 | -.0001 | 25.35 | .0004 | .0001 |
| #2 | -.0024 | .0471 | .0309 | .0021 | .0238 | .0143 | .0005 | 25.42 | .0002 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0053 | 9.477 | 2.483 | 2.778 | .5058 | .0007 | 6.637 | -.0001 | -.0011 |
| Stddev | .0005 | .0012 | .032 | .036 | .011 | .0000 | .0001 | .025 | .0003 | .0009 |
| %RSD | 188.0 | 21.65 | .3342 | 1.466 | .3853 | .0035 | 18.51 | .3849 | 271.6 | 83.29 |
| #1 | -.0006 | -.0061 | 9.454 | 2.508 | 2.786 | .5059 | .0008 | 6.619 | -.0003 | -.0017 |
| #2 | .0001 | -.0045 | 9.499 | 2.457 | 2.771 | .5058 | .0006 | 6.655 | .0001 | -.0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | -.0035 | .0022 | -.0016 | 2.836 | .0001 | .1507 | -.0014 | -.0033 | .0014 |
| Stddev | .0009 | .0063 | .0014 | .0006 | .001 | .0009 | .0015 | .0002 | .0030 | .0028 |
| %RSD | 24.10 | 181.7 | 64.10 | 40.54 | .0205 | 966.9 | 1.004 | 12.86 | 91.19 | 197.0 |
| #1 | .0044 | .0010 | .0012 | -.0020 | 2.836 | -.0005 | .1497 | -.0015 | -.0012 | .0034 |
| #2 | .0031 | -.0079 | .0031 | -.0011 | 2.836 | .0007 | .1518 | -.0013 | -.0054 | -.0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0034 | .0159 | .0001 |
| Stddev | .0133 | .0002 | .0005 |
| %RSD | 394.2 | 1.017 | 862.3 |
| #1 | -.0060 | .0160 | .0004 |
| #2 | .0128 | .0157 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.6 | 58359. | 14012. |
| Stddev | .5 | 197. | 6. |
| %RSD | .02126 | .33687 | .04059 |
| #1 | 2400.3 | 58220. | 14008. |
| #2 | 2401.0 | 58498. | 14016. |

Zoom In Zoom Out

Sample Name: MP21097-SD1 Acquired: 6/5/2013 15:03:27 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 15.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0060 | .0375 | .0432 | .0196 | .0275 | .0142 | -.0010 | 26.14 | -.0013 | -.0019 |
| Stddev | .0021 | .1084 | .0145 | .0099 | .0052 | .0005 | .0007 | .05 | .0016 | .0008 |
| %RSD | 34.98 | 288.6 | 33.59 | 50.55 | 18.93 | 3.191 | 73.10 | .1990 | 119.3 | 40.81 |
| #1 | -.0075 | -.0391 | .0329 | .0267 | .0312 | .0145 | -.0015 | 26.10 | -.0025 | -.0025 |
| #2 | -.0045 | .1142 | .0534 | .0126 | .0238 | .0139 | -.0005 | 26.17 | -.0002 | -.0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0352 | 9.486 | 3.053 | 3.011 | .5163 | .0027 | 6.469 | .0014 | -.0050 |
| Stddev | .0003 | .0005 | .029 | .376 | .270 | .0069 | .0013 | .105 | .0008 | .0085 |
| %RSD | 12.94 | 1.375 | .3006 | 12.33 | 8.964 | 1.346 | 47.97 | 1.622 | 58.74 | 172.5 |
| #1 | -.0028 | -.0348 | 9.466 | 3.319 | 3.202 | .5212 | .0018 | 6.543 | .0020 | -.0110 |
| #2 | -.0023 | -.0355 | 9.506 | 2.787 | 2.821 | .5113 | .0036 | 6.395 | .0008 | .0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | -.0948 | .0006 | .0015 | 2.756 | -.0005 | .1517 | -.0066 | -.0032 | .0118 |
| Stddev | .0072 | .0048 | .0084 | .0080 | .007 | .0025 | .0015 | .0122 | .0080 | .0002 |
| %RSD | 72.20 | 5.056 | 1308. | 538.7 | .2561 | 490.5 | .9737 | 183.8 | 247.6 | 1.477 |
| #1 | .0048 | -.0914 | .0065 | .0071 | 2.751 | .0012 | .1506 | .0020 | -.0089 | .0117 |
| #2 | .0150 | -.0981 | -.0053 | -.0042 | 2.761 | -.0022 | .1527 | -.0153 | .0024 | .0120 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0242 | .0124 | .0011 |
| Stddev | .0078 | .0007 | .0012 |
| %RSD | 32.03 | 5.421 | 113.1 |
| #1 | -.0297 | .0119 | .0002 |
| #2 | -.0188 | .0129 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.6 | 58036. | 13829. |
| Stddev | 6.3 | 31. | 91. |
| %RSD | .26386 | .05412 | .65642 |
| #1 | 2398.2 | 58058. | 13765. |
| #2 | 2407.1 | 58013. | 13894. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:07:47 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2213 | 1.859 | .2097 | .0098 | 4.368 | 2.206 | .1713 | 65.98 | .1860 | 2.521 |
| Stddev | .0063 | .008 | .0027 | .0075 | .006 | .004 | .0004 | .07 | .0005 | .005 |
| %RSD | 2.851 | .4323 | 1.278 | 75.83 | .1342 | .1684 | .2548 | .1078 | .2478 | .1922 |
| #1 | .2168 | 1.853 | .2078 | .0151 | 4.372 | 2.208 | .1716 | 66.03 | .1863 | 2.525 |
| #2 | .2257 | 1.865 | .2116 | .0046 | 4.364 | 2.203 | .1710 | 65.93 | .1857 | 2.518 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4537 | 1.097 | 9.095 | 46.11 | 48.41 | 1.094 | 4.527 | 48.82 | 1.675 | .2227 |
| Stddev | .0028 | .005 | .004 | .15 | .40 | .001 | .001 | .03 | .004 | .0008 |
| %RSD | .6214 | .4351 | .0417 | .3166 | .8171 | .0958 | .0292 | .0623 | .2218 | .3699 |
| #1 | .4517 | 1.094 | 9.097 | 46.21 | 48.69 | 1.093 | 4.526 | 48.84 | 1.677 | .2233 |
| #2 | .4557 | 1.100 | 9.092 | 46.00 | 48.13 | 1.094 | 4.528 | 48.80 | 1.672 | .2221 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0161 | .2945 | .4388 | 2.623 | 4.333 | .5582 | 2.199 | .2262 | .4567 |
| Stddev | .0090 | .0123 | .0016 | .0086 | .018 | .008 | .0001 | .001 | .0002 | .0060 |
| %RSD | 186.6 | 76.58 | .5331 | 1.960 | .6679 | .1874 | .0106 | .0491 | .1010 | 1.308 |
| #1 | -.0111 | -.0248 | .2934 | .4449 | 2.636 | 4.339 | .5582 | 2.200 | .2263 | .4524 |
| #2 | .0015 | -.0074 | .2956 | .4327 | 2.611 | 4.328 | .5583 | 2.198 | .2260 | .4609 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0029 | .9065 | -.0098 |
| Stddev | .0418 | .0005 | .0003 |
| %RSD | 1460. | .0540 | 2.844 |
| #1 | .0267 | .9068 | -.0096 |
| #2 | -.0324 | .9061 | -.0100 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2406.2 | 58178. | 13856. |
| Stddev | 4.5 | 15. | 28. |
| %RSD | .18543 | .02525 | .19851 |
| #1 | 2409.3 | 58168. | 13875. |
| #2 | 2403.0 | 58189. | 13836. |



Zoom In Zoom Out

Sample Name: MP21097-PS1 Acquired: 6/5/2013 15:12:02 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2186 | 1.857 | .2110 | .0094 | 4.389 | 2.196 | .1747 | 66.56 | .1830 | 2.515 |
| Stddev | .0020 | .024 | .0156 | .0201 | .014 | .004 | .0008 | 1.33 | .0003 | .007 |
| %RSD | .8957 | 1.285 | 7.414 | 212.5 | .3160 | .1698 | .4726 | 2.003 | .1751 | .2802 |
| #1 | .2199 | 1.874 | .2221 | .0236 | 4.379 | 2.198 | .1741 | 65.62 | .1828 | 2.510 |
| #2 | .2172 | 1.840 | .1999 | -.0047 | 4.399 | 2.193 | .1752 | 67.50 | .1833 | 2.520 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4494 | 1.078 | 9.121 | 46.71 | 48.54 | 1.119 | 4.525 | 48.55 | 1.690 | .2261 |
| Stddev | .0089 | .009 | .028 | 1.06 | .12 | .001 | .005 | .10 | .003 | .0022 |
| %RSD | 1.971 | .8243 | .3027 | 2.271 | .2516 | .0536 | .1144 | .1970 | .1597 | .9844 |
| #1 | .4557 | 1.084 | 9.101 | 45.96 | 48.45 | 1.119 | 4.522 | 48.48 | 1.688 | .2245 |
| #2 | .4432 | 1.071 | 9.140 | 47.46 | 48.63 | 1.119 | 4.529 | 48.61 | 1.692 | .2277 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0807 | .2963 | .4436 | 2.555 | 4.326 | .5661 | 2.234 | .2181 | .4579 |
| Stddev | .0114 | .0026 | .0017 | .0010 | .006 | .004 | .0015 | .013 | .0110 | .0030 |
| %RSD | 398.1 | 3.166 | .5755 | .2214 | .2230 | .0891 | .2590 | .5888 | 5.060 | .6458 |
| #1 | -.0110 | -.0825 | .2975 | .4429 | 2.551 | 4.324 | .5671 | 2.243 | .2103 | .4600 |
| #2 | .0052 | -.0789 | .2951 | .4442 | 2.559 | 4.329 | .5650 | 2.224 | .2259 | .4558 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0128 | .9198 | -.0106 |
| Stddev | .0129 | .0034 | .0009 |
| %RSD | 100.6 | .3745 | 8.270 |
| #1 | .0220 | .9174 | -.0100 |
| #2 | .0037 | .9223 | -.0112 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2414.0 | 57707. | 13836. |
| Stddev | 3.3 | 128. | 5. |
| %RSD | .13774 | .22148 | .03743 |
| #1 | 2411.7 | 57798. | 13839. |
| #2 | 2416.4 | 57617. | 13832. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 15:16:18 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2568 | 9.868 | 2.048 | -.0013 | 1.965 | 1.960 | 1.926 | 9.923 | 2.075 | 2.144 |
| Stddev | .0013 | .006 | .001 | .0002 | .006 | .003 | .001 | .004 | .008 | .008 |
| %RSD | .5107 | .0596 | .0462 | 15.75 | .3134 | .1627 | .0412 | .0380 | .3642 | .3772 |
| #1 | .2558 | 9.872 | 2.049 | -.0012 | 1.970 | 1.962 | 1.927 | 9.926 | 2.080 | 2.150 |
| #2 | .2577 | 9.864 | 2.047 | -.0015 | 1.961 | 1.958 | 1.926 | 9.920 | 2.070 | 2.138 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.041 | 2.049 | 9.648 | 9.954 | 10.08 | 2.010 | 2.059 | 9.764 | 1.958 | 1.985 |
| Stddev | .020 | .011 | .021 | .005 | .01 | .020 | .006 | .007 | .008 | .009 |
| %RSD | .9830 | .5448 | .2166 | .0520 | .0862 | .9731 | .2857 | .0745 | .4089 | .4569 |
| #1 | 2.027 | 2.041 | 9.662 | 9.958 | 10.07 | 1.997 | 2.064 | 9.769 | 1.964 | 1.992 |
| #2 | 2.055 | 2.057 | 9.633 | 9.950 | 10.08 | 2.024 | 2.055 | 9.759 | 1.952 | 1.979 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0033 | 2.019 | 2.008 | -.0187 | 1.959 | 2.008 | 1.981 | 1.948 | 2.037 |
| Stddev | .0009 | .0053 | .008 | .010 | .0000 | .007 | .003 | .014 | .002 | .018 |
| %RSD | 1278. | 159.7 | .4090 | .4810 | .1639 | .3848 | .1222 | .7286 | .1085 | .9016 |
| #1 | -.0007 | -.0004 | 2.025 | 2.015 | -.0187 | 1.965 | 2.009 | 1.970 | 1.949 | 2.024 |
| #2 | .0006 | .0070 | 2.014 | 2.001 | -.0188 | 1.954 | 2.006 | 1.991 | 1.946 | 2.050 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0050 | 2.040 | -.0053 |
| Stddev | .0000 | .010 | .0003 |
| %RSD | .5090 | .4934 | 5.149 |
| #1 | .0049 | 2.047 | -.0051 |
| #2 | .0050 | 2.033 | -.0055 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.7 | 57083. | 13868. |
| Stddev | 4.5 | 1306. | 15. |
| %RSD | .18607 | 2.2871 | .10570 |
| #1 | 2404.5 | 58006. | 13858. |
| #2 | 2410.9 | 56160. | 13879. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 15:20:30 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0021 | .0015 | .0009 | .0031 | .0007 | F.0007 | .0015 | F.0004 |
| Stddev | .0002 | .0021 | .0014 | .0005 | .0005 | .0001 | .0000 | .0000 | .0001 |
| %RSD | 22.06 | 99.20 | 94.24 | 64.51 | 15.12 | 12.16 | 6.513 | .1982 | 27.56 |
| #1 | -.0013 | .0006 | .0005 | .0012 | .0034 | .0006 | .0007 | .0015 | .0005 |
| #2 | -.0009 | .0036 | .0025 | .0005 | .0027 | .0007 | .0006 | .0015 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0003 | -.0012 | .0007 | .0436 | -.0055 | .0003 | .0025 | -.0010 |
| Stddev | .0001 | .0002 | .0005 | .0007 | .0220 | .0003 | .0000 | .0007 | .0060 |
| %RSD | 17.59 | 77.15 | 38.38 | 101.8 | 50.49 | 5.853 | 5.922 | 28.53 | 594.3 |
| #1 | .0005 | .0001 | -.0009 | .0002 | .0280 | -.0057 | .0002 | .0030 | .0032 |
| #2 | .0004 | .0004 | -.0015 | .0013 | .0592 | -.0053 | .0003 | .0020 | -.0053 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0003 | .0016 | -.0020 | .0006 | -.0010 | -.0080 | .0011 | .0006 |
| Stddev | .0003 | .0000 | .0012 | .0030 | .0011 | .0005 | .0004 | .0000 | .0000 |
| %RSD | 88.16 | 13.59 | 75.83 | 149.7 | 192.9 | 49.44 | 4.676 | 3.690 | 3.506 |
| #1 | .0005 | .0003 | .0024 | .0001 | .0013 | -.0006 | -.0077 | .0011 | .0006 |
| #2 | .0001 | .0002 | .0007 | -.0042 | -.0002 | -.0013 | -.0082 | .0010 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0010 | .0013 | -.0027 | .0001 | .0003 |
| Stddev | .0001 | .0006 | .0000 | .0061 | .0000 | .0003 |
| %RSD | 36.86 | 66.25 | 1.893 | 224.6 | 5.265 | 88.71 |
| #1 | .0002 | .0005 | .0013 | .0016 | .0001 | .0006 |
| #2 | .0004 | .0014 | .0013 | -.0071 | .0001 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.9 | 58063. | 13786. |
| Stddev | 2.5 | 472. | 110. |
| %RSD | .10576 | .81375 | .79878 |
| #1 | 2403.7 | 57729. | 13864. |
| #2 | 2400.1 | 58397. | 13708. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:24:51 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0251 | .2444 | .0040 | .1915 | .2733 | .0004 | 65.11 | .0027 | -.0008 |
| Stddev | .0015 | .0062 | .0018 | .0005 | .0004 | .0001 | .0004 | .09 | .0002 | .0000 |
| %RSD | 63.92 | 24.60 | .7475 | 11.95 | .1924 | .0229 | 123.0 | .1373 | 6.469 | 3.398 |
| #1 | -.0035 | -.0295 | .2431 | .0037 | .1913 | .2733 | .0007 | 65.05 | .0026 | -.0008 |
| #2 | -.0013 | -.0207 | .2457 | .0043 | .1918 | .2732 | .0000 | 65.18 | .0029 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0062 | 52.77 | 17.13 | 8.347 | 1.391 | .0017 | 21.79 | .0009 | -.0008 |
| Stddev | .0022 | .0002 | .14 | .32 | .001 | .005 | .0001 | .05 | .0002 | .0049 |
| %RSD | 216.0 | 2.476 | .2693 | 1.850 | .0130 | .3852 | 6.403 | .2160 | 19.99 | 642.0 |
| #1 | .0005 | -.0061 | 52.67 | 17.36 | 8.348 | 1.387 | .0016 | 21.76 | .0008 | .0027 |
| #2 | -.0026 | -.0063 | 52.87 | 16.91 | 8.347 | 1.395 | .0018 | 21.83 | .0011 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0040 | -.0204 | .0024 | .0011 | 10.79 | .0003 | .5731 | -.0001 | -.0026 | .0015 |
| Stddev | .0081 | .0015 | .0002 | .0004 | .01 | .0008 | .0011 | .0001 | .0018 | .0007 |
| %RSD | 200.7 | 7.512 | 6.618 | 34.17 | .0686 | 312.5 | .1928 | 94.07 | 69.13 | 46.30 |
| #1 | -.0097 | -.0193 | .0025 | .0014 | 10.78 | .0009 | .5723 | .0000 | -.0038 | .0020 |
| #2 | .0017 | -.0215 | .0023 | .0008 | 10.79 | -.0003 | .5738 | -.0002 | -.0013 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0100 | -.0011 |
| Stddev | .0133 | .0002 | .0003 |
| %RSD | 247.1 | 1.584 | 27.51 |
| #1 | -.0148 | .0101 | -.0009 |
| #2 | .0040 | .0099 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.9 | 57876. | 13890. |
| Stddev | 6.1 | 446. | 47. |
| %RSD | .25528 | .77146 | .33499 |
| #1 | 2393.3 | 58191. | 13923. |
| #2 | 2384.6 | 57560. | 13858. |



Zoom In Zoom Out

Sample Name: MC21202-4F Acquired: 6/5/2013 15:29:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | -.0011 | .2527 | .0252 | .2006 | .2748 | .0005 | 67.27 | .0023 | -.0020 |
| Stddev | .0007 | .0041 | .0062 | .0132 | .0044 | .0001 | .0006 | .29 | .0011 | .0013 |
| %RSD | 9.693 | 377.5 | 2.458 | 52.19 | 2.210 | .0248 | 110.9 | .4331 | 47.47 | 68.15 |
| #1 | -.0078 | -.0039 | .2570 | .0345 | .1974 | .2748 | .0009 | 67.48 | .0016 | -.0010 |
| #2 | -.0068 | .0018 | .2483 | .0159 | .2037 | .2749 | .0001 | 67.06 | .0031 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0161 | 54.56 | 17.31 | 8.561 | 1.386 | .0020 | 22.20 | .0022 | -.0005 |
| Stddev | .0079 | .0029 | .32 | .43 | .078 | .015 | .0004 | .12 | .0007 | .0072 |
| %RSD | 294.6 | 17.97 | .5832 | 2.466 | .9060 | 1.111 | 20.54 | .5179 | 32.60 | 1396. |
| #1 | -.0083 | -.0141 | 54.78 | 17.61 | 8.616 | 1.397 | .0023 | 22.28 | .0017 | -.0056 |
| #2 | .0029 | -.0181 | 54.33 | 17.01 | 8.506 | 1.376 | .0017 | 22.12 | .0027 | .0046 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0157 | -.0267 | .0061 | .0005 | 10.82 | .0018 | .5949 | -.0052 | -.0024 | .0070 |
| Stddev | .0097 | .0135 | .0017 | .0090 | .00 | .0001 | .0029 | .0049 | .0104 | .0020 |
| %RSD | 62.13 | 50.48 | 27.94 | 1807. | .0313 | 8.275 | .4914 | 92.76 | 437.3 | 28.87 |
| #1 | -.0226 | -.0362 | .0049 | .0069 | 10.82 | .0017 | .5970 | -.0087 | .0050 | .0056 |
| #2 | -.0088 | -.0172 | .0073 | -.0059 | 10.82 | .0019 | .5929 | -.0018 | -.0098 | .0084 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0288 | .0222 | -.0017 |
| Stddev | .0256 | .0011 | .0024 |
| %RSD | 88.99 | 5.084 | 139.3 |
| #1 | -.0107 | .0214 | .0000 |
| #2 | -.0469 | .0230 | -.0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2378.9 | 58242. | 13831. |
| Stddev | 4.1 | 464. | 36. |
| %RSD | .17347 | .79628 | .26107 |
| #1 | 2381.8 | 57914. | 13857. |
| #2 | 2376.0 | 58570. | 13806. |



Zoom In Zoom Out

Sample Name: MC21202-5F Acquired: 6/5/2013 15:50:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0191 | -.0424 | 1.109 | .0107 | .0159 | .0797 | .0002 | 77.22 | .0116 | .0169 |
| Stddev | .0010 | .0606 | .002 | .0075 | .0001 | .0023 | .0007 | .42 | .0026 | .0009 |
| %RSD | 5.217 | 143.0 | .1926 | 70.31 | .8549 | 2.928 | 271.8 | .5455 | 22.46 | 5.127 |
| #1 | -.0184 | .0005 | 1.107 | .0054 | .0160 | .0781 | .0007 | 76.92 | .0098 | .0176 |
| #2 | -.0198 | -.0852 | 1.110 | .0160 | .0158 | .0814 | -.0002 | 77.52 | .0135 | .0163 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | -.0223 | 8.186 | 6.212 | 3.102 | 2.006 | .0024 | 6.791 | .0159 | -.0087 |
| Stddev | .0025 | .0007 | .087 | .300 | .079 | .011 | .0005 | .145 | .0008 | .0023 |
| %RSD | 27.11 | 3.201 | 1.058 | 4.825 | 2.558 | .5680 | 23.22 | 2.134 | 4.830 | 26.44 |
| #1 | -.0110 | -.0228 | 8.125 | 6.000 | 3.158 | 2.015 | .0027 | 6.689 | .0154 | -.0071 |
| #2 | -.0075 | -.0218 | 8.247 | 6.424 | 3.045 | 1.998 | .0020 | 6.894 | .0165 | -.0103 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0101 | -.0727 | .0017 | .0012 | 5.023 | .0045 | .3216 | -.0044 | -.0087 | .0004 |
| Stddev | .0107 | .0340 | .0080 | .0095 | .000 | .0041 | .0034 | .0008 | .0091 | .0001 |
| %RSD | 105.5 | 46.74 | 480.3 | 797.4 | .0017 | 92.51 | 1.067 | 17.45 | 105.4 | 17.92 |
| #1 | -.0026 | -.0968 | -.0040 | -.0055 | 5.023 | .0015 | .3192 | -.0039 | -.0022 | .0003 |
| #2 | -.0177 | -.0487 | .0073 | .0079 | 5.023 | .0074 | .3240 | -.0050 | -.0151 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0299 | .0284 | .0018 |
| Stddev | .0219 | .0003 | .0028 |
| %RSD | 73.05 | .8876 | 152.9 |
| #1 | .0454 | .0282 | .0038 |
| #2 | .0145 | .0286 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2409.1 | 58598. | 13843. |
| Stddev | .5 | 66. | 187. |
| %RSD | .02090 | .11197 | 1.3534 |
| #1 | 2408.8 | 58552. | 13976. |
| #2 | 2409.5 | 58644. | 13711. |

Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:54:48 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0142 | .0354 | -.0018 | .1862 | .0107 | .0002 | 106.3 | .0007 | .0018 |
| Stddev | .0008 | .0026 | .0003 | .0013 | .0001 | .0003 | .0000 | .3 | .0001 | .0002 |
| %RSD | 38.11 | 18.34 | .7987 | 75.65 | .0496 | 2.732 | 10.53 | .3253 | 15.71 | 9.281 |
| #1 | -.0025 | -.0160 | .0352 | -.0008 | .1862 | .0105 | .0002 | 106.5 | .0006 | .0019 |
| #2 | -.0014 | -.0123 | .0356 | -.0027 | .1863 | .0109 | .0002 | 106.0 | .0008 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0023 | .4266 | 4.823 | 14.07 | 8.856 | .0014 | 27.29 | .0152 | -.0012 |
| Stddev | .0004 | .0000 | .0037 | .089 | .01 | .056 | .0002 | .05 | .0000 | .0005 |
| %RSD | 93.40 | .4328 | .8726 | 1.848 | .0489 | .6374 | 15.66 | .1786 | .2015 | 40.28 |
| #1 | -.0001 | -.0023 | .4240 | 4.760 | 14.07 | 8.816 | .0013 | 27.33 | .0152 | -.0009 |
| #2 | -.0007 | -.0023 | .4292 | 4.886 | 14.08 | 8.896 | .0016 | 27.26 | .0152 | -.0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0074 | .0237 | .0016 | .0017 | 9.969 | -.0008 | .5769 | .0001 | .0027 | .0000 |
| Stddev | .0029 | .0023 | .0007 | .0016 | .015 | .0003 | .0019 | .0000 | .0001 | .0011 |
| %RSD | 39.03 | 9.737 | 47.07 | 91.63 | .1510 | 31.48 | .3207 | 29.03 | 2.281 | 3452. |
| #1 | -.0054 | .0253 | .0010 | .0006 | 9.958 | -.0010 | .5782 | .0001 | .0026 | .0008 |
| #2 | -.0095 | .0221 | .0021 | .0029 | 9.980 | -.0006 | .5756 | .0001 | .0027 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0028 | .0223 | -.0014 |
| Stddev | .0108 | .0001 | .0003 |
| %RSD | 389.3 | .6403 | 17.58 |
| #1 | .0104 | .0222 | -.0012 |
| #2 | -.0049 | .0224 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.2 | 57915. | 13813. |
| Stddev | 5.9 | 238. | 32. |
| %RSD | .24670 | .41024 | .23396 |
| #1 | 2381.0 | 58083. | 13790. |
| #2 | 2389.3 | 57747. | 13836. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 15:59:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0035 | -.0623 | .0368 | -.0011 | .1870 | .0115 | -.0003 | 107.1 | .0006 | .0009 |
| Stddev | .0006 | .0157 | .0015 | .0164 | .0005 | .0009 | .0002 | .2 | .0001 | .0001 |
| %RSD | 18.36 | 25.14 | 3.966 | 1474. | .2798 | 8.201 | 60.16 | .2210 | 13.24 | 12.34 |
| #1 | -.0040 | -.0512 | .0358 | -.0127 | .1867 | .0109 | -.0002 | 107.3 | .0007 | .0008 |
| #2 | -.0031 | -.0733 | .0379 | .0105 | .1874 | .0122 | -.0004 | 106.9 | .0006 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0073 | .4216 | 5.028 | 14.21 | 9.030 | .0019 | 27.26 | .0161 | -.0006 |
| Stddev | .0025 | .0015 | .0123 | .097 | .00 | .035 | .0003 | .07 | .0002 | .0001 |
| %RSD | 1035. | 20.41 | 2.917 | 1.924 | .0097 | .3896 | 14.35 | .2600 | 1.551 | 10.53 |
| #1 | .0020 | -.0062 | .4303 | 5.096 | 14.21 | 9.005 | .0017 | 27.31 | .0162 | -.0007 |
| #2 | -.0015 | -.0083 | .4129 | 4.960 | 14.21 | 9.055 | .0021 | 27.21 | .0159 | -.0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0150 | .0052 | -.0014 | 9.925 | -.0001 | .5836 | .0008 | .0017 | .0026 |
| Stddev | .0033 | .0128 | .0027 | .0043 | .000 | .0000 | .0010 | .0005 | .0007 | .0000 |
| %RSD | 101.8 | 84.98 | 52.28 | 305.5 | .0032 | 1.758 | .1659 | 62.27 | 38.82 | .3121 |
| #1 | -.0009 | .0060 | .0071 | -.0044 | 9.925 | -.0001 | .5843 | .0012 | .0012 | .0026 |
| #2 | -.0056 | .0240 | .0033 | .0016 | 9.925 | -.0001 | .5829 | .0005 | .0022 | .0026 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0070 | .0241 | -.0022 |
| Stddev | .0012 | .0002 | .0004 |
| %RSD | 17.57 | .8217 | 16.33 |
| #1 | .0061 | .0239 | -.0025 |
| #2 | .0079 | .0242 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.1 | 58393. | 13959. |
| Stddev | 3.2 | 238. | 107. |
| %RSD | .13181 | .40775 | .76469 |
| #1 | 2388.9 | 58562. | 13884. |
| #2 | 2393.3 | 58225. | 14035. |



Zoom In Zoom Out

Sample Name: MC21202-7F Acquired: 6/5/2013 16:03:31 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0169 | .0285 | .0469 | .0093 | .1978 | .0128 | .0011 | 114.0 | .0001 | .0009 |
| Stddev | .0034 | .0100 | .0208 | .0089 | .0143 | .0040 | .0018 | .2 | .0000 | .0016 |
| %RSD | 19.98 | 35.08 | 44.30 | 95.80 | 7.237 | 31.46 | 167.6 | .1821 | 34.17 | 187.9 |
| #1 | -.0193 | .0356 | .0616 | .0156 | .2079 | .0099 | -.0002 | 113.8 | .0001 | .0020 |
| #2 | -.0145 | .0214 | .0322 | .0030 | .1876 | .0156 | .0024 | 114.1 | .0002 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | -.0383 | .3812 | 5.799 | 14.67 | 9.238 | -.0004 | 28.75 | .0166 | -.0062 |
| Stddev | .0005 | .0133 | .0009 | .252 | .36 | .004 | .0006 | .13 | .0018 | .0092 |
| %RSD | 12.18 | 34.74 | .2308 | 4.341 | 2.422 | .0424 | 162.5 | .4450 | 11.08 | 149.5 |
| #1 | -.0041 | -.0477 | .3806 | 5.977 | 14.92 | 9.235 | .0001 | 28.85 | .0179 | -.0127 |
| #2 | -.0049 | -.0289 | .3818 | 5.621 | 14.42 | 9.240 | -.0008 | 28.66 | .0153 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0291 | -.0193 | .0163 | .0080 | 10.07 | .0088 | .6075 | -.0004 | -.0187 | .0108 |
| Stddev | .0380 | .1044 | .0087 | .0099 | .06 | .0031 | .0017 | .0011 | .0075 | .0101 |
| %RSD | 130.6 | 541.5 | 53.76 | 123.4 | .5663 | 35.53 | .2848 | 267.1 | 40.03 | 93.64 |
| #1 | -.0560 | .0545 | .0101 | .0150 | 10.03 | .0110 | .6087 | .0004 | -.0134 | .0179 |
| #2 | -.0022 | -.0931 | .0224 | .0010 | 10.11 | .0066 | .6063 | -.0012 | -.0239 | .0036 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0313 | .0591 | .0001 |
| Stddev | .0021 | .0007 | .0020 |
| %RSD | 6.583 | 1.220 | 1527. |
| #1 | -.0298 | .0586 | -.0013 |
| #2 | -.0327 | .0596 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.2 | 57965. | 13817. |
| Stddev | 9.6 | 49. | 4. |
| %RSD | .40190 | .08419 | .03171 |
| #1 | 2395.0 | 58000. | 13820. |
| #2 | 2381.4 | 57931. | 13814. |



Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:07:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0094 | .4455 | .0022 | .1287 | .0391 | .0002 | 53.03 | .0053 | -.0003 |
| Stddev | .0003 | .0051 | .0046 | .0018 | .0011 | .0013 | .0001 | .06 | .0006 | .0001 |
| %RSD | 9.113 | 54.72 | 1.030 | 82.17 | .8188 | 3.273 | 47.34 | .1046 | 10.70 | 29.55 |
| #1 | -.0041 | -.0058 | .4423 | .0034 | .1294 | .0382 | .0002 | 52.99 | .0057 | -.0003 |
| #2 | -.0036 | -.0130 | .4487 | .0009 | .1279 | .0400 | .0001 | 53.07 | .0049 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0047 | 27.09 | 4.448 | 7.324 | 3.926 | -.0001 | 27.39 | .0020 | -.0022 |
| Stddev | .0032 | .0004 | .04 | .051 | .019 | .010 | .0005 | .00 | .0003 | .0019 |
| %RSD | 296.5 | 9.499 | .1418 | 1.136 | .2578 | .2587 | 617.9 | .0107 | 14.38 | 83.11 |
| #1 | .0012 | -.0044 | 27.11 | 4.413 | 7.337 | 3.919 | -.0004 | 27.39 | .0018 | -.0009 |
| #2 | -.0034 | -.0050 | 27.06 | 4.484 | 7.311 | 3.933 | .0003 | 27.39 | .0022 | -.0035 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0107 | .0023 | .0024 | 11.17 | .0007 | .2322 | .0017 | .0005 | .0024 |
| Stddev | .0017 | .0039 | .0005 | .0011 | .00 | .0008 | .0001 | .0002 | .0007 | .0009 |
| %RSD | 77.09 | 36.46 | 19.81 | 44.15 | .0344 | 110.6 | .0219 | 11.73 | 135.9 | 36.40 |
| #1 | -.0034 | .0134 | .0026 | .0017 | 11.17 | .0002 | .2322 | .0016 | .0010 | .0018 |
| #2 | -.0010 | .0079 | .0020 | .0032 | 11.17 | .0013 | .2322 | .0019 | .0000 | .0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0083 | .0069 | -.0022 |
| Stddev | .0022 | .0005 | .0004 |
| %RSD | 26.64 | 7.002 | 19.93 |
| #1 | .0098 | .0065 | -.0025 |
| #2 | .0067 | .0072 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.5 | 57801. | 13811. |
| Stddev | 1.2 | 320. | 55. |
| %RSD | .04818 | .55289 | .39894 |
| #1 | 2385.7 | 57575. | 13850. |
| #2 | 2387.4 | 58027. | 13772. |

Zoom In Zoom Out

Sample Name: MC21202-9F Acquired: 6/5/2013 16:12:12 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0134 | .0365 | .4423 | -.0051 | .1303 | .0372 | .0007 | 54.47 | .0029 | -.0018 |
| Stddev | .0017 | .0142 | .0107 | .0281 | .0022 | .0001 | .0005 | .04 | .0020 | .0011 |
| %RSD | 12.84 | 38.93 | 2.421 | 554.8 | 1.716 | .1477 | 63.07 | .0683 | 67.85 | 60.39 |
| #1 | -.0146 | .0264 | .4498 | -.0250 | .1319 | .0373 | .0004 | 54.45 | .0043 | -.0011 |
| #2 | -.0122 | .0465 | .4347 | .0148 | .1287 | .0372 | .0011 | 54.50 | .0015 | -.0026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0229 | 27.64 | 4.501 | 7.417 | 3.948 | .0000 | 27.98 | .0019 | -.0040 |
| Stddev | .0036 | .0023 | .07 | .219 | .053 | .007 | .0007 | .04 | .0015 | .0135 |
| %RSD | 155.8 | 10.14 | .2427 | 4.858 | .7155 | .1910 | 3286. | .1328 | 79.14 | 335.8 |
| #1 | .0002 | -.0212 | 27.59 | 4.655 | 7.379 | 3.942 | -.0005 | 27.95 | .0029 | .0055 |
| #2 | -.0049 | -.0245 | 27.68 | 4.346 | 7.454 | 3.953 | .0005 | 28.00 | .0008 | -.0135 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0033 | -.0359 | .0094 | .0057 | 11.08 | .0037 | .2299 | -.0032 | -.0016 | .0080 |
| Stddev | .0143 | .0591 | .0071 | .0068 | .01 | .0026 | .0024 | .0036 | .0095 | .0005 |
| %RSD | 438.0 | 164.6 | 76.23 | 118.8 | .0810 | 70.71 | 1.024 | 114.3 | 577.2 | 6.111 |
| #1 | -.0068 | .0059 | .0144 | .0106 | 11.07 | .0056 | .2282 | -.0057 | -.0083 | .0083 |
| #2 | .0134 | -.0777 | .0043 | .0009 | 11.09 | .0019 | .2315 | -.0006 | .0051 | .0076 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0181 | .0126 | .0006 |
| Stddev | .0656 | .0007 | .0002 |
| %RSD | 362.4 | 5.360 | 42.32 |
| #1 | -.0283 | .0131 | .0008 |
| #2 | .0645 | .0122 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.9 | 58301. | 13935. |
| Stddev | 9.0 | 274. | 180. |
| %RSD | .37764 | .47002 | 1.2887 |
| #1 | 2402.3 | 58495. | 13808. |
| #2 | 2389.5 | 58107. | 14061. |



Zoom In Zoom Out

Sample Name: MC21202-10F Acquired: 6/5/2013 16:16:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0017 | .0004 | .0023 | .0074 | .0017 | -.0001 | 6.520 | -.0003 | -.0001 |
| Stddev | .0016 | .0102 | .0045 | .0016 | .0004 | .0001 | .0002 | .051 | .0001 | .0004 |
| %RSD | 79.85 | 587.3 | 1272. | 70.32 | 5.590 | 5.386 | 147.0 | .7851 | 44.15 | 381.3 |
| #1 | -.0031 | .0090 | -.0028 | .0012 | .0077 | .0017 | .0000 | 6.484 | -.0002 | -.0004 |
| #2 | -.0008 | -.0055 | .0036 | .0034 | .0071 | .0018 | -.0003 | 6.557 | -.0003 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0066 | .0193 | .8912 | .5959 | .0101 | .0000 | 23.81 | -.0002 | -.0012 |
| Stddev | .0002 | .0019 | .0032 | .0364 | .0064 | .0001 | .0002 | .02 | .0007 | .0005 |
| %RSD | 8.522 | 28.27 | 16.54 | 4.089 | 1.069 | 1.101 | 1124. | .0796 | 405.8 | 45.20 |
| #1 | -.0024 | -.0080 | .0171 | .8654 | .6004 | .0100 | -.0001 | 23.80 | -.0006 | -.0008 |
| #2 | -.0027 | -.0053 | .0216 | .9170 | .5914 | .0102 | .0002 | 23.82 | .0003 | -.0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | -.0133 | .0017 | -.0027 | 3.855 | .0010 | .0430 | -.0003 | -.0035 | .0016 |
| Stddev | .0060 | .0018 | .0000 | .0004 | .003 | .0019 | .0002 | .0004 | .0004 | .0005 |
| %RSD | 246.6 | 13.48 | 1.655 | 13.92 | .0692 | 190.5 | .4388 | 123.7 | 11.83 | 31.92 |
| #1 | -.0018 | -.0120 | .0017 | -.0024 | 3.857 | -.0003 | .0428 | .0000 | -.0032 | .0013 |
| #2 | .0067 | -.0146 | .0017 | -.0030 | 3.853 | .0023 | .0431 | -.0006 | -.0037 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0041 | .0640 | -.0007 |
| Stddev | .0018 | .0000 | .0001 |
| %RSD | 42.92 | .0306 | 18.59 |
| #1 | -.0053 | .0640 | -.0007 |
| #2 | -.0029 | .0640 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2396.6 | 58312. | 13834. |
| Stddev | 3.1 | 245. | 73. |
| %RSD | .13030 | .41931 | .52657 |
| #1 | 2394.4 | 58484. | 13886. |
| #2 | 2398.8 | 58139. | 13783. |





Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:20:52 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0363 | 1.161 | -.0027 | .2058 | .0437 | -.0002 | 76.37 | .0133 | .0158 |
| Stddev | .0005 | .0065 | .003 | .0040 | .0003 | .0007 | .0001 | .21 | .0001 | .0002 |
| %RSD | 41.11 | 17.93 | .2238 | 149.5 | .1226 | 1.566 | 70.22 | .2747 | .4496 | 1.578 |
| #1 | -.0017 | -.0317 | 1.159 | -.0055 | .2056 | .0433 | -.0001 | 76.22 | .0133 | .0160 |
| #2 | -.0009 | -.0409 | 1.163 | .0002 | .2060 | .0442 | -.0002 | 76.52 | .0133 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0036 | 29.26 | 8.277 | 12.15 | 9.889 | .0008 | 28.55 | .0053 | -.0009 |
| Stddev | .0007 | .0002 | .06 | .013 | .17 | .129 | .0001 | .03 | .0003 | .0012 |
| %RSD | 177.2 | 6.198 | .2151 | .1596 | 1.429 | 1.306 | 12.57 | .1154 | 5.512 | 136.8 |
| #1 | .0001 | -.0038 | 29.22 | 8.267 | 12.03 | 9.980 | .0007 | 28.53 | .0055 | .0000 |
| #2 | -.0009 | -.0035 | 29.31 | 8.286 | 12.28 | 9.798 | .0008 | 28.58 | .0051 | -.0017 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0087 | .0312 | .0005 | .0027 | 13.27 | -.0004 | .9736 | .0006 | .0038 | .0015 |
| Stddev | .0015 | .0094 | .0004 | .0002 | .01 | .0004 | .0007 | .0016 | .0027 | .0008 |
| %RSD | 16.94 | 30.18 | 79.13 | 7.526 | .0503 | 87.42 | .0719 | 271.2 | 71.30 | 52.87 |
| #1 | -.0097 | .0378 | .0002 | .0029 | 13.26 | -.0002 | .9731 | .0017 | .0056 | .0010 |
| #2 | -.0076 | .0245 | .0008 | .0026 | 13.27 | -.0007 | .9741 | -.0005 | .0019 | .0021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0225 | .0089 | -.0020 |
| Stddev | .0024 | .0000 | .0003 |
| %RSD | 10.82 | .1185 | 14.09 |
| #1 | .0208 | .0089 | -.0018 |
| #2 | .0243 | .0089 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.4 | 57827. | 13958. |
| Stddev | 5.0 | 198. | 144. |
| %RSD | .20899 | .34198 | 1.0322 |
| #1 | 2383.9 | 57967. | 14059. |
| #2 | 2376.9 | 57688. | 13856. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 16:25:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2560 | 9.781 | 2.060 | .0007 | 1.959 | 1.947 | 1.895 | 9.819 | 2.099 | 2.158 |
| Stddev | .0003 | .000 | .003 | .0019 | .001 | .001 | .002 | .013 | .003 | .002 |
| %RSD | .1348 | .0035 | .1207 | 271.7 | .0550 | .0735 | .1092 | .1299 | .1558 | .0695 |
| #1 | .2557 | 9.781 | 2.062 | .0020 | 1.958 | 1.948 | 1.896 | 9.810 | 2.101 | 2.159 |
| #2 | .2562 | 9.780 | 2.058 | -.0006 | 1.960 | 1.946 | 1.893 | 9.828 | 2.097 | 2.157 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.009 | 2.038 | 9.555 | 9.880 | 10.11 | 1.963 | 2.069 | 9.655 | 1.961 | 1.998 |
| Stddev | .003 | .002 | .007 | .018 | .02 | .004 | .002 | .005 | .000 | .002 |
| %RSD | .1471 | .0741 | .0716 | .1873 | .2252 | .1816 | .0880 | .0551 | .0020 | .0922 |
| #1 | 2.006 | 2.037 | 9.550 | 9.867 | 10.13 | 1.960 | 2.068 | 9.659 | 1.961 | 1.999 |
| #2 | 2.011 | 2.039 | 9.560 | 9.893 | 10.10 | 1.965 | 2.071 | 9.651 | 1.961 | 1.997 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0011 | 2.027 | 2.017 | .0043 | 1.947 | 2.014 | 1.946 | 1.931 | 2.012 |
| Stddev | .0015 | .0039 | .000 | .003 | .0007 | .002 | .001 | .004 | .002 | .003 |
| %RSD | 175.4 | 352.8 | .0041 | .1709 | 16.79 | .1063 | .0500 | .2184 | .0943 | .1672 |
| #1 | -.0002 | -.0039 | 2.027 | 2.014 | .0048 | 1.945 | 2.015 | 1.943 | 1.930 | 2.010 |
| #2 | .0019 | .0017 | 2.027 | 2.019 | .0038 | 1.948 | 2.013 | 1.949 | 1.933 | 2.014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0098 | 2.056 | -.0053 |
| Stddev | .0014 | .001 | .0004 |
| %RSD | 14.69 | .0289 | 8.439 |
| #1 | .0108 | 2.056 | -.0049 |
| #2 | .0088 | 2.055 | -.0056 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.0 | 57667. | 13853. |
| Stddev | 4.9 | 68. | 16. |
| %RSD | .20391 | .11843 | .11274 |
| #1 | 2381.6 | 57715. | 13842. |
| #2 | 2388.5 | 57619. | 13864. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 16:29:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0043 | .0014 | .0019 | .0022 | .0007 | F.0006 | .0143 | .0002 |
| Stddev | .0007 | .0068 | .0005 | .0015 | .0003 | .0002 | .0000 | .0002 | .0002 |
| %RSD | 62.38 | 160.2 | 35.13 | 76.39 | 15.72 | 25.47 | .1128 | 1.247 | 154.4 |
| #1 | -.0007 | .0091 | .0010 | .0009 | .0025 | .0009 | .0006 | .0144 | .0003 |
| #2 | -.0017 | -.0006 | .0017 | .0029 | .0020 | .0006 | .0006 | .0142 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0004 | -.0018 | .0013 | .0196 | .0024 | .0004 | .0021 | -.0047 |
| Stddev | .0001 | .0004 | .0010 | .0003 | .0326 | .0394 | .0001 | .0006 | .0049 |
| %RSD | 44.44 | 81.58 | 55.42 | 23.67 | 166.7 | 1627. | 13.29 | 28.92 | 105.3 |
| #1 | .0003 | .0002 | -.0026 | .0011 | .0426 | .0303 | .0004 | .0025 | -.0012 |
| #2 | .0002 | .0007 | -.0011 | .0015 | -.0035 | -.0255 | .0004 | .0017 | -.0082 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0002 | -.0050 | .0012 | .0005 | -.0064 | .0008 | .0006 |
| Stddev | .0000 | .0007 | .0019 | .0050 | .0004 | .0017 | .0002 | .0005 | .0001 |
| %RSD | 9.161 | 81.12 | 804.1 | 101.5 | 37.24 | 318.5 | 3.128 | 64.01 | 17.87 |
| #1 | .0003 | .0004 | -.0011 | -.0014 | .0009 | -.0007 | -.0065 | .0011 | .0005 |
| #2 | .0003 | .0014 | .0016 | -.0085 | .0015 | .0017 | -.0063 | .0004 | .0006 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | -.0001 | .0000 | .0013 | -.0002 | .0000 | .0000 |
| Stddev | .0002 | .001 | .0010 | .0032 | .0002 | .0002 |
| %RSD | 154.4 | 2197. | 77.56 | 1448. | 10150. | 504.2 |
| #1 | -.0002 | .0004 | .0006 | -.0025 | .0002 | .0002 |
| #2 | .0000 | -.0005 | .0020 | .0020 | -.0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.0 | 58347. | 13819. |
| Stddev | 3.6 | 80. | 250. |
| %RSD | .14811 | .13712 | 1.8061 |
| #1 | 2403.5 | 58404. | 13996. |
| #2 | 2398.5 | 58291. | 13643. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:33:49 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | .0048 | 1.139 | .0004 | .2058 | .0430 | .0004 | 76.03 | .0131 | .0155 |
| Stddev | .0005 | .0203 | .001 | .0016 | .0010 | .0019 | .0004 | 1.87 | .0005 | .0001 |
| %RSD | 7.379 | 418.9 | .0417 | 425.6 | .4625 | 4.524 | 89.60 | 2.462 | 4.103 | .6979 |
| #1 | -.0064 | -.0095 | 1.139 | -.0008 | .2051 | .0416 | .0002 | 74.70 | .0134 | .0154 |
| #2 | -.0058 | .0192 | 1.139 | .0015 | .2064 | .0443 | .0007 | 77.35 | .0127 | .0155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0079 | 30.04 | 8.428 | 12.22 | 9.683 | .0034 | 28.31 | .0057 | -.0010 |
| Stddev | .0008 | .0017 | .96 | .385 | .13 | .088 | .0000 | .64 | .0015 | .0044 |
| %RSD | 33.05 | 21.49 | 3.208 | 4.564 | 1.087 | .9098 | 1.146 | 2.270 | 27.09 | 453.0 |
| #1 | -.0030 | -.0091 | 29.35 | 8.156 | 12.12 | 9.621 | .0034 | 27.85 | .0046 | -.0041 |
| #2 | -.0018 | -.0067 | 30.72 | 8.700 | 12.31 | 9.745 | .0034 | 28.76 | .0068 | .0021 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0086 | .0028 | -.0002 | 12.92 | .0150 | .9695 | .0031 | .0031 | .0053 |
| Stddev | .0053 | .0110 | .0034 | .0031 | .01 | .0007 | .0260 | .0058 | .0046 | .0017 |
| %RSD | 473.3 | 127.6 | 122.2 | 1403. | .0826 | 4.820 | 2.684 | 186.7 | 147.8 | 31.61 |
| #1 | -.0026 | .0008 | .0052 | .0020 | 12.91 | .0155 | .9511 | .0072 | -.0001 | .0041 |
| #2 | .0049 | .0164 | .0004 | -.0025 | 12.92 | .0145 | .9879 | -.0010 | .0064 | .0065 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0080 | .0090 | -.0013 |
| Stddev | .0007 | .0010 | .0004 |
| %RSD | 8.955 | 11.53 | 32.80 |
| #1 | .0075 | .0083 | -.0010 |
| #2 | .0085 | .0097 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.2 | 58555. | 13787. |
| Stddev | 5.9 | 65. | 321. |
| %RSD | .24556 | .11068 | 2.3284 |
| #1 | 2395.4 | 58601. | 14014. |
| #2 | 2387.1 | 58509. | 13560. |



Zoom In Zoom Out

Sample Name: MC21202-11F Acquired: 6/5/2013 16:38:08 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0122 | -.0264 | 1.166 | .0118 | .2115 | .0451 | .0006 | 77.75 | .0130 | .0161 |
| Stddev | .0074 | .0224 | .001 | .0016 | .0040 | .0008 | .0008 | .10 | .0006 | .0008 |
| %RSD | 60.93 | 84.97 | .0823 | 13.90 | 1.871 | 1.691 | 123.5 | .1261 | 4.703 | 4.980 |
| #1 | -.0175 | -.0105 | 1.166 | .0107 | .2087 | .0445 | .0001 | 77.82 | .0126 | .0155 |
| #2 | -.0070 | -.0422 | 1.167 | .0130 | .2143 | .0456 | .0011 | 77.68 | .0135 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0246 | 30.34 | 8.469 | 12.52 | 9.948 | .0034 | 29.46 | .0058 | -.0005 |
| Stddev | .0016 | .0028 | .10 | .117 | .33 | .013 | .0002 | .28 | .0018 | .0019 |
| %RSD | 55.04 | 11.34 | .3180 | 1.379 | 2.668 | .1310 | 4.454 | .9494 | 31.80 | 402.4 |
| #1 | -.0017 | -.0226 | 30.27 | 8.552 | 12.76 | 9.957 | .0033 | 29.26 | .0071 | .0009 |
| #2 | -.0039 | -.0266 | 30.40 | 8.387 | 12.28 | 9.938 | .0035 | 29.66 | .0045 | -.0018 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0257 | .0113 | -.0072 | 13.21 | -.0033 | .9852 | -.0023 | -.0033 | .0112 |
| Stddev | .0030 | .0166 | .0101 | .0002 | .04 | .0040 | .0031 | .0034 | .0143 | .0081 |
| %RSD | 319.3 | 64.84 | 88.98 | 2.308 | .2681 | 121.4 | .3186 | 147.7 | 432.9 | 72.08 |
| #1 | .0012 | -.0374 | .0184 | -.0071 | 13.24 | -.0005 | .9874 | -.0047 | .0068 | .0055 |
| #2 | -.0031 | -.0139 | .0042 | -.0073 | 13.19 | -.0061 | .9830 | .0001 | -.0134 | .0169 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0453 | .0112 | -.0007 |
| Stddev | .0614 | .0002 | .0017 |
| %RSD | 135.6 | 1.981 | 246.8 |
| #1 | .0019 | .0114 | .0005 |
| #2 | .0887 | .0111 | -.0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.0 | 58055. | 13627. |
| Stddev | 2.1 | 34. | 206. |
| %RSD | .08975 | .05919 | 1.5085 |
| #1 | 2369.5 | 58030. | 13481. |
| #2 | 2372.5 | 58079. | 13772. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:42:28 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0034 | 1.026 | .0031 | .1369 | .0948 | .0001 | 46.22 | .0109 | .0176 |
| Stddev | .0001 | .0260 | .002 | .0031 | .0013 | .0006 | .0001 | .13 | .0003 | .0002 |
| %RSD | 4.186 | 764.7 | .1599 | 102.0 | .9420 | .6784 | 81.17 | .2866 | 2.702 | 1.329 |
| #1 | -.0027 | -.0217 | 1.027 | .0053 | .1360 | .0943 | .0002 | 46.13 | .0107 | .0178 |
| #2 | -.0029 | .0150 | 1.025 | .0009 | .1378 | .0952 | .0000 | 46.31 | .0111 | .0175 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0043 | 73.31 | 11.05 | 7.388 | 1.002 | .0011 | 17.02 | .0151 | -.0011 |
| Stddev | .0000 | .0013 | .28 | .03 | .069 | .003 | .0004 | .04 | .0004 | .0017 |
| %RSD | 10.24 | 29.24 | .3833 | .2720 | .9400 | .2747 | 37.62 | .2540 | 2.671 | 163.2 |
| #1 | -.0002 | -.0052 | 73.11 | 11.07 | 7.339 | .9996 | .0008 | 16.99 | .0154 | -.0023 |
| #2 | -.0002 | -.0034 | 73.51 | 11.03 | 7.437 | 1.003 | .0014 | 17.05 | .0148 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0091 | .0034 | -.0026 | 14.34 | .0009 | .4264 | .0002 | -.0025 | .0024 |
| Stddev | .0015 | .0054 | .0016 | .0029 | .00 | .0010 | .0004 | .0004 | .0008 | .0003 |
| %RSD | 27.61 | 59.89 | 45.51 | 113.1 | .0308 | 112.3 | .0978 | 202.6 | 29.51 | 12.72 |
| #1 | -.0043 | -.0052 | .0045 | -.0005 | 14.34 | .0015 | .4261 | .0004 | -.0031 | .0022 |
| #2 | -.0065 | -.0129 | .0023 | -.0047 | 14.34 | .0002 | .4267 | -.0001 | -.0020 | .0027 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0156 | .0134 | -.0031 |
| Stddev | .0071 | .0000 | .0000 |
| %RSD | 45.75 | .1532 | .3091 |
| #1 | .0206 | .0134 | -.0031 |
| #2 | .0105 | .0134 | -.0031 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2367.6 | 57985. | 13808. |
| Stddev | .8 | 268. | 35. |
| %RSD | .03443 | .46210 | .25368 |
| #1 | 2367.0 | 58174. | 13833. |
| #2 | 2368.2 | 57795. | 13783. |

Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:46:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0057 | -.0231 | 1.031 | .0083 | .1356 | .0918 | -.0001 | 45.88 | .0102 | .0170 |
| Stddev | .0021 | .0664 | .007 | .0047 | .0010 | .0006 | .0001 | .08 | .0000 | .0004 |
| %RSD | 37.38 | 287.5 | .7216 | 56.60 | .7598 | .6707 | 225.5 | .1845 | .4842 | 2.509 |
| #1 | -.0073 | .0239 | 1.026 | .0050 | .1348 | .0914 | -.0001 | 45.94 | .0102 | .0173 |
| #2 | -.0042 | -.0701 | 1.036 | .0116 | .1363 | .0923 | .0000 | 45.82 | .0103 | .0167 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0142 | 73.05 | 11.10 | 7.371 | 1.006 | .0004 | 16.99 | .0148 | -.0014 |
| Stddev | .0019 | .0014 | .41 | .01 | .006 | .003 | .0005 | .04 | .0005 | .0022 |
| %RSD | 67.79 | 10.12 | .5632 | .0812 | .0792 | .2438 | 140.9 | .2123 | 3.723 | 159.3 |
| #1 | -.0042 | -.0152 | 73.34 | 11.10 | 7.367 | 1.004 | .0007 | 16.96 | .0144 | -.0029 |
| #2 | -.0015 | -.0132 | 72.76 | 11.09 | 7.376 | 1.008 | .0000 | 17.01 | .0151 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0272 | .0039 | -.0049 | 14.19 | .0014 | .4312 | -.0017 | -.0034 | .0067 |
| Stddev | .0092 | .0047 | .0007 | .0033 | .00 | .0013 | .0002 | .0011 | .0022 | .0020 |
| %RSD | 2691. | 17.31 | 17.07 | 68.39 | .0047 | 93.17 | .0425 | 61.55 | 62.42 | 30.54 |
| #1 | -.0068 | -.0305 | .0034 | -.0072 | 14.19 | .0023 | .4314 | -.0010 | -.0050 | .0052 |
| #2 | .0061 | -.0239 | .0044 | -.0025 | 14.19 | .0005 | .4311 | -.0025 | -.0019 | .0081 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0366 | .0130 | -.0029 |
| Stddev | .0110 | .0002 | .0000 |
| %RSD | 30.01 | 1.347 | .9396 |
| #1 | .0289 | .0129 | -.0029 |
| #2 | .0444 | .0132 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2376.0 | 58322. | 14027. |
| Stddev | 5.8 | 54. | 108. |
| %RSD | .24314 | .09330 | .76758 |
| #1 | 2380.0 | 58361. | 14103. |
| #2 | 2371.9 | 58284. | 13951. |



Zoom In Zoom Out

Sample Name: MC21202-12F Acquired: 6/5/2013 16:51:05 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0055 | -.0304 | 1.051 | .0149 | .1419 | .0941 | .0001 | 47.59 | .0094 | .0174 |
| Stddev | .0043 | .1571 | .012 | .0130 | .0019 | .0001 | .0007 | .07 | .0020 | .0005 |
| %RSD | 78.74 | 517.4 | 1.175 | 86.99 | 1.350 | .1200 | 506.6 | .1465 | 21.44 | 3.109 |
| #1 | -.0085 | -.1414 | 1.042 | .0058 | .1432 | .0942 | -.0004 | 47.54 | .0109 | .0178 |
| #2 | -.0024 | .0807 | 1.059 | .0241 | .1405 | .0940 | .0006 | 47.64 | .0080 | .0171 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0076 | -.0202 | 73.17 | 11.28 | 7.454 | 1.036 | -.0002 | 17.21 | .0151 | -.0001 |
| Stddev | .0033 | .0080 | .18 | .06 | .127 | .004 | .0007 | .09 | .0002 | .0053 |
| %RSD | 43.89 | 39.46 | .2476 | .5477 | 1.705 | .3675 | 266.2 | .5256 | 1.068 | 3604. |
| #1 | -.0052 | -.0146 | 73.04 | 11.24 | 7.544 | 1.038 | .0002 | 17.27 | .0152 | .0036 |
| #2 | -.0099 | -.0259 | 73.30 | 11.33 | 7.364 | 1.033 | -.0007 | 17.14 | .0149 | -.0039 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0074 | -.0654 | -.0025 | -.0105 | 14.17 | .0033 | .4332 | -.0046 | -.0048 | .0057 |
| Stddev | .0169 | .0308 | .0088 | .0046 | .02 | .0006 | .0028 | .0027 | .0037 | .0004 |
| %RSD | 228.0 | 47.11 | 346.6 | 43.62 | .1598 | 16.69 | .6517 | 60.15 | 77.92 | 7.379 |
| #1 | .0194 | -.0436 | -.0088 | -.0073 | 14.15 | .0037 | .4312 | -.0065 | -.0022 | .0060 |
| #2 | -.0045 | -.0871 | .0037 | -.0138 | 14.19 | .0029 | .4352 | -.0026 | -.0074 | .0054 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0437 | .0265 | -.0011 |
| Stddev | .0328 | .0004 | .0002 |
| %RSD | 75.05 | 1.528 | 21.73 |
| #1 | -.0205 | .0262 | -.0013 |
| #2 | -.0669 | .0268 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57859. | 13801. |
| Stddev | 6.3 | 353. | 22. |
| %RSD | .26463 | .61039 | .15683 |
| #1 | 2383.1 | 57609. | 13786. |
| #2 | 2392.0 | 58109. | 13817. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:55:26 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0370 | .0116 | -.0020 | .2780 | .0411 | .0000 | 67.54 | .0006 | .0056 |
| Stddev | .0007 | .0010 | .0009 | .0034 | .0003 | .0004 | .000 | .46 | .0003 | .0004 |
| %RSD | 42.21 | 2.634 | 7.707 | 164.6 | .1184 | .9075 | 138.7 | .6872 | 55.15 | 7.027 |
| #1 | -.0023 | -.0377 | .0122 | .0003 | .2777 | .0414 | .0000 | 67.21 | .0004 | .0053 |
| #2 | -.0012 | -.0363 | .0110 | -.0044 | .2782 | .0409 | .0000 | 67.87 | .0008 | .0058 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0041 | 2.109 | 14.05 | 11.78 | 12.37 | .0001 | 29.96 | .0058 | -.0016 |
| Stddev | .0007 | .0003 | .021 | .14 | .16 | .13 | .0002 | .14 | .0001 | .0013 |
| %RSD | 103.1 | 6.715 | .9732 | 1.026 | 1.365 | 1.025 | 199.5 | .4605 | 1.557 | 84.31 |
| #1 | -.0012 | -.0039 | 2.094 | 13.95 | 11.66 | 12.28 | .0003 | 29.86 | .0059 | -.0006 |
| #2 | -.0002 | -.0043 | 2.123 | 14.15 | 11.89 | 12.46 | .0000 | 30.06 | .0057 | -.0025 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0059 | .0401 | .0009 | .0027 | 8.144 | -.0006 | 1.259 | -.0004 | .0055 | .0017 |
| Stddev | .0011 | .0036 | .0009 | .0010 | .001 | .0009 | .009 | .0006 | .0028 | .0004 |
| %RSD | 17.80 | 8.948 | 104.9 | 36.96 | .0164 | 138.5 | .7338 | 170.2 | 50.19 | 24.70 |
| #1 | -.0067 | .0375 | .0002 | .0034 | 8.145 | -.0012 | 1.252 | .0001 | .0075 | .0014 |
| #2 | -.0052 | .0426 | .0015 | .0020 | 8.143 | .0000 | 1.265 | -.0008 | .0036 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0057 | .0073 | -.0006 |
| Stddev | .0089 | .0003 | .0009 |
| %RSD | 156.9 | 4.424 | 142.9 |
| #1 | .0119 | .0075 | .0000 |
| #2 | -.0006 | .0070 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2372.9 | 58207. | 13752. |
| Stddev | 3.2 | 164. | 65. |
| %RSD | .13497 | .28102 | .47152 |
| #1 | 2375.1 | 58322. | 13798. |
| #2 | 2370.6 | 58091. | 13706. |



Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 16:59:50 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0351 | .0157 | -.0013 | .2773 | .0413 | .0002 | 67.19 | .0006 | .0059 |
| Stddev | .0006 | .0203 | .0018 | .0031 | .0000 | .0004 | .0002 | .11 | .0000 | .0004 |
| %RSD | 40.49 | 57.69 | 11.32 | 236.8 | .0117 | 1.048 | 94.35 | .1578 | 5.342 | 6.303 |
| #1 | -.0011 | -.0495 | .0144 | -.0035 | .2773 | .0410 | .0001 | 67.12 | .0006 | .0056 |
| #2 | -.0019 | -.0208 | .0169 | .0009 | .2774 | .0416 | .0004 | 67.27 | .0006 | .0061 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0064 | 2.104 | 14.10 | 11.77 | 12.30 | .0002 | 29.67 | .0053 | -.0024 |
| Stddev | .0010 | .0008 | .000 | .04 | .06 | .00 | .0002 | .02 | .0002 | .0007 |
| %RSD | 98.67 | 13.13 | .0033 | .3098 | .4797 | .0165 | 78.17 | .0794 | 3.741 | 30.93 |
| #1 | -.0018 | -.0059 | 2.104 | 14.07 | 11.81 | 12.30 | .0003 | 29.65 | .0055 | -.0029 |
| #2 | -.0003 | -.0070 | 2.104 | 14.13 | 11.73 | 12.31 | .0001 | 29.68 | .0052 | -.0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0081 | .0328 | .0029 | .0027 | 8.107 | -.0003 | 1.252 | -.0001 | .0039 | .0006 |
| Stddev | .0002 | .0134 | .0000 | .0013 | .006 | .0013 | .000 | .0010 | .0022 | .0016 |
| %RSD | 2.163 | 40.80 | .0494 | 48.45 | .0702 | 472.0 | .0078 | 1317. | 56.60 | 291.3 |
| #1 | -.0082 | .0423 | .0029 | .0018 | 8.111 | -.0012 | 1.252 | -.0008 | .0023 | -.0006 |
| #2 | -.0080 | .0234 | .0029 | .0037 | 8.103 | .0007 | 1.252 | .0006 | .0054 | .0017 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0122 | .0097 | -.0008 |
| Stddev | .0088 | .0004 | .0004 |
| %RSD | 72.06 | 4.136 | 53.91 |
| #1 | -.0060 | .0100 | -.0005 |
| #2 | -.0185 | .0094 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2399.7 | 58644. | 13848. |
| Stddev | .4 | 169. | 91. |
| %RSD | .01650 | .28739 | .65545 |
| #1 | 2399.5 | 58524. | 13784. |
| #2 | 2400.0 | 58763. | 13912. |

Zoom In Zoom Out

Sample Name: MC21202-13F Acquired: 6/5/2013 17:04:16 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0160 | -.0500 | .0013 | .0092 | .2803 | .0389 | -.0004 | 68.78 | -.0005 | .0035 |
| Stddev | .0015 | .0277 | .0131 | .0113 | .0004 | .0003 | .0002 | .19 | .0004 | .0022 |
| %RSD | 9.362 | 55.35 | 1019. | 122.5 | .1299 | .6719 | 55.05 | .2833 | 71.23 | 62.66 |
| #1 | -.0171 | -.0695 | .0106 | .0012 | .2805 | .0391 | -.0002 | 68.64 | -.0003 | .0050 |
| #2 | -.0149 | -.0304 | -.0080 | .0172 | .2800 | .0387 | -.0005 | 68.92 | -.0008 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0052 | -.0224 | 2.076 | 14.21 | 11.78 | 12.61 | -.0007 | 30.65 | .0053 | -.0052 |
| Stddev | .0030 | .0014 | .003 | .51 | .21 | .06 | .0005 | .09 | .0017 | .0004 |
| %RSD | 57.52 | 6.242 | .1322 | 3.602 | 1.775 | .4873 | 76.25 | .3069 | 32.06 | 7.834 |
| #1 | -.0074 | -.0234 | 2.078 | 13.85 | 11.63 | 12.56 | -.0010 | 30.59 | .0041 | -.0055 |
| #2 | -.0031 | -.0214 | 2.074 | 14.57 | 11.93 | 12.65 | -.0003 | 30.72 | .0065 | -.0049 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0363 | -.0008 | -.0041 | 8.042 | .0021 | 1.237 | -.0011 | .0011 | .0049 |
| Stddev | .0030 | .0160 | .0158 | .0045 | .003 | .0032 | .002 | .0025 | .0016 | .0022 |
| %RSD | 109.8 | 44.15 | 2058. | 110.7 | .0417 | 152.0 | .1957 | 220.6 | 145.3 | 44.96 |
| #1 | .0006 | .0250 | -.0119 | -.0009 | 8.040 | .0044 | 1.235 | -.0029 | .0022 | .0033 |
| #2 | .0048 | .0477 | .0104 | -.0073 | 8.044 | -.0002 | 1.239 | .0006 | .0000 | .0064 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0293 | .0163 | .0038 |
| Stddev | .0013 | .0008 | .0017 |
| %RSD | 4.335 | 4.652 | 44.04 |
| #1 | .0302 | .0168 | .0049 |
| #2 | .0284 | .0157 | .0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.3 | 57892. | 13814. |
| Stddev | .9 | 349. | 122. |
| %RSD | .03711 | .60310 | .88125 |
| #1 | 2386.0 | 58139. | 13900. |
| #2 | 2384.7 | 57645. | 13728. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:08:36 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0150 | .0328 | -.0008 | .1890 | .0111 | .0002 | 107.6 | .0007 | .0021 |
| Stddev | .0003 | .0007 | .0009 | .0023 | .0002 | .0000 | .0001 | .4 | .0001 | .0004 |
| %RSD | 29.72 | 4.478 | 2.734 | 295.5 | .0814 | .1879 | 46.47 | .4110 | 14.84 | 19.87 |
| #1 | -.0009 | -.0155 | .0322 | .0008 | .1891 | .0112 | .0002 | 107.3 | .0007 | .0018 |
| #2 | -.0013 | -.0146 | .0334 | -.0024 | .1889 | .0111 | .0001 | 107.9 | .0006 | .0024 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0044 | .4322 | 4.982 | 14.36 | 9.109 | .0012 | 27.49 | .0153 | -.0001 |
| Stddev | .0000 | .0022 | .0041 | .132 | .03 | .001 | .0003 | .13 | .0006 | .0025 |
| %RSD | 3.782 | 50.06 | .9454 | 2.641 | .2265 | .0112 | 26.33 | .4787 | 3.892 | 1658. |
| #1 | .0003 | -.0028 | .4351 | 4.889 | 14.34 | 9.108 | .0015 | 27.40 | .0149 | -.0019 |
| #2 | .0003 | -.0060 | .4294 | 5.075 | 14.39 | 9.110 | .0010 | 27.58 | .0158 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | .0335 | .0016 | .0023 | 10.14 | -.0004 | .5886 | .0005 | .0019 | .0013 |
| Stddev | .0007 | .0078 | .0020 | .0016 | .01 | .0005 | .0008 | .0007 | .0009 | .0014 |
| %RSD | 8.517 | 23.12 | 129.3 | 72.74 | .0505 | 135.4 | .1426 | 136.6 | 46.21 | 107.4 |
| #1 | -.0074 | .0280 | .0001 | .0011 | 10.14 | .0000 | .5880 | .0000 | .0013 | .0003 |
| #2 | -.0083 | .0390 | .0030 | .0034 | 10.14 | -.0008 | .5892 | .0010 | .0025 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0054 | .0244 | -.0015 |
| Stddev | .0049 | .0004 | .0010 |
| %RSD | 89.83 | 1.578 | 68.51 |
| #1 | .0020 | .0241 | -.0008 |
| #2 | .0089 | .0247 | -.0022 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.3 | 58041. | 13850. |
| Stddev | 5.5 | 1. | 61. |
| %RSD | .23102 | .00253 | .43830 |
| #1 | 2384.2 | 58040. | 13893. |
| #2 | 2376.4 | 58042. | 13807. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:13:01 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0459 | .0381 | -.0044 | .1911 | .0117 | .0005 | 109.1 | .0008 | .0012 |
| Stddev | .0003 | .0358 | .0049 | .0137 | .0005 | .0004 | .0001 | .1 | .0008 | .0005 |
| %RSD | 8.996 | 77.88 | 12.92 | 313.8 | .2820 | 3.769 | 20.55 | .1197 | 99.23 | 44.03 |
| #1 | -.0040 | -.0206 | .0416 | .0053 | .1907 | .0114 | .0004 | 109.2 | .0002 | .0008 |
| #2 | -.0035 | -.0712 | .0346 | -.0140 | .1915 | .0120 | .0006 | 109.0 | .0013 | .0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | -.0105 | .4231 | 5.324 | 14.64 | 9.204 | .0014 | 27.84 | .0145 | .0018 |
| Stddev | .0024 | .0028 | .0234 | .134 | .29 | .032 | .0005 | .09 | .0007 | .0011 |
| %RSD | 108.2 | 26.45 | 5.536 | 2.510 | 1.989 | .3511 | 35.77 | .3384 | 4.603 | 58.48 |
| #1 | -.0005 | -.0086 | .4396 | 5.418 | 14.43 | 9.227 | .0018 | 27.90 | .0141 | .0011 |
| #2 | -.0039 | -.0125 | .4065 | 5.229 | 14.85 | 9.181 | .0011 | 27.77 | .0150 | .0026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0150 | .0007 | .0029 | 10.11 | -.0002 | .5954 | .0024 | .0002 | .0032 |
| Stddev | .0078 | .0010 | .0018 | .0013 | .02 | .0004 | .0036 | .0006 | .0021 | .0017 |
| %RSD | 177.0 | 6.539 | 254.1 | 45.58 | .2081 | 178.5 | .5981 | 23.56 | 1230. | 53.85 |
| #1 | .0011 | .0157 | .0020 | .0020 | 10.12 | -.0006 | .5980 | .0020 | .0017 | .0020 |
| #2 | -.0099 | .0143 | -.0006 | .0039 | 10.09 | .0001 | .5929 | .0028 | -.0013 | .0044 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0099 | .0234 | -.0001 |
| Stddev | .0053 | .0002 | .0001 |
| %RSD | 52.81 | .6994 | 231.6 |
| #1 | -.0137 | .0232 | .0000 |
| #2 | -.0062 | .0235 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2375.6 | 57791. | 13866. |
| Stddev | 4.6 | 254. | 95. |
| %RSD | .19366 | .43903 | .68543 |
| #1 | 2378.8 | 57612. | 13934. |
| #2 | 2372.3 | 57970. | 13799. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:17:22 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2546 | 9.802 | 2.068 | .0007 | 1.961 | 1.956 | 1.906 | 9.892 | 2.100 | 2.163 |
| Stddev | .0005 | .006 | .007 | .0002 | .006 | .002 | .000 | .004 | .004 | .004 |
| %RSD | .1951 | .0608 | .3369 | 33.46 | .2902 | .0777 | .0216 | .0401 | .2136 | .1956 |
| #1 | .2549 | 9.806 | 2.063 | .0005 | 1.957 | 1.955 | 1.905 | 9.889 | 2.097 | 2.160 |
| #2 | .2542 | 9.798 | 2.073 | .0008 | 1.965 | 1.957 | 1.906 | 9.895 | 2.103 | 2.166 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.012 | 2.040 | 9.618 | 9.882 | 10.10 | 1.970 | 2.072 | 9.701 | 1.965 | 2.002 |
| Stddev | .007 | .005 | .004 | .005 | .08 | .006 | .005 | .031 | .004 | .005 |
| %RSD | .3499 | .2249 | .0468 | .0531 | .7657 | .2960 | .2467 | .3239 | .2070 | .2550 |
| #1 | 2.007 | 2.036 | 9.615 | 9.879 | 10.16 | 1.966 | 2.069 | 9.679 | 1.962 | 1.998 |
| #2 | 2.017 | 2.043 | 9.621 | 9.886 | 10.05 | 1.974 | 2.076 | 9.723 | 1.967 | 2.006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0025 | 2.031 | 2.025 | -.0060 | 1.953 | 2.019 | 1.951 | 1.938 | 2.015 |
| Stddev | .000 | .0008 | .003 | .003 | .0005 | .006 | .000 | .001 | .008 | .008 |
| %RSD | 2357. | 30.79 | .1664 | .1459 | 8.611 | .3265 | .0057 | .0474 | .4291 | .4114 |
| #1 | .0002 | -.0030 | 2.029 | 2.023 | -.0064 | 1.948 | 2.019 | 1.950 | 1.932 | 2.009 |
| #2 | -.0002 | -.0019 | 2.034 | 2.027 | -.0056 | 1.957 | 2.019 | 1.952 | 1.944 | 2.021 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0001 | 2.065 | -.0047 |
| Stddev | .0055 | .004 | .0002 |
| %RSD | 5199. | .2084 | 4.510 |
| #1 | -.0040 | 2.062 | -.0048 |
| #2 | .0037 | 2.068 | -.0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.9 | 57862. | 13926. |
| Stddev | 7.4 | 248. | 96. |
| %RSD | .31021 | .42936 | .68993 |
| #1 | 2392.1 | 58038. | 13994. |
| #2 | 2381.7 | 57687. | 13859. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:21:34 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0056 | .0019 | .0010 | .0022 | .0009 | F.0009 | .0016 | .0003 |
| Stddev | .0005 | .0063 | .0009 | .0007 | .0004 | .0001 | .0000 | .0025 | .0001 |
| %RSD | 47.43 | 112.4 | 46.39 | 73.16 | 17.00 | 7.232 | 1.182 | 155.0 | 22.28 |
| #1 | -.0007 | .0011 | .0025 | .0015 | .0025 | .0008 | .0009 | -.0002 | .0004 |
| #2 | -.0013 | .0101 | .0013 | .0005 | .0019 | .0009 | .0009 | .0034 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | -.0012 | .0012 | .0675 | .0077 | .0008 | .0022 | .0061 |
| Stddev | .0003 | .0002 | .0006 | .0051 | .0346 | .0021 | .0001 | .0006 | .0091 |
| %RSD | 74.74 | 48.85 | 46.63 | 434.2 | 51.26 | 27.91 | 10.48 | 27.36 | 149.5 |
| #1 | .0007 | .0002 | -.0008 | -.0024 | .0430 | .0062 | .0009 | .0026 | .0126 |
| #2 | .0002 | .0004 | -.0016 | .0048 | .0920 | .0092 | .0007 | .0017 | -.0004 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | -.0002 | -.0039 | .0008 | .0012 | -.0076 | .0006 | .0008 |
| Stddev | .0004 | .0004 | .0005 | .0088 | .0003 | .0019 | .0005 | .0006 | .0001 |
| %RSD | 181.2 | 461.6 | 287.2 | 226.3 | 37.13 | 156.5 | 6.491 | 88.04 | 11.99 |
| #1 | .0005 | .0002 | .0002 | -.0101 | .0010 | .0026 | -.0073 | .0010 | .0009 |
| #2 | -.0001 | -.0004 | -.0006 | .0023 | .0006 | -.0001 | -.0080 | .0002 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0004 | .0001 | .0013 | -.0017 | -.0001 | -.0002 |
| Stddev | .0000 | .0005 | .0007 | .0052 | .0002 | .0004 |
| %RSD | 2.493 | 387.1 | 53.17 | 310.3 | 390.4 | 252.3 |
| #1 | .0004 | .0005 | .0008 | .0020 | .0001 | .0001 |
| #2 | .0004 | -.0002 | .0018 | -.0054 | -.0002 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2381.0 | 57951. | 13686. |
| Stddev | 7.2 | 53. | 158. |
| %RSD | .30171 | .09154 | 1.1576 |
| #1 | 2386.1 | 57914. | 13798. |
| #2 | 2375.9 | 57989. | 13574. |



Zoom In Zoom Out

Sample Name: MC21202-15F Acquired: 6/5/2013 17:25:56 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0199 | -.0752 | .0509 | .0233 | .2131 | .0191 | .0022 | 113.6 | .0015 | .0015 |
| Stddev | .0160 | .0559 | .0331 | .0360 | .0043 | .0015 | .0012 | .1 | .0007 | .0049 |
| %RSD | 80.56 | 74.34 | 65.08 | 154.7 | 2.012 | 7.985 | 54.21 | .1048 | 47.11 | 335.5 |
| #1 | -.0312 | -.0357 | .0743 | -.0022 | .2161 | .0202 | .0030 | 113.7 | .0020 | .0050 |
| #2 | -.0086 | -.1147 | .0275 | .0488 | .2100 | .0180 | .0014 | 113.5 | .0010 | -.0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0112 | -.0404 | .3741 | 5.909 | 15.03 | 9.212 | .0136 | 28.46 | .0147 | -.0038 |
| Stddev | .0107 | .0046 | .0447 | .586 | .26 | .027 | .0014 | .23 | .0062 | .0053 |
| %RSD | 95.55 | 11.41 | 11.95 | 9.917 | 1.745 | .2951 | 10.39 | .8057 | 42.26 | 140.0 |
| #1 | -.0188 | -.0436 | .4057 | 6.324 | 15.21 | 9.193 | .0146 | 28.62 | .0190 | -.0075 |
| #2 | -.0036 | -.0371 | .3424 | 5.495 | 14.84 | 9.231 | .0126 | 28.30 | .0103 | .0000 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0161 | -.1259 | .0070 | -.0356 | 10.12 | .0069 | .6199 | -.0066 | .0013 | .0074 |
| Stddev | .0194 | .0674 | .0109 | .0013 | .00 | .0040 | .0046 | .0023 | .0190 | .0080 |
| %RSD | 120.8 | 53.48 | 155.7 | 3.677 | .0374 | 58.29 | .7380 | 34.35 | 1431. | 107.7 |
| #1 | -.0023 | -.0783 | .0146 | -.0346 | 10.13 | .0098 | .6232 | -.0050 | .0147 | .0018 |
| #2 | -.0298 | -.1736 | -.0007 | -.0365 | 10.12 | .0041 | .6167 | -.0082 | -.0121 | .0131 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0608 | .0643 | .0037 |
| Stddev | .0396 | .0003 | .0073 |
| %RSD | 65.14 | .4515 | 194.5 |
| #1 | .0328 | .0641 | .0089 |
| #2 | .0888 | .0645 | -.0014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.1 | 58376. | 13790. |
| Stddev | 2.7 | 242. | 71. |
| %RSD | .11273 | .41528 | .51806 |
| #1 | 2392.0 | 58548. | 13740. |
| #2 | 2388.2 | 58205. | 13841. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/5/2013 17:30:15 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .1991 | F.0061 | .0015 | .1012 | .0507 | .0041 | 4.998 | .0043 |
| Stddev | .0011 | .0085 | .0002 | .0002 | .0005 | .0004 | .0000 | .005 | .0001 |
| %RSD | 23.27 | 4.270 | 4.043 | 12.55 | .4838 | .7365 | .5160 | .1038 | 2.534 |
| #1 | .0040 | .1931 | .0063 | .0014 | .1015 | .0504 | .0041 | 4.994 | .0043 |
| #2 | .0055 | .2051 | .0059 | .0017 | .1008 | .0510 | .0041 | 5.001 | .0044 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0554 | .0101 | .0232 | .0989 | 5.076 | 5.130 | .0158 | .1075 | 4.829 |
| Stddev | .0000 | .0004 | .0005 | .0023 | .011 | .049 | .0001 | .0001 | .001 |
| %RSD | .0152 | 3.648 | 2.051 | 2.295 | .2140 | .9504 | .6215 | .0942 | .0299 |
| #1 | .0554 | .0098 | .0235 | .0973 | 5.069 | 5.164 | .0158 | .1074 | 4.828 |
| #2 | .0554 | .0103 | .0229 | .1006 | 5.084 | 5.095 | .0157 | .1075 | 4.830 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0055 | -.0006 | -.0094 | .0077 | .0092 | .0005 | .0999 | .0103 |
| Stddev | .0001 | .0003 | .0001 | .0074 | .0001 | .0000 | .0013 | .0003 | .0000 |
| %RSD | .3129 | 6.296 | 21.92 | 79.05 | 1.271 | .0275 | 245.9 | .3017 | .4032 |
| #1 | .0409 | .0053 | -.0005 | -.0041 | .0078 | .0092 | .0014 | .0997 | .0103 |
| #2 | .0411 | .0057 | -.0006 | -.0146 | .0076 | .0092 | -.0004 | .1001 | .0103 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0515 | .0050 | .0110 | -.0026 | .0221 | -.0002 |
| Stddev | .0003 | .0002 | .0001 | .0002 | .0001 | .0000 |
| %RSD | .5170 | 3.203 | 1.258 | 8.030 | .3998 | 9.832 |
| #1 | .0514 | .0049 | .0111 | -.0028 | .0220 | -.0002 |
| #2 | .0517 | .0051 | .0109 | -.0025 | .0222 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.0 | 58065. | 13852. |
| Stddev | 2.4 | 375. | 25. |
| %RSD | .10237 | .64519 | .18376 |
| #1 | 2388.3 | 57800. | 13834. |
| #2 | 2391.8 | 58330. | 13870. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/5/2013 17:34:32 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2538 | 9.795 | 2.055 | .0003 | 1.950 | 1.950 | 1.899 | 9.847 | 2.090 | 2.150 |
| Stddev | .0003 | .018 | .000 | .0007 | .005 | .000 | .001 | .001 | .005 | .006 |
| %RSD | .1120 | .1812 | .0030 | 236.6 | .2831 | .0223 | .0368 | .0097 | .2595 | .2598 |
| #1 | .2540 | 9.782 | 2.055 | .0008 | 1.946 | 1.950 | 1.899 | 9.847 | 2.086 | 2.146 |
| #2 | .2536 | 9.807 | 2.055 | -.0002 | 1.954 | 1.950 | 1.898 | 9.848 | 2.094 | 2.154 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.002 | 2.030 | 9.585 | 9.890 | 10.12 | 1.961 | 2.062 | 9.678 | 1.955 | 1.992 |
| Stddev | .002 | .005 | .035 | .042 | .06 | .002 | .006 | .019 | .004 | .004 |
| %RSD | .1053 | .2252 | .3699 | .4289 | .6038 | .1098 | .2845 | .2003 | .2129 | .2135 |
| #1 | 2.003 | 2.026 | 9.560 | 9.860 | 10.08 | 1.963 | 2.058 | 9.692 | 1.952 | 1.989 |
| #2 | 2.000 | 2.033 | 9.611 | 9.920 | 10.16 | 1.960 | 2.066 | 9.664 | 1.958 | 1.995 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0018 | 2.021 | 2.013 | -.0106 | 1.940 | 2.014 | 1.945 | 1.931 | 2.008 |
| Stddev | .0007 | .0048 | .006 | .004 | .0005 | .003 | .003 | .002 | .007 | .002 |
| %RSD | 100.7 | 268.1 | .3105 | .1980 | 4.549 | .1480 | .1603 | .1256 | .3397 | .1002 |
| #1 | .0002 | -.0016 | 2.017 | 2.010 | -.0102 | 1.938 | 2.012 | 1.947 | 1.927 | 2.007 |
| #2 | .0012 | .0052 | 2.025 | 2.015 | -.0109 | 1.942 | 2.017 | 1.944 | 1.936 | 2.010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0015 | 2.050 | -.0048 |
| Stddev | .0005 | .004 | .0001 |
| %RSD | 34.15 | .1821 | 2.492 |
| #1 | -.0011 | 2.047 | -.0049 |
| #2 | -.0018 | 2.053 | -.0047 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.6 | 57823. | 13810. |
| Stddev | .1 | 209. | 134. |
| %RSD | .00463 | .36064 | .96673 |
| #1 | 2387.5 | 57675. | 13904. |
| #2 | 2387.7 | 57970. | 13715. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 6/5/2013 17:38:45 Type: Unk
Method: Accutest -SS2(v189) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0054 | .0012 | .0021 | .0023 | .0012 | F.0011 | .0046 | .0003 |
| Stddev | .0005 | .0037 | .0019 | .0010 | .0004 | .0001 | .0003 | .0013 | .0001 |
| %RSD | 48.69 | 68.01 | 158.8 | 46.09 | 19.62 | 9.944 | 26.10 | 28.07 | 29.74 |
| #1 | -.0006 | .0028 | .0025 | .0014 | .0026 | .0011 | .0013 | .0037 | .0004 |
| #2 | -.0013 | .0081 | -.0001 | .0028 | .0019 | .0013 | .0009 | .0055 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | -.0011 | .0029 | .0432 | .0252 | .0006 | .0024 | -.0028 |
| Stddev | .0001 | .0004 | .0001 | .0008 | .0062 | .0119 | .0001 | .0006 | .0062 |
| %RSD | 17.71 | 86.14 | 7.973 | 26.89 | 14.40 | 47.23 | 14.41 | 23.08 | 224.0 |
| #1 | .0006 | .0007 | -.0010 | .0034 | .0388 | .0168 | .0007 | .0028 | .0016 |
| #2 | .0007 | .0002 | -.0012 | .0023 | .0476 | .0337 | .0005 | .0020 | -.0072 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0005 | .0002 | -.0025 | .0016 | -.0007 | -.0067 | .0008 | .0010 |
| Stddev | .0002 | .0001 | .0010 | .0035 | .0004 | .0009 | .0003 | .0002 | .0000 |
| %RSD | 39.18 | 22.02 | 563.6 | 140.7 | 23.80 | 125.1 | 4.777 | 26.19 | 4.290 |
| #1 | .0006 | .0004 | -.0005 | -.0049 | .0013 | -.0014 | -.0069 | .0010 | .0010 |
| #2 | .0004 | .0006 | .0009 | .0000 | .0018 | -.0001 | -.0064 | .0007 | .0009 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0005 | .0010 | .0013 | .0001 | .0002 | .0002 |
| Stddev | .0000 | .0001 | .0001 | .0024 | .0001 | .0003 |
| %RSD | 2.969 | 11.59 | 9.665 | 2684. | 55.31 | 115.9 |
| #1 | .0006 | .0011 | .0014 | .0018 | .0002 | .0000 |
| #2 | .0005 | .0009 | .0012 | -.0016 | .0001 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2379.0 | 58344. | 13682. |
| Stddev | 3.3 | 82. | 89. |
| %RSD | .13879 | .14130 | .65076 |
| #1 | 2376.7 | 58402. | 13619. |
| #2 | 2381.4 | 58286. | 13745. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000062 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.002525 | 0.000000 | No |
| | | | Mo | 0.040763 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000039 | 0.000000 | No |
| | | | Al | 0.000021 | 0.000000 | No |
| | | | Mo | 0.001250 | 0.000000 | No |
| | | | Fe | 0.000024 | 0.000000 | No |
| | | | Mn | 0.000103 | 0.000000 | No |
| | | | Ca | 0.000007 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Cr | 0.000267 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000010 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000047 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000104 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000546 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | Fe | 0.000014 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000068 | 0.000000 | No |
| | | | Mn | 0.000128 | 0.000000 | No |
| | | | Mo | -0.001571 | 0.000000 | No |
| | | | Co | -0.000355 | 0.000000 | No |
| | | | Cu | 0.000227 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Fe | 0.000022 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Ni | 0.000048 | 0.000000 | No |
| | | | Si | 0.000077 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000351 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.007692 | 0.000000 | No |
| | | | Ni | 0.000902 | 0.000000 | No |
| | | | Mn | -0.007038 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 12 | Al | 0.000001 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Cr | 0.011608 | 0.000000 | No |
| | | | Mo | -0.004351 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | Ni | -0.000523 | 0.000000 | No |
| | | | V | -0.001589 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ti | 0.000231 | 0.000000 | No |
| | | | Cu | -0.000166 | 0.000000 | No |
| | | | Sn | -0.007401 | 0.000000 | No |
| | | | Pt | -0.002057 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000243 | 0.000000 | No |
| | | | Mn | 0.000306 | 0.000000 | No |
| | | | Mo | 0.000127 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Na | -0.000003 | 0.000000 | No |
| | | | Co | -0.000378 | 0.000000 | No |
| | | | Pd | -0.003371 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | Ti | 0.015670 | 0.000000 | No |
| | | | Mo | 0.023054 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.001008 | 0.000000 | No |
| | | | Cr | 0.000167 | 0.000000 | No |
| | | | V | -0.025372 | 0.000000 | No |
| | | | Co | 0.001277 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001435 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.001092 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/6/2013 10:50:36 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0025 | .0013 | .0006 | .0002 | .0011 | .0065 | -.0001 | .0056 | .0031 |
| Stddev | .0001 | .0005 | .0002 | .0000 | .0001 | .0005 | .0000 | .0001 | .0001 |
| %RSD | 2.437 | 41.61 | 30.06 | 2.310 | 8.341 | 7.992 | 15.53 | 2.016 | 2.760 |
| #1 | -.0026 | .0009 | .0005 | .0002 | .0010 | .0069 | -.0002 | .0057 | .0032 |
| #2 | -.0025 | .0017 | .0007 | .0002 | .0012 | .0061 | -.0001 | .0055 | .0030 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0004 | .0002 | .0071 | .0005 | .0014 | -.0001 | .0008 | .0002 | .0057 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0008 | .0001 | .0000 | .0000 | .0005 |
| %RSD | 33.28 | 58.26 | 1.946 | 2.073 | 56.81 | 57.62 | 6.136 | 14.15 | 8.153 |
| #1 | -.0003 | .0002 | .0072 | .0005 | .0008 | -.0002 | .0008 | .0002 | .0053 |
| #2 | -.0005 | .0001 | .0070 | .0005 | .0020 | -.0001 | .0007 | .0002 | .0060 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | -.0011 | .0001 | .0001 | .0003 | .0003 | .0292 | -.0001 | .0038 |
| Stddev | .0001 | .0007 | .0000 | .0000 | .0004 | .0002 | .0003 | .0001 | .0000 |
| %RSD | 3.527 | 62.86 | 1.040 | 33.57 | 116.2 | 61.53 | 1.103 | 93.93 | .1279 |
| #1 | -.0015 | -.0016 | .0001 | .0000 | .0001 | .0005 | .0290 | -.0001 | .0038 |
| #2 | -.0014 | -.0006 | .0001 | .0001 | .0006 | .0002 | .0294 | .0000 | .0037 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0002 | -.0012 | .0002 | .0000 | .0008 | .0004 |
| Stddev | .0000 | .0000 | .0001 | .000 | .0002 | .0003 |
| %RSD | 32.74 | 1.593 | 29.28 | 236.4 | 23.17 | 83.49 |
| #1 | -.0002 | -.0012 | .0002 | -.0001 | .0009 | .0006 |
| #2 | -.0001 | -.0012 | .0003 | .0000 | .0006 | .0001 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 6/6/2013 10:50:36 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2391.9 | 78347. | 15501. |
| Stddev | .3 | 438. | 140. |
| %RSD | .01448 | .55899 | .90041 |
| #1 | 2391.7 | 78656. | 15402. |
| #2 | 2392.1 | 78037. | 15600. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 6/6/2013 10:54:59 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1335 | .5092 | 1.931 | 15.59 | 14.20 | 8.870 | 8.294 | .8750 | 1.690 | 5.259 |
| Stddev | .0003 | .0004 | .002 | .02 | .00 | .003 | .012 | .0011 | .001 | .022 |
| %RSD | .2184 | .0869 | .0944 | .1137 | .0057 | .0357 | .1457 | .1288 | .0585 | .4208 |
| #1 | .1333 | .5095 | 1.930 | 15.61 | 14.20 | 8.872 | 8.285 | .8742 | 1.691 | 5.274 |
| #2 | .1337 | .5089 | 1.933 | 15.58 | 14.20 | 8.868 | 8.302 | .8758 | 1.689 | 5.243 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.381 | 6.783 | 2.697 | 1.526 | .7216 | 1.042 | 9.709 |
| Stddev | .012 | .005 | .003 | .000 | .0000 | .000 | .018 |
| %RSD | .1666 | .0736 | .0910 | .0137 | .0031 | .0119 | .1842 |
| #1 | 7.372 | 6.779 | 2.696 | 1.526 | .7216 | 1.042 | 9.696 |
| #2 | 7.390 | 6.787 | 2.699 | 1.526 | .7216 | 1.042 | 9.721 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2385.9 | 77966. | 15424. |
| Stddev | 3.3 | 535. | 65. |
| %RSD | .13910 | .68670 | .41824 |
| #1 | 2388.2 | 78344. | 15378. |
| #2 | 2383.5 | 77587. | 15470. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 6/6/2013 10:59:20 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.374 | 2.471 | 1.564 | .7884 | .1946 | 2.477 |
| Stddev | .001 | .003 | .000 | .0014 | .0008 | .002 |
| %RSD | .0606 | .1043 | .0280 | .1787 | .4156 | .0962 |
| #1 | 1.374 | 2.469 | 1.564 | .7894 | .1940 | 2.476 |
| #2 | 1.375 | 2.473 | 1.563 | .7874 | .1951 | 2.479 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 15482. |
| Stddev | 29. |
| %RSD | .18930 |
| #1 | 15462. |
| #2 | 15503. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 6/6/2013 11:03:40 Type: Cal
Method: Accutest -SS2(v191) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 | Zr3391 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2315 | .4565 | .0713 | 1.981 | 1.735 | 24.19 | 1.460 | 1.159 | .0643 | 2.938 |
| Stddev | .0004 | .0002 | .0002 | .006 | .003 | .08 | .001 | .001 | .0002 | .003 |
| %RSD | .1563 | .0400 | .2871 | .2828 | .1712 | .3441 | .0913 | .0943 | .3249 | .0902 |
| #1 | .2313 | .4563 | .0715 | 1.977 | 1.733 | 24.13 | 1.459 | 1.158 | .0644 | 2.936 |
| #2 | .2318 | .4566 | .0712 | 1.985 | 1.738 | 24.25 | 1.461 | 1.160 | .0641 | 2.940 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 2435.1 | 78944. | 15473. |
| Stddev | 6.0 | 264. | 38. |
| %RSD | .24835 | .33472 | .24252 |
| #1 | 2439.4 | 78757. | 15447. |
| #2 | 2430.8 | 79131. | 15500. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 6/6/2013 11:08:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5034 | 15.37 | 2.955 | 2.907 | 2.973 | 2.985 | 2.927 | 17.77 | 2.914 | 2.910 |
| Stddev | .0024 | .02 | .000 | .011 | .005 | .000 | .001 | .01 | .004 | .004 |
| %RSD | .4682 | .1306 | .0129 | .3876 | .1860 | .0106 | .0426 | .0525 | .1210 | .1332 |
| #1 | .5017 | 15.36 | 2.955 | 2.899 | 2.970 | 2.985 | 2.926 | 17.76 | 2.911 | 2.907 |
| #2 | .5051 | 15.39 | 2.956 | 2.915 | 2.977 | 2.985 | 2.928 | 17.77 | 2.916 | 2.912 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.990 | 2.880 | 18.00 | 15.08 | 17.95 | 2.837 | 2.815 | 15.17 | 2.822 | 2.867 |
| Stddev | .017 | .009 | .06 | .00 | .09 | .002 | .004 | .02 | .003 | .001 |
| %RSD | .5717 | .3161 | .3235 | .0034 | .5161 | .0759 | .1309 | .1023 | .0885 | .0495 |
| #1 | 2.978 | 2.874 | 17.96 | 15.08 | 17.89 | 2.838 | 2.813 | 15.18 | 2.820 | 2.866 |
| #2 | 3.002 | 2.886 | 18.04 | 15.08 | 18.02 | 2.835 | 2.818 | 15.16 | 2.823 | 2.868 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.949 | 2.898 | 2.885 | 2.900 | 2.943 | 2.977 | 3.052 | 2.931 | 2.870 | 2.884 |
| Stddev | .009 | .017 | .005 | .005 | .005 | .003 | .055 | .007 | .001 | .009 |
| %RSD | .2932 | .5805 | .1727 | .1678 | .1621 | .1046 | 1.810 | .2281 | .0489 | .3186 |
| #1 | 2.942 | 2.886 | 2.881 | 2.896 | 2.940 | 2.975 | 3.013 | 2.926 | 2.871 | 2.877 |
| #2 | 2.955 | 2.910 | 2.888 | 2.903 | 2.947 | 2.979 | 3.091 | 2.935 | 2.869 | 2.890 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 2.907 | 2.826 | 3.061 |
| Stddev | .006 | .006 | .007 |
| %RSD | .2238 | .2113 | .2177 |
| #1 | 2.902 | 2.822 | 3.056 |
| #2 | 2.911 | 2.830 | 3.065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2405.2 | 78574. | 15520. |
| Stddev | 5.8 | 476. | 73. |
| %RSD | .24130 | .60538 | .47142 |
| #1 | 2409.3 | 78910. | 15572. |
| #2 | 2401.1 | 78238. | 15468. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 6/6/2013 11:12:52 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0081 | .0003 | .0031 | .0033 | .0008 | F.0009 | .0469 | F.0005 |
| Stddev | .0005 | .0044 | .0007 | .0000 | .0005 | .0002 | .0001 | .0006 | .0002 |
| %RSD | 521.2 | 54.36 | 265.2 | 1.545 | 15.36 | 25.21 | 7.653 | 1.320 | 37.11 |
| #1 | -.0004 | .0050 | -.0002 | .0032 | .0036 | .0007 | .0010 | .0474 | .0006 |
| #2 | .0002 | .0112 | .0007 | .0031 | .0029 | .0010 | .0009 | .0465 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | .0006 | .0075 | .0236 | .0023 | .0010 | .0029 | .0164 |
| Stddev | .0001 | .0005 | .0000 | .0019 | .0151 | .0191 | .0001 | .0006 | .0041 |
| %RSD | 12.37 | 129.2 | 4.173 | 25.71 | 64.16 | 846.6 | 14.12 | 21.82 | 24.71 |
| #1 | .0006 | .0007 | .0006 | .0062 | .0343 | .0157 | .0011 | .0033 | .0193 |
| #2 | .0007 | .0000 | .0006 | .0089 | .0129 | -.0112 | .0009 | .0024 | .0136 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0018 | .0022 | .0005 | .0003 | .0024 | .0038 | .0006 | F.0010 |
| Stddev | .0000 | .0004 | .0031 | .0005 | .0002 | .0002 | .0000 | .0002 | .0000 |
| %RSD | 7.249 | 20.38 | 140.7 | 94.46 | 56.25 | 9.097 | 1.011 | 35.54 | .4941 |
| #1 | .0007 | .0021 | .0044 | .0009 | .0002 | .0023 | .0038 | .0004 | .0010 |
| #2 | .0006 | .0016 | .0000 | .0002 | .0005 | .0026 | .0038 | .0007 | .0010 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | F.0032 | .0008 | .0146 | .0006 | .0021 |
| Stddev | .0003 | .0006 | .0004 | .0048 | .0002 | .0000 |
| %RSD | 28.56 | 19.47 | 53.61 | 32.53 | 32.93 | .7193 |
| #1 | .0011 | .0037 | .0011 | .0180 | .0004 | .0021 |
| #2 | .0007 | .0028 | .0005 | .0113 | .0007 | .0021 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2411.8 | 79156. | 15403. |
| Stddev | 2.3 | 1000. | . |
| %RSD | .09514 | 1.2631 | .00195 |
| #1 | 2410.2 | 79863. | 15403. |
| #2 | 2413.4 | 78449. | 15403. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 11:17:14 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2428 | 9.730 | 1.922 | -.0043 | 1.928 | 1.918 | 1.934 | 9.766 | 1.911 | 1.998 |
| Stddev | .0016 | .013 | .009 | .0004 | .004 | .005 | .003 | .016 | .006 | .005 |
| %RSD | .6784 | .1336 | .4956 | 9.517 | .1804 | .2398 | .1744 | .1644 | .3269 | .2709 |
| #1 | .2440 | 9.740 | 1.929 | -.0046 | 1.930 | 1.921 | 1.937 | 9.777 | 1.916 | 2.001 |
| #2 | .2416 | 9.721 | 1.916 | -.0040 | 1.925 | 1.915 | 1.932 | 9.754 | 1.907 | 1.994 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.928 | 1.903 | 9.787 | 9.729 | 9.569 | 1.921 | 1.913 | 9.740 | 1.900 | 1.886 |
| Stddev | .004 | .002 | .015 | .006 | .028 | .005 | .006 | .042 | .004 | .004 |
| %RSD | .2166 | .1130 | .1510 | .0670 | .2887 | .2392 | .3221 | .4340 | .2171 | .2313 |
| #1 | 1.931 | 1.901 | 9.797 | 9.725 | 9.588 | 1.925 | 1.917 | 9.770 | 1.903 | 1.889 |
| #2 | 1.925 | 1.904 | 9.776 | 9.734 | 9.549 | 1.918 | 1.908 | 9.710 | 1.897 | 1.883 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0021 | 1.916 | 1.926 | .0037 | 1.899 | 1.972 | 1.903 | 1.919 | 1.902 |
| Stddev | .0003 | .0021 | .010 | .006 | .0004 | .009 | .004 | .003 | .009 | .001 |
| %RSD | 108.1 | 102.8 | .5020 | .3278 | 11.27 | .4914 | .1766 | .1788 | .4544 | .0341 |
| #1 | -.0004 | .0006 | 1.923 | 1.931 | .0040 | 1.905 | 1.975 | 1.905 | 1.925 | 1.902 |
| #2 | -.0001 | .0036 | 1.910 | 1.922 | .0035 | 1.892 | 1.970 | 1.900 | 1.913 | 1.903 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0112 | 1.907 | .0015 |
| Stddev | .0043 | .005 | .0007 |
| %RSD | 37.95 | .2896 | 47.40 |
| #1 | .0082 | 1.911 | .0020 |
| #2 | .0143 | 1.904 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2424.4 | 79074. | 15479. |
| Stddev | 2.0 | 259. | 47. |
| %RSD | .08107 | .32781 | .30264 |
| #1 | 2423.0 | 78891. | 15446. |
| #2 | 2425.8 | 79257. | 15513. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 11:21:24 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0038 | .0015 | -.0015 | .0031 | .0007 | F.0008 | .0435 | .0003 |
| Stddev | .0000 | .0059 | .0006 | .0003 | .0001 | .0001 | .0002 | .0011 | .0003 |
| %RSD | 3.672 | 152.1 | 40.71 | 21.87 | 2.688 | 14.04 | 17.84 | 2.590 | 83.79 |
| #1 | -.0004 | .0080 | .0010 | -.0013 | .0030 | .0008 | .0010 | .0443 | .0005 |
| #2 | -.0004 | -.0003 | .0019 | -.0017 | .0031 | .0006 | .0007 | .0427 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | .0002 | .0072 | .0244 | .0224 | .0008 | .0024 | .0083 |
| Stddev | .0004 | .0001 | .0002 | .0040 | .0232 | .0170 | .0000 | .0005 | .0003 |
| %RSD | 162.4 | 31.40 | 68.01 | 54.96 | 95.09 | 75.97 | 3.900 | 22.58 | 3.919 |
| #1 | .0005 | .0003 | .0003 | .0044 | .0408 | .0103 | .0008 | .0027 | .0081 |
| #2 | .0000 | .0002 | .0001 | .0100 | .0080 | .0344 | .0008 | .0020 | .0086 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0002 | .0000 | -.0023 | .0000 | .0012 | .0036 | .0005 | .0008 |
| Stddev | .0002 | .0007 | .001 | .0091 | .0010 | .0008 | .0006 | .0001 | .0001 |
| %RSD | 45.86 | 460.8 | 2092. | 399.1 | 2249. | 65.10 | 17.13 | 28.76 | 11.16 |
| #1 | .0005 | .0007 | -.0006 | .0041 | .0007 | .0007 | .0032 | .0004 | .0008 |
| #2 | .0002 | -.0004 | .0005 | -.0087 | -.0006 | .0018 | .0040 | .0006 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0009 | .0018 | .0009 | .0065 | .0000 | .0007 |
| Stddev | .0002 | .0001 | .0000 | .0012 | .0000 | .0000 |
| %RSD | 19.96 | 7.012 | 2.489 | 17.92 | 253.1 | 5.951 |
| #1 | .0007 | .0017 | .0009 | .0057 | .0000 | .0006 |
| #2 | .0010 | .0019 | .0010 | .0074 | .0000 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2412.9 | 78710. | 15402. |
| Stddev | 2.5 | 373. | 56. |
| %RSD | .10433 | .47445 | .36619 |
| #1 | 2414.7 | 78446. | 15442. |
| #2 | 2411.1 | 78975. | 15362. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/6/2013 11:26:35 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1957 | .0048 | -.0002 | .1018 | .0508 | .0043 | 5.017 | .0041 |
| Stddev | .0001 | .0024 | .0009 | .0008 | .0001 | .0000 | .0001 | .026 | .0001 |
| %RSD | 1.884 | 1.227 | 17.97 | 420.7 | .0987 | .0794 | 1.367 | .5191 | 1.280 |
| #1 | .0050 | .1940 | .0054 | .0004 | .1017 | .0509 | .0043 | 4.999 | .0041 |
| #2 | .0048 | .1974 | .0042 | -.0008 | .1019 | .0508 | .0044 | 5.036 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0523 | .0099 | .0249 | .1047 | 5.004 | 4.887 | .0157 | .1010 | 4.923 |
| Stddev | .0000 | .0007 | .0001 | .0006 | .025 | .037 | .0001 | .0000 | .008 |
| %RSD | .0338 | 6.747 | .4771 | .6198 | .4941 | .7557 | .6919 | .0299 | .1584 |
| #1 | .0523 | .0095 | .0248 | .1051 | 4.986 | 4.861 | .0156 | .1010 | 4.917 |
| #2 | .0523 | .0104 | .0250 | .1042 | 5.021 | 4.913 | .0158 | .1010 | 4.928 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0410 | .0063 | -.0009 | -.0047 | .0067 | .0104 | .0006 | .0987 | .0105 |
| Stddev | .0000 | .0007 | .0004 | .0020 | .0001 | .0008 | .0006 | .0007 | .0001 |
| %RSD | .0918 | 11.13 | 39.33 | 42.36 | 1.391 | 7.808 | 104.3 | .6957 | .6002 |
| #1 | .0410 | .0058 | -.0007 | -.0033 | .0067 | .0110 | .0010 | .0983 | .0104 |
| #2 | .0410 | .0068 | -.0012 | -.0061 | .0066 | .0099 | .0001 | .0992 | .0105 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0517 | F.0067 | .0108 | .0034 | .0212 | .0002 |
| Stddev | .0007 | .0001 | .0007 | .0005 | .0000 | .0001 |
| %RSD | 1.364 | .7733 | 6.355 | 14.60 | .0598 | 61.50 |
| #1 | .0512 | .0067 | .0103 | .0030 | .0212 | .0002 |
| #2 | .0522 | .0067 | .0112 | .0037 | .0212 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2460.4 | 78857. | 15810. |
| Stddev | 3.7 | 451. | 92. |
| %RSD | .15164 | .57227 | .57995 |
| #1 | 2457.8 | 79176. | 15875. |
| #2 | 2463.0 | 78538. | 15745. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 6/6/2013 11:30:53 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 508.1 | -.0003 | .0045 | .0050 | -.0001 | .0001 | 454.6 | -.0001 | .0005 |
| Stddev | .0001 | 9.7 | .0005 | .0020 | .0004 | .0001 | .0001 | .5 | .0001 | .0001 |
| %RSD | 147.7 | 1.910 | 155.9 | 45.24 | 7.368 | 81.24 | 43.60 | .1078 | 92.69 | 17.25 |
| #1 | .0001 | 514.9 | -.0007 | .0030 | .0053 | -.0002 | .0001 | 454.3 | .0000 | .0005 |
| #2 | .0000 | 501.2 | .0000 | .0059 | .0047 | .0000 | .0002 | 455.0 | -.0001 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | 188.1 | -.0034 | 478.6 | .0007 | -.0010 | .1578 | -.0024 | -.0008 |
| Stddev | .0001 | .0003 | .9 | .0184 | 1.6 | .0001 | .0001 | .0165 | .0004 | .0007 |
| %RSD | 3330. | 26.16 | .4638 | 540.8 | .3438 | 11.57 | 7.136 | 10.45 | 17.45 | 91.64 |
| #1 | -.0001 | .0009 | 187.5 | -.0164 | 477.4 | .0007 | -.0009 | .1462 | -.0027 | -.0003 |
| #2 | .0001 | .0013 | 188.7 | .0096 | 479.7 | .0008 | -.0010 | .1695 | -.0021 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0345 | -.0315 | .0003 | -.0051 | .0330 | -.0001 | .0015 | .0079 | -.0004 | .0002 |
| Stddev | .0018 | .0009 | .0011 | .0005 | .0000 | .0005 | .0001 | .0001 | .0004 | .0000 |
| %RSD | 5.218 | 2.908 | 321.5 | 10.72 | .0783 | 524.3 | 6.042 | .6670 | 95.39 | 8.804 |
| #1 | -.0358 | -.0308 | -.0004 | -.0055 | .0330 | .0003 | .0014 | .0078 | -.0007 | .0002 |
| #2 | -.0333 | -.0321 | .0011 | -.0047 | .0330 | -.0005 | .0015 | .0079 | -.0001 | .0002 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0290 | -.0013 | .0002 |
| Stddev | .0033 | .0001 | .0002 |
| %RSD | 11.26 | 8.759 | 74.74 |
| #1 | -.0313 | -.0012 | .0004 |
| #2 | -.0267 | -.0014 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2309.9 | 73564. | 15462. |
| Stddev | 3.5 | 43. | 14. |
| %RSD | .15068 | .05885 | .08800 |
| #1 | 2307.5 | 73534. | 15453. |
| #2 | 2312.4 | 73595. | 15472. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 6/6/2013 11:35:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.004 | 512.2 | 1.945 | .4715 | .9681 | .4911 | .4725 | 457.9 | .9795 | .4460 |
| Stddev | .001 | 2.4 | .002 | .0019 | .0021 | .0002 | .0000 | 4.3 | .0009 | .0003 |
| %RSD | .1222 | .4680 | .0823 | .4072 | .2179 | .0316 | .0005 | .9318 | .0911 | .0617 |
| #1 | 1.005 | 513.9 | 1.944 | .4729 | .9696 | .4912 | .4725 | 460.9 | .9788 | .4462 |
| #2 | 1.003 | 510.5 | 1.946 | .4702 | .9666 | .4910 | .4725 | 454.9 | .9801 | .4458 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4670 | .4819 | 189.5 | .0165 | 472.4 | .4732 | .8977 | .1519 | .8307 | .8482 |
| Stddev | .0004 | .0003 | .1 | .0086 | .6 | .0006 | .0001 | .0059 | .0015 | .0032 |
| %RSD | .0868 | .0710 | .0493 | 51.99 | .1297 | .1240 | .0063 | 3.867 | .1855 | .3754 |
| #1 | .4668 | .4821 | 189.5 | .0225 | 472.0 | .4736 | .8978 | .1477 | .8318 | .8459 |
| #2 | .4673 | .4816 | 189.6 | .0104 | 472.8 | .4727 | .8977 | .1560 | .8296 | .8504 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4885 | .4770 | 1.954 | 1.886 | 2.077 | .9216 | .9893 | .4914 | 1.787 | .4731 |
| Stddev | .0008 | .0015 | .004 | .001 | .002 | .0009 | .0008 | .0009 | .003 | .0013 |
| %RSD | .1572 | .3234 | .1863 | .0442 | .0804 | .1004 | .0845 | .1845 | .1475 | .2824 |
| #1 | .4880 | .4759 | 1.952 | 1.886 | 2.076 | .9222 | .9887 | .4921 | 1.789 | .4740 |
| #2 | .4891 | .4781 | 1.957 | 1.885 | 2.078 | .9209 | .9899 | .4908 | 1.785 | .4722 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | 1.808 | .8502 | .4643 |
| Stddev | .005 | .0020 | .0018 |
| %RSD | .2769 | .2333 | .3913 |
| #1 | 1.811 | .8516 | .4630 |
| #2 | 1.804 | .8488 | .4655 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2303.4 | 73643. | 15546. |
| Stddev | .2 | 257. | 36. |
| %RSD | .00907 | .34913 | .22929 |
| #1 | 2303.6 | 73461. | 15572. |
| #2 | 2303.3 | 73825. | 15521. |

Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 11:39:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .1627 | .4441 | -.0046 | .0454 | .0423 | .0001 | 22.80 | .0003 | .0082 |
| Stddev | .0002 | .0262 | .0015 | .0001 | .0001 | .0000 | .0000 | .06 | .0002 | .0002 |
| %RSD | 48.95 | 16.10 | .3272 | 1.185 | .1372 | .0262 | 21.29 | .2692 | 50.33 | 1.936 |
| #1 | .0005 | .1812 | .4431 | -.0046 | .0453 | .0424 | .0001 | 22.76 | .0005 | .0083 |
| #2 | .0002 | .1442 | .4451 | -.0045 | .0454 | .0423 | .0001 | 22.85 | .0002 | .0081 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0008 | 64.71 | 4.824 | 3.157 | 2.559 | .0009 | 14.59 | .0064 | .0010 |
| Stddev | .0002 | .0002 | .14 | .009 | .037 | .012 | .0002 | .02 | .0001 | .0011 |
| %RSD | 86.64 | 22.63 | .2226 | .1831 | 1.161 | .4655 | 28.15 | .1114 | 1.570 | 105.4 |
| #1 | -.0001 | .0010 | 64.61 | 4.818 | 3.131 | 2.551 | .0010 | 14.58 | .0063 | .0018 |
| #2 | -.0003 | .0007 | 64.82 | 4.830 | 3.182 | 2.568 | .0007 | 14.61 | .0065 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0095 | .0005 | .0021 | 9.622 | .0001 | .0937 | .0003 | .0025 | -.0001 |
| Stddev | .0001 | .0026 | .0001 | .0002 | .025 | .0003 | .0001 | .0003 | .0010 | .0000 |
| %RSD | 5.347 | 26.82 | 10.95 | 8.217 | .2636 | 251.6 | .1278 | 77.15 | 40.08 | 54.67 |
| #1 | -.0025 | .0113 | .0006 | .0022 | 9.604 | -.0001 | .0938 | .0005 | .0032 | .0000 |
| #2 | -.0027 | .0077 | .0005 | .0019 | 9.640 | .0004 | .0936 | .0002 | .0018 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0300 | .0073 | .0039 |
| Stddev | .0034 | .0001 | .0002 |
| %RSD | 11.29 | 1.201 | 4.343 |
| #1 | .0276 | .0073 | .0040 |
| #2 | .0324 | .0072 | .0038 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2430.0 | 78479. | 15709. |
| Stddev | .6 | 515. | 64. |
| %RSD | .02399 | .65583 | .40477 |
| #1 | 2430.4 | 78843. | 15754. |
| #2 | 2429.6 | 78115. | 15664. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 11:43:58 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0081 | .4408 | -.0042 | .0435 | .0408 | .0000 | 22.38 | .0002 | .0076 |
| Stddev | .0001 | .0021 | .0004 | .0011 | .0003 | .0003 | .0001 | .05 | .0001 | .0001 |
| %RSD | 21.85 | 25.68 | .0801 | 25.08 | .7336 | .8054 | 197.6 | .2189 | 41.66 | 1.887 |
| #1 | .0004 | .0095 | .4406 | -.0034 | .0437 | .0410 | .0001 | 22.35 | .0002 | .0075 |
| #2 | .0003 | .0066 | .4411 | -.0049 | .0432 | .0405 | .0000 | 22.42 | .0001 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | 63.73 | 4.732 | 2.986 | 2.533 | .0001 | 13.92 | .0058 | .0011 |
| Stddev | .0000 | .0002 | .05 | .005 | .034 | .008 | .0003 | .01 | .0002 | .0005 |
| %RSD | 2.785 | 40.86 | .0752 | .1143 | 1.150 | .3276 | 233.5 | .0605 | 2.726 | 44.20 |
| #1 | -.0006 | .0003 | 63.69 | 4.728 | 3.010 | 2.539 | .0003 | 13.92 | .0059 | .0014 |
| #2 | -.0006 | .0005 | 63.76 | 4.736 | 2.961 | 2.527 | -.0001 | 13.93 | .0057 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0058 | -.0005 | .0012 | 9.467 | .0000 | .0917 | .0003 | .0013 | .0001 |
| Stddev | .0010 | .0011 | .0004 | .0013 | .001 | .000 | .0002 | .0004 | .0012 | .0001 |
| %RSD | 36.54 | 19.24 | 91.27 | 110.6 | .0063 | 187.2 | .1696 | 144.0 | 96.46 | 60.48 |
| #1 | -.0021 | .0066 | -.0008 | .0021 | 9.467 | -.0001 | .0916 | .0000 | .0004 | .0001 |
| #2 | -.0035 | .0050 | -.0002 | .0003 | 9.468 | .0000 | .0918 | .0005 | .0021 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0124 | .0080 | -.0001 |
| Stddev | .0005 | .0000 | .0000 |
| %RSD | 4.150 | .5463 | 29.35 |
| #1 | .0128 | .0080 | -.0001 |
| #2 | .0121 | .0080 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.9 | 79044. | 15725. |
| Stddev | .9 | 786. | 32. |
| %RSD | .03693 | .99393 | .20407 |
| #1 | 2428.2 | 78488. | 15748. |
| #2 | 2429.5 | 79599. | 15702. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 11:48:17 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0157 | 5.250 | -.0052 | .0849 | .0251 | .0001 | 44.92 | .0018 | .0200 |
| Stddev | .0002 | .0036 | .002 | .0010 | .0002 | .0000 | .0000 | .12 | .0002 | .0002 |
| %RSD | 101.2 | 23.01 | .0395 | 18.73 | .2720 | .1119 | 48.61 | .2740 | 9.153 | 1.136 |
| #1 | .0000 | -.0182 | 5.252 | -.0058 | .0847 | .0251 | .0001 | 45.01 | .0020 | .0202 |
| #2 | -.0003 | -.0131 | 5.249 | -.0045 | .0851 | .0251 | .0000 | 44.83 | .0017 | .0198 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0008 | 83.93 | 7.021 | 3.417 | 2.892 | .0003 | 5.612 | .0053 | .0006 |
| Stddev | .0000 | .0004 | .03 | .002 | .012 | .025 | .0001 | .004 | .0000 | .0005 |
| %RSD | 6.202 | 53.23 | .0401 | .0236 | .3365 | .8741 | 23.47 | .0766 | .7443 | 83.02 |
| #1 | -.0006 | .0005 | 83.96 | 7.023 | 3.425 | 2.874 | .0004 | 5.615 | .0053 | .0003 |
| #2 | -.0005 | .0011 | 83.91 | 7.020 | 3.409 | 2.909 | .0003 | 5.609 | .0054 | .0010 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0117 | .0000 | .0007 | 8.462 | .0001 | .2337 | .0004 | .0012 | -.0004 |
| Stddev | .0003 | .0001 | .0006 | .0010 | .001 | .0003 | .0000 | .0001 | .0000 | .0001 |
| %RSD | 8.510 | .6396 | 1275. | 143.7 | .0165 | 259.4 | .0011 | 20.39 | 1.920 | 16.33 |
| #1 | -.0034 | .0116 | -.0004 | .0000 | 8.461 | -.0001 | .2337 | .0004 | .0012 | -.0004 |
| #2 | -.0038 | .0117 | .0004 | .0014 | 8.463 | .0003 | .2337 | .0003 | .0012 | -.0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0110 | .0067 | -.0005 |
| Stddev | .0033 | .0000 | .0000 |
| %RSD | 30.03 | .2518 | .6575 |
| #1 | .0086 | .0067 | -.0005 |
| #2 | .0133 | .0067 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2408.8 | 78157. | 15724. |
| Stddev | .2 | 162. | 106. |
| %RSD | .00639 | .20705 | .67547 |
| #1 | 2408.7 | 78271. | 15649. |
| #2 | 2408.9 | 78042. | 15799. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 11:52:39 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0152 | .8577 | -.0048 | .1155 | .0850 | .0001 | 51.64 | .0005 | .0004 |
| Stddev | .0001 | .0055 | .0014 | .0015 | .0007 | .0004 | .0001 | .16 | .0000 | .0000 |
| %RSD | 73.32 | 36.46 | .1617 | 31.65 | .6242 | .4417 | 100.8 | .3046 | 3.910 | 5.545 |
| #1 | .0000 | -.0113 | .8587 | -.0058 | .1160 | .0853 | .0001 | 51.76 | .0005 | .0004 |
| #2 | -.0001 | -.0191 | .8567 | -.0037 | .1150 | .0847 | .0000 | 51.53 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0001 | 47.25 | 9.267 | 8.136 | 2.274 | .0006 | 23.67 | .0030 | .0006 |
| Stddev | .0003 | .0004 | .09 | .033 | .040 | .004 | .0000 | .04 | .0000 | .0001 |
| %RSD | 37.80 | 435.8 | .1920 | .3507 | .4895 | .1993 | 3.973 | .1809 | .1454 | 23.72 |
| #1 | -.0006 | .0003 | 47.32 | 9.244 | 8.108 | 2.277 | .0006 | 23.71 | .0030 | .0005 |
| #2 | -.0010 | -.0002 | 47.19 | 9.290 | 8.164 | 2.271 | .0006 | 23.64 | .0030 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0078 | .0006 | -.0005 | 13.77 | -.0003 | .5717 | .0001 | .0005 | -.0002 |
| Stddev | .0003 | .0041 | .0010 | .0004 | .03 | .0002 | .0006 | .0002 | .0003 | .0003 |
| %RSD | 7.909 | 51.71 | 171.3 | 87.97 | .2053 | 72.55 | .1118 | 144.6 | 59.11 | 143.2 |
| #1 | -.0034 | .0050 | .0013 | -.0008 | 13.79 | -.0005 | .5721 | .0000 | .0007 | -.0005 |
| #2 | -.0038 | .0107 | -.0001 | -.0002 | 13.75 | -.0002 | .5712 | .0002 | .0003 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0064 | .0046 | -.0018 |
| Stddev | .0028 | .0001 | .0002 |
| %RSD | 44.43 | 2.564 | 9.329 |
| #1 | .0084 | .0047 | -.0019 |
| #2 | .0044 | .0045 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.8 | 78123. | 15646. |
| Stddev | .3 | 597. | 9. |
| %RSD | .01214 | .76442 | .06017 |
| #1 | 2411.0 | 77701. | 15639. |
| #2 | 2410.5 | 78545. | 15653. |

Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/6/2013 11:56:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0022 | .3947 | -.0003 | .0454 | .0276 | .0000 | 11.61 | .0001 | .0000 |
| Stddev | .0002 | .0013 | .0018 | .0001 | .0005 | .0001 | .0001 | .06 | .0002 | .0000 |
| %RSD | 99.30 | 59.46 | .4569 | 45.73 | 1.170 | .2739 | 173.0 | .5298 | 207.6 | 39.96 |
| #1 | -.0001 | .0013 | .3934 | -.0004 | .0450 | .0275 | .0000 | 11.57 | .0000 | .0000 |
| #2 | -.0003 | .0031 | .3960 | -.0002 | .0457 | .0277 | .0001 | 11.65 | .0002 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | 10.18 | 4.388 | 1.256 | .2542 | .0007 | 8.324 | .0145 | .0004 |
| Stddev | .000 | .0003 | .01 | .017 | .030 | .0006 | .0001 | .004 | .0000 | .0010 |
| %RSD | 1201. | 53.85 | .1401 | .3830 | 2.367 | .2385 | 8.010 | .0545 | .1655 | 236.2 |
| #1 | .0001 | .0003 | 10.17 | 4.376 | 1.235 | .2538 | .0006 | 8.321 | .0145 | -.0003 |
| #2 | -.0001 | .0007 | 10.19 | 4.400 | 1.277 | .2547 | .0007 | 8.327 | .0146 | .0011 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0029 | .0004 | .0014 | 8.241 | -.0004 | .0937 | .0001 | -.0001 | -.0003 |
| Stddev | .0004 | .0039 | .0004 | .0011 | .010 | .0001 | .0004 | .0003 | .0005 | .0004 |
| %RSD | 69.82 | 134.0 | 89.12 | 76.54 | .1235 | 38.54 | .4289 | 305.6 | 684.8 | 162.3 |
| #1 | -.0003 | .0002 | .0007 | .0022 | 8.234 | -.0005 | .0934 | .0003 | -.0004 | -.0006 |
| #2 | -.0008 | .0057 | .0002 | .0007 | 8.248 | -.0003 | .0940 | -.0001 | .0003 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0322 | .0077 | -.0007 |
| Stddev | .0002 | .0001 | .0000 |
| %RSD | .5943 | 1.381 | 6.034 |
| #1 | .0321 | .0076 | -.0007 |
| #2 | .0324 | .0078 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.8 | 78231. | 15584. |
| Stddev | 4.5 | 86. | 82. |
| %RSD | .18634 | .10930 | .52494 |
| #1 | 2404.0 | 78170. | 15641. |
| #2 | 2397.7 | 78291. | 15526. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 12:01:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0140 | 1.121 | -.0044 | .2013 | .0974 | .0000 | 53.70 | .0004 | .0037 |
| Stddev | .0001 | .0022 | .013 | .0002 | .0020 | .0005 | .0001 | .02 | .0002 | .0000 |
| %RSD | 49.25 | 16.07 | 1.119 | 4.394 | .9774 | .4823 | 190.7 | .0318 | 44.34 | .3093 |
| #1 | -.0001 | -.0124 | 1.112 | -.0045 | .2000 | .0971 | .0001 | 53.71 | .0003 | .0038 |
| #2 | -.0002 | -.0156 | 1.129 | -.0043 | .2027 | .0977 | .0000 | 53.68 | .0005 | .0037 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0005 | 93.39 | 12.89 | 6.704 | 2.678 | .0005 | 28.60 | .0044 | .0011 |
| Stddev | .0003 | .0001 | .01 | .04 | .026 | .015 | .0001 | .02 | .0002 | .0003 |
| %RSD | 35.84 | 18.02 | .0134 | .3238 | .3895 | .5520 | 25.94 | .0858 | 4.500 | 27.20 |
| #1 | -.0006 | .0006 | 93.38 | 12.92 | 6.686 | 2.688 | .0004 | 28.62 | .0045 | .0013 |
| #2 | -.0010 | .0004 | 93.40 | 12.87 | 6.723 | 2.667 | .0006 | 28.59 | .0043 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0088 | -.0006 | .0002 | 15.24 | .0000 | .6288 | .0002 | .0017 | .0005 |
| Stddev | .0011 | .0014 | .0005 | .0011 | .14 | .0006 | .0008 | .0004 | .0000 | .0001 |
| %RSD | 36.35 | 16.38 | 88.91 | 654.0 | .9161 | 1280. | .1283 | 221.0 | 1.514 | 18.37 |
| #1 | -.0023 | .0099 | -.0010 | .0010 | 15.14 | -.0004 | .6294 | .0005 | .0017 | .0006 |
| #2 | -.0039 | .0078 | -.0002 | -.0006 | 15.34 | .0005 | .6282 | -.0001 | .0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0125 | .0057 | -.0027 |
| Stddev | .0056 | .0001 | .0001 |
| %RSD | 44.86 | 2.409 | 2.862 |
| #1 | .0085 | .0056 | -.0027 |
| #2 | .0164 | .0058 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.9 | 78483. | 15654. |
| Stddev | 24.9 | 357. | 13. |
| %RSD | 1.0421 | .45459 | .08484 |
| #1 | 2411.5 | 78231. | 15664. |
| #2 | 2376.3 | 78736. | 15645. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 12:05:33 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0241 | 1.876 | -.0032 | .1475 | .0733 | .0000 | 35.50 | .0004 | .0273 |
| Stddev | .0005 | .0027 | .010 | .0011 | .0010 | .0001 | .0000 | .03 | .0001 | .0000 |
| %RSD | 139.2 | 11.39 | .5345 | 36.01 | .7063 | .1183 | 65.71 | .0732 | 21.67 | .0941 |
| #1 | .0007 | -.0222 | 1.869 | -.0040 | .1468 | .0732 | .0000 | 35.48 | .0004 | .0273 |
| #2 | .0000 | -.0261 | 1.883 | -.0024 | .1483 | .0734 | .0001 | 35.52 | .0005 | .0273 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0003 | 104.0 | 11.24 | 6.495 | 1.885 | .0030 | 17.11 | .0058 | .0017 |
| Stddev | .0002 | .0005 | .2 | .06 | .008 | .002 | .0001 | .02 | .0001 | .0005 |
| %RSD | 29.46 | 145.5 | .2256 | .5745 | .1224 | .1127 | 4.244 | .0980 | 1.565 | 28.88 |
| #1 | -.0009 | .0007 | 103.8 | 11.19 | 6.501 | 1.886 | .0029 | 17.10 | .0057 | .0020 |
| #2 | -.0006 | .0000 | 104.2 | 11.28 | 6.490 | 1.883 | .0031 | 17.13 | .0058 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0059 | -.0004 | .0011 | 11.97 | .0000 | .4823 | .0003 | .0010 | .0001 |
| Stddev | .0010 | .0043 | .0009 | .0003 | .04 | .0007 | .0003 | .0001 | .0005 | .0000 |
| %RSD | 31.18 | 72.05 | 244.5 | 25.69 | .3133 | 2188. | .0677 | 47.70 | 53.92 | 73.91 |
| #1 | -.0039 | .0089 | -.0011 | .0013 | 11.95 | .0005 | .4820 | .0002 | .0006 | .0001 |
| #2 | -.0025 | .0029 | .0003 | .0009 | 12.00 | -.0005 | .4825 | .0003 | .0013 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0602 | .0093 | -.0019 |
| Stddev | .0026 | .0000 | .0001 |
| %RSD | 4.279 | .4948 | 6.618 |
| #1 | .0620 | .0093 | -.0020 |
| #2 | .0583 | .0094 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2390.8 | 78703. | 15842. |
| Stddev | .7 | 285. | 86. |
| %RSD | .02851 | .36275 | .54035 |
| #1 | 2391.2 | 78501. | 15902. |
| #2 | 2390.3 | 78905. | 15781. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 12:09:49 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2402 | 9.729 | 1.906 | -.0058 | 1.931 | 1.925 | 1.949 | 9.775 | 1.922 | 1.976 |
| Stddev | .0003 | .017 | .002 | .0002 | .001 | .004 | .001 | .034 | .001 | .002 |
| %RSD | .1274 | .1742 | .1040 | 3.939 | .0642 | .2289 | .0558 | .3478 | .0468 | .0966 |
| #1 | .2400 | 9.740 | 1.904 | -.0060 | 1.930 | 1.922 | 1.950 | 9.799 | 1.923 | 1.977 |
| #2 | .2404 | 9.717 | 1.907 | -.0057 | 1.931 | 1.928 | 1.948 | 9.751 | 1.921 | 1.974 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.918 | 1.881 | 9.846 | 9.705 | 9.534 | 1.922 | 1.892 | 9.776 | 1.898 | 1.871 |
| Stddev | .003 | .001 | .004 | .044 | .036 | .000 | .001 | .011 | .002 | .000 |
| %RSD | .1569 | .0682 | .0414 | .4522 | .3818 | .0115 | .0686 | .1078 | .0880 | .0131 |
| #1 | 1.920 | 1.882 | 9.849 | 9.674 | 9.508 | 1.921 | 1.893 | 9.768 | 1.899 | 1.872 |
| #2 | 1.916 | 1.880 | 9.843 | 9.736 | 9.559 | 1.922 | 1.891 | 9.783 | 1.897 | 1.871 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0028 | 1.907 | 1.913 | -.0085 | 1.900 | 1.945 | 1.898 | 1.934 | 1.881 |
| Stddev | .0000 | .0018 | .001 | .000 | .0014 | .004 | .001 | .000 | .001 | .001 |
| %RSD | 5.425 | 63.93 | .0515 | .0226 | 16.52 | .2019 | .0357 | .0085 | .0662 | .0703 |
| #1 | -.0010 | .0015 | 1.908 | 1.913 | -.0075 | 1.902 | 1.945 | 1.899 | 1.935 | 1.880 |
| #2 | -.0009 | .0040 | 1.906 | 1.913 | -.0095 | 1.897 | 1.946 | 1.898 | 1.933 | 1.882 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0111 | 1.879 | .0017 |
| Stddev | .0036 | .004 | .0007 |
| %RSD | 32.15 | .2335 | 40.07 |
| #1 | .0086 | 1.882 | .0021 |
| #2 | .0137 | 1.876 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2452.6 | 80040. | 15650. |
| Stddev | 5.1 | 26. | 48. |
| %RSD | .20676 | .03214 | .30851 |
| #1 | 2456.2 | 80058. | 15684. |
| #2 | 2449.0 | 80021. | 15616. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 12:13:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0030 | .0004 | -.0011 | .0017 | .0006 | F.0008 | .0115 | .0002 |
| Stddev | .0000 | .0030 | .0000 | .0007 | .0007 | .0001 | .0001 | .0013 | .0001 |
| %RSD | 15.87 | 100.2 | 4.994 | 62.35 | 41.22 | 14.25 | 14.39 | 11.69 | 59.11 |
| #1 | .0003 | -.0009 | .0005 | -.0006 | .0023 | .0007 | .0008 | .0124 | .0003 |
| #2 | .0003 | -.0052 | .0004 | -.0016 | .0012 | .0005 | .0007 | .0105 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0002 | F.0210 | .0000 | .0175 | .0009 | .0020 | .0353 |
| Stddev | .0002 | .0001 | .0000 | .0018 | .022 | .0092 | .0000 | .0005 | .0039 |
| %RSD | 54.71 | 23.27 | 3.317 | 8.699 | 51150. | 52.87 | .5686 | 26.54 | 10.95 |
| #1 | .0006 | .0002 | .0002 | .0223 | .0155 | .0109 | .0009 | .0023 | .0381 |
| #2 | .0003 | .0003 | .0002 | .0197 | -.0156 | .0240 | .0009 | .0016 | .0326 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | -.0009 | -.0024 | .0006 | .0002 | .0026 | .0002 | .0008 |
| Stddev | .0001 | .0002 | .0012 | .0025 | .0007 | .0005 | .0005 | .0002 | .0000 |
| %RSD | 54.59 | 26.56 | 135.2 | 102.6 | 106.4 | 258.0 | 19.93 | 111.9 | 4.296 |
| #1 | .0004 | .0010 | .0000 | -.0007 | .0011 | .0006 | .0022 | .0003 | .0008 |
| #2 | .0002 | .0007 | -.0017 | -.0042 | .0002 | -.0002 | .0030 | .0000 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0006 | .0013 | .0013 | .0062 | .0000 | .0002 |
| Stddev | .0001 | .0017 | .0004 | .0002 | .0000 | .0000 |
| %RSD | 17.31 | 128.4 | 27.84 | 3.175 | 120.1 | 3.817 |
| #1 | .0007 | .0025 | .0010 | .0064 | .0000 | .0002 |
| #2 | .0006 | .0001 | .0015 | .0061 | .0000 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2416.8 | 78526. | 15492. |
| Stddev | 5.6 | 548. | 63. |
| %RSD | .22996 | .69804 | .40419 |
| #1 | 2420.7 | 78139. | 15448. |
| #2 | 2412.9 | 78914. | 15536. |



Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 12:18:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0055 | .4803 | -.0047 | .0872 | .0824 | .0002 | 46.77 | .0002 | .0034 |
| Stddev | .0002 | .0053 | .0001 | .0000 | .0004 | .0003 | .0001 | .12 | .0000 | .0000 |
| %RSD | 54.08 | 96.87 | .0135 | .6153 | .4451 | .3660 | 55.60 | .2660 | 8.980 | 1.040 |
| #1 | .0002 | -.0017 | .4802 | -.0047 | .0869 | .0822 | .0002 | 46.69 | .0002 | .0034 |
| #2 | .0005 | -.0093 | .4803 | -.0047 | .0875 | .0827 | .0001 | 46.86 | .0002 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0005 | 19.34 | 6.476 | 6.486 | 2.435 | .0031 | 24.34 | .0041 | .0010 |
| Stddev | .0001 | .0000 | .02 | .045 | .036 | .002 | .0000 | .01 | .0000 | .0004 |
| %RSD | 43.63 | 4.472 | .0872 | .6968 | .5579 | .0725 | 1.243 | .0234 | .2337 | 43.15 |
| #1 | -.0001 | .0005 | 19.33 | 6.444 | 6.460 | 2.433 | .0030 | 24.34 | .0041 | .0013 |
| #2 | -.0002 | .0005 | 19.36 | 6.508 | 6.511 | 2.436 | .0031 | 24.33 | .0041 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .0102 | .0003 | .0015 | 12.26 | -.0004 | .3398 | .0006 | .0011 | -.0004 |
| Stddev | .0014 | .0007 | .0000 | .0000 | .01 | .0004 | .0005 | .0001 | .0002 | .0004 |
| %RSD | 45.97 | 6.398 | 6.423 | .3823 | .0469 | 89.01 | .1565 | 11.56 | 21.70 | 106.7 |
| #1 | -.0021 | .0097 | .0003 | .0015 | 12.25 | -.0001 | .3395 | .0006 | .0009 | -.0007 |
| #2 | -.0041 | .0106 | .0003 | .0015 | 12.26 | -.0007 | .3402 | .0007 | .0012 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0086 | .0093 | -.0024 |
| Stddev | .0008 | .0000 | .0000 |
| %RSD | 9.614 | .3090 | 1.048 |
| #1 | .0080 | .0093 | -.0023 |
| #2 | .0092 | .0093 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.1 | 78777. | 15809. |
| Stddev | 2.8 | 138. | 123. |
| %RSD | .11724 | .17574 | .77945 |
| #1 | 2402.1 | 78679. | 15896. |
| #2 | 2398.1 | 78875. | 15722. |



Zoom In Zoom Out

Sample Name: MC21156-10F Acquired: 6/6/2013 12:22:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0023 | .0002 | -.0002 | .0008 | .0000 | .0001 | .0264 | -.0001 | .0000 |
| Stddev | .0002 | .0105 | .0004 | .0008 | .0002 | .000 | .0000 | .0027 | .0000 | .000 |
| %RSD | 359.1 | 458.5 | 215.4 | 443.8 | 28.15 | 2236. | 42.98 | 10.11 | 56.54 | 75.23 |
| #1 | .0002 | .0051 | .0005 | -.0008 | .0010 | -.0001 | .0001 | .0282 | .0000 | -.0001 |
| #2 | -.0001 | -.0097 | -.0001 | .0004 | .0006 | .0001 | .0000 | .0245 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0114 | .0140 | .0058 | .0007 | .0002 | .0485 | .0000 | .0004 |
| Stddev | .0006 | .0007 | .0006 | .0147 | .0122 | .0001 | .0001 | .0040 | .000 | .0004 |
| %RSD | 141.6 | 266.1 | 4.991 | 104.8 | 211.6 | 7.416 | 38.41 | 8.183 | 3495. | 90.09 |
| #1 | -.0008 | .0008 | .0110 | .0244 | .0144 | .0007 | .0002 | .0513 | -.0001 | .0007 |
| #2 | .0000 | -.0002 | .0118 | .0036 | -.0029 | .0007 | .0001 | .0457 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0007 | .0003 | .0011 | .0239 | -.0003 | .0002 | -.0003 | .0002 | .0001 |
| Stddev | .0000 | .0020 | .0003 | .0000 | .0004 | .0006 | .0001 | .0001 | .0008 | .0004 |
| %RSD | 9.171 | 271.1 | 132.5 | .7915 | 1.830 | 229.4 | 55.32 | 26.00 | 340.4 | 539.3 |
| #1 | -.0004 | -.0021 | .0005 | .0011 | .0242 | .0002 | .0001 | -.0002 | -.0003 | -.0002 |
| #2 | -.0004 | .0007 | .0000 | .0011 | .0236 | -.0007 | .0003 | -.0004 | .0008 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0048 | .0065 | .0000 |
| Stddev | .0026 | .0001 | .000 |
| %RSD | 53.92 | 1.724 | 69.27 |
| #1 | .0066 | .0064 | .0000 |
| #2 | .0030 | .0066 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2400.6 | 78261. | 15582. |
| Stddev | 6.4 | 173. | 83. |
| %RSD | .26644 | .22145 | .53080 |
| #1 | 2396.1 | 78384. | 15524. |
| #2 | 2405.1 | 78139. | 15641. |



Zoom In Zoom Out

Sample Name: MC21156-11F Acquired: 6/6/2013 12:27:02 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0210 | 3.328 | -.0095 | .0331 | .0174 | .0001 | 28.20 | .0008 | .0065 |
| Stddev | .000 | .0065 | .001 | .0004 | .0000 | .0001 | .0000 | .03 | .0000 | .0001 |
| %RSD | 293.0 | 30.85 | .0295 | 3.701 | .0162 | .5286 | 16.84 | .1027 | 2.248 | 1.069 |
| #1 | -.0001 | -.0164 | 3.329 | -.0093 | .0331 | .0174 | .0001 | 28.18 | .0008 | .0065 |
| #2 | .0000 | -.0255 | 3.327 | -.0097 | .0331 | .0175 | .0001 | 28.22 | .0008 | .0066 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0002 | 55.48 | 3.613 | 2.737 | 6.107 | -.0001 | 5.436 | .0085 | .0004 |
| Stddev | .0004 | .0002 | .00 | .026 | .026 | .030 | .0001 | .007 | .0002 | .0003 |
| %RSD | 176.1 | 96.01 | .0015 | .7272 | .9384 | .4858 | 70.14 | .1237 | 2.442 | 87.24 |
| #1 | -.0006 | -.0003 | 55.48 | 3.631 | 2.755 | 6.128 | -.0001 | 5.432 | .0087 | .0002 |
| #2 | .0001 | -.0001 | 55.48 | 3.594 | 2.719 | 6.086 | -.0002 | 5.441 | .0084 | .0006 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | .0249 | .0000 | .0015 | 8.206 | -.0006 | .0970 | .0001 | .0024 | .0000 |
| Stddev | .0006 | .0025 | .0002 | .0003 | .005 | .0002 | .0001 | .0000 | .0003 | .000 |
| %RSD | 22.65 | 9.965 | 377.5 | 16.39 | .0651 | 35.35 | .1233 | 17.26 | 11.47 | 458.2 |
| #1 | -.0030 | .0232 | .0002 | .0014 | 8.210 | -.0007 | .0969 | .0002 | .0026 | -.0002 |
| #2 | -.0022 | .0267 | -.0001 | .0017 | 8.203 | -.0004 | .0971 | .0001 | .0022 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0044 | .0100 | -.0018 |
| Stddev | .0031 | .0001 | .0000 |
| %RSD | 69.98 | 1.385 | 1.819 |
| #1 | .0022 | .0099 | -.0017 |
| #2 | .0065 | .0101 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.2 | 78552. | 15646. |
| Stddev | 4.8 | 94. | 89. |
| %RSD | .19961 | .11934 | .57072 |
| #1 | 2391.8 | 78486. | 15709. |
| #2 | 2398.6 | 78618. | 15583. |

Zoom In Zoom Out

Sample Name: MC21156-12F Acquired: 6/6/2013 12:31:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0095 | .6472 | -.0050 | .1402 | .0471 | .0000 | 56.31 | .0000 | .0001 |
| Stddev | .0001 | .0002 | .0041 | .0017 | .0000 | .0001 | .0000 | .08 | .0001 | .0001 |
| %RSD | 44.52 | 1.757 | .6343 | 34.73 | .0119 | .1167 | 191.5 | .1446 | 767.9 | 71.69 |
| #1 | .0002 | -.0094 | .6443 | -.0037 | .1401 | .0472 | .0000 | 56.25 | .0001 | .0001 |
| #2 | .0004 | -.0096 | .6501 | -.0062 | .1402 | .0471 | .0000 | 56.37 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0004 | 40.63 | 8.315 | 8.216 | 2.875 | .0003 | 45.63 | .0007 | .0008 |
| Stddev | .0002 | .0004 | .03 | .012 | .100 | .000 | .0003 | .03 | .0001 | .0009 |
| %RSD | 46.68 | 105.9 | .0827 | .1466 | 1.219 | .0141 | 99.45 | .0675 | 21.25 | 115.9 |
| #1 | -.0003 | .0006 | 40.61 | 8.306 | 8.145 | 2.875 | .0005 | 45.61 | .0006 | .0001 |
| #2 | -.0006 | .0001 | 40.65 | 8.323 | 8.287 | 2.875 | .0001 | 45.65 | .0008 | .0015 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0102 | .0009 | .0010 | 13.71 | -.0004 | .3179 | .0004 | .0004 | .0002 |
| Stddev | .0003 | .0038 | .0001 | .0009 | .03 | .0000 | .0007 | .0002 | .0014 | .0003 |
| %RSD | 8.388 | 36.89 | 6.610 | 83.58 | .2453 | 8.868 | .2132 | 44.43 | 343.2 | 138.7 |
| #1 | -.0036 | .0129 | .0009 | .0004 | 13.69 | -.0003 | .3174 | .0005 | .0014 | .0000 |
| #2 | -.0032 | .0076 | .0010 | .0017 | 13.73 | -.0004 | .3184 | .0003 | -.0006 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0078 | .0066 | -.0026 |
| Stddev | .0000 | .0000 | .0000 |
| %RSD | .4555 | .2607 | 1.785 |
| #1 | .0077 | .0066 | -.0025 |
| #2 | .0078 | .0066 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.6 | 77678. | 15664. |
| Stddev | 1.8 | 16. | 22. |
| %RSD | .07669 | .02096 | .14240 |
| #1 | 2381.3 | 77666. | 15648. |
| #2 | 2383.9 | 77689. | 15680. |



Zoom In Zoom Out

Sample Name: MC21156-13F Acquired: 6/6/2013 12:35:50 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0008 | .0020 | -.0012 | .0244 | .0318 | .0001 | 13.58 | .0000 | .0008 |
| Stddev | .0001 | .0088 | .0004 | .0002 | .0001 | .0000 | .0000 | .02 | .000 | .0000 |
| %RSD | 153.4 | 1134. | 20.47 | 20.16 | .2583 | .1317 | 5.129 | .1580 | 89.17 | 2.865 |
| #1 | -.0002 | .0070 | .0023 | -.0010 | .0244 | .0318 | .0001 | 13.57 | .0000 | .0008 |
| #2 | .0000 | -.0054 | .0017 | -.0014 | .0244 | .0318 | .0001 | 13.60 | .0000 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0022 | .1805 | 2.832 | 2.619 | .3719 | .0001 | 6.580 | .0030 | .0010 |
| Stddev | .0001 | .0008 | .0040 | .031 | .015 | .0008 | .0001 | .007 | .0000 | .0003 |
| %RSD | 20.72 | 36.17 | 2.241 | 1.085 | .5538 | .2263 | 58.26 | .1134 | .5464 | 33.81 |
| #1 | -.0004 | .0028 | .1833 | 2.853 | 2.630 | .3725 | .0001 | 6.575 | .0030 | .0008 |
| #2 | -.0003 | .0017 | .1776 | 2.810 | 2.609 | .3713 | .0001 | 6.585 | .0030 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0020 | .0005 | .0006 | 3.199 | -.0007 | .0942 | .0001 | .0004 | .0002 |
| Stddev | .0003 | .0011 | .0007 | .0000 | .011 | .0004 | .0002 | .0001 | .0015 | .0004 |
| %RSD | 122.6 | 57.47 | 133.3 | 5.549 | .3445 | 51.41 | .1636 | 125.5 | 419.2 | 239.9 |
| #1 | .0000 | -.0012 | .0010 | .0006 | 3.206 | -.0004 | .0941 | .0001 | -.0007 | .0005 |
| #2 | -.0004 | -.0028 | .0000 | .0005 | 3.191 | -.0010 | .0943 | .0000 | .0014 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0082 | -.0006 |
| Stddev | .0037 | .0001 | .0003 |
| %RSD | 59.64 | .7662 | 46.93 |
| #1 | .0036 | .0083 | -.0004 |
| #2 | .0089 | .0082 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.4 | 78554. | 15846. |
| Stddev | 4.6 | 503. | 33. |
| %RSD | .19189 | .64017 | .20737 |
| #1 | 2401.1 | 78198. | 15822. |
| #2 | 2407.6 | 78909. | 15869. |



Zoom In Zoom Out

Sample Name: MC21156-14F Acquired: 6/6/2013 12:40:12 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0054 | .0025 | -.0018 | .0619 | .0611 | .0000 | 29.99 | .0001 | .0005 |
| Stddev | .0001 | .0005 | .0003 | .0005 | .0001 | .0004 | .0001 | .01 | .0000 | .0001 |
| %RSD | 25.55 | 9.022 | 12.12 | 28.19 | .2202 | .6116 | 200.5 | .0319 | 18.37 | 21.85 |
| #1 | -.0002 | -.0050 | .0023 | -.0015 | .0618 | .0608 | .0000 | 29.99 | .0002 | .0006 |
| #2 | -.0003 | -.0057 | .0027 | -.0022 | .0620 | .0614 | .0001 | 30.00 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0015 | .0551 | 4.516 | 4.353 | .4927 | .0003 | 18.13 | .0031 | .0011 |
| Stddev | .0002 | .0003 | .0010 | .050 | .004 | .0007 | .0001 | .03 | .0000 | .0003 |
| %RSD | 67.47 | 19.16 | 1.738 | 1.097 | .0853 | .1399 | 49.41 | .1852 | 1.385 | 29.61 |
| #1 | -.0004 | .0017 | .0545 | 4.480 | 4.351 | .4932 | .0003 | 18.15 | .0031 | .0013 |
| #2 | -.0001 | .0013 | .0558 | 4.551 | 4.356 | .4922 | .0002 | 18.10 | .0032 | .0008 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0038 | .0013 | .0006 | 5.128 | -.0004 | .2118 | .0002 | .0003 | .0003 |
| Stddev | .0023 | .0006 | .0008 | .0023 | .006 | .0001 | .0010 | .0002 | .0001 | .0005 |
| %RSD | 502.0 | 14.56 | 65.40 | 388.2 | .1209 | 12.19 | .4698 | 90.07 | 52.69 | 149.7 |
| #1 | .0012 | .0034 | .0019 | -.0010 | 5.124 | -.0005 | .2125 | .0004 | .0002 | .0006 |
| #2 | -.0021 | .0042 | .0007 | .0022 | 5.132 | -.0004 | .2111 | .0001 | .0004 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0026 | .0073 | -.0007 |
| Stddev | .0021 | .0000 | .0001 |
| %RSD | 79.29 | .2713 | 13.79 |
| #1 | .0041 | .0073 | -.0006 |
| #2 | .0012 | .0073 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.0 | 78248. | 15685. |
| Stddev | 7.6 | 422. | 23. |
| %RSD | .31525 | .53867 | .14729 |
| #1 | 2396.6 | 77950. | 15701. |
| #2 | 2407.3 | 78546. | 15668. |



Zoom In Zoom Out

Sample Name: MC21156-15F Acquired: 6/6/2013 12:44:32 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0042 | .0040 | -.0026 | .0620 | .0617 | .0000 | 29.83 | -.0001 | .0006 |
| Stddev | .000 | .0005 | .0003 | .0003 | .0002 | .0002 | .000 | .01 | .0000 | .0002 |
| %RSD | 2075. | 12.42 | 8.550 | 11.17 | .2738 | .2810 | 9623. | .0180 | 9.056 | 33.40 |
| #1 | .0002 | -.0046 | .0038 | -.0024 | .0619 | .0616 | .0000 | 29.83 | -.0001 | .0005 |
| #2 | -.0002 | -.0039 | .0043 | -.0028 | .0621 | .0618 | .0000 | 29.82 | -.0001 | .0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0016 | .0594 | 4.484 | 4.391 | .4927 | .0003 | 18.20 | .0038 | .0004 |
| Stddev | .0002 | .0004 | .0013 | .009 | .015 | .0004 | .0001 | .00 | .0000 | .0002 |
| %RSD | 57.24 | 26.97 | 2.184 | .1925 | .3513 | .0856 | 26.71 | .0041 | 1.234 | 41.01 |
| #1 | -.0002 | .0019 | .0603 | 4.491 | 4.380 | .4924 | .0002 | 18.20 | .0038 | .0005 |
| #2 | -.0004 | .0013 | .0585 | 4.478 | 4.402 | .4930 | .0003 | 18.20 | .0037 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0029 | .0006 | .0010 | 5.135 | -.0007 | .2114 | .0003 | .0001 | .0011 |
| Stddev | .0006 | .0017 | .0006 | .0010 | .007 | .0000 | .0005 | .0001 | .0011 | .0000 |
| %RSD | 20.94 | 58.08 | 91.34 | 97.14 | .1444 | 3.959 | .2175 | 47.15 | 847.6 | 2.409 |
| #1 | -.0025 | -.0017 | .0002 | .0003 | 5.140 | -.0007 | .2111 | .0002 | -.0007 | .0011 |
| #2 | -.0033 | -.0041 | .0010 | .0017 | 5.130 | -.0007 | .2117 | .0004 | .0009 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0386 | .0112 | -.0011 |
| Stddev | .0025 | .0001 | .0001 |
| %RSD | 6.528 | 1.293 | 7.464 |
| #1 | .0369 | .0111 | -.0011 |
| #2 | .0404 | .0113 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2374.8 | 78239. | 15736. |
| Stddev | 6.6 | 154. | 73. |
| %RSD | .27646 | .19692 | .46300 |
| #1 | 2370.1 | 78130. | 15684. |
| #2 | 2379.4 | 78348. | 15787. |

Zoom In Zoom Out

Sample Name: MC21156-16F Acquired: 6/6/2013 12:48:53 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0084 | .4692 | -.0034 | .0308 | .0364 | .0000 | 23.75 | .0000 | .0012 |
| Stddev | .0007 | .0029 | .0004 | .0005 | .0002 | .0002 | .0000 | .01 | .000 | .0000 |
| %RSD | 471.8 | 34.05 | .0761 | 13.86 | .6663 | .4408 | 60.83 | .0578 | 359.4 | 2.953 |
| #1 | .0004 | -.0104 | .4695 | -.0037 | .0310 | .0365 | .0000 | 23.74 | .0000 | .0012 |
| #2 | -.0007 | -.0064 | .4690 | -.0031 | .0307 | .0363 | .0001 | 23.76 | .0000 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0004 | 29.06 | 3.304 | 3.015 | 1.663 | .0000 | 9.534 | .0024 | .0009 |
| Stddev | .0002 | .0007 | .05 | .038 | .002 | .002 | .000 | .003 | .0000 | .0003 |
| %RSD | 36.90 | 158.7 | .1741 | 1.142 | .0723 | .1408 | 1114. | .0356 | 1.177 | 31.61 |
| #1 | -.0006 | .0001 | 29.02 | 3.277 | 3.017 | 1.661 | .0000 | 9.531 | .0024 | .0011 |
| #2 | -.0003 | -.0009 | 29.09 | 3.330 | 3.014 | 1.665 | .0000 | 9.536 | .0024 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0035 | .0003 | -.0004 | 8.615 | -.0003 | .2505 | .0001 | .0009 | .0000 |
| Stddev | .0001 | .0040 | .0002 | .0011 | .004 | .0003 | .0004 | .0003 | .0001 | .0001 |
| %RSD | 6.086 | 115.2 | 75.49 | 281.6 | .0515 | 75.78 | .1707 | 242.3 | 8.660 | 424.6 |
| #1 | -.0014 | .0006 | .0005 | .0004 | 8.618 | -.0005 | .2502 | -.0001 | .0009 | .0001 |
| #2 | -.0015 | .0063 | .0002 | -.0012 | 8.612 | -.0002 | .2508 | .0003 | .0010 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0118 | .0075 | -.0018 |
| Stddev | .0016 | .0001 | .0001 |
| %RSD | 14.01 | 1.656 | 3.916 |
| #1 | .0129 | .0076 | -.0018 |
| #2 | .0106 | .0074 | -.0017 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2397.6 | 78018. | 15575. |
| Stddev | 6.8 | 119. | 89. |
| %RSD | .28473 | .15202 | .57308 |
| #1 | 2392.7 | 78102. | 15512. |
| #2 | 2402.4 | 77934. | 15638. |



Zoom In Zoom Out

Sample Name: MC21156-17F Acquired: 6/6/2013 12:53:13 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0067 | .5963 | -.0027 | .1158 | .0648 | .0001 | 39.66 | .0001 | .0019 |
| Stddev | .0006 | .0069 | .0007 | .0007 | .0005 | .0006 | .0001 | .03 | .0000 | .0001 |
| %RSD | 146.2 | 104.2 | .1190 | 27.16 | .4391 | .9826 | 162.0 | .0826 | 66.45 | 2.912 |
| #1 | -.0008 | -.0116 | .5968 | -.0022 | .1154 | .0644 | .0000 | 39.64 | .0000 | .0019 |
| #2 | .0000 | -.0018 | .5958 | -.0032 | .1161 | .0653 | .0001 | 39.69 | .0001 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0003 | 54.79 | 10.03 | 5.188 | 1.381 | -.0001 | 25.34 | .0022 | .0009 |
| Stddev | .0003 | .0001 | .05 | .03 | .006 | .006 | .0001 | .04 | .0001 | .0000 |
| %RSD | 90.28 | 41.19 | .0955 | .3365 | .1180 | .4239 | 144.0 | .1589 | 5.134 | .8867 |
| #1 | -.0005 | .0002 | 54.76 | 10.01 | 5.183 | 1.376 | -.0001 | 25.31 | .0023 | .0009 |
| #2 | -.0001 | .0004 | 54.83 | 10.05 | 5.192 | 1.385 | .0000 | 25.37 | .0021 | .0009 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0051 | .0005 | .0004 | 11.98 | -.0003 | .3012 | .0005 | .0005 | .0000 |
| Stddev | .0015 | .0028 | .0006 | .0004 | .01 | .0002 | .0004 | .0001 | .0002 | .000 |
| %RSD | 130.4 | 54.59 | 142.3 | 117.1 | .0918 | 45.81 | .1207 | 10.20 | 38.56 | 324.5 |
| #1 | -.0001 | .0031 | .0000 | .0001 | 11.97 | -.0002 | .3010 | .0006 | .0004 | .0000 |
| #2 | -.0022 | .0071 | .0009 | .0007 | 11.99 | -.0004 | .3015 | .0005 | .0007 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0071 | -.0021 |
| Stddev | .0007 | .0001 | .0002 |
| %RSD | 10.67 | 1.341 | 10.62 |
| #1 | .0068 | .0072 | -.0023 |
| #2 | .0058 | .0071 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.7 | 78282. | 15879. |
| Stddev | 3.8 | 332. | 20. |
| %RSD | .15908 | .42382 | .12688 |
| #1 | 2374.4 | 78517. | 15893. |
| #2 | 2369.0 | 78047. | 15865. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 13:02:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2428 | 9.742 | 1.908 | -.0048 | 1.916 | 1.921 | 1.935 | 9.721 | 1.908 | 1.988 |
| Stddev | .0016 | .008 | .006 | .0008 | .002 | .003 | .001 | .012 | .000 | .000 |
| %RSD | .6502 | .0815 | .3069 | 17.46 | .1064 | .1430 | .0730 | .1236 | .0148 | .0225 |
| #1 | .2416 | 9.748 | 1.904 | -.0042 | 1.915 | 1.919 | 1.934 | 9.712 | 1.908 | 1.988 |
| #2 | .2439 | 9.737 | 1.912 | -.0054 | 1.918 | 1.923 | 1.936 | 9.729 | 1.908 | 1.988 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.924 | 1.899 | 9.788 | 9.705 | 9.525 | 1.916 | 1.906 | 9.739 | 1.890 | 1.874 |
| Stddev | .002 | .002 | .017 | .029 | .006 | .003 | .003 | .026 | .000 | .001 |
| %RSD | .0910 | .1086 | .1712 | .2957 | .0687 | .1573 | .1556 | .2723 | .0094 | .0358 |
| #1 | 1.925 | 1.900 | 9.776 | 9.725 | 9.520 | 1.918 | 1.904 | 9.720 | 1.889 | 1.874 |
| #2 | 1.923 | 1.897 | 9.800 | 9.685 | 9.529 | 1.914 | 1.908 | 9.758 | 1.890 | 1.875 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0041 | 1.912 | 1.910 | -.0108 | 1.890 | 1.972 | 1.901 | 1.911 | 1.899 |
| Stddev | .0002 | .0035 | .000 | .003 | .0010 | .000 | .004 | .003 | .004 | .004 |
| %RSD | 26.05 | 84.06 | .0086 | .1479 | 9.548 | .0236 | .2134 | .1314 | .2247 | .2103 |
| #1 | -.0010 | .0066 | 1.912 | 1.908 | -.0101 | 1.890 | 1.969 | 1.903 | 1.914 | 1.902 |
| #2 | -.0007 | .0017 | 1.911 | 1.912 | -.0115 | 1.891 | 1.975 | 1.899 | 1.908 | 1.896 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0036 | 1.892 | -.0040 |
| Stddev | .0011 | .001 | .0002 |
| %RSD | 29.46 | .0416 | 5.914 |
| #1 | .0029 | 1.892 | -.0041 |
| #2 | .0044 | 1.891 | -.0038 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2428.2 | 78861. | 15678. |
| Stddev | 2.8 | 299. | 51. |
| %RSD | .11606 | .37943 | .32381 |
| #1 | 2426.2 | 78649. | 15642. |
| #2 | 2430.2 | 79072. | 15713. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 13:21:46 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0040 | -.0006 | -.0006 | -.0002 | .0000 | .0001 | -.0004 | .0000 | .0000 |
| Stddev | .0004 | .0042 | .0001 | .0012 | .0003 | .0001 | .0000 | .0001 | .0001 | .0001 |
| %RSD | 1077. | 103.7 | 11.70 | 208.9 | 144.8 | 1762. | .5993 | 22.92 | 492.2 | 454.3 |
| #1 | -.0002 | -.0070 | -.0005 | .0003 | .0000 | .0000 | .0001 | -.0004 | .0001 | .0000 |
| #2 | .0003 | -.0011 | -.0006 | -.0014 | -.0004 | .0000 | .0001 | -.0005 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0002 | .0024 | .0120 | .0173 | .0001 | .0001 | .0092 | .0002 | .0005 |
| Stddev | .0002 | .0004 | .0007 | .0497 | .0147 | .0000 | .0002 | .0099 | .0001 | .0011 |
| %RSD | 57.77 | 199.5 | 29.30 | 413.5 | 84.74 | 27.63 | 159.2 | 106.7 | 46.60 | 203.6 |
| #1 | -.0006 | .0005 | .0019 | -.0231 | .0069 | .0002 | .0002 | .0023 | .0002 | -.0002 |
| #2 | -.0002 | -.0001 | .0029 | .0472 | .0277 | .0001 | .0000 | .0162 | .0001 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0050 | -.0010 | .0007 | .0016 | .0002 | .0001 | -.0003 | .0005 | .0002 |
| Stddev | .0009 | .0016 | .0005 | .0008 | .0003 | .0003 | .0001 | .0001 | .0000 | .0003 |
| %RSD | 120.8 | 33.26 | 52.12 | 112.7 | 20.54 | 165.8 | 130.1 | 16.46 | 2.033 | 157.1 |
| #1 | -.0001 | -.0038 | -.0014 | .0012 | .0018 | .0004 | .0001 | -.0003 | .0005 | .0003 |
| #2 | -.0014 | -.0061 | -.0006 | .0001 | .0014 | .0000 | .0000 | -.0003 | .0005 | .0000 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0001 | -.0003 | .0001 |
| Stddev | .0006 | .0000 | .0003 |
| %RSD | 798.7 | 8.219 | 304.3 |
| #1 | .0005 | -.0003 | -.0001 |
| #2 | -.0003 | -.0003 | .0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.4 | 78081. | 15540. |
| Stddev | 3.4 | 125. | 28. |
| %RSD | .14293 | .15954 | .18119 |
| #1 | 2412.8 | 78169. | 15520. |
| #2 | 2408.0 | 77993. | 15560. |

Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:26:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0187 | 1.334 | -.0021 | .2169 | .0523 | .0002 | 72.02 | .0002 | .0001 |
| Stddev | .0014 | .0181 | .001 | .0013 | .0005 | .0001 | .0001 | .07 | .0005 | .0002 |
| %RSD | 311.0 | 96.92 | .0669 | 60.69 | .2500 | .1196 | 81.92 | .0922 | 218.7 | 269.4 |
| #1 | -.0014 | -.0315 | 1.333 | -.0030 | .2165 | .0524 | .0003 | 72.07 | .0005 | -.0001 |
| #2 | .0005 | -.0059 | 1.335 | -.0012 | .2173 | .0523 | .0001 | 71.97 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0002 | 43.63 | 10.62 | 11.58 | 1.320 | .0003 | 27.05 | -.0001 | .0018 |
| Stddev | .0001 | .0001 | .07 | .01 | .06 | .001 | .0002 | .01 | .0002 | .0007 |
| %RSD | 17.24 | 42.59 | .1500 | .0690 | .4933 | .1070 | 53.15 | .0439 | 209.5 | 39.10 |
| #1 | -.0010 | -.0001 | 43.67 | 10.61 | 11.54 | 1.321 | .0005 | 27.06 | .0000 | .0023 |
| #2 | -.0008 | -.0003 | 43.58 | 10.62 | 11.62 | 1.319 | .0002 | 27.04 | -.0002 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | .0000 | -.0002 | -.0009 | 15.32 | -.0010 | .7865 | .0009 | .0014 | .0003 |
| Stddev | .0014 | .0085 | .0020 | .0006 | .02 | .0000 | .0004 | .0002 | .0003 | .0002 |
| %RSD | 28.43 | 90570. | 1017. | 64.11 | .1420 | 1.457 | .0536 | 20.45 | 22.50 | 73.88 |
| #1 | -.0058 | .0060 | -.0016 | -.0005 | 15.30 | -.0010 | .7868 | .0011 | .0016 | .0004 |
| #2 | -.0038 | -.0060 | .0012 | -.0014 | 15.34 | -.0010 | .7862 | .0008 | .0012 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0054 | .0058 | -.0028 |
| Stddev | .0078 | .0001 | .0003 |
| %RSD | 143.9 | 2.125 | 9.959 |
| #1 | .0001 | .0059 | -.0026 |
| #2 | -.0109 | .0057 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2366.0 | 77530. | 15522. |
| Stddev | 3.8 | 373. | 35. |
| %RSD | .16056 | .48056 | .22321 |
| #1 | 2368.7 | 77267. | 15546. |
| #2 | 2363.3 | 77794. | 15497. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:30:34 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0271 | 1.320 | -.0100 | .2144 | .0519 | .0004 | 70.72 | -.0007 | -.0002 |
| Stddev | .0018 | .0031 | .002 | .0038 | .0004 | .0002 | .0001 | .30 | .0002 | .0013 |
| %RSD | 335.7 | 11.62 | .1331 | 38.18 | .1936 | .4272 | 19.99 | .4195 | 21.87 | 557.0 |
| #1 | .0007 | -.0248 | 1.321 | -.0127 | .2147 | .0518 | .0004 | 70.93 | -.0006 | -.0012 |
| #2 | -.0018 | -.0293 | 1.318 | -.0073 | .2141 | .0521 | .0003 | 70.51 | -.0008 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0002 | 42.72 | 10.48 | 11.46 | 1.293 | .0003 | 26.46 | .0018 | .0003 |
| Stddev | .0009 | .0007 | .12 | .27 | .23 | .005 | .0003 | .06 | .0006 | .0001 |
| %RSD | 24.40 | 360.5 | .2868 | 2.581 | 1.995 | .3607 | 117.6 | .2248 | 31.53 | 51.19 |
| #1 | -.0031 | .0007 | 42.80 | 10.67 | 11.63 | 1.296 | .0000 | 26.51 | .0022 | .0002 |
| #2 | -.0044 | -.0003 | 42.63 | 10.28 | 11.30 | 1.289 | .0005 | 26.42 | .0014 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0117 | -.0031 | .0038 | 14.84 | .0000 | .7672 | .0008 | .0038 | .0004 |
| Stddev | .0009 | .0085 | .0002 | .0024 | .03 | .0023 | .0043 | .0001 | .0040 | .0000 |
| %RSD | 22.36 | 73.09 | 6.360 | 61.88 | .1895 | 7705. | .5557 | 9.204 | 104.6 | 4.666 |
| #1 | -.0035 | -.0177 | -.0033 | .0022 | 14.86 | -.0016 | .7702 | .0009 | .0067 | .0005 |
| #2 | -.0049 | -.0056 | -.0030 | .0055 | 14.82 | .0016 | .7642 | .0008 | .0010 | .0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0063 | .0159 | -.0021 |
| Stddev | .0017 | .0014 | .0005 |
| %RSD | 26.44 | 8.555 | 25.41 |
| #1 | .0075 | .0149 | -.0017 |
| #2 | .0051 | .0168 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2381.6 | 78065. | 15529. |
| Stddev | 1.3 | 831. | 38. |
| %RSD | .05500 | 1.0648 | .24697 |
| #1 | 2380.6 | 77477. | 15502. |
| #2 | 2382.5 | 78652. | 15556. |



Zoom In Zoom Out

Sample Name: MC21261-1F Acquired: 6/6/2013 13:34:55 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | -.0511 | 1.346 | -.0153 | .2158 | .0536 | .0005 | 72.88 | .0000 | -.0015 |
| Stddev | .0005 | .0870 | .012 | .0071 | .0015 | .0010 | .0004 | .23 | .002 | .0007 |
| %RSD | 11.64 | 170.1 | .8804 | 46.24 | .7180 | 1.896 | 72.30 | .3088 | 3913. | 43.42 |
| #1 | -.0046 | -.1126 | 1.355 | -.0103 | .2147 | .0543 | .0003 | 72.72 | .0011 | -.0010 |
| #2 | -.0039 | .0104 | 1.338 | -.0203 | .2169 | .0529 | .0008 | 73.04 | -.0012 | -.0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0023 | 44.36 | 10.71 | 11.72 | 1.317 | -.0001 | 27.57 | -.0001 | .0113 |
| Stddev | .0030 | .0020 | .11 | .24 | .04 | .006 | .0029 | .02 | .0005 | .0024 |
| %RSD | 61.49 | 89.55 | .2498 | 2.240 | .3736 | .4633 | 5069. | .0768 | 723.4 | 21.17 |
| #1 | -.0027 | -.0008 | 44.29 | 10.87 | 11.75 | 1.321 | .0020 | 27.55 | .0003 | .0096 |
| #2 | -.0069 | -.0037 | 44.44 | 10.54 | 11.69 | 1.313 | -.0021 | 27.58 | -.0004 | .0130 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0048 | -.0031 | .0008 | -.0044 | 15.04 | .0013 | .7946 | .0014 | .0095 | -.0011 |
| Stddev | .0004 | .0689 | .0079 | .0167 | .06 | .0003 | .0097 | .0017 | .0008 | .0001 |
| %RSD | 8.677 | 2196. | 992.3 | 378.5 | .3767 | 24.32 | 1.215 | 123.1 | 8.337 | 7.198 |
| #1 | -.0045 | .0456 | .0064 | .0074 | 15.08 | .0011 | .8014 | .0002 | .0101 | -.0011 |
| #2 | -.0051 | -.0518 | -.0048 | -.0162 | 15.00 | .0015 | .7878 | .0027 | .0089 | -.0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0072 | .0218 | -.0012 |
| Stddev | .0246 | .0006 | .0000 |
| %RSD | 343.3 | 2.805 | 1.698 |
| #1 | -.0245 | .0222 | -.0012 |
| #2 | .0102 | .0213 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.1 | 78076. | 15548. |
| Stddev | 4.6 | 176. | 81. |
| %RSD | .19163 | .22599 | .51974 |
| #1 | 2378.9 | 77951. | 15605. |
| #2 | 2385.3 | 78201. | 15491. |



Zoom In Zoom Out

Sample Name: MC21261-2F Acquired: 6/6/2013 13:39:16 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0081 | .0247 | -.0052 | .0163 | .0620 | .0002 | 40.01 | -.0002 | .0002 |
| Stddev | .0021 | .0445 | .0007 | .0025 | .0020 | .0002 | .0000 | .03 | .0015 | .0009 |
| %RSD | 103.7 | 547.2 | 2.636 | 48.32 | 12.19 | .3076 | 4.235 | .0842 | 613.4 | 434.4 |
| #1 | .0035 | .0233 | .0252 | -.0034 | .0149 | .0621 | .0002 | 40.04 | -.0013 | .0008 |
| #2 | .0005 | -.0396 | .0243 | -.0070 | .0177 | .0619 | .0002 | 39.99 | .0008 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0019 | .5704 | 4.231 | 3.816 | .1467 | .0015 | 10.03 | .0001 | -.0002 |
| Stddev | .0007 | .0025 | .0079 | .067 | .072 | .0011 | .0005 | .03 | .0004 | .0058 |
| %RSD | 60.44 | 133.7 | 1.389 | 1.577 | 1.880 | .7624 | 31.70 | .3426 | 542.2 | 3640. |
| #1 | -.0018 | -.0001 | .5760 | 4.184 | 3.765 | .1475 | .0012 | 10.05 | -.0002 | .0039 |
| #2 | -.0007 | -.0037 | .5648 | 4.278 | 3.866 | .1459 | .0019 | 10.00 | .0004 | -.0042 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0013 | -.0007 | .0056 | 3.279 | -.0015 | .2902 | -.0005 | .0040 | .0033 |
| Stddev | .0008 | .0416 | .0005 | .0021 | .001 | .0000 | .0019 | .0004 | .0009 | .0039 |
| %RSD | 47.63 | 3313. | 62.47 | 38.11 | .0385 | 1.118 | .6690 | 94.50 | 22.51 | 119.0 |
| #1 | .0022 | -.0281 | -.0010 | .0041 | 3.280 | -.0015 | .2888 | -.0002 | .0047 | .0061 |
| #2 | .0011 | .0306 | -.0004 | .0071 | 3.278 | -.0015 | .2915 | -.0008 | .0034 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0360 | .0112 | -.0003 |
| Stddev | .0008 | .0002 | .0011 |
| %RSD | 2.198 | 1.796 | 376.1 |
| #1 | .0354 | .0111 | -.0011 |
| #2 | .0366 | .0114 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.2 | 78355. | 15488. |
| Stddev | 4.3 | 637. | 57. |
| %RSD | .18025 | .81340 | .37111 |
| #1 | 2390.2 | 77904. | 15448. |
| #2 | 2384.1 | 78805. | 15529. |

Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:43:38 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0127 | .0100 | -.0087 | .2605 | .0385 | .0000 | 105.6 | .0002 | .0030 |
| Stddev | .0002 | .0136 | .0001 | .0017 | .0001 | .0006 | .000 | .2 | .0003 | .0000 |
| %RSD | 432.4 | 107.5 | 1.393 | 18.87 | .0414 | 1.532 | 105.6 | .1939 | 156.8 | 1.303 |
| #1 | .0002 | .0030 | .0099 | -.0076 | .2604 | .0381 | .0000 | 105.7 | .0005 | .0030 |
| #2 | -.0001 | .0223 | .0101 | -.0099 | .2606 | .0389 | -.0001 | 105.4 | .0000 | .0031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0006 | .6018 | 11.01 | 22.54 | 4.882 | .0101 | 42.05 | .0083 | .0003 |
| Stddev | .0003 | .0004 | .0024 | .03 | .07 | .000 | .0003 | .01 | .0003 | .0003 |
| %RSD | 126.4 | 61.54 | .4061 | .2344 | .3187 | .0060 | 3.044 | .0319 | 4.127 | 121.2 |
| #1 | -.0005 | .0009 | .6035 | 10.99 | 22.59 | 4.882 | .0099 | 42.06 | .0080 | .0000 |
| #2 | .0000 | .0003 | .6001 | 11.03 | 22.48 | 4.883 | .0103 | 42.04 | .0085 | .0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | .0181 | .0031 | .0024 | 9.785 | -.0016 | .5398 | .0008 | .0031 | .0023 |
| Stddev | .0026 | .0099 | .0008 | .0040 | .009 | .0007 | .0001 | .0001 | .0001 | .0006 |
| %RSD | 35.22 | 54.75 | 26.81 | 163.8 | .0962 | 40.93 | .0108 | 8.873 | 2.928 | 27.45 |
| #1 | -.0091 | .0251 | .0025 | -.0004 | 9.778 | -.0011 | .5397 | .0007 | .0031 | .0027 |
| #2 | -.0055 | .0111 | .0037 | .0052 | 9.792 | -.0021 | .5398 | .0008 | .0032 | .0019 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0374 | .0045 | -.0015 |
| Stddev | .0103 | .0000 | .0008 |
| %RSD | 27.52 | .4596 | 55.00 |
| #1 | .0447 | .0045 | -.0009 |
| #2 | .0302 | .0045 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2351.0 | 77547. | 15532. |
| Stddev | 1.0 | 116. | 207. |
| %RSD | .04386 | .14946 | 1.3354 |
| #1 | 2351.7 | 77629. | 15386. |
| #2 | 2350.3 | 77465. | 15679. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:47:58 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0218 | .0075 | -.0105 | .2595 | .0390 | .0000 | 106.6 | .0003 | .0033 |
| Stddev | .0016 | .0329 | .0006 | .0043 | .0004 | .0000 | .000 | .5 | .0002 | .0000 |
| %RSD | 525.6 | 150.9 | 8.069 | 40.73 | .1671 | .0782 | 4476. | .4623 | 73.70 | .4114 |
| #1 | .0008 | .0450 | .0071 | -.0075 | .2592 | .0389 | -.0002 | 106.3 | .0004 | .0033 |
| #2 | -.0015 | -.0015 | .0079 | -.0135 | .2598 | .0390 | .0002 | 107.0 | .0001 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0002 | .6132 | 11.08 | 22.79 | 4.882 | .0100 | 42.16 | .0082 | -.0008 |
| Stddev | .0005 | .0003 | .0012 | .04 | .05 | .001 | .0004 | .12 | .0000 | .0008 |
| %RSD | 33.33 | 141.7 | .2018 | .3936 | .2355 | .0175 | 4.494 | .2948 | .5686 | 102.2 |
| #1 | -.0011 | .0005 | .6124 | 11.11 | 22.82 | 4.882 | .0097 | 42.07 | .0081 | -.0002 |
| #2 | -.0017 | .0000 | .6141 | 11.05 | 22.75 | 4.883 | .0103 | 42.25 | .0082 | -.0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0126 | .0040 | .0031 | 9.711 | -.0013 | .5431 | .0007 | .0025 | .0039 |
| Stddev | .0016 | .0130 | .0030 | .0005 | .006 | .0005 | .0004 | .0001 | .0019 | .0011 |
| %RSD | 40.79 | 103.5 | 75.14 | 15.49 | .0666 | 35.17 | .0743 | 19.04 | 75.81 | 29.14 |
| #1 | -.0027 | .0217 | .0061 | .0035 | 9.716 | -.0017 | .5428 | .0008 | .0039 | .0047 |
| #2 | -.0049 | .0034 | .0019 | .0028 | 9.707 | -.0010 | .5434 | .0006 | .0012 | .0031 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0493 | .0054 | -.0011 |
| Stddev | .0020 | .0004 | .0003 |
| %RSD | 4.114 | 6.488 | 23.72 |
| #1 | .0507 | .0057 | -.0012 |
| #2 | .0479 | .0052 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2376.3 | 78760. | 15583. |
| Stddev | 1.2 | 143. | 173. |
| %RSD | .04947 | .18166 | 1.1131 |
| #1 | 2377.2 | 78861. | 15706. |
| #2 | 2375.5 | 78659. | 15460. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:52:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0231 | .0028 | -.0131 | .2593 | .0397 | .0003 | 107.4 | .0000 | .0033 |
| Stddev | .0002 | .0038 | .0016 | .0031 | .0008 | .0009 | .0003 | .3 | .000 | .0004 |
| %RSD | 142.2 | 16.24 | 57.50 | 23.65 | .3112 | 2.328 | 105.7 | .2534 | 1119. | 11.25 |
| #1 | .0003 | -.0205 | .0040 | -.0109 | .2587 | .0404 | .0001 | 107.2 | -.0001 | .0030 |
| #2 | .0000 | -.0258 | .0017 | -.0153 | .2598 | .0391 | .0005 | 107.5 | .0001 | .0035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | .0000 | .6036 | 11.04 | 22.73 | 4.896 | .0104 | 42.42 | .0082 | .0055 |
| Stddev | .0040 | .001 | .0187 | .24 | .38 | .003 | .0003 | .03 | .0002 | .0038 |
| %RSD | 253.4 | 1333. | 3.093 | 2.151 | 1.691 | .0688 | 2.857 | .0647 | 2.077 | 69.25 |
| #1 | .0013 | .0004 | .5904 | 10.87 | 22.45 | 4.894 | .0102 | 42.40 | .0080 | .0028 |
| #2 | -.0044 | -.0005 | .6168 | 11.21 | 23.00 | 4.899 | .0106 | 42.43 | .0083 | .0082 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0183 | .0008 | .0091 | 9.731 | -.0014 | .5472 | .0023 | .0073 | .0010 |
| Stddev | .0002 | .0112 | .0022 | .0021 | .013 | .0004 | .0008 | .0004 | .0019 | .0006 |
| %RSD | 11.48 | 61.37 | 257.4 | 23.39 | .1284 | 25.78 | .1490 | 19.32 | 26.13 | 57.63 |
| #1 | -.0015 | .0104 | -.0007 | .0076 | 9.722 | -.0017 | .5478 | .0020 | .0086 | .0015 |
| #2 | -.0018 | .0262 | .0024 | .0105 | 9.740 | -.0012 | .5466 | .0026 | .0059 | .0006 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0279 | .0113 | -.0021 |
| Stddev | .0006 | .0003 | .0009 |
| %RSD | 2.007 | 2.812 | 43.67 |
| #1 | .0283 | .0111 | -.0015 |
| #2 | .0275 | .0116 | -.0028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.5 | 78735. | 15470. |
| Stddev | 3.5 | 95. | 121. |
| %RSD | .14841 | .12097 | .78390 |
| #1 | 2381.0 | 78668. | 15556. |
| #2 | 2386.0 | 78802. | 15385. |



Zoom In Zoom Out

Sample Name: MC21261-3F Acquired: 6/6/2013 13:56:41 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0060 | -.0738 | -.0105 | -.0313 | .2565 | .0428 | .0009 | 111.2 | -.0011 | .0056 |
| Stddev | .0075 | .0254 | .0025 | .0002 | .0128 | .0039 | .0006 | .2 | .0011 | .0011 |
| %RSD | 125.6 | 34.46 | 24.14 | .7540 | 4.984 | 9.075 | 58.30 | .1567 | 102.4 | 18.97 |
| #1 | -.0113 | -.0918 | -.0123 | -.0311 | .2656 | .0401 | .0006 | 111.1 | -.0019 | .0049 |
| #2 | -.0007 | -.0558 | -.0087 | -.0315 | .2475 | .0456 | .0013 | 111.3 | -.0003 | .0064 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0114 | -.0060 | .6360 | 10.88 | 23.15 | 4.995 | .0079 | 44.24 | .0125 | .0246 |
| Stddev | .0029 | .0103 | .0188 | .26 | .26 | .005 | .0012 | .00 | .0076 | .0119 |
| %RSD | 25.22 | 171.0 | 2.959 | 2.348 | 1.139 | .0992 | 14.80 | .0017 | 60.81 | 48.45 |
| #1 | -.0134 | .0013 | .6227 | 11.06 | 22.96 | 4.991 | .0071 | 44.24 | .0179 | .0162 |
| #2 | -.0094 | -.0133 | .6493 | 10.70 | 23.33 | 4.998 | .0087 | 44.24 | .0072 | .0330 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0289 | .0674 | -.0004 | .0101 | 9.801 | .0059 | .5638 | -.0007 | .0093 | .0081 |
| Stddev | .0035 | .0751 | .0087 | .0043 | .000 | .0036 | .0008 | .0018 | .0107 | .0055 |
| %RSD | 11.98 | 111.5 | 2389. | 42.27 | .0021 | 61.49 | .1504 | 240.0 | 115.2 | 67.99 |
| #1 | .0313 | .0143 | -.0065 | .0131 | 9.801 | .0084 | .5632 | -.0020 | .0017 | .0120 |
| #2 | .0264 | .1205 | .0058 | .0071 | 9.801 | .0033 | .5644 | .0005 | .0169 | .0042 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0909 | .0371 | .0026 |
| Stddev | .0535 | .0001 | .0001 |
| %RSD | 58.90 | .3676 | 3.314 |
| #1 | .1287 | .0370 | .0026 |
| #2 | .0530 | .0372 | .0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2393.7 | 78668. | 15627. |
| Stddev | 4.4 | 36. | 80. |
| %RSD | .18402 | .04528 | .51216 |
| #1 | 2396.8 | 78693. | 15571. |
| #2 | 2390.6 | 78642. | 15684. |

Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/6/2013 14:01:04 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0062 | 2.013 | -.0067 | .0241 | .0581 | .0002 | 33.13 | -.0010 | .0143 |
| Stddev | .0015 | .0028 | .007 | .0062 | .0002 | .0004 | .0001 | .25 | .0003 | .0004 |
| %RSD | 155.6 | 45.48 | .3504 | 92.80 | .6786 | .7661 | 63.39 | .7597 | 28.99 | 3.029 |
| #1 | -.0020 | -.0042 | 2.008 | -.0111 | .0239 | .0585 | .0001 | 32.95 | -.0008 | .0146 |
| #2 | .0001 | -.0082 | 2.018 | -.0023 | .0242 | .0578 | .0003 | 33.31 | -.0012 | .0140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | .0003 | 40.92 | 4.383 | 3.453 | 2.126 | .0033 | 80.77 | .0103 | .0012 |
| Stddev | .0016 | .0004 | .07 | .100 | .064 | .007 | .0002 | .17 | .0014 | .0027 |
| %RSD | 50.20 | 117.3 | .1825 | 2.269 | 1.858 | .3194 | 7.037 | .2148 | 13.69 | 222.2 |
| #1 | -.0020 | .0006 | 40.86 | 4.454 | 3.499 | 2.130 | .0031 | 80.65 | .0093 | -.0007 |
| #2 | -.0043 | .0001 | 40.97 | 4.313 | 3.408 | 2.121 | .0034 | 80.89 | .0113 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | -.0206 | -.0020 | .0065 | 7.700 | .0008 | .2900 | .0004 | .0062 | .0013 |
| Stddev | .0005 | .0092 | .0000 | .0024 | .004 | .0001 | .0021 | .0011 | .0037 | .0015 |
| %RSD | 9.966 | 44.78 | .4652 | 37.07 | .0584 | 9.158 | .7190 | 264.1 | 59.76 | 116.0 |
| #1 | .0044 | -.0271 | -.0020 | .0082 | 7.703 | .0007 | .2886 | .0012 | .0036 | .0002 |
| #2 | .0051 | -.0141 | -.0020 | .0048 | 7.696 | .0008 | .2915 | -.0004 | .0088 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0184 | .0109 | -.0012 |
| Stddev | .0066 | .0006 | .0005 |
| %RSD | 35.64 | 5.714 | 44.37 |
| #1 | .0138 | .0113 | -.0016 |
| #2 | .0230 | .0104 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.6 | 78289. | 15259. |
| Stddev | 4.0 | 576. | 29. |
| %RSD | .16954 | .73634 | .19121 |
| #1 | 2380.8 | 77881. | 15279. |
| #2 | 2386.5 | 78696. | 15238. |



Zoom In Zoom Out

Sample Name: MC21261-4F Acquired: 6/6/2013 14:05:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0243 | 2.044 | -.0186 | .0231 | .0599 | .0011 | 32.77 | -.0010 | .0154 |
| Stddev | .0009 | .0018 | .001 | .0054 | .0022 | .0009 | .0007 | .04 | .0014 | .0003 |
| %RSD | 39.11 | 7.295 | .0223 | 29.23 | 9.524 | 1.537 | 65.10 | .1351 | 136.5 | 2.081 |
| #1 | -.0017 | -.0256 | 2.044 | -.0148 | .0215 | .0605 | .0016 | 32.74 | .0000 | .0152 |
| #2 | -.0030 | -.0231 | 2.043 | -.0225 | .0246 | .0592 | .0006 | 32.80 | -.0020 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0092 | .0010 | 41.49 | 4.495 | 3.563 | 2.167 | .0022 | 80.20 | .0129 | .0083 |
| Stddev | .0013 | .0021 | .04 | .091 | .000 | .014 | .0002 | .22 | .0010 | .0071 |
| %RSD | 13.72 | 208.4 | .1021 | 2.027 | .0027 | .6405 | 9.706 | .2693 | 7.443 | 85.66 |
| #1 | -.0083 | .0024 | 41.46 | 4.430 | 3.563 | 2.177 | .0024 | 80.05 | .0135 | .0033 |
| #2 | -.0101 | -.0005 | 41.52 | 4.559 | 3.563 | 2.157 | .0021 | 80.35 | .0122 | .0133 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0081 | -.0047 | -.0008 | .0038 | 7.776 | .0013 | .2893 | .0003 | .0082 | .0003 |
| Stddev | .0088 | .0152 | .0041 | .0096 | .018 | .0040 | .0005 | .0031 | .0042 | .0024 |
| %RSD | 108.5 | 324.0 | 520.7 | 249.3 | .2246 | 298.9 | .1883 | 1072. | 51.54 | 701.6 |
| #1 | .0143 | .0061 | -.0037 | -.0029 | 7.764 | -.0015 | .2897 | -.0019 | .0052 | .0020 |
| #2 | .0019 | -.0155 | .0021 | .0106 | 7.789 | .0042 | .2889 | .0025 | .0111 | -.0014 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0109 | .0188 | -.0008 |
| Stddev | .0148 | .0007 | .0008 |
| %RSD | 136.1 | 3.881 | 94.42 |
| #1 | .0004 | .0193 | -.0014 |
| #2 | .0213 | .0183 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.8 | 77804. | 15619. |
| Stddev | 3.6 | 949. | 101. |
| %RSD | .15227 | 1.2198 | .64836 |
| #1 | 2389.4 | 77133. | 15548. |
| #2 | 2384.2 | 78475. | 15691. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 14:09:47 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2446 | 9.785 | 1.965 | -.0036 | 1.940 | 1.935 | 1.931 | 9.830 | 1.925 | 2.043 |
| Stddev | .0010 | .020 | .012 | .0014 | .005 | .003 | .005 | .016 | .005 | .006 |
| %RSD | .4279 | .2045 | .6238 | 39.07 | .2748 | .1307 | .2782 | .1581 | .2398 | .2859 |
| #1 | .2453 | 9.799 | 1.957 | -.0026 | 1.936 | 1.934 | 1.927 | 9.819 | 1.922 | 2.039 |
| #2 | .2438 | 9.771 | 1.974 | -.0046 | 1.944 | 1.937 | 1.935 | 9.841 | 1.928 | 2.047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.942 | 1.933 | 9.774 | 9.835 | 9.714 | 1.911 | 1.958 | 9.788 | 1.923 | 1.923 |
| Stddev | .011 | .005 | .003 | .000 | .010 | .013 | .007 | .018 | .002 | .002 |
| %RSD | .5757 | .2724 | .0253 | .0010 | .0999 | .6518 | .3467 | .1829 | .1150 | .1219 |
| #1 | 1.950 | 1.936 | 9.772 | 9.835 | 9.708 | 1.919 | 1.953 | 9.776 | 1.922 | 1.922 |
| #2 | 1.934 | 1.929 | 9.775 | 9.835 | 9.721 | 1.902 | 1.963 | 9.801 | 1.925 | 1.925 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | 1.956 | 1.963 | .0389 | 1.918 | 2.001 | 1.912 | 1.928 | 1.922 |
| Stddev | .0008 | .0012 | .003 | .006 | .0019 | .002 | .003 | .010 | .004 | .011 |
| %RSD | 63.04 | 1043. | .1459 | .2877 | 4.911 | .1198 | .1287 | .4995 | .1991 | .5733 |
| #1 | .0007 | -.0009 | 1.954 | 1.959 | .0376 | 1.917 | 1.999 | 1.919 | 1.925 | 1.929 |
| #2 | .0018 | .0007 | 1.958 | 1.967 | .0403 | 1.920 | 2.003 | 1.905 | 1.931 | 1.914 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0026 | 1.954 | -.0025 |
| Stddev | .0014 | .004 | .0000 |
| %RSD | 52.35 | .2108 | 1.865 |
| #1 | .0017 | 1.951 | -.0026 |
| #2 | .0036 | 1.957 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.5 | 79301. | 15503. |
| Stddev | .1 | 745. | 27. |
| %RSD | .00216 | .93973 | .17614 |
| #1 | 2403.5 | 78774. | 15522. |
| #2 | 2403.6 | 79827. | 15484. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 14:13:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0019 | .0000 | -.0005 | .0015 | .0007 | F.0007 | .0054 | .0003 |
| Stddev | .0006 | .0016 | .0004 | .0007 | .0000 | .0001 | .0002 | .0010 | .0001 |
| %RSD | 585.7 | 82.14 | 1579. | 144.4 | 2.726 | 7.556 | 21.56 | 18.58 | 21.89 |
| #1 | -.0005 | .0030 | -.0002 | -.0010 | .0015 | .0007 | .0009 | .0061 | .0004 |
| #2 | .0003 | .0008 | .0003 | .0000 | .0014 | .0007 | .0006 | .0047 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | .0000 | .0052 | .0022 | .0051 | .0006 | .0020 | .0241 |
| Stddev | .0003 | .0001 | .0003 | .0025 | .0202 | .0098 | .0001 | .0006 | .0009 |
| %RSD | 59.97 | 31.68 | 958.2 | 48.06 | 915.7 | 192.3 | 10.58 | 31.61 | 3.670 |
| #1 | .0007 | .0002 | -.0002 | .0034 | .0165 | -.0018 | .0007 | .0024 | .0235 |
| #2 | .0003 | .0001 | .0003 | .0070 | -.0121 | .0121 | .0006 | .0015 | .0247 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .0003 | -.0019 | .0004 | .0009 | .0026 | .0004 | .0008 |
| Stddev | .0001 | .0007 | .0000 | .0003 | .0006 | .0018 | .0001 | .0002 | .0001 |
| %RSD | 28.39 | 67.43 | 1.875 | 16.14 | 138.4 | 195.5 | 4.890 | 53.90 | 8.923 |
| #1 | .0003 | .0015 | .0003 | -.0017 | .0009 | -.0004 | .0025 | .0005 | .0008 |
| #2 | .0004 | .0005 | .0003 | -.0021 | .0000 | .0022 | .0027 | .0002 | .0007 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0005 | F.0025 | .0008 | .0005 | .0000 | .0002 |
| Stddev | .0002 | .0001 | .0001 | .0038 | .0001 | .0000 |
| %RSD | 44.02 | 5.906 | 11.07 | 789.2 | 917.0 | 6.652 |
| #1 | .0004 | .0026 | .0007 | -.0022 | .0001 | .0002 |
| #2 | .0007 | .0024 | .0008 | .0031 | .0000 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.6 | 78713. | 15654. |
| Stddev | 2.5 | 236. | 164. |
| %RSD | .10308 | .29950 | 1.0508 |
| #1 | 2403.4 | 78547. | 15538. |
| #2 | 2399.9 | 78880. | 15770. |

Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:18:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0115 | .3163 | -.0128 | .2283 | .0763 | .0003 | 94.51 | .0003 | .0107 |
| Stddev | .0003 | .0094 | .0021 | .0005 | .0005 | .0001 | .0001 | .06 | .0003 | .0003 |
| %RSD | 501.1 | 81.76 | .6688 | 4.191 | .2370 | .0952 | 52.56 | .0617 | 127.5 | 2.620 |
| #1 | -.0003 | -.0181 | .3178 | -.0125 | .2286 | .0762 | .0004 | 94.47 | .0005 | .0109 |
| #2 | .0001 | -.0048 | .3148 | -.0132 | .2279 | .0763 | .0002 | 94.55 | .0000 | .0105 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0014 | 13.63 | 9.219 | 15.03 | 6.712 | .0077 | 34.91 | .0061 | .0028 |
| Stddev | .0003 | .0009 | .05 | .028 | .08 | .021 | .0001 | .02 | .0001 | .0029 |
| %RSD | 24.53 | 66.47 | .3314 | .3028 | .5397 | .3162 | .7666 | .0458 | 2.452 | 103.0 |
| #1 | -.0012 | .0007 | 13.66 | 9.199 | 15.08 | 6.697 | .0077 | 34.90 | .0062 | .0008 |
| #2 | -.0009 | .0021 | 13.60 | 9.238 | 14.97 | 6.727 | .0078 | 34.92 | .0060 | .0049 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0056 | .0271 | -.0005 | .0034 | 14.45 | -.0003 | 1.310 | .0011 | .0038 | .0009 |
| Stddev | .0021 | .0018 | .0036 | .0005 | .01 | .0003 | .002 | .0003 | .0008 | .0004 |
| %RSD | 37.30 | 6.624 | 671.5 | 14.70 | .0835 | 105.0 | .1381 | 30.04 | 20.70 | 50.26 |
| #1 | -.0041 | .0283 | -.0031 | .0031 | 14.46 | -.0004 | 1.309 | .0013 | .0043 | .0006 |
| #2 | -.0071 | .0258 | .0020 | .0038 | 14.44 | -.0001 | 1.311 | .0009 | .0032 | .0012 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0062 | .0091 | -.0028 |
| Stddev | .0085 | .0003 | .0003 |
| %RSD | 137.3 | 3.023 | 9.978 |
| #1 | .0002 | .0089 | -.0026 |
| #2 | .0122 | .0092 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2368.7 | 77992. | 15600. |
| Stddev | 7.1 | 155. | 4. |
| %RSD | .30099 | .19890 | .02865 |
| #1 | 2373.8 | 78101. | 15596. |
| #2 | 2363.7 | 77882. | 15603. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:22:47 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0362 | .3214 | -.0157 | .2303 | .0786 | .0004 | 96.15 | .0002 | .0112 |
| Stddev | .0009 | .0244 | .0108 | .0017 | .0020 | .0027 | .0000 | 3.54 | .0000 | .0004 |
| %RSD | 150.8 | 67.55 | 3.357 | 11.00 | .8750 | 3.444 | 11.19 | 3.683 | 15.42 | 3.816 |
| #1 | -.0012 | -.0535 | .3290 | -.0145 | .2317 | .0767 | .0004 | 93.65 | .0002 | .0109 |
| #2 | .0000 | -.0189 | .3138 | -.0169 | .2288 | .0805 | .0003 | 98.66 | .0002 | .0115 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0024 | 13.62 | 9.619 | 15.31 | 6.739 | .0081 | 35.36 | .0069 | .0029 |
| Stddev | .0003 | .0029 | .58 | .619 | .55 | .016 | .0003 | 1.29 | .0001 | .0005 |
| %RSD | 11.82 | 120.8 | 4.262 | 6.433 | 3.597 | .2404 | 3.957 | 3.659 | 1.814 | 17.12 |
| #1 | -.0024 | -.0045 | 13.20 | 9.182 | 14.92 | 6.728 | .0079 | 34.44 | .0070 | .0033 |
| #2 | -.0029 | -.0004 | 14.03 | 10.06 | 15.70 | 6.751 | .0083 | 36.27 | .0068 | .0026 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0189 | .0029 | .0051 | 14.46 | -.0023 | 1.315 | .0028 | .0062 | .0003 |
| Stddev | .0044 | .0085 | .0006 | .0007 | .02 | .0028 | .049 | .0019 | .0010 | .0012 |
| %RSD | 105.9 | 44.93 | 22.11 | 14.64 | .1281 | 120.0 | 3.693 | 66.46 | 16.09 | 408.5 |
| #1 | -.0010 | .0129 | .0024 | .0056 | 14.47 | -.0043 | 1.280 | .0015 | .0055 | -.0005 |
| #2 | -.0072 | .0249 | .0033 | .0046 | 14.45 | -.0004 | 1.349 | .0041 | .0069 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0060 | .0110 | -.0024 |
| Stddev | .0152 | .0008 | .0001 |
| %RSD | 254.6 | 7.242 | 3.677 |
| #1 | .0168 | .0105 | -.0023 |
| #2 | -.0048 | .0116 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.1 | 79014. | 15647. |
| Stddev | .8 | 85. | 519. |
| %RSD | .03424 | .10810 | 3.3172 |
| #1 | 2406.5 | 79074. | 16014. |
| #2 | 2407.7 | 78953. | 15280. |



Zoom In Zoom Out

Sample Name: MC21261-6F Acquired: 6/6/2013 14:27:08 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0335 | .3229 | -.0168 | .2335 | .0786 | .0010 | 97.71 | -.0010 | .0121 |
| Stddev | .0013 | .0171 | .0030 | .0122 | .0024 | .0006 | .0004 | .15 | .0000 | .0009 |
| %RSD | 48.15 | 50.94 | .9189 | 72.26 | 1.028 | .8209 | 37.21 | .1576 | 1.819 | 7.219 |
| #1 | -.0017 | -.0215 | .3250 | -.0254 | .2318 | .0790 | .0013 | 97.82 | -.0010 | .0127 |
| #2 | -.0035 | -.0456 | .3208 | -.0082 | .2352 | .0781 | .0007 | 97.60 | -.0010 | .0115 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0036 | 13.98 | 9.515 | 15.72 | 6.926 | .0080 | 35.93 | .0090 | .0044 |
| Stddev | .0001 | .0006 | .01 | .108 | .02 | .011 | .0014 | .19 | .0010 | .0081 |
| %RSD | 3.699 | 15.60 | .0935 | 1.132 | .1304 | .1542 | 17.95 | .5378 | 11.47 | 182.5 |
| #1 | -.0019 | .0032 | 13.97 | 9.439 | 15.73 | 6.919 | .0090 | 36.06 | .0083 | -.0013 |
| #2 | -.0020 | .0040 | 13.98 | 9.591 | 15.71 | 6.934 | .0070 | 35.79 | .0097 | .0102 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0163 | .0026 | .0068 | 14.57 | -.0004 | 1.338 | .0011 | .0109 | .0064 |
| Stddev | .0013 | .0182 | .0040 | .0058 | .01 | .0048 | .002 | .0009 | .0030 | .0046 |
| %RSD | 125.9 | 111.7 | 157.7 | 84.85 | .0743 | 1295. | .1758 | 76.07 | 27.67 | 71.94 |
| #1 | .0019 | .0034 | -.0003 | .0027 | 14.58 | -.0037 | 1.339 | .0018 | .0130 | .0032 |
| #2 | .0001 | .0291 | .0054 | .0109 | 14.56 | .0030 | 1.336 | .0005 | .0088 | .0097 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0126 | .0159 | -.0012 |
| Stddev | .0301 | .0004 | .0018 |
| %RSD | 239.4 | 2.534 | 156.2 |
| #1 | .0338 | .0162 | -.0025 |
| #2 | -.0087 | .0156 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2404.9 | 78915. | 15589. |
| Stddev | 2.8 | 72. | 17. |
| %RSD | .11708 | .09125 | .11118 |
| #1 | 2406.9 | 78965. | 15601. |
| #2 | 2402.9 | 78864. | 15577. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:31:31 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0154 | .0018 | -.0034 | .0147 | .0251 | .0002 | 59.03 | .0004 | .0011 |
| Stddev | .0003 | .0009 | .0004 | .0009 | .0004 | .0001 | .0000 | .18 | .0000 | .0002 |
| %RSD | 264.5 | 5.736 | 23.48 | 25.75 | 2.992 | .5874 | 28.33 | .3113 | 7.161 | 14.86 |
| #1 | .0001 | -.0160 | .0015 | -.0041 | .0151 | .0250 | .0002 | 59.16 | .0004 | .0012 |
| #2 | -.0003 | -.0148 | .0021 | -.0028 | .0144 | .0252 | .0001 | 58.90 | .0004 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0008 | .0042 | 3.067 | 13.70 | .6700 | .0012 | 39.03 | .0036 | .0001 |
| Stddev | .0003 | .0001 | .0033 | .079 | .16 | .0012 | .0000 | .08 | .0006 | .0009 |
| %RSD | 100.1 | 13.44 | 79.28 | 2.585 | 1.157 | .1753 | 3.368 | .1952 | 16.22 | 1542. |
| #1 | -.0001 | .0007 | .0018 | 3.123 | 13.81 | .6708 | .0012 | 39.09 | .0032 | -.0006 |
| #2 | -.0005 | .0009 | .0065 | 3.011 | 13.59 | .6691 | .0012 | 38.98 | .0040 | .0007 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0068 | -.0025 | .0010 | .0013 | 6.298 | -.0011 | .5183 | .0004 | .0008 | -.0002 |
| Stddev | .0014 | .0019 | .0004 | .0017 | .003 | .0002 | .0000 | .0004 | .0001 | .0003 |
| %RSD | 19.89 | 75.38 | 38.31 | 126.1 | .0546 | 21.65 | .0095 | 109.3 | 7.240 | 137.2 |
| #1 | -.0058 | -.0038 | .0012 | .0025 | 6.300 | -.0013 | .5182 | .0007 | .0008 | .0000 |
| #2 | -.0078 | -.0012 | .0007 | .0001 | 6.296 | -.0009 | .5183 | .0001 | .0007 | -.0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0034 | .0354 | -.0011 |
| Stddev | .0046 | .0001 | .0007 |
| %RSD | 137.3 | .3389 | 65.45 |
| #1 | -.0001 | .0355 | -.0016 |
| #2 | -.0066 | .0353 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2388.1 | 78339. | 15550. |
| Stddev | 3.7 | 186. | 176. |
| %RSD | .15379 | .23753 | 1.1291 |
| #1 | 2385.5 | 78208. | 15426. |
| #2 | 2390.7 | 78471. | 15674. |

Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:35:52 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0068 | -.0001 | -.0075 | .0148 | .0256 | .0006 | 59.71 | -.0006 | .0017 |
| Stddev | .0007 | .0362 | .0019 | .0037 | .0003 | .0001 | .0002 | .17 | .0001 | .0005 |
| %RSD | 298.1 | 530.5 | 1607. | 48.70 | 2.120 | .2610 | 25.00 | .2821 | 11.72 | 28.99 |
| #1 | .0007 | -.0324 | .0013 | -.0101 | .0150 | .0256 | .0005 | 59.83 | -.0006 | .0014 |
| #2 | -.0003 | .0188 | -.0015 | -.0049 | .0146 | .0255 | .0007 | 59.59 | -.0005 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0016 | -.0011 | .0039 | 2.976 | 13.92 | .6817 | .0017 | 39.30 | .0031 | .0000 |
| Stddev | .0014 | .0019 | .0112 | .221 | .12 | .0006 | .0005 | .07 | .0003 | .001 |
| %RSD | 85.54 | 178.5 | 285.9 | 7.438 | .8638 | .0927 | 29.31 | .1895 | 9.529 | 2472. |
| #1 | -.0006 | .0003 | -.0040 | 3.133 | 13.84 | .6813 | .0020 | 39.35 | .0029 | .0005 |
| #2 | -.0026 | -.0024 | .0118 | 2.820 | 14.01 | .6822 | .0013 | 39.25 | .0033 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0217 | -.0019 | .0015 | 6.299 | -.0019 | .5230 | -.0003 | .0017 | -.0001 |
| Stddev | .0017 | .0277 | .0003 | .0036 | .002 | .0015 | .0009 | .0024 | .0038 | .0015 |
| %RSD | 44.84 | 127.4 | 17.10 | 229.8 | .0369 | 76.42 | .1637 | 908.8 | 218.6 | 1772. |
| #1 | -.0050 | -.0022 | -.0017 | .0041 | 6.300 | -.0009 | .5236 | -.0019 | .0044 | -.0012 |
| #2 | -.0026 | -.0413 | -.0021 | -.0010 | 6.297 | -.0030 | .5224 | .0014 | -.0010 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0016 | .0399 | -.0001 |
| Stddev | .0055 | .0002 | .0004 |
| %RSD | 334.6 | .5944 | 406.6 |
| #1 | -.0022 | .0400 | .0002 |
| #2 | .0055 | .0397 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2402.0 | 78234. | 15767. |
| Stddev | 3.5 | 436. | 48. |
| %RSD | .14363 | .55722 | .30540 |
| #1 | 2404.5 | 77926. | 15801. |
| #2 | 2399.6 | 78543. | 15733. |



Zoom In Zoom Out

Sample Name: MC21261-7F Acquired: 6/6/2013 14:40:13 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | -.0112 | .0043 | -.0094 | .0099 | .0252 | .0004 | 61.49 | -.0013 | .0020 |
| Stddev | .0055 | .0192 | .0002 | .0104 | .0007 | .0005 | .0003 | .17 | .0002 | .0012 |
| %RSD | 357.1 | 171.7 | 4.554 | 111.7 | 7.124 | 1.876 | 61.55 | .2708 | 11.95 | 62.92 |
| #1 | .0023 | -.0248 | .0041 | -.0020 | .0104 | .0248 | .0006 | 61.38 | -.0012 | .0029 |
| #2 | -.0054 | .0024 | .0044 | -.0167 | .0094 | .0255 | .0002 | 61.61 | -.0014 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0039 | -.0038 | .0001 | 3.313 | 14.01 | .6929 | .0006 | 39.72 | .0059 | .0048 |
| Stddev | .0021 | .0024 | .0107 | .471 | .15 | .0032 | .0009 | .07 | .0006 | .0067 |
| %RSD | 54.46 | 61.85 | 10070. | 14.22 | 1.053 | .4566 | 154.2 | .1777 | 10.10 | 138.7 |
| #1 | -.0053 | -.0022 | .0077 | 3.646 | 14.11 | .6951 | .0012 | 39.77 | .0055 | .0096 |
| #2 | -.0024 | -.0055 | -.0075 | 2.980 | 13.90 | .6907 | -.0001 | 39.67 | .0063 | .0001 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | -.0324 | .0041 | .0115 | 6.357 | -.0007 | .5363 | -.0012 | .0086 | .0036 |
| Stddev | .0118 | .0043 | .0044 | .0081 | .024 | .0048 | .0012 | .0025 | .0025 | .0005 |
| %RSD | 334.0 | 13.12 | 105.8 | 71.02 | .3819 | 744.6 | .2254 | 209.2 | 29.01 | 14.88 |
| #1 | .0118 | -.0355 | .0072 | .0057 | 6.374 | -.0041 | .5354 | .0006 | .0104 | .0040 |
| #2 | -.0048 | -.0294 | .0010 | .0172 | 6.340 | .0028 | .5371 | -.0029 | .0069 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0169 | .0383 | .0011 |
| Stddev | .0619 | .0001 | .0023 |
| %RSD | 366.4 | .1743 | 205.2 |
| #1 | .0269 | .0383 | .0028 |
| #2 | -.0606 | .0382 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2386.3 | 78682. | 15533. |
| Stddev | 7.5 | 368. | 79. |
| %RSD | .31329 | .46733 | .50979 |
| #1 | 2381.0 | 78422. | 15589. |
| #2 | 2391.5 | 78942. | 15477. |



Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:44:36 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0017 | .0010 | -.0029 | .0155 | .0255 | .0002 | 59.13 | .0004 | .0015 |
| Stddev | .0003 | .0045 | .0011 | .0024 | .0008 | .0001 | .0000 | .09 | .0001 | .0001 |
| %RSD | 132.9 | 262.5 | 109.5 | 82.74 | 5.101 | .3910 | 16.19 | .1579 | 14.77 | 5.078 |
| #1 | .0000 | -.0049 | .0002 | -.0046 | .0149 | .0256 | .0002 | 59.20 | .0005 | .0015 |
| #2 | .0004 | .0015 | .0018 | -.0012 | .0160 | .0255 | .0003 | 59.07 | .0004 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0005 | -.0018 | 3.087 | 13.96 | .6724 | .0011 | 38.91 | .0037 | .0005 |
| Stddev | .0002 | .0005 | .0019 | .071 | .00 | .0006 | .0000 | .04 | .0001 | .0001 |
| %RSD | 27.63 | 89.46 | 106.4 | 2.293 | .0345 | .0840 | 2.203 | .1080 | 3.373 | 26.26 |
| #1 | -.0007 | .0009 | -.0004 | 3.137 | 13.97 | .6720 | .0011 | 38.88 | .0038 | .0006 |
| #2 | -.0011 | .0002 | -.0031 | 3.037 | 13.96 | .6728 | .0011 | 38.94 | .0036 | .0004 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0006 | .0014 | .0027 | 6.280 | -.0013 | .5166 | -.0001 | .0010 | .0001 |
| Stddev | .0005 | .0029 | .0007 | .0006 | .017 | .0003 | .0005 | .0006 | .0002 | .0003 |
| %RSD | 43.68 | 471.2 | 50.88 | 22.72 | .2619 | 26.40 | .0923 | 596.8 | 24.29 | 229.4 |
| #1 | -.0008 | .0026 | .0020 | .0031 | 6.268 | -.0010 | .5163 | -.0006 | .0008 | .0004 |
| #2 | -.0015 | -.0014 | .0009 | .0023 | 6.292 | -.0015 | .5170 | .0003 | .0011 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0135 | .0341 | -.0010 |
| Stddev | .0029 | .0000 | .0002 |
| %RSD | 21.38 | .0876 | 17.03 |
| #1 | .0114 | .0341 | -.0009 |
| #2 | .0155 | .0341 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.1 | 78631. | 15620. |
| Stddev | 8.3 | 255. | 160. |
| %RSD | .34630 | .32491 | 1.0262 |
| #1 | 2390.9 | 78811. | 15506. |
| #2 | 2379.2 | 78450. | 15733. |



Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:48:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0429 | -.0018 | -.0065 | .0145 | .0257 | .0005 | 59.03 | -.0003 | .0020 |
| Stddev | .0005 | .0009 | .0081 | .0036 | .0024 | .0005 | .0003 | .07 | .0011 | .0001 |
| %RSD | 48.92 | 2.199 | 459.9 | 55.49 | 16.57 | 1.824 | 59.37 | .1183 | 321.5 | 6.047 |
| #1 | -.0007 | -.0436 | .0040 | -.0039 | .0163 | .0254 | .0003 | 59.07 | .0004 | .0021 |
| #2 | -.0014 | -.0422 | -.0075 | -.0090 | .0128 | .0260 | .0007 | 58.98 | -.0011 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | .0016 | .0043 | 3.030 | 13.71 | .6709 | .0008 | 39.01 | .0042 | .0020 |
| Stddev | .0001 | .0034 | .0089 | .032 | .09 | .0008 | .0002 | .03 | .0006 | .0017 |
| %RSD | 3.287 | 212.8 | 208.8 | 1.054 | .6450 | .1120 | 30.88 | .0776 | 15.15 | 85.40 |
| #1 | -.0036 | .0040 | -.0020 | 3.053 | 13.78 | .6704 | .0006 | 39.03 | .0047 | .0008 |
| #2 | -.0038 | -.0008 | .0106 | 3.007 | 13.65 | .6714 | .0009 | 38.99 | .0038 | .0032 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0343 | -.0007 | .0008 | 6.227 | -.0023 | .5163 | .0005 | .0049 | .0015 |
| Stddev | .0069 | .0129 | .0013 | .0029 | .007 | .0001 | .0007 | .0003 | .0015 | .0005 |
| %RSD | 1238. | 37.57 | 195.9 | 349.9 | .1059 | 3.038 | .1441 | 64.19 | 30.33 | 35.45 |
| #1 | -.0054 | -.0252 | .0003 | .0029 | 6.232 | -.0023 | .5168 | .0007 | .0060 | .0019 |
| #2 | .0043 | -.0433 | -.0016 | -.0012 | 6.222 | -.0024 | .5157 | .0003 | .0039 | .0011 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0144 | .0349 | -.0007 |
| Stddev | .0075 | .0005 | .0002 |
| %RSD | 52.00 | 1.506 | 23.87 |
| #1 | .0091 | .0353 | -.0006 |
| #2 | .0197 | .0345 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.7 | 78128. | 15495. |
| Stddev | 3.6 | 163. | 71. |
| %RSD | .15192 | .20817 | .45676 |
| #1 | 2380.1 | 78243. | 15545. |
| #2 | 2385.3 | 78013. | 15445. |

Zoom In Zoom Out

Sample Name: MC21261-8F Acquired: 6/6/2013 14:53:20 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0591 | .0061 | -.0171 | .0157 | .0263 | .0001 | 61.22 | -.0005 | .0031 |
| Stddev | .0003 | .0109 | .0150 | .0036 | .0009 | .0002 | .0004 | .02 | .0013 | .0017 |
| %RSD | 9.130 | 18.37 | 246.5 | 21.06 | 5.513 | .8232 | 465.4 | .0365 | 236.6 | 55.89 |
| #1 | .0037 | .0668 | .0167 | -.0196 | .0151 | .0262 | -.0002 | 61.24 | .0004 | .0044 |
| #2 | .0033 | .0514 | -.0045 | -.0145 | .0164 | .0265 | .0004 | 61.21 | -.0014 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0034 | .0149 | 3.428 | 14.06 | .6889 | .0012 | 39.35 | .0046 | .0030 |
| Stddev | .0009 | .0011 | .0380 | .101 | .03 | .0038 | .0011 | .04 | .0015 | .0025 |
| %RSD | 20.97 | 31.29 | 255.3 | 2.948 | .2250 | .5494 | 85.47 | .0896 | 31.89 | 82.26 |
| #1 | -.0048 | -.0042 | -.0120 | 3.499 | 14.04 | .6915 | .0020 | 39.33 | .0056 | .0048 |
| #2 | -.0036 | -.0027 | .0417 | 3.356 | 14.08 | .6862 | .0005 | 39.38 | .0036 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0119 | .0028 | .0072 | 6.331 | .0037 | .5316 | .0008 | .0144 | .0019 |
| Stddev | .0091 | .0159 | .0057 | .0042 | .019 | .0009 | .0010 | .0019 | .0005 | .0038 |
| %RSD | 659.4 | 133.6 | 207.5 | 57.49 | .3048 | 25.65 | .1906 | 246.1 | 3.588 | 194.8 |
| #1 | .0079 | -.0007 | -.0013 | .0102 | 6.345 | .0030 | .5323 | -.0006 | .0148 | .0046 |
| #2 | -.0051 | -.0231 | .0068 | .0043 | 6.318 | .0043 | .5309 | .0021 | .0140 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0235 | .0579 | .0003 |
| Stddev | .0470 | .0008 | .0017 |
| %RSD | 199.9 | 1.319 | 688.4 |
| #1 | .0567 | .0584 | .0015 |
| #2 | -.0097 | .0573 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2389.3 | 79051. | 15546. |
| Stddev | 1.8 | 107. | 17. |
| %RSD | .07473 | .13533 | .10934 |
| #1 | 2390.5 | 78976. | 15534. |
| #2 | 2388.0 | 79127. | 15558. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 14:57:42 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0073 | .4520 | -.0028 | .0420 | .0407 | .0000 | 22.36 | -.0001 | .0082 |
| Stddev | .0000 | .0011 | .0023 | .0008 | .0002 | .0002 | .0000 | .02 | .0000 | .0003 |
| %RSD | 14.62 | 14.76 | .5043 | 29.15 | .5878 | .4770 | 111.9 | .0689 | 25.98 | 3.301 |
| #1 | -.0002 | -.0081 | .4536 | -.0022 | .0418 | .0409 | .0000 | 22.37 | -.0001 | .0080 |
| #2 | -.0002 | -.0066 | .4503 | -.0034 | .0422 | .0406 | .0000 | 22.35 | -.0001 | .0084 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0002 | 62.24 | 4.776 | 3.054 | 2.478 | -.0003 | 13.74 | .0064 | .0015 |
| Stddev | .0005 | .0008 | .01 | .026 | .030 | .001 | .0003 | .00 | .0002 | .0013 |
| %RSD | 45.42 | 417.4 | .0138 | .5370 | .9959 | .0251 | 89.80 | .0247 | 3.053 | 83.74 |
| #1 | -.0015 | -.0008 | 62.24 | 4.794 | 3.032 | 2.479 | -.0005 | 13.74 | .0065 | .0006 |
| #2 | -.0008 | .0004 | 62.23 | 4.758 | 3.075 | 2.478 | -.0001 | 13.74 | .0062 | .0024 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0055 | -.0001 | .0032 | 9.486 | -.0003 | .0951 | .0002 | .0013 | .0005 |
| Stddev | .0010 | .0019 | .0004 | .0010 | .011 | .0002 | .0004 | .0006 | .0004 | .0005 |
| %RSD | 214.0 | 33.74 | 292.6 | 30.76 | .1136 | 80.77 | .4564 | 260.8 | 27.60 | 114.6 |
| #1 | .0002 | .0042 | -.0005 | .0025 | 9.479 | -.0001 | .0948 | .0006 | .0015 | .0001 |
| #2 | -.0011 | .0068 | .0002 | .0040 | 9.494 | -.0004 | .0954 | -.0002 | .0010 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0016 | .0093 | -.0020 |
| Stddev | .0056 | .0001 | .0005 |
| %RSD | 352.5 | .7895 | 24.42 |
| #1 | .0024 | .0093 | -.0016 |
| #2 | -.0055 | .0094 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.4 | 78147. | 15576. |
| Stddev | 1.2 | 38. | 35. |
| %RSD | .04860 | .04881 | .22296 |
| #1 | 2372.3 | 78120. | 15552. |
| #2 | 2370.6 | 78174. | 15601. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 15:02:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2457 | 9.783 | 1.981 | -.0047 | 1.946 | 1.948 | 1.935 | 9.866 | 1.931 | 2.052 |
| Stddev | .0002 | .035 | .006 | .0017 | .004 | .000 | .003 | .028 | .002 | .001 |
| %RSD | .0912 | .3556 | .3018 | 35.76 | .1858 | .0001 | .1577 | .2882 | .0799 | .0452 |
| #1 | .2455 | 9.759 | 1.977 | -.0035 | 1.944 | 1.948 | 1.933 | 9.846 | 1.929 | 2.052 |
| #2 | .2458 | 9.808 | 1.985 | -.0059 | 1.949 | 1.948 | 1.938 | 9.886 | 1.932 | 2.053 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.954 | 1.943 | 9.784 | 9.844 | 9.730 | 1.917 | 1.966 | 9.821 | 1.932 | 1.932 |
| Stddev | .003 | .001 | .032 | .008 | .061 | .004 | .002 | .017 | .001 | .002 |
| %RSD | .1558 | .0609 | .3315 | .0774 | .6230 | .2207 | .0796 | .1746 | .0578 | .1088 |
| #1 | 1.956 | 1.944 | 9.761 | 9.839 | 9.687 | 1.920 | 1.965 | 9.809 | 1.932 | 1.931 |
| #2 | 1.952 | 1.942 | 9.806 | 9.849 | 9.773 | 1.914 | 1.967 | 9.833 | 1.933 | 1.934 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0014 | 1.963 | 1.971 | .0230 | 1.925 | 2.006 | 1.922 | 1.935 | 1.932 |
| Stddev | .0006 | .0030 | .002 | .000 | .0010 | .004 | .002 | .005 | .002 | .002 |
| %RSD | 46.17 | 218.0 | .0879 | .0060 | 4.229 | .2033 | .0892 | .2524 | .0861 | .1021 |
| #1 | .0018 | -.0035 | 1.962 | 1.972 | .0237 | 1.922 | 2.004 | 1.925 | 1.936 | 1.933 |
| #2 | .0009 | .0007 | 1.964 | 1.971 | .0223 | 1.928 | 2.007 | 1.918 | 1.934 | 1.931 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0086 | 1.963 | -.0049 |
| Stddev | .0008 | .000 | .0002 |
| %RSD | 9.732 | .0036 | 3.435 |
| #1 | .0080 | 1.963 | -.0050 |
| #2 | .0092 | 1.963 | -.0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.6 | 79082. | 15618. |
| Stddev | 1.9 | 202. | 139. |
| %RSD | .07722 | .25582 | .88726 |
| #1 | 2402.2 | 78939. | 15716. |
| #2 | 2404.9 | 79225. | 15520. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 15:37:51 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0017 | -.0001 | -.0011 | -.0005 | .0000 | .0001 | .0026 | -.0001 | .0000 |
| Stddev | .000 | .0028 | .0004 | .0002 | .0004 | .000 | .0000 | .0031 | .0001 | .0000 |
| %RSD | 25.43 | 163.3 | 310.2 | 23.65 | 73.31 | 384.0 | 10.70 | 118.7 | 68.92 | 212.9 |
| #1 | .0000 | .0003 | -.0004 | -.0009 | -.0003 | .0000 | .0001 | .0004 | -.0002 | .0000 |
| #2 | .0000 | -.0037 | .0001 | -.0012 | -.0008 | .0000 | .0000 | .0048 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0008 | .0014 | .0192 | .0176 | .0001 | .0001 | .0098 | -.0001 | .0007 |
| Stddev | .0004 | .0001 | .0001 | .0045 | .0233 | .0000 | .0001 | .0106 | .0002 | .0008 |
| %RSD | 96.21 | 10.98 | 9.941 | 23.61 | 132.2 | 8.567 | 82.82 | 108.6 | 333.2 | 105.4 |
| #1 | -.0007 | -.0007 | .0013 | .0160 | .0011 | .0001 | .0000 | .0173 | .0001 | .0002 |
| #2 | -.0001 | -.0009 | .0015 | .0224 | .0341 | .0001 | .0001 | .0023 | -.0002 | .0013 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0038 | -.0003 | .0001 | .0017 | -.0003 | .0000 | -.0001 | .0019 | .0003 |
| Stddev | .0007 | .0016 | .0008 | .0003 | .0006 | .0000 | .0001 | .0000 | .0005 | .0000 |
| %RSD | 81.09 | 41.73 | 274.7 | 340.8 | 37.26 | 9.346 | 298.2 | 70.17 | 28.59 | 7.877 |
| #1 | -.0014 | -.0027 | .0003 | .0003 | .0021 | -.0003 | .0000 | -.0001 | .0015 | .0003 |
| #2 | -.0004 | -.0049 | -.0009 | -.0001 | .0012 | -.0003 | .0001 | .0000 | .0023 | .0003 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0028 | -.0003 | .0002 |
| Stddev | .0064 | .0001 | .0000 |
| %RSD | 231.9 | 33.89 | 12.39 |
| #1 | -.0073 | -.0004 | .0002 |
| #2 | .0018 | -.0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.4 | 78448. | 15289. |
| Stddev | 2.4 | 513. | 157. |
| %RSD | .10261 | .65373 | 1.0253 |
| #1 | 2381.7 | 78086. | 15400. |
| #2 | 2385.1 | 78811. | 15179. |

Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:49:19 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0009 | .4548 | -.0048 | .0427 | .0414 | .0002 | 22.62 | -.0002 | .0080 |
| Stddev | .0005 | .0157 | .0027 | .0014 | .0002 | .0007 | .0001 | .02 | .0001 | .0004 |
| %RSD | 83.16 | 1684. | .6004 | 28.77 | .5841 | 1.788 | 34.84 | .1005 | 30.49 | 4.561 |
| #1 | -.0010 | .0102 | .4568 | -.0057 | .0429 | .0409 | .0003 | 22.63 | -.0001 | .0083 |
| #2 | -.0002 | -.0120 | .4529 | -.0038 | .0425 | .0419 | .0002 | 22.60 | -.0002 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0006 | 62.94 | 4.773 | 2.956 | 2.513 | -.0002 | 14.26 | .0072 | .0018 |
| Stddev | .0002 | .0009 | .06 | .006 | .023 | .004 | .0001 | .03 | .0003 | .0005 |
| %RSD | 17.21 | 146.3 | .0933 | .1357 | .7723 | .1472 | 49.88 | .2195 | 3.973 | 26.49 |
| #1 | -.0013 | .0012 | 62.98 | 4.778 | 2.973 | 2.510 | -.0003 | 14.28 | .0070 | .0015 |
| #2 | -.0010 | .0000 | 62.90 | 4.768 | 2.940 | 2.515 | -.0001 | 14.24 | .0074 | .0022 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0068 | .0007 | -.0002 | 9.626 | -.0001 | .0949 | -.0003 | .0018 | .0013 |
| Stddev | .0003 | .0027 | .0014 | .0015 | .010 | .0003 | .0004 | .0000 | .0006 | .0003 |
| %RSD | 62.47 | 39.80 | 218.1 | 651.1 | .1043 | 282.4 | .3809 | 5.869 | 30.93 | 19.79 |
| #1 | -.0007 | .0087 | .0017 | .0008 | 9.633 | -.0003 | .0947 | -.0003 | .0022 | .0011 |
| #2 | -.0003 | .0049 | -.0004 | -.0013 | 9.619 | .0001 | .0952 | -.0003 | .0014 | .0015 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0188 | .0086 | -.0009 |
| Stddev | .0018 | .0002 | .0002 |
| %RSD | 9.771 | 2.511 | 23.16 |
| #1 | .0201 | .0084 | -.0011 |
| #2 | .0175 | .0087 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.4 | 78295. | 15543. |
| Stddev | 7.1 | 249. | 11. |
| %RSD | .29608 | .31837 | .07323 |
| #1 | 2382.4 | 78471. | 15535. |
| #2 | 2392.4 | 78118. | 15551. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:53:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0144 | .4536 | -.0043 | .0416 | .0408 | .0002 | 22.50 | -.0002 | .0080 |
| Stddev | .0015 | .0289 | .0032 | .0001 | .0002 | .0003 | .0000 | .02 | .0003 | .0004 |
| %RSD | 748.5 | 201.2 | .7036 | 3.016 | .4624 | .7419 | .6570 | .1103 | 114.9 | 4.515 |
| #1 | .0008 | .0061 | .4513 | -.0042 | .0414 | .0410 | .0002 | 22.48 | .0000 | .0082 |
| #2 | -.0012 | -.0348 | .4558 | -.0043 | .0417 | .0406 | .0002 | 22.52 | -.0004 | .0077 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0010 | 62.63 | 4.776 | 3.016 | 2.492 | -.0006 | 14.19 | .0067 | .0018 |
| Stddev | .0003 | .0000 | .14 | .065 | .011 | .007 | .0004 | .04 | .0004 | .0003 |
| %RSD | 16.15 | 2.222 | .2237 | 1.351 | .3624 | .2975 | 68.92 | .3158 | 5.245 | 15.09 |
| #1 | -.0016 | -.0010 | 62.53 | 4.822 | 3.024 | 2.487 | -.0003 | 14.15 | .0069 | .0019 |
| #2 | -.0020 | -.0010 | 62.73 | 4.731 | 3.008 | 2.497 | -.0008 | 14.22 | .0064 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0021 | -.0004 | .0014 | 9.530 | .0006 | .0945 | .0013 | .0026 | .0009 |
| Stddev | .0051 | .0028 | .0022 | .0025 | .010 | .0002 | .0003 | .0009 | .0002 | .0016 |
| %RSD | 284.1 | 132.6 | 592.8 | 171.7 | .1092 | 30.32 | .3437 | 66.67 | 7.419 | 185.2 |
| #1 | .0018 | .0001 | .0012 | -.0003 | 9.537 | .0005 | .0943 | .0020 | .0028 | -.0003 |
| #2 | -.0054 | .0041 | -.0019 | .0032 | 9.523 | .0007 | .0948 | .0007 | .0025 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0189 | .0084 | -.0003 |
| Stddev | .0046 | .0001 | .0003 |
| %RSD | 24.26 | .9997 | 82.63 |
| #1 | .0157 | .0084 | -.0001 |
| #2 | .0222 | .0083 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2407.0 | 78795. | 15575. |
| Stddev | 6.6 | 655. | 157. |
| %RSD | .27437 | .83146 | 1.0072 |
| #1 | 2402.3 | 79258. | 15686. |
| #2 | 2411.7 | 78332. | 15464. |



Zoom In Zoom Out

Sample Name: MC21156-1F Acquired: 6/6/2013 15:58:04 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0940 | .4675 | -.0106 | .0385 | .0419 | .0001 | 23.96 | -.0014 | .0092 |
| Stddev | .0034 | .1008 | .0050 | .0118 | .0008 | .0002 | .0003 | .04 | .0015 | .0017 |
| %RSD | 108.6 | 107.2 | 1.065 | 111.4 | 2.145 | .4779 | 364.9 | .1612 | 107.0 | 18.54 |
| #1 | -.0056 | -.0227 | .4640 | -.0023 | .0379 | .0421 | .0003 | 23.93 | -.0003 | .0104 |
| #2 | -.0007 | -.1653 | .4710 | -.0189 | .0391 | .0418 | -.0001 | 23.98 | -.0025 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | -.0028 | 65.09 | 4.607 | 2.963 | 2.530 | -.0011 | 14.80 | .0073 | .0058 |
| Stddev | .0070 | .0006 | .04 | .073 | .071 | .001 | .0007 | .15 | .0013 | .0070 |
| %RSD | 196.3 | 19.96 | .0592 | 1.579 | 2.402 | .0529 | 60.27 | 1.014 | 17.76 | 120.0 |
| #1 | -.0085 | -.0024 | 65.11 | 4.658 | 3.013 | 2.531 | -.0016 | 14.70 | .0064 | .0009 |
| #2 | .0014 | -.0032 | 65.06 | 4.556 | 2.913 | 2.529 | -.0007 | 14.91 | .0082 | .0108 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0090 | -.0237 | -.0021 | .0024 | 9.698 | -.0029 | .0969 | -.0014 | -.0002 | .0026 |
| Stddev | .0018 | .0118 | .0038 | .0002 | .018 | .0006 | .0008 | .0003 | .0019 | .0030 |
| %RSD | 19.46 | 49.81 | 181.0 | 9.924 | .1894 | 21.52 | .8358 | 24.32 | 805.3 | 113.3 |
| #1 | -.0103 | -.0154 | .0006 | .0022 | 9.711 | -.0024 | .0963 | -.0016 | -.0016 | .0047 |
| #2 | -.0078 | -.0321 | -.0048 | .0026 | 9.685 | -.0033 | .0975 | -.0011 | .0011 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0333 | .0112 | -.0001 |
| Stddev | .0250 | .0001 | .0003 |
| %RSD | 75.25 | .5787 | 331.3 |
| #1 | .0156 | .0111 | -.0003 |
| #2 | .0510 | .0112 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.4 | 78910. | 15582. |
| Stddev | 5.5 | 99. | 58. |
| %RSD | .22952 | .12553 | .37263 |
| #1 | 2395.3 | 78840. | 15623. |
| #2 | 2387.5 | 78980. | 15541. |



Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 16:02:26 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0172 | .4564 | -.0048 | .0425 | .0411 | .0002 | 22.53 | .0002 | .0083 |
| Stddev | .0019 | .0060 | .0016 | .0026 | .0004 | .0004 | .0004 | .08 | .0002 | .0006 |
| %RSD | 1091. | 34.80 | .3542 | 55.12 | .8874 | .9658 | 199.7 | .3350 | 114.8 | 6.683 |
| #1 | -.0016 | -.0130 | .4552 | -.0066 | .0428 | .0414 | -.0001 | 22.59 | .0003 | .0079 |
| #2 | .0012 | -.0215 | .4575 | -.0029 | .0422 | .0409 | .0004 | 22.48 | .0000 | .0086 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0002 | 62.68 | 4.924 | 3.089 | 2.491 | -.0001 | 13.85 | .0065 | .0020 |
| Stddev | .0005 | .0000 | .12 | .005 | .017 | .005 | .0001 | .02 | .0003 | .0006 |
| %RSD | 35.41 | 6.625 | .1945 | .0971 | .5616 | .2082 | 94.38 | .1604 | 4.629 | 30.85 |
| #1 | -.0011 | .0002 | 62.76 | 4.927 | 3.077 | 2.494 | .0000 | 13.84 | .0063 | .0016 |
| #2 | -.0019 | .0002 | 62.59 | 4.921 | 3.101 | 2.487 | -.0002 | 13.87 | .0067 | .0025 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | .0075 | .0002 | .0034 | 9.523 | -.0012 | .0945 | -.0006 | .0023 | .0012 |
| Stddev | .0030 | .0024 | .0004 | .0047 | .011 | .0007 | .0002 | .0002 | .0008 | .0023 |
| %RSD | 127.4 | 31.30 | 204.0 | 138.3 | .1139 | 56.87 | .2278 | 32.04 | 33.19 | 188.4 |
| #1 | -.0002 | .0092 | .0005 | .0001 | 9.531 | -.0017 | .0943 | -.0007 | .0029 | .0028 |
| #2 | -.0045 | .0059 | -.0001 | .0068 | 9.515 | -.0007 | .0947 | -.0005 | .0018 | -.0004 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0038 | .0109 | -.0015 |
| Stddev | .0038 | .0004 | .0000 |
| %RSD | 100.4 | 3.981 | 2.332 |
| #1 | .0065 | .0106 | -.0015 |
| #2 | .0011 | .0112 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2394.4 | 78879. | 15455. |
| Stddev | 8.7 | 457. | 3. |
| %RSD | .36364 | .57986 | .01750 |
| #1 | 2388.2 | 78556. | 15454. |
| #2 | 2400.5 | 79203. | 15457. |

Zoom In Zoom Out

Sample Name: MC21156-2F Acquired: 6/6/2013 16:09:08 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0039 | -.0264 | .4533 | -.0088 | .0416 | .0415 | -.0002 | 23.29 | -.0007 | .0091 |
| Stddev | .0036 | .0036 | .0050 | .0034 | .0038 | .0017 | .0004 | .10 | .0001 | .0013 |
| %RSD | 91.16 | 13.69 | 1.113 | 38.69 | 9.205 | 4.107 | 256.2 | .4439 | 7.604 | 14.63 |
| #1 | -.0014 | -.0239 | .4568 | -.0112 | .0443 | .0403 | -.0005 | 23.21 | -.0007 | .0082 |
| #2 | -.0064 | -.0290 | .4497 | -.0064 | .0389 | .0427 | .0001 | 23.36 | -.0007 | .0101 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .0006 | 64.44 | 4.772 | 3.025 | 2.506 | -.0009 | 14.32 | .0079 | .0091 |
| Stddev | .0032 | .0029 | .04 | .344 | .155 | .001 | .0002 | .04 | .0005 | .0015 |
| %RSD | 59.19 | 448.3 | .0622 | 7.216 | 5.113 | .0477 | 21.02 | .3032 | 6.263 | 16.13 |
| #1 | -.0031 | .0027 | 64.47 | 5.015 | 2.915 | 2.507 | -.0008 | 14.35 | .0083 | .0080 |
| #2 | -.0077 | -.0014 | 64.41 | 4.528 | 3.134 | 2.505 | -.0011 | 14.29 | .0076 | .0101 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0167 | -.0037 | .0043 | 9.558 | .0020 | .0947 | -.0002 | .0116 | .0038 |
| Stddev | .0046 | .0120 | .0025 | .0233 | .021 | .0017 | .0004 | .0026 | .0016 | .0035 |
| %RSD | 1093. | 72.30 | 66.31 | 537.3 | .2141 | 81.96 | .3845 | 1147. | 14.14 | 92.37 |
| #1 | -.0028 | -.0081 | -.0055 | -.0121 | 9.573 | .0032 | .0945 | .0016 | .0104 | .0013 |
| #2 | .0037 | -.0252 | -.0020 | .0208 | 9.544 | .0009 | .0950 | -.0020 | .0127 | .0062 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0066 | .0200 | -.0012 |
| Stddev | .0209 | .0019 | .0008 |
| %RSD | 316.8 | 9.384 | 71.32 |
| #1 | .0214 | .0186 | -.0017 |
| #2 | -.0082 | .0213 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.2 | 78872. | 15620. |
| Stddev | 1.0 | 268. | 17. |
| %RSD | .04006 | .33998 | .10986 |
| #1 | 2390.5 | 79062. | 15607. |
| #2 | 2391.9 | 78682. | 15632. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 16:13:32 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0029 | -.0544 | 5.368 | -.0085 | .0803 | .0249 | .0003 | 44.34 | -.0004 | .0207 |
| Stddev | .0018 | .0018 | .009 | .0091 | .0003 | .0010 | .0000 | .02 | .0003 | .0004 |
| %RSD | 59.97 | 3.329 | .1587 | 107.2 | .4207 | 3.896 | 13.53 | .0509 | 71.84 | 1.839 |
| #1 | -.0042 | -.0557 | 5.374 | -.0021 | .0805 | .0243 | .0004 | 44.33 | -.0007 | .0210 |
| #2 | -.0017 | -.0531 | 5.362 | -.0150 | .0801 | .0256 | .0003 | 44.36 | -.0002 | .0204 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0037 | -.0039 | 80.78 | 6.936 | 3.504 | 2.803 | -.0001 | 5.560 | .0051 | .0031 |
| Stddev | .0014 | .0017 | .27 | .084 | .053 | .005 | .0003 | .003 | .0000 | .0051 |
| %RSD | 36.63 | 44.96 | .3351 | 1.213 | 1.513 | .1966 | 222.1 | .0600 | .4528 | 164.8 |
| #1 | -.0047 | -.0026 | 80.59 | 6.876 | 3.467 | 2.799 | -.0003 | 5.558 | .0051 | .0068 |
| #2 | -.0028 | -.0051 | 80.97 | 6.995 | 3.542 | 2.807 | .0001 | 5.563 | .0051 | -.0005 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0055 | .0001 | -.0014 | 8.386 | -.0020 | .2369 | -.0017 | .0037 | .0018 |
| Stddev | .0031 | .0013 | .0010 | .0018 | .001 | .0002 | .0017 | .0020 | .0012 | .0004 |
| %RSD | 124.2 | 23.42 | 833.5 | 133.7 | .0072 | 11.23 | .7148 | 115.4 | 32.92 | 20.93 |
| #1 | -.0047 | .0046 | .0008 | -.0001 | 8.387 | -.0018 | .2357 | -.0031 | .0028 | .0015 |
| #2 | -.0003 | .0064 | -.0006 | -.0027 | 8.386 | -.0021 | .2381 | -.0003 | .0045 | .0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0007 | .0075 | -.0017 |
| Stddev | .0010 | .0003 | .0005 |
| %RSD | 130.7 | 3.969 | 28.61 |
| #1 | -.0001 | .0077 | -.0013 |
| #2 | -.0014 | .0073 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2382.0 | 78537. | 15575. |
| Stddev | 3.9 | 209. | 5. |
| %RSD | .16397 | .26572 | .03189 |
| #1 | 2379.3 | 78685. | 15572. |
| #2 | 2384.8 | 78390. | 15579. |



Zoom In Zoom Out

Sample Name: MC21156-3F Acquired: 6/6/2013 16:17:54 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | -.0731 | 5.469 | -.0129 | .0843 | .0262 | .0001 | 46.64 | -.0008 | .0224 |
| Stddev | .0035 | .0791 | .028 | .0003 | .0058 | .0000 | .0006 | .02 | .0008 | .0012 |
| %RSD | 92.34 | 108.2 | .5133 | 2.203 | 6.870 | .1489 | 747.6 | .0484 | 94.80 | 5.411 |
| #1 | -.0062 | -.1291 | 5.449 | -.0127 | .0884 | .0262 | -.0003 | 46.66 | -.0003 | .0215 |
| #2 | -.0013 | -.0172 | 5.489 | -.0131 | .0802 | .0263 | .0005 | 46.62 | -.0014 | .0232 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0073 | .0015 | 83.07 | 7.487 | 3.472 | 2.873 | .0011 | 5.838 | .0057 | .0118 |
| Stddev | .0024 | .0001 | .01 | .215 | .103 | .001 | .0004 | .020 | .0006 | .0026 |
| %RSD | 32.76 | 4.560 | .0169 | 2.876 | 2.973 | .0252 | 34.97 | .3334 | 9.830 | 22.07 |
| #1 | -.0090 | .0016 | 83.08 | 7.639 | 3.545 | 2.872 | .0014 | 5.852 | .0053 | .0137 |
| #2 | -.0056 | .0015 | 83.06 | 7.335 | 3.399 | 2.873 | .0008 | 5.825 | .0061 | .0100 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0025 | -.0021 | .0118 | 8.594 | -.0038 | .2420 | -.0001 | .0067 | .0043 |
| Stddev | .0008 | .0000 | .0022 | .0129 | .053 | .0050 | .0002 | .0041 | .0058 | .0012 |
| %RSD | 25.18 | .3877 | 101.9 | 109.2 | .6138 | 134.2 | .0778 | 5793. | 86.47 | 26.98 |
| #1 | -.0039 | .0025 | -.0006 | .0027 | 8.557 | -.0002 | .2421 | -.0030 | .0026 | .0035 |
| #2 | -.0027 | .0025 | -.0037 | .0209 | 8.631 | -.0073 | .2419 | .0028 | .0108 | .0051 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0064 | .0310 | .0006 |
| Stddev | .0520 | .0009 | .0027 |
| %RSD | 813.7 | 3.023 | 421.5 |
| #1 | .0304 | .0303 | .0026 |
| #2 | -.0432 | .0316 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2379.0 | 78720. | 15683. |
| Stddev | 10.2 | 330. | 5. |
| %RSD | .42739 | .41885 | .02914 |
| #1 | 2386.2 | 78953. | 15680. |
| #2 | 2371.8 | 78486. | 15687. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:22:15 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0337 | .8917 | -.0043 | .1150 | .0868 | .0003 | 52.26 | -.0005 | .0005 |
| Stddev | .0027 | .0232 | .0009 | .0018 | .0001 | .0002 | .0002 | .13 | .0003 | .0002 |
| %RSD | 419.5 | 68.70 | .1035 | 42.90 | .1266 | .1924 | 57.27 | .2500 | 61.45 | 36.13 |
| #1 | -.0026 | -.0501 | .8911 | -.0030 | .1151 | .0867 | .0002 | 52.17 | -.0003 | .0006 |
| #2 | .0013 | -.0173 | .8924 | -.0056 | .1149 | .0869 | .0004 | 52.35 | -.0007 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0014 | 46.90 | 9.509 | 8.507 | 2.244 | .0004 | 23.54 | .0034 | .0018 |
| Stddev | .0005 | .0032 | .13 | .013 | .019 | .000 | .0004 | .13 | .0004 | .0003 |
| %RSD | 42.60 | 227.3 | .2774 | .1398 | .2279 | .0046 | 83.58 | .5423 | 11.04 | 19.63 |
| #1 | -.0014 | -.0036 | 46.81 | 9.518 | 8.521 | 2.244 | .0007 | 23.45 | .0037 | .0015 |
| #2 | -.0007 | .0008 | 46.99 | 9.499 | 8.494 | 2.244 | .0002 | 23.63 | .0032 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0000 | -.0013 | .0042 | 13.94 | -.0013 | .5832 | -.0006 | .0045 | .0003 |
| Stddev | .0024 | .006 | .0001 | .0034 | .01 | .0003 | .0005 | .0006 | .0024 | .0003 |
| %RSD | 89.61 | 45050. | 7.449 | 80.99 | .0397 | 24.62 | .0827 | 113.3 | 54.17 | 122.7 |
| #1 | .0043 | .0044 | -.0013 | .0065 | 13.93 | -.0011 | .5829 | -.0010 | .0028 | .0000 |
| #2 | .0010 | -.0045 | -.0014 | .0018 | 13.94 | -.0016 | .5836 | -.0001 | .0062 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0150 | .0053 | -.0029 |
| Stddev | .0070 | .0004 | .0001 |
| %RSD | 46.96 | 7.330 | 5.093 |
| #1 | .0199 | .0050 | -.0028 |
| #2 | .0100 | .0055 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2367.6 | 78537. | 15469. |
| Stddev | 2.1 | 6. | 12. |
| %RSD | .08937 | .00767 | .07835 |
| #1 | 2366.1 | 78541. | 15478. |
| #2 | 2369.1 | 78533. | 15461. |

Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:26:37 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0026 | -.0284 | .8979 | -.0020 | .1130 | .0871 | .0005 | 52.57 | -.0001 | .0010 |
| Stddev | .0020 | .0266 | .0041 | .0021 | .0032 | .0005 | .0000 | .16 | .0002 | .0004 |
| %RSD | 75.64 | 93.69 | .4548 | 105.2 | 2.790 | .5191 | 2.573 | .2971 | 194.8 | 42.74 |
| #1 | -.0012 | -.0096 | .8950 | -.0005 | .1152 | .0874 | .0005 | 52.46 | .0000 | .0007 |
| #2 | -.0040 | -.0473 | .9008 | -.0035 | .1107 | .0867 | .0005 | 52.68 | -.0002 | .0012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0021 | 47.08 | 9.492 | 8.470 | 2.254 | -.0001 | 23.68 | .0041 | .0033 |
| Stddev | .0007 | .0008 | .15 | .108 | .009 | .005 | .0001 | .10 | .0011 | .0017 |
| %RSD | 40.80 | 39.53 | .3144 | 1.141 | .1007 | .2367 | 176.9 | .4248 | 26.21 | 50.99 |
| #1 | -.0022 | -.0027 | 46.98 | 9.568 | 8.476 | 2.251 | -.0002 | 23.61 | .0049 | .0021 |
| #2 | -.0012 | -.0015 | 47.19 | 9.415 | 8.464 | 2.258 | .0000 | 23.75 | .0034 | .0044 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0036 | .0017 | .0005 | 13.90 | .0002 | .5855 | -.0006 | .0021 | .0021 |
| Stddev | .0029 | .0036 | .0032 | .0036 | .01 | .0008 | .0026 | .0025 | .0009 | .0006 |
| %RSD | 392.9 | 98.76 | 189.5 | 713.9 | .0547 | 321.8 | .4455 | 443.9 | 42.91 | 28.73 |
| #1 | .0013 | .0062 | -.0006 | .0031 | 13.91 | .0008 | .5837 | .0012 | .0027 | .0017 |
| #2 | -.0028 | .0011 | .0040 | -.0020 | 13.89 | -.0003 | .5873 | -.0024 | .0014 | .0026 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0048 | .0061 | -.0022 |
| Stddev | .0056 | .0006 | .0003 |
| %RSD | 117.2 | 9.953 | 11.66 |
| #1 | -.0008 | .0057 | -.0020 |
| #2 | -.0088 | .0066 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2370.1 | 78875. | 15585. |
| Stddev | .6 | 394. | 87. |
| %RSD | .02612 | .49959 | .56059 |
| #1 | 2369.7 | 79154. | 15646. |
| #2 | 2370.6 | 78597. | 15523. |



Zoom In Zoom Out

Sample Name: MC21156-4F Acquired: 6/6/2013 16:30:59 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0027 | -.0640 | .8900 | -.0118 | .1109 | .0858 | .0011 | 53.43 | -.0010 | .0004 |
| Stddev | .0001 | .1114 | .0105 | .0082 | .0027 | .0022 | .0003 | .31 | .0002 | .0009 |
| %RSD | 5.589 | 174.0 | 1.174 | 69.37 | 2.410 | 2.613 | 29.51 | .5839 | 15.77 | 201.3 |
| #1 | -.0026 | .0148 | .8974 | -.0177 | .1090 | .0842 | .0013 | 53.21 | -.0011 | -.0002 |
| #2 | -.0028 | -.1428 | .8826 | -.0060 | .1128 | .0874 | .0009 | 53.65 | -.0009 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | -.0044 | 47.83 | 9.557 | 8.531 | 2.252 | .0007 | 24.09 | .0044 | .0024 |
| Stddev | .0010 | .0005 | .41 | .300 | .001 | .004 | .0018 | .16 | .0005 | .0014 |
| %RSD | 40.54 | 11.08 | .8569 | 3.141 | .0053 | .1830 | 255.0 | .6552 | 10.30 | 58.60 |
| #1 | -.0031 | -.0047 | 47.54 | 9.769 | 8.530 | 2.255 | -.0006 | 23.98 | .0041 | .0034 |
| #2 | -.0017 | -.0040 | 48.12 | 9.344 | 8.531 | 2.249 | .0020 | 24.20 | .0047 | .0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0092 | -.0129 | .0001 | .0095 | 13.78 | -.0004 | .5951 | .0002 | .0041 | .0012 |
| Stddev | .0128 | .0005 | .0011 | .0041 | .00 | .0044 | .0027 | .0010 | .0027 | .0002 |
| %RSD | 138.6 | 4.044 | 795.9 | 43.31 | .0077 | 1116. | .4478 | 476.7 | 64.65 | 16.97 |
| #1 | .0002 | -.0125 | -.0006 | .0066 | 13.78 | .0027 | .5932 | .0009 | .0022 | .0013 |
| #2 | .0183 | -.0132 | .0009 | .0124 | 13.78 | -.0035 | .5970 | -.0005 | .0060 | .0010 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0228 | .0350 | -.0015 |
| Stddev | .0382 | .0023 | .0006 |
| %RSD | 167.7 | 6.603 | 41.22 |
| #1 | .0042 | .0333 | -.0020 |
| #2 | -.0498 | .0366 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2374.6 | 78600. | 15512. |
| Stddev | 8.4 | 193. | 139. |
| %RSD | .35294 | .24604 | .89807 |
| #1 | 2368.6 | 78463. | 15413. |
| #2 | 2380.5 | 78736. | 15610. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 16:35:21 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2462 | 9.817 | 1.987 | -.0048 | 1.955 | 1.944 | 1.936 | 9.892 | 1.935 | 2.058 |
| Stddev | .0007 | .023 | .005 | .0001 | .002 | .002 | .001 | .006 | .003 | .002 |
| %RSD | .2840 | .2346 | .2370 | 1.531 | .0858 | .1208 | .0391 | .0610 | .1480 | .1057 |
| #1 | .2457 | 9.834 | 1.990 | -.0049 | 1.954 | 1.943 | 1.936 | 9.896 | 1.937 | 2.059 |
| #2 | .2467 | 9.801 | 1.984 | -.0048 | 1.957 | 1.946 | 1.937 | 9.888 | 1.933 | 2.056 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.957 | 1.944 | 9.833 | 9.845 | 9.755 | 1.931 | 1.967 | 9.806 | 1.941 | 1.941 |
| Stddev | .007 | .006 | .012 | .003 | .018 | .009 | .000 | .000 | .001 | .001 |
| %RSD | .3820 | .2905 | .1214 | .0274 | .1840 | .4701 | .0217 | .0022 | .0611 | .0530 |
| #1 | 1.952 | 1.940 | 9.841 | 9.843 | 9.742 | 1.925 | 1.967 | 9.806 | 1.942 | 1.940 |
| #2 | 1.963 | 1.948 | 9.825 | 9.847 | 9.767 | 1.938 | 1.968 | 9.806 | 1.940 | 1.941 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0022 | 1.971 | 1.985 | .0208 | 1.930 | 2.010 | 1.927 | 1.939 | 1.942 |
| Stddev | .0007 | .0009 | .004 | .004 | .0002 | .002 | .004 | .005 | .002 | .006 |
| %RSD | 101.7 | 39.79 | .2273 | .2048 | 1.094 | .1148 | .2096 | .2688 | .1244 | .2873 |
| #1 | -.0013 | .0016 | 1.974 | 1.983 | .0206 | 1.932 | 2.007 | 1.924 | 1.941 | 1.938 |
| #2 | -.0002 | .0028 | 1.968 | 1.988 | .0209 | 1.928 | 2.013 | 1.931 | 1.938 | 1.946 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0051 | 1.971 | -.0043 |
| Stddev | .0026 | .001 | .0001 |
| %RSD | 51.01 | .0454 | 3.508 |
| #1 | .0033 | 1.972 | -.0044 |
| #2 | .0070 | 1.971 | -.0042 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2403.5 | 78640. | 15527. |
| Stddev | 4.6 | 487. | 43. |
| %RSD | .18997 | .61920 | .27890 |
| #1 | 2400.2 | 78984. | 15496. |
| #2 | 2406.7 | 78296. | 15557. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 16:39:33 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0052 | .0010 | -.0013 | .0013 | .0007 | F.0009 | .0868 | .0000 |
| Stddev | .0004 | .0080 | .0003 | .0009 | .0006 | .0003 | .0004 | .0050 | .0002 |
| %RSD | 194.0 | 152.6 | 36.01 | 67.24 | 44.34 | 41.96 | 42.06 | 5.724 | 369.2 |
| #1 | .0005 | -.0004 | .0012 | -.0019 | .0017 | .0010 | .0012 | .0903 | .0002 |
| #2 | -.0001 | .0109 | .0007 | -.0007 | .0009 | .0005 | .0006 | .0833 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0000 | .0004 | .0067 | .0289 | -.0071 | .0006 | .0020 | .0214 |
| Stddev | .0001 | .000 | .0007 | .0030 | .0293 | .0299 | .0000 | .0004 | .0053 |
| %RSD | 32.26 | 218.6 | 181.7 | 45.18 | 101.6 | 420.6 | 1.721 | 22.52 | 24.50 |
| #1 | .0004 | -.0001 | .0009 | .0089 | .0081 | .0141 | .0006 | .0023 | .0177 |
| #2 | .0002 | .0000 | -.0001 | .0046 | .0496 | -.0283 | .0006 | .0016 | .0252 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0009 | .0001 | -.0011 | .0000 | .0009 | .0010 | .0002 | F.0011 |
| Stddev | .0000 | .0002 | .0006 | .0038 | .0005 | .0013 | .0006 | .0000 | .0004 |
| %RSD | 14.41 | 27.44 | 617.7 | 330.7 | 1914. | 151.0 | 59.27 | 22.82 | 36.84 |
| #1 | .0003 | .0007 | .0005 | .0015 | -.0003 | .0018 | .0006 | .0001 | .0013 |
| #2 | .0003 | .0011 | -.0003 | -.0038 | .0004 | -.0001 | .0014 | .0002 | .0008 |

| Elem | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|
| Avg | .0003 | .0018 | .0003 | -.0022 | .0002 | .0001 |
| Stddev | .0002 | .0006 | .0004 | .0006 | .0000 | .0000 |
| %RSD | 63.25 | 33.36 | 107.4 | 26.11 | 10.06 | 15.79 |
| #1 | .0002 | .0022 | .0001 | -.0018 | .0002 | .0001 |
| #2 | .0004 | .0014 | .0006 | -.0025 | .0002 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2361.1 | 77488. | 15519. |
| Stddev | 4.7 | 11. | 68. |
| %RSD | .19963 | .01442 | .43526 |
| #1 | 2364.4 | 77480. | 15567. |
| #2 | 2357.8 | 77496. | 15471. |

Zoom In Zoom Out

Sample Name: MC21156-5F Acquired: 6/6/2013 16:43:57 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0015 | .4049 | -.0010 | .0459 | .0278 | .0004 | 11.83 | -.0003 | .0002 |
| Stddev | .0006 | .0193 | .0005 | .0014 | .0001 | .0001 | .0001 | .03 | .0003 | .0001 |
| %RSD | 1906. | 1317. | .1186 | 139.3 | .2928 | .4524 | 38.48 | .2402 | 122.7 | 30.97 |
| #1 | .0005 | -.0122 | .4052 | .0000 | .0460 | .0279 | .0003 | 11.85 | .0000 | .0002 |
| #2 | -.0004 | .0151 | .4045 | -.0020 | .0458 | .0278 | .0005 | 11.81 | -.0005 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0001 | 10.20 | 4.468 | 1.284 | .2502 | .0015 | 8.204 | .0148 | .0012 |
| Stddev | .0001 | .0008 | .04 | .048 | .022 | .0008 | .0001 | .021 | .0000 | .0011 |
| %RSD | 43.90 | 634.4 | .3788 | 1.073 | 1.732 | .3097 | 7.878 | .2506 | .2628 | 92.41 |
| #1 | -.0004 | -.0007 | 10.23 | 4.434 | 1.269 | .2497 | .0016 | 8.218 | .0148 | .0004 |
| #2 | -.0002 | .0004 | 10.18 | 4.502 | 1.300 | .2508 | .0015 | 8.189 | .0148 | .0019 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0083 | .0006 | .0020 | 8.295 | -.0008 | .0977 | .0001 | .0030 | .0005 |
| Stddev | .0002 | .0058 | .0003 | .0002 | .001 | .0012 | .0001 | .0003 | .0010 | .0005 |
| %RSD | 21.92 | 69.63 | 48.72 | 9.626 | .0174 | 156.3 | .0999 | 421.2 | 32.94 | 110.5 |
| #1 | .0007 | -.0042 | .0004 | .0018 | 8.293 | -.0017 | .0978 | .0003 | .0037 | .0008 |
| #2 | .0010 | -.0123 | .0008 | .0021 | 8.296 | .0001 | .0977 | -.0001 | .0023 | .0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0199 | .0092 | -.0012 |
| Stddev | .0042 | .0000 | .0001 |
| %RSD | 21.24 | .1884 | 4.959 |
| #1 | .0169 | .0091 | -.0011 |
| #2 | .0229 | .0092 | -.0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2371.2 | 78218. | 15454. |
| Stddev | 9.9 | 224. | 80. |
| %RSD | .41627 | .28611 | .51843 |
| #1 | 2364.2 | 78060. | 15511. |
| #2 | 2378.2 | 78376. | 15398. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:48:19 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0246 | 1.159 | -.0020 | .2019 | .0969 | .0003 | 53.68 | -.0001 | .0039 |
| Stddev | .0001 | .0044 | .002 | .0004 | .0013 | .0007 | .0000 | .11 | .0001 | .0000 |
| %RSD | 95.70 | 17.73 | .1697 | 21.88 | .6471 | .7161 | 7.526 | .1998 | 113.4 | 1.221 |
| #1 | .0000 | -.0277 | 1.160 | -.0023 | .2028 | .0964 | .0003 | 53.60 | -.0002 | .0039 |
| #2 | -.0002 | -.0216 | 1.157 | -.0017 | .2010 | .0974 | .0002 | 53.75 | .0000 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0007 | 91.86 | 13.27 | 6.860 | 2.665 | .0008 | 28.19 | .0049 | .0012 |
| Stddev | .0001 | .0013 | .25 | .08 | .060 | .002 | .0002 | .02 | .0000 | .0003 |
| %RSD | 19.82 | 184.9 | .2682 | .6250 | .8809 | .0777 | 20.74 | .0545 | .9437 | 29.16 |
| #1 | -.0005 | .0016 | 91.69 | 13.21 | 6.817 | 2.667 | .0009 | 28.18 | .0049 | .0009 |
| #2 | -.0003 | -.0002 | 92.04 | 13.33 | 6.902 | 2.664 | .0007 | 28.20 | .0049 | .0014 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0038 | .0092 | .0008 | .0038 | 15.33 | -.0008 | .6341 | .0004 | .0017 | .0004 |
| Stddev | .0012 | .0005 | .0015 | .0000 | .02 | .0003 | .0002 | .0003 | .0021 | .0007 |
| %RSD | 31.60 | 5.356 | 196.4 | 1.104 | .1012 | 37.10 | .0270 | 56.62 | 121.8 | 168.5 |
| #1 | -.0047 | .0095 | -.0003 | .0038 | 15.32 | -.0006 | .6340 | .0003 | .0032 | .0009 |
| #2 | -.0030 | .0088 | .0019 | .0038 | 15.34 | -.0011 | .6343 | .0006 | .0002 | -.0001 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0073 | .0111 | -.0032 |
| Stddev | .0017 | .0001 | .0003 |
| %RSD | 23.43 | .4931 | 10.43 |
| #1 | .0061 | .0112 | -.0034 |
| #2 | .0085 | .0111 | -.0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2387.5 | 77870. | 15697. |
| Stddev | 4.6 | 264. | 27. |
| %RSD | .19433 | .33852 | .17502 |
| #1 | 2384.2 | 78057. | 15716. |
| #2 | 2390.7 | 77684. | 15677. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:52:40 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0090 | 1.167 | -.0096 | .2048 | .0971 | -.0001 | 54.41 | -.0007 | .0040 |
| Stddev | .0006 | .0166 | .007 | .0020 | .0023 | .0005 | .0001 | .27 | .0002 | .0011 |
| %RSD | 57.83 | 183.9 | .5722 | 21.33 | 1.140 | .5486 | 129.9 | .5003 | 27.02 | 26.87 |
| #1 | -.0016 | .0027 | 1.172 | -.0081 | .2032 | .0975 | -.0002 | 54.60 | -.0008 | .0048 |
| #2 | -.0007 | -.0208 | 1.162 | -.0110 | .2065 | .0968 | .0000 | 54.22 | -.0005 | .0033 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0041 | .0001 | 93.12 | 13.25 | 7.031 | 2.716 | .0006 | 28.47 | .0040 | .0028 |
| Stddev | .0005 | .0002 | .55 | .16 | .078 | .002 | .0003 | .16 | .0003 | .0012 |
| %RSD | 11.70 | 249.7 | .5920 | 1.240 | 1.106 | .0660 | 53.84 | .5607 | 8.489 | 41.19 |
| #1 | -.0037 | .0002 | 93.51 | 13.37 | 6.976 | 2.715 | .0008 | 28.59 | .0038 | .0036 |
| #2 | -.0044 | -.0001 | 92.73 | 13.14 | 7.086 | 2.717 | .0004 | 28.36 | .0043 | .0020 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0085 | -.0252 | -.0020 | .0035 | 15.31 | -.0012 | .6373 | .0007 | .0055 | -.0006 |
| Stddev | .0030 | .0103 | .0006 | .0035 | .01 | .0004 | .0050 | .0017 | .0012 | .0020 |
| %RSD | 35.07 | 40.78 | 28.96 | 100.5 | .0452 | 31.57 | .7808 | 250.4 | 21.07 | 346.3 |
| #1 | -.0064 | -.0180 | -.0024 | .0059 | 15.32 | -.0009 | .6408 | .0018 | .0063 | .0008 |
| #2 | -.0106 | -.0325 | -.0016 | .0010 | 15.31 | -.0014 | .6338 | -.0005 | .0046 | -.0020 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0107 | .0107 | -.0022 |
| Stddev | .0041 | .0006 | .0010 |
| %RSD | 38.85 | 5.458 | 43.82 |
| #1 | -.0077 | .0103 | -.0029 |
| #2 | -.0136 | .0112 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2417.5 | 78697. | 15639. |
| Stddev | 4.0 | 508. | 129. |
| %RSD | .16455 | .64549 | .82611 |
| #1 | 2414.6 | 79056. | 15548. |
| #2 | 2420.3 | 78338. | 15731. |



Zoom In Zoom Out

Sample Name: MC21156-6F Acquired: 6/6/2013 16:57:01 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0002 | 1.154 | -.0203 | .1981 | .0982 | .0005 | 55.98 | .0001 | .0038 |
| Stddev | .0043 | .0744 | .005 | .0114 | .0022 | .0008 | .0001 | .06 | .0008 | .0002 |
| %RSD | 195.3 | 32710. | .4716 | 56.26 | 1.108 | .8209 | 18.43 | .1148 | 667.6 | 4.237 |
| #1 | .0008 | .0529 | 1.157 | -.0284 | .1966 | .0976 | .0005 | 55.93 | .0007 | .0037 |
| #2 | -.0052 | -.0524 | 1.150 | -.0122 | .1997 | .0988 | .0006 | 56.02 | -.0005 | .0039 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0020 | 94.87 | 13.53 | 6.752 | 2.731 | .0012 | 29.66 | .0046 | .0027 |
| Stddev | .0025 | .0005 | .14 | .24 | .017 | .004 | .0003 | .01 | .0018 | .0008 |
| %RSD | 74.40 | 25.37 | .1497 | 1.783 | .2556 | .1272 | 29.07 | .0498 | 39.78 | 28.84 |
| #1 | -.0052 | .0016 | 94.77 | 13.36 | 6.739 | 2.733 | .0014 | 29.65 | .0033 | .0021 |
| #2 | -.0016 | .0023 | 94.97 | 13.70 | 6.764 | 2.728 | .0009 | 29.67 | .0059 | .0032 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | .0266 | -.0028 | .0009 | 15.25 | -.0025 | .6563 | .0006 | .0065 | .0036 |
| Stddev | .0028 | .0224 | .0026 | .0025 | .00 | .0009 | .0024 | .0006 | .0089 | .0062 |
| %RSD | 117.9 | 84.08 | 94.40 | 271.8 | .0138 | 37.67 | .3668 | 112.4 | 136.9 | 169.5 |
| #1 | -.0004 | .0108 | -.0046 | .0027 | 15.25 | -.0032 | .6546 | .0001 | .0002 | .0080 |
| #2 | -.0043 | .0424 | -.0009 | -.0008 | 15.25 | -.0018 | .6580 | .0010 | .0128 | -.0007 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0011 | .0206 | -.0007 |
| Stddev | .0046 | .0004 | .0012 |
| %RSD | 418.0 | 1.807 | 171.5 |
| #1 | -.0043 | .0209 | -.0015 |
| #2 | .0021 | .0203 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2413.4 | 78457. | 15596. |
| Stddev | 5.3 | 227. | 39. |
| %RSD | .21871 | .28973 | .24764 |
| #1 | 2417.1 | 78296. | 15624. |
| #2 | 2409.6 | 78617. | 15569. |

Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:01:22 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0169 | 1.908 | -.0015 | .1466 | .0734 | .0000 | 35.63 | -.0001 | .0276 |
| Stddev | .0007 | .0070 | .011 | .0008 | .0013 | .0003 | .0001 | .02 | .0002 | .0000 |
| %RSD | 54.44 | 41.20 | .5807 | 49.07 | .8979 | .3738 | 21620. | .0572 | 136.4 | .0824 |
| #1 | -.0008 | -.0120 | 1.900 | -.0021 | .1475 | .0732 | -.0001 | 35.62 | .0000 | .0276 |
| #2 | -.0018 | -.0218 | 1.915 | -.0010 | .1457 | .0736 | .0001 | 35.65 | -.0003 | .0276 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0007 | 103.4 | 11.48 | 6.615 | 1.880 | .0030 | 17.03 | .0059 | .0004 |
| Stddev | .0002 | .0001 | .1 | .02 | .050 | .001 | .0002 | .00 | .0000 | .0001 |
| %RSD | 14.74 | 14.06 | .1082 | .2094 | .7621 | .0740 | 8.036 | .0266 | .2497 | 24.01 |
| #1 | -.0011 | .0006 | 103.4 | 11.46 | 6.580 | 1.879 | .0028 | 17.03 | .0059 | .0005 |
| #2 | -.0014 | .0007 | 103.5 | 11.49 | 6.651 | 1.881 | .0031 | 17.04 | .0059 | .0003 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0066 | -.0009 | .0018 | 11.94 | .0004 | .4868 | -.0006 | .0025 | .0005 |
| Stddev | .0014 | .0041 | .0001 | .0016 | .02 | .0002 | .0011 | .0001 | .0008 | .0004 |
| %RSD | 129.0 | 63.10 | 14.16 | 87.73 | .1518 | 61.60 | .2301 | 14.08 | 30.52 | 66.50 |
| #1 | -.0020 | .0095 | -.0010 | .0030 | 11.93 | .0006 | .4860 | -.0006 | .0020 | .0003 |
| #2 | -.0001 | .0036 | -.0008 | .0007 | 11.96 | .0002 | .4876 | -.0005 | .0030 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0450 | .0095 | -.0022 |
| Stddev | .0009 | .0002 | .0002 |
| %RSD | 1.962 | 1.591 | 10.37 |
| #1 | .0456 | .0094 | -.0020 |
| #2 | .0444 | .0096 | -.0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2391.1 | 78349. | 15691. |
| Stddev | 6.0 | 13. | 16. |
| %RSD | .25047 | .01675 | .10138 |
| #1 | 2395.3 | 78340. | 15680. |
| #2 | 2386.8 | 78359. | 15702. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:05:43 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0605 | 1.951 | -.0020 | .1472 | .0732 | .0002 | 36.12 | -.0009 | .0286 |
| Stddev | .0012 | .0198 | .007 | .0035 | .0030 | .0017 | .0002 | .18 | .0001 | .0002 |
| %RSD | 51.12 | 32.63 | .3810 | 178.2 | 2.060 | 2.348 | 79.32 | .5093 | 8.716 | .6249 |
| #1 | -.0031 | -.0466 | 1.945 | .0005 | .1493 | .0720 | .0001 | 35.99 | -.0008 | .0285 |
| #2 | -.0015 | -.0745 | 1.956 | -.0044 | .1451 | .0744 | .0004 | 36.25 | -.0009 | .0288 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0005 | 103.9 | 11.77 | 6.796 | 1.887 | .0034 | 17.08 | .0064 | .0002 |
| Stddev | .0011 | .0031 | .4 | .26 | .049 | .000 | .0003 | .08 | .0016 | .0020 |
| %RSD | 39.66 | 618.4 | .3787 | 2.249 | .7228 | .0041 | 7.846 | .4677 | 25.38 | 1119. |
| #1 | -.0020 | -.0027 | 103.7 | 11.58 | 6.831 | 1.887 | .0036 | 17.02 | .0053 | -.0012 |
| #2 | -.0036 | .0017 | 104.2 | 11.96 | 6.761 | 1.887 | .0032 | 17.14 | .0076 | .0016 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0032 | -.0007 | -.0001 | -.0033 | 12.05 | -.0008 | .4900 | -.0008 | .0022 | .0014 |
| Stddev | .0009 | .0041 | .0022 | .0054 | .00 | .0011 | .0021 | .0000 | .0029 | .0008 |
| %RSD | 26.90 | 562.7 | 1574. | 162.8 | .0369 | 125.6 | .4293 | 1.319 | 135.2 | 56.88 |
| #1 | -.0039 | -.0037 | -.0017 | .0005 | 12.05 | -.0016 | .4885 | -.0008 | .0042 | .0020 |
| #2 | -.0026 | .0022 | .0014 | -.0071 | 12.05 | -.0001 | .4915 | -.0008 | .0001 | .0008 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0355 | .0104 | -.0020 |
| Stddev | .0079 | .0002 | .0006 |
| %RSD | 22.37 | 2.030 | 31.92 |
| #1 | .0299 | .0103 | -.0015 |
| #2 | .0411 | .0106 | -.0024 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2401.3 | 79424. | 15675. |
| Stddev | .8 | 381. | 148. |
| %RSD | .03198 | .47947 | .94176 |
| #1 | 2401.9 | 79155. | 15779. |
| #2 | 2400.8 | 79693. | 15571. |



Zoom In Zoom Out

Sample Name: MC21156-8F Acquired: 6/6/2013 17:10:03 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0599 | 1.941 | -.0124 | .1388 | .0760 | .0012 | 37.35 | .0000 | .0303 |
| Stddev | .0181 | .0499 | .009 | .0034 | .0039 | .0023 | .0000 | .17 | .0002 | .0019 |
| %RSD | 1409. | 83.35 | .4908 | 27.11 | 2.834 | 3.038 | 2.474 | .4500 | 534.1 | 6.137 |
| #1 | -.0115 | .0952 | 1.948 | -.0148 | .1360 | .0743 | .0013 | 37.23 | -.0001 | .0316 |
| #2 | .0141 | .0246 | 1.935 | -.0100 | .1416 | .0776 | .0012 | 37.47 | .0002 | .0290 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0079 | -.0023 | 107.2 | 11.83 | 6.990 | 1.957 | .0022 | 17.94 | .0090 | .0031 |
| Stddev | .0017 | .0060 | .2 | .08 | .064 | .006 | .0011 | .07 | .0036 | .0115 |
| %RSD | 21.41 | 258.1 | .1440 | .6477 | .9160 | .3143 | 51.19 | .4151 | 39.83 | 376.9 |
| #1 | -.0067 | -.0066 | 107.3 | 11.78 | 7.036 | 1.962 | .0030 | 17.99 | .0115 | .0112 |
| #2 | -.0091 | .0019 | 107.1 | 11.89 | 6.945 | 1.953 | .0014 | 17.88 | .0064 | -.0051 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0275 | .0020 | -.0059 | .0162 | 12.11 | -.0039 | .5006 | -.0055 | .0061 | -.0007 |
| Stddev | .0038 | .0210 | .0005 | .0053 | .00 | .0072 | .0043 | .0003 | .0091 | .0043 |
| %RSD | 13.66 | 1054. | 9.101 | 32.46 | .0312 | 187.6 | .8671 | 6.219 | 149.4 | 618.0 |
| #1 | .0302 | .0168 | -.0063 | .0125 | 12.11 | -.0090 | .4975 | -.0058 | -.0003 | -.0037 |
| #2 | .0249 | -.0129 | -.0055 | .0199 | 12.10 | .0013 | .5037 | -.0053 | .0126 | .0023 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0336 | .0198 | -.0011 |
| Stddev | .0051 | .0007 | .0013 |
| %RSD | 15.04 | 3.492 | 120.2 |
| #1 | .0301 | .0193 | -.0002 |
| #2 | .0372 | .0203 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2380.8 | 78467. | 15527. |
| Stddev | 1.6 | 510. | 73. |
| %RSD | .06759 | .64964 | .46844 |
| #1 | 2382.0 | 78107. | 15578. |
| #2 | 2379.7 | 78828. | 15475. |



Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 17:14:24 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | -.0253 | .4923 | -.0067 | .0847 | .0830 | .0002 | 47.35 | .0002 | .0029 |
| Stddev | .0000 | .0120 | .0024 | .0017 | .0015 | .0006 | .0002 | .23 | .0003 | .0007 |
| %RSD | .8079 | 47.44 | .4935 | 26.06 | 1.804 | .6666 | 124.0 | .4833 | 140.6 | 24.34 |
| #1 | -.0017 | -.0338 | .4905 | -.0054 | .0858 | .0834 | .0003 | 47.51 | .0004 | .0034 |
| #2 | -.0017 | -.0168 | .4940 | -.0079 | .0837 | .0826 | .0000 | 47.18 | .0000 | .0024 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0000 | 19.76 | 6.502 | 6.689 | 2.433 | .0028 | 24.41 | .0040 | .0032 |
| Stddev | .0001 | .0009 | .11 | .028 | .093 | .003 | .0001 | .17 | .0005 | .0007 |
| %RSD | 6.693 | 3457. | .5591 | .4253 | 1.385 | .1111 | 3.096 | .6858 | 13.35 | 23.05 |
| #1 | -.0007 | .0006 | 19.84 | 6.521 | 6.754 | 2.435 | .0027 | 24.53 | .0037 | .0037 |
| #2 | -.0008 | -.0006 | 19.69 | 6.482 | 6.623 | 2.431 | .0028 | 24.29 | .0044 | .0027 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0160 | -.0002 | .0035 | 12.31 | -.0020 | .3446 | .0009 | .0039 | .0004 |
| Stddev | .0006 | .0040 | .0002 | .0030 | .00 | .0002 | .0024 | .0004 | .0003 | .0001 |
| %RSD | 75.29 | 24.89 | 111.5 | 83.82 | .0152 | 9.101 | .7044 | 49.95 | 8.741 | 31.22 |
| #1 | .0012 | .0132 | -.0004 | .0014 | 12.31 | -.0019 | .3464 | .0012 | .0036 | .0003 |
| #2 | .0004 | .0188 | .0000 | .0056 | 12.31 | -.0021 | .3429 | .0006 | .0041 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0005 | .0093 | -.0017 |
| Stddev | .0097 | .0002 | .0002 |
| %RSD | 1980. | 2.276 | 13.03 |
| #1 | -.0063 | .0095 | -.0015 |
| #2 | .0073 | .0092 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2383.2 | 78398. | 15383. |
| Stddev | 4.1 | 145. | 5. |
| %RSD | .17230 | .18540 | .03164 |
| #1 | 2380.3 | 78295. | 15380. |
| #2 | 2386.1 | 78501. | 15386. |

Zoom In Zoom Out

Sample Name: MC21156-9F Acquired: 6/6/2013 17:18:45 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0363 | .4891 | -.0110 | .0850 | .0832 | .0003 | 47.84 | -.0002 | .0031 |
| Stddev | .0017 | .0152 | .0084 | .0020 | .0011 | .0018 | .0001 | .15 | .0015 | .0003 |
| %RSD | 363.0 | 41.99 | 1.719 | 18.68 | 1.274 | 2.208 | 47.67 | .3234 | 909.8 | 8.262 |
| #1 | .0017 | -.0255 | .4951 | -.0124 | .0842 | .0845 | .0003 | 47.73 | .0009 | .0033 |
| #2 | -.0007 | -.0471 | .4832 | -.0095 | .0857 | .0819 | .0002 | 47.95 | -.0012 | .0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0005 | 19.88 | 6.725 | 6.669 | 2.469 | .0022 | 24.61 | .0035 | .0028 |
| Stddev | .0006 | .0010 | .13 | .133 | .149 | .002 | .0009 | .02 | .0007 | .0004 |
| %RSD | 71.24 | 212.6 | .6563 | 1.977 | 2.242 | .0695 | 41.92 | .0701 | 20.94 | 14.22 |
| #1 | -.0004 | -.0002 | 19.79 | 6.819 | 6.564 | 2.467 | .0015 | 24.60 | .0030 | .0025 |
| #2 | -.0013 | .0012 | 19.97 | 6.631 | 6.775 | 2.470 | .0028 | 24.62 | .0040 | .0031 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0141 | -.0007 | .0039 | 12.34 | -.0014 | .3575 | -.0001 | .0022 | .0009 |
| Stddev | .0021 | .0330 | .0025 | .0036 | .01 | .0004 | .0023 | .0017 | .0002 | .0034 |
| %RSD | 65.66 | 234.3 | 344.3 | 92.56 | .0663 | 29.99 | .6413 | 2134. | 8.766 | 368.0 |
| #1 | .0017 | .0374 | -.0025 | .0064 | 12.33 | -.0011 | .3558 | .0011 | .0023 | -.0015 |
| #2 | .0047 | -.0092 | .0011 | .0013 | 12.35 | -.0017 | .3591 | -.0013 | .0020 | .0033 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0100 | .0184 | -.0018 |
| Stddev | .0093 | .0005 | .0012 |
| %RSD | 92.72 | 2.519 | 66.79 |
| #1 | -.0166 | .0180 | -.0009 |
| #2 | -.0035 | .0187 | -.0026 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2395.0 | 78249. | 15639. |
| Stddev | 3.8 | 133. | 155. |
| %RSD | .16049 | .16967 | .98887 |
| #1 | 2397.7 | 78156. | 15749. |
| #2 | 2392.3 | 78343. | 15530. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 6/6/2013 17:23:06 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1923 | .0042 | -.0012 | .1012 | .0505 | .0042 | 5.016 | .0041 | .0530 |
| Stddev | .0003 | .0049 | .0016 | .0008 | .0001 | .0006 | .0000 | .025 | .0001 | .0002 |
| %RSD | 5.171 | 2.534 | 37.18 | 63.05 | .0500 | 1.285 | 1.065 | .5065 | 1.882 | .3396 |
| #1 | .0047 | .1958 | .0054 | -.0007 | .1013 | .0500 | .0043 | 4.998 | .0040 | .0531 |
| #2 | .0050 | .1889 | .0031 | -.0018 | .1012 | .0510 | .0042 | 5.034 | .0041 | .0529 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | .0243 | .1048 | 5.017 | 4.910 | .0158 | .1022 | 4.914 | .0408 | .0054 |
| Stddev | .0002 | .0002 | .0017 | .038 | .034 | .0000 | .0002 | .005 | .0000 | .0007 |
| %RSD | 1.621 | .6999 | 1.627 | .7512 | .6858 | .3091 | .2352 | .1128 | .1076 | 12.87 |
| #1 | .0101 | .0244 | .1036 | 4.990 | 4.934 | .0158 | .1020 | 4.918 | .0408 | .0049 |
| #2 | .0099 | .0242 | .1060 | 5.043 | 4.886 | .0158 | .1024 | 4.910 | .0409 | .0059 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0021 | .0063 | .0103 | .0009 | .0986 | .0106 | .0512 | .0061 | .0102 |
| Stddev | .0002 | .0039 | .0004 | .0006 | .0001 | .0000 | .0001 | .0003 | .0005 | .0001 |
| %RSD | 55.17 | 191.5 | 6.219 | 5.987 | 11.88 | .0309 | .6264 | .4988 | 7.397 | .6567 |
| #1 | -.0005 | -.0048 | .0060 | .0108 | .0010 | .0986 | .0106 | .0510 | .0065 | .0103 |
| #2 | -.0002 | .0007 | .0066 | .0099 | .0008 | .0986 | .0106 | .0514 | .0058 | .0102 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | -.0022 | .0242 | .0002 |
| Stddev | .0011 | .0000 | .0000 |
| %RSD | 49.09 | .1514 | 26.83 |
| #1 | -.0030 | .0241 | .0001 |
| #2 | -.0014 | .0242 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2385.0 | 78385. | 15472. |
| Stddev | 1.0 | 64. | 137. |
| %RSD | .04047 | .08103 | .88352 |
| #1 | 2384.4 | 78430. | 15375. |
| #2 | 2385.7 | 78340. | 15568. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 6/6/2013 17:27:25 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2447 | 9.805 | 1.970 | -.0046 | 1.943 | 1.940 | 1.935 | 9.837 | 1.924 | 2.041 |
| Stddev | .0012 | .013 | .002 | .0004 | .005 | .002 | .006 | .041 | .003 | .002 |
| %RSD | .4747 | .1307 | .0965 | 8.159 | .2518 | .1079 | .2882 | .4204 | .1736 | .1169 |
| #1 | .2456 | 9.796 | 1.969 | -.0044 | 1.940 | 1.939 | 1.931 | 9.808 | 1.922 | 2.039 |
| #2 | .2439 | 9.814 | 1.972 | -.0049 | 1.947 | 1.942 | 1.939 | 9.867 | 1.927 | 2.043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.949 | 1.939 | 9.776 | 9.862 | 9.720 | 1.921 | 1.955 | 9.792 | 1.924 | 1.923 |
| Stddev | .000 | .004 | .034 | .025 | .008 | .001 | .007 | .033 | .003 | .005 |
| %RSD | .0108 | .1856 | .3482 | .2547 | .0816 | .0375 | .3560 | .3368 | .1535 | .2685 |
| #1 | 1.949 | 1.942 | 9.752 | 9.844 | 9.725 | 1.921 | 1.950 | 9.768 | 1.922 | 1.919 |
| #2 | 1.948 | 1.937 | 9.800 | 9.879 | 9.714 | 1.920 | 1.960 | 9.815 | 1.926 | 1.927 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0025 | 1.957 | 1.969 | .0402 | 1.918 | 2.002 | 1.919 | 1.928 | 1.928 |
| Stddev | .0007 | .0019 | .006 | .010 | .0011 | .005 | .003 | .001 | .004 | .001 |
| %RSD | 212.7 | 74.80 | .2988 | .5031 | 2.809 | .2571 | .1634 | .0301 | .2076 | .0622 |
| #1 | .0002 | .0012 | 1.953 | 1.962 | .0394 | 1.915 | 2.000 | 1.920 | 1.926 | 1.929 |
| #2 | -.0008 | .0039 | 1.961 | 1.976 | .0410 | 1.922 | 2.004 | 1.919 | 1.931 | 1.928 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0047 | 1.952 | -.0030 |
| Stddev | .0058 | .004 | .0000 |
| %RSD | 124.1 | .1787 | .2681 |
| #1 | .0087 | 1.949 | -.0030 |
| #2 | .0006 | 1.954 | -.0030 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2410.4 | 78971. | 15624. |
| Stddev | 1.4 | 80. | 120. |
| %RSD | .05806 | .10188 | .76520 |
| #1 | 2411.4 | 79028. | 15709. |
| #2 | 2409.4 | 78914. | 15540. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 6/6/2013 17:35:22 Type: Unk
Method: Accutest -SS2(v191) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .0007 | -.0005 | .0007 | .0001 | .0003 | .0391 | .0002 | .0004 |
| Stddev | .0001 | .0000 | .0011 | .0005 | .0010 | .0000 | .0001 | .0022 | .0001 | .0001 |
| %RSD | 69.93 | 19.89 | 162.2 | 111.5 | 143.8 | 35.99 | 28.31 | 5.542 | 46.97 | 26.46 |
| #1 | -.0001 | .0003 | .0014 | -.0008 | .0013 | .0001 | .0002 | .0376 | .0003 | .0003 |
| #2 | -.0002 | .0002 | -.0001 | -.0001 | .0000 | .0001 | .0003 | .0406 | .0001 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | .0035 | .0315 | .0143 | .0004 | .0006 | .0163 | .0004 | .0008 |
| Stddev | .0001 | .0003 | .0018 | .0085 | .0160 | .0000 | .0000 | .0061 | .0001 | .0005 |
| %RSD | 18.95 | 71.47 | 53.23 | 27.06 | 112.2 | 8.376 | 2.614 | 37.17 | 30.38 | 60.94 |
| #1 | -.0005 | .0007 | .0022 | .0375 | .0030 | .0004 | .0006 | .0120 | .0003 | .0005 |
| #2 | -.0006 | .0002 | .0048 | .0254 | .0256 | .0004 | .0006 | .0206 | .0004 | .0012 |

| Elem | Pd3404 | Pt2659 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0001 | -.0003 | .0005 | .0011 | .0006 | .0003 | .0001 | .0017 | .0003 |
| Stddev | .0013 | .0027 | .0004 | .0009 | .0003 | .0002 | .0000 | .0001 | .0000 | .0002 |
| %RSD | 119.4 | 5035. | 161.3 | 184.0 | 23.00 | 27.63 | 8.582 | 147.9 | 1.822 | 46.10 |
| #1 | -.0002 | .0020 | .0000 | .0012 | .0013 | .0007 | .0003 | .0000 | .0017 | .0002 |
| #2 | -.0021 | -.0019 | -.0006 | -.0002 | .0009 | .0005 | .0003 | .0001 | .0017 | .0005 |

| Elem | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|
| Avg | .0035 | .0001 | .0002 |
| Stddev | .0010 | .0000 | .0001 |
| %RSD | 29.58 | 37.85 | 35.83 |
| #1 | .0028 | .0001 | .0002 |
| #2 | .0042 | .0001 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 2399.6 | 77928. | 15675. |
| Stddev | 5.9 | 66. | 33. |
| %RSD | .24527 | .08463 | .20842 |
| #1 | 2403.8 | 77882. | 15652. |
| #2 | 2395.4 | 77975. | 15698. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000062 | 0.000000 | No |
| | | | Co | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000109 | 0.000000 | No |
| | | | Mo | -0.000086 | 0.000000 | No |
| | | | Cu | -0.000105 | 0.000000 | No |
| | | | Ti | -0.000064 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.003788 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.002525 | 0.000000 | No |
| | | | Mo | 0.040763 | 0.000000 | No |
| | | | Ca | 0.000078 | 0.000000 | No |
| As 189.042 {479} | ☒ | 9 | V | 0.000039 | 0.000000 | No |
| | | | Al | 0.000025 | 0.000000 | No |
| | | | Mo | 0.001250 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Mn | 0.000103 | 0.000000 | No |
| | | | Ca | 0.000007 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000267 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000102 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.017286 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000005 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000043 | 0.000000 | No |
| | | | Mo | -0.000032 | 0.000000 | No |
| | | | Ti | -0.000279 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 5 | Ni | -0.000027 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000009 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Pt | -0.011956 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000014 | 0.000000 | No |
| | | | Mo | -0.000161 | 0.000000 | No |
| | | | Ti | 0.002105 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000004 | 0.000000 | No |
| | | | Mn | 0.000158 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000094 | 0.000000 | No |
| | | | V | -0.000207 | 0.000000 | No |
| | | | Mo | 0.000504 | 0.000000 | No |
| | | | Co | -0.000350 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | 0.000765 | 0.000000 | No |
| | | | Cr | 0.002515 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000129 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000546 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000124 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000061 | 0.000000 | No |
| | | | | Mn | 0.000128 | 0.000000 | No |
| | | | | Mo | -0.001571 | 0.000000 | No |
| | | | | Co | -0.000355 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000006 | 0.000000 | No |
| | | | | Fe | 0.000025 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | 0.000048 | 0.000000 | No |
| | | | | Si | 0.000077 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000351 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.007692 | 0.000000 | No |
| | | | | Ni | 0.000902 | 0.000000 | No |
| | | | | Mn | -0.007038 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | Sb 206.833 {463} | ☒ | 12 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000013 | 0.000000 | No |
| | | | | Cr | 0.011608 | 0.000000 | No |
| | | | | Mo | -0.004351 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ni | -0.000523 | 0.000000 | No |
| | | | | V | -0.001589 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Ti | 0.000231 | 0.000000 | No |
| | | | | Cu | -0.000166 | 0.000000 | No |
| | | | | Sn | -0.007401 | 0.000000 | No |
| | | | | Pt | -0.002057 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 8 | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | -0.000294 | 0.000000 | No |
| | | | | Mn | 0.000306 | 0.000000 | No |
| | | | | Mo | 0.000127 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | | | | Na | -0.000003 | 0.000000 | No |
| | | | | Co | -0.000378 | 0.000000 | No |
| | | | | Pd | -0.003371 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.027489 | 0.000000 | No |
| | | | | Ti | 0.015670 | 0.000000 | No |
| | | | | Mo | 0.023054 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.001008 | 0.000000 | No |
| | | | | Cr | 0.000167 | 0.000000 | No |
| | | | | V | -0.025372 | 0.000000 | No |
| | | | | Co | 0.001277 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | -0.000004 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | -0.001435 | 0.000000 | No |
| | | | | Mo | -0.000119 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000455 | 0.000000 | No |
| | | | | Mo | -0.001092 | 0.000000 | No |
| | | | | Fe | 0.000018 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000106 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000013 | 0.000000 | No |
| | | | | Mn | -0.000026 | 0.000000 | No |
| | | | | Ni | 0.000026 | 0.000000 | No |
| | | | | Cr | -0.000478 | 0.000000 | No |
| | | | | Mo | 0.000104 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000000 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 6 | Si | 0.000182 | 0.000000 | No |
| | | | | Ti | 0.000195 | 0.000000 | No |
| | | | | Fe | 0.000024 | 0.000000 | No |
| | | | | Sn | 0.002296 | 0.000000 | No |
| | | | | Au | 0.002269 | 0.000000 | No |
| | | | | Ba | 0.000845 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13F07j01.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\001CAL
Date Acquired: Jun 7 2013 09:34 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1856535.00 | A | 14330.00 | 0.77 |
| 7 | (Li) | | P | | |
| 9 | Be | 62.22 | P | 11.71 | 18.82 |
| 9 | Be | 2.22 | P | 1.93 | 86.62 |
| 11 | B | 1302.32 | P | 89.53 | 6.87 |
| 11 | B | 31.11 | P | 6.94 | 22.30 |
| 23 | Na | 579185.00 | P | 6507.00 | 1.12 |
| 23 | Na | 62086.79 | P | 427.60 | 0.69 |
| 24 | Mg | 14598.34 | P | 624.60 | 4.28 |
| 24 | Mg | 711.15 | P | 70.66 | 9.94 |
| 27 | Al | 42241.60 | P | 1299.00 | 3.08 |
| 27 | Al | 998.96 | P | 29.13 | 2.92 |
| 39 | K | 3639772.00 | A | 19420.00 | 0.53 |
| 44 | Ca | 36982.81 | P | 380.10 | 1.03 |
| 45 | Sc | 2636644.00 | A | 4071.00 | 0.15 |
| 45 | Sc | 290274.91 | P | 6519.00 | 2.25 |
| 47 | Ti | 236.68 | P | 15.28 | 6.46 |
| 51 | V | 2412.23 | P | 58.30 | 2.42 |
| 52 | Cr | 1444.53 | P | 54.24 | 3.75 |
| 55 | Mn | 2390.89 | P | 82.06 | 3.43 |
| 56 | Fe | 42386.58 | P | 625.70 | 1.48 |
| 59 | Co | 119.56 | P | 9.08 | 7.59 |
| 60 | Ni | 171.11 | P | 28.51 | 16.66 |
| 63 | Cu | 1528.99 | P | 80.68 | 5.28 |
| 66 | Zn | 142.00 | P | 15.07 | 10.61 |
| 72 | Ge | 618104.13 | P | 9344.00 | 1.51 |
| 72 | Ge | 134349.41 | P | 962.30 | 0.72 |
| 75 | As | 90.67 | P | 22.04 | 24.31 |
| 78 | Se | 105.11 | P | 1.02 | 0.97 |
| 88 | Sr | 557.81 | P | 63.01 | 11.30 |
| 98 | Mo | 224.45 | P | 10.18 | 4.54 |
| 103 | Rh | 3128589.00 | A | 3693.00 | 0.12 |
| 107 | Ag | 158.90 | P | 25.02 | 15.75 |

C:\ICPCHEM\1\DATA\13F07j01.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 1.93 | 24.75 |
| 115 | In | 3427975.00 | A | 39660.00 | 1.16 |
| 115 | In | 1079412.00 | P | 22010.00 | 2.04 |
| 118 | (In) | 613.37 | P | 40.96 | 6.68 |
| 118 | (In) | 234.45 | P | 25.02 | 10.67 |
| 120 | Sn | 798.94 | P | 24.57 | 3.08 |
| 121 | Sb | 202.23 | P | 7.70 | 3.81 |
| 137 | Ba | 602.26 | P | 69.47 | 11.54 |
| 159 | Tb | 4736210.00 | A | 24360.00 | 0.51 |
| 175 | Lu | 4672936.00 | A | 43530.00 | 0.93 |
| 205 | Tl | 2514.76 | P | 28.74 | 1.14 |
| 206 | (Pb) | 281.12 | P | 52.32 | 18.61 |
| 207 | (Pb) | 252.23 | P | 36.72 | 14.56 |
| 208 | Pb | 2241.32 | P | 164.70 | 7.35 |
| 209 | Bi | 2891261.00 | A | 16090.00 | 0.56 |

C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\002CAL
Date Acquired: Jun 7 2013 09:41 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1866118.00 | A | 16770.00 | 0.90 |
| 7 | (Li) | | P | | |
| 9 | Be | 46.67 | P | 8.82 | 18.90 |
| 9 | Be | 3.33 | P | 3.33 | 99.99 |
| 11 | B | 1320.10 | P | 125.50 | 9.51 |
| 11 | B | 21.11 | P | 3.85 | 18.23 |
| 23 | Na | 572105.19 | P | 5751.00 | 1.01 |
| 23 | Na | 62596.42 | P | 336.00 | 0.54 |
| 24 | Mg | 13915.56 | P | 301.30 | 2.17 |
| 24 | Mg | 664.48 | P | 18.36 | 2.76 |
| 27 | Al | 42675.56 | P | 1157.00 | 2.71 |
| 27 | Al | 974.51 | P | 91.99 | 9.44 |
| 39 | K | 3647994.00 | A | 11670.00 | 0.32 |
| 44 | Ca | 36255.41 | P | 270.10 | 0.74 |
| 45 | Sc | 2660105.00 | A | 16830.00 | 0.63 |
| 45 | Sc | 293973.19 | P | 1676.00 | 0.57 |
| 47 | Ti | 222.23 | P | 9.62 | 4.33 |
| 51 | V | 2398.00 | P | 66.09 | 2.76 |
| 52 | Cr | 1302.30 | P | 59.49 | 4.57 |
| 55 | Mn | 2358.43 | P | 64.02 | 2.71 |
| 56 | Fe | 42293.54 | P | 278.40 | 0.66 |
| 59 | Co | 103.56 | P | 26.34 | 25.44 |
| 60 | Ni | 200.45 | P | 16.88 | 8.42 |
| 63 | Cu | 1544.99 | P | 92.68 | 6.00 |
| 66 | Zn | 151.78 | P | 6.01 | 3.96 |
| 72 | Ge | 561821.38 | P | 3203.00 | 0.57 |
| 72 | Ge | 124164.50 | P | 910.00 | 0.73 |
| 75 | As | 100.89 | P | 7.95 | 7.88 |
| 78 | Se | 116.67 | P | 4.62 | 3.96 |
| 88 | Sr | 588.92 | P | 40.05 | 6.80 |
| 98 | Mo | 142.23 | P | 15.03 | 10.57 |
| 103 | Rh | 3161327.00 | A | 28530.00 | 0.90 |
| 107 | Ag | 114.45 | P | 10.18 | 8.89 |

C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 10.00 | P | 0.00 | 0.00 |
| 115 | In | 3455998.00 | A | 10590.00 | 0.31 |
| 115 | In | 1091146.00 | P | 3589.00 | 0.33 |
| 118 | (In) | 560.03 | P | 38.44 | 6.86 |
| 118 | (In) | 236.68 | P | 37.57 | 15.87 |
| 120 | Sn | 823.39 | P | 29.06 | 3.53 |
| 121 | Sb | 176.67 | P | 28.48 | 16.12 |
| 137 | Ba | 601.15 | P | 22.69 | 3.77 |
| 159 | Tb | 4795045.00 | A | 31320.00 | 0.65 |
| 175 | Lu | 4757918.00 | A | 42740.00 | 0.90 |
| 205 | Tl | 1689.06 | P | 25.90 | 1.53 |
| 206 | (Pb) | 305.57 | P | 35.02 | 11.46 |
| 207 | (Pb) | 275.57 | P | 18.36 | 6.66 |
| 208 | Pb | 2418.01 | P | 81.41 | 3.37 |
| 209 | Bi | 2963190.00 | A | 27990.00 | 0.94 |

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# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\003CALS.D\003CALS.D#
Date Acquired: Jun 7 2013 09:48 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1868205.00 | A | 4374.00 | 0.23 |
| 7 | (Li) | | P | | |
| 9 | Be | 2992.60 | P | 50.93 | 1.70 |
| 9 | Be | 141.12 | P | 27.76 | 19.67 |
| 11 | B | 2531.40 | P | 70.12 | 2.77 |
| 11 | B | 63.34 | P | 17.64 | 27.85 |
| 23 | Na | 638800.63 | P | 6338.00 | 0.99 |
| 23 | Na | 66193.24 | P | 408.00 | 0.62 |
| 24 | Mg | 30308.98 | P | 456.10 | 1.50 |
| 24 | Mg | 1477.90 | P | 66.20 | 4.48 |
| 27 | Al | 44842.36 | P | 3590.00 | 8.01 |
| 27 | Al | 1000.08 | P | 91.73 | 9.17 |
| 39 | K | 3705055.00 | A | 22340.00 | 0.60 |
| 44 | Ca | 40920.46 | P | 670.10 | 1.64 |
| 45 | Sc | 2668327.00 | A | 6028.00 | 0.23 |
| 45 | Sc | 292750.81 | P | 2829.00 | 0.97 |
| 47 | Ti | 1362.33 | P | 73.97 | 5.43 |
| 51 | V | 5941.22 | P | 126.50 | 2.13 |
| 52 | Cr | 5137.81 | P | 114.30 | 2.22 |
| 55 | Mn | 4982.21 | P | 39.76 | 0.80 |
| 56 | Fe | 30609.89 | P | 554.00 | 1.81 |
| 59 | Co | 5474.38 | P | 69.52 | 1.27 |
| 60 | Ni | 1596.11 | P | 75.10 | 4.71 |
| 63 | Cu | 4919.08 | P | 88.01 | 1.79 |
| 66 | Zn | 1169.39 | P | 7.03 | 0.60 |
| 72 | Ge | 554072.38 | P | 2396.00 | 0.43 |
| 72 | Ge | 123631.20 | P | 1101.00 | 0.89 |
| 75 | As | 575.35 | P | 15.33 | 2.66 |
| 78 | Se | 173.34 | P | 18.04 | 10.41 |
| 88 | Sr | 21502.62 | P | 228.90 | 1.06 |
| 98 | Mo | 5765.76 | P | 225.10 | 3.90 |
| 103 | Rh | 3154552.00 | A | 22180.00 | 0.70 |
| 107 | Ag | 9128.70 | P | 172.20 | 1.89 |

C:\ICPCHEM\1\DATA\13F07j01.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 862.28 | P | 48.57 | 5.63 |
| 115 | In | 3462003.00 | A | 19410.00 | 0.56 |
| 115 | In | 1087637.00 | P | 4107.00 | 0.38 |
| 118 | (In) | 6190.41 | P | 75.19 | 1.21 |
| 118 | (In) | 2206.92 | P | 48.43 | 2.19 |
| 120 | Sn | 8690.66 | P | 21.43 | 0.25 |
| 121 | Sb | 8043.58 | P | 124.90 | 1.55 |
| 137 | Ba | 3736.17 | P | 28.77 | 0.77 |
| 159 | Tb | 4779705.00 | A | 25290.00 | 0.53 |
| 175 | Lu | 4783228.00 | A | 19870.00 | 0.42 |
| 205 | Tl | 15984.19 | P | 242.50 | 1.52 |
| 206 | (Pb) | 7189.88 | P | 194.00 | 2.70 |
| 207 | (Pb) | 6104.91 | P | 54.60 | 0.89 |
| 208 | Pb | 29283.43 | P | 61.78 | 0.21 |
| 209 | Bi | 2957070.00 | A | 24060.00 | 0.81 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1868204.80 | 0.23 | 1866118.10 | 100.1 | 70 - 130 | |
| 45 | Sc | 2668326.80 | 0.23 | 2660104.80 | 100.3 | 70 - 130 | |
| 45 | Sc | 292750.78 | 0.97 | 293973.25 | 99.6 | 70 - 130 | |
| 72 | Ge | 554072.38 | 0.43 | 561821.44 | 98.6 | 70 - 130 | |
| 72 | Ge | 123631.25 | 0.89 | 124164.54 | 99.6 | 70 - 130 | |
| 103 | Rh | 3154552.30 | 0.70 | 3161326.80 | 99.8 | 70 - 130 | |
| 115 | In | 3462003.00 | 0.56 | 3455998.30 | 100.2 | 70 - 130 | |
| 115 | In | 1087636.60 | 0.38 | 1091146.30 | 99.7 | 70 - 130 | |
| 159 | Tb | 4779705.50 | 0.53 | 4795045.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 4783228.00 | 0.42 | 4757918.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2957069.80 | 0.81 | 2963190.00 | 99.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\004CALS.D\004CALS.D#
Date Acquired: Jun 7 2013 09:55 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858682.00 | A | 10220.00 | 0.55 |
| 7 | (Li) | | P | | |
| 9 | Be | 29908.83 | P | 400.50 | 1.34 |
| 9 | Be | 1226.75 | P | 14.53 | 1.18 |
| 11 | B | 19801.80 | P | 515.70 | 2.60 |
| 11 | B | 438.91 | P | 27.96 | 6.37 |
| 23 | Na | 729800.50 | P | 6264.00 | 0.86 |
| 23 | Na | 72059.81 | P | 135.20 | 0.19 |
| 24 | Mg | 118411.80 | P | 646.00 | 0.55 |
| 24 | Mg | 5763.47 | P | 61.67 | 1.07 |
| 27 | Al | 156467.70 | P | 3685.00 | 2.36 |
| 27 | Al | 3590.55 | P | 29.06 | 0.81 |
| 39 | K | 3795364.00 | A | 18650.00 | 0.49 |
| 44 | Ca | 43535.34 | P | 609.70 | 1.40 |
| 45 | Sc | 2646122.00 | A | 22850.00 | 0.86 |
| 45 | Sc | 293087.00 | P | 606.80 | 0.21 |
| 47 | Ti | 11377.94 | P | 147.40 | 1.30 |
| 51 | V | 35555.25 | P | 231.30 | 0.65 |
| 52 | Cr | 38485.39 | P | 344.50 | 0.90 |
| 55 | Mn | 30538.90 | P | 67.82 | 0.22 |
| 56 | Fe | 59092.54 | P | 312.20 | 0.53 |
| 59 | Co | 52364.21 | P | 37.45 | 0.07 |
| 60 | Ni | 13200.94 | P | 139.10 | 1.05 |
| 63 | Cu | 34921.28 | P | 124.80 | 0.36 |
| 66 | Zn | 6681.72 | P | 34.33 | 0.51 |
| 72 | Ge | 551047.13 | P | 4230.00 | 0.77 |
| 72 | Ge | 122840.40 | P | 230.60 | 0.19 |
| 75 | As | 4707.64 | P | 45.59 | 0.97 |
| 78 | Se | 650.69 | P | 35.30 | 5.43 |
| 88 | Sr | 205589.50 | P | 720.10 | 0.35 |
| 98 | Mo | 55752.89 | P | 181.10 | 0.32 |
| 103 | Rh | 3136038.00 | A | 31200.00 | 0.99 |
| 107 | Ag | 90853.70 | P | 940.40 | 1.04 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8287.06 | P | 86.11 | 1.04 |
| 115 | In | 3456649.00 | A | 19320.00 | 0.56 |
| 115 | In | 1088599.00 | P | 5983.00 | 0.55 |
| 118 | (In) | 57657.22 | P | 478.90 | 0.83 |
| 118 | (In) | 19909.64 | P | 656.10 | 3.30 |
| 120 | Sn | 80448.36 | P | 1034.00 | 1.29 |
| 121 | Sb | 78359.38 | P | 370.10 | 0.47 |
| 137 | Ba | 29616.59 | P | 51.06 | 0.17 |
| 159 | Tb | 4815634.00 | A | 25230.00 | 0.52 |
| 175 | Lu | 4775621.00 | A | 34270.00 | 0.72 |
| 205 | Tl | 151873.00 | P | 2414.00 | 1.59 |
| 206 | (Pb) | 61498.36 | P | 478.90 | 0.78 |
| 207 | (Pb) | 51948.15 | P | 714.30 | 1.38 |
| 208 | Pb | 241158.20 | P | 2314.00 | 0.96 |
| 209 | Bi | 2964909.00 | A | 10180.00 | 0.34 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858681.60 | 0.55 | 1866118.10 | 99.6 | 70 - 130 | |
| 45 | Sc | 2646122.30 | 0.86 | 2660104.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 293087.00 | 0.21 | 293973.25 | 99.7 | 70 - 130 | |
| 72 | Ge | 551047.06 | 0.77 | 561821.44 | 98.1 | 70 - 130 | |
| 72 | Ge | 122840.41 | 0.19 | 124164.54 | 98.9 | 70 - 130 | |
| 103 | Rh | 3136038.00 | 0.99 | 3161326.80 | 99.2 | 70 - 130 | |
| 115 | In | 3456648.80 | 0.56 | 3455998.30 | 100.0 | 70 - 130 | |
| 115 | In | 1088598.90 | 0.55 | 1091146.30 | 99.8 | 70 - 130 | |
| 159 | Tb | 4815634.50 | 0.52 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4775621.00 | 0.72 | 4757918.50 | 100.4 | 70 - 130 | |
| 209 | Bi | 2964909.00 | 0.34 | 2963190.00 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#
Date Acquired: Jun 7 2013 10:02 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1854574.00 | A | 22470.00 | 1.21 |
| 7 | (Li) | | P | | |
| 9 | Be | 146325.50 | P | 662.00 | 0.45 |
| 9 | Be | 6069.13 | P | 189.40 | 3.12 |
| 11 | B | 93985.94 | P | 187.70 | 0.20 |
| 11 | B | 2222.45 | P | 106.50 | 4.79 |
| 23 | Na | 1352484.00 | A | 724.80 | 0.05 |
| 23 | Na | 108607.40 | P | 940.90 | 0.87 |
| 24 | Mg | 507514.09 | P | 1525.00 | 0.30 |
| 24 | Mg | 25220.98 | P | 3.39 | 0.01 |
| 27 | Al | 640078.63 | P | 3275.00 | 0.51 |
| 27 | Al | 15180.10 | P | 353.80 | 2.33 |
| 39 | K | 4265718.00 | A | 14880.00 | 0.35 |
| 44 | Ca | 62699.46 | P | 195.30 | 0.31 |
| 45 | Sc | 2645720.00 | A | 19370.00 | 0.73 |
| 45 | Sc | 295032.81 | P | 504.20 | 0.17 |
| 47 | Ti | 55231.89 | P | 322.20 | 0.58 |
| 51 | V | 167308.70 | P | 798.40 | 0.48 |
| 52 | Cr | 185745.09 | P | 1187.00 | 0.64 |
| 55 | Mn | 143916.00 | P | 458.70 | 0.32 |
| 56 | Fe | 194561.00 | P | 828.60 | 0.43 |
| 59 | Co | 255971.91 | P | 797.10 | 0.31 |
| 60 | Ni | 64550.88 | P | 301.40 | 0.47 |
| 63 | Cu | 163726.91 | P | 466.50 | 0.28 |
| 66 | Zn | 31094.88 | P | 291.30 | 0.94 |
| 72 | Ge | 540540.69 | P | 4649.00 | 0.86 |
| 72 | Ge | 123092.80 | P | 376.50 | 0.31 |
| 75 | As | 22905.95 | P | 79.38 | 0.35 |
| 78 | Se | 2731.15 | P | 70.57 | 2.58 |
| 88 | Sr | 996652.88 | P | 840.30 | 0.08 |
| 98 | Mo | 269769.31 | P | 1929.00 | 0.72 |
| 103 | Rh | 3120736.00 | A | 19890.00 | 0.64 |
| 107 | Ag | 442589.91 | P | 2451.00 | 0.55 |

C:\ICPCHEM\1\DATA\13F07j01.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 40465.12 | P | 256.80 | 0.63 |
| 115 | In | 3437968.00 | A | 15990.00 | 0.47 |
| 115 | In | 1083072.00 | P | 6344.00 | 0.59 |
| 118 | (In) | 280711.81 | P | 615.50 | 0.22 |
| 118 | (In) | 96260.46 | P | 572.10 | 0.59 |
| 120 | Sn | 388700.19 | P | 3099.00 | 0.80 |
| 121 | Sb | 370809.50 | P | 1185.00 | 0.32 |
| 137 | Ba | 141662.00 | P | 567.00 | 0.40 |
| 159 | Tb | 4779030.00 | A | 24460.00 | 0.51 |
| 175 | Lu | 4751724.00 | A | 10890.00 | 0.23 |
| 205 | Tl | 811419.13 | P | 5821.00 | 0.72 |
| 206 | (Pb) | 296389.41 | P | 656.70 | 0.22 |
| 207 | (Pb) | 250823.09 | P | 2186.00 | 0.87 |
| 208 | Pb | 1159228.00 | P | 5830.00 | 0.50 |
| 209 | Bi | 2950045.00 | A | 34830.00 | 1.18 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1854573.90 | 1.21 | 1866118.10 | 99.4 | 70 - 130 | |
| 45 | Sc | 2645720.50 | 0.73 | 2660104.80 | 99.5 | 70 - 130 | |
| 45 | Sc | 295032.78 | 0.17 | 293973.25 | 100.4 | 70 - 130 | |
| 72 | Ge | 540540.75 | 0.86 | 561821.44 | 96.2 | 70 - 130 | |
| 72 | Ge | 123092.76 | 0.31 | 124164.54 | 99.1 | 70 - 130 | |
| 103 | Rh | 3120735.80 | 0.64 | 3161326.80 | 98.7 | 70 - 130 | |
| 115 | In | 3437968.00 | 0.47 | 3455998.30 | 99.5 | 70 - 130 | |
| 115 | In | 1083072.30 | 0.59 | 1091146.30 | 99.3 | 70 - 130 | |
| 159 | Tb | 4779029.50 | 0.51 | 4795045.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 4751724.50 | 0.23 | 4757918.50 | 99.9 | 70 - 130 | |
| 209 | Bi | 2950045.30 | 1.18 | 2963190.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#
Date Acquired: Jun 7 2013 10:10 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1858476.00 | A | 15120.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 296617.81 | P | 87.84 | 0.03 |
| 9 | Be | 12488.63 | P | 202.90 | 1.62 |
| 11 | B | 190903.30 | P | 454.30 | 0.24 |
| 11 | B | 4381.86 | P | 223.50 | 5.10 |
| 23 | Na | 2137606.00 | A | 15210.00 | 0.71 |
| 23 | Na | 154725.20 | P | 1061.00 | 0.69 |
| 24 | Mg | 1016801.00 | M | 1937.00 | 0.19 |
| 24 | Mg | 50700.38 | P | 368.40 | 0.73 |
| 27 | Al | 1304136.00 | A | 7705.00 | 0.59 |
| 27 | Al | 30691.94 | P | 425.90 | 1.39 |
| 39 | K | 5008195.00 | A | 34560.00 | 0.69 |
| 44 | Ca | 108388.50 | P | 822.90 | 0.76 |
| 45 | Sc | 2622459.00 | A | 20530.00 | 0.78 |
| 45 | Sc | 293149.59 | P | 1316.00 | 0.45 |
| 47 | Ti | 111773.70 | P | 617.00 | 0.55 |
| 51 | V | 334229.00 | P | 961.90 | 0.29 |
| 52 | Cr | 371027.69 | P | 1294.00 | 0.35 |
| 55 | Mn | 289794.00 | P | 322.00 | 0.11 |
| 56 | Fe | 370725.59 | P | 1369.00 | 0.37 |
| 59 | Co | 512154.81 | P | 1619.00 | 0.32 |
| 60 | Ni | 129305.10 | P | 295.40 | 0.23 |
| 63 | Cu | 328168.81 | P | 1971.00 | 0.60 |
| 66 | Zn | 63781.22 | P | 102.00 | 0.16 |
| 72 | Ge | 539790.69 | P | 3839.00 | 0.71 |
| 72 | Ge | 121873.80 | P | 459.80 | 0.38 |
| 75 | As | 45807.59 | P | 316.30 | 0.69 |
| 78 | Se | 5347.86 | P | 13.07 | 0.24 |
| 88 | Sr | 1983843.00 | A | 8885.00 | 0.45 |
| 98 | Mo | 543813.19 | P | 1208.00 | 0.22 |
| 103 | Rh | 3118717.00 | A | 11460.00 | 0.37 |
| 107 | Ag | 899320.69 | P | 2978.00 | 0.33 |

C:\ICPCHEM\1\DATA\13F07j01.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 81324.14 | P | 454.80 | 0.56 |
| 115 | In | 3440740.00 | A | 8439.00 | 0.25 |
| 115 | In | 1072512.00 | P | 2331.00 | 0.22 |
| 118 | (In) | 564929.31 | P | 4539.00 | 0.80 |
| 118 | (In) | 195025.80 | P | 1917.00 | 0.98 |
| 120 | Sn | 783323.88 | P | 6524.00 | 0.83 |
| 121 | Sb | 739806.38 | P | 1329.00 | 0.18 |
| 137 | Ba | 288135.81 | P | 1436.00 | 0.50 |
| 159 | Tb | 4799049.00 | A | 38250.00 | 0.80 |
| 175 | Lu | 4787660.00 | A | 11820.00 | 0.25 |
| 205 | Tl | 1693157.00 | A | 4030.00 | 0.24 |
| 206 | (Pb) | 601653.19 | P | 2259.00 | 0.38 |
| 207 | (Pb) | 508173.00 | P | 114.30 | 0.02 |
| 208 | Pb | 2345586.00 | P | 7368.00 | 0.31 |
| 209 | Bi | 2998875.00 | A | 2989.00 | 0.10 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1858476.40 | 0.81 | 1866118.10 | 99.6 | 70 - 130 | |
| 45 | Sc | 2622458.50 | 0.78 | 2660104.80 | 98.6 | 70 - 130 | |
| 45 | Sc | 293149.66 | 0.45 | 293973.25 | 99.7 | 70 - 130 | |
| 72 | Ge | 539790.69 | 0.71 | 561821.44 | 96.1 | 70 - 130 | |
| 72 | Ge | 121873.85 | 0.38 | 124164.54 | 98.2 | 70 - 130 | |
| 103 | Rh | 3118716.80 | 0.37 | 3161326.80 | 98.7 | 70 - 130 | |
| 115 | In | 3440740.00 | 0.25 | 3455998.30 | 99.6 | 70 - 130 | |
| 115 | In | 1072512.30 | 0.22 | 1091146.30 | 98.3 | 70 - 130 | |
| 159 | Tb | 4799049.50 | 0.80 | 4795045.00 | 100.1 | 70 - 130 | |
| 175 | Lu | 4787660.00 | 0.25 | 4757918.50 | 100.6 | 70 - 130 | |
| 209 | Bi | 2998874.80 | 0.10 | 2963190.00 | 101.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#
Date Acquired: Jun 7 2013 10:18 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1836609.00 | A | 22890.00 | 1.25 |
| 7 | (Li) | | P | | |
| 9 | Be | 593501.38 | P | 4049.00 | 0.68 |
| 9 | Be | 24272.53 | P | 501.00 | 2.06 |
| 11 | B | 380315.50 | P | 586.50 | 0.15 |
| 11 | B | 8763.81 | P | 68.32 | 0.78 |
| 23 | Na | 3425325.00 | A | 3183.00 | 0.09 |
| 23 | Na | 234897.30 | P | 771.60 | 0.33 |
| 24 | Mg | 1999108.00 | A | 11600.00 | 0.58 |
| 24 | Mg | 99713.31 | P | 825.50 | 0.83 |
| 27 | Al | 2457794.00 | A | 12260.00 | 0.50 |
| 27 | Al | 59048.55 | P | 272.80 | 0.46 |
| 39 | K | 6197849.00 | A | 17770.00 | 0.29 |
| 44 | Ca | 143111.30 | P | 1733.00 | 1.21 |
| 45 | Sc | 2630238.00 | A | 12920.00 | 0.49 |
| 45 | Sc | 292112.50 | P | 3930.00 | 1.35 |
| 47 | Ti | 224002.70 | P | 594.90 | 0.27 |
| 51 | V | 667420.31 | P | 2100.00 | 0.31 |
| 52 | Cr | 742609.81 | P | 2546.00 | 0.34 |
| 55 | Mn | 574869.69 | P | 1206.00 | 0.21 |
| 56 | Fe | 704951.00 | P | 1616.00 | 0.23 |
| 59 | Co | 1025118.00 | P | 5947.00 | 0.58 |
| 60 | Ni | 257537.09 | P | 650.00 | 0.25 |
| 63 | Cu | 652014.69 | P | 1857.00 | 0.28 |
| 66 | Zn | 123823.40 | P | 321.30 | 0.26 |
| 72 | Ge | 538309.88 | P | 5027.00 | 0.93 |
| 72 | Ge | 120815.20 | P | 546.30 | 0.45 |
| 75 | As | 91399.07 | P | 323.40 | 0.35 |
| 78 | Se | 10545.72 | P | 113.90 | 1.08 |
| 88 | Sr | 3909572.00 | A | 4725.00 | 0.12 |
| 98 | Mo | 1090781.00 | P | 1557.00 | 0.14 |
| 103 | Rh | 3128525.00 | A | 13520.00 | 0.43 |
| 107 | Ag | 1748102.00 | A | 6074.00 | 0.35 |

C:\ICPCHEM\1\DATA\13F07j01.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 162379.09 | P | 486.70 | 0.30 |
| 115 | In | 3397116.00 | A | 14850.00 | 0.44 |
| 115 | In | 1063789.00 | P | 17460.00 | 1.64 |
| 118 | (In) | 1131739.00 | P | 5829.00 | 0.52 |
| 118 | (In) | 389603.50 | P | 667.70 | 0.17 |
| 120 | Sn | 1549984.00 | A | 13080.00 | 0.84 |
| 121 | Sb | 1440518.00 | A | 20090.00 | 1.39 |
| 137 | Ba | 571060.63 | P | 2249.00 | 0.39 |
| 159 | Tb | 4816497.00 | A | 15620.00 | 0.32 |
| 175 | Lu | 4746929.00 | A | 11510.00 | 0.24 |
| 205 | Tl | 3374838.00 | A | 35580.00 | 1.05 |
| 206 | (Pb) | 1204328.00 | P | 5533.00 | 0.46 |
| 207 | (Pb) | 1017922.00 | P | 3160.00 | 0.31 |
| 208 | Pb | 4630879.00 | A | 30270.00 | 0.65 |
| 209 | Bi | 3006162.00 | A | 24710.00 | 0.82 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1836608.90 | 1.25 | 1866118.10 | 98.4 | 70 - 130 | |
| 45 | Sc | 2630238.30 | 0.49 | 2660104.80 | 98.9 | 70 - 130 | |
| 45 | Sc | 292112.50 | 1.35 | 293973.25 | 99.4 | 70 - 130 | |
| 72 | Ge | 538309.94 | 0.93 | 561821.44 | 95.8 | 70 - 130 | |
| 72 | Ge | 120815.24 | 0.45 | 124164.54 | 97.3 | 70 - 130 | |
| 103 | Rh | 3128525.30 | 0.43 | 3161326.80 | 99.0 | 70 - 130 | |
| 115 | In | 3397116.50 | 0.44 | 3455998.30 | 98.3 | 70 - 130 | |
| 115 | In | 1063789.30 | 1.64 | 1091146.30 | 97.5 | 70 - 130 | |
| 159 | Tb | 4816496.50 | 0.32 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4746929.00 | 0.24 | 4757918.50 | 99.8 | 70 - 130 | |
| 209 | Bi | 3006162.00 | 0.82 | 2963190.00 | 101.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#
Date Acquired: Jun 7 2013 10:25 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1850436.00 | A | 22560.00 | 1.22 |
| 7 | (Li) | | P | | |
| 9 | Be | 124.45 | P | 12.62 | 10.14 |
| 9 | Be | 7.78 | P | 1.93 | 24.75 |
| 11 | B | 2388.04 | P | 17.11 | 0.72 |
| 11 | B | 47.78 | P | 13.88 | 29.05 |
| 23 | Na | 28581440.00 | A | 340400.00 | 1.19 |
| 23 | Na | 1729030.00 | A | 12030.00 | 0.70 |
| 24 | Mg | 18935510.00 | A | 37460.00 | 0.20 |
| 24 | Mg | 994264.38 | P | 5069.00 | 0.51 |
| 27 | Al | 23817150.00 | A | 102400.00 | 0.43 |
| 27 | Al | 599853.50 | P | 3649.00 | 0.61 |
| 39 | K | 29342830.00 | A | 111000.00 | 0.38 |
| 44 | Ca | 866305.31 | P | 6319.00 | 0.73 |
| 45 | Sc | 2639131.00 | A | 87700.00 | 3.32 |
| 45 | Sc | 297077.19 | P | 1619.00 | 0.54 |
| 47 | Ti | 213.34 | P | 6.67 | 3.13 |
| 51 | V | 2466.46 | P | 32.89 | 1.33 |
| 52 | Cr | 1360.08 | P | 34.95 | 2.57 |
| 55 | Mn | 1686.78 | P | 15.38 | 0.91 |
| 56 | Fe | 6456509.00 | A | 35300.00 | 0.55 |
| 59 | Co | 351.56 | P | 57.73 | 16.42 |
| 60 | Ni | 295.56 | P | 8.57 | 2.90 |
| 63 | Cu | 1577.88 | P | 74.37 | 4.71 |
| 66 | Zn | 254.89 | P | 10.71 | 4.20 |
| 72 | Ge | 554332.19 | P | 8273.00 | 1.49 |
| 72 | Ge | 124839.00 | P | 617.20 | 0.49 |
| 75 | As | 120.00 | P | 4.62 | 3.85 |
| 78 | Se | 126.67 | P | 14.89 | 11.76 |
| 88 | Sr | 2472.52 | P | 121.20 | 4.90 |
| 98 | Mo | 3449.40 | P | 99.71 | 2.89 |
| 103 | Rh | 3114065.00 | A | 99700.00 | 3.20 |
| 107 | Ag | 377.80 | P | 33.72 | 8.93 |

C:\ICPCHEM\1\DATA\13F07j01.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 24.45 | P | 3.85 | 15.75 |
| 115 | In | 3456814.00 | A | 80620.00 | 2.33 |
| 115 | In | 1095520.00 | P | 8646.00 | 0.79 |
| 118 | (In) | 2134.68 | P | 169.40 | 7.94 |
| 118 | (In) | 883.39 | P | 76.24 | 8.63 |
| 120 | Sn | 2962.63 | P | 317.10 | 10.70 |
| 121 | Sb | 4049.59 | P | 251.50 | 6.21 |
| 137 | Ba | 744.49 | P | 27.15 | 3.65 |
| 159 | Tb | 4829879.00 | A | 146300.00 | 3.03 |
| 175 | Lu | 4789296.00 | A | 135200.00 | 2.82 |
| 205 | Tl | 6829.70 | P | 169.50 | 2.48 |
| 206 | (Pb) | 333.35 | P | 40.42 | 12.13 |
| 207 | (Pb) | 331.13 | P | 25.89 | 7.82 |
| 208 | Pb | 2879.21 | P | 88.49 | 3.07 |
| 209 | Bi | 2979552.00 | A | 52020.00 | 1.75 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1850436.00 | 1.22 | 1866118.10 | 99.2 | 70 - 130 | |
| 45 | Sc | 2639131.50 | 3.32 | 2660104.80 | 99.2 | 70 - 130 | |
| 45 | Sc | 297077.22 | 0.54 | 293973.25 | 101.1 | 70 - 130 | |
| 72 | Ge | 554332.19 | 1.49 | 561821.44 | 98.7 | 70 - 130 | |
| 72 | Ge | 124839.00 | 0.49 | 124164.54 | 100.5 | 70 - 130 | |
| 103 | Rh | 3114064.50 | 3.20 | 3161326.80 | 98.5 | 70 - 130 | |
| 115 | In | 3456814.30 | 2.33 | 3455998.30 | 100.0 | 70 - 130 | |
| 115 | In | 1095520.50 | 0.79 | 1091146.30 | 100.4 | 70 - 130 | |
| 159 | Tb | 4829879.00 | 3.03 | 4795045.00 | 100.7 | 70 - 130 | |
| 175 | Lu | 4789296.00 | 2.82 | 4757918.50 | 100.7 | 70 - 130 | |
| 209 | Bi | 2979551.50 | 1.75 | 2963190.00 | 100.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#
Date Acquired: Jun 7 2013 10:32 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal Update: Jun 07 2013 02:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1819591.00 | A | 6644.00 | 0.37 |
| 7 | (Li) | | P | | |
| 9 | Be | 80.00 | P | 6.67 | 8.33 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 1356.77 | P | 99.40 | 7.33 |
| 11 | B | 30.00 | P | 14.53 | 48.43 |
| 23 | Na | 276424800.00 | A | 2130000.00 | 0.77 |
| 23 | Na | 15934210.00 | A | 77870.00 | 0.49 |
| 24 | Mg | 184538800.00 | A | 122500.00 | 0.07 |
| 24 | Mg | 9015164.00 | A | 23620.00 | 0.26 |
| 27 | Al | 234347300.00 | A | 646200.00 | 0.28 |
| 27 | Al | 5490174.00 | A | 15060.00 | 0.27 |
| 39 | K | 257719600.00 | A | 1126000.00 | 0.44 |
| 44 | Ca | 7706194.00 | A | 57380.00 | 0.74 |
| 45 | Sc | 2674280.00 | A | 6295.00 | 0.24 |
| 45 | Sc | 300384.41 | P | 896.30 | 0.30 |
| 47 | Ti | 205.56 | P | 24.57 | 11.95 |
| 51 | V | 2583.81 | P | 58.44 | 2.26 |
| 52 | Cr | 2031.72 | P | 45.27 | 2.23 |
| 55 | Mn | 2838.97 | P | 74.36 | 2.62 |
| 56 | Fe | 62469312.00 | A | 320200.00 | 0.51 |
| 59 | Co | 1523.65 | P | 27.01 | 1.77 |
| 60 | Ni | 652.02 | P | 22.27 | 3.42 |
| 63 | Cu | 1786.80 | P | 33.18 | 1.86 |
| 66 | Zn | 875.59 | P | 29.97 | 3.42 |
| 72 | Ge | 564863.50 | P | 4167.00 | 0.74 |
| 72 | Ge | 125640.90 | P | 423.10 | 0.34 |
| 75 | As | 132.67 | P | 4.62 | 3.48 |
| 78 | Se | 124.22 | P | 10.96 | 8.82 |
| 88 | Sr | 16342.74 | P | 166.10 | 1.02 |
| 98 | Mo | 1168.97 | P | 67.36 | 5.76 |
| 103 | Rh | 3020158.00 | A | 19890.00 | 0.66 |
| 107 | Ag | 897.84 | P | 25.02 | 2.79 |

C:\ICPCHEM\1\DATA\13F07j01.B\009CALS.D\009CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 20.00 | P | 14.53 | 72.65 | |
| 115 | In | 3356052.00 | A | 7420.00 | 0.22 | |
| 115 | In | 1074836.00 | P | 8310.00 | 0.77 | |
| 118 | (In) | 905.62 | P | 65.52 | 7.23 | |
| 118 | (In) | 384.46 | P | 26.95 | 7.01 | |
| 120 | Sn | 1264.54 | P | 116.50 | 9.21 | |
| 121 | Sb | 1871.30 | P | 80.45 | 4.30 | |
| 137 | Ba | 1192.31 | P | 19.25 | 1.61 | |
| 159 | Tb | 4812920.00 | A | 47660.00 | 0.99 | |
| 175 | Lu | 4780551.00 | A | 14440.00 | 0.30 | |
| 205 | Tl | 3113.80 | P | 263.20 | 8.45 | |
| 206 | (Pb) | 460.02 | P | 64.90 | 14.11 | |
| 207 | (Pb) | 407.80 | P | 11.71 | 2.87 | |
| 208 | Pb | 3113.67 | P | 96.86 | 3.11 | |
| 209 | Bi | 2859352.00 | A | 21780.00 | 0.76 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1819591.00 | 0.37 | 1866118.10 | 97.5 | 70 - 130 | |
| 45 | Sc | 2674280.30 | 0.24 | 2660104.80 | 100.5 | 70 - 130 | |
| 45 | Sc | 300384.44 | 0.30 | 293973.25 | 102.2 | 70 - 130 | |
| 72 | Ge | 564863.56 | 0.74 | 561821.44 | 100.5 | 70 - 130 | |
| 72 | Ge | 125640.94 | 0.34 | 124164.54 | 101.2 | 70 - 130 | |
| 103 | Rh | 3020157.80 | 0.66 | 3161326.80 | 95.5 | 70 - 130 | |
| 115 | In | 3356052.00 | 0.22 | 3455998.30 | 97.1 | 70 - 130 | |
| 115 | In | 1074835.50 | 0.77 | 1091146.30 | 98.5 | 70 - 130 | |
| 159 | Tb | 4812920.50 | 0.99 | 4795045.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4780551.00 | 0.30 | 4757918.50 | 100.5 | 70 - 130 | |
| 209 | Bi | 2859351.80 | 0.76 | 2963190.00 | 96.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#
Date Acquired: Jun 7 2013 10:39 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 61.39 | 61.39 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 61.54 | 61.54 | ppb | 1.59 | 900.00 | |
| 11 B | 6 | 1 | 60.69 | 60.69 | ppb | 0.24 | 900.00 | |
| 11 B | 45 | 2 | 60.19 | 60.19 | ppb | 3.47 | 900.00 | |
| 23 Na | 45 | 1 | 5494.00 | 5494.00 | ppb | 1.07 | 90000.00 | |
| 23 Na | 45 | 2 | 5333.00 | 5333.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 5515.00 | 5515.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5492.00 | 5492.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 5578.00 | 5578.00 | ppb | 0.77 | 90000.00 | |
| 27 Al | 45 | 2 | 5587.00 | 5587.00 | ppb | 0.15 | 90000.00 | |
| 39 K | 45 | 1 | 5409.00 | 5409.00 | ppb | 0.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 5509.00 | 5509.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 61.70 | 61.70 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 61.61 | 61.61 | ppb | 0.24 | 900.00 | |
| 52 Cr | 45 | 2 | 60.35 | 60.35 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 59.90 | 59.90 | ppb | 0.20 | 900.00 | |
| 56 Fe | 45 | 2 | 5457.00 | 5457.00 | ppb | 0.33 | 90000.00 | |
| 59 Co | 45 | 2 | 60.07 | 60.07 | ppb | 0.55 | 900.00 | |
| 60 Ni | 45 | 2 | 60.23 | 60.23 | ppb | 1.30 | 900.00 | |
| 63 Cu | 72 | 2 | 58.97 | 58.97 | ppb | 0.80 | 900.00 | |
| 66 Zn | 72 | 2 | 59.13 | 59.13 | ppb | 0.41 | 900.00 | |
| 75 As | 72 | 2 | 60.90 | 60.90 | ppb | 0.34 | 900.00 | |
| 78 Se | 72 | 2 | 59.56 | 59.56 | ppb | 0.92 | 900.00 | |
| 88 Sr | 103 | 1 | 63.16 | 63.16 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 64.30 | 64.30 | ppb | 0.43 | 900.00 | |
| 107 Ag | 115 | 1 | 63.31 | 63.31 | ppb | 0.84 | 180.00 | |
| 111 Cd | 115 | 2 | 60.54 | 60.54 | ppb | 0.82 | 900.00 | |
| 120 Sn | 115 | 1 | 62.72 | 62.72 | ppb | 0.94 | 900.00 | |
| 121 Sb | 115 | 1 | 65.12 | 65.12 | ppb | 0.99 | 900.00 | |
| 137 Ba | 159 | 1 | 59.41 | 59.41 | ppb | 0.83 | 900.00 | |
| 205 Tl | 209 | 1 | 58.04 | 58.04 | ppb | 1.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 61.07 | 61.07 | ppb | 0.19 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1839090 | 0.65 | 1866118 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 2648095 | 0.40 | 2660105 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 297041 | 0.30 | 293973 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 547562 | 1.09 | 561821 | 97.5 | 70 | - | 130 |
| 72 | Ge | 2 | 123257 | 0.31 | 124165 | 99.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3044042 | 0.32 | 3161327 | 96.3 | 70 | - | 130 |
| 115 | In | 1 | 3375398 | 0.41 | 3455998 | 97.7 | 70 | - | 130 |
| 115 | In | 2 | 1068358 | 0.40 | 1091146 | 97.9 | 70 | - | 130 |
| 159 | Tb | 1 | 4814476 | 0.31 | 4795045 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4829063 | 0.77 | 4757919 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2908058 | 0.25 | 2963190 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#
Date Acquired: Jun 7 2013 10:50 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 399.97 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2800.00 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.02 | ppb | 70.15 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 186.05 | 900.00 | |
| 23 Na | 45 | 1 | 1.77 | 1.77 | ppb | 12.64 | 90000.00 | |
| 23 Na | 45 | 2 | 4.57 | 4.57 | ppb | 3.32 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.44 | 0.44 | ppb | 2.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.90 | 0.90 | ppb | 29.94 | 90000.00 | |
| 27 Al | 45 | 1 | -0.59 | -0.59 | ppb | 7.60 | 90000.00 | |
| 27 Al | 45 | 2 | -0.21 | -0.21 | ppb | 102.68 | 90000.00 | |
| 39 K | 45 | 1 | -2.35 | -2.35 | ppb | 21.93 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.46 | 0.46 | ppb | 64.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 59.30 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 51.86 | 900.00 | |
| 52 Cr | 45 | 2 | -0.05 | -0.05 | ppb | 51.51 | 900.00 | |
| 55 Mn | 45 | 2 | -0.14 | -0.14 | ppb | 1.15 | 900.00 | |
| 56 Fe | 45 | 2 | -2.16 | -2.16 | ppb | 9.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 31.64 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 31.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 72.98 | 900.00 | |
| 66 Zn | 72 | 2 | 0.13 | 0.13 | ppb | 9.64 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 1384.20 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.06 | ppb | 143.82 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 17.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.08 | ppb | 6.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 21.34 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 15.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 14.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 21.08 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 568.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1849698 | 0.82 | 1866118 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 2635220 | 0.16 | 2660105 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 301217 | 0.48 | 293973 | 102.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 553916 | 0.63 | 561821 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 125489 | 0.52 | 124165 | 101.1 | 70 | - | 130 |
| 103 Rh | 1 | 3145279 | 0.52 | 3161327 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3461518 | 0.30 | 3455998 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 1110695 | 0.38 | 1091146 | 101.8 | 70 | - | 130 |
| 159 Tb | 1 | 4803078 | 0.16 | 4795045 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4783674 | 1.12 | 4757919 | 100.5 | 70 | - | 130 |
| 209 Bi | 1 | 3002383 | 1.00 | 2963190 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D#
Date Acquired: Jun 7 2013 10:57 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.71 | 52.71 | ppb | 0.09 | 900.00 | |
| 9 Be | 45 | 2 | 51.13 | 51.13 | ppb | 2.19 | 900.00 | |
| 11 B | 6 | 1 | 51.60 | 51.60 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 50.17 | 50.17 | ppb | 2.69 | 900.00 | |
| 23 Na | 45 | 1 | 5092.00 | 5092.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 5005.00 | 5005.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5096.00 | 5096.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5091.00 | 5091.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 5062.00 | 5062.00 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 2 | 5113.00 | 5113.00 | ppb | 0.43 | 90000.00 | |
| 39 K | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 5167.00 | 5167.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.32 | 50.32 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 51.30 | 51.30 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 50.81 | 50.81 | ppb | 0.50 | 900.00 | |
| 55 Mn | 45 | 2 | 49.97 | 49.97 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 50.63 | 50.63 | ppb | 0.10 | 900.00 | |
| 60 Ni | 45 | 2 | 50.28 | 50.28 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 49.51 | 49.51 | ppb | 0.41 | 900.00 | |
| 66 Zn | 72 | 2 | 50.05 | 50.05 | ppb | 0.32 | 900.00 | |
| 75 As | 72 | 2 | 51.14 | 51.14 | ppb | 0.86 | 900.00 | |
| 78 Se | 72 | 2 | 49.58 | 49.58 | ppb | 0.52 | 900.00 | |
| 88 Sr | 103 | 1 | 52.24 | 52.24 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 51.48 | 51.48 | ppb | 0.47 | 900.00 | |
| 107 Ag | 115 | 1 | 51.55 | 51.55 | ppb | 0.85 | 180.00 | |
| 111 Cd | 115 | 2 | 51.01 | 51.01 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 51.28 | 51.28 | ppb | 0.96 | 900.00 | |
| 121 Sb | 115 | 1 | 55.19 | 55.19 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 50.11 | 50.11 | ppb | 1.26 | 900.00 | |
| 205 Tl | 209 | 1 | 48.66 | 48.66 | ppb | 1.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.52 | 52.52 | ppb | 0.37 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1829757 | 0.54 | 1866118 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2639694 | 0.59 | 2660105 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 297223 | 0.35 | 293973 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 542386 | 0.16 | 561821 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 122956 | 0.10 | 124165 | 99.0 | 70 | - | 130 |
| 103 Rh | 1 | 3057691 | 0.59 | 3161327 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3381715 | 1.11 | 3455998 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1067438 | 0.55 | 1091146 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 4798333 | 1.04 | 4795045 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 4731292 | 0.52 | 4757919 | 99.4 | 70 | - | 130 |
| 209 Bi | 1 | 2919010 | 0.56 | 2963190 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D# |
| Date Acquired: | Jun 7 2013 11:04 am |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 208.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 147.13 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 24.43 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 35.20 | 900.00 | |
| 23 Na | 45 | 1 | 1.56 | 1.56 | ppb | 10.05 | 90000.00 | |
| 23 Na | 45 | 2 | 4.64 | 4.64 | ppb | 8.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.39 | 0.39 | ppb | 15.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.90 | 0.90 | ppb | 26.96 | 90000.00 | |
| 27 Al | 45 | 1 | -0.61 | -0.61 | ppb | 7.27 | 90000.00 | |
| 27 Al | 45 | 2 | -0.08 | -0.08 | ppb | 136.59 | 90000.00 | |
| 39 K | 45 | 1 | -4.50 | -4.50 | ppb | 10.59 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.86 | -3.86 | ppb | 8.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 53.92 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 32.83 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 14.29 | 900.00 | |
| 55 Mn | 45 | 2 | -0.15 | -0.15 | ppb | 5.35 | 900.00 | |
| 56 Fe | 45 | 2 | -1.67 | -1.67 | ppb | 11.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.83 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 36.17 | 900.00 | |
| 66 Zn | 72 | 2 | 0.05 | 0.05 | ppb | 16.90 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 3444.90 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 81.96 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 31.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.15 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 37.91 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 85.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 16.02 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 41.95 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 427.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 4.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 10.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1859643 | 0.34 | 1866118 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 2637293 | 0.22 | 2660105 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 296342 | 1.61 | 293973 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 551272 | 0.96 | 561821 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 124544 | 0.43 | 124165 | 100.3 | 70 | - | 130 |
| 103 Rh | 1 | 3122635 | 0.61 | 3161327 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 3451577 | 0.54 | 3455998 | 99.9 | 70 | - | 130 |
| 115 In | 2 | 1102678 | 0.64 | 1091146 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 4810674 | 0.50 | 4795045 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 4770679 | 0.44 | 4757919 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 3014040 | 1.41 | 2963190 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#
Date Acquired: Jun 7 2013 11:11 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.48 | 0.48 | ppb | 10.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.46 | 0.46 | ppb | 20.25 | 900.00 | |
| 11 B | 6 | 1 | 4.74 | 4.74 | ppb | 9.81 | 900.00 | |
| 11 B | 45 | 2 | 5.20 | 5.20 | ppb | 15.31 | 900.00 | |
| 23 Na | 45 | 1 | 237.90 | 237.90 | ppb | 10.57 | 90000.00 | |
| 23 Na | 45 | 2 | 272.80 | 272.80 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 244.40 | 244.40 | ppb | 9.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 274.80 | 274.80 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 1 | 24.34 | 24.34 | ppb | 9.91 | 90000.00 | |
| 27 Al | 45 | 2 | 26.88 | 26.88 | ppb | 1.42 | 90000.00 | |
| 39 K | 45 | 1 | 222.90 | 222.90 | ppb | 14.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 246.10 | 246.10 | ppb | 10.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.98 | 0.98 | ppb | 11.74 | 900.00 | |
| 51 V | 45 | 2 | 0.96 | 0.96 | ppb | 2.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.88 | 0.88 | ppb | 1.17 | 900.00 | |
| 55 Mn | 45 | 2 | 0.84 | 0.84 | ppb | 2.89 | 900.00 | |
| 56 Fe | 45 | 2 | 25.63 | 25.63 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.47 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 4.25 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.96 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 2.28 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 11.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.56 | 0.56 | ppb | 5.01 | 900.00 | |
| 88 Sr | 103 | 1 | 4.81 | 4.81 | ppb | 9.78 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 9.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.46 | 0.46 | ppb | 7.92 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 1.00 | 900.00 | |
| 120 Sn | 115 | 1 | 4.75 | 4.75 | ppb | 8.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 9.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.94 | 0.94 | ppb | 9.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.49 | 0.49 | ppb | 12.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 9.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1944098 | 8.20 | 1866118 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 2831243 | 9.03 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 300364 | 1.34 | 293973 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 582500 | 8.97 | 561821 | 103.7 | 70 | - | 130 |
| 72 Ge | 2 | 125166 | 0.81 | 124165 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 3330614 | 9.83 | 3161327 | 105.4 | 70 | - | 130 |
| 115 In | 1 | 3655443 | 7.75 | 3455998 | 105.8 | 70 | - | 130 |
| 115 In | 2 | 1105065 | 1.31 | 1091146 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5121924 | 8.48 | 4795045 | 106.8 | 70 | - | 130 |
| 175 Lu | 1 | 5106579 | 8.66 | 4757919 | 107.3 | 70 | - | 130 |
| 209 Bi | 1 | 3177391 | 8.51 | 2963190 | 107.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#
Date Acquired: Jun 7 2013 11:19 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 147.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 1077.40 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 38.42 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 201.38 | 900.00 | |
| 23 Na | 45 | 1 | 92070.00 | 92070.00 | ppb | 2.53 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93280.00 | 93280.00 | ppb | 0.36 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92390.00 | 92390.00 | ppb | 2.77 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93150.00 | 93150.00 | ppb | 0.54 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 91270.00 | 91270.00 | ppb | 3.12 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 90750.00 | 90750.00 | ppb | 0.51 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 93150.00 | 93150.00 | ppb | 2.71 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92650.00 | 92650.00 | ppb | 2.82 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1978.00 | 1978.00 | ppb | 2.96 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 4.87 | 900.00 | |
| 52 Cr | 45 | 2 | 1.02 | 1.02 | ppb | 1.51 | 900.00 | |
| 55 Mn | 45 | 2 | 0.15 | 0.15 | ppb | 7.74 | 900.00 | |
| 56 Fe | 45 | 2 | 94060.00 | 94060.00 | ppb | 1.05 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 7.56 | 900.00 | |
| 60 Ni | 45 | 2 | 0.71 | 0.71 | ppb | 3.41 | 900.00 | |
| 63 Cu | 72 | 2 | 0.41 | 0.41 | ppb | 10.27 | 900.00 | |
| 66 Zn | 72 | 2 | 1.78 | 1.78 | ppb | 1.67 | 900.00 | |
| 75 As | 72 | 2 | 0.22 | 0.22 | ppb | 7.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.11 | ppb | 44.35 | 900.00 | |
| 88 Sr | 103 | 1 | 4.84 | 4.84 | ppb | 3.09 | 900.00 | |
| 98 Mo | 103 | 1 | 2067.00 | 2067.00 | ppb | 3.84 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 9.36 | 180.00 | |
| 111 Cd | 115 | 2 | 1.36 | 1.36 | ppb | 3.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 4.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 4.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 6.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.14 | ppb | 3.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1719054 | 2.28 | 1866118 | 92.1 | 70 - 130 | |
| 45 Sc | 1 | 2584798 | 2.70 | 2660105 | 97.2 | 70 - 130 | |
| 45 Sc | 2 | 283478 | 0.36 | 293973 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 599759 | 1.74 | 561821 | 106.8 | 70 | - | 130 |
| 72 | Ge | 2 | 127935 | 0.14 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2817618 | 3.10 | 3161327 | 89.1 | 70 | - | 130 |
| 115 | In | 1 | 3228944 | 2.06 | 3455998 | 93.4 | 70 | - | 130 |
| 115 | In | 2 | 992660 | 0.40 | 1091146 | 91.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4779271 | 2.84 | 4795045 | 99.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4789551 | 3.23 | 4757919 | 100.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2721454 | 2.93 | 2963190 | 91.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#
Date Acquired: Jun 7 2013 11:26 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 100.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 15.54 | 900.00 | |
| 11 B | 45 | 2 | 0.01 | 0.01 | ppb | 1158.20 | 900.00 | |
| 23 Na | 45 | 1 | 95840.00 | 95840.00 | ppb | 0.78 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 95890.00 | 95890.00 | ppb | 0.43 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 95880.00 | 95880.00 | ppb | 1.18 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 95630.00 | 95630.00 | ppb | 0.20 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 94590.00 | 94590.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 92510.00 | 92510.00 | ppb | 0.06 | 90000.00 | >LDR |
| 39 K | 45 | 1 | 97420.00 | 97420.00 | ppb | 0.98 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96320.00 | 96320.00 | ppb | 1.16 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2051.00 | 2051.00 | ppb | 1.02 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.04 | 0.04 | ppb | 36.06 | 900.00 | |
| 52 Cr | 45 | 2 | 20.68 | 20.68 | ppb | 0.78 | 900.00 | |
| 55 Mn | 45 | 2 | 19.40 | 19.40 | ppb | 0.51 | 900.00 | |
| 56 Fe | 45 | 2 | 96020.00 | 96020.00 | ppb | 0.49 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.60 | 19.60 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 19.73 | 19.73 | ppb | 1.17 | 900.00 | |
| 63 Cu | 72 | 2 | 17.59 | 17.59 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 18.68 | 18.68 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 19.29 | 19.29 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | -0.01 | -0.01 | ppb | 671.74 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 2147.00 | 2147.00 | ppb | 1.13 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.62 | 19.62 | ppb | 0.68 | 180.00 | |
| 111 Cd | 115 | 2 | 20.82 | 20.82 | ppb | 1.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 6.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 2.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.60 | 0.60 | ppb | 1.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 17.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 1.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1811392 | 1.35 | 1866118 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 2604935 | 0.27 | 2660105 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 283515 | 0.28 | 293973 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 596996 | 0.59 | 561821 | 106.3 | 70 - | 130 |
| 72 | Ge | 2 | 126769 | 0.11 | 124165 | 102.1 | 70 - | 130 |
| 103 | Rh | 1 | 2815875 | 0.46 | 3161327 | 89.1 | 70 - | 130 |
| 115 | In | 1 | 3288158 | 0.70 | 3455998 | 95.1 | 70 - | 130 |
| 115 | In | 2 | 982270 | 0.39 | 1091146 | 90.0 | 70 - | 130 |
| 159 | Tb | 1 | 4876139 | 1.21 | 4795045 | 101.7 | 70 - | 130 |
| 175 | Lu | 1 | 4906217 | 0.18 | 4757919 | 103.1 | 70 - | 130 |
| 209 | Bi | 1 | 2748621 | 0.80 | 2963190 | 92.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#
Date Acquired: Jun 7 2013 11:33 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 45.61 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 34.35 | 900.00 | |
| 11 B | 6 | 1 | -0.14 | -0.14 | ppb | 3.51 | 900.00 | |
| 11 B | 45 | 2 | -0.05 | -0.05 | ppb | 226.87 | 900.00 | |
| 23 Na | 45 | 1 | 18.40 | 18.40 | ppb | 7.01 | 90000.00 | |
| 23 Na | 45 | 2 | 22.50 | 22.50 | ppb | 1.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.56 | 5.56 | ppb | 15.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.17 | 3.17 | ppb | 18.86 | 90000.00 | |
| 27 Al | 45 | 1 | 4.49 | 4.49 | ppb | 19.84 | 90000.00 | |
| 27 Al | 45 | 2 | 2.07 | 2.07 | ppb | 18.71 | 90000.00 | |
| 39 K | 45 | 1 | 0.53 | 0.53 | ppb | 348.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 6.87 | 6.87 | ppb | 16.02 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.24 | 0.24 | ppb | 10.38 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 67.40 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 1.85 | 900.00 | |
| 55 Mn | 45 | 2 | -0.11 | -0.11 | ppb | 10.45 | 900.00 | |
| 56 Fe | 45 | 2 | 2.81 | 2.81 | ppb | 18.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.00 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 18.90 | 900.00 | |
| 63 Cu | 72 | 2 | 0.33 | 0.33 | ppb | 0.32 | 900.00 | |
| 66 Zn | 72 | 2 | 0.82 | 0.82 | ppb | 5.10 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 436.87 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 222.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 18.84 | 900.00 | |
| 98 Mo | 103 | 1 | 2.92 | 2.92 | ppb | 4.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.49 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 42.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.22 | 0.22 | ppb | 1.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 88.33 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 60.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 30.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 9.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2120404 | 0.92 | 1866118 | 113.6 | 70 - 130 | |
| 45 Sc | 1 | 2852367 | 0.18 | 2660105 | 107.2 | 70 - 130 | |
| 45 Sc | 2 | 305900 | 0.57 | 293973 | 104.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 593330 | 0.72 | 561821 | 105.6 | 70 - | 130 |
| 72 | Ge | 2 | 128788 | 0.21 | 124165 | 103.7 | 70 - | 130 |
| 103 | Rh | 1 | 3363671 | 0.56 | 3161327 | 106.4 | 70 - | 130 |
| 115 | In | 1 | 3739709 | 0.54 | 3455998 | 108.2 | 70 - | 130 |
| 115 | In | 2 | 1122450 | 0.35 | 1091146 | 102.9 | 70 - | 130 |
| 159 | Tb | 1 | 5216288 | 0.55 | 4795045 | 108.8 | 70 - | 130 |
| 175 | Lu | 1 | 5236542 | 1.04 | 4757919 | 110.1 | 70 - | 130 |
| 209 | Bi | 1 | 3287754 | 0.84 | 2963190 | 111.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#
Date Acquired: Jun 7 2013 11:40 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 28.14 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 362.80 | 900.00 | |
| 11 B | 6 | 1 | 0.01 | 0.01 | ppb | 287.77 | 900.00 | |
| 11 B | 45 | 2 | 0.22 | 0.11 | ppb | 149.50 | 900.00 | |
| 23 Na | 45 | 1 | 47.22 | 23.61 | ppb | 13.66 | 90000.00 | |
| 23 Na | 45 | 2 | 57.56 | 28.78 | ppb | 2.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.37 | 2.69 | ppb | 10.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.83 | 2.42 | ppb | 8.75 | 90000.00 | |
| 27 Al | 45 | 1 | 8.10 | 4.05 | ppb | 12.03 | 90000.00 | |
| 27 Al | 45 | 2 | 6.87 | 3.44 | ppb | 4.31 | 90000.00 | |
| 39 K | 45 | 1 | 26.68 | 13.34 | ppb | 91.01 | 90000.00 | |
| 44 Ca | 45 | 1 | 195.86 | 97.93 | ppb | 12.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.96 | 0.48 | ppb | 7.31 | 900.00 | |
| 51 V | 45 | 2 | 1.83 | 0.91 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.12 | ppb | 5.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.92 | 0.46 | ppb | 5.18 | 900.00 | |
| 56 Fe | 45 | 2 | 11.14 | 5.57 | ppb | 3.96 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 38.84 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.06 | ppb | 17.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.22 | ppb | 5.81 | 900.00 | |
| 66 Zn | 72 | 2 | 22.82 | 11.41 | ppb | 1.59 | 900.00 | |
| 75 As | 72 | 2 | 0.44 | 0.22 | ppb | 4.56 | 900.00 | |
| 78 Se | 72 | 2 | -0.10 | -0.05 | ppb | 268.83 | 900.00 | |
| 88 Sr | 103 | 1 | 0.16 | 0.08 | ppb | 5.97 | 900.00 | |
| 98 Mo | 103 | 1 | 2.33 | 1.16 | ppb | 8.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.22 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 43.64 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.09 | ppb | 5.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.06 | ppb | 8.21 | 900.00 | |
| 137 Ba | 159 | 1 | 0.29 | 0.14 | ppb | 7.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 15.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.20 | ppb | 6.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2089273 | 5.81 | 1866118 | 112.0 | 70 - 130 | |
| 45 Sc | 1 | 2677388 | 7.65 | 2660105 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 307125 | 0.35 | 293973 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 553764 | 5.83 | 561821 | 98.6 | 70 | - | 130 |
| 72 Ge | 2 | 128351 | 0.23 | 124165 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 3116248 | 6.60 | 3161327 | 98.6 | 70 | - | 130 |
| 115 In | 1 | 3439029 | 6.16 | 3455998 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1108922 | 0.69 | 1091146 | 101.6 | 70 | - | 130 |
| 159 Tb | 1 | 4898851 | 7.81 | 4795045 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4880727 | 7.25 | 4757919 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 3047219 | 6.78 | 2963190 | 102.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\019SMPL.D\019SMPL.D#
Date Acquired: Jun 7 2013 11:47 am
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-9F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 100.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 369.96 | 900.00 | |
| 11 B | 6 | 1 | 28.36 | 14.18 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 28.32 | 14.16 | ppb | 5.56 | 900.00 | |
| 23 Na | 45 | 1 | 6886.00 | 3443.00 | ppb | 0.50 | 90000.00 | |
| 23 Na | 45 | 2 | 7002.00 | 3501.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 1793.00 | 896.50 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 1928.60 | 964.30 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 5.11 | 2.56 | ppb | 3.10 | 90000.00 | |
| 27 Al | 45 | 2 | 5.28 | 2.64 | ppb | 3.93 | 90000.00 | |
| 39 K | 45 | 1 | 1680.60 | 840.30 | ppb | 1.18 | 90000.00 | |
| 44 Ca | 45 | 1 | 19282.00 | 9641.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.69 | 0.84 | ppb | 4.86 | 900.00 | |
| 51 V | 45 | 2 | 1.76 | 0.88 | ppb | 1.77 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 7.91 | 900.00 | |
| 55 Mn | 45 | 2 | 5436.00 | 2718.00 | ppb | 0.49 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 143.18 | 71.59 | ppb | 0.12 | 90000.00 | |
| 59 Co | 45 | 2 | 2.16 | 1.08 | ppb | 1.77 | 900.00 | |
| 60 Ni | 45 | 2 | 1.83 | 0.91 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 3.70 | 900.00 | |
| 66 Zn | 72 | 2 | 11.90 | 5.95 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 1.34 | 0.67 | ppb | 4.10 | 900.00 | |
| 78 Se | 72 | 2 | -0.10 | -0.05 | ppb | 61.58 | 900.00 | |
| 88 Sr | 103 | 1 | 110.70 | 55.35 | ppb | 0.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.19 | 0.60 | ppb | 1.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 54.83 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 4.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 8.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 6.36 | 900.00 | |
| 137 Ba | 159 | 1 | 4.51 | 2.25 | ppb | 1.58 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 10.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 3.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2214546 | 0.85 | 1866118 | 118.7 | 70 - 130 | |
| 45 Sc | 1 | 2905384 | 0.76 | 2660105 | 109.2 | 70 - 130 | |
| 45 Sc | 2 | 305852 | 0.24 | 293973 | 104.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 593533 | 1.12 | 561821 | 105.6 | 70 | - | 130 |
| 72 Ge | 2 | 127615 | 0.11 | 124165 | 102.8 | 70 | - | 130 |
| 103 Rh | 1 | 3234473 | 0.59 | 3161327 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 3689966 | 0.54 | 3455998 | 106.8 | 70 | - | 130 |
| 115 In | 2 | 1094454 | 0.34 | 1091146 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 5276442 | 0.76 | 4795045 | 110.0 | 70 | - | 130 |
| 175 Lu | 1 | 5260137 | 0.35 | 4757919 | 110.6 | 70 | - | 130 |
| 209 Bi | 1 | 3166484 | 0.40 | 2963190 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\020SMPL.D\020SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 11:54 am | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21104A-SD1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2111 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.04 | 0.00 | ppb | 36.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.01 | ppb | 86.01 | 900.00 | |
| 11 B | 6 | 1 | 25.43 | 2.54 | ppb | 0.92 | 900.00 | |
| 11 B | 45 | 2 | 26.89 | 2.69 | ppb | 1.39 | 900.00 | |
| 23 Na | 45 | 1 | 7019.00 | 701.90 | ppb | 0.76 | 90000.00 | |
| 23 Na | 45 | 2 | 7342.00 | 734.20 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1852.00 | 185.20 | ppb | 0.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 1944.00 | 194.40 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 1 | 13.68 | 1.37 | ppb | 3.62 | 90000.00 | |
| 27 Al | 45 | 2 | 15.99 | 1.60 | ppb | 15.86 | 90000.00 | |
| 39 K | 45 | 1 | 1629.00 | 162.90 | ppb | 0.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 20060.00 | 2006.00 | ppb | 0.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 0.21 | ppb | 12.66 | 900.00 | |
| 51 V | 45 | 2 | -0.67 | -0.07 | ppb | 10.85 | 900.00 | |
| 52 Cr | 45 | 2 | -0.81 | -0.08 | ppb | 9.26 | 900.00 | |
| 55 Mn | 45 | 2 | 5597.00 | 559.70 | ppb | 0.68 | 900.00 | |
| 56 Fe | 45 | 2 | 156.70 | 15.67 | ppb | 1.01 | 90000.00 | |
| 59 Co | 45 | 2 | 2.17 | 0.22 | ppb | 4.04 | 900.00 | |
| 60 Ni | 45 | 2 | 2.10 | 0.21 | ppb | 10.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.84 | 0.08 | ppb | 9.73 | 900.00 | |
| 66 Zn | 72 | 2 | 13.39 | 1.34 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.74 | 0.07 | ppb | 24.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.02 | ppb | 766.54 | 900.00 | |
| 88 Sr | 103 | 1 | 111.20 | 11.12 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 1.59 | 0.16 | ppb | 1.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 50.61 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 78.54 | 900.00 | |
| 120 Sn | 115 | 1 | -0.20 | -0.02 | ppb | 7.27 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | 0.00 | ppb | 75.70 | 900.00 | |
| 137 Ba | 159 | 1 | 4.67 | 0.47 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.07 | -0.01 | ppb | 39.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.49 | 0.05 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2183385 | 0.91 | 1866118 | 117.0 | 70 - 130 | |
| 45 Sc | 1 | 2910325 | 0.22 | 2660105 | 109.4 | 70 - 130 | |
| 45 Sc | 2 | 310478 | 0.04 | 293973 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 597066 | 0.78 | 561821 | 106.3 | 70 | - | 130 |
| 72 | Ge | 2 | 129908 | 0.74 | 124165 | 104.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3328996 | 0.07 | 3161327 | 105.3 | 70 | - | 130 |
| 115 | In | 1 | 3778789 | 1.09 | 3455998 | 109.3 | 70 | - | 130 |
| 115 | In | 2 | 1123645 | 0.78 | 1091146 | 103.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5269384 | 0.27 | 4795045 | 109.9 | 70 | - | 130 |
| 175 | Lu | 1 | 5284154 | 0.79 | 4757919 | 111.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3317790 | 0.49 | 2963190 | 112.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Jun 7 2013 12:01 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21261-10F
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 126.09 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 88.06 | 900.00 | |
| 11 B | 6 | 1 | 256.40 | 128.20 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 257.60 | 128.80 | ppb | 0.89 | 900.00 | |
| 23 Na | 45 | 1 | 41340.00 | 20670.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 41580.00 | 20790.00 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 19648.00 | 9824.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 2 | 19810.00 | 9905.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 5.47 | 2.74 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 2 | 5.64 | 2.82 | ppb | 6.41 | 90000.00 | |
| 39 K | 45 | 1 | 4124.00 | 2062.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 136700.00 | 68350.00 | ppb | 0.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.19 | 1.10 | ppb | 5.23 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 1.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 2.85 | 900.00 | |
| 55 Mn | 45 | 2 | 2188.00 | 1094.00 | ppb | 1.37 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 42.20 | 21.10 | ppb | 0.85 | 90000.00 | |
| 59 Co | 45 | 2 | 1.56 | 0.78 | ppb | 1.96 | 900.00 | |
| 60 Ni | 45 | 2 | 8.73 | 4.37 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 1.17 | 0.59 | ppb | 1.22 | 900.00 | |
| 66 Zn | 72 | 2 | 8.90 | 4.45 | ppb | 0.19 | 900.00 | |
| 75 As | 72 | 2 | 1.45 | 0.73 | ppb | 1.85 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 287.47 | 900.00 | |
| 88 Sr | 103 | 1 | 585.20 | 292.60 | ppb | 0.06 | 900.00 | |
| 98 Mo | 103 | 1 | 1.58 | 0.79 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 43.67 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 32.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 7.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 8.73 | 900.00 | |
| 137 Ba | 159 | 1 | 60.98 | 30.49 | ppb | 0.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 54.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.43 | 0.22 | ppb | 1.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2198501 | 0.08 | 1866118 | 117.8 | 70 - 130 | |
| 45 Sc | 1 | 2930837 | 0.47 | 2660105 | 110.2 | 70 - 130 | |
| 45 Sc | 2 | 308603 | 0.09 | 293973 | 105.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 580258 | 0.57 | 561821 | 103.3 | 70 | - | 130 |
| 72 | Ge | 2 | 125028 | 0.15 | 124165 | 100.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3096760 | 0.26 | 3161327 | 98.0 | 70 | - | 130 |
| 115 | In | 1 | 3557674 | 0.52 | 3455998 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1058731 | 0.55 | 1091146 | 97.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5153089 | 0.57 | 4795045 | 107.5 | 70 | - | 130 |
| 175 | Lu | 1 | 5164694 | 0.68 | 4757919 | 108.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3001446 | 1.00 | 2963190 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#
Date Acquired: Jun 7 2013 12:08 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-11F
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 19.58 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 86.74 | 900.00 | |
| 11 B | 6 | 1 | 146.44 | 73.22 | ppb | 1.42 | 900.00 | |
| 11 B | 45 | 2 | 152.20 | 76.10 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 23480.00 | 11740.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 23720.00 | 11860.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 9500.00 | 4750.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 9588.00 | 4794.00 | ppb | 1.13 | 90000.00 | |
| 27 Al | 45 | 1 | 8.03 | 4.02 | ppb | 3.81 | 90000.00 | |
| 27 Al | 45 | 2 | 8.70 | 4.35 | ppb | 6.54 | 90000.00 | |
| 39 K | 45 | 1 | 2860.00 | 1430.00 | ppb | 1.17 | 90000.00 | |
| 44 Ca | 45 | 1 | 80760.00 | 40380.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.15 | 1.07 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.97 | ppb | 1.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.19 | ppb | 5.75 | 900.00 | |
| 55 Mn | 45 | 2 | 23220.00 | 11610.00 | ppb | 1.18 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 93.48 | 46.74 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 8.60 | 4.30 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 16.22 | 8.11 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 0.90 | 0.45 | ppb | 2.24 | 900.00 | |
| 66 Zn | 72 | 2 | 10.27 | 5.13 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 1.70 | 0.85 | ppb | 1.68 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 2.22 | 900.00 | |
| 88 Sr | 103 | 1 | 472.60 | 236.30 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 1.59 | 0.80 | ppb | 1.92 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 51.74 | 180.00 | |
| 111 Cd | 115 | 2 | 0.23 | 0.11 | ppb | 17.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 6.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.09 | ppb | 5.63 | 900.00 | |
| 137 Ba | 159 | 1 | 14.55 | 7.27 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 14.05 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 0.75 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2244520 | 1.49 | 1866118 | 120.3 | 70 - 130 | |
| 45 Sc | 1 | 2959568 | 1.14 | 2660105 | 111.3 | 70 - 130 | |
| 45 Sc | 2 | 312298 | 0.33 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 591519 | 0.89 | 561821 | 105.3 | 70 | - | 130 |
| 72 Ge | 2 | 127436 | 0.13 | 124165 | 102.6 | 70 | - | 130 |
| 103 Rh | 1 | 3155921 | 0.84 | 3161327 | 99.8 | 70 | - | 130 |
| 115 In | 1 | 3622760 | 0.75 | 3455998 | 104.8 | 70 | - | 130 |
| 115 In | 2 | 1075560 | 0.30 | 1091146 | 98.6 | 70 | - | 130 |
| 159 Tb | 1 | 5226960 | 0.11 | 4795045 | 109.0 | 70 | - | 130 |
| 175 Lu | 1 | 5232395 | 1.12 | 4757919 | 110.0 | 70 | - | 130 |
| 209 Bi | 1 | 3077430 | 1.26 | 2963190 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Jun 7 2013 12:15 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21261-12F
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 158.60 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 169.41 | 900.00 | |
| 11 B | 6 | 1 | 58.14 | 29.07 | ppb | 0.41 | 900.00 | |
| 11 B | 45 | 2 | 59.06 | 29.53 | ppb | 0.50 | 900.00 | |
| 23 Na | 45 | 1 | 10846.00 | 5423.00 | ppb | 0.79 | 90000.00 | |
| 23 Na | 45 | 2 | 10974.00 | 5487.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 3952.00 | 1976.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 4118.00 | 2059.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 20.06 | 10.03 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 19.95 | 9.97 | ppb | 2.86 | 90000.00 | |
| 39 K | 45 | 1 | 3544.00 | 1772.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 42680.00 | 21340.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.17 | 1.09 | ppb | 0.97 | 900.00 | |
| 51 V | 45 | 2 | 2.60 | 1.30 | ppb | 2.50 | 900.00 | |
| 52 Cr | 45 | 2 | 1.04 | 0.52 | ppb | 4.92 | 900.00 | |
| 55 Mn | 45 | 2 | 7172.00 | 3586.00 | ppb | 0.45 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 31.98 | 15.99 | ppb | 1.07 | 90000.00 | |
| 59 Co | 45 | 2 | 1.98 | 0.99 | ppb | 0.83 | 900.00 | |
| 60 Ni | 45 | 2 | 3.22 | 1.61 | ppb | 2.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 4.75 | 900.00 | |
| 66 Zn | 72 | 2 | 8.05 | 4.03 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 2.48 | 1.24 | ppb | 2.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 274.56 | 900.00 | |
| 88 Sr | 103 | 1 | 204.80 | 102.40 | ppb | 0.32 | 900.00 | |
| 98 Mo | 103 | 1 | 4.11 | 2.05 | ppb | 0.73 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 42.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 22.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.17 | 0.09 | ppb | 1.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.16 | ppb | 2.48 | 900.00 | |
| 137 Ba | 159 | 1 | 16.33 | 8.17 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 530.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.39 | 0.19 | ppb | 2.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2261122 | 0.44 | 1866118 | 121.2 | 70 - 130 | |
| 45 Sc | 1 | 2967397 | 0.26 | 2660105 | 111.6 | 70 - 130 | |
| 45 Sc | 2 | 313730 | 0.40 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 594760 | 0.64 | 561821 | 105.9 | 70 | - | 130 |
| 72 Ge | 2 | 128418 | 0.58 | 124165 | 103.4 | 70 | - | 130 |
| 103 Rh | 1 | 3175123 | 0.26 | 3161327 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 3644609 | 0.65 | 3455998 | 105.5 | 70 | - | 130 |
| 115 In | 2 | 1092125 | 0.37 | 1091146 | 100.1 | 70 | - | 130 |
| 159 Tb | 1 | 5221869 | 0.80 | 4795045 | 108.9 | 70 | - | 130 |
| 175 Lu | 1 | 5221104 | 0.57 | 4757919 | 109.7 | 70 | - | 130 |
| 209 Bi | 1 | 3155944 | 0.44 | 2963190 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#
Date Acquired: Jun 7 2013 12:22 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.66 | 50.66 | ppb | 0.91 | 900.00 | |
| 9 Be | 45 | 2 | 52.58 | 52.58 | ppb | 4.63 | 900.00 | |
| 11 B | 6 | 1 | 50.05 | 50.05 | ppb | 0.22 | 900.00 | |
| 11 B | 45 | 2 | 49.97 | 49.97 | ppb | 6.87 | 900.00 | |
| 23 Na | 45 | 1 | 5216.00 | 5216.00 | ppb | 1.20 | 90000.00 | |
| 23 Na | 45 | 2 | 5063.00 | 5063.00 | ppb | 4.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 5149.00 | 5149.00 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 5044.00 | 5044.00 | ppb | 5.35 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 2 | 4944.00 | 4944.00 | ppb | 5.69 | 90000.00 | |
| 39 K | 45 | 1 | 5066.00 | 5066.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 5170.00 | 5170.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.39 | 49.39 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 49.95 | 49.95 | ppb | 5.69 | 900.00 | |
| 52 Cr | 45 | 2 | 49.36 | 49.36 | ppb | 5.33 | 900.00 | |
| 55 Mn | 45 | 2 | 48.49 | 48.49 | ppb | 5.05 | 900.00 | |
| 56 Fe | 45 | 2 | 4896.00 | 4896.00 | ppb | 4.57 | 90000.00 | |
| 59 Co | 45 | 2 | 49.41 | 49.41 | ppb | 4.99 | 900.00 | |
| 60 Ni | 45 | 2 | 49.42 | 49.42 | ppb | 6.03 | 900.00 | |
| 63 Cu | 72 | 2 | 49.28 | 49.28 | ppb | 4.64 | 900.00 | |
| 66 Zn | 72 | 2 | 48.58 | 48.58 | ppb | 4.88 | 900.00 | |
| 75 As | 72 | 2 | 49.28 | 49.28 | ppb | 5.14 | 900.00 | |
| 78 Se | 72 | 2 | 47.25 | 47.25 | ppb | 6.43 | 900.00 | |
| 88 Sr | 103 | 1 | 52.95 | 52.95 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 51.89 | 51.89 | ppb | 1.25 | 900.00 | |
| 107 Ag | 115 | 1 | 50.27 | 50.27 | ppb | 0.74 | 180.00 | |
| 111 Cd | 115 | 2 | 49.81 | 49.81 | ppb | 5.78 | 900.00 | |
| 120 Sn | 115 | 1 | 51.38 | 51.38 | ppb | 0.45 | 900.00 | |
| 121 Sb | 115 | 1 | 55.33 | 55.33 | ppb | 0.86 | 900.00 | |
| 137 Ba | 159 | 1 | 49.92 | 49.92 | ppb | 0.45 | 900.00 | |
| 205 Tl | 209 | 1 | 48.67 | 48.67 | ppb | 1.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.02 | 52.02 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2177271 | 0.59 | 1866118 | 116.7 | 70 - 130 | |
| 45 Sc | 1 | 2908130 | 1.15 | 2660105 | 109.3 | 70 - 130 | |
| 45 Sc | 2 | 317577 | 5.07 | 293973 | 108.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575488 | 0.49 | 561821 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 130117 | 4.67 | 124165 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3212372 | 0.79 | 3161327 | 101.6 | 70 | - | 130 |
| 115 | In | 1 | 3615845 | 0.47 | 3455998 | 104.6 | 70 | - | 130 |
| 115 | In | 2 | 1106740 | 5.48 | 1091146 | 101.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5149217 | 1.14 | 4795045 | 107.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5132403 | 0.92 | 4757919 | 107.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3135038 | 0.53 | 2963190 | 105.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#
Date Acquired: Jun 7 2013 12:29 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 111.69 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.60 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.07 | ppb | 212.29 | 900.00 | |
| 23 Na | 45 | 1 | 4.60 | 4.60 | ppb | 3.03 | 90000.00 | |
| 23 Na | 45 | 2 | 11.35 | 11.35 | ppb | 3.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.96 | 0.96 | ppb | 3.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.17 | 1.17 | ppb | 16.17 | 90000.00 | |
| 27 Al | 45 | 1 | -0.49 | -0.49 | ppb | 19.80 | 90000.00 | |
| 27 Al | 45 | 2 | -0.44 | -0.44 | ppb | 38.86 | 90000.00 | |
| 39 K | 45 | 1 | 1.15 | 1.15 | ppb | 26.27 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.13 | -0.13 | ppb | 272.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.74 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 299.48 | 900.00 | |
| 52 Cr | 45 | 2 | -0.08 | -0.08 | ppb | 7.12 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 12.00 | 900.00 | |
| 56 Fe | 45 | 2 | -1.80 | -1.80 | ppb | 3.23 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 1664.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 55.90 | 900.00 | |
| 66 Zn | 72 | 2 | 0.45 | 0.45 | ppb | 5.98 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 85.82 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 204.96 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 23.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 3.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 70.45 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 99.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.23 | 0.23 | ppb | 4.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 58.60 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 72.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 2.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 42.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2199351 | 0.30 | 1866118 | 117.9 | 70 - 130 | |
| 45 Sc | 1 | 2875765 | 0.32 | 2660105 | 108.1 | 70 - 130 | |
| 45 Sc | 2 | 311486 | 0.03 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 585551 | 0.55 | 561821 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 127993 | 0.08 | 124165 | 103.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3288010 | 0.73 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3666697 | 0.63 | 3455998 | 106.1 | 70 | - | 130 |
| 115 | In | 2 | 1112385 | 0.34 | 1091146 | 101.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5140576 | 0.33 | 4795045 | 107.2 | 70 | - | 130 |
| 175 | Lu | 1 | 5091349 | 0.95 | 4757919 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3203447 | 0.87 | 2963190 | 108.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#
Date Acquired: Jun 7 2013 12:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-13F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 40.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 232.78 | 900.00 | |
| 11 B | 6 | 1 | 0.72 | 0.36 | ppb | 15.29 | 900.00 | |
| 11 B | 45 | 2 | 1.08 | 0.54 | ppb | 34.76 | 900.00 | |
| 23 Na | 45 | 1 | 21.78 | 10.89 | ppb | 10.85 | 90000.00 | |
| 23 Na | 45 | 2 | 41.08 | 20.54 | ppb | 2.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 4.16 | 2.08 | ppb | 4.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.63 | 2.31 | ppb | 6.00 | 90000.00 | |
| 27 Al | 45 | 1 | 5.15 | 2.58 | ppb | 13.59 | 90000.00 | |
| 27 Al | 45 | 2 | 5.48 | 2.74 | ppb | 5.89 | 90000.00 | |
| 39 K | 45 | 1 | -2.23 | -1.12 | ppb | 694.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 95.16 | 47.58 | ppb | 10.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.73 | 0.37 | ppb | 16.49 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 1.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.46 | 0.23 | ppb | 1.20 | 900.00 | |
| 55 Mn | 45 | 2 | 0.86 | 0.43 | ppb | 2.99 | 900.00 | |
| 56 Fe | 45 | 2 | 3.74 | 1.87 | ppb | 3.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 24.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.11 | 0.06 | ppb | 13.65 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.05 | ppb | 11.02 | 900.00 | |
| 66 Zn | 72 | 2 | 13.70 | 6.85 | ppb | 0.94 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.25 | ppb | 8.61 | 900.00 | |
| 78 Se | 72 | 2 | -0.11 | -0.05 | ppb | 116.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.12 | 0.06 | ppb | 5.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.15 | 0.08 | ppb | 9.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 5.44 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 220.50 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 27.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 8.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.21 | 0.10 | ppb | 5.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.11 | ppb | 11.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.38 | 0.19 | ppb | 5.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2410689 | 5.69 | 1866118 | 129.2 | 70 - 130 | |
| 45 Sc | 1 | 3048608 | 4.51 | 2660105 | 114.6 | 70 - 130 | |
| 45 Sc | 2 | 315131 | 0.37 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 610462 | 6.06 | 561821 | 108.7 | 70 | - | 130 |
| 72 Ge | 2 | 128765 | 0.59 | 124165 | 103.7 | 70 | - | 130 |
| 103 Rh | 1 | 3420610 | 5.24 | 3161327 | 108.2 | 70 | - | 130 |
| 115 In | 1 | 3810224 | 4.99 | 3455998 | 110.2 | 70 | - | 130 |
| 115 In | 2 | 1105084 | 0.82 | 1091146 | 101.3 | 70 | - | 130 |
| 159 Tb | 1 | 5420016 | 5.20 | 4795045 | 113.0 | 70 | - | 130 |
| 175 Lu | 1 | 5423317 | 5.74 | 4757919 | 114.0 | 70 | - | 130 |
| 209 Bi | 1 | 3346101 | 5.12 | 2963190 | 112.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#
Date Acquired: Jun 7 2013 12:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-PS1
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.38 | 8.19 | ppb | 1.12 | 900.00 | |
| 9 Be | 45 | 2 | 17.81 | 8.91 | ppb | 5.93 | 900.00 | |
| 11 B | 6 | 1 | 40.32 | 20.16 | ppb | 0.23 | 900.00 | |
| 11 B | 45 | 2 | 41.22 | 20.61 | ppb | 2.70 | 900.00 | |
| 23 Na | 45 | 1 | 5846.00 | 2923.00 | ppb | 0.13 | 90000.00 | |
| 23 Na | 45 | 2 | 5872.00 | 2936.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 1527.20 | 763.60 | ppb | 0.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 1632.40 | 816.20 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 22.44 | 11.22 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 22.16 | 11.08 | ppb | 1.26 | 90000.00 | |
| 39 K | 45 | 1 | 1429.80 | 714.90 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 16214.00 | 8107.00 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.27 | 9.14 | ppb | 1.61 | 900.00 | |
| 51 V | 45 | 2 | 18.42 | 9.21 | ppb | 0.83 | 900.00 | |
| 52 Cr | 45 | 2 | 17.18 | 8.59 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 4474.00 | 2237.00 | ppb | 0.84 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 132.32 | 66.16 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 18.54 | 9.27 | ppb | 0.98 | 900.00 | |
| 60 Ni | 45 | 2 | 18.22 | 9.11 | ppb | 2.03 | 900.00 | |
| 63 Cu | 72 | 2 | 17.09 | 8.54 | ppb | 1.62 | 900.00 | |
| 66 Zn | 72 | 2 | 37.40 | 18.70 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 17.44 | 8.72 | ppb | 2.40 | 900.00 | |
| 78 Se | 72 | 2 | 14.78 | 7.39 | ppb | 1.12 | 900.00 | |
| 88 Sr | 103 | 1 | 109.96 | 54.98 | ppb | 1.22 | 900.00 | |
| 98 Mo | 103 | 1 | 18.44 | 9.22 | ppb | 1.07 | 900.00 | |
| 107 Ag | 115 | 1 | 16.61 | 8.30 | ppb | 0.56 | 180.00 | |
| 111 Cd | 115 | 2 | 16.68 | 8.34 | ppb | 2.99 | 900.00 | |
| 120 Sn | 115 | 1 | 17.57 | 8.78 | ppb | 0.24 | 900.00 | |
| 121 Sb | 115 | 1 | 17.42 | 8.71 | ppb | 0.52 | 900.00 | |
| 137 Ba | 159 | 1 | 19.96 | 9.98 | ppb | 0.23 | 900.00 | |
| 205 Tl | 209 | 1 | 16.87 | 8.44 | ppb | 0.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.47 | 8.74 | ppb | 1.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2318541 | 0.68 | 1866118 | 124.2 | 70 - 130 | |
| 45 Sc | 1 | 2971516 | 0.26 | 2660105 | 111.7 | 70 - 130 | |
| 45 Sc | 2 | 316918 | 0.56 | 293973 | 107.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 596269 | 0.39 | 561821 | 106.1 | 70 | - | 130 |
| 72 Ge | 2 | 129433 | 0.72 | 124165 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 3254582 | 0.28 | 3161327 | 102.9 | 70 | - | 130 |
| 115 In | 1 | 3717565 | 0.15 | 3455998 | 107.6 | 70 | - | 130 |
| 115 In | 2 | 1103224 | 0.81 | 1091146 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 5256473 | 0.67 | 4795045 | 109.6 | 70 | - | 130 |
| 175 Lu | 1 | 5244104 | 0.65 | 4757919 | 110.2 | 70 | - | 130 |
| 209 Bi | 1 | 3234444 | 0.67 | 2963190 | 109.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Jun 7 2013 12:51 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21104A-S1 |
| Misc Info: | |
| Vial Number: | 2207 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 536.00 | 26.80 | ppb | 14.37 | 900.00 | |
| 9 Be | 45 | 2 | 541.00 | 27.05 | ppb | 0.86 | 900.00 | |
| 11 B | 6 | 1 | 27.74 | 1.39 | ppb | 14.85 | 900.00 | |
| 11 B | 45 | 2 | 34.44 | 1.72 | ppb | 27.99 | 900.00 | |
| 23 Na | 45 | 1 | 36280.00 | 1814.00 | ppb | 12.46 | 90000.00 | |
| 23 Na | 45 | 2 | 34520.00 | 1726.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 30640.00 | 1532.00 | ppb | 13.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 29840.00 | 1492.00 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 1 | 2362.00 | 118.10 | ppb | 13.77 | 90000.00 | |
| 27 Al | 45 | 2 | 2300.00 | 115.00 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 29820.00 | 1491.00 | ppb | 13.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 50400.00 | 2520.00 | ppb | 13.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 539.00 | 26.95 | ppb | 13.04 | 900.00 | |
| 51 V | 45 | 2 | 527.20 | 26.36 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 518.20 | 25.91 | ppb | 0.51 | 900.00 | |
| 55 Mn | 45 | 2 | 6316.00 | 315.80 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 2374.00 | 118.70 | ppb | 0.42 | 90000.00 | |
| 59 Co | 45 | 2 | 524.20 | 26.21 | ppb | 0.16 | 900.00 | |
| 60 Ni | 45 | 2 | 517.20 | 25.86 | ppb | 0.59 | 900.00 | |
| 63 Cu | 72 | 2 | 523.60 | 26.18 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 563.80 | 28.19 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 529.80 | 26.49 | ppb | 0.74 | 900.00 | |
| 78 Se | 72 | 2 | 523.20 | 26.16 | ppb | 2.73 | 900.00 | |
| 88 Sr | 103 | 1 | 681.00 | 34.05 | ppb | 17.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.43 | 0.07 | ppb | 28.86 | 900.00 | |
| 107 Ag | 115 | 1 | 226.20 | 11.31 | ppb | 16.44 | 180.00 | |
| 111 Cd | 115 | 2 | 523.80 | 26.19 | ppb | 1.07 | 900.00 | |
| 120 Sn | 115 | 1 | 1.93 | 0.10 | ppb | 22.16 | 900.00 | |
| 121 Sb | 115 | 1 | 587.40 | 29.37 | ppb | 15.84 | 900.00 | |
| 137 Ba | 159 | 1 | 2150.00 | 107.50 | ppb | 16.59 | 900.00 | |
| 205 Tl | 209 | 1 | 510.80 | 25.54 | ppb | 13.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1111.20 | 55.56 | ppb | 12.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2096307 | 12.55 | 1866118 | 112.3 | 70 - 130 | |
| 45 Sc | 1 | 2764961 | 10.80 | 2660105 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 312751 | 0.41 | 293973 | 106.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\028SMPL.D\028SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 563107 | 13.24 | 561821 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 129039 | 0.27 | 124165 | 103.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3160676 | 13.33 | 3161327 | 100.0 | 70 | - | 130 |
| 115 | In | 1 | 3533090 | 13.84 | 3455998 | 102.2 | 70 | - | 130 |
| 115 | In | 2 | 1104818 | 0.57 | 1091146 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4955777 | 14.41 | 4795045 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4963853 | 14.13 | 4757919 | 104.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3066212 | 10.93 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#
Date Acquired: Jun 7 2013 12:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-S2
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.60 | 25.43 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 532.00 | 26.60 | ppb | 0.88 | 900.00 | |
| 11 B | 6 | 1 | 24.98 | 1.25 | ppb | 4.33 | 900.00 | |
| 11 B | 45 | 2 | 24.58 | 1.23 | ppb | 15.16 | 900.00 | |
| 23 Na | 45 | 1 | 33880.00 | 1694.00 | ppb | 1.48 | 90000.00 | |
| 23 Na | 45 | 2 | 34140.00 | 1707.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 28820.00 | 1441.00 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 29620.00 | 1481.00 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 2222.00 | 111.10 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 2276.00 | 113.80 | ppb | 0.59 | 90000.00 | |
| 39 K | 45 | 1 | 27840.00 | 1392.00 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 47500.00 | 2375.00 | ppb | 1.19 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.40 | 25.42 | ppb | 2.57 | 900.00 | |
| 51 V | 45 | 2 | 522.60 | 26.13 | ppb | 0.26 | 900.00 | |
| 52 Cr | 45 | 2 | 512.00 | 25.60 | ppb | 0.07 | 900.00 | |
| 55 Mn | 45 | 2 | 6360.00 | 318.00 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 2372.00 | 118.60 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 523.20 | 26.16 | ppb | 1.09 | 900.00 | |
| 60 Ni | 45 | 2 | 514.00 | 25.70 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 520.80 | 26.04 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 573.80 | 28.69 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 527.40 | 26.37 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 526.40 | 26.32 | ppb | 3.00 | 900.00 | |
| 88 Sr | 103 | 1 | 637.00 | 31.85 | ppb | 1.08 | 900.00 | |
| 98 Mo | 103 | 1 | 1.28 | 0.06 | ppb | 5.78 | 900.00 | |
| 107 Ag | 115 | 1 | 211.00 | 10.55 | ppb | 0.25 | 180.00 | |
| 111 Cd | 115 | 2 | 516.60 | 25.83 | ppb | 1.14 | 900.00 | |
| 120 Sn | 115 | 1 | -0.41 | -0.02 | ppb | 3.50 | 900.00 | |
| 121 Sb | 115 | 1 | 548.60 | 27.43 | ppb | 1.12 | 900.00 | |
| 137 Ba | 159 | 1 | 2004.00 | 100.20 | ppb | 1.54 | 900.00 | |
| 205 Tl | 209 | 1 | 491.60 | 24.58 | ppb | 0.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1065.60 | 53.28 | ppb | 1.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2161897 | 1.08 | 1866118 | 115.8 | 70 - 130 | |
| 45 Sc | 1 | 2899208 | 1.28 | 2660105 | 109.0 | 70 - 130 | |
| 45 Sc | 2 | 312987 | 0.26 | 293973 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 581242 | 0.76 | 561821 | 103.5 | 70 | - | 130 |
| 72 | Ge | 2 | 128838 | 0.17 | 124165 | 103.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3303294 | 0.60 | 3161327 | 104.5 | 70 | - | 130 |
| 115 | In | 1 | 3697875 | 0.47 | 3455998 | 107.0 | 70 | - | 130 |
| 115 | In | 2 | 1118529 | 0.20 | 1091146 | 102.5 | 70 | - | 130 |
| 159 | Tb | 1 | 5183529 | 0.78 | 4795045 | 108.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5143578 | 0.22 | 4757919 | 108.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3178334 | 0.82 | 2963190 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#
Date Acquired: Jun 7 2013 01:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21104A-B1
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.00 | 25.05 | ppb | 0.93 | 900.00 | |
| 9 Be | 45 | 2 | 530.40 | 26.52 | ppb | 2.62 | 900.00 | |
| 11 B | 6 | 1 | -1.18 | -0.06 | ppb | 20.73 | 900.00 | |
| 11 B | 45 | 2 | 0.85 | 0.04 | ppb | 265.06 | 900.00 | |
| 23 Na | 45 | 1 | 26340.00 | 1317.00 | ppb | 0.19 | 90000.00 | |
| 23 Na | 45 | 2 | 26920.00 | 1346.00 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 26460.00 | 1323.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 27240.00 | 1362.00 | ppb | 2.33 | 90000.00 | |
| 27 Al | 45 | 1 | 2202.00 | 110.10 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 2 | 2260.00 | 113.00 | ppb | 1.91 | 90000.00 | |
| 39 K | 45 | 1 | 25780.00 | 1289.00 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 26660.00 | 1333.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 498.80 | 24.94 | ppb | 0.81 | 900.00 | |
| 51 V | 45 | 2 | 512.80 | 25.64 | ppb | 2.70 | 900.00 | |
| 52 Cr | 45 | 2 | 504.00 | 25.20 | ppb | 2.00 | 900.00 | |
| 55 Mn | 45 | 2 | 502.40 | 25.12 | ppb | 2.52 | 900.00 | |
| 56 Fe | 45 | 2 | 2186.00 | 109.30 | ppb | 2.71 | 90000.00 | |
| 59 Co | 45 | 2 | 510.00 | 25.50 | ppb | 2.24 | 900.00 | |
| 60 Ni | 45 | 2 | 503.40 | 25.17 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 515.00 | 25.75 | ppb | 2.78 | 900.00 | |
| 66 Zn | 72 | 2 | 553.00 | 27.65 | ppb | 2.93 | 900.00 | |
| 75 As | 72 | 2 | 522.00 | 26.10 | ppb | 3.11 | 900.00 | |
| 78 Se | 72 | 2 | 527.60 | 26.38 | ppb | 3.89 | 900.00 | |
| 88 Sr | 103 | 1 | 521.80 | 26.09 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.74 | 0.04 | ppb | 1.82 | 900.00 | |
| 107 Ag | 115 | 1 | 208.60 | 10.43 | ppb | 0.54 | 180.00 | |
| 111 Cd | 115 | 2 | 517.60 | 25.88 | ppb | 1.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.53 | -0.03 | ppb | 3.47 | 900.00 | |
| 121 Sb | 115 | 1 | 541.20 | 27.06 | ppb | 0.80 | 900.00 | |
| 137 Ba | 159 | 1 | 1980.80 | 99.04 | ppb | 0.32 | 900.00 | |
| 205 Tl | 209 | 1 | 480.40 | 24.02 | ppb | 2.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 51.95 | ppb | 0.71 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2122473 | 0.67 | 1866118 | 113.7 | 70 - 130 | |
| 45 Sc | 1 | 2867853 | 0.35 | 2660105 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 315016 | 2.01 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575988 | 0.88 | 561821 | 102.5 | 70 | - | 130 |
| 72 | Ge | 2 | 127895 | 2.79 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3287704 | 0.16 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3658672 | 0.29 | 3455998 | 105.9 | 70 | - | 130 |
| 115 | In | 2 | 1091657 | 1.38 | 1091146 | 100.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5136964 | 0.25 | 4795045 | 107.1 | 70 | - | 130 |
| 175 | Lu | 1 | 5108947 | 1.02 | 4757919 | 107.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3178024 | 0.16 | 2963190 | 107.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D#
Date Acquired: Jun 7 2013 01:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-MB1
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 288.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 4605.00 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.01 | ppb | 199.26 | 900.00 | |
| 11 B | 45 | 2 | 0.07 | 0.04 | ppb | 96.37 | 900.00 | |
| 23 Na | 45 | 1 | 14.35 | 7.17 | ppb | 2.94 | 90000.00 | |
| 23 Na | 45 | 2 | 29.34 | 14.67 | ppb | 4.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 3.04 | 1.52 | ppb | 2.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.15 | 1.58 | ppb | 2.53 | 90000.00 | |
| 27 Al | 45 | 1 | 2.49 | 1.24 | ppb | 11.08 | 90000.00 | |
| 27 Al | 45 | 2 | 2.53 | 1.27 | ppb | 16.04 | 90000.00 | |
| 39 K | 45 | 1 | 9.64 | 4.82 | ppb | 27.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.78 | 1.39 | ppb | 42.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.88 | 0.44 | ppb | 4.17 | 900.00 | |
| 51 V | 45 | 2 | 2.05 | 1.03 | ppb | 1.56 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 14.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.98 | 0.49 | ppb | 2.50 | 900.00 | |
| 56 Fe | 45 | 2 | 0.83 | 0.42 | ppb | 8.67 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.40 | 900.00 | |
| 60 Ni | 45 | 2 | 0.36 | 0.18 | ppb | 5.38 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 7.06 | 900.00 | |
| 66 Zn | 72 | 2 | 1.18 | 0.59 | ppb | 1.50 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 6.78 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 1448.50 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 8.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.02 | ppb | 10.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 11.73 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 56.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.07 | ppb | 2.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 0.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 25.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.25 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.04 | ppb | 9.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2328509 | 0.58 | 1866118 | 124.8 | 70 - 130 | |
| 45 Sc | 1 | 2961593 | 0.41 | 2660105 | 111.3 | 70 - 130 | |
| 45 Sc | 2 | 318836 | 0.18 | 293973 | 108.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 598830 | 0.77 | 561821 | 106.6 | 70 | - | 130 |
| 72 Ge | 2 | 129239 | 0.59 | 124165 | 104.1 | 70 | - | 130 |
| 103 Rh | 1 | 3341960 | 0.06 | 3161327 | 105.7 | 70 | - | 130 |
| 115 In | 1 | 3698463 | 0.62 | 3455998 | 107.0 | 70 | - | 130 |
| 115 In | 2 | 1108629 | 0.18 | 1091146 | 101.6 | 70 | - | 130 |
| 159 Tb | 1 | 5239185 | 0.75 | 4795045 | 109.3 | 70 | - | 130 |
| 175 Lu | 1 | 5215963 | 0.54 | 4757919 | 109.6 | 70 | - | 130 |
| 209 Bi | 1 | 3265428 | 0.59 | 2963190 | 110.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D#
**Date Acquired:** Jun 7 2013 01:19 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21202-14F
**Misc Info:**
**Vial Number:** 2211
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 249.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 323.31 | 900.00 | |
| 11 B | 6 | 1 | 23.12 | 11.56 | ppb | 1.31 | 900.00 | |
| 11 B | 45 | 2 | 24.14 | 12.07 | ppb | 5.09 | 900.00 | |
| 23 Na | 45 | 1 | 6904.00 | 3452.00 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 6992.00 | 3496.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 2716.00 | 1358.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 2848.00 | 1424.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 55.14 | 27.57 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 2 | 55.74 | 27.87 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 2354.00 | 1177.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 25640.00 | 12820.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.73 | 0.86 | ppb | 6.16 | 900.00 | |
| 51 V | 45 | 2 | 2.10 | 1.05 | ppb | 2.70 | 900.00 | |
| 52 Cr | 45 | 2 | 0.84 | 0.42 | ppb | 1.64 | 900.00 | |
| 55 Mn | 45 | 2 | 483.00 | 241.50 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 9556.00 | 4778.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 1.07 | 0.53 | ppb | 2.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.52 | 0.26 | ppb | 6.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 2.72 | 900.00 | |
| 66 Zn | 72 | 2 | 11.33 | 5.66 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 29.98 | 14.99 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 32.11 | 900.00 | |
| 88 Sr | 103 | 1 | 155.48 | 77.74 | ppb | 1.55 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.09 | ppb | 5.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 3.04 | 180.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 255.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.06 | ppb | 7.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 3.66 | 900.00 | |
| 137 Ba | 159 | 1 | 13.04 | 6.52 | ppb | 0.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.08 | ppb | 5.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2313227 | 0.25 | 1866118 | 124.0 | 70 - 130 | |
| 45 Sc | 1 | 2986352 | 0.69 | 2660105 | 112.3 | 70 - 130 | |
| 45 Sc | 2 | 320281 | 0.68 | 293973 | 108.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 600844 | 0.64 | 561821 | 106.9 | 70 - | 130 |
| 72 | Ge | 2 | 131237 | 0.50 | 124165 | 105.7 | 70 - | 130 |
| 103 | Rh | 1 | 3219099 | 0.79 | 3161327 | 101.8 | 70 - | 130 |
| 115 | In | 1 | 3664289 | 0.11 | 3455998 | 106.0 | 70 - | 130 |
| 115 | In | 2 | 1098077 | 0.87 | 1091146 | 100.6 | 70 - | 130 |
| 159 | Tb | 1 | 5217916 | 0.46 | 4795045 | 108.8 | 70 - | 130 |
| 175 | Lu | 1 | 5200053 | 1.33 | 4757919 | 109.3 | 70 - | 130 |
| 209 | Bi | 1 | 3158519 | 0.42 | 2963190 | 106.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D#
Date Acquired: Jun 7 2013 01:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-SD1
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.03 | 0.00 | ppb | 64.37 | 900.00 | |
| 9 Be | 45 | 2 | -0.13 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 20.22 | 2.02 | ppb | 2.68 | 900.00 | |
| 11 B | 45 | 2 | 21.21 | 2.12 | ppb | 8.63 | 900.00 | |
| 23 Na | 45 | 1 | 7006.00 | 700.60 | ppb | 0.55 | 90000.00 | |
| 23 Na | 45 | 2 | 7263.00 | 726.30 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 2767.00 | 276.70 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 2942.00 | 294.20 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 64.25 | 6.43 | ppb | 3.11 | 90000.00 | |
| 27 Al | 45 | 2 | 66.12 | 6.61 | ppb | 1.12 | 90000.00 | |
| 39 K | 45 | 1 | 2376.00 | 237.60 | ppb | 1.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 26830.00 | 2683.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.09 | 0.21 | ppb | 11.24 | 900.00 | |
| 51 V | 45 | 2 | -0.48 | -0.05 | ppb | 10.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.35 | -0.04 | ppb | 6.93 | 900.00 | |
| 55 Mn | 45 | 2 | 506.10 | 50.61 | ppb | 0.46 | 900.00 | |
| 56 Fe | 45 | 2 | 9657.00 | 965.70 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 1.03 | 0.10 | ppb | 7.43 | 900.00 | |
| 60 Ni | 45 | 2 | 0.54 | 0.05 | ppb | 8.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.02 | ppb | 64.36 | 900.00 | |
| 66 Zn | 72 | 2 | 17.66 | 1.77 | ppb | 1.43 | 900.00 | |
| 75 As | 72 | 2 | 30.32 | 3.03 | ppb | 1.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.80 | 0.08 | ppb | 112.23 | 900.00 | |
| 88 Sr | 103 | 1 | 156.30 | 15.63 | ppb | 0.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.27 | 0.03 | ppb | 12.91 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 136.98 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 21.23 | 900.00 | |
| 120 Sn | 115 | 1 | -0.16 | -0.02 | ppb | 18.71 | 900.00 | |
| 121 Sb | 115 | 1 | -0.02 | 0.00 | ppb | 148.68 | 900.00 | |
| 137 Ba | 159 | 1 | 13.80 | 1.38 | ppb | 2.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.03 | ppb | 6.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 13.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2181191 | 0.40 | 1866118 | 116.9 | 70 - 130 | |
| 45 Sc | 1 | 2906545 | 0.86 | 2660105 | 109.3 | 70 - 130 | |
| 45 Sc | 2 | 316821 | 0.08 | 293973 | 107.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595346 | 0.63 | 561821 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 130292 | 0.26 | 124165 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 3301443 | 0.63 | 3161327 | 104.4 | 70 | - | 130 |
| 115 In | 1 | 3709070 | 0.78 | 3455998 | 107.3 | 70 | - | 130 |
| 115 In | 2 | 1122562 | 0.33 | 1091146 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 5170251 | 0.84 | 4795045 | 107.8 | 70 | - | 130 |
| 175 Lu | 1 | 5150329 | 0.23 | 4757919 | 108.2 | 70 | - | 130 |
| 209 Bi | 1 | 3240405 | 0.47 | 2963190 | 109.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D#
Date Acquired: Jun 7 2013 01:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-4F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.02 | 0.00 | ppb | 113.65 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | 0.00 | ppb | 182.99 | 900.00 | |
| 11 B | 6 | 1 | 188.60 | 18.86 | ppb | 0.77 | 900.00 | |
| 11 B | 45 | 2 | 191.70 | 19.17 | ppb | 5.50 | 900.00 | |
| 23 Na | 45 | 1 | 23090.00 | 2309.00 | ppb | 0.66 | 90000.00 | |
| 23 Na | 45 | 2 | 23370.00 | 2337.00 | ppb | 2.02 | 90000.00 | |
| 24 Mg | 45 | 1 | 8391.00 | 839.10 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 9020.00 | 902.00 | ppb | 1.69 | 90000.00 | |
| 27 Al | 45 | 1 | 11.89 | 1.19 | ppb | 1.58 | 90000.00 | |
| 27 Al | 45 | 2 | 17.66 | 1.77 | ppb | 3.40 | 90000.00 | |
| 39 K | 45 | 1 | 17120.00 | 1712.00 | ppb | 0.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 67740.00 | 6774.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.10 | 0.31 | ppb | 5.95 | 900.00 | |
| 51 V | 45 | 2 | -0.51 | -0.05 | ppb | 22.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.43 | -0.04 | ppb | 12.32 | 900.00 | |
| 55 Mn | 45 | 2 | 1397.00 | 139.70 | ppb | 1.80 | 900.00 | |
| 56 Fe | 45 | 2 | 55210.00 | 5521.00 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.40 | 0.04 | ppb | 1.15 | 900.00 | |
| 60 Ni | 45 | 2 | 2.57 | 0.26 | ppb | 3.41 | 900.00 | |
| 63 Cu | 72 | 2 | -0.15 | -0.01 | ppb | 76.89 | 900.00 | |
| 66 Zn | 72 | 2 | 10.67 | 1.07 | ppb | 2.56 | 900.00 | |
| 75 As | 72 | 2 | 244.40 | 24.44 | ppb | 2.21 | 900.00 | |
| 78 Se | 72 | 2 | 0.43 | 0.04 | ppb | 92.32 | 900.00 | |
| 88 Sr | 103 | 1 | 605.30 | 60.53 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.01 | ppb | 9.65 | 900.00 | |
| 107 Ag | 115 | 1 | -0.02 | 0.00 | ppb | 103.01 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.00 | ppb | 190.78 | 900.00 | |
| 120 Sn | 115 | 1 | -0.14 | -0.01 | ppb | 15.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.01 | ppb | 55.38 | 900.00 | |
| 137 Ba | 159 | 1 | 271.40 | 27.14 | ppb | 0.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.01 | ppb | 53.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.02 | ppb | 2.30 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2132304 | 0.39 | 1866118 | 114.3 | 70 - 130 | |
| 45 Sc | 1 | 2861390 | 0.50 | 2660105 | 107.6 | 70 - 130 | |
| 45 Sc | 2 | 308429 | 1.25 | 293973 | 104.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 588708 | 1.05 | 561821 | 104.8 | 70 | - | 130 |
| 72 | Ge | 2 | 127635 | 1.49 | 124165 | 102.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3221905 | 0.51 | 3161327 | 101.9 | 70 | - | 130 |
| 115 | In | 1 | 3619302 | 0.54 | 3455998 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1093232 | 1.55 | 1091146 | 100.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5097330 | 0.53 | 4795045 | 106.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5079546 | 0.71 | 4757919 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3158297 | 0.42 | 2963190 | 106.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#
Date Acquired: Jun 7 2013 01:40 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-5F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.17 | 0.00 | ppb | 20.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.22 | 0.00 | ppb | 168.10 | 900.00 | |
| 11 B | 6 | 1 | 5.28 | 0.11 | ppb | 13.17 | 900.00 | |
| 11 B | 45 | 2 | 12.73 | 0.25 | ppb | 120.71 | 900.00 | |
| 23 Na | 45 | 1 | 7545.00 | 150.90 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 8260.00 | 165.20 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 3469.00 | 69.38 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 3565.00 | 71.30 | ppb | 1.13 | 90000.00 | |
| 27 Al | 45 | 1 | 34.93 | 0.70 | ppb | 11.67 | 90000.00 | |
| 27 Al | 45 | 2 | 46.41 | 0.93 | ppb | 11.00 | 90000.00 | |
| 39 K | 45 | 1 | 6100.00 | 122.00 | ppb | 1.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 82850.00 | 1657.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.98 | 0.06 | ppb | 12.03 | 900.00 | |
| 51 V | 45 | 2 | -13.97 | -0.28 | ppb | 1.85 | 900.00 | |
| 52 Cr | 45 | 2 | -6.86 | -0.14 | ppb | 3.73 | 900.00 | |
| 55 Mn | 45 | 2 | 2034.50 | 40.69 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 8415.00 | 168.30 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 18.94 | 0.38 | ppb | 2.63 | 900.00 | |
| 60 Ni | 45 | 2 | 20.37 | 0.41 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.01 | ppb | 71.03 | 900.00 | |
| 66 Zn | 72 | 2 | 33.26 | 0.67 | ppb | 3.36 | 900.00 | |
| 75 As | 72 | 2 | 1090.00 | 21.80 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | -2.44 | -0.05 | ppb | 191.57 | 900.00 | |
| 88 Sr | 103 | 1 | 343.50 | 6.87 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 1.94 | 0.04 | ppb | 10.33 | 900.00 | |
| 107 Ag | 115 | 1 | -0.17 | 0.00 | ppb | 69.93 | 180.00 | |
| 111 Cd | 115 | 2 | 0.33 | 0.01 | ppb | 75.80 | 900.00 | |
| 120 Sn | 115 | 1 | -1.57 | -0.03 | ppb | 2.67 | 900.00 | |
| 121 Sb | 115 | 1 | -0.82 | -0.02 | ppb | 8.45 | 900.00 | |
| 137 Ba | 159 | 1 | 82.50 | 1.65 | ppb | 1.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.00 | ppb | 32.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.62 | 0.01 | ppb | 15.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2081264 | 0.91 | 1866118 | 111.5 | 70 - 130 | |
| 45 Sc | 1 | 2857026 | 0.58 | 2660105 | 107.4 | 70 - 130 | |
| 45 Sc | 2 | 315115 | 0.33 | 293973 | 107.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\035SMPL.D\035SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 586847 | 0.98 | 561821 | 104.5 | 70 | - | 130 |
| 72 | Ge | 2 | 129792 | 0.34 | 124165 | 104.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3287962 | 0.51 | 3161327 | 104.0 | 70 | - | 130 |
| 115 | In | 1 | 3673008 | 0.39 | 3455998 | 106.3 | 70 | - | 130 |
| 115 | In | 2 | 1130595 | 0.42 | 1091146 | 103.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5050683 | 0.37 | 4795045 | 105.3 | 70 | - | 130 |
| 175 | Lu | 1 | 5010826 | 0.32 | 4757919 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3168870 | 1.14 | 2963190 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D#
Date Acquired: Jun 7 2013 01:47 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.54 | 50.54 | ppb | 0.58 | 900.00 | |
| 9 Be | 45 | 2 | 52.39 | 52.39 | ppb | 0.39 | 900.00 | |
| 11 B | 6 | 1 | 49.79 | 49.79 | ppb | 0.47 | 900.00 | |
| 11 B | 45 | 2 | 49.54 | 49.54 | ppb | 1.15 | 900.00 | |
| 23 Na | 45 | 1 | 5231.00 | 5231.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 5223.00 | 5223.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 5196.00 | 5196.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.30 | 90000.00 | |
| 27 Al | 45 | 1 | 5146.00 | 5146.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 5166.00 | 5166.00 | ppb | 0.94 | 90000.00 | |
| 39 K | 45 | 1 | 5148.00 | 5148.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 5232.00 | 5232.00 | ppb | 0.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.48 | 50.48 | ppb | 0.83 | 900.00 | |
| 51 V | 45 | 2 | 51.29 | 51.29 | ppb | 0.13 | 900.00 | |
| 52 Cr | 45 | 2 | 50.48 | 50.48 | ppb | 0.49 | 900.00 | |
| 55 Mn | 45 | 2 | 49.53 | 49.53 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 5048.00 | 5048.00 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 50.57 | 50.57 | ppb | 0.20 | 900.00 | |
| 60 Ni | 45 | 2 | 50.48 | 50.48 | ppb | 0.77 | 900.00 | |
| 63 Cu | 72 | 2 | 49.92 | 49.92 | ppb | 0.19 | 900.00 | |
| 66 Zn | 72 | 2 | 49.68 | 49.68 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 50.73 | 50.73 | ppb | 1.04 | 900.00 | |
| 78 Se | 72 | 2 | 48.97 | 48.97 | ppb | 0.61 | 900.00 | |
| 88 Sr | 103 | 1 | 52.76 | 52.76 | ppb | 0.70 | 900.00 | |
| 98 Mo | 103 | 1 | 51.54 | 51.54 | ppb | 0.27 | 900.00 | |
| 107 Ag | 115 | 1 | 50.41 | 50.41 | ppb | 0.84 | 180.00 | |
| 111 Cd | 115 | 2 | 51.26 | 51.26 | ppb | 1.47 | 900.00 | |
| 120 Sn | 115 | 1 | 51.35 | 51.35 | ppb | 1.52 | 900.00 | |
| 121 Sb | 115 | 1 | 55.16 | 55.16 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 50.06 | 50.06 | ppb | 0.90 | 900.00 | |
| 205 Tl | 209 | 1 | 48.74 | 48.74 | ppb | 2.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 52.54 | 52.54 | ppb | 0.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2102376 | 0.57 | 1866118 | 112.7 | 70 - 130 | |
| 45 Sc | 1 | 2829064 | 0.50 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 309836 | 0.05 | 293973 | 105.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 570557 | 0.46 | 561821 | 101.6 | 70 | - | 130 |
| 72 | Ge | 2 | 127271 | 0.50 | 124165 | 102.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3190102 | 0.49 | 3161327 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 3569380 | 1.00 | 3455998 | 103.3 | 70 | - | 130 |
| 115 | In | 2 | 1080302 | 0.65 | 1091146 | 99.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5081953 | 1.26 | 4795045 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5048351 | 1.22 | 4757919 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3044634 | 0.46 | 2963190 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#
Date Acquired: Jun 7 2013 01:54 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 84.81 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 88.54 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 47.36 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 177.98 | 900.00 | |
| 23 Na | 45 | 1 | 2.78 | 2.78 | ppb | 2.67 | 90000.00 | |
| 23 Na | 45 | 2 | 8.30 | 8.30 | ppb | 16.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.87 | 0.87 | ppb | 5.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.93 | 0.93 | ppb | 13.86 | 90000.00 | |
| 27 Al | 45 | 1 | -0.15 | -0.15 | ppb | 15.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.11 | 0.11 | ppb | 165.16 | 90000.00 | |
| 39 K | 45 | 1 | 0.56 | 0.56 | ppb | 132.53 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.87 | -5.87 | ppb | 10.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 42.73 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 3048.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 8.49 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 10.64 | 900.00 | |
| 56 Fe | 45 | 2 | -1.52 | -1.52 | ppb | 14.14 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 6.18 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 69.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 78.00 | 900.00 | |
| 66 Zn | 72 | 2 | 0.03 | 0.03 | ppb | 15.57 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 74.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.04 | ppb | 317.99 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 13.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.14 | 0.14 | ppb | 3.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 39.19 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 50.25 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 9.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 36.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 641.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.34 | 0.34 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 4.16 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2167478 | 1.11 | 1866118 | 116.1 | 70 - 130 | |
| 45 Sc | 1 | 2847532 | 0.66 | 2660105 | 107.0 | 70 - 130 | |
| 45 Sc | 2 | 314887 | 2.93 | 293973 | 107.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 583873 | 1.06 | 561821 | 103.9 | 70 | - | 130 |
| 72 Ge | 2 | 129087 | 2.63 | 124165 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 3283879 | 1.72 | 3161327 | 103.9 | 70 | - | 130 |
| 115 In | 1 | 3654870 | 1.88 | 3455998 | 105.8 | 70 | - | 130 |
| 115 In | 2 | 1121503 | 2.84 | 1091146 | 102.8 | 70 | - | 130 |
| 159 Tb | 1 | 5107891 | 0.48 | 4795045 | 106.5 | 70 | - | 130 |
| 175 Lu | 1 | 5044679 | 0.88 | 4757919 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 3155854 | 0.48 | 2963190 | 106.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#
Date Acquired: Jun 7 2013 02:01 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-6F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 555.91 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 79.42 | 900.00 | |
| 11 B | 6 | 1 | 0.57 | 0.29 | ppb | 10.18 | 900.00 | |
| 11 B | 45 | 2 | 0.81 | 0.41 | ppb | 35.41 | 900.00 | |
| 23 Na | 45 | 1 | 17.09 | 8.55 | ppb | 1.41 | 90000.00 | |
| 23 Na | 45 | 2 | 28.58 | 14.29 | ppb | 12.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 5.01 | 2.51 | ppb | 1.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 5.00 | 2.50 | ppb | 7.79 | 90000.00 | |
| 27 Al | 45 | 1 | 4.23 | 2.12 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 4.09 | 2.04 | ppb | 18.61 | 90000.00 | |
| 39 K | 45 | 1 | 14.01 | 7.01 | ppb | 14.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.00 | 17.50 | ppb | 5.00 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.90 | 0.45 | ppb | 5.35 | 900.00 | |
| 51 V | 45 | 2 | 1.79 | 0.90 | ppb | 6.43 | 900.00 | |
| 52 Cr | 45 | 2 | 0.41 | 0.20 | ppb | 8.81 | 900.00 | |
| 55 Mn | 45 | 2 | 0.72 | 0.36 | ppb | 9.50 | 900.00 | |
| 56 Fe | 45 | 2 | 3.47 | 1.74 | ppb | 18.94 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 49.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.16 | 0.08 | ppb | 12.61 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.01 | ppb | 52.52 | 900.00 | |
| 66 Zn | 72 | 2 | 8.46 | 4.23 | ppb | 3.94 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 4.69 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 1034.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.06 | 0.03 | ppb | 2.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.06 | ppb | 12.18 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 35.86 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 88.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.10 | ppb | 8.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 13.86 | 900.00 | |
| 137 Ba | 159 | 1 | 0.15 | 0.07 | ppb | 16.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.11 | ppb | 5.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 5.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2329959 | 1.02 | 1866118 | 124.9 | 70 - 130 | |
| 45 Sc | 1 | 2938173 | 0.39 | 2660105 | 110.5 | 70 - 130 | |
| 45 Sc | 2 | 333807 | 3.96 | 293973 | 113.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 595485 | 1.02 | 561821 | 106.0 | 70 | - | 130 |
| 72 Ge | 2 | 134232 | 3.11 | 124165 | 108.1 | 70 | - | 130 |
| 103 Rh | 1 | 3319609 | 0.54 | 3161327 | 105.0 | 70 | - | 130 |
| 115 In | 1 | 3683045 | 0.65 | 3455998 | 106.6 | 70 | - | 130 |
| 115 In | 2 | 1132025 | 1.53 | 1091146 | 103.7 | 70 | - | 130 |
| 159 Tb | 1 | 5180298 | 0.20 | 4795045 | 108.0 | 70 | - | 130 |
| 175 Lu | 1 | 5176293 | 0.20 | 4757919 | 108.8 | 70 | - | 130 |
| 209 Bi | 1 | 3221933 | 0.92 | 2963190 | 108.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 02:09 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC21202-7F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2306 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.04 | ppb | 12.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 50.76 | 900.00 | |
| 11 B | 6 | 1 | 200.80 | 100.40 | ppb | 1.20 | 900.00 | |
| 11 B | 45 | 2 | 199.90 | 99.95 | ppb | 11.18 | 900.00 | |
| 23 Na | 45 | 1 | 28100.00 | 14050.00 | ppb | 0.93 | 90000.00 | |
| 23 Na | 45 | 2 | 27640.00 | 13820.00 | ppb | 9.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 13710.00 | 6855.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 13516.00 | 6758.00 | ppb | 9.89 | 90000.00 | |
| 27 Al | 45 | 1 | 2.66 | 1.33 | ppb | 6.19 | 90000.00 | |
| 27 Al | 45 | 2 | 2.67 | 1.33 | ppb | 20.50 | 90000.00 | |
| 39 K | 45 | 1 | 4692.00 | 2346.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 105800.00 | 52900.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.72 | 1.36 | ppb | 4.12 | 900.00 | |
| 51 V | 45 | 2 | 1.93 | 0.96 | ppb | 11.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.44 | 0.22 | ppb | 16.57 | 900.00 | |
| 55 Mn | 45 | 2 | 7788.00 | 3894.00 | ppb | 9.90 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 437.60 | 218.80 | ppb | 9.65 | 90000.00 | |
| 59 Co | 45 | 2 | 2.26 | 1.13 | ppb | 9.69 | 900.00 | |
| 60 Ni | 45 | 2 | 14.81 | 7.40 | ppb | 10.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.03 | ppb | 68.68 | 900.00 | |
| 66 Zn | 72 | 2 | 21.02 | 10.51 | ppb | 9.98 | 900.00 | |
| 75 As | 72 | 2 | 33.28 | 16.64 | ppb | 8.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 725.78 | 900.00 | |
| 88 Sr | 103 | 1 | 606.20 | 303.10 | ppb | 0.44 | 900.00 | |
| 98 Mo | 103 | 1 | 1.87 | 0.94 | ppb | 2.63 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 21.65 | 180.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 35.42 | 900.00 | |
| 120 Sn | 115 | 1 | 0.16 | 0.08 | ppb | 11.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 14.47 | 900.00 | |
| 137 Ba | 159 | 1 | 10.95 | 5.48 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.13 | 0.06 | ppb | 9.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 5.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2269183 | 0.44 | 1866118 | 121.6 | 70 - 130 | |
| 45 Sc | 1 | 2999583 | 0.61 | 2660105 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 332609 | 9.44 | 293973 | 113.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 585672 | 0.52 | 561821 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 131980 | 8.71 | 124165 | 106.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3113200 | 0.57 | 3161327 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 3564761 | 1.49 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1094687 | 6.59 | 1091146 | 100.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5113998 | 1.13 | 4795045 | 106.7 | 70 | - | 130 |
| 175 | Lu | 1 | 5080376 | 0.94 | 4757919 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2972083 | 0.76 | 2963190 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#
Date Acquired: Jun 7 2013 02:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-8F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 41.68 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 3661.20 | 900.00 | |
| 11 B | 6 | 1 | 5.87 | 2.93 | ppb | 1.34 | 900.00 | |
| 11 B | 45 | 2 | 5.89 | 2.95 | ppb | 21.83 | 900.00 | |
| 23 Na | 45 | 1 | 6286.00 | 3143.00 | ppb | 0.21 | 90000.00 | |
| 23 Na | 45 | 2 | 6480.00 | 3240.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 1199.40 | 599.70 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 1329.80 | 664.90 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 2.52 | 1.26 | ppb | 2.90 | 90000.00 | |
| 27 Al | 45 | 2 | 3.65 | 1.82 | ppb | 32.03 | 90000.00 | |
| 39 K | 45 | 1 | 1296.60 | 648.30 | ppb | 0.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 6864.00 | 3432.00 | ppb | 0.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.67 | 1.33 | ppb | 2.36 | 900.00 | |
| 51 V | 45 | 2 | 2.75 | 1.38 | ppb | 1.91 | 900.00 | |
| 52 Cr | 45 | 2 | 1.55 | 0.78 | ppb | 0.69 | 900.00 | |
| 55 Mn | 45 | 2 | 1.42 | 0.71 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | 0.29 | 0.14 | ppb | 35.44 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.36 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 14.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.15 | ppb | 9.18 | 900.00 | |
| 66 Zn | 72 | 2 | 10.13 | 5.06 | ppb | 0.72 | 900.00 | |
| 75 As | 72 | 2 | 0.93 | 0.47 | ppb | 7.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.03 | ppb | 104.36 | 900.00 | |
| 88 Sr | 103 | 1 | 48.90 | 24.45 | ppb | 0.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.24 | 0.12 | ppb | 5.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 42.40 | 180.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 89.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.43 | 0.22 | ppb | 4.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.06 | ppb | 2.80 | 900.00 | |
| 137 Ba | 159 | 1 | 4.39 | 2.20 | ppb | 3.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 10.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 3.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2305001 | 0.54 | 1866118 | 123.5 | 70 - 130 | |
| 45 Sc | 1 | 3001158 | 0.26 | 2660105 | 112.8 | 70 - 130 | |
| 45 Sc | 2 | 320497 | 0.50 | 293973 | 109.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 597258 | 0.48 | 561821 | 106.3 | 70 | - | 130 |
| 72 | Ge | 2 | 130210 | 0.63 | 124165 | 104.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3239702 | 0.20 | 3161327 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 3664373 | 1.08 | 3455998 | 106.0 | 70 | - | 130 |
| 115 | In | 2 | 1107739 | 0.83 | 1091146 | 101.5 | 70 | - | 130 |
| 159 | Tb | 1 | 5122656 | 0.77 | 4795045 | 106.8 | 70 | - | 130 |
| 175 | Lu | 1 | 5108596 | 0.19 | 4757919 | 107.4 | 70 | - | 130 |
| 209 | Bi | 1 | 3131784 | 1.18 | 2963190 | 105.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 02:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21202-9F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2308 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.09 | 0.00 | ppb | 49.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 34298.00 | 900.00 | |
| 11 B | 6 | 1 | 131.50 | 6.58 | ppb | 0.30 | 900.00 | |
| 11 B | 45 | 2 | 137.52 | 6.88 | ppb | 7.48 | 900.00 | |
| 23 Na | 45 | 1 | 30840.00 | 1542.00 | ppb | 1.53 | 90000.00 | |
| 23 Na | 45 | 2 | 30340.00 | 1517.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 1 | 7732.00 | 386.60 | ppb | 1.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 8002.00 | 400.10 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 9.04 | 0.45 | ppb | 11.15 | 90000.00 | |
| 27 Al | 45 | 2 | 14.20 | 0.71 | ppb | 8.54 | 90000.00 | |
| 39 K | 45 | 1 | 4696.00 | 234.80 | ppb | 2.54 | 90000.00 | |
| 44 Ca | 45 | 1 | 59320.00 | 2966.00 | ppb | 0.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.23 | 0.21 | ppb | 15.18 | 900.00 | |
| 51 V | 45 | 2 | -3.41 | -0.17 | ppb | 2.00 | 900.00 | |
| 52 Cr | 45 | 2 | -2.33 | -0.12 | ppb | 4.36 | 900.00 | |
| 55 Mn | 45 | 2 | 3882.00 | 194.10 | ppb | 0.74 | 900.00 | |
| 56 Fe | 45 | 2 | 28280.00 | 1414.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 0.95 | 0.05 | ppb | 10.09 | 900.00 | |
| 60 Ni | 45 | 2 | 2.74 | 0.14 | ppb | 16.89 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.01 | ppb | 29.33 | 900.00 | |
| 66 Zn | 72 | 2 | 12.17 | 0.61 | ppb | 3.80 | 900.00 | |
| 75 As | 72 | 2 | 441.20 | 22.06 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 2.17 | 0.11 | ppb | 146.72 | 900.00 | |
| 88 Sr | 103 | 1 | 254.00 | 12.70 | ppb | 1.36 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.02 | ppb | 13.84 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | 0.00 | ppb | 51.64 | 180.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.01 | ppb | 94.01 | 900.00 | |
| 120 Sn | 115 | 1 | -0.48 | -0.02 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | -0.26 | -0.01 | ppb | 5.88 | 900.00 | |
| 137 Ba | 159 | 1 | 39.74 | 1.99 | ppb | 2.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.01 | ppb | 18.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.22 | 0.01 | ppb | 10.70 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2059747 | 0.75 | 1866118 | 110.4 | 70 - 130 | |
| 45 Sc | 1 | 2743405 | 1.27 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 311619 | 0.49 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 571948 | 1.09 | 561821 | 101.8 | 70 - | 130 |
| 72 | Ge | 2 | 129135 | 0.41 | 124165 | 104.0 | 70 - | 130 |
| 103 | Rh | 1 | 3152260 | 1.18 | 3161327 | 99.7 | 70 - | 130 |
| 115 | In | 1 | 3547952 | 0.78 | 3455998 | 102.7 | 70 - | 130 |
| 115 | In | 2 | 1120090 | 0.41 | 1091146 | 102.7 | 70 - | 130 |
| 159 | Tb | 1 | 4898294 | 0.83 | 4795045 | 102.2 | 70 - | 130 |
| 175 | Lu | 1 | 4840931 | 0.83 | 4757919 | 101.7 | 70 - | 130 |
| 209 | Bi | 1 | 3034072 | 0.68 | 2963190 | 102.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#
Date Acquired: Jun 7 2013 02:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-10F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1042.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | -0.01 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 8.21 | 4.11 | ppb | 1.72 | 900.00 | |
| 11 B | 45 | 2 | 8.82 | 4.41 | ppb | 6.23 | 900.00 | |
| 23 Na | 45 | 1 | 25320.00 | 12660.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 25360.00 | 12680.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 1 | 640.20 | 320.10 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 2 | 689.60 | 344.80 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 6.82 | 3.41 | ppb | 1.95 | 90000.00 | |
| 27 Al | 45 | 2 | 6.93 | 3.46 | ppb | 6.72 | 90000.00 | |
| 39 K | 45 | 1 | 920.80 | 460.40 | ppb | 1.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 6092.00 | 3046.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.75 | ppb | 4.71 | 900.00 | |
| 51 V | 45 | 2 | 2.50 | 1.25 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.77 | 0.38 | ppb | 3.72 | 900.00 | |
| 55 Mn | 45 | 2 | 9.87 | 4.94 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 28.18 | 14.09 | ppb | 2.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.14 | 0.07 | ppb | 2.58 | 900.00 | |
| 60 Ni | 45 | 2 | 0.34 | 0.17 | ppb | 4.17 | 900.00 | |
| 63 Cu | 72 | 2 | 0.40 | 0.20 | ppb | 5.53 | 900.00 | |
| 66 Zn | 72 | 2 | 59.20 | 29.60 | ppb | 0.30 | 900.00 | |
| 75 As | 72 | 2 | 1.05 | 0.52 | ppb | 2.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.02 | ppb | 442.51 | 900.00 | |
| 88 Sr | 103 | 1 | 45.56 | 22.78 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.07 | ppb | 8.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 49.29 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 47.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 6.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.02 | 900.00 | |
| 137 Ba | 159 | 1 | 1.35 | 0.68 | ppb | 4.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 34.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.10 | 0.05 | ppb | 3.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2254137 | 0.86 | 1866118 | 120.8 | 70 - 130 | |
| 45 Sc | 1 | 2896473 | 0.88 | 2660105 | 108.9 | 70 - 130 | |
| 45 Sc | 2 | 315643 | 0.52 | 293973 | 107.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 587962 | 0.84 | 561821 | 104.7 | 70 | - | 130 |
| 72 | Ge | 2 | 128795 | 0.33 | 124165 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3150920 | 1.18 | 3161327 | 99.7 | 70 | - | 130 |
| 115 | In | 1 | 3582915 | 1.54 | 3455998 | 103.7 | 70 | - | 130 |
| 115 | In | 2 | 1099103 | 0.49 | 1091146 | 100.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5054166 | 0.61 | 4795045 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 5049114 | 1.32 | 4757919 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 3078849 | 0.78 | 2963190 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#
Date Acquired: Jun 7 2013 02:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-11F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.20 | 0.00 | ppb | 40.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.21 | 0.00 | ppb | 458.75 | 900.00 | |
| 11 B | 6 | 1 | 199.60 | 3.99 | ppb | 4.25 | 900.00 | |
| 11 B | 45 | 2 | 226.10 | 4.52 | ppb | 20.70 | 900.00 | |
| 23 Na | 45 | 1 | 31490.00 | 629.80 | ppb | 0.41 | 90000.00 | |
| 23 Na | 45 | 2 | 32220.00 | 644.40 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 12820.00 | 256.40 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 13445.00 | 268.90 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 20.94 | 0.42 | ppb | 22.66 | 90000.00 | |
| 27 Al | 45 | 2 | 30.26 | 0.61 | ppb | 42.80 | 90000.00 | |
| 39 K | 45 | 1 | 8310.00 | 166.20 | ppb | 0.16 | 90000.00 | |
| 44 Ca | 45 | 1 | 85050.00 | 1701.00 | ppb | 1.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.06 | 0.10 | ppb | 54.63 | 900.00 | |
| 51 V | 45 | 2 | -12.36 | -0.25 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | -6.89 | -0.14 | ppb | 2.11 | 900.00 | |
| 55 Mn | 45 | 2 | 9865.00 | 197.30 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 30350.00 | 607.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 15.70 | 0.31 | ppb | 4.28 | 900.00 | |
| 60 Ni | 45 | 2 | 6.01 | 0.12 | ppb | 2.26 | 900.00 | |
| 63 Cu | 72 | 2 | -0.68 | -0.01 | ppb | 105.56 | 900.00 | |
| 66 Zn | 72 | 2 | 31.58 | 0.63 | ppb | 5.18 | 900.00 | |
| 75 As | 72 | 2 | 1150.50 | 23.01 | ppb | 0.99 | 900.00 | |
| 78 Se | 72 | 2 | -0.60 | -0.01 | ppb | 929.82 | 900.00 | |
| 88 Sr | 103 | 1 | 1057.50 | 21.15 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 1.37 | 0.03 | ppb | 17.44 | 900.00 | |
| 107 Ag | 115 | 1 | -0.17 | 0.00 | ppb | 16.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.36 | 0.01 | ppb | 78.76 | 900.00 | |
| 120 Sn | 115 | 1 | -1.29 | -0.03 | ppb | 4.09 | 900.00 | |
| 121 Sb | 115 | 1 | -0.92 | -0.02 | ppb | 1.82 | 900.00 | |
| 137 Ba | 159 | 1 | 45.67 | 0.91 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.00 | ppb | 766.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.45 | 0.01 | ppb | 17.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2049412 | 0.84 | 1866118 | 109.8 | 70 - 130 | |
| 45 Sc | 1 | 2799449 | 0.82 | 2660105 | 105.2 | 70 - 130 | |
| 45 Sc | 2 | 312175 | 0.13 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\043SMPL.D\043SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 576183 | 1.21 | 561821 | 102.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129134 | 0.52 | 124165 | 104.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3238699 | 0.70 | 3161327 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 3636003 | 0.49 | 3455998 | 105.2 | 70 | - | 130 |
| 115 | In | 2 | 1137952 | 0.25 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4998015 | 0.49 | 4795045 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4978391 | 0.48 | 4757919 | 104.6 | 70 | - | 130 |
| 209 | Bi | 1 | 3095287 | 1.00 | 2963190 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#
Date Acquired: Jun 7 2013 02:44 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-12F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | 0.00 | ppb | 23.77 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 87.05 | 900.00 | |
| 11 B | 6 | 1 | 128.55 | 2.57 | ppb | 2.02 | 900.00 | |
| 11 B | 45 | 2 | 148.75 | 2.98 | ppb | 3.63 | 900.00 | |
| 23 Na | 45 | 1 | 18415.00 | 368.30 | ppb | 1.36 | 90000.00 | |
| 23 Na | 45 | 2 | 19960.00 | 399.20 | ppb | 1.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 7800.00 | 156.00 | ppb | 1.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 8255.00 | 165.10 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 1 | 17.62 | 0.35 | ppb | 46.67 | 90000.00 | |
| 27 Al | 45 | 2 | 23.46 | 0.47 | ppb | 3.18 | 90000.00 | |
| 39 K | 45 | 1 | 11020.00 | 220.40 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 51400.00 | 1028.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.18 | 0.12 | ppb | 9.65 | 900.00 | |
| 51 V | 45 | 2 | -13.07 | -0.26 | ppb | 3.78 | 900.00 | |
| 52 Cr | 45 | 2 | -6.86 | -0.14 | ppb | 3.95 | 900.00 | |
| 55 Mn | 45 | 2 | 1068.00 | 21.36 | ppb | 2.46 | 900.00 | |
| 56 Fe | 45 | 2 | 77500.00 | 1550.00 | ppb | 2.17 | 90000.00 | |
| 59 Co | 45 | 2 | 17.73 | 0.35 | ppb | 2.71 | 900.00 | |
| 60 Ni | 45 | 2 | 17.17 | 0.34 | ppb | 7.24 | 900.00 | |
| 63 Cu | 72 | 2 | -1.55 | -0.03 | ppb | 21.90 | 900.00 | |
| 66 Zn | 72 | 2 | 21.20 | 0.42 | ppb | 6.82 | 900.00 | |
| 75 As | 72 | 2 | 1018.50 | 20.37 | ppb | 1.86 | 900.00 | |
| 78 Se | 72 | 2 | 4.20 | 0.08 | ppb | 134.09 | 900.00 | |
| 88 Sr | 103 | 1 | 456.50 | 9.13 | ppb | 1.47 | 900.00 | |
| 98 Mo | 103 | 1 | 0.81 | 0.02 | ppb | 27.03 | 900.00 | |
| 107 Ag | 115 | 1 | -0.24 | 0.00 | ppb | 11.37 | 180.00 | |
| 111 Cd | 115 | 2 | 0.23 | 0.00 | ppb | 106.17 | 900.00 | |
| 120 Sn | 115 | 1 | -1.64 | -0.03 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | -0.93 | -0.02 | ppb | 3.66 | 900.00 | |
| 137 Ba | 159 | 1 | 95.50 | 1.91 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | -0.33 | -0.01 | ppb | 36.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.40 | 0.01 | ppb | 33.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2011900 | 0.75 | 1866118 | 107.8 | 70 - 130 | |
| 45 Sc | 1 | 2780652 | 0.30 | 2660105 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 308463 | 1.97 | 293973 | 104.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 572806 | 0.65 | 561821 | 102.0 | 70 | - | 130 |
| 72 | Ge | 2 | 128543 | 1.07 | 124165 | 103.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3226517 | 1.33 | 3161327 | 102.1 | 70 | - | 130 |
| 115 | In | 1 | 3611961 | 0.32 | 3455998 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1119717 | 1.93 | 1091146 | 102.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5011499 | 0.21 | 4795045 | 104.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4944998 | 1.10 | 4757919 | 103.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3066188 | 1.68 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D#
**Date Acquired:** Jun 7 2013 02:51 pm
**Acq. Method:** EPA6020V.M
**Operator:** METALS
**Sample Name:** MC21202-13F
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020V.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020V.C
**Last Cal. Update:** Jun 07 2013 02:14 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 194.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 173.19 | 900.00 | |
| 11 B | 6 | 1 | 301.40 | 150.70 | ppb | 0.41 | 900.00 | |
| 11 B | 45 | 2 | 317.40 | 158.70 | ppb | 0.25 | 900.00 | |
| 23 Na | 45 | 1 | 30940.00 | 15470.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 31500.00 | 15750.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 11330.00 | 5665.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 11638.00 | 5819.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 5.02 | 2.51 | ppb | 3.82 | 90000.00 | |
| 27 Al | 45 | 2 | 5.70 | 2.85 | ppb | 5.06 | 90000.00 | |
| 39 K | 45 | 1 | 13590.00 | 6795.00 | ppb | 0.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 67820.00 | 33910.00 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.62 | 1.31 | ppb | 0.22 | 900.00 | |
| 51 V | 45 | 2 | 2.06 | 1.03 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.42 | 0.21 | ppb | 7.42 | 900.00 | |
| 55 Mn | 45 | 2 | 11604.00 | 5802.00 | ppb | 0.48 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 2130.00 | 1065.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 5.73 | 2.87 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 6.12 | 3.06 | ppb | 2.34 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 5.83 | 900.00 | |
| 66 Zn | 72 | 2 | 9.21 | 4.61 | ppb | 1.00 | 900.00 | |
| 75 As | 72 | 2 | 10.42 | 5.21 | ppb | 0.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.05 | ppb | 249.79 | 900.00 | |
| 88 Sr | 103 | 1 | 1285.60 | 642.80 | ppb | 1.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.29 | ppb | 6.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.97 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 89.22 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 7.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 11.33 | 900.00 | |
| 137 Ba | 159 | 1 | 40.64 | 20.32 | ppb | 0.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 154.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 10.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2196232 | 0.87 | 1866118 | 117.7 | 70 - 130 | |
| 45 Sc | 1 | 2892171 | 0.44 | 2660105 | 108.7 | 70 - 130 | |
| 45 Sc | 2 | 310996 | 0.41 | 293973 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 571110 | 0.75 | 561821 | 101.7 | 70 - | 130 |
| 72 | Ge | 2 | 126289 | 0.41 | 124165 | 101.7 | 70 - | 130 |
| 103 | Rh | 1 | 3061018 | 0.84 | 3161327 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 3521845 | 0.79 | 3455998 | 101.9 | 70 - | 130 |
| 115 | In | 2 | 1072733 | 0.75 | 1091146 | 98.3 | 70 - | 130 |
| 159 | Tb | 1 | 5008263 | 0.93 | 4795045 | 104.4 | 70 - | 130 |
| 175 | Lu | 1 | 4983689 | 0.76 | 4757919 | 104.7 | 70 - | 130 |
| 209 | Bi | 1 | 2943551 | 0.61 | 2963190 | 99.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D#
Date Acquired: Jun 7 2013 02:58 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21202-15F
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.10 | 0.05 | ppb | 13.55 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 65.71 | 900.00 | |
| 11 B | 6 | 1 | 204.20 | 102.10 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 214.00 | 107.00 | ppb | 2.25 | 900.00 | |
| 23 Na | 45 | 1 | 28680.00 | 14340.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 28940.00 | 14470.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 13992.00 | 6996.00 | ppb | 0.61 | 90000.00 | |
| 24 Mg | 45 | 2 | 14200.00 | 7100.00 | ppb | 0.10 | 90000.00 | |
| 27 Al | 45 | 1 | 3.98 | 1.99 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 4.26 | 2.13 | ppb | 2.85 | 90000.00 | |
| 39 K | 45 | 1 | 4778.00 | 2389.00 | ppb | 0.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 107600.00 | 53800.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.89 | 1.45 | ppb | 4.02 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 1.44 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 4.91 | 900.00 | |
| 55 Mn | 45 | 2 | 8210.00 | 4105.00 | ppb | 0.12 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 454.40 | 227.20 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 2.37 | 1.19 | ppb | 1.57 | 900.00 | |
| 60 Ni | 45 | 2 | 15.74 | 7.87 | ppb | 1.62 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.04 | ppb | 23.09 | 900.00 | |
| 66 Zn | 72 | 2 | 21.68 | 10.84 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 34.08 | 17.04 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.02 | ppb | 160.23 | 900.00 | |
| 88 Sr | 103 | 1 | 611.00 | 305.50 | ppb | 0.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.82 | 0.91 | ppb | 1.09 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 27.04 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 48.59 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 1.37 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.06 | ppb | 14.13 | 900.00 | |
| 137 Ba | 159 | 1 | 11.10 | 5.55 | ppb | 1.71 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 35.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.06 | ppb | 3.91 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2209607 | 0.46 | 1866118 | 118.4 | 70 - 130 | |
| 45 Sc | 1 | 2900456 | 0.67 | 2660105 | 109.0 | 70 - 130 | |
| 45 Sc | 2 | 313699 | 0.47 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 575062 | 0.19 | 561821 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 125864 | 0.64 | 124165 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3073983 | 0.70 | 3161327 | 97.2 | 70 | - | 130 |
| 115 | In | 1 | 3512025 | 0.38 | 3455998 | 101.6 | 70 | - | 130 |
| 115 | In | 2 | 1076494 | 0.17 | 1091146 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5046065 | 0.97 | 4795045 | 105.2 | 70 | - | 130 |
| 175 | Lu | 1 | 5040564 | 1.16 | 4757919 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2970969 | 1.27 | 2963190 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#
Date Acquired: Jun 7 2013 03:05 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-1F
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.26 | -0.01 | ppb | 9.59 | 900.00 | |
| 9 Be | 45 | 2 | -0.43 | -0.01 | ppb | 87.35 | 900.00 | |
| 11 B | 6 | 1 | 227.10 | 4.54 | ppb | 1.01 | 900.00 | |
| 11 B | 45 | 2 | 239.65 | 4.79 | ppb | 12.76 | 900.00 | |
| 23 Na | 45 | 1 | 28775.00 | 575.50 | ppb | 0.24 | 90000.00 | |
| 23 Na | 45 | 2 | 29210.00 | 584.20 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 12520.00 | 250.40 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 13135.00 | 262.70 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 5.76 | 0.12 | ppb | 73.97 | 90000.00 | |
| 27 Al | 45 | 2 | 9.31 | 0.19 | ppb | 74.06 | 90000.00 | |
| 39 K | 45 | 1 | 10580.00 | 211.60 | ppb | 1.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 79000.00 | 1580.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.09 | 0.10 | ppb | 12.51 | 900.00 | |
| 51 V | 45 | 2 | -13.51 | -0.27 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -7.21 | -0.14 | ppb | 0.86 | 900.00 | |
| 55 Mn | 45 | 2 | 1454.50 | 29.09 | ppb | 0.77 | 900.00 | |
| 56 Fe | 45 | 2 | 42300.00 | 846.00 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.21 | 0.00 | ppb | 39.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.74 | 0.01 | ppb | 20.03 | 900.00 | |
| 63 Cu | 72 | 2 | -3.18 | -0.06 | ppb | 10.22 | 900.00 | |
| 66 Zn | 72 | 2 | 14.68 | 0.29 | ppb | 8.01 | 900.00 | |
| 75 As | 72 | 2 | 1350.50 | 27.01 | ppb | 0.99 | 900.00 | |
| 78 Se | 72 | 2 | 3.65 | 0.07 | ppb | 124.86 | 900.00 | |
| 88 Sr | 103 | 1 | 838.50 | 16.77 | ppb | 1.62 | 900.00 | |
| 98 Mo | 103 | 1 | 0.37 | 0.01 | ppb | 26.21 | 900.00 | |
| 107 Ag | 115 | 1 | -0.20 | 0.00 | ppb | 32.66 | 180.00 | |
| 111 Cd | 115 | 2 | 0.26 | 0.01 | ppb | 114.40 | 900.00 | |
| 120 Sn | 115 | 1 | -1.49 | -0.03 | ppb | 2.07 | 900.00 | |
| 121 Sb | 115 | 1 | -1.03 | -0.02 | ppb | 2.70 | 900.00 | |
| 137 Ba | 159 | 1 | 51.55 | 1.03 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | -0.52 | -0.01 | ppb | 4.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.48 | 0.01 | ppb | 20.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1994292 | 0.80 | 1866118 | 106.9 | 70 - 130 | |
| 45 Sc | 1 | 2740098 | 0.77 | 2660105 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 311671 | 0.59 | 293973 | 106.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569540 | 1.04 | 561821 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 128972 | 0.62 | 124165 | 103.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3168264 | 0.72 | 3161327 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3562790 | 0.81 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1138306 | 0.87 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4945248 | 1.06 | 4795045 | 103.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4899589 | 0.54 | 4757919 | 103.0 | 70 | - | 130 |
| 209 | Bi | 1 | 3052650 | 0.85 | 2963190 | 103.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#
Date Acquired: Jun 7 2013 03:12 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.93 | 50.93 | ppb | 0.85 | 900.00 | |
| 9 Be | 45 | 2 | 53.38 | 53.38 | ppb | 1.40 | 900.00 | |
| 11 B | 6 | 1 | 50.59 | 50.59 | ppb | 0.21 | 900.00 | |
| 11 B | 45 | 2 | 52.63 | 52.63 | ppb | 3.82 | 900.00 | |
| 23 Na | 45 | 1 | 5205.00 | 5205.00 | ppb | 1.06 | 90000.00 | |
| 23 Na | 45 | 2 | 5156.00 | 5156.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 5145.00 | 5145.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 5190.00 | 5190.00 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 1 | 5098.00 | 5098.00 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 2 | 5229.00 | 5229.00 | ppb | 0.57 | 90000.00 | |
| 39 K | 45 | 1 | 5115.00 | 5115.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 5172.00 | 5172.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.83 | 49.83 | ppb | 0.69 | 900.00 | |
| 51 V | 45 | 2 | 50.95 | 50.95 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | 49.97 | 49.97 | ppb | 0.54 | 900.00 | |
| 55 Mn | 45 | 2 | 50.19 | 50.19 | ppb | 0.54 | 900.00 | |
| 56 Fe | 45 | 2 | 5055.00 | 5055.00 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 49.98 | 49.98 | ppb | 0.50 | 900.00 | |
| 60 Ni | 45 | 2 | 49.73 | 49.73 | ppb | 0.94 | 900.00 | |
| 63 Cu | 72 | 2 | 49.21 | 49.21 | ppb | 0.78 | 900.00 | |
| 66 Zn | 72 | 2 | 49.39 | 49.39 | ppb | 0.81 | 900.00 | |
| 75 As | 72 | 2 | 50.89 | 50.89 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 49.82 | 49.82 | ppb | 0.82 | 900.00 | |
| 88 Sr | 103 | 1 | 52.94 | 52.94 | ppb | 0.19 | 900.00 | |
| 98 Mo | 103 | 1 | 51.83 | 51.83 | ppb | 0.26 | 900.00 | |
| 107 Ag | 115 | 1 | 50.88 | 50.88 | ppb | 0.45 | 180.00 | |
| 111 Cd | 115 | 2 | 50.99 | 50.99 | ppb | 1.35 | 900.00 | |
| 120 Sn | 115 | 1 | 51.46 | 51.46 | ppb | 0.56 | 900.00 | |
| 121 Sb | 115 | 1 | 55.22 | 55.22 | ppb | 0.51 | 900.00 | |
| 137 Ba | 159 | 1 | 49.65 | 49.65 | ppb | 0.72 | 900.00 | |
| 205 Tl | 209 | 1 | 48.20 | 48.20 | ppb | 1.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.79 | 51.79 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991838 | 0.38 | 1866118 | 106.7 | 70 - 130 | |
| 45 Sc | 1 | 2734663 | 0.48 | 2660105 | 102.8 | 70 - 130 | |
| 45 Sc | 2 | 303782 | 0.27 | 293973 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 554166 | 0.85 | 561821 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 124883 | 0.66 | 124165 | 100.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3094070 | 0.37 | 3161327 | 97.9 | 70 | - | 130 |
| 115 | In | 1 | 3455312 | 0.19 | 3455998 | 100.0 | 70 | - | 130 |
| 115 | In | 2 | 1076799 | 0.26 | 1091146 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4947069 | 0.40 | 4795045 | 103.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4918828 | 0.65 | 4757919 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2998990 | 1.11 | 2963190 | 101.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#
Date Acquired: Jun 7 2013 03:19 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 203.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 171.09 | 900.00 | |
| 11 B | 6 | 1 | 0.12 | 0.12 | ppb | 25.46 | 900.00 | |
| 11 B | 45 | 2 | 0.37 | 0.37 | ppb | 10.01 | 900.00 | |
| 23 Na | 45 | 1 | 3.08 | 3.08 | ppb | 2.19 | 90000.00 | |
| 23 Na | 45 | 2 | 6.83 | 6.83 | ppb | 4.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.80 | 0.80 | ppb | 4.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.99 | 0.99 | ppb | 7.73 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 28.60 | 90000.00 | |
| 27 Al | 45 | 2 | -0.01 | -0.01 | ppb | 1014.80 | 90000.00 | |
| 39 K | 45 | 1 | 1.94 | 1.94 | ppb | 42.40 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.54 | -0.54 | ppb | 66.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 36.84 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 81.00 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 7.18 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 119.15 | 900.00 | |
| 56 Fe | 45 | 2 | -1.39 | -1.39 | ppb | 11.70 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 181.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.87 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 10.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.45 | 0.45 | ppb | 1.47 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 75.94 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 219.71 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 16.72 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 3.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 47.18 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 45.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.21 | ppb | 2.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 119.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 9.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.33 | 0.33 | ppb | 2.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 6.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2044236 | 0.81 | 1866118 | 109.5 | 70 - 130 | |
| 45 Sc | 1 | 2742962 | 0.73 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 310464 | 0.16 | 293973 | 105.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 565497 | 0.58 | 561821 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 127925 | 0.43 | 124165 | 103.0 | 70 | - | 130 |
| 103 Rh | 1 | 3205348 | 0.34 | 3161327 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 3563483 | 0.62 | 3455998 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1124606 | 0.23 | 1091146 | 103.1 | 70 | - | 130 |
| 159 Tb | 1 | 4932497 | 0.24 | 4795045 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 4916679 | 0.78 | 4757919 | 103.3 | 70 | - | 130 |
| 209 Bi | 1 | 3063120 | 1.15 | 2963190 | 103.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#
Date Acquired: Jun 7 2013 03:26 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-2F
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 205.26 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 170.01 | 900.00 | |
| 11 B | 6 | 1 | 19.25 | 9.63 | ppb | 0.52 | 900.00 | |
| 11 B | 45 | 2 | 20.04 | 10.02 | ppb | 10.18 | 900.00 | |
| 23 Na | 45 | 1 | 10036.00 | 5018.00 | ppb | 1.37 | 90000.00 | |
| 23 Na | 45 | 2 | 9810.00 | 4905.00 | ppb | 5.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 3918.00 | 1959.00 | ppb | 1.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 3972.00 | 1986.00 | ppb | 5.82 | 90000.00 | |
| 27 Al | 45 | 1 | 25.88 | 12.94 | ppb | 1.69 | 90000.00 | |
| 27 Al | 45 | 2 | 25.90 | 12.95 | ppb | 5.86 | 90000.00 | |
| 39 K | 45 | 1 | 4176.00 | 2088.00 | ppb | 1.25 | 90000.00 | |
| 44 Ca | 45 | 1 | 40000.00 | 20000.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.59 | 0.79 | ppb | 5.69 | 900.00 | |
| 51 V | 45 | 2 | 2.10 | 1.05 | ppb | 6.86 | 900.00 | |
| 52 Cr | 45 | 2 | 0.78 | 0.39 | ppb | 7.16 | 900.00 | |
| 55 Mn | 45 | 2 | 137.84 | 68.92 | ppb | 5.68 | 900.00 | |
| 56 Fe | 45 | 2 | 547.40 | 273.70 | ppb | 5.00 | 90000.00 | |
| 59 Co | 45 | 2 | 0.46 | 0.23 | ppb | 5.33 | 900.00 | |
| 60 Ni | 45 | 2 | 0.46 | 0.23 | ppb | 11.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 582.32 | 900.00 | |
| 66 Zn | 72 | 2 | 5.96 | 2.98 | ppb | 5.64 | 900.00 | |
| 75 As | 72 | 2 | 19.66 | 9.83 | ppb | 5.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 159.22 | 900.00 | |
| 88 Sr | 103 | 1 | 291.20 | 145.60 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 1.45 | 0.72 | ppb | 2.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 33.30 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 69.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.29 | 0.15 | ppb | 4.79 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.03 | ppb | 17.96 | 900.00 | |
| 137 Ba | 159 | 1 | 59.16 | 29.58 | ppb | 1.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.12 | ppb | 1.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 4.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2213976 | 0.61 | 1866118 | 118.6 | 70 - 130 | |
| 45 Sc | 1 | 2882304 | 0.84 | 2660105 | 108.4 | 70 - 130 | |
| 45 Sc | 2 | 321987 | 4.45 | 293973 | 109.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 584733 | 0.72 | 561821 | 104.1 | 70 - | 130 |
| 72 | Ge | 2 | 131372 | 4.66 | 124165 | 105.8 | 70 - | 130 |
| 103 | Rh | 1 | 3139337 | 0.50 | 3161327 | 99.3 | 70 - | 130 |
| 115 | In | 1 | 3589767 | 0.35 | 3455998 | 103.9 | 70 - | 130 |
| 115 | In | 2 | 1112008 | 2.00 | 1091146 | 101.9 | 70 - | 130 |
| 159 | Tb | 1 | 5145955 | 0.65 | 4795045 | 107.3 | 70 - | 130 |
| 175 | Lu | 1 | 5094617 | 0.70 | 4757919 | 107.1 | 70 - | 130 |
| 209 | Bi | 1 | 3050826 | 0.39 | 2963190 | 103.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D#
Date Acquired: Jun 7 2013 03:33 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-3F
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 34.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 225.65 | 900.00 | |
| 11 B | 6 | 1 | 275.60 | 137.80 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 291.40 | 145.70 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | 42340.00 | 21170.00 | ppb | 1.25 | 90000.00 | |
| 23 Na | 45 | 2 | 43340.00 | 21670.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 22260.00 | 11130.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 2 | 22960.00 | 11480.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 39.72 | 19.86 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 40.98 | 20.49 | ppb | 1.25 | 90000.00 | |
| 39 K | 45 | 1 | 10456.00 | 5228.00 | ppb | 0.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 104100.00 | 52050.00 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.85 | 1.42 | ppb | 2.51 | 900.00 | |
| 51 V | 45 | 2 | 4.19 | 2.09 | ppb | 0.76 | 900.00 | |
| 52 Cr | 45 | 2 | 0.86 | 0.43 | ppb | 1.68 | 900.00 | |
| 55 Mn | 45 | 2 | 4442.00 | 2221.00 | ppb | 1.18 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 602.60 | 301.30 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 3.36 | 1.68 | ppb | 0.53 | 900.00 | |
| 60 Ni | 45 | 2 | 9.00 | 4.50 | ppb | 0.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 0.53 | ppb | 0.97 | 900.00 | |
| 66 Zn | 72 | 2 | 4.95 | 2.47 | ppb | 2.01 | 900.00 | |
| 75 As | 72 | 2 | 8.94 | 4.47 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 0.22 | 0.11 | ppb | 39.17 | 900.00 | |
| 88 Sr | 103 | 1 | 551.80 | 275.90 | ppb | 0.31 | 900.00 | |
| 98 Mo | 103 | 1 | 11.25 | 5.62 | ppb | 0.62 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 54.84 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 13.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.19 | 0.09 | ppb | 5.10 | 900.00 | |
| 121 Sb | 115 | 1 | 1.80 | 0.90 | ppb | 2.61 | 900.00 | |
| 137 Ba | 159 | 1 | 37.56 | 18.78 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 3.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 1.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2177772 | 0.39 | 1866118 | 116.7 | 70 - 130 | |
| 45 Sc | 1 | 2878492 | 0.28 | 2660105 | 108.2 | 70 - 130 | |
| 45 Sc | 2 | 309104 | 0.28 | 293973 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 567334 | 0.76 | 561821 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 125609 | 0.42 | 124165 | 101.2 | 70 | - | 130 |
| 103 Rh | 1 | 3027822 | 0.29 | 3161327 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 3493731 | 0.37 | 3455998 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1053566 | 0.97 | 1091146 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 4972809 | 0.68 | 4795045 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 5022121 | 0.59 | 4757919 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2942589 | 0.83 | 2963190 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Jun 7 2013 03:40 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MC21261-4F |
| Misc Info: | |
| Vial Number: | 2407 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 100.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 100.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.35 | 0.00 | ppb | 50.65 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | 0.00 | ppb | 19328.00 | 900.00 | |
| 11 B | 6 | 1 | 50.06 | 0.50 | ppb | 3.59 | 900.00 | |
| 11 B | 45 | 2 | 58.86 | 0.59 | ppb | 40.33 | 900.00 | |
| 23 Na | 45 | 1 | 87340.00 | 873.40 | ppb | 1.57 | 90000.00 | |
| 23 Na | 45 | 2 | 88640.00 | 886.40 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 4134.00 | 41.34 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 4417.00 | 44.17 | ppb | 0.79 | 90000.00 | |
| 27 Al | 45 | 1 | 10.72 | 0.11 | ppb | 112.13 | 90000.00 | |
| 27 Al | 45 | 2 | 32.64 | 0.33 | ppb | 55.06 | 90000.00 | |
| 39 K | 45 | 1 | 4547.00 | 45.47 | ppb | 4.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 37070.00 | 370.70 | ppb | 0.93 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.51 | 0.06 | ppb | 8.49 | 900.00 | |
| 51 V | 45 | 2 | -28.43 | -0.28 | ppb | 3.06 | 900.00 | |
| 52 Cr | 45 | 2 | -14.37 | -0.14 | ppb | 3.18 | 900.00 | |
| 55 Mn | 45 | 2 | 2358.00 | 23.58 | ppb | 2.05 | 900.00 | |
| 56 Fe | 45 | 2 | 39590.00 | 395.90 | ppb | 1.09 | 90000.00 | |
| 59 Co | 45 | 2 | 13.72 | 0.14 | ppb | 5.50 | 900.00 | |
| 60 Ni | 45 | 2 | 10.83 | 0.11 | ppb | 11.07 | 900.00 | |
| 63 Cu | 72 | 2 | -6.15 | -0.06 | ppb | 17.78 | 900.00 | |
| 66 Zn | 72 | 2 | 88.10 | 0.88 | ppb | 7.57 | 900.00 | |
| 75 As | 72 | 2 | 2057.00 | 20.57 | ppb | 2.71 | 900.00 | |
| 78 Se | 72 | 2 | 6.03 | 0.06 | ppb | 140.86 | 900.00 | |
| 88 Sr | 103 | 1 | 304.30 | 3.04 | ppb | 2.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.19 | 0.02 | ppb | 8.15 | 900.00 | |
| 107 Ag | 115 | 1 | -0.51 | -0.01 | ppb | 10.70 | 180.00 | |
| 111 Cd | 115 | 2 | 0.45 | 0.00 | ppb | 88.04 | 900.00 | |
| 120 Sn | 115 | 1 | -2.55 | -0.03 | ppb | 0.77 | 900.00 | |
| 121 Sb | 115 | 1 | -2.00 | -0.02 | ppb | 6.15 | 900.00 | |
| 137 Ba | 159 | 1 | 60.24 | 0.60 | ppb | 6.24 | 900.00 | |
| 205 Tl | 209 | 1 | 1.84 | 0.02 | ppb | 20.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.96 | 0.01 | ppb | 32.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972863 | 1.39 | 1866118 | 105.7 | 70 - 130 | |
| 45 Sc | 1 | 2710408 | 0.82 | 2660105 | 101.9 | 70 - 130 | |
| 45 Sc | 2 | 310750 | 1.50 | 293973 | 105.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 564917 | 0.21 | 561821 | 100.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129533 | 2.27 | 124165 | 104.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3215530 | 1.32 | 3161327 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 3566160 | 1.35 | 3455998 | 103.2 | 70 | - | 130 |
| 115 | In | 2 | 1138512 | 2.03 | 1091146 | 104.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4888031 | 0.86 | 4795045 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4867904 | 1.71 | 4757919 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 3006472 | 1.93 | 2963190 | 101.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 03:48 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC21261-5F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2408 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 23.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 308.97 | 900.00 | |
| 11 B | 6 | 1 | 0.83 | 0.41 | ppb | 1.54 | 900.00 | |
| 11 B | 45 | 2 | 1.22 | 0.61 | ppb | 34.26 | 900.00 | |
| 23 Na | 45 | 1 | 13.72 | 6.86 | ppb | 4.70 | 90000.00 | |
| 23 Na | 45 | 2 | 24.16 | 12.08 | ppb | 7.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.55 | 1.27 | ppb | 3.34 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.68 | 1.34 | ppb | 2.87 | 90000.00 | |
| 27 Al | 45 | 1 | 1.83 | 0.91 | ppb | 18.71 | 90000.00 | |
| 27 Al | 45 | 2 | 1.82 | 0.91 | ppb | 14.46 | 90000.00 | |
| 39 K | 45 | 1 | 19.89 | 9.95 | ppb | 14.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.50 | 1.25 | ppb | 69.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.91 | 0.46 | ppb | 7.15 | 900.00 | |
| 51 V | 45 | 2 | 2.13 | 1.07 | ppb | 2.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 2.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.95 | 0.47 | ppb | 2.36 | 900.00 | |
| 56 Fe | 45 | 2 | 4.03 | 2.01 | ppb | 4.78 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 181.95 | 900.00 | |
| 60 Ni | 45 | 2 | 0.22 | 0.11 | ppb | 5.08 | 900.00 | |
| 63 Cu | 72 | 2 | -0.02 | -0.01 | ppb | 155.66 | 900.00 | |
| 66 Zn | 72 | 2 | 6.60 | 3.30 | ppb | 1.82 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.29 | ppb | 3.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.04 | ppb | 66.07 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 11.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.02 | ppb | 4.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 11.87 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 98.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.02 | ppb | 17.47 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 5.90 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 8.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.01 | ppb | 46.61 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 11.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2181163 | 0.85 | 1866118 | 116.9 | 70 - 130 | |
| 45 Sc | 1 | 2776546 | 0.50 | 2660105 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 311133 | 0.86 | 293973 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 568696 | 0.54 | 561821 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 126473 | 0.38 | 124165 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3206371 | 0.99 | 3161327 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 3562719 | 0.41 | 3455998 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1108276 | 0.59 | 1091146 | 101.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5021451 | 0.41 | 4795045 | 104.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4984061 | 0.60 | 4757919 | 104.8 | 70 | - | 130 |
| 209 | Bi | 1 | 3096290 | 1.16 | 2963190 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#
Date Acquired: Jun 7 2013 03:55 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-6F
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 46.33 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | 0.00 | ppb | 178.33 | 900.00 | |
| 11 B | 6 | 1 | 234.20 | 23.42 | ppb | 3.65 | 900.00 | |
| 11 B | 45 | 2 | 244.00 | 24.40 | ppb | 4.34 | 900.00 | |
| 23 Na | 45 | 1 | 36860.00 | 3686.00 | ppb | 5.39 | 90000.00 | |
| 23 Na | 45 | 2 | 35730.00 | 3573.00 | ppb | 3.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 15900.00 | 1590.00 | ppb | 5.72 | 90000.00 | |
| 24 Mg | 45 | 2 | 16060.00 | 1606.00 | ppb | 3.02 | 90000.00 | |
| 27 Al | 45 | 1 | 13.32 | 1.33 | ppb | 15.69 | 90000.00 | |
| 27 Al | 45 | 2 | 12.40 | 1.24 | ppb | 6.61 | 90000.00 | |
| 39 K | 45 | 1 | 9504.00 | 950.40 | ppb | 6.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 100200.00 | 10020.00 | ppb | 5.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.44 | 0.44 | ppb | 12.85 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.03 | ppb | 23.38 | 900.00 | |
| 52 Cr | 45 | 2 | -0.67 | -0.07 | ppb | 7.46 | 900.00 | |
| 55 Mn | 45 | 2 | 6433.00 | 643.30 | ppb | 2.53 | 900.00 | |
| 56 Fe | 45 | 2 | 13350.00 | 1335.00 | ppb | 2.83 | 90000.00 | |
| 59 Co | 45 | 2 | 10.85 | 1.09 | ppb | 3.30 | 900.00 | |
| 60 Ni | 45 | 2 | 6.60 | 0.66 | ppb | 5.42 | 900.00 | |
| 63 Cu | 72 | 2 | -0.29 | -0.03 | ppb | 41.32 | 900.00 | |
| 66 Zn | 72 | 2 | 14.52 | 1.45 | ppb | 1.01 | 900.00 | |
| 75 As | 72 | 2 | 317.70 | 31.77 | ppb | 2.54 | 900.00 | |
| 78 Se | 72 | 2 | 0.96 | 0.10 | ppb | 87.76 | 900.00 | |
| 88 Sr | 103 | 1 | 1342.00 | 134.20 | ppb | 5.25 | 900.00 | |
| 98 Mo | 103 | 1 | 7.78 | 0.78 | ppb | 5.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 190.77 | 180.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.00 | ppb | 46.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.03 | ppb | 22.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.01 | ppb | 22.23 | 900.00 | |
| 137 Ba | 159 | 1 | 79.88 | 7.99 | ppb | 5.98 | 900.00 | |
| 205 Tl | 209 | 1 | -0.04 | 0.00 | ppb | 101.52 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.02 | ppb | 13.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982613 | 3.07 | 1866118 | 106.2 | 70 - 130 | |
| 45 Sc | 1 | 2693475 | 5.33 | 2660105 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 306302 | 1.66 | 293973 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 560890 | 5.00 | 561821 | 99.8 | 70 | - | 130 |
| 72 | Ge | 2 | 126548 | 1.39 | 124165 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3102167 | 4.99 | 3161327 | 98.1 | 70 | - | 130 |
| 115 | In | 1 | 3470002 | 4.67 | 3455998 | 100.4 | 70 | - | 130 |
| 115 | In | 2 | 1112475 | 2.11 | 1091146 | 102.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4869839 | 5.85 | 4795045 | 101.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4830162 | 5.14 | 4757919 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3014776 | 4.59 | 2963190 | 101.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#
Date Acquired: Jun 7 2013 04:02 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-7F
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 31.46 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 85.71 | 900.00 | |
| 11 B | 6 | 1 | 17.60 | 8.80 | ppb | 1.20 | 900.00 | |
| 11 B | 45 | 2 | 19.11 | 9.55 | ppb | 4.15 | 900.00 | |
| 23 Na | 45 | 1 | 40060.00 | 20030.00 | ppb | 0.38 | 90000.00 | |
| 23 Na | 45 | 2 | 40140.00 | 20070.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 13940.00 | 6970.00 | ppb | 1.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 13950.00 | 6975.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 3.19 | 1.60 | ppb | 2.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4.58 | 2.29 | ppb | 43.62 | 90000.00 | |
| 39 K | 45 | 1 | 2962.00 | 1481.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 59820.00 | 29910.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.16 | 1.08 | ppb | 9.44 | 900.00 | |
| 51 V | 45 | 2 | 2.20 | 1.10 | ppb | 0.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.70 | 0.35 | ppb | 3.39 | 900.00 | |
| 55 Mn | 45 | 2 | 636.80 | 318.40 | ppb | 0.61 | 900.00 | |
| 56 Fe | 45 | 2 | 2.75 | 1.37 | ppb | 17.69 | 90000.00 | |
| 59 Co | 45 | 2 | 1.78 | 0.89 | ppb | 1.28 | 900.00 | |
| 60 Ni | 45 | 2 | 3.95 | 1.97 | ppb | 0.33 | 900.00 | |
| 63 Cu | 72 | 2 | 0.49 | 0.25 | ppb | 6.30 | 900.00 | |
| 66 Zn | 72 | 2 | 34.66 | 17.33 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 1.01 | 0.50 | ppb | 3.12 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 157.40 | 900.00 | |
| 88 Sr | 103 | 1 | 537.00 | 268.50 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 1.23 | 0.61 | ppb | 2.12 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 9.08 | 180.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.25 | ppb | 15.89 | 900.00 | |
| 120 Sn | 115 | 1 | 0.28 | 0.14 | ppb | 4.51 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 12.25 | 900.00 | |
| 137 Ba | 159 | 1 | 25.00 | 12.50 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 18.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 5.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2135617 | 1.04 | 1866118 | 114.4 | 70 - 130 | |
| 45 Sc | 1 | 2830989 | 1.27 | 2660105 | 106.4 | 70 - 130 | |
| 45 Sc | 2 | 313714 | 0.15 | 293973 | 106.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 578513 | 0.10 | 561821 | 103.0 | 70 - | 130 |
| 72 | Ge | 2 | 127627 | 0.32 | 124165 | 102.8 | 70 - | 130 |
| 103 | Rh | 1 | 3061975 | 0.56 | 3161327 | 96.9 | 70 - | 130 |
| 115 | In | 1 | 3530126 | 0.90 | 3455998 | 102.1 | 70 - | 130 |
| 115 | In | 2 | 1094581 | 0.19 | 1091146 | 100.3 | 70 - | 130 |
| 159 | Tb | 1 | 5023591 | 1.51 | 4795045 | 104.8 | 70 - | 130 |
| 175 | Lu | 1 | 4996568 | 1.15 | 4757919 | 105.0 | 70 - | 130 |
| 209 | Bi | 1 | 2965337 | 0.37 | 2963190 | 100.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#
Date Acquired: Jun 7 2013 04:09 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MC21261-8F
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 32.52 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | -0.01 | ppb | 74.45 | 900.00 | |
| 11 B | 6 | 1 | 17.43 | 8.72 | ppb | 1.18 | 900.00 | |
| 11 B | 45 | 2 | 16.85 | 8.43 | ppb | 10.69 | 900.00 | |
| 23 Na | 45 | 1 | 39580.00 | 19790.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 38520.00 | 19260.00 | ppb | 6.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 13718.00 | 6859.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 13536.00 | 6768.00 | ppb | 6.67 | 90000.00 | |
| 27 Al | 45 | 1 | 3.55 | 1.78 | ppb | 7.00 | 90000.00 | |
| 27 Al | 45 | 2 | 3.55 | 1.77 | ppb | 10.90 | 90000.00 | |
| 39 K | 45 | 1 | 2948.00 | 1474.00 | ppb | 1.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 59260.00 | 29630.00 | ppb | 1.40 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.08 | 1.04 | ppb | 8.67 | 900.00 | |
| 51 V | 45 | 2 | 2.25 | 1.12 | ppb | 8.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.64 | 0.32 | ppb | 14.09 | 900.00 | |
| 55 Mn | 45 | 2 | 608.40 | 304.20 | ppb | 7.01 | 900.00 | |
| 56 Fe | 45 | 2 | 1.64 | 0.82 | ppb | 58.89 | 90000.00 | |
| 59 Co | 45 | 2 | 1.69 | 0.84 | ppb | 5.74 | 900.00 | |
| 60 Ni | 45 | 2 | 3.70 | 1.85 | ppb | 7.28 | 900.00 | |
| 63 Cu | 72 | 2 | 0.74 | 0.37 | ppb | 7.65 | 900.00 | |
| 66 Zn | 72 | 2 | 31.24 | 15.62 | ppb | 5.76 | 900.00 | |
| 75 As | 72 | 2 | 0.95 | 0.48 | ppb | 9.51 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.02 | ppb | 989.66 | 900.00 | |
| 88 Sr | 103 | 1 | 528.20 | 264.10 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 1.23 | 0.61 | ppb | 1.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 49.43 | 180.00 | |
| 111 Cd | 115 | 2 | 0.46 | 0.23 | ppb | 13.83 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 12.50 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 15.39 | 900.00 | |
| 137 Ba | 159 | 1 | 25.20 | 12.60 | ppb | 1.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 14.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 6.10 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2170528 | 0.48 | 1866118 | 116.3 | 70 - 130 | |
| 45 Sc | 1 | 2835472 | 0.83 | 2660105 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 321725 | 6.49 | 293973 | 109.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 578782 | 0.51 | 561821 | 103.0 | 70 | - | 130 |
| 72 Ge | 2 | 130212 | 5.33 | 124165 | 104.9 | 70 | - | 130 |
| 103 Rh | 1 | 3062142 | 1.12 | 3161327 | 96.9 | 70 | - | 130 |
| 115 In | 1 | 3528324 | 1.46 | 3455998 | 102.1 | 70 | - | 130 |
| 115 In | 2 | 1123268 | 6.20 | 1091146 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 5008487 | 1.04 | 4795045 | 104.5 | 70 | - | 130 |
| 175 Lu | 1 | 5025084 | 1.34 | 4757919 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2957633 | 0.96 | 2963190 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D#
Date Acquired: Jun 7 2013 04:16 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-PS1
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 16.64 | 8.32 | ppb | 1.34 | 900.00 | |
| 9 Be | 45 | 2 | 18.26 | 9.13 | ppb | 1.76 | 900.00 | |
| 11 B | 6 | 1 | 37.02 | 18.51 | ppb | 1.79 | 900.00 | |
| 11 B | 45 | 2 | 40.18 | 20.09 | ppb | 7.97 | 900.00 | |
| 23 Na | 45 | 1 | 5780.00 | 2890.00 | ppb | 2.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5890.00 | 2945.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 1 | 2300.00 | 1150.00 | ppb | 3.29 | 90000.00 | |
| 24 Mg | 45 | 2 | 2440.00 | 1220.00 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 1 | 64.50 | 32.25 | ppb | 2.83 | 90000.00 | |
| 27 Al | 45 | 2 | 66.14 | 33.07 | ppb | 1.29 | 90000.00 | |
| 39 K | 45 | 1 | 2006.00 | 1003.00 | ppb | 2.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 21840.00 | 10920.00 | ppb | 2.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 18.15 | 9.08 | ppb | 2.96 | 900.00 | |
| 51 V | 45 | 2 | 18.69 | 9.35 | ppb | 0.90 | 900.00 | |
| 52 Cr | 45 | 2 | 17.54 | 8.77 | ppb | 1.72 | 900.00 | |
| 55 Mn | 45 | 2 | 433.60 | 216.80 | ppb | 1.51 | 900.00 | |
| 56 Fe | 45 | 2 | 8166.00 | 4083.00 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 17.96 | 8.98 | ppb | 1.67 | 900.00 | |
| 60 Ni | 45 | 2 | 17.36 | 8.68 | ppb | 0.56 | 900.00 | |
| 63 Cu | 72 | 2 | 16.75 | 8.38 | ppb | 1.87 | 900.00 | |
| 66 Zn | 72 | 2 | 31.58 | 15.79 | ppb | 0.59 | 900.00 | |
| 75 As | 72 | 2 | 41.60 | 20.80 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 15.60 | 7.80 | ppb | 2.21 | 900.00 | |
| 88 Sr | 103 | 1 | 146.84 | 73.42 | ppb | 1.99 | 900.00 | |
| 98 Mo | 103 | 1 | 18.23 | 9.11 | ppb | 2.24 | 900.00 | |
| 107 Ag | 115 | 1 | 16.95 | 8.48 | ppb | 1.90 | 180.00 | |
| 111 Cd | 115 | 2 | 16.34 | 8.17 | ppb | 2.80 | 900.00 | |
| 120 Sn | 115 | 1 | 17.67 | 8.84 | ppb | 2.83 | 900.00 | |
| 121 Sb | 115 | 1 | 17.86 | 8.93 | ppb | 2.42 | 900.00 | |
| 137 Ba | 159 | 1 | 27.78 | 13.89 | ppb | 1.77 | 900.00 | |
| 205 Tl | 209 | 1 | 14.94 | 7.47 | ppb | 3.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 17.53 | 8.77 | ppb | 2.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2152192 | 0.47 | 1866118 | 115.3 | 70 - 130 | |
| 45 Sc | 1 | 2808444 | 2.04 | 2660105 | 105.6 | 70 - 130 | |
| 45 Sc | 2 | 308081 | 0.91 | 293973 | 104.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\057SMPL.D\057SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569860 | 2.38 | 561821 | 101.4 | 70 | - | 130 |
| 72 | Ge | 2 | 127900 | 0.47 | 124165 | 103.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3148690 | 1.41 | 3161327 | 99.6 | 70 | - | 130 |
| 115 | In | 1 | 3559525 | 1.94 | 3455998 | 103.0 | 70 | - | 130 |
| 115 | In | 2 | 1090167 | 1.50 | 1091146 | 99.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5013181 | 1.55 | 4795045 | 104.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4988865 | 2.65 | 4757919 | 104.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3065764 | 2.42 | 2963190 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D# | | |
| **Date Acquired:** | Jun 7 2013 04:23 pm | | |
| **Acq. Method:** | EPA6020V.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21097A-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| **Last Cal. Update:** | Jun 07 2013 02:14 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 466.60 | 23.33 | ppb | 7.48 | 900.00 | |
| 9 Be | 45 | 2 | 523.20 | 26.16 | ppb | 0.47 | 900.00 | |
| 11 B | 6 | 1 | 18.90 | 0.95 | ppb | 8.72 | 900.00 | |
| 11 B | 45 | 2 | 18.63 | 0.93 | ppb | 24.15 | 900.00 | |
| 23 Na | 45 | 1 | 30280.00 | 1514.00 | ppb | 6.63 | 90000.00 | |
| 23 Na | 45 | 2 | 33520.00 | 1676.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 26640.00 | 1332.00 | ppb | 6.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 30460.00 | 1523.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 2060.00 | 103.00 | ppb | 7.31 | 90000.00 | |
| 27 Al | 45 | 2 | 2398.00 | 119.90 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 25800.00 | 1290.00 | ppb | 7.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 48580.00 | 2429.00 | ppb | 7.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 466.20 | 23.31 | ppb | 6.12 | 900.00 | |
| 51 V | 45 | 2 | 520.40 | 26.02 | ppb | 0.39 | 900.00 | |
| 52 Cr | 45 | 2 | 503.40 | 25.17 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 1007.00 | 50.35 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 11688.00 | 584.40 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 510.40 | 25.52 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 500.60 | 25.03 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 502.00 | 25.10 | ppb | 0.79 | 900.00 | |
| 66 Zn | 72 | 2 | 566.20 | 28.31 | ppb | 0.61 | 900.00 | |
| 75 As | 72 | 2 | 558.40 | 27.92 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 545.00 | 27.25 | ppb | 0.96 | 900.00 | |
| 88 Sr | 103 | 1 | 617.20 | 30.86 | ppb | 8.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.04 | ppb | 17.69 | 900.00 | |
| 107 Ag | 115 | 1 | 195.00 | 9.75 | ppb | 7.82 | 180.00 | |
| 111 Cd | 115 | 2 | 509.80 | 25.49 | ppb | 2.42 | 900.00 | |
| 120 Sn | 115 | 1 | -0.51 | -0.03 | ppb | 12.09 | 900.00 | |
| 121 Sb | 115 | 1 | 501.80 | 25.09 | ppb | 8.01 | 900.00 | |
| 137 Ba | 159 | 1 | 1878.00 | 93.90 | ppb | 7.44 | 900.00 | |
| 205 Tl | 209 | 1 | 439.60 | 21.98 | ppb | 7.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 965.80 | 48.29 | ppb | 5.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2138567 | 6.53 | 1866118 | 114.6 | 70 - 130 | |
| 45 Sc | 1 | 2981500 | 6.19 | 2660105 | 112.1 | 70 - 130 | |
| 45 Sc | 2 | 306311 | 0.41 | 293973 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\058SMPL.D\058SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 604320 | 7.10 | 561821 | 107.6 | 70 | - | 130 |
| 72 | Ge | 2 | 126696 | 0.28 | 124165 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3465014 | 6.97 | 3161327 | 109.6 | 70 | - | 130 |
| 115 | In | 1 | 3857088 | 7.20 | 3455998 | 111.6 | 70 | - | 130 |
| 115 | In | 2 | 1105768 | 0.49 | 1091146 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5367958 | 6.98 | 4795045 | 111.9 | 70 | - | 130 |
| 175 | Lu | 1 | 5312988 | 7.28 | 4757919 | 111.7 | 70 | - | 130 |
| 209 | Bi | 1 | 3299702 | 5.26 | 2963190 | 111.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#
Date Acquired: Jun 7 2013 04:30 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: MP21097A-S2
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 511.00 | 25.55 | ppb | 1.56 | 900.00 | |
| 9 Be | 45 | 2 | 520.40 | 26.02 | ppb | 1.51 | 900.00 | |
| 11 B | 6 | 1 | 19.90 | 0.99 | ppb | 6.96 | 900.00 | |
| 11 B | 45 | 2 | 22.92 | 1.15 | ppb | 20.84 | 900.00 | |
| 23 Na | 45 | 1 | 33120.00 | 1656.00 | ppb | 0.34 | 90000.00 | |
| 23 Na | 45 | 2 | 33280.00 | 1664.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 29220.00 | 1461.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 30340.00 | 1517.00 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 1 | 2250.00 | 112.50 | ppb | 0.45 | 90000.00 | |
| 27 Al | 45 | 2 | 2394.00 | 119.70 | ppb | 0.46 | 90000.00 | |
| 39 K | 45 | 1 | 28400.00 | 1420.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 53540.00 | 2677.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 509.00 | 25.45 | ppb | 0.50 | 900.00 | |
| 51 V | 45 | 2 | 514.60 | 25.73 | ppb | 0.18 | 900.00 | |
| 52 Cr | 45 | 2 | 502.00 | 25.10 | ppb | 0.36 | 900.00 | |
| 55 Mn | 45 | 2 | 1002.40 | 50.12 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 11628.00 | 581.40 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 508.00 | 25.40 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 497.80 | 24.89 | ppb | 0.55 | 900.00 | |
| 63 Cu | 72 | 2 | 499.60 | 24.98 | ppb | 0.26 | 900.00 | |
| 66 Zn | 72 | 2 | 572.80 | 28.64 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 556.80 | 27.84 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 539.40 | 26.97 | ppb | 0.97 | 900.00 | |
| 88 Sr | 103 | 1 | 666.00 | 33.30 | ppb | 0.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 16.77 | 900.00 | |
| 107 Ag | 115 | 1 | 214.80 | 10.74 | ppb | 0.34 | 180.00 | |
| 111 Cd | 115 | 2 | 501.80 | 25.09 | ppb | 1.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.51 | -0.03 | ppb | 11.67 | 900.00 | |
| 121 Sb | 115 | 1 | 548.20 | 27.41 | ppb | 0.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2066.00 | 103.30 | ppb | 0.64 | 900.00 | |
| 205 Tl | 209 | 1 | 480.40 | 24.02 | ppb | 0.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1045.20 | 52.26 | ppb | 0.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1940220 | 1.65 | 1866118 | 104.0 | 70 - 130 | |
| 45 Sc | 1 | 2699716 | 0.25 | 2660105 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 304810 | 0.44 | 293973 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\059SMPL.D\059SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 553187 | 0.91 | 561821 | 98.5 | 70 - | 130 |
| 72 | Ge | 2 | 125897 | 0.27 | 124165 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 3178050 | 0.27 | 3161327 | 100.5 | 70 - | 130 |
| 115 | In | 1 | 3507852 | 0.29 | 3455998 | 101.5 | 70 - | 130 |
| 115 | In | 2 | 1110864 | 0.46 | 1091146 | 101.8 | 70 - | 130 |
| 159 | Tb | 1 | 4866142 | 0.55 | 4795045 | 101.5 | 70 - | 130 |
| 175 | Lu | 1 | 4841294 | 0.63 | 4757919 | 101.8 | 70 - | 130 |
| 209 | Bi | 1 | 3033695 | 0.29 | 2963190 | 102.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#
Date Acquired: Jun 7 2013 04:37 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.22 | 49.22 | ppb | 8.34 | 900.00 | |
| 9 Be | 45 | 2 | 52.09 | 52.09 | ppb | 0.85 | 900.00 | |
| 11 B | 6 | 1 | 48.01 | 48.01 | ppb | 8.25 | 900.00 | |
| 11 B | 45 | 2 | 50.99 | 50.99 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 4940.00 | 4940.00 | ppb | 7.59 | 90000.00 | |
| 23 Na | 45 | 2 | 5078.00 | 5078.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 4936.00 | 4936.00 | ppb | 7.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 5141.00 | 5141.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 4872.00 | 4872.00 | ppb | 7.93 | 90000.00 | |
| 27 Al | 45 | 2 | 5230.00 | 5230.00 | ppb | 0.16 | 90000.00 | |
| 39 K | 45 | 1 | 4912.00 | 4912.00 | ppb | 7.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 4991.00 | 4991.00 | ppb | 7.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.10 | 48.10 | ppb | 8.77 | 900.00 | |
| 51 V | 45 | 2 | 50.51 | 50.51 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 49.56 | 49.56 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 49.47 | 49.47 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 5005.00 | 5005.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 49.39 | 49.39 | ppb | 0.60 | 900.00 | |
| 60 Ni | 45 | 2 | 49.12 | 49.12 | ppb | 1.18 | 900.00 | |
| 63 Cu | 72 | 2 | 48.42 | 48.42 | ppb | 0.52 | 900.00 | |
| 66 Zn | 72 | 2 | 49.05 | 49.05 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 50.55 | 50.55 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 50.67 | 50.67 | ppb | 1.28 | 900.00 | |
| 88 Sr | 103 | 1 | 50.74 | 50.74 | ppb | 7.58 | 900.00 | |
| 98 Mo | 103 | 1 | 49.44 | 49.44 | ppb | 8.21 | 900.00 | |
| 107 Ag | 115 | 1 | 48.73 | 48.73 | ppb | 7.62 | 180.00 | |
| 111 Cd | 115 | 2 | 50.33 | 50.33 | ppb | 0.55 | 900.00 | |
| 120 Sn | 115 | 1 | 49.41 | 49.41 | ppb | 7.66 | 900.00 | |
| 121 Sb | 115 | 1 | 52.80 | 52.80 | ppb | 7.81 | 900.00 | |
| 137 Ba | 159 | 1 | 47.97 | 47.97 | ppb | 8.66 | 900.00 | |
| 205 Tl | 209 | 1 | 47.01 | 47.01 | ppb | 9.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 8.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1986193 | 7.26 | 1866118 | 106.4 | 70 - 130 | |
| 45 Sc | 1 | 2770382 | 7.35 | 2660105 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 301530 | 0.40 | 293973 | 102.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\060SMPL.D\060SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 566092 | 7.78 | 561821 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 124045 | 0.32 | 124165 | 99.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3187518 | 6.86 | 3161327 | 100.8 | 70 | - | 130 |
| 115 | In | 1 | 3547783 | 7.16 | 3455998 | 102.7 | 70 | - | 130 |
| 115 | In | 2 | 1071409 | 0.42 | 1091146 | 98.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5066896 | 7.99 | 4795045 | 105.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4988752 | 7.50 | 4757919 | 104.9 | 70 | - | 130 |
| 209 | Bi | 1 | 3024294 | 7.45 | 2963190 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D# |
| Date Acquired: | Jun 7 2013 04:44 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2504 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 1088.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 167.11 | 900.00 | |
| 11 B | 6 | 1 | 0.04 | 0.04 | ppb | 61.65 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 259.94 | 900.00 | |
| 23 Na | 45 | 1 | 2.19 | 2.19 | ppb | 4.29 | 90000.00 | |
| 23 Na | 45 | 2 | 5.76 | 5.76 | ppb | 8.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.75 | 0.75 | ppb | 4.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.97 | 0.97 | ppb | 10.40 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 12.51 | 90000.00 | |
| 27 Al | 45 | 2 | -0.05 | -0.05 | ppb | 167.97 | 90000.00 | |
| 39 K | 45 | 1 | -0.71 | -0.71 | ppb | 250.85 | 90000.00 | |
| 44 Ca | 45 | 1 | -4.03 | -4.03 | ppb | 21.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.09 | 0.09 | ppb | 67.84 | 900.00 | |
| 51 V | 45 | 2 | 0.01 | 0.01 | ppb | 256.35 | 900.00 | |
| 52 Cr | 45 | 2 | -0.07 | -0.07 | ppb | 7.45 | 900.00 | |
| 55 Mn | 45 | 2 | -0.10 | -0.10 | ppb | 1.75 | 900.00 | |
| 56 Fe | 45 | 2 | -1.58 | -1.58 | ppb | 2.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 44.57 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 13.85 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 205.56 | 900.00 | |
| 66 Zn | 72 | 2 | 0.14 | 0.14 | ppb | 5.44 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 43.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.08 | ppb | 133.99 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 3.03 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 5.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 4.72 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 44.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.08 | ppb | 10.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 27.20 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 72.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.41 | 0.41 | ppb | 1.13 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 20.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2004302 | 1.09 | 1866118 | 107.4 | 70 - 130 | |
| 45 Sc | 1 | 2763147 | 1.61 | 2660105 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 305355 | 1.48 | 293973 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 568649 | 1.56 | 561821 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 126509 | 0.92 | 124165 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3240935 | 0.78 | 3161327 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 3600214 | 1.05 | 3455998 | 104.2 | 70 | - | 130 |
| 115 In | 2 | 1124384 | 1.38 | 1091146 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 4974557 | 0.72 | 4795045 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 4951245 | 0.74 | 4757919 | 104.1 | 70 | - | 130 |
| 209 Bi | 1 | 3104737 | 0.71 | 2963190 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D# |
| Date Acquired: | Jun 7 2013 04:51 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21097A-B1 |
| Misc Info: | |
| Vial Number: | 2505 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.40 | 25.22 | ppb | 1.05 | 900.00 | |
| 9 Be | 45 | 2 | 506.00 | 25.30 | ppb | 2.12 | 900.00 | |
| 11 B | 6 | 1 | -0.86 | -0.04 | ppb | 55.37 | 900.00 | |
| 11 B | 45 | 2 | 0.40 | 0.02 | ppb | 754.99 | 900.00 | |
| 23 Na | 45 | 1 | 26060.00 | 1303.00 | ppb | 0.81 | 90000.00 | |
| 23 Na | 45 | 2 | 25840.00 | 1292.00 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 26240.00 | 1312.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 26760.00 | 1338.00 | ppb | 1.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2186.00 | 109.30 | ppb | 1.15 | 90000.00 | |
| 27 Al | 45 | 2 | 2282.00 | 114.10 | ppb | 2.08 | 90000.00 | |
| 39 K | 45 | 1 | 25900.00 | 1295.00 | ppb | 0.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 26660.00 | 1333.00 | ppb | 1.00 | 90000.00 | |
| 47 Ti | 45 | 1 | 501.40 | 25.07 | ppb | 1.00 | 900.00 | |
| 51 V | 45 | 2 | 499.80 | 24.99 | ppb | 1.79 | 900.00 | |
| 52 Cr | 45 | 2 | 486.60 | 24.33 | ppb | 1.60 | 900.00 | |
| 55 Mn | 45 | 2 | 486.20 | 24.31 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 2126.00 | 106.30 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 494.60 | 24.73 | ppb | 1.44 | 900.00 | |
| 60 Ni | 45 | 2 | 482.80 | 24.14 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 487.60 | 24.38 | ppb | 1.70 | 900.00 | |
| 66 Zn | 72 | 2 | 536.40 | 26.82 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 510.80 | 25.54 | ppb | 1.58 | 900.00 | |
| 78 Se | 72 | 2 | 521.40 | 26.07 | ppb | 1.81 | 900.00 | |
| 88 Sr | 103 | 1 | 521.40 | 26.07 | ppb | 0.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.79 | 0.04 | ppb | 3.91 | 900.00 | |
| 107 Ag | 115 | 1 | 210.20 | 10.51 | ppb | 0.47 | 180.00 | |
| 111 Cd | 115 | 2 | 496.60 | 24.83 | ppb | 2.91 | 900.00 | |
| 120 Sn | 115 | 1 | -0.35 | -0.02 | ppb | 16.34 | 900.00 | |
| 121 Sb | 115 | 1 | 538.40 | 26.92 | ppb | 0.37 | 900.00 | |
| 137 Ba | 159 | 1 | 2016.00 | 100.80 | ppb | 0.99 | 900.00 | |
| 205 Tl | 209 | 1 | 470.40 | 23.52 | ppb | 0.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1033.80 | 51.69 | ppb | 1.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1939742 | 0.99 | 1866118 | 103.9 | 70 - 130 | |
| 45 Sc | 1 | 2713329 | 0.46 | 2660105 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 312224 | 1.46 | 293973 | 106.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 554463 | 0.41 | 561821 | 98.7 | 70 - | 130 |
| 72 | Ge | 2 | 128398 | 1.70 | 124165 | 103.4 | 70 - | 130 |
| 103 | Rh | 1 | 3167939 | 0.38 | 3161327 | 100.2 | 70 - | 130 |
| 115 | In | 1 | 3529498 | 0.30 | 3455998 | 102.1 | 70 - | 130 |
| 115 | In | 2 | 1135155 | 1.48 | 1091146 | 104.0 | 70 - | 130 |
| 159 | Tb | 1 | 4896369 | 0.81 | 4795045 | 102.1 | 70 - | 130 |
| 175 | Lu | 1 | 4878880 | 0.95 | 4757919 | 102.5 | 70 - | 130 |
| 209 | Bi | 1 | 3037193 | 1.15 | 2963190 | 102.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D# |
| Date Acquired: | Jun 7 2013 04:58 pm |
| Acq. Method: | EPA6020V.M |
| Operator: | METALS |
| Sample Name: | MP21097A-MB1 |
| Misc Info: | |
| Vial Number: | 2506 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C |
| Last Cal. Update: | Jun 07 2013 02:14 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 95.76 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 347.65 | 900.00 | |
| 11 B | 6 | 1 | -0.10 | -0.05 | ppb | 2.22 | 900.00 | |
| 11 B | 45 | 2 | 0.11 | 0.06 | ppb | 99.56 | 900.00 | |
| 23 Na | 45 | 1 | 7.74 | 3.87 | ppb | 7.23 | 90000.00 | |
| 23 Na | 45 | 2 | 18.34 | 9.17 | ppb | 3.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.79 | 0.89 | ppb | 7.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.87 | 0.94 | ppb | 1.88 | 90000.00 | |
| 27 Al | 45 | 1 | 1.24 | 0.62 | ppb | 19.63 | 90000.00 | |
| 27 Al | 45 | 2 | 1.55 | 0.78 | ppb | 29.12 | 90000.00 | |
| 39 K | 45 | 1 | 6.11 | 3.06 | ppb | 29.89 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.30 | -3.65 | ppb | 30.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.71 | 0.35 | ppb | 1.67 | 900.00 | |
| 51 V | 45 | 2 | 1.46 | 0.73 | ppb | 1.28 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.09 | ppb | 2.29 | 900.00 | |
| 55 Mn | 45 | 2 | 0.52 | 0.26 | ppb | 1.56 | 900.00 | |
| 56 Fe | 45 | 2 | -0.32 | -0.16 | ppb | 26.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 64.06 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.02 | ppb | 38.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.01 | ppb | 44.15 | 900.00 | |
| 66 Zn | 72 | 2 | 0.53 | 0.26 | ppb | 4.28 | 900.00 | |
| 75 As | 72 | 2 | 0.39 | 0.19 | ppb | 4.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.32 | 0.16 | ppb | 58.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 9.79 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.02 | ppb | 17.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 26.24 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 90.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 9.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 27.99 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.22 | ppb | 2.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.04 | ppb | 9.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2164480 | 0.64 | 1866118 | 116.0 | 70 - 130 | |
| 45 Sc | 1 | 2814044 | 0.59 | 2660105 | 105.8 | 70 - 130 | |
| 45 Sc | 2 | 311761 | 0.39 | 293973 | 106.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\063SMPL.D\063SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 572290 | 0.42 | 561821 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 126815 | 0.39 | 124165 | 102.1 | 70 | - | 130 |
| 103 Rh | 1 | 3233857 | 0.71 | 3161327 | 102.3 | 70 | - | 130 |
| 115 In | 1 | 3609558 | 0.68 | 3455998 | 104.4 | 70 | - | 130 |
| 115 In | 2 | 1115182 | 0.44 | 1091146 | 102.2 | 70 | - | 130 |
| 159 Tb | 1 | 5063828 | 0.49 | 4795045 | 105.6 | 70 | - | 130 |
| 175 Lu | 1 | 5009418 | 0.67 | 4757919 | 105.3 | 70 | - | 130 |
| 209 Bi | 1 | 3148929 | 1.06 | 2963190 | 106.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D# | | |
| Date Acquired: | Jun 7 2013 05:11 pm | | |
| Acq. Method: | EPA6020V.M | Data Results: | |
| Operator: | METALS | Analytes: | Pass |
| Sample Name: | CRI | ISTD: | Pass |
| Misc Info: | | | |
| Vial Number: | 2507 | | |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020V.M | | |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020V.C | | |
| Last Cal. Update: | Jun 07 2013 02:14 pm | | |
| Sample Type: | Sample | | |
| Dilution Factor: | 1.00 | | |
| Autodil Factor: | Undiluted | | |
| Final Dil Factor: | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 5.30 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 10.44 | 900.00 | |
| 11 B | 6 | 1 | 4.67 | 4.67 | ppb | 1.97 | 900.00 | |
| 11 B | 45 | 2 | 5.36 | 5.36 | ppb | 1.76 | 900.00 | |
| 23 Na | 45 | 1 | 253.90 | 253.90 | ppb | 1.19 | 90000.00 | |
| 23 Na | 45 | 2 | 275.80 | 275.80 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 256.00 | 256.00 | ppb | 1.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 276.80 | 276.80 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 25.82 | 25.82 | ppb | 1.53 | 90000.00 | |
| 27 Al | 45 | 2 | 27.46 | 27.46 | ppb | 0.85 | 90000.00 | |
| 39 K | 45 | 1 | 245.40 | 245.40 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 254.10 | 254.10 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 1.07 | ppb | 4.50 | 900.00 | |
| 51 V | 45 | 2 | 1.02 | 1.02 | ppb | 0.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.89 | 0.89 | ppb | 2.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.89 | 0.89 | ppb | 3.43 | 900.00 | |
| 56 Fe | 45 | 2 | 25.39 | 25.39 | ppb | 1.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 2.24 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.98 | ppb | 2.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.92 | 0.92 | ppb | 1.19 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 3.33 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.46 | ppb | 16.78 | 900.00 | |
| 88 Sr | 103 | 1 | 5.09 | 5.09 | ppb | 1.16 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 1.02 | ppb | 0.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 1.11 | 180.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 4.42 | 900.00 | |
| 120 Sn | 115 | 1 | 4.96 | 4.96 | ppb | 1.31 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 2.46 | 900.00 | |
| 137 Ba | 159 | 1 | 0.99 | 0.99 | ppb | 1.61 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 4.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.54 | 0.54 | ppb | 1.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2002361 | 1.37 | 1866118 | 107.3 | 70 - 130 | |
| 45 Sc | 1 | 2780537 | 1.03 | 2660105 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 311765 | 0.72 | 293973 | 106.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\064SMPL.D\064SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 569401 | 1.29 | 561821 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 127550 | 0.41 | 124165 | 102.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3253937 | 1.18 | 3161327 | 102.9 | 70 | - | 130 |
| 115 | In | 1 | 3606331 | 0.32 | 3455998 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1128451 | 0.63 | 1091146 | 103.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5012260 | 0.56 | 4795045 | 104.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4922576 | 0.67 | 4757919 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 3079191 | 2.18 | 2963190 | 103.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#
Date Acquired: Jun 7 2013 05:18 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.74 | 50.74 | ppb | 1.17 | 900.00 | |
| 9 Be | 45 | 2 | 51.44 | 51.44 | ppb | 1.20 | 900.00 | |
| 11 B | 6 | 1 | 49.62 | 49.62 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 50.94 | 50.94 | ppb | 1.93 | 900.00 | |
| 23 Na | 45 | 1 | 5114.00 | 5114.00 | ppb | 0.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5093.00 | 5093.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 5081.00 | 5081.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 5160.00 | 5160.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 5050.00 | 5050.00 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 5234.00 | 5234.00 | ppb | 0.27 | 90000.00 | |
| 39 K | 45 | 1 | 5069.00 | 5069.00 | ppb | 0.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5178.00 | 5178.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.01 | 50.01 | ppb | 1.38 | 900.00 | |
| 51 V | 45 | 2 | 50.48 | 50.48 | ppb | 0.06 | 900.00 | |
| 52 Cr | 45 | 2 | 49.29 | 49.29 | ppb | 0.48 | 900.00 | |
| 55 Mn | 45 | 2 | 49.62 | 49.62 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 4966.00 | 4966.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 49.06 | 49.06 | ppb | 0.48 | 900.00 | |
| 60 Ni | 45 | 2 | 48.93 | 48.93 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 48.68 | 48.68 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 49.54 | 49.54 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 50.70 | 50.70 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 51.34 | 51.34 | ppb | 2.34 | 900.00 | |
| 88 Sr | 103 | 1 | 52.68 | 52.68 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 51.32 | 51.32 | ppb | 1.24 | 900.00 | |
| 107 Ag | 115 | 1 | 50.48 | 50.48 | ppb | 0.44 | 180.00 | |
| 111 Cd | 115 | 2 | 50.17 | 50.17 | ppb | 0.44 | 900.00 | |
| 120 Sn | 115 | 1 | 51.05 | 51.05 | ppb | 0.55 | 900.00 | |
| 121 Sb | 115 | 1 | 54.49 | 54.49 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 49.98 | 49.98 | ppb | 0.38 | 900.00 | |
| 205 Tl | 209 | 1 | 47.79 | 47.79 | ppb | 2.59 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 51.77 | 51.77 | ppb | 0.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1979639 | 0.70 | 1866118 | 106.1 | 70 - 130 | |
| 45 Sc | 1 | 2741871 | 0.65 | 2660105 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 309154 | 0.23 | 293973 | 105.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\065SMPL.D\065SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 557065 | 0.25 | 561821 | 99.2 | 70 | - | 130 |
| 72 | Ge | 2 | 126388 | 0.37 | 124165 | 101.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3135165 | 0.36 | 3161327 | 99.2 | 70 | - | 130 |
| 115 | In | 1 | 3492788 | 0.54 | 3455998 | 101.1 | 70 | - | 130 |
| 115 | In | 2 | 1098188 | 0.20 | 1091146 | 100.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4926247 | 0.54 | 4795045 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4879021 | 0.36 | 4757919 | 102.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2992222 | 0.40 | 2963190 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#
Date Acquired: Jun 7 2013 05:25 pm
Acq. Method: EPA6020V.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020V.C
Last Cal. Update: Jun 07 2013 02:14 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 18.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 169.64 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 104.20 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 548.82 | 900.00 | |
| 23 Na | 45 | 1 | 2.03 | 2.03 | ppb | 7.08 | 90000.00 | |
| 23 Na | 45 | 2 | 5.42 | 5.42 | ppb | 14.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.32 | 1.32 | ppb | 6.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.35 | 1.35 | ppb | 9.70 | 90000.00 | |
| 27 Al | 45 | 1 | 0.45 | 0.45 | ppb | 3.46 | 90000.00 | |
| 27 Al | 45 | 2 | 0.43 | 0.43 | ppb | 60.59 | 90000.00 | |
| 39 K | 45 | 1 | -0.40 | -0.40 | ppb | 95.33 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.01 | -8.01 | ppb | 3.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 4.00 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 64.97 | 900.00 | |
| 52 Cr | 45 | 2 | -0.06 | -0.06 | ppb | 4.89 | 900.00 | |
| 55 Mn | 45 | 2 | -0.12 | -0.12 | ppb | 4.70 | 900.00 | |
| 56 Fe | 45 | 2 | -1.14 | -1.14 | ppb | 7.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 165.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 239.87 | 900.00 | |
| 66 Zn | 72 | 2 | 0.04 | 0.04 | ppb | 9.33 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 33.48 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.04 | ppb | 143.10 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 28.92 | 900.00 | |
| 98 Mo | 103 | 1 | 0.12 | 0.12 | ppb | 4.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 7.31 | 180.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 45.35 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.07 | ppb | 3.15 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 32.88 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 704.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.35 | 0.35 | ppb | 3.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 8.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982927 | 0.78 | 1866118 | 106.3 | 70 - 130 | |
| 45 Sc | 1 | 2744252 | 0.53 | 2660105 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 309020 | 1.31 | 293973 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13F07j01.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 568808 | 1.09 | 561821 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 127591 | 0.94 | 124165 | 102.8 | 70 | - | 130 |
| 103 Rh | 1 | 3243323 | 0.31 | 3161327 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 3574051 | 0.59 | 3455998 | 103.4 | 70 | - | 130 |
| 115 In | 2 | 1124844 | 1.07 | 1091146 | 103.1 | 70 | - | 130 |
| 159 Tb | 1 | 4953385 | 0.27 | 4795045 | 103.3 | 70 | - | 130 |
| 175 Lu | 1 | 4918514 | 0.33 | 4757919 | 103.4 | 70 | - | 130 |
| 209 Bi | 1 | 3093644 | 0.08 | 2963190 | 104.4 | 70 | - | 130 |

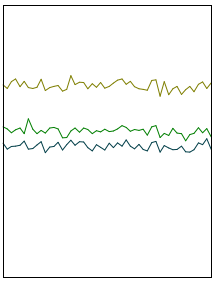
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13F07j01.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

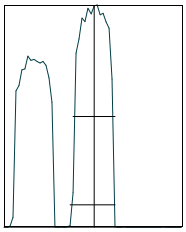
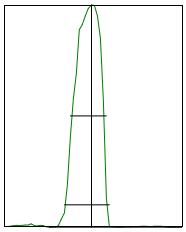
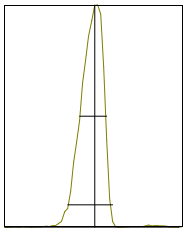
# Tune Report

Tune File : nogas.u
Comment : 060713



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2353.0 | 2411.5 | 2.75 | 1.80 |
| 89 | 10,000 | 5165.0 | 5385.3 | 2.63 | 2.50 |
| 205 | 5,000 | 3579.0 | 3525.0 | 2.31 | 5.20 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.461%
Doubly Charged: 70/140 4.299%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,428 | 5,328 | 3,801 |
| Axis: | 7.05 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.7500 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 117 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 125 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9983 |
| Torch-H | : | 0.8 mm | Omega Lens-ce | : | -0.8 V | Axis Offset | : | -0.01 |
| Torch-V | : | 0.8 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 232.0 | 7.60 | |
| QP Focus: | -8 V | 59 | 1108.6 | 3.72 | |
| Cell Exit: | -34 V | 89 | 1302.9 | 3.99 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Jun 07, 2013 08:54:50
Printed : Jun 07, 2013 08:55:40

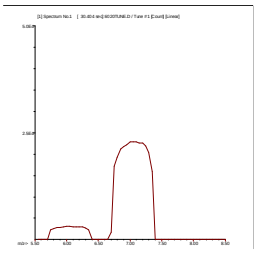
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Jun 7 2013 09:10 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

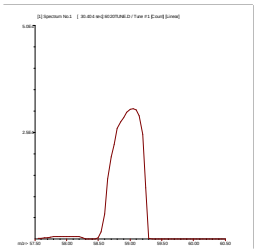
**QC Tune Summary:**
**Pass**

**RSD%**

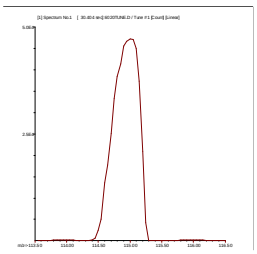
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.94 | 5.00 | 0 |
| 59 Co | 0.54 | 5.00 | |
| 115 In | 0.62 | 5.00 | |
| 205 Tl | 2.88 | 5.00 | |



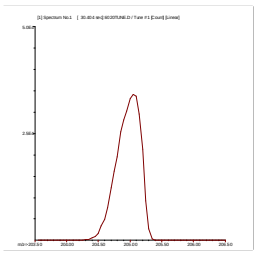
**7 Li**
**Mass Calib.**
Actual: 7.10
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.00
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

Last Calib: Jun 07, 2013 02:14 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020V.M
Multi Tune: #1 nogas.u
#2 he.u

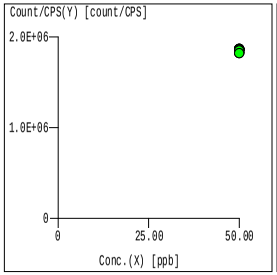
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

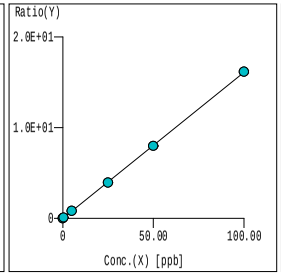
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13f07j01.b\002calb.d\002calb.d# | STDA | Jun 7 2013 09:41 am |
| 2 | c:\icpchem\1\data\13f07j01.b\003cals.d\003cals.d# | STDB | Jun 7 2013 09:48 am |
| 3 | c:\icpchem\1\data\13f07j01.b\004cals.d\004cals.d# | STDC | Jun 7 2013 09:55 am |
| 4 | c:\icpchem\1\data\13f07j01.b\005cals.d\005cals.d# | STDD | Jun 7 2013 10:02 am |
| 5 | c:\icpchem\1\data\13f07j01.b\006cals.d\006cals.d# | STDE | Jun 7 2013 10:10 am |
| 6 | c:\icpchem\1\data\13f07j01.b\007cals.d\007cals.d# | STDF | Jun 7 2013 10:18 am |
| 7 | c:\icpchem\1\data\13f07j01.b\008cals.d\008cals.d# | STDG | Jun 7 2013 10:25 am |
| 8 | c:\icpchem\1\data\13f07j01.b\009cals.d\009cals.d# | STDH | Jun 7 2013 10:32 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

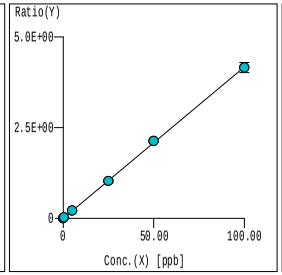
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

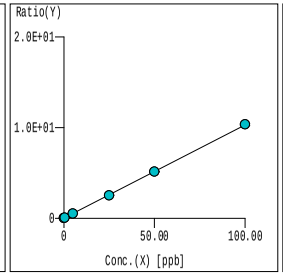
=== Graph Summary ===
Page: 1/4

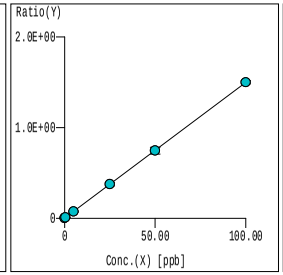
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 4.493E-03 ppb | 4.099E-02 ppb | 9.194E-02 ppb | 1.347E-01 ppb | 5.536E-01 ppb |
| < BEC > | --- ppb | 7.770E-03 ppb | 1.364E-02 ppb | 3.439E-01 ppb | 2.404E-01 ppb | 20.84 ppb |

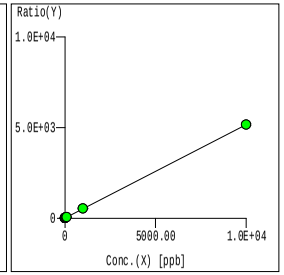




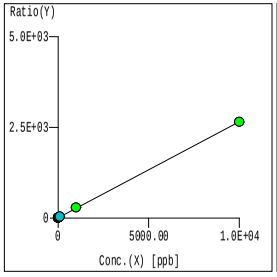


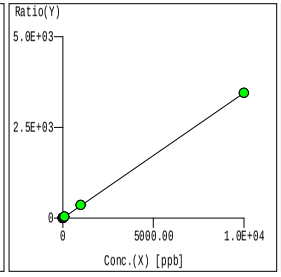


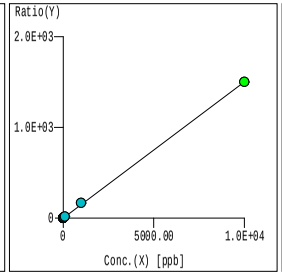


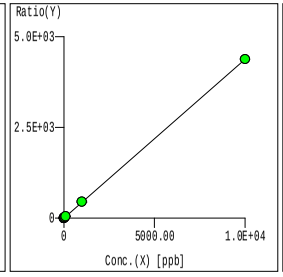


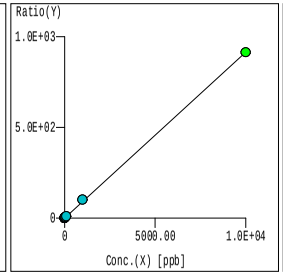

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9999 | 1.0000 |
| < DL > | 1.253E-01 ppb | 3.692E-02 ppb | 4.947E-02 ppb | 1.801E-01 ppb | 5.068E-01 ppb | 4.088 ppb |
| < BEC > | 40.28 ppb | 7.578E-01 ppb | 7.523E-01 ppb | 1.831 ppb | 1.812 ppb | 144.3 ppb |

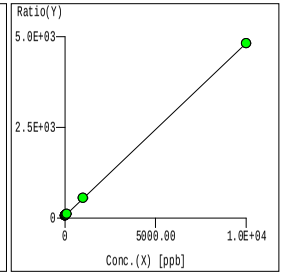








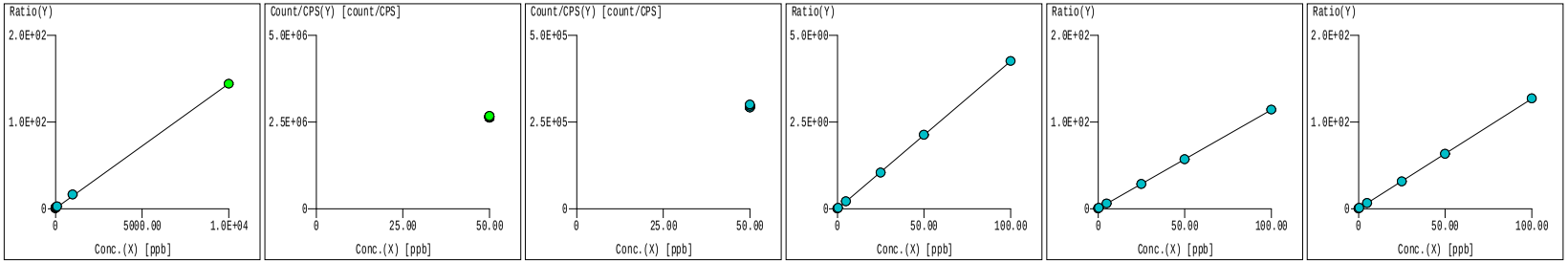




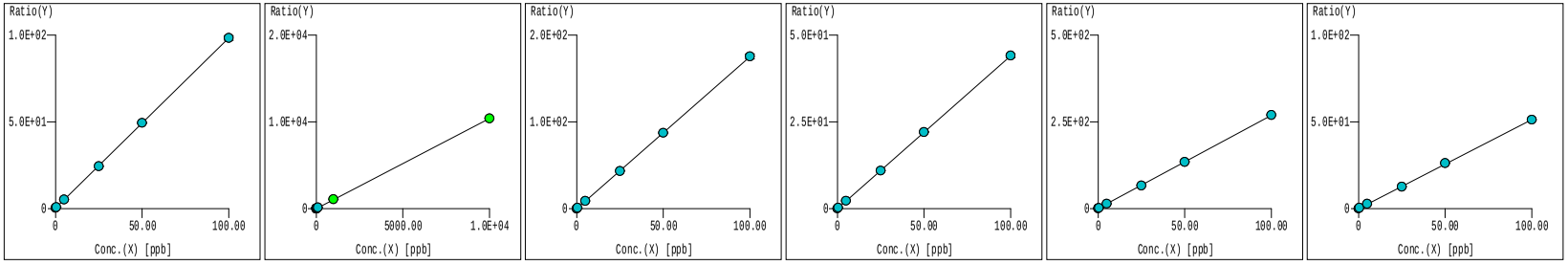
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.391 ppb | --- ppb | --- ppb | 1.443E-02 ppb | 2.372E-02 ppb | 2.366E-02 ppb |
| < BEC > | 47.47 ppb | --- ppb | --- ppb | 9.832E-02 ppb | 3.589E-01 ppb | 1.749E-01 ppb |



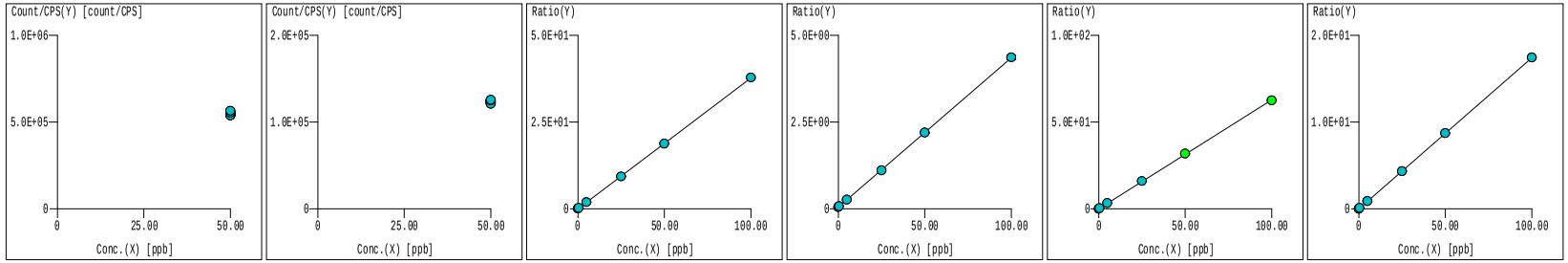

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 2.635E-02 ppb | 2.993E-02 ppb | 7.635E-03 ppb | 1.985E-02 ppb | 3.866E-02 ppb | 1.558E-02 ppb |
| < BEC > | 4.096E-01 ppb | 6.920 ppb | 1.005E-02 ppb | 7.744E-02 ppb | 2.315E-01 ppb | 1.191E-01 ppb |



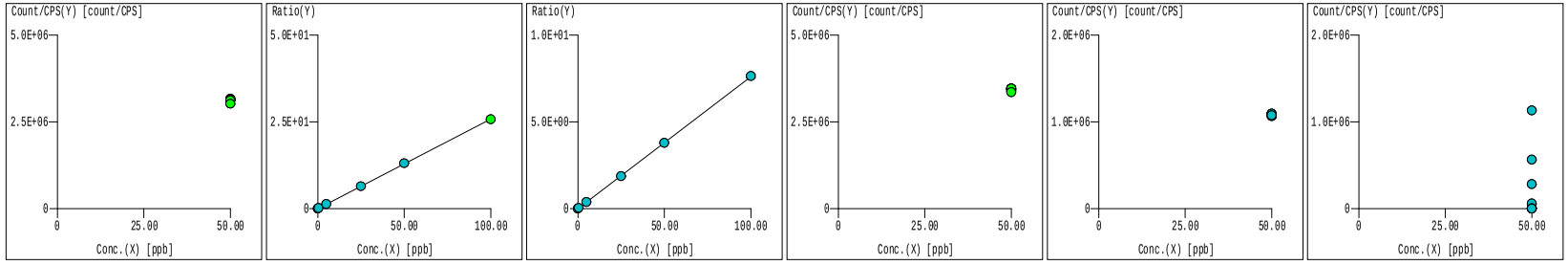
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 2.549E-02 ppb | 1.504E-01 ppb | 3.347E-03 ppb | 3.858E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.078E-01 ppb | 1.090 ppb | 1.485E-02 ppb | 1.290E-02 ppb |



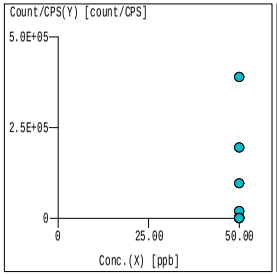

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 118 (In) |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 1.710E-03 ppb | 5.927E-05 ppb | --- ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 6.416E-03 ppb | 6.018E-03 ppb | --- ppb | --- ppb | --- ppb |

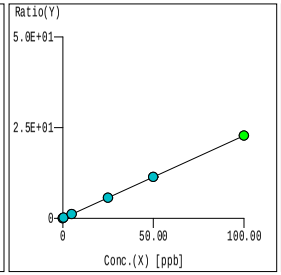


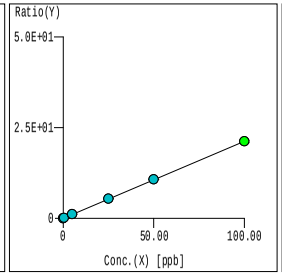
Calibration - C:\ICPCHEM\1\CALIB\EPA6020V.C

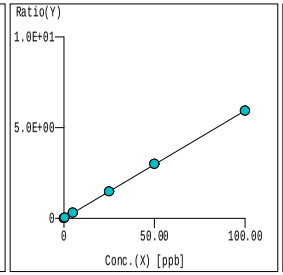
=== Graph Summary ===
Page: 4/4

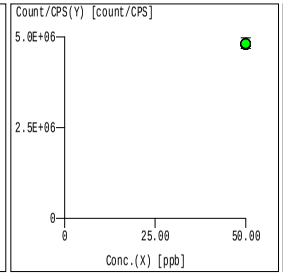
| | (2) 118 (In) | (1) 120 Sn | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 |
| < DL > | --- ppb | 5.096E-03 ppb | 5.789E-03 ppb | 1.075E-02 ppb | --- ppb | --- ppb |
| < BEC > | --- ppb | 5.229E-02 ppb | 1.201E-02 ppb | 1.056E-01 ppb | --- ppb | --- ppb |

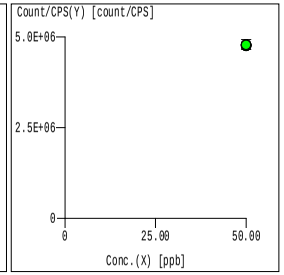


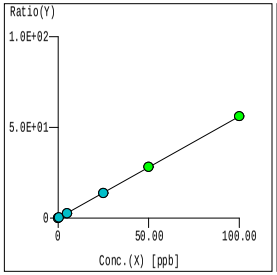



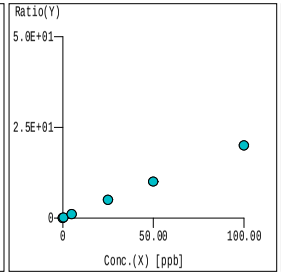



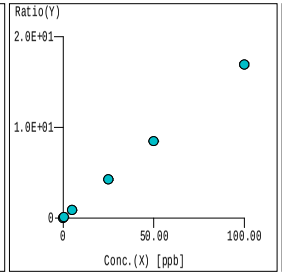



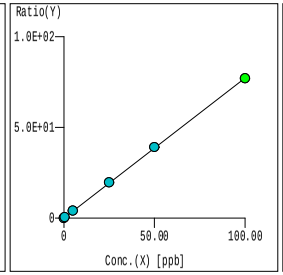



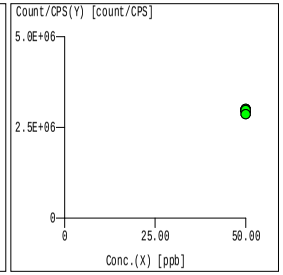

| | (1) 205 Tl | (1) 206 (Pb) | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 |
| < DL > | 3.088E-03 ppb | --- ppb | --- ppb | 6.441E-03 ppb | --- ppb |
| < BEC > | 5.081E-02 ppb | --- ppb | --- ppb | 5.281E-02 ppb | --- ppb |



ACCUTEST

| Date: | 06/03/13 |
|---|---|
| Time | 10:10 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21097 |
| QC Sample ID: | MC21202-14F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21097-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21097-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-13F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC21202-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-5F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21202-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-4F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21261-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-6F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-7F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/05/13

**(Format edits must be done by dept. Manager)**

7.5.1

7

ACCUTEST

| Date: | 06/03/13 |
|---|---|
| Time | 10:10 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21097A |
| QC Sample ID: | MC21202-14F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35779-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | 0 | Corrected Temp C | 96 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21097A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21097A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP21097A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-13F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC21202-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-5F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21202-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21202-9F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC21261-4F | 50 | 50 | | | | 3 | 5 | | |
| 2 | MC21261-5F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-6F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-7F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-8F | 50 | 50 | | | | 3 | 5 | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/04/13

**(Format edits must be done by dept. Manager)**

7.5.2

7

ACCUTEST

| Date: | 06/04/13 |
|---|---|
| Time | 8:50 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21104 |
| QC Sample ID: | MC21261-9F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35917-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21104-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21104-B1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104-S1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-11F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-12F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-13F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-9F | 50 | 50 | | | | 3 | 5 | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 06/07/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 06/04/13 |
|---|---|
| Time | 8:50 |

| | |
|---|---|
| Name: | DORINAA1 |
| MP Batch ID: | MP21104A |
| QC Sample ID: | MC21261-9F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-35883-METALS |
| Conc HNO3 | VENDOR-13543 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | ML27KK03 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-35842-METALS |
| 0.5 | RGT-35877-METALS |
| 0.5 | RGT-35917-METALS |
| 0.5 | RGT-35894-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | 0 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | NA | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21104A-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21104A-B1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104A-S1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104A-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MP21104A-S2 | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-10F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-11F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-12F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-13F | 50 | 50 | | | | 3 | 5 | | |
| 4 | MC21261-9F | 50 | 50 | | | | 3 | 5 | | |
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7.5.4 7

Protected Worksheet MMP003-02 QC Review PuiY Date: 06/07/13

(Format edits must be done by dept. Manager)

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43130 | 5.0 | 1.1 | mg/l | 250 | 259 | 103.6 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43151 | 5.0 | 0.0 | mg/l | 250 | 261 | 104.4 | 80-120% |
| Alkalinity, Total as CaCO3 | GN43183 | 5.0 | 1.1 | mg/l | 250 | 262 | 104.8 | 80-120% |
| Chloride | GN43149 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Chloride | GN43150 | 1.0 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 80-120% |
| Dissolved Organic Carbon | GN43124 | 1.0 | 0.0 | mg/l | 10 | 10.8 | 108.0 | 80-120% |
| Nitrogen, Ammonia | GP16171/GN43214 | 0.10 | 0.030 | mg/l | 0.5 | 0.43 | 86.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16141/GN43131 | 0.10 | 0.0 | mg/l | 2 | 2.01 | 100.5 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16142/GN43131 | 0.10 | 0.0 | mg/l | 2 | 1.85 | 92.5 | 90-110% |
| Nitrogen, Nitrite | GP16116/GN43015 | 0.010 | 0.0 | mg/l | 0.02 | 0.021 | 105.0 | 80-120% |
| Sulfate | GN43161 | 5.0 | 0.0 | mg/l | 20 | 20.3 | 101.5 | 80-120% |
| Sulfate | GN43207 | 5.0 | 0.0 | mg/l | 20 | 21.3 | 106.5 | 80-120% |
| Sulfide | GN43128 | 2.0 | 0.0 | mg/l | 13.4 | 11.0 | 82.1 | 80-120% |
| Sulfide | GN43129 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |

Associated Samples:
Batch GN43124: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-6F, MC21261-7F, MC21261-8F, MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F
Batch GN43128: MC21261-1
Batch GN43129: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43130: MC21261-1, MC21261-2
Batch GN43149: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7
Batch GN43150: MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43151: MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GN43161: MC21261-1
Batch GN43183: MC21261-12
Batch GN43207: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16116: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16141: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GP16142: MC21261-12
Batch GP16171: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43130 | MC21202-14 | mg/l | 88.4 | 88.4 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43151 | MC21202-7 | mg/l | 396 | 392 | 1.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN43183 | MC21261-12 | mg/l | 160 | 161 | 0.6 | 0-20% |
| Chloride | GN43149 | MC21202-14 | mg/l | 5.5 | 5.5 | 0.0 | 0-20% |
| Chloride | GN43150 | MC21261-8 | mg/l | 82.0 | 82.0 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN43124 | MC21261-1F | mg/l | 3.8 | 4.1 | 7.6 | 0-20% |
| Nitrogen, Ammonia | GP16171/GN43214 | MC21261-1 | mg/l | 5.4 | 5.4 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16141/GN43131 | MC21261-1 | mg/l | 0.18 | 0.18 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16142/GN43131 | MC21261-12 | mg/l | 0.027 U | 0.031 | 6.3 | 0-20% |
| Nitrogen, Nitrite | GP16116/GN43015 | MC21202-14 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |
| Sulfate | GN43161 | MC21202-14 | mg/l | 1.5 U | 3.4 | 2.9 | 0-20% |
| Sulfate | GN43207 | MC21261-3 | mg/l | 12.3 | 11.8 | 4.1 | 0-20% |
| Sulfide | GN43128 | MC21202-14 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN43129 | MC21261-2 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN43124: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-6F, MC21261-7F, MC21261-8F, MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F
Batch GN43128: MC21261-1
Batch GN43129: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43130: MC21261-1, MC21261-2
Batch GN43149: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7
Batch GN43150: MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43151: MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GN43161: MC21261-1
Batch GN43183: MC21261-12
Batch GN43207: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16116: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16141: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GP16142: MC21261-12
Batch GP16171: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43130 | MC21202-14 | mg/l | 88.4 | 250 | 351 | 105.0 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43151 | MC21202-7 | mg/l | 396 | 250 | 662 | 106.4 | 75-125% |
| Alkalinity, Total as CaCO3 | GN43183 | MC21261-12 | mg/l | 160 | 250 | 420 | 104.0 | 75-125% |
| Chloride | GN43149 | MC21202-14 | mg/l | 5.5 | 10 | 15.5 | 100.0 | 75-125% |
| Chloride | GN43150 | MC21261-8 | mg/l | 82.0 | 10 | 92.0 | 100.0 | 75-125% |
| Dissolved Organic Carbon | GN43124 | MC21261-1F | mg/l | 3.8 | 10 | 20.5 | 167.0(a) | 75-125% |
| Nitrogen, Ammonia | GP16171/GN43214 | MC21261-1 | mg/l | 5.4 | 0.5 | 5.8 | 80.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16141/GN43131 | MC21261-1 | mg/l | 0.18 | 2 | 1.6 | 71.0N(b) | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16142/GN43131 | MC21261-12 | mg/l | 0.027 U | 2 | 2.1 | 103.4 | 90-110% |
| Nitrogen, Nitrite | GP16116/GN43015 | MC21202-14 | mg/l | 0.0017 U | 0.02 | 0.020 | 100.0 | 75-125% |
| Sulfate | GN43161 | MC21202-14 | mg/l | 1.5 U | 20 | 24.7 | 106.0 | 75-125% |
| Sulfate | GN43207 | MC21261-3 | mg/l | 12.3 | 20 | 31.6 | 96.5 | 75-125% |
| Sulfide | GN43128 | MC21202-14 | mg/l | 0.49 U | 11.2 | 9.2 | 82.1 | 75-125% |
| Sulfide | GN43129 | MC21261-2 | mg/l | 0.49 U | 13.4 | 13.0 | 97.0 | 75-125% |

Associated Samples:
Batch GN43124: MC21261-1F, MC21261-2F, MC21261-3F, MC21261-4F, MC21261-6F, MC21261-7F, MC21261-8F, MC21261-9F, MC21261-10F, MC21261-11F, MC21261-12F
Batch GN43128: MC21261-1
Batch GN43129: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43130: MC21261-1, MC21261-2
Batch GN43149: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7
Batch GN43150: MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GN43151: MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GN43161: MC21261-1
Batch GN43183: MC21261-12
Batch GN43207: MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16116: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
Batch GP16141: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11
Batch GP16142: MC21261-12
Batch GP16171: MC21261-1, MC21261-2, MC21261-3, MC21261-4, MC21261-6, MC21261-7, MC21261-8, MC21261-9, MC21261-10, MC21261-11, MC21261-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible nonhomogeneity between sample bottles.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC060413W2.TXT  Date Analyzed: 06/04/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN43124
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:43 | GN43124-CCV1 | 1 | | |
| 15:56 | GN43124-CCB1 | 1 | | |
| 16:09 | ZZZZZZ | 1 | | |
| 16:22 | GN43124-ICV1 | 1 | | |
| 16:33 | GN43124-MB1 | 1 | | |
| 16:44 | GN43124-B1 | 1 | | |
| 16:57 | GN43124-S1 | 1 | | |
| 17:10 | GN43124-D1 | 1 | | |
| 17:23 | MC21261-1F | 1 | | |
| 17:36 | MC21261-2F | 1 | | |
| 17:49 | MC21261-3F | 1 | | |
| 18:02 | MC21261-4F | 1 | | |
| 18:15 | GN43124-CCV2 | 1 | | |
| 18:26 | GN43124-CCB2 | 1 | | |
| 18:39 | MC21261-6F | 1 | | |
| 18:53 | MC21261-7F | 1 | | |
| 19:06 | MC21261-8F | 1 | | |
| 19:18 | MC21261-9F | 1 | | |
| 19:31 | MC21261-10F | 1 | | |
| 19:44 | MC21261-11F | 1 | | |
| 19:57 | MC21261-12F | 1 | | |
| 20:10 | GN43124-CCV3 | 1 | | |
| 20:24 | GN43124-CCB3 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC060413W2.TXT  Date Analyzed: 06/04/13  Methods: SM21 5310 B
Run ID: GN43124  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43124-CCV1 | Dissolved Organic Carbon | 20.6 | 1.0 | 0.23 | 20 | 103.0 | 90-110 |
| GN43124-CCB1 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN43124-ICV1 | Dissolved Organic Carbon | 32.3 | 1.0 | 0.23 | 30 | 107.7 | 90-110 |
| GN43124-CCV2 | Dissolved Organic Carbon | 20.7 | 1.0 | 0.23 | 20 | 103.5 | 90-110 |
| GN43124-CCB2 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN43124-CCV3 | Dissolved Organic Carbon | 21.2 | 1.0 | 0.23 | 20 | 106.0 | 90-110 |
| GN43124-CCB3 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W1.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43131
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:53 | GN43131-STD1 | 1 | | STDA5.0 |
| 11:54 | GN43131-STD2 | 1 | | STDB2.0 |
| 11:56 | GN43131-STD3 | 1 | | STDC1.0 |
| 11:57 | GN43131-STD4 | 1 | | STDD0.80 |
| 11:58 | GN43131-STD5 | 1 | | STDE0.50 |
| 11:59 | GN43131-STD6 | 1 | | STDF0.30 |
| 12:01 | GN43131-STD7 | 1 | | STDG0.10 |
| 12:02 | GN43131-STD8 | 1 | | STDH0.0 |
| 12:04 | GN43131-ICV1 | 1 | | |
| 12:05 | GN43131-ICB1 | 1 | | |
| 12:07 | GN43131-CCV1 | 1 | | |
| 12:08 | GN43131-CCB1 | 1 | | |
| 12:09 | ZZZZZZ | 1 | | Column efficiency. |
| 12:10 | GP16141-MB1 | 1 | | |
| 12:12 | GP16141-B1 | 1 | | |
| 12:13 | GP16141-S1 | 1 | | |
| 12:14 | GP16141-D1 | 1 | | |
| 12:15 | MC21261-1 | 1 | | |
| 12:17 | MC21261-2 | 1 | | |
| 12:18 | MC21261-3 | 1 | | |
| 12:19 | MC21261-4 | 1 | | |
| 12:20 | MC21261-6 | 1 | | |
| 12:21 | GN43131-CCV2 | 1 | | |
| 12:23 | GN43131-CCB2 | 1 | | |
| 12:24 | ZZZZZZ | 1 | | DNR, offscale. |
| 12:25 | ZZZZZZ | 1 | | DNR, offscale. |
| 12:26 | MC21261-9 | 1 | | |
| 12:28 | MC21261-10 | 1 | | |
| 12:29 | MC21261-11 | 1 | | |
| 12:30 | GN43131-CCV3 | 1 | | |
| 12:31 | GN43131-CCB3 | 1 | | |
| 12:38 | GN43131-STD9 | 1 | | STDA5.0 |
| 12:39 | GN43131-STD10 | 1 | | STDB2.0 |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W1.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43131
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:41 | GN43131-STD11 | 1 | | STDC1.0 |
| 12:42 | GN43131-STD12 | 1 | | STDD0.80 |
| 12:43 | GN43131-STD13 | 1 | | STDE0.50 |
| 12:44 | GN43131-STD14 | 1 | | STDF0.30 |
| 12:46 | GN43131-STD15 | 1 | | STDG0.10 |
| 12:47 | GN43131-STD16 | 1 | | STDH0.0 |
| 12:49 | GN43131-ICV2 | 1 | | |
| 12:50 | GN43131-ICB2 | 1 | | |
| 12:52 | GN43131-CCV4 | 1 | | |
| 12:53 | GN43131-CCB4 | 1 | | |
| 12:54 | ZZZZZZ | 1 | | Column efficiency. |
| 12:55 | GP16142-MB1 | 1 | | |
| 12:56 | GP16142-B1 | 1 | | |
| 12:58 | GP16142-S1 | 1 | | |
| 12:59 | GP16142-D1 | 1 | | |
| 13:00 | MC21261-12 | 1 | | |
| 13:01 | ZZZZZZ | 1 | | |
| 13:03 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:05 | MC21261-7 | 5 | | |
| 13:06 | GN43131-CCV5 | 1 | | |
| 13:08 | GN43131-CCB5 | 1 | | |
| 13:09 | MC21261-8 | 5 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:13 | GN43131-CCV6 | 1 | | |
| 13:14 | GN43131-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21261
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 060413W1.NO3 Date Analyzed: 06/04/13 Methods: EPA 353.2
Run ID: GN43131 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43131-ICV1 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN43131-ICB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV1 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43131-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV2 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43131-CCB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV3 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43131-CCB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-ICV2 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN43131-ICB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43131-CCB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV5 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43131-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN43131-CCV6 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43131-CCB6 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

**Test:** Nitrogen, Nitrite
**Product:** NO2
**Method:** SM 21TH 4500 NO2 B (Aqueous) ◉ SM 21TH 4500 NO2 B M (Solids) ○ **Units:** mg/l as N mg/kg as I

**Analyst:** CRYSTALL
**GN Batch ID:** GN43015
**GP Batch ID:** GP16116
**Date:** 5/29/2013
**Instrument ID:** spectronic 543nm

**Original Calibration Information** **Calibration Date:** 5/29/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.035 | 0.069 | 0.170 | 0.338 | 0.662 | 1.318 | | | | |
| Actual Value: | -0.001 | 0.010 | 0.020 | 0.051 | 0.102 | 0.200 | 0.399 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30014-NO2 | Reagent | |
| CCV | GNSTD-30014-NO2-4 | Reagent | |
| ICV | GNSTD-30015-NO2-2 | Reagent | |
| Reagent | RGT-35673-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99998
Slope = 0.30395
Intercept = -0.00112

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21202-14 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC21202-14 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.02 | % Rec: | 100% | |
| MB Prep Date: | 05/29/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 05/29/13 | Res: | 0.021 | Spike Amt: | 0.02 | % Rec: | 105% | | | |
| SB Prep Date: | 05/29/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.102 | % Rec: | 102% | |
| CCV (1) Res: | 0.1998 | Known: | 0.20 | % Rec: | 100% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:31 | CCV | N/A | | 50 | 50 | 1 | 0.661 | 0.000 | 0.200 | 0.1998 | 0.010 |
| 18:52 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | ICV | N/A | | 50 | 50 | 1 | 0.339 | 0.000 | 0.102 | 0.1019 | 0.010 |
| 18:52 | GP16116-MB1 | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | GP16116-B1 | N/A | | 50 | 50 | 1 | 0.072 | 0.000 | 0.021 | 0.0208 | 0.010 |
| 18:52 | GP16116-S1 | 7 | 1 | 50 | 50 | 1 | 0.071 | 0.000 | 0.020 | 0.0205 | 0.010 |
| 18:52 | GP16116-D1 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 18:52 | MC21202-14 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 18:52 | MC21202-7 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:52 | MC21202-8 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:52 | MC21202-9 | 7 | 1 | 50 | 50 | 1 | 0.015 | 0.000 | 0.003 | 0.0034 | 0.010 |
| 18:52 | MC21202-10 | 6 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 18:52 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| 18:56 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 18:56 | MC21202-11 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 18:56 | MC21202-12 | 7 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 18:56 | MC21202-13 | 8 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 18:56 | MC21202-15 | 8 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:56 | MC21261-1 | 7 | 1 | 50 | 50 | 1 | 0.009 | 0.000 | 0.002 | 0.0016 | 0.010 |
| 18:56 | MC21261-2 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 18:56 | MC21261-3 | 7 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.002 | 0.0022 | 0.010 |
| 18:56 | MC21261-4 | 7 | 1 | 50 | 50 | 1 | 0.069 | 0.000 | 0.020 | 0.0199 | 0.010 |
| 18:56 | MC21261-6 | 6 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.000 | 0.0004 | 0.010 |
| 18:56 | MC21261-7 | 6 | 1 | 50 | 50 | 1 | 0.044 | 0.000 | 0.012 | 0.0123 | 0.010 |
| 18:56 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| 19:00 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | MC21261-8 | 6 | 1 | 50 | 50 | 1 | 0.046 | 0.000 | 0.013 | 0.0129 | 0.010 |
| 19:00 | MC21261-9 | 7 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | -0.0002 | 0.010 |
| 19:00 | MC21261-10 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | MC21261-11 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 19:00 | MC21261-12 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |
| 19:00 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.199 | 0.1995 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0011 | 0.010 |

CW 5-29-13

Analyst: [signature] Date: 5-29-13 QC Reviewer: [signature] Date: 5/30/13

ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MEHDIA | **Test/Analysis** | DOC SM21 5310-B |
| **Date** | 6/4/13 | **Analysis Batch ID** | GN43124 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | |
| **File ID** | TOC060413W2.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | **30067-TOC** | **1:1 Phosphoric Acid** | RGT- | 34715-TOC |
| **ICV** | GNSTD- | **30069-TOC-1** | | | |
| **CCV** | GNSTD- | **30068-TOC-1** | | | |
| **Sparger check STD** | GNSTD- | **30066-TOC-1** | | | |
| **2 M HCL** | RGT- | **35504-TOC** | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN43124-S1 | 8 | < 2 | MC21261-10F | 6 | < 2 | | | | | | |
| **GN43124-D1** | 7 | < 2 | MC21261-11F | 6 | < 2 | | | | | | |
| **MC21261-1F** | 6 | < 2 | MC21261-12F | 6 | < 2 | | | | | | |
| **MC21261-2F** | 6 | < 2 | | | | | | | | | |
| **MC21261-3F** | 6 | < 2 | | | | | | | | | |
| **MC21261-4F** | 6 | < 2 | | | | | | | | | |
| **MC21261-6F** | 6 | < 2 | | | | | | | | | |
| **MC21261-7F** | 6 | < 2 | | | | | | | | | |
| **MC21261-8F** | 6 | < 2 | | | | | | | | | |
| **MC21261-9F** | 6 | < 2 | | | | | | | | | |

**COMMENTS**

**QC Review** **Date:** 6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

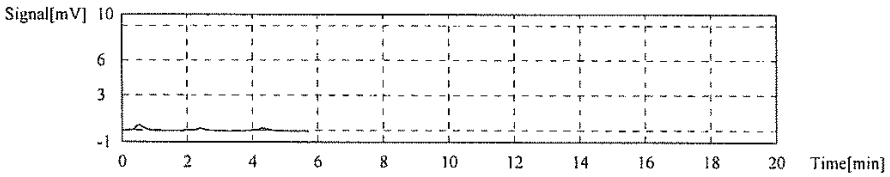
| | |
|---|---|
| Sample Name: | STD |
| Sample ID: | |
| Cal. Curve: | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal |
| Status | Completed |

| Type | Anal |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.7430 | 50uL | 1.000 | ******* | E | 6/4/2013 9:01:40 AM |
| 2 | 0.2353 | 50uL | 1.000 | ******* | | 6/4/2013 9:03:49 AM |
| 3 | 0.2771 | 50uL | 1.000 | ******* | | 6/4/2013 9:05:58 AM |

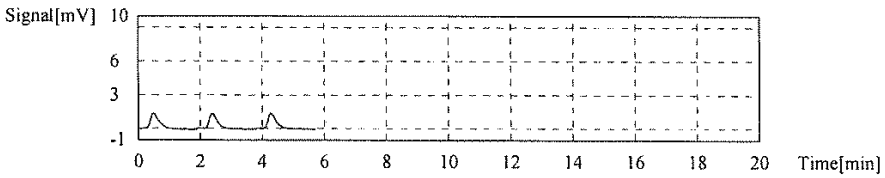
| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 0.2562 |




Conc: 1.000mg/L

| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 2.779 | 50uL | 1.000 | ******* | E | 6/4/2013 9:14:43 AM |
| 2 | 2.461 | 50uL | 1.000 | ******* | | 6/4/2013 9:16:53 AM |
| 3 | 2.542 | 50uL | 1.000 | ******* | | 6/4/2013 9:19:02 AM |

| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 2.502 |




Conc: 5.000mg/L

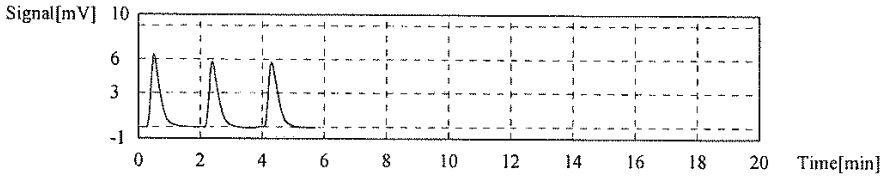
| No. | Area | Inj. Vol. | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 13.26 | 50uL | 8.000 | ******* | E | 6/4/2013 9:28:28 AM |
| 2 | 12.10 | 50uL | 8.000 | ******* | | 6/4/2013 9:30:38 AM |
| 3 | 12.29 | 50uL | 8.000 | ******* | | 6/4/2013 9:32:47 AM |

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

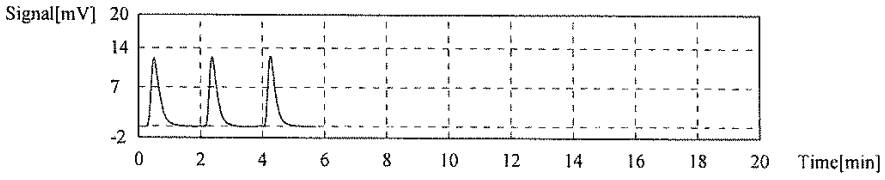
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 12.20




Conc: 10.00mg/L

| No. | Area | Inj. Vol | Acid Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 24.24 | 50uL | 4.000 | ******* | E | 6/4/2013 9:40:17 AM |
| 2 | 22.44 | 50uL | 4.000 | ******* | | 6/4/2013 9:42:26 AM |
| 3 | 22.01 | 50uL | 4.000 | ******* | | 6/4/2013 9:44:35 AM |

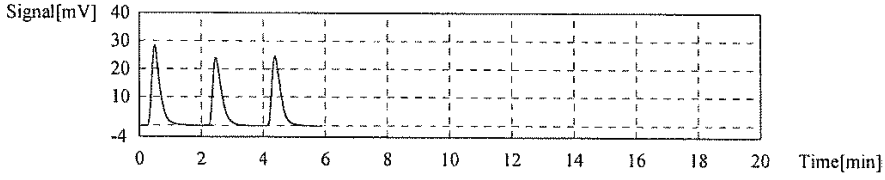
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 22.23




Conc: 20.00mg/L

| No. | Area | Inj. Vol | Acid Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 53.62 | 50uL | 2.000 | ******* | E | 6/4/2013 9:52:12 AM |
| 2 | 48.61 | 50uL | 2.000 | ******* | | 6/4/2013 9:54:18 AM |
| 3 | 49.16 | 50uL | 2.000 | ******* | | 6/4/2013 9:56:31 AM |

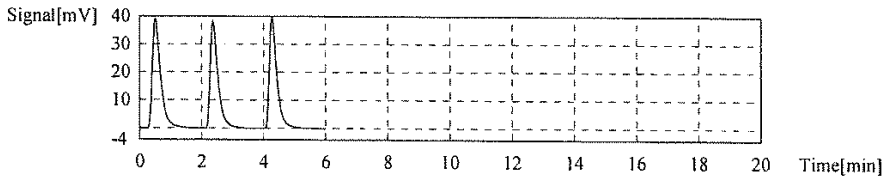
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 48.89




Conc: 30.00mg/L

| No. | Area | Inj. Vol | Acid Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 73.56 | 50uL | 1.000 | ******* | E | 6/4/2013 10:05:30 AM |
| 2 | 67.66 | 50uL | 1.000 | ******* | | 6/4/2013 10:07:40 AM |
| 3 | 68.06 | 50uL | 1.000 | ******* | | 6/4/2013 10:10:05 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 67.86




Conc: 40.00mg/L

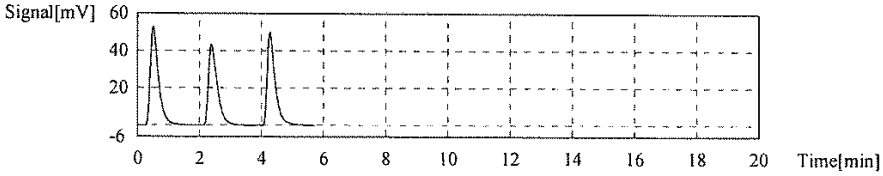
6/5/13

# TOC-Control L Report

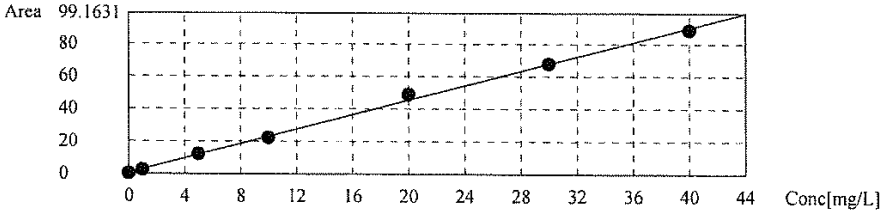
Wetchem
TOC060413W2.tlx

| No | Area | Inj. Vol | Act. Dil. | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 98.50 | 50uL | 1.000 | ******* | E | 6/4/2013 10:18:48 AM |
| 2 | 87.43 | 50uL | 1.000 | ******* | | 6/4/2013 10:20:53 AM |
| 3 | 89.88 | 50uL | 1.000 | ******* | | 6/4/2013 10:23:02 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 88.66




Slope: 2.233
Intercept 0.8471
r^2 0.9978
r 0.9989
Zero Shift No




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

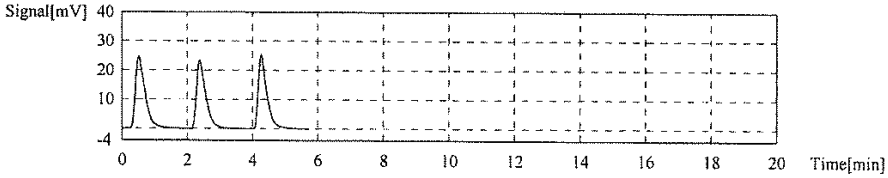
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.64mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Act. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.42 | 22.65mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:41:43 PM |
| 2 | 46.87 | 20.61mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:43:48 PM |
| 3 | 47.00 | 20.67mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:45:53 PM |

Mean Area 46.94
Mean Conc. 20.64mg/L




**Sample**

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

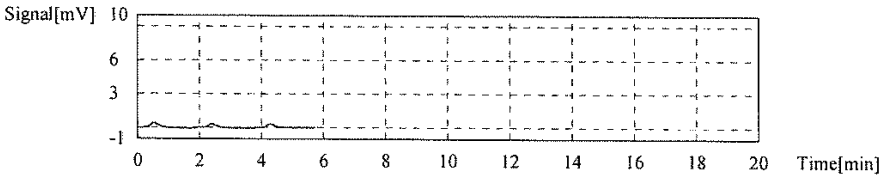
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1504mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj Vol | Aut. Dil. | EX | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.7321 | -0.05150mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:54:38 PM |
| 2 | 0.5037 | -0.1538mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:56:47 PM |
| 3 | 0.5188 | -0.1470mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 3:58:56 PM |

Mean Area 0.5112
Mean Conc. -0.1504mg/L




**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

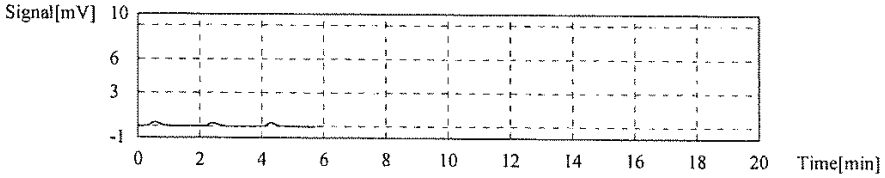
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1233mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj Vol | Aut. Dil. | EX | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.7908 | -0.02520mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:07:43 PM |
| 2 | 0.5627 | -0.1274mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:09:48 PM |
| 3 | 0.5811 | -0.1191mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:11:53 PM |

Mean Area 0.5719
Mean Conc. -0.1233mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Sample**

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

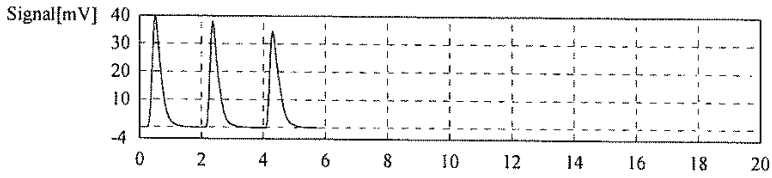
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:32.29mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 79.87 | 35.40mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:20:37 PM |
| 2 | 72.42 | 32.06mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:22:43 PM |
| 3 | 73.44 | 32.52mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:24:49 PM |

Mean Area 72.93
Mean Conc. 32.29mg/L




**Sample**

Sample Name: GN43124-MB1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

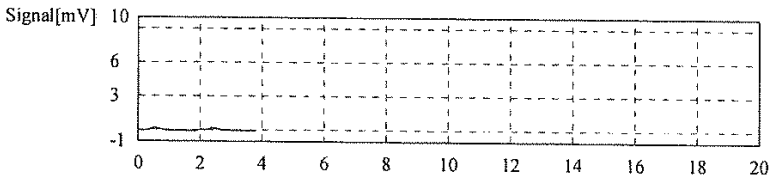
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.2152mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.4309 | -0.1864mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:33:33 PM |
| 2 | 0.3025 | -0.2439mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:35:42 PM |

Mean Area 0.3667
Mean Conc. -0.2152mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Sample**

Sample Name: GN43124-B1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

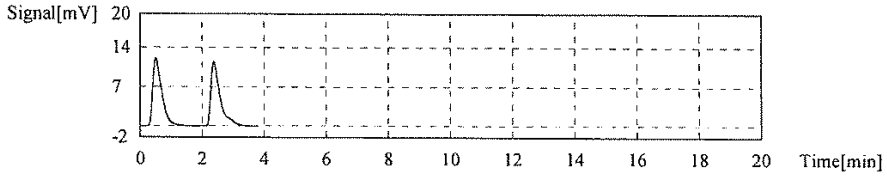
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.76mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 25.12 | 10.87mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:44:31 PM |
| 2 | 24.63 | 10.65mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:46:40 PM |

Mean Area 24.88
Mean Conc. 10.76mg/L




**Sample**

Sample Name: GN43124-S1
Sample ID: MC21261-1F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

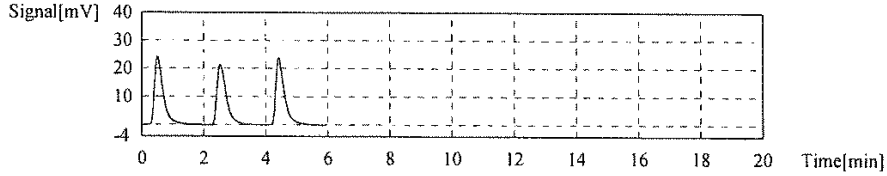
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.53mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 49.05 | 21.59mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:55:37 PM |
| 2 | 46.12 | 20.28mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:57:43 PM |
| 3 | 47.23 | 20.78mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 4:59:51 PM |

Mean Area 46.68
Mean Conc. 20.53mg/L




6/5/13



9.2 9

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Sample**

Sample Name: GN43124-D1
Sample ID: MC21261-1F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

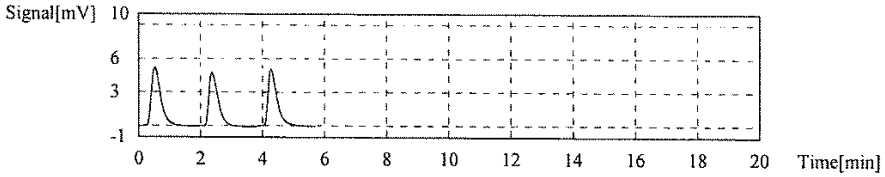
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.072mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 11.15 | 4.615mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:08:37 PM |
| 2 | 9.705 | 3.968mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:10:47 PM |
| 3 | 10.17 | 4.176mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:12:56 PM |

Mean Area 9.938
Mean Conc. 4.072mg/L




**Sample**

Sample Name: MC21261-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

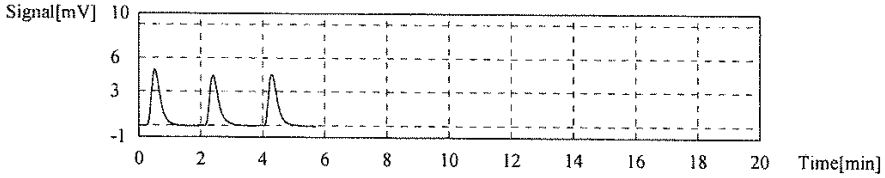
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.772mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.11 | 4.149mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:21:40 PM |
| 2 | 9.298 | 3.785mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:23:49 PM |
| 3 | 9.240 | 3.759mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:25:54 PM |

Mean Area 9.269
Mean Conc. 3.772mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Sample**

Sample Name: MC21261-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

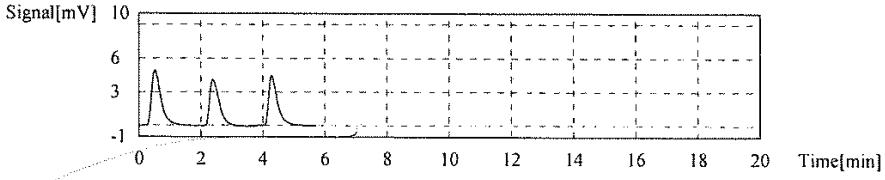
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 3.629mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.60 | 4.369mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:34:41 PM |
| 2 | 9.036 | 3.668mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:36:50 PM |
| 3 | 8.863 | 3.591mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:38:59 PM |

Mean Area 8.950
Mean Conc. 3.629mg/L




**Sample**

Sample Name: MC21261-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

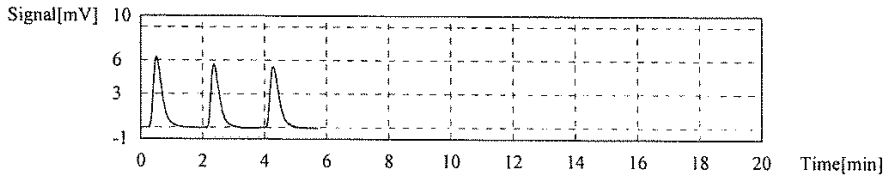
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 4.696mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 12.87 | 5.385mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:47:45 PM |
| 2 | 11.25 | 4.660mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:49:53 PM |
| 3 | 11.41 | 4.731mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 5:52:03 PM |

Mean Area 11.33
Mean Conc. 4.696mg/L




6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

**Sample**

Sample Name: MC21261-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

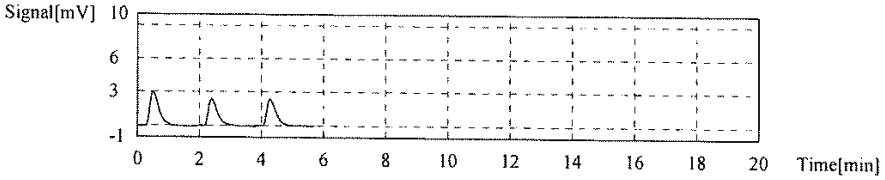
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.782mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.274 | 2.431mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:00:47 PM |
| 2 | 4.870 | 1.802mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:02:56 PM |
| 3 | 4.783 | 1.763mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:05:01 PM |

Mean Area 4.827
Mean Conc. 1.782mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.67mg/L |

1. Det

Anal.: NPOC

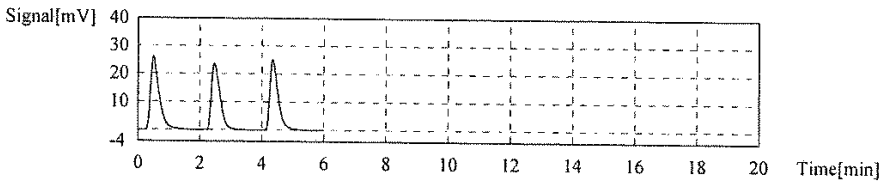
| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.61 | 22.74mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:13:50 PM |
| 2 | 46.59 | 20.49mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:15:55 PM |
| 3 | 47.38 | 20.84mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:18:05 PM |

6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

Mean Area 46.98
Mean Conc. 20.67mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

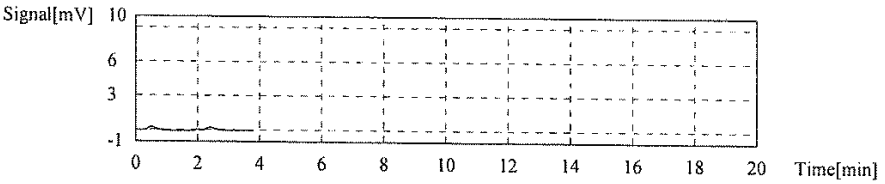
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.1819mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | EX. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5063 | -0.1526mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:26:49 PM |
| 2 | 0.3758 | -0.2111mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:28:58 PM |

Mean Area 0.4411
Mean Conc. -0.1819mg/L




**Sample**

Sample Name: MC21261-6F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.386mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | EX. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 11.21 | 4.642mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:37:47 PM |
| 2 | 10.48 | 4.315mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:39:56 PM |
| 3 | 10.80 | 4.458mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:42:07 PM |

6/5/13

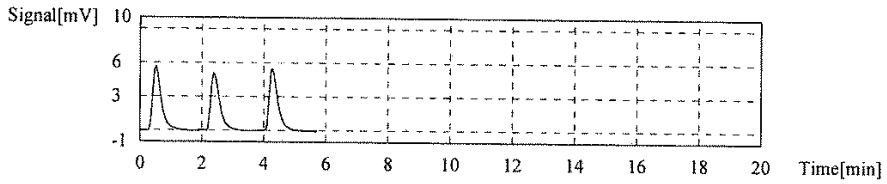


9.2 9

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

Mean Area 10.64
Mean Conc. 4.386mg/L




**Sample**

Sample Name: MC21261-7F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

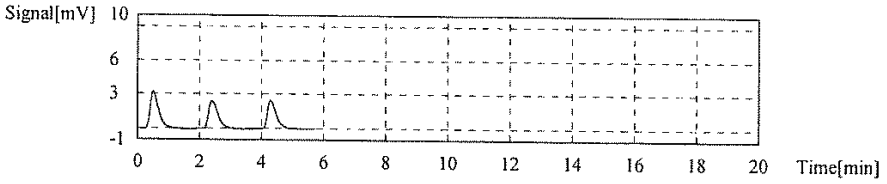
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.877mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.356 | 2.468mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:50:51 PM |
| 2 | 5.141 | 1.923mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:53:01 PM |
| 3 | 4.933 | 1.830mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 6:55:06 PM |

Mean Area 5.037
Mean Conc. 1.877mg/L




**Sample**

Sample Name: MC21261-8F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.747mg/L |

1. Det

Anal.: NPOC

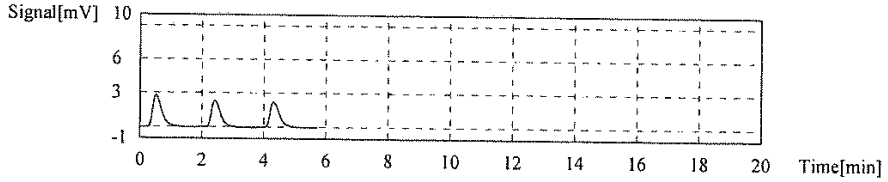
6/5/13

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.812 | 2.224mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:03:52 PM |
| 2 | 4.808 | 1.774mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:06:00 PM |
| 3 | 4.685 | 1.719mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:08:09 PM |

Mean Area 4.747
Mean Conc. 1.747mg/L




**Sample**

Sample Name: MC21261-9F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

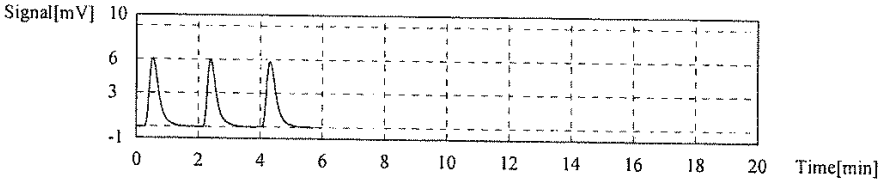
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 5.323mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 13.53 | 5.681mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:16:53 PM |
| 2 | 12.61 | 5.269mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:18:58 PM |
| 3 | 12.85 | 5.376mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:21:03 PM |

Mean Area 12.73
Mean Conc. 5.323mg/L




**Sample**

Sample Name: MC21261-10F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC 3.813mg/L |

1. Det

6/5/13



9.2 9

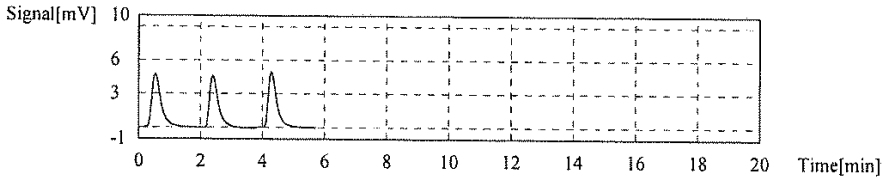
# TOC-Control L Report

Wetchem
TOC060413W2.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.850 | 4.033mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:29:49 PM |
| 2 | 9.310 | 3.791mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:31:57 PM |
| 3 | 9.408 | 3.835mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:34:02 PM |

Mean Area 9.359
Mean Conc. 3.813mg/L




**Sample**

Sample Name: MC21261-11F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

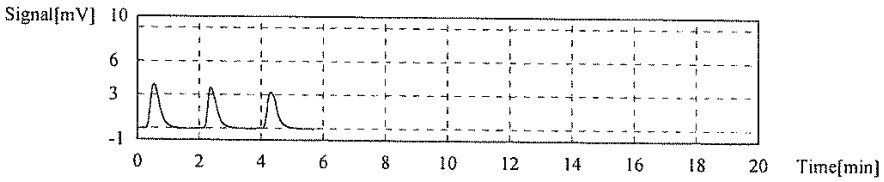
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.890mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.452 | 3.406mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:42:47 PM |
| 2 | 7.315 | 2.897mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:44:56 PM |
| 3 | 7.282 | 2.882mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:47:01 PM |

Mean Area 7.299
Mean Conc. 2.890mg/L




**Sample**

Sample Name: MC21261-12F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:33.61mg/L |

6/5/13



9.2 9

# TOC-Control L Report

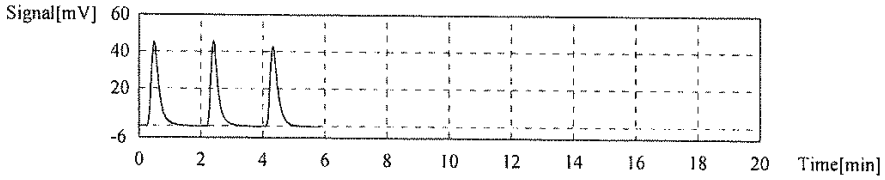
Wetchem
TOC060413W2.tlx

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 81.71 | 36.22mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:55:51 PM |
| 2 | 76.07 | 33.69mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 7:57:56 PM |
| 3 | 75.70 | 33.53mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:00:05 PM |

Mean Area 75.89
Mean Conc. 33.61mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

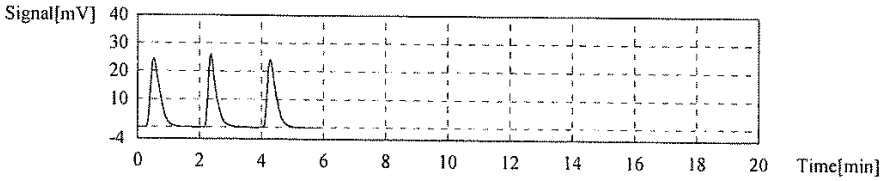
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:21.16mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Di. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 53.05 | 23.38mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:08:50 PM |
| 2 | 47.84 | 21.05mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:10:55 PM |
| 3 | 48.32 | 21.26mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:13:12 PM |

Mean Area 48.08
Mean Conc. 21.16mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

6/5/13



9.2 9

# TOC-Control L Report

Wetchem
TOC060413W2.tlx

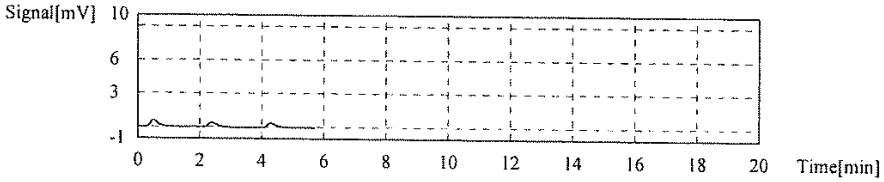
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:-0.06612mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.086 | 0.1070mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:22:00 PM |
| 2 | 0.7133 | -0.05992mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:24:09 PM |
| 3 | 0.6856 | -0.07232mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_06_04_08_53_37.cal | 6/4/2013 8:26:14 PM |

Mean Area 0.6995
Mean Conc. -0.06612mg/L




6/5/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN43128
Date: 06/04/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35928-S |
| External QC- ICV: | | GNSTD-30070-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-30071-S-1 |

Iodine Standardization

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21202-14 | Original: | <2 | MS: | 9.2 | Spk Amt | 11.2 | %REC | 82% |
| Dup Sample ID: | MC21202-14 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date | 6/4/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 06/14/13 | Result: | 11 | SPK AMT. | 13.4 | %Rec | 82.1% | | |
| External QC (ICV): | GNSTD-30070-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 13 | %REC | 97% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN43128-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN43128-B1 | 20 | 200 | 5 | 19.5 | 14.50 | 11.0 | 11.0 | 2 |
| 9 | GN43128-S1 | 20 | 240 | 19.5 | 34 | 14.50 | 9.2 | 9.2 | 2 |
| 8 | GN43128-D1 | 5 | 260 | 34 | 39 | 5.00 | 0.0 | <2 | 2 |
| 7 | MC21202-14 | 5 | 240 | 39 | 44 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-7 | 5 | 255 | 44 | 49 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-8 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-9 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-10 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-11 | 5 | 270 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-12 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-13 | 5 | 260 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21202-15 | 5 | 260 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-1 | 5 | 255 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.5 | 13.50 | 13.0 | 13.0 | 2 |

6-4-13 BI

Analyst: Date: 6-4-13 QC Reviewer: Date: 6/5/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN43129
Date: 06/04/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-13513 |
| Iodine | 0.025 | RGT-35770-SREAC |
| HCl | 6N | RGT-35928-S |
| External QC- ICV: | | GNSTD-30070-S-1 |
| Starch lot# | | VENDOR-13447 |
| Spike Lot# | | GNSTD-30071-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC21261-2 | Original: | <2 | MS: | 13 | Spk Amt | 13.4 | %REC | 97% |
| Dup Sample ID: | MC21261-2 | Original: | <2 | Duplicate: | <2 | RPD: | y | | |
| Method Blank Date | 6/4/2013 | Result: | <2 | RL: | 2 | <MDL? | y | | |
| Spk Blk Date: | 06/04/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | | |
| External QC (ICV): | GNSTD-30070-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.8 | %REC | 96% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN43129-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN43129-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 3 | GN43129-S1 | 20 | 200 | 19 | 32.5 | 13.50 | 13.0 | 13.0 | 2 |
| 3 | GN43129-D1 | 5 | 200 | 32.5 | 37.5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-2 | 5 | 260 | 37.5 | 42.5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-3 | 5 | 255 | 42.5 | 47.5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-4 | 5 | 260 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-6 | 5 | 260 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-7 | 5 | 240 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-8 | 5 | 240 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-9 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-10 | 5 | 250 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-11 | 5 | 235 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC21261-12 | 5 | 255 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.6 | 13.60 | 12.8 | 12.8 | 2 |

6-4-13 BIJ

Analyst: BIJ Date: 6-4-13 QC Reviewer: Date: 6/5/13

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43130** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 6/4/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21202-14 Original: 88.4 MS: 351 Spk Amt: 250 % Rec: 105%

Dup Sample ID: MC21202-14 Original: 88.4 Duplicate: 88.4 % RPD: 0%

MB Date: 6/4/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 259 Spike Amt: 250 % Rec: 103.6

External QC (ICV) GNSTD-28013-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 50.8 % REC: 101.6

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43130-MB1 | 100 | 4.65 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43130-B1 | 100 | 8.71 | 0.1 | 23.5 | 23.4 | | | 258.6 | 258.57 | 5 |
| 3 | GN43130-S1 | 100 | 7.35 | 23.5 | 55.3 | 31.8 | | | 351.4 | 351.39 | 5 |
| 3 | GN43130-D1 | 100 | 5.83 | 5.3 | 13.3 | 8.0 | | | 88.4 | 88.4 | 5 |
| 3 | MC21202-14 | 100 | 5.85 | 13.3 | 21.3 | 8.0 | | | 88.4 | 88.4 | 5 |
| 1 | MC21202-5 | 100 | 6.26 | 21.3 | 39.0 | 17.7 | | | 195.6 | 195.585 | 5 |
| 1 | MC21202-9 | 100 | 6.07 | 39.0 | 57.2 | 18.2 | | | 201.1 | 201.11 | 5 |
| 1 | MC21202-10 | 100 | 5.89 | 7.2 | 9.0 | 1.8 | 0.3 | 2.1 | 16.6 | 16.57 | 5 |
| 1 | MC21202-11 | 100 | 6.31 | 9.3 | 39.8 | 30.5 | | | 337.0 | 337.025 | 5 |
| 1 | MC21202-12 | 100 | 6.10 | 39.8 | 63.5 | 23.7 | | | 261.9 | 261.885 | 5 |
| 1 | MC21202-13 | 100 | 6.17 | 13.5 | 42.3 | 28.8 | | | 318.2 | 318.24 | 5 |
| 1 | MC21202-15 | 100 | 6.62 | 42.3 | 78.5 | 36.2 | | | 400.0 | 400.01 | 5 |
| 1 | MC21261-1 | 100 | 6.29 | 28.5 | 56.5 | 28.0 | | | 309.4 | 309.4 | 5 |
| 1 | MC21261-2 | 100 | 7.29 | 6.5 | 18.5 | 12.0 | | | 132.6 | 132.6 | 5 |
| | ICV | 100 | 8.55 | 18.5 | 23.1 | 4.6 | | | 50.8 | 50.83 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/5/2013 4:59:56 PM

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 6/4/13 | **Analysis Batch ID** | GN43131 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16141,GP16142 |
| **File ID** | 060413W1.NO3,060413W2.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | **30077-NO3** | **Color Reagent** | RGT- | 35565-NO3 |
| **ICV** | GNSTD- | **30078-NO3-2** | **Buffer** | RGT- | 35706-NO3 |
| **CCV** | GNSTD- | **30077-NO3-4** | | | |
| **Column EFF STD** | GNSTD- | **30079-NO3-2** | | | |
| **Ammonium Hydroxide** | VENDOR- | **12241** | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16141-S1 | 2 | 7.3 | MC21261-10 | 2 | 8.2 | | | | | | |
| **GP16141-D1** | 2 | 7.3 | MC21261-11 | 2 | 8.4 | | | | | | |
| **MC21261-1** | 2 | 7.3 | GP16142-S1 | 2 | 8.1 | | | | | | |
| **MC21261-2** | 2 | 8.7 | GP16142-D1 | 2 | 8.1 | | | | | | |
| **MC21261-3** | 2 | 8.2 | MC21261-12 | 2 | 8.1 | | | | | | |
| **MC21261-4** | 2 | 7.3 | MC21232-1 | 2 | 7.5 | | | | | | |
| **MC21261-6** | 2 | 8.3 | MC21232-2 | 2 | 7.2 | | | | | | |
| **MC21261-7** | 2 | 8.6 | MC21343-1 | 3 | 8.1 | | | | | | |
| **MC21261-8** | 2 | 8.2 | MC21409-1 | 1 | 6.0 | | | | | | |
| **MC21261-9** | 2 | 7.7 | MC21409-2 | 1 | 6.0 | | | | | | |

**COMMENTS**

**QC Review** **Date:** 6/5/13

Author: chemistry

Date : 6/4/2013

Original Run Filename: OM_6-4-2013_11-52-36AM.OMN Created: 6/4/2013 11:52:36 AM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_11-52-36AM.OMN Last Modified: 6/4/2013 12:36:57 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.09 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0153 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0145 | |
| COLEFFCONF | 1 | 2.09 | |
| GP16141-MB1 | 1 | 0.0134 | |
| GP16141-B1 | 1 | 2.01 | |
| GP16141-S1 | 1 | 1.60 | |
| GP16141-D1 | 1 | 0.177 | |
| MC21261-1 | 1 | 0.177 | |
| MC21261-2 | 1 | 0.0270 | |
| MC21261-3 | 1 | 0.0355 | |
| MC21261-4 | 1 | 0.585 | |
| MC21261-6 | 1 | 0.347 | |
| CCV | 1 | 2.19 | |
| CCB | 1 | 0.0124 | |
| MC21261-7 | 1 | 6.36 | DNR OFF SCALE |
| MC21261-8 | 1 | 6.82 | DNR OFF SCALE |
| MC21261-9 | 1 | 0.0321 | |
| MC21261-10 | 1 | 0.0145 | |
| MC21261-11 | 1 | 0.0139 | |
| CCV | 1 | 2.20 | |
| CCB | 1 | 0.0141 | |
| ICV | 1 | 3.38 | DNR ICV FAILS |
| ICB | 1 | 0.0185 | |

Table : 1 (NO3)

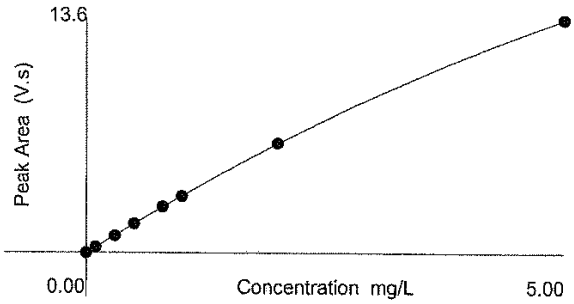
| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 13.6 | 1.24 | 0.0 | 0.0 | 5.00 | 6/4/2013 | 11:53:32 AM |
| 2 | 2.00 | 1 | 6.38 | 0.647 | 0.0 | -0.2 | 2.02 | 6/4/2013 | 11:54:48 AM |
| 3 | 1.00 | 1 | 3.30 | 0.341 | 0.0 | 0.8 | 0.982 | 6/4/2013 | 11:56:03 AM |
| 4 | 0.800 | 1 | 2.69 | 0.278 | 0.0 | -0.4 | 0.793 | 6/4/2013 | 11:57:18 AM |
| 5 | 0.500 | 1 | 1.69 | 0.177 | 0.0 | -0.4 | 0.494 | 6/4/2013 | 11:58:34 AM |
| 6 | 0.300 | 1 | 0.979 | 0.101 | 0.0 | 3.0 | 0.289 | 6/4/2013 | 11:59:49 AM |
| 7 | 0.100 | 1 | 0.325 | 0.0332 | 0.0 | -1.9 | 0.107 | 6/4/2013 | 12:01:05 PM |
| 8 | 0.00 | 1 | -0.0122 | -1.86e-3 | | | 0.0160 | 6/4/2013 | 12:02:20 PM |

6/5/13

Author: chemistry

Date : 6/4/2013

Figure : 1 (NO3)




Area = - 0.157 * Conc^2 + 3.51 * Conc - 0.0306
Conc = 7.19e-3 * Area^2 + 0.268 * Area + 0.0193
Correlation Coefficient (r) = 0.99999

Weighting : None

6/5/13

Author: chemistry

Date : 6/4/2013

Original Run Filename: OM_6-4-2013_12-37-36PM.OMN Created: 6/4/2013 12:37:36 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_6-4-2013_12-37-36PM.OMN Last Modified: 6/4/2013 1:15:45 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 3.03 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0147 | |
| CCV | 1 | 2.06 | |
| CCB | 1 | 0.0136 | |
| COLEFFCONF | 1 | 2.10 | |
| GP16142-MB1 | 1 | 0.0146 | |
| GP16142-B1 | 1 | 1.85 | |
| GP16142-S1 | 1 | 2.07 | |
| GP16142-D1 | 1 | 0.0311 | |
| MC21261-12 | 1 | 0.0325 | |
| MC21232-1 | 1 | 0.782 | |
| MC21232-2 | 1 | 1.30 | |
| MC21343-1 | 1 | 0.0998 | |
| MC21261-7 | 1 | 1.30 | 5.00 |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0249 | |
| MC21261-8 | 1 | 1.38 | 5.00 |
| MC21409-1 | 1 | 0.117 | |
| MC21409-2 | 1 | 0.0477 | |
| CCV | 1 | 2.11 | |
| CCB | 1 | 0.0173 | |

Table : 1 (NO3)

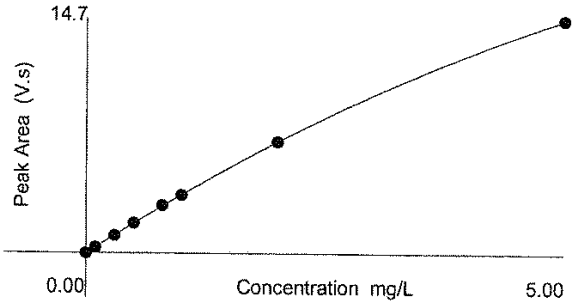
| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 14.7 | 1.29 | 0.0 | -2.2e-3 | 5.00 | 6/4/2013 | 12:38:32 PM |
| 2 | 2.00 | 1 | 7.05 | 0.696 | 0.0 | 0.0 | 2.02 | 6/4/2013 | 12:39:47 PM |
| 3 | 1.00 | 1 | 3.68 | 0.369 | 0.0 | 0.9 | 0.978 | 6/4/2013 | 12:41:02 PM |
| 4 | 0.800 | 1 | 3.04 | 0.309 | 0.0 | -1.5 | 0.799 | 6/4/2013 | 12:42:17 PM |
| 5 | 0.500 | 1 | 1.91 | 0.193 | 0.0 | -0.4 | 0.491 | 6/4/2013 | 12:43:33 PM |
| 6 | 0.300 | 1 | 1.12 | 0.113 | 0.0 | 2.1 | 0.290 | 6/4/2013 | 12:44:48 PM |
| 7 | 0.100 | 1 | 0.373 | 0.0372 | 0.0 | 0.3 | 0.107 | 6/4/2013 | 12:46:03 PM |
| 8 | 0.00 | 1 | -0.0119 | -2.20e-3 | | | 0.0154 | 6/4/2013 | 12:47:19 PM |

6/5/13

Author: chemistry

Date : 6/4/2013

Figure : 1 (NO3)




Area = - 0.195 * Conc^2 + 3.93 * Conc - 0.0170
Conc = 6.96e-3 * Area^2 + 0.235 * Area + 0.0182
Correlation Coefficient (r) = 0.99999

Weighting : None

6/5/13

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN43149** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 6/5/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN43149-MB1 | Date: | 6/5/2013 | Res: | <1 | RL: | 1 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN43149-B1 | Date: | 6/5/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC21202-14 | Smpl Res:: | 5.5 | Dup Res: | 5.5 | % RPD: | 0% | | | | |
| MS ID: | MC21202-14 | Smpl Res: | 5.5 | MS Res: | 10 | Spike: | 10 | % Rec: | 45% | | |
| External: | GNSTD-29135-CHL | | | Result: | 5 | Known: | 5 | % Rec: | 100% | | |
| ml of Blank (A): | 0.1 | Mercuric Nitrate Normality: | | 0.0141 | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43149-MB1 | 2.54 | 50.0 | 1 | 0.0 | 0.1000 | 0.1000 | 0.000 | 0.0 | 0 | 1 |
| | GN43149-B1 | 2.54 | 50.0 | 1 | 0.0 | 1.1250 | 1.1250 | 1.025 | 10.3 | 10.25 | 1 |
| 1 | GN43149-S1 | 2.52 | 50.0 | 1 | 0.0 | 1.6500 | 1.6500 | 1.550 | 15.5 | 15.5 | 1 |
| 1 | GN43149-D1 | 2.52 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.550 | 5.5 | 5.5 | 1 |
| 1 | MC21202-14 | 2.52 | 50.0 | 1 | 0.0 | 0.6500 | 0.6500 | 0.550 | 5.5 | 5.5 | 1 |
| 1 | MC21202-1 | 2.47 | 50.0 | 10 | 0.0 | 8.8000 | 8.8000 | 8.700 | 87.0 | 869.7 | 10 |
| 1 | MC21202-2 | 2.46 | 50.0 | 10 | 0.0 | 8.8000 | 8.8000 | 8.700 | 87.0 | 869.7 | 10 |
| 1 | MC21202-3 | 2.56 | 50.0 | 1 | 0.0 | 0.2000 | 0.2000 | 0.100 | 1.0 | 1 | 1 |
| 1 | MC21202-4 | 2.58 | 50.0 | 1 | 0.0 | 5.2000 | 5.2000 | 5.100 | 51.0 | 50.98 | 1 |
| 1 | MC21202-5 | 2.54 | 50.0 | 1 | 0.0 | 0.8500 | 0.8500 | 0.750 | 7.5 | 7.5 | 1 |
| 1 | MC21202-7 | 2.53 | 50.0 | 1 | 0.0 | 2.1500 | 2.1500 | 2.050 | 20.5 | 20.49 | 1 |
| 1 | MC21202-8 | 2.43 | 50.0 | 1 | 0.0 | 0.7000 | 0.7000 | 0.600 | 6.0 | 6 | 1 |
| 1 | MC21202-9 | 2.51 | 50.0 | 1 | 0.0 | 3.9000 | 3.9000 | 3.800 | 38.0 | 37.99 | 1 |
| 1 | MC21202-10 | 2.45 | 50.0 | 1 | 0.0 | 2.9500 | 2.9500 | 2.850 | 28.5 | 28.49 | 1 |
| 1 | MC21202-11 | 2.52 | 50.0 | 1 | 0.0 | 2.2500 | 2.2500 | 2.150 | 21.5 | 21.49 | 1 |
| 1 | MC21202-12 | 2.5 | 50.0 | 1 | 0.0 | 2.1000 | 2.1000 | 2.000 | 20.0 | 19.99 | 1 |
| 1 | MC21202-13 | 2.5 | 50.0 | 1 | 0.0 | 2.5000 | 2.5000 | 2.400 | 24.0 | 23.99 | 1 |
| 1 | MC21202-15 | 2.52 | 50.0 | 1 | 0.0 | 2.0500 | 2.0500 | 1.950 | 19.5 | 19.49 | 1 |
| 1 | MC21261-1 | 2.54 | 50.0 | 1 | 0.0 | 2.2000 | 2.2000 | 2.100 | 21.0 | 20.99 | 1 |
| 1 | MC21261-2 | 2.43 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.000 | 10.0 | 10 | 1 |
| 1 | MC21261-3 | 2.53 | 50.0 | 1 | 0.0 | 3.8000 | 3.8000 | 3.700 | 37.0 | 36.99 | 1 |
| 1 | MC21261-4 | 2.42 | 50.0 | 10 | 0.0 | 2.1000 | 2.1000 | 2.000 | 20.0 | 199.9 | 10 |
| 1 | MC21261-6 | 2.51 | 50.0 | 1 | 0.0 | 4.0000 | 4.0000 | 3.900 | 39.0 | 38.99 | 1 |
| 1 | MC21261-7 | 2.51 | 50.0 | 1 | 0.0 | 8.4000 | 8.4000 | 8.300 | 83.0 | 82.97 | 1 |
| | ICV | 2.54 | 50.0 | 1 | 0.0 | 0.6000 | 0.6000 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13478 | #4 | | |
| #2 | Acidic Indicator | RGT-35908-CHL | #5 | | |
| #3 | Spike | GNSTD-29478 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-13475, Result (2.04)

**Approved By:** mehdia **Date:** 6/5/2013 5:05:15 PM

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN43150** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 6/5/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN43150-MB1 | Date: | 6/5/2013 | Res: | <1 | RL: | 1 | < RL: | y | Units: | mg/l |
| Spike blank ID: | GN43150-B1 | Date: | 6/5/2013 | Res: | 10 | Spike: | 10 | % Rec: | 100% | | |
| Duplicate ID: | MC21261-8 | Smpl Res:: | 82 | Dup Res: | 82 | % RPD: | 0% | | | | |
| MS ID: | MC21261-8 | Smpl Res: | 82 | MS Res: | 92 | Spike: | 10 | % Rec: | 100% | | |
| External: | GNSTD-29135-CHL | | | Result: | 5 | Known: | 5 | % Rec: | 100% | | |
| ml of Blank (A): | 0.1 | Mercuric Nitrate Normality: | | 0.0141 | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43150-MB1 | 2.54 | 50.0 | 1 | 0.0 | 0.1000 | 0.1000 | 0.000 | 0.0 | 0 | 1 |
| | GN43150-B1 | 2.54 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.000 | 10.0 | 10 | 1 |
| 1 | GN43150-S1 | 2.51 | 50.0 | 1 | 0.0 | 9.3000 | 9.3000 | 9.200 | 92.0 | 91.97 | 1 |
| 1 | GN43150-D1 | 2.51 | 50.0 | 1 | 0.0 | 8.3000 | 8.3000 | 8.200 | 82.0 | 81.97 | 1 |
| 1 | MC21261-8 | 2.51 | 50.0 | 1 | 0.0 | 8.3000 | 8.3000 | 8.200 | 82.0 | 81.97 | 1 |
| 1 | MC21232-1 | 2.51 | 50.0 | 1 | 0.0 | 4.4000 | 4.4000 | 4.300 | 43.0 | 42.99 | 1 |
| 1 | MC21232-2 | 2.47 | 50.0 | 10 | 0.0 | 1.7000 | 1.7000 | 1.600 | 16.0 | 160 | 10 |
| 1 | MC21261-9 | 2.54 | 50.0 | 1 | 0.0 | 0.5000 | 0.5000 | 0.400 | 4.0 | 4 | 1 |
| 1 | MC21261-10 | 2.46 | 50.0 | 1 | 0.0 | 6.2500 | 6.2500 | 6.150 | 61.5 | 61.48 | 1 |
| 1 | MC21261-11 | 2.54 | 50.0 | 1 | 0.0 | 1.9500 | 1.9500 | 1.850 | 18.5 | 18.49 | 1 |
| 1 | MC21261-12 | 2.56 | 50.0 | 1 | 0.0 | 1.0500 | 1.0500 | 0.950 | 9.5 | 9.5 | 1 |
| 1 | MC21373-1 | 2.44 | 50.0 | 10 | 0.0 | 1.5500 | 1.5500 | 1.450 | 14.5 | 145 | 10 |
| 1 | MC21373-2 | 2.5 | 50.0 | 10 | 0.0 | 2.3000 | 2.3000 | 2.200 | 22.0 | 219.9 | 10 |
| 1 | MC21373-3 | 2.4 | 50.0 | 10 | 0.0 | 1.1500 | 1.1500 | 1.050 | 10.5 | 105 | 10 |
| 1 | MC21373-4 | 2.46 | 50.0 | 1 | 0.0 | 4.5000 | 4.5000 | 4.400 | 44.0 | 43.99 | 1 |
| 1 | MC21373-5 | 2.47 | 50.0 | 1 | 0.0 | 2.6000 | 2.6000 | 2.500 | 25.0 | 24.99 | 1 |
| 1 | MC21424-1 | 2.51 | 50.0 | 10 | 0.0 | 5.5000 | 5.5000 | 5.400 | 54.0 | 539.8 | 10 |
| 1 | MC21424-2 | 2.43 | 50.0 | 10 | 0.0 | 6.0000 | 6.0000 | 5.900 | 59.0 | 589.8 | 10 |
| | ICV | 2.54 | 50.0 | 1 | 0.0 | 0.6000 | 0.6000 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13478 | #4 | | |
| #2 | Acidic Indicator | RGT-35908 | #5 | | |
| #3 | Spike | GNSTD-29478-CHL | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-13475, Result (2.04)

**Approved By:** mehdia **Date:** 6/5/2013 5:05:35 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43151** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 6/5/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC20202-7 Original: 396 MS: 662 Spk Amt: 250 % Rec: 106%

Dup Sample ID: MC20202-7 Original: 396 Duplicate: 393 % RPD: 1%

MB Date: 6/5/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 261 Spike Amt: 250 % Rec: 104.4

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 53.0 % REC: 106.0

Sulfuric Normality: 0.0221 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43151-MB1 | 100 | 4.83 | 0.0 | 0.1 | 0.1 | | | 0.6 | <5 | 5 |
| | GN43151-B1 | 100 | 8.99 | 0.1 | 23.7 | 23.6 | | | 261.3 | 261.3325 | 5 |
| 1 | GN43151-S1 | 100 | 7.05 | 0.0 | 59.9 | 59.9 | | | 661.9 | 661.895 | 5 |
| 1 | GN43151-D1 | 100 | 6.47 | 9.9 | 45.4 | 35.5 | | | 392.3 | 392.275 | 5 |
| 1 | MC21202-7 | 100 | 6.48 | 0.0 | 35.8 | 35.8 | | | 395.6 | 395.59 | 5 |
| 1 | MC21202-8 | 100 | 6.42 | 0.0 | 2.0 | 2.0 | | | 22.1 | 22.1 | 5 |
| 1 | MC21261-3 | 100 | 6.95 | 2.0 | 40.3 | 38.3 | | | 423.2 | 423.215 | 5 |
| 1 | MC21261-4 | 100 | 5.89 | 0.0 | 3.6 | 3.6 | | | 39.8 | 39.78 | 5 |
| 1 | MC21261-6 | 100 | 6.50 | 3.6 | 37.3 | 33.7 | | | 372.4 | 372.385 | 5 |
| 1 | MC21261-7 | 100 | 6.12 | 37.3 | 46.3 | 9.0 | | | 99.5 | 99.45 | 5 |
| 1 | MC21261-8 | 100 | 6.14 | 0.0 | 8.5 | 8.5 | | | 93.9 | 93.925 | 5 |
| 1 | MC21261-9 | 100 | 6.58 | 8.5 | 15.1 | 6.6 | | | 72.9 | 72.93 | 5 |
| 1 | MC21261-10 | 100 | 6.56 | 0.0 | 40.2 | 40.2 | | | 444.2 | 444.21 | 5 |
| 1 | MC21261-11 | 100 | 6.78 | 0.0 | 31.0 | 31.0 | | | 342.6 | 342.55 | 5 |
| | ICV | 100 | 8.75 | 0.0 | 4.8 | 4.8 | | | 53.0 | 53.04 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/5/2013 5:03:51 PM

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils)○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: MIRANDAC
GN Batch ID: GN43161
GP Batch ID:
Date: 6/6/2013

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 10.000 | 10.400 | 10.800 | 10.900 | 11.000 | 11.100 | 11.300 | 11.300 | 11.3 |
| 10.0 | 23.200 | 23.200 | 23.300 | 23.300 | 23.200 | 23.200 | 23.100 | 23.000 | 23.3 |
| 20.0 | 52.200 | 52.200 | 51.700 | 51.500 | 51.300 | 51.100 | 51.000 | 50.800 | 52.2 |
| 30.0 | 76.800 | 76.300 | 76.000 | 75.700 | 75.500 | 75.400 | 75.200 | 74.800 | 76.8 |
| 40.0 | 97.100 | 96.500 | 96.000 | 95.800 | 95.700 | 95.500 | 95.300 | 94.900 | 97.10 |

Instrument ID : TURBIDITY I

Correlation Coeff. = 0.99863
Slope = 0.40019
Intercept = 0.11184

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30108-SO4 | Reagent | |
| CCV | GNSTD-30109-SO4 | Reagent | |
| ICV | GNSTD-30110-SO4 | Reagent | |
| Reagent | RGT-35948-SO4 | Reagent | |
| Reagent | VENDOR-12895 | Filter Paper | #063-0850 |

## QC Section

Dup Sample ID: MC21202-14 Original Res. 3.50 Duplicate Res. 3.40 %RPD: 2.9%
MS Sample ID: MC21202-14 Original Res. 3.50 Spike Amount: 20 MS Res.: 24.70 %REC: 106%
SB Prep Date: 06/06/13 Result: 20.30 Spike Amount: 20 %REC: 102%
MB Prep Date: 06/06/13 Result: <5.0 RL 5.0 <RL? Y
ICV: GNSTD-30110-SO4 Known 25 Range 90-110% Res.: 26.0 %REC: 104%
CCV (1) Res. 20.3 Known: 20 %REC.: 101.5% CCV (2) Res. 20.2 Known: 20 %REC: 101.0%
CCV (3) Res. Known: %REC.: CCV (4) Res. Known: %REC:

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 64.8 | 64.3 | 64 | 63.7 | 63.4 | 63.1 | 62.8 | 62.6 | 64.80 | 0.000 | 26.044 | 26.044 | 5.000 | mg/l |
| | GN43161-MB1 | | 100 | 100 | 1 | 0.3 | 0.3 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.30 | 0.000 | 0.232 | 0.232 | 5.000 | mg/l |
| | GN43161-B1 | | 100 | 100 | 1 | 50.4 | 50 | 49.9 | 49.7 | 49.5 | 49.3 | 49.1 | 49 | 50.40 | 0.000 | 20.281 | 20.281 | 5.000 | mg/l |
| 1 | GN43161-D1 | | 100 | 100 | 1 | 5.2 | 6.1 | 7 | 7.5 | 7.8 | 8 | 8.2 | 8.3 | 8.30 | 0.000 | 3.433 | 3.433 | 5.000 | mg/l |
| 1 | GN43161-S1 | | 100 | 100 | 1 | 61.4 | 61.4 | 61.4 | 61.4 | 61.4 | 61.3 | 61.3 | 61.3 | 61.40 | 0.000 | 24.683 | 24.683 | 5.000 | mg/l |
| 1 | MC21202-14 | | 100 | 100 | 1 | 4.7 | 6 | 6.9 | 7.3 | 7.7 | 8.1 | 8.2 | 8.4 | 8.40 | 0.000 | 3.473 | 3.473 | 5.000 | mg/l |
| 1 | MC21234-6 | | 100 | 100 | 1 | 43.8 | 43.5 | 43.3 | 43 | 42.8 | 42.6 | 42.4 | 42.2 | 43.80 | 0.000 | 17.640 | 17.640 | 5.000 | mg/l |
| 1 | MC21202-12 | | 100 | 100 | 1 | 16.3 | 16.6 | 16.5 | 16.2 | 16.2 | 16.1 | 15.9 | 15.8 | 16.60 | 0.000 | 6.755 | 6.755 | 5.000 | mg/l |
| 1 | MC21202-13 | | 100 | 100 | 1 | 1.6 | 3.2 | 3.6 | 3.7 | 3.8 | 4.2 | 4.4 | 4.7 | 4.70 | 0.000 | 1.993 | 1.993 | 5.000 | mg/l |
| 1 | MC21202-15 | | 100 | 100 | 1 | 13.6 | 13.5 | 13.6 | 13.8 | 14.1 | 14 | 14 | 14.1 | 14.10 | 0.000 | 5.754 | 5.754 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50.4 | 50.2 | 50 | 49.8 | 49.6 | 49.5 | 49.4 | 49.2 | 50.40 | 0.000 | 20.281 | 20.281 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.5 | 0.5 | 0.3 | 0.5 | 0.4 | 0.4 | 0.5 | 0.3 | 0.50 | 0.000 | 0.312 | 0.312 | 5.000 | mg/l |
| 1 | MC21434-1 | | 100 | 100 | 1 | 44.7 | 44.6 | 44.7 | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 | 44.80 | 0.000 | 18.040 | 18.040 | 5.000 | mg/l |
| 1 | MC21434-2 | | 100 | 100 | 1 | 31.7 | 31.7 | 31.7 | 31.7 | 31.6 | 31.5 | 31.4 | 31.4 | 31.70 | 0.000 | 12.798 | 12.798 | 5.000 | mg/l |
| 1 | MC21434-3 | | 100 | 100 | 1 | 32.8 | 32.8 | 32.8 | 32.8 | 32.7 | 32.7 | 32.6 | 32.5 | 32.80 | 0.000 | 13.238 | 13.238 | 5.000 | mg/l |
| 1 | MC21434-4 | | 100 | 100 | 1 | 56.3 | 56.1 | 55.7 | 55.3 | 55 | 54.7 | 54.2 | 54 | 56.30 | 0.000 | 22.642 | 22.642 | 5.000 | mg/l |
| 1 | MC21261-1 | | 100 | 100 | 1 | 11.5 | 11.3 | 11.3 | 11 | 10.7 | 10.6 | 10.1 | 9.9 | 11.50 | 0.000 | 4.714 | 4.714 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 50.3 | 50.2 | 49.9 | 49.7 | 49.4 | 49.3 | 49.2 | 49.1 | 50.30 | 0.000 | 20.241 | 20.241 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.4 | 0.6 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.60 | 0.000 | 0.352 | 0.352 | 5.000 | mg/l |

Main wtights

Analyst: [signature] Date: 6/10/13 QC Reviewer: [signature] Date: 6/7/13

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN43183** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 6/7/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC21261-12 Original: 161 MS: 420 Spk Amt: 250 % Rec: 104%

Dup Sample ID: MC21261-12 Original: 161 Duplicate: 160 % RPD: 1%

MB Date: 6/7/2013 Result: <5.0 RL: 5.0 < RL?: Y

Spike blank: 262 Spike Amt: 250 % Rec: 104.8

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110% Known 50.0 Res: 50.8 % REC: 101.6

Sulfuric Normality: 0.0221 pH Meter ID: 520A

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN43183-MB1 | 100 | 5.89 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN43183-B1 | 100 | 8.97 | 0.1 | 23.8 | 23.7 | | | 261.9 | 261.885 | 5 |
| 1 | GN43183-S1 | 100 | 7.79 | 23.8 | 61.8 | 38.0 | | | 419.9 | 419.9 | 5 |
| 1 | GN43183-D1 | 100 | 7.19 | 11.8 | 26.4 | 14.6 | | | 161.3 | 161.33 | 5 |
| 1 | MC21261-12 | 100 | 7.19 | 26.4 | 40.9 | 14.5 | | | 160.2 | 160.225 | 5 |
| | ICV | 100 | 8.57 | 40.9 | 45.5 | 4.6 | | | 50.8 | 50.83 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | $ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$ | $ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 6/7/2013 5:49:08 PM

Test: SULFATE

Product: SO4

Method: ASTM D516-90, 02 (Waters) ◉ Units: mg/l
ASTM D516-90, 02MOD.(soils) ○ Mg/Kg

ACCUTEST

Protected Worksheet MGN 112-02
(Format edits must be done by Dept.Manager)

Analyst: HAMIDS
GN Batch ID: GN43207
GP Batch ID:
Date: 6/10/2013

Instrument ID : TURBIDTY I

| Known | 30 Sec | 60 Sec | 90 Sec | 120 Sec | 150 Sec | 180 Sec | 210 Sec | 240 Sec | Hi ABS |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 |
| 5.00 | 9.800 | 10.500 | 10.900 | 11.000 | 11.200 | 11.400 | 11.400 | 11.500 | 11.5 |
| 10.0 | 23.000 | 23.200 | 23.300 | 23.400 | 23.300 | 23.300 | 23.400 | 23.400 | 23.4 |
| 20.0 | 52.800 | 52.600 | 52.400 | 52.200 | 52.200 | 52.000 | 51.800 | 51.800 | 52.8 |
| 30.0 | 77.900 | 77.500 | 77.200 | 77.000 | 76.600 | 46.300 | 76.200 | 76.000 | 77.9 |
| 40.0 | 99.200 | 98.800 | 98.000 | 97.600 | 97.300 | 97.100 | 96.900 | 96.700 | 99.20 |

| | |
|---|---|
| Correlation Coeff. = | 0.99886 |
| Slope = | 0.39251 |
| Intercept = | 0.17710 |

## Reagent & Standard Log

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30136-SO4 | Reagent | |
| CCV | GNSTD-30137-SO4 | Reagent | |
| ICV | GNSTD-30138-SO4 | Reagent | |
| Reagent | RGT-35948-SO4 | Reagent | |
| Reagent | VENDOR-12985 | Filter Paper | 063-0850 |

## QC Section

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21261-3 | Original Res. | 12.30 | Duplicate Res. | 11.80 | | | %RPD: | 4.1% | | |
| MS Sample ID: | MC21261-3 | Original Res. | 12.30 | Spike Amount: | 20 | MS Res.: | 31.60 | %REC: | 97% | | |
| SB Prep Date: | 06/10/13 | Result: | 21.30 | Spike Amount: | 20 | | | %REC: | 107% | | |
| MB Prep Date: | 06/10/13 | Result: | <5 | RL | 5.0 | | | <RL? | Y | | |
| ICV: | GNSTD-30138-SO4 | Known | 25 | Range | 90%- 110% | Res.: | 26.0 | %REC: | 104% | | |
| CCV (1) Res. | 21.8 | Known: | 20 | %REC.: | 109.0% | CCV (2) Res. | 21.3 | Known: | 20 | %REC: | 106.5% |
| CCV (3) Res. | | Known: | | %REC.: | | CCV (4) Res. | | Known: | | %REC: | |

| Bottle # | Sample ID | pH CHK | Initial WT (g) or Vol (ml) | Final Vol. (ml) | Dil | 30 Sec. | 60 Sec. | 90 Sec. | 120 Sec. | 150 Sec. | 180 Sec. | 210 Sec. | 240 Sec. | Highest Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ICV | | 100 | 100 | 1 | 65.8 | 65.6 | 65.3 | 65.1 | 64.9 | 64.8 | 64.7 | 64.6 | 65.80 | 0.000 | 26.004 | 26.004 | 5.000 | mg/l |
| | GN43207-MB1 | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | 0.177 | 0.177 | 5.000 | mg/l |
| | GN43207-B1 | | 100 | 100 | 1 | 53.7 | 53.5 | 53.2 | 53.1 | 52.8 | 52.6 | 52.5 | 52.4 | 53.70 | 0.000 | 21.255 | 21.255 | 5.000 | mg/l |
| 1 | GN43207-D1 | | 100 | 100 | 1 | 29.6 | 28.9 | 28.6 | 28.5 | 28.4 | 28.3 | 28.4 | 28.3 | 29.60 | 0.000 | 11.795 | 11.795 | 5.000 | mg/l |
| 1 | GN43207-S1 | | 100 | 100 | 1 | 80 | 79.2 | 78.8 | 78.2 | 77.4 | 77 | 76.7 | 76.5 | 80.00 | 0.000 | 31.578 | 31.578 | 5.000 | mg/l |
| 1 | MC21261-3 | | 100 | 100 | 1 | 30.9 | 30.2 | 29.8 | 29.5 | 29.6 | 29.4 | 29.4 | 29.3 | 30.90 | 0.000 | 12.306 | 12.306 | 5.000 | mg/l |
| 1 | MC21261-2 | | 100 | 100 | 1 | 18.7 | 18.6 | 18.4 | 18.2 | 18 | 17.9 | 17.8 | 17.7 | 18.70 | 0.000 | 7.517 | 7.517 | 5.000 | mg/l |
| 1 | MC21261-4 | | 100 | 100 | 1 | 24 | 24.5 | 24.7 | 24.9 | 24.8 | 24.6 | 24.7 | 24.5 | 24.90 | 0.000 | 9.951 | 9.951 | 5.000 | mg/l |
| 1 | MC21261-6 | | 100 | 100 | 1 | 11.1 | 12 | 12.6 | 13 | 13.3 | 13.6 | 13.7 | 13.8 | 13.80 | 0.000 | 5.594 | 5.594 | 5.000 | mg/l |
| 1 | MC21261-7 | | 100 | 100 | 5 | 41.2 | 41.1 | 41 | 40.9 | 40.8 | 40.9 | 40.8 | 40.7 | 41.20 | 0.000 | 16.349 | 81.743 | 25.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 55 | 54.6 | 54.5 | 54.3 | 54.2 | 54.1 | 53.9 | 53.7 | 55.00 | 0.000 | 21.765 | 21.765 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | 0.177 | 0.177 | 5.000 | mg/l |
| 1 | MC21261-8 | | 100 | 100 | 5 | 41.5 | 41.4 | 41.3 | 41.2 | 41.1 | 41 | 40.9 | 41 | 41.50 | 0.000 | 16.466 | 82.332 | 25.000 | mg/l |
| 1 | MC21261-9 | | 100 | 100 | 1 | 15.8 | 15.5 | 16 | 15.7 | 15.8 | 15.9 | 16 | 16.1 | 16.10 | 0.000 | 6.497 | 6.497 | 5.000 | mg/l |
| 1 | MC21261-10 | | 100 | 100 | 1 | 21.9 | 21.8 | 21.6 | 21.8 | 21.6 | 21.5 | 21.8 | 21.5 | 21.90 | 0.000 | 8.773 | 8.773 | 5.000 | mg/l |
| 1 | MC21261-11 | | 100 | 100 | 1 | 0.3 | 0.5 | 0.1 | 0.5 | 0.4 | 0.2 | 0 | 0.4 | 0.50 | 0.000 | 0.373 | 0.373 | 5.000 | mg/l |
| 1 | MC21261-12 | | 100 | 100 | 1 | 15.3 | 15.6 | 15.8 | 15.9 | 16 | 15.8 | 16 | 15.9 | 16.00 | 0.000 | 6.457 | 6.457 | 5.000 | mg/l |
| | CCV | | 100 | 100 | 1 | 53.9 | 53.1 | 52.8 | 52.6 | 52.3 | 52.1 | 52 | 52.1 | 53.90 | 0.000 | 21.334 | 21.334 | 5.000 | mg/l |
| | CCB | | 100 | 100 | 1 | 0.3 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.30 | 0.000 | 0.295 | 0.295 | 5.000 | mg/l |

Analyst: Date: 6/10/13 QC Reviewer: Date: 6/11/13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN43214
GP Batch ID: GP16171
Date: 6/11/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 6/11/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.062 | 0.174 | 0.318 | 0.492 | 0.610 | 1.325 | | | | |
| Actual Value: | 0.027 | 0.121 | 0.290 | 0.508 | 0.772 | 0.950 | 2.032 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-30141-AMN | Reagent | |
| CCV | GNSTD-30141-AMN-6 | Reagent | |
| ICV | RGT-35461-AMN | Reagent | |
| Reagent | VENDOR-13402 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99900
Slope = 1.51306
Intercept = 0.02708

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC21261-1 | Orig: | 5.4 | | Dup: | 5.4 | | RPD: | 0% |
| MS Sample ID: | MC21261-1 | Orig: | 5.4 | | Spike Amt: | 0.5 | MS Res: | 5.8 | % Rec: 80% |
| MB Prep Date: | 06/11/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | Y | | |
| SB Prep Date: | 06/11/13 | Res: | 0.43 | Spike Amt: | 0.5 | % Rec: | 86% | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 17.232 | % Rec: | 93% |
| CCV (1) Res: | 0.980 | Known: | 1.00 | % Rec: | 98% | CCV (2) Res: | 0.990 | Known: 1.00 | % Rec: 99% |
| CCV (3) Res: | 0.995 | Known: | 1.00 | % Rec: | 100% | CCV (4) Res: | 1.000 | Known: 1.00 | % Rec: 100% |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: 1.00 | % Rec: |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:05 | CCV | | 50 | 50 | 1 | 0.630 | 0.000 | 0.980 | 0.980 | 0.100 | mg/l |
| 15:20 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.027 | 0.027 | 0.100 | mg/l |
| 15:20 | ICV | | 50 | 50 | 10 | 1.121 | 0.000 | 1.723 | 17.232 | 1.000 | mg/l |
| 15:20 | GP16171-MB1 | | 50 | 50 | 1 | 0.002 | 0.000 | 0.030 | 0.030 | 0.100 | mg/l |
| 15:20 | GP16171-B1 | | 50 | 50 | 1 | 0.264 | 0.000 | 0.427 | 0.427 | 0.100 | mg/l |
| 15:20 | GP16171-S1 | | 50 | 50 | 5 | 0.754 | 0.000 | 1.168 | 5.840 | 0.500 | mg/l |
| 15:20 | GP16171-D1 | | 50 | 50 | 5 | 0.696 | 0.000 | 1.080 | 5.401 | 0.500 | mg/l |
| 15:20 | MC21261-1 | | 50 | 50 | 5 | 0.692 | 0.000 | 1.074 | 5.371 | 0.500 | mg/l |
| 15:20 | MC21261-2 | | 50 | 50 | 1 | 0.026 | 0.000 | 0.066 | 0.066 | 0.100 | mg/l |
| 15:20 | MC21261-3 | | 50 | 50 | 1 | 0.443 | 0.000 | 0.697 | 0.697 | 0.100 | mg/l |
| 15:20 | MC21261-4 | | 50 | 50 | 1 | 0.755 | 0.000 | 1.169 | 1.169 | 0.100 | mg/l |
| 15:20 | MC21261-6 | | 50 | 50 | 1 | 0.454 | 0.000 | 0.714 | 0.714 | 0.100 | mg/l |
| 15:20 | CCV | | 50 | 50 | 1 | 0.637 | 0.000 | 0.991 | 0.991 | 0.100 | mg/l |
| 15:30 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.027 | 0.027 | 0.100 | mg/l |
| 15:30 | MC21261-7 | | 50 | 50 | 1 | 0.068 | 0.000 | 0.130 | 0.130 | 0.100 | mg/l |
| 15:30 | MC21261-8 | | 50 | 50 | 1 | 0.069 | 0.000 | 0.131 | 0.131 | 0.100 | mg/l |
| 15:30 | MC21261-9 | | 50 | 50 | 1 | 0.152 | 0.000 | 0.257 | 0.257 | 0.100 | mg/l |
| 15:30 | MC21261-10 | | 50 | 50 | 1 | 0.212 | 0.000 | 0.348 | 0.348 | 0.100 | mg/l |
| 15:30 | MC21261-11 | | 50 | 50 | 1 | 0.145 | 0.000 | 0.246 | 0.246 | 0.100 | mg/l |
| 15:30 | MC21261-12 | | 50 | 50 | 1 | 0.070 | 0.000 | 0.133 | 0.133 | 0.100 | mg/l |
| 15:30 | MC21343-1 | | 50 | 50 | 200 | 0.970 | 0.000 | 1.495 | 298.950 | 20.000 | mg/l |
| 15:30 | MC21547-1 | | 50 | 50 | 1 | 0.070 | 0.000 | 0.133 | 0.133 | 0.100 | mg/l |
| 15:30 | MC21480-1 | | 50 | 50 | 1 | 0.078 | 0.000 | 0.145 | 0.145 | 0.100 | mg/l |
| 15:30 | MC21480-2 | | 50 | 50 | 1 | 0.065 | 0.000 | 0.125 | 0.125 | 0.100 | mg/l |
| 15:30 | CCV | | 50 | 50 | 1 | 0.640 | 0.000 | 0.995 | 0.995 | 0.100 | mg/l |
| 15:40 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.027 | 0.027 | 0.100 | mg/l |
| 15:40 | MC21480-3 | | 50 | 50 | 1 | 0.067 | 0.000 | 0.128 | 0.128 | 0.100 | mg/l |
| 15:40 | MC21480-4 | | 50 | 50 | 1 | 0.081 | 0.000 | 0.150 | 0.150 | 0.100 | mg/l |
| 15:40 | MC21480-5 | | 50 | 50 | 1 | 0.069 | 0.000 | 0.131 | 0.131 | 0.100 | mg/l |
| 15:40 | CCV | | 50 | 50 | 1 | 0.643 | 0.000 | 1.000 | 1.000 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.027 | 0.027 | 0.100 | mg/l |

6-11-13 BIJ

Analyst: [signature] Date: 6-11-13 QC Reviewer: [signature] Date: 6/12/13

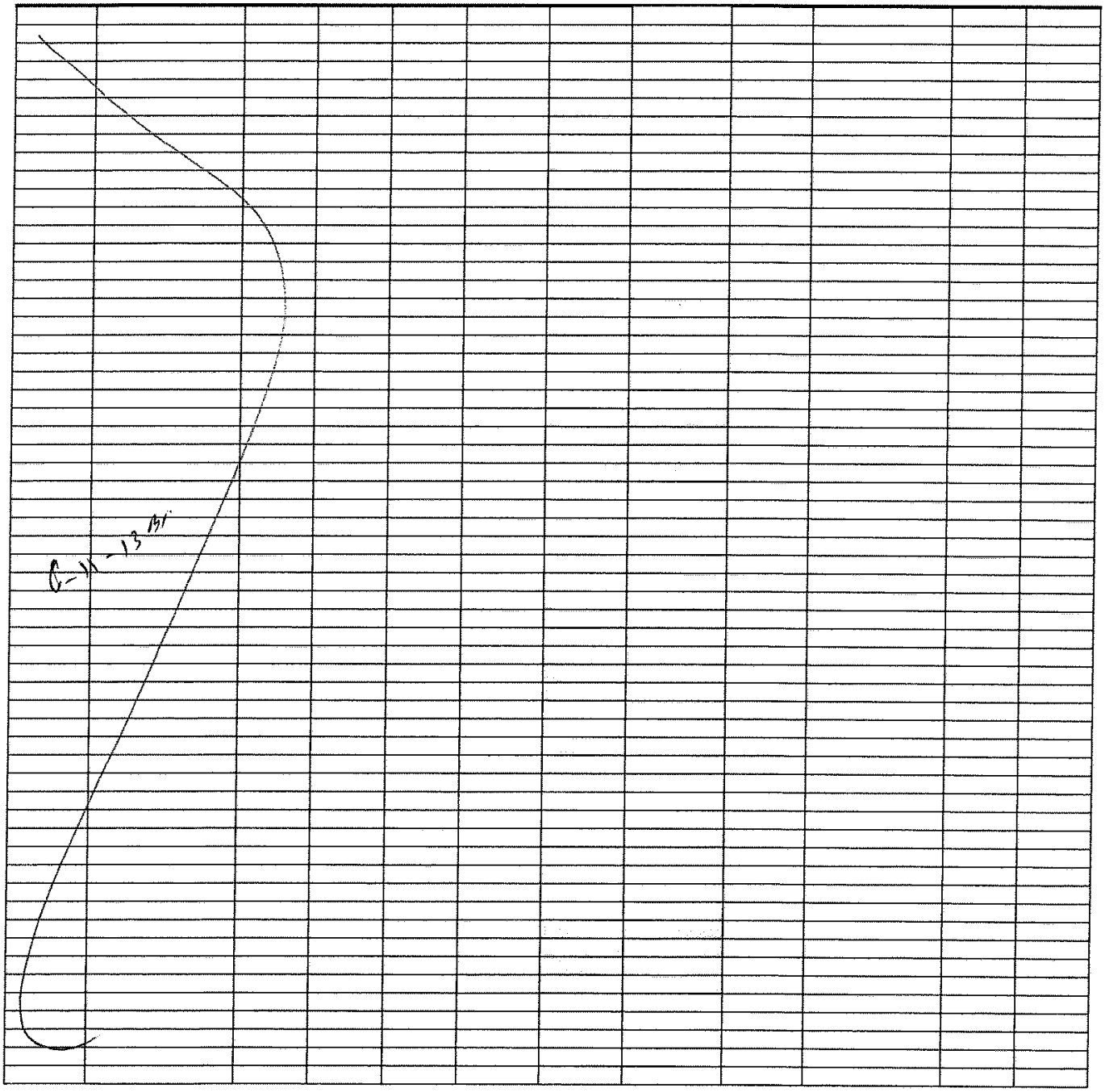
9.13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN43214
GP Batch ID: GP16171
Date: 6/11/2013
Instrument ID: spectronic 425nm




Comments: MC21343-1( 1:4 DILUTION @ PREP & 1:50 DILUTION @ BENCH )

Analyst: [signature] Date: 6-10-13 QC Reviewer: [signature] Date: 6,12,13

ACCUTEST. Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/11/13 | Batch ID | GP16171 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21261-1 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16171-MB1 | | N/A | N/D | <2 | 9.68 | 100 | 100 | 10:50 | 11:10 | |
| GP16171-B1 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 10:50 | 11:10 | 5.0 ML OF SPIKE |
| GP16171-S1 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:50 | 11:10 | 5.0 ML OF SPIKE |
| GP16171-D1 | 2 | N/A | N/D | <2 | 9.58 | 100 | 100 | 10:50 | 11:10 | |
| MC21261-1 | 2 | N/A | N/D | <2 | 9.74 | 100 | 100 | 10:50 | 11:10 | |
| MC21261-2 | 2 | N/A | N/D | <2 | 9.64 | 100 | 100 | 10:50 | 11:10 | |
| MC21261-3 | 2 | N/A | N/D | <2 | 9.84 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-4 | 2 | N/A | N/D | <2 | 9.88 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-6 | 2 | N/A | N/D | <2 | 9.86 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-7 | 2 | N/A | N/D | <2 | 9.99 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-8 | 2 | N/A | N/D | <2 | 9.75 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-9 | 2 | N/A | N/D | <2 | 9.77 | 100 | 100 | 11:40 | 12:00 | |
| MC21261-10 | 2 | N/A | N/D | <2 | 9.56 | 100 | 100 | 12:45 | 13:05 | |
| MC21261-11 | 2 | N/A | N/D | <2 | 9.64 | 100 | 100 | 12:45 | 13:05 | |
| MC21261-12 | 2 | N/A | N/D | <2 | 9.66 | 100 | 100 | 12:45 | 13:05 | |
| MC21343-1 | 3 | N/A | N/D | <2 | 9.72 | 25 | 100 | 12:45 | 13:05 | ( 1:4 DILUTION ) |
| MC21547-1 | 4 | N/A | N/D | <2 | 9.77 | 100 | 100 | 12:45 | 13:05 | |
| MC21480-1 | 3 | N/A | N/D | <2 | 9.82 | 100 | 100 | 12:45 | 13:05 | |
| MC21480-2 | 3 | N/A | N/D | <2 | 9.55 | 100 | 100 | 13:40 | 14:00 | |
| MC21480-3 | 3 | N/A | N/D | <2 | 9.58 | 100 | 100 | 13:40 | 14:00 | |
| MC21480-4 | 3 | N/A | N/D | <2 | 9.59 | 100 | 100 | 13:40 | 14:00 | |
| MC21480-5 | 3 | N/A | N/D | <2 | 9.62 | 100 | 100 | 13:40 | 14:00 | |
| ICV | | N/A | N/D | <2 | 9.99 | 10 | 100 | 13:40 | 14:00 | ( 1: 10 DILUTION ) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

6-11-13 BIJ

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30140-AMN-1 |
| Boric Acid | RGT-36037-AMN | ICV Solution | RGT-35461-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/12/13

9.13

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 6/11/13 | Batch ID | GP16171 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC21261-1 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| RB | | N/A | N/D | <2 | 9.86 | 100 | 100 | 9:25 | 9:45 | |
| CAL.STD 0.1 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 9:25 | 9:45 | 1.0 ML OF GNSTD-30141-AMN-1 |
| CAL.STD 0.3 | | N/A | N/D | <2 | 9.67 | 100 | 100 | 9:25 | 9:45 | 3.0 ML OF GNSTD-30141-AMN-1 |
| CAL.STD 0.5 | | N/A | N/D | <2 | 9.75 | 100 | 100 | 9:25 | 9:45 | 5.0 ML OF GNSTD-30141-AMN-1 |
| CAL.STD 0.8 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 9:25 | 9:45 | 8.0 ML OF GNSTD-30141-AMN-1 |
| CAL.STD 1.0 | | N/A | N/D | <2 | 9.75 | 100 | 100 | 9:25 | 9:45 | 10.0 ML OF GNSTD-30141-AMN-1 |
| CAL.STD 2.0 | | N/A | N/D | <2 | 9.77 | 100 | 100 | 10:05 | 10:25 | 20.0 ML OF GNSTD-30141-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.87 | 100 | 100 | 10:05 | 10:25 | 10.0 ML OF GNSTD-30141-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.56 | 100 | 100 | 10:05 | 10:25 | |

6-11-13 AP

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-35878-TCLP | Spike Solution | GNSTD-30140-AMN-1 |
| Boric Acid | RGT-36037-AMN | ICV Solution | RGT-35461-AMN |
| Borate Buffer | RGT-35921-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-35920-AMN |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 6/12/13

9.13 9

New England ACCUTEST LABORATORIES

07/02/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02C.06

Accutest Job Number: MC21832

Sampling Date: 06/13/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **86**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.



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# Sample Summary

Sovereign Consulting

**Job No:** MC21832

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC21832-1 | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Ground Water | SHM-13-06-061313 |
| MC21832-1D | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Water Dup/MSD | SHM-13-06-061313 |
| MC21832-1F | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Groundwater Filtered | SHM-13-06-061313 |
| MC21832-1FD | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Water Dup/MSD | SHM-13-06-061313 |
| MC21832-1FS | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Water Matrix Spike | SHM-13-06-061313 |
| MC21832-1S | 06/13/13 | 09:52 | CS | 06/14/13 | AQ | Water Matrix Spike | SHM-13-06-061313 |
| MC21832-2 | 06/13/13 | 14:10 | CS | 06/14/13 | AQ | Ground Water | SHM-13-08-061313 |
| MC21832-2F | 06/13/13 | 14:10 | CS | 06/14/13 | AQ | Groundwater Filtered | SHM-13-08-061313 |
| MC21832-3 | 06/13/13 | 00:00 | CS | 06/14/13 | AQ | Ground Water | DUPLICATE-061313 |
| MC21832-3F | 06/13/13 | 00:00 | CS | 06/14/13 | AQ | Groundwater Filtered | DUPLICATE-061313 |
| MC21832-4F | 06/13/13 | 15:15 | CS | 06/14/13 | AQ | Equip Blank Filtered | RINSATE BLANK-061313 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC21832 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 7/1/2013 3:02:16 PM |

4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 06/13/2013 and were received at Accutest on 06/14/2013 properly preserved, at 1.7 Deg. C and intact. These Samples received an Accutest job number of MC21832. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix:** AQ **Batch ID:** MP21204

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1FMS, MC21832-1FMSD, MC21832-1FPS, MC21832-1FSDL were used as the QC samples for metals.
- MC21832-1F for Iron: Post-digestion spike recovery outside of the control limit.
- MP21204-PS1 for Iron: Post-digestion spike recovery outside of the control limit.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP21204A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1FMS, MC21832-1FMSD, MC21832-1FSDL, MC21832-1FPS were used as the QC samples for metals.
- MC21832-1F for Arsenic: Post-digestion spike recovery outside of the control limit.
- MP21204A-PS1 for Arsenic: Post-digestion spike recovery outside of the control limit.

## Wet Chemistry By Method ASTM516-90,02

**Matrix:** AQ **Batch ID:** GN43319

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Sulfate.

## Wet Chemistry By Method EPA 353.2

**Matrix:** AQ **Batch ID:** GP16217

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix:** AQ **Batch ID:** R33164

- MC21832-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R33165

- MC21832-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix:** AQ **Batch ID:** R33166

- MC21832-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix:** AQ **Batch ID:** GP16201

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

**Matrix:** AQ **Batch ID:** GP16210

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

**Matrix:** AQ **Batch ID:** GN43307

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

**Matrix:** AQ **Batch ID:** GN43295

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

**Matrix:** AQ **Batch ID:** GN43345

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1DUP, MC21832-1MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

**Matrix:** AQ **Batch ID:** GN43298

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC21832-1FDUP, MC21832-1FMS were used as the QC samples for Dissolved Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC21832).

# Summary of Hits

**Job Number:** MC21832
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 06/13/13

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC21832-1** | **SHM-13-06-061313** | | | | | |
| Alkalinity, Total as CaCO3 | | 84.0 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 19.0 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.1 | 0.20 | 0.16 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.22 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.22 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 6.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21832-1F** | **SHM-13-06-061313** | | | | | |
| Arsenic [b] | | 3180 J | 50 | 25 | ug/l | SW846 6020A |
| Calcium | | 21400 | 15000 | 450 | ug/l | SW846 6010C |
| Iron [b] | | 19700 J | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 1440 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1830 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3210 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 16300 | 15000 | 600 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.0 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21832-2** | **SHM-13-08-061313** | | | | | |
| Alkalinity, Total as CaCO3 | | 141 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 8.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 6.1 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.32 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.32 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 7.3 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21832-2F** | **SHM-13-08-061313** | | | | | |
| Arsenic | | 928 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 23200 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 35900 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 3540 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 941 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8360 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 14200 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21832-3** | **DUPLICATE-061313** | | | | | |
| Alkalinity, Total as CaCO3 | | 140 | 5.0 | 2.3 | mg/l | SM21 2320B |
| Chloride | | 8.5 | 1.0 | 0.75 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 6.2 | 0.50 | 0.41 | mg/l | SM18 4500NH3-C |

# Summary of Hits

**Job Number:** MC21832
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 06/13/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate [a] | | 0.40 | 0.11 | 0.079 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.40 | 0.10 | 0.075 | mg/l | EPA 353.2 |
| Sulfate | | 7.4 | 5.0 | 4.5 | mg/l | ASTM516-90,02 |
| **MC21832-3F** | **DUPLICATE-061313** | | | | | |
| Arsenic | | 972 | 25 | 13 | ug/l | SW846 6020A |
| Calcium | | 23200 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 36600 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 3580 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 958 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8530 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 14400 | 10000 | 400 | ug/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.64 | mg/l | SM21 5310 B |
| **MC21832-4F** | **RINSATE BLANK-061313** | | | | | |
| Arsenic | | 0.60 J | 1.0 | 0.50 | ug/l | SW846 6020A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Post-digestion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-13-06-061313
**Lab Sample ID:** MC21832-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 84.0 | 5.0 | 2.3 | mg/l | 1 | 06/18/13 | BF | SM21 2320B |
| Chloride | 19.0 | 1.0 | 0.75 | mg/l | 1 | 06/21/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.1 | 0.20 | 0.16 | mg/l | 2 | 06/18/13 13:28 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.22 | 0.11 | 0.079 | mg/l | 1 | 06/19/13 14:24 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.22 | 0.10 | 0.075 | mg/l | 1 | 06/19/13 14:24 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 06/14/13 14:35 | CF | SM 21 4500 NO2 B |
| Sulfate | 6.4 | 5.0 | 4.5 | mg/l | 1 | 06/19/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/17/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-06-061313
**Lab Sample ID:** MC21832-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic [a] | 3180 J | 50 | 25 | ug/l | 100 | 06/20/13 | 06/21/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 21400 | 15000 | 450 | ug/l | 3 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron [a] | 19700 J | 300 | 90 | ug/l | 3 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1440 J | 5000 | 200 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 1830 | 15 | 2.5 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 3210 J | 5000 | 500 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 16300 | 15000 | 600 | ug/l | 3 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15782
(2) Instrument QC Batch: MA15789
(3) Prep QC Batch: MP21204
(4) Prep QC Batch: MP21204A

(a) Post-digestion spike recovery outside of the control limit.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-06-061313 | | |
| **Lab Sample ID:** | MC21832-1F | **Date Sampled:** | 06/13/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 06/14/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.0 | 1.0 | 0.64 | mg/l | 1 | 06/18/13 12:32 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-08-061313
**Lab Sample ID:** MC21832-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 141 | 5.0 | 2.3 | mg/l | 1 | 06/18/13 | BF | SM21 2320B |
| Chloride | 8.5 | 1.0 | 0.75 | mg/l | 1 | 06/21/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 6.1 | 0.50 | 0.41 | mg/l | 5 | 06/18/13 13:28 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.32 | 0.11 | 0.079 | mg/l | 1 | 06/19/13 14:25 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.32 | 0.10 | 0.075 | mg/l | 1 | 06/19/13 14:25 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 06/14/13 14:35 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.3 | 5.0 | 4.5 | mg/l | 1 | 06/19/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/17/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-08-061313
**Lab Sample ID:** MC21832-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 928 | 25 | 13 | ug/l | 50 | 06/20/13 | 06/21/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 23200 | 15000 | 450 | ug/l | 3 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 35900 | 500 | 150 | ug/l | 5 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 3540 J | 5000 | 200 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 941 | 15 | 2.5 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 8360 | 5000 | 500 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 14200 | 10000 | 400 | ug/l | 2 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15782
(2) Instrument QC Batch: MA15789
(3) Prep QC Batch: MP21204
(4) Prep QC Batch: MP21204A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-08-061313 | | |
| **Lab Sample ID:** | MC21832-2F | **Date Sampled:** | 06/13/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 06/14/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.64 | mg/l | 1 | 06/18/13 12:45 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-061313
**Lab Sample ID:** MC21832-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 140 | 5.0 | 2.3 | mg/l | 1 | 06/18/13 | BF | SM21 2320B |
| Chloride | 8.5 | 1.0 | 0.75 | mg/l | 1 | 06/21/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 6.2 | 0.50 | 0.41 | mg/l | 5 | 06/18/13 13:28 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.40 | 0.11 | 0.079 | mg/l | 1 | 06/19/13 14:26 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.40 | 0.10 | 0.075 | mg/l | 1 | 06/19/13 14:26 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0040 U | 0.010 | 0.0040 | mg/l | 1 | 06/14/13 14:35 | CF | SM 21 4500 NO2 B |
| Sulfate | 7.4 | 5.0 | 4.5 | mg/l | 1 | 06/19/13 | MC | ASTM516-90,02 |
| Sulfide | 1.4 U | 2.0 | 1.4 | mg/l | 1 | 06/17/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-061313
**Lab Sample ID:** MC21832-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 972 | 25 | 13 | ug/l | 50 | 06/20/13 | 06/21/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 23200 | 15000 | 450 | ug/l | 3 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 36600 | 500 | 150 | ug/l | 5 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 3580 J | 5000 | 200 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 958 | 15 | 2.5 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 8530 | 5000 | 500 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 14400 | 10000 | 400 | ug/l | 2 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15782
(2) Instrument QC Batch: MA15789
(3) Prep QC Batch: MP21204
(4) Prep QC Batch: MP21204A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUPLICATE-061313 | | |
| **Lab Sample ID:** | MC21832-3F | **Date Sampled:** | 06/13/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 06/14/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.64 | mg/l | 1 | 06/18/13 12:58 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RINSATE BLANK-061313
**Lab Sample ID:** MC21832-4F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 06/13/13
**Date Received:** 06/14/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.60 J | 1.0 | 0.50 | ug/l | 2 | 06/20/13 | 06/21/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 06/19/13 | 06/21/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA15782
(2) Instrument QC Batch: MA15789
(3) Prep QC Batch: MP21204
(4) Prep QC Batch: MP21204A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC21832

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Catherine Swanson, Mykel Mendes Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02C.06
Client Purchase Order #: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Hg Pkg | Dissolved As - 6020A | Dissolved Metals List - 6010B | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1 | SHM-13-06-061313 | | 6/13/13 | 0952 | CS | GW | 24 | | X | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -2 | SHM-13-08-061313 | | | 1410 | | GW | 8 | | X | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -3 | Duplicate-061313 | | | — | | GW | 8 | | X | X | X | X | | | | X | X | X | X | X | X | X | X | X | X | |
| -4 | Rinsate Blank-061313 | | | 1615 | | RB | 2 | | | X | | | | | | X | X | X | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 13B, 5A, |

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
Metals and DOC samples were field filtered.
6020B Metals List = Ca, Fe, Mg, Mn, K, Na
#SHM-13-06-061313 use as MS/MSD
SDG-#T006 Iclosed

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 6-14-13 0800 | 1 SOVCON Fridge | 2 Paul Chastenay | 6/14/13 1105 | 2 |
| 3 | | 6/14/13 1145 | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 1.7°C

MC21832: Chain of Custody
Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC21832 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 6/14/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control -Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC21832: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21832

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21832-1 | Collected: 13-JUN-13 09:52 By: CS | | Received: 14-JUN-13 By: | | | |
| SHM-13-06-061313 | | | | | | |
| MC21832-1 | SM 21 4500 NO2 B | 14-JUN-13 14:35 | CF | 14-JUN-13 | CF | NO2 |
| MC21832-1 | SM21 4500 S F | 17-JUN-13 | BF | | | S |
| MC21832-1 | SM21 2320B | 18-JUN-13 | BF | | | ALK |
| MC21832-1 | SM18 4500NH3-C | 18-JUN-13 13:28 | BF | 18-JUN-13 | BF | AMN |
| MC21832-1 | ASTM516-90,02 | 19-JUN-13 | MC | | | SO4 |
| MC21832-1 | EPA 353.2 | 19-JUN-13 14:24 | CF | | | NO3O |
| MC21832-1 | EPA 353.2 | 19-JUN-13 14:24 | CF | 19-JUN-13 | CF | NO32 |
| MC21832-1 | SM21 4500CL C | 21-JUN-13 | MC | | | CHL |
| MC21832-2 | Collected: 13-JUN-13 14:10 By: CS | | Received: 14-JUN-13 By: | | | |
| SHM-13-08-061313 | | | | | | |
| MC21832-2 | SM 21 4500 NO2 B | 14-JUN-13 14:35 | CF | 14-JUN-13 | CF | NO2 |
| MC21832-2 | SM21 4500 S F | 17-JUN-13 | BF | | | S |
| MC21832-2 | SM21 2320B | 18-JUN-13 | BF | | | ALK |
| MC21832-2 | SM18 4500NH3-C | 18-JUN-13 13:28 | BF | 18-JUN-13 | BF | AMN |
| MC21832-2 | ASTM516-90,02 | 19-JUN-13 | MC | | | SO4 |
| MC21832-2 | EPA 353.2 | 19-JUN-13 14:25 | CF | | | NO3O |
| MC21832-2 | EPA 353.2 | 19-JUN-13 14:25 | CF | 19-JUN-13 | CF | NO32 |
| MC21832-2 | SM21 4500CL C | 21-JUN-13 | MC | | | CHL |
| MC21832-3 | Collected: 13-JUN-13 00:00 By: CS | | Received: 14-JUN-13 By: | | | |
| DUPLICATE-061313 | | | | | | |
| MC21832-3 | SM 21 4500 NO2 B | 14-JUN-13 14:35 | CF | 14-JUN-13 | CF | NO2 |
| MC21832-3 | SM21 4500 S F | 17-JUN-13 | BF | | | S |
| MC21832-3 | SM21 2320B | 18-JUN-13 | BF | | | ALK |
| MC21832-3 | SM18 4500NH3-C | 18-JUN-13 13:28 | BF | 18-JUN-13 | BF | AMN |
| MC21832-3 | ASTM516-90,02 | 19-JUN-13 | MC | | | SO4 |
| MC21832-3 | EPA 353.2 | 19-JUN-13 14:26 | CF | | | NO3O |
| MC21832-3 | EPA 353.2 | 19-JUN-13 14:26 | CF | 19-JUN-13 | CF | NO32 |
| MC21832-3 | SM21 4500CL C | 21-JUN-13 | MC | | | CHL |
| MC21832-1F | Collected: 13-JUN-13 09:52 By: CS | | Received: 14-JUN-13 By: | | | |
| SHM-13-06-061313 | | | | | | |
| MC21832-1F | SM21 5310 B | 18-JUN-13 12:32 | MA | | | DOC |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC21832

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02C.06

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC21832-1E | SW846 6020A | 21-JUN-13 13:53 | SA | 20-JUN-13 | DA | ASMS |
| MC21832-1E | SW846 6010C | 21-JUN-13 13:56 | EAL | 19-JUN-13 | DA | K,MG,MN |
| MC21832-1E | SW846 6010C | 21-JUN-13 14:47 | EAL | 19-JUN-13 | DA | CA,FE,NA |
| MC21832-2E | Collected: 13-JUN-13 14:10 By: CS | | | Received: 14-JUN-13 By: | | |
| SHM-13-08-061313 | | | | | | |
| MC21832-2E | SM21 5310 B | 18-JUN-13 12:45 | MA | | | DOC |
| MC21832-2E | SW846 6020A | 21-JUN-13 14:00 | SA | 20-JUN-13 | DA | ASMS |
| MC21832-2E | SW846 6010C | 21-JUN-13 14:04 | EAL | 19-JUN-13 | DA | K,MG,MN |
| MC21832-2E | SW846 6010C | 21-JUN-13 14:56 | EAL | 19-JUN-13 | DA | NA |
| MC21832-2E | SW846 6010C | 21-JUN-13 15:00 | EAL | 19-JUN-13 | DA | CA |
| MC21832-2E | SW846 6010C | 21-JUN-13 15:13 | EAL | 19-JUN-13 | DA | FE |
| MC21832-3E | Collected: 13-JUN-13 00:00 By: CS | | | Received: 14-JUN-13 By: | | |
| DUPLICATE-061313 | | | | | | |
| MC21832-3E | SM21 5310 B | 18-JUN-13 12:58 | MA | | | DOC |
| MC21832-3E | SW846 6020A | 21-JUN-13 14:07 | SA | 20-JUN-13 | DA | ASMS |
| MC21832-3E | SW846 6010C | 21-JUN-13 14:21 | EAL | 19-JUN-13 | DA | K,MG,MN |
| MC21832-3E | SW846 6010C | 21-JUN-13 15:17 | EAL | 19-JUN-13 | DA | NA |
| MC21832-3E | SW846 6010C | 21-JUN-13 15:22 | EAL | 19-JUN-13 | DA | CA |
| MC21832-3E | SW846 6010C | 21-JUN-13 15:26 | EAL | 19-JUN-13 | DA | FE |
| MC21832-4E | Collected: 13-JUN-13 15:15 By: CS | | | Received: 14-JUN-13 By: | | |
| RINSATE BLANK-061313 | | | | | | |
| MC21832-4E | SW846 6020A | 21-JUN-13 13:17 | SA | 20-JUN-13 | DA | ASMS |
| MC21832-4E | SW846 6010C | 21-JUN-13 14:26 | EAL | 19-JUN-13 | DA | CA,FE,K,MG,MN,NA |

# Accutest Internal Chain of Custody



**Job Number:** MC21832
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 06/14/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21832-1.1 | Walk In Ref #9 | Crystall Woodruff | 06/14/13 13:43 | Retrieve from Storage |
| MC21832-1.1 | Crystall Woodruff | Walk In Ref #9 | 06/14/13 15:28 | Return to Storage |
| MC21832-1.1 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:49 | Retrieve from Storage |
| MC21832-1.1 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 11:01 | Return to Storage |
| MC21832-1.1 | Walk In Ref #9 | Miranda Cardullo | 06/19/13 08:12 | Retrieve from Storage |
| MC21832-1.1 | Miranda Cardullo | Walk In Ref #9 | 06/19/13 16:02 | Return to Storage |
| MC21832-1.2 | Walk In Ref #9 | Miranda Cardullo | 06/21/13 09:25 | Retrieve from Storage |
| MC21832-1.2 | Miranda Cardullo | Walk In Ref #9 | 06/21/13 16:36 | Return to Storage |
| MC21832-1.4 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:48 | Retrieve from Storage |
| MC21832-1.4 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 07:48 | Return to Storage |
| MC21832-1.4 | Walk In Ref #9 | Crystall Woodruff | 06/19/13 10:15 | Retrieve from Storage |
| MC21832-1.4 | Crystall Woodruff | Walk In Ref #9 | 06/19/13 17:45 | Return to Storage |
| MC21832-1.7 | Walk In Ref #9 | Bijan Firowznin | 06/17/13 12:53 | Retrieve from Storage |
| MC21832-1.7 | Bijan Firowznin | | 06/17/13 15:39 | Depleted |
| MC21832-1.8 | Walk In Ref #9 | Bijan Firowznin | 06/17/13 12:53 | Retrieve from Storage |
| MC21832-1.8 | Bijan Firowznin | | 06/17/13 15:39 | Depleted |
| MC21832-1.9 | Walk In Ref #9 | Bijan Firowznin | 06/17/13 12:53 | Retrieve from Storage |
| MC21832-1.9 | Bijan Firowznin | | 06/17/13 15:39 | Depleted |
| MC21832-1F.14 | Walk In Ref #5 | Dorina Antonovici | 06/19/13 08:04 | Retrieve from Storage |
| MC21832-1F.14 | Dorina Antonovici | Walk In Ref #5 | 06/19/13 09:47 | Return to Storage |
| MC21832-1F.16 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-1F.16 | Mehdi Abdolrahim | TOC1 | 06/18/13 08:40 | Load on Instrument |
| MC21832-1F.16 | TOC1 | Mehdi Abdolrahim | 06/18/13 15:37 | Unload from Instrument |
| MC21832-1F.16 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 15:37 | Return to Storage |
| MC21832-1F.17 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-1F.17 | Mehdi Abdolrahim | TOC1 | 06/18/13 08:40 | Load on Instrument |
| MC21832-1F.17 | TOC1 | Mehdi Abdolrahim | 06/18/13 15:37 | Unload from Instrument |
| MC21832-1F.17 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 15:37 | Return to Storage |
| MC21832-1F.18 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-1F.18 | Mehdi Abdolrahim | TOC1 | 06/18/13 08:40 | Load on Instrument |
| MC21832-1F.18 | TOC1 | Mehdi Abdolrahim | 06/18/13 15:37 | Unload from Instrument |
| MC21832-1F.18 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 15:37 | Return to Storage |
| MC21832-1F.19 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-1F.19 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 08:41 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21832
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 06/14/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21832-2.1 | Walk In Ref #9 | Crystall Woodruff | 06/14/13 13:43 | Retrieve from Storage |
| MC21832-2.1 | Crystall Woodruff | Walk In Ref #9 | 06/14/13 15:28 | Return to Storage |
| MC21832-2.1 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:49 | Retrieve from Storage |
| MC21832-2.1 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 11:01 | Return to Storage |
| MC21832-2.1 | Walk In Ref #9 | Miranda Cardullo | 06/19/13 08:12 | Retrieve from Storage |
| MC21832-2.1 | Miranda Cardullo | Walk In Ref #9 | 06/19/13 16:02 | Return to Storage |
| MC21832-2.1 | Walk In Ref #9 | Miranda Cardullo | 06/21/13 09:25 | Retrieve from Storage |
| MC21832-2.1 | Miranda Cardullo | Walk In Ref #9 | 06/21/13 16:36 | Return to Storage |
| MC21832-2.2 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:48 | Retrieve from Storage |
| MC21832-2.2 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 07:48 | Return to Storage |
| MC21832-2.2 | Walk In Ref #9 | Crystall Woodruff | 06/19/13 10:15 | Retrieve from Storage |
| MC21832-2.2 | Crystall Woodruff | Walk In Ref #9 | 06/19/13 17:45 | Return to Storage |
| MC21832-2.3 | Walk In Ref #9 | Bijan Firowznin | 06/17/13 12:53 | Retrieve from Storage |
| MC21832-2.3 | Bijan Firowznin | | 06/17/13 15:39 | Depleted |
| MC21832-2F.5 | Walk In Ref #5 | Dorina Antonovici | 06/19/13 08:04 | Retrieve from Storage |
| MC21832-2F.5 | Dorina Antonovici | Walk In Ref #5 | 06/19/13 09:47 | Return to Storage |
| MC21832-2F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-2F.6 | Mehdi Abdolrahim | TOC1 | 06/18/13 08:40 | Load on Instrument |
| MC21832-2F.6 | TOC1 | Mehdi Abdolrahim | 06/18/13 15:37 | Unload from Instrument |
| MC21832-2F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 15:37 | Return to Storage |
| MC21832-3.1 | Walk In Ref #9 | Crystall Woodruff | 06/14/13 13:43 | Retrieve from Storage |
| MC21832-3.1 | Crystall Woodruff | Walk In Ref #9 | 06/14/13 15:28 | Return to Storage |
| MC21832-3.1 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:49 | Retrieve from Storage |
| MC21832-3.1 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 11:01 | Return to Storage |
| MC21832-3.1 | Walk In Ref #9 | Miranda Cardullo | 06/19/13 08:12 | Retrieve from Storage |
| MC21832-3.1 | Miranda Cardullo | Walk In Ref #9 | 06/19/13 16:02 | Return to Storage |
| MC21832-3.1 | Walk In Ref #9 | Miranda Cardullo | 06/21/13 09:25 | Retrieve from Storage |
| MC21832-3.1 | Miranda Cardullo | Walk In Ref #9 | 06/21/13 16:36 | Return to Storage |
| MC21832-3.2 | Walk In Ref #9 | Bijan Firowznin | 06/18/13 07:48 | Retrieve from Storage |
| MC21832-3.2 | Bijan Firowznin | Walk In Ref #9 | 06/18/13 07:48 | Return to Storage |
| MC21832-3.2 | Walk In Ref #9 | Crystall Woodruff | 06/19/13 10:15 | Retrieve from Storage |
| MC21832-3.2 | Crystall Woodruff | Walk In Ref #9 | 06/19/13 17:45 | Return to Storage |
| MC21832-3.3 | Walk In Ref #9 | Bijan Firowznin | 06/17/13 12:53 | Retrieve from Storage |
| MC21832-3.3 | Bijan Firowznin | | 06/17/13 15:39 | Depleted |
| MC21832-3F.4 | Walk In Ref #5 | Dorina Antonovici | 06/19/13 08:04 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC21832
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 06/14/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC21832-3F.4 | Dorina Antonovici | Walk In Ref #5 | 06/19/13 09:47 | Return to Storage |
| MC21832-3F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 06/18/13 08:14 | Retrieve from Storage |
| MC21832-3F.6 | Mehdi Abdolrahim | TOC1 | 06/18/13 08:40 | Load on Instrument |
| MC21832-3F.6 | TOC1 | Mehdi Abdolrahim | 06/18/13 15:37 | Unload from Instrument |
| MC21832-3F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 06/18/13 15:37 | Return to Storage |
| MC21832-4F.1 | Walk In Ref #5 | Dorina Antonovici | 06/19/13 08:04 | Retrieve from Storage |
| MC21832-4F.1 | Dorina Antonovici | Walk In Ref #5 | 06/19/13 09:47 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15782
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:36 | MA15782-STD1 | 1 | | STD1 |
| 12:40 | MA15782-STD2 | 1 | | STD2 |
| 12:44 | MA15782-STD3 | 1 | | STD3 |
| 12:49 | MA15782-STD4 | 1 | | STD4 |
| 12:53 | MA15782-ICV1 | 1 | | |
| 12:58 | MA15782-ICB1 | 1 | | |
| 13:03 | MA15782-CCV1 | 1 | | |
| 13:12 | MA15782-CCB1 | 1 | | |
| 13:17 | MA15782-CRI1 | 1 | | |
| 13:25 | MA15782-ICSA1 | 1 | | |
| 13:31 | MA15782-ICSAB1 | 1 | | |
| 13:38 | MP21204-B1 | 1 | | |
| 13:43 | MP21204-MB1 | 1 | | |
| 13:47 | MP21204-S1 | 1 | | |
| 13:51 | MP21204-S2 | 1 | | |
| 13:56 | MC21832-1F | 1 | | |
| 14:00 | MP21204-SD1 | 5 | | |
| 14:04 | MC21832-2F | 1 | | |
| 14:08 | MA15782-CCV2 | 1 | | |
| 14:17 | MA15782-CCB2 | 1 | | |
| 14:21 | MC21832-3F | 1 | | |
| 14:26 | MC21832-4F | 1 | | |
| 14:30 | MP21204-PS1 | 1 | | |
| 14:34 | MP21204-B1 | 5 | | |
| 14:39 | MP21204-S1 | 5 | | |
| 14:43 | MP21204-S2 | 5 | | |
| 14:47 | MC21832-1F | 3 | | |
| 14:51 | MP21204-SD1 | 15 | | |
| 14:56 | MC21832-2F | 2 | | |
| 15:00 | MC21832-2F | 3 | | |
| 15:04 | MA15782-CCV3 | 1 | | |
| 15:09 | MA15782-CCB3 | 1 | | |
| 15:13 | MC21832-2F | 5 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15782
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:17 | MC21832-3F | 2 | | |
| 15:22 | MC21832-3F | 3 | | |
| 15:26 | MC21832-3F | 5 | | |
| 15:30 | MP21204-PS1 | 5 | | |
| 15:35 | MP21204-PS1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC21832 | | | |
| 15:52 | MA15782-CRI2 | 1 | | |
| 15:57 | MA15782-CCV4 | 1 | | |
| 16:01 | MA15782-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC21832 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP Date Analyzed: 06/21/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15782
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:36 | MA15782-STD1 | 2343 R | 41307 R | 14112 R |
| 12:40 | MA15782-STD2 | 2309 | 40757 | 14114 |
| 12:44 | MA15782-STD3 | | | 14444 |
| 12:49 | MA15782-STD4 | 2365 | 41235 | 14174 |
| 12:53 | MA15782-ICV1 | 2366 | 40834 | 14292 |
| 12:58 | MA15782-ICB1 | 2332 | 41279 | 14027 |
| 13:03 | MA15782-CCV1 | 2350 | 40667 | 14162 |
| 13:12 | MA15782-CCB1 | 2338 | 41313 | 14208 |
| 13:17 | MA15782-CRI1 | 2348 | 41067 | 14171 |
| 13:25 | MA15782-ICSA1 | 2169 | 37840 | 14043 |
| 13:31 | MA15782-ICSAB1 | 2170 | 37789 | 14074 |
| 13:38 | MP21204-B1 | 2334 | 41298 | 14462 |
| 13:43 | MP21204-MB1 | 2327 | 41420 | 14351 |
| 13:47 | MP21204-S1 | 2324 | 40668 | 14326 |
| 13:51 | MP21204-S2 | 2307 | 40515 | 14318 |
| 13:56 | MC21832-1F | 2323 | 40983 | 14381 |
| 14:00 | MP21204-SD1 | 2314 | 40947 | 14206 |
| 14:04 | MC21832-2F | 2340 | 41226 | 14433 |
| 14:08 | MA15782-CCV2 | 2361 | 40979 | 14407 |
| 14:17 | MA15782-CCB2 | 2333 | 41223 | 14152 |
| 14:21 | MC21832-3F | 2312 | 40826 | 14300 |
| 14:26 | MC21832-4F | 2315 | 41140 | 14302 |
| 14:30 | MP21204-PS1 | 2273 | 40553 | 14234 |
| 14:34 | MP21204-B1 | 2334 | 40936 | 14186 |
| 14:39 | MP21204-S1 | 2332 | 40713 | 14173 |
| 14:43 | MP21204-S2 | 2321 | 40719 | 14297 |
| 14:47 | MC21832-1F | 2315 | 40948 | 14264 |
| 14:51 | MP21204-SD1 | 2337 | 41116 | 14322 |
| 14:56 | MC21832-2F | 2330 | 41676 | 14344 |
| 15:00 | MC21832-2F | 2327 | 41170 | 14302 |
| 15:04 | MA15782-CCV3 | 2353 | 40590 | 14379 |
| 15:09 | MA15782-CCB3 | 2313 | 40622 | 14148 |
| 15:13 | MC21832-2F | 2328 | 41150 | 14208 |

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA15782
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:17 | MC21832-3F | 2311 | 40826 | 14471 |
| 15:22 | MC21832-3F | 2314 | 40893 | 14234 |
| 15:26 | MC21832-3F | 2316 | 40904 | 14206 |
| 15:30 | MP21204-PS1 | 2309 | 40647 | 14134 |
| 15:35 | MP21204-PS1 | 2312 | 40688 | 14094 |
| 15:52 | MA15782-CRI2 | 2339 | 41519 | 14220 |
| 15:57 | MA15782-CCV4 | 2344 | 40495 | 14213 |
| 16:01 | MA15782-CCB4 | 2321 | 40821 | 14206 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15782  Units: ug/l

| Time: / Sample ID: | | | | 12:58 ICB1 | | 13:12 CCB1 | | 14:17 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | | | |
| Barium | 50 | .32 | 2.5 | | | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | | | |
| Calcium | 5000 | 21 | 150 | 1.2 | <5000 | 0.30 | <5000 | -2.0 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | | | |
| Copper | 25 | .93 | 8.0 | | | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | | | |
| Iron | 100 | 3.5 | 30 | -0.50 | <100 | -4.1 | <100 | -5.3 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | | | |
| Magnesium | 5000 | 30 | 200 | 2.2 | <5000 | 10.0 | <5000 | 8.8 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.30 | <15 | 0.10 | <15 | -0.20 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2.2 | 30 | | | | | | |
| Platinum | 50 | 6.4 | 30 | | | | | | |
| Potassium | 5000 | 54 | 500 | 19.1 | <5000 | 24.9 | <5000 | 24.5 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | | | |
| Silicon | 100 | 2 | 50 | | | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | | | |
| Sodium | 5000 | 16 | 200 | -4.7 | <5000 | -10 | <5000 | 0.60 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | | | |
| Tin | 100 | .87 | 5.0 | | | | | | |
| Titanium | 50 | .66 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | | | |
| Zinc | 20 | .45 | 1.5 | | | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15782  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15782  Units: ug/l

| Time: / Sample ID: | | | | 15:09 CCB3 | | 16:01 CCB4 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 12 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 1.7 | 3.5 | | | | |
| Barium | 50 | .32 | 2.5 | | | | |
| Beryllium | 4.0 | .1 | 0.90 | | | | |
| Boron | 100 | 1.1 | 5.0 | | | | |
| Cadmium | 4.0 | .25 | 1.9 | | | | |
| Calcium | 5000 | 21 | 150 | -0.80 | <5000 | 2.4 | <5000 |
| Chromium | 10 | .48 | 5.0 | | | | |
| Cobalt | 50 | .29 | 1.5 | | | | |
| Copper | 25 | .93 | 8.0 | | | | |
| Gold | 50 | 1.5 | 8.0 | | | | |
| Iron | 100 | 3.5 | 30 | -1.4 | <100 | -2.5 | <100 |
| Lead | 5.0 | 1.2 | 2.5 | | | | |
| Magnesium | 5000 | 30 | 200 | 6.7 | <5000 | -2.2 | <5000 |
| Manganese | 15 | .16 | 2.5 | 0.20 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .31 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2.2 | 30 | | | | |
| Platinum | 50 | 6.4 | 30 | | | | |
| Potassium | 5000 | 54 | 500 | 46.7 | <5000 | 41.8 | <5000 |
| Selenium | 10 | 1.7 | 8.0 | | | | |
| Silicon | 100 | 2 | 50 | | | | |
| Silver | 5.0 | .81 | 3.5 | | | | |
| Sodium | 5000 | 16 | 200 | 1.0 | <5000 | 9.6 | <5000 |
| Strontium | 10 | .12 | 0.90 | | | | |
| Thallium | 5.0 | 1.2 | 1.9 | | | | |
| Tin | 100 | .87 | 5.0 | | | | |
| Titanium | 50 | .66 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .82 | 8.0 | | | | |
| Zinc | 20 | .45 | 1.5 | | | | |
| Zirconium | 50 | .45 | 8.0 | | | | |

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA15782  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | | 12:53 | | | 13:03 | | | 14:08 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 18200 | 101.1 | 10000 | 10000 | 100.0 | 10000 | 9900 | 99.0 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18500 | 102.8 | 10000 | 10000 | 100.0 | 10000 | 9880 | 98.8 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9810 | 98.1 | 10000 | 9610 | 96.1 |
| Manganese | 3000 | 2980 | 99.3 | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9970 | 99.7 | 10000 | 9870 | 98.7 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15600 | 104.0 | 10000 | 9990 | 99.9 | 10000 | 9810 | 98.1 |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | | 15:04 | | | 15:57 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9840 | 98.4 | 10000 | 9930 | 99.3 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9770 | 97.7 | 10000 | 9840 | 98.4 |
| Lead | | | | | | |
| Magnesium | 10000 | 9520 | 95.2 | 10000 | 9680 | 96.8 |
| Manganese | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9840 | 98.4 | 10000 | 9970 | 99.7 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9720 | 97.2 | 10000 | 9770 | 97.7 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15782  Units: ug/l

| Time: | | | 13:17 | | 15:52 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5060 | 101.2 | 5000 | 100.0 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 103 | 103.0 | 101 | 101.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4940 | 98.8 | 4870 | 97.4 |
| Manganese | 15 | 15 | 15.7 | 104.7 | 15.5 | 103.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5100 | 102.0 | 5070 | 101.4 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 5010 | 100.2 | 4930 | 98.6 |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |
| Zirconium | 50 | 50 | | | | |

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA15782  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | | | 13:25 | | 13:31 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 507000 | 101.4 | 505000 | 101.0 |
| Antimony | | 2000 | 0.40 | | 2010 | 100.5 |
| Arsenic | | 2000 | 0.40 | | 2000 | 100.0 |
| Barium | | 500 | -1.0 | | 499 | 99.8 |
| Beryllium | | 500 | 0.10 | | 466 | 93.2 |
| Boron | | 1000 | 1.4 | | 954 | 95.4 |
| Cadmium | | 1000 | 0.30 | | 1020 | 102.0 |
| Calcium | 500000 | 500000 | 461000 | 92.2 | 457000 | 91.4 |
| Chromium | | 500 | 0.60 | | 512 | 102.4 |
| Cobalt | | 500 | 0.0 | | 465 | 93.0 |
| Copper | | 500 | 0.40 | | 539 | 107.8 |
| Gold | | 500 | -8.5* | | 510 | 102.0 |
| Iron | 200000 | 200000 | 185000 | 92.5 | 185000 | 92.5 |
| Lead | | 1000 | 1.1 | | 878 | 87.8 |
| Magnesium | 500000 | 500000 | 491000 | 98.2 | 492000 | 98.4 |
| Manganese | | 500 | 0.20 | | 500 | 100.0 |
| Molybdenum | | 1000 | -1.0 | | 937 | 93.7 |
| Nickel | | 1000 | -1.8* | | 851 | 85.1 |
| Palladium | | 500 | -42* | | 516 | 103.2 |
| Platinum | | 500 | -20 | | 503 | 100.6 |
| Potassium | | | -26 | | 0.60 | |
| Selenium | | 2000 | -1.6 | | 1960 | 98.0 |
| Silicon | | 2000 | 29.5 | | 2120 | 106.0 |
| Silver | | 1000 | -0.10 | | 1100 | 110.0 |
| Sodium | | | 65.9 | | 70.1 | |
| Strontium | | 1000 | 0.80 | | 971 | 97.1 |
| Thallium | | 2000 | 1.5 | | 1780 | 89.0 |
| Tin | | 1000 | -0.20 | | 943 | 94.3 |
| Titanium | | 500 | 9.6* | | 550 | 110.0 |
| Tungsten | | 2000 | -23 | | 2010 | 100.5 |
| Vanadium | | 500 | 0.90 | | 544 | 108.8 |
| Zinc | | 1000 | -0.50 | | 891 | 89.1 |
| Zirconium | | 500 | 2.0 | | 475 | 95.0 |

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB062113M1L.ICP  Date Analyzed: 06/21/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA15782  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA15789
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:55 | MA15789-STD1 | 1 | | STDA |
| 11:03 | MA15789-STD2 | 1 | | STDB |
| 11:10 | MA15789-STD3 | 1 | | STDC |
| 11:17 | MA15789-STD4 | 1 | | STDD |
| 11:24 | MA15789-STD5 | 1 | | STDE |
| 11:31 | MA15789-STD6 | 1 | | STDF |
| 11:38 | MA15789-STD7 | 1 | | STDG |
| 11:45 | MA15789-STD8 | 1 | | STDH |
| 11:52 | MA15789-ICV1 | 1 | | |
| 11:59 | MA15789-ICB1 | 1 | | |
| 12:06 | MA15789-CCV1 | 1 | | |
| 12:13 | MA15789-CCB1 | 1 | | |
| 12:20 | MA15789-CRI1 | 1 | | |
| 12:28 | MA15789-ICSA1 | 1 | | |
| 12:35 | MA15789-ICSAB1 | 1 | | |
| 12:42 | ZZZZZZ | 1 | | RINSECONF |
| 12:49 | MP21204A-MB1 | 2 | | |
| 12:56 | MC21832-1F | 2 | | AS OVER RANGE. |
| 13:03 | MC21832-2F | 2 | | |
| 13:10 | MC21832-3F | 2 | | |
| 13:17 | MC21832-4F | 2 | | |
| 13:24 | MP21204A-B1 | 20 | | |
| 13:32 | MA15789-CCV2 | 1 | | |
| 13:39 | MA15789-CCB2 | 1 | | |
| 13:46 | MP21204A-MB1 | 2 | | |
| 13:53 | MC21832-1F | 100 | | |
| 14:00 | MC21832-2F | 50 | | |
| 14:07 | MC21832-3F | 50 | | |
| 14:14 | MP21204A-S1 | 100 | | |
| 14:21 | MP21204A-S2 | 100 | | |
| 14:28 | MP21204A-PS1 | 100 | | |
| 14:36 | MP21204A-SD1 | 500 | | |
| ----------> | Last reportable sample/prep for job MC21832 | | | |
| 14:51 | MA15789-CRI2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA15789
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:59 | MA15789-CCV3 | 1 | | |
| 15:10 | MA15789-CCB3 | 1 | | |

----------> Last reportable CCB for job MC21832
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF Date Analyzed: 06/21/13 Methods: SW846 6020A
Analyst: SA Run ID: MA15789
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:55 | MA15789-STD1 | 1448018 R | 2168397 R | 223344 R | 464611 R | 97165 R | 2609490 R | 2918322 R | 869715 R |
| 11:03 | MA15789-STD2 | 1497986 | 2246296 | 224485 | 481334 | 97533 | 2745021 | 3039466 | 874910 |
| 11:10 | MA15789-STD3 | 1484657 | 2278799 | 224856 | 483345 | 97370 | 2783965 | 3075807 | 875486 |
| 11:17 | MA15789-STD4 | 1471493 | 2240832 | 223516 | 469589 | 96792 | 2718162 | 3001353 | 863093 |
| 11:24 | MA15789-STD5 | 1476798 | 2252488 | 223530 | 469420 | 96552 | 2743900 | 3039482 | 857961 |
| 11:31 | MA15789-STD6 | 1470883 | 2236178 | 221539 | 467214 | 95753 | 2713735 | 2978937 | 847870 |
| 11:38 | MA15789-STD7 | 1463755 | 2249636 | 226692 | 481057 | 97908 | 2703017 | 3031687 | 873284 |
| 11:45 | MA15789-STD8 | 1439155 | 2254396 | 225698 | 486269 | 98403 | 2608876 | 2920360 | 855608 |
| 11:52 | MA15789-ICV1 | 1441942 | 2255352 | 223449 | 472813 | 96350 | 2636956 | 2946365 | 845132 |
| 11:59 | MA15789-ICB1 | 1435075 | 2179744 | 227863 | 468161 | 98455 | 2657309 | 2927575 | 884130 |
| 12:06 | MA15789-CCV1 | 1459045 | 2265792 | 225143 | 474400 | 97182 | 2649647 | 2952928 | 849851 |
| 12:13 | MA15789-CCB1 | 1484765 | 2264425 | 222739 | 482304 | 97235 | 2756272 | 3051203 | 868914 |
| 12:20 | MA15789-CRI1 | 1460759 | 2236497 | 225549 | 475790 | 97545 | 2702222 | 3007952 | 875662 |
| 12:28 | MA15789-ICSA1 | 1331533 | 2131730 | 210836 | 515310 | 98270 | 2397962 | 2770493 | 783695 |
| 12:35 | MA15789-ICSAB1 | 1406741 | 2211216 | 210248 | 520623 | 98323 | 2458864 | 2865364 | 782519 |
| 12:42 | ZZZZZZ | 1654877 | 2380138 | 226146 | 507980 | 99591 | 2878524 | 3230075 | 892690 |
| 12:49 | MP21204A-MB1 | 1831727 | 2499028 | 223782 | 533762 | 98505 | 3001107 | 3373650 | 872711 |
| 12:56 | MC21832-1F | 1747290 | 2411916 | 219092 | 511575 | 96695 | 2704152 | 3121195 | 836885 |
| 13:03 | MC21832-2F | 1746753 | 2439376 | 219757 | 514061 | 98373 | 2710319 | 3101573 | 839119 |
| 13:10 | MC21832-3F | 1766291 | 2433454 | 221113 | 513846 | 97964 | 2702250 | 3115995 | 836821 |
| 13:17 | MC21832-4F | 1823045 | 2420486 | 224637 | 511330 | 98196 | 2843767 | 3176589 | 864319 |
| 13:24 | MP21204A-B1 | 1701980 | 2415772 | 228391 | 499757 | 100223 | 2839022 | 3198101 | 879427 |
| 13:32 | MA15789-CCV2 | 1656792 | 2370832 | 222710 | 487618 | 96486 | 2726356 | 3055317 | 830947 |
| 13:39 | MA15789-CCB2 | 1687109 | 2376732 | 227081 | 500407 | 98477 | 2814839 | 3145679 | 871774 |
| 13:46 | MP21204A-MB1 | 1798916 | 2404855 | 224280 | 503536 | 97440 | 2814315 | 3132361 | 856336 |
| 13:53 | MC21832-1F | 1651106 | 2388694 | 226923 | 505815 | 99642 | 2832521 | 3170782 | 877126 |
| 14:00 | MC21832-2F | 1592162 | 2335802 | 227085 | 496123 | 99226 | 2788288 | 3101161 | 876171 |
| 14:07 | MC21832-3F | 1577714 | 2308365 | 227472 | 494715 | 99481 | 2768188 | 3098333 | 872669 |
| 14:14 | MP21204A-S1 | 1623717 | 2450940 | 229406 | 508900 | 99792 | 2923044 | 3263007 | 888726 |
| 14:21 | MP21204A-S2 | 1548061 | 2315870 | 224411 | 491371 | 98739 | 2784466 | 3129903 | 868640 |
| 14:28 | MP21204A-PS1 | 1541462 | 2310871 | 229570 | 492928 | 100015 | 2769146 | 3104958 | 890192 |
| 14:36 | MP21204A-SD1 | 1520356 | 2270764 | 230382 | 492246 | 100293 | 2725441 | 3038533 | 889219 |
| 14:51 | MA15789-CRI2 | 1621008 | 2352522 | 228614 | 494186 | 98998 | 2787689 | 3087053 | 873859 |

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA15789
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 14:59 | MA15789-CCV3 | 1597918 | 2327555 | 224661 | 483986 | 97032 | 2685046 | 3021347 | 842856 |
| 15:10 | MA15789-CCB3 | 1645789 | 2341688 | 228120 | 492843 | 98696 | 2786207 | 3101320 | 873635 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA15789
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:55 | MA15789-STD1 | 3875239 R | 2160614 R |
| 11:03 | MA15789-STD2 | 4095199 | 2301279 |
| 11:10 | MA15789-STD3 | 4163503 | 2330543 |
| 11:17 | MA15789-STD4 | 4057135 | 2267534 |
| 11:24 | MA15789-STD5 | 4114118 | 2279273 |
| 11:31 | MA15789-STD6 | 4045438 | 2262142 |
| 11:38 | MA15789-STD7 | 4075008 | 2257438 |
| 11:45 | MA15789-STD8 | 4021160 | 2154238 |
| 11:52 | MA15789-ICV1 | 4027804 | 2172794 |
| 11:59 | MA15789-ICB1 | 3935076 | 2167871 |
| 12:06 | MA15789-CCV1 | 4057987 | 2159128 |
| 12:13 | MA15789-CCB1 | 4074431 | 2260402 |
| 12:20 | MA15789-CRI1 | 4070218 | 2234506 |
| 12:28 | MA15789-ICSA1 | 3889641 | 1956532 |
| 12:35 | MA15789-ICSAB1 | 4060518 | 2019483 |
| 12:42 | ZZZZZZ | 4323657 | 2362604 |
| 12:49 | MP21204A-MB1 | 4526690 | 2514744 |
| 12:56 | MC21832-1F | 4276445 | 2262949 |
| 13:03 | MC21832-2F | 4279867 | 2259610 |
| 13:10 | MC21832-3F | 4227320 | 2261402 |
| 13:17 | MC21832-4F | 4311841 | 2382566 |
| 13:24 | MP21204A-B1 | 4267533 | 2319385 |
| 13:32 | MA15789-CCV2 | 4154939 | 2216069 |
| 13:39 | MA15789-CCB2 | 4219944 | 2344882 |
| 13:46 | MP21204A-MB1 | 4221612 | 2315518 |
| 13:53 | MC21832-1F | 4230316 | 2286928 |
| 14:00 | MC21832-2F | 4120949 | 2272076 |
| 14:07 | MC21832-3F | 4123224 | 2264043 |
| 14:14 | MP21204A-S1 | 4294683 | 2339744 |
| 14:21 | MP21204A-S2 | 4124282 | 2247062 |
| 14:28 | MP21204A-PS1 | 4104980 | 2213233 |
| 14:36 | MP21204A-SD1 | 4002694 | 2111955 |
| 14:51 | MA15789-CRI2 | 4125526 | 2254639 |

INTERNAL STANDARD SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA15789
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 14:59 | MA15789-CCV3 | 4110987 | 2186508 |
| 15:10 | MA15789-CCB3 | 4126931 | 2237559 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15789  Units: ug/l

| Time: / Sample ID: | | | | 11:59 ICB1 | | 12:13 CCB1 | | 13:39 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .3 | 13 | | | | | | |
| Antimony | 0.50 | .014 | 0.25 | | | | | | |
| Arsenic | 0.50 | .029 | 0.25 | -0.0049 | <0.50 | 0.0069 | <0.50 | 0.0095 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0024 | 0.25 | | | | | | |
| Boron | 5.0 | .035 | 2.5 | | | | | | |
| Cadmium | 0.50 | .0031 | 0.25 | | | | | | |
| Calcium | 250 | 1.7 | 50 | | | | | | |
| Chromium | 1.0 | .0087 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0019 | 0.25 | | | | | | |
| Copper | 1.0 | .0092 | 0.50 | | | | | | |
| Iron | 25 | .52 | 13 | | | | | | |
| Lead | 0.50 | .0027 | 0.25 | | | | | | |
| Magnesium | 250 | .12 | 50 | | | | | | |
| Manganese | 1.0 | .051 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 1.8 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .0029 | 0.25 | | | | | | |
| Sodium | 250 | 1.6 | 50 | | | | | | |
| Strontium | 5.0 | .0033 | 2.5 | | | | | | |
| Thallium | 0.50 | .0069 | 0.25 | | | | | | |
| Tin | 5.0 | .032 | 2.5 | | | | | | |
| Titanium | 1.0 | .036 | 0.50 | | | | | | |
| Vanadium | 2.0 | .064 | 1.0 | | | | | | |
| Zinc | 2.0 | .11 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA15789  Units: ug/l

| Time: | | | | 15:10 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .3 | 13 | | |
| Antimony | 0.50 | .014 | 0.25 | | |
| Arsenic | 0.50 | .029 | 0.25 | 0.0068 | <0.50 |
| Barium | 1.0 | .015 | 0.50 | | |
| Beryllium | 0.50 | .0024 | 0.25 | | |
| Boron | 5.0 | .035 | 2.5 | | |
| Cadmium | 0.50 | .0031 | 0.25 | | |
| Calcium | 250 | 1.7 | 50 | | |
| Chromium | 1.0 | .0087 | 0.50 | | |
| Cobalt | 0.50 | .0019 | 0.25 | | |
| Copper | 1.0 | .0092 | 0.50 | | |
| Iron | 25 | .52 | 13 | | |
| Lead | 0.50 | .0027 | 0.25 | | |
| Magnesium | 250 | .12 | 50 | | |
| Manganese | 1.0 | .051 | 0.50 | | |
| Molybdenum | 1.0 | .0058 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 1.8 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .0029 | 0.25 | | |
| Sodium | 250 | 1.6 | 50 | | |
| Strontium | 5.0 | .0033 | 2.5 | | |
| Thallium | 0.50 | .0069 | 0.25 | | |
| Tin | 5.0 | .032 | 2.5 | | |
| Titanium | 1.0 | .036 | 0.50 | | |
| Vanadium | 2.0 | .064 | 1.0 | | |
| Zinc | 2.0 | .11 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15789  Units: ug/l

| Time: | | 11:52 | | | 12:06 | | | 13:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 60.1 | 100.2 | 50 | 49.8 | 99.6 | 50 | 50.1 | 100.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA15789  Units: ug/l

| Time: | | 14:59 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.7 | 99.4 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA15789  Units: ug/l

| Time: | | | 12:20 | | 14:51 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.52 | 104.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA062113W1L.AGF  Date Analyzed: 06/21/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA15789  Units: ug/l

| Time: | | | 12:28 | | 12:35 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95600 | 95.6 | 93500 | 93.5 |
| Antimony | | | 0.29* | | 0.29* | |
| Arsenic | | 20 | 0.22 | | 19.4 | 97.0 |
| Barium | | | 0.26 | | 0.23 | |
| Beryllium | | | 0.0028 | | -0.0011 | |
| Boron | | | 0.30 | | 0.31 | |
| Cadmium | | 20 | 1.2* | | 20.6 | 103.0 |
| Calcium | 100000 | 100000 | 96600 | 96.6 | 95700 | 95.7 |
| Chromium | | 20 | 1.0* | | 20.5 | 102.5 |
| Cobalt | | 20 | 0.042 | | 19.2 | 96.0 |
| Copper | | 20 | 0.39 | | 17.2 | 86.0 |
| Iron | 100000 | 100000 | 96900 | 96.9 | 96900 | 96.9 |
| Lead | | | 0.13 | | 0.13 | |
| Magnesium | 100000 | 100000 | 95800 | 95.8 | 94100 | 94.1 |
| Manganese | | 20 | 0.14 | | 19.3 | 96.5 |
| Molybdenum | 2000 | 2000 | 2070 | 103.5 | 2070 | 103.5 |
| Nickel | | 20 | 0.70* | | 19.4 | 97.0 |
| Potassium | 100000 | 100000 | 98000 | 98.0 | 96800 | 96.8 |
| Selenium | | | -0.065 | | 0.086 | |
| Silver | | 20 | 0.058 | | 19.5 | 97.5 |
| Sodium | 100000 | 100000 | 95600 | 95.6 | 94000 | 94.0 |
| Strontium | | | 5.0* | | 4.9* | |
| Thallium | | | 0.026 | | 0.017 | |
| Tin | | | 0.11 | | 0.098 | |
| Titanium | 2000 | 2000 | 2050 | 102.5 | 2030 | 101.5 |
| Vanadium | | | 0.069 | | 0.079 | |
| Zinc | | 20 | 2.3* | | 18.6 | 93.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 12 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 1.7 | 2.9 | | |
| Barium | 50 | .32 | .81 | | |
| Beryllium | 4.0 | .1 | .25 | | |
| Boron | 100 | 1.1 | 1.4 | | |
| Cadmium | 4.0 | .25 | .5 | | |
| Calcium | 5000 | 21 | 38 | 1.8 | <5000 |
| Chromium | 10 | .48 | 1.4 | | |
| Cobalt | 50 | .29 | .4 | | |
| Copper | 25 | .93 | 7 | | |
| Gold | 50 | 1.5 | 5 | | |
| Iron | 100 | 3.5 | 20 | 9.3 | <100 |
| Lead | 5.0 | 1.2 | 1.7 | | |
| Magnesium | 5000 | 30 | 59 | 13.7 | <5000 |
| Manganese | 15 | .16 | .81 | 0.0 | <15 |
| Molybdenum | 100 | .31 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2.2 | 7.6 | | |
| Platinum | 50 | 6.4 | 14 | | |
| Potassium | 5000 | 54 | 160 | 62.5 | <5000 |
| Selenium | 10 | 1.7 | 4.8 | | |
| Silicon | 100 | 2 | 45 | | |
| Silver | 5.0 | .81 | 1 | | |
| Sodium | 5000 | 16 | 60 | 17.5 | <5000 |
| Strontium | 10 | .12 | .26 | | |
| Thallium | 5.0 | 1.2 | 1.9 | | |
| Tin | 100 | .87 | 1.4 | | |
| Titanium | 50 | .66 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .82 | 2.8 | | |
| Zinc | 20 | .45 | .5 | | |
| Zirconium | 50 | .45 | 2.2 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | MC21832-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 21400 | 46500 | 25000 | 100.4 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 19700 | 21300 | 2000 | 80.0 | 75-125 |
| Lead | | | | | |
| Magnesium | 1440 | 26900 | 25000 | 101.8 | 75-125 |
| Manganese | 1830 | 2320 | 500 | 98.0 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 3210 | 29400 | 25000 | 104.8 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 16300 | 41600 | 25000 | 101.2 | 75-125 |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |
| Zirconium | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | MC21832-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 21400 | 46700 | 25000 | 101.2 | 0.4 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 19700 | 21400 | 2000 | 85.0 | 0.5 | 20 |
| Lead | | | | | | |
| Magnesium | 1440 | 26900 | 25000 | 101.8 | 0.0 | 20 |
| Manganese | 1830 | 2340 | 500 | 102.0 | 0.9 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 3210 | 29400 | 25000 | 104.8 | 0.0 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 16300 | 41800 | 25000 | 102.0 | 0.5 | 20 |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |
| Zirconium | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25400 | 25000 | 101.6 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2070 | 2000 | 103.5 | 80-120 |
| Lead | | | | |
| Magnesium | 25300 | 25000 | 101.2 | 80-120 |
| Manganese | 491 | 500 | 98.2 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 26600 | 25000 | 106.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25400 | 25000 | 101.6 | 80-120 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | MC21832-1F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 21400 | 22200 | 3.7 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 19700 | 20000 | 1.5 | 0-10 |
| Lead | | | | |
| Magnesium | 1440 | 1490 | 4.0 | 0-10 |
| Manganese | 1830 | 1870 | 1.9 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 3210 | 3420 | 6.6 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 16300 | 17000 | 4.0 | 0-10 |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |
| Zirconium | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/19/13

| Metal | Sample ml | Final ml | MC21832-1F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | 10 | 11.5 | 21370 | 18582.61 | 63070 | 1 | 500 | 43478.26 | 102.3 | 80-120 |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 19680 | 17113.04 | 17710 | 1 | 10 | 869.5652 | 68.6 (a) | 80-120 |
| Lead | | | | | | | | | | |
| Magnesium | 10 | 11.5 | 1436 | 1248.696 | 44190 | 1 | 500 | 43478.26 | 98.8 | 80-120 |
| Manganese | 10 | 11.5 | 1832 | 1593.043 | 2248 | .5 | 15 | 652.1739 | 100.4 | 80-120 |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Potassium | 10 | 11.5 | 3210 | 2791.304 | 46440 | 1 | 500 | 43478.26 | 100.4 | 80-120 |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | 10 | 11.5 | 16340 | 14208.7 | 56920 | 1 | 500 | 43478.26 | 98.2 | 80-120 |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Associated samples MP21204: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | .59 | 3.5 | | |
| Antimony | 1.0 | .028 | .044 | | |
| Arsenic | 1.0 | .057 | .41 | 0.46 | <1.0 |
| Barium | 2.0 | .03 | .08 | | |
| Beryllium | 1.0 | .0048 | .029 | | |
| Boron | 10 | .07 | .16 | | |
| Cadmium | 1.0 | .0062 | .037 | | |
| Calcium | 500 | 3.4 | 83 | | |
| Chromium | 2.0 | .017 | .15 | | |
| Cobalt | 1.0 | .0038 | .019 | | |
| Copper | 2.0 | .018 | .89 | | |
| Iron | 50 | 1 | 12 | | |
| Lead | 1.0 | .0054 | .025 | | |
| Magnesium | 500 | .25 | 1.8 | | |
| Manganese | 2.0 | .1 | .69 | | |
| Molybdenum | 2.0 | .012 | .3 | | |
| Nickel | 2.0 | .025 | .22 | | |
| Potassium | 500 | 3.7 | 49 | | |
| Selenium | 1.0 | .26 | .38 | | |
| Silver | 1.0 | .0059 | .025 | | |
| Sodium | 500 | 3.2 | 6.2 | | |
| Strontium | 10 | .0065 | .039 | | |
| Thallium | 1.0 | .014 | .014 | | |
| Tin | 10 | .063 | .5 | | |
| Titanium | 2.0 | .071 | .13 | | |
| Vanadium | 4.0 | .13 | 1.3 | | |
| Zinc | 4.0 | .21 | 1.4 | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | MC21832-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 3180 | 3680 | 500 | 100.0 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | MC21832-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 3180 | 3650 | 500 | 94.0 | 0.8 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 513 | 500 | 102.6 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | MC21832-1F Original | SDL 2:500%DIF | | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 3180 | 3120 | 1.8 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21204A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/20/13

| Metal | Sample ml | Final ml | MC21832-1F Raw | MC21832-1F Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | 10 | 12 | 3177 | 2647.5 | 2636 | 2 | .1 | 16.66667 | -69.0(a) | 75-125 |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

Associated samples MP21204A: MC21832-1F, MC21832-2F, MC21832-3F, MC21832-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43307 | 5.0 | 1.1 | mg/l | 250 | 259 | 103.6 | 80-120% |
| Chloride | GN43345 | 1.0 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 80-120% |
| Dissolved Organic Carbon | GN43298 | 1.0 | 0.0 | mg/l | 10 | 9.90 | 99.0 | 80-120% |
| Nitrogen, Ammonia | GP16210/GN43299 | 0.10 | 0.0 | mg/l | 0.5 | 0.52 | 104.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16217/GN43316 | 0.10 | 0.032 | mg/l | 2 | 2.06 | 103.0 | 90-110% |
| Nitrogen, Nitrite | GP16201/GN43278 | 0.010 | 0.0 | mg/l | 0.02 | 0.020 | 100.0 | 80-120% |
| Sulfate | GN43319 | 5.0 | 0.0 | mg/l | 20 | 20.9 | 104.5 | 80-120% |
| Sulfide | GN43295 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |

Associated Samples:
Batch GN43295: MC21832-1, MC21832-2, MC21832-3
Batch GN43298: MC21832-1F, MC21832-2F, MC21832-3F
Batch GN43307: MC21832-1, MC21832-2, MC21832-3
Batch GN43319: MC21832-1, MC21832-2, MC21832-3
Batch GN43345: MC21832-1, MC21832-2, MC21832-3
Batch GP16201: MC21832-1, MC21832-2, MC21832-3
Batch GP16210: MC21832-1, MC21832-2, MC21832-3
Batch GP16217: MC21832-1, MC21832-2, MC21832-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43307 | MC21832-1 | mg/l | 84.0 | 84.0 | 0.0 | 0-20% |
| Chloride | GN43345 | MC21832-1 | mg/l | 19.0 | 19.0 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN43298 | MC21832-1F | mg/l | 1.0 | 0.99 | 1.0 | 0-20% |
| Nitrogen, Ammonia | GP16210/GN43299 | MC21832-1 | mg/l | 2.1 | 2.1 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16217/GN43316 | MC21832-1 | mg/l | 0.22 | 0.22 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16201/GN43278 | MC21832-1 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |
| Sulfate | GN43319 | MC21832-1 | mg/l | 6.4 | 6.6 | 3.1 | 0-20% |
| Sulfide | GN43295 | MC21832-1 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN43295: MC21832-1, MC21832-2, MC21832-3
Batch GN43298: MC21832-1F, MC21832-2F, MC21832-3F
Batch GN43307: MC21832-1, MC21832-2, MC21832-3
Batch GN43319: MC21832-1, MC21832-2, MC21832-3
Batch GN43345: MC21832-1, MC21832-2, MC21832-3
Batch GP16201: MC21832-1, MC21832-2, MC21832-3
Batch GP16210: MC21832-1, MC21832-2, MC21832-3
Batch GP16217: MC21832-1, MC21832-2, MC21832-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN43307 | MC21832-1 | mg/l | 84.0 | 250 | 343 | 103.6 | 75-125% |
| Chloride | GN43345 | MC21832-1 | mg/l | 19.0 | 10 | 29.5 | 105.0 | 75-125% |
| Dissolved Organic Carbon | GN43298 | MC21832-1F | mg/l | 1.0 | 10 | 10.8 | 98.0 | 75-125% |
| Nitrogen, Ammonia | GP16210/GN43299 | MC21832-1 | mg/l | 2.1 | 1.0 | 3.0 | 90.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16217/GN43316 | MC21832-1 | mg/l | 0.22 | 2 | 2.3 | 104.0 | 90-110% |
| Nitrogen, Nitrite | GP16201/GN43278 | MC21832-1 | mg/l | 0.0017 U | 0.02 | 0.019 | 95.0 | 75-125% |
| Sulfate | GN43319 | MC21832-1 | mg/l | 6.4 | 20 | 26.4 | 100.0 | 75-125% |
| Sulfide | GN43295 | MC21832-1 | mg/l | 0.49 U | 10.7 | 10.4 | 97.2 | 75-125% |

Associated Samples:
Batch GN43295: MC21832-1, MC21832-2, MC21832-3
Batch GN43298: MC21832-1F, MC21832-2F, MC21832-3F
Batch GN43307: MC21832-1, MC21832-2, MC21832-3
Batch GN43319: MC21832-1, MC21832-2, MC21832-3
Batch GN43345: MC21832-1, MC21832-2, MC21832-3
Batch GP16201: MC21832-1, MC21832-2, MC21832-3
Batch GP16210: MC21832-1, MC21832-2, MC21832-3
Batch GP16217: MC21832-1, MC21832-2, MC21832-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC061813W1.TXT  Date Analyzed: 06/18/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN43298
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:50 | GN43298-CCV1 | 1 | | |
| 11:03 | GN43298-CCB1 | 1 | | |
| 11:14 | ZZZZZZ | 1 | | DNR, sparger check STD. |
| 11:27 | GN43298-ICV1 | 1 | | |
| 11:40 | GN43298-MB1 | 1 | | |
| 11:53 | GN43298-B1 | 1 | | |
| 12:06 | GN43298-S1 | 1 | | |
| 12:19 | GN43298-D1 | 1 | | |
| 12:32 | MC21832-1F | 1 | | |
| 12:45 | MC21832-2F | 1 | | |
| 12:58 | MC21832-3F | 1 | | |
| 13:11 | GN43298-CCV2 | 1 | | |
| 13:24 | GN43298-CCB2 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC061813W1.TXT  Date Analyzed: 06/18/13  Methods: SM21 5310 B
Run ID: GN43298  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43298-CCV1 | Dissolved Organic Carbon | 20.0 | 1.0 | 0.23 | 20 | 100.0 | 90-110 |
| GN43298-CCB1 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |
| GN43298-ICV1 | Dissolved Organic Carbon | 30.2 | 1.0 | 0.23 | 30 | 100.7 | 90-110 |
| GN43298-CCV2 | Dissolved Organic Carbon | 19.9 | 1.0 | 0.23 | 20 | 99.5 | 90-110 |
| GN43298-CCB2 | Dissolved Organic Carbon | 0.23 U | 1.0 | 0.23 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43316
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:11 | GN43316-STD9 | 1 | | STDA5.0 |
| 13:12 | GN43316-STD10 | 1 | | STDB2.0 |
| 13:13 | GN43316-STD11 | 1 | | STDC1.0 |
| 13:14 | GN43316-STD12 | 1 | | STDD0.80 |
| 13:16 | GN43316-STD13 | 1 | | STDE0.50 |
| 13:17 | GN43316-STD14 | 1 | | STDF0.30 |
| 13:18 | GN43316-STD15 | 1 | | STDG0.10 |
| 13:19 | GN43316-STD16 | 1 | | STDH0.0 |
| 13:22 | GN43316-ICV2 | 1 | | |
| 13:23 | GN43316-ICB2 | 1 | | |
| 13:24 | GN43316-CCV6 | 1 | | |
| 13:25 | GN43316-CCB6 | 1 | | |
| 13:27 | ZZZZZZ | 1 | | Column efficiency. |
| 13:28 | GP16215-MB1 | 1 | | |
| 13:29 | GP16215-B1 | 1 | | |
| 13:30 | GP16215-S1 | 1 | | |
| 13:32 | GP16215-D1 | 1 | | |
| 13:33 | MC21805-5 | 1 | | (sample used for QC only; not part of login MC21832) |
| 13:34 | ZZZZZZ | 1 | | |
| 13:35 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:38 | ZZZZZZ | 1 | | |
| 13:39 | GN43316-CCV7 | 1 | | |
| 13:40 | GN43316-CCB7 | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:43 | ZZZZZZ | 1 | | |
| 13:44 | GN43316-CCV8 | 1 | | |
| 13:45 | GN43316-CCB8 | 1 | | |
| 13:47 | GN43316-ICV3 | 1 | | |
| 13:48 | GN43316-ICB3 | 1 | | |
| 13:49 | GN43316-CCV9 | 1 | | |
| 13:50 | GN43316-CCB9 | 1 | | |
| 13:52 | ZZZZZZ | 1 | | Column efficiency. |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43316
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:53 | GP16216-MB1 | 1 | | |
| 13:54 | GP16216-B1 | 1 | | |
| 13:55 | GP16216-S1 | 1 | | |
| 13:56 | GP16216-D1 | 1 | | |
| 13:58 | MC21793-4 | 1 | | (sample used for QC only; not part of login MC21832) |
| 13:59 | ZZZZZZ | 1 | | |
| 14:00 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:04 | GN43316-CCV10 | 1 | | |
| 14:05 | GN43316-CCB10 | 1 | | |
| 14:06 | ZZZZZZ | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:09 | ZZZZZZ | 1 | | |
| 14:10 | GN43316-CCV11 | 1 | | |
| 14:11 | GN43316-CCB11 | 1 | | |
| 14:13 | GN43316-ICV4 | 1 | | |
| 14:14 | GN43316-ICB4 | 1 | | |
| 14:15 | GN43316-CCV12 | 1 | | |
| 14:16 | GN43316-CCB12 | 1 | | |
| 14:18 | ZZZZZZ | 1 | | Column efficiency. |
| 14:19 | GP16217-MB1 | 1 | | |
| 14:20 | GP16217-B1 | 1 | | |
| 14:21 | GP16217-S1 | 1 | | |
| 14:23 | GP16217-D1 | 1 | | |
| 14:24 | MC21832-1 | 1 | | |
| 14:25 | MC21832-2 | 1 | | |
| 14:26 | MC21832-3 | 1 | | |
| 14:28 | ZZZZZZ | 1 | | |
| 14:29 | ZZZZZZ | 1 | | |
| 14:30 | GN43316-CCV13 | 1 | | |
| 14:31 | GN43316-CCB13 | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43316
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:34 | ZZZZZZ | 1 | | |
| 14:35 | ZZZZZZ | 1 | | DNR, offscale. |
| 14:36 | GN43316-CCV14 | 1 | | |
| 14:37 | GN43316-CCB14 | 1 | | |
| 14:44 | GN43316-STD1 | 1 | | STDA5.0 |
| 14:45 | GN43316-STD2 | 1 | | STDB2.0 |
| 14:46 | GN43316-STD3 | 1 | | STDC1.0 |
| 14:48 | GN43316-STD4 | 1 | | STDD0.80 |
| 14:49 | GN43316-STD5 | 1 | | STDE0.50 |
| 14:50 | GN43316-STD6 | 1 | | STDF0.30 |
| 14:51 | GN43316-STD7 | 1 | | STDG0.10 |
| 14:53 | GN43316-STD8 | 1 | | STDH0.0 |
| 14:55 | GN43316-ICV1 | 1 | | |
| 14:56 | GN43316-ICB1 | 1 | | |
| 14:57 | GN43316-CCV1 | 1 | | |
| 14:59 | GN43316-CCB1 | 1 | | |
| 15:00 | ZZZZZZ | 1 | | Column efficiency. |
| 15:01 | GP16218-MB1 | 1 | | |
| 15:02 | GP16218-B1 | 1 | | |
| 15:04 | ZZZZZZ | 1 | | DNR, offscale. |
| 15:05 | ZZZZZZ | 1 | | DNR, offscale. |
| 15:06 | ZZZZZZ | 1 | | DNR, offscale. |
| 15:07 | ZZZZZZ | 1 | | |
| 15:09 | ZZZZZZ | 1 | | DNR, offscale. |
| 15:10 | ZZZZZZ | 1 | | DNR, offscale. |
| 15:11 | ZZZZZZ | 1 | | |
| 15:12 | GN43316-CCV2 | 1 | | |
| 15:14 | GN43316-CCB2 | 1 | | |
| 15:15 | ZZZZZZ | 5 | | |
| 15:16 | GN43316-CCV3 | 1 | | |
| 15:17 | GN43316-CCB3 | 1 | | |
| 15:41 | GN43316-CCV4 | 1 | | |
| 15:43 | GN43316-CCB4 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Analyst: CF Run ID: GN43316
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:44 | GP16218-S1 | 5 | | |
| 15:45 | GP16218-D1 | 5 | | |
| 15:46 | MC21912-1 | 5 | | (sample used for QC only; not part of login MC21832) |
| 15:48 | ZZZZZZ | 5 | | |
| 15:49 | ZZZZZZ | 5 | | |
| 15:50 | GN43316-CCV5 | 1 | | |
| 15:51 | GN43316-CCB5 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Run ID: GN43316 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43316-ICV2 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN43316-ICB2 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV6 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB6 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV7 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB7 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV8 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB8 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-ICV3 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN43316-ICB3 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV9 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB9 | Nitrogen, Nitrate + Nitrite | 0.033 | 0.10 | 0.027 | | | |
| GN43316-CCV10 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB10 | Nitrogen, Nitrate + Nitrite | 0.033 | 0.10 | 0.027 | | | |
| GN43316-CCV11 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB11 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-ICV4 | Nitrogen, Nitrate + Nitrite | 3.3 | 0.10 | 0.027 | 3 | 110.0 | 90-110 |
| GN43316-ICB4 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV12 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB12 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV13 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB13 | Nitrogen, Nitrate + Nitrite | 0.032 | 0.10 | 0.027 | | | |
| GN43316-CCV14 | Nitrogen, Nitrate + Nitrite | 2.2 | 0.10 | 0.027 | 2 | 110.0 | 90-110 |
| GN43316-CCB14 | Nitrogen, Nitrate + Nitrite | 0.037 | 0.10 | 0.027 | | | |
| GN43316-ICV1 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN43316-ICB1 | Nitrogen, Nitrate + Nitrite | 0.038 | 0.10 | 0.027 | | | |
| GN43316-CCV1 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN43316-CCB1 | Nitrogen, Nitrate + Nitrite | 0.039 | 0.10 | 0.027 | | | |
| GN43316-CCV2 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB2 | Nitrogen, Nitrate + Nitrite | 0.038 | 0.10 | 0.027 | | | |
| GN43316-CCV3 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB3 | Nitrogen, Nitrate + Nitrite | 0.038 | 0.10 | 0.027 | | | |
| GN43316-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN43316-CCB4 | Nitrogen, Nitrate + Nitrite | 0.042 | 0.10 | 0.027 | | | |

Instrument QC Summary
Inorganics Analyses

Login Number: MC21832
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 061913W1.NO3 Date Analyzed: 06/19/13 Methods: EPA 353.2
Run ID: GN43316 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN43316-CCV5 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN43316-CCB5 | Nitrogen, Nitrate + Nitrite | 0.038 | 0.10 | 0.027 | | | |

(!) Outside of QC limits

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1309967 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Tom Hevner |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEYS HILL ATP |
| Project Number: | AC001-02F-01 |
| Report Date: | 06/10/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1309967-01 | EFF-060313 | DEVENS, MA | 06/03/13 10:43 |
| L1309967-02 | EW1-060313 | DEVENS, MA | 06/03/13 11:00 |
| L1309967-03 | EW4-060313 | DEVENS, MA | 06/03/13 11:01 |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEYS HILL ATP | **Lab Number:** | L1309967 |
| **Project Number:** | AC001-02F-01 | **Report Date:** | 06/10/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

Metals

WG612426 and WG612430: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

**Case Narrative (continued)**

Non-MCP Related Narratives

Nitrogen, Nitrate

L1309967-01 was analyzed with the method required holding time exceeded. The sample was analyzed within holding time on the IC (EPA Method 300.0) on June 4, 2013, and the result was 0.040J mg/L.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 06/10/13

# METALS

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

## SAMPLE RESULTS

Lab ID: L1309967-01
Client ID: EFF-060313
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 06/03/13 10:43
Date Received: 06/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0205 | | mg/l | 0.0010 | 0.0010 | 1 | 06/04/13 09:50 | 06/07/13 17:02 | EPA 3005A | 97,6020A | AK |
| Barium, Total | 0.020 | | mg/l | 0.010 | 0.003 | 1 | 06/04/13 09:50 | 06/08/13 17:31 | EPA 3005A | 97,6010C | BM |
| Magnesium, Total | 5.5 | | mg/l | 0.10 | 0.01 | 1 | 06/04/13 09:50 | 06/08/13 17:31 | EPA 3005A | 97,6010C | BM |
| Manganese, Total | 1.19 | | mg/l | 0.010 | 0.002 | 1 | 06/04/13 09:50 | 06/08/13 17:31 | EPA 3005A | 97,6010C | BM |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

## SAMPLE RESULTS

Lab ID: L1309967-02
Client ID: EW1-060313
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 06/03/13 11:00
Date Received: 06/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 2.047 | | mg/l | 0.0100 | 0.0100 | 10 | 06/04/13 09:50 | 06/07/13 17:16 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 63 | | mg/l | 0.05 | 0.02 | 1 | 06/04/13 09:50 | 06/08/13 17:35 | EPA 3005A | 97,6010C | BM |
| Manganese, Total | 1.86 | | mg/l | 0.010 | 0.002 | 1 | 06/04/13 09:50 | 06/08/13 17:35 | EPA 3005A | 97,6010C | BM |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

## SAMPLE RESULTS

Lab ID: L1309967-03
Client ID: EW4-060313
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 06/03/13 11:01
Date Received: 06/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 3.672 | | mg/l | 0.0100 | 0.0100 | 10 | 06/04/13 09:50 | 06/07/13 17:19 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 47 | | mg/l | 0.05 | 0.02 | 1 | 06/04/13 09:50 | 06/08/13 17:01 | EPA 3005A | 97,6010C | BM |
| Manganese, Total | 2.26 | | mg/l | 0.010 | 0.002 | 1 | 06/04/13 09:50 | 06/08/13 17:01 | EPA 3005A | 97,6010C | BM |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG612426-1 | | | | | | | | | | |
| Barium, Total | ND | | mg/l | 0.010 | 0.003 | 1 | 06/04/13 09:50 | 06/08/13 16:49 | 97,6010C | BM |
| Iron, Total | ND | | mg/l | 0.05 | 0.02 | 1 | 06/04/13 09:50 | 06/08/13 16:49 | 97,6010C | BM |
| Magnesium, Total | ND | | mg/l | 0.10 | 0.01 | 1 | 06/04/13 09:50 | 06/08/13 16:49 | 97,6010C | BM |
| Manganese, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 06/04/13 09:50 | 06/08/13 16:49 | 97,6010C | BM |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG612430-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0010 | 0.0010 | 1 | 06/04/13 09:50 | 06/07/13 16:43 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEYS HILL ATP

**Project Number:** AC001-02F-01

**Lab Number:** L1309967

**Report Date:** 06/10/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG612426-2 WG612426-3 | | | | | | | | |
| Barium, Total | 98 | | 98 | | 80-120 | 0 | | 20 |
| Iron, Total | 95 | | 97 | | 80-120 | 2 | | 20 |
| Magnesium, Total | 95 | | 100 | | 80-120 | 5 | | 20 |
| Manganese, Total | 91 | | 94 | | 80-120 | 3 | | 20 |
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG612430-2 WG612430-3 | | | | | | | | |
| Arsenic, Total | 95 | | 95 | | 80-120 | 0 | | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

## SAMPLE RESULTS

Lab ID: L1309967-01
Client ID: EFF-060313
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 06/03/13 10:43
Date Received: 06/03/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Chloride | 28. | | mg/l | 1.0 | 0.21 | 1 | - | 06/06/13 10:07 | 30,4500CL-E | LA |
| Nitrogen, Nitrate | 0.081 | J | mg/l | 0.10 | 0.015 | 1 | - | 06/06/13 23:21 | 44,353.2 | DB |
| **Anions by Ion Chromatography - Westborough Lab** | | | | | | | | | | |
| Sulfate | 2.97 | | mg/l | 1.00 | 0.229 | 1 | - | 06/04/13 20:13 | 44,300.0 | AU |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01
**Lab Number:** L1309967
**Report Date:** 06/10/13

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG612657-1 | | | | | | | | | | |
| Sulfate | ND | | mg/l | 1.00 | 0.229 | 1 | - | 06/04/13 17:13 | 44,300.0 | AU |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG613040-1 | | | | | | | | | | |
| Chloride | 0.25 | J | mg/l | 1.0 | 0.21 | 1 | - | 06/06/13 09:53 | 30,4500CL-E | LA |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG613309-1 | | | | | | | | | | |
| Nitrogen, Nitrate | ND | | mg/l | 0.10 | 0.015 | 1 | - | 06/06/13 23:00 | 44,353.2 | DB |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEYS HILL ATP

**Project Number:** AC001-02F-01

**Lab Number:** L1309967

**Report Date:** 06/10/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG612657-2 | | | | | | | | |
| Sulfate | 94 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG613040-2 | | | | | | | | |
| Chloride | 97 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG613309-2 | | | | | | | | |
| Nitrogen, Nitrate | 98 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG612657-3 WG612657-4 QC Sample: L1309965-01 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | 5.93 | 8 | 13.8 | 98 | | 13.8 | 98 | | 60-140 | 0 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG613040-4 QC Sample: L1309967-01 Client ID: EFF-060313 | | | | | | | | | | | | |
| Chloride | 28. | 20 | 43 | 75 | | - | - | | 58-140 | - | | 7 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG613309-4 QC Sample: L1310260-01 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Nitrate | 0.021J | 4 | 4.1 | 102 | | - | - | | 83-113 | - | | 6 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG612657-5 QC Sample: L1309965-01 Client ID: DUP Sample | | | | | | |
| Sulfate | 5.93 | 5.93 | mg/l | 0 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG613040-3 QC Sample: L1309967-01 Client ID: EFF-060313 | | | | | | |
| Chloride | 28. | 28. | mg/l | 0 | | 7 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG613309-3 QC Sample: L1310260-01 Client ID: DUP Sample | | | | | | |
| Nitrogen, Nitrate | 0.021J | 0.017J | mg/l | NC | | 6 |

**Project Name:** SHEPLEYS HILL ATP
**Project Number:** AC001-02F-01

**Lab Number:** L1309967
**Report Date:** 06/10/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1309967-01A | Plastic 250ml unpreserved | A | 7 | 2.2 | Y | Absent | SO4-300(28),CL-4500(28),NO3-353(2) |
| L1309967-01B | Plastic 250ml HNO3 preserved | A | <2 | 2.2 | Y | Absent | MCP-MN-6010T-10(180),MCP-MG-6010T-10(180),MCP-AS-6020T-10(180),MCP-BA-6010T-10(180) |
| L1309967-02A | Plastic 250ml HNO3 preserved | A | <2 | 2.2 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |
| L1309967-03A | Plastic 250ml HNO3 preserved | A | <2 | 2.2 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEYS HILL ATP | **Lab Number:** | L1309967 |
| **Project Number:** | AC001-02F-01 | **Report Date:** | 06/10/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEYS HILL ATP | **Lab Number:** | L1309967 |
| **Project Number:** | AC001-02F-01 | **Report Date:** | 06/10/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEYS HILL ATP | **Lab Number:** | L1309967 |
| **Project Number:** | AC001-02F-01 | **Report Date:** | 06/10/13 |

## REFERENCES


30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.


The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised December 19, 2012 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 6010C, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8330, 8151A, 8260B, 8260C, 8270C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9030B, 9040B, 9045C, 6010B, 6010C, 6020, 6020A, 7471A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8270D, 8330, 8151A, 8081A, 8081B, 8082, 8082A, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertOT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012B, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C,

3546, 3580A, 5030B, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 355B0, 3580A, 3630C, 6020A, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C,

8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/3/13

ALPHA Job #: L1309967

## Client Information

Client: Sovereign Consulting Inc
Address: 16 Chestnut ST STE 520
Foxboro MA, 02035
Phone: 508-339-3200
Fax: 508-339-3240
Email: THevner@SOVCON.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepleys Hill ATP
Project Location: Devens, MA
Project #: AC001-02F-01
Project Manager: Tom Hevner
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/10/13 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As: 3ppb Dection Limit

**SAMPLE HANDLING**
*Filtration*
☐ Done ☒ Not needed ☐ Lab to do
*Preservation*
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total As, Fe, Mn | Total As, Ba, Mn, Mg | Cl, NO3, SO4 | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|
| 09967.1 | EFF-060313 | 6/3/13 | 1043 | E | JAO | | X | X | | 2 |
| 2 | EW1-060313 | ↓ | 1100 | I | ↓ | X | | | | 1 |
| 3 | EW4-060313 | ↓ | 1101 | I | ↓ | X | | | | 1 |
| | | | | | | | | | | |
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| | | | | | | | | | | |

| | | | |
|---|---|---|---|
| Container Type | P | P | P |
| Preservative | C | C | A |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 6/3/13 | | 6/3/13 1606 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1312625 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02F.01 |
| Report Date: | 07/11/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01

**Lab Number:** L1312625
**Report Date:** 07/11/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1312625-01 | EFF-070813 | FT. DEVENS, MA | 07/08/13 10:07 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1312625

**Project Number:** AC001.02F.01 **Report Date:** 07/11/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01

**Lab Number:** L1312625
**Report Date:** 07/11/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1312625
**Project Number:** AC001.02F.01 **Report Date:** 07/11/13

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.
M2 Peak not found by automatic integration algorithm.
M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.
M4 Poor automated baseline construction.
M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.
M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).
M7 A qualifier ion was manually integrated (only for GC/MS data).
M8 Integration of individual analyte eluting on top of an unresolved complex.
M9 Other: Explain on chromatogram.

MCP Related Narratives

Sample Receipt

The sample was received at the laboratory above the required temperature range. The sample was transported to the laboratory in a cooler with ice and delivered directly from the sampling site.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1312625 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 07/11/13 |

**Case Narrative (continued)**

Metals

WG620282: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 07/11/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1312625
**Project Number:** AC001.02F.01
**Report Date:** 07/11/13

## SAMPLE RESULTS

Lab ID: L1312625-01
Client ID: EFF-070813
Sample Location: FT. DEVENS, MA
Matrix: Water

Date Collected: 07/08/13 10:07
Date Received: 07/08/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0155 | | mg/l | 0.0005 | 0.0005 | 1 | 07/09/13 07:48 | 07/10/13 20:15 | EPA 3005A | 97,6020A | BM |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01
**Lab Number:** L1312625
**Report Date:** 07/11/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG620282-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 07/09/13 07:48 | 07/10/13 17:31 | 97,6020A | BM |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02F.01

**Lab Number:** L1312625

**Report Date:** 07/11/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG620282-2 WG620282-3 | | | | | | | | |
| Arsenic, Total | 107 | | 108 | | 80-120 | 1 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01

**Lab Number:** L1312625
**Report Date:** 07/11/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1312625-01A | Plastic 250ml HNO3 preserved | A | <2 | 13.9 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1312625 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 07/11/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1312625 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 07/11/13 |

***Data Qualifiers***

due to obvious interference.

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1312625 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 07/11/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 2, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**State of Illinois** Certificate/Lab ID: 003155. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2064. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Serial No:07111319:17

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 7/8/13

ALPHA Job #: L1312625

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client: Sovereign Consulting Inc.
Address: 16 Chestnut St.
Foxborough MA 02035
Phone: 508 339 3200
Fax: 508 339 3248
Email: JChaffee@sorcon.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATP
Project Location: Ft. Devens MA
Project #: AC001.02F.01
Project Manager: Jon Chaffee
ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 7/15/13 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As: 3ppb detection limit

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total As | SAMPLE HANDLING | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 12625-01 | EFF-070813 | 7/8/13 | 1007 | EFF | ASW | X | | | 1 |

SAMPLE HANDLING
Filtration
☐ Done
☑ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | P | | | | | | | | | | | | | | | | | | | | |
| Preservative | C | | | | | | | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 7/8/13 1330 | | 7/8/13 13:30 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1314838 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02F.01 |
| Report Date: | 08/12/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01

**Lab Number:** L1314838
**Report Date:** 08/12/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1314838-01 | EFF-080513 | FT. DEVENS, MA | 08/05/13 09:45 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1314838

**Project Number:** AC001.02F.01 **Report Date:** 08/12/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

Sample Receipt

The sample was received at the laboratory above the required temperature range. The sample was transported to the laboratory in a cooler with ice and delivered directly from the sampling site.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

**Case Narrative (continued)**

Metals

L1314838-01 and the associated WG626721-1 Method Blank have elevated detection limits for Arsenic due to matrix interferences encountered during analysis.

WG626721: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 08/12/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1314838
**Project Number:** AC001.02F.01
**Report Date:** 08/12/13

## SAMPLE RESULTS

Lab ID: L1314838-01
Client ID: EFF-080513
Sample Location: FT. DEVENS, MA
Matrix: Water

Date Collected: 08/05/13 09:45
Date Received: 08/05/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0150 | | mg/l | 0.0015 | 0.0015 | 1 | 08/06/13 08:03 | 08/10/13 17:50 | EPA 3005A | 97,6020A | AK |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01
**Lab Number:** L1314838
**Report Date:** 08/12/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG626721-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0015 | 0.0015 | 1 | 08/06/13 08:03 | 08/10/13 17:43 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02F.01

**Lab Number:** L1314838

**Report Date:** 08/12/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG626721-2 WG626721-3 | | | | | | | | |
| Arsenic, Total | 99 | | 97 | | 80-120 | 2 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.01

**Lab Number:** L1314838
**Report Date:** 08/12/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1314838-01A | Plastic 250ml HNO3 preserved | A | <2 | 15.1 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The lower value for the two columns has been reported due to obvious interference. |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

***Data Qualifiers***

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1314838 |
| **Project Number:** | AC001.02F.01 | **Report Date:** | 08/12/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised July 2, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**State of Illinois** Certificate/Lab ID: 003155. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2064. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Serial_No:08121318:20

# CHAIN OF CUSTODY

PAGE 1 OF 1

**Date Rec'd in Lab:** 8/5/13

**ALPHA Job #:** L1314858

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client: Sovereign Consulting, Inc
Address: 16 Chestnut St.
Foxborough MA 02035
Phone: 508 339 7200
Fax: 508 339 3248
Email: Jchaffee@sovcon.com
☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shirley's Hill ATP
Project Location: Ft. Devens MA
Project #: ACOOL.02.F.01
Project Manager: John Chaffee
ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 8/12/13 Time:

## Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☑ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☑ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☑ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

As: 3ppb detection limit

**ANALYSIS**

**SAMPLE HANDLING**
Filtration
☐ Done
☑ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total As | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|
| 14858-01 | EFF-080513 | 8/5/13 | 0945 | E | ASW | X | | 1 |
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | P | | | | | | | | | | | | | | | | | | |
| Preservative | C | | | | | | | | | | | | | | | | | | |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 8/5/13 1675 | | 8/5/13 1675 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1317687 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02E |
| Report Date: | 09/23/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1317687-01 | EFFLUENT | DEVENS, MA | 09/10/13 06:30 |
| L1317687-02 | EW-01 | DEVENS, MA | 09/10/13 06:30 |
| L1317687-03 | EW-04 | DEVENS, MA | 09/10/13 06:30 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | NO |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | NO |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1317687 |
| **Project Number:** | AC001.02E | **Report Date:** | 09/23/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

Volatile Organics

WG636394: MS/MSD was not performed with this batch.

In reference to question B:

At the client's request, the analytical method specified in the CAM protocol was not followed for L1317687-01.

In reference to question H:

The WG636394-1 LCS recovery, associated with L1317687-02 and -03, is above the individual acceptance

**Case Narrative (continued)**

criteria for 1,4-dioxane (143%), but within the overall method allowances. The results of the associated samples are reported; however, all positive detects are considered to have a potentially high bias for this compound.
The WG636394-1/-2 LCS/LCSD RPD, associated with L1317687-02 and -03, is above the acceptance criteria for 2-butanone (24%).
The initial calibration, associated with L1317687-02 and -03, did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.09555) and 1,4-dioxane (0.00206), as well as the average response factor for 4-methyl-2-pentanone and 1,4-dioxane.
The continuing calibration standard, associated with L1317687-02 and -03, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.
In reference to question I:
L1317687-01 was analyzed for a subset of MCP compounds per the Chain of Custody.

Semivolatile Organics by GC/MS
In reference to question B:
At the client's request, the analytical method specified in the CAM protocol was not followed for L1317687-01.
In reference to question H:
The WG635197-2 LCS recoveries, associated with L1317687-01, are above the acceptance criteria for 2,4-dinitrotoluene (111%), p-chloro-m-cresol (110%) and pentachlorophenol (112%); however, the associated sample is non-detect for these target compounds. The results of the original analysis are reported. All associated sample results have been qualified with a "Q".
The WG635197-3 MS recoveries, performed on L1317687-01, are outside the acceptance criteria for benzidine (8%), 3,3'-dichlorobenzidine (22%), 2,4-dinitrotoluene (98%), nitrosodiphenylamine(ndpa)/dpa (38%), 4-nitrophenol (85%) and pentachlorophenol (110%). The parent sample (L1317687-01) should be qualified as "J" for these analytes.
In reference to question I:
L1317687-01 was analyzed for a subset of MCP compounds per the Chain of Custody.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1317687 |
| **Project Number:** | AC001.02E | **Report Date:** | 09/23/13 |

**Case Narrative (continued)**

PCB/Pesticides

In reference to question B:

At the client's request, the analytical method specified in the CAM protocol was not followed.

Metals

WG635172, WG635176 and WG635683: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 09/23/13

# ORGANICS

# VOLATILES

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01
Client ID: EFFLUENT
Sample Location: DEVENS, MA
Matrix: Water
Analytical Method: 5,624
Analytical Date: 09/12/13 15:07
Analyst: GT

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | 0.65 | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | 0.31 | 1 |
| Chloroform | 1.1 | J | ug/l | 1.5 | 0.29 | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.33 | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 3.5 | 0.28 | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.33 | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | 0.34 | 1 |
| 2-Chloroethylvinyl ether | ND | | ug/l | 10 | 0.62 | 1 |
| Tetrachloroethene | ND | | ug/l | 1.5 | 0.38 | 1 |
| Chlorobenzene | 0.68 | J | ug/l | 3.5 | 0.32 | 1 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | 0.33 | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | 0.36 | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | 0.30 | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.30 | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.5 | 0.30 | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.5 | 0.32 | 1 |
| Bromoform | ND | | ug/l | 1.0 | 0.32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.35 | 1 |
| Benzene | 0.80 | J | ug/l | 1.0 | 0.31 | 1 |
| Toluene | ND | | ug/l | 1.0 | 0.35 | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | 0.33 | 1 |
| Chloromethane | ND | | ug/l | 5.0 | 0.89 | 1 |
| Bromomethane | ND | | ug/l | 5.0 | 1.3 | 1 |
| Vinyl chloride | ND | | ug/l | 2.0 | 0.30 | 1 |
| Chloroethane | ND | | ug/l | 2.0 | 0.31 | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.28 | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.5 | 0.34 | 1 |
| cis-1,2-Dichloroethene[1] | ND | | ug/l | 1.0 | 0.33 | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | 0.33 | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | 0.75 | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | 0.93 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01 Date Collected: 09/10/13 06:30

Client ID: EFFLUENT Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | 0.85 | 1 |
| p/m-Xylene[1] | 0.72 | J | ug/l | 2.0 | 0.66 | 1 |
| o-xylene[1] | ND | | ug/l | 1.0 | 0.30 | 1 |
| Xylene (Total)[1] | 0.72 | J | ug/l | 2.0 | 0.66 | 1 |
| Styrene[1] | ND | | ug/l | 1.0 | 0.30 | 1 |
| Acetone[1] | ND | | ug/l | 10 | 1.8 | 1 |
| Carbon disulfide[1] | ND | | ug/l | 5.0 | 0.90 | 1 |
| 2-Butanone[1] | ND | | ug/l | 10 | 2.2 | 1 |
| Vinyl acetate[1] | ND | | ug/l | 10 | 2.9 | 1 |
| 4-Methyl-2-pentanone[1] | ND | | ug/l | 10 | 2.4 | 1 |
| 2-Hexanone[1] | ND | | ug/l | 10 | 2.5 | 1 |
| Acrolein[1] | ND | | ug/l | 8.0 | 1.9 | 1 |
| Acrylonitrile[1] | ND | | ug/l | 10 | 1.9 | 1 |
| Dibromomethane[1] | ND | | ug/l | 1.0 | 1.0 | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| Pentafluorobenzene | 118 | | 80-120 |
| Fluorobenzene | 111 | | 80-120 |
| 4-Bromofluorobenzene | 98 | | 80-120 |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-02
Client ID: EW-01
Sample Location: DEVENS, MA
Matrix: Water
Analytical Method: 53,-
Analytical Date: 09/16/13 15:05
Analyst: AR

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 3630 | | ug/l | 5.00 | 5.00 | 1 | A |
| Ethane | 1.26 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-02
Client ID: EW-01
Sample Location: DEVENS, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 09/16/13 08:09
Analyst: MM

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | 0.29 | 1 |
| 1,1-Dichloroethane | 0.40 | J | ug/l | 1.0 | 0.15 | 1 |
| Chloroform | ND | | ug/l | 1.0 | 0.16 | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.13 | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | 0.13 | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.15 | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | 0.14 | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | 0.18 | 1 |
| Chlorobenzene | 0.87 | J | ug/l | 1.0 | 0.18 | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | 0.16 | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | 0.13 | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | 0.16 | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.19 | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.16 | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.14 | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | 0.17 | 1 |
| Bromoform | ND | | ug/l | 2.0 | 0.25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.14 | 1 |
| Benzene | 1.1 | | ug/l | 0.50 | 0.16 | 1 |
| Toluene | ND | | ug/l | 1.0 | 0.16 | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | 0.17 | 1 |
| Chloromethane | ND | | ug/l | 2.0 | 0.18 | 1 |
| Bromomethane | ND | | ug/l | 2.0 | 0.26 | 1 |
| Vinyl chloride | 0.30 | J | ug/l | 1.0 | 0.14 | 1 |
| Chloroethane | 0.55 | J | ug/l | 2.0 | 0.13 | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.14 | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | 0.16 | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | 0.17 | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | 0.18 | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | 0.19 | 1 |
| 1,4-Dichlorobenzene | 1.0 | | ug/l | 1.0 | 0.19 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-02 Date Collected: 09/10/13 06:30

Client ID: EW-01 Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | 0.16 | 1 |
| p/m-Xylene | 1.5 | J | ug/l | 2.0 | 0.33 | 1 |
| o-Xylene | ND | | ug/l | 1.0 | 0.33 | 1 |
| cis-1,2-Dichloroethene | 1.0 | | ug/l | 1.0 | 0.19 | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | 0.36 | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | 0.18 | 1 |
| Styrene | ND | | ug/l | 1.0 | 0.36 | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | 0.24 | 1 |
| Acetone | ND | | ug/l | 5.0 | 1.4 | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | 0.30 | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | 1.9 | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | 0.42 | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | 0.51 | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | 0.14 | 1 |
| Tetrahydrofuran | 1.4 | J | ug/l | 2.0 | 0.52 | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | 0.20 | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.19 | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | 0.21 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.16 | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | 0.15 | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | 0.19 | 1 |
| sec-Butylbenzene | 0.22 | J | ug/l | 2.0 | 0.18 | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | 0.18 | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | 0.17 | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | 0.18 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | 0.33 | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | 0.22 | 1 |
| Isopropylbenzene | 0.26 | J | ug/l | 2.0 | 0.19 | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | 0.19 | 1 |
| Naphthalene | ND | | ug/l | 2.0 | 0.22 | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | 0.17 | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | 0.23 | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | 0.22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | 0.17 | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | 0.19 | 1 |
| Ethyl ether | 8.1 | | ug/l | 2.0 | 0.13 | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | 0.42 | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | 0.18 | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | 0.28 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-02 Date Collected: 09/10/13 06:30

Client ID: EW-01 Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | 41. | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 89 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1317687-03 | Date Collected: | 09/10/13 06:30 |
| Client ID: | EW-04 | Date Received: | 09/10/13 |
| Sample Location: | DEVENS, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |
| Analytical Method: | 53,- | | |
| Analytical Date: | 09/16/13 15:19 | | |
| Analyst: | AR | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 1550 | | ug/l | 5.00 | 5.00 | 1 | A |
| Ethane | ND | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-03
Client ID: EW-04
Sample Location: DEVENS, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 09/16/13 08:41
Analyst: MM

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | 0.29 | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | 0.15 | 1 |
| Chloroform | ND | | ug/l | 1.0 | 0.16 | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.13 | 1 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | 0.13 | 1 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.15 | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | 0.14 | 1 |
| Tetrachloroethene | ND | | ug/l | 1.0 | 0.18 | 1 |
| Chlorobenzene | 0.53 | J | ug/l | 1.0 | 0.18 | 1 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | 0.16 | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | 0.13 | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | 0.16 | 1 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.19 | 1 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.16 | 1 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.14 | 1 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | 0.17 | 1 |
| Bromoform | ND | | ug/l | 2.0 | 0.25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.14 | 1 |
| Benzene | 0.40 | J | ug/l | 0.50 | 0.16 | 1 |
| Toluene | ND | | ug/l | 1.0 | 0.16 | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | 0.17 | 1 |
| Chloromethane | ND | | ug/l | 2.0 | 0.18 | 1 |
| Bromomethane | ND | | ug/l | 2.0 | 0.26 | 1 |
| Vinyl chloride | 0.14 | J | ug/l | 1.0 | 0.14 | 1 |
| Chloroethane | 0.34 | J | ug/l | 2.0 | 0.13 | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.14 | 1 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | 0.16 | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | 0.17 | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | 0.18 | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | 0.19 | 1 |
| 1,4-Dichlorobenzene | 0.45 | J | ug/l | 1.0 | 0.19 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-03 Date Collected: 09/10/13 06:30

Client ID: EW-04 Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **MCP Volatile Organics - Westborough Lab** | | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | 0.16 | 1 |
| p/m-Xylene | ND | | ug/l | 2.0 | 0.33 | 1 |
| o-Xylene | ND | | ug/l | 1.0 | 0.33 | 1 |
| cis-1,2-Dichloroethene | 0.21 | J | ug/l | 1.0 | 0.19 | 1 |
| Dibromomethane | ND | | ug/l | 2.0 | 0.36 | 1 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | 0.18 | 1 |
| Styrene | ND | | ug/l | 1.0 | 0.36 | 1 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | 0.24 | 1 |
| Acetone | ND | | ug/l | 5.0 | 1.4 | 1 |
| Carbon disulfide | ND | | ug/l | 2.0 | 0.30 | 1 |
| 2-Butanone | ND | | ug/l | 5.0 | 1.9 | 1 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | 0.42 | 1 |
| 2-Hexanone | ND | | ug/l | 5.0 | 0.51 | 1 |
| Bromochloromethane | ND | | ug/l | 2.0 | 0.14 | 1 |
| Tetrahydrofuran | ND | | ug/l | 2.0 | 0.52 | 1 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | 0.20 | 1 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.19 | 1 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | 0.21 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.16 | 1 |
| Bromobenzene | ND | | ug/l | 2.0 | 0.15 | 1 |
| n-Butylbenzene | ND | | ug/l | 2.0 | 0.19 | 1 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | 0.18 | 1 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | 0.18 | 1 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | 0.17 | 1 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | 0.18 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | 0.33 | 1 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | 0.22 | 1 |
| Isopropylbenzene | ND | | ug/l | 2.0 | 0.19 | 1 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | 0.19 | 1 |
| Naphthalene | ND | | ug/l | 2.0 | 0.22 | 1 |
| n-Propylbenzene | ND | | ug/l | 2.0 | 0.17 | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | 0.23 | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | 0.22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | 0.17 | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | 0.19 | 1 |
| Ethyl ether | 3.9 | | ug/l | 2.0 | 0.13 | 1 |
| Isopropyl Ether | ND | | ug/l | 2.0 | 0.42 | 1 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | 0.18 | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | 0.28 | 1 |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-03
Client ID: EW-04
Sample Location: DEVENS, MA
Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab | | | | | | |
| 1,4-Dioxane | ND | | ug/l | 250 | 41. | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 87 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,624
Analytical Date: 09/12/13 11:01
Analyst: GT

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG635640-6 | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | 0.65 |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | 0.31 |
| Chloroform | ND | | ug/l | 1.5 | 0.29 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.33 |
| 1,2-Dichloropropane | ND | | ug/l | 3.5 | 0.28 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.33 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | 0.34 |
| 2-Chloroethylvinyl ether | ND | | ug/l | 10 | 0.62 |
| Tetrachloroethene | ND | | ug/l | 1.5 | 0.38 |
| Chlorobenzene | ND | | ug/l | 3.5 | 0.32 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | 0.33 |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | 0.36 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | 0.30 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.30 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.5 | 0.30 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.5 | 0.32 |
| Bromoform | ND | | ug/l | 1.0 | 0.32 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.35 |
| Benzene | ND | | ug/l | 1.0 | 0.31 |
| Toluene | ND | | ug/l | 1.0 | 0.35 |
| Ethylbenzene | ND | | ug/l | 1.0 | 0.33 |
| Chloromethane | ND | | ug/l | 5.0 | 0.89 |
| Bromomethane | ND | | ug/l | 5.0 | 1.3 |
| Vinyl chloride | ND | | ug/l | 2.0 | 0.30 |
| Chloroethane | ND | | ug/l | 2.0 | 0.31 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.28 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.5 | 0.34 |
| cis-1,2-Dichloroethene[1] | ND | | ug/l | 1.0 | 0.33 |
| Trichloroethene | ND | | ug/l | 1.0 | 0.33 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | 0.75 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | 0.93 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,624
Analytical Date: 09/12/13 11:01
Analyst: GT

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG635640-6 | | | | | |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | 0.85 |
| p/m-Xylene[1] | ND | | ug/l | 2.0 | 0.66 |
| o-xylene[1] | ND | | ug/l | 1.0 | 0.30 |
| Xylene (Total)[1] | ND | | ug/l | 2.0 | 0.66 |
| Styrene[1] | ND | | ug/l | 1.0 | 0.30 |
| Acetone[1] | ND | | ug/l | 10 | 1.8 |
| Carbon disulfide[1] | ND | | ug/l | 5.0 | 0.90 |
| 2-Butanone[1] | ND | | ug/l | 10 | 2.2 |
| Vinyl acetate[1] | ND | | ug/l | 10 | 2.9 |
| 4-Methyl-2-pentanone[1] | ND | | ug/l | 10 | 2.4 |
| 2-Hexanone[1] | ND | | ug/l | 10 | 2.5 |
| Acrolein[1] | ND | | ug/l | 8.0 | 1.9 |
| Acrylonitrile[1] | ND | | ug/l | 10 | 1.9 |
| Dibromomethane[1] | ND | | ug/l | 1.0 | 1.0 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| Pentafluorobenzene | 115 | | 80-120 |
| Fluorobenzene | 109 | | 80-120 |
| 4-Bromofluorobenzene | 102 | | 80-120 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/13 07:05
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG636394-3 | | | | | |
| Methylene chloride | ND | | ug/l | 2.0 | 0.29 |
| 1,1-Dichloroethane | ND | | ug/l | 1.0 | 0.15 |
| Chloroform | ND | | ug/l | 1.0 | 0.16 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.13 |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | 0.13 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.15 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.0 | 0.14 |
| Tetrachloroethene | ND | | ug/l | 1.0 | 0.18 |
| Chlorobenzene | ND | | ug/l | 1.0 | 0.18 |
| Trichlorofluoromethane | ND | | ug/l | 2.0 | 0.16 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | 0.13 |
| 1,1,1-Trichloroethane | ND | | ug/l | 1.0 | 0.16 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.19 |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.16 |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.0 | 0.17 |
| Bromoform | ND | | ug/l | 2.0 | 0.25 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.14 |
| Benzene | ND | | ug/l | 0.50 | 0.16 |
| Toluene | ND | | ug/l | 1.0 | 0.16 |
| Ethylbenzene | ND | | ug/l | 1.0 | 0.17 |
| Chloromethane | ND | | ug/l | 2.0 | 0.18 |
| Bromomethane | ND | | ug/l | 2.0 | 0.26 |
| Vinyl chloride | ND | | ug/l | 1.0 | 0.14 |
| Chloroethane | ND | | ug/l | 2.0 | 0.13 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.14 |
| trans-1,2-Dichloroethene | ND | | ug/l | 1.0 | 0.16 |
| Trichloroethene | ND | | ug/l | 1.0 | 0.17 |
| 1,2-Dichlorobenzene | ND | | ug/l | 1.0 | 0.18 |
| 1,3-Dichlorobenzene | ND | | ug/l | 1.0 | 0.19 |
| 1,4-Dichlorobenzene | ND | | ug/l | 1.0 | 0.19 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/13 07:05
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG636394-3 | | | | | |
| Methyl tert butyl ether | ND | | ug/l | 2.0 | 0.16 |
| p/m-Xylene | ND | | ug/l | 2.0 | 0.33 |
| o-Xylene | ND | | ug/l | 1.0 | 0.33 |
| cis-1,2-Dichloroethene | ND | | ug/l | 1.0 | 0.19 |
| Dibromomethane | ND | | ug/l | 2.0 | 0.36 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.0 | 0.18 |
| Styrene | ND | | ug/l | 1.0 | 0.36 |
| Dichlorodifluoromethane | ND | | ug/l | 2.0 | 0.24 |
| Acetone | ND | | ug/l | 5.0 | 1.4 |
| Carbon disulfide | ND | | ug/l | 2.0 | 0.30 |
| 2-Butanone | ND | | ug/l | 5.0 | 1.9 |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | 0.42 |
| 2-Hexanone | ND | | ug/l | 5.0 | 0.51 |
| Bromochloromethane | ND | | ug/l | 2.0 | 0.14 |
| Tetrahydrofuran | ND | | ug/l | 2.0 | 0.52 |
| 2,2-Dichloropropane | ND | | ug/l | 2.0 | 0.20 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.19 |
| 1,3-Dichloropropane | ND | | ug/l | 2.0 | 0.21 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.16 |
| Bromobenzene | ND | | ug/l | 2.0 | 0.15 |
| n-Butylbenzene | ND | | ug/l | 2.0 | 0.19 |
| sec-Butylbenzene | ND | | ug/l | 2.0 | 0.18 |
| tert-Butylbenzene | ND | | ug/l | 2.0 | 0.18 |
| o-Chlorotoluene | ND | | ug/l | 2.0 | 0.17 |
| p-Chlorotoluene | ND | | ug/l | 2.0 | 0.18 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.0 | 0.33 |
| Hexachlorobutadiene | ND | | ug/l | 0.60 | 0.22 |
| Isopropylbenzene | ND | | ug/l | 2.0 | 0.19 |
| p-Isopropyltoluene | ND | | ug/l | 2.0 | 0.19 |
| Naphthalene | ND | | ug/l | 2.0 | 0.22 |
| n-Propylbenzene | ND | | ug/l | 2.0 | 0.17 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/16/13 07:05
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab for sample(s): 02-03 Batch: WG636394-3 | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.0 | 0.23 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.0 | 0.22 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.0 | 0.17 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.0 | 0.19 |
| Ethyl ether | ND | | ug/l | 2.0 | 0.13 |
| Isopropyl Ether | ND | | ug/l | 2.0 | 0.42 |
| Ethyl-Tert-Butyl-Ether | ND | | ug/l | 2.0 | 0.18 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | 0.28 |
| 1,4-Dioxane | ND | | ug/l | 250 | 41. |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 88 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 53,-
Analytical Date: 09/16/13 14:36
Analyst: AR

| Parameter | Result | Qualifier | Units | RL | MDL | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab for sample(s): 02-03 Batch: WG636481-2 | | | | | | |
| Methane | ND | | ug/l | 5.00 | 5.00 | A |
| Ethane | ND | | ug/l | 0.500 | 0.500 | A |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635640-5 | | | | | | | | |
| Methylene chloride | 92 | | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | 105 | | - | | 78-116 | - | | 30 |
| Chloroform | 104 | | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | 99 | | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | 106 | | - | | 83-113 | - | | 30 |
| Dibromochloromethane | 97 | | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | 96 | | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | 108 | | - | | 69-124 | - | | 30 |
| Tetrachloroethene | 102 | | - | | 80-126 | - | | 30 |
| Chlorobenzene | 103 | | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | 106 | | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | 106 | | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | 104 | | - | | 72-109 | - | | 30 |
| Bromodichloromethane | 96 | | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | 98 | | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | 100 | | - | | 78-111 | - | | 30 |
| Bromoform | 94 | | - | | 45-131 | - | | 30 |
| 1,1,2,2-Tetrachloroethane | 93 | | - | | 81-122 | - | | 30 |
| Benzene | 112 | | - | | 84-116 | - | | 30 |
| Toluene | 104 | | - | | 83-121 | - | | 30 |
| Ethylbenzene | 106 | | - | | 84-123 | - | | 30 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635640-5 | | | | | | | | |
| Chloromethane | 110 | | - | | 70-144 | - | | 30 |
| Bromomethane | 67 | | - | | 63-141 | - | | 30 |
| Vinyl chloride | 117 | | - | | 56-118 | - | | 30 |
| Chloroethane | 110 | | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | 110 | | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | 109 | | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene[1] | 109 | | - | | 85-110 | - | | 30 |
| Trichloroethene | 112 | | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | 100 | | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | 102 | | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | 102 | | - | | 77-125 | - | | 30 |
| p/m-Xylene[1] | 107 | | - | | 81-121 | - | | 30 |
| o-Xylene[1] | 107 | | - | | 81-124 | - | | 30 |
| Xylene (Total)[1] | 107 | | - | | 81-122 | - | | 30 |
| Styrene[1] | 107 | | - | | 84-133 | - | | 30 |
| Acetone[1] | 103 | | - | | 40-160 | - | | 30 |
| Carbon disulfide[1] | 108 | | - | | 54-134 | - | | 30 |
| 2-Butanone[1] | 90 | | - | | 57-116 | - | | 30 |
| Vinyl acetate[1] | 95 | | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone[1] | 100 | | - | | 79-125 | - | | 30 |
| 2-Hexanone[1] | 94 | | - | | 78-120 | - | | 30 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635640-5 | | | | | | | | |
| Acrolein[1] | 111 | | - | | 40-160 | - | | 30 |
| Acrylonitrile[1] | 103 | | - | | 66-123 | - | | 30 |
| Dibromomethane[1] | 100 | | - | | 65-126 | - | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| Pentafluorobenzene | 116 | | | | 80-120 |
| Fluorobenzene | 112 | | | | 80-120 |
| 4-Bromofluorobenzene | 104 | | | | 80-120 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG636394-1 WG636394-2 | | | | | | | | |
| Methylene chloride | 94 | | 80 | | 70-130 | 16 | | 20 |
| 1,1-Dichloroethane | 99 | | 96 | | 70-130 | 3 | | 20 |
| Chloroform | 94 | | 91 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 88 | | 85 | | 70-130 | 3 | | 20 |
| 1,2-Dichloropropane | 100 | | 91 | | 70-130 | 9 | | 20 |
| Dibromochloromethane | 79 | | 78 | | 70-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 91 | | 88 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 101 | | 93 | | 70-130 | 8 | | 20 |
| Chlorobenzene | 97 | | 94 | | 70-130 | 3 | | 20 |
| Trichlorofluoromethane | 87 | | 86 | | 70-130 | 1 | | 20 |
| 1,2-Dichloroethane | 90 | | 87 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 91 | | 70-130 | 3 | | 20 |
| Bromodichloromethane | 88 | | 89 | | 70-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 87 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 95 | | 91 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 94 | | 90 | | 70-130 | 4 | | 20 |
| Bromoform | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,1,2,2-Tetrachloroethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Benzene | 98 | | 92 | | 70-130 | 6 | | 20 |
| Toluene | 98 | | 94 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 100 | | 96 | | 70-130 | 4 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG636394-1 WG636394-2 | | | | | | | | |
| Chloromethane | 96 | | 104 | | 70-130 | 8 | | 20 |
| Bromomethane | 85 | | 85 | | 70-130 | 0 | | 20 |
| Vinyl chloride | 92 | | 83 | | 70-130 | 10 | | 20 |
| Chloroethane | 87 | | 91 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethene | 92 | | 89 | | 70-130 | 3 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 88 | | 70-130 | 6 | | 20 |
| Trichloroethene | 100 | | 91 | | 70-130 | 9 | | 20 |
| 1,2-Dichlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 93 | | 93 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 88 | | 83 | | 70-130 | 6 | | 20 |
| p/m-Xylene | 98 | | 95 | | 70-130 | 3 | | 20 |
| o-Xylene | 98 | | 94 | | 70-130 | 4 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 93 | | 70-130 | 4 | | 20 |
| Dibromomethane | 94 | | 89 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 92 | | 70-130 | 1 | | 20 |
| Styrene | 100 | | 97 | | 70-130 | 3 | | 20 |
| Dichlorodifluoromethane | 81 | | 81 | | 70-130 | 0 | | 20 |
| Acetone | 113 | | 95 | | 70-130 | 17 | | 20 |
| Carbon disulfide | 82 | | 85 | | 70-130 | 4 | | 20 |
| 2-Butanone | 101 | | 79 | | 70-130 | **24** | Q | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG636394-1 WG636394-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 103 | | 94 | | 70-130 | 9 | | 20 |
| 2-Hexanone | 99 | | 98 | | 70-130 | 1 | | 20 |
| Bromochloromethane | 98 | | 95 | | 70-130 | 3 | | 20 |
| Tetrahydrofuran | 105 | | 90 | | 70-130 | 15 | | 20 |
| 2,2-Dichloropropane | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,2-Dibromoethane | 99 | | 90 | | 70-130 | 10 | | 20 |
| 1,3-Dichloropropane | 94 | | 90 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 87 | | 70-130 | 6 | | 20 |
| Bromobenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| sec-Butylbenzene | 96 | | 91 | | 70-130 | 5 | | 20 |
| tert-Butylbenzene | 98 | | 92 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 78 | | 82 | | 70-130 | 5 | | 20 |
| Hexachlorobutadiene | 91 | | 99 | | 70-130 | 8 | | 20 |
| Isopropylbenzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| p-Isopropyltoluene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Naphthalene | 86 | | 82 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 99 | | 92 | | 70-130 | 7 | | 20 |
| 1,2,3-Trichlorobenzene | 89 | | 89 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Volatile Organics - Westborough Lab Associated sample(s): 02-03 Batch: WG636394-1 WG636394-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,3,5-Trimethylbenzene | 98 | | 94 | | 70-130 | 4 | | 20 |
| 1,2,4-Trimethylbenzene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Ethyl ether | 92 | | 85 | | 70-130 | 8 | | 20 |
| Isopropyl Ether | 92 | | 86 | | 70-130 | 7 | | 20 |
| Ethyl-Tert-Butyl-Ether | 99 | | 90 | | 70-130 | 10 | | 20 |
| Tertiary-Amyl Methyl Ether | 97 | | 92 | | 70-130 | 5 | | 20 |
| 1,4-Dioxane | **143** | Q | 120 | | 70-130 | 17 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 92 | | 70-130 |
| Toluene-d8 | 101 | | 98 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 104 | | 70-130 |
| Dibromofluoromethane | 101 | | 96 | | 70-130 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 02-03 Batch: WG636481-1 | | | | | | | | | |
| Methane | 84 | | - | | 80-120 | - | | 25 | A |
| Ethane | 100 | | - | | 80-120 | - | | 25 | A |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-4 QC Sample: L1317602-04 Client ID: MS Sample | | | | | | | | | | | | |
| Methylene chloride | ND | 400 | 390 | 97 | | - | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | ND | 400 | 440 | 111 | | - | - | | 78-116 | - | | 30 |
| Chloroform | ND | 400 | 440 | 110 | | - | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | ND | 400 | 380 | 96 | | - | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | ND | 400 | 450 | 112 | | - | - | | 83-113 | - | | 30 |
| Dibromochloromethane | ND | 400 | 400 | 101 | | - | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | ND | 400 | 440 | 111 | | - | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | ND | 400 | 510 | **128** | Q | - | - | | 69-124 | - | | 30 |
| Tetrachloroethene | ND | 400 | 430 | 108 | | - | - | | 80-126 | - | | 30 |
| Chlorobenzene | ND | 400 | 380 | 94 | | - | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | ND | 400 | 440 | 109 | | - | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | ND | 400 | 440 | 109 | | - | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | ND | 400 | 450 | **113** | Q | - | - | | 72-109 | - | | 30 |
| Bromodichloromethane | ND | 400 | 410 | 103 | | - | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | ND | 400 | 410 | 102 | | - | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | ND | 400 | 410 | 103 | | - | - | | 78-111 | - | | 30 |
| Bromoform | ND | 400 | 340 | 84 | | - | - | | 45-131 | - | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | 400 | 380 | 96 | | - | - | | 81-122 | - | | 30 |
| Benzene | ND | 400 | 450 | 112 | | - | - | | 84-116 | - | | 30 |
| Toluene | ND | 400 | 440 | 110 | | - | - | | 83-121 | - | | 30 |
| Ethylbenzene | ND | 400 | 380 | 96 | | - | - | | 84-123 | - | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-4 QC Sample: L1317602-04 Client ID: MS Sample | | | | | | | | | | | | |
| Chloromethane | ND | 400 | 420 | 106 | | - | - | | 70-144 | - | | 30 |
| Bromomethane | ND | 400 | 170 | **42** | Q | - | - | | 63-141 | - | | 30 |
| Vinyl chloride | ND | 400 | 460 | 115 | | - | - | | 56-118 | - | | 30 |
| Chloroethane | ND | 400 | 430 | 108 | | - | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | ND | 400 | 450 | 113 | | - | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | ND | 400 | 450 | 112 | | - | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene[1] | ND | 400 | 450 | **113** | Q | - | - | | 85-110 | - | | 30 |
| Trichloroethene | ND | 400 | 480 | **119** | Q | - | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | ND | 400 | 380 | 96 | | - | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | ND | 400 | 390 | 98 | | - | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | ND | 400 | 390 | 98 | | - | - | | 77-125 | - | | 30 |
| p/m-Xylene[1] | ND | 800 | 750 | 94 | | - | - | | 81-121 | - | | 30 |
| o-Xylene[1] | ND | 400 | 380 | 95 | | - | - | | 81-124 | - | | 30 |
| Xylene (Total)[1] | ND | 1200 | 1100 | 95 | | - | - | | 81-122 | - | | 30 |
| Styrene[1] | ND | 400 | 380 | 95 | | - | - | | 84-133 | - | | 30 |
| Acetone[1] | 180J | 1000 | 1400 | 139 | | - | - | | 40-160 | - | | 30 |
| Carbon disulfide[1] | 1600 | 400 | 1900 | 86 | | - | - | | 54-134 | - | | 30 |
| 2-Butanone[1] | ND | 1000 | 1200 | **117** | Q | - | - | | 57-116 | - | | 30 |
| Vinyl acetate[1] | ND | 800 | 780 | 97 | | - | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone[1] | ND | 1000 | 1200 | **126** | Q | - | - | | 79-125 | - | | 30 |
| 2-Hexanone[1] | ND | 1000 | 1200 | 120 | | - | - | | 78-120 | - | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-4 QC Sample: L1317602-04 Client ID: MS Sample | | | | | | | | | | | | |
| Acrolein[1] | ND | 800 | 880 | 110 | | - | - | | 40-160 | - | | 30 |
| Acrylonitrile[1] | ND | 800 | 940 | 117 | | - | - | | 66-123 | - | | 30 |
| Dibromomethane[1] | ND | 400 | 420 | 106 | | - | - | | 65-126 | - | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 89 | | | | 80-120 |
| Fluorobenzene | 111 | | | | 80-120 |
| Pentafluorobenzene | 115 | | | | 80-120 |

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG636481-4 QC Sample: L1317833-01 Client ID: MS Sample | | | | | | | | | | | | | |
| Methane | 135 | 54.6 | 179 | 81 | | - | - | | 80-120 | - | | 25 | A |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-3 QC Sample: L1317602-04 Client ID: DUP Sample | | | | | | |
| Methylene chloride | ND | ND | ug/l | NC | | 30 |
| 1,1-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| Chloroform | ND | ND | ug/l | NC | | 30 |
| Carbon tetrachloride | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloropropane | ND | ND | ug/l | NC | | 30 |
| Dibromochloromethane | ND | ND | ug/l | NC | | 30 |
| 1,1,2-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| 2-Chloroethylvinyl ether | ND | ND | ug/l | NC | | 30 |
| Tetrachloroethene | ND | ND | ug/l | NC | | 30 |
| Chlorobenzene | ND | ND | ug/l | NC | | 30 |
| Trichlorofluoromethane | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| 1,1,1-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| Bromodichloromethane | ND | ND | ug/l | NC | | 30 |
| trans-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| cis-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| Bromoform | ND | ND | ug/l | NC | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ug/l | NC | | 30 |
| Benzene | ND | ND | ug/l | NC | | 30 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-3 QC Sample: L1317602-04 Client ID: DUP Sample | | | | | |
| Toluene | ND | ND | ug/l | NC | 30 |
| Ethylbenzene | ND | ND | ug/l | NC | 30 |
| Chloromethane | ND | ND | ug/l | NC | 30 |
| Bromomethane | ND | ND | ug/l | NC | 30 |
| Vinyl chloride | ND | ND | ug/l | NC | 30 |
| Chloroethane | ND | ND | ug/l | NC | 30 |
| 1,1-Dichloroethene | ND | ND | ug/l | NC | 30 |
| trans-1,2-Dichloroethene | ND | ND | ug/l | NC | 30 |
| cis-1,2-Dichloroethene[1] | ND | ND | ug/l | NC | 30 |
| Trichloroethene | ND | ND | ug/l | NC | 30 |
| 1,2-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,3-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,4-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| p/m-Xylene[1] | ND | ND | ug/l | NC | 30 |
| o-Xylene[1] | ND | ND | ug/l | NC | 30 |
| Xylene (Total)[1] | ND | ND | ug/l | NC | 30 |
| Styrene[1] | ND | ND | ug/l | NC | 30 |
| Acetone[1] | 180J | 180J | ug/l | NC | 30 |
| Carbon disulfide[1] | 1600 | 1600 | ug/l | 0 | 30 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits | |
|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635640-3 QC Sample: L1317602-04 Client ID: DUP Sample | | | | | | |
| 2-Butanone[1] | ND | ND | ug/l | NC | 30 | |
| Vinyl acetate[1] | ND | ND | ug/l | NC | 30 | |
| 4-Methyl-2-pentanone[1] | ND | ND | ug/l | NC | 30 | |
| 2-Hexanone[1] | ND | ND | ug/l | NC | 30 | |
| Acrolein[1] | ND | ND | ug/l | NC | 30 | |
| Acrylonitrile[1] | ND | ND | ug/l | NC | 30 | |
| Dibromomethane[1] | ND | ND | ug/l | NC | 30 | |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| Pentafluorobenzene | 116 | | 117 | | 80-120 |
| Fluorobenzene | 114 | | 115 | | 80-120 |
| 4-Bromofluorobenzene | 102 | | 96 | | 80-120 |

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG636481-3 QC Sample: L1317687-02 Client ID: EW-01 | | | | | | |
| Methane | 3630 | 3510 | ug/l | 3 | 25 | A |
| Ethane | 1.26 | 1.22 | ug/l | 3 | 25 | A |

# SEMIVOLATILES

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1317687-01 | Date Collected: | 09/10/13 06:30 |
| Client ID: | EFFLUENT | Date Received: | 09/10/13 |
| Sample Location: | DEVENS, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 625 |
| Analytical Method: | 5,625 | Extraction Date: | 09/11/13 07:47 |
| Analytical Date: | 09/16/13 23:21 | | |
| Analyst: | PS | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Semivolatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Acenaphthene | ND | | ug/l | 2.0 | 0.55 | 1 |
| Benzidine[1] | ND | | ug/l | 20 | 0.26 | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | 0.67 | 1 |
| Hexachlorobenzene | ND | | ug/l | 2.0 | 0.65 | 1 |
| Bis(2-chloroethyl)ether | ND | | ug/l | 2.0 | 0.39 | 1 |
| 2-Chloronaphthalene | ND | | ug/l | 2.0 | 0.47 | 1 |
| 3,3'-Dichlorobenzidine | ND | | ug/l | 5.0 | 0.85 | 1 |
| 2,4-Dinitrotoluene | ND | Q | ug/l | 5.0 | 0.45 | 1 |
| 2,6-Dinitrotoluene | ND | | ug/l | 5.0 | 0.46 | 1 |
| Azobenzene[1] | ND | | ug/l | 2.0 | 0.58 | 1 |
| Fluoranthene | ND | | ug/l | 2.0 | 0.51 | 1 |
| 4-Chlorophenyl phenyl ether | ND | | ug/l | 2.0 | 0.61 | 1 |
| 4-Bromophenyl phenyl ether[1] | ND | | ug/l | 2.0 | 0.67 | 1 |
| Bis(2-chloroisopropyl)ether | ND | | ug/l | 2.0 | 0.50 | 1 |
| Bis(2-chloroethoxy)methane | ND | | ug/l | 5.0 | 0.40 | 1 |
| Hexachlorobutadiene | ND | | ug/l | 2.0 | 0.81 | 1 |
| Hexachlorocyclopentadiene[1] | ND | | ug/l | 10 | 2.1 | 1 |
| Hexachloroethane | ND | | ug/l | 2.0 | 0.66 | 1 |
| Isophorone | ND | | ug/l | 5.0 | 0.35 | 1 |
| Naphthalene | ND | | ug/l | 2.0 | 0.72 | 1 |
| Nitrobenzene | ND | | ug/l | 2.0 | 0.50 | 1 |
| NDPA/DPA[1] | ND | | ug/l | 2.0 | 0.70 | 1 |
| n-Nitrosodi-n-propylamine | ND | | ug/l | 5.0 | 0.39 | 1 |
| Bis(2-ethylhexyl)phthalate | ND | | ug/l | 3.0 | 1.4 | 1 |
| Butyl benzyl phthalate | ND | | ug/l | 5.0 | 0.46 | 1 |
| Di-n-butylphthalate | ND | | ug/l | 5.0 | 0.54 | 1 |
| Di-n-octylphthalate | ND | | ug/l | 5.0 | 0.53 | 1 |
| Diethyl phthalate | ND | | ug/l | 5.0 | 0.45 | 1 |
| Dimethyl phthalate | ND | | ug/l | 5.0 | 0.45 | 1 |
| Benzo(a)anthracene | ND | | ug/l | 2.0 | 0.82 | 1 |
| Benzo(a)pyrene | ND | | ug/l | 2.0 | 0.48 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01 Date Collected: 09/10/13 06:30

Client ID: EFFLUENT Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Semivolatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Benzo(b)fluoranthene | ND | | ug/l | 2.0 | 0.48 | 1 |
| Benzo(k)fluoranthene | ND | | ug/l | 2.0 | 0.48 | 1 |
| Chrysene | ND | | ug/l | 2.0 | 0.56 | 1 |
| Acenaphthylene | ND | | ug/l | 2.0 | 0.50 | 1 |
| Anthracene | ND | | ug/l | 2.0 | 0.47 | 1 |
| Benzo(ghi)perylene | ND | | ug/l | 2.0 | 0.53 | 1 |
| Fluorene | ND | | ug/l | 2.0 | 0.49 | 1 |
| Phenanthrene | ND | | ug/l | 2.0 | 0.49 | 1 |
| Dibenzo(a,h)anthracene | ND | | ug/l | 2.0 | 0.48 | 1 |
| Indeno(1,2,3-cd)pyrene | ND | | ug/l | 2.0 | 0.48 | 1 |
| Pyrene | ND | | ug/l | 2.0 | 0.44 | 1 |
| Aniline[1] | ND | | ug/l | 2.0 | 0.46 | 1 |
| 4-Chloroaniline[1] | ND | | ug/l | 5.0 | 0.83 | 1 |
| 1-Methylnaphthalene[1] | ND | | ug/l | 2.0 | 0.64 | 1 |
| 2-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.40 | 1 |
| 3-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.59 | 1 |
| 4-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.55 | 1 |
| Dibenzofuran[1] | ND | | ug/l | 2.0 | 0.47 | 1 |
| 2-Methylnaphthalene[1] | ND | | ug/l | 2.0 | 0.55 | 1 |
| n-Nitrosodimethylamine[1] | ND | | ug/l | 2.0 | 0.55 | 1 |
| 2,4,6-Trichlorophenol | ND | | ug/l | 5.0 | 0.45 | 1 |
| p-Chloro-m-cresol[1] | ND | Q | ug/l | 2.0 | 0.50 | 1 |
| 2-Chlorophenol | ND | | ug/l | 2.0 | 0.34 | 1 |
| 2,4-Dichlorophenol | ND | | ug/l | 5.0 | 0.43 | 1 |
| 2,4-Dimethylphenol | ND | | ug/l | 5.0 | 1.2 | 1 |
| 2-Nitrophenol | ND | | ug/l | 5.0 | 0.48 | 1 |
| 4-Nitrophenol | ND | | ug/l | 10 | 1.2 | 1 |
| 2,4-Dinitrophenol | ND | | ug/l | 20 | 1.4 | 1 |
| 4,6-Dinitro-o-cresol[1] | ND | | ug/l | 10 | 0.59 | 1 |
| Pentachlorophenol | ND | Q | ug/l | 5.0 | 1.2 | 1 |
| Phenol | ND | | ug/l | 5.0 | 0.26 | 1 |
| 2-Methylphenol[1] | ND | | ug/l | 5.0 | 0.53 | 1 |
| 3-Methylphenol/4-Methylphenol[1] | ND | | ug/l | 5.0 | 0.47 | 1 |
| 2,4,5-Trichlorophenol[1] | ND | | ug/l | 5.0 | 0.45 | 1 |
| Benzoic Acid[1] | ND | | ug/l | 50 | 1.0 | 1 |
| Benzyl Alcohol[1] | ND | | ug/l | 2.0 | 0.47 | 1 |
| Carbazole[1] | ND | | ug/l | 2.0 | 0.53 | 1 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1317687

**Project Number:** AC001.02E **Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01 Date Collected: 09/10/13 06:30

Client ID: EFFLUENT Date Received: 09/10/13

Sample Location: DEVENS, MA Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|

Semivolatile Organics by GC/MS - Westborough Lab

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 2-Fluorophenol | 50 | | 21-120 |
| Phenol-d6 | 31 | | 10-120 |
| Nitrobenzene-d5 | 112 | | 23-120 |
| 2-Fluorobiphenyl | 102 | | 15-120 |
| 2,4,6-Tribromophenol | 64 | | 10-120 |
| 4-Terphenyl-d14 | 118 | | 33-120 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,625
Analytical Date: 09/16/13 21:38
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 09/11/13 07:47

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG635197-1 | | | | | |
| Acenaphthene | ND | | ug/l | 2.0 | 0.55 |
| Benzidine[1] | ND | | ug/l | 20 | 0.26 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | 0.67 |
| Hexachlorobenzene | ND | | ug/l | 2.0 | 0.65 |
| Bis(2-chloroethyl)ether | ND | | ug/l | 2.0 | 0.39 |
| 2-Chloronaphthalene | ND | | ug/l | 2.0 | 0.47 |
| 3,3'-Dichlorobenzidine | ND | | ug/l | 5.0 | 0.85 |
| 2,4-Dinitrotoluene | ND | | ug/l | 5.0 | 0.45 |
| 2,6-Dinitrotoluene | ND | | ug/l | 5.0 | 0.46 |
| Azobenzene[1] | ND | | ug/l | 2.0 | 0.58 |
| Fluoranthene | ND | | ug/l | 2.0 | 0.51 |
| 4-Chlorophenyl phenyl ether | ND | | ug/l | 2.0 | 0.61 |
| 4-Bromophenyl phenyl ether[1] | ND | | ug/l | 2.0 | 0.67 |
| Bis(2-chloroisopropyl)ether | ND | | ug/l | 2.0 | 0.50 |
| Bis(2-chloroethoxy)methane | ND | | ug/l | 5.0 | 0.40 |
| Hexachlorobutadiene | ND | | ug/l | 2.0 | 0.81 |
| Hexachlorocyclopentadiene[1] | ND | | ug/l | 10 | 2.1 |
| Hexachloroethane | ND | | ug/l | 2.0 | 0.66 |
| Isophorone | ND | | ug/l | 5.0 | 0.35 |
| Naphthalene | ND | | ug/l | 2.0 | 0.72 |
| Nitrobenzene | ND | | ug/l | 2.0 | 0.50 |
| NDPA/DPA[1] | ND | | ug/l | 2.0 | 0.70 |
| n-Nitrosodi-n-propylamine | ND | | ug/l | 5.0 | 0.39 |
| Bis(2-ethylhexyl)phthalate | 1.9 | J | ug/l | 3.0 | 1.4 |
| Butyl benzyl phthalate | ND | | ug/l | 5.0 | 0.46 |
| Di-n-butylphthalate | ND | | ug/l | 5.0 | 0.54 |
| Di-n-octylphthalate | ND | | ug/l | 5.0 | 0.53 |
| Diethyl phthalate | ND | | ug/l | 5.0 | 0.45 |
| Dimethyl phthalate | ND | | ug/l | 5.0 | 0.45 |
| Benzo(a)anthracene | ND | | ug/l | 2.0 | 0.82 |
| Benzo(a)pyrene | ND | | ug/l | 2.0 | 0.48 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,625
Analytical Date: 09/16/13 21:38
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 09/11/13 07:47

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG635197-1 | | | | | |
| Benzo(b)fluoranthene | ND | | ug/l | 2.0 | 0.48 |
| Benzo(k)fluoranthene | ND | | ug/l | 2.0 | 0.48 |
| Chrysene | ND | | ug/l | 2.0 | 0.56 |
| Acenaphthylene | ND | | ug/l | 2.0 | 0.50 |
| Anthracene | ND | | ug/l | 2.0 | 0.47 |
| Benzo(ghi)perylene | ND | | ug/l | 2.0 | 0.53 |
| Fluorene | ND | | ug/l | 2.0 | 0.49 |
| Phenanthrene | ND | | ug/l | 2.0 | 0.49 |
| Dibenzo(a,h)anthracene | ND | | ug/l | 2.0 | 0.48 |
| Indeno(1,2,3-cd)pyrene | ND | | ug/l | 2.0 | 0.48 |
| Pyrene | ND | | ug/l | 2.0 | 0.44 |
| Aniline[1] | ND | | ug/l | 2.0 | 0.46 |
| 4-Chloroaniline[1] | ND | | ug/l | 5.0 | 0.83 |
| 1-Methylnaphthalene[1] | ND | | ug/l | 2.0 | 0.64 |
| 2-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.40 |
| 3-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.59 |
| 4-Nitroaniline[1] | ND | | ug/l | 5.0 | 0.55 |
| Dibenzofuran[1] | ND | | ug/l | 2.0 | 0.47 |
| 2-Methylnaphthalene[1] | ND | | ug/l | 2.0 | 0.55 |
| n-Nitrosodimethylamine[1] | ND | | ug/l | 2.0 | 0.55 |
| 2,4,6-Trichlorophenol | ND | | ug/l | 5.0 | 0.45 |
| p-Chloro-m-cresol[1] | ND | | ug/l | 2.0 | 0.50 |
| 2-Chlorophenol | ND | | ug/l | 2.0 | 0.34 |
| 2,4-Dichlorophenol | ND | | ug/l | 5.0 | 0.43 |
| 2,4-Dimethylphenol | ND | | ug/l | 5.0 | 1.2 |
| 2-Nitrophenol | ND | | ug/l | 5.0 | 0.48 |
| 4-Nitrophenol | ND | | ug/l | 10 | 1.2 |
| 2,4-Dinitrophenol | ND | | ug/l | 20 | 1.4 |
| 4,6-Dinitro-o-cresol[1] | ND | | ug/l | 10 | 0.59 |
| Pentachlorophenol | ND | | ug/l | 5.0 | 1.2 |
| Phenol | ND | | ug/l | 5.0 | 0.26 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,625
Analytical Date: 09/16/13 21:38
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 09/11/13 07:47

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG635197-1 | | | | | |
| 2-Methylphenol[1] | ND | | ug/l | 5.0 | 0.53 |
| 3-Methylphenol/4-Methylphenol[1] | ND | | ug/l | 5.0 | 0.47 |
| 2,4,5-Trichlorophenol[1] | ND | | ug/l | 5.0 | 0.45 |
| Benzoic Acid[1] | ND | | ug/l | 50 | 1.0 |
| Benzyl Alcohol[1] | ND | | ug/l | 2.0 | 0.47 |
| Carbazole[1] | ND | | ug/l | 2.0 | 0.53 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 2-Fluorophenol | 70 | | 21-120 |
| Phenol-d6 | 42 | | 10-120 |
| Nitrobenzene-d5 | 114 | | 23-120 |
| 2-Fluorobiphenyl | 104 | | 15-120 |
| 2,4,6-Tribromophenol | 110 | | 10-120 |
| 4-Terphenyl-d14 | 114 | | 33-120 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635197-2 | | | | | | | | |
| Acenaphthene | 99 | | - | | 46-118 | - | | 30 |
| Benzidine[1] | 13 | | - | | 10-75 | - | | 30 |
| 1,2,4-Trichlorobenzene | 85 | | - | | 39-98 | - | | 30 |
| Hexachlorobenzene | 104 | | - | | 40-140 | - | | 30 |
| Bis(2-chloroethyl)ether | 87 | | - | | 40-140 | - | | 30 |
| 2-Chloronaphthalene | 95 | | - | | 40-140 | - | | 30 |
| 3,3'-Dichlorobenzidine | 46 | | - | | 40-140 | - | | 30 |
| 2,4-Dinitrotoluene | **111** | Q | - | | 24-96 | - | | 30 |
| 2,6-Dinitrotoluene | 111 | | - | | 40-140 | - | | 30 |
| Azobenzene[1] | 109 | | - | | 40-140 | - | | 30 |
| Fluoranthene | 110 | | - | | 40-140 | - | | 30 |
| 4-Chlorophenyl phenyl ether | 101 | | - | | 40-140 | - | | 30 |
| 4-Bromophenyl phenyl ether[1] | 109 | | - | | 40-140 | - | | 30 |
| Bis(2-chloroisopropyl)ether | 91 | | - | | 40-140 | - | | 30 |
| Bis(2-chloroethoxy)methane | 96 | | - | | 40-140 | - | | 30 |
| Hexachlorobutadiene | 84 | | - | | 40-140 | - | | 30 |
| Hexachlorocyclopentadiene[1] | 48 | | - | | 40-140 | - | | 30 |
| Hexachloroethane | 82 | | - | | 40-140 | - | | 30 |
| Isophorone | 104 | | - | | 40-140 | - | | 30 |
| Naphthalene | 89 | | - | | 40-140 | - | | 30 |
| Nitrobenzene | 99 | | - | | 40-140 | - | | 30 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635197-2 | | | | | | | | |
| NitrosoDiPhenylAmine(NDPA)/DPA[1] | 106 | | - | | 40-140 | - | | 30 |
| n-Nitrosodi-n-propylamine | 105 | | - | | 41-116 | - | | 30 |
| Bis(2-Ethylhexyl)phthalate | 116 | | - | | 40-140 | - | | 30 |
| Butyl benzyl phthalate | 119 | | - | | 40-140 | - | | 30 |
| Di-n-butylphthalate | 116 | | - | | 40-140 | - | | 30 |
| Di-n-octylphthalate | 115 | | - | | 40-140 | - | | 30 |
| Diethyl phthalate | 112 | | - | | 40-140 | - | | 30 |
| Dimethyl phthalate | 106 | | - | | 40-140 | - | | 30 |
| Benzo(a)anthracene | 109 | | - | | 40-140 | - | | 30 |
| Benzo(a)pyrene | 94 | | - | | 40-140 | - | | 30 |
| Benzo(b)fluoranthene | 106 | | - | | 40-140 | - | | 30 |
| Benzo(k)fluoranthene | 103 | | - | | 40-140 | - | | 30 |
| Chrysene | 103 | | - | | 40-140 | - | | 30 |
| Acenaphthylene | 102 | | - | | 40-140 | - | | 30 |
| Anthracene | 110 | | - | | 40-140 | - | | 30 |
| Benzo(ghi)perylene | 105 | | - | | 40-140 | - | | 30 |
| Fluorene | 106 | | - | | 40-140 | - | | 30 |
| Phenanthrene | 101 | | - | | 40-140 | - | | 30 |
| Dibenzo(a,h)anthracene | 106 | | - | | 40-140 | - | | 30 |
| Indeno(1,2,3-cd)Pyrene | 98 | | - | | 40-140 | - | | 30 |
| Pyrene | 108 | | - | | 26-127 | - | | 30 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635197-2 | | | | | | | | |
| Aniline[1] | 46 | | - | | 40-140 | - | | 30 |
| 4-Chloroaniline[1] | 85 | | - | | 40-140 | - | | 30 |
| 1-Methylnaphthalene[1] | 100 | | - | | 41-103 | - | | 30 |
| 2-Nitroaniline[1] | 105 | | - | | 52-143 | - | | 30 |
| 3-Nitroaniline[1] | 90 | | - | | 25-145 | - | | 30 |
| 4-Nitroaniline[1] | 108 | | - | | 51-143 | - | | 30 |
| Dibenzofuran[1] | 100 | | - | | 40-140 | - | | 30 |
| 2-Methylnaphthalene[1] | 91 | | - | | 40-140 | - | | 30 |
| n-Nitrosodimethylamine[1] | 53 | | - | | 22-74 | - | | 30 |
| 2,4,6-Trichlorophenol | 104 | | - | | 30-130 | - | | 30 |
| P-Chloro-M-Cresol[1] | **110** | Q | - | | 23-97 | - | | 30 |
| 2-Chlorophenol | 96 | | - | | 27-123 | - | | 30 |
| 2,4-Dichlorophenol | 107 | | - | | 30-130 | - | | 30 |
| 2,4-Dimethylphenol | 96 | | - | | 30-130 | - | | 30 |
| 2-Nitrophenol | 101 | | - | | 30-130 | - | | 30 |
| 4-Nitrophenol | 65 | | - | | 10-80 | - | | 30 |
| 2,4-Dinitrophenol | 83 | | - | | 20-130 | - | | 30 |
| 4,6-Dinitro-o-cresol[1] | 102 | | - | | 20-164 | - | | 30 |
| Pentachlorophenol | **112** | Q | - | | 9-103 | - | | 30 |
| Phenol | 45 | | - | | 12-110 | - | | 30 |
| 2-Methylphenol[1] | 91 | | - | | 30-130 | - | | 30 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG635197-2 | | | | | | | | |
| 3-Methylphenol/4-Methylphenol[1] | 88 | | - | | 30-130 | - | | 30 |
| 2,4,5-Trichlorophenol[1] | 108 | | - | | 30-130 | - | | 30 |
| Benzoic Acid[1] | 22 | | - | | 10-164 | - | | 30 |
| Benzyl Alcohol[1] | 92 | | - | | 26-116 | - | | 30 |
| Carbazole[1] | 107 | | - | | 55-144 | - | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 2-Fluorophenol | 62 | | | | 21-120 |
| Phenol-d6 | 41 | | | | 10-120 |
| Nitrobenzene-d5 | 104 | | | | 23-120 |
| 2-Fluorobiphenyl | 94 | | | | 15-120 |
| 2,4,6-Tribromophenol | 114 | | | | 10-120 |
| 4-Terphenyl-d14 | 104 | | | | 33-120 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| Acenaphthene | ND | 83.3 | 67 | 80 | | - | - | | 46-118 | - | | 30 |
| Benzidine[1] | ND | 83.3 | 6.7J | **8** | Q | - | - | | 10-75 | - | | 30 |
| 1,2,4-Trichlorobenzene | ND | 83.3 | 67 | 80 | | - | - | | 39-98 | - | | 30 |
| Hexachlorobenzene | ND | 83.3 | 77 | 92 | | - | - | | 40-140 | - | | 30 |
| Bis(2-chloroethyl)ether | ND | 83.3 | 69 | 83 | | - | - | | 40-140 | - | | 30 |
| 2-Chloronaphthalene | ND | 83.3 | 72 | 86 | | - | - | | 40-140 | - | | 30 |
| 3,3'-Dichlorobenzidine | ND | 167 | 36 | **22** | Q | - | - | | 40-140 | - | | 30 |
| 2,4-Dinitrotoluene | ND | 83.3 | 82 | **98** | Q | - | - | | 24-96 | - | | 30 |
| 2,6-Dinitrotoluene | ND | 83.3 | 81 | 97 | | - | - | | 40-140 | - | | 30 |
| Azobenzene[1] | ND | 83.3 | 82 | 98 | | - | - | | 40-140 | - | | 30 |
| Fluoranthene | ND | 83.3 | 83 | 100 | | - | - | | 40-140 | - | | 30 |
| 4-Chlorophenyl phenyl ether | ND | 83.3 | 76 | 91 | | - | - | | 40-140 | - | | 30 |
| 4-Bromophenyl phenyl ether[1] | ND | 83.3 | 80 | 96 | | - | - | | 40-140 | - | | 30 |
| Bis(2-chloroisopropyl)ether | ND | 83.3 | 70 | 84 | | - | - | | 40-140 | - | | 30 |
| Bis(2-chloroethoxy)methane | ND | 83.3 | 70 | 84 | | - | - | | 40-140 | - | | 30 |
| Hexachlorobutadiene | ND | 83.3 | 66 | 79 | | - | - | | 40-140 | - | | 30 |
| Hexachlorocyclopentadiene[1] | ND | 83.3 | 53 | 64 | | - | - | | 40-140 | - | | 30 |
| Hexachloroethane | ND | 83.3 | 65 | 78 | | - | - | | 40-140 | - | | 30 |
| Isophorone | ND | 83.3 | 75 | 90 | | - | - | | 40-140 | - | | 30 |
| Naphthalene | ND | 83.3 | 68 | 82 | | - | - | | 40-140 | - | | 30 |
| Nitrobenzene | ND | 83.3 | 76 | 91 | | - | - | | 40-140 | - | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| NitrosoDiPhenylAmine(NDPA)/DPA[1] | ND | 83.3 | 32 | **38** | Q | - | - | | 40-140 | - | | 30 |
| n-Nitrosodi-n-propylamine | ND | 83.3 | 78 | 94 | | - | - | | 41-116 | - | | 30 |
| Bis(2-Ethylhexyl)phthalate | ND | 83.3 | 81 | 97 | | - | - | | 40-140 | - | | 30 |
| Butyl benzyl phthalate | ND | 83.3 | 85 | 100 | | - | - | | 40-140 | - | | 30 |
| Di-n-butylphthalate | ND | 83.3 | 89 | 110 | | - | - | | 40-140 | - | | 30 |
| Di-n-octylphthalate | ND | 83.3 | 84 | 100 | | - | - | | 40-140 | - | | 30 |
| Diethyl phthalate | ND | 83.3 | 86 | 100 | | - | - | | 40-140 | - | | 30 |
| Dimethyl phthalate | ND | 83.3 | 81 | 97 | | - | - | | 40-140 | - | | 30 |
| Benzo(a)anthracene | ND | 83.3 | 81 | 97 | | - | - | | 40-140 | - | | 30 |
| Benzo(a)pyrene | ND | 83.3 | 70 | 84 | | - | - | | 40-140 | - | | 30 |
| Benzo(b)fluoranthene | ND | 83.3 | 82 | 98 | | - | - | | 40-140 | - | | 30 |
| Benzo(k)fluoranthene | ND | 83.3 | 77 | 92 | | - | - | | 40-140 | - | | 30 |
| Chrysene | ND | 83.3 | 77 | 92 | | - | - | | 40-140 | - | | 30 |
| Acenaphthylene | ND | 83.3 | 60 | 72 | | - | - | | 40-140 | - | | 30 |
| Anthracene | ND | 83.3 | 71 | 85 | | - | - | | 40-140 | - | | 30 |
| Benzo(ghi)perylene | ND | 83.3 | 80 | 96 | | - | - | | 40-140 | - | | 30 |
| Fluorene | ND | 83.3 | 79 | 95 | | - | - | | 40-140 | - | | 30 |
| Phenanthrene | ND | 83.3 | 80 | 96 | | - | - | | 40-140 | - | | 30 |
| Dibenzo(a,h)anthracene | ND | 83.3 | 81 | 97 | | - | - | | 40-140 | - | | 30 |
| Indeno(1,2,3-cd)Pyrene | ND | 83.3 | 73 | 88 | | - | - | | 40-140 | - | | 30 |
| Pyrene | ND | 83.3 | 77 | 92 | | - | - | | 26-127 | - | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| Aniline[1] | ND | 83.3 | 44 | 53 | | - | - | | 40-140 | - | | 30 |
| 4-Chloroaniline[1] | ND | 83.3 | 66 | 79 | | - | - | | 40-140 | - | | 30 |
| 1-Methylnaphthalene[1] | ND | 83.3 | 72 | 86 | | - | - | | 41-103 | - | | 30 |
| 2-Nitroaniline[1] | ND | 83.3 | 76 | 91 | | - | - | | 52-143 | - | | 30 |
| 3-Nitroaniline[1] | ND | 83.3 | 66 | 79 | | - | - | | 25-145 | - | | 30 |
| 4-Nitroaniline[1] | ND | 83.3 | 77 | 92 | | - | - | | 51-143 | - | | 30 |
| Dibenzofuran[1] | ND | 83.3 | 77 | 92 | | - | - | | 40-140 | - | | 30 |
| 2-Methylnaphthalene[1] | ND | 83.3 | 68 | 82 | | - | - | | 40-140 | - | | 30 |
| n-Nitrosodimethylamine[1] | ND | 83.3 | 61 | 73 | | - | - | | 22-74 | - | | 30 |
| 2,4,6-Trichlorophenol | ND | 83.3 | 75 | 90 | | - | - | | 30-130 | - | | 30 |
| P-Chloro-M-Cresol[1] | ND | 83.3 | 81 | 97 | | - | - | | 23-97 | - | | 30 |
| 2-Chlorophenol | ND | 83.3 | 74 | 89 | | - | - | | 27-123 | - | | 30 |
| 2,4-Dichlorophenol | ND | 83.3 | 79 | 95 | | - | - | | 30-130 | - | | 30 |
| 2,4-Dimethylphenol | ND | 83.3 | 56 | 67 | | - | - | | 30-130 | - | | 30 |
| 2-Nitrophenol | ND | 83.3 | 76 | 91 | | - | - | | 30-130 | - | | 30 |
| 4-Nitrophenol | ND | 83.3 | 71 | **85** | Q | - | - | | 10-80 | - | | 30 |
| 2,4-Dinitrophenol | ND | 83.3 | 87 | 100 | | - | - | | 20-130 | - | | 30 |
| 4,6-Dinitro-o-cresol[1] | ND | 83.3 | 93 | 110 | | - | - | | 20-164 | - | | 30 |
| Pentachlorophenol | ND | 83.3 | 88 | **110** | Q | - | - | | 9-103 | - | | 30 |
| Phenol | ND | 83.3 | 54 | 65 | | - | - | | 12-110 | - | | 30 |
| 2-Methylphenol[1] | ND | 83.3 | 72 | 86 | | - | - | | 30-130 | - | | 30 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| 3-Methylphenol/4-Methylphenol[1] | ND | 83.3 | 70 | 84 | | - | - | | 30-130 | - | | 30 |
| 2,4,5-Trichlorophenol[1] | ND | 83.3 | 81 | 97 | | - | - | | 30-130 | - | | 30 |
| Benzoic Acid[1] | ND | 83.3 | 44J | 53 | | - | - | | 10-164 | - | | 30 |
| Benzyl Alcohol[1] | ND | 83.3 | 75 | 90 | | - | - | | 26-116 | - | | 30 |
| Carbazole[1] | ND | 83.3 | 81 | 97 | | - | - | | 55-144 | - | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 101 | | | | 10-120 |
| 2-Fluorobiphenyl | 84 | | | | 15-120 |
| 2-Fluorophenol | 71 | | | | 21-120 |
| 4-Terphenyl-d14 | 92 | | | | 33-120 |
| Nitrobenzene-d5 | 90 | | | | 23-120 |
| Phenol-d6 | 59 | | | | 10-120 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | |
| Acenaphthene | ND | ND | ug/l | NC | | 30 |
| Benzidine[1] | ND | ND | ug/l | NC | | 30 |
| 1,2,4-Trichlorobenzene | ND | ND | ug/l | NC | | 30 |
| Hexachlorobenzene | ND | ND | ug/l | NC | | 30 |
| Bis(2-chloroethyl)ether | ND | ND | ug/l | NC | | 30 |
| 2-Chloronaphthalene | ND | ND | ug/l | NC | | 30 |
| 3,3'-Dichlorobenzidine | ND | ND | ug/l | NC | | 30 |
| 2,4-Dinitrotoluene | ND | ND | ug/l | NC | | 30 |
| 2,6-Dinitrotoluene | ND | ND | ug/l | NC | | 30 |
| Azobenzene[1] | ND | ND | ug/l | NC | | 30 |
| Fluoranthene | ND | ND | ug/l | NC | | 30 |
| 4-Chlorophenyl phenyl ether | ND | ND | ug/l | NC | | 30 |
| 4-Bromophenyl phenyl ether[1] | ND | ND | ug/l | NC | | 30 |
| Bis(2-chloroisopropyl)ether | ND | ND | ug/l | NC | | 30 |
| Bis(2-chloroethoxy)methane | ND | ND | ug/l | NC | | 30 |
| Hexachlorobutadiene | ND | ND | ug/l | NC | | 30 |
| Hexachlorocyclopentadiene[1] | ND | ND | ug/l | NC | | 30 |
| Hexachloroethane | ND | ND | ug/l | NC | | 30 |
| Isophorone | ND | ND | ug/l | NC | | 30 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | |
| Naphthalene | ND | ND | ug/l | NC | 30 |
| Nitrobenzene | ND | ND | ug/l | NC | 30 |
| NDPA/DPA[1] | ND | ND | ug/l | NC | 30 |
| n-Nitrosodi-n-propylamine | ND | ND | ug/l | NC | 30 |
| Bis(2-ethylhexyl)phthalate | ND | ND | ug/l | NC | 30 |
| Butyl benzyl phthalate | ND | ND | ug/l | NC | 30 |
| Di-n-butylphthalate | ND | ND | ug/l | NC | 30 |
| Di-n-octylphthalate | ND | ND | ug/l | NC | 30 |
| Diethyl phthalate | ND | ND | ug/l | NC | 30 |
| Dimethyl phthalate | ND | ND | ug/l | NC | 30 |
| Benzo(a)anthracene | ND | ND | ug/l | NC | 30 |
| Benzo(a)pyrene | ND | ND | ug/l | NC | 30 |
| Benzo(b)fluoranthene | ND | ND | ug/l | NC | 30 |
| Benzo(k)fluoranthene | ND | ND | ug/l | NC | 30 |
| Chrysene | ND | ND | ug/l | NC | 30 |
| Acenaphthylene | ND | ND | ug/l | NC | 30 |
| Anthracene | ND | ND | ug/l | NC | 30 |
| Benzo(ghi)perylene | ND | ND | ug/l | NC | 30 |
| Fluorene | ND | ND | ug/l | NC | 30 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | |
| Phenanthrene | ND | ND | ug/l | NC | 30 |
| Dibenzo(a,h)anthracene | ND | ND | ug/l | NC | 30 |
| Indeno(1,2,3-cd)pyrene | ND | ND | ug/l | NC | 30 |
| Pyrene | ND | ND | ug/l | NC | 30 |
| Aniline[1] | ND | ND | ug/l | NC | 30 |
| 4-Chloroaniline[1] | ND | ND | ug/l | NC | 30 |
| 1-Methylnaphthalene[1] | ND | ND | ug/l | NC | 30 |
| 2-Nitroaniline[1] | ND | ND | ug/l | NC | 30 |
| 3-Nitroaniline[1] | ND | ND | ug/l | NC | 30 |
| 4-Nitroaniline[1] | ND | ND | ug/l | NC | 30 |
| Dibenzofuran[1] | ND | ND | ug/l | NC | 30 |
| 2-Methylnaphthalene[1] | ND | ND | ug/l | NC | 30 |
| n-Nitrosodimethylamine[1] | ND | ND | ug/l | NC | 30 |
| 2,4,6-Trichlorophenol | ND | ND | ug/l | NC | 30 |
| p-Chloro-m-cresol[1] | ND | ND | ug/l | NC | 30 |
| 2-Chlorophenol | ND | ND | ug/l | NC | 30 |
| 2,4-Dichlorophenol | ND | ND | ug/l | NC | 30 |
| 2,4-Dimethylphenol | ND | ND | ug/l | NC | 30 |
| 2-Nitrophenol | ND | ND | ug/l | NC | 30 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635197-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | |
| 4-Nitrophenol | ND | ND | ug/l | NC | 30 |
| 2,4-Dinitrophenol | ND | ND | ug/l | NC | 30 |
| 4,6-Dinitro-o-cresol[1] | ND | ND | ug/l | NC | 30 |
| Pentachlorophenol | ND | ND | ug/l | NC | 30 |
| Phenol | ND | ND | ug/l | NC | 30 |
| 2-Methylphenol[1] | ND | ND | ug/l | NC | 30 |
| 3-Methylphenol/4-Methylphenol[1] | ND | ND | ug/l | NC | 30 |
| 2,4,5-Trichlorophenol[1] | ND | ND | ug/l | NC | 30 |
| Benzoic Acid[1] | ND | ND | ug/l | NC | 30 |
| Benzyl Alcohol[1] | ND | ND | ug/l | NC | 30 |
| Carbazole[1] | ND | ND | ug/l | NC | 30 |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|
| 2-Fluorophenol | 50 | | 75 | | 21-120 |
| Phenol-d6 | 31 | | 56 | | 10-120 |
| Nitrobenzene-d5 | 112 | | 99 | | 23-120 |
| 2-Fluorobiphenyl | 102 | | 92 | | 15-120 |
| 2,4,6-Tribromophenol | 64 | | 102 | | 10-120 |
| 4-Terphenyl-d14 | 118 | | 114 | | 33-120 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Semivolatile Organics by GC/MS - Westborough Lab EFFLUENT | Associated sample(s): 01 | QC Batch ID: WG635197-4 | QC Sample: L1317687-01 | Client ID: | |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|---|---|

# PCBS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1317687-01 | Date Collected: | 09/10/13 06:30 |
| Client ID: | EFFLUENT | Date Received: | 09/10/13 |
| Sample Location: | DEVENS, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 608 |
| Analytical Method: | 5,608 | Extraction Date: | 09/12/13 15:51 |
| Analytical Date: | 09/13/13 15:15 | Cleanup Method1: | EPA 3665A |
| Analyst: | JW | Cleanup Date1: | 09/13/13 |
| | | Cleanup Method2: | EPA 3660B |
| | | Cleanup Date2: | 09/13/13 |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls by GC - Westborough Lab** | | | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | 0.042 | 1 | A |
| Aroclor 1221 | ND | | ug/l | 0.250 | 0.056 | 1 | A |
| Aroclor 1232 | ND | | ug/l | 0.250 | 0.024 | 1 | A |
| Aroclor 1242 | ND | | ug/l | 0.250 | 0.028 | 1 | A |
| Aroclor 1248 | ND | | ug/l | 0.250 | 0.028 | 1 | A |
| Aroclor 1254 | ND | | ug/l | 0.250 | 0.043 | 1 | A |
| Aroclor 1260 | ND | | ug/l | 0.200 | 0.045 | 1 | A |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 70 | | 30-150 | A |
| Decachlorobiphenyl | 105 | | 30-150 | A |

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,608
Analytical Date: 09/13/13 17:54
Analyst: JW

Extraction Method: EPA 608
Extraction Date: 09/12/13 15:51
Cleanup Method1: EPA 3665A
Cleanup Date1: 09/13/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 09/13/13

| Parameter | Result | Qualifier | Units | RL | MDL | Column |
|---|---|---|---|---|---|---|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG635717-1 | | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | 0.042 | A |
| Aroclor 1221 | ND | | ug/l | 0.250 | 0.056 | A |
| Aroclor 1232 | ND | | ug/l | 0.250 | 0.024 | A |
| Aroclor 1242 | ND | | ug/l | 0.250 | 0.028 | A |
| Aroclor 1248 | ND | | ug/l | 0.250 | 0.028 | A |
| Aroclor 1254 | ND | | ug/l | 0.250 | 0.043 | A |
| Aroclor 1260 | ND | | ug/l | 0.200 | 0.045 | A |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 71 | | 30-150 | A |
| Decachlorobiphenyl | 113 | | 30-150 | A |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635717-3 QC Sample: L1317831-01 Client ID: MS Sample | | | | | | | | | | | | | |
| Aroclor 1016 | ND | 1 | 0.802 | 80 | | - | - | | 40-140 | - | | 50 | A |
| Aroclor 1260 | ND | 1 | 0.795 | 80 | | - | - | | 40-140 | - | | 50 | A |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 79 | | | | 30-150 | A |
| Decachlorobiphenyl | 116 | | | | 30-150 | A |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG635717-2 | | | | | | | | | |
| Aroclor 1016 | 80 | | - | | 40-140 | - | | 50 | A |
| Aroclor 1260 | 81 | | - | | 40-140 | - | | 50 | A |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 74 | | | | 30-150 | A |
| Decachlorobiphenyl | 114 | | | | 30-150 | A |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits | |
|---|---|---|---|---|---|---|---|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635717-4 QC Sample: L1317831-02 Client ID: DUP Sample | | | | | | | |
| Aroclor 1016 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1221 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1232 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1242 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1248 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1254 | ND | ND | ug/l | NC | | 50 | A |
| Aroclor 1260 | ND | ND | ug/l | NC | | 50 | A |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 72 | | 79 | | 30-150 | A |
| Decachlorobiphenyl | 102 | | 123 | | 30-150 | A |

# PESTICIDES

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

| | | | |
|---|---|---|---|
| Lab ID: | L1317687-01 | Date Collected: | 09/10/13 06:30 |
| Client ID: | EFFLUENT | Date Received: | 09/10/13 |
| Sample Location: | DEVENS, MA | Field Prep: | Not Specified |
| Matrix: | Water | Extraction Method: | EPA 608 |
| Analytical Method: | 5,608 | Extraction Date: | 09/12/13 17:43 |
| Analytical Date: | 09/13/13 19:25 | Cleanup Method1: | EPA 3620B |
| Analyst: | SH | Cleanup Date1: | 09/13/13 |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Organochlorine Pesticides by GC - Westborough Lab** | | | | | | | |
| Delta-BHC | ND | | ug/l | 0.020 | 0.003 | 1 | A |
| Lindane | ND | | ug/l | 0.020 | 0.003 | 1 | A |
| Alpha-BHC | ND | | ug/l | 0.020 | 0.004 | 1 | A |
| Beta-BHC | ND | | ug/l | 0.020 | 0.006 | 1 | A |
| Heptachlor | ND | | ug/l | 0.020 | 0.004 | 1 | A |
| Aldrin | ND | | ug/l | 0.020 | 0.003 | 1 | A |
| Heptachlor epoxide | ND | | ug/l | 0.020 | 0.006 | 1 | A |
| Endrin | ND | | ug/l | 0.040 | 0.004 | 1 | A |
| Endrin aldehyde | ND | | ug/l | 0.040 | 0.003 | 1 | A |
| Endrin ketone | ND | | ug/l | 0.040 | 0.005 | 1 | A |
| Dieldrin | ND | | ug/l | 0.040 | 0.003 | 1 | A |
| 4,4'-DDE | ND | | ug/l | 0.040 | 0.004 | 1 | A |
| 4,4'-DDD | ND | | ug/l | 0.040 | 0.005 | 1 | A |
| 4,4'-DDT | ND | | ug/l | 0.040 | 0.005 | 1 | A |
| Endosulfan I | ND | | ug/l | 0.020 | 0.006 | 1 | A |
| Endosulfan II | ND | | ug/l | 0.040 | 0.004 | 1 | A |
| Endosulfan sulfate | ND | | ug/l | 0.040 | 0.005 | 1 | A |
| Methoxychlor | ND | | ug/l | 0.100 | 0.006 | 1 | A |
| Toxaphene | ND | | ug/l | 0.400 | 0.126 | 1 | A |
| Chlordane | ND | | ug/l | 0.200 | 0.042 | 1 | A |
| cis-Chlordane | ND | | ug/l | 0.020 | 0.004 | 1 | A |
| trans-Chlordane | ND | | ug/l | 0.020 | 0.008 | 1 | A |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 59 | | 30-150 | A |
| Decachlorobiphenyl | 91 | | 30-150 | A |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 5,608
Analytical Date: 09/13/13 18:47
Analyst: SH

Extraction Method: EPA 608
Extraction Date: 09/12/13 17:43
Cleanup Method1: EPA 3620B
Cleanup Date1: 09/13/13

| Parameter | Result | Qualifier | Units | RL | MDL | Column |
|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG635738-1 | | | | | | |
| Delta-BHC | ND | | ug/l | 0.020 | 0.003 | A |
| Lindane | ND | | ug/l | 0.020 | 0.003 | A |
| Alpha-BHC | ND | | ug/l | 0.020 | 0.004 | A |
| Beta-BHC | ND | | ug/l | 0.020 | 0.006 | A |
| Heptachlor | ND | | ug/l | 0.020 | 0.004 | A |
| Aldrin | ND | | ug/l | 0.020 | 0.003 | A |
| Heptachlor epoxide | ND | | ug/l | 0.020 | 0.006 | A |
| Endrin | ND | | ug/l | 0.040 | 0.004 | A |
| Endrin aldehyde | ND | | ug/l | 0.040 | 0.003 | A |
| Endrin ketone | ND | | ug/l | 0.040 | 0.005 | A |
| Dieldrin | ND | | ug/l | 0.040 | 0.003 | A |
| 4,4'-DDE | ND | | ug/l | 0.040 | 0.004 | A |
| 4,4'-DDD | ND | | ug/l | 0.040 | 0.005 | A |
| 4,4'-DDT | ND | | ug/l | 0.040 | 0.005 | A |
| Endosulfan I | ND | | ug/l | 0.020 | 0.006 | A |
| Endosulfan II | ND | | ug/l | 0.040 | 0.004 | A |
| Endosulfan sulfate | ND | | ug/l | 0.040 | 0.005 | A |
| Methoxychlor | ND | | ug/l | 0.100 | 0.006 | A |
| Toxaphene | ND | | ug/l | 0.400 | 0.126 | A |
| Chlordane | ND | | ug/l | 0.200 | 0.042 | A |
| cis-Chlordane | ND | | ug/l | 0.020 | 0.004 | A |
| trans-Chlordane | ND | | ug/l | 0.020 | 0.008 | A |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 64 | | 30-150 | A |
| Decachlorobiphenyl | 101 | | 30-150 | A |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG635738-2 | | | | | | | | | |
| Delta-BHC | 99 | | - | | 30-150 | - | | 30 | A |
| Lindane | 102 | | - | | 30-150 | - | | 30 | A |
| Alpha-BHC | 100 | | - | | 30-150 | - | | 30 | A |
| Beta-BHC | 103 | | - | | 30-150 | - | | 30 | A |
| Heptachlor | 95 | | - | | 30-150 | - | | 30 | A |
| Aldrin | 88 | | - | | 30-150 | - | | 30 | A |
| Heptachlor epoxide | 107 | | - | | 30-150 | - | | 30 | A |
| Endrin | 111 | | - | | 30-150 | - | | 30 | A |
| Endrin aldehyde | 81 | | - | | 30-150 | - | | 30 | A |
| Endrin ketone | 92 | | - | | 30-150 | - | | 30 | A |
| Dieldrin | 109 | | - | | 30-150 | - | | 30 | A |
| 4,4'-DDE | 102 | | - | | 30-150 | - | | 30 | A |
| 4,4'-DDD | 108 | | - | | 30-150 | - | | 30 | A |
| 4,4'-DDT | 100 | | - | | 30-150 | - | | 30 | A |
| Endosulfan I | 106 | | - | | 30-150 | - | | 30 | A |
| Endosulfan II | 103 | | - | | 30-150 | - | | 30 | A |
| Endosulfan sulfate | 88 | | - | | 30-150 | - | | 30 | A |
| Methoxychlor | 98 | | - | | 30-150 | - | | 30 | A |
| cis-Chlordane | 102 | | - | | 30-150 | - | | 30 | A |
| trans-Chlordane | 102 | | - | | 30-150 | - | | 30 | A |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG635738-2 | | | | | | | | |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 56 | | | | 30-150 | A |
| Decachlorobiphenyl | 101 | | | | 30-150 | A |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635738-3 QC Sample: L1317785-01 Client ID: MS Sample | | | | | | | | | | | | | |
| Delta-BHC | ND | 0.156 | 0.154 | 99 | | - | - | | 19-140 | - | | 30 | A |
| Lindane | ND | 0.156 | 0.145 | 93 | | - | - | | 56-123 | - | | 30 | A |
| Alpha-BHC | ND | 0.156 | 0.161 | 103 | | - | - | | 37-134 | - | | 30 | A |
| Beta-BHC | ND | 0.156 | 0.158 | 101 | | - | - | | 17-147 | - | | 30 | A |
| Heptachlor | ND | 0.156 | 0.196 | **125** | Q | - | - | | 40-111 | - | | 30 | A |
| Aldrin | ND | 0.156 | 0.141 | 90 | | - | - | | 40-120 | - | | 30 | A |
| Heptachlor epoxide | ND | 0.156 | 0.158 | 101 | | - | - | | 37-142 | - | | 30 | A |
| Endrin | ND | 0.156 | 0.160 | 102 | | - | - | | 56-121 | - | | 30 | A |
| Endrin aldehyde | ND | 0.156 | 0.120 | 77 | | - | - | | 42-122 | - | | 30 | A |
| Endrin ketone | ND | 0.156 | 0.140 | 90 | | - | - | | 30-150 | - | | 30 | A |
| Dieldrin | ND | 0.156 | 0.158 | 101 | | - | - | | 52-126 | - | | 30 | A |
| 4,4'-DDE | ND | 0.156 | 0.150 | 96 | | - | - | | 30-145 | - | | 30 | A |
| 4,4'-DDD | ND | 0.156 | 0.156 | 100 | | - | - | | 31-141 | - | | 30 | A |
| 4,4'-DDT | ND | 0.156 | 0.149 | 95 | | - | - | | 38-127 | - | | 30 | A |
| Endosulfan I | ND | 0.156 | 0.151 | 97 | | - | - | | 45-153 | - | | 30 | A |
| Endosulfan II | ND | 0.156 | 0.150 | 96 | | - | - | | .1-202 | - | | 30 | A |
| Endosulfan sulfate | ND | 0.156 | 0.133 | 85 | | - | - | | 26-144 | - | | 30 | A |
| Methoxychlor | ND | 0.156 | 0.144 | 92 | | - | - | | 30-150 | - | | 30 | A |
| cis-Chlordane | ND | 0.156 | 0.150 | 96 | | - | - | | 30-150 | - | | 30 | A |
| trans-Chlordane | ND | 0.156 | 0.151 | 97 | | - | - | | 30-150 | - | | 30 | A |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635738-3 QC Sample: L1317785-01 Client ID: MS Sample | | | | | | | | | | | | |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 56 | | | | 30-150 | A |
| Decachlorobiphenyl | 97 | | | | 30-150 | A |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits | |
|---|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635738-4 QC Sample: L1317787-01 Client ID: DUP Sample | | | | | | | |
| Delta-BHC | ND | ND | ug/l | NC | | 30 | A |
| Lindane | ND | ND | ug/l | NC | | 30 | A |
| Alpha-BHC | ND | ND | ug/l | NC | | 30 | A |
| Beta-BHC | ND | ND | ug/l | NC | | 30 | A |
| Heptachlor | ND | ND | ug/l | NC | | 30 | A |
| Aldrin | ND | ND | ug/l | NC | | 30 | A |
| Heptachlor epoxide | ND | ND | ug/l | NC | | 30 | A |
| Endrin | ND | ND | ug/l | NC | | 30 | A |
| Endrin aldehyde | ND | ND | ug/l | NC | | 30 | A |
| Endrin ketone | ND | ND | ug/l | NC | | 30 | A |
| Dieldrin | ND | ND | ug/l | NC | | 30 | A |
| 4,4'-DDE | ND | ND | ug/l | NC | | 30 | A |
| 4,4'-DDD | ND | ND | ug/l | NC | | 30 | A |
| 4,4'-DDT | ND | ND | ug/l | NC | | 30 | A |
| Endosulfan I | ND | ND | ug/l | NC | | 30 | A |
| Endosulfan II | ND | ND | ug/l | NC | | 30 | A |
| Endosulfan sulfate | ND | ND | ug/l | NC | | 30 | A |
| Methoxychlor | ND | ND | ug/l | NC | | 30 | A |
| Toxaphene | ND | ND | ug/l | NC | | 30 | A |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits | |
|---|---|---|---|---|---|---|
| Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635738-4 QC Sample: L1317787-01 Client ID: DUP Sample | | | | | | |
| Chlordane | ND | ND | ug/l | NC | 30 | A |
| cis-Chlordane | ND | ND | ug/l | NC | 30 | A |
| trans-Chlordane | ND | ND | ug/l | NC | 30 | A |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria | Column |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 68 | | 63 | | 30-150 | A |
| Decachlorobiphenyl | 105 | | 95 | | 30-150 | A |

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01
Client ID: EFFLUENT
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0110 | | mg/l | 0.0005 | 0.0005 | 1 | 09/11/13 07:21 | 09/11/13 15:33 | EPA 3005A | 97,6020A | AK |
| Barium, Total | 0.021 | | mg/l | 0.010 | 0.003 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Cadmium, Total | ND | | mg/l | 0.004 | 0.001 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Chromium, Total | 0.002 | J | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Copper, Total | 0.003 | J | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Lead, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Magnesium, Total | 5.1 | | mg/l | 0.10 | 0.01 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 1.40 | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Mercury, Total | ND | | mg/l | 0.0002 | 0.0002 | 1 | 09/13/13 13:40 | 09/16/13 13:20 | EPA 7470A | 97,7470A | JH |
| Selenium, Total | ND | | mg/l | 0.010 | 0.003 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |
| Silver, Total | ND | | mg/l | 0.007 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:10 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-02
Client ID: EW-01
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 1.909 | | mg/l | 0.0050 | 0.0050 | 10 | 09/11/13 07:21 | 09/12/13 12:54 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 65 | | mg/l | 0.05 | 0.02 | 1 | 09/11/13 07:21 | 09/12/13 13:14 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 1.97 | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:14 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1317687
**Project Number:** AC001.02E
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-03
Client ID: EW-04
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 3.444 | | mg/l | 0.0050 | 0.0050 | 10 | 09/11/13 07:21 | 09/12/13 12:57 | EPA 3005A | 97,6020A | AK |
| Iron, Total | 37 | | mg/l | 0.05 | 0.02 | 1 | 09/11/13 07:21 | 09/12/13 13:18 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 1.98 | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 13:18 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG635172-1 | | | | | | | | | | |
| Barium, Total | ND | | mg/l | 0.010 | 0.003 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Cadmium, Total | ND | | mg/l | 0.004 | 0.001 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Chromium, Total | ND | | mg/l | 0.01 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Copper, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Iron, Total | ND | | mg/l | 0.05 | 0.02 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Lead, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Magnesium, Total | ND | | mg/l | 0.10 | 0.01 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Manganese, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Selenium, Total | ND | | mg/l | 0.010 | 0.003 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |
| Silver, Total | ND | | mg/l | 0.007 | 0.002 | 1 | 09/11/13 07:21 | 09/12/13 12:43 | 97,6010C | TT |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG635176-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 09/11/13 07:21 | 09/11/13 12:29 | 97,6020A | AK |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG635683-1 | | | | | | | | | | |
| Mercury, Total | ND | | mg/l | 0.0002 | 0.0002 | 1 | 09/13/13 13:40 | 09/16/13 13:14 | 97,7470A | JH |

**Prep Information**

Digestion Method: EPA 7470A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG635172-2 WG635172-3 | | | | | | | | |
| Barium, Total | 95 | | 94 | | 80-120 | 1 | | 20 |
| Cadmium, Total | 101 | | 102 | | 80-120 | 1 | | 20 |
| Chromium, Total | 95 | | 95 | | 80-120 | 0 | | 20 |
| Copper, Total | 98 | | 97 | | 80-120 | 1 | | 20 |
| Iron, Total | 97 | | 97 | | 80-120 | 0 | | 20 |
| Lead, Total | 102 | | 103 | | 80-120 | 1 | | 20 |
| Magnesium, Total | 98 | | 95 | | 80-120 | 3 | | 20 |
| Manganese, Total | 96 | | 96 | | 80-120 | 0 | | 20 |
| Selenium, Total | 108 | | 108 | | 80-120 | 0 | | 20 |
| Silver, Total | 99 | | 100 | | 80-120 | 1 | | 20 |
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG635176-2 WG635176-3 | | | | | | | | |
| Arsenic, Total | 99 | | 97 | | 80-120 | 2 | | 20 |
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG635683-2 WG635683-3 | | | | | | | | |
| Mercury, Total | 106 | | 109 | | 80-120 | 3 | | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

## SAMPLE RESULTS

Lab ID: L1317687-01
Client ID: EFFLUENT
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 09/10/13 06:30
Date Received: 09/10/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Chloride | 35. | | mg/l | 1.0 | 0.21 | 1 | - | 09/18/13 09:31 | 30,4500CL-E | ML |
| Nitrogen, Nitrate | 0.10 | | mg/l | 0.10 | 0.015 | 1 | - | 09/11/13 00:56 | 44,353.2 | DB |
| TPH | ND | | mg/l | 4.00 | 0.860 | 1 | 09/11/13 07:30 | 09/11/13 13:00 | 74,1664A | ML |
| **Anions by Ion Chromatography - Westborough Lab** | | | | | | | | | | |
| Sulfate | 3.64 | | mg/l | 1.00 | 0.229 | 1 | - | 09/13/13 17:54 | 44,300.0 | AU |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1317687
**Report Date:** 09/23/13

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG635122-1 | | | | | | | | | | |
| Nitrogen, Nitrate | ND | | mg/l | 0.10 | 0.015 | 1 | - | 09/11/13 00:35 | 44,353.2 | DB |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG635231-1 | | | | | | | | | | |
| TPH | ND | | mg/l | 4.00 | 0.860 | 1 | 09/11/13 07:30 | 09/11/13 13:00 | 74,1664A | ML |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG636535-1 | | | | | | | | | | |
| Sulfate | ND | | mg/l | 1.00 | 0.229 | 1 | - | 09/13/13 17:06 | 44,300.0 | AU |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG637007-1 | | | | | | | | | | |
| Chloride | ND | | mg/l | 1.0 | 0.21 | 1 | - | 09/18/13 09:29 | 30,4500CL-E | ML |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1317687

**Report Date:** 09/23/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG635122-2 | | | | | | | | |
| Nitrogen, Nitrate | 99 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG635231-2 | | | | | | | | |
| TPH | 85 | | - | | 64-132 | - | | 34 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG636535-2 | | | | | | | | |
| Sulfate | 103 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG637007-2 | | | | | | | | |
| Chloride | 97 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635122-4 QC Sample: L1317689-01 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Nitrate | 1.3 | 4 | 5.2 | 97 | | - | - | | 83-113 | - | | 6 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635231-4 QC Sample: L1317287-01 Client ID: MS Sample | | | | | | | | | | | | |
| TPH | ND | 20.4 | 15.9 | 78 | | - | - | | 64-132 | - | | 34 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636535-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| Sulfate | 3.64 | 8 | 11.9 | 103 | | - | - | | 60-140 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG637007-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| Chloride | 35. | 20 | 50 | 75 | | - | - | | 58-140 | - | | 7 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635122-3 QC Sample: L1317689-01 Client ID: DUP Sample | | | | | | |
| Nitrogen, Nitrate | 1.3 | 1.3 | mg/l | 0 | | 6 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG635231-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | |
| TPH | ND | ND | mg/l | NC | | 34 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG636535-4 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | |
| Sulfate | 3.64 | 3.62 | mg/l | 1 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG637007-3 QC Sample: L1317687-01 Client ID: EFFLUENT | | | | | | |
| Chloride | 35. | 35. | mg/l | 0 | | 7 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |
| B | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1317687-01A | Vial Na2S2O3 preserved | A | N/A | 3.0 | Y | Absent | 624(3) |
| L1317687-01B | Vial Na2S2O3 preserved | A | N/A | 3.0 | Y | Absent | 624(3) |
| L1317687-01C | Vial Na2S2O3 preserved | A | N/A | 3.0 | Y | Absent | 624(3) |
| L1317687-01D | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | 625(7) |
| L1317687-01E | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | 625(7) |
| L1317687-01F | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | PCB-608(7) |
| L1317687-01G | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | PCB-608(7) |
| L1317687-01H | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | PESTICIDE-608(7) |
| L1317687-01I | Amber 1000ml Na2S2O3 | A | 7 | 3.0 | Y | Absent | PESTICIDE-608(7) |
| L1317687-01J | Amber 1000ml HCl preserved | A | N/A | 3.0 | Y | Absent | TPH-1664(28) |
| L1317687-01K | Amber 1000ml HCl preserved | A | N/A | 3.0 | Y | Absent | TPH-1664(28) |
| L1317687-01L | Plastic 500ml unpreserved | A | 7 | 3.0 | Y | Absent | SO4-300(28),CL-4500(28),NO3-353(2) |
| L1317687-01M | Plastic 250ml HNO3 preserved | A | <2 | 3.0 | Y | Absent | MCP-CR-6010T-10(180),MCP-MN-6010T-10(180),MCP-7470T-10(28),MCP-MG-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-AS-6020T-10(180),MCP-CU-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180) |
| L1317687-02A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-02B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-02C | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-02D | 20ml Vial HCl preserved | A | N/A | 3.0 | Y | Absent | DISSGAS(14) |
| L1317687-02E | Plastic 250ml HNO3 preserved | A | <2 | 3.0 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |
| L1317687-02F | 20ml Vial HCl preserved | A | N/A | 3.0 | Y | Absent | DISSGAS(14) |

*Values in parentheses indicate holding time in days

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1317687
**Report Date:** 09/23/13

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1317687-03A | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-03B | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-03C | Vial HCl preserved | A | N/A | 3.0 | Y | Absent | MCP-8260-10(14) |
| L1317687-03D | 20ml Vial HCl preserved | A | N/A | 3.0 | Y | Absent | DISSGAS(14) |
| L1317687-03E | Plastic 250ml HNO3 preserved | A | <2 | 3.0 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |
| L1317687-03F | 20ml Vial HCl preserved | A | N/A | 3.0 | Y | Absent | DISSGAS(14) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1317687 |
| **Project Number:** | AC001.02E | **Report Date:** | 09/23/13 |

## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The lower value for the two columns has been reported due to obvious interference. |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1317687 |
| **Project Number:** | AC001.02E | **Report Date:** | 09/23/13 |

***Data Qualifiers***

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1317687 |
| **Project Number:** | AC001.02E | **Report Date:** | 09/23/13 |

## REFERENCES


5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

53 Analysis of Dissolved Methane, Ethane & Ethylene in Groundwater by a Standard Gas Chromatographic Technique, Kampbell & Vandegrift, EPA-OK, Journal of Chrom, Vol 36, May 1998 & Technical Guidance for the Natural Attenuation Indicators, EPA-NE, July 2001.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.


The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised August 29, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**State of Illinois** Certificate/Lab ID: 003155. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2064. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

# Certificate/Approval Program Summary

Last revised August 3, 2012 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0141.

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health** Certificate/Lab ID: E87814. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

**Louisiana Department of Environmental Quality** Certificate/Lab ID: 03090. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

*Air & Emissions* (EPA TO-15.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2206. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA015. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

*Atmospheric Organic Parameters* (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

*Biological Tissue* (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

*Air & Emissions* (EPA TO-15, TO-10A.)

**Pennsylvania** Certificate/Lab ID: 68-02089 ***NELAP Accredited***

*Non-Potable Water* (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID:460194. ***NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

**U.S. Army Corps of Engineers**

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

# CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL World Class Chemistry

| Westborough, MA | Mansfield, MA |
|---|---|
| TEL: 508-898-9220 | TEL: 508-822-9300 |
| FAX: 508-898-9193 | FAX: 508-822-3288 |

Date Rec'd in Lab: 9/10/13

ALPHA Job #: L1317687

## Client Information

Client: Sovereign Consulting

Address: 16 Chestnut Street

Foxborough, MA

Phone: (508) 339-3200

Fax: (508) 339-3248

Email: jchaffee@sovcon.com

☐ These samples have been Previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATP

Project Location: Devens, MA

Project #: AC001.02E

Project Manager: Jonathan Chaffee

ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 9/17/13 Time:

## Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

| State/Fed Program | Criteria |
|---|---|
| N/A | N/A |

Other Project Specific Requirements/Comments/Detection Limits:

Conduct all analyses in accordance with project specific QAPP

Metals List:Ba, Mn, Mg, Cr, Cd, Cu, Pb, Ag, Se

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total Aresinc - 6020 | Total Metals List - 6010C | Total Mercury - 7470 | Cl - SM4500C | Sulfate - 300.0 | Nitrate - 353.2 | VOCs - 624 | SVOCs - 625 | PCBs - 608 | Pesticides - 608 | TPH - 1664 | | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17687-1 | Effluent | 9-10-13 | 0630 | E | ASW | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☒ | ☐ | | 13 |
| Container Type | | | | | | P | P | P | P | P | P | V | A | A | A | A | - | | |
| Preservative | | | | | | C | C | C | A | A | A | H | H | M | H | B | - | | |

SAMPLE HANDLING
*Filtration*
☐ Done
☒ Not Needed
☐ Lab to do
*Preservation*
☐ Lab to do
*(Please specify below)*

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 9/10/13 / 1000 | [signature] | 9/10/13 1450 |
| [signature] | 9-10-13 1607 | [signature] | 9/10/13 1605 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev 5-JAN-12)

# CHAIN OF CUSTODY

PAGE 2 OF 2

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd In Lab: 9/10/13 | ALPHA Job #: L1317687

**Client Information**

Client: Sovereign Consulting
Address: 16 Chestnut Street
Foxborough, MA
Phone: (508) 339-3200
Fax: (508) 339-3248
Email: jchaffee@sovcon.com
☐ These samples have been Previously analyzed by Alpha

**Project Information**

Project Name: Shepley's Hill ATP
Project Location: Devens, MA
Project #: AC001.02E
Project Manager: Jonathan Chaffee
ALPHA Quote #:

**Turn-Around Time**

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 9/17/13 Time:

**Report Information Data Deliverables**

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

**Billing Information**

☒ Same as Client info PO #:

**Regulatory Requirements/Report Limits**

| State/Fed Program | Criteria |
| --- | --- |
| N/A | N/A |

Other Project Specific Requirements/Comments/Detection Limits:

Conduct all analyses in accordance with project specific QAPP

SAMPLE HANDLING
*Filtration*
☐ Done
☒ Not Needed
☐ Lab to do
*Preservation*
☐ Lab to do
*(Please specify below)*

**ANALYSIS**

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total Aresinc - 6020 | Total Fe and Mn - 6010C | VOCs -8260 | Dissolved Methan and Ethane | | | | | | | | | Sample Specific Comments | TOTAL # BOTTLES |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17687-1 | EW-01 | 9-10-13 | 0630 | 1 | MDM | ☒ | ☒ | ☒ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | 12 |
| 3 | EW-04 | 9-10-13 | 0630 | 1 | MDM | ☒ | ☒ | ☒ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |

| | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Container Type | - | - | - | - | - | - | - | - | - | - | - | - |
| Preservative | - | - | - | - | - | - | - | - | - | - | - | - |

| Relinquished By: | Date/Time | Received By: | Date/Time |
| --- | --- | --- | --- |
| [signature] | 9/10/13 0700 | [signature] | 9/10/13 1422 |
| [signature] | 9/10/13 1615 | [signature] | 9/10/13 1600 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

# CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL — World Class Chemistry


Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288


Date Rec'd in Lab: 9/10/13

ALPHA Job #: L1317687

## Client Information

Client: Sovereign Consulting
Address: 16 Chestnut Street
Foxborough, MA
Phone: (508) 339-3200
Fax: (508) 339-3248
Email: jchaffee@sovcon.com

☐ These samples have been Previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATP
Project Location: Devens, MA
Project #: AC001.02E
Project Manager: Jonathan Chaffee
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 9/17/13 Time:

Other Project Specific Requirements/Comments/Detection Limits:

Conduct all analyses in accordance with project specific QAPP

## Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

| State/Fed Program | Criteria |
|---|---|
| N/A | N/A |

## ANALYSIS

SAMPLE HANDLING
*Filtration*
☐ Done
☒ Not Needed
☐ Lab to do
*Preservation*
☐ Lab to do
*(Please specify below)*

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total Aresinc - 6020 | Total Fe and Mn - 6010C | VOCs -8260 | Dissolved Methan and Ethane | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17687-2 | EW-01 | 9-10-13 | 0630 | I | MAM | ☒ | ☒ | ☒ | ☒ | | 12 |
| 3 | EW-04 | 9-10-13 | 0630 | I | MAM | ☒ | ☒ | ☒ | ☒ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| | | | | | | ☐ | ☐ | ☐ | ☐ | | |
| Container Type | | | | | | - | - | - | - | | |
| Preservative | | | | | | - | - | - | - | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Mfred Mendes | 9/10/13 0700 | Lee Larsen | 9/10/13 1420 |
| Lee Larsen | 9/11/13 1615 | | 9/10/13 1600 |
| | 9/11/13 0400 | Mansfield Lab | 9/11/13 0400 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1317687

Instrument ID: Jack.i  Calibration Date: 16-SEP-2013  Time: 04:57

Lab File ID: 0916A02  Init. Calib. Date(s): 03-SEP-2  03-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 05:54  09:07

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| dichlorodifluoromethane | .4708 | .37996 | .1 | -19 | 20 | |
| chloromethane | .41049 | .39509 | .1 | -4 | 20 | |
| vinyl chloride | .6328 | .58493 | .1 | -8 | 20 | |
| bromomethane | 100 | 84.802 | .1 | -15 | 20 | |
| chloroethane | .37297 | .32312 | .1 | -13 | 20 | |
| trichlorofluoromethane | .79451 | .68959 | .1 | -13 | 20 | |
| ethyl ether | .21327 | .19561 | .05 | -8 | 20 | |
| 1,1,-dichloroethene | .49303 | .45134 | .1 | -8 | 20 | |
| carbon disulfide | 1.3095 | 1.0766 | .1 | -18 | 20 | |
| freon-113 | .5208 | .46183 | .1 | -11 | 20 | |
| iodomethane | .59422 | .3376 | .05 | -43 | 20 | F |
| acrolein | .03712 | .05835 | .05 | 57 | 20 | F |
| methylene chloride | .5626 | .52742 | .1 | -6 | 20 | |
| acetone | 100 | 113 | .1 | 13 | 20 | |
| trans-1,2-dichloroethene | .52677 | .49189 | .1 | -7 | 20 | |
| methyl acetate | .22335 | .21417 | .1 | -4 | 20 | |
| methyl tert butyl ether | .86931 | .76591 | .1 | -12 | 20 | |
| tert butyl alcohol | .01796 | .01996 | .05 | 11 | 20 | F |
| Diisopropyl Ether | 1.5649 | 1.4468 | .01 | -8 | 20 | |
| 1,1-dichloroethane | .99566 | .98492 | .2 | -1 | 20 | |
| acrylonitrile | .11413 | .11921 | .05 | 4 | 20 | |
| Halothane | .30611 | .30743 | .05 | 0 | 20 | |
| Ethyl-Tert-Butyl-Ether | 1.2231 | 1.207 | .05 | -1 | 20 | |
| vinyl acetate | .80014 | .73043 | .05 | -9 | 20 | |
| cis-1,2-dichloroethene | .60687 | .58817 | .1 | -3 | 20 | |
| 2,2-dichloropropane | .74228 | .71821 | .05 | -3 | 20 | |
| cyclohexane | .94018 | .91491 | .01 | -3 | 30 | |
| bromochloromethane | .27412 | .26799 | .05 | -2 | 20 | |
| chloroform | .9989 | .93736 | .2 | -6 | 20 | |
| carbontetrachloride | .73816 | .64719 | .1 | -12 | 20 | |
| tetrahydrofuran | .0972 | .10228 | .05 | 5 | 20 | |
| ethyl acetate | .26967 | .25883 | .05 | -4 | 20 | |
| 1,1,1-trichloroethane | .85224 | .80091 | .1 | -6 | 20 | |
| 1,1-dichloropropene | .7277 | .6847 | .05 | -6 | 20 | |
| 2-butanone | .12303 | .12454 | .1 | 1 | 20 | |
| benzene | 2.1226 | 2.0741 | .5 | -2 | 20 | |
| Tertiary-Amyl Methyl Ether | .91877 | .89532 | .05 | -3 | 20 | |
| 1,2-dichloroethane | .63884 | .57511 | .1 | -10 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1317687

Instrument ID: Jack.i  Calibration Date: 16-SEP-2013  Time: 04:57

Lab File ID: 0916A02  Init. Calib. Date(s): 03-SEP-2  03-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 05:54  09:07

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| methyl cyclohexane | .70291 | .69385 | .01 | -1 | 30 | |
| trichloroethene | .51282 | .51434 | .2 | 0 | 20 | |
| dibromomethane | .27249 | .25644 | .05 | -6 | 20 | |
| 1,2-dichloropropane | .51458 | .51632 | .1 | 0 | 20 | |
| bromodichloromethane | .6346 | .55754 | .2 | -12 | 20 | |
| 1,4-dioxane | .00218 | .00312 | .05 | 43 | 20 | F |
| 2-chloroethylvinyl ether | .04267 | .11187 | .05 | 162 | 20 | F |
| cis-1,3-dichloropropene | .71284 | .67539 | .2 | -5 | 20 | |
| toluene | 1.6320 | 1.5947 | .4 | -2 | 20 | |
| tetrachloroethene | .66982 | .67426 | .2 | 1 | 20 | |
| 4-methyl-2-pentanone | .08985 | .09224 | .1 | 3 | 20 | F |
| trans-1,3-dichloropropene | .64474 | .58249 | .1 | -10 | 20 | |
| 1,1,2-trichloroethane | .3437 | .3122 | .1 | -9 | 20 | |
| ethyl-methacrylate | .49263 | .47278 | .01 | -4 | 30 | |
| chlorodibromomethane | 100 | 79.073 | .1 | -21 | 20 | F |
| 1,3-dichloropropane | .72201 | .68161 | .05 | -6 | 20 | |
| 1,2-dibromoethane | .40153 | .39582 | .1 | -1 | 20 | |
| 2-hexanone | .18978 | .18875 | .1 | -1 | 20 | |
| chlorobenzene | 1.8040 | 1.7423 | .5 | -3 | 20 | |
| ethyl benzene | 3.0032 | 3.0167 | .1 | 0 | 20 | |
| 1,1,1,2-tetrachloroethane | .55482 | .50878 | .05 | -8 | 20 | |
| p/m xylene | 1.2052 | 1.1846 | .1 | -2 | 20 | |
| o xylene | 1.1634 | 1.1458 | .3 | -2 | 20 | |
| bromoform | 100 | 84.525 | .1 | -15 | 20 | |
| styrene | 1.9046 | 1.9155 | .3 | 1 | 20 | |
| isopropylbenzene | 4.8573 | 4.6611 | .1 | -4 | 20 | |
| bromobenzene | 1.3290 | 1.2157 | .05 | -9 | 20 | |
| n-propylbenzene | 5.0736 | 5.0055 | .05 | -1 | 20 | |
| 1,4-dichlorobutane | 1.2942 | 1.2261 | .01 | -5 | 30 | |
| 1,1,2,2,-tetrachloroethane | .79873 | .75466 | .3 | -6 | 20 | |
| 4-ethyltoluene | 4.8199 | 4.7619 | .05 | -1 | 20 | |
| 2-chlorotoluene | 3.8909 | 3.6750 | .05 | -6 | 20 | |
| 1,2,3-trichloropropane | .6565 | .59751 | .05 | -9 | 20 | |
| 1,3,5-trimethybenzene | 3.8922 | 3.7955 | .05 | -2 | 20 | |
| trans-1,4-dichloro-2-butene | .2384 | .1995 | .05 | -16 | 20 | |
| 4-chorotoluene | 3.5995 | 3.3682 | .05 | -6 | 20 | |
| tert-butylbenzene | 3.0862 | 3.0215 | .05 | -2 | 20 | |
| 1,2,4-trimethylbenzene | 3.8890 | 3.6894 | .05 | -5 | 20 | |

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1317687

Instrument ID: Jack.i  Calibration Date: 16-SEP-2013  Time: 04:57

Lab File ID: 0916A02  Init. Calib. Date(s): 03-SEP-2  03-SEP-2

Sample No: 8260 CCAL  Init. Calib. Times : 05:54  09:07

| Compound | RRF | RRF | MIN RRF | %D | MAX %D | |
|---|---|---|---|---|---|---|
| sec-butylbenzene | 4.2593 | 4.0941 | .01 | -4 | 20 | |
| p-isopropyltoluene | 3.6493 | 3.5034 | .05 | -4 | 20 | |
| 1,3-dichlorobenzene | 2.3838 | 2.2678 | .6 | -5 | 20 | |
| 1,4-dichlorobenzene | 2.4358 | 2.2681 | .5 | -7 | 20 | |
| p-diethylbenzene | 2.0486 | 1.9577 | .05 | -4 | 20 | |
| n-butylbenzene | 2.8445 | 2.7815 | .05 | -2 | 20 | |
| 1,2-dichlorobenzene | 2.2102 | 2.0569 | .4 | -7 | 20 | |
| 1,2,4,5-tetramethylbenzene | 3.2845 | 3.0904 | .05 | -6 | 20 | |
| 1,2-dibromo-3-chloropropane | .12706 | .09977 | .05 | -21 | 20 | F |
| 1,3,5-trichlorobenzene | .67965 | .68003 | .05 | 0 | 20 | |
| 1,2,4-trichlorobenzene | 1.2001 | 1.0753 | .2 | -10 | 20 | |
| hexachlorobutadiene | .45686 | .4149 | .05 | -9 | 20 | |
| naphthalene | 2.6612 | 2.2788 | .05 | -14 | 20 | |
| 1,2,3-trichlorobenzene | 1.0162 | .90444 | .05 | -11 | 20 | |
| dibromofluoromethane | .27818 | .28051 | .05 | 1 | 20 | |
| 1,2-dichloroethane-d4 | .26535 | .25976 | .05 | -2 | 20 | |
| toluene-d8 | 1.2231 | 1.2352 | .01 | 1 | 20 | |
| 4-bromofluorobenzene | .86426 | .85852 | .05 | -1 | 20 | |

FORM VII MCP-8260-10

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1319676 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02F.02 |
| Report Date: | 10/10/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.02

**Lab Number:** L1319676
**Report Date:** 10/10/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1319676-01 | EFF-100213 | FT. DEVENS, MA | 10/02/13 08:20 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1319676

**Project Number:** AC001.02F.02 **Report Date:** 10/10/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.02

**Lab Number:** L1319676
**Report Date:** 10/10/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1319676 |
| **Project Number:** | AC001.02F.02 | **Report Date:** | 10/10/13 |

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

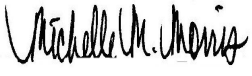
Metals

WG642744: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 10/10/13

# METALS

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1319676 |
| **Project Number:** | AC001.02F.02 | **Report Date:** | 10/10/13 |

**SAMPLE RESULTS**

| | | | |
|---|---|---|---|
| Lab ID: | L1319676-01 | Date Collected: | 10/02/13 08:20 |
| Client ID: | EFF-100213 | Date Received: | 10/03/13 |
| Sample Location: | FT. DEVENS, MA | Field Prep: | Not Specified |
| Matrix: | Water | | |

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0139 | | mg/l | 0.0005 | 0.0005 | 1 | 10/10/13 08:07 | 10/10/13 18:32 | EPA 3005A | 97,6020A | KL |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.02
**Lab Number:** L1319676
**Report Date:** 10/10/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG642744-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 10/10/13 08:07 | 10/10/13 18:21 | 97,6020A | KL |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02F.02

**Lab Number:** L1319676

**Report Date:** 10/10/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG642744-2 WG642744-3 | | | | | | | | |
| Arsenic, Total | 108 | | 112 | | 80-120 | 4 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02F.02

**Lab Number:** L1319676
**Report Date:** 10/10/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1319676-01A | Plastic 250ml HNO3 preserved | A | <2 | 3.1 | Y | Absent | MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1319676 |
| **Project Number:** | AC001.02F.02 | **Report Date:** | 10/10/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The lower value for the two columns has been reported due to obvious interference.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1319676 |
| **Project Number:** | AC001.02F.02 | **Report Date:** | 10/10/13 |

***Data Qualifiers***

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1319676 |
| **Project Number:** | AC001.02F.02 | **Report Date:** | 10/10/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised October 1, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**State of Illinois** Certificate/Lab ID: 003155. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2064. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310C, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, 4500SO4-E, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 5030C, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5030C, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330A, 8082A, EPA 3510C, 5030B, 5030C, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330A, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C,

4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Serial No:10101321:21

# CHAIN OF CUSTODY

PAGE 1 OF 1


ALPHA ANALYTICAL

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288


Date Rec'd in Lab: 10/3/13

ALPHA Job #: L1319676

## Client Information

Client: Sovereign Consulting Inc
Address: 16 Chestnut st. suite 520
Phone: (508) 339 3200
Fax: (508) 339 3248
Email: JChaffee@soucon.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill AFB
Project Location: Ft. Devens, MA
Project #: AC001.02F.02
Project Manager: John Chaffee
ALPHA Quote #:

## Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 10/4/13 Time:

## Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

## Billing Information

☐ Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program | Criteria

## MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

## Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All ***CAM*** methods for inorganic analyses require MS every 20 soil samples)

A3: 3 ppb detection limit

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: Total A3 | SAMPLE HANDLING | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|
| 19676 1 | EFF-100213 | 10/2/13 | 0820 | Eff | AJW | X | | | 1 |

SAMPLE HANDLING
Filtration
☐ Done
☒ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

| | |
|---|---|
| Container Type | B |
| Preservative | C |

**PLEASE ANSWER QUESTIONS ABOVE!**

IS YOUR PROJECT MA MCP *or* CT RCP?

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 10/3/13 0715 | SovCon Secure Fridge | 10/3/13 0715 |
| | 10-3-13 1030 | | 10/3/13 10:30 |
| | 10/3/13 10:45 | | 10/3/13 1331 |
| | 10/3/13 1412 | | 10/3/13 1412 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

New England ACCUTEST LABORATORIES

11/07/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02E.08

Accutest Job Number: MC25522

Sampling Date: 10/22/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **436**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



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# Sample Summary

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25522-1 | 10/22/13 | 10:00 | EFVC | 10/22/13 | AQ | Ground Water | SHL-20-102213 |
| MC25522-1F | 10/22/13 | 10:00 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-20-102213 |
| MC25522-2 | 10/22/13 | 00:00 | EFVC | 10/22/13 | AQ | Ground Water | DUP-102213 |
| MC25522-2F | 10/22/13 | 00:00 | EFVC | 10/22/13 | AQ | Groundwater Filtered | DUP-102213 |
| MC25522-3 | 10/22/13 | 10:06 | EFVC | 10/22/13 | AQ | Ground Water | SHM-96-5B-102213 |
| MC25522-3F | 10/22/13 | 10:06 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHM-96-5B-102213 |
| MC25522-4 | 10/22/13 | 10:10 | EFVC | 10/22/13 | AQ | Ground Water | N5-P1-102213 |
| MC25522-4F | 10/22/13 | 10:10 | EFVC | 10/22/13 | AQ | Groundwater Filtered | N5-P1-102213 |
| MC25522-5 | 10/22/13 | 10:10 | EFVC | 10/22/13 | AQ | Ground Water | SHL-13-102213 |
| MC25522-5F | 10/22/13 | 10:10 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-13-102213 |
| MC25522-6 | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Ground Water | SHL-8S-102213 |
| MC25522-6D | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Water Dup/MSD | SHL-8S-102213 |
| MC25522-6F | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-8S-102213 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25522-6FD | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Water Dup/MSD | SHL-8S-102213 |
| MC25522-6FS | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Water Matrix Spike | SHL-8S-102213 |
| MC25522-6S | 10/22/13 | 11:20 | EFVC | 10/22/13 | AQ | Water Matrix Spike | SHL-8S-102213 |
| MC25522-7 | 10/22/13 | 11:25 | EFVC | 10/22/13 | AQ | Ground Water | SHM-96-5C-102213 |
| MC25522-7F | 10/22/13 | 11:25 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHM-96-5C-102213 |
| MC25522-8 | 10/22/13 | 12:05 | EFVC | 10/22/13 | AQ | Ground Water | SHL-11-102213 |
| MC25522-8F | 10/22/13 | 12:05 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-11-102213 |
| MC25522-9 | 10/22/13 | 12:18 | EFVC | 10/22/13 | AQ | Ground Water | N5-P2-102213 |
| MC25522-9F | 10/22/13 | 12:18 | EFVC | 10/22/13 | AQ | Groundwater Filtered | N5-P2-102213 |
| MC25522-10 | 10/22/13 | 13:28 | EFVC | 10/22/13 | AQ | Ground Water | SHL-5-102213 |
| MC25522-10F | 10/22/13 | 13:28 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-5-102213 |
| MC25522-11 | 10/22/13 | 13:30 | EFVC | 10/22/13 | AQ | Ground Water | SHL-8D-102213 |
| MC25522-11F | 10/22/13 | 13:30 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-8D-102213 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25522-12F | 10/22/13 | 14:00 | EFVC | 10/22/13 | AQ | Equip Blank Filtered | RB-102213 |
| MC25522-13 | 10/22/13 | 14:00 | EFVC | 10/22/13 | AQ | Ground Water | SHL-15-102213 |
| MC25522-13F | 10/22/13 | 14:00 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHL-15-102213 |
| MC25522-14 | 10/22/13 | 14:19 | EFVC | 10/22/13 | AQ | Ground Water | SHP-99-29X-102213 |
| MC25522-14F | 10/22/13 | 14:19 | EFVC | 10/22/13 | AQ | Groundwater Filtered | SHP-99-29X-102213 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC25522 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/6/2013 3:20:37 PM |

14 Sample(s) were collected on 10/22/2013 and were received at Accutest on 10/22/2013 properly preserved, at 0.6 Deg. C and intact. These Samples received an Accutest job number of MC25522. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21908

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6FMS, MC25522-6FMSD, MC25522-6FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Iron, Magnesium, Manganese are outside control limits for sample MP21908-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP21908A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6FMS, MC25522-6FMSD, MC25522-6FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP21908A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix** AQ **Batch ID:** N:GP75681

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

## Wet Chemistry By Method EPA 353.2

**Matrix** AQ **Batch ID:** GP16782

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6DUP, MC25522-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** GP16783

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-11DUP, MC25522-11MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** R33914

- MC25522-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33915

- MC25522-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33916

- MC25522-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33917

- MC25522-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33918

- MC25522-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33919

- MC25522-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33920

- MC25522-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33921

- MC25522-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33922

- MC25522-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33923

- MC25522-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33924

- MC25522-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33925

- MC25522-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33926

- MC25522-14 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

| Matrix | AQ | Batch ID: | GP16755 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6DUP, MC25522-6MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM21 2320B

| Matrix | AQ | Batch ID: | GN44848 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6DUP, MC25522-6MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN44888 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN44882 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6DUP, MC25522-6MS were used as the QC samples for Chloride.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC25522).

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Accutest Labs of New England, Inc. | **Job No** | MC25522 |
| **Site:** | SCMAW: Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/5/2013 11:11:19 A |

On 10/24/2013, 13 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 6 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC25522 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** GP75681

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-1MS, MC25522-6DUP, MC25522-6MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# Summary of Hits



**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25522-1** | **SHL-20-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 81.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 49.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.39 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.40 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.0060 J | 0.010 | 0.0051 | mg/l | SM 21 4500 NO2 B |
| Sulfate [b] | | 23.0 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-1F** | **SHL-20-102213** | | | | | |
| Arsenic | | 632 | 40 | 20 | ug/l | SW846 6020A |
| Calcium | | 22200 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 38500 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 2530 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1590 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8310 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 22100 | 10000 | 400 | ug/l | SW846 6010C |
| **MC25522-2** | **DUP-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 81.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 49.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.37 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.37 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 23.1 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-2F** | **DUP-102213** | | | | | |
| Arsenic | | 641 | 40 | 20 | ug/l | SW846 6020A |
| Calcium | | 22200 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 38900 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 2510 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1590 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8310 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 22200 | 10000 | 400 | ug/l | SW846 6010C |
| **MC25522-3** | **SHM-96-5B-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 315 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 17.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.31 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.31 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 5.0 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |

# Summary of Hits

**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25522-3F** | **SHM-96-5B-102213** | | | | | |
| Arsenic | | 1660 | 200 | 100 | ug/l | SW846 6020A |
| Calcium | | 76500 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 24700 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 11600 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 9980 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 8000 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 24000 | 10000 | 400 | ug/l | SW846 6010C |
| **MC25522-4** | **N5-P1-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 313 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 17.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 11.0 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-4F** | **N5-P1-102213** | | | | | |
| Arsenic | | 2500 | 200 | 100 | ug/l | SW846 6020A |
| Calcium | | 89500 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 7520 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 11600 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 8570 | 150 | 25 | ug/l | SW846 6010C |
| Potassium | | 4330 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 17300 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-5** | **SHL-13-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 23.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 71.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 8.0 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-5F** | **SHL-13-102213** | | | | | |
| Calcium | | 11300 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 43.3 J | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 2290 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 29.6 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1360 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 40100 | 25000 | 1000 | ug/l | SW846 6010C |
| **MC25522-6** | **SHL-8S-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 17.5 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 6.8 | 1.0 | 0.60 | mg/l | SM21 4500CL C |

# Summary of Hits

**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate [a] | | 0.18 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.18 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 6.4 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-6F** | **SHL-8S-102213** | | | | | |
| Calcium | | 6730 | 5000 | 150 | ug/l | SW846 6010C |
| Magnesium | | 1180 J | 5000 | 200 | ug/l | SW846 6010C |
| Potassium | | 1330 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 6060 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-7** | **SHM-96-5C-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 315 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 19.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 3.4 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-7F** | **SHM-96-5C-102213** | | | | | |
| Arsenic | | 5.5 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 67300 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 609 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 9910 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 12900 | 150 | 25 | ug/l | SW846 6010C |
| Potassium | | 17400 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 32300 | 15000 | 600 | ug/l | SW846 6010C |
| **MC25522-8** | **SHL-11-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 164 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 42.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.34 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.34 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 20.2 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-8F** | **SHL-11-102213** | | | | | |
| Arsenic | | 752 | 40 | 20 | ug/l | SW846 6020A |
| Calcium | | 45000 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 27600 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 5900 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 3610 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8470 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 27300 | 15000 | 600 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25522-9** | **N5-P2-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 652 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 15.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.46 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.46 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 0.67 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-9F** | **N5-P2-102213** | | | | | |
| Arsenic | | 21.2 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 162000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 75400 | 1000 | 300 | ug/l | SW846 6010C |
| Magnesium | | 14400 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 459 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 15400 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 15200 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-10** | **SHL-5-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 43.8 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 4.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 0.87 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-10F** | **SHL-5-102213** | | | | | |
| Arsenic | | 15.1 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 11500 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 2380 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1650 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 429 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1780 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 3590 J | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-11** | **SHL-8D-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 13.1 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 11.8 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.087 J | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.087 J | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 7.5 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-11F** | **SHL-8D-102213** | | | | | |
| Calcium | | 8190 | 5000 | 150 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Magnesium | | 1260 J | 5000 | 200 | ug/l | SW846 6010C |
| Potassium | | 759 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 7350 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-12F** | **RB-102213** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC25522-13** | **SHL-15-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 90.9 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 16.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.56 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.56 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 10.1 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-13F** | **SHL-15-102213** | | | | | |
| Arsenic | | 34.9 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 27000 | 10000 | 300 | ug/l | SW846 6010C |
| Iron | | 6610 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 3340 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 437 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 6480 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 12100 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25522-14** | **SHP-99-29X-102213** | | | | | |
| Alkalinity, Total as CaCO3 | | 101 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 2.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.16 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.16 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 5.6 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25522-14F** | **SHP-99-29X-102213** | | | | | |
| Arsenic | | 2760 | 200 | 100 | ug/l | SW846 6020A |
| Calcium | | 9970 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 43300 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 889 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 6430 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 638 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2500 J | 5000 | 200 | ug/l | SW846 6010C |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

# Summary of Hits

**Job Number:** MC25522
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/22/13



| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|

(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-20-102213 | | |
| **Lab Sample ID:** | MC25522-1 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 81.0 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 49.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.39 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:01 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.40 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:01 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0060 J | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:21 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 23.0 | 10 | 0.50 | mg/l | 1 | 11/01/13 18:21 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-20-102213
**Lab Sample ID:** MC25522-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 632 | 40 | 20 | ug/l | 20 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 22200 | 10000 | 300 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 38500 | 200 | 60 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2530 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1590 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 8310 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 22100 | 10000 | 400 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-102213
**Lab Sample ID:** MC25522-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 81.0 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 49.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.37 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:02 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.37 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:02 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:21 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 23.1 | 10 | 0.50 | mg/l | 1 | 11/01/13 19:33 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP-102213
**Lab Sample ID:** MC25522-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 641 | 40 | 20 | ug/l | 20 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 22200 | 10000 | 300 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 38900 | 200 | 60 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2510 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 1590 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 8310 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 22200 | 10000 | 400 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5B-102213
**Lab Sample ID:** MC25522-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 315 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 17.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.31 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:04 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.31 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:04 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:21 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 5.0 J | 10 | 0.50 | mg/l | 1 | 11/01/13 19:56 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-96-5B-102213
**Lab Sample ID:** MC25522-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1660 | 200 | 100 | ug/l | 100 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 76500 | 25000 | 750 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 24700 | 200 | 60 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 11600 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 9980 | 75 | 13 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 8000 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 24000 | 10000 | 400 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | N5-P1-102213 | | |
| **Lab Sample ID:** | MC25522-4 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 313 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 17.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:05 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:05 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:21 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 11.0 | 10 | 0.50 | mg/l | 1 | 11/01/13 20:20 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** N5-P1-102213
**Lab Sample ID:** MC25522-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2500 | 200 | 100 | ug/l | 100 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 89500 | 50000 | 1500 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 7520 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 11600 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 8570 | 150 | 25 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 4330 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 17300 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-13-102213 | | |
| **Lab Sample ID:** | MC25522-5 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 23.0 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 71.2 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:09 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:09 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 8.0 J | 10 | 0.50 | mg/l | 1 | 11/01/13 20:44 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-13-102213
**Lab Sample ID:** MC25522-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 11300 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 43.3 J | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 2290 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 29.6 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 1360 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 40100 | 25000 | 1000 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-8S-102213
**Lab Sample ID:** MC25522-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 17.5 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 6.8 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.18 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:00 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.18 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:00 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:21 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 6.4 J | 10 | 0.50 | mg/l | 1 | 11/01/13 17:33 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-8S-102213 | | |
| **Lab Sample ID:** | MC25522-6F | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 6730 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1180 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1330 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 6060 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-96-5C-102213 | | |
| **Lab Sample ID:** | MC25522-7 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 315 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 19.2 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:10 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:10 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 3.4 J | 10 | 0.50 | mg/l | 1 | 11/01/13 21:08 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-96-5C-102213 | | |
| **Lab Sample ID:** | MC25522-7F | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 5.5 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 67300 | 50000 | 1500 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 609 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 9910 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 12900 | 150 | 25 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 17400 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 32300 | 15000 | 600 | ug/l | 3 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-11-102213
**Lab Sample ID:** MC25522-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 164 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 42.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.34 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:11 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.34 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:11 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 20.2 | 10 | 0.50 | mg/l | 1 | 11/01/13 21:32 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-11-102213 | | |
| **Lab Sample ID:** | MC25522-8F | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 752 | 40 | 20 | ug/l | 20 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 45000 | 15000 | 450 | ug/l | 3 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 27600 | 300 | 90 | ug/l | 3 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 5900 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 3610 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 8470 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 27300 | 15000 | 600 | ug/l | 3 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | N5-P2-102213 | | |
| **Lab Sample ID:** | MC25522-9 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 652 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 15.3 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.46 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:12 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.46 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:12 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 0.67 J | 10 | 0.50 | mg/l | 1 | 11/01/13 21:56 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** N5-P2-102213
**Lab Sample ID:** MC25522-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 21.2 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 162000 | 50000 | 1500 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 75400 | 1000 | 300 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 14400 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 459 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 15400 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 15200 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-5-102213 | | |
| **Lab Sample ID:** | MC25522-10 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 43.8 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 4.3 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:13 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:13 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 0.87 J | 10 | 0.50 | mg/l | 1 | 11/01/13 22:20 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-5-102213
**Lab Sample ID:** MC25522-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 15.1 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 11500 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 2380 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1650 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 429 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1780 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 3590 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHL-8D-102213 | | |
| **Lab Sample ID:** | MC25522-11 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 13.1 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 11.8 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.087 J | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:28 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.087 J | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:28 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 7.5 J | 10 | 0.50 | mg/l | 1 | 11/01/13 22:44 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-8D-102213
**Lab Sample ID:** MC25522-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 8190 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 1260 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 759 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 7350 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-102213 | | |
| **Lab Sample ID:** | MC25522-12F | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-15-102213
**Lab Sample ID:** MC25522-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 90.9 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 16.7 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.56 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:30 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.56 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:30 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 10.1 | 10 | 0.50 | mg/l | 1 | 11/01/13 23:08 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-15-102213
**Lab Sample ID:** MC25522-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 34.9 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 27000 | 10000 | 300 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 6610 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 3340 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 437 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 6480 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 12100 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-99-29X-102213 | | |
| **Lab Sample ID:** | MC25522-14 | **Date Sampled:** | 10/22/13 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 10/22/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 101 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 2.3 | 1.0 | 0.60 | mg/l | 1 | 10/30/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.16 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:31 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.16 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:31 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/22/13 17:28 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 5.6 J | 10 | 0.50 | mg/l | 1 | 11/02/13 00:20 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-29X-102213
**Lab Sample ID:** MC25522-14F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/22/13
**Date Received:** 10/22/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2760 | 200 | 100 | ug/l | 100 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 9970 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 43300 | 500 | 150 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 889 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 6430 | 75 | 13 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 638 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 2500 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC25522

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Jonathan Chaffee E-mail: jchaffee@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02E.08
Client Purchase Order #: State: Zip:
Project Manager: Jonathan Chaffee

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1 | SHL-20-102213 | | 10-22-13 | 1000 | EF | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -2 | DUP-102213 | | 10-22-13 | — | EF | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -3 | SHM-96-SB-102213 | | 10-22-13 | 1006 | VC | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -4 | NS-P1-102213 | | 10-22-13 | 1010 | CS | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -5 | SHL-13-102213 | | 10-22-13 | 1010 | DC | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -6 MS/MSD | SHL-85-102213 | | 10-22-13 | 1120 | DC | GW | 9 | | | | X | X | X | | | X | X | X | X | X | X | |
| -7 | SHM-96-SC-102213 | | 10-22-13 | 1125 | VC | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -8 | SHL-11-102213 | | 10-22-13 | 1205 | EF | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -9 | NS-P3-102213 | | 10-22-13 | 1218 | CS | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -10 | SHL-5-102213 | | 10-22-13 | 1328 | VC | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | 5C, 9C |
| -11 | SHL-85-102213 | | 10-22-13 | 1330 | DC | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| -12 | RB-102213 | | 10-22-13 | 1400 | JC | GW | 1 | | | | X | | | | | X | X | | | | | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other, See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals samples were field filtered.
6010C Metals List = Ca, Fe, Mg, Mn, K, Na
Extra Volumes for SHL-85-102213 Please Use for MS/MSD
SDG #001: OPEN Please email COC to jchaffee@sovcon.com

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10-22-13/1520 | | | 10/22/13 1545 | |
| 2 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 3 | | | | | | |
| 4 | Relinquished by: | Date Time: | Received By: | Custody Seal # | [ ] Intact [ ] Not intact | Preserved where applicable [ ] On Ice [ ] Cooler Temp. 0-2 °C |
| 5 | | | | | | |

MC25522: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC25522

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Jonathan Chaffee E-mail: jchaffee@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02E.08
Client Purchase Order # State: Zip:
Project Manager: Jonathan Chaffee

**Requested Analysis ( see TEST CODE sheet)**

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13F | SHL-15-102213 | | 10-22-13 | 1400 | EF | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |
| 14F | SHP-99-29X-102213 | | 10-22-13 | 1419 | CS | GW | 3 | | | | X | X | X | | | X | X | X | X | X | X | |

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals samples were field filtered.
6010C Metals List = Ca, Fe, Mg, Mn, K, Na
SDG #001 : Closed
SEDD Deliverable Required

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10-22-13/1800 | 1 | 2 | 10/24/13 1545 | 2 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4 |
| 5 | Relinquished by: | Date Time: | Received By: 5 | Custody Seal # | Intact / Not Intact | Preserved where applicable / On Ice / Cooler Temp. |

**MC25522: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25522 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 10/22/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS **No. Coolers:** 2 **Airbill #'s:**

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | Infared gun | |
| 3. Cooler media: | Ice (bag) | |

| Quality Control Preservation | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC25522: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-1 Collected: 22-OCT-13 10:00 By: EFVC Received: 22-OCT-13 By: SHL-20-102213 | | | | | | |
| MC25522-1 | SM 21 4500 NO2 B | 22-OCT-13 17:21 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-1 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-1 | EPA 353.2 | 28-OCT-13 14:01 | CF | | | NO3O |
| MC25522-1 | EPA 353.2 | 28-OCT-13 14:01 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-1 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-1 | EPA 300/SW846 9056A | 01-NOV-13 18:21 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-2 Collected: 22-OCT-13 00:00 By: EFVC Received: 22-OCT-13 By: DUP-102213 | | | | | | |
| MC25522-2 | SM 21 4500 NO2 B | 22-OCT-13 17:21 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-2 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-2 | EPA 353.2 | 28-OCT-13 14:02 | CF | | | NO3O |
| MC25522-2 | EPA 353.2 | 28-OCT-13 14:02 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-2 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-2 | EPA 300/SW846 9056A | 01-NOV-13 19:33 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-3 Collected: 22-OCT-13 10:06 By: EFVC Received: 22-OCT-13 By: SHM-96-5B-102213 | | | | | | |
| MC25522-3 | SM 21 4500 NO2 B | 22-OCT-13 17:21 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-3 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-3 | EPA 353.2 | 28-OCT-13 14:04 | CF | | | NO3O |
| MC25522-3 | EPA 353.2 | 28-OCT-13 14:04 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-3 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-3 | EPA 300/SW846 9056A | 01-NOV-13 19:56 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-4 Collected: 22-OCT-13 10:10 By: EFVC Received: 22-OCT-13 By: N5-P1-102213 | | | | | | |
| MC25522-4 | SM 21 4500 NO2 B | 22-OCT-13 17:21 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-4 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-4 | EPA 353.2 | 28-OCT-13 14:05 | CF | | | NO3O |
| MC25522-4 | EPA 353.2 | 28-OCT-13 14:05 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-4 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-4 | EPA 300/SW846 9056A | 01-NOV-13 20:20 | ANJ | 01-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-5 Collected: 22-OCT-13 10:10 By: EFVC SHL-13-102213 | | | Received: 22-OCT-13 By: | | | |
| MC25522-5 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-5 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-5 | EPA 353.2 | 28-OCT-13 14:09 | CF | | | NO3O |
| MC25522-5 | EPA 353.2 | 28-OCT-13 14:09 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-5 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-5 | EPA 300/SW846 9056A | 01-NOV-13 20:44 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-6 Collected: 22-OCT-13 11:20 By: EFVC SHL-8S-102213 | | | Received: 22-OCT-13 By: | | | |
| MC25522-6 | SM 21 4500 NO2 B | 22-OCT-13 17:21 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-6 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-6 | EPA 353.2 | 28-OCT-13 14:00 | CF | | | NO3O |
| MC25522-6 | EPA 353.2 | 28-OCT-13 14:00 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-6 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-6 | EPA 300/SW846 9056A | 01-NOV-13 17:33 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-7 Collected: 22-OCT-13 11:25 By: EFVC SHM-96-5C-102213 | | | Received: 22-OCT-13 By: | | | |
| MC25522-7 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-7 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-7 | EPA 353.2 | 28-OCT-13 14:10 | CF | | | NO3O |
| MC25522-7 | EPA 353.2 | 28-OCT-13 14:10 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-7 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-7 | EPA 300/SW846 9056A | 01-NOV-13 21:08 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-8 Collected: 22-OCT-13 12:05 By: EFVC SHL-11-102213 | | | Received: 22-OCT-13 By: | | | |
| MC25522-8 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-8 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-8 | EPA 353.2 | 28-OCT-13 14:11 | CF | | | NO3O |
| MC25522-8 | EPA 353.2 | 28-OCT-13 14:11 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-8 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-8 | EPA 300/SW846 9056A | 01-NOV-13 21:32 | ANJ | 01-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-9 | Collected: 22-OCT-13 12:18 By: EFVC | | Received: 22-OCT-13 By: | | | |
| N5-P2-102213 | | | | | | |
| MC25522-9 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-9 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-9 | EPA 353.2 | 28-OCT-13 14:12 | CF | | | NO3O |
| MC25522-9 | EPA 353.2 | 28-OCT-13 14:12 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-9 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-9 | EPA 300/SW846 9056A | 01-NOV-13 21:56 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-10 | Collected: 22-OCT-13 13:28 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHL-5-102213 | | | | | | |
| MC25522-10 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-10 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25522-10 | EPA 353.2 | 28-OCT-13 14:13 | CF | | | NO3O |
| MC25522-10 | EPA 353.2 | 28-OCT-13 14:13 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-10 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-10 | EPA 300/SW846 9056A | 01-NOV-13 22:20 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-11 | Collected: 22-OCT-13 13:30 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHL-8D-102213 | | | | | | |
| MC25522-11 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-11 | EPA 353.2 | 28-OCT-13 14:28 | CF | | | NO3O |
| MC25522-11 | EPA 353.2 | 28-OCT-13 14:28 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-11 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25522-11 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-11 | EPA 300/SW846 9056A | 01-NOV-13 22:44 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-13 | Collected: 22-OCT-13 14:00 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHL-15-102213 | | | | | | |
| MC25522-13 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-13 | EPA 353.2 | 28-OCT-13 14:30 | CF | | | NO3O |
| MC25522-13 | EPA 353.2 | 28-OCT-13 14:30 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-13 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25522-13 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-13 | EPA 300/SW846 9056A | 01-NOV-13 23:08 | ANJ | 01-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-14 | Collected: 22-OCT-13 14:19 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHP-99-29X-102213 | | | | | | |
| MC25522-14 | SM 21 4500 NO2 B | 22-OCT-13 17:28 | MA | 22-OCT-13 | MA | NO2 |
| MC25522-14 | EPA 353.2 | 28-OCT-13 14:31 | CF | | | NO3O |
| MC25522-14 | EPA 353.2 | 28-OCT-13 14:31 | CF | 28-OCT-13 | CF | NO32 |
| MC25522-14 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25522-14 | SM21 4500CL C | 30-OCT-13 | MC | | | CHL |
| MC25522-14 | EPA 300/SW846 9056A | 02-NOV-13 00:20 | ANJ | 01-NOV-13 | | SO4 |
| MC25522-1F | Collected: 22-OCT-13 10:00 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHL-20-102213 | | | | | | |
| MC25522-1F | SW846 6010C | 28-OCT-13 17:08 | EAL | 28-OCT-13 | EAL | K,MG,MN |
| MC25522-1F | SW846 6010C | 29-OCT-13 16:22 | EAL | 28-OCT-13 | EAL | CA,FE,NA |
| MC25522-1F | SW846 6020A | 31-OCT-13 13:31 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-2F | Collected: 22-OCT-13 00:00 By: EFVC | | Received: 22-OCT-13 By: | | | |
| DUP-102213 | | | | | | |
| MC25522-2F | SW846 6010C | 28-OCT-13 17:13 | EAL | 28-OCT-13 | EAL | K,MG,MN |
| MC25522-2F | SW846 6010C | 29-OCT-13 16:27 | EAL | 28-OCT-13 | EAL | CA,FE,NA |
| MC25522-2F | SW846 6020A | 31-OCT-13 13:58 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-3F | Collected: 22-OCT-13 10:06 By: EFVC | | Received: 22-OCT-13 By: | | | |
| SHM-96-5B-102213 | | | | | | |
| MC25522-3F | SW846 6010C | 28-OCT-13 17:18 | EAL | 28-OCT-13 | EAL | K,MG |
| MC25522-3F | SW846 6010C | 29-OCT-13 16:32 | EAL | 28-OCT-13 | EAL | FE,NA |
| MC25522-3F | SW846 6010C | 29-OCT-13 16:37 | EAL | 28-OCT-13 | EAL | CA,MN |
| MC25522-3F | SW846 6020A | 31-OCT-13 14:05 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-4F | Collected: 22-OCT-13 10:10 By: EFVC | | Received: 22-OCT-13 By: | | | |
| N5-P1-102213 | | | | | | |
| MC25522-4F | SW846 6010C | 28-OCT-13 17:33 | EAL | 28-OCT-13 | EAL | FE,K,MG,NA |
| MC25522-4F | SW846 6010C | 29-OCT-13 16:42 | EAL | 28-OCT-13 | EAL | CA,MN |
| MC25522-4F | SW846 6020A | 31-OCT-13 14:13 | SA | 28-OCT-13 | EAL | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-5F | Collected: 22-OCT-13 10:10 By: EFVC SHL-13-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-5F | SW846 6010C | 28-OCT-13 17:38 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN |
| MC25522-5F | SW846 6010C | 29-OCT-13 16:47 | EAL | 28-OCT-13 | EAL | NA |
| MC25522-5F | SW846 6020A | 31-OCT-13 14:20 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-6F | Collected: 22-OCT-13 11:20 By: EFVC SHL-8S-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-6F | SW846 6010C | 28-OCT-13 16:58 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25522-6F | SW846 6020A | 31-OCT-13 13:15 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-7F | Collected: 22-OCT-13 11:25 By: EFVC SHM-96-5C-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-7F | SW846 6010C | 28-OCT-13 17:42 | EAL | 28-OCT-13 | EAL | FE,K,MG |
| MC25522-7F | SW846 6010C | 29-OCT-13 16:52 | EAL | 28-OCT-13 | EAL | NA |
| MC25522-7F | SW846 6010C | 29-OCT-13 17:13 | EAL | 28-OCT-13 | EAL | CA,MN |
| MC25522-7F | SW846 6020A | 31-OCT-13 14:27 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-8F | Collected: 22-OCT-13 12:05 By: EFVC SHL-11-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-8F | SW846 6010C | 28-OCT-13 17:47 | EAL | 28-OCT-13 | EAL | K,MG,MN |
| MC25522-8F | SW846 6010C | 29-OCT-13 17:18 | EAL | 28-OCT-13 | EAL | CA,FE,NA |
| MC25522-8F | SW846 6020A | 31-OCT-13 14:34 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-9F | Collected: 22-OCT-13 12:18 By: EFVC N5-P2-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-9F | SW846 6010C | 28-OCT-13 17:52 | EAL | 28-OCT-13 | EAL | K,MG,MN,NA |
| MC25522-9F | SW846 6010C | 29-OCT-13 17:23 | EAL | 28-OCT-13 | EAL | CA,FE |
| MC25522-9F | SW846 6020A | 31-OCT-13 14:41 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-10 | Collected: 22-OCT-13 13:28 By: EFVC SHL-5-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-10 | SW846 6010C | 28-OCT-13 17:57 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25522

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-10 | SW846 6020A | 31-OCT-13 14:48 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-11 | Collected: 22-OCT-13 13:30 By: EFVC SHL-8D-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-11 | SW846 6010C | 28-OCT-13 18:02 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25522-11 | SW846 6020A | 31-OCT-13 14:55 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-12 | Collected: 22-OCT-13 14:00 By: EFVC RB-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-12 | SW846 6010C | 28-OCT-13 18:07 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25522-12 | SW846 6020A | 31-OCT-13 15:02 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-13 | Collected: 22-OCT-13 14:00 By: EFVC SHL-15-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-13 | SW846 6010C | 28-OCT-13 18:12 | EAL | 28-OCT-13 | EAL | FE,K,MG,MN,NA |
| MC25522-13 | SW846 6010C | 29-OCT-13 17:28 | EAL | 28-OCT-13 | EAL | CA |
| MC25522-13 | SW846 6020A | 31-OCT-13 15:25 | SA | 28-OCT-13 | EAL | ASMS |
| MC25522-14 | Collected: 22-OCT-13 14:19 By: EFVC SHP-99-29X-102213 | | | Received: 22-OCT-13 By: | | |
| MC25522-14 | SW846 6010C | 28-OCT-13 18:17 | EAL | 28-OCT-13 | EAL | CA,K,MG,NA |
| MC25522-14 | SW846 6010C | 29-OCT-13 17:33 | EAL | 28-OCT-13 | EAL | FE,MN |
| MC25522-14 | SW846 6020A | 31-OCT-13 15:32 | SA | 28-OCT-13 | EAL | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-1.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-1.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-1.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-1.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-1.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-1.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-1.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-1.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-1.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-1.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-1F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-1F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-2.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-2.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-2.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-2.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-2.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-2.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-2.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-2.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-2.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-2.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-2F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-2F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-3.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-3.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-3.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-3.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-3.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-3.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-3.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-3.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-3.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-3.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-3F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-3F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-4.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-4.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-4.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-4.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-4.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-4.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-4.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-4.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-4.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-4.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-4F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-4F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-5.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-5.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-5.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-5.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-5.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-5.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-5.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-5.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-5.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-5.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-5F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-5F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-6.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-6.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-6.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-6.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-6.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-6.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-6.2 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-6.2 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-6.4 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-6.4 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-6F.9 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-6F.9 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-7.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-7.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-7.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-7.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-7.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-7.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-7.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-7.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-7.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-7.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-7F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-7F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-8.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-8.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-8.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-8.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-8.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-8.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-8.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-8.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-8.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-8.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-8F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-8F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-9.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-9.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-9.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| Analyst unavailable for custody transfer. | | | | |
| MC25522-9.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-9.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-9.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-9.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-9.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-9.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-9.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-9F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-9F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-10.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-10.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-10.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-10.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-10.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25522-10.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25522-10.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 08:53 | Retrieve from Storage |
| MC25522-10.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-10.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-10.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-10F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-10F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-11.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-11.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-11.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-11.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-11.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 10:13 | Retrieve from Storage |
| MC25522-11.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-11.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25522-11.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25522-11.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-11.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-11F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-11F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-12F.1 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-12F.1 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-13.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-13.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-13.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-13.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-13.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 10:13 | Retrieve from Storage |
| MC25522-13.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-13.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25522-13.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25522-13.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-13.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-13F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-13F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25522-14.1 | Walk In Ref #5 | Mehdi Abdolrahim | 10/22/13 16:19 | Retrieve from Storage |
| MC25522-14.1 | Mehdi Abdolrahim | Walk In Ref #5 | 10/22/13 17:43 | Return to Storage |
| MC25522-14.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/22/13 17:45 | Retrieve from Storage |
| Analyst unavailable for custody transfer. | | | | |
| MC25522-14.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/22/13 17:45 | Return to Storage |
| MC25522-14.1 | Walk In Ref #9 | Miranda Cardullo | 10/30/13 10:13 | Retrieve from Storage |
| MC25522-14.1 | Miranda Cardullo | Walk In Ref #9 | 10/30/13 14:49 | Return to Storage |
| MC25522-14.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25522-14.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25522-14.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25522-14.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25522-14F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25522-14F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:57 | MA16303-STD1 | 1 | | STD1 |
| 13:02 | MA16303-STD2 | 1 | | STD2 |
| 13:07 | MA16303-STD3 | 1 | | STD3 |
| 13:12 | MA16303-STD4 | 1 | | STD4 |
| 13:17 | MA16303-ICV1 | 1 | | |
| 13:21 | MA16303-ICB1 | 1 | | |
| 13:27 | MA16303-CCV1 | 1 | | |
| 13:32 | MA16303-CCB1 | 1 | | |
| 13:37 | MA16303-CRIA1 | 1 | | |
| 13:42 | MA16303-ICSA1 | 1 | | |
| 13:47 | MA16303-ICSAB1 | 1 | | |
| 13:52 | MP21905-B1 | 1 | | |
| 13:56 | MP21905-MB1 | 1 | | |
| 14:01 | MP21905-S1 | 1 | | |
| 14:06 | MP21905-S2 | 1 | | |
| 14:11 | MC25455-16 | 1 | | (sample used for QC only; not part of login MC25522) |
| 14:16 | MP21905-SD1 | 5 | | |
| 14:21 | MP21905-LC1 | 1 | | |
| 14:25 | MA16303-CCV2 | 1 | | |
| 14:30 | MA16303-CCB2 | 1 | | |
| 14:35 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:55 | ZZZZZZ | 1 | | |
| 15:00 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:10 | ZZZZZZ | 1 | | |
| 15:15 | ZZZZZZ | 1 | | |
| 15:19 | ZZZZZZ | 1 | | |
| 15:24 | MA16303-CCV3 | 1 | | |
| 15:29 | MA16303-CCB3 | 1 | | |
| 15:34 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:39 | ZZZZZZ | 1 | | |
| 15:44 | ZZZZZZ | 1 | | |
| 15:49 | ZZZZZZ | 1 | | |
| 15:54 | ZZZZZZ | 1 | | |
| 15:59 | ZZZZZZ | 1 | | |
| 16:04 | ZZZZZZ | 1 | | |
| 16:09 | ZZZZZZ | 1 | | |
| 16:13 | ZZZZZZ | 1 | | |
| 16:19 | MA16303-CRIA2 | 1 | | |
| 16:24 | MA16303-CCV4 | 1 | | |
| 16:29 | MA16303-CCB4 | 1 | | |
| 16:34 | MA16303-CRI1 | 1 | | |
| 16:39 | MP21908-B1 | 1 | | |
| 16:43 | MP21908-MB1 | 1 | | |
| 16:48 | MP21908-S1 | 1 | | |
| 16:53 | MP21908-S2 | 1 | | |
| 16:58 | MC25522-6F | 1 | | |
| 17:03 | MP21908-SD1 | 5 | | |
| 17:08 | MC25522-1F | 1 | | |
| 17:13 | MC25522-2F | 1 | | |
| 17:18 | MC25522-3F | 1 | | |
| 17:23 | MA16303-CCV5 | 1 | | |
| 17:28 | MA16303-CCB5 | 1 | | |
| 17:33 | MC25522-4F | 1 | | |
| 17:38 | MC25522-5F | 1 | | |
| 17:42 | MC25522-7F | 1 | | |
| 17:47 | MC25522-8F | 1 | | |
| 17:52 | MC25522-9F | 1 | | |
| 17:57 | MC25522-10F | 1 | | |
| 18:02 | MC25522-11F | 1 | | |
| 18:07 | MC25522-12F | 1 | | |
| 18:12 | MC25522-13F | 1 | | |
| 18:17 | MC25522-14F | 1 | | |
| ----------> | Last reportable sample/prep for job MC25522 | | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:22 | MA16303-CCV6 | 1 | | |
| 18:27 | MA16303-CCB6 | 1 | | |
| 18:32 | ZZZZZZ | 1 | | |
| 18:37 | ZZZZZZ | 1 | | |
| 18:42 | ZZZZZZ | 1 | | |
| 18:47 | ZZZZZZ | 1 | | |
| 18:52 | ZZZZZZ | 1 | | |
| 18:56 | ZZZZZZ | 1 | | |
| 19:01 | MA16303-CRI2 | 1 | | |
| 19:06 | MA16303-CCV7 | 1 | | |
| 19:11 | MA16303-CCB7 | 1 | | |

----------> Last reportable CCB for job MC25522
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:57 | MA16303-STD1 | 1231 R | 39634 R | 17672 R |
| 13:02 | MA16303-STD2 | 1207 | 39229 | 17798 |
| 13:07 | MA16303-STD3 | | | 17838 |
| 13:12 | MA16303-STD4 | 1223 | 39221 | 17899 |
| 13:17 | MA16303-ICV1 | 1223 | 38319 | 17827 |
| 13:21 | MA16303-ICB1 | 1226 | 38911 | 17586 |
| 13:27 | MA16303-CCV1 | 1243 | 38400 | 17869 |
| 13:32 | MA16303-CCB1 | 1222 | 38948 | 17699 |
| 13:37 | MA16303-CRIA1 | 1239 | 38573 | 17764 |
| 13:42 | MA16303-ICSA1 | 1148 | 35300 | 17440 |
| 13:47 | MA16303-ICSAB1 | 1159 | 35327 | 17501 |
| 13:52 | MP21905-B1 | 1217 | 38528 | 17668 |
| 13:56 | MP21905-MB1 | 1239 | 39090 | 17742 |
| 14:01 | MP21905-S1 | 1250 | 39165 | 18315 |
| 14:06 | MP21905-S2 | 1271 | 38912 | 18254 |
| 14:11 | MC25455-16 | 1297 | 39905 | 18916 |
| 14:16 | MP21905-SD1 | 1262 | 38981 | 18116 |
| 14:21 | MP21905-LC1 | 1338 | 41855 | 19110 |
| 14:25 | MA16303-CCV2 | 1239 | 38663 | 17974 |
| 14:30 | MA16303-CCB2 | 1228 | 39229 | 17695 |
| 14:35 | ZZZZZZ | 1284 | 39133 | 19149 |
| 14:40 | ZZZZZZ | 1258 | 38795 | 18771 |
| 14:45 | ZZZZZZ | 1304 | 39881 | 19141 |
| 14:50 | ZZZZZZ | 1307 | 39053 | 18966 |
| 14:55 | ZZZZZZ | 1304 | 39457 | 19131 |
| 15:00 | ZZZZZZ | 1317 | 39471 | 19374 |
| 15:05 | ZZZZZZ | 1333 | 40618 | 19763 |
| 15:10 | ZZZZZZ | 1311 | 40161 | 18800 |
| 15:15 | ZZZZZZ | 1298 | 40132 | 18878 |
| 15:19 | ZZZZZZ | 1313 | 40368 | 18629 |
| 15:24 | MA16303-CCV3 | 1237 | 38861 | 17997 |
| 15:29 | MA16303-CCB3 | 1237 | 39623 | 17888 |
| 15:34 | ZZZZZZ | 1289 | 40242 | 18629 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:39 | ZZZZZZ | 1295 | 40362 | 18727 |
| 15:44 | ZZZZZZ | 1328 | 39800 | 19287 |
| 15:49 | ZZZZZZ | 1299 | 40228 | 19239 |
| 15:54 | ZZZZZZ | 1320 | 39763 | 19163 |
| 15:59 | ZZZZZZ | 1352 | 40768 | 19721 |
| 16:04 | ZZZZZZ | 1328 | 40906 | 19447 |
| 16:09 | ZZZZZZ | 1314 | 39885 | 19292 |
| 16:13 | ZZZZZZ | 1305 | 39325 | 18966 |
| 16:19 | MA16303-CRIA2 | 1234 | 39438 | 17899 |
| 16:24 | MA16303-CCV4 | 1235 | 39703 | 18080 |
| 16:29 | MA16303-CCB4 | 1235 | 39974 | 17912 |
| 16:34 | MA16303-CRI1 | 1238 | 39436 | 17829 |
| 16:39 | MP21908-B1 | 1199 | 39169 | 17936 |
| 16:43 | MP21908-MB1 | 1215 | 39721 | 18031 |
| 16:48 | MP21908-S1 | 1216 | 38898 | 17850 |
| 16:53 | MP21908-S2 | 1208 | 39208 | 18050 |
| 16:58 | MC25522-6F | 1222 | 39645 | 18075 |
| 17:03 | MP21908-SD1 | 1240 | 39707 | 17980 |
| 17:08 | MC25522-1F | 1211 | 39276 | 17962 |
| 17:13 | MC25522-2F | 1212 | 39359 | 18066 |
| 17:18 | MC25522-3F | 1211 | 39340 | 17921 |
| 17:23 | MA16303-CCV5 | 1250 | 39270 | 17962 |
| 17:28 | MA16303-CCB5 | 1230 | 39824 | 17914 |
| 17:33 | MC25522-4F | 1192 | 39326 | 17917 |
| 17:38 | MC25522-5F | 1223 | 39511 | 17978 |
| 17:42 | MC25522-7F | 1207 | 39542 | 17683 |
| 17:47 | MC25522-8F | 1214 | 39360 | 17860 |
| 17:52 | MC25522-9F | 1183 | 39043 | 17812 |
| 17:57 | MC25522-10F | 1222 | 39915 | 18050 |
| 18:02 | MC25522-11F | 1230 | 39735 | 18090 |
| 18:07 | MC25522-12F | 1230 | 39802 | 17872 |
| 18:12 | MC25522-13F | 1223 | 39217 | 17806 |
| 18:17 | MC25522-14F | 1226 | 39805 | 18064 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 18:22 | MA16303-CCV6 | 1249 | 39496 | 18025 |
| 18:27 | MA16303-CCB6 | 1240 | 40228 | 17901 |
| 18:32 | ZZZZZZ | 1212 | 39384 | 17986 |
| 18:37 | ZZZZZZ | 1242 | 39525 | 17858 |
| 18:42 | ZZZZZZ | 1237 | 39658 | 17913 |
| 18:47 | ZZZZZZ | 1230 | 39701 | 17936 |
| 18:52 | ZZZZZZ | 1242 | 39831 | 18062 |
| 18:56 | ZZZZZZ | 1218 | 39555 | 17767 |
| 19:01 | MA16303-CRI2 | 1272 | 39959 | 17887 |
| 19:06 | MA16303-CCV7 | 1270 | 39319 | 17898 |
| 19:11 | MA16303-CCB7 | 1264 | 39881 | 17779 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: | | | | 13:21 ICB1 | | 13:32 CCB1 | | 14:30 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.1 | <5000 | 0.0 | <5000 | -0.40 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.8 | <100 | 0.80 | <100 | 1.9 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 16.7 | <5000 | 22.0 | <5000 | 35.9 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.10 | <15 | 0.0 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -4.6 | <5000 | 1.5 | <5000 | -1.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -5.3 | <5000 | -1.7 | <5000 | -1.7 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: | | | | 15:29 CCB3 | | 16:29 CCB4 | | 17:28 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.30 | <5000 | -0.30 | <5000 | 0.80 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.5 | <100 | 2.4 | <100 | 1.0 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 7.4 | <5000 | 14.0 | <5000 | 20.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.10 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 11.8 | <5000 | 4.3 | <5000 | 7.6 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -8.4 | <5000 | -9.2 | <5000 | -8.4 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 18:27 CCB6 raw | final | 19:11 CCB7 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.30 | <5000 | 1.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 0.70 | <100 | -0.10 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 14.3 | <5000 | 14.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 6.1 | <5000 | -1.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | -8.1 | <5000 | -8.7 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 13:17 | | | 13:27 | | | 14:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17600 | 97.8 | 10000 | 9950 | 99.5 | 10000 | 9930 | 99.3 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17700 | 98.3 | 10000 | 9800 | 98.0 | 10000 | 9940 | 99.4 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 17700 | 98.3 | 10000 | 9680 | 96.8 | 10000 | 9750 | 97.5 |
| Manganese | 3000 | 3050 | 101.7 | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15300 | 102.0 | 10000 | 9720 | 97.2 | 10000 | 9790 | 97.9 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 14900 | 99.3 | 10000 | 9890 | 98.9 | 10000 | 9870 | 98.7 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 15:24 | | | 16:24 | | | 17:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9820 | 98.2 | 10000 | 9870 | 98.7 | 10000 | 9900 | 99.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9860 | 98.6 | 10000 | 9960 | 99.6 | 10000 | 9930 | 99.3 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 9650 | 96.5 | 10000 | 9670 | 96.7 | 10000 | 9740 | 97.4 |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9710 | 97.1 | 10000 | 9720 | 97.2 | 10000 | 9710 | 97.1 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 9780 | 97.8 | 10000 | 9700 | 97.0 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 18:22 | | | 19:06 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | 10000 | 9970 | 99.7 | 10000 | 9930 | 99.3 |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9960 | 99.6 | 10000 | 9880 | 98.8 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 9720 | 97.2 | 10000 | 9700 | 97.0 |
| Manganese | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9630 | 96.3 | 10000 | 9580 | 95.8 |
| Selenium | anr | | | | | |
| Silicon | | | | | | |
| Silver | anr | | | | | |
| Sodium | 10000 | 9610 | 96.1 | 10000 | 9640 | 96.4 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA16303 Units: ug/l

| Time: | | | 13:37 | | 16:19 | | 16:34 | | 19:01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRIA1 | | CRIA2 | | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | | | | | |
| Antimony | 6.0 | 10 | | | | | | | | |
| Arsenic | 4.0 | 10 | anr | | | | | | | |
| Barium | 50 | 50 | anr | | | | | | | |
| Beryllium | 4.0 | 4.0 | | | | | | | | |
| Boron | 100 | 100 | | | | | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | | | | | |
| Calcium | 5000 | 5000 | 5050 | 101.0 | 5050 | 101.0 | 5080 | 101.6 | 5100 | 102.0 |
| Chromium | 10 | 10 | anr | | | | | | | |
| Cobalt | 50 | 50 | | | | | | | | |
| Copper | 25 | 25 | | | | | | | | |
| Gold | 50 | 50 | | | | | | | | |
| Iron | 100 | 100 | 103 | 103.0 | 115 | 115.0 | 105 | 105.0 | 105 | 105.0 |
| Lead | 5.0 | 10 | anr | | | | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 4940 | 98.8 | 4960 | 99.2 | 4940 | 98.8 |
| Manganese | 15 | 15 | 16.1 | 107.3 | 15.8 | 105.3 | 15.7 | 104.7 | 16.1 | 107.3 |
| Molybdenum | 100 | 100 | | | | | | | | |
| Nickel | 40 | 40 | | | | | | | | |
| Palladium | 50 | 50 | | | | | | | | |
| Platinum | 50 | 50 | | | | | | | | |
| Potassium | 5000 | 5000 | 4960 | 99.2 | 4990 | 99.8 | 4990 | 99.8 | 4910 | 98.2 |
| Selenium | 10 | 10 | anr | | | | | | | |
| Silicon | 100 | 100 | | | | | | | | |
| Silver | 5.0 | 5.0 | anr | | | | | | | |
| Sodium | 5000 | 5000 | 5010 | 100.2 | 4910 | 98.2 | 4920 | 98.4 | 4880 | 97.6 |
| Sulfur | 50 | 50 | | | | | | | | |
| Strontium | 10 | 10 | | | | | | | | |
| Thallium | 5.0 | 10 | | | | | | | | |
| Tin | 100 | 100 | | | | | | | | |
| Titanium | 50 | 50 | | | | | | | | |
| Tungsten | 100 | 100 | | | | | | | | |
| Vanadium | 10 | 10 | | | | | | | | |
| Zinc | 20 | 20 | | | | | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16303  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | | 13:42 | | 13:47 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 523000 | 104.6 | 527000 | 105.4 |
| Antimony | | 2000 | 0.80 | | 1940 | 97.0 |
| Arsenic | | 2000 | 0.10 | | 2020 | 101.0 |
| Barium | | 500 | -0.10 | | 479 | 95.8 |
| Beryllium | | 500 | 0.10 | | 460 | 92.0 |
| Boron | | 1000 | 0.90 | | 942 | 94.2 |
| Cadmium | | 1000 | -0.10 | | 1020 | 102.0 |
| Calcium | 500000 | 500000 | 459000 | 91.8 | 455000 | 91.0 |
| Chromium | | 500 | 0.30 | | 528 | 105.6 |
| Cobalt | | 500 | 1.3 | | 457 | 91.4 |
| Copper | | 500 | 0.30 | | 546 | 109.2 |
| Gold | | 500 | 23.7* | | 532 | 106.4 |
| Iron | 200000 | 200000 | 180000 | 90.0 | 179000 | 89.5 |
| Lead | | 1000 | -0.10 | | 862 | 86.2 |
| Magnesium | 500000 | 500000 | 515000 | 103.0 | 512000 | 102.4 |
| Manganese | | 500 | 0.40 | | 519 | 103.8 |
| Molybdenum | | 1000 | -0.10 | | 916 | 91.6 |
| Nickel | | 1000 | -1.9* | | 834 | 83.4 |
| Palladium | | 500 | -7.0 | | 564 | 112.8 |
| Platinum | | 500 | -33* | | 491 | 98.2 |
| Potassium | | | 47.1 | | 48.6 | |
| Selenium | | 2000 | -0.70 | | 1910 | 95.5 |
| Silicon | | 2000 | 37.6 | | 2030 | 101.5 |
| Silver | | 1000 | 0.90 | | 1080 | 108.0 |
| Sodium | | | 29.3 | | 24.9 | |
| Sulfur | | 500 | 89.6* | | 558 | 111.6 |
| Strontium | | 1000 | -8.3* | | 943 | 94.3 |
| Thallium | | 2000 | -1.8 | | 1740 | 87.0 |
| Tin | | 1000 | 0.80 | | 927 | 92.7 |
| Titanium | | 500 | 5.8* | | 539 | 107.8 |
| Tungsten | | 2000 | -6.4 | | 1960 | 98.0 |
| Vanadium | | 500 | 10.4* | | 535 | 107.0 |
| Zinc | | 1000 | -0.80 | | 869 | 86.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: / Metal | | | | | |
|---|---|---|---|---|---|
| Zirconium | 500 | 9.1* | | 431 | 86.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:48 | MA16313-STD1 | 1 | | STD1 |
| 11:53 | MA16313-STD2 | 1 | | STD2 |
| 11:58 | MA16313-STD3 | 1 | | STD3 |
| 12:03 | MA16313-STD4 | 1 | | STD4 |
| 12:08 | MA16313-ICV1 | 1 | | |
| 12:16 | MA16313-ICB1 | 1 | | |
| 12:28 | MA16313-CCV1 | 1 | | |
| 12:34 | MA16313-CCB1 | 1 | | |
| 12:39 | MA16313-CRIA1 | 1 | | |
| 12:44 | MA16313-ICSA1 | 1 | | |
| 12:49 | MA16313-ICSAB1 | 1 | | |
| 12:54 | MP21910-B1 | 1 | | |
| 12:59 | MP21910-MB1 | 1 | | |
| 13:04 | MP21910-S1 | 1 | | |
| 13:08 | MP21910-S2 | 1 | | |
| 13:13 | MC25455-23 | 1 | | (sample used for QC only; not part of login MC25522) |
| 13:18 | MP21910-SD1 | 5 | | |
| 13:23 | MP21910-LC1 | 1 | | |
| 13:28 | MA16313-CCV2 | 1 | | |
| 13:40 | MA16313-CCB2 | 1 | | |
| 13:49 | ZZZZZZ | 1 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:59 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:21 | ZZZZZZ | 100 | | |
| 14:25 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 100 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:44 | ZZZZZZ | 100 | | |
| 14:50 | MA16313-CCV3 | 1 | | |
| 14:58 | MA16313-CCB3 | 1 | | |
| 15:03 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:10 | ZZZZZZ | 20 | | |
| 15:15 | ZZZZZZ | 500 | | |
| 15:20 | ZZZZZZ | 1 | | |
| 15:26 | ZZZZZZ | 10 | | |
| 15:31 | ZZZZZZ | 10 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:41 | MP21905-PS1 | 1 | | |
| 15:46 | MA16313-CRIA2 | 1 | | |
| 15:51 | MA16313-CRI1 | 1 | | AS OUT. |
| 15:56 | MA16313-CCV4 | 1 | | |
| 16:03 | MA16313-CCB4 | 1 | | |
| 16:08 | MP21908-B1 | 5 | | |
| 16:13 | MP21908-S1 | 5 | | |
| 16:18 | MP21908-S2 | 5 | | |
| 16:22 | MC25522-1F | 2 | | |
| 16:27 | MC25522-2F | 2 | | |
| 16:32 | MC25522-3F | 2 | | |
| 16:37 | MC25522-3F | 5 | | |
| 16:42 | MC25522-4F | 10 | | |
| 16:47 | MC25522-5F | 5 | | |
| 16:52 | MC25522-7F | 3 | | |
| 16:57 | MA16313-CCV5 | 1 | | |
| 17:08 | MA16313-CCB5 | 1 | | |
| 17:13 | MC25522-7F | 10 | | |
| 17:18 | MC25522-8F | 3 | | |
| 17:23 | MC25522-9F | 10 | | |
| 17:28 | MC25522-13F | 2 | | |
| 17:33 | MC25522-14F | 5 | | |
| ----------> | Last reportable sample/prep for job MC25522 | | | |
| 17:38 | ZZZZZZ | 2 | | |
| 17:43 | ZZZZZZ | 5 | | |
| 17:48 | ZZZZZZ | 2 | | |
| 17:53 | ZZZZZZ | 3 | | |
| 17:58 | ZZZZZZ | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:02 | MA16313-CCV6 | 1 | | |
| 18:07 | MA16313-CCB6 | 1 | | |
| 18:12 | MA16313-CRI2 | 1 | | |
| 18:17 | MA16313-CCV7 | 1 | | |
| 18:22 | MA16313-CCB7 | 1 | | |

----------> Last reportable CCB for job MC25522
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP Date Analyzed: 10/29/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 11:48 | MA16313-STD1 | 1210 R | 41370 R | 18049 R |
| 11:53 | MA16313-STD2 | 1203 | 41405 | 18027 |
| 11:58 | MA16313-STD3 | | | 18191 |
| 12:03 | MA16313-STD4 | 1219 | 41016 | 17961 |
| 12:08 | MA16313-ICV1 | 1215 | 40721 | 18109 |
| 12:16 | MA16313-ICB1 | 1208 | 41843 | 18191 |
| 12:28 | MA16313-CCV1 | 1216 | 40880 | 18193 |
| 12:34 | MA16313-CCB1 | 1199 | 41295 | 17938 |
| 12:39 | MA16313-CRIA1 | 1204 | 41144 | 17799 |
| 12:44 | MA16313-ICSA1 | 1130 | 37316 | 17603 |
| 12:49 | MA16313-ICSAB1 | 1123 | 36895 | 17583 |
| 12:54 | MP21910-B1 | 1205 | 40704 | 17809 |
| 12:59 | MP21910-MB1 | 1201 | 41304 | 18144 |
| 13:04 | MP21910-S1 | 1256 | 42580 | 18859 |
| 13:08 | MP21910-S2 | 1243 | 42446 | 18995 |
| 13:13 | MC25455-23 | 1289 | 42784 | 18940 |
| 13:18 | MP21910-SD1 | 1237 | 41542 | 18259 |
| 13:23 | MP21910-LC1 | 1303 | 43581 | 19637 |
| 13:28 | MA16313-CCV2 | 1211 | 40731 | 17996 |
| 13:40 | MA16313-CCB2 | 1204 | 41391 | 17849 |
| 13:49 | ZZZZZZ | 1266 | 42387 | 19079 |
| 13:54 | ZZZZZZ | 1258 | 41445 | 18753 |
| 13:59 | ZZZZZZ | 1262 | 41901 | 18623 |
| 14:04 | ZZZZZZ | 1265 | 41378 | 18710 |
| 14:08 | ZZZZZZ | 1266 | 43972 | 19863 |
| 14:21 | ZZZZZZ | 1214 | 41379 | 18098 |
| 14:25 | ZZZZZZ | 1248 | 43383 | 19664 |
| 14:33 | ZZZZZZ | 1222 | 41278 | 18095 |
| 14:38 | ZZZZZZ | 1440 | 50143 | 22599 |
| 14:44 | ZZZZZZ | 1221 | 41174 | 18087 |
| 14:50 | MA16313-CCV3 | 1213 | 40858 | 18155 |
| 14:58 | MA16313-CCB3 | 1211 | 41244 | 17884 |
| 15:03 | ZZZZZZ | 1288 | 43432 | 19472 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP Date Analyzed: 10/29/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:10 | ZZZZZZ | 1228 | 40869 | 18156 |
| 15:15 | ZZZZZZ | 1212 | 41361 | 18069 |
| 15:20 | ZZZZZZ | 1287 | 43714 | 19548 |
| 15:26 | ZZZZZZ | 1229 | 41187 | 18404 |
| 15:31 | ZZZZZZ | 1234 | 41218 | 18360 |
| 15:36 | ZZZZZZ | 1334 | 43050 | 19854 |
| 15:41 | MP21905-PS1 | 1252 | 41543 | 18779 |
| 15:46 | MA16313-CRIA2 | 1217 | 40854 | 17843 |
| 15:51 | MA16313-CRI1 | 1212 | 41237 | 17844 |
| 15:56 | MA16313-CCV4 | 1215 | 40635 | 18243 |
| 16:03 | MA16313-CCB4 | 1214 | 41218 | 17933 |
| 16:08 | MP21908-B1 | 1210 | 41197 | 18032 |
| 16:13 | MP21908-S1 | 1217 | 41157 | 18119 |
| 16:18 | MP21908-S2 | 1219 | 40935 | 17994 |
| 16:22 | MC25522-1F | 1210 | 40941 | 17940 |
| 16:27 | MC25522-2F | 1205 | 40959 | 17941 |
| 16:32 | MC25522-3F | 1190 | 40817 | 18061 |
| 16:37 | MC25522-3F | 1213 | 41312 | 18008 |
| 16:42 | MC25522-4F | 1221 | 41543 | 18069 |
| 16:47 | MC25522-5F | 1221 | 41135 | 17849 |
| 16:52 | MC25522-7F | 1212 | 40873 | 17932 |
| 16:57 | MA16313-CCV5 | 1227 | 40355 | 18067 |
| 17:08 | MA16313-CCB5 | 1211 | 41502 | 17877 |
| 17:13 | MC25522-7F | 1207 | 40851 | 17983 |
| 17:18 | MC25522-8F | 1197 | 41017 | 17988 |
| 17:23 | MC25522-9F | 1199 | 41201 | 17947 |
| 17:28 | MC25522-13F | 1198 | 41027 | 17961 |
| 17:33 | MC25522-14F | 1206 | 40927 | 17919 |
| 17:38 | ZZZZZZ | 1192 | 40523 | 17797 |
| 17:43 | ZZZZZZ | 1210 | 40825 | 17938 |
| 17:48 | ZZZZZZ | 1202 | 40762 | 17909 |
| 17:53 | ZZZZZZ | 1218 | 40545 | 17904 |
| 17:58 | ZZZZZZ | 1233 | 40699 | 17764 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 18:02 | MA16313-CCV6 | 1237 | 39639 | 17683 |
| 18:07 | MA16313-CCB6 | 1222 | 40454 | 17807 |
| 18:12 | MA16313-CRI2 | 1233 | 40574 | 17832 |
| 18:17 | MA16313-CCV7 | 1235 | 40003 | 17951 |
| 18:22 | MA16313-CCB7 | 1229 | 40679 | 17698 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 12:16 ICB1 | | 12:34 CCB1 | | 13:40 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 4.7 | <5000 | 3.2 | <5000 | 46.7 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | -0.30 | <100 | 0.10 | <100 | 0.20 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -9.1 | <5000 | 13.8 | <5000 | 15.6 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.0 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -1.7 | <5000 | 1.6 | <5000 | 15.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -0.20 | <5000 | 4.0 | <5000 | 4.9 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 14:58 CCB3 | | 16:03 CCB4 | | 17:08 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 3.0 | <5000 | 1.3 | <5000 | 2.9 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.2 | <100 | -1.1 | <100 | 0.60 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 10.7 | <5000 | -5.1 | <5000 | 8.8 | <5000 |
| Manganese | 15 | .17 | 2.5 | -0.10 | <15 | 0.0 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 7.3 | <5000 | -8.4 | <5000 | 19.2 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -1.7 | <5000 | -0.90 | <5000 | 7.5 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 18:07 CCB6 | | 18:22 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.0 | <5000 | 0.30 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 0.70 | <100 | -0.80 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 9.7 | <5000 | -2.9 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.10 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 14.4 | <5000 | -4.4 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | 3.8 | <5000 | 6.8 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 12:08 | | | 12:28 | | | 13:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17800 | 98.9 | 10000 | 9850 | 98.5 | 10000 | 9890 | 98.9 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 9900 | 99.0 | 10000 | 9990 | 99.9 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9750 | 97.5 | 10000 | 9940 | 99.4 |
| Manganese | 3000 | 3050 | 101.7 | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9840 | 98.4 | 10000 | 9990 | 99.9 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 15100 | 100.7 | 10000 | 9830 | 98.3 | 10000 | 9910 | 99.1 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 14:50 | | | 15:56 | | | 16:57 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9870 | 98.7 | 10000 | 9890 | 98.9 | 10000 | 9950 | 99.5 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9950 | 99.5 | 10000 | 9920 | 99.2 | 10000 | 9930 | 99.3 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 9950 | 99.5 | 10000 | 9930 | 99.3 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9970 | 99.7 | 10000 | 9900 | 99.0 | 10000 | 9930 | 99.3 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 9890 | 98.9 | 10000 | 9860 | 98.6 | 10000 | 9880 | 98.8 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 18:02 | | | 18:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | 10000 | 10000 | 100.0 | 10000 | 9980 | 99.8 |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9860 | 98.6 | 10000 | 9720 | 97.2 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9930 | 99.3 | 10000 | 9790 | 97.9 |
| Selenium | anr | | | | | |
| Silicon | | | | | | |
| Silver | anr | | | | | |
| Sodium | 10000 | 9820 | 98.2 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16313  Units: ug/l

| Time: | | | 12:39 | | 15:46 | | 15:51 | | 18:12 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRIA1 | | CRIA2 | | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | | | | | |
| Antimony | 6.0 | 10 | | | | | | | | |
| Arsenic | 4.0 | 10 | anr | | | | | | | |
| Barium | 50 | 50 | anr | | | | | | | |
| Beryllium | 4.0 | 4.0 | | | | | | | | |
| Boron | 100 | 100 | | | | | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | | | | | |
| Calcium | 5000 | 5000 | 5150 | 103.0 | 5110 | 102.2 | 5060 | 101.2 | 5090 | 101.8 |
| Chromium | 10 | 10 | anr | | | | | | | |
| Cobalt | 50 | 50 | | | | | | | | |
| Copper | 25 | 25 | | | | | | | | |
| Gold | 50 | 50 | | | | | | | | |
| Iron | 100 | 100 | 106 | 106.0 | 111 | 111.0 | 105 | 105.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | anr | | | | | | | |
| Magnesium | 5000 | 5000 | 5090 | 101.8 | 5070 | 101.4 | 5050 | 101.0 | 5050 | 101.0 |
| Manganese | 15 | 15 | 16.0 | 106.7 | 16.1 | 107.3 | 15.6 | 104.0 | 15.9 | 106.0 |
| Molybdenum | 100 | 100 | | | | | | | | |
| Nickel | 40 | 40 | | | | | | | | |
| Palladium | 50 | 50 | | | | | | | | |
| Platinum | 50 | 50 | | | | | | | | |
| Potassium | 5000 | 5000 | 5110 | 102.2 | 5150 | 103.0 | 5120 | 102.4 | 4990 | 99.8 |
| Selenium | 10 | 10 | anr | | | | | | | |
| Silicon | 100 | 100 | | | | | | | | |
| Silver | 5.0 | 5.0 | anr | | | | | | | |
| Sodium | 5000 | 5000 | 5110 | 102.2 | 5070 | 101.4 | 5040 | 100.8 | 4900 | 98.0 |
| Sulfur | 50 | 50 | | | | | | | | |
| Strontium | 10 | 10 | | | | | | | | |
| Thallium | 5.0 | 10 | | | | | | | | |
| Tin | 100 | 100 | | | | | | | | |
| Titanium | 50 | 50 | | | | | | | | |
| Tungsten | 100 | 100 | | | | | | | | |
| Vanadium | 10 | 10 | | | | | | | | |
| Zinc | 20 | 20 | | | | | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16313  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | | 12:44 | | 12:49 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 541000 | 108.2 | 544000 | 108.8 |
| Antimony | | 2000 | -0.10 | | 2010 | 100.5 |
| Arsenic | | 2000 | 0.70 | | 2090 | 104.5 |
| Barium | | 500 | 0.0 | | 521 | 104.2 |
| Beryllium | | 500 | 0.10 | | 476 | 95.2 |
| Boron | | 1000 | 0.60 | | 971 | 97.1 |
| Cadmium | | 1000 | 0.40 | | 1050 | 105.0 |
| Calcium | 500000 | 500000 | 469000 | 93.8 | 468000 | 93.6 |
| Chromium | | 500 | -0.20 | | 527 | 105.4 |
| Cobalt | | 500 | 1.0 | | 471 | 94.2 |
| Copper | | 500 | -0.60 | | 562 | 112.4 |
| Gold | | 500 | 5.4 | | 529 | 105.8 |
| Iron | 200000 | 200000 | 184000 | 92.0 | 185000 | 92.5 |
| Lead | | 1000 | -0.10 | | 894 | 89.4 |
| Magnesium | 500000 | 500000 | 534000 | 106.8 | 535000 | 107.0 |
| Manganese | | 500 | 0.40 | | 524 | 104.8 |
| Molybdenum | | 1000 | -0.80 | | 948 | 94.8 |
| Nickel | | 1000 | 0.20 | | 857 | 85.7 |
| Palladium | | 500 | -19 | | 555 | 111.0 |
| Platinum | | 500 | -28 | | 500 | 100.0 |
| Potassium | | | 30.9 | | 45.9 | |
| Selenium | | 2000 | 0.0 | | 1980 | 99.0 |
| Silicon | | 2000 | 40.5 | | 2130 | 106.5 |
| Silver | | 1000 | -0.10 | | 1110 | 111.0 |
| Sodium | | | 25.2 | | 26.2 | |
| Sulfur | | 500 | 91.3* | | 577 | 115.4 |
| Strontium | | 1000 | -8.5* | | 966 | 96.6 |
| Thallium | | 2000 | -4.1* | | 1790 | 89.5 |
| Tin | | 1000 | 0.50 | | 958 | 95.8 |
| Titanium | | 500 | 6.6* | | 550 | 110.0 |
| Tungsten | | 2000 | -19 | | 1980 | 99.0 |
| Vanadium | | 500 | 10.1* | | 544 | 108.8 |
| Zinc | | 1000 | -1.4 | | 885 | 88.5 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: / Metal | | | | | |
|---|---|---|---|---|---|
| Zirconium | 500 | 9.8* | | 431 | 86.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 1 | | STDA |
| 10:52 | MA16321-STD2 | 1 | | STDB |
| 10:59 | MA16321-STD3 | 1 | | STDC |
| 11:06 | MA16321-STD4 | 1 | | STDD |
| 11:13 | MA16321-STD5 | 1 | | STDE |
| 11:20 | MA16321-STD6 | 1 | | STDF |
| 11:27 | MA16321-STD7 | 1 | | STDG |
| 11:35 | MA16321-STD8 | 1 | | STDH |
| 11:42 | MA16321-ICV1 | 1 | | |
| 11:49 | MA16321-ICB1 | 1 | | |
| 11:58 | MA16321-CCV1 | 1 | | |
| 12:09 | MA16321-CCB1 | 1 | | |
| 12:17 | MA16321-CRI1 | 1 | | |
| 12:26 | MA16321-ICSA1 | 1 | | |
| 12:33 | MA16321-ICSAB1 | 1 | | |
| 12:45 | MA16321-ICSA2 | 2 | | |
| 12:52 | MA16321-ICSAB2 | 2 | | |
| 13:01 | ZZZZZZ | 1 | | RINSECONF |
| 13:08 | MP21908A-MB1 | 2 | | |
| 13:15 | MC25522-6F | 2 | | |
| 13:22 | MP21908A-SD1 | 10 | | |
| 13:31 | MC25522-1F | 20 | | |
| 13:38 | MA16321-CCV2 | 1 | | |
| 13:50 | MA16321-CCB2 | 1 | | |
| 13:58 | MC25522-2F | 20 | | |
| 14:05 | MC25522-3F | 100 | | |
| 14:13 | MC25522-4F | 100 | | |
| 14:20 | MC25522-5F | 2 | | |
| 14:27 | MC25522-7F | 2 | | |
| 14:34 | MC25522-8F | 20 | | |
| 14:41 | MC25522-9F | 2 | | |
| 14:48 | MC25522-10F | 2 | | |
| 14:55 | MC25522-11F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:02 | MC25522-12F | 2 | | |
| 15:09 | MA16321-CCV3 | 1 | | |
| 15:17 | MA16321-CCB3 | 1 | | |
| 15:25 | MC25522-13F | 2 | | |
| 15:32 | MC25522-14F | 100 | | |
| 15:39 | ZZZZZZ | 50 | | |
| 15:46 | ZZZZZZ | 2 | | |
| 15:53 | ZZZZZZ | 2 | | |
| 16:01 | ZZZZZZ | 20 | | |
| 16:08 | ZZZZZZ | 2 | | |
| 16:15 | ZZZZZZ | 2 | | DNR: HIGH RSD, SEE RERUN. |
| 16:22 | MP21908A-B1 | 20 | | |
| 16:29 | MP21908A-S1 | 20 | | |
| 16:36 | MA16321-CCV4 | 1 | | |
| 16:43 | MA16321-CCB4 | 1 | | |
| 16:56 | MP21908A-S2 | 20 | | |
| ----------> | Last reportable sample/prep for job MC25522 | | | |
| 17:03 | ZZZZZZ | 2 | | |
| 17:10 | ZZZZZZ | 1 | | RINSECONF |
| 17:17 | MA16321-CRI2 | 1 | | |
| 17:26 | MA16321-CCV5 | 1 | | |
| 17:34 | MA16321-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC25522 | | | |
| 17:42 | MP21920A-MB1 | 2 | | |
| 17:49 | MC25568-11F | 5 | | (sample used for QC only; not part of login MC25522) |
| 17:57 | MP21920A-SD1 | 25 | | |
| 18:04 | MC25594-1F | 5 | | (sample used for QC only; not part of login MC25522) |
| 18:11 | ZZZZZZ | 2 | | |
| 18:18 | ZZZZZZ | 2 | | |
| 18:25 | ZZZZZZ | 2 | | |
| 18:32 | ZZZZZZ | 5 | | |
| 18:39 | ZZZZZZ | 2 | | |
| 18:46 | ZZZZZZ | 20 | | |
| 18:53 | MA16321-CCV6 | 1 | | |
| 19:00 | MA16321-CCB6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:07 | ZZZZZZ | 2 | | |
| 19:15 | ZZZZZZ | 2 | | |
| 19:22 | ZZZZZZ | 2 | | |
| 19:29 | ZZZZZZ | 2 | | |
| 19:36 | ZZZZZZ | 5 | | |
| 19:43 | ZZZZZZ | 50 | | |
| 19:50 | ZZZZZZ | 2 | | |
| 19:57 | MP21920A-B1 | 20 | | |
| 20:04 | MP21920A-S1 | 20 | | |
| 20:11 | MP21920A-S2 | 20 | | |
| 20:18 | MA16321-CCV7 | 1 | | |
| 20:26 | MA16321-CCB7 | 1 | | |
| 20:33 | MP21920A-S3 | 20 | | |
| 20:40 | MP21920A-S4 | 20 | | |
| 20:47 | ZZZZZZ | 1 | | RINSECONF |
| 20:54 | MA16321-CRI3 | 1 | | |
| 21:01 | MA16321-CCV8 | 1 | | |
| 21:08 | MA16321-CCB8 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 2521858 R | 3362635 R | 367626 R | 714806 R | 144802 R | 3924881 R | 3944903 R | 1086949 R |
| 10:52 | MA16321-STD2 | 2743673 | 3707282 | 368477 | 757217 | 146230 | 4375582 | 4402088 | 1104538 |
| 10:59 | MA16321-STD3 | 2553325 | 3330758 | 373983 | 709484 | 147533 | 3945762 | 3968207 | 1106060 |
| 11:06 | MA16321-STD4 | 2534878 | 3360063 | 372320 | 696369 | 145570 | 3932761 | 4004576 | 1101115 |
| 11:13 | MA16321-STD5 | 2554999 | 3379753 | 367079 | 702499 | 144684 | 4000867 | 3983582 | 1111090 |
| 11:20 | MA16321-STD6 | 2536726 | 3330294 | 365763 | 706225 | 143583 | 3941595 | 3961243 | 1102240 |
| 11:27 | MA16321-STD7 | 2487333 | 3356362 | 378445 | 727258 | 149444 | 3902106 | 3961190 | 1118718 |
| 11:35 | MA16321-STD8 | 2464318 | 3348449 | 378949 | 732296 | 149667 | 3772556 | 3831564 | 1088822 |
| 11:42 | MA16321-ICV1 | 2486272 | 3367462 | 371203 | 708654 | 146540 | 3818770 | 3860230 | 1098177 |
| 11:49 | MA16321-ICB1 | 2545401 | 3384524 | 381055 | 724776 | 149806 | 3972545 | 4015489 | 1135391 |
| 11:58 | MA16321-CCV1 | 2483817 | 3388281 | 375804 | 708720 | 147585 | 3877887 | 3930373 | 1110154 |
| 12:09 | MA16321-CCB1 | 2564763 | 3385504 | 381602 | 728382 | 150502 | 3990804 | 4003275 | 1146737 |
| 12:17 | MA16321-CRI1 | 2589735 | 3355864 | 379685 | 724065 | 149892 | 4024897 | 4035904 | 1142700 |
| 12:26 | MA16321-ICSA1 | 2349052 | 3218230 | 359882 | 746203 | 144679 | 3415071 | 3583008 | 1086266 |
| 12:33 | MA16321-ICSAB1 | 2352990 | 3230003 | 349042 | 735288 | 141498 | 3406074 | 3587248 | 1060516 |
| 12:45 | MA16321-ICSA2 | 2398945 | 3294112 | 358411 | 737194 | 143481 | 3541786 | 3729426 | 1084651 |
| 12:52 | MA16321-ICSAB2 | 2382373 | 3285512 | 355689 | 731001 | 142087 | 3527709 | 3730995 | 1078845 |
| 13:01 | ZZZZZZ | 2498751 | 3390213 | 368852 | 731633 | 146898 | 4019365 | 4083532 | 1127201 |
| 13:08 | MP21908A-MB1 | 2465116 | 3348074 | 361019 | 725503 | 143062 | 3898227 | 3928722 | 1097807 |
| 13:15 | MC25522-6F | 2415341 | 3413094 | 362118 | 735766 | 143334 | 3825786 | 3953835 | 1101544 |
| 13:22 | MP21908A-SD1 | 2482879 | 3420382 | 371770 | 744329 | 148139 | 4005313 | 4059712 | 1131536 |
| 13:31 | MC25522-1F | 2432574 | 3444577 | 373863 | 745003 | 150308 | 3949980 | 4047208 | 1140631 |
| 13:38 | MA16321-CCV2 | 2418800 | 3405698 | 362801 | 709550 | 142307 | 3832982 | 3915975 | 1082519 |
| 13:50 | MA16321-CCB2 | 2468104 | 3376968 | 367817 | 729967 | 145309 | 3959574 | 4017152 | 1109429 |
| 13:58 | MC25522-2F | 2484931 | 3409920 | 370330 | 738401 | 147731 | 3919761 | 4024920 | 1121517 |
| 14:05 | MC25522-3F | 2474419 | 3486729 | 378227 | 749077 | 150211 | 3991628 | 4094209 | 1160104 |
| 14:13 | MC25522-4F | 2523998 | 3452086 | 377687 | 747496 | 150545 | 4031355 | 4105530 | 1163876 |
| 14:20 | MC25522-5F | 2403807 | 3336610 | 365523 | 727585 | 143553 | 3729589 | 3861663 | 1069868 |
| 14:27 | MC25522-7F | 2355535 | 3349674 | 361647 | 713146 | 140922 | 3633444 | 3781227 | 1078109 |
| 14:34 | MC25522-8F | 2477207 | 3506022 | 384949 | 763559 | 153216 | 4016380 | 4131860 | 1154965 |
| 14:41 | MC25522-9F | 2370648 | 3383276 | 358759 | 723952 | 141646 | 3565724 | 3680381 | 1115611 |
| 14:48 | MC25522-10F | 2391083 | 3384915 | 366067 | 724167 | 142952 | 3799471 | 3876364 | 1065427 |
| 14:55 | MC25522-11F | 2356853 | 3365435 | 363427 | 720731 | 141916 | 3723669 | 3862927 | 1075134 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF Date Analyzed: 10/31/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:02 | MC25522-12F | 2405623 | 3293872 | 362970 | 707997 | 141664 | 3776067 | 3863542 | 1105273 |
| 15:09 | MA16321-CCV3 | 2355568 | 3343886 | 368331 | 702617 | 142355 | 3777490 | 3852513 | 1078330 |
| 15:17 | MA16321-CCB3 | 2461488 | 3366281 | 375513 | 725613 | 147156 | 3933484 | 3971547 | 1120946 |
| 15:25 | MC25522-13F | 2400415 | 3339006 | 362639 | 716412 | 142934 | 3697648 | 3842065 | 1069425 |
| 15:32 | MC25522-14F | 2533460 | 3466656 | 392672 | 752123 | 154361 | 4028650 | 4107597 | 1180841 |
| 15:39 | ZZZZZZ | 2501781 | 3437949 | 386528 | 742481 | 152966 | 3979599 | 4049938 | 1172919 |
| 15:46 | ZZZZZZ | 2426493 | 3299466 | 359630 | 710615 | 142235 | 3711335 | 3881979 | 1079301 |
| 15:53 | ZZZZZZ | 2407456 | 3313845 | 361197 | 715075 | 142660 | 3733833 | 3889800 | 1091288 |
| 16:01 | ZZZZZZ | 2539074 | 3405034 | 385041 | 740882 | 152196 | 4047377 | 4116485 | 1171381 |
| 16:08 | ZZZZZZ | 2447659 | 3349160 | 365409 | 723055 | 143968 | 3795541 | 3923511 | 1119770 |
| 16:15 | ZZZZZZ | 2404974 | 3355829 | 353833 | 701148 | 137521 | 3647764 | 3783791 | 1036755 |
| 16:22 | MP21908A-B1 | 2594586 | 3514292 | 391610 | 734604 | 153102 | 4045897 | 4120646 | 1192046 |
| 16:29 | MP21908A-S1 | 2554381 | 3414793 | 383031 | 718167 | 150324 | 3966473 | 4059601 | 1164374 |
| 16:36 | MA16321-CCV4 | 2505687 | 3346716 | 373959 | 702838 | 146328 | 3828027 | 3918217 | 1136772 |
| 16:43 | MA16321-CCB4 | 2520286 | 3332724 | 381367 | 725015 | 150180 | 3959119 | 4019905 | 1166757 |
| 16:56 | MP21908A-S2 | 2543275 | 3388882 | 383035 | 719038 | 150028 | 3953784 | 4066495 | 1170993 |
| 17:03 | ZZZZZZ | 2432777 | 3270318 | 365135 | 687027 | 141539 | 3562540 | 3735694 | 1076183 |
| 17:10 | ZZZZZZ | 2630669 | 3441144 | 388808 | 734247 | 151773 | 4005175 | 4109803 | 1165121 |
| 17:17 | MA16321-CRI2 | 2607879 | 3382703 | 384186 | 726579 | 150878 | 4007589 | 4067180 | 1173517 |
| 17:26 | MA16321-CCV5 | 2520073 | 3380257 | 374433 | 704830 | 146620 | 3852278 | 3955072 | 1143264 |
| 17:34 | MA16321-CCB5 | 2543389 | 3376320 | 386363 | 725310 | 151733 | 3964871 | 4039159 | 1178109 |
| 17:42 | MP21920A-MB1 | 2557954 | 3301748 | 375109 | 703236 | 145995 | 3831595 | 3880392 | 1135116 |
| 17:49 | MC25568-11F | 2467173 | 3346258 | 378594 | 725889 | 149255 | 3812888 | 3964992 | 1140492 |
| 17:57 | MP21920A-SD1 | 2540478 | 3380506 | 392758 | 735567 | 154287 | 3949231 | 4048882 | 1185310 |
| 18:04 | MC25594-1F | 2425870 | 3301202 | 374990 | 711151 | 146945 | 3746901 | 3829898 | 1126421 |
| 18:11 | ZZZZZZ | 2393236 | 3251240 | 365640 | 681463 | 140431 | 3534495 | 3687807 | 1086014 |
| 18:18 | ZZZZZZ | 2439751 | 3308196 | 374620 | 710168 | 145395 | 3701459 | 3825284 | 1099093 |
| 18:25 | ZZZZZZ | 2431657 | 3280646 | 370526 | 704508 | 144389 | 3697536 | 3776330 | 1099104 |
| 18:32 | ZZZZZZ | 2386237 | 3287569 | 377638 | 705861 | 146664 | 3661206 | 3813220 | 1089126 |
| 18:39 | ZZZZZZ | 2390348 | 3230818 | 366766 | 688267 | 141827 | 3598570 | 3734786 | 1082924 |
| 18:46 | ZZZZZZ | 2464839 | 3321694 | 387518 | 723390 | 150220 | 3855452 | 3932511 | 1139140 |
| 18:53 | MA16321-CCV6 | 2604731 | 3409006 | 378912 | 708359 | 145331 | 3906498 | 3948637 | 1119285 |
| 19:00 | MA16321-CCB6 | 2454010 | 3284581 | 381598 | 708067 | 148664 | 3848541 | 3900894 | 1111328 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 19:07 | ZZZZZZ | 2430671 | 3254802 | 369033 | 691733 | 142337 | 3727777 | 3786325 | 1079114 |
| 19:15 | ZZZZZZ | 2394131 | 3252742 | 365914 | 692235 | 142645 | 3636337 | 3765264 | 1074089 |
| 19:22 | ZZZZZZ | 2350794 | 3262281 | 364723 | 690398 | 140335 | 3508631 | 3656175 | 1095806 |
| 19:29 | ZZZZZZ | 2388533 | 3320874 | 370447 | 707766 | 143793 | 3657185 | 3778377 | 1111959 |
| 19:36 | ZZZZZZ | 2535560 | 3430015 | 378355 | 742335 | 148126 | 3930664 | 4043075 | 1123005 |
| 19:43 | ZZZZZZ | 2515179 | 3366128 | 392661 | 722192 | 152353 | 3932651 | 3983725 | 1150425 |
| 19:50 | ZZZZZZ | 2420650 | 3205740 | 366339 | 686085 | 142313 | 3724415 | 3771725 | 1082927 |
| 19:57 | MP21920A-B1 | 2587423 | 3447020 | 379972 | 722488 | 146878 | 4029634 | 4112988 | 1221724 |
| 20:04 | MP21920A-S1 | 2422842 | 3360915 | 383147 | 692847 | 147745 | 3749048 | 3875038 | 1118264 |
| 20:11 | MP21920A-S2 | 2556057 | 3393762 | 380479 | 721056 | 148430 | 3733200 | 3650287 | 1117442 |
| 20:18 | MA16321-CCV7 | 2359303 | 3262756 | 371696 | 677116 | 143591 | 3673670 | 3751758 | 1077773 |
| 20:26 | MA16321-CCB7 | 2420687 | 3266401 | 379335 | 697824 | 147504 | 3806144 | 3834855 | 1115105 |
| 20:33 | MP21920A-S3 | 2424479 | 3298326 | 382043 | 689195 | 147750 | 3787890 | 3851812 | 1115208 |
| 20:40 | MP21920A-S4 | 2423189 | 3280099 | 381634 | 691492 | 147888 | 3780020 | 3863122 | 1120902 |
| 20:47 | ZZZZZZ | 2427414 | 3272124 | 378858 | 699778 | 146661 | 3812422 | 3825615 | 1129073 |
| 20:54 | MA16321-CRI3 | 2411318 | 3252378 | 378832 | 694286 | 146814 | 3834016 | 3842115 | 1134360 |
| 21:01 | MA16321-CCV8 | 2386733 | 3272139 | 374904 | 682267 | 144512 | 3687174 | 3753894 | 1089920 |
| 21:08 | MA16321-CCB8 | 2436986 | 3280404 | 380839 | 699479 | 147299 | 3811312 | 3886244 | 1115423 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:45 | MA16321-STD1 | 4942952 R | 2757011 R |
| 10:52 | MA16321-STD2 | 5482200 | 2991521 |
| 10:59 | MA16321-STD3 | 4976040 | 2776037 |
| 11:06 | MA16321-STD4 | 4990311 | 2747095 |
| 11:13 | MA16321-STD5 | 5031697 | 2769470 |
| 11:20 | MA16321-STD6 | 4997242 | 2784998 |
| 11:27 | MA16321-STD7 | 4963982 | 2754453 |
| 11:35 | MA16321-STD8 | 4972797 | 2623461 |
| 11:42 | MA16321-ICV1 | 4968707 | 2677828 |
| 11:49 | MA16321-ICB1 | 5024319 | 2810982 |
| 11:58 | MA16321-CCV1 | 5017845 | 2692495 |
| 12:09 | MA16321-CCB1 | 5044715 | 2812956 |
| 12:17 | MA16321-CRI1 | 5014331 | 2836056 |
| 12:26 | MA16321-ICSA1 | 4753297 | 2390792 |
| 12:33 | MA16321-ICSAB1 | 4753898 | 2416343 |
| 12:45 | MA16321-ICSA2 | 4942712 | 2594849 |
| 12:52 | MA16321-ICSAB2 | 4895207 | 2569894 |
| 13:01 | ZZZZZZ | 5172897 | 2928841 |
| 13:08 | MP21908A-MB1 | 5124053 | 2868404 |
| 13:15 | MC25522-6F | 5110872 | 2831445 |
| 13:22 | MP21908A-SD1 | 5133324 | 2985354 |
| 13:31 | MC25522-1F | 5152170 | 2920341 |
| 13:38 | MA16321-CCV2 | 5052165 | 2771873 |
| 13:50 | MA16321-CCB2 | 5099116 | 2889785 |
| 13:58 | MC25522-2F | 5109909 | 2908477 |
| 14:05 | MC25522-3F | 5240197 | 2893590 |
| 14:13 | MC25522-4F | 5195666 | 2904942 |
| 14:20 | MC25522-5F | 4984549 | 2703411 |
| 14:27 | MC25522-7F | 4952195 | 2631621 |
| 14:34 | MC25522-8F | 5240608 | 2900428 |
| 14:41 | MC25522-9F | 4906655 | 2611028 |
| 14:48 | MC25522-10F | 5037342 | 2757519 |
| 14:55 | MC25522-11F | 4996899 | 2794592 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:02 | MC25522-12F | 4962226 | 2757693 |
| 15:09 | MA16321-CCV3 | 4982829 | 2687347 |
| 15:17 | MA16321-CCB3 | 5031228 | 2833268 |
| 15:25 | MC25522-13F | 4991003 | 2703978 |
| 15:32 | MC25522-14F | 5158826 | 2909399 |
| 15:39 | ZZZZZZ | 5112365 | 2882069 |
| 15:46 | ZZZZZZ | 5011846 | 2749141 |
| 15:53 | ZZZZZZ | 5054069 | 2764012 |
| 16:01 | ZZZZZZ | 5155539 | 2945286 |
| 16:08 | ZZZZZZ | 5052522 | 2814640 |
| 16:15 | ZZZZZZ | 5038264 | 2677984 |
| 16:22 | MP21908A-B1 | 5232839 | 2875876 |
| 16:29 | MP21908A-S1 | 5120349 | 2822232 |
| 16:36 | MA16321-CCV4 | 5069557 | 2769146 |
| 16:43 | MA16321-CCB4 | 5122623 | 2890418 |
| 16:56 | MP21908A-S2 | 5128641 | 2831388 |
| 17:03 | ZZZZZZ | 4973796 | 2654849 |
| 17:10 | ZZZZZZ | 5207454 | 2875063 |
| 17:17 | MA16321-CRI2 | 5156548 | 2879634 |
| 17:26 | MA16321-CCV5 | 5110338 | 2751597 |
| 17:34 | MA16321-CCB5 | 5137591 | 2886554 |
| 17:42 | MP21920A-MB1 | 5042557 | 2810853 |
| 17:49 | MC25568-11F | 5097124 | 2770792 |
| 17:57 | MP21920A-SD1 | 5138788 | 2893458 |
| 18:04 | MC25594-1F | 4954569 | 2761642 |
| 18:11 | ZZZZZZ | 4837143 | 2580617 |
| 18:18 | ZZZZZZ | 4978287 | 2703460 |
| 18:25 | ZZZZZZ | 4887589 | 2692928 |
| 18:32 | ZZZZZZ | 4875999 | 2695605 |
| 18:39 | ZZZZZZ | 4827997 | 2637491 |
| 18:46 | ZZZZZZ | 4942656 | 2792201 |
| 18:53 | MA16321-CCV6 | 5139457 | 2758528 |
| 19:00 | MA16321-CCB6 | 4898727 | 2754653 |

INTERNAL STANDARD SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 19:07 | ZZZZZZ | 4850365 | 2694749 |
| 19:15 | ZZZZZZ | 4843089 | 2647634 |
| 19:22 | ZZZZZZ | 4738366 | 2553633 |
| 19:29 | ZZZZZZ | 4852854 | 2655784 |
| 19:36 | ZZZZZZ | 5068779 | 2796741 |
| 19:43 | ZZZZZZ | 4949048 | 2773051 |
| 19:50 | ZZZZZZ | 4826825 | 2681949 |
| 19:57 | MP21920A-B1 | 5138109 | 2857981 |
| 20:04 | MP21920A-S1 | 4836936 | 2697229 |
| 20:11 | MP21920A-S2 | 5054130 | 2779128 |
| 20:18 | MA16321-CCV7 | 4801643 | 2607663 |
| 20:26 | MA16321-CCB7 | 4835631 | 2725816 |
| 20:33 | MP21920A-S3 | 4876906 | 2671246 |
| 20:40 | MP21920A-S4 | 4810356 | 2660361 |
| 20:47 | ZZZZZZ | 4858534 | 2716826 |
| 20:54 | MA16321-CRI3 | 4831859 | 2729062 |
| 21:01 | MA16321-CCV8 | 4819884 | 2609363 |
| 21:08 | MA16321-CCB8 | 4859260 | 2711250 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 11:49 ICB1 | | 12:09 CCB1 | | 13:50 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.025 | <2.0 | 0.016 | <2.0 | 0.055 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 15:17 CCB3 | | 16:43 CCB4 | | 17:34 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | -0.0094 | <2.0 | -0.022 | <2.0 | -0.0052 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 11:42 | | | 11:58 | | | 13:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.5 | 99.2 | 50 | 49.7 | 99.4 | 50 | 49.5 | 99.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 15:09 | | | 16:36 | | | 17:26 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.4 | 98.8 | 50 | 49.0 | 98.0 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:17 | | 17:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.55 | 110.0 | 0.50 | 100.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:26 | | 12:33 | | 12:45 | | 12:52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 98300 | 98.3 | 97100 | 97.1 | | | | |
| Antimony | | | 0.31 | | 0.31 | | | | | |
| Arsenic | | 20 | 0.24 | | 20.1 | 100.5 | | | | |
| Barium | | | 0.27 | | 0.27 | | | | | |
| Beryllium | | | 0.0090 | | 0.0029 | | | | | |
| Boron | | | 0.23 | | 0.20 | | | | | |
| Cadmium | | 20 | 1.1 | | 19.5 | 97.5 | | | | |
| Calcium | 100000 | 100000 | 96200 | 96.2 | 96500 | 96.5 | | | | |
| Chromium | | 20 | 1.1 | | 20.8 | 104.0 | | | | |
| Cobalt | | 20 | 0.048 | | 19.8 | 99.0 | | | | |
| Copper | | 20 | 0.55 | | 18.7 | 93.5 | | | | |
| Iron | 100000 | 100000 | 96500 | 96.5 | 98200 | 98.2 | | | | |
| Lead | | | 0.15 | | 0.15 | | | | | |
| Magnesium | 100000 | 100000 | 97000 | 97.0 | 96700 | 96.7 | | | | |
| Manganese | | 20 | 0.25 | | 19.7 | 98.5 | | | | |
| Molybdenum | 2000 | 2000 | 2010 | 100.5 | 2010 | 100.5 | | | | |
| Nickel | | 20 | 0.70 | | 19.4 | 97.0 | | | | |
| Potassium | 100000 | 100000 | 97800 | 97.8 | 96600 | 96.6 | | | | |
| Selenium | | | 0.40 | | 0.23 | | | | | |
| Silver | | 20 | 0.065 | | 21.0 | 105.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 98900 | 98.9 | 99100 | 99.1 |
| Strontium | | | 5.2* | | 5.2* | | | | | |
| Thallium | | | 0.043 | | 0.026 | | | | | |
| Tin | | | 0.12 | | 0.10 | | | | | |
| Titanium | 2000 | 2000 | 1920 | 96.0 | 1920 | 96.0 | | | | |
| Vanadium | | | -0.11 | | -0.11 | | | | | |
| Zinc | | 20 | 1.8 | | 19.8 | 99.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 4.7 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 5.2 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | 15.7 | <5000 |
| Manganese | 15 | .17 | .81 | 0.10 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | -0.70 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 3.5 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP21908: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 6730 | 33100 | 25000 | 105.5 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 4.9 | 2050 | 2000 | 102.3 | 75-125 |
| Lead | | | | | |
| Magnesium | 1180 | 27900 | 25000 | 106.9 | 75-125 |
| Manganese | 1.8 | 510 | 500 | 101.6 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 1330 | 28000 | 25000 | 106.7 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 6060 | 32400 | 25000 | 105.4 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 6730 | 32500 | 25000 | 103.1 | 1.8 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 4.9 | 2060 | 2000 | 102.8 | 0.5 | 20 |
| Lead | | | | | | |
| Magnesium | 1180 | 27500 | 25000 | 105.3 | 1.4 | 20 |
| Manganese | 1.8 | 503 | 500 | 100.2 | 1.4 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 1330 | 27500 | 25000 | 104.7 | 1.8 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 6060 | 31800 | 25000 | 103.0 | 1.9 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 26300 | 25000 | 105.2 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2110 | 2000 | 105.5 | 80-120 |
| Lead | | | | |
| Magnesium | 26300 | 25000 | 105.2 | 80-120 |
| Manganese | 512 | 500 | 102.4 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 26600 | 25000 | 106.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 26100 | 25000 | 104.4 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 6730 | 7130 | 5.9 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 4.90 | 0.00 | 100.0(a) | 0-10 |
| Lead | | | | |
| Magnesium | 1180 | 1300 | 10.3 (a) | 0-10 |
| Manganese | 1.80 | 1.60 | 11.1 (a) | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 1330 | 1350 | 1.4 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 6060 | 6270 | 3.4 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.54 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP21908A: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.1 | 564 | 500 | 112.6 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21908A: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.1 | 560 | 500 | 111.8 | 0.7 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21908A: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 575 | 500 | 115.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21908A: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.08 | 0.575 | 46.9 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21908A: MC25522-1F, MC25522-2F, MC25522-3F, MC25522-4F, MC25522-5F, MC25522-6F, MC25522-7F, MC25522-8F, MC25522-9F, MC25522-10F, MC25522-11F, MC25522-12F, MC25522-13F, MC25522-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/28/2013 12:57:15 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0006 | .0010 | -.0002 | -.0002 | .0021 | .0082 | -.0002 | .0027 | .0035 |
| Stddev | .0000 | .0004 | .0001 | .0000 | .0001 | .0001 | .0000 | .0002 | .0002 |
| %RSD | 1.168 | 37.71 | 36.39 | 13.68 | 3.973 | 1.090 | 4.476 | 7.906 | 5.672 |
| #1 | -.0006 | .0013 | -.0001 | -.0003 | .0021 | .0083 | -.0002 | .0025 | .0037 |
| #2 | -.0006 | .0007 | -.0002 | -.0002 | .0020 | .0082 | -.0002 | .0028 | .0034 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | .0001 | .0150 | .0004 | .0007 | -.0002 | .0003 | .0009 | .0029 |
| Stddev | .0001 | .0000 | .0003 | .0000 | .0006 | .0000 | .0001 | .0001 | .0001 |
| %RSD | 7.767 | 13.28 | 2.032 | 1.970 | 80.72 | 14.13 | 27.20 | 9.841 | 3.209 |
| #1 | -.0014 | .0001 | .0152 | .0004 | .0003 | -.0002 | .0003 | .0009 | .0030 |
| #2 | -.0016 | .0001 | .0148 | .0004 | .0011 | -.0002 | .0004 | .0010 | .0028 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0005 | -.0016 | -.0007 | -.0001 | .0040 | .0014 | .0013 | .0369 | .0001 |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0001 | .0002 | .0001 | .0001 | .0002 |
| %RSD | 39.07 | 7.119 | 16.04 | 37.46 | 2.641 | 14.48 | 11.62 | .1425 | 121.5 |
| #1 | .0006 | -.0016 | -.0008 | -.0001 | .0040 | .0012 | .0012 | .0369 | .0000 |
| #2 | .0003 | -.0015 | -.0006 | -.0001 | .0039 | .0015 | .0014 | .0369 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0078 | .0001 | -.0040 | .0000 | .0001 | -.0015 | .0314 |
| Stddev | .0004 | .0000 | .0003 | .0001 | .0000 | .0001 | .0002 |
| %RSD | 5.382 | 3.084 | 6.652 | 714.4 | 31.59 | 7.010 | .5957 |
| #1 | .0075 | .0001 | -.0042 | -.0001 | .0001 | -.0014 | .0315 |
| #2 | .0081 | .0001 | -.0038 | .0001 | .0001 | -.0015 | .0312 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/28/2013 12:57:15 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1230.5 | 39634. | 17672. |
| Stddev | 2.0 | 7. | 91. |
| %RSD | .15925 | .01746 | .51360 |
| #1 | 1231.9 | 39639. | 17608. |
| #2 | 1229.1 | 39629. | 17736. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/28/2013 13:02:13 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1892 | .5685 | 2.768 | 19.28 | 14.66 | 10.71 | 8.925 | .4877 | 2.944 | 4.266 |
| Stddev | .0006 | .0021 | .004 | .05 | .10 | .02 | .018 | .0001 | .005 | .002 |
| %RSD | .3287 | .3660 | .1284 | .2427 | .7139 | .2204 | .1976 | .0184 | .1767 | .0530 |
| #1 | .1896 | .5699 | 2.770 | 19.24 | 14.74 | 10.73 | 8.937 | .4876 | 2.948 | 4.264 |
| #2 | .1888 | .5670 | 2.765 | 19.31 | 14.59 | 10.70 | 8.912 | .4878 | 2.941 | 4.268 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.188 | 6.183 | 2.591 | 1.828 | .8595 | 1.168 | 6.618 |
| Stddev | .012 | .008 | .004 | .005 | .0044 | .005 | .012 |
| %RSD | .1475 | .1336 | .1383 | .2823 | .5073 | .4555 | .1849 |
| #1 | 8.196 | 6.189 | 2.594 | 1.831 | .8625 | 1.172 | 6.627 |
| #2 | 8.179 | 6.177 | 2.589 | 1.824 | .8564 | 1.164 | 6.609 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1206.7 | 39229. | 17798. |
| Stddev | 1.8 | 3. | 38. |
| %RSD | .14586 | .00728 | .21619 |
| #1 | 1205.4 | 39227. | 17825. |
| #2 | 1207.9 | 39231. | 17770. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/28/2013 13:07:11 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.438 | 1.723 | 1.420 | .7369 | .1577 | 2.741 |
| Stddev | .001 | .005 | .004 | .0025 | .0009 | .000 |
| %RSD | .0441 | .2962 | .2482 | .3388 | .5574 | .0004 |
| #1 | 1.438 | 1.726 | 1.423 | .7387 | .1583 | 2.741 |
| #2 | 1.438 | 1.719 | 1.418 | .7352 | .1571 | 2.741 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17838. |
| Stddev | 56. |
| %RSD | .31394 |
| #1 | 17799. |
| #2 | 17878. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/28/2013 13:12:06 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3262 | .5548 | .0713 | .6988 | 2.521 | 1.491 | 36.22 | 1.249 | 1.054 | .0656 |
| Stddev | .0004 | .0003 | .0002 | .0005 | .004 | .002 | .33 | .003 | .000 | .0002 |
| %RSD | .1266 | .0587 | .2731 | .0731 | .1692 | .1118 | .9219 | .2054 | .0133 | .2911 |
| #1 | .3265 | .5550 | .0715 | .6991 | 2.518 | 1.490 | 35.99 | 1.247 | 1.054 | .0655 |
| #2 | .3259 | .5546 | .0712 | .6984 | 2.524 | 1.492 | 36.46 | 1.250 | 1.054 | .0658 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.800 |
| Stddev | .005 |
| %RSD | .1746 |
| #1 | 2.797 |
| #2 | 2.804 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1222.5 | 39221. | 17899. |
| Stddev | 2.8 | 21. | 19. |
| %RSD | .23295 | .05237 | .10482 |
| #1 | 1224.5 | 39207. | 17912. |
| #2 | 1220.4 | 39236. | 17886. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/28/2013 13:17:04 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5056 | 15.49 | 2.964 | 2.962 | 2.943 | 2.960 | 2.965 | 17.58 | 2.940 | 2.905 |
| Stddev | .0003 | .06 | .006 | .017 | .007 | .005 | .013 | .08 | .002 | .002 |
| %RSD | .0685 | .3886 | .2020 | .5733 | .2228 | .1635 | .4414 | .4400 | .0619 | .0640 |
| #1 | .5058 | 15.53 | 2.960 | 2.974 | 2.938 | 2.957 | 2.975 | 17.63 | 2.939 | 2.904 |
| #2 | .5053 | 15.44 | 2.969 | 2.950 | 2.947 | 2.964 | 2.956 | 17.53 | 2.941 | 2.906 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.106 | 2.974 | 17.74 | 15.28 | 17.73 | 3.054 | 2.795 | 14.92 | 2.811 | 2.838 |
| Stddev | .006 | .024 | .10 | .07 | .08 | .003 | .007 | .06 | .003 | .003 |
| %RSD | .2106 | .8013 | .5488 | .4288 | .4453 | .0853 | .2521 | .3710 | .1210 | .0950 |
| #1 | 3.111 | 2.991 | 17.81 | 15.33 | 17.78 | 3.052 | 2.790 | 14.96 | 2.808 | 2.836 |
| #2 | 3.102 | 2.957 | 17.67 | 15.24 | 17.67 | 3.056 | 2.800 | 14.89 | 2.813 | 2.839 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.063 | 2.982 | 2.934 | 2.883 | 2.895 | 2.980 | 3.035 | 2.928 | 3.002 | 2.900 |
| Stddev | .012 | .020 | .005 | .001 | .002 | .002 | .002 | .005 | .009 | .003 |
| %RSD | .4062 | .6580 | .1607 | .0432 | .0725 | .0731 | .0780 | .1773 | .2853 | .1013 |
| #1 | 3.072 | 2.996 | 2.931 | 2.884 | 2.893 | 2.979 | 3.033 | 2.925 | 3.008 | 2.897 |
| #2 | 3.054 | 2.969 | 2.938 | 2.882 | 2.896 | 2.982 | 3.036 | 2.932 | 2.996 | 2.902 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.962 | 2.903 | 2.838 | 3.035 |
| Stddev | .005 | .015 | .002 | .010 |
| %RSD | .1751 | .5016 | .0767 | .3174 |
| #1 | 2.966 | 2.913 | 2.840 | 3.042 |
| #2 | 2.959 | 2.892 | 2.837 | 3.028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.4 | 38319. | 17827. |
| Stddev | 1.2 | 91. | 105. |
| %RSD | .10115 | .23691 | .59149 |
| #1 | 1224.3 | 38255. | 17752. |
| #2 | 1222.5 | 38383. | 17901. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 10/28/2013 13:21:55 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0068 | .0009 | .0038 | .0034 | .0001 | .0001 | .0021 | .0001 | .0001 |
| Stddev | .0001 | .0005 | .0001 | .0009 | .0005 | .0001 | .0001 | .0009 | .0001 | .0001 |
| %RSD | 38.20 | 7.873 | 10.02 | 24.44 | 13.73 | 146.4 | 65.65 | 42.28 | 126.6 | 176.8 |
| #1 | .0002 | -.0065 | .0010 | .0044 | .0037 | .0002 | .0001 | .0015 | .0000 | .0000 |
| #2 | .0003 | -.0072 | .0009 | .0031 | .0030 | .0000 | .0000 | .0027 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0003 | .0028 | -.0046 | .0167 | .0001 | .0035 | -.0053 | -.0001 | .0002 |
| Stddev | .0006 | .0002 | .0009 | .0129 | .0362 | .0001 | .0006 | .0038 | .0004 | .0001 |
| %RSD | 64.63 | 57.48 | 31.25 | 277.4 | 216.3 | 71.08 | 17.23 | 71.66 | 385.5 | 30.59 |
| #1 | -.0013 | .0002 | .0034 | .0045 | .0423 | .0001 | .0039 | -.0026 | -.0003 | .0002 |
| #2 | -.0005 | .0004 | .0022 | -.0138 | -.0089 | .0000 | .0030 | -.0079 | .0002 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0119 | -.0008 | .0008 | .0009 | .0006 | -.0004 | .0001 | .0007 | .0020 |
| Stddev | .0014 | .0047 | .0009 | .0009 | .0015 | .0006 | .0003 | .0000 | .0001 | .0001 |
| %RSD | 182.2 | 39.76 | 108.9 | 116.6 | 169.1 | 117.3 | 74.40 | 20.72 | 18.55 | 4.959 |
| #1 | -.0002 | -.0152 | -.0014 | .0014 | -.0002 | .0001 | -.0002 | .0001 | .0006 | .0020 |
| #2 | .0018 | -.0085 | -.0002 | .0001 | .0019 | .0010 | -.0006 | .0001 | .0008 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0210 | .0002 | .0013 |
| Stddev | .0004 | .0017 | .0000 | .0002 |
| %RSD | 135.8 | 7.973 | 5.893 | 13.29 |
| #1 | .0000 | .0222 | .0002 | .0015 |
| #2 | -.0006 | .0199 | .0002 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.1 | 38911. | 17586. |
| Stddev | .3 | 17. | 11. |
| %RSD | .02206 | .04313 | .06337 |
| #1 | 1225.9 | 38900. | 17594. |
| #2 | 1226.3 | 38923. | 17578. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 13:27:46 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2516 | 9.809 | 1.917 | -.0066 | 1.929 | 1.888 | 1.985 | 9.945 | 1.982 | 1.999 |
| Stddev | .0007 | .040 | .001 | .0004 | .001 | .000 | .005 | .027 | .005 | .000 |
| %RSD | .2812 | .4107 | .0264 | 6.722 | .0610 | .0088 | .2703 | .2727 | .2331 | .0121 |
| #1 | .2521 | 9.838 | 1.916 | -.0069 | 1.928 | 1.888 | 1.989 | 9.964 | 1.985 | 1.999 |
| #2 | .2511 | 9.781 | 1.917 | -.0063 | 1.930 | 1.888 | 1.981 | 9.926 | 1.979 | 1.999 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.042 | 1.963 | 9.801 | 9.721 | 9.682 | 2.051 | 1.911 | 9.893 | 1.918 | 1.905 |
| Stddev | .000 | .005 | .025 | .004 | .029 | .000 | .003 | .005 | .001 | .005 |
| %RSD | .0175 | .2566 | .2533 | .0402 | .3040 | .0115 | .1717 | .0552 | .0396 | .2408 |
| #1 | 2.042 | 1.967 | 9.818 | 9.724 | 9.662 | 2.050 | 1.908 | 9.889 | 1.918 | 1.908 |
| #2 | 2.041 | 1.960 | 9.783 | 9.718 | 9.703 | 2.051 | 1.913 | 9.896 | 1.917 | 1.902 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | .0078 | -.0014 | 1.921 | 1.910 | -.0001 | 1.931 | 1.945 | 1.952 | 1.920 |
| Stddev | .0012 | .0065 | .0003 | .002 | .002 | .0001 | .001 | .000 | .002 | .002 |
| %RSD | 43.37 | 84.26 | 23.02 | .0984 | .0888 | 102.2 | .0621 | .0196 | .0831 | .1146 |
| #1 | .0019 | .0031 | -.0012 | 1.920 | 1.909 | .0000 | 1.932 | 1.945 | 1.951 | 1.918 |
| #2 | .0036 | .0124 | -.0016 | 1.923 | 1.911 | -.0001 | 1.930 | 1.945 | 1.953 | 1.921 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.960 | .0115 | 1.916 | .0097 |
| Stddev | .003 | .0019 | .003 | .0020 |
| %RSD | .1542 | 16.88 | .1667 | 20.72 |
| #1 | 1.962 | .0128 | 1.918 | .0112 |
| #2 | 1.958 | .0101 | 1.914 | .0083 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1243.3 | 38400. | 17869. |
| Stddev | 1.9 | 14. | 5. |
| %RSD | .15343 | .03773 | .02556 |
| #1 | 1244.6 | 38390. | 17866. |
| #2 | 1241.9 | 38410. | 17872. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 13:32:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0060 | .0007 | -.0014 | .0026 | .0000 | .0001 | .0000 | .0001 |
| Stddev | .0000 | .0001 | .0017 | .0008 | .0006 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 1.708 | 1.884 | 231.7 | 60.20 | 24.16 | 1058. | 78.51 | 470.6 | 120.5 |
| #1 | .0006 | -.0059 | .0019 | -.0008 | .0030 | .0000 | .0001 | -.0001 | .0000 |
| #2 | .0006 | -.0060 | -.0005 | -.0020 | .0021 | .0000 | .0000 | .0002 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0002 | .0001 | .0008 | .0015 | .0220 | .0000 | .0025 | -.0017 |
| Stddev | .0001 | .0001 | .0009 | .0011 | .0000 | .0139 | .0001 | .0006 | .0044 |
| %RSD | 77.90 | 23.88 | 622.9 | 132.7 | 1.393 | 63.32 | 321.1 | 23.91 | 264.5 |
| #1 | .0001 | -.0003 | .0008 | .0001 | .0015 | .0121 | .0000 | .0030 | .0014 |
| #2 | .0002 | -.0002 | -.0005 | .0016 | .0015 | .0318 | .0001 | .0021 | -.0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0009 | -.0001 | -.0057 | -.0006 | .0002 | -.0003 | .0015 | .0004 |
| Stddev | .0001 | .0010 | .0002 | .0097 | .0021 | .0003 | .0017 | .0002 | .0006 |
| %RSD | 25.47 | 105.9 | 334.7 | 169.7 | 386.5 | 150.8 | 524.0 | 15.92 | 172.3 |
| #1 | -.0003 | .0016 | -.0002 | -.0126 | .0010 | .0004 | .0009 | .0016 | .0008 |
| #2 | -.0002 | .0002 | .0001 | .0011 | -.0021 | .0000 | -.0016 | .0013 | -.0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | F.0036 | -.0007 | .0144 | .0001 | -.0002 |
| Stddev | .0000 | .0008 | .0003 | .0002 | .0015 | .0001 | .0002 |
| %RSD | 8.819 | 232.4 | 7.934 | 24.63 | 10.67 | 81.47 | 108.1 |
| #1 | .0001 | -.0002 | .0038 | -.0006 | .0155 | .0000 | -.0004 |
| #2 | .0001 | .0009 | .0034 | -.0009 | .0133 | .0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 38948. | 17699. |
| Stddev | 1.5 | 108. | 1. |
| %RSD | .12442 | .27787 | .00586 |
| #1 | 1221.1 | 39025. | 17698. |
| #2 | 1223.3 | 38872. | 17700. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/28/2013 13:37:25 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | .2034 | .0115 | -.0012 | .1010 | .0499 | .0042 | 5.046 | .0042 | .0521 |
| Stddev | .0005 | .0013 | .0004 | .0010 | .0006 | .0001 | .0001 | .036 | .0000 | .0002 |
| %RSD | 8.330 | .6249 | 3.757 | 81.38 | .6283 | .1932 | 1.397 | .7052 | .5395 | .4072 |
| #1 | .0060 | .2043 | .0118 | -.0005 | .1015 | .0499 | .0042 | 5.021 | .0042 | .0522 |
| #2 | .0054 | .2025 | .0112 | -.0019 | .1006 | .0500 | .0043 | 5.072 | .0043 | .0519 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0096 | .0255 | .1031 | 4.964 | 4.889 | .0161 | .1006 | 5.010 | .0401 | .0104 |
| Stddev | .0001 | .0002 | .0005 | .026 | .009 | .0001 | .0000 | .024 | .0001 | .0006 |
| %RSD | 1.550 | .8795 | .5011 | .5344 | .1924 | .5325 | .0149 | .4748 | .3539 | 6.189 |
| #1 | .0097 | .0253 | .1035 | 4.946 | 4.882 | .0162 | .1006 | 4.993 | .0402 | .0099 |
| #2 | .0095 | .0256 | .1028 | 4.983 | 4.896 | .0160 | .1006 | 5.027 | .0400 | .0109 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0049 | -.0002 | .0103 | .0108 | .0050 | .0977 | .0102 | .0516 | .0116 |
| Stddev | .0024 | .0055 | .0001 | .0010 | .0006 | .0001 | .0004 | .0000 | .0002 | .0008 |
| %RSD | 4644. | 112.7 | 75.52 | 10.10 | 5.998 | 1.809 | .3676 | .1722 | .3292 | 6.910 |
| #1 | .0016 | -.0010 | -.0002 | .0095 | .0113 | .0049 | .0980 | .0102 | .0517 | .0122 |
| #2 | -.0017 | -.0088 | -.0001 | .0110 | .0103 | .0050 | .0975 | .0101 | .0515 | .0110 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0097 | .0075 | .0212 | .0006 |
| Stddev | .0001 | .0006 | .0006 | .0002 |
| %RSD | 1.291 | 8.271 | 2.887 | 31.85 |
| #1 | .0098 | .0080 | .0208 | .0007 |
| #2 | .0096 | .0071 | .0217 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1239.2 | 38573. | 17764. |
| Stddev | 5.7 | 96. | 162. |
| %RSD | .45627 | .24945 | .90915 |
| #1 | 1235.2 | 38505. | 17879. |
| #2 | 1243.2 | 38641. | 17650. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/28/2013 13:42:19 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | 522.9 | .0001 | .0237 | .0009 | -.0001 | .0001 | 458.9 | -.0001 | .0013 |
| Stddev | .0001 | 2.4 | .0029 | .0010 | .0000 | .0001 | .0000 | 3.0 | .0004 | .0000 |
| %RSD | 10.57 | .4559 | 3057. | 4.306 | .5600 | 43.58 | 19.31 | .6461 | 251.5 | 3.717 |
| #1 | .0008 | 521.2 | .0021 | .0244 | .0009 | -.0001 | .0001 | 456.8 | .0001 | .0013 |
| #2 | .0009 | 524.6 | -.0020 | .0230 | .0009 | -.0002 | .0001 | 461.0 | -.0004 | .0013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0003 | 179.7 | .0471 | 515.4 | .0004 | -.0001 | .0293 | -.0019 | -.0001 |
| Stddev | .0000 | .0002 | .4 | .0062 | 1.7 | .0000 | .0003 | .0075 | .0001 | .0035 |
| %RSD | 16.70 | 58.70 | .2169 | 13.26 | .3254 | 1.106 | 282.4 | 25.56 | 5.016 | 3750. |
| #1 | .0003 | .0004 | 179.5 | .0515 | 514.2 | .0004 | .0001 | .0240 | -.0019 | .0024 |
| #2 | .0002 | .0002 | 180.0 | .0427 | 516.6 | .0004 | -.0003 | .0346 | -.0020 | -.0026 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0070 | -.0328 | .0896 | .0008 | -.0007 | .0376 | .0008 | -.0083 | .0058 | -.0018 |
| Stddev | .0001 | .0023 | .0000 | .0026 | .0013 | .0016 | .0005 | .0001 | .0003 | .0001 |
| %RSD | 1.151 | 6.923 | .0084 | 331.8 | 190.6 | 4.385 | 59.38 | 1.122 | 4.617 | 7.495 |
| #1 | -.0070 | -.0312 | .0896 | -.0010 | -.0016 | .0388 | .0011 | -.0082 | .0060 | -.0017 |
| #2 | -.0071 | -.0344 | .0896 | .0026 | .0002 | .0364 | .0005 | -.0084 | .0056 | -.0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0104 | -.0064 | -.0008 | .0091 |
| Stddev | .0007 | .0017 | .0002 | .0000 |
| %RSD | 6.406 | 25.89 | 27.14 | .3496 |
| #1 | .0099 | -.0076 | -.0006 | .0091 |
| #2 | .0108 | -.0053 | -.0009 | .0090 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1148.4 | 35300. | 17440. |
| Stddev | .2 | 31. | 110. |
| %RSD | .01768 | .08801 | .63103 |
| #1 | 1148.5 | 35278. | 17518. |
| #2 | 1148.3 | 35322. | 17362. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/28/2013 13:47:19 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.082 | 526.7 | 2.024 | .5322 | .9420 | .4794 | .4604 | 454.5 | 1.016 | .4571 |
| Stddev | .004 | 6.8 | .012 | .0054 | .0002 | .0015 | .0015 | 1.3 | .002 | .0021 |
| %RSD | .4039 | 1.291 | .5711 | 1.021 | .0264 | .3206 | .3339 | .2793 | .2166 | .4598 |
| #1 | 1.079 | 531.5 | 2.016 | .5284 | .9418 | .4805 | .4615 | 455.4 | 1.014 | .4556 |
| #2 | 1.085 | 521.9 | 2.032 | .5361 | .9422 | .4783 | .4593 | 453.6 | 1.017 | .4586 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5281 | .5459 | 178.6 | .0486 | 511.5 | .5188 | .9161 | .0249 | .8335 | .8618 |
| Stddev | .0043 | .0019 | .3 | .0103 | 1.8 | .0007 | .0026 | .0030 | .0016 | .0006 |
| %RSD | .8112 | .3434 | .1562 | 21.26 | .3462 | .1354 | .2805 | 12.12 | .1917 | .0740 |
| #1 | .5250 | .5445 | 178.8 | .0559 | 512.7 | .5183 | .9143 | .0270 | .8324 | .8614 |
| #2 | .5311 | .5472 | 178.4 | .0413 | 510.2 | .5193 | .9179 | .0228 | .8346 | .8623 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5640 | .4908 | .5575 | 1.938 | 1.905 | 2.031 | .9271 | .9426 | .5386 | 1.735 |
| Stddev | .0029 | .0068 | .0018 | .008 | .009 | .009 | .0049 | .0027 | .0031 | .003 |
| %RSD | .5228 | 1.377 | .3152 | .3959 | .4896 | .4175 | .5235 | .2815 | .5714 | .1679 |
| #1 | .5661 | .4860 | .5563 | 1.933 | 1.898 | 2.025 | .9236 | .9445 | .5364 | 1.733 |
| #2 | .5619 | .4955 | .5587 | 1.944 | 1.912 | 2.037 | .9305 | .9407 | .5408 | 1.737 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5345 | 1.956 | .8685 | .4307 |
| Stddev | .0008 | .013 | .0024 | .0050 |
| %RSD | .1533 | .6612 | .2757 | 1.160 |
| #1 | .5339 | 1.947 | .8668 | .4272 |
| #2 | .5351 | 1.965 | .8702 | .4342 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1158.8 | 35327. | 17501. |
| Stddev | 2.2 | 136. | 46. |
| %RSD | .18743 | .38418 | .26111 |
| #1 | 1160.4 | 35423. | 17469. |
| #2 | 1157.3 | 35231. | 17533. |

Zoom In Zoom Out

Sample Name: MP21905-B1 Acquired: 10/28/2013 13:52:11 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2086 | 2.216 | .5430 | -.0010 | .0030 | 2.050 | .5266 | 25.55 | .5440 | .5271 |
| Stddev | .0004 | .013 | .0009 | .0001 | .0001 | .001 | .0026 | .15 | .0001 | .0009 |
| %RSD | .1796 | .5864 | .1612 | 7.224 | 3.364 | .0530 | .5010 | .5889 | .0188 | .1744 |
| #1 | .2083 | 2.225 | .5437 | -.0010 | .0030 | 2.050 | .5285 | 25.65 | .5441 | .5277 |
| #2 | .2089 | 2.207 | .5424 | -.0011 | .0029 | 2.049 | .5248 | 25.44 | .5439 | .5264 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5592 | .5163 | 2.149 | 26.06 | 26.05 | .5331 | .0015 | 26.21 | .5015 | 1.007 |
| Stddev | .0030 | .0011 | .011 | .02 | .21 | .0004 | .0004 | .05 | .0018 | .005 |
| %RSD | .5279 | .2150 | .5293 | .0717 | .8203 | .0787 | 24.05 | .1878 | .3511 | .5177 |
| #1 | .5613 | .5171 | 2.157 | 26.07 | 26.20 | .5333 | .0017 | 26.24 | .5027 | 1.011 |
| #2 | .5572 | .5156 | 2.141 | 26.04 | 25.90 | .5328 | .0012 | 26.18 | .5002 | 1.004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0021 | .0022 | .5167 | .5127 | .0197 | .0084 | .5146 | .5291 | .5169 |
| Stddev | .0011 | .0033 | .0005 | .0009 | .0009 | .0002 | .0002 | .0010 | .0019 | .0024 |
| %RSD | 112.5 | 156.7 | 23.43 | .1657 | .1774 | 1.179 | 2.491 | .1885 | .3503 | .4574 |
| #1 | -.0002 | -.0002 | .0025 | .5173 | .5134 | .0199 | .0086 | .5153 | .5305 | .5185 |
| #2 | -.0018 | .0045 | .0018 | .5161 | .5121 | .0196 | .0083 | .5139 | .5278 | .5152 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5419 | .0220 | .5314 | .0291 |
| Stddev | .0025 | .0092 | .0002 | .0024 |
| %RSD | .4662 | 41.61 | .0438 | 8.164 |
| #1 | .5437 | .0285 | .5316 | .0308 |
| #2 | .5402 | .0156 | .5313 | .0274 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.6 | 38528. | 17668. |
| Stddev | 5.0 | 153. | 92. |
| %RSD | .41441 | .39646 | .52292 |
| #1 | 1213.0 | 38420. | 17602. |
| #2 | 1220.1 | 38636. | 17733. |



Zoom In Zoom Out

Sample Name: MP21905-MB1 Acquired: 10/28/2013 13:56:57 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0305 | .0026 | -.0008 | .0004 | .0006 | .0001 | .0184 | .0002 | .0003 |
| Stddev | .0004 | .0034 | .0004 | .0005 | .0000 | .0001 | .0000 | .0040 | .0001 | .0000 |
| %RSD | 134.2 | 11.30 | 16.78 | 64.59 | 9.801 | 15.65 | 43.53 | 21.96 | 71.23 | 2.532 |
| #1 | .0005 | .0280 | .0029 | -.0012 | .0005 | .0005 | .0001 | .0156 | .0001 | .0003 |
| #2 | .0000 | .0329 | .0023 | -.0004 | .0004 | .0006 | .0001 | .0213 | .0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0571 | .0108 | .0269 | .0006 | .0003 | .0080 | -.0001 | .0004 |
| Stddev | .0005 | .0004 | .0002 | .0096 | .0039 | .0001 | .0001 | .0002 | .0001 | .0006 |
| %RSD | 129.3 | 149.7 | .4340 | 89.41 | 14.48 | 9.833 | 25.14 | 3.064 | 213.2 | 160.3 |
| #1 | -.0008 | .0000 | .0569 | .0040 | .0242 | .0006 | .0003 | .0082 | -.0002 | .0008 |
| #2 | .0000 | .0006 | .0573 | .0176 | .0297 | .0005 | .0004 | .0079 | .0000 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0028 | .0016 | .0010 | -.0006 | .0074 | .0098 | .0001 | .0009 | .0031 |
| Stddev | .0006 | .0020 | .0008 | .0002 | .0016 | .0008 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 105.1 | 72.60 | 49.87 | 18.73 | 260.3 | 10.32 | 4.516 | .7741 | 8.146 | 15.04 |
| #1 | .0010 | -.0014 | .0022 | .0008 | -.0017 | .0068 | .0095 | .0001 | .0008 | .0034 |
| #2 | .0001 | -.0042 | .0010 | .0011 | .0005 | .0079 | .0101 | .0001 | .0009 | .0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0075 | .0016 | .0005 |
| Stddev | .0008 | .0043 | .0001 | .0006 |
| %RSD | 141.9 | 57.73 | 4.648 | 128.8 |
| #1 | .0000 | .0105 | .0016 | .0010 |
| #2 | -.0011 | .0044 | .0017 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1238.9 | 39090. | 17742. |
| Stddev | .1 | 166. | 40. |
| %RSD | .00750 | .42520 | .22682 |
| #1 | 1238.9 | 38973. | 17770. |
| #2 | 1238.8 | 39208. | 17713. |



Zoom In Zoom Out

Sample Name: MP21905-S1 Acquired: 10/28/2013 14:01:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2022 | 89.41 | .5514 | .0239 | .0085 | 2.243 | .4994 | 25.45 | .5105 |
| Stddev | .0002 | .14 | .0001 | .0018 | .0003 | .002 | .0002 | .03 | .0010 |
| %RSD | .1066 | .1547 | .0222 | 7.495 | 3.997 | .0967 | .0431 | .1206 | .2016 |
| #1 | .2021 | 89.31 | .5514 | .0226 | .0088 | 2.242 | .4992 | 25.47 | .5098 |
| #2 | .2024 | 89.51 | .5513 | .0251 | .0083 | 2.245 | .4995 | 25.43 | .5113 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5309 | .6421 | .5746 | F229.9 | 27.90 | 33.10 | 1.340 | .0032 | 25.12 |
| Stddev | .0000 | .0003 | .0008 | .2 | .03 | .05 | .000 | .0001 | .04 |
| %RSD | .0034 | .0431 | .1443 | .0771 | .0967 | .1464 | .0233 | 2.044 | .1464 |
| #1 | .5309 | .6423 | .5752 | 230.0 | 27.88 | 33.06 | 1.341 | .0032 | 25.09 |
| #2 | .5310 | .6419 | .5740 | 229.8 | 27.92 | 33.13 | 1.340 | .0033 | 25.14 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5660 | 1.053 | .0267 | .0006 | 1.196 | .1688 | .4640 | 4.393 | .0076 |
| Stddev | .0006 | .001 | .0016 | .0059 | .001 | .0002 | .0000 | .002 | .0004 |
| %RSD | .0977 | .0751 | 5.835 | 985.4 | .0486 | .1402 | .0062 | .0404 | 4.997 |
| #1 | .5656 | 1.053 | .0278 | .0048 | 1.196 | .1687 | .4640 | 4.394 | .0079 |
| #2 | .5664 | 1.052 | .0256 | -.0036 | 1.195 | .1690 | .4640 | 4.391 | .0074 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5314 | .9046 | .4697 | .6995 | .0217 | .8456 | .0268 |
| Stddev | .0006 | .0013 | .0014 | .0002 | .0003 | .0018 | .0001 |
| %RSD | .1078 | .1432 | .3018 | .0343 | 1.457 | .2152 | .5142 |
| #1 | .5310 | .9055 | .4687 | .6997 | .0220 | .8444 | .0269 |
| #2 | .5318 | .9037 | .4707 | .6993 | .0215 | .8469 | .0267 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.6 | 39165. | 18315. |
| Stddev | .9 | 75. | 39. |
| %RSD | .07072 | .19123 | .21204 |
| #1 | 1248.9 | 39112. | 18287. |
| #2 | 1250.2 | 39218. | 18342. |



Zoom In Zoom Out

Sample Name: MP21905-S2 Acquired: 10/28/2013 14:06:43 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2044 | 88.88 | .5188 | .0136 | .0095 | 2.220 | .4988 | 25.70 | .5096 | .5217 |
| Stddev | .0007 | .05 | .0007 | .0003 | .0006 | .004 | .0002 | .04 | .0018 | .0010 |
| %RSD | .3634 | .0588 | .1303 | 1.857 | 6.680 | .1755 | .0469 | .1453 | .3507 | .1988 |
| #1 | .2039 | 88.84 | .5193 | .0134 | .0100 | 2.218 | .4989 | 25.73 | .5109 | .5225 |
| #2 | .2049 | 88.91 | .5183 | .0137 | .0091 | 2.223 | .4986 | 25.67 | .5084 | .5210 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .6285 | .5710 | 140.0 | 27.80 | 33.57 | 1.227 | .0032 | 25.17 | .5533 | 1.036 |
| Stddev | .0031 | .0003 | .1 | .07 | .04 | .001 | .0002 | .02 | .0006 | .004 |
| %RSD | .4892 | .0597 | .0485 | .2396 | .1217 | .1129 | 6.526 | .0846 | .1155 | .3686 |
| #1 | .6263 | .5707 | 140.1 | 27.75 | 33.54 | 1.226 | .0034 | 25.15 | .5528 | 1.039 |
| #2 | .6306 | .5712 | 140.0 | 27.84 | 33.60 | 1.228 | .0031 | 25.18 | .5537 | 1.033 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0143 | -.0007 | .9661 | .1653 | .4650 | 4.506 | .0060 | .5295 | .8812 | .4720 |
| Stddev | .0015 | .0002 | .0032 | .0005 | .0007 | .004 | .0006 | .0001 | .0032 | .0003 |
| %RSD | 10.29 | 27.43 | .3267 | .2733 | .1500 | .0818 | 10.67 | .0221 | .3617 | .0545 |
| #1 | .0154 | -.0006 | .9684 | .1656 | .4655 | 4.508 | .0064 | .5295 | .8790 | .4718 |
| #2 | .0133 | -.0009 | .9639 | .1650 | .4645 | 4.503 | .0055 | .5294 | .8835 | .4722 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6700 | .0097 | .7774 | .0194 |
| Stddev | .0009 | .0075 | .0026 | .0006 |
| %RSD | .1347 | 76.58 | .3385 | 3.251 |
| #1 | .6707 | .0150 | .7755 | .0190 |
| #2 | .6694 | .0045 | .7792 | .0199 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.5 | 38912. | 18254. |
| Stddev | 8.5 | 36. | 29. |
| %RSD | .67235 | .09361 | .15685 |
| #1 | 1264.4 | 38938. | 18234. |
| #2 | 1276.5 | 38887. | 18275. |

Zoom In Zoom Out

Sample Name: MC25455-16 Acquired: 10/28/2013 14:11:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | 68.44 | .0657 | .0122 | .0035 | .2908 | .0036 | 8.171 | .0007 | .0423 |
| Stddev | .0002 | .17 | .0007 | .0021 | .0001 | .0011 | .0000 | .004 | .0000 | .0001 |
| %RSD | 4.401 | .2556 | .9959 | 17.20 | 3.607 | .3660 | .0149 | .0488 | 3.763 | .1294 |
| #1 | .0047 | 68.57 | .0652 | .0137 | .0034 | .2915 | .0036 | 8.173 | .0007 | .0423 |
| #2 | .0044 | 68.32 | .0662 | .0108 | .0036 | .2900 | .0036 | 8.168 | .0008 | .0423 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1079 | .0941 | 135.3 | 10.01 | 21.01 | 1.869 | .0019 | .3740 | .0841 | .3961 |
| Stddev | .0005 | .0002 | .2 | .00 | .02 | .008 | .0002 | .0022 | .0002 | .0005 |
| %RSD | .4295 | .1827 | .1584 | .0488 | .0791 | .4186 | 10.47 | .5986 | .1812 | .1346 |
| #1 | .1082 | .0943 | 135.5 | 10.00 | 21.02 | 1.874 | .0021 | .3755 | .0840 | .3965 |
| #2 | .1076 | .0940 | 135.2 | 10.01 | 20.99 | 1.863 | .0018 | .3724 | .0842 | .3958 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0167 | .0115 | 1.133 | .0007 | .0016 | 4.292 | .0038 | .0403 | 4.125 | .0045 |
| Stddev | .0002 | .0086 | .005 | .0002 | .0014 | .000 | .0002 | .0000 | .006 | .0001 |
| %RSD | 1.075 | 74.55 | .4511 | 35.41 | 83.69 | .0048 | 6.171 | .0180 | .1575 | 2.048 |
| #1 | .0166 | .0175 | 1.137 | .0005 | .0007 | 4.292 | .0039 | .0403 | 4.130 | .0045 |
| #2 | .0168 | .0054 | 1.129 | .0008 | .0026 | 4.292 | .0036 | .0403 | 4.120 | .0044 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1708 | .0146 | .3137 | -.0109 |
| Stddev | .0003 | .0061 | .0011 | .0009 |
| %RSD | .1654 | 42.09 | .3564 | 8.542 |
| #1 | .1710 | .0189 | .3144 | -.0103 |
| #2 | .1706 | .0103 | .3129 | -.0116 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1296.5 | 39905. | 18916. |
| Stddev | .4 | 71. | 7. |
| %RSD | .02873 | .17715 | .03761 |
| #1 | 1296.8 | 39855. | 18911. |
| #2 | 1296.3 | 39955. | 18921. |



Zoom In Zoom Out

Sample Name: MP21905-SD1 Acquired: 10/28/2013 14:16:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0056 | 72.09 | .0743 | .0069 | .0040 | .3082 | .0038 | 8.912 | .0008 | .0446 |
| Stddev | .0001 | .02 | .0014 | .0012 | .0001 | .0011 | .0000 | .030 | .0004 | .0008 |
| %RSD | 1.261 | .0308 | 1.895 | 17.80 | 3.390 | .3593 | .0130 | .3368 | 56.16 | 1.896 |
| #1 | .0055 | 72.08 | .0733 | .0061 | .0041 | .3075 | .0038 | 8.933 | .0005 | .0440 |
| #2 | .0056 | 72.11 | .0753 | .0078 | .0039 | .3090 | .0038 | 8.890 | .0011 | .0452 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1090 | .0951 | 146.5 | 10.51 | 22.03 | 1.973 | .0012 | .4168 | .0894 | .4281 |
| Stddev | .0020 | .0028 | .1 | .02 | .13 | .009 | .0000 | .0163 | .0003 | .0025 |
| %RSD | 1.807 | 2.897 | .0513 | .1990 | .5836 | .4561 | 1.622 | 3.920 | .3824 | .5824 |
| #1 | .1077 | .0932 | 146.4 | 10.50 | 21.94 | 1.967 | .0012 | .4284 | .0891 | .4299 |
| #2 | .1104 | .0971 | 146.5 | 10.53 | 22.12 | 1.980 | .0012 | .4053 | .0896 | .4264 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0153 | -.0446 | 1.209 | .0002 | -.0024 | 4.773 | .0063 | .0425 | 4.333 | .0105 |
| Stddev | .0033 | .0014 | .018 | .0051 | .0036 | .005 | .0005 | .0000 | .021 | .0012 |
| %RSD | 21.77 | 3.199 | 1.501 | 2718. | 153.4 | .1009 | 8.526 | .1090 | .4925 | 10.94 |
| #1 | .0129 | -.0436 | 1.222 | -.0034 | -.0049 | 4.776 | .0067 | .0426 | 4.318 | .0113 |
| #2 | .0177 | -.0456 | 1.196 | .0038 | .0002 | 4.769 | .0059 | .0425 | 4.348 | .0097 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1781 | .0331 | .3445 | -.0167 |
| Stddev | .0013 | .0083 | .0011 | .0021 |
| %RSD | .7283 | 25.05 | .3333 | 12.31 |
| #1 | .1790 | .0272 | .3453 | -.0182 |
| #2 | .1772 | .0390 | .3437 | -.0153 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.2 | 38981. | 18116. |
| Stddev | 2.2 | 151. | 33. |
| %RSD | .17461 | .38701 | .18407 |
| #1 | 1260.6 | 39088. | 18093. |
| #2 | 1263.7 | 38874. | 18140. |



Zoom In Zoom Out

Sample Name: MP21905-LC1 Acquired: 10/28/2013 14:21:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3712 | 67.18 | .9633 | .0057 | .9040 | 1.684 | .5690 | 63.44 | .6536 | 1.032 |
| Stddev | .0019 | 1.86 | .0053 | .0005 | .0000 | .045 | .0141 | 1.55 | .0005 | .002 |
| %RSD | .4991 | 2.761 | .5454 | 8.342 | .0012 | 2.696 | 2.480 | 2.441 | .0835 | .1425 |
| #1 | .3699 | 65.87 | .9670 | .0054 | .9040 | 1.652 | .5590 | 62.34 | .6540 | 1.033 |
| #2 | .3725 | 68.49 | .9596 | .0060 | .9041 | 1.716 | .5790 | 64.53 | .6532 | 1.031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7568 | .8091 | 117.2 | 36.99 | 29.56 | 3.021 | .3874 | 6.845 | .5612 | .9252 |
| Stddev | .0032 | .0054 | 2.9 | .89 | .85 | .012 | .0007 | .160 | .0007 | .0026 |
| %RSD | .4219 | .6656 | 2.486 | 2.402 | 2.887 | .3819 | .1844 | 2.343 | .1282 | .2841 |
| #1 | .7591 | .8053 | 115.1 | 36.36 | 28.96 | 3.013 | .3879 | 6.732 | .5617 | .9271 |
| #2 | .7545 | .8129 | 119.2 | 37.62 | 30.17 | 3.029 | .3869 | 6.959 | .5607 | .9233 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0122 | .0009 | 2.509 | .7142 | 1.664 | 5.129 | 1.046 | .6897 | 1.630 | 1.212 |
| Stddev | .0013 | .0019 | .010 | .0011 | .005 | .007 | .003 | .0181 | .005 | .007 |
| %RSD | 10.52 | 217.5 | .3979 | .1576 | .3039 | .1327 | .2386 | 2.628 | .2850 | .5579 |
| #1 | .0131 | .0022 | 2.516 | .7150 | 1.668 | 5.134 | 1.048 | .6768 | 1.626 | 1.217 |
| #2 | .0113 | -.0005 | 2.502 | .7134 | 1.661 | 5.125 | 1.044 | .7025 | 1.633 | 1.207 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5585 | .0068 | 1.328 | .0334 |
| Stddev | .0021 | .0032 | .003 | .0005 |
| %RSD | .3811 | 46.25 | .2136 | 1.580 |
| #1 | .5570 | .0046 | 1.330 | .0338 |
| #2 | .5600 | .0090 | 1.326 | .0331 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1338.1 | 41855. | 19110. |
| Stddev | .9 | 156. | 409. |
| %RSD | .06600 | .37204 | 2.1403 |
| #1 | 1337.5 | 41965. | 19399. |
| #2 | 1338.7 | 41745. | 18821. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 14:25:48 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2514 | 9.850 | 1.921 | -.0078 | 1.924 | 1.918 | 1.982 | 9.933 | 1.977 | 2.004 |
| Stddev | .0007 | .001 | .003 | .0002 | .003 | .001 | .001 | .020 | .001 | .002 |
| %RSD | .2588 | .0076 | .1439 | 2.827 | .1604 | .0388 | .0290 | .1990 | .0586 | .0776 |
| #1 | .2510 | 9.850 | 1.923 | -.0077 | 1.926 | 1.918 | 1.982 | 9.919 | 1.978 | 2.005 |
| #2 | .2519 | 9.851 | 1.919 | -.0080 | 1.922 | 1.919 | 1.982 | 9.947 | 1.976 | 2.003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.027 | 1.971 | 9.936 | 9.785 | 9.752 | 2.028 | 1.919 | 9.866 | 1.914 | 1.910 |
| Stddev | .008 | .002 | .012 | .014 | .102 | .005 | .001 | .021 | .003 | .005 |
| %RSD | .3911 | .1140 | .1202 | .1380 | 1.048 | .2504 | .0386 | .2078 | .1529 | .2689 |
| #1 | 2.021 | 1.969 | 9.928 | 9.795 | 9.680 | 2.024 | 1.919 | 9.880 | 1.917 | 1.913 |
| #2 | 2.033 | 1.972 | 9.945 | 9.776 | 9.825 | 2.031 | 1.918 | 9.851 | 1.912 | 1.906 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0079 | -.0033 | 1.927 | 1.918 | .0040 | 1.928 | 1.954 | 1.970 | 1.924 |
| Stddev | .0002 | .0035 | .0002 | .001 | .003 | .0003 | .002 | .004 | .003 | .002 |
| %RSD | 12.13 | 44.57 | 5.159 | .0260 | .1667 | 8.023 | .0936 | .2302 | .1702 | .0927 |
| #1 | .0016 | .0104 | -.0035 | 1.927 | 1.920 | .0038 | 1.927 | 1.957 | 1.967 | 1.925 |
| #2 | .0019 | .0054 | -.0032 | 1.928 | 1.916 | .0043 | 1.929 | 1.951 | 1.972 | 1.923 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.969 | .0077 | 1.917 | .0003 |
| Stddev | .004 | .0031 | .003 | .0002 |
| %RSD | .1883 | 40.31 | .1352 | 59.32 |
| #1 | 1.966 | .0099 | 1.919 | .0005 |
| #2 | 1.971 | .0055 | 1.915 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1239.3 | 38663. | 17974. |
| Stddev | .6 | 8. | 6. |
| %RSD | .04492 | .02166 | .03316 |
| #1 | 1239.6 | 38657. | 17978. |
| #2 | 1238.9 | 38669. | 17969. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 14:30:32 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0012 | -.0004 | .0002 | .0022 | .0001 | .0001 | -.0004 | .0002 |
| Stddev | .0005 | .0006 | .0019 | .0000 | .0002 | .0001 | .0000 | .0004 | .0002 |
| %RSD | 149.0 | 50.66 | 448.8 | 9.606 | 11.07 | 212.6 | 5.076 | 101.2 | 117.8 |
| #1 | .0007 | -.0017 | .0009 | .0002 | .0020 | .0000 | .0001 | -.0001 | .0000 |
| #2 | .0000 | -.0008 | -.0018 | .0002 | .0023 | .0001 | .0001 | -.0007 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0013 | .0001 | .0019 | -.0019 | .0359 | .0001 | .0023 | -.0017 |
| Stddev | .0002 | .0007 | .0004 | .0003 | .0153 | .0068 | .0000 | .0004 | .0016 |
| %RSD | 49.48 | 56.17 | 347.9 | 13.99 | 819.9 | 19.08 | 37.79 | 17.20 | 94.00 |
| #1 | .0002 | -.0018 | .0004 | .0017 | -.0127 | .0407 | .0001 | .0026 | -.0006 |
| #2 | .0005 | -.0008 | -.0002 | .0021 | .0090 | .0311 | .0001 | .0020 | -.0029 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0011 | -.0004 | -.0072 | -.0001 | .0003 | .0004 | .0025 | .0010 |
| Stddev | .0001 | .0007 | .0000 | .0044 | .0022 | .0003 | .0000 | .0006 | .0004 |
| %RSD | 19.24 | 61.17 | 9.872 | 60.76 | 1658. | 88.63 | 1.614 | 23.01 | 42.48 |
| #1 | -.0004 | .0015 | -.0004 | -.0103 | -.0017 | .0001 | .0004 | .0029 | .0013 |
| #2 | -.0005 | .0006 | -.0004 | -.0041 | .0014 | .0005 | .0004 | .0021 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | F.0038 | .0001 | .0033 | .0001 | -.0010 |
| Stddev | .0000 | .0000 | .0003 | .0000 | .0018 | .0003 | .0004 |
| %RSD | 3.966 | 9.156 | 8.682 | 57.74 | 54.54 | 259.5 | 41.53 |
| #1 | .0001 | .0005 | .0040 | .0001 | .0020 | -.0001 | -.0007 |
| #2 | .0001 | .0005 | .0036 | .0000 | .0045 | .0003 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1228.3 | 39229. | 17695. |
| Stddev | 4.2 | 19. | 50. |
| %RSD | .33835 | .04818 | .28475 |
| #1 | 1225.3 | 39216. | 17731. |
| #2 | 1231.2 | 39242. | 17659. |



Zoom In Zoom Out

Sample Name: MC25455-1 Acquired: 10/28/2013 14:35:29 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | 260.3 | .0952 | .0199 | .0171 | .9043 | .0107 | 7.065 | .0006 |
| Stddev | .0004 | 2.8 | .0035 | .0001 | .0001 | .0091 | .0000 | .055 | .0003 |
| %RSD | 31.30 | 1.093 | 3.658 | .5785 | .7593 | 1.009 | .1936 | .7841 | 50.62 |
| #1 | .0009 | 262.3 | .0977 | .0200 | .0172 | .9107 | .0106 | 7.104 | .0004 |
| #2 | .0014 | 258.3 | .0928 | .0199 | .0171 | .8978 | .0107 | 7.026 | .0008 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1720 | .4679 | .1940 | F331.4 | 32.87 | 67.35 | 6.211 | .0059 | .8235 |
| Stddev | .0002 | .0034 | .0014 | .6 | .34 | .70 | .050 | .0005 | .0028 |
| %RSD | .0930 | .7286 | .7363 | .1959 | 1.050 | 1.035 | .7976 | 8.276 | .3406 |
| #1 | .1721 | .4703 | .1950 | 331.8 | 33.11 | 67.84 | 6.246 | .0062 | .8215 |
| #2 | .1719 | .4655 | .1929 | 330.9 | 32.63 | 66.86 | 6.176 | .0055 | .8255 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2758 | .4222 | .0326 | .0170 | 4.004 | -.0001 | .0038 | 3.722 | -.0011 |
| Stddev | .0003 | .0010 | .0018 | .0058 | .012 | .0001 | .0017 | .010 | .0004 |
| %RSD | .1076 | .2253 | 5.539 | 34.11 | .3060 | 119.0 | 43.68 | .2730 | 39.35 |
| #1 | .2760 | .4215 | .0338 | .0211 | 4.013 | .0000 | .0026 | 3.729 | -.0014 |
| #2 | .2756 | .4229 | .0313 | .0129 | 3.995 | -.0002 | .0050 | 3.715 | -.0008 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0699 | 11.04 | .0067 | .5957 | .0226 | .9805 | -.0117 |
| Stddev | .0006 | .07 | .0008 | .0046 | .0007 | .0011 | .0004 |
| %RSD | .8302 | .6133 | 12.19 | .7760 | 3.130 | .1091 | 3.817 |
| #1 | .0703 | 11.09 | .0073 | .5990 | .0221 | .9813 | -.0114 |
| #2 | .0695 | 10.99 | .0061 | .5925 | .0231 | .9798 | -.0120 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1284.2 | 39133. | 19149. |
| Stddev | 1.0 | 194. | 110. |
| %RSD | .07407 | .49637 | .57195 |
| #1 | 1283.5 | 38996. | 19071. |
| #2 | 1284.8 | 39270. | 19226. |



Zoom In Zoom Out

Sample Name: MC25455-10 Acquired: 10/28/2013 14:40:33 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 185.1 | .0660 | .0173 | .0205 | .4460 | .0069 | 165.6 | .0004 |
| Stddev | .0000 | .8 | .0007 | .0001 | .0001 | .0019 | .0000 | .6 | .0003 |
| %RSD | 1.980 | .4549 | .9991 | .7347 | .2468 | .4231 | .4358 | .3543 | 73.57 |
| #1 | .0006 | 184.5 | .0656 | .0173 | .0204 | .4473 | .0069 | 165.2 | .0002 |
| #2 | .0007 | 185.7 | .0665 | .0174 | .0205 | .4447 | .0069 | 166.0 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0789 | .2939 | .1399 | F231.2 | 17.51 | 126.9 | 3.576 | .0031 | .4787 |
| Stddev | .0008 | .0023 | .0003 | 1.5 | .06 | .0 | .019 | .0002 | .0053 |
| %RSD | .9578 | .7952 | .2217 | .6646 | .3626 | .0025 | .5369 | 6.049 | 1.112 |
| #1 | .0795 | .2922 | .1397 | 230.1 | 17.55 | 126.9 | 3.562 | .0032 | .4825 |
| #2 | .0784 | .2955 | .1401 | 232.3 | 17.46 | 126.9 | 3.590 | .0029 | .4750 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1873 | .1770 | .0151 | .0063 | 1.898 | .0008 | .0021 | 3.353 | -.0069 |
| Stddev | .0008 | .0008 | .0008 | .0027 | .000 | .0011 | .0018 | .010 | .0007 |
| %RSD | .4261 | .4362 | 5.612 | 43.24 | .0013 | 141.0 | 84.43 | .2884 | 9.717 |
| #1 | .1878 | .1776 | .0145 | .0082 | 1.898 | .0000 | .0008 | 3.360 | -.0065 |
| #2 | .1867 | .1765 | .0157 | .0044 | 1.898 | .0016 | .0033 | 3.346 | -.0074 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .1063 | 7.956 | .0059 | .4063 | .0161 | .6222 | -.0047 |
| Stddev | .0003 | .011 | .0008 | .0010 | .0072 | .0001 | .0004 |
| %RSD | .2817 | .1434 | 12.79 | .2451 | 45.13 | .0153 | 9.553 |
| #1 | .1065 | 7.948 | .0054 | .4056 | .0212 | .6223 | -.0050 |
| #2 | .1061 | 7.964 | .0065 | .4070 | .0109 | .6222 | -.0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.4 | 38795. | 18771. |
| Stddev | 2.9 | 169. | 14. |
| %RSD | .23307 | .43502 | .07320 |
| #1 | 1256.4 | 38914. | 18781. |
| #2 | 1260.5 | 38676. | 18761. |



Zoom In Zoom Out

Sample Name: MC25455-11 Acquired: 10/28/2013 14:45:34 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | 172.1 | .0666 | .0178 | .0097 | .4434 | .0073 | 6.804 | -.0003 |
| Stddev | .0004 | .1 | .0013 | .0008 | .0000 | .0001 | .0001 | .009 | .0000 |
| %RSD | 31.04 | .0723 | 1.975 | 4.265 | .3747 | .0132 | 1.506 | .1277 | 6.312 |
| #1 | .0010 | 172.1 | .0657 | .0183 | .0096 | .4434 | .0073 | 6.810 | -.0003 |
| #2 | .0016 | 172.0 | .0675 | .0173 | .0097 | .4433 | .0072 | 6.798 | -.0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0793 | .2798 | .1318 | F247.4 | 13.30 | 42.45 | 3.899 | .0043 | .4271 |
| Stddev | .0004 | .0012 | .0002 | .5 | .04 | .03 | .020 | .0002 | .0013 |
| %RSD | .4513 | .4357 | .1852 | .1914 | .3174 | .0663 | .5230 | 5.697 | .2930 |
| #1 | .0790 | .2807 | .1320 | 247.8 | 13.33 | 42.47 | 3.914 | .0045 | .4280 |
| #2 | .0795 | .2790 | .1317 | 247.1 | 13.27 | 42.43 | 3.885 | .0041 | .4263 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1823 | .1813 | .0262 | .0081 | 2.231 | -.0008 | .0029 | 3.442 | -.0009 |
| Stddev | .0002 | .0001 | .0005 | .0025 | .018 | .0002 | .0029 | .003 | .0002 |
| %RSD | .1211 | .0329 | 1.951 | 30.73 | .7998 | 24.13 | 97.03 | .0743 | 22.42 |
| #1 | .1821 | .1813 | .0266 | .0099 | 2.243 | -.0009 | .0050 | 3.440 | -.0007 |
| #2 | .1824 | .1813 | .0258 | .0063 | 2.218 | -.0006 | .0009 | 3.444 | -.0010 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0649 | 6.916 | .0048 | .4169 | .0165 | .7133 | -.0102 |
| Stddev | .0001 | .024 | .0003 | .0012 | .0000 | .0015 | .0007 |
| %RSD | .0880 | .3523 | 6.377 | .2970 | .2406 | .2166 | 7.246 |
| #1 | .0650 | 6.933 | .0045 | .4178 | .0165 | .7144 | -.0096 |
| #2 | .0649 | 6.899 | .0050 | .4160 | .0166 | .7122 | -.0107 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1303.6 | 39881. | 19141. |
| Stddev | 4.0 | 148. | 3. |
| %RSD | .30670 | .37095 | .01700 |
| #1 | 1306.4 | 39776. | 19143. |
| #2 | 1300.8 | 39985. | 19139. |

Zoom In Zoom Out

Sample Name: MC25455-12 Acquired: 10/28/2013 14:50:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | 162.3 | .0559 | .0188 | .0096 | .3524 | .0065 | 3.500 | -.0001 | .0688 |
| Stddev | .0001 | .2 | .0003 | .0011 | .0002 | .0011 | .0001 | .004 | .0001 | .0008 |
| %RSD | 11.54 | .1189 | .6225 | 5.792 | 1.697 | .3060 | 1.556 | .1221 | 95.11 | 1.111 |
| #1 | .0004 | 162.4 | .0556 | .0180 | .0097 | .3531 | .0064 | 3.497 | -.0001 | .0693 |
| #2 | .0005 | 162.2 | .0561 | .0196 | .0094 | .3516 | .0066 | 3.503 | .0000 | .0682 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2602 | .1154 | 213.3 | 11.97 | 39.59 | 2.722 | .0042 | .3276 | .1608 | .1499 |
| Stddev | .0000 | .0004 | 2.5 | .06 | .07 | .010 | .0000 | .0018 | .0001 | .0012 |
| %RSD | .0182 | .3483 | 1.153 | .4800 | .1852 | .3613 | .6507 | .5521 | .0451 | .7838 |
| #1 | .2602 | .1157 | 211.6 | 12.01 | 39.64 | 2.715 | .0043 | .3289 | .1609 | .1490 |
| #2 | .2602 | .1151 | 215.1 | 11.93 | 39.53 | 2.729 | .0042 | .3263 | .1608 | .1507 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0205 | -.0003 | 2.675 | -.0007 | .0053 | 5.923 | -.0042 | .0378 | 7.141 | .0055 |
| Stddev | .0010 | .0016 | .001 | .0012 | .0014 | .018 | .0002 | .0001 | .020 | .0007 |
| %RSD | 4.845 | 493.8 | .0485 | 164.5 | 26.04 | .3098 | 4.378 | .2412 | .2816 | 12.23 |
| #1 | .0212 | -.0014 | 2.676 | .0001 | .0062 | 5.936 | -.0044 | .0377 | 7.127 | .0051 |
| #2 | .0198 | .0008 | 2.674 | -.0016 | .0043 | 5.910 | -.0041 | .0378 | 7.155 | .0060 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3748 | .0189 | .5019 | -.0219 |
| Stddev | .0025 | .0068 | .0032 | .0006 |
| %RSD | .6766 | 35.91 | .6355 | 2.832 |
| #1 | .3730 | .0141 | .5042 | -.0223 |
| #2 | .3766 | .0238 | .4997 | -.0215 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1307.4 | 39053. | 18966. |
| Stddev | 1.4 | 84. | 13. |
| %RSD | .11080 | .21560 | .06604 |
| #1 | 1306.4 | 39113. | 18975. |
| #2 | 1308.5 | 38994. | 18957. |



Zoom In Zoom Out

Sample Name: MC25455-13 Acquired: 10/28/2013 14:55:21 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 177.2 | .0545 | .0203 | .0097 | .4087 | .0063 | 6.566 | -.0001 |
| Stddev | .0000 | .0 | .0010 | .0005 | .0003 | .0003 | .0000 | .012 | .0000 |
| %RSD | 4.994 | .0048 | 1.750 | 2.512 | 3.276 | .0718 | .0483 | .1834 | 5.509 |
| #1 | .0004 | 177.3 | .0538 | .0206 | .0095 | .4085 | .0063 | 6.575 | -.0001 |
| #2 | .0004 | 177.2 | .0552 | .0199 | .0099 | .4090 | .0063 | 6.558 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0780 | .2854 | .1115 | F230.4 | 12.11 | 42.55 | 2.894 | .0044 | .4586 |
| Stddev | .0001 | .0025 | .0000 | 2.1 | .04 | .02 | .006 | .0002 | .0027 |
| %RSD | .1307 | .8743 | .0166 | .9098 | .3142 | .0356 | .2089 | 5.421 | .5833 |
| #1 | .0780 | .2837 | .1115 | 228.9 | 12.08 | 42.54 | 2.890 | .0046 | .4605 |
| #2 | .0781 | .2872 | .1115 | 231.9 | 12.14 | 42.56 | 2.898 | .0042 | .4567 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1777 | .1767 | .0225 | -.0051 | 2.400 | -.0010 | .0041 | 4.425 | -.0023 |
| Stddev | .0004 | .0002 | .0012 | .0083 | .006 | .0004 | .0010 | .015 | .0000 |
| %RSD | .2373 | .1243 | 5.178 | 162.7 | .2347 | 40.72 | 24.36 | .3423 | .7459 |
| #1 | .1780 | .1769 | .0217 | -.0110 | 2.404 | -.0007 | .0049 | 4.415 | -.0024 |
| #2 | .1774 | .1766 | .0233 | .0008 | 2.396 | -.0013 | .0034 | 4.436 | -.0023 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0670 | 6.719 | .0042 | .4274 | .0119 | .5864 | -.0130 |
| Stddev | .0005 | .003 | .0009 | .0027 | .0007 | .0001 | .0002 |
| %RSD | .7408 | .0371 | 21.97 | .6236 | 5.775 | .0109 | 1.580 |
| #1 | .0666 | 6.717 | .0036 | .4255 | .0124 | .5864 | -.0131 |
| #2 | .0673 | 6.721 | .0049 | .4293 | .0114 | .5863 | -.0128 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1304.2 | 39457. | 19131. |
| Stddev | 3.7 | 129. | 82. |
| %RSD | .28543 | .32581 | .42965 |
| #1 | 1306.8 | 39548. | 19189. |
| #2 | 1301.6 | 39366. | 19073. |



Zoom In Zoom Out

Sample Name: MC25455-14 Acquired: 10/28/2013 15:00:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | 190.9 | .0645 | .0207 | .0176 | .3458 | .0082 | 10.37 | .0001 | .0743 |
| Stddev | .0004 | .4 | .0013 | .0011 | .0010 | .0000 | .0000 | .03 | .0001 | .0002 |
| %RSD | 41.74 | .2206 | 2.019 | 5.141 | 5.646 | .0012 | .0747 | .2522 | 85.55 | .2880 |
| #1 | .0013 | 191.2 | .0654 | .0214 | .0169 | .3458 | .0082 | 10.38 | .0000 | .0745 |
| #2 | .0007 | 190.6 | .0636 | .0199 | .0183 | .3458 | .0082 | 10.35 | .0001 | .0742 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3016 | .1476 | 204.4 | 15.70 | 48.62 | 1.893 | .0082 | 1.976 | .1993 | .1689 |
| Stddev | .0001 | .0010 | .9 | .01 | .14 | .002 | .0000 | .007 | .0003 | .0018 |
| %RSD | .0265 | .6469 | .4493 | .0552 | .2940 | .1149 | .3012 | .3558 | .1260 | 1.066 |
| #1 | .3017 | .1482 | 205.1 | 15.71 | 48.52 | 1.895 | .0082 | 1.981 | .1991 | .1702 |
| #2 | .3015 | .1469 | 203.8 | 15.70 | 48.72 | 1.892 | .0083 | 1.971 | .1995 | .1676 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0214 | -.0078 | 7.196 | .0003 | .0055 | 2.529 | -.0037 | .1238 | 7.649 | .0046 |
| Stddev | .0012 | .0038 | .029 | .0008 | .0003 | .009 | .0000 | .0002 | .005 | .0002 |
| %RSD | 5.434 | 48.86 | .4045 | 275.3 | 6.165 | .3353 | .0005 | .1499 | .0638 | 5.277 |
| #1 | .0222 | -.0106 | 7.176 | -.0003 | .0057 | 2.535 | -.0037 | .1239 | 7.646 | .0048 |
| #2 | .0205 | -.0051 | 7.217 | .0009 | .0052 | 2.523 | -.0037 | .1236 | 7.653 | .0045 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4034 | .0137 | .5628 | .0005 |
| Stddev | .0028 | .0060 | .0013 | .0004 |
| %RSD | .6996 | 43.93 | .2325 | 89.98 |
| #1 | .4054 | .0179 | .5637 | .0008 |
| #2 | .4014 | .0094 | .5619 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1317.3 | 39471. | 19374. |
| Stddev | 1.0 | 58. | 48. |
| %RSD | .07546 | .14598 | .24663 |
| #1 | 1316.6 | 39512. | 19340. |
| #2 | 1318.0 | 39430. | 19408. |



Zoom In Zoom Out

Sample Name: MC25455-15 Acquired: 10/28/2013 15:05:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 168.0 | .1395 | .0072 | .0288 | .4930 | .0080 | 18.79 | .0010 | .1030 |
| Stddev | .0002 | .3 | .0003 | .0009 | .0004 | .0016 | .0001 | .02 | .0000 | .0007 |
| %RSD | 32.82 | .2010 | .2189 | 12.24 | 1.487 | .3211 | .6799 | .0822 | 1.036 | .6444 |
| #1 | .0005 | 168.3 | .1393 | .0078 | .0285 | .4942 | .0080 | 18.78 | .0010 | .1025 |
| #2 | .0008 | 167.8 | .1397 | .0066 | .0291 | .4919 | .0081 | 18.80 | .0010 | .1035 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2783 | .1363 | F232.7 | 16.52 | 48.96 | 6.671 | .0093 | 1.713 | .1994 | .1369 |
| Stddev | .0006 | .0003 | 1.9 | .01 | .09 | .010 | .0000 | .000 | .0002 | .0004 |
| %RSD | .2010 | .2125 | .7996 | .0811 | .1908 | .1546 | .0723 | .0122 | .1209 | .3273 |
| #1 | .2787 | .1365 | 231.4 | 16.52 | 48.89 | 6.664 | .0093 | 1.714 | .1996 | .1373 |
| #2 | .2779 | .1361 | 234.0 | 16.51 | 49.02 | 6.678 | .0093 | 1.713 | .1992 | .1366 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0229 | .0302 | 4.238 | -.0004 | .0023 | 2.518 | -.0047 | .1604 | 7.097 | .0035 |
| Stddev | .0004 | .0028 | .0087 | .002 | .0006 | .0001 | .006 | .0004 | .009 | .0005 |
| %RSD | 12.03 | 28.76 | .0364 | 144.2 | 5.411 | .2497 | 3.071 | .2618 | .1260 | 15.25 |
| #1 | .0209 | .0240 | 4.239 | .0000 | .0022 | 2.523 | -.0046 | .1607 | 7.103 | .0038 |
| #2 | .0248 | .0363 | 4.237 | -.0008 | .0024 | 2.514 | -.0048 | .1601 | 7.091 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3828 | .0115 | .5789 | .0032 |
| Stddev | .0014 | .0047 | .0000 | .0002 |
| %RSD | .3662 | 40.95 | .0060 | 5.464 |
| #1 | .3818 | .0148 | .5789 | .0030 |
| #2 | .3838 | .0082 | .5788 | .0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1333.2 | 40618. | 19763. |
| Stddev | 4.1 | 2. | 35. |
| %RSD | .31051 | .00558 | .17779 |
| #1 | 1336.1 | 40619. | 19788. |
| #2 | 1330.3 | 40616. | 19738. |

Zoom In Zoom Out

Sample Name: MC25455-17 Acquired: 10/28/2013 15:10:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0041 | 73.81 | .0274 | .0058 | .0025 | .2083 | .0033 | 6.003 | .0003 | .0450 |
| Stddev | .0005 | .27 | .0003 | .0007 | .0002 | .0006 | .0000 | .039 | .0000 | .0001 |
| %RSD | 11.87 | .3700 | .9713 | 11.41 | 7.127 | .2792 | .6357 | .6455 | 13.93 | .2877 |
| #1 | .0038 | 74.00 | .0272 | .0053 | .0023 | .2087 | .0033 | 6.030 | .0004 | .0451 |
| #2 | .0044 | 73.61 | .0276 | .0062 | .0026 | .2079 | .0033 | 5.975 | .0003 | .0449 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1142 | .0882 | 94.33 | 10.83 | 22.67 | 1.568 | .0013 | .2890 | .0862 | .0782 |
| Stddev | .0008 | .0010 | .53 | .03 | .15 | .007 | .0001 | .0032 | .0004 | .0006 |
| %RSD | .6810 | 1.095 | .5570 | .3008 | .6774 | .4220 | 7.163 | 1.117 | .4943 | .7316 |
| #1 | .1137 | .0875 | 94.70 | 10.85 | 22.77 | 1.573 | .0012 | .2867 | .0859 | .0786 |
| #2 | .1148 | .0889 | 93.96 | 10.81 | 22.56 | 1.564 | .0013 | .2913 | .0865 | .0778 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0106 | .0004 | .5395 | -.0013 | .0021 | 2.791 | -.0008 | .0233 | 4.681 | .0025 |
| Stddev | .0019 | .0001 | .0003 | .0007 | .0003 | .002 | .0002 | .0002 | .015 | .0009 |
| %RSD | 17.42 | 25.72 | .0491 | 53.32 | 13.33 | .0729 | 23.93 | .7358 | .3178 | 34.76 |
| #1 | .0120 | .0005 | .5393 | -.0008 | .0019 | 2.793 | -.0007 | .0234 | 4.692 | .0019 |
| #2 | .0093 | .0003 | .5396 | -.0017 | .0024 | 2.790 | -.0010 | .0232 | 4.671 | .0032 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1692 | .0070 | .2359 | -.0112 |
| Stddev | .0005 | .0030 | .0009 | .0003 |
| %RSD | .2978 | 42.23 | .3959 | 2.712 |
| #1 | .1688 | .0049 | .2365 | -.0109 |
| #2 | .1695 | .0091 | .2352 | -.0114 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1310.9 | 40161. | 18800. |
| Stddev | 1.9 | 201. | 86. |
| %RSD | .14582 | .50068 | .45791 |
| #1 | 1309.5 | 40019. | 18739. |
| #2 | 1312.2 | 40303. | 18861. |



Zoom In Zoom Out

Sample Name: MC25455-18 Acquired: 10/28/2013 15:15:04 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0055 | 73.79 | .0322 | .0097 | .0030 | .2346 | .0035 | 6.667 | .0010 | .0420 |
| Stddev | .0002 | .10 | .0010 | .0001 | .0002 | .0004 | .0000 | .039 | .0000 | .0001 |
| %RSD | 3.599 | .1291 | 3.170 | .5298 | 5.523 | .1876 | .3774 | .5910 | 3.935 | .2403 |
| #1 | .0056 | 73.85 | .0329 | .0097 | .0029 | .2349 | .0034 | 6.695 | .0009 | .0421 |
| #2 | .0054 | 73.72 | .0315 | .0096 | .0031 | .2343 | .0035 | 6.639 | .0010 | .0420 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1165 | .1101 | 119.9 | 11.61 | 22.68 | 1.758 | .0021 | .3286 | .0978 | .0927 |
| Stddev | .0009 | .0001 | .3 | .02 | .02 | .005 | .0000 | .0064 | .0006 | .0012 |
| %RSD | .7970 | .1346 | .2678 | .1383 | .1077 | .2803 | .3654 | 1.944 | .6614 | 1.242 |
| #1 | .1158 | .1102 | 120.1 | 11.60 | 22.69 | 1.754 | .0021 | .3241 | .0983 | .0935 |
| #2 | .1171 | .1100 | 119.7 | 11.62 | 22.66 | 1.761 | .0021 | .3332 | .0974 | .0919 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0160 | -.0003 | .8282 | -.0004 | .0025 | 4.750 | .0021 | .0279 | 4.510 | .0028 |
| Stddev | .0005 | .0111 | .0070 | .0007 | .0023 | .013 | .0001 | .0000 | .011 | .0001 |
| %RSD | 2.841 | 3498. | .8510 | 173.8 | 92.29 | .2785 | 2.508 | .1673 | .2471 | 4.396 |
| #1 | .0157 | .0075 | .8332 | .0001 | .0009 | 4.759 | .0021 | .0279 | 4.502 | .0027 |
| #2 | .0163 | -.0082 | .8232 | -.0009 | .0041 | 4.741 | .0021 | .0279 | 4.518 | .0028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1682 | .0067 | .2996 | -.0205 |
| Stddev | .0006 | .0075 | .0007 | .0003 |
| %RSD | .3544 | 113.3 | .2430 | 1.706 |
| #1 | .1678 | .0013 | .3001 | -.0207 |
| #2 | .1687 | .0120 | .2991 | -.0202 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1298.2 | 40132. | 18878. |
| Stddev | 3.2 | 27. | 73. |
| %RSD | .24830 | .06650 | .38509 |
| #1 | 1295.9 | 40151. | 18826. |
| #2 | 1300.5 | 40113. | 18929. |



Zoom In Zoom Out

Sample Name: MC25455-19 Acquired: 10/28/2013 15:19:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | 52.58 | .0213 | .0066 | .0010 | .1552 | .0031 | 7.198 | .0000 | .0332 |
| Stddev | .0003 | .12 | .0006 | .0005 | .0001 | .0001 | .0000 | .056 | .000 | .0000 |
| %RSD | 36.53 | .2207 | 2.725 | 7.143 | 5.912 | .0514 | .1618 | .7727 | 207.8 | .1214 |
| #1 | .0011 | 52.66 | .0209 | .0069 | .0011 | .1553 | .0031 | 7.237 | .0000 | .0332 |
| #2 | .0006 | 52.50 | .0217 | .0062 | .0010 | .1552 | .0031 | 7.158 | -.0001 | .0332 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0887 | .0657 | 79.80 | 10.40 | 19.25 | 1.093 | .0009 | .2588 | .0661 | .0827 |
| Stddev | .0010 | .0003 | .47 | .03 | .15 | .001 | .0002 | .0043 | .0002 | .0000 |
| %RSD | 1.167 | .3810 | .5833 | .3330 | .7674 | .0653 | 19.54 | 1.664 | .3746 | .0364 |
| #1 | .0894 | .0659 | 80.13 | 10.42 | 19.35 | 1.093 | .0007 | .2558 | .0659 | .0827 |
| #2 | .0880 | .0655 | 79.47 | 10.38 | 19.14 | 1.092 | .0010 | .2619 | .0663 | .0828 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | -.0065 | .3723 | .0003 | -.0009 | 2.964 | -.0011 | .0193 | 3.696 | .0038 |
| Stddev | .0002 | .0054 | .0001 | .0008 | .0008 | .003 | .0002 | .0000 | .001 | .0010 |
| %RSD | 1.915 | 82.35 | .0159 | 238.5 | 86.37 | .1097 | 15.65 | .2315 | .0367 | 25.66 |
| #1 | .0101 | -.0103 | .3723 | -.0002 | -.0003 | 2.962 | -.0010 | .0193 | 3.695 | .0031 |
| #2 | .0099 | -.0027 | .3723 | .0009 | -.0014 | 2.967 | -.0012 | .0193 | 3.697 | .0045 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1392 | .0042 | .1811 | -.0103 |
| Stddev | .0003 | .0044 | .0006 | .0003 |
| %RSD | .2331 | 105.6 | .3070 | 3.087 |
| #1 | .1394 | .0073 | .1807 | -.0100 |
| #2 | .1389 | .0011 | .1815 | -.0105 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1312.8 | 40368. | 18629. |
| Stddev | .7 | 62. | 150. |
| %RSD | .05082 | .15243 | .80679 |
| #1 | 1313.3 | 40324. | 18523. |
| #2 | 1312.3 | 40411. | 18736. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 15:24:45 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2487 | 9.780 | 1.904 | -.0072 | 1.920 | 1.910 | 1.961 | 9.822 | 1.975 | 1.996 |
| Stddev | .0001 | .002 | .005 | .0017 | .002 | .001 | .001 | .010 | .002 | .001 |
| %RSD | .0227 | .0206 | .2858 | 23.80 | .0974 | .0362 | .0571 | .0993 | .0936 | .0367 |
| #1 | .2487 | 9.781 | 1.908 | -.0084 | 1.918 | 1.910 | 1.960 | 9.815 | 1.974 | 1.996 |
| #2 | .2486 | 9.778 | 1.901 | -.0060 | 1.921 | 1.911 | 1.962 | 9.829 | 1.976 | 1.997 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.999 | 1.948 | 9.860 | 9.706 | 9.654 | 1.992 | 1.911 | 9.778 | 1.906 | 1.903 |
| Stddev | .009 | .004 | .015 | .003 | .135 | .004 | .001 | .005 | .001 | .001 |
| %RSD | .4384 | .1855 | .1529 | .0284 | 1.396 | .1895 | .0481 | .0507 | .0364 | .0271 |
| #1 | 1.993 | 1.945 | 9.870 | 9.708 | 9.750 | 1.989 | 1.911 | 9.782 | 1.907 | 1.903 |
| #2 | 2.005 | 1.951 | 9.849 | 9.705 | 9.559 | 1.994 | 1.912 | 9.775 | 1.906 | 1.904 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0079 | -.0040 | 1.923 | 1.905 | .0091 | 1.915 | 1.940 | 1.955 | 1.905 |
| Stddev | .0009 | .0015 | .0003 | .001 | .008 | .0028 | .003 | .001 | .002 | .009 |
| %RSD | 87.95 | 18.33 | 6.970 | .0582 | .4211 | 30.38 | .1308 | .0482 | .0968 | .4756 |
| #1 | .0004 | .0089 | -.0042 | 1.924 | 1.911 | .0110 | 1.916 | 1.940 | 1.956 | 1.912 |
| #2 | .0017 | .0069 | -.0038 | 1.922 | 1.900 | .0071 | 1.913 | 1.941 | 1.953 | 1.899 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.954 | .0016 | 1.901 | -.0062 |
| Stddev | .005 | .0036 | .000 | .0002 |
| %RSD | .2380 | 224.7 | .0114 | 3.321 |
| #1 | 1.951 | .0041 | 1.900 | -.0063 |
| #2 | 1.957 | -.0009 | 1.901 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.5 | 38861. | 17997. |
| Stddev | .2 | 122. | 39. |
| %RSD | .01827 | .31346 | .21543 |
| #1 | 1236.3 | 38947. | 17970. |
| #2 | 1236.6 | 38774. | 18025. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 15:29:29 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0054 | .0011 | .0000 | .0015 | .0001 | .0001 | -.0003 | -.0001 |
| Stddev | .0002 | .0020 | .0004 | .001 | .0001 | .0000 | .0000 | .0001 | .0001 |
| %RSD | 26.28 | 36.73 | 33.66 | 5478. | 7.551 | 4.918 | 10.54 | 18.99 | 65.45 |
| #1 | .0005 | -.0040 | .0008 | .0004 | .0016 | .0001 | .0001 | -.0003 | -.0001 |
| #2 | .0008 | -.0069 | .0014 | -.0005 | .0014 | .0001 | .0001 | -.0004 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0010 | -.0002 | .0025 | .0118 | .0074 | .0000 | .0023 | -.0084 |
| Stddev | .0000 | .0006 | .0002 | .0015 | .0055 | .0041 | .0000 | .0008 | .0015 |
| %RSD | 12.52 | 57.10 | 76.74 | 61.00 | 46.34 | 56.15 | 27.92 | 32.10 | 18.27 |
| #1 | .0001 | -.0006 | -.0001 | .0014 | .0156 | .0045 | .0000 | .0029 | -.0095 |
| #2 | .0001 | -.0014 | -.0003 | .0036 | .0079 | .0103 | .0000 | .0018 | -.0074 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0006 | -.0008 | -.0074 | -.0014 | .0003 | .0014 | .0060 | .0010 |
| Stddev | .0003 | .0001 | .0000 | .0012 | .0007 | .0009 | .0008 | .0001 | .0006 |
| %RSD | 126.3 | 13.31 | 3.843 | 15.61 | 51.42 | 326.1 | 59.03 | 1.340 | 54.16 |
| #1 | .0000 | .0007 | -.0009 | -.0082 | -.0019 | -.0004 | .0008 | .0061 | .0006 |
| #2 | -.0004 | .0006 | -.0008 | -.0066 | -.0009 | .0009 | .0020 | .0060 | .0014 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0004 | F.0035 | -.0002 | .0033 | .0002 | -.0010 |
| Stddev | .0000 | .0000 | .0010 | .0001 | .0010 | .0003 | .0007 |
| %RSD | 11.93 | 1.632 | 28.49 | 58.52 | 29.37 | 168.2 | 76.67 |
| #1 | .0000 | .0004 | .0028 | -.0003 | .0026 | .0004 | -.0004 |
| #2 | .0000 | .0004 | .0042 | -.0001 | .0039 | .0000 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.6 | 39623. | 17888. |
| Stddev | 3.5 | 240. | 19. |
| %RSD | .28225 | .60572 | .10692 |
| #1 | 1239.0 | 39453. | 17901. |
| #2 | 1234.1 | 39792. | 17874. |



Zoom In Zoom Out

Sample Name: MC25455-20 Acquired: 10/28/2013 15:34:26 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 50.84 | .0197 | .0054 | .0024 | .1417 | .0024 | 6.918 | .0000 | .0317 |
| Stddev | .0001 | .02 | .0023 | .0019 | .0002 | .0002 | .0000 | .012 | .000 | .0003 |
| %RSD | 9.861 | .0373 | 11.90 | 35.11 | 7.998 | .1227 | .3887 | .1676 | 559.5 | .9646 |
| #1 | .0007 | 50.82 | .0213 | .0041 | .0026 | .1418 | .0025 | 6.910 | -.0001 | .0319 |
| #2 | .0008 | 50.85 | .0180 | .0067 | .0023 | .1416 | .0024 | 6.926 | .0001 | .0315 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0810 | .0623 | 75.66 | 9.134 | 17.55 | 1.082 | .0013 | .2446 | .0638 | .0709 |
| Stddev | .0020 | .0003 | .03 | .036 | .03 | .001 | .0001 | .0017 | .0013 | .0000 |
| %RSD | 2.497 | .5044 | .0355 | .3911 | .1608 | .0453 | 9.932 | .6752 | 2.075 | .0528 |
| #1 | .0824 | .0625 | 75.64 | 9.160 | 17.53 | 1.083 | .0014 | .2458 | .0648 | .0709 |
| #2 | .0795 | .0620 | 75.68 | 9.109 | 17.57 | 1.082 | .0012 | .2434 | .0629 | .0709 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0082 | .0027 | .3686 | .0001 | .0016 | 2.272 | .0011 | .0195 | 3.355 | .0031 |
| Stddev | .0008 | .0048 | .0016 | .0004 | .0005 | .030 | .0006 | .0000 | .000 | .0002 |
| %RSD | 9.346 | 177.0 | .4297 | 382.7 | 34.36 | 1.330 | 56.10 | .1634 | .0115 | 6.358 |
| #1 | .0077 | -.0007 | .3697 | .0003 | .0012 | 2.294 | .0007 | .0194 | 3.355 | .0032 |
| #2 | .0088 | .0061 | .3674 | -.0002 | .0019 | 2.251 | .0015 | .0195 | 3.354 | .0030 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1324 | .0031 | .1775 | -.0078 |
| Stddev | .0000 | .0021 | .0027 | .0001 |
| %RSD | .0051 | 66.98 | 1.549 | 1.313 |
| #1 | .1324 | .0016 | .1794 | -.0079 |
| #2 | .1324 | .0046 | .1755 | -.0077 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1289.3 | 40242. | 18629. |
| Stddev | 15.2 | 11. | 28. |
| %RSD | 1.1766 | .02782 | .15048 |
| #1 | 1278.6 | 40234. | 18649. |
| #2 | 1300.0 | 40250. | 18609. |



Zoom In Zoom Out

Sample Name: MC25455-21 Acquired: 10/28/2013 15:39:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | 54.00 | .0207 | .0058 | .0023 | .1484 | .0024 | 6.197 | .0002 | .0347 |
| Stddev | .0000 | .07 | .0019 | .0011 | .0007 | .0004 | .0000 | .022 | .0001 | .0001 |
| %RSD | 1.177 | .1274 | 9.243 | 18.61 | 30.35 | .2788 | .4296 | .3549 | 61.67 | .2865 |
| #1 | .0020 | 54.05 | .0220 | .0050 | .0028 | .1487 | .0024 | 6.182 | .0001 | .0348 |
| #2 | .0020 | 53.95 | .0193 | .0065 | .0018 | .1481 | .0024 | 6.213 | .0003 | .0346 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0976 | .0696 | 95.73 | 9.780 | 19.01 | 1.349 | .0017 | .2548 | .0660 | .1388 |
| Stddev | .0002 | .0002 | .14 | .052 | .03 | .001 | .0001 | .0009 | .0003 | .0004 |
| %RSD | .2152 | .2396 | .1423 | .5308 | .1483 | .0631 | 6.348 | .3426 | .4642 | .2975 |
| #1 | .0978 | .0697 | 95.83 | 9.744 | 18.99 | 1.349 | .0016 | .2554 | .0662 | .1390 |
| #2 | .0975 | .0695 | 95.63 | 9.817 | 19.03 | 1.350 | .0018 | .2542 | .0658 | .1385 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0123 | .0039 | .6379 | -.0008 | .0003 | 2.892 | .0006 | .0195 | 3.822 | .0047 |
| Stddev | .0007 | .0060 | .0039 | .0001 | .0011 | .007 | .0003 | .0002 | .000 | .0003 |
| %RSD | 6.081 | 152.1 | .6061 | 8.189 | 423.8 | .2292 | 56.09 | .7757 | .0095 | 6.976 |
| #1 | .0128 | .0082 | .6406 | -.0008 | -.0005 | 2.887 | .0009 | .0194 | 3.822 | .0045 |
| #2 | .0117 | -.0003 | .6352 | -.0007 | .0010 | 2.897 | .0004 | .0196 | 3.822 | .0049 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1577 | .0109 | .1905 | -.0118 |
| Stddev | .0004 | .0020 | .0007 | .0001 |
| %RSD | .2327 | 18.59 | .3745 | .5205 |
| #1 | .1579 | .0123 | .1910 | -.0118 |
| #2 | .1574 | .0094 | .1900 | -.0117 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1295.2 | 40362. | 18727. |
| Stddev | 2.0 | 84. | 41. |
| %RSD | .15104 | .20762 | .21965 |
| #1 | 1296.6 | 40421. | 18698. |
| #2 | 1293.9 | 40303. | 18756. |



Zoom In Zoom Out

Sample Name: MC25455-3 Acquired: 10/28/2013 15:44:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 210.3 | .0732 | .0177 | .0087 | .5037 | .0083 | 3.126 | -.0006 |
| Stddev | .0004 | .2 | .0015 | .0019 | .0001 | .0001 | .0000 | .029 | .0002 |
| %RSD | 96.87 | .0721 | 1.988 | 10.68 | 1.127 | .0172 | .3348 | .9399 | 40.72 |
| #1 | .0007 | 210.2 | .0742 | .0190 | .0088 | .5037 | .0084 | 3.105 | -.0007 |
| #2 | .0001 | 210.4 | .0722 | .0164 | .0087 | .5038 | .0083 | 3.146 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1339 | .3650 | .1501 | F277.7 | 16.36 | 58.63 | 5.490 | .0046 | .4239 |
| Stddev | .0000 | .0014 | .0002 | 1.5 | .06 | .42 | .000 | .0001 | .0038 |
| %RSD | .0049 | .3839 | .1013 | .5324 | .3937 | .7165 | .0037 | 1.162 | .8898 |
| #1 | .1339 | .3660 | .1500 | 276.6 | 16.41 | 58.34 | 5.490 | .0046 | .4212 |
| #2 | .1339 | .3640 | .1502 | 278.7 | 16.32 | 58.93 | 5.490 | .0046 | .4265 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2373 | .1681 | .0264 | .0157 | 1.740 | -.0008 | .0018 | 2.721 | -.0057 |
| Stddev | .0003 | .0002 | .0018 | .0008 | .007 | .0009 | .0019 | .005 | .0011 |
| %RSD | .1211 | .1005 | 6.714 | 5.062 | .3771 | 110.6 | 101.9 | .1984 | 19.63 |
| #1 | .2375 | .1682 | .0252 | .0162 | 1.735 | -.0015 | .0031 | 2.725 | -.0049 |
| #2 | .2371 | .1679 | .0277 | .0151 | 1.744 | -.0002 | .0005 | 2.717 | -.0064 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0396 | 8.054 | .0045 | .4778 | .0114 | .6537 | .0042 |
| Stddev | .0003 | .005 | .0002 | .0006 | .0099 | .0036 | .0002 |
| %RSD | .7286 | .0588 | 4.648 | .1264 | 86.36 | .5550 | 3.617 |
| #1 | .0394 | 8.057 | .0044 | .4773 | .0044 | .6511 | .0043 |
| #2 | .0398 | 8.050 | .0047 | .4782 | .0184 | .6562 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1327.9 | 39800. | 19287. |
| Stddev | .3 | 84. | 55. |
| %RSD | .02157 | .20984 | .28666 |
| #1 | 1327.7 | 39741. | 19326. |
| #2 | 1328.1 | 39859. | 19248. |

Zoom In Zoom Out

Sample Name: MC25455-4 Acquired: 10/28/2013 15:49:12 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 130.3 | .0671 | .0147 | .0134 | .3982 | .0067 | 15.51 | .0007 | .0835 |
| Stddev | .0006 | .0 | .0005 | .0014 | .0004 | .0003 | .0000 | .02 | .0000 | .0002 |
| %RSD | 98.76 | .0157 | .8084 | 9.206 | 3.016 | .0843 | .6438 | .1440 | 2.566 | .2499 |
| #1 | .0011 | 130.3 | .0667 | .0138 | .0137 | .3980 | .0067 | 15.49 | .0007 | .0834 |
| #2 | .0002 | 130.3 | .0674 | .0157 | .0131 | .3985 | .0067 | 15.52 | .0007 | .0837 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2045 | .1153 | 224.6 | 10.08 | 34.14 | 3.506 | .0066 | .5373 | .1776 | .1834 |
| Stddev | .0013 | .0010 | .1 | .04 | .12 | .004 | .0000 | .0074 | .0001 | .0004 |
| %RSD | .6411 | .8734 | .0652 | .3492 | .3432 | .1261 | .4162 | 1.383 | .0578 | .1950 |
| #1 | .2035 | .1146 | 224.7 | 10.06 | 34.05 | 3.503 | .0066 | .5321 | .1777 | .1837 |
| #2 | .2054 | .1160 | 224.5 | 10.11 | 34.22 | 3.509 | .0066 | .5426 | .1776 | .1832 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0229 | .0126 | 4.197 | -.0003 | .0042 | 5.284 | .0013 | .1272 | 5.376 | .0030 |
| Stddev | .0018 | .0012 | .004 | .0014 | .0006 | .002 | .0007 | .0002 | .006 | .0011 |
| %RSD | 7.970 | 9.569 | .0873 | 555.0 | 13.28 | .0306 | 53.44 | .1430 | .1187 | 37.18 |
| #1 | .0242 | .0135 | 4.195 | -.0013 | .0046 | 5.283 | .0008 | .1273 | 5.372 | .0038 |
| #2 | .0216 | .0118 | 4.200 | .0008 | .0038 | 5.285 | .0018 | .1271 | 5.381 | .0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3033 | .0083 | .4427 | -.0153 |
| Stddev | .0018 | .0104 | .0009 | .0000 |
| %RSD | .6011 | 126.3 | .1955 | .1140 |
| #1 | .3020 | .0156 | .4433 | -.0153 |
| #2 | .3046 | .0009 | .4420 | -.0152 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1298.6 | 40228. | 19239. |
| Stddev | 1.5 | 142. | 34. |
| %RSD | .11507 | .35287 | .17832 |
| #1 | 1297.6 | 40328. | 19263. |
| #2 | 1299.7 | 40128. | 19215. |



Zoom In Zoom Out

Sample Name: MC25455-5 Acquired: 10/28/2013 15:54:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 215.9 | .0681 | .0178 | .0115 | .5102 | .0085 | 4.328 | -.0004 |
| Stddev | .0001 | .9 | .0031 | .0000 | .0005 | .0009 | .0000 | .001 | .0000 |
| %RSD | 16.40 | .4048 | 4.616 | .2104 | 3.958 | .1740 | .3757 | .0330 | 9.640 |
| #1 | .0004 | 215.3 | .0704 | .0178 | .0118 | .5109 | .0085 | 4.329 | -.0003 |
| #2 | .0003 | 216.5 | .0659 | .0179 | .0111 | .5096 | .0085 | 4.327 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1447 | .3700 | .1523 | F287.2 | 16.61 | 59.94 | 5.902 | .0039 | .4956 |
| Stddev | .0002 | .0015 | .0005 | .2 | .08 | .04 | .015 | .0002 | .0009 |
| %RSD | .1191 | .4019 | .3600 | .0650 | .4752 | .0641 | .2488 | 5.362 | .1743 |
| #1 | .1448 | .3690 | .1519 | 287.0 | 16.67 | 59.91 | 5.892 | .0038 | .4950 |
| #2 | .1446 | .3711 | .1526 | 287.3 | 16.56 | 59.96 | 5.913 | .0040 | .4962 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2355 | .1847 | .0298 | .0132 | 2.194 | -.0021 | -.0009 | 5.399 | -.0080 |
| Stddev | .0003 | .0011 | .0002 | .0018 | .002 | .0003 | .0011 | .010 | .0007 |
| %RSD | .1133 | .5940 | .5805 | 13.82 | .0925 | 12.55 | 119.7 | .1822 | 8.558 |
| #1 | .2357 | .1839 | .0296 | .0145 | 2.192 | -.0023 | -.0001 | 5.392 | -.0075 |
| #2 | .2353 | .1855 | .0299 | .0119 | 2.195 | -.0019 | -.0017 | 5.405 | -.0085 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0495 | 8.774 | .0047 | .4973 | .0200 | .7071 | -.0116 |
| Stddev | .0001 | .020 | .0012 | .0002 | .0066 | .0016 | .0002 |
| %RSD | .3023 | .2233 | 26.32 | .0431 | 32.84 | .2223 | 1.896 |
| #1 | .0494 | 8.760 | .0039 | .4971 | .0154 | .7082 | -.0115 |
| #2 | .0496 | 8.788 | .0056 | .4974 | .0247 | .7060 | -.0118 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1320.0 | 39763. | 19163. |
| Stddev | 3.3 | 11. | 88. |
| %RSD | .24831 | .02784 | .45775 |
| #1 | 1322.3 | 39771. | 19101. |
| #2 | 1317.7 | 39755. | 19225. |



Zoom In Zoom Out

Sample Name: MC25455-6 Acquired: 10/28/2013 15:59:10 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 184.7 | .0750 | .0178 | .0132 | .4722 | .0083 | 7.416 | -.0006 |
| Stddev | .0003 | 1.7 | .0039 | .0010 | .0004 | .0015 | .0000 | .021 | .0001 |
| %RSD | 99.22 | .8962 | 5.258 | 5.824 | 2.932 | .3220 | .2554 | .2766 | 11.71 |
| #1 | .0001 | 183.6 | .0778 | .0185 | .0129 | .4733 | .0083 | 7.402 | -.0007 |
| #2 | .0005 | 185.9 | .0722 | .0171 | .0135 | .4711 | .0083 | 7.431 | -.0006 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1326 | .3179 | .1898 | F249.6 | 21.67 | 55.71 | 4.059 | .0042 | .5452 |
| Stddev | .0007 | .0009 | .0004 | 2.4 | .07 | .28 | .005 | .0002 | .0018 |
| %RSD | .5483 | .2959 | .1894 | .9803 | .3145 | .5057 | .1349 | 5.541 | .3363 |
| #1 | .1321 | .3173 | .1900 | 247.8 | 21.72 | 55.52 | 4.055 | .0040 | .5439 |
| #2 | .1331 | .3186 | .1895 | 251.3 | 21.63 | 55.91 | 4.063 | .0044 | .5465 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2198 | .1485 | .0258 | .0043 | 4.320 | -.0004 | .0004 | 5.099 | -.0105 |
| Stddev | .0010 | .0001 | .0016 | .0029 | .016 | .0010 | .0021 | .017 | .0014 |
| %RSD | .4411 | .0622 | 6.147 | 66.92 | .3679 | 242.3 | 512.0 | .3397 | 13.70 |
| #1 | .2192 | .1486 | .0247 | .0022 | 4.309 | -.0012 | -.0011 | 5.087 | -.0095 |
| #2 | .2205 | .1485 | .0270 | .0063 | 4.331 | .0003 | .0019 | 5.112 | -.0115 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0370 | 9.246 | .0062 | .4460 | .0183 | .5701 | .0007 |
| Stddev | .0002 | .004 | .0010 | .0005 | .0107 | .0030 | .0005 |
| %RSD | .6094 | .0380 | 15.62 | .1095 | 58.57 | .5291 | 69.84 |
| #1 | .0368 | 9.243 | .0055 | .4457 | .0107 | .5680 | .0004 |
| #2 | .0372 | 9.248 | .0068 | .4464 | .0259 | .5723 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1352.0 | 40768. | 19721. |
| Stddev | .5 | 92. | 114. |
| %RSD | .03964 | .22604 | .57691 |
| #1 | 1351.6 | 40833. | 19802. |
| #2 | 1352.4 | 40702. | 19641. |



Zoom In Zoom Out

Sample Name: MC25455-7 Acquired: 10/28/2013 16:04:09 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 163.5 | .0752 | .0131 | .0163 | .4841 | .0061 | 13.10 | -.0004 |
| Stddev | .0002 | .4 | .0007 | .0002 | .0007 | .0024 | .0001 | .01 | .0003 |
| %RSD | 1814. | .2568 | .8980 | 1.269 | 4.136 | .4976 | 1.266 | .0610 | 62.07 |
| #1 | .0002 | 163.2 | .0757 | .0130 | .0158 | .4824 | .0060 | 13.10 | -.0006 |
| #2 | -.0002 | 163.8 | .0747 | .0132 | .0167 | .4858 | .0061 | 13.11 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1119 | .3342 | .1749 | F230.8 | 28.42 | 60.74 | 4.875 | .0032 | .7204 |
| Stddev | .0000 | .0010 | .0011 | 1.2 | .08 | .23 | .002 | .0002 | .0030 |
| %RSD | .0071 | .3003 | .6302 | .5300 | .2813 | .3737 | .0481 | 6.737 | .4133 |
| #1 | .1119 | .3349 | .1756 | 229.9 | 28.37 | 60.57 | 4.873 | .0031 | .7183 |
| #2 | .1119 | .3335 | .1741 | 231.6 | 28.48 | 60.90 | 4.876 | .0034 | .7225 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2341 | .1239 | .0238 | .0107 | 1.417 | -.0012 | .0012 | 4.664 | -.0092 |
| Stddev | .0003 | .0009 | .0001 | .0028 | .002 | .0002 | .0018 | .005 | .0001 |
| %RSD | .1424 | .7627 | .4748 | 26.11 | .1669 | 13.18 | 154.7 | .1037 | 1.625 |
| #1 | .2343 | .1245 | .0238 | .0087 | 1.419 | -.0011 | -.0001 | 4.660 | -.0093 |
| #2 | .2339 | .1232 | .0239 | .0127 | 1.415 | -.0013 | .0025 | 4.667 | -.0091 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0925 | 8.373 | .0043 | .4033 | .0079 | .5975 | -.0032 |
| Stddev | .0003 | .003 | .0021 | .0013 | .0036 | .0004 | .0004 |
| %RSD | .3362 | .0350 | 47.67 | .3140 | 45.55 | .0677 | 12.91 |
| #1 | .0923 | 8.371 | .0029 | .4042 | .0054 | .5977 | -.0029 |
| #2 | .0927 | 8.375 | .0058 | .4024 | .0104 | .5972 | -.0035 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1328.2 | 40906. | 19447. |
| Stddev | 2.1 | 111. | 18. |
| %RSD | .15641 | .27252 | .09048 |
| #1 | 1329.7 | 40984. | 19460. |
| #2 | 1326.7 | 40827. | 19435. |

Zoom In Zoom Out

Sample Name: MC25455-8 Acquired: 10/28/2013 16:09:03 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 164.9 | .0624 | .0158 | .0087 | .3624 | .0066 | 3.145 | -.0001 | .0810 |
| Stddev | .0001 | .0 | .0006 | .0022 | .0002 | .0007 | .0001 | .019 | .0000 | .0005 |
| %RSD | 24.09 | .0044 | .9290 | 14.09 | 1.894 | .2004 | 1.401 | .6114 | 36.57 | .5633 |
| #1 | .0007 | 164.9 | .0619 | .0142 | .0086 | .3619 | .0066 | 3.158 | -.0001 | .0813 |
| #2 | .0005 | 164.9 | .0628 | .0173 | .0088 | .3629 | .0065 | 3.131 | -.0001 | .0806 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2605 | .1209 | 214.8 | 12.05 | 39.83 | 3.325 | .0041 | .3116 | .1717 | .1480 |
| Stddev | .0000 | .0002 | 1.5 | .01 | .29 | .009 | .0000 | .0026 | .0009 | .0020 |
| %RSD | .0109 | .1880 | .7113 | .0990 | .7314 | .2758 | .3475 | .8406 | .5099 | 1.358 |
| #1 | .2605 | .1207 | 215.9 | 12.06 | 40.04 | 3.332 | .0041 | .3135 | .1723 | .1494 |
| #2 | .2605 | .1210 | 213.7 | 12.04 | 39.62 | 3.319 | .0041 | .3098 | .1710 | .1466 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0217 | .0028 | 1.957 | -.0002 | .0044 | 4.614 | -.0043 | .0337 | 7.057 | .0040 |
| Stddev | .0010 | .0052 | .001 | .0010 | .0014 | .002 | .0006 | .0001 | .010 | .0003 |
| %RSD | 4.822 | 186.7 | .0285 | 519.6 | 32.82 | .0413 | 13.45 | .3300 | .1433 | 6.559 |
| #1 | .0224 | .0065 | 1.957 | .0005 | .0054 | 4.615 | -.0048 | .0338 | 7.064 | .0038 |
| #2 | .0209 | -.0009 | 1.958 | -.0009 | .0034 | 4.613 | -.0039 | .0336 | 7.050 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3794 | .0099 | .4890 | -.0149 |
| Stddev | .0000 | .0028 | .0025 | .0001 |
| %RSD | .0086 | 27.92 | .5069 | .9312 |
| #1 | .3794 | .0118 | .4908 | -.0148 |
| #2 | .3794 | .0079 | .4873 | -.0150 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1313.5 | 39885. | 19292. |
| Stddev | 2.2 | 38. | 128. |
| %RSD | .17052 | .09552 | .66153 |
| #1 | 1315.1 | 39858. | 19202. |
| #2 | 1312.0 | 39912. | 19382. |



Zoom In Zoom Out

Sample Name: MC25455-9 Acquired: 10/28/2013 16:13:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | 179.2 | .0563 | .0207 | .0096 | .4155 | .0063 | 6.489 | .0001 |
| Stddev | .0003 | 1.8 | .0017 | .0003 | .0003 | .0004 | .0001 | .051 | .0001 |
| %RSD | 38.09 | .9914 | 2.948 | 1.376 | 2.855 | .0875 | .9177 | .7835 | 119.5 |
| #1 | .0010 | 180.5 | .0575 | .0209 | .0098 | .4157 | .0063 | 6.525 | .0002 |
| #2 | .0006 | 178.0 | .0552 | .0205 | .0094 | .4152 | .0063 | 6.453 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0812 | .2898 | .1141 | F241.0 | 11.85 | 42.78 | 2.934 | .0045 | .4042 |
| Stddev | .0003 | .0019 | .0000 | 2.6 | .03 | .14 | .011 | .0001 | .0047 |
| %RSD | .3261 | .6555 | .0125 | 1.081 | .2598 | .3205 | .3587 | 1.924 | 1.174 |
| #1 | .0810 | .2911 | .1141 | 242.8 | 11.87 | 42.88 | 2.942 | .0044 | .4076 |
| #2 | .0814 | .2885 | .1141 | 239.1 | 11.83 | 42.69 | 2.927 | .0045 | .4008 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1791 | .1869 | .0244 | -.0025 | 2.409 | .0003 | .0049 | 4.762 | -.0026 |
| Stddev | .0005 | .0010 | .0014 | .0013 | .005 | .0003 | .0005 | .019 | .0008 |
| %RSD | .3041 | .5283 | 5.817 | 53.00 | .1952 | 99.28 | 10.81 | .3989 | 29.78 |
| #1 | .1795 | .1876 | .0254 | -.0035 | 2.413 | .0001 | .0045 | 4.749 | -.0021 |
| #2 | .1787 | .1862 | .0234 | -.0016 | 2.406 | .0006 | .0053 | 4.776 | -.0032 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0669 | 6.841 | .0054 | .4490 | .0117 | .6026 | -.0130 |
| Stddev | .0007 | .025 | .0008 | .0039 | .0025 | .0000 | .0006 |
| %RSD | .9793 | .3647 | 15.05 | .8584 | 21.21 | .0066 | 4.892 |
| #1 | .0674 | 6.858 | .0060 | .4518 | .0135 | .6026 | -.0125 |
| #2 | .0664 | 6.823 | .0048 | .4463 | .0100 | .6026 | -.0134 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1305.4 | 39325. | 18966. |
| Stddev | .5 | 150. | 140. |
| %RSD | .04059 | .38118 | .73847 |
| #1 | 1305.8 | 39219. | 18867. |
| #2 | 1305.0 | 39431. | 19065. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/28/2013 16:19:31 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .2003 | .0112 | -.0016 | .0994 | .0505 | .0042 | 5.048 | .0044 | .0522 |
| Stddev | .0003 | .0008 | .0006 | .0005 | .0002 | .0003 | .0000 | .033 | .0002 | .0001 |
| %RSD | 4.731 | .4145 | 5.758 | 28.44 | .1785 | .6805 | .8360 | .6626 | 4.549 | .1699 |
| #1 | .0055 | .2009 | .0108 | -.0013 | .0995 | .0503 | .0042 | 5.024 | .0045 | .0522 |
| #2 | .0051 | .1997 | .0117 | -.0019 | .0992 | .0507 | .0043 | 5.071 | .0042 | .0521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0084 | .0255 | .1147 | 4.992 | 4.937 | .0158 | .1004 | 4.911 | .0403 | .0113 |
| Stddev | .0009 | .0002 | .0011 | .029 | .018 | .0001 | .0003 | .010 | .0002 | .0000 |
| %RSD | 10.67 | .9341 | .9699 | .5830 | .3634 | .7285 | .2844 | .1994 | .5836 | .1557 |
| #1 | .0090 | .0256 | .1139 | 4.972 | 4.924 | .0157 | .1006 | 4.904 | .0401 | .0113 |
| #2 | .0078 | .0253 | .1155 | 5.013 | 4.950 | .0159 | .1002 | 4.918 | .0405 | .0113 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0070 | -.0010 | .0103 | .0108 | .0101 | .0979 | .0102 | .0522 | .0100 |
| Stddev | .0025 | .0052 | .0000 | .0004 | .0006 | .0011 | .0005 | .0001 | .0001 | .0000 |
| %RSD | 252.1 | 73.80 | 2.123 | 3.708 | 5.214 | 10.58 | .4858 | .9901 | .1104 | .0662 |
| #1 | .0008 | -.0033 | -.0010 | .0100 | .0112 | .0109 | .0976 | .0101 | .0521 | .0100 |
| #2 | -.0027 | -.0106 | -.0010 | .0105 | .0104 | .0094 | .0983 | .0102 | .0522 | .0100 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0099 | -.0011 | .0212 | -.0011 |
| Stddev | .0001 | .0016 | .0001 | .0004 |
| %RSD | .8432 | 151.8 | .4568 | 32.74 |
| #1 | .0099 | .0001 | .0211 | -.0014 |
| #2 | .0100 | -.0022 | .0212 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1234.2 | 39438. | 17899. |
| Stddev | 5.5 | 42. | 8. |
| %RSD | .44729 | .10754 | .04740 |
| #1 | 1230.3 | 39468. | 17893. |
| #2 | 1238.1 | 39408. | 17905. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 16:24:26 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2459 | 9.817 | 1.928 | -.0067 | 1.928 | 1.918 | 1.955 | 9.872 | 1.984 | 2.012 |
| Stddev | .0003 | .038 | .004 | .0001 | .005 | .003 | .004 | .026 | .002 | .000 |
| %RSD | .1283 | .3875 | .1899 | 1.439 | .2619 | .1624 | .2198 | .2595 | .1005 | .0019 |
| #1 | .2461 | 9.844 | 1.931 | -.0066 | 1.924 | 1.920 | 1.958 | 9.890 | 1.982 | 2.012 |
| #2 | .2456 | 9.790 | 1.926 | -.0067 | 1.931 | 1.916 | 1.952 | 9.853 | 1.985 | 2.012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.936 | 1.908 | 9.964 | 9.722 | 9.669 | 1.947 | 1.928 | 9.698 | 1.907 | 1.922 |
| Stddev | .001 | .000 | .014 | .029 | .070 | .002 | .003 | .028 | .000 | .000 |
| %RSD | .0341 | .0047 | .1392 | .3003 | .7245 | .1032 | .1689 | .2840 | .0020 | .0125 |
| #1 | 1.937 | 1.908 | 9.974 | 9.742 | 9.619 | 1.946 | 1.925 | 9.717 | 1.907 | 1.923 |
| #2 | 1.936 | 1.908 | 9.954 | 9.701 | 9.718 | 1.949 | 1.930 | 9.678 | 1.907 | 1.922 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0082 | -.0038 | 1.938 | 1.931 | .0094 | 1.920 | 1.933 | 1.931 | 1.922 |
| Stddev | .0004 | .0038 | .0008 | .002 | .000 | .0005 | .001 | .006 | .002 | .001 |
| %RSD | 39.80 | 46.75 | 20.25 | .1008 | .0232 | 5.405 | .0287 | .3204 | .1081 | .0587 |
| #1 | .0008 | .0109 | -.0032 | 1.936 | 1.931 | .0098 | 1.920 | 1.928 | 1.930 | 1.921 |
| #2 | .0014 | .0055 | -.0043 | 1.939 | 1.931 | .0091 | 1.919 | 1.937 | 1.933 | 1.923 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.919 | -.0056 | 1.917 | -.0083 |
| Stddev | .003 | .0008 | .003 | .0004 |
| %RSD | .1661 | 15.03 | .1384 | 4.435 |
| #1 | 1.917 | -.0050 | 1.919 | -.0086 |
| #2 | 1.922 | -.0061 | 1.915 | -.0081 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.0 | 39703. | 18080. |
| Stddev | 1.3 | 123. | 6. |
| %RSD | .10499 | .31060 | .03188 |
| #1 | 1235.9 | 39790. | 18084. |
| #2 | 1234.1 | 39616. | 18076. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 16:29:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0027 | .0014 | -.0009 | .0010 | .0000 | .0001 | -.0003 | .0000 |
| Stddev | .0001 | .0051 | .0008 | .0020 | .0000 | .0001 | .0000 | .0020 | .000 |
| %RSD | 15.46 | 184.9 | 56.11 | 223.5 | .1818 | 116.1 | 56.24 | 594.4 | 388.1 |
| #1 | .0006 | .0008 | .0020 | .0005 | .0010 | .0001 | .0001 | .0011 | .0000 |
| #2 | .0008 | -.0063 | .0009 | -.0023 | .0010 | .0000 | .0000 | -.0018 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0006 | .0000 | .0024 | .0043 | .0140 | .0001 | .0025 | -.0092 |
| Stddev | .0001 | .0008 | .0005 | .0002 | .0042 | .0229 | .0001 | .0005 | .0034 |
| %RSD | 74.98 | 118.1 | 9531. | 9.427 | 96.87 | 163.7 | 135.5 | 19.06 | 36.41 |
| #1 | .0001 | -.0001 | .0003 | .0026 | .0014 | .0302 | .0002 | .0028 | -.0069 |
| #2 | .0002 | -.0012 | -.0003 | .0023 | .0073 | -.0022 | .0000 | .0021 | -.0116 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0015 | .0008 | -.0084 | -.0010 | .0006 | .0001 | .0042 | .0000 |
| Stddev | .0002 | .0007 | .0014 | .0023 | .0014 | .0005 | .0006 | .0007 | .0004 |
| %RSD | 100.2 | 45.74 | 187.6 | 27.69 | 139.4 | 81.38 | 969.6 | 15.73 | 2758. |
| #1 | .0000 | .0010 | .0018 | -.0101 | .0000 | .0002 | -.0004 | .0047 | .0003 |
| #2 | -.0003 | .0020 | -.0002 | -.0068 | -.0020 | .0009 | .0005 | .0037 | -.0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | F.0025 | .0000 | .0009 | .0000 | -.0014 |
| Stddev | .0000 | .0008 | .0015 | .000 | .0033 | .0001 | .0003 |
| %RSD | 7.296 | 135.0 | 59.63 | 521.0 | 360.5 | 1052. | 21.81 |
| #1 | .0001 | .0011 | .0036 | .0001 | .0033 | .0001 | -.0011 |
| #2 | .0001 | .0000 | .0015 | -.0002 | -.0014 | -.0001 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1234.8 | 39974. | 17912. |
| Stddev | 4.0 | 118. | 9. |
| %RSD | .32513 | .29531 | .04847 |
| #1 | 1237.6 | 40057. | 17906. |
| #2 | 1231.9 | 39890. | 17918. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/28/2013 16:34:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0054 | .1999 | .0035 | -.0010 | .1007 | .0506 | .0042 | 5.075 | .0045 |
| Stddev | .0004 | .0058 | .0023 | .0009 | .0002 | .0001 | .0000 | .007 | .0002 |
| %RSD | 8.106 | 2.912 | 66.32 | 90.90 | .2374 | .1641 | .5928 | .1442 | 3.831 |
| #1 | .0051 | .2040 | .0018 | -.0003 | .1009 | .0505 | .0042 | 5.070 | .0046 |
| #2 | .0057 | .1958 | .0051 | -.0016 | .1006 | .0507 | .0042 | 5.080 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0526 | .0085 | .0251 | .1051 | 4.993 | 4.957 | .0157 | .1016 | 4.923 |
| Stddev | .0001 | .0000 | .0002 | .0014 | .002 | .039 | .0002 | .0003 | .012 |
| %RSD | .1152 | .4053 | .9120 | 1.373 | .0347 | .7887 | 1.150 | .3231 | .2509 |
| #1 | .0526 | .0085 | .0250 | .1041 | 4.992 | 4.985 | .0156 | .1014 | 4.915 |
| #2 | .0525 | .0085 | .0253 | .1061 | 4.994 | 4.930 | .0158 | .1018 | 4.932 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0402 | .0046 | .0005 | -.0092 | -.0005 | .0062 | .0109 | .0165 | .0984 |
| Stddev | .0001 | .0002 | .0004 | .0069 | .0011 | .0000 | .0031 | .0063 | .0003 |
| %RSD | .3435 | 3.670 | 84.90 | 75.52 | 196.4 | .6591 | 28.60 | 38.16 | .2978 |
| #1 | .0401 | .0048 | .0002 | -.0043 | .0002 | .0061 | .0131 | .0121 | .0986 |
| #2 | .0403 | .0045 | .0007 | -.0141 | -.0013 | .0062 | .0087 | .0210 | .0982 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0517 | F.0068 | .0101 | .0001 | .0231 | -.0011 |
| Stddev | .0001 | .0004 | .0000 | .0001 | .0017 | .0003 | .0000 |
| %RSD | .7291 | .7818 | .6513 | .6536 | 1884. | 1.347 | .6562 |
| #1 | .0101 | .0519 | .0068 | .0100 | .0013 | .0233 | -.0011 |
| #2 | .0102 | .0514 | .0068 | .0101 | -.0011 | .0229 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1238.4 | 39436. | 17829. |
| Stddev | 4.2 | 56. | 23. |
| %RSD | .33750 | .14295 | .13057 |
| #1 | 1235.4 | 39476. | 17845. |
| #2 | 1241.3 | 39397. | 17812. |



Zoom In Zoom Out

Sample Name: MP21908-B1 Acquired: 10/28/2013 16:39:09 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2040 | 2.184 | .5477 | -.0019 | .0025 | 2.043 | .5123 | 25.03 | .5441 | .5288 |
| Stddev | .0003 | .001 | .0028 | .0007 | .0000 | .005 | .0000 | .03 | .0055 | .0047 |
| %RSD | .1260 | .0447 | .5183 | 35.87 | .8572 | .2414 | .0083 | .1009 | 1.015 | .8846 |
| #1 | .2038 | 2.183 | .5457 | -.0014 | .0025 | 2.039 | .5123 | 25.05 | .5402 | .5255 |
| #2 | .2042 | 2.185 | .5498 | -.0024 | .0024 | 2.046 | .5122 | 25.01 | .5480 | .5321 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5345 | .5039 | 2.105 | 25.59 | 25.48 | .5123 | .0004 | 25.49 | .4973 | 1.018 |
| Stddev | .0016 | .0001 | .000 | .01 | .10 | .0018 | .0001 | .09 | .0047 | .008 |
| %RSD | .2942 | .0183 | .0014 | .0485 | .3767 | .3601 | 14.31 | .3413 | .9410 | .7592 |
| #1 | .5334 | .5040 | 2.105 | 25.58 | 25.42 | .5110 | .0005 | 25.43 | .4940 | 1.012 |
| #2 | .5356 | .5039 | 2.105 | 25.60 | 25.55 | .5136 | .0004 | 25.55 | .5006 | 1.023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0022 | .0017 | .5235 | .5185 | .0312 | -.0013 | .5058 | .5193 | .5153 |
| Stddev | .0022 | .0061 | .0018 | .0072 | .0053 | .0007 | .0004 | .0009 | .0008 | .0036 |
| %RSD | 445.1 | 277.9 | 107.0 | 1.366 | 1.027 | 2.172 | 30.56 | .1872 | .1449 | .7078 |
| #1 | .0011 | -.0065 | .0004 | .5184 | .5147 | .0307 | -.0010 | .5051 | .5188 | .5127 |
| #2 | -.0021 | .0021 | .0030 | .5286 | .5223 | .0317 | -.0015 | .5065 | .5199 | .5179 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5332 | .0032 | .5269 | -.0018 |
| Stddev | .0012 | .0078 | .0047 | .0003 |
| %RSD | .2175 | 243.9 | .8936 | 18.11 |
| #1 | .5324 | .0087 | .5236 | -.0021 |
| #2 | .5340 | -.0023 | .5303 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1199.1 | 39169. | 17936. |
| Stddev | 10.6 | 133. | 14. |
| %RSD | .88074 | .33835 | .07897 |
| #1 | 1206.6 | 39263. | 17946. |
| #2 | 1191.6 | 39075. | 17925. |



Zoom In Zoom Out

Sample Name: MP21908-MB1 Acquired: 10/28/2013 16:43:58 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0022 | -.0005 | -.0014 | .0009 | .0001 | .0000 | .0047 | .0001 | -.0005 |
| Stddev | .0000 | .0064 | .0006 | .0004 | .0004 | .0000 | .0000 | .0009 | .0000 | .0001 |
| %RSD | .8196 | 285.2 | 118.4 | 29.82 | 46.54 | 90.38 | 124.8 | 19.43 | 29.55 | 23.40 |
| #1 | .0004 | .0023 | -.0001 | -.0018 | .0012 | .0001 | .0000 | .0041 | .0001 | -.0004 |
| #2 | .0004 | -.0067 | -.0009 | -.0011 | .0006 | .0000 | .0000 | .0054 | .0000 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0007 | .0052 | -.0007 | .0157 | .0001 | .0003 | .0035 | -.0001 | .0002 |
| Stddev | .0004 | .0004 | .0008 | .0206 | .0018 | .0001 | .0001 | .0002 | .0002 | .0000 |
| %RSD | 36.50 | 61.10 | 15.36 | 3030. | 11.40 | 50.77 | 16.27 | 6.528 | 322.1 | 11.00 |
| #1 | -.0013 | .0004 | .0047 | -.0153 | .0144 | .0002 | .0003 | .0037 | -.0002 | .0002 |
| #2 | -.0008 | .0010 | .0058 | .0139 | .0169 | .0001 | .0004 | .0033 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0064 | -.0013 | .0005 | .0006 | .0322 | .0003 | .0000 | .0007 | .0007 |
| Stddev | .0004 | .0047 | .0013 | .0009 | .0003 | .0004 | .0007 | .0000 | .0003 | .0002 |
| %RSD | 330.8 | 72.45 | 100.7 | 191.9 | 56.17 | 1.092 | 214.1 | 93.48 | 46.78 | 27.26 |
| #1 | -.0002 | -.0031 | -.0004 | -.0002 | .0004 | .0324 | -.0002 | .0001 | .0004 | .0008 |
| #2 | .0004 | -.0097 | -.0023 | .0011 | .0008 | .0319 | .0008 | .0000 | .0009 | .0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0001 | .0007 | -.0018 |
| Stddev | .0003 | .0015 | .0000 | .0008 |
| %RSD | 110.5 | 1140. | 4.925 | 43.16 |
| #1 | -.0004 | -.0012 | .0007 | -.0024 |
| #2 | -.0001 | .0009 | .0007 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.8 | 39721. | 18031. |
| Stddev | 3.2 | 86. | 89. |
| %RSD | .26264 | .21708 | .49261 |
| #1 | 1217.0 | 39782. | 18094. |
| #2 | 1212.5 | 39660. | 17969. |

Zoom In Zoom Out

Sample Name: MP21908-S1 Acquired: 10/28/2013 16:48:57 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2041 | 2.143 | .5347 | -.0030 | .0077 | 1.999 | .5049 | 31.65 | .5327 | .5152 |
| Stddev | .0008 | .036 | .0007 | .0008 | .0005 | .022 | .0047 | .28 | .0019 | .0005 |
| %RSD | .3904 | 1.703 | .1263 | 26.88 | 6.330 | 1.109 | .9297 | .8990 | .3657 | .0933 |
| #1 | .2047 | 2.117 | .5351 | -.0036 | .0080 | 1.983 | .5016 | 31.45 | .5341 | .5149 |
| #2 | .2035 | 2.169 | .5342 | -.0024 | .0073 | 2.015 | .5083 | 31.85 | .5313 | .5156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5264 | .4995 | 2.049 | 26.57 | 26.45 | .5096 | .0005 | 31.52 | .4860 | .9897 |
| Stddev | .0013 | .0037 | .010 | .25 | .24 | .0018 | .0001 | .35 | .0009 | .0035 |
| %RSD | .2398 | .7335 | .4703 | .9544 | .9162 | .3454 | 14.08 | 1.119 | .1754 | .3507 |
| #1 | .5255 | .5021 | 2.043 | 26.39 | 26.28 | .5109 | .0005 | 31.27 | .4854 | .9922 |
| #2 | .5273 | .4969 | 2.056 | 26.75 | 26.62 | .5084 | .0004 | 31.77 | .4866 | .9873 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0034 | 2.090 | .5123 | .5062 | 8.149 | -.0013 | .5407 | .5110 | .4994 |
| Stddev | .0016 | .0046 | .006 | .0003 | .0015 | .002 | .0002 | .0059 | .0006 | .0000 |
| %RSD | 144.1 | 137.9 | .2720 | .0558 | .3034 | .0202 | 15.17 | 1.094 | .1215 | .0026 |
| #1 | .0000 | -.0001 | 2.086 | .5125 | .5052 | 8.150 | -.0012 | .5365 | .5115 | .4995 |
| #2 | -.0023 | -.0066 | 2.094 | .5121 | .5073 | 8.148 | -.0015 | .5449 | .5106 | .4994 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5235 | .0033 | .5232 | -.0467 |
| Stddev | .0008 | .0039 | .0003 | .0001 |
| %RSD | .1619 | 116.6 | .0536 | .1568 |
| #1 | .5241 | .0006 | .5234 | -.0467 |
| #2 | .5229 | .0060 | .5230 | -.0466 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1215.5 | 38898. | 17850. |
| Stddev | 5.1 | 197. | 91. |
| %RSD | .41750 | .50579 | .50970 |
| #1 | 1212.0 | 38759. | 17914. |
| #2 | 1219.1 | 39037. | 17786. |



Zoom In Zoom Out

Sample Name: MP21908-S2 Acquired: 10/28/2013 16:53:43 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2016 | 2.128 | .5316 | -.0025 | .0065 | 1.995 | .5009 | 31.24 | .5307 | .5130 |
| Stddev | .0008 | .009 | .0046 | .0007 | .0002 | .003 | .0001 | .02 | .0000 | .0004 |
| %RSD | .3786 | .4329 | .8564 | 30.26 | 3.294 | .1328 | .0153 | .0616 | .0042 | .0871 |
| #1 | .2022 | 2.122 | .5348 | -.0019 | .0064 | 1.993 | .5008 | 31.26 | .5307 | .5133 |
| #2 | .2011 | 2.135 | .5284 | -.0030 | .0067 | 1.997 | .5009 | 31.23 | .5307 | .5127 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5245 | .4951 | 2.058 | 26.41 | 26.16 | .5031 | .0003 | 31.12 | .4828 | .9867 |
| Stddev | .0022 | .0026 | .005 | .02 | .05 | .0004 | .0001 | .01 | .0003 | .0019 |
| %RSD | .4268 | .5181 | .2392 | .0701 | .2062 | .0817 | 46.41 | .0418 | .0528 | .1971 |
| #1 | .5229 | .4969 | 2.061 | 26.43 | 26.19 | .5034 | .0004 | 31.11 | .4826 | .9881 |
| #2 | .5261 | .4933 | 2.054 | 26.40 | 26.12 | .5028 | .0002 | 31.13 | .4829 | .9853 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0048 | 2.026 | .5110 | .5055 | 7.955 | -.0021 | .5359 | .5119 | .4984 |
| Stddev | .0008 | .0000 | .009 | .0012 | .0032 | .008 | .0010 | .0005 | .0033 | .0016 |
| %RSD | 43.08 | .5034 | .4221 | .2288 | .6380 | .0955 | 47.86 | .0933 | .6356 | .3238 |
| #1 | -.0025 | -.0048 | 2.032 | .5119 | .5078 | 7.960 | -.0028 | .5356 | .5142 | .4996 |
| #2 | -.0013 | -.0049 | 2.020 | .5102 | .5032 | 7.949 | -.0014 | .5363 | .5096 | .4973 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5245 | -.0036 | .5170 | -.0459 |
| Stddev | .0020 | .0004 | .0018 | .0002 |
| %RSD | .3762 | 9.830 | .3440 | .5365 |
| #1 | .5259 | -.0033 | .5183 | -.0458 |
| #2 | .5231 | -.0038 | .5158 | -.0461 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.3 | 39208. | 18050. |
| Stddev | 1.1 | 55. | 56. |
| %RSD | .08953 | .14042 | .30836 |
| #1 | 1207.6 | 39169. | 18011. |
| #2 | 1209.1 | 39247. | 18089. |



Zoom In Zoom Out

Sample Name: MC25522-6F Acquired: 10/28/2013 16:58:31 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0014 | .0019 | -.0010 | .0055 | .0046 | .0000 | 6.731 | .0000 | -.0003 |
| Stddev | .0001 | .0042 | .0002 | .0001 | .0001 | .0001 | .000 | .061 | .0002 | .0001 |
| %RSD | 15.33 | 294.1 | 10.13 | 11.39 | 2.525 | 1.334 | 24050. | .9137 | 2338. | 39.52 |
| #1 | .0004 | .0015 | .0018 | -.0009 | .0056 | .0046 | .0000 | 6.774 | -.0001 | -.0004 |
| #2 | .0005 | -.0044 | .0020 | -.0010 | .0054 | .0045 | .0000 | 6.687 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0049 | 1.333 | 1.176 | .0018 | .0003 | 6.062 | -.0001 | -.0014 |
| Stddev | .0002 | .0002 | .0011 | .015 | .011 | .0001 | .0000 | .007 | .0001 | .0003 |
| %RSD | 205.0 | 33.61 | 23.20 | 1.104 | .9337 | 4.659 | 14.48 | .1244 | 60.90 | 18.71 |
| #1 | .0000 | .0005 | .0041 | 1.322 | 1.169 | .0019 | .0003 | 6.067 | -.0002 | -.0016 |
| #2 | .0002 | .0009 | .0057 | 1.343 | 1.184 | .0018 | .0004 | 6.056 | -.0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0023 | 2.060 | .0001 | .0009 | 8.013 | .0000 | .0455 | .0004 | -.0003 |
| Stddev | .0015 | .0039 | .001 | .0003 | .0004 | .014 | .001 | .0000 | .0005 | .0002 |
| %RSD | 151.9 | 172.0 | .0329 | 355.7 | 49.69 | .1706 | 2329. | .0396 | 127.9 | 65.06 |
| #1 | .0001 | -.0050 | 2.061 | .0003 | .0006 | 8.003 | -.0006 | .0455 | .0007 | -.0005 |
| #2 | -.0021 | .0005 | 2.060 | -.0001 | .0012 | 8.022 | .0005 | .0455 | .0000 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0096 | .0054 | -.0463 |
| Stddev | .0005 | .0041 | .0000 | .0005 |
| %RSD | 281.3 | 42.76 | .9188 | 1.132 |
| #1 | .0002 | .0126 | .0055 | -.0459 |
| #2 | -.0005 | .0067 | .0054 | -.0467 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 39645. | 18075. |
| Stddev | 3.6 | 56. | 169. |
| %RSD | .29302 | .14116 | .93387 |
| #1 | 1224.7 | 39605. | 17955. |
| #2 | 1219.6 | 39685. | 18194. |



Zoom In Zoom Out

Sample Name: MP21908-SD1 Acquired: 10/28/2013 17:03:27 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | -.0291 | .0010 | -.0082 | .0079 | .0048 | .0001 | 7.130 | .0000 | -.0010 |
| Stddev | .0000 | .0054 | .0027 | .0023 | .0005 | .0008 | .0002 | .057 | .0002 | .0012 |
| %RSD | .0006 | 18.49 | 273.4 | 28.51 | 5.920 | 16.09 | 123.6 | .7970 | 466.7 | 123.7 |
| #1 | .0027 | -.0330 | .0029 | -.0066 | .0075 | .0054 | .0003 | 7.170 | .0001 | -.0001 |
| #2 | .0027 | -.0253 | -.0009 | -.0099 | .0082 | .0043 | .0000 | 7.089 | -.0001 | -.0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0006 | .0069 | 1.351 | 1.297 | .0016 | .0012 | 6.270 | .0000 | .0002 |
| Stddev | .0017 | .0030 | .0090 | .082 | .073 | .0002 | .0017 | .064 | .001 | .0012 |
| %RSD | 95.14 | 498.5 | 130.3 | 6.084 | 5.595 | 10.79 | 136.0 | 1.022 | 4672. | 529.3 |
| #1 | -.0030 | -.0027 | .0132 | 1.293 | 1.246 | .0014 | .0000 | 6.315 | .0005 | -.0006 |
| #2 | -.0006 | .0015 | .0005 | 1.410 | 1.348 | .0017 | .0024 | 6.225 | -.0005 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | -.0277 | 2.104 | .0031 | .0010 | 8.146 | .0008 | .0461 | .0025 | .0031 |
| Stddev | .0004 | .0126 | .007 | .0067 | .0066 | .022 | .0037 | .0010 | .0016 | .0036 |
| %RSD | 4.332 | 45.34 | .3302 | 216.9 | 663.1 | .2714 | 457.8 | 2.093 | 63.54 | 115.4 |
| #1 | -.0086 | -.0188 | 2.109 | .0078 | .0057 | 8.130 | -.0018 | .0468 | .0036 | .0006 |
| #2 | -.0081 | -.0366 | 2.099 | -.0017 | -.0037 | 8.161 | .0035 | .0454 | .0014 | .0056 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0024 | .0078 | .0114 | -.0496 |
| Stddev | .0014 | .0291 | .0006 | .0023 |
| %RSD | 57.33 | 371.5 | 5.683 | 4.609 |
| #1 | -.0034 | .0284 | .0119 | -.0480 |
| #2 | -.0014 | -.0128 | .0109 | -.0512 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1240.3 | 39707. | 17980. |
| Stddev | 3.7 | 85. | 2. |
| %RSD | .29905 | .21508 | .01173 |
| #1 | 1242.9 | 39647. | 17982. |
| #2 | 1237.6 | 39768. | 17979. |

Zoom In Zoom Out

Sample Name: MC25522-1F Acquired: 10/28/2013 17:08:24 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0025 | .6140 | -.0033 | .0692 | .0892 | .0000 | 21.87 | .0015 | .0047 |
| Stddev | .0004 | .0065 | .0013 | .0004 | .0004 | .0001 | .0000 | .01 | .0002 | .0001 |
| %RSD | 44.59 | 261.7 | .2117 | 11.15 | .5447 | .1581 | 4447. | .0542 | 13.74 | 1.904 |
| #1 | .0012 | .0071 | .6131 | -.0030 | .0694 | .0891 | .0000 | 21.88 | .0014 | .0046 |
| #2 | .0006 | -.0021 | .6149 | -.0035 | .0689 | .0893 | .0000 | 21.86 | .0017 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0016 | 38.22 | 8.309 | 2.531 | 1.585 | .0009 | 21.71 | .0043 | -.0013 |
| Stddev | .0003 | .0003 | .04 | .015 | .024 | .005 | .0002 | .04 | .0001 | .0002 |
| %RSD | 24.38 | 19.83 | .1174 | .1823 | .9563 | .3102 | 21.12 | .1911 | 3.094 | 13.58 |
| #1 | -.0009 | .0013 | 38.25 | 8.320 | 2.514 | 1.588 | .0008 | 21.74 | .0042 | -.0012 |
| #2 | -.0013 | .0018 | 38.19 | 8.299 | 2.548 | 1.581 | .0011 | 21.68 | .0044 | -.0015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0019 | 7.309 | .0021 | .0014 | 10.80 | .0006 | .2658 | .0003 | -.0014 |
| Stddev | .0017 | .0040 | .004 | .0010 | .0009 | .03 | .0003 | .0007 | .0002 | .0002 |
| %RSD | 48.86 | 211.7 | .0553 | 47.21 | 68.10 | .2832 | 44.38 | .2720 | 81.78 | 13.09 |
| #1 | .0046 | .0047 | 7.306 | .0028 | .0007 | 10.82 | .0004 | .2663 | .0001 | -.0015 |
| #2 | .0023 | -.0009 | 7.312 | .0014 | .0020 | 10.78 | .0008 | .2653 | .0004 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0020 | .0048 | .0065 | -.0608 |
| Stddev | .0002 | .0013 | .0000 | .0005 |
| %RSD | 9.820 | 27.09 | .4799 | .7402 |
| #1 | .0018 | .0057 | .0065 | -.0605 |
| #2 | .0021 | .0039 | .0066 | -.0612 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.3 | 39276. | 17962. |
| Stddev | 4.8 | 180. | 27. |
| %RSD | .39680 | .45933 | .15220 |
| #1 | 1207.9 | 39149. | 17943. |
| #2 | 1214.7 | 39404. | 17981. |



Zoom In Zoom Out

Sample Name: MC25522-2F Acquired: 10/28/2013 17:13:18 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0014 | .6151 | -.0014 | .0697 | .0886 | .0000 | 21.86 | .0015 | .0042 |
| Stddev | .0004 | .0034 | .0030 | .0007 | .0002 | .0004 | .000 | .01 | .0002 | .0001 |
| %RSD | 78.19 | 236.7 | .4858 | 51.43 | .2981 | .3984 | 46.52 | .0504 | 14.89 | 3.207 |
| #1 | .0002 | -.0039 | .6130 | -.0009 | .0696 | .0884 | .0000 | 21.87 | .0016 | .0042 |
| #2 | .0008 | .0010 | .6172 | -.0019 | .0699 | .0889 | .0000 | 21.86 | .0013 | .0041 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0005 | 38.35 | 8.305 | 2.506 | 1.588 | .0010 | 21.67 | .0045 | -.0016 |
| Stddev | .0006 | .0001 | .05 | .018 | .031 | .002 | .0001 | .01 | .0002 | .0005 |
| %RSD | 46.37 | 31.59 | .1215 | .2145 | 1.247 | .1357 | 13.16 | .0365 | 5.037 | 32.68 |
| #1 | -.0008 | .0004 | 38.38 | 8.293 | 2.528 | 1.586 | .0010 | 21.67 | .0043 | -.0020 |
| #2 | -.0017 | .0006 | 38.31 | 8.318 | 2.484 | 1.589 | .0009 | 21.68 | .0046 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0032 | 7.292 | .0009 | .0022 | 10.82 | .0001 | .2656 | .0003 | -.0019 |
| Stddev | .0004 | .0006 | .026 | .0002 | .0016 | .02 | .0001 | .0003 | .0003 | .0009 |
| %RSD | 14.27 | 18.46 | .3626 | 20.55 | 72.73 | .1869 | 70.35 | .1231 | 108.1 | 49.53 |
| #1 | .0024 | .0036 | 7.273 | .0008 | .0034 | 10.81 | .0002 | .2653 | .0006 | -.0012 |
| #2 | .0030 | .0028 | 7.310 | .0010 | .0011 | 10.84 | .0001 | .2658 | .0001 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0020 | .0059 | .0062 | -.0606 |
| Stddev | .0001 | .0045 | .0001 | .0002 |
| %RSD | 4.641 | 75.48 | 1.524 | .2703 |
| #1 | .0021 | .0028 | .0062 | -.0605 |
| #2 | .0019 | .0091 | .0063 | -.0607 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.9 | 39359. | 18066. |
| Stddev | 2.6 | 103. | 28. |
| %RSD | .21259 | .26177 | .15419 |
| #1 | 1213.8 | 39286. | 18047. |
| #2 | 1210.1 | 39432. | 18086. |



Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/28/2013 17:18:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0076 | 1.607 | -.0271 | .1552 | .0396 | .0000 | 74.43 | .0049 | .0140 |
| Stddev | .0002 | .0040 | .001 | .0003 | .0000 | .0002 | .0000 | .17 | .0001 | .0001 |
| %RSD | 42.36 | 52.04 | .0697 | 1.066 | .0018 | .4470 | 52.39 | .2219 | 2.329 | .4692 |
| #1 | .0006 | -.0048 | 1.607 | -.0273 | .1552 | .0395 | .0000 | 74.31 | .0048 | .0140 |
| #2 | .0003 | -.0104 | 1.606 | -.0269 | .1552 | .0397 | .0001 | 74.55 | .0050 | .0139 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0005 | 24.50 | 8.002 | 11.64 | 9.455 | .0024 | 23.64 | .0082 | -.0021 |
| Stddev | .0009 | .0004 | .02 | .045 | .05 | .086 | .0000 | .00 | .0000 | .0007 |
| %RSD | 132.4 | 69.61 | .0680 | .5630 | .3888 | .9090 | .2827 | .0006 | .3803 | 33.64 |
| #1 | -.0013 | .0003 | 24.49 | 7.970 | 11.61 | 9.516 | .0024 | 23.64 | .0082 | -.0026 |
| #2 | .0000 | .0008 | 24.51 | 8.034 | 11.67 | 9.394 | .0024 | 23.63 | .0082 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0521 | 1.616 | .0000 | -.0007 | 12.59 | -.0006 | .7302 | .0012 | -.0012 |
| Stddev | .0001 | .0025 | .007 | .0000 | .0023 | .01 | .0007 | .0007 | .0002 | .0000 |
| %RSD | 40.40 | 4.726 | .4580 | 403.5 | 311.4 | .0852 | 127.7 | .0890 | 16.17 | 2.884 |
| #1 | -.0005 | .0538 | 1.621 | .0000 | .0009 | 12.60 | -.0001 | .7297 | .0010 | -.0012 |
| #2 | -.0003 | .0503 | 1.611 | .0000 | -.0024 | 12.59 | -.0011 | .7306 | .0013 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0038 | .0117 | -.0701 |
| Stddev | .0001 | .0007 | .0002 | .0004 |
| %RSD | 31.00 | 18.75 | 1.564 | .5325 |
| #1 | -.0005 | .0033 | .0118 | -.0704 |
| #2 | -.0003 | .0043 | .0116 | -.0699 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.8 | 39340. | 17921. |
| Stddev | .9 | 41. | 16. |
| %RSD | .07711 | .10328 | .08938 |
| #1 | 1210.1 | 39369. | 17933. |
| #2 | 1211.4 | 39312. | 17910. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 17:23:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2480 | 9.814 | 1.909 | -.0078 | 1.910 | 1.901 | 1.947 | 9.903 | 1.981 | 1.999 |
| Stddev | .0005 | .025 | .004 | .0007 | .004 | .004 | .003 | .003 | .002 | .005 |
| %RSD | .2120 | .2596 | .2107 | 9.073 | .2250 | .1849 | .1402 | .0281 | .0749 | .2496 |
| #1 | .2484 | 9.832 | 1.906 | -.0083 | 1.907 | 1.898 | 1.949 | 9.905 | 1.980 | 1.995 |
| #2 | .2477 | 9.796 | 1.912 | -.0073 | 1.913 | 1.903 | 1.945 | 9.901 | 1.982 | 2.002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.959 | 1.922 | 9.925 | 9.709 | 9.737 | 1.965 | 1.912 | 9.685 | 1.895 | 1.908 |
| Stddev | .009 | .008 | .003 | .034 | .045 | .007 | .007 | .025 | .005 | .002 |
| %RSD | .4586 | .3990 | .0290 | .3508 | .4597 | .3357 | .3677 | .2572 | .2857 | .1083 |
| #1 | 1.965 | 1.917 | 9.923 | 9.685 | 9.705 | 1.970 | 1.907 | 9.667 | 1.891 | 1.906 |
| #2 | 1.952 | 1.928 | 9.927 | 9.733 | 9.769 | 1.960 | 1.917 | 9.702 | 1.899 | 1.909 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | -.0042 | 1.926 | 1.909 | .0070 | 1.912 | 1.926 | 1.938 | 1.907 |
| Stddev | .0010 | .0081 | .0017 | .000 | .000 | .0008 | .002 | .007 | .001 | .002 |
| %RSD | 4361. | 1321. | 40.84 | .0043 | .0117 | 11.32 | .1182 | .3625 | .0605 | .0907 |
| #1 | .0007 | .0063 | -.0054 | 1.926 | 1.910 | .0075 | 1.911 | 1.922 | 1.937 | 1.906 |
| #2 | -.0007 | -.0051 | -.0030 | 1.926 | 1.909 | .0064 | 1.914 | 1.931 | 1.939 | 1.909 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.931 | -.0078 | 1.918 | -.0075 |
| Stddev | .003 | .0003 | .010 | .0002 |
| %RSD | .1354 | 3.556 | .5384 | 3.029 |
| #1 | 1.933 | -.0076 | 1.911 | -.0074 |
| #2 | 1.929 | -.0080 | 1.925 | -.0077 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.6 | 39270. | 17962. |
| Stddev | 1.7 | 35. | 18. |
| %RSD | .13683 | .09033 | .10091 |
| #1 | 1248.4 | 39245. | 17949. |
| #2 | 1250.8 | 39295. | 17975. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 17:28:03 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0020 | F.0026 | .0000 | .0014 | .0001 | .0001 | .0008 | .0000 |
| Stddev | .0001 | .0059 | .0014 | .0006 | .0003 | .0000 | .0000 | .0003 | .0000 |
| %RSD | 67.86 | 292.6 | 54.70 | 1829. | 19.90 | 2.585 | 50.98 | 32.13 | 2.882 |
| #1 | .0001 | -.0062 | .0016 | -.0004 | .0016 | .0001 | .0000 | .0010 | .0000 |
| #2 | .0002 | .0022 | .0036 | .0004 | .0012 | .0001 | .0001 | .0006 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0003 | .0000 | .0010 | .0076 | .0205 | .0001 | .0020 | -.0084 |
| Stddev | .0000 | .0002 | .000 | .0007 | .0060 | .0214 | .0000 | .0004 | .0035 |
| %RSD | 8.433 | 83.74 | 524.8 | 64.53 | 78.35 | 104.4 | 35.01 | 17.67 | 42.01 |
| #1 | .0002 | -.0004 | .0000 | .0015 | .0119 | .0054 | .0001 | .0022 | -.0109 |
| #2 | .0002 | -.0001 | -.0001 | .0006 | .0034 | .0356 | .0001 | .0017 | -.0059 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0005 | -.0002 | -.0067 | -.0026 | -.0006 | .0007 | .0021 | .0006 |
| Stddev | .0002 | .0010 | .0006 | .0072 | .0012 | .0004 | .0000 | .0008 | .0001 |
| %RSD | 170.5 | 200.9 | 272.0 | 107.7 | 46.42 | 70.50 | 4.434 | 37.86 | 10.56 |
| #1 | -.0002 | -.0002 | .0002 | -.0118 | -.0018 | -.0009 | .0007 | .0026 | .0005 |
| #2 | .0000 | .0013 | -.0006 | -.0016 | -.0035 | -.0003 | .0007 | .0015 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | F.0024 | -.0003 | .0005 | .0000 | -.0009 |
| Stddev | .0000 | .0006 | .0001 | .0001 | .0017 | .0002 | .0002 |
| %RSD | 25.43 | 291.8 | 4.696 | 46.65 | 353.4 | 1795. | 20.88 |
| #1 | .0000 | .0006 | .0023 | -.0004 | -.0007 | -.0001 | -.0010 |
| #2 | .0001 | -.0002 | .0025 | -.0002 | .0017 | .0002 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.5 | 39824. | 17914. |
| Stddev | 1.0 | 41. | 10. |
| %RSD | .08390 | .10275 | .05714 |
| #1 | 1228.8 | 39853. | 17922. |
| #2 | 1230.2 | 39795. | 17907. |



Zoom In Zoom Out

Sample Name: MC25522-4F Acquired: 10/28/2013 17:33:02 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0066 | 2.447 | -.0253 | .0820 | .0629 | .0000 | 84.90 | .0073 | .0035 |
| Stddev | .0003 | .0049 | .006 | .0001 | .0000 | .0002 | .0000 | .10 | .0001 | .0001 |
| %RSD | 87.45 | 74.91 | .2355 | .4587 | .0602 | .2452 | 27.87 | .1234 | 1.326 | 2.370 |
| #1 | .0005 | -.0031 | 2.452 | -.0254 | .0820 | .0630 | .0000 | 84.83 | .0072 | .0034 |
| #2 | .0001 | -.0101 | 2.443 | -.0252 | .0821 | .0628 | .0000 | 84.97 | .0073 | .0036 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0003 | 7.521 | 4.334 | 11.56 | 7.954 | .0043 | 17.31 | .0061 | -.0017 |
| Stddev | .0007 | .0001 | .018 | .024 | .22 | .018 | .0000 | .05 | .0004 | .0004 |
| %RSD | 103.6 | 38.65 | .2407 | .5518 | 1.890 | .2305 | .4073 | .3135 | 6.565 | 23.97 |
| #1 | .0002 | .0002 | 7.533 | 4.317 | 11.41 | 7.942 | .0042 | 17.35 | .0058 | -.0020 |
| #2 | .0011 | .0004 | 7.508 | 4.351 | 11.72 | 7.967 | .0043 | 17.27 | .0063 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0381 | 3.676 | .0015 | -.0011 | 12.04 | -.0001 | .4208 | .0008 | -.0002 |
| Stddev | .0000 | .0011 | .003 | .0006 | .0023 | .00 | .0005 | .0011 | .0002 | .0002 |
| %RSD | .7538 | 2.966 | .0879 | 39.15 | 204.1 | .0321 | 637.2 | .2609 | 29.25 | 105.4 |
| #1 | -.0033 | .0373 | 3.678 | .0020 | .0005 | 12.04 | .0003 | .4216 | .0010 | -.0003 |
| #2 | -.0033 | .0389 | 3.673 | .0011 | -.0027 | 12.04 | -.0004 | .4200 | .0007 | -.0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0014 | .0084 | -.0678 |
| Stddev | .0007 | .0085 | .0000 | .0000 |
| %RSD | 125.2 | 609.0 | .4380 | .0191 |
| #1 | -.0001 | -.0046 | .0084 | -.0678 |
| #2 | -.0011 | .0074 | .0084 | -.0678 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1191.5 | 39326. | 17917. |
| Stddev | .7 | 134. | 7. |
| %RSD | .06274 | .33989 | .04156 |
| #1 | 1192.1 | 39421. | 17922. |
| #2 | 1191.0 | 39232. | 17912. |



Zoom In Zoom Out

Sample Name: MC25522-5F Acquired: 10/28/2013 17:38:01 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0058 | .0019 | -.0026 | .0132 | .0176 | .0000 | 11.28 | .0001 | .0000 |
| Stddev | .0002 | .0010 | .0022 | .0000 | .0001 | .0001 | .0001 | .09 | .0001 | .000 |
| %RSD | 44.98 | 17.33 | 113.3 | 1.910 | .4493 | .5473 | 420.9 | .8234 | 137.2 | 2120. |
| #1 | .0004 | .0051 | .0034 | -.0026 | .0132 | .0176 | .0001 | 11.21 | .0002 | -.0002 |
| #2 | .0007 | .0065 | .0004 | -.0025 | .0131 | .0177 | .0000 | 11.34 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0017 | .0433 | 1.361 | 2.289 | .0296 | .0004 | 39.10 | .0000 | -.0001 |
| Stddev | .0009 | .0003 | .0010 | .004 | .046 | .0002 | .0001 | .05 | .000 | .0005 |
| %RSD | 73.78 | 16.50 | 2.384 | .3209 | 2.024 | .5270 | 17.12 | .1197 | 617.8 | 458.7 |
| #1 | -.0018 | .0015 | .0426 | 1.364 | 2.256 | .0297 | .0004 | 39.06 | .0001 | .0002 |
| #2 | -.0006 | .0019 | .0441 | 1.358 | 2.322 | .0295 | .0005 | 39.13 | -.0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0086 | 2.644 | .0010 | .0011 | 2.783 | .0002 | .0756 | .0004 | -.0011 |
| Stddev | .0002 | .0013 | .008 | .0003 | .0021 | .011 | .0007 | .0002 | .0001 | .0013 |
| %RSD | 28.33 | 15.59 | .3077 | 25.37 | 187.5 | .3766 | 309.5 | .2561 | 36.05 | 117.5 |
| #1 | -.0005 | -.0095 | 2.650 | .0012 | -.0004 | 2.776 | .0007 | .0754 | .0003 | -.0002 |
| #2 | -.0008 | -.0076 | 2.638 | .0008 | .0026 | 2.791 | -.0003 | .0757 | .0005 | -.0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0047 | .0077 | -.0163 |
| Stddev | .0003 | .0006 | .0002 | .0005 |
| %RSD | 43.38 | 12.05 | 2.373 | 3.241 |
| #1 | -.0004 | .0043 | .0079 | -.0159 |
| #2 | -.0008 | .0051 | .0076 | -.0166 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.0 | 39511. | 17978. |
| Stddev | 3.9 | 109. | 138. |
| %RSD | .31882 | .27605 | .76745 |
| #1 | 1225.8 | 39434. | 18075. |
| #2 | 1220.3 | 39588. | 17880. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/28/2013 17:42:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0056 | -.0344 | .2672 | .0484 | .0000 | 63.51 | .0002 | .0049 |
| Stddev | .0001 | .0008 | .0020 | .0003 | .0000 | .0002 | .0000 | .01 | .0001 | .0000 |
| %RSD | 27.08 | 104.3 | 35.28 | .9659 | .0116 | .3165 | 128.8 | .0094 | 44.72 | .4737 |
| #1 | .0005 | .0002 | .0070 | -.0341 | .2673 | .0483 | .0000 | 63.51 | .0002 | .0049 |
| #2 | .0003 | .0013 | .0042 | -.0346 | .2672 | .0485 | .0000 | 63.50 | .0001 | .0049 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0005 | .6088 | 17.35 | 9.910 | 11.52 | .0003 | 31.81 | .0050 | -.0016 |
| Stddev | .0009 | .0004 | .0014 | .04 | .057 | .06 | .0002 | .13 | .0000 | .0006 |
| %RSD | 132.4 | 67.52 | .2262 | .2532 | .5699 | .5590 | 57.66 | .4113 | .9480 | 39.63 |
| #1 | .0000 | .0003 | .6078 | 17.32 | 9.950 | 11.57 | .0002 | 31.72 | .0050 | -.0011 |
| #2 | .0013 | .0008 | .6098 | 17.38 | 9.870 | 11.48 | .0004 | 31.91 | .0050 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0661 | 1.153 | .0013 | .0017 | 7.355 | .0003 | 1.193 | .0008 | -.0021 |
| Stddev | .0016 | .0006 | .003 | .0008 | .0015 | .000 | .0001 | .006 | .0001 | .0004 |
| %RSD | 63.07 | .9086 | .2518 | 66.07 | 84.54 | .0036 | 44.03 | .4701 | 14.42 | 17.49 |
| #1 | -.0037 | .0656 | 1.155 | .0007 | .0027 | 7.354 | .0002 | 1.189 | .0007 | -.0023 |
| #2 | -.0014 | .0665 | 1.151 | .0019 | .0007 | 7.355 | .0004 | 1.197 | .0009 | -.0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | .0048 | .0064 | -.0417 |
| Stddev | .0004 | .0024 | .0000 | .0007 |
| %RSD | 24.12 | 50.03 | .6839 | 1.668 |
| #1 | -.0020 | .0031 | .0064 | -.0412 |
| #2 | -.0014 | .0065 | .0065 | -.0422 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.2 | 39542. | 17683. |
| Stddev | 3.1 | 310. | 34. |
| %RSD | .25349 | .78352 | .19104 |
| #1 | 1205.1 | 39323. | 17659. |
| #2 | 1209.4 | 39761. | 17707. |

Zoom In Zoom Out

Sample Name: MC25522-8F Acquired: 10/28/2013 17:47:58 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0017 | .7144 | -.0084 | .0797 | .1250 | .0000 | 44.12 | .0020 | .0057 |
| Stddev | .0001 | .0005 | .0013 | .0001 | .0001 | .0005 | .0000 | .02 | .0002 | .0001 |
| %RSD | 14.24 | 30.21 | .1864 | .9147 | .1619 | .3699 | .2686 | .0345 | 9.480 | 1.049 |
| #1 | .0006 | -.0014 | .7153 | -.0085 | .0798 | .1247 | .0000 | 44.13 | .0022 | .0056 |
| #2 | .0005 | -.0021 | .7135 | -.0084 | .0796 | .1254 | .0000 | 44.11 | .0019 | .0057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0011 | 26.95 | 8.469 | 5.904 | 3.611 | .0022 | 26.33 | .0091 | -.0016 |
| Stddev | .0001 | .0007 | .01 | .019 | .004 | .012 | .0001 | .06 | .0004 | .0028 |
| %RSD | 7.682 | 61.61 | .0521 | .2212 | .0682 | .3214 | 4.141 | .2114 | 4.669 | 178.2 |
| #1 | -.0013 | .0016 | 26.94 | 8.455 | 5.901 | 3.603 | .0021 | 26.29 | .0088 | .0004 |
| #2 | -.0011 | .0006 | 26.96 | 8.482 | 5.907 | 3.619 | .0022 | 26.37 | .0094 | -.0035 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0181 | 6.444 | .0011 | .0016 | 13.89 | -.0004 | .4734 | .0006 | -.0012 |
| Stddev | .0015 | .0077 | .005 | .0001 | .0011 | .05 | .0005 | .0010 | .0000 | .0010 |
| %RSD | 70.19 | 42.79 | .0810 | 6.515 | 71.71 | .3532 | 134.5 | .2165 | 7.714 | 80.63 |
| #1 | .0011 | .0126 | 6.440 | .0011 | .0008 | 13.93 | .0000 | .4727 | .0006 | -.0019 |
| #2 | .0031 | .0236 | 6.447 | .0012 | .0024 | 13.86 | -.0008 | .4742 | .0006 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | .0071 | .0067 | -.0775 |
| Stddev | .0002 | .0003 | .0001 | .0001 |
| %RSD | 21.83 | 3.573 | 1.756 | .0832 |
| #1 | .0006 | .0069 | .0066 | -.0776 |
| #2 | .0009 | .0073 | .0068 | -.0775 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.6 | 39360. | 17860. |
| Stddev | 9.1 | 120. | 8. |
| %RSD | .75209 | .30576 | .04664 |
| #1 | 1207.2 | 39446. | 17854. |
| #2 | 1220.1 | 39275. | 17866. |



Zoom In Zoom Out

Sample Name: MC25522-9F Acquired: 10/28/2013 17:52:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0032 | .0202 | .0057 | .3266 | .4193 | .0000 | 152.9 | -.0004 | .0000 |
| Stddev | .0003 | .0042 | .0006 | .0020 | .0012 | .0010 | .0000 | .2 | .0001 | .0001 |
| %RSD | 99.01 | 128.9 | 3.202 | 34.77 | .3589 | .2303 | 28.89 | .1096 | 19.06 | 1267. |
| #1 | .0001 | .0062 | .0197 | .0043 | .3274 | .4187 | .0000 | 152.8 | -.0005 | -.0001 |
| #2 | .0006 | .0003 | .0206 | .0071 | .3258 | .4200 | .0000 | 153.0 | -.0003 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0007 | 69.22 | 15.43 | 14.35 | .4589 | -.0003 | 15.22 | .0007 | -.0026 |
| Stddev | .0004 | .0001 | .11 | .04 | .24 | .0013 | .0000 | .05 | .0001 | .0003 |
| %RSD | 88.73 | 10.41 | .1571 | .2854 | 1.647 | .2729 | 9.577 | .3263 | 14.01 | 12.75 |
| #1 | -.0007 | .0006 | 69.15 | 15.40 | 14.19 | .4580 | -.0003 | 15.18 | .0008 | -.0028 |
| #2 | -.0002 | .0007 | 69.30 | 15.46 | 14.52 | .4597 | -.0003 | 15.25 | .0007 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0021 | .3169 | .0013 | .0016 | 14.28 | .0005 | 1.065 | .0013 | -.0014 |
| Stddev | .0007 | .0062 | .0013 | .0000 | .0030 | .04 | .0002 | .002 | .0003 | .0000 |
| %RSD | 19.61 | 296.9 | .4100 | 1.045 | 190.0 | .2713 | 40.16 | .1683 | 21.92 | .0088 |
| #1 | .0040 | .0064 | .3178 | .0013 | -.0005 | 14.31 | .0006 | 1.064 | .0015 | -.0014 |
| #2 | .0030 | -.0023 | .3160 | .0013 | .0037 | 14.25 | .0003 | 1.066 | .0011 | -.0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0042 | .0113 | .0055 | -.0792 |
| Stddev | .0002 | .0009 | .0004 | .0006 |
| %RSD | 4.175 | 8.031 | 7.387 | .7780 |
| #1 | .0041 | .0107 | .0058 | -.0796 |
| #2 | .0044 | .0119 | .0052 | -.0787 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1182.8 | 39043. | 17812. |
| Stddev | 1.7 | 38. | 40. |
| %RSD | .14119 | .09803 | .22315 |
| #1 | 1181.6 | 39070. | 17840. |
| #2 | 1184.0 | 39016. | 17784. |



Zoom In Zoom Out

Sample Name: MC25522-10F Acquired: 10/28/2013 17:57:50 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .2157 | .0135 | -.0020 | .0134 | .0068 | .0001 | 11.49 | .0000 | .0002 |
| Stddev | .0000 | .0039 | .0008 | .0004 | .0001 | .0000 | .0000 | .14 | .0000 | .0001 |
| %RSD | 7.176 | 1.824 | 5.747 | 18.86 | .7381 | .1349 | 61.68 | 1.215 | 205.9 | 87.06 |
| #1 | .0007 | .2184 | .0130 | -.0017 | .0135 | .0068 | .0001 | 11.59 | .0000 | .0001 |
| #2 | .0006 | .2129 | .0141 | -.0023 | .0134 | .0069 | .0000 | 11.40 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | 2.384 | 1.783 | 1.648 | .4294 | .0003 | 3.593 | .0005 | .0002 |
| Stddev | .0003 | .0002 | .023 | .017 | .002 | .0009 | .0000 | .007 | .0001 | .0012 |
| %RSD | 89.42 | 28.07 | .9666 | .9625 | .1449 | .2057 | 4.847 | .1985 | 23.58 | 468.6 |
| #1 | .0006 | .0005 | 2.400 | 1.795 | 1.646 | .4300 | .0004 | 3.588 | .0006 | .0011 |
| #2 | .0001 | .0007 | 2.367 | 1.771 | 1.649 | .4288 | .0003 | 3.598 | .0004 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0035 | .3815 | .0008 | .0019 | 3.151 | -.0005 | .0764 | .0031 | -.0007 |
| Stddev | .0024 | .0021 | .0008 | .0004 | .0010 | .002 | .0005 | .0001 | .0009 | .0011 |
| %RSD | 391.4 | 59.05 | .2087 | 52.32 | 51.06 | .0557 | 99.66 | .1504 | 29.33 | 146.5 |
| #1 | .0023 | -.0020 | .3820 | .0005 | .0012 | 3.150 | -.0009 | .0763 | .0024 | .0000 |
| #2 | -.0011 | -.0050 | .3809 | .0011 | .0026 | 3.152 | -.0002 | .0765 | .0037 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | .0010 | .0071 | -.0190 |
| Stddev | .0004 | .0010 | .0001 | .0002 |
| %RSD | 40.47 | 102.6 | 1.694 | 1.173 |
| #1 | .0012 | .0017 | .0070 | -.0188 |
| #2 | .0007 | .0003 | .0072 | -.0191 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.7 | 39915. | 18050. |
| Stddev | 2.9 | 60. | 191. |
| %RSD | .23858 | .15008 | 1.0584 |
| #1 | 1223.8 | 39872. | 17915. |
| #2 | 1219.6 | 39957. | 18185. |



Zoom In Zoom Out

Sample Name: MC25522-11F Acquired: 10/28/2013 18:02:46 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0020 | .0005 | -.0018 | .0125 | .0064 | .0001 | 8.192 | .0000 | -.0004 |
| Stddev | .0001 | .0047 | .0010 | .0000 | .0005 | .0001 | .0000 | .029 | .0001 | .0002 |
| %RSD | 66.97 | 233.1 | 210.2 | 1.764 | 4.134 | 1.259 | 83.02 | .3497 | 289.7 | 59.15 |
| #1 | .0002 | -.0053 | .0012 | -.0018 | .0121 | .0063 | .0001 | 8.213 | .0001 | -.0002 |
| #2 | .0001 | .0013 | -.0002 | -.0019 | .0128 | .0064 | .0000 | 8.172 | -.0001 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0006 | .0021 | .7590 | 1.262 | .0006 | .0003 | 7.346 | .0000 | -.0009 |
| Stddev | .0002 | .0009 | .0016 | .0094 | .003 | .0001 | .0000 | .007 | .0001 | .0001 |
| %RSD | 76.43 | 143.7 | 76.20 | 1.237 | .2313 | 10.19 | 5.993 | .0928 | 169.5 | 11.04 |
| #1 | -.0005 | .0012 | .0010 | .7657 | 1.264 | .0006 | .0003 | 7.351 | .0001 | -.0009 |
| #2 | -.0001 | .0000 | .0032 | .7524 | 1.260 | .0007 | .0003 | 7.341 | .0000 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0028 | 2.390 | -.0004 | .0017 | 6.373 | -.0001 | .0613 | .0005 | -.0008 |
| Stddev | .0002 | .0004 | .001 | .0002 | .0005 | .017 | .0003 | .0002 | .0005 | .0009 |
| %RSD | 35.50 | 14.77 | .0561 | 48.40 | 30.92 | .2585 | 212.4 | .2985 | 96.15 | 108.8 |
| #1 | .0004 | .0025 | 2.389 | -.0003 | .0013 | 6.361 | .0001 | .0614 | .0008 | -.0002 |
| #2 | .0006 | .0031 | 2.391 | -.0006 | .0021 | 6.385 | -.0003 | .0612 | .0002 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0001 | .0057 | -.0367 |
| Stddev | .0002 | .0005 | .0002 | .0005 |
| %RSD | 435.1 | 560.2 | 3.217 | 1.367 |
| #1 | -.0001 | .0005 | .0058 | -.0364 |
| #2 | .0002 | -.0003 | .0056 | -.0371 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.7 | 39735. | 18090. |
| Stddev | 3.3 | 133. | 54. |
| %RSD | .27203 | .33360 | .29948 |
| #1 | 1232.1 | 39642. | 18051. |
| #2 | 1227.3 | 39829. | 18128. |

Zoom In Zoom Out

Sample Name: MC25522-12F Acquired: 10/28/2013 18:07:42 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0048 | -.0011 | -.0025 | .0012 | .0000 | .0000 | .0171 | -.0001 | -.0002 |
| Stddev | .0003 | .0042 | .0021 | .0011 | .0000 | .0000 | .0000 | .0002 | .0001 | .0001 |
| %RSD | 61.13 | 88.97 | 201.3 | 44.38 | 3.664 | 28.61 | 119.9 | .9001 | 85.06 | 31.26 |
| #1 | .0003 | -.0018 | -.0026 | -.0033 | .0012 | .0000 | .0000 | .0170 | .0000 | -.0002 |
| #2 | .0008 | -.0078 | .0004 | -.0017 | .0011 | .0000 | .0000 | .0172 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0003 | .0027 | .0230 | .0116 | .0000 | .0001 | .0052 | -.0004 | .0017 |
| Stddev | .0007 | .0002 | .0011 | .0244 | .0145 | .0000 | .0002 | .0009 | .0001 | .0005 |
| %RSD | 81.30 | 55.14 | 40.30 | 106.2 | 125.3 | 80.91 | 348.1 | 18.04 | 26.71 | 27.52 |
| #1 | -.0014 | .0002 | .0035 | .0057 | .0218 | .0000 | -.0001 | .0059 | -.0005 | .0014 |
| #2 | -.0004 | .0004 | .0019 | .0402 | .0013 | .0001 | .0002 | .0045 | -.0003 | .0021 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0031 | -.0006 | .0010 | .0023 | .0211 | -.0002 | .0000 | .0002 | -.0009 |
| Stddev | .001 | .0094 | .0003 | .0002 | .0001 | .0010 | .0003 | .0000 | .0008 | .0006 |
| %RSD | 2901. | 304.9 | 43.65 | 17.08 | 4.822 | 4.631 | 156.1 | 357.6 | 493.8 | 68.39 |
| #1 | .0010 | .0036 | -.0004 | .0011 | .0022 | .0218 | .0000 | .0000 | -.0004 | -.0013 |
| #2 | -.0011 | -.0097 | -.0008 | .0008 | .0023 | .0204 | -.0004 | .0000 | .0007 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | -.0037 | .0056 | -.0013 |
| Stddev | .0004 | .0009 | .0000 | .0014 |
| %RSD | 92.33 | 23.64 | .7260 | 112.6 |
| #1 | -.0001 | -.0031 | .0055 | -.0023 |
| #2 | -.0007 | -.0043 | .0056 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.8 | 39802. | 17872. |
| Stddev | 3.4 | 1053. | 232. |
| %RSD | .27935 | 2.6464 | 1.2967 |
| #1 | 1232.2 | 40547. | 17708. |
| #2 | 1227.4 | 39058. | 18036. |



Zoom In Zoom Out

Sample Name: MC25522-13F Acquired: 10/28/2013 18:12:40 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0150 | .0355 | -.0017 | .0174 | .0479 | .0000 | 26.80 | .0000 | .0072 |
| Stddev | .0001 | .0097 | .0008 | .0001 | .0002 | .0000 | .0000 | .05 | .0000 | .0004 |
| %RSD | 32.23 | 64.92 | 2.342 | 4.500 | .8778 | .0494 | 14.55 | .2006 | 50.74 | 5.082 |
| #1 | .0004 | .0219 | .0349 | -.0017 | .0173 | .0479 | .0000 | 26.77 | .0000 | .0074 |
| #2 | .0006 | .0081 | .0361 | -.0018 | .0175 | .0480 | .0000 | 26.84 | .0000 | .0069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0009 | 6.606 | 6.482 | 3.339 | .4372 | .0002 | 12.13 | .0037 | -.0007 |
| Stddev | .0005 | .0001 | .021 | .002 | .018 | .0021 | .0002 | .01 | .0001 | .0003 |
| %RSD | 44.80 | 7.731 | .3103 | .0292 | .5236 | .4757 | 67.36 | .0874 | 3.763 | 39.94 |
| #1 | -.0008 | .0010 | 6.592 | 6.484 | 3.352 | .4357 | .0003 | 12.14 | .0038 | -.0009 |
| #2 | -.0015 | .0009 | 6.621 | 6.481 | 3.327 | .4387 | .0001 | 12.12 | .0036 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0017 | 3.484 | .0018 | .0002 | 4.225 | -.0002 | .1068 | .0004 | -.0010 |
| Stddev | .003 | .0012 | .004 | .0014 | .0010 | .014 | .0003 | .0002 | .0001 | .0007 |
| %RSD | 29470. | 69.63 | .1051 | 78.29 | 413.5 | .3233 | 179.0 | .2075 | 13.93 | 67.34 |
| #1 | .0021 | -.0025 | 3.481 | .0029 | -.0005 | 4.216 | .0000 | .1069 | .0003 | -.0015 |
| #2 | -.0021 | -.0008 | 3.486 | .0008 | .0009 | 4.235 | -.0004 | .1066 | .0004 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | .0050 | .0068 | -.0241 |
| Stddev | .0003 | .0008 | .0002 | .0002 |
| %RSD | 59.65 | 16.88 | 3.162 | .8557 |
| #1 | .0003 | .0056 | .0067 | -.0242 |
| #2 | .0007 | .0044 | .0070 | -.0239 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.8 | 39217. | 17806. |
| Stddev | 2.5 | 75. | 21. |
| %RSD | .20346 | .19099 | .11812 |
| #1 | 1221.0 | 39270. | 17820. |
| #2 | 1224.6 | 39164. | 17791. |



Zoom In Zoom Out

Sample Name: MC25522-14F Acquired: 10/28/2013 18:17:34 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0057 | 2.602 | -.0154 | .0047 | .0117 | .0001 | 9.967 | .0074 | .0057 |
| Stddev | .0001 | .0075 | .001 | .0003 | .0003 | .0001 | .0000 | .127 | .0001 | .0003 |
| %RSD | 247.2 | 130.9 | .0425 | 1.784 | 7.278 | .7116 | 25.93 | 1.270 | 1.605 | 4.591 |
| #1 | .0002 | .0110 | 2.603 | -.0152 | .0049 | .0116 | .0001 | 9.878 | .0075 | .0059 |
| #2 | .0000 | .0004 | 2.601 | -.0156 | .0045 | .0118 | .0001 | 10.06 | .0074 | .0055 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0000 | 41.75 | .6379 | .8885 | 6.064 | -.0003 | 2.498 | .0054 | -.0007 |
| Stddev | .0000 | .0003 | .42 | .0019 | .0011 | .022 | .0001 | .006 | .0001 | .0007 |
| %RSD | 3.987 | 776.2 | 1.003 | .3051 | .1231 | .3662 | 21.64 | .2511 | 2.121 | 93.18 |
| #1 | -.0011 | .0002 | 41.46 | .6393 | .8878 | 6.080 | -.0003 | 2.494 | .0055 | -.0002 |
| #2 | -.0010 | -.0002 | 42.05 | .6365 | .8893 | 6.049 | -.0003 | 2.503 | .0053 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0042 | .0278 | 1.885 | .0004 | .0002 | 5.758 | .0004 | .0584 | .0002 | -.0013 |
| Stddev | .0013 | .0033 | .005 | .0002 | .0008 | .005 | .0002 | .0000 | .0006 | .0001 |
| %RSD | 30.81 | 12.00 | .2756 | 45.90 | 523.8 | .0884 | 46.78 | .0135 | 238.1 | 9.019 |
| #1 | .0051 | .0254 | 1.889 | .0003 | -.0004 | 5.762 | .0006 | .0584 | .0007 | -.0014 |
| #2 | .0033 | .0301 | 1.881 | .0005 | .0008 | 5.754 | .0003 | .0584 | -.0002 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0011 | .0040 | .0087 | -.0333 |
| Stddev | .0002 | .0037 | .0001 | .0011 |
| %RSD | 21.39 | 92.62 | 1.604 | 3.319 |
| #1 | .0010 | .0014 | .0088 | -.0326 |
| #2 | .0013 | .0066 | .0086 | -.0341 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.4 | 39805. | 18064. |
| Stddev | 4.5 | 165. | 215. |
| %RSD | .36421 | .41483 | 1.1905 |
| #1 | 1223.3 | 39689. | 18216. |
| #2 | 1229.6 | 39922. | 17911. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 18:22:33 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.778 | 1.905 | -.0076 | 1.904 | 1.892 | 1.952 | 9.972 | 1.981 | 1.997 |
| Stddev | .0007 | .030 | .006 | .0013 | .005 | .002 | .002 | .009 | .002 | .001 |
| %RSD | .2879 | .3031 | .2996 | 17.58 | .2809 | .0769 | .0771 | .0912 | .0913 | .0480 |
| #1 | .2474 | 9.799 | 1.909 | -.0086 | 1.900 | 1.891 | 1.953 | 9.978 | 1.980 | 1.998 |
| #2 | .2464 | 9.757 | 1.901 | -.0067 | 1.908 | 1.893 | 1.950 | 9.965 | 1.983 | 1.996 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.945 | 1.916 | 9.960 | 9.628 | 9.716 | 1.970 | 1.911 | 9.613 | 1.887 | 1.910 |
| Stddev | .009 | .000 | .016 | .025 | .003 | .009 | .001 | .002 | .001 | .005 |
| %RSD | .4453 | .0171 | .1608 | .2595 | .0299 | .4410 | .0730 | .0196 | .0619 | .2863 |
| #1 | 1.951 | 1.915 | 9.948 | 9.645 | 9.714 | 1.976 | 1.910 | 9.615 | 1.888 | 1.914 |
| #2 | 1.939 | 1.916 | 9.971 | 9.610 | 9.718 | 1.963 | 1.912 | 9.612 | 1.887 | 1.907 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0004 | -.0060 | 1.918 | 1.909 | .0035 | 1.905 | 1.921 | 1.947 | 1.898 |
| Stddev | .0021 | .0029 | .0019 | .000 | .005 | .0009 | .004 | .007 | .005 | .001 |
| %RSD | 203.7 | 716.9 | 32.37 | .0235 | .2577 | 26.89 | .1901 | .3435 | .2699 | .0425 |
| #1 | -.0005 | -.0024 | -.0046 | 1.918 | 1.912 | .0041 | 1.908 | 1.916 | 1.951 | 1.897 |
| #2 | .0025 | .0016 | -.0074 | 1.918 | 1.905 | .0028 | 1.903 | 1.925 | 1.943 | 1.898 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.930 | -.0014 | 1.914 | -.0084 |
| Stddev | .009 | .0049 | .007 | .0006 |
| %RSD | .4932 | 341.0 | .3639 | 6.979 |
| #1 | 1.937 | -.0049 | 1.919 | -.0080 |
| #2 | 1.923 | .0020 | 1.909 | -.0088 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.1 | 39496. | 18025. |
| Stddev | 1.7 | 153. | 19. |
| %RSD | .13358 | .38810 | .10613 |
| #1 | 1250.3 | 39387. | 18038. |
| #2 | 1247.9 | 39604. | 18011. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 18:27:20 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0031 | .0014 | -.0010 | .0014 | .0000 | .0001 | -.0003 | .0000 |
| Stddev | .0000 | .0002 | .0008 | .0011 | .0001 | .000 | .0000 | .0011 | .0000 |
| %RSD | 2.256 | 7.710 | 58.00 | 112.7 | 5.268 | 255.4 | 42.90 | 399.0 | 517.4 |
| #1 | .0006 | -.0029 | .0008 | -.0002 | .0015 | -.0001 | .0001 | -.0011 | .0000 |
| #2 | .0005 | -.0032 | .0020 | -.0018 | .0014 | .0000 | .0001 | .0005 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0014 | -.0004 | .0007 | .0061 | .0143 | .0000 | .0023 | -.0081 |
| Stddev | .0001 | .0001 | .0001 | .0007 | .0148 | .0099 | .0002 | .0008 | .0012 |
| %RSD | 3706. | 10.53 | 25.10 | 95.65 | 240.8 | 69.15 | 751.3 | 33.75 | 15.39 |
| #1 | .0001 | -.0013 | -.0003 | .0002 | -.0043 | .0073 | .0001 | .0028 | -.0072 |
| #2 | -.0001 | -.0015 | -.0004 | .0012 | .0166 | .0212 | -.0001 | .0017 | -.0089 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0002 | .0006 | -.0029 | -.0024 | .0007 | -.0004 | .0014 | -.0001 |
| Stddev | .0002 | .0004 | .0007 | .0021 | .0000 | .0010 | .0000 | .0004 | .0005 |
| %RSD | 297.6 | 224.1 | 109.4 | 71.49 | .5165 | 156.0 | 8.129 | 26.75 | 322.9 |
| #1 | .0001 | -.0001 | .0001 | -.0015 | -.0024 | -.0001 | -.0003 | .0011 | -.0005 |
| #2 | -.0002 | .0005 | .0011 | -.0044 | -.0024 | .0014 | -.0004 | .0017 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | F.0024 | -.0004 | .0042 | .0001 | -.0012 |
| Stddev | .0000 | .0001 | .0018 | .0001 | .0054 | .0002 | .0001 |
| %RSD | 30.99 | 34.10 | 76.77 | 15.01 | 127.4 | 190.3 | 12.14 |
| #1 | .0000 | .0002 | .0036 | -.0004 | .0004 | .0003 | -.0013 |
| #2 | .0001 | .0004 | .0011 | -.0003 | .0081 | .0000 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1240.4 | 40228. | 17901. |
| Stddev | 1.5 | 7. | 57. |
| %RSD | .12489 | .01830 | .31917 |
| #1 | 1241.5 | 40223. | 17941. |
| #2 | 1239.3 | 40234. | 17860. |



Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/28/2013 18:32:18 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0085 | 1.118 | -.0268 | .1987 | .0373 | .0000 | 75.51 | .0033 | .0148 |
| Stddev | .0005 | .0024 | .002 | .0010 | .0004 | .0004 | .0000 | .03 | .0001 | .0001 |
| %RSD | 114.7 | 27.76 | .1587 | 3.905 | .2136 | .9882 | 93.44 | .0403 | 1.563 | .4923 |
| #1 | .0008 | -.0069 | 1.117 | -.0260 | .1984 | .0370 | .0000 | 75.49 | .0033 | .0147 |
| #2 | .0001 | -.0102 | 1.120 | -.0275 | .1990 | .0376 | .0000 | 75.53 | .0033 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0008 | 30.50 | 8.041 | 11.31 | 8.923 | .0019 | 26.93 | .0047 | -.0019 |
| Stddev | .0007 | .0003 | .07 | .036 | .10 | .044 | .0000 | .11 | .0003 | .0007 |
| %RSD | 436.4 | 34.33 | .2351 | .4542 | .8624 | .4885 | 1.369 | .4188 | 6.062 | 38.16 |
| #1 | -.0003 | .0006 | 30.45 | 8.015 | 11.24 | 8.954 | .0019 | 26.85 | .0045 | -.0025 |
| #2 | .0007 | .0009 | 30.56 | 8.067 | 11.37 | 8.893 | .0020 | 27.01 | .0049 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0496 | 1.389 | .0004 | -.0001 | 12.94 | -.0011 | .9025 | .0005 | -.0020 |
| Stddev | .0003 | .0056 | .003 | .0010 | .0015 | .05 | .0001 | .0025 | .0002 | .0009 |
| %RSD | 61.32 | 11.24 | .2062 | 253.7 | 1288. | .3758 | 5.739 | .2753 | 39.71 | 44.56 |
| #1 | -.0007 | .0456 | 1.391 | .0011 | .0009 | 12.90 | -.0011 | .9008 | .0007 | -.0014 |
| #2 | -.0003 | .0535 | 1.387 | -.0003 | -.0012 | 12.97 | -.0010 | .9043 | .0004 | -.0026 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | .0057 | .0068 | -.0721 |
| Stddev | .0002 | .0000 | .0002 | .0005 |
| %RSD | 83.73 | .2887 | 2.269 | .6605 |
| #1 | .0004 | .0057 | .0067 | -.0717 |
| #2 | .0001 | .0057 | .0069 | -.0724 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1212.3 | 39384. | 17986. |
| Stddev | 5.2 | 162. | 1. |
| %RSD | .42851 | .41254 | .00448 |
| #1 | 1216.0 | 39269. | 17986. |
| #2 | 1208.6 | 39499. | 17985. |



Zoom In Zoom Out

Sample Name: MC25568-2F Acquired: 10/28/2013 18:37:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0490 | .0144 | -.0015 | .0088 | .0084 | .0000 | 10.61 | .0002 | .0021 |
| Stddev | .0003 | .0039 | .0004 | .0005 | .0007 | .0001 | .0000 | .00 | .0001 | .0001 |
| %RSD | 55.29 | 8.017 | 2.449 | 34.04 | 7.477 | .7885 | 73.45 | .0064 | 35.27 | 3.633 |
| #1 | .0008 | .0518 | .0142 | -.0019 | .0084 | .0084 | .0000 | 10.61 | .0002 | .0020 |
| #2 | .0003 | .0463 | .0147 | -.0012 | .0093 | .0085 | .0000 | 10.61 | .0001 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0004 | 4.210 | .4506 | .9710 | .3113 | .0004 | 11.86 | .0007 | .0006 |
| Stddev | .0007 | .0002 | .020 | .0129 | .0162 | .0001 | .0001 | .02 | .0001 | .0010 |
| %RSD | 122.7 | 49.19 | .4816 | 2.854 | 1.667 | .0170 | 19.35 | .1938 | 18.40 | 168.2 |
| #1 | -.0010 | .0003 | 4.195 | .4597 | .9596 | .3112 | .0003 | 11.88 | .0008 | .0013 |
| #2 | -.0001 | .0006 | 4.224 | .4415 | .9825 | .3113 | .0005 | 11.84 | .0006 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0026 | 3.182 | .0008 | .0017 | 3.196 | .0004 | .0626 | .0003 | -.0011 |
| Stddev | .0016 | .0091 | .006 | .0002 | .0006 | .008 | .0002 | .0001 | .0003 | .0000 |
| %RSD | 245.7 | 352.2 | .1886 | 23.29 | 35.71 | .2520 | 54.30 | .1101 | 102.0 | 3.151 |
| #1 | .0018 | .0038 | 3.178 | .0006 | .0013 | 3.190 | .0002 | .0625 | .0005 | -.0012 |
| #2 | -.0005 | -.0090 | 3.186 | .0009 | .0021 | 3.202 | .0005 | .0626 | .0001 | -.0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0077 | .0064 | -.0184 |
| Stddev | .0004 | .0016 | .0001 | .0000 |
| %RSD | 96.54 | 21.12 | 1.189 | .0249 |
| #1 | .0001 | .0065 | .0065 | -.0185 |
| #2 | .0007 | .0088 | .0064 | -.0184 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.3 | 39525. | 17858. |
| Stddev | 1.3 | 103. | 35. |
| %RSD | .10366 | .26175 | .19453 |
| #1 | 1243.2 | 39452. | 17834. |
| #2 | 1241.4 | 39598. | 17883. |



Zoom In Zoom Out

Sample Name: MC25568-3F Acquired: 10/28/2013 18:42:11 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0504 | .0151 | -.0025 | .0085 | .0080 | .0000 | 10.56 | .0002 | .0020 |
| Stddev | .0009 | .0045 | .0009 | .0003 | .0001 | .0000 | .0000 | .02 | .0001 | .0002 |
| %RSD | 257.4 | 8.834 | 5.975 | 12.30 | 1.734 | .3711 | 10.18 | .2200 | 85.80 | 11.22 |
| #1 | .0010 | .0472 | .0158 | -.0028 | .0086 | .0080 | .0000 | 10.54 | .0001 | .0022 |
| #2 | -.0003 | .0535 | .0145 | -.0023 | .0083 | .0080 | .0000 | 10.57 | .0003 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0004 | 4.246 | .4432 | .9602 | .3083 | .0001 | 11.89 | .0006 | .0001 |
| Stddev | .0004 | .0003 | .026 | .0205 | .0032 | .0054 | .0001 | .11 | .0002 | .0006 |
| %RSD | 32.04 | 72.61 | .6234 | 4.626 | .3366 | 1.764 | 94.88 | .9291 | 28.96 | 1019. |
| #1 | -.0013 | .0002 | 4.227 | .4577 | .9579 | .3044 | .0002 | 11.81 | .0008 | -.0004 |
| #2 | -.0008 | .0006 | 4.264 | .4287 | .9625 | .3121 | .0000 | 11.96 | .0005 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | 3.136 | .0009 | .0011 | 3.186 | .0005 | .0626 | .0000 | -.0006 |
| Stddev | .0005 | .0004 | .023 | .0009 | .0004 | .030 | .0003 | .0006 | .0002 | .0005 |
| %RSD | 450.8 | 31.48 | .7217 | 97.01 | 34.51 | .9305 | 53.98 | .9062 | 3101. | 82.15 |
| #1 | .0003 | -.0009 | 3.152 | .0015 | .0008 | 3.207 | .0003 | .0622 | -.0001 | -.0009 |
| #2 | -.0005 | -.0014 | 3.120 | .0003 | .0014 | 3.165 | .0007 | .0630 | .0001 | -.0003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0011 | .0066 | -.0188 |
| Stddev | .0002 | .0009 | .0001 | .0008 |
| %RSD | 46.05 | 76.59 | 1.983 | 4.237 |
| #1 | .0002 | -.0017 | .0065 | -.0194 |
| #2 | .0005 | -.0005 | .0067 | -.0182 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.7 | 39658. | 17913. |
| Stddev | 17.6 | 635. | 1. |
| %RSD | 1.4243 | 1.6001 | .00829 |
| #1 | 1224.2 | 40107. | 17914. |
| #2 | 1249.2 | 39209. | 17912. |

Zoom In Zoom Out

Sample Name: MC25568-4F Acquired: 10/28/2013 18:47:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0015 | .6769 | -.0019 | .0557 | .0214 | .0000 | 12.74 | .0019 | .0090 |
| Stddev | .0000 | .0010 | .0009 | .0004 | .0005 | .0000 | .0000 | .03 | .0000 | .0002 |
| %RSD | 120.0 | 68.39 | .1353 | 21.83 | .8744 | .0399 | 13.26 | .2586 | 1.024 | 2.621 |
| #1 | .0001 | .0022 | .6762 | -.0016 | .0561 | .0214 | .0000 | 12.76 | .0018 | .0088 |
| #2 | .0000 | .0008 | .6775 | -.0022 | .0554 | .0214 | .0000 | 12.72 | .0019 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0009 | 21.22 | 7.503 | 2.426 | .5827 | .0041 | 3.776 | .0025 | -.0010 |
| Stddev | .0005 | .0001 | .10 | .050 | .030 | .0012 | .0001 | .020 | .0004 | .0002 |
| %RSD | 71.25 | 12.58 | .4515 | .6714 | 1.255 | .2057 | 1.966 | .5339 | 16.92 | 17.11 |
| #1 | -.0003 | .0008 | 21.28 | 7.539 | 2.447 | .5818 | .0042 | 3.790 | .0022 | -.0009 |
| #2 | -.0009 | .0010 | 21.15 | 7.468 | 2.404 | .5835 | .0040 | 3.762 | .0028 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0053 | 1.465 | .0008 | .0018 | 6.072 | .0000 | .1457 | .0004 | -.0009 |
| Stddev | .0013 | .0035 | .001 | .0005 | .0000 | .006 | .000 | .0010 | .0001 | .0007 |
| %RSD | 77.34 | 65.84 | .0690 | 69.83 | 1.699 | .1053 | 2235. | .6844 | 20.14 | 77.86 |
| #1 | .0026 | .0078 | 1.464 | .0012 | .0018 | 6.068 | .0001 | .1464 | .0004 | -.0004 |
| #2 | .0008 | .0029 | 1.466 | .0004 | .0018 | 6.077 | -.0001 | .1450 | .0003 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0019 | .0092 | -.0348 |
| Stddev | .0002 | .0042 | .0002 | .0002 |
| %RSD | 34.08 | 221.5 | 1.681 | .7079 |
| #1 | .0008 | -.0011 | .0091 | -.0349 |
| #2 | .0005 | .0048 | .0093 | -.0346 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.5 | 39701. | 17936. |
| Stddev | 2.4 | 40. | 57. |
| %RSD | .19872 | .10185 | .31748 |
| #1 | 1231.3 | 39730. | 17896. |
| #2 | 1227.8 | 39673. | 17976. |



Zoom In Zoom Out

Sample Name: MC25568-5F Acquired: 10/28/2013 18:52:00 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0023 | -.0011 | -.0019 | .0127 | .0085 | .0000 | 6.515 | .0000 | .0003 |
| Stddev | .0004 | .0005 | .0004 | .0013 | .0001 | .0001 | .0000 | .008 | .0000 | .0002 |
| %RSD | 102.9 | 23.00 | 33.38 | 71.37 | .6706 | .6118 | 130.3 | .1265 | 80.11 | 57.79 |
| #1 | .0007 | -.0019 | -.0013 | -.0009 | .0126 | .0085 | .0001 | 6.509 | .0000 | .0002 |
| #2 | .0001 | -.0026 | -.0008 | -.0028 | .0127 | .0084 | .0000 | 6.521 | .0001 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0013 | .1114 | 1.877 | .9761 | .0660 | .0001 | 2.415 | .0004 | .0001 |
| Stddev | .0008 | .0003 | .0019 | .008 | .0251 | .0004 | .0000 | .003 | .0001 | .0015 |
| %RSD | 94.78 | 26.03 | 1.698 | .4451 | 2.567 | .6356 | 23.94 | .1084 | 12.54 | 2379. |
| #1 | -.0003 | .0011 | .1128 | 1.883 | .9584 | .0657 | .0001 | 2.413 | .0004 | -.0010 |
| #2 | -.0014 | .0015 | .1101 | 1.871 | .9939 | .0663 | .0001 | 2.417 | .0004 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0045 | 2.043 | .0011 | .0025 | 3.511 | -.0001 | .0515 | .0000 | .0000 |
| Stddev | .0011 | .0110 | .013 | .0008 | .0022 | .012 | .0001 | .0003 | .0009 | .000 |
| %RSD | 348.9 | 247.8 | .6126 | 75.26 | 86.87 | .3529 | 161.7 | .5191 | 23330. | 713.1 |
| #1 | .0005 | .0034 | 2.052 | .0017 | .0041 | 3.520 | .0000 | .0513 | .0006 | -.0003 |
| #2 | -.0011 | -.0123 | 2.034 | .0005 | .0010 | 3.502 | -.0002 | .0517 | -.0006 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0014 | .0067 | -.0206 |
| Stddev | .0002 | .0004 | .0000 | .0003 |
| %RSD | 32.38 | 28.95 | .0193 | 1.499 |
| #1 | -.0004 | .0011 | .0067 | -.0208 |
| #2 | -.0006 | .0016 | .0067 | -.0204 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.4 | 39831. | 18062. |
| Stddev | 1.0 | 159. | 54. |
| %RSD | .07992 | .39953 | .30153 |
| #1 | 1241.7 | 39718. | 18024. |
| #2 | 1243.1 | 39943. | 18101. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/28/2013 18:56:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0048 | .0514 | -.0285 | .1867 | .0103 | .0001 | 109.8 | .0002 | .0017 |
| Stddev | .0003 | .0034 | .0009 | .0007 | .0002 | .0002 | .0000 | .6 | .0001 | .0003 |
| %RSD | 153.7 | 70.94 | 1.707 | 2.469 | .0871 | 1.968 | 29.68 | .5278 | 25.80 | 17.69 |
| #1 | .0004 | -.0024 | .0521 | -.0280 | .1865 | .0102 | .0001 | 109.4 | .0003 | .0019 |
| #2 | .0000 | -.0073 | .0508 | -.0290 | .1868 | .0105 | .0002 | 110.2 | .0002 | .0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .6153 | 4.793 | 13.69 | 9.028 | .0015 | 27.36 | .0145 | -.0013 |
| Stddev | .0004 | .0003 | .0080 | .054 | .08 | .048 | .0001 | .08 | .0003 | .0004 |
| %RSD | 171.4 | 198.0 | 1.297 | 1.135 | .5633 | .5357 | 3.687 | .3019 | 2.215 | 34.25 |
| #1 | -.0005 | .0004 | .6096 | 4.755 | 13.63 | 8.994 | .0014 | 27.31 | .0143 | -.0010 |
| #2 | .0000 | -.0001 | .6209 | 4.832 | 13.74 | 9.062 | .0015 | 27.42 | .0147 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0490 | 2.113 | .0019 | .0011 | 9.964 | -.0008 | .5642 | .0011 | -.0015 |
| Stddev | .0008 | .0037 | .005 | .0009 | .0006 | .013 | .0003 | .0025 | .0003 | .0014 |
| %RSD | 17.48 | 7.637 | .2601 | 48.92 | 55.72 | .1308 | 33.78 | .4372 | 24.84 | 92.46 |
| #1 | -.0041 | .0516 | 2.117 | .0025 | .0016 | 9.973 | -.0006 | .5624 | .0009 | -.0005 |
| #2 | -.0053 | .0463 | 2.109 | .0012 | .0007 | 9.955 | -.0010 | .5659 | .0013 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | .0007 | .0132 | -.0551 |
| Stddev | .0003 | .0046 | .0001 | .0001 |
| %RSD | 16.83 | 655.0 | .9948 | .1981 |
| #1 | -.0019 | .0039 | .0133 | -.0550 |
| #2 | -.0015 | -.0025 | .0131 | -.0552 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.5 | 39555. | 17767. |
| Stddev | 1.1 | 79. | 149. |
| %RSD | .09104 | .19942 | .83626 |
| #1 | 1218.2 | 39610. | 17872. |
| #2 | 1216.7 | 39499. | 17662. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/28/2013 19:01:55 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0058 | .2008 | .0051 | -.0010 | .0994 | .0495 | .0042 | 5.101 | .0044 | .0522 |
| Stddev | .0004 | .0063 | .0017 | .0003 | .0010 | .0003 | .0000 | .006 | .0001 | .0001 |
| %RSD | 7.260 | 3.154 | 33.89 | 26.87 | .9810 | .5208 | .8543 | .1266 | 2.416 | .2279 |
| #1 | .0055 | .1963 | .0063 | -.0008 | .0987 | .0496 | .0043 | 5.106 | .0045 | .0521 |
| #2 | .0061 | .2052 | .0039 | -.0012 | .1001 | .0493 | .0042 | 5.097 | .0043 | .0523 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0094 | .0248 | .1046 | 4.911 | 4.937 | .0161 | .1000 | 4.880 | .0397 | .0058 |
| Stddev | .0003 | .0007 | .0017 | .021 | .040 | .0000 | .0008 | .009 | .0003 | .0001 |
| %RSD | 2.914 | 2.886 | 1.622 | .4192 | .8171 | .2970 | .8094 | .1863 | .7322 | 2.044 |
| #1 | .0096 | .0243 | .1034 | 4.925 | 4.908 | .0161 | .0994 | 4.874 | .0395 | .0059 |
| #2 | .0092 | .0253 | .1058 | 4.896 | 4.965 | .0161 | .1005 | 4.887 | .0399 | .0058 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0029 | -.0013 | .0068 | .0110 | .0095 | .0972 | .0101 | .0516 | .0057 |
| Stddev | .0002 | .0059 | .0001 | .0001 | .0001 | .0004 | .0003 | .0000 | .0005 | .0004 |
| %RSD | 39.59 | 205.6 | 9.680 | 1.081 | 1.067 | 4.097 | .2840 | .0925 | 1.064 | 6.307 |
| #1 | -.0003 | -.0071 | -.0012 | .0067 | .0111 | .0092 | .0974 | .0101 | .0512 | .0055 |
| #2 | -.0006 | .0013 | -.0014 | .0068 | .0109 | .0098 | .0970 | .0101 | .0520 | .0060 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0102 | .0024 | .0231 | -.0004 |
| Stddev | .0003 | .0046 | .0001 | .0012 |
| %RSD | 2.947 | 190.6 | .4977 | 331.1 |
| #1 | .0104 | .0056 | .0230 | -.0012 |
| #2 | .0100 | -.0008 | .0232 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 39959. | 17887. |
| Stddev | 7.3 | 200. | . |
| %RSD | .57321 | .49938 | .00210 |
| #1 | 1277.0 | 40100. | 17887. |
| #2 | 1266.7 | 39818. | 17888. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 19:06:49 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2474 | 9.732 | 1.903 | -.0079 | 1.900 | 1.874 | 1.946 | 9.926 | 1.980 | 1.989 |
| Stddev | .0024 | .070 | .005 | .0016 | .004 | .014 | .015 | .049 | .001 | .005 |
| %RSD | .9692 | .7159 | .2514 | 20.86 | .2244 | .7246 | .7843 | .4940 | .0364 | .2380 |
| #1 | .2457 | 9.683 | 1.899 | -.0067 | 1.897 | 1.864 | 1.936 | 9.891 | 1.980 | 1.986 |
| #2 | .2491 | 9.781 | 1.906 | -.0091 | 1.903 | 1.883 | 1.957 | 9.961 | 1.981 | 1.992 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.974 | 1.910 | 9.879 | 9.576 | 9.702 | 1.979 | 1.899 | 9.643 | 1.889 | 1.899 |
| Stddev | .016 | .018 | .059 | .045 | .013 | .017 | .006 | .088 | .008 | .008 |
| %RSD | .7926 | .9418 | .6005 | .4725 | .1381 | .8409 | .3053 | .9152 | .4181 | .4012 |
| #1 | 1.963 | 1.898 | 9.837 | 9.544 | 9.712 | 1.967 | 1.895 | 9.581 | 1.884 | 1.894 |
| #2 | 1.985 | 1.923 | 9.921 | 9.608 | 9.693 | 1.991 | 1.903 | 9.705 | 1.895 | 1.905 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0007 | -.0060 | 1.903 | 1.900 | .0010 | 1.904 | 1.907 | 1.934 | 1.889 |
| Stddev | .0002 | .0003 | .0011 | .005 | .006 | .0002 | .002 | .014 | .014 | .002 |
| %RSD | 12.17 | 35.08 | 17.36 | .2410 | .3125 | 17.91 | .1090 | .7345 | .7000 | .0813 |
| #1 | .0015 | .0005 | -.0068 | 1.907 | 1.896 | .0011 | 1.902 | 1.897 | 1.924 | 1.888 |
| #2 | .0013 | .0009 | -.0053 | 1.900 | 1.904 | .0008 | 1.905 | 1.917 | 1.943 | 1.890 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.928 | -.0052 | 1.918 | -.0074 |
| Stddev | .018 | .0010 | .009 | .0002 |
| %RSD | .9081 | 19.92 | .4840 | 2.543 |
| #1 | 1.915 | -.0059 | 1.912 | -.0076 |
| #2 | 1.940 | -.0045 | 1.925 | -.0073 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1269.7 | 39319. | 17898. |
| Stddev | 3.6 | 222. | 37. |
| %RSD | .27965 | .56347 | .20715 |
| #1 | 1267.2 | 39476. | 17924. |
| #2 | 1272.2 | 39162. | 17871. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 19:11:32 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0042 | .0013 | -.0004 | .0011 | -.0001 | .0001 | .0011 | .0003 |
| Stddev | .0006 | .0025 | .0001 | .0012 | .0006 | .0000 | .0001 | .0015 | .0000 |
| %RSD | 118.3 | 60.06 | 11.23 | 310.9 | 58.64 | 68.20 | 71.75 | 134.5 | 5.576 |
| #1 | .0009 | -.0060 | .0012 | -.0012 | .0015 | -.0001 | .0000 | .0001 | .0003 |
| #2 | .0001 | -.0024 | .0014 | .0004 | .0006 | .0000 | .0001 | .0022 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0006 | -.0007 | -.0001 | -.0010 | .0142 | .0000 | .0021 | -.0087 |
| Stddev | .000 | .0013 | .0002 | .0021 | .0053 | .0011 | .0000 | .0001 | .0013 |
| %RSD | 8286. | 201.1 | 33.26 | 1667. | 538.5 | 7.715 | 185.1 | 5.612 | 14.63 |
| #1 | .0001 | -.0015 | -.0006 | -.0016 | -.0047 | .0150 | .0000 | .0022 | -.0096 |
| #2 | -.0001 | .0003 | -.0009 | .0014 | .0027 | .0135 | .0000 | .0020 | -.0078 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | -.0001 | -.0080 | -.0034 | .0002 | .0008 | .0003 | -.0003 |
| Stddev | .000 | .0010 | .0010 | .0043 | .0020 | .0000 | .0007 | .0004 | .0000 |
| %RSD | 951.4 | 87.77 | 1286. | 53.78 | 59.73 | 7.136 | 82.15 | 130.7 | 10.04 |
| #1 | -.0001 | .0019 | .0006 | -.0111 | -.0019 | .0002 | .0003 | .0000 | -.0002 |
| #2 | .0001 | .0004 | -.0008 | -.0050 | -.0048 | .0002 | .0013 | .0006 | -.0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | F.0028 | .0001 | .0001 | .0003 | -.0008 |
| Stddev | .000 | .0001 | .0006 | .0001 | .0002 | .0000 | .0000 |
| %RSD | 476.0 | 12.64 | 21.82 | 90.73 | 207.9 | 1.059 | 3.225 |
| #1 | .0000 | .0006 | .0032 | .0002 | .0003 | .0003 | -.0008 |
| #2 | .0000 | .0005 | .0024 | .0001 | .0000 | .0003 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.7 | 39881. | 17779. |
| Stddev | 2.4 | 16. | 30. |
| %RSD | .19245 | .03948 | .16984 |
| #1 | 1262.0 | 39870. | 17758. |
| #2 | 1265.4 | 39892. | 17801. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000105 | 0.000000 | No |
| | | | Mo | 0.000027 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000165 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000164 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000002 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Cr | 0.000452 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | -0.000002 | 0.000000 | No |
| | | | Mn | 0.000386 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | Fe | 0.000012 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000052 | 0.000000 | No |
| | | | Mn | 0.000060 | 0.000000 | No |
| | | | Mo | -0.001394 | 0.000000 | No |
| | | | Co | -0.000033 | 0.000000 | No |
| | | | Cu | 0.000176 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Fe | 0.000054 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ni | 0.000184 | 0.000000 | No |
| | | | Si | 0.000258 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000028 | 0.000000 | No |
| | | | Cr | 0.004104 | 0.000000 | No |
| | | | Mo | -0.001502 | 0.000000 | No |
| | | | Mg | -0.000002 | 0.000000 | No |
| | | | Ni | -0.000192 | 0.000000 | No |
| | | | V | -0.001499 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | -0.000072 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000006 | 0.000000 | No |
| | | | Fe | -0.000195 | 0.000000 | No |
| | | | Mn | 0.000467 | 0.000000 | No |
| | | | Mo | 0.000004 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.000187 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.000754 | 0.000000 | No |
| | | | Cr | 0.000398 | 0.000000 | No |
| | | | V | -0.026236 | 0.000000 | No |
| | | | Co | 0.002353 | 0.000000 | No |
| | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶
Zoom Out

Sample Name: Std1 Acquired: 10/29/2013 11:48:42 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0023 | .0009 | -.0002 | -.0002 | .0018 | .0083 | -.0001 | .0027 | .0038 |
| Stddev | .0000 | .0001 | .0001 | .0000 | .0002 | .0003 | .0001 | .0000 | .0004 |
| %RSD | .1691 | 16.61 | 59.56 | 17.20 | 10.77 | 4.157 | 44.00 | 1.197 | 11.49 |
| #1 | -.0023 | .0008 | -.0003 | -.0002 | .0020 | .0080 | -.0001 | .0028 | .0041 |
| #2 | -.0023 | .0010 | -.0001 | -.0001 | .0017 | .0085 | -.0002 | .0027 | .0035 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | -.0001 | .0160 | .0004 | .0013 | -.0001 | .0003 | -.0004 | .0013 |
| Stddev | .0001 | .0000 | .0002 | .0000 | .0001 | .0001 | .0001 | .0001 | .0000 |
| %RSD | 6.970 | 10.92 | .9507 | 9.364 | 7.726 | 102.8 | 33.57 | 31.82 | 3.282 |
| #1 | -.0015 | -.0001 | .0159 | .0005 | .0012 | .0000 | .0003 | -.0005 | .0013 |
| #2 | -.0016 | -.0001 | .0161 | .0004 | .0014 | -.0002 | .0002 | -.0003 | .0012 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0022 | -.0009 | -.0006 | -.0002 | .0033 | .0010 | .0009 | .0400 | -.0002 |
| Stddev | .0001 | .0002 | .0002 | .0001 | .0000 | .0006 | .0004 | .0002 | .0004 |
| %RSD | 2.744 | 22.11 | 23.73 | 33.74 | .3282 | 58.98 | 46.69 | .5559 | 174.3 |
| #1 | -.0022 | -.0008 | -.0008 | -.0002 | .0033 | .0015 | .0012 | .0402 | .0000 |
| #2 | -.0023 | -.0010 | -.0005 | -.0002 | .0033 | .0006 | .0006 | .0399 | -.0005 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0071 | .0001 | -.0039 | .0000 | .0002 | -.0007 | .0300 |
| Stddev | .0000 | .0001 | .0003 | .000 | .0000 | .0005 | .0000 |
| %RSD | .3171 | 34.85 | 7.205 | 225.7 | 15.60 | 73.20 | .0385 |
| #1 | .0071 | .0001 | -.0041 | -.0001 | .0001 | -.0011 | .0300 |
| #2 | .0071 | .0002 | -.0037 | .0000 | .0002 | -.0004 | .0300 |



◀ Zoom In ▶
Zoom Out

Sample Name: Std1 Acquired: 10/29/2013 11:48:42 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1210.3 | 41370. | 18049. |
| Stddev | 5.9 | 54. | 80. |
| %RSD | .48911 | .13041 | .44175 |
| #1 | 1206.1 | 41332. | 17993. |
| #2 | 1214.5 | 41408. | 18105. |



◀ Zoom In ▶
Zoom Out

Sample Name: Std2 Acquired: 10/29/2013 11:53:37 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1805 | .5864 | 2.757 | 18.81 | 13.81 | 10.95 | 9.227 | .4200 | 2.753 | 3.912 |
| Stddev | .0003 | .0043 | .018 | .03 | .08 | .04 | .064 | .0011 | .009 | .020 |
| %RSD | .1574 | .7341 | .6685 | .1566 | .5875 | .3894 | .6895 | .2616 | .3437 | .5213 |
| #1 | .1807 | .5833 | 2.744 | 18.83 | 13.75 | 10.92 | 9.182 | .4208 | 2.760 | 3.926 |
| #2 | .1803 | .5894 | 2.770 | 18.79 | 13.86 | 10.98 | 9.272 | .4192 | 2.747 | 3.897 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.468 | 6.822 | 2.716 | 1.909 | .8962 | 1.167 | 6.925 |
| Stddev | .069 | .053 | .020 | .012 | .0062 | .009 | .054 |
| %RSD | .8092 | .7816 | .7219 | .6162 | .6908 | .7894 | .7771 |
| #1 | 8.420 | 6.784 | 2.702 | 1.901 | .8918 | 1.160 | 6.887 |
| #2 | 8.517 | 6.859 | 2.730 | 1.917 | .9006 | 1.173 | 6.963 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1203.4 | 41405. | 18027. |
| Stddev | 2.8 | 148. | 26. |
| %RSD | .23069 | .35624 | .14551 |
| #1 | 1205.4 | 41301. | 18046. |
| #2 | 1201.4 | 41509. | 18009. |



◀ Zoom In ▶
Zoom Out

Sample Name: Std3 Acquired: 10/29/2013 11:58:36 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.460 | 1.750 | 1.502 | .7294 | .1528 | 2.759 |
| Stddev | .004 | .003 | .003 | .0015 | .0001 | .007 |
| %RSD | .2642 | .1677 | .1969 | .2115 | .0511 | .2557 |
| #1 | 1.462 | 1.748 | 1.500 | .7283 | .1528 | 2.764 |
| #2 | 1.457 | 1.752 | 1.504 | .7305 | .1527 | 2.754 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18191. |
| Stddev | 114. |
| %RSD | .62926 |
| #1 | 18272. |
| #2 | 18110. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/29/2013 12:03:32 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3107 | .5155 | .0724 | .6954 | 2.694 | 1.461 | 35.17 | 1.256 | 1.017 | .0617 |
| Stddev | .0002 | .0011 | .0003 | .0019 | .004 | .001 | .14 | .001 | .000 | .0001 |
| %RSD | .0722 | .2039 | .4486 | .2782 | .1459 | .0469 | .3890 | .0856 | .0247 | .0953 |
| #1 | .3109 | .5163 | .0727 | .6968 | 2.691 | 1.461 | 35.27 | 1.257 | 1.017 | .0617 |
| #2 | .3105 | .5148 | .0722 | .6940 | 2.697 | 1.460 | 35.08 | 1.255 | 1.017 | .0617 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.765 |
| Stddev | .001 |
| %RSD | .0282 |
| #1 | 2.765 |
| #2 | 2.764 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1219.4 | 41016. | 17961. |
| Stddev | 2.3 | 34. | 91. |
| %RSD | .18854 | .08408 | .50575 |
| #1 | 1217.8 | 40992. | 18025. |
| #2 | 1221.1 | 41041. | 17897. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/29/2013 12:08:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5098 | 15.71 | 3.001 | 3.016 | 2.957 | 3.119 | 3.040 | 17.79 | 2.964 | 2.942 |
| Stddev | .0025 | .01 | .012 | .018 | .004 | .009 | .004 | .07 | .003 | .007 |
| %RSD | .4827 | .0894 | .3932 | .6136 | .1193 | .2779 | .1432 | .3742 | .0860 | .2309 |
| #1 | .5115 | 15.72 | 2.992 | 3.029 | 2.954 | 3.125 | 3.037 | 17.75 | 2.962 | 2.937 |
| #2 | .5081 | 15.70 | 3.009 | 3.003 | 2.959 | 3.113 | 3.043 | 17.84 | 2.965 | 2.947 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.140 | 2.986 | 17.99 | 15.63 | 18.27 | 3.049 | 2.833 | 15.14 | 2.837 | 2.883 |
| Stddev | .011 | .020 | .01 | .02 | .02 | .009 | .007 | .01 | .009 | .001 |
| %RSD | .3595 | .6649 | .0605 | .0969 | .1331 | .2865 | .2642 | .0503 | .3164 | .0294 |
| #1 | 3.148 | 3.000 | 17.98 | 15.62 | 18.25 | 3.056 | 2.827 | 15.15 | 2.830 | 2.883 |
| #2 | 3.132 | 2.972 | 17.99 | 15.64 | 18.29 | 3.043 | 2.838 | 15.14 | 2.843 | 2.884 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.033 | 2.993 | 2.969 | 2.914 | 2.948 | 3.009 | 3.075 | 2.970 | 3.002 | 2.925 |
| Stddev | .017 | .022 | .006 | .003 | .008 | .007 | .009 | .003 | .012 | .004 |
| %RSD | .5598 | .7443 | .2116 | .0936 | .2862 | .2194 | .2998 | .1062 | .4141 | .1313 |
| #1 | 3.045 | 3.009 | 2.964 | 2.912 | 2.942 | 3.005 | 3.069 | 2.972 | 3.011 | 2.922 |
| #2 | 3.021 | 2.978 | 2.973 | 2.916 | 2.954 | 3.014 | 3.082 | 2.968 | 2.994 | 2.928 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.965 | 2.877 | 2.871 | 3.032 |
| Stddev | .014 | .008 | .010 | .011 |
| %RSD | .4856 | .2674 | .3630 | .3503 |
| #1 | 2.975 | 2.871 | 2.864 | 3.040 |
| #2 | 2.955 | 2.882 | 2.879 | 3.025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.5 | 40721. | 18109. |
| Stddev | 3.0 | 144. | 35. |
| %RSD | .24553 | .35299 | .19454 |
| #1 | 1212.3 | 40619. | 18134. |
| #2 | 1216.6 | 40822. | 18084. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 10/29/2013 12:16:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | .0002 | .0012 | .0016 | .0000 | .0001 | .0047 | .0000 | .0001 |
| Stddev | .0001 | .0016 | .0011 | .0005 | .0000 | .0000 | .0000 | .0031 | .0000 | .0001 |
| %RSD | 67.16 | 77.85 | 660.5 | 42.96 | 2.471 | 61.57 | 37.70 | 64.73 | 81.59 | 136.7 |
| #1 | -.0002 | .0009 | -.0006 | .0008 | .0016 | .0000 | .0001 | .0026 | .0001 | .0001 |
| #2 | -.0001 | .0032 | .0009 | .0016 | .0016 | .0000 | .0000 | .0069 | .0000 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0002 | -.0003 | -.0017 | -.0091 | .0000 | .0017 | -.0002 | .0002 | -.0002 |
| Stddev | .0008 | .0001 | .0001 | .0005 | .0007 | .000 | .0004 | .0012 | .0002 | .0006 |
| %RSD | 116.8 | 68.41 | 37.90 | 29.21 | 7.998 | 415.5 | 24.77 | 495.3 | 98.74 | 292.1 |
| #1 | .0013 | -.0003 | -.0002 | -.0020 | -.0086 | .0000 | .0020 | -.0011 | .0001 | .0002 |
| #2 | .0001 | -.0001 | -.0003 | -.0013 | -.0096 | -.0001 | .0014 | .0006 | .0004 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0015 | -.0006 | -.0001 | -.0020 | .0012 | -.0004 | .0000 | .0000 | .0006 |
| Stddev | .0006 | .0016 | .0009 | .0001 | .0005 | .0005 | .0003 | .000 | .000 | .0009 |
| %RSD | 158.7 | 110.7 | 140.4 | 36.12 | 24.54 | 39.04 | 70.88 | 22.38 | 485.5 | 140.9 |
| #1 | .0000 | .0026 | .0000 | -.0002 | -.0017 | .0015 | -.0002 | .0000 | .0001 | .0013 |
| #2 | -.0008 | .0003 | -.0013 | -.0001 | -.0024 | .0009 | -.0006 | .0000 | -.0002 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0068 | -.0005 | .0007 |
| Stddev | .0003 | .0027 | .0002 | .0002 |
| %RSD | 76.46 | 39.29 | 51.45 | 22.20 |
| #1 | .0002 | .0086 | -.0003 | .0008 |
| #2 | .0006 | .0049 | -.0006 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.4 | 41843. | 18191. |
| Stddev | .2 | 141. | 100. |
| %RSD | .01947 | .33640 | .54839 |
| #1 | 1208.5 | 41942. | 18120. |
| #2 | 1208.2 | 41743. | 18261. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 12:28:05 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2503 | 9.811 | 1.931 | -.0077 | 1.935 | 1.981 | 1.972 | 9.854 | 1.981 | 2.011 |
| Stddev | .0013 | .038 | .004 | .0001 | .004 | .005 | .003 | .029 | .006 | .005 |
| %RSD | .5071 | .3844 | .1869 | 1.017 | .2092 | .2362 | .1712 | .2899 | .3125 | .2384 |
| #1 | .2512 | 9.784 | 1.934 | -.0077 | 1.938 | 1.977 | 1.970 | 9.834 | 1.985 | 2.014 |
| #2 | .2494 | 9.837 | 1.929 | -.0076 | 1.932 | 1.984 | 1.975 | 9.874 | 1.976 | 2.007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.990 | 1.943 | 9.899 | 9.838 | 9.746 | 1.998 | 1.929 | 9.829 | 1.921 | 1.922 |
| Stddev | .000 | .004 | .025 | .009 | .056 | .005 | .001 | .028 | .004 | .001 |
| %RSD | .0017 | .2159 | .2535 | .0890 | .5780 | .2507 | .0571 | .2863 | .2120 | .0359 |
| #1 | 1.990 | 1.946 | 9.882 | 9.832 | 9.785 | 2.001 | 1.930 | 9.809 | 1.924 | 1.922 |
| #2 | 1.990 | 1.940 | 9.917 | 9.844 | 9.706 | 1.994 | 1.929 | 9.849 | 1.918 | 1.921 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0135 | -.0042 | 1.938 | 1.931 | -.0062 | 1.945 | 1.904 | 1.954 | 1.919 |
| Stddev | .0006 | .0036 | .0009 | .007 | .005 | .0004 | .002 | .010 | .001 | .004 |
| %RSD | 42.06 | 26.46 | 21.71 | .3580 | .2801 | 6.040 | .1217 | .5363 | .0291 | .1811 |
| #1 | .0010 | .0160 | -.0048 | 1.943 | 1.935 | -.0060 | 1.947 | 1.896 | 1.954 | 1.916 |
| #2 | .0018 | .0110 | -.0035 | 1.933 | 1.927 | -.0065 | 1.944 | 1.911 | 1.953 | 1.921 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.938 | -.0034 | 1.906 | .0051 |
| Stddev | .003 | .0014 | .001 | .0017 |
| %RSD | .1690 | 41.88 | .0303 | 32.48 |
| #1 | 1.940 | -.0024 | 1.907 | .0063 |
| #2 | 1.936 | -.0044 | 1.906 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.0 | 40880. | 18193. |
| Stddev | 8.6 | 83. | 90. |
| %RSD | .70337 | .20228 | .49284 |
| #1 | 1210.0 | 40822. | 18257. |
| #2 | 1222.1 | 40939. | 18130. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 12:34:43 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | .0000 | -.0004 | .0018 | -.0001 | .0000 | .0032 | -.0001 | -.0001 |
| Stddev | .0000 | .0025 | .002 | .0001 | .0002 | .0001 | .0000 | .0001 | .0002 | .0002 |
| %RSD | .1894 | 120.7 | 11880. | 20.27 | 11.90 | 158.5 | 33.32 | 2.268 | 306.9 | 376.7 |
| #1 | -.0003 | -.0003 | .0013 | -.0003 | .0019 | -.0001 | .0000 | .0032 | -.0002 | .0001 |
| #2 | -.0003 | -.0038 | -.0014 | -.0004 | .0016 | .0000 | .0000 | .0033 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0001 | .0001 | .0016 | .0138 | .0000 | .0017 | .0040 | .0000 | -.0001 |
| Stddev | .0014 | .0000 | .0001 | .0057 | .0081 | .0001 | .0001 | .0060 | .000 | .0009 |
| %RSD | 153.5 | 41.93 | 101.7 | 352.9 | 58.45 | 312.9 | 4.200 | 149.2 | 1400. | 1278. |
| #1 | .0019 | .0001 | .0000 | -.0024 | .0195 | .0001 | .0018 | .0082 | .0003 | .0006 |
| #2 | -.0001 | .0001 | .0002 | .0057 | .0081 | .0000 | .0017 | -.0002 | -.0003 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0049 | -.0003 | .0003 | .0001 | .0009 | -.0006 | .0000 | .0005 | .0017 |
| Stddev | .0006 | .0088 | .0016 | .0000 | .0010 | .0005 | .0002 | .0000 | .0000 | .0011 |
| %RSD | 441.1 | 178.6 | 594.7 | 9.951 | 1733. | 57.59 | 29.98 | 34.08 | 4.300 | 62.94 |
| #1 | .0006 | .0111 | .0009 | .0003 | -.0006 | .0013 | -.0007 | .0000 | .0005 | .0009 |
| #2 | -.0003 | -.0013 | -.0014 | .0003 | .0007 | .0006 | -.0005 | .0000 | .0005 | .0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0015 | -.0003 | .0006 |
| Stddev | .0004 | .0045 | .0001 | .0007 |
| %RSD | 306.8 | 298.4 | 32.24 | 112.9 |
| #1 | .0005 | -.0017 | -.0002 | .0012 |
| #2 | -.0002 | .0047 | -.0003 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1198.5 | 41295. | 17938. |
| Stddev | 3.2 | 272. | 58. |
| %RSD | .26858 | .65875 | .32385 |
| #1 | 1200.8 | 41103. | 17979. |
| #2 | 1196.2 | 41487. | 17897. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/29/2013 12:39:43 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2090 | .0102 | -.0003 | .1034 | .0529 | .0043 | 5.146 | .0045 | .0534 |
| Stddev | .0001 | .0020 | .0004 | .0007 | .0005 | .0003 | .0001 | .003 | .0001 | .0004 |
| %RSD | 2.410 | .9597 | 3.929 | 253.2 | .5233 | .5265 | 1.188 | .0544 | 1.442 | .7907 |
| #1 | .0049 | .2105 | .0099 | .0002 | .1037 | .0531 | .0044 | 5.144 | .0044 | .0537 |
| #2 | .0050 | .2076 | .0105 | -.0007 | .1030 | .0527 | .0043 | 5.148 | .0045 | .0531 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0113 | .0262 | .1056 | 5.113 | 5.092 | .0160 | .1037 | 5.107 | .0409 | .0084 |
| Stddev | .0007 | .0002 | .0005 | .022 | .000 | .0001 | .0001 | .021 | .0000 | .0003 |
| %RSD | 6.005 | .6247 | .4903 | .4271 | .0037 | .9095 | .1161 | .4152 | .0767 | 3.942 |
| #1 | .0109 | .0261 | .1060 | 5.128 | 5.091 | .0159 | .1037 | 5.122 | .0409 | .0081 |
| #2 | .0118 | .0264 | .1052 | 5.098 | 5.092 | .0161 | .1038 | 5.092 | .0409 | .0086 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0031 | .0006 | .0115 | .0111 | .0054 | .1008 | .0103 | .0530 | .0106 |
| Stddev | .0002 | .0052 | .0009 | .0007 | .0002 | .0005 | .0007 | .0000 | .0002 | .0013 |
| %RSD | 18.81 | 165.3 | 145.9 | 5.885 | 2.074 | 9.993 | .6561 | .3464 | .4028 | 11.87 |
| #1 | .0013 | .0005 | .0012 | .0120 | .0112 | .0058 | .1012 | .0103 | .0529 | .0115 |
| #2 | .0010 | -.0068 | .0000 | .0110 | .0109 | .0051 | .1003 | .0102 | .0532 | .0097 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0098 | .0002 | .0210 | .0003 |
| Stddev | .0003 | .0003 | .0002 | .0001 |
| %RSD | 2.926 | 169.0 | .7580 | 34.71 |
| #1 | .0096 | .0000 | .0208 | .0002 |
| #2 | .0100 | .0004 | .0211 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.3 | 41144. | 17799. |
| Stddev | .2 | 87. | 2. |
| %RSD | .01338 | .21102 | .01285 |
| #1 | 1204.2 | 41082. | 17801. |
| #2 | 1204.4 | 41205. | 17797. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/29/2013 12:44:36 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 541.0 | .0007 | .0054 | .0006 | .0000 | .0001 | 469.1 | .0004 | .0010 |
| Stddev | .0004 | 1.8 | .0021 | .0023 | .0008 | .0000 | .0000 | 3.6 | .0001 | .0002 |
| %RSD | 268.8 | .3414 | 322.5 | 43.04 | 150.9 | 176.2 | 27.74 | .7581 | 15.93 | 22.35 |
| #1 | -.0004 | 542.3 | .0022 | .0037 | .0011 | .0000 | .0001 | 466.6 | .0004 | .0008 |
| #2 | .0001 | 539.7 | -.0008 | .0070 | .0000 | .0000 | .0001 | 471.7 | .0003 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0006 | 184.1 | .0309 | 534.0 | .0004 | -.0008 | .0252 | .0002 | -.0001 |
| Stddev | .0011 | .0004 | .8 | .0176 | 2.1 | .0001 | .0007 | .0070 | .0005 | .0001 |
| %RSD | 459.9 | 64.84 | .4353 | 57.07 | .3983 | 33.53 | 83.84 | 27.62 | 301.2 | 231.7 |
| #1 | .0005 | -.0008 | 183.6 | .0184 | 532.5 | .0003 | -.0003 | .0203 | .0005 | .0000 |
| #2 | -.0010 | -.0003 | 184.7 | .0434 | 535.5 | .0005 | -.0012 | .0301 | -.0002 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0194 | -.0275 | .0913 | -.0001 | .0000 | .0405 | .0005 | -.0085 | .0066 | -.0041 |
| Stddev | .0002 | .0036 | .0000 | .0017 | .001 | .0007 | .0001 | .0001 | .0002 | .0026 |
| %RSD | .9932 | 13.04 | .0079 | 3172. | 4263. | 1.822 | 22.38 | .6615 | 3.207 | 62.55 |
| #1 | -.0196 | -.0250 | .0913 | -.0012 | .0005 | .0410 | .0004 | -.0084 | .0065 | -.0059 |
| #2 | -.0193 | -.0301 | .0913 | .0011 | -.0005 | .0400 | .0006 | -.0085 | .0068 | -.0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0101 | -.0191 | -.0014 | .0098 |
| Stddev | .0007 | .0070 | .0002 | .0002 |
| %RSD | 6.660 | 36.59 | 11.96 | 2.334 |
| #1 | .0096 | -.0241 | -.0012 | .0100 |
| #2 | .0106 | -.0142 | -.0015 | .0097 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1130.1 | 37316. | 17603. |
| Stddev | 1.8 | 58. | 85. |
| %RSD | .15664 | .15643 | .48183 |
| #1 | 1131.4 | 37275. | 17663. |
| #2 | 1128.9 | 37358. | 17543. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/29/2013 12:49:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.114 | 543.5 | 2.090 | .5290 | .9710 | .5211 | .4756 | 467.7 | 1.046 | .4708 |
| Stddev | .001 | 2.3 | .001 | .0025 | .0010 | .0002 | .0009 | 1.5 | .000 | .0005 |
| %RSD | .1137 | .4208 | .0230 | .4763 | .1020 | .0352 | .1941 | .3102 | .0307 | .1031 |
| #1 | 1.114 | 545.1 | 2.090 | .5308 | .9717 | .5210 | .4762 | 468.7 | 1.045 | .4712 |
| #2 | 1.115 | 541.9 | 2.091 | .5272 | .9703 | .5213 | .4749 | 466.7 | 1.046 | .4705 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5268 | .5615 | 185.2 | .0459 | 534.5 | .5235 | .9481 | .0262 | .8574 | .8938 |
| Stddev | .0009 | .0018 | .3 | .0007 | 1.0 | .0007 | .0006 | .0002 | .0006 | .0002 |
| %RSD | .1645 | .3120 | .1764 | 1.523 | .1910 | .1378 | .0600 | .8981 | .0684 | .0214 |
| #1 | .5274 | .5602 | 185.4 | .0464 | 535.2 | .5230 | .9477 | .0263 | .8569 | .8937 |
| #2 | .5262 | .5627 | 184.9 | .0454 | 533.8 | .5240 | .9485 | .0260 | .8578 | .8940 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5547 | .4999 | .5770 | 2.009 | 1.978 | 2.127 | .9584 | .9657 | .5504 | 1.794 |
| Stddev | .0022 | .0054 | .0032 | .004 | .006 | .002 | .0016 | .0004 | .0011 | .001 |
| %RSD | .3949 | 1.087 | .5626 | .1801 | .2954 | .1103 | .1699 | .0383 | .2035 | .0518 |
| #1 | .5563 | .4961 | .5747 | 2.007 | 1.973 | 2.125 | .9572 | .9660 | .5496 | 1.794 |
| #2 | .5532 | .5038 | .5793 | 2.012 | 1.982 | 2.129 | .9595 | .9654 | .5512 | 1.793 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5438 | 1.976 | .8849 | .4311 |
| Stddev | .0016 | .001 | .0032 | .0034 |
| %RSD | .3014 | .0565 | .3666 | .7783 |
| #1 | .5426 | 1.975 | .8826 | .4287 |
| #2 | .5449 | 1.976 | .8872 | .4335 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1123.3 | 36895. | 17583. |
| Stddev | 3.7 | 98. | 81. |
| %RSD | .33120 | .26473 | .45886 |
| #1 | 1120.6 | 36964. | 17526. |
| #2 | 1125.9 | 36826. | 17640. |

Zoom In Zoom Out

Sample Name: MP21910-B1 Acquired: 10/29/2013 12:54:28 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1989 | 2.128 | .5239 | -.0006 | .0040 | 2.032 | .5085 | 24.38 | .5171 | .4985 |
| Stddev | .0009 | .001 | .0009 | .0002 | .0001 | .002 | .0006 | .08 | .0011 | .0013 |
| %RSD | .4564 | .0252 | .1671 | 35.49 | 1.752 | .1045 | .1239 | .3336 | .2121 | .2544 |
| #1 | .1983 | 2.128 | .5245 | -.0005 | .0039 | 2.034 | .5081 | 24.32 | .5179 | .4994 |
| #2 | .1996 | 2.129 | .5233 | -.0008 | .0040 | 2.031 | .5090 | 24.44 | .5164 | .4976 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5249 | .4886 | 2.053 | 25.12 | 25.34 | .4976 | .0018 | 25.07 | .4738 | .9746 |
| Stddev | .0030 | .0010 | .007 | .01 | .03 | .0008 | .0002 | .01 | .0016 | .0012 |
| %RSD | .5638 | .2141 | .3195 | .0304 | .1366 | .1644 | 12.06 | .0444 | .3290 | .1210 |
| #1 | .5270 | .4878 | 2.048 | 25.13 | 25.31 | .4982 | .0019 | 25.08 | .4727 | .9755 |
| #2 | .5228 | .4893 | 2.057 | 25.12 | 25.36 | .4971 | .0016 | 25.06 | .4749 | .9738 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0065 | .0196 | .4931 | .5125 | .0241 | .0061 | .4803 | .4974 | .4982 |
| Stddev | .0000 | .0017 | .0007 | .0004 | .0010 | .0002 | .0001 | .0001 | .0000 | .0016 |
| %RSD | 5.581 | 25.32 | 3.364 | .0746 | .1985 | .7000 | 1.290 | .0295 | .0096 | .3153 |
| #1 | .0009 | .0054 | .0191 | .4934 | .5118 | .0242 | .0062 | .4804 | .4974 | .4993 |
| #2 | .0008 | .0077 | .0200 | .4929 | .5132 | .0240 | .0060 | .4802 | .4974 | .4971 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5106 | .0059 | .5070 | .0200 |
| Stddev | .0005 | .0015 | .0011 | .0012 |
| %RSD | .1000 | 26.17 | .2232 | 5.807 |
| #1 | .5103 | .0069 | .5062 | .0208 |
| #2 | .5110 | .0048 | .5078 | .0191 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1205.2 | 40704. | 17809. |
| Stddev | 7.8 | 108. | 10. |
| %RSD | .64362 | .26483 | .05418 |
| #1 | 1199.8 | 40628. | 17816. |
| #2 | 1210.7 | 40780. | 17803. |



Zoom In Zoom Out

Sample Name: MP21910-MB1 Acquired: 10/29/2013 12:59:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0739 | .0003 | .0005 | .0020 | .0010 | .0001 | .0722 | .0001 | .0004 |
| Stddev | .0001 | .0029 | .0003 | .0010 | .0004 | .0000 | .0000 | .0014 | .0002 | .0000 |
| %RSD | 50.09 | 3.959 | 118.7 | 221.6 | 18.60 | 3.789 | 19.87 | 1.915 | 271.3 | 3.044 |
| #1 | -.0001 | .0759 | .0000 | -.0003 | .0022 | .0010 | .0001 | .0732 | .0002 | .0004 |
| #2 | -.0002 | .0718 | .0005 | .0012 | .0017 | .0010 | .0001 | .0712 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .1630 | .0376 | .0380 | .0033 | .0007 | .0647 | .0004 | .0003 |
| Stddev | .0004 | .0002 | .0004 | .0114 | .0196 | .0000 | .0001 | .0030 | .0001 | .0010 |
| %RSD | 100.3 | 14.91 | .2365 | 30.20 | 51.42 | .4842 | 12.65 | 4.613 | 16.21 | 312.8 |
| #1 | .0006 | .0009 | .1633 | .0457 | .0519 | .0033 | .0008 | .0626 | .0005 | -.0004 |
| #2 | .0001 | .0012 | .1628 | .0296 | .0242 | .0033 | .0007 | .0668 | .0004 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0006 | .0092 | .0005 | -.0013 | .0387 | .0065 | .0002 | .0025 | .0035 |
| Stddev | .0005 | .0029 | .0006 | .0009 | .0008 | .0002 | .0007 | .0000 | .0001 | .0005 |
| %RSD | 21.76 | 475.7 | 6.760 | 193.1 | 63.96 | .5552 | 10.21 | 3.519 | 3.556 | 14.67 |
| #1 | .0026 | .0026 | .0096 | .0012 | -.0007 | .0388 | .0069 | .0002 | .0026 | .0032 |
| #2 | .0019 | -.0014 | .0088 | -.0002 | -.0019 | .0385 | .0060 | .0002 | .0024 | .0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0058 | .0043 | .0030 |
| Stddev | .0003 | .0008 | .0006 | .0009 |
| %RSD | 78.86 | 13.26 | 13.75 | 28.99 |
| #1 | -.0006 | .0064 | .0047 | .0036 |
| #2 | -.0002 | .0053 | .0039 | .0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1200.5 | 41304. | 18144. |
| Stddev | 7.3 | 70. | 84. |
| %RSD | .60476 | .17056 | .46400 |
| #1 | 1195.4 | 41254. | 18204. |
| #2 | 1205.6 | 41354. | 18085. |



Zoom In Zoom Out

Sample Name: MP21910-S1 Acquired: 10/29/2013 13:04:10 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1911 | 56.53 | .5162 | -.0047 | .0050 | 2.099 | .4795 | 30.50 | .4917 | .5043 |
| Stddev | .0004 | .07 | .0045 | .0002 | .0000 | .001 | .0009 | .02 | .0007 | .0012 |
| %RSD | .1960 | .1171 | .8757 | 5.103 | .1254 | .0331 | .1854 | .0674 | .1454 | .2313 |
| #1 | .1908 | 56.58 | .5194 | -.0049 | .0050 | 2.100 | .4802 | 30.51 | .4922 | .5051 |
| #2 | .1913 | 56.49 | .5130 | -.0045 | .0050 | 2.099 | .4789 | 30.48 | .4912 | .5034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5863 | .5339 | 80.71 | 33.58 | 42.95 | 1.599 | .0016 | 24.33 | .5102 | .9833 |
| Stddev | .0006 | .0008 | .15 | .08 | .06 | .001 | .0004 | .03 | .0019 | .0041 |
| %RSD | .1010 | .1465 | .1918 | .2444 | .1481 | .0767 | 25.31 | .1358 | .3761 | .4214 |
| #1 | .5858 | .5344 | 80.82 | 33.64 | 43.00 | 1.598 | .0018 | 24.35 | .5116 | .9862 |
| #2 | .5867 | .5333 | 80.60 | 33.52 | 42.91 | 1.600 | .0013 | 24.30 | .5089 | .9804 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0079 | .0079 | .3988 | .2570 | .4873 | 3.043 | -.0020 | .4856 | 4.493 | .4691 |
| Stddev | .0018 | .0084 | .0009 | .0000 | .0012 | .010 | .0001 | .0008 | .002 | .0002 |
| %RSD | 22.61 | 106.8 | .2271 | .0183 | .2388 | .3198 | 2.748 | .1603 | .0370 | .0449 |
| #1 | .0092 | .0138 | .3995 | .2570 | .4881 | 3.050 | -.0019 | .4861 | 4.494 | .4693 |
| #2 | .0067 | .0019 | .3982 | .2570 | .4864 | 3.036 | -.0020 | .4850 | 4.492 | .4690 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6344 | .0074 | .6470 | .0075 |
| Stddev | .0008 | .0065 | .0046 | .0002 |
| %RSD | .1312 | 87.71 | .7040 | 2.365 |
| #1 | .6350 | .0120 | .6502 | .0076 |
| #2 | .6339 | .0028 | .6437 | .0074 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1255.8 | 42580. | 18859. |
| Stddev | 2.9 | 144. | 8. |
| %RSD | .23009 | .33810 | .04420 |
| #1 | 1253.7 | 42682. | 18853. |
| #2 | 1257.8 | 42478. | 18865. |



Zoom In Zoom Out

Sample Name: MP21910-S2 Acquired: 10/29/2013 13:08:55 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1902 | 56.62 | .5037 | -.0055 | .0056 | 2.092 | .4714 | 31.37 | .4829 | .5015 |
| Stddev | .0007 | .00 | .0032 | .0003 | .0007 | .004 | .0000 | .04 | .0015 | .0015 |
| %RSD | .3473 | .0034 | .6331 | 5.014 | 12.34 | .1758 | .0035 | .1268 | .3120 | .3051 |
| #1 | .1906 | 56.63 | .5060 | -.0057 | .0061 | 2.090 | .4714 | 31.40 | .4818 | .5005 |
| #2 | .1897 | 56.62 | .5015 | -.0053 | .0051 | 2.095 | .4714 | 31.34 | .4840 | .5026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5760 | .5319 | 79.79 | 33.21 | 42.34 | 1.642 | .0014 | 24.20 | .5090 | .9681 |
| Stddev | .0006 | .0004 | .04 | .02 | .10 | .003 | .0002 | .01 | .0015 | .0005 |
| %RSD | .1037 | .0798 | .0488 | .0610 | .2280 | .1764 | 16.07 | .0318 | .2927 | .0540 |
| #1 | .5764 | .5316 | 79.82 | 33.20 | 42.27 | 1.640 | .0016 | 24.19 | .5079 | .9677 |
| #2 | .5756 | .5322 | 79.76 | 33.23 | 42.41 | 1.644 | .0013 | 24.20 | .5100 | .9684 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0074 | .0063 | .3797 | .2633 | .4617 | 3.053 | -.0004 | .4893 | 4.619 | .4565 |
| Stddev | .0011 | .0013 | .0004 | .0008 | .0008 | .009 | .0008 | .0012 | .016 | .0003 |
| %RSD | 15.05 | 20.44 | .0939 | .2956 | .1822 | .3069 | 225.1 | .2547 | .3548 | .0758 |
| #1 | .0066 | .0054 | .3799 | .2639 | .4623 | 3.047 | -.0010 | .4884 | 4.607 | .4563 |
| #2 | .0082 | .0073 | .3794 | .2628 | .4611 | 3.060 | .0002 | .4901 | 4.630 | .4568 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6344 | .0057 | .6401 | .0021 |
| Stddev | .0004 | .0018 | .0018 | .0002 |
| %RSD | .0574 | 31.90 | .2808 | 10.79 |
| #1 | .6346 | .0070 | .6388 | .0023 |
| #2 | .6341 | .0044 | .6414 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.8 | 42446. | 18995. |
| Stddev | 2.5 | 31. | 54. |
| %RSD | .20473 | .07224 | .28644 |
| #1 | 1244.6 | 42425. | 18957. |
| #2 | 1241.0 | 42468. | 19034. |

Zoom In Zoom Out

Sample Name: MC25455-23 Acquired: 10/29/2013 13:13:40 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 52.19 | .0193 | -.0025 | .0028 | .1519 | .0052 | 6.881 | -.0001 | .0314 |
| Stddev | .0004 | .09 | .0003 | .0020 | .0009 | .0001 | .0000 | .023 | .0001 | .0000 |
| %RSD | 124.4 | .1725 | 1.553 | 80.48 | 30.76 | .0806 | .7300 | .3292 | 101.1 | .0387 |
| #1 | .0000 | 52.13 | .0191 | -.0039 | .0035 | .1518 | .0052 | 6.865 | -.0002 | .0314 |
| #2 | .0006 | 52.25 | .0195 | -.0011 | .0022 | .1520 | .0053 | 6.897 | .0000 | .0314 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0855 | .0593 | 77.84 | 9.352 | 18.34 | 1.107 | .0012 | .4212 | .0645 | .0662 |
| Stddev | .0004 | .0006 | .05 | .041 | .09 | .001 | .0000 | .0015 | .0002 | .0000 |
| %RSD | .4526 | 1.029 | .0617 | .4342 | .4764 | .0957 | 3.750 | .3657 | .2901 | .0534 |
| #1 | .0852 | .0589 | 77.81 | 9.323 | 18.40 | 1.106 | .0012 | .4202 | .0644 | .0661 |
| #2 | .0858 | .0597 | 77.87 | 9.381 | 18.28 | 1.108 | .0012 | .4223 | .0646 | .0662 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0075 | .0015 | .4053 | .0014 | .0008 | 2.592 | .0001 | .0236 | 3.956 | .0071 |
| Stddev | .0027 | .0070 | .0016 | .0007 | .0015 | .001 | .0009 | .0001 | .002 | .0005 |
| %RSD | 35.69 | 478.9 | .4014 | 49.52 | 204.8 | .0443 | 896.6 | .3869 | .0553 | 6.458 |
| #1 | .0056 | .0064 | .4042 | .0019 | -.0003 | 2.591 | .0007 | .0236 | 3.955 | .0075 |
| #2 | .0093 | -.0035 | .4065 | .0009 | .0018 | 2.593 | -.0005 | .0237 | 3.958 | .0068 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1446 | .0018 | .1813 | .0000 |
| Stddev | .0006 | .0053 | .0001 | .0005 |
| %RSD | .4236 | 294.0 | .0760 | 3413. |
| #1 | .1441 | .0055 | .1812 | .0003 |
| #2 | .1450 | -.0019 | .1814 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1288.5 | 42784. | 18940. |
| Stddev | 4.4 | 46. | 47. |
| %RSD | .34318 | .10781 | .24961 |
| #1 | 1291.6 | 42817. | 18973. |
| #2 | 1285.3 | 42751. | 18907. |



Zoom In Zoom Out

Sample Name: MP21910-SD1 Acquired: 10/29/2013 13:18:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | 54.03 | .0235 | -.0048 | .0018 | .1581 | .0052 | 7.276 | .0000 | .0335 |
| Stddev | .0027 | .06 | .0042 | .0058 | .0013 | .0008 | .0001 | .003 | .001 | .0000 |
| %RSD | 160.6 | .1068 | 17.82 | 121.1 | 72.74 | .5273 | 2.260 | .0468 | 11610. | .0417 |
| #1 | -.0036 | 53.98 | .0264 | -.0088 | .0009 | .1575 | .0051 | 7.278 | -.0004 | .0335 |
| #2 | .0002 | 54.07 | .0205 | -.0007 | .0027 | .1587 | .0052 | 7.274 | .0004 | .0335 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0937 | .0596 | 82.00 | 9.775 | 18.67 | 1.142 | .0028 | .4564 | .0675 | .0670 |
| Stddev | .0029 | .0001 | .14 | .087 | .00 | .005 | .0002 | .0187 | .0004 | .0024 |
| %RSD | 3.077 | .1908 | .1706 | .8864 | .0240 | .4215 | 6.313 | 4.099 | .6322 | 3.574 |
| #1 | .0957 | .0597 | 82.10 | 9.836 | 18.67 | 1.139 | .0027 | .4696 | .0678 | .0687 |
| #2 | .0916 | .0596 | 81.90 | 9.713 | 18.67 | 1.146 | .0029 | .4432 | .0672 | .0653 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0073 | -.0016 | .4174 | .0054 | .0034 | 2.691 | -.0007 | .0248 | 4.081 | .0074 |
| Stddev | .0084 | .0156 | .0067 | .0027 | .0028 | .016 | .0004 | .0002 | .009 | .0030 |
| %RSD | 114.4 | 1002. | 1.616 | 50.34 | 84.01 | .5882 | 54.06 | .6107 | .2125 | 40.75 |
| #1 | .0133 | .0095 | .4221 | .0035 | .0054 | 2.679 | -.0004 | .0247 | 4.075 | .0095 |
| #2 | .0014 | -.0126 | .4126 | .0074 | .0014 | 2.702 | -.0010 | .0249 | 4.087 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1486 | -.0022 | .1895 | -.0034 |
| Stddev | .0009 | .0130 | .0002 | .0012 |
| %RSD | .6245 | 589.2 | .0949 | 36.20 |
| #1 | .1479 | .0070 | .1897 | -.0043 |
| #2 | .1492 | -.0114 | .1894 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.4 | 41542. | 18259. |
| Stddev | 4.1 | 258. | 11. |
| %RSD | .33359 | .62168 | .06071 |
| #1 | 1240.3 | 41725. | 18251. |
| #2 | 1234.5 | 41360. | 18267. |



Zoom In Zoom Out

Sample Name: MP21910-LC1 Acquired: 10/29/2013 13:23:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3317 | 85.52 | .8910 | -.0072 | .9105 | 1.636 | .5057 | 56.69 | .5933 | .9409 |
| Stddev | .0005 | .04 | .0009 | .0018 | .0038 | .002 | .0011 | .07 | .0018 | .0004 |
| %RSD | .1381 | .0502 | .0994 | 25.19 | .4132 | .1322 | .2120 | .1217 | .2985 | .0462 |
| #1 | .3320 | 85.55 | .8904 | -.0084 | .9131 | 1.638 | .5065 | 56.74 | .5945 | .9412 |
| #2 | .3313 | 85.49 | .8916 | -.0059 | .9078 | 1.635 | .5050 | 56.64 | .5920 | .9406 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7200 | .7464 | 127.4 | 36.85 | 29.24 | 2.856 | .3725 | 6.345 | .5174 | .8191 |
| Stddev | .0013 | .0011 | .2 | .04 | .06 | .008 | .0012 | .004 | .0006 | .0035 |
| %RSD | .1754 | .1466 | .1379 | .1194 | .2163 | .2723 | .3194 | .0669 | .1102 | .4260 |
| #1 | .7209 | .7472 | 127.5 | 36.88 | 29.28 | 2.851 | .3733 | 6.348 | .5170 | .8216 |
| #2 | .7191 | .7456 | 127.3 | 36.82 | 29.19 | 2.862 | .3716 | 6.342 | .5178 | .8167 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0065 | .0173 | 2.368 | .7911 | 1.542 | 3.887 | .9549 | .6742 | 2.448 | 1.116 |
| Stddev | .0008 | .0021 | .014 | .0014 | .004 | .014 | .0015 | .0013 | .003 | .003 |
| %RSD | 12.48 | 12.35 | .5744 | .1728 | .2320 | .3481 | .1614 | .1948 | .1392 | .2529 |
| #1 | .0071 | .0188 | 2.377 | .7921 | 1.545 | 3.878 | .9560 | .6752 | 2.450 | 1.118 |
| #2 | .0059 | .0158 | 2.358 | .7901 | 1.539 | 3.897 | .9538 | .6733 | 2.445 | 1.114 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5803 | .0071 | 1.243 | .0446 |
| Stddev | .0026 | .0028 | .000 | .0004 |
| %RSD | .4397 | 39.56 | .0197 | .9522 |
| #1 | .5821 | .0051 | 1.243 | .0449 |
| #2 | .5785 | .0091 | 1.243 | .0443 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1303.3 | 43581. | 19637. |
| Stddev | 2.5 | 23. | 51. |
| %RSD | .19383 | .05248 | .26141 |
| #1 | 1301.5 | 43598. | 19601. |
| #2 | 1305.1 | 43565. | 19674. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 13:28:04 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2509 | 9.891 | 1.923 | -.0077 | 1.939 | 2.008 | 1.989 | 9.891 | 1.986 | 2.014 |
| Stddev | .0002 | .015 | .006 | .0014 | .007 | .005 | .007 | .061 | .004 | .005 |
| %RSD | .0793 | .1533 | .3200 | 18.10 | .3662 | .2641 | .3487 | .6206 | .1800 | .2591 |
| #1 | .2508 | 9.901 | 1.927 | -.0087 | 1.944 | 2.012 | 1.994 | 9.934 | 1.989 | 2.018 |
| #2 | .2511 | 9.880 | 1.919 | -.0067 | 1.934 | 2.004 | 1.984 | 9.847 | 1.984 | 2.011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.997 | 1.966 | 9.987 | 9.988 | 9.942 | 1.989 | 1.932 | 9.912 | 1.919 | 1.923 |
| Stddev | .001 | .001 | .054 | .025 | .093 | .003 | .004 | .012 | .005 | .004 |
| %RSD | .0298 | .0519 | .5364 | .2515 | .9384 | .1448 | .1900 | .1202 | .2469 | .1871 |
| #1 | 1.996 | 1.965 | 10.02 | 10.01 | 10.01 | 1.987 | 1.934 | 9.920 | 1.922 | 1.925 |
| #2 | 1.997 | 1.967 | 9.949 | 9.970 | 9.876 | 1.991 | 1.929 | 9.903 | 1.916 | 1.920 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0061 | -.0012 | 1.949 | 1.927 | -.0018 | 1.938 | 1.941 | 1.959 | 1.931 |
| Stddev | .0007 | .0066 | .0006 | .003 | .001 | .0010 | .001 | .011 | .000 | .001 |
| %RSD | 86.68 | 108.5 | 50.33 | .1766 | .0592 | 54.65 | .0435 | .5587 | .0156 | .0543 |
| #1 | .0003 | .0107 | -.0016 | 1.952 | 1.926 | -.0011 | 1.939 | 1.949 | 1.959 | 1.931 |
| #2 | .0012 | .0014 | -.0007 | 1.947 | 1.928 | -.0025 | 1.938 | 1.933 | 1.959 | 1.930 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.949 | -.0070 | 1.898 | -.0003 |
| Stddev | .001 | .0034 | .005 | .0012 |
| %RSD | .0687 | 48.56 | .2660 | 358.7 |
| #1 | 1.948 | -.0046 | 1.894 | .0005 |
| #2 | 1.950 | -.0095 | 1.902 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.4 | 40731. | 17996. |
| Stddev | 9.8 | 11. | 93. |
| %RSD | .80637 | .02600 | .51760 |
| #1 | 1204.5 | 40723. | 17930. |
| #2 | 1218.4 | 40738. | 18062. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 13:40:17 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .0003 | .0008 | .0008 | -.0001 | .0001 | .0467 | .0000 |
| Stddev | .0001 | .0037 | .0008 | .0002 | .0001 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 31.57 | 2426. | 242.0 | 30.60 | 12.75 | 41.38 | 46.76 | .2648 | 162.5 |
| #1 | -.0002 | -.0025 | -.0002 | .0009 | .0009 | -.0001 | .0001 | .0467 | .0000 |
| #2 | -.0003 | .0028 | .0009 | .0006 | .0007 | -.0002 | .0001 | .0468 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0002 | .0000 | .0002 | .0150 | .0156 | .0000 | .0005 | .0049 |
| Stddev | .0001 | .0005 | .000 | .0003 | .0099 | .0055 | .000 | .0000 | .0004 |
| %RSD | 45.18 | 263.3 | 121.2 | 127.6 | 65.90 | 34.97 | 102.9 | 7.837 | 7.620 |
| #1 | -.0001 | -.0006 | .0000 | .0000 | .0080 | .0117 | .0000 | .0005 | .0052 |
| #2 | -.0002 | .0002 | .0000 | .0005 | .0219 | .0195 | -.0001 | .0005 | .0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0001 | .0011 | -.0048 | .0024 | .0018 | .0003 | .0013 | -.0001 |
| Stddev | .000 | .0011 | .0028 | .0003 | .0010 | .0006 | .0012 | .0001 | .0002 |
| %RSD | 1847. | 763.7 | 247.8 | 5.308 | 44.48 | 35.20 | 470.1 | 7.160 | 154.2 |
| #1 | -.0001 | .0010 | -.0009 | -.0050 | .0031 | .0013 | -.0006 | .0014 | -.0003 |
| #2 | .0001 | -.0007 | .0031 | -.0046 | .0016 | .0022 | .0011 | .0013 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | .0016 | -.0005 | .0012 | F.0047 | -.0004 |
| Stddev | .0000 | .0008 | .0008 | .0003 | .0076 | .0001 | .0007 |
| %RSD | 107.9 | 433.7 | 50.70 | 66.00 | 615.5 | 1.112 | 187.2 |
| #1 | .0000 | .0007 | .0022 | -.0007 | .0066 | .0047 | -.0009 |
| #2 | .0001 | -.0004 | .0010 | -.0002 | -.0041 | .0046 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.3 | 41391. | 17849. |
| Stddev | 5.3 | 112. | 43. |
| %RSD | .43976 | .27142 | .23902 |
| #1 | 1200.5 | 41470. | 17879. |
| #2 | 1208.0 | 41311. | 17818. |



Zoom In Zoom Out

Sample Name: MC25455-22 Acquired: 10/29/2013 13:49:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 47.88 | .0182 | -.0020 | .0033 | .1613 | .0020 | 8.054 | .0002 | .0281 |
| Stddev | .0001 | .06 | .0006 | .0004 | .0002 | .0001 | .0000 | .020 | .0001 | .0002 |
| %RSD | 20.54 | .1151 | 3.410 | 20.15 | 5.082 | .0426 | .3543 | .2503 | 24.05 | .7540 |
| #1 | .0005 | 47.84 | .0177 | -.0023 | .0034 | .1613 | .0020 | 8.068 | .0002 | .0280 |
| #2 | .0007 | 47.92 | .0186 | -.0017 | .0031 | .1612 | .0020 | 8.039 | .0003 | .0283 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0889 | .0605 | 72.75 | 9.500 | 18.33 | .9191 | .0013 | .4529 | .0637 | .0598 |
| Stddev | .0011 | .0005 | .01 | .015 | .01 | .0009 | .0000 | .0013 | .0001 | .0011 |
| %RSD | 1.271 | .7572 | .0088 | .1606 | .0295 | .1030 | 3.687 | .2970 | .0832 | 1.842 |
| #1 | .0897 | .0608 | 72.75 | 9.489 | 18.34 | .9184 | .0014 | .4519 | .0636 | .0591 |
| #2 | .0881 | .0601 | 72.74 | 9.510 | 18.33 | .9197 | .0013 | .4538 | .0637 | .0606 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0027 | .6618 | .0002 | .0036 | 2.318 | .0010 | .0332 | 3.837 | .0031 |
| Stddev | .0005 | .0070 | .0002 | .0005 | .0013 | .007 | .0003 | .0002 | .007 | .0003 |
| %RSD | 6.451 | 257.1 | .0284 | 255.9 | 37.40 | .2887 | 33.11 | .5360 | .1760 | 11.02 |
| #1 | .0082 | .0077 | .6619 | -.0002 | .0045 | 2.323 | .0008 | .0330 | 3.842 | .0029 |
| #2 | .0075 | -.0022 | .6616 | .0006 | .0026 | 2.313 | .0013 | .0333 | 3.832 | .0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1305 | .0006 | .1980 | -.0044 |
| Stddev | .0002 | .0084 | .0001 | .0006 |
| %RSD | .1272 | 1468. | .0454 | 14.42 |
| #1 | .1304 | -.0054 | .1980 | -.0049 |
| #2 | .1307 | .0065 | .1979 | -.0040 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.9 | 42387. | 19079. |
| Stddev | 4.2 | 139. | 17. |
| %RSD | .33204 | .32792 | .09025 |
| #1 | 1268.9 | 42485. | 19091. |
| #2 | 1263.0 | 42289. | 19067. |



Zoom In Zoom Out

Sample Name: MC25455-24 Acquired: 10/29/2013 13:54:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 62.89 | .0182 | .0007 | .0050 | .2711 | .0019 | 3.793 | .0003 | .0157 |
| Stddev | .0002 | .16 | .0022 | .0006 | .0003 | .0003 | .0000 | .014 | .0001 | .0002 |
| %RSD | 48.85 | .2554 | 11.89 | 80.83 | 6.045 | .1156 | 2.023 | .3656 | 45.25 | 1.065 |
| #1 | -.0003 | 63.00 | .0167 | .0003 | .0048 | .2714 | .0019 | 3.784 | .0004 | .0158 |
| #2 | -.0006 | 62.78 | .0197 | .0012 | .0052 | .2709 | .0019 | 3.803 | .0002 | .0155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0713 | .0839 | 72.80 | 3.525 | 7.726 | .5698 | .0022 | .3761 | .0344 | .0879 |
| Stddev | .0010 | .0009 | .03 | .012 | .002 | .0026 | .0001 | .0023 | .0001 | .0004 |
| %RSD | 1.371 | 1.032 | .0475 | .3288 | .0286 | .4526 | 5.300 | .6028 | .1822 | .4413 |
| #1 | .0706 | .0833 | 72.82 | 3.516 | 7.728 | .5680 | .0023 | .3745 | .0344 | .0881 |
| #2 | .0720 | .0845 | 72.78 | 3.533 | 7.725 | .5716 | .0022 | .3777 | .0345 | .0876 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0062 | .0007 | 1.374 | -.0004 | .0062 | 3.364 | .0029 | .0330 | 3.920 | .0052 |
| Stddev | .0004 | .0003 | .003 | .0002 | .0004 | .015 | .0004 | .0001 | .012 | .0014 |
| %RSD | 5.660 | 41.97 | .2014 | 39.71 | 7.084 | .4491 | 12.64 | .1585 | .3063 | 26.50 |
| #1 | .0065 | .0005 | 1.372 | -.0006 | .0065 | 3.353 | .0032 | .0330 | 3.912 | .0062 |
| #2 | .0060 | .0009 | 1.376 | -.0003 | .0059 | 3.375 | .0027 | .0331 | 3.929 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1894 | -.0008 | .1086 | -.0129 |
| Stddev | .0007 | .0108 | .0002 | .0000 |
| %RSD | .3758 | 1355. | .2188 | .3570 |
| #1 | .1889 | .0069 | .1085 | -.0130 |
| #2 | .1899 | -.0084 | .1088 | -.0129 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1257.6 | 41445. | 18753. |
| Stddev | 7.7 | 122. | 55. |
| %RSD | .61456 | .29442 | .29127 |
| #1 | 1263.1 | 41531. | 18792. |
| #2 | 1252.2 | 41358. | 18715. |



Zoom In Zoom Out

Sample Name: MC25455-25 Acquired: 10/29/2013 13:59:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | 63.48 | .0257 | -.0016 | .0059 | .4489 | .0024 | 11.71 | -.0001 | .0321 |
| Stddev | .0000 | .09 | .0002 | .0002 | .0000 | .0005 | .0000 | .02 | .0000 | .0002 |
| %RSD | 10.27 | .1406 | .9302 | 13.52 | .2060 | .1204 | 1.377 | .1606 | 17.42 | .6157 |
| #1 | -.0002 | 63.41 | .0256 | -.0014 | .0059 | .4485 | .0024 | 11.70 | -.0001 | .0319 |
| #2 | -.0002 | 63.54 | .0259 | -.0017 | .0059 | .4492 | .0024 | 11.72 | -.0001 | .0322 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1075 | .1807 | 91.59 | 7.774 | 15.80 | 1.480 | .0027 | .5886 | .0661 | .1601 |
| Stddev | .0006 | .0008 | .16 | .015 | .10 | .003 | .0000 | .0021 | .0000 | .0002 |
| %RSD | .5991 | .4605 | .1694 | .1940 | .6428 | .1685 | .5530 | .3627 | .0541 | .1102 |
| #1 | .1071 | .1801 | 91.48 | 7.764 | 15.73 | 1.479 | .0027 | .5871 | .0661 | .1600 |
| #2 | .1080 | .1813 | 91.70 | 7.785 | 15.87 | 1.482 | .0027 | .5901 | .0661 | .1602 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0086 | 1.629 | .0001 | .0055 | 3.096 | .0024 | .0620 | 4.531 | .0063 |
| Stddev | .0009 | .0020 | .003 | .0007 | .0019 | .005 | .0000 | .0001 | .010 | .0003 |
| %RSD | 11.31 | 22.85 | .1519 | 942.8 | 34.40 | .1486 | .3561 | .1712 | .2125 | 4.337 |
| #1 | .0084 | .0100 | 1.627 | -.0004 | .0068 | 3.092 | .0024 | .0620 | 4.538 | .0061 |
| #2 | .0071 | .0072 | 1.630 | .0006 | .0042 | 3.099 | .0025 | .0621 | 4.524 | .0064 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .2294 | -.0020 | .4135 | -.0074 |
| Stddev | .0007 | .0003 | .0024 | .0001 |
| %RSD | .3213 | 16.77 | .5813 | 1.161 |
| #1 | .2289 | -.0023 | .4118 | -.0074 |
| #2 | .2300 | -.0018 | .4152 | -.0075 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.1 | 41901. | 18623. |
| Stddev | 1.2 | 203. | 30. |
| %RSD | .09868 | .48351 | .15895 |
| #1 | 1263.0 | 41758. | 18602. |
| #2 | 1261.2 | 42045. | 18644. |

Zoom In Zoom Out

Sample Name: MC25455-26 Acquired: 10/29/2013 14:04:05 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | 59.09 | .0188 | .0009 | .0050 | .1034 | .0022 | 3.878 | .0002 | .0287 |
| Stddev | .0003 | .02 | .0011 | .0018 | .0008 | .0001 | .0000 | .005 | .0000 | .0002 |
| %RSD | 61.80 | .0336 | 5.754 | 205.9 | 16.63 | .0549 | 1.518 | .1359 | 2.498 | .5244 |
| #1 | -.0006 | 59.10 | .0196 | .0021 | .0044 | .1034 | .0022 | 3.881 | .0002 | .0286 |
| #2 | -.0003 | 59.07 | .0180 | -.0004 | .0056 | .1033 | .0022 | 3.874 | .0002 | .0288 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0781 | .0422 | 66.51 | 4.749 | 11.87 | 1.043 | .0013 | .3196 | .0614 | .1179 |
| Stddev | .0007 | .0006 | .04 | .018 | .02 | .001 | .0001 | .0014 | .0001 | .0008 |
| %RSD | .9320 | 1.373 | .0622 | .3774 | .1498 | .1036 | 4.878 | .4504 | .1721 | .6634 |
| #1 | .0776 | .0418 | 66.54 | 4.736 | 11.85 | 1.042 | .0014 | .3186 | .0613 | .1185 |
| #2 | .0786 | .0426 | 66.48 | 4.762 | 11.88 | 1.044 | .0013 | .3207 | .0615 | .1174 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | .0006 | 2.179 | -.0003 | .0030 | 2.621 | .0028 | .0316 | 3.127 | .0055 |
| Stddev | .0002 | .0065 | .001 | .0004 | .0022 | .000 | .0003 | .0000 | .006 | .0002 |
| %RSD | 2.966 | 1132. | .0331 | 137.3 | 71.07 | .0099 | 9.936 | .0599 | .1949 | 4.435 |
| #1 | .0070 | -.0040 | 2.179 | -.0006 | .0015 | 2.622 | .0026 | .0316 | 3.131 | .0053 |
| #2 | .0067 | .0052 | 2.180 | .0000 | .0046 | 2.621 | .0030 | .0316 | 3.123 | .0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1438 | .0049 | .1599 | .0037 |
| Stddev | .0010 | .0002 | .0002 | .0001 |
| %RSD | .7238 | 3.632 | .0981 | 2.056 |
| #1 | .1431 | .0050 | .1598 | .0036 |
| #2 | .1445 | .0047 | .1600 | .0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.7 | 41378. | 18710. |
| Stddev | 6.0 | 23. | 23. |
| %RSD | .47473 | .05675 | .12484 |
| #1 | 1260.5 | 41361. | 18694. |
| #2 | 1269.0 | 41394. | 18727. |



Zoom In Zoom Out

Sample Name: MC25628-1 Acquired: 10/29/2013 14:08:54 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0238 | 141.6 | .1967 | -.0257 | .1412 | 4.107 | .0286 | 88.84 | .1336 |
| Stddev | .0001 | .0 | .0028 | .0016 | .0010 | .001 | .0001 | .12 | .0006 |
| %RSD | .3515 | .0265 | 1.442 | 6.292 | .7172 | .0342 | .2232 | .1371 | .4826 |
| #1 | .0238 | 141.6 | .1987 | -.0269 | .1405 | 4.106 | .0286 | 88.92 | .1331 |
| #2 | .0239 | 141.5 | .1947 | -.0246 | .1419 | 4.108 | .0285 | 88.75 | .1340 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.840 | 4.142 | F24.25 | F460.9 | 32.83 | 83.15 | 8.419 | .4281 | 3.271 |
| Stddev | .009 | .003 | .06 | .6 | .01 | .23 | .043 | .0021 | .014 |
| %RSD | .2430 | .0672 | .2593 | .1351 | .0366 | .2765 | .5121 | .4837 | .4335 |
| #1 | 3.834 | 4.144 | 24.21 | 461.3 | 32.84 | 83.31 | 8.449 | .4266 | 3.281 |
| #2 | 3.847 | 4.140 | 24.30 | 460.4 | 32.82 | 82.99 | 8.388 | .4296 | 3.261 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F15.13 | F169.2 | .0151 | .0346 | 7.435 | .5938 | -.0053 | 8.554 | .5856 |
| Stddev | .02 | .3 | .0017 | .0017 | .017 | .0027 | .0022 | .021 | .0000 |
| %RSD | .1054 | .1801 | 11.40 | 4.927 | .2286 | .4485 | 41.69 | .2401 | .0077 |
| #1 | 15.12 | 169.0 | .0163 | .0358 | 7.423 | .5919 | -.0037 | 8.540 | .5856 |
| #2 | 15.15 | 169.4 | .0139 | .0334 | 7.447 | .5956 | -.0068 | 8.569 | .5857 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5695 | 7.357 | -.0010 | .4858 | .2421 | F26.30 | .0775 |
| Stddev | .0003 | .006 | .0016 | .0001 | .0095 | .03 | .0003 |
| %RSD | .0472 | .0819 | 164.4 | .0140 | 3.941 | .1010 | .3844 |
| #1 | .5697 | 7.361 | .0002 | .4859 | .2488 | 26.28 | .0773 |
| #2 | .5693 | 7.352 | -.0021 | .4858 | .2353 | 26.32 | .0777 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.6 | 43972. | 19863. |
| Stddev | .5 | 54. | 20. |
| %RSD | .03798 | .12247 | .10017 |
| #1 | 1265.9 | 44010. | 19877. |
| #2 | 1265.2 | 43934. | 19849. |



Zoom In Zoom Out

Sample Name: MC25628-1 Acquired: 10/29/2013 14:21:00 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0214 | 154.3 | .3112 | -.0316 | .1895 | 4.647 | .0351 | 104.9 | .1268 | 4.445 |
| Stddev | .0305 | .2 | .0419 | .0378 | .0478 | .020 | .0059 | .3 | .0015 | .012 |
| %RSD | 142.1 | .1252 | 13.45 | 119.7 | 25.22 | .4388 | 16.83 | .2762 | 1.147 | .2604 |
| #1 | -.0001 | 154.4 | .2816 | -.0583 | .1557 | 4.632 | .0393 | 104.7 | .1278 | 4.437 |
| #2 | .0430 | 154.1 | .3408 | -.0048 | .2233 | 4.661 | .0309 | 105.1 | .1257 | 4.453 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 4.788 | 25.48 | 597.2 | 36.14 | 92.05 | 9.786 | .5102 | 4.019 | 17.94 | 195.8 |
| Stddev | .086 | .10 | 1.7 | .81 | 1.35 | .046 | .0105 | .026 | .03 | .1 |
| %RSD | 1.803 | .4087 | .2858 | 2.248 | 1.463 | .4707 | 2.066 | .6399 | .1685 | .0369 |
| #1 | 4.849 | 25.56 | 596.0 | 35.56 | 93.00 | 9.818 | .5176 | 4.001 | 17.92 | 195.7 |
| #2 | 4.727 | 25.41 | 598.4 | 36.71 | 91.10 | 9.753 | .5027 | 4.038 | 17.96 | 195.8 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1307 | .0922 | 8.305 | .7289 | -.1940 | 9.589 | .6952 | .6426 | 8.263 | .0003 |
| Stddev | .0264 | .0688 | .315 | .1433 | .0013 | .130 | .0056 | .0041 | .098 | .0245 |
| %RSD | 20.22 | 74.63 | 3.792 | 19.66 | .6492 | 1.355 | .8022 | .6352 | 1.180 | 7755. |
| #1 | .1120 | .1409 | 8.082 | .8302 | -.1948 | 9.681 | .6992 | .6397 | 8.332 | -.0170 |
| #2 | .1494 | .0436 | 8.528 | .6276 | -.1931 | 9.497 | .6913 | .6454 | 8.194 | .0176 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4841 | .5047 | 33.15 | .0020 |
| Stddev | .0467 | .8713 | .11 | .0121 |
| %RSD | 9.651 | 172.6 | .3359 | 603.5 |
| #1 | .5171 | 1.121 | 33.07 | .0105 |
| #2 | .4510 | -.1114 | 33.23 | -.0065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.1 | 41379. | 18098. |
| Stddev | 4.2 | 65. | 34. |
| %RSD | .34619 | .15651 | .18579 |
| #1 | 1217.0 | 41333. | 18122. |
| #2 | 1211.1 | 41425. | 18074. |



Zoom In Zoom Out

Sample Name: MC25628-2 Acquired: 10/29/2013 14:25:51 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0329 | 131.3 | .1888 | -.0266 | .1805 | 5.002 | .0074 | 113.8 | .1725 |
| Stddev | .0002 | .1 | .0041 | .0022 | .0001 | .042 | .0000 | .3 | .0002 |
| %RSD | .4852 | .0434 | 2.181 | 8.173 | .0721 | .8444 | .1020 | .2527 | .0919 |
| #1 | .0330 | 131.4 | .1917 | -.0251 | .1804 | 5.032 | .0074 | 114.0 | .1726 |
| #2 | .0328 | 131.3 | .1859 | -.0282 | .1806 | 4.972 | .0074 | 113.6 | .1724 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1923 | 2.067 | 14.14 | F443.1 | 29.77 | 66.18 | 8.478 | .2646 | 4.471 |
| Stddev | .0002 | .008 | .08 | 1.5 | .05 | .02 | .016 | .0003 | .005 |
| %RSD | .1205 | .3698 | .5932 | .3385 | .1626 | .0227 | .1930 | .1069 | .1211 |
| #1 | .1921 | 2.062 | 14.08 | 444.2 | 29.80 | 66.19 | 8.467 | .2648 | 4.474 |
| #2 | .1925 | 2.073 | 14.20 | 442.1 | 29.74 | 66.17 | 8.490 | .2644 | 4.467 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 8.745 | F262.2 | .0111 | .0389 | 16.44 | .8678 | -.0070 | 7.929 | .5592 |
| Stddev | .022 | .4 | .0004 | .0072 | .02 | .0006 | .0004 | .013 | .0010 |
| %RSD | .2520 | .1613 | 3.916 | 18.43 | .1070 | .0640 | 6.153 | .1576 | .1735 |
| #1 | 8.760 | 262.5 | .0108 | .0440 | 16.46 | .8674 | -.0074 | 7.937 | .5598 |
| #2 | 8.729 | 261.9 | .0115 | .0339 | 16.43 | .8682 | -.0067 | 7.920 | .5585 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8017 | 7.520 | -.0036 | .5115 | .0833 | F35.32 | .0820 |
| Stddev | .0009 | .000 | .0016 | .0007 | .0167 | .09 | .0007 |
| %RSD | .1160 | .0011 | 44.34 | .1324 | 20.05 | .2449 | .8375 |
| #1 | .8010 | 7.520 | -.0025 | .5120 | .0951 | 35.38 | .0825 |
| #2 | .8023 | 7.520 | -.0047 | .5111 | .0715 | 35.26 | .0816 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.6 | 43383. | 19664. |
| Stddev | 2.5 | 90. | 13. |
| %RSD | .19674 | .20858 | .06480 |
| #1 | 1245.9 | 43447. | 19655. |
| #2 | 1249.3 | 43319. | 19673. |

Zoom In Zoom Out

Sample Name: MC25628-2 Acquired: 10/29/2013 14:33:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0559 | 140.3 | .3131 | -.0670 | .1855 | 5.527 | .0129 | 131.0 | .1753 | .2150 |
| Stddev | .0158 | .4 | .1867 | .1992 | .0162 | .006 | .0031 | .8 | .0084 | .0094 |
| %RSD | 28.25 | .2604 | 59.63 | 297.1 | 8.761 | .1067 | 23.91 | .5743 | 4.786 | 4.388 |
| #1 | .0671 | 140.6 | .1811 | -.2079 | .1970 | 5.523 | .0108 | 131.6 | .1813 | .2083 |
| #2 | .0448 | 140.1 | .4452 | .0738 | .1740 | 5.531 | .0151 | 130.5 | .1694 | .2217 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.355 | 14.64 | 559.5 | 34.91 | 73.39 | 9.774 | .3121 | 4.894 | 10.12 | 301.0 |
| Stddev | .137 | .01 | 2.2 | 1.50 | 2.00 | .045 | .0141 | .022 | .02 | .8 |
| %RSD | 5.821 | .0347 | .3944 | 4.297 | 2.731 | .4561 | 4.509 | .4582 | .1950 | .2631 |
| #1 | 2.452 | 14.65 | 561.1 | 35.98 | 74.81 | 9.805 | .3022 | 4.910 | 10.13 | 300.5 |
| #2 | 2.259 | 14.64 | 557.9 | 33.85 | 71.97 | 9.742 | .3221 | 4.879 | 10.11 | 301.6 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .3344 | 18.18 | 1.017 | -.0740 | 8.640 | .6337 | .9030 | 8.339 | .1629 |
| Stddev | .0391 | .5337 | .20 | .018 | .0207 | .021 | .0031 | .0019 | .033 | .0203 |
| %RSD | 384.9 | 159.6 | 1.073 | 1.733 | 27.96 | .2398 | .4901 | .2115 | .3916 | 12.46 |
| #1 | .0378 | .7118 | 18.32 | 1.004 | -.0886 | 8.625 | .6315 | .9043 | 8.315 | .1773 |
| #2 | -.0175 | -.0430 | 18.04 | 1.029 | -.0594 | 8.655 | .6359 | .9016 | 8.362 | .1486 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5635 | .3497 | 44.91 | .0358 |
| Stddev | .0177 | .0878 | .19 | .0074 |
| %RSD | 3.139 | 25.12 | .4297 | 20.80 |
| #1 | .5510 | .4118 | 44.77 | .0410 |
| #2 | .5760 | .2876 | 45.04 | .0305 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.1 | 41278. | 18095. |
| Stddev | 1.7 | 84. | 218. |
| %RSD | .14261 | .20420 | 1.2068 |
| #1 | 1220.9 | 41219. | 17940. |
| #2 | 1223.4 | 41338. | 18249. |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:38:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1406 | 103.8 | .2257 | -.0302 | .1040 | 2.082 | .0066 | 110.3 |
| Stddev | .0006 | .0 | .0039 | .0007 | .0012 | .002 | .0000 | .3 |
| %RSD | .4016 | .0006 | 1.734 | 2.184 | 1.138 | .0718 | .6663 | .3135 |
| #1 | .1402 | 103.8 | .2229 | -.0298 | .1032 | 2.083 | .0066 | 110.0 |
| #2 | .1410 | 103.8 | .2285 | -.0307 | .1049 | 2.081 | .0066 | 110.5 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1187 | .1451 | 1.059 | F24.93 | F428.7 | 22.25 | 48.06 | 9.500 |
| Stddev | .0013 | .0007 | .005 | .10 | 2.5 | .01 | .19 | .009 |
| %RSD | 1.106 | .5077 | .5017 | .4126 | .5915 | .0665 | .3895 | .0963 |
| #1 | .1178 | .1446 | 1.056 | 24.86 | 426.9 | 22.26 | 47.93 | 9.507 |
| #2 | .1197 | .1456 | 1.063 | 25.00 | 430.5 | 22.24 | 48.19 | 9.494 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1977 | 3.548 | 3.958 | F331.7 | .0106 | .0536 | 7.455 | 6.252 |
| Stddev | .0018 | .009 | .030 | 2.6 | .0002 | .0082 | .055 | .048 |
| %RSD | .8923 | .2616 | .7505 | .7755 | 2.138 | 15.34 | .7426 | .7597 |
| #1 | .1965 | 3.554 | 3.937 | 329.9 | .0107 | .0478 | 7.416 | 6.218 |
| #2 | .1990 | 3.541 | 3.979 | 333.5 | .0104 | .0594 | 7.494 | 6.286 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0067 | 7.132 | .6777 | .6149 | 6.131 | F-.0081 | .4258 | .0621 |
| Stddev | .0010 | .050 | .0058 | .0008 | .011 | .0029 | .0020 | .0016 |
| %RSD | 15.20 | .6973 | .8550 | .1241 | .1819 | 35.71 | .4708 | 2.591 |
| #1 | -.0074 | 7.096 | .6736 | .6154 | 6.123 | -.0102 | .4244 | .0609 |
| #2 | -.0060 | 7.167 | .6818 | .6143 | 6.139 | -.0061 | .4273 | .0632 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | F18.39 | .1238 |
| Stddev | .14 | .0018 |
| %RSD | .7602 | 1.459 |
| #1 | 18.29 | .1251 |
| #2 | 18.49 | .1225 |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:38:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1439.9 | 50143. | 22599. |
| Stddev | 6.9 | 58. | 97. |
| %RSD | .47852 | .11471 | .42831 |
| #1 | 1444.8 | 50102. | 22668. |
| #2 | 1435.1 | 50184. | 22531. |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:44:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1106 | 130.0 | .3155 | -.0596 | .1621 | 2.660 | .0123 | 148.8 | .1396 | .1781 |
| Stddev | .0432 | 1.2 | .0483 | .0803 | .0349 | .044 | .0024 | 1.9 | .0000 | .0193 |
| %RSD | 39.08 | .9233 | 15.31 | 134.9 | 21.55 | 1.645 | 19.61 | 1.251 | .0260 | 10.84 |
| #1 | .0800 | 130.9 | .3497 | -.1164 | .1868 | 2.691 | .0106 | 150.1 | .1396 | .1918 |
| #2 | .1412 | 129.2 | .2814 | -.0028 | .1374 | 2.630 | .0140 | 147.5 | .1397 | .1645 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.496 | 30.80 | 643.0 | 29.19 | 62.90 | 13.09 | .2734 | 4.624 | 5.395 | 459.0 |
| Stddev | .054 | .20 | 9.4 | 2.02 | .41 | .22 | .0102 | .097 | .050 | 3.5 |
| %RSD | 3.609 | .6454 | 1.456 | 6.906 | .6479 | 1.653 | 3.747 | 2.090 | .9255 | .7680 |
| #1 | 1.534 | 30.94 | 649.6 | 30.61 | 62.62 | 13.24 | .2806 | 4.693 | 5.360 | 456.5 |
| #2 | 1.457 | 30.66 | 636.4 | 27.76 | 63.19 | 12.94 | .2661 | 4.556 | 5.430 | 461.5 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1289 | .2075 | 9.636 | 8.133 | -.0407 | 9.067 | .8588 | .8016 | 8.058 | -.0199 |
| Stddev | .1908 | .3443 | .253 | .024 | .0785 | .089 | .0659 | .0146 | .025 | .0984 |
| %RSD | 148.0 | 165.9 | 2.629 | .2931 | 192.7 | .9774 | 7.674 | 1.827 | .3052 | 494.5 |
| #1 | .2639 | .4510 | 9.457 | 8.116 | .0148 | 9.004 | .9054 | .8120 | 8.076 | .0497 |
| #2 | -.0060 | -.0359 | 9.815 | 8.150 | -.0963 | 9.130 | .8122 | .7913 | 8.041 | -.0894 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5174 | -.1000 | 26.47 | .1058 |
| Stddev | .0141 | .3930 | .10 | .0361 |
| %RSD | 2.723 | 392.8 | .3778 | 34.09 |
| #1 | .5075 | -.3779 | 26.40 | .1313 |
| #2 | .5274 | .1778 | 26.55 | .0803 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1220.8 | 41174. | 18087. |
| Stddev | 6.6 | 143. | 69. |
| %RSD | .54432 | .34840 | .37999 |
| #1 | 1225.5 | 41072. | 18038. |
| #2 | 1216.1 | 41275. | 18135. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 14:50:18 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2508 | 9.836 | 1.924 | -.0076 | 1.937 | 2.014 | 1.998 | 9.874 | 1.976 | 2.010 |
| Stddev | .0005 | .009 | .007 | .0001 | .002 | .004 | .000 | .004 | .002 | .004 |
| %RSD | .1979 | .0865 | .3575 | 1.669 | .0880 | .1862 | .0008 | .0402 | .0769 | .1799 |
| #1 | .2511 | 9.842 | 1.929 | -.0077 | 1.938 | 2.017 | 1.998 | 9.877 | 1.975 | 2.012 |
| #2 | .2504 | 9.830 | 1.919 | -.0075 | 1.936 | 2.012 | 1.998 | 9.871 | 1.977 | 2.007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.036 | 1.970 | 9.947 | 9.968 | 9.948 | 1.988 | 1.930 | 9.889 | 1.909 | 1.919 |
| Stddev | .000 | .005 | .004 | .009 | .085 | .005 | .001 | .003 | .004 | .001 |
| %RSD | .0047 | .2696 | .0454 | .0888 | .8512 | .2756 | .0477 | .0269 | .1915 | .0486 |
| #1 | 2.036 | 1.974 | 9.944 | 9.962 | 9.888 | 1.984 | 1.931 | 9.891 | 1.911 | 1.919 |
| #2 | 2.036 | 1.967 | 9.950 | 9.975 | 10.01 | 1.992 | 1.929 | 9.887 | 1.906 | 1.918 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0029 | .0070 | -.0014 | 1.934 | 1.929 | -.0031 | 1.927 | 1.935 | 1.965 | 1.929 |
| Stddev | .0010 | .0061 | .0011 | .001 | .004 | .0012 | .005 | .024 | .004 | .004 |
| %RSD | 34.55 | 86.77 | 75.16 | .0480 | .1907 | 38.01 | .2688 | 1.226 | .2121 | .2138 |
| #1 | .0022 | .0027 | -.0007 | 1.934 | 1.931 | -.0023 | 1.931 | 1.918 | 1.962 | 1.932 |
| #2 | .0037 | .0113 | -.0022 | 1.935 | 1.926 | -.0039 | 1.923 | 1.952 | 1.968 | 1.926 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.964 | -.0071 | 1.896 | -.0035 |
| Stddev | .002 | .0045 | .006 | .0003 |
| %RSD | .0848 | 62.55 | .3166 | 8.665 |
| #1 | 1.962 | -.0103 | 1.901 | -.0037 |
| #2 | 1.965 | -.0040 | 1.892 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.2 | 40858. | 18155. |
| Stddev | 1.3 | 167. | 11. |
| %RSD | .10710 | .40973 | .05792 |
| #1 | 1214.1 | 40976. | 18163. |
| #2 | 1212.3 | 40739. | 18148. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 14:58:55 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0022 | -.0016 | -.0005 | .0008 | .0000 | .0000 | .0030 | .0000 | -.0001 |
| Stddev | .0006 | .0028 | .0003 | .0000 | .0002 | .000 | .0000 | .0014 | .000 | .0001 |
| %RSD | 136.9 | 130.0 | 19.10 | 7.403 | 29.93 | 126.4 | 262.7 | 48.46 | 39.24 | 76.38 |
| #1 | .0000 | -.0042 | -.0014 | -.0004 | .0009 | -.0001 | .0000 | .0040 | .0000 | .0000 |
| #2 | -.0008 | -.0002 | -.0018 | -.0005 | .0006 | .0000 | .0000 | .0020 | .0000 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0003 | .0012 | .0073 | .0107 | -.0001 | .0010 | -.0017 | -.0001 | -.0002 |
| Stddev | .0002 | .0001 | .0014 | .0053 | .0033 | .0000 | .0002 | .0014 | .0002 | .0004 |
| %RSD | 29.15 | 43.06 | 120.7 | 72.48 | 30.97 | 4.022 | 16.82 | 83.83 | 185.8 | 246.6 |
| #1 | .0010 | .0002 | .0002 | .0111 | .0084 | -.0001 | .0009 | -.0027 | .0000 | .0001 |
| #2 | .0007 | .0004 | .0022 | .0036 | .0130 | -.0001 | .0012 | -.0007 | -.0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0066 | .0013 | .0008 | -.0005 | .0019 | .0005 | .0001 | .0000 | .0010 |
| Stddev | .0009 | .0024 | .0006 | .0003 | .0003 | .0005 | .0001 | .0000 | .0003 | .0003 |
| %RSD | 162.5 | 36.58 | 50.38 | 38.27 | 50.11 | 29.28 | 25.70 | 45.27 | 1093. | 33.15 |
| #1 | .0001 | .0049 | .0017 | .0006 | -.0007 | .0015 | .0006 | .0000 | .0002 | .0012 |
| #2 | -.0012 | .0083 | .0008 | .0011 | -.0003 | .0022 | .0004 | .0001 | -.0002 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0038 | -.0004 | -.0002 |
| Stddev | .0003 | .0014 | .0000 | .0005 |
| %RSD | 141.7 | 37.47 | .6271 | 233.3 |
| #1 | -.0005 | -.0028 | -.0004 | .0001 |
| #2 | .0000 | -.0048 | -.0004 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.8 | 41244. | 17884. |
| Stddev | 1.7 | 199. | 64. |
| %RSD | .14087 | .48218 | .35528 |
| #1 | 1209.6 | 41104. | 17839. |
| #2 | 1212.0 | 41385. | 17929. |



Zoom In Zoom Out

Sample Name: MC25628-4 Acquired: 10/29/2013 15:03:53 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | 110.0 | .1568 | -.0138 | .0721 | 1.343 | .0063 | 60.88 | .0449 |
| Stddev | .0001 | .2 | .0001 | .0014 | .0008 | .005 | .0000 | .09 | .0004 |
| %RSD | 1.902 | .1423 | .0828 | 10.39 | 1.145 | .4128 | .0903 | .1522 | .8046 |
| #1 | .0047 | 110.1 | .1567 | -.0148 | .0715 | 1.347 | .0063 | 60.82 | .0447 |
| #2 | .0046 | 109.8 | .1569 | -.0128 | .0726 | 1.339 | .0063 | 60.95 | .0452 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1180 | .6601 | F16.77 | F303.8 | 23.04 | 61.39 | 5.204 | .0667 | 2.647 |
| Stddev | .0001 | .0011 | .15 | .7 | .13 | .83 | .049 | .0001 | .003 |
| %RSD | .0828 | .1733 | .9236 | .2344 | .5495 | 1.360 | .9422 | .1181 | .1233 |
| #1 | .1181 | .6593 | 16.66 | 303.3 | 23.13 | 60.80 | 5.169 | .0667 | 2.645 |
| #2 | .1179 | .6609 | 16.88 | 304.3 | 22.95 | 61.98 | 5.238 | .0666 | 2.649 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.786 | F58.54 | .0163 | .0237 | 6.311 | .1135 | .0060 | 8.047 | .3452 |
| Stddev | .004 | .14 | .0016 | .0057 | .034 | .0014 | .0000 | .011 | .0002 |
| %RSD | .2084 | .2461 | 9.806 | 24.16 | .5452 | 1.195 | .6896 | .1373 | .0592 |
| #1 | 1.783 | 58.44 | .0175 | .0197 | 6.286 | .1126 | .0060 | 8.054 | .3450 |
| #2 | 1.788 | 58.64 | .0152 | .0278 | 6.335 | .1145 | .0061 | 8.039 | .3453 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .4408 | 6.422 | .0048 | .3589 | .0268 | 11.78 | .0062 |
| Stddev | .0013 | .035 | .0017 | .0022 | .0005 | .08 | .0011 |
| %RSD | .3015 | .5437 | 36.42 | .6007 | 1.688 | .6444 | 17.69 |
| #1 | .4417 | 6.398 | .0036 | .3574 | .0271 | 11.73 | .0054 |
| #2 | .4398 | 6.447 | .0060 | .3605 | .0265 | 11.83 | .0070 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1287.5 | 43432. | 19472. |
| Stddev | 6.9 | 252. | 47. |
| %RSD | .53814 | .57936 | .24044 |
| #1 | 1282.6 | 43610. | 19505. |
| #2 | 1292.4 | 43254. | 19439. |



Zoom In Zoom Out

Sample Name: MC25628-4 Acquired: 10/29/2013 15:10:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 119.7 | .1563 | -.0028 | .0789 | 1.478 | .0070 | 69.76 | .0490 | .1300 |
| Stddev | .0086 | .7 | .0255 | .0191 | .0113 | .012 | .0003 | .14 | .0012 | .0008 |
| %RSD | 379.0 | .5903 | 16.33 | 686.3 | 14.28 | .7850 | 3.827 | .2018 | 2.505 | .6502 |
| #1 | .0083 | 120.2 | .1383 | -.0163 | .0868 | 1.486 | .0071 | 69.86 | .0482 | .1294 |
| #2 | -.0038 | 119.2 | .1744 | .0107 | .0709 | 1.470 | .0068 | 69.66 | .0499 | .1306 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7433 | 17.52 | 357.5 | 26.00 | 66.69 | 5.861 | .0802 | 2.968 | 2.043 | 64.63 |
| Stddev | .0221 | .04 | .6 | .27 | .82 | .019 | .0038 | .004 | .009 | .12 |
| %RSD | 2.975 | .2446 | .1694 | 1.054 | 1.232 | .3227 | 4.756 | .1173 | .4585 | .1798 |
| #1 | .7589 | 17.55 | 358.0 | 25.81 | 67.27 | 5.847 | .0775 | 2.971 | 2.037 | 64.55 |
| #2 | .7277 | 17.49 | 357.1 | 26.19 | 66.11 | 5.874 | .0829 | 2.966 | 2.050 | 64.71 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0673 | .0074 | 6.758 | .1298 | -.0172 | 8.656 | .3931 | .4972 | 7.142 | .0154 |
| Stddev | .0048 | .0014 | .022 | .0081 | .0065 | .040 | .0085 | .0032 | .004 | .0015 |
| %RSD | 7.192 | 19.16 | .3200 | 6.233 | 38.11 | .4588 | 2.173 | .6469 | .0615 | 9.869 |
| #1 | .0638 | .0084 | 6.743 | .1240 | -.0218 | 8.684 | .3871 | .4995 | 7.145 | .0143 |
| #2 | .0707 | .0064 | 6.773 | .1355 | -.0125 | 8.628 | .3992 | .4949 | 7.139 | .0165 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3902 | -.0035 | 13.95 | .0033 |
| Stddev | .0156 | .1269 | .08 | .0036 |
| %RSD | 4.005 | 3624. | .5608 | 110.1 |
| #1 | .3792 | .0862 | 13.89 | .0007 |
| #2 | .4013 | -.0932 | 14.01 | .0059 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.9 | 40869. | 18156. |
| Stddev | 7.2 | 1. | 66. |
| %RSD | .58686 | .00273 | .36296 |
| #1 | 1222.8 | 40868. | 18109. |
| #2 | 1233.0 | 40870. | 18202. |

Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 15:15:13 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 500.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 500X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0642 | 134.1 | .0937 | -.1510 | .3303 | 2.717 | .0270 | 153.6 | .1276 | .0941 |
| Stddev | .2846 | .8 | .5865 | .2915 | .2606 | .034 | .0130 | 2.1 | .0008 | .0747 |
| %RSD | 443.6 | .6191 | 626.0 | 193.1 | 78.88 | 1.257 | 48.29 | 1.358 | .6063 | 79.39 |
| #1 | .2654 | 133.5 | -.3210 | -.3571 | .1461 | 2.693 | .0178 | 152.1 | .1281 | .0413 |
| #2 | -.1371 | 134.7 | .5084 | .0551 | .5146 | 2.741 | .0362 | 155.0 | .1270 | .1468 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.986 | 31.08 | 647.7 | 34.02 | 58.01 | 13.08 | .5024 | 4.158 | 5.580 | 470.9 |
| Stddev | .129 | .20 | 4.0 | 3.50 | 13.72 | .07 | .1045 | 2.051 | .026 | .1 |
| %RSD | 6.506 | .6495 | .6193 | 10.30 | 23.65 | .5343 | 20.80 | 49.32 | .4655 | .0147 |
| #1 | 2.078 | 31.23 | 644.9 | 31.54 | 48.31 | 13.13 | .4285 | 5.608 | 5.599 | 471.0 |
| #2 | 1.895 | 30.94 | 650.6 | 36.49 | 67.71 | 13.03 | .5764 | 2.708 | 5.562 | 470.9 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.1117 | -.3730 | 10.51 | 8.297 | -.2410 | 9.374 | .6927 | .8188 | 8.163 | .1298 |
| Stddev | .2818 | 1.079 | .78 | .286 | .2525 | .049 | .1432 | .0178 | .041 | .0802 |
| %RSD | 252.3 | 289.2 | 7.391 | 3.443 | 104.8 | .5217 | 20.67 | 2.177 | .4965 | 61.83 |
| #1 | -.3110 | -1.136 | 11.06 | 8.499 | -.4196 | 9.409 | .7939 | .8062 | 8.134 | .1865 |
| #2 | .0876 | .3898 | 9.964 | 8.095 | -.0625 | 9.340 | .5914 | .8314 | 8.192 | .0730 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5530 | -1.227 | 26.99 | -.3113 |
| Stddev | .3782 | .306 | .06 | .0490 |
| %RSD | 68.39 | 24.95 | .2220 | 15.73 |
| #1 | .8205 | -1.444 | 27.03 | -.2766 |
| #2 | .2856 | -1.011 | 26.95 | -.3459 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.5 | 41361. | 18069. |
| Stddev | .8 | 23. | 76. |
| %RSD | .06853 | .05508 | .42181 |
| #1 | 1211.0 | 41345. | 18123. |
| #2 | 1212.1 | 41377. | 18016. |



Zoom In Zoom Out

Sample Name: MC25427-2R Acquired: 10/29/2013 15:20:10 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | 117.2 | .1900 | -.0115 | .0256 | 1.123 | .0050 | 53.26 | .0139 |
| Stddev | .0009 | .2 | .0026 | .0002 | .0006 | .000 | .0000 | .15 | .0000 |
| %RSD | 13.21 | .1413 | 1.375 | 1.573 | 2.233 | .0082 | .1991 | .2784 | .2192 |
| #1 | .0063 | 117.1 | .1919 | -.0117 | .0260 | 1.123 | .0050 | 53.15 | .0139 |
| #2 | .0076 | 117.3 | .1882 | -.0114 | .0252 | 1.123 | .0050 | 53.36 | .0139 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1142 | .5389 | F30.25 | 208.2 | 30.21 | 77.13 | 4.299 | .0079 | 2.142 |
| Stddev | .0005 | .0011 | .20 | 1.5 | .03 | .16 | .010 | .0001 | .001 |
| %RSD | .4569 | .1991 | .6771 | .7168 | .0846 | .2123 | .2414 | .8344 | .0556 |
| #1 | .1146 | .5382 | 30.40 | 207.2 | 30.23 | 77.01 | 4.306 | .0079 | 2.143 |
| #2 | .1139 | .5397 | 30.11 | 209.3 | 30.19 | 77.25 | 4.292 | .0080 | 2.141 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5406 | F27.61 | .0111 | .0231 | 3.968 | .1076 | .0078 | 4.973 | .3450 |
| Stddev | .0014 | .06 | .0004 | .0027 | .006 | .0008 | .0006 | .022 | .0021 |
| %RSD | .2654 | .2189 | 3.915 | 11.68 | .1494 | .7107 | 7.663 | .4401 | .6128 |
| #1 | .5417 | 27.65 | .0115 | .0212 | 3.964 | .1070 | .0073 | 4.988 | .3465 |
| #2 | .5396 | 27.57 | .0108 | .0250 | 3.972 | .1081 | .0082 | 4.957 | .3435 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5039 | 6.613 | .0040 | .3311 | .0121 | 11.14 | .0158 |
| Stddev | .0002 | .011 | .0010 | .0007 | .0046 | .02 | .0002 |
| %RSD | .0420 | .1599 | 24.29 | .2026 | 38.20 | .1657 | 1.572 |
| #1 | .5038 | 6.621 | .0046 | .3315 | .0088 | 11.15 | .0160 |
| #2 | .5041 | 6.606 | .0033 | .3306 | .0153 | 11.13 | .0156 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1286.9 | 43714. | 19548. |
| Stddev | 2.8 | 8. | 106. |
| %RSD | .21528 | .01818 | .54169 |
| #1 | 1284.9 | 43708. | 19623. |
| #2 | 1288.8 | 43720. | 19473. |



Zoom In Zoom Out

Sample Name: MC25427-2R Acquired: 10/29/2013 15:26:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0067 | 126.1 | .2084 | -.0179 | .0289 | 1.220 | .0053 | 59.64 | .0154 | .1278 |
| Stddev | .0009 | .3 | .0145 | .0089 | .0006 | .004 | .0007 | .06 | .0013 | .0006 |
| %RSD | 13.00 | .2498 | 6.946 | 49.57 | 2.105 | .3175 | 12.75 | .1067 | 8.503 | .4796 |
| #1 | .0073 | 125.9 | .2187 | -.0116 | .0293 | 1.217 | .0058 | 59.69 | .0145 | .1283 |
| #2 | .0060 | 126.3 | .1982 | -.0241 | .0284 | 1.223 | .0048 | 59.60 | .0163 | .1274 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5999 | 33.11 | 241.9 | 33.20 | 83.21 | 4.786 | .0089 | 2.333 | .6151 | 30.35 |
| Stddev | .0179 | .05 | 1.0 | .26 | .26 | .018 | .0003 | .023 | .0026 | .08 |
| %RSD | 2.986 | .1537 | .3995 | .7781 | .3154 | .3711 | 3.556 | .9685 | .4182 | .2787 |
| #1 | .5872 | 33.08 | 241.2 | 33.02 | 83.02 | 4.773 | .0092 | 2.349 | .6169 | 30.41 |
| #2 | .6125 | 33.15 | 242.6 | 33.38 | 83.39 | 4.799 | .0087 | 2.318 | .6132 | 30.29 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0231 | .0628 | 4.321 | .1159 | -.0024 | 5.412 | .3911 | .5621 | 7.264 | .0076 |
| Stddev | .0118 | .0298 | .032 | .0036 | .0073 | .032 | .0022 | .0045 | .020 | .0162 |
| %RSD | 51.27 | 47.42 | .7398 | 3.098 | 298.9 | .5954 | .5698 | .7958 | .2680 | 211.8 |
| #1 | .0314 | .0839 | 4.344 | .1184 | .0027 | 5.434 | .3927 | .5590 | 7.250 | .0191 |
| #2 | .0147 | .0418 | 4.299 | .1133 | -.0076 | 5.389 | .3895 | .5653 | 7.278 | -.0038 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3558 | .0427 | 12.97 | .0200 |
| Stddev | .0095 | .0159 | .05 | .0039 |
| %RSD | 2.680 | 37.31 | .3832 | 19.29 |
| #1 | .3626 | .0540 | 13.01 | .0173 |
| #2 | .3491 | .0314 | 12.94 | .0228 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1228.6 | 41187. | 18404. |
| Stddev | 2.7 | 73. | 41. |
| %RSD | .21864 | .17698 | .22056 |
| #1 | 1226.7 | 41136. | 18433. |
| #2 | 1230.5 | 41239. | 18375. |



Zoom In Zoom Out

Sample Name: MC25427-3R Acquired: 10/29/2013 15:31:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | 102.5 | .2170 | .0002 | .0142 | 1.038 | .0051 | 39.10 | .0109 | .1341 |
| Stddev | .0007 | .7 | .0165 | .0001 | .0012 | .007 | .0000 | .10 | .0002 | .0041 |
| %RSD | 28.34 | .6344 | 7.601 | 53.48 | 8.539 | .6591 | .1194 | .2505 | 1.797 | 3.053 |
| #1 | .0020 | 102.0 | .2287 | .0002 | .0151 | 1.033 | .0051 | 39.03 | .0107 | .1312 |
| #2 | .0030 | 102.9 | .2053 | .0001 | .0134 | 1.043 | .0051 | 39.17 | .0110 | .1370 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4929 | 8.793 | 292.6 | 21.01 | 63.53 | 4.499 | .0138 | 2.280 | .9169 | 18.12 |
| Stddev | .0136 | .011 | .5 | .08 | .02 | .004 | .0007 | .037 | .0035 | .04 |
| %RSD | 2.766 | .1292 | .1863 | .3921 | .0337 | .1011 | 4.812 | 1.610 | .3803 | .2040 |
| #1 | .5026 | 8.784 | 292.2 | 21.07 | 63.55 | 4.496 | .0133 | 2.254 | .9194 | 18.15 |
| #2 | .4833 | 8.801 | 293.0 | 20.95 | 63.52 | 4.503 | .0143 | 2.306 | .9145 | 18.09 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0213 | .0450 | 2.921 | .0483 | .0120 | 4.156 | .3806 | .3809 | 5.963 | .0097 |
| Stddev | .0133 | .0008 | .019 | .0006 | .0011 | .015 | .0124 | .0018 | .016 | .0138 |
| %RSD | 62.38 | 1.858 | .6503 | 1.276 | 9.068 | .3639 | 3.256 | .4817 | .2601 | 141.5 |
| #1 | .0119 | .0456 | 2.934 | .0487 | .0128 | 4.167 | .3893 | .3796 | 5.974 | .0195 |
| #2 | .0307 | .0444 | 2.907 | .0479 | .0113 | 4.146 | .3718 | .3822 | 5.952 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3242 | -.0123 | 12.43 | .0230 |
| Stddev | .0030 | .0314 | .03 | .0017 |
| %RSD | .9257 | 255.4 | .2058 | 7.255 |
| #1 | .3221 | -.0345 | 12.45 | .0218 |
| #2 | .3263 | .0099 | 12.41 | .0242 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.5 | 41218. | 18360. |
| Stddev | 1.5 | 210. | 30. |
| %RSD | .11939 | .50879 | .16329 |
| #1 | 1234.5 | 41367. | 18339. |
| #2 | 1232.4 | 41070. | 18381. |

Zoom In Zoom Out

Sample Name: MC25455-6 Acquired: 10/29/2013 15:36:20 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 186.5 | .0768 | -.0104 | .0141 | .4911 | .0080 | 7.588 | -.0003 |
| Stddev | .0006 | .4 | .0036 | .0008 | .0002 | .0008 | .0000 | .047 | .0001 |
| %RSD | 148.6 | .2392 | 4.716 | 7.610 | 1.087 | .1529 | .2679 | .6192 | 47.37 |
| #1 | -.0008 | 186.2 | .0794 | -.0109 | .0142 | .4916 | .0080 | 7.555 | -.0002 |
| #2 | .0000 | 186.8 | .0743 | -.0098 | .0140 | .4905 | .0080 | 7.621 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1331 | .3278 | .1891 | F249.8 | 22.00 | 57.22 | 4.080 | .0043 | .5590 |
| Stddev | .0000 | .0033 | .0005 | 2.0 | .03 | .02 | .002 | .0003 | .0042 |
| %RSD | .0214 | 1.019 | .2640 | .8077 | .1541 | .0330 | .0558 | 6.730 | .7596 |
| #1 | .1331 | .3255 | .1887 | 248.3 | 21.98 | 57.21 | 4.082 | .0046 | .5620 |
| #2 | .1331 | .3302 | .1894 | 251.2 | 22.02 | 57.24 | 4.078 | .0041 | .5560 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2225 | .1439 | .0171 | .0123 | 4.346 | -.0010 | .0059 | 11.84 | -.0064 |
| Stddev | .0002 | .0008 | .0005 | .0064 | .000 | .0001 | .0002 | .02 | .0003 |
| %RSD | .0855 | .5314 | 2.846 | 52.45 | .0001 | 8.854 | 3.484 | .2037 | 5.165 |
| #1 | .2224 | .1444 | .0175 | .0168 | 4.346 | -.0011 | .0058 | 11.82 | -.0067 |
| #2 | .2227 | .1433 | .0168 | .0077 | 4.346 | -.0010 | .0061 | 11.85 | -.0062 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0374 | 9.439 | .0051 | .4466 | -.0015 | .5662 | -.0293 |
| Stddev | .0002 | .007 | .0003 | .0008 | .0003 | .0007 | .0001 |
| %RSD | .4788 | .0754 | 5.767 | .1877 | 19.70 | .1279 | .2661 |
| #1 | .0375 | 9.444 | .0053 | .4460 | -.0013 | .5667 | -.0293 |
| #2 | .0373 | 9.434 | .0049 | .4472 | -.0017 | .5657 | -.0294 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1333.6 | 43050. | 19854. |
| Stddev | 4.5 | 13. | 173. |
| %RSD | .33571 | .03095 | .87212 |
| #1 | 1336.7 | 43059. | 19977. |
| #2 | 1330.4 | 43041. | 19732. |



Zoom In Zoom Out

Sample Name: MP21905-PS1 Acquired: 10/29/2013 15:41:18 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2226 | 62.98 | .2234 | -.0040 | 4.090 | 2.374 | .1720 | 48.10 | .1782 | 2.118 |
| Stddev | .0005 | .04 | .0001 | .0010 | .007 | .001 | .0003 | .03 | .0005 | .003 |
| %RSD | .2185 | .0591 | .0656 | 24.23 | .1736 | .0547 | .1894 | .0645 | .3065 | .1370 |
| #1 | .2223 | 63.01 | .2235 | -.0047 | 4.085 | 2.373 | .1723 | 48.12 | .1786 | 2.116 |
| #2 | .2230 | 62.95 | .2233 | -.0033 | 4.095 | 2.375 | .1718 | 48.08 | .1778 | 2.120 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5356 | 1.140 | 119.3 | 49.99 | 60.69 | 2.258 | 3.992 | 41.95 | 1.658 | .5465 |
| Stddev | .0006 | .000 | .1 | .04 | .00 | .002 | .011 | .02 | .004 | .0003 |
| %RSD | .1209 | .0147 | .0927 | .0752 | .0019 | .1009 | .2823 | .0420 | .2201 | .0498 |
| #1 | .5351 | 1.140 | 119.3 | 49.96 | 60.69 | 2.260 | 3.984 | 41.96 | 1.655 | .5467 |
| #2 | .5360 | 1.139 | 119.2 | 50.01 | 60.69 | 2.256 | 4.000 | 41.94 | 1.660 | .5464 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0091 | .0096 | 1.028 | .2521 | .4246 | 6.264 | 3.943 | .4408 | 5.778 | .2037 |
| Stddev | .0005 | .0033 | .001 | .0022 | .0015 | .026 | .014 | .0002 | .002 | .0009 |
| %RSD | 5.543 | 34.59 | .0463 | .8798 | .3641 | .4226 | .3476 | .0458 | .0287 | .4185 |
| #1 | .0088 | .0072 | 1.027 | .2536 | .4257 | 6.245 | 3.933 | .4410 | 5.779 | .2043 |
| #2 | .0095 | .0119 | 1.028 | .2505 | .4235 | 6.283 | 3.952 | .4407 | 5.777 | .2031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5746 | -.0034 | 1.062 | -.0380 |
| Stddev | .0007 | .0033 | .001 | .0007 |
| %RSD | .1181 | 96.89 | .0574 | 1.728 |
| #1 | .5751 | -.0011 | 1.063 | -.0375 |
| #2 | .5741 | -.0058 | 1.062 | -.0384 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1252.4 | 41543. | 18779. |
| Stddev | .8 | 95. | 54. |
| %RSD | .06101 | .22939 | .28944 |
| #1 | 1251.9 | 41476. | 18741. |
| #2 | 1253.0 | 41610. | 18818. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/29/2013 15:46:53 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2085 | .0096 | -.0007 | .1039 | .0532 | .0043 | 5.114 | .0043 | .0531 |
| Stddev | .0003 | .0026 | .0006 | .0006 | .0003 | .0001 | .0000 | .009 | .0001 | .0009 |
| %RSD | 5.301 | 1.226 | 5.904 | 81.19 | .2645 | .2742 | .4560 | .1696 | 3.012 | 1.605 |
| #1 | .0048 | .2067 | .0092 | -.0011 | .1037 | .0534 | .0043 | 5.108 | .0042 | .0525 |
| #2 | .0051 | .2103 | .0100 | -.0003 | .1041 | .0531 | .0044 | 5.121 | .0044 | .0537 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0108 | .0261 | .1107 | 5.154 | 5.069 | .0161 | .1051 | 5.073 | .0408 | .0098 |
| Stddev | .0008 | .0005 | .0006 | .027 | .013 | .0000 | .0005 | .002 | .0003 | .0009 |
| %RSD | 7.739 | 1.995 | .5018 | .5158 | .2463 | .3044 | .4988 | .0336 | .8339 | 9.353 |
| #1 | .0102 | .0265 | .1111 | 5.173 | 5.077 | .0160 | .1047 | 5.074 | .0406 | .0092 |
| #2 | .0114 | .0257 | .1103 | 5.135 | 5.060 | .0161 | .1054 | 5.071 | .0411 | .0105 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0024 | .0027 | .0110 | .0084 | .0077 | .0994 | .0104 | .0521 | .0104 |
| Stddev | .0000 | .0007 | .0013 | .0005 | .0014 | .0002 | .0008 | .0000 | .0003 | .0005 |
| %RSD | 3.422 | 30.61 | 48.28 | 4.842 | 16.16 | 1.989 | .8239 | .2364 | .6472 | 4.944 |
| #1 | -.0010 | .0019 | .0036 | .0114 | .0093 | .0076 | .1000 | .0104 | .0518 | .0108 |
| #2 | -.0010 | .0029 | .0018 | .0106 | .0074 | .0078 | .0989 | .0104 | .0523 | .0101 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0106 | -.0017 | .0210 | .0004 |
| Stddev | .0001 | .0007 | .0005 | .0001 |
| %RSD | 1.069 | 40.09 | 2.259 | 33.52 |
| #1 | .0105 | -.0022 | .0207 | .0003 |
| #2 | .0106 | -.0012 | .0214 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.4 | 40854. | 17843. |
| Stddev | .1 | 42. | 12. |
| %RSD | .00741 | .10347 | .06670 |
| #1 | 1217.4 | 40883. | 17834. |
| #2 | 1217.5 | 40824. | 17851. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/29/2013 15:51:48 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0052 | .2078 | F.0057 | -.0012 | .1022 | .0532 | .0043 | 5.055 | .0043 |
| Stddev | .0001 | .0015 | .0013 | .0006 | .0002 | .0003 | .0000 | .039 | .0000 |
| %RSD | 2.478 | .7195 | 22.13 | 52.46 | .1697 | .5803 | .8773 | .7700 | .4256 |
| #1 | .0052 | .2068 | .0066 | -.0016 | .1020 | .0530 | .0043 | 5.028 | .0043 |
| #2 | .0053 | .2089 | .0048 | -.0007 | .1023 | .0535 | .0043 | 5.083 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0525 | .0106 | .0256 | .1052 | 5.115 | 5.052 | .0156 | .1022 | 5.037 |
| Stddev | .0001 | .0009 | .0005 | .0004 | .040 | .035 | .0002 | .0002 | .048 |
| %RSD | .1452 | 8.698 | 1.913 | .4249 | .7811 | .6837 | 1.543 | .1972 | .9592 |
| #1 | .0525 | .0113 | .0253 | .1055 | 5.086 | 5.028 | .0155 | .1020 | 5.003 |
| #2 | .0524 | .0100 | .0259 | .1048 | 5.143 | 5.076 | .0158 | .1023 | 5.071 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0400 | .0047 | -.0001 | .0011 | -.0002 | .0064 | .0089 | .0091 | .0982 |
| Stddev | .0001 | .0014 | .0007 | .0048 | .0002 | .0002 | .0008 | .0003 | .0002 |
| %RSD | .1966 | 29.16 | 1235. | 456.5 | 102.9 | 2.358 | 8.550 | 3.314 | .2475 |
| #1 | .0400 | .0037 | -.0006 | -.0023 | -.0001 | .0065 | .0095 | .0093 | .0980 |
| #2 | .0399 | .0057 | .0005 | .0045 | -.0003 | .0063 | .0084 | .0089 | .0984 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0103 | .0507 | .0053 | .0096 | -.0047 | .0209 | -.0003 |
| Stddev | .0001 | .0010 | .0003 | .0003 | .0016 | .0001 | .0009 |
| %RSD | .6430 | 1.883 | 6.140 | 3.292 | 33.27 | .4650 | 326.4 |
| #1 | .0102 | .0500 | .0051 | .0094 | -.0036 | .0208 | -.0009 |
| #2 | .0103 | .0514 | .0055 | .0098 | -.0058 | .0209 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.7 | 41237. | 17844. |
| Stddev | 5.7 | 382. | 168. |
| %RSD | .47125 | .92748 | .94093 |
| #1 | 1207.6 | 41508. | 17962. |
| #2 | 1215.7 | 40967. | 17725. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 15:56:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.842 | 1.931 | -.0084 | 1.939 | 2.004 | 2.010 | 9.886 | 1.982 | 2.013 |
| Stddev | .0012 | .048 | .006 | .0015 | .006 | .007 | .008 | .019 | .004 | .007 |
| %RSD | .4722 | .4829 | .3356 | 18.30 | .3305 | .3335 | .4120 | .1886 | .1785 | .3459 |
| #1 | .2534 | 9.875 | 1.936 | -.0095 | 1.944 | 2.009 | 2.016 | 9.900 | 1.985 | 2.017 |
| #2 | .2517 | 9.808 | 1.927 | -.0074 | 1.935 | 1.999 | 2.004 | 9.873 | 1.980 | 2.008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.047 | 1.979 | 9.915 | 9.895 | 9.933 | 2.005 | 1.930 | 9.863 | 1.908 | 1.916 |
| Stddev | .002 | .009 | .030 | .062 | .001 | .001 | .003 | .025 | .008 | .005 |
| %RSD | .1176 | .4403 | .2994 | .6258 | .0137 | .0696 | .1642 | .2572 | .4055 | .2401 |
| #1 | 2.048 | 1.973 | 9.936 | 9.939 | 9.934 | 2.006 | 1.932 | 9.881 | 1.914 | 1.920 |
| #2 | 2.045 | 1.985 | 9.894 | 9.851 | 9.932 | 2.004 | 1.928 | 9.846 | 1.903 | 1.913 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0119 | -.0033 | 1.940 | 1.929 | -.0047 | 1.925 | 1.929 | 1.970 | 1.926 |
| Stddev | .0013 | .0027 | .0004 | .012 | .010 | .0008 | .006 | .005 | .001 | .006 |
| %RSD | 44.15 | 22.88 | 10.89 | .6173 | .5089 | 17.54 | .3097 | .2840 | .0633 | .3261 |
| #1 | .0040 | .0139 | -.0031 | 1.948 | 1.936 | -.0042 | 1.929 | 1.933 | 1.969 | 1.931 |
| #2 | .0021 | .0100 | -.0036 | 1.931 | 1.922 | -.0053 | 1.921 | 1.925 | 1.971 | 1.922 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.972 | -.0153 | 1.902 | -.0075 |
| Stddev | .000 | .0038 | .006 | .0000 |
| %RSD | .0047 | 24.80 | .3371 | .4008 |
| #1 | 1.972 | -.0127 | 1.906 | -.0075 |
| #2 | 1.972 | -.0180 | 1.897 | -.0075 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.9 | 40635. | 18243. |
| Stddev | 2.0 | 77. | 93. |
| %RSD | .16715 | .18879 | .51012 |
| #1 | 1213.5 | 40689. | 18177. |
| #2 | 1216.3 | 40581. | 18309. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 16:03:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0004 | -.0003 | .0013 | .0021 | .0001 | .0000 | .0013 | .0001 | .0001 |
| Stddev | .0000 | .0003 | .0022 | .0001 | .0002 | .0000 | .0000 | .0010 | .0000 | .0002 |
| %RSD | 3.920 | 59.48 | 735.0 | 9.609 | 9.333 | 65.53 | 14.76 | 78.18 | 39.98 | 197.6 |
| #1 | -.0004 | .0003 | .0013 | .0012 | .0019 | .0001 | .0000 | .0021 | .0001 | .0000 |
| #2 | -.0004 | .0006 | -.0018 | .0014 | .0022 | .0000 | .0001 | .0006 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0004 | -.0011 | -.0084 | -.0051 | .0000 | .0015 | -.0009 | .0002 | -.0008 |
| Stddev | .0013 | .0002 | .0014 | .0053 | .0024 | .0000 | .0001 | .0010 | .0000 | .0001 |
| %RSD | 179.0 | 37.13 | 135.1 | 63.19 | 47.75 | 10.14 | 6.722 | 118.0 | 2.168 | 6.651 |
| #1 | .0017 | .0003 | .0000 | -.0047 | -.0068 | .0000 | .0016 | -.0016 | .0002 | -.0009 |
| #2 | -.0002 | .0006 | -.0021 | -.0122 | -.0034 | .0000 | .0014 | -.0001 | .0002 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0019 | .0009 | .0008 | -.0020 | .0002 | -.0002 | .0000 | .0004 | .0019 |
| Stddev | .0006 | .0034 | .0007 | .0005 | .0009 | .0001 | .0000 | .0000 | .0002 | .0004 |
| %RSD | 60.38 | 179.4 | 71.96 | 57.80 | 46.61 | 43.76 | 3.506 | 154.0 | 63.52 | 24.00 |
| #1 | -.0013 | -.0005 | .0005 | .0005 | -.0014 | .0001 | -.0002 | .0000 | .0006 | .0015 |
| #2 | -.0005 | .0043 | .0014 | .0012 | -.0027 | .0003 | -.0002 | .0000 | .0002 | .0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | -.0058 | .0013 | -.0003 |
| Stddev | .0002 | .0025 | .0000 | .0002 |
| %RSD | 76.25 | 42.83 | 1.175 | 47.91 |
| #1 | .0001 | -.0076 | .0013 | -.0002 |
| #2 | .0004 | -.0041 | .0013 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.9 | 41218. | 17933. |
| Stddev | 5.9 | 49. | 66. |
| %RSD | .48596 | .12007 | .36800 |
| #1 | 1218.1 | 41183. | 17979. |
| #2 | 1209.7 | 41253. | 17886. |



Zoom In Zoom Out

Sample Name: MP21908-B1 Acquired: 10/29/2013 16:08:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2102 | 2.209 | .5600 | -.0034 | .0092 | 2.140 | .5401 | 26.27 | .5569 | .5384 |
| Stddev | .0026 | .016 | .0090 | .0011 | .0001 | .003 | .0015 | .02 | .0002 | .0032 |
| %RSD | 1.245 | .7188 | 1.605 | 31.08 | 1.059 | .1331 | .2852 | .0916 | .0275 | .5947 |
| #1 | .2083 | 2.220 | .5664 | -.0042 | .0091 | 2.142 | .5390 | 26.25 | .5571 | .5407 |
| #2 | .2120 | 2.198 | .5536 | -.0027 | .0092 | 2.138 | .5411 | 26.29 | .5568 | .5361 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5635 | .5216 | 2.153 | 26.56 | 26.33 | .5369 | .0035 | 26.08 | .5064 | 1.031 |
| Stddev | .0014 | .0083 | .021 | .01 | .06 | .0026 | .0010 | .05 | .0004 | .003 |
| %RSD | .2569 | 1.584 | .9626 | .0426 | .2429 | .4753 | 29.13 | .2075 | .0704 | .3203 |
| #1 | .5625 | .5157 | 2.139 | 26.55 | 26.28 | .5351 | .0042 | 26.12 | .5066 | 1.034 |
| #2 | .5646 | .5274 | 2.168 | 26.57 | 26.37 | .5387 | .0027 | 26.05 | .5061 | 1.029 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0083 | .0117 | .5278 | .5284 | .0336 | -.0039 | .5145 | .5256 | .5296 |
| Stddev | .0045 | .0275 | .0005 | .0023 | .0086 | .0009 | .0003 | .0001 | .0066 | .0017 |
| %RSD | 1346. | 333.5 | 4.190 | .4317 | 1.633 | 2.561 | 7.145 | .0167 | 1.252 | .3279 |
| #1 | -.0035 | -.0112 | .0121 | .5294 | .5345 | .0330 | -.0037 | .5144 | .5210 | .5284 |
| #2 | .0028 | .0277 | .0114 | .5262 | .5223 | .0342 | -.0041 | .5146 | .5303 | .5308 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5411 | .0042 | .5483 | -.0018 |
| Stddev | .0048 | .0196 | .0022 | .0022 |
| %RSD | .8957 | 466.4 | .4054 | 123.4 |
| #1 | .5376 | -.0097 | .5498 | -.0034 |
| #2 | .5445 | .0181 | .5467 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1209.8 | 41197. | 18032. |
| Stddev | 1.2 | 140. | 30. |
| %RSD | .10315 | .34026 | .16831 |
| #1 | 1208.9 | 41296. | 18010. |
| #2 | 1210.7 | 41098. | 18053. |



Zoom In Zoom Out

Sample Name: MP21908-S1 Acquired: 10/29/2013 16:13:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2100 | 2.174 | .5449 | -.0025 | .0112 | 2.112 | .5421 | 33.09 | .5471 | .5298 |
| Stddev | .0002 | .017 | .0087 | .0062 | .0011 | .010 | .0016 | .14 | .0052 | .0037 |
| %RSD | .1093 | .7915 | 1.591 | 246.3 | 9.718 | .4640 | .2936 | .4322 | .9573 | .6919 |
| #1 | .2098 | 2.161 | .5510 | -.0069 | .0105 | 2.105 | .5410 | 33.19 | .5508 | .5323 |
| #2 | .2101 | 2.186 | .5388 | .0019 | .0120 | 2.119 | .5432 | 32.98 | .5434 | .5272 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5631 | .5247 | 2.139 | 28.04 | 27.93 | .5387 | .0031 | 32.37 | .5002 | 1.014 |
| Stddev | .0004 | .0071 | .007 | .30 | .08 | .0005 | .0003 | .16 | .0042 | .003 |
| %RSD | .0684 | 1.352 | .3200 | 1.071 | .2947 | .0930 | 10.02 | .4946 | .8340 | .2919 |
| #1 | .5634 | .5197 | 2.134 | 27.83 | 27.99 | .5383 | .0029 | 32.26 | .5032 | 1.016 |
| #2 | .5629 | .5297 | 2.144 | 28.25 | 27.88 | .5390 | .0034 | 32.48 | .4973 | 1.012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .0003 | 2.156 | .5188 | .5162 | 8.269 | -.0017 | .5549 | .5206 | .5203 |
| Stddev | .0020 | .0153 | .012 | .0037 | .0121 | .043 | .0014 | .0023 | .0024 | .0020 |
| %RSD | 40.98 | 4767. | .5664 | .7129 | 2.353 | .5243 | 79.50 | .4164 | .4603 | .3882 |
| #1 | .0062 | .0111 | 2.164 | .5214 | .5076 | 8.300 | -.0008 | .5533 | .5189 | .5188 |
| #2 | .0034 | -.0105 | 2.147 | .5162 | .5248 | 8.238 | -.0027 | .5565 | .5223 | .5217 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5380 | -.0196 | .5442 | -.0448 |
| Stddev | .0025 | .0248 | .0041 | .0004 |
| %RSD | .4696 | 126.2 | .7491 | .9602 |
| #1 | .5398 | -.0371 | .5471 | -.0444 |
| #2 | .5362 | -.0021 | .5414 | -.0451 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.9 | 41157. | 18119. |
| Stddev | .1 | 29. | 106. |
| %RSD | .00762 | .07092 | .58583 |
| #1 | 1216.8 | 41137. | 18044. |
| #2 | 1216.9 | 41178. | 18194. |

Zoom In Zoom Out

Sample Name: MP21908-S2 Acquired: 10/29/2013 16:18:06 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2069 | 2.158 | .5434 | .0005 | .0100 | 2.081 | .5316 | 32.45 | .5409 | .5254 |
| Stddev | .0006 | .042 | .0063 | .0006 | .0015 | .001 | .0023 | .26 | .0019 | .0020 |
| %RSD | .3054 | 1.936 | 1.165 | 124.9 | 15.42 | .0522 | .4310 | .8101 | .3481 | .3807 |
| #1 | .2074 | 2.128 | .5389 | .0010 | .0111 | 2.081 | .5300 | 32.26 | .5423 | .5269 |
| #2 | .2065 | 2.187 | .5479 | .0001 | .0089 | 2.080 | .5332 | 32.63 | .5396 | .5240 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5529 | .5128 | 2.107 | 27.54 | 27.54 | .5277 | .0029 | 31.75 | .4952 | 1.006 |
| Stddev | .0044 | .0002 | .021 | .03 | .46 | .0058 | .0003 | .06 | .0023 | .004 |
| %RSD | .7935 | .0470 | .9731 | .1236 | 1.653 | 1.108 | 9.046 | .1928 | .4727 | .3899 |
| #1 | .5560 | .5126 | 2.092 | 27.52 | 27.22 | .5319 | .0027 | 31.79 | .4969 | 1.003 |
| #2 | .5498 | .5129 | 2.121 | 27.57 | 27.86 | .5236 | .0031 | 31.71 | .4936 | 1.009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0010 | 2.086 | .5117 | .5104 | 8.009 | .0003 | .5463 | .5091 | .5093 |
| Stddev | .0098 | .0010 | .015 | .0080 | .0013 | .017 | .0032 | .0011 | .0113 | .0045 |
| %RSD | 617.4 | 101.9 | .7129 | 1.560 | .2629 | .2064 | 1106. | .2070 | 2.219 | .8932 |
| #1 | .0085 | .0003 | 2.097 | .5174 | .5094 | 7.997 | .0025 | .5471 | .5171 | .5126 |
| #2 | -.0054 | .0018 | 2.076 | .5061 | .5113 | 8.020 | -.0020 | .5455 | .5011 | .5061 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5274 | -.0023 | .5393 | -.0437 |
| Stddev | .0049 | .0007 | .0018 | .0017 |
| %RSD | .9228 | 32.28 | .3297 | 3.942 |
| #1 | .5308 | -.0028 | .5405 | -.0425 |
| #2 | .5239 | -.0017 | .5380 | -.0449 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1219.2 | 40935. | 17994. |
| Stddev | 2.4 | 94. | 182. |
| %RSD | .19835 | .22998 | 1.0136 |
| #1 | 1220.9 | 40869. | 18123. |
| #2 | 1217.5 | 41002. | 17865. |



Zoom In Zoom Out

Sample Name: MC25522-1F Acquired: 10/29/2013 16:22:58 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0120 | .6165 | -.0043 | .0705 | .0927 | .0001 | 22.20 | .0025 | .0040 |
| Stddev | .0001 | .0140 | .0014 | .0016 | .0001 | .0005 | .0000 | .05 | .0003 | .0000 |
| %RSD | 44.74 | 116.3 | .2315 | 38.05 | .1688 | .5546 | 70.27 | .2199 | 12.93 | .6036 |
| #1 | .0004 | -.0219 | .6175 | -.0055 | .0706 | .0923 | .0000 | 22.23 | .0023 | .0040 |
| #2 | .0002 | -.0021 | .6155 | -.0032 | .0704 | .0931 | .0001 | 22.16 | .0028 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0013 | 38.47 | 8.474 | 2.531 | 1.605 | .0014 | 22.08 | .0038 | -.0004 |
| Stddev | .0013 | .0013 | .03 | .020 | .010 | .000 | .0000 | .07 | .0007 | .0006 |
| %RSD | 60.21 | 96.36 | .0663 | .2333 | .4079 | .0201 | 2.088 | .2947 | 18.18 | 165.0 |
| #1 | .0012 | .0022 | 38.45 | 8.460 | 2.539 | 1.605 | .0015 | 22.04 | .0033 | .0001 |
| #2 | .0031 | .0004 | 38.49 | 8.488 | 2.524 | 1.604 | .0014 | 22.13 | .0043 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0177 | 7.456 | .0008 | .0020 | 10.81 | .0017 | .2682 | -.0001 | -.0004 |
| Stddev | .0002 | .0007 | .008 | .0002 | .0013 | .03 | .0005 | .0008 | .0003 | .0002 |
| %RSD | 11.77 | 4.175 | .1124 | 19.45 | 63.87 | .2530 | 27.21 | .2895 | 234.6 | 47.92 |
| #1 | .0016 | .0172 | 7.462 | .0007 | .0011 | 10.80 | .0013 | .2676 | -.0003 | -.0005 |
| #2 | .0014 | .0182 | 7.450 | .0009 | .0029 | 10.83 | .0020 | .2687 | .0001 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0018 | -.0048 | .0075 | -.0607 |
| Stddev | .0008 | .0090 | .0002 | .0000 |
| %RSD | 46.69 | 186.2 | 2.047 | .0586 |
| #1 | .0012 | .0015 | .0074 | -.0607 |
| #2 | .0024 | -.0111 | .0076 | -.0607 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.3 | 40941. | 17940. |
| Stddev | 2.5 | 62. | 99. |
| %RSD | .20825 | .15125 | .55428 |
| #1 | 1208.5 | 40897. | 17870. |
| #2 | 1212.0 | 40984. | 18010. |



Zoom In Zoom Out

Sample Name: MC25522-2F Acquired: 10/29/2013 16:27:52 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0120 | .6185 | -.0054 | .0725 | .0927 | .0001 | 22.24 | .0027 | .0040 |
| Stddev | .0002 | .0014 | .0016 | .0004 | .0000 | .0005 | .0000 | .18 | .0003 | .0002 |
| %RSD | 36.95 | 11.55 | .2667 | 8.109 | .0541 | .5232 | 32.55 | .8234 | 9.735 | 6.100 |
| #1 | -.0004 | -.0130 | .6197 | -.0057 | .0725 | .0930 | .0002 | 22.11 | .0025 | .0041 |
| #2 | -.0007 | -.0110 | .6174 | -.0051 | .0725 | .0923 | .0001 | 22.37 | .0029 | .0038 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | 38.89 | 8.489 | 2.622 | 1.607 | .0014 | 22.20 | .0044 | -.0032 |
| Stddev | .0002 | .0001 | .26 | .007 | .050 | .004 | .0003 | .06 | .0005 | .0018 |
| %RSD | 78.28 | 34.10 | .6695 | .0852 | 1.905 | .2759 | 24.68 | .2597 | 12.22 | 56.89 |
| #1 | .0003 | .0003 | 38.70 | 8.484 | 2.586 | 1.604 | .0016 | 22.16 | .0047 | -.0044 |
| #2 | .0001 | .0002 | 39.07 | 8.494 | 2.657 | 1.610 | .0012 | 22.25 | .0040 | -.0019 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0044 | .0059 | 7.481 | .0015 | .0000 | 10.82 | -.0011 | .2700 | .0005 | .0002 |
| Stddev | .0005 | .0027 | .028 | .0015 | .001 | .03 | .0017 | .0006 | .0001 | .0023 |
| %RSD | 11.85 | 45.25 | .3712 | 101.2 | 2506. | .2492 | 159.0 | .2100 | 18.96 | 982.3 |
| #1 | .0047 | .0078 | 7.501 | .0004 | -.0006 | 10.84 | -.0022 | .2696 | .0005 | -.0014 |
| #2 | .0040 | .0040 | 7.462 | .0026 | .0005 | 10.80 | .0001 | .2704 | .0006 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | -.0081 | .0059 | -.0598 |
| Stddev | .0002 | .0070 | .0001 | .0010 |
| %RSD | 13.42 | 86.44 | 2.381 | 1.609 |
| #1 | .0017 | -.0130 | .0060 | -.0605 |
| #2 | .0014 | -.0031 | .0058 | -.0591 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.7 | 40959. | 17941. |
| Stddev | 8.8 | 64. | 179. |
| %RSD | .72757 | .15722 | 1.0001 |
| #1 | 1198.5 | 41005. | 18068. |
| #2 | 1210.9 | 40913. | 17814. |



Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/29/2013 16:32:47 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0919 | 1.623 | -.0317 | .1602 | .0414 | .0000 | 74.70 | .0077 | .0140 |
| Stddev | .0003 | .0028 | .007 | .0016 | .0003 | .0002 | .000 | .20 | .0001 | .0004 |
| %RSD | 179.9 | 3.096 | .4549 | 5.207 | .1733 | .4037 | 190.2 | .2743 | .6743 | 2.627 |
| #1 | -.0003 | -.0939 | 1.628 | -.0305 | .1604 | .0412 | .0000 | 74.55 | .0077 | .0143 |
| #2 | .0000 | -.0899 | 1.618 | -.0328 | .1600 | .0415 | .0000 | 74.84 | .0076 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0016 | 24.73 | 8.146 | 11.87 | 9.753 | .0028 | 24.02 | .0073 | -.0027 |
| Stddev | .0030 | .0000 | .08 | .053 | .04 | .021 | .0009 | .03 | .0007 | .0004 |
| %RSD | 357.7 | 1.355 | .3039 | .6562 | .3412 | .2186 | 34.01 | .1192 | 9.123 | 16.24 |
| #1 | -.0013 | .0015 | 24.68 | 8.108 | 11.84 | 9.738 | .0034 | 24.00 | .0077 | -.0024 |
| #2 | .0029 | .0016 | 24.78 | 8.184 | 11.90 | 9.768 | .0021 | 24.04 | .0068 | -.0030 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0539 | 1.651 | .0035 | .0017 | 12.65 | .0001 | .7413 | .0011 | -.0017 |
| Stddev | .0019 | .0096 | .003 | .0001 | .0004 | .00 | .0002 | .0008 | .0006 | .0025 |
| %RSD | 405.3 | 17.91 | .1970 | 4.038 | 21.67 | .0030 | 140.0 | .1029 | 59.82 | 146.6 |
| #1 | .0018 | .0607 | 1.653 | .0034 | .0014 | 12.65 | .0000 | .7418 | .0006 | .0001 |
| #2 | -.0009 | .0470 | 1.649 | .0036 | .0019 | 12.65 | .0003 | .7408 | .0015 | -.0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0022 | .0132 | -.0683 |
| Stddev | .0001 | .0229 | .0002 | .0009 |
| %RSD | 22.07 | 1030. | 1.570 | 1.330 |
| #1 | .0004 | .0140 | .0134 | -.0689 |
| #2 | .0005 | -.0184 | .0131 | -.0676 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1189.8 | 40817. | 18061. |
| Stddev | 1.0 | 103. | 80. |
| %RSD | .08304 | .25158 | .44421 |
| #1 | 1190.5 | 40890. | 18118. |
| #2 | 1189.1 | 40744. | 18004. |

Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/29/2013 16:37:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0808 | 1.635 | -.0371 | .1624 | .0426 | .0000 | 76.54 | .0077 | .0130 |
| Stddev | .0003 | .0075 | .024 | .0000 | .0017 | .0006 | .0002 | .35 | .0007 | .0010 |
| %RSD | 42.00 | 9.303 | 1.487 | .0550 | 1.075 | 1.471 | 548.5 | .4598 | 9.773 | 7.787 |
| #1 | -.0005 | -.0862 | 1.652 | -.0371 | .1636 | .0421 | .0002 | 76.79 | .0082 | .0137 |
| #2 | -.0009 | -.0755 | 1.617 | -.0371 | .1612 | .0430 | -.0001 | 76.29 | .0071 | .0123 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0068 | .0025 | 26.08 | 8.365 | 12.29 | 9.984 | .0030 | 24.38 | .0079 | -.0026 |
| Stddev | .0019 | .0009 | .07 | .044 | .04 | .003 | .0001 | .12 | .0005 | .0019 |
| %RSD | 27.38 | 34.32 | .2512 | .5238 | .2996 | .0339 | 2.512 | .4963 | 5.715 | 74.14 |
| #1 | .0055 | .0032 | 26.03 | 8.334 | 12.31 | 9.981 | .0029 | 24.29 | .0076 | -.0012 |
| #2 | .0082 | .0019 | 26.12 | 8.396 | 12.26 | 9.986 | .0030 | 24.46 | .0082 | -.0039 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0055 | .0765 | 1.673 | .0039 | .0047 | 12.75 | -.0035 | .7519 | .0009 | .0015 |
| Stddev | .0021 | .0043 | .013 | .0004 | .0017 | .05 | .0007 | .0040 | .0001 | .0020 |
| %RSD | 38.88 | 5.661 | .7974 | 10.46 | 35.49 | .3710 | 19.83 | .5274 | 8.326 | 135.3 |
| #1 | .0040 | .0734 | 1.683 | .0036 | .0059 | 12.78 | -.0040 | .7491 | .0009 | .0001 |
| #2 | .0070 | .0795 | 1.664 | .0042 | .0035 | 12.72 | -.0030 | .7547 | .0010 | .0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0027 | -.0452 | .0181 | -.0679 |
| Stddev | .0021 | .0206 | .0010 | .0019 |
| %RSD | 76.99 | 45.45 | 5.618 | 2.825 |
| #1 | -.0012 | -.0598 | .0189 | -.0666 |
| #2 | -.0042 | -.0307 | .0174 | -.0693 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.1 | 41312. | 18008. |
| Stddev | 2.1 | 59. | 127. |
| %RSD | .17674 | .14236 | .70433 |
| #1 | 1211.6 | 41270. | 17918. |
| #2 | 1214.6 | 41353. | 18098. |



Zoom In Zoom Out

Sample Name: MC25522-4F Acquired: 10/29/2013 16:42:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0448 | 2.560 | -.0333 | .0871 | .0671 | .0002 | 89.54 | .0120 | .0044 |
| Stddev | .0057 | .0868 | .019 | .0072 | .0004 | .0002 | .0004 | .64 | .0008 | .0004 |
| %RSD | 568.3 | 194.0 | .7435 | 21.47 | .4440 | .2819 | 178.8 | .7147 | 6.887 | 10.21 |
| #1 | -.0050 | -.1062 | 2.573 | -.0384 | .0868 | .0670 | .0004 | 90.00 | .0126 | .0041 |
| #2 | .0030 | .0166 | 2.546 | -.0283 | .0874 | .0672 | -.0001 | 89.09 | .0114 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0013 | 7.957 | 4.835 | 12.12 | 8.568 | .0074 | 18.30 | .0062 | -.0056 |
| Stddev | .0006 | .0037 | .039 | .057 | .23 | .003 | .0026 | .01 | .0027 | .0122 |
| %RSD | 7370. | 290.0 | .4832 | 1.183 | 1.869 | .0303 | 35.61 | .0277 | 44.29 | 215.8 |
| #1 | .0004 | -.0013 | 7.985 | 4.875 | 11.96 | 8.570 | .0092 | 18.30 | .0081 | -.0143 |
| #2 | -.0004 | .0039 | 7.930 | 4.794 | 12.28 | 8.566 | .0055 | 18.29 | .0042 | .0030 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0107 | .0446 | 3.869 | .0047 | -.0093 | 12.41 | .0028 | .4482 | .0023 | .0093 |
| Stddev | .0034 | .0392 | .016 | .0010 | .0114 | .00 | .0000 | .0008 | .0023 | .0034 |
| %RSD | 31.57 | 87.70 | .4086 | 20.34 | 123.1 | .0033 | .7749 | .1834 | 100.8 | 36.33 |
| #1 | .0083 | .0170 | 3.880 | .0040 | -.0173 | 12.42 | .0028 | .4488 | .0040 | .0117 |
| #2 | .0131 | .0723 | 3.858 | .0054 | -.0012 | 12.41 | .0028 | .4476 | .0007 | .0069 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0018 | .0464 | .0157 | -.0722 |
| Stddev | .0030 | .0128 | .0015 | .0038 |
| %RSD | 163.0 | 27.46 | 9.881 | 5.280 |
| #1 | -.0003 | .0374 | .0168 | -.0749 |
| #2 | .0040 | .0554 | .0146 | -.0695 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1220.7 | 41543. | 18069. |
| Stddev | 1.8 | 55. | 140. |
| %RSD | .14536 | .13211 | .77229 |
| #1 | 1221.9 | 41582. | 17970. |
| #2 | 1219.4 | 41504. | 18167. |



Zoom In Zoom Out

Sample Name: MC25522-5F Acquired: 10/29/2013 16:47:33 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0039 | -.0022 | .0040 | .0142 | .0180 | .0002 | 11.74 | -.0005 | -.0005 |
| Stddev | .0010 | .0179 | .0003 | .0007 | .0011 | .0004 | .0001 | .00 | .0005 | .0002 |
| %RSD | 57.74 | 453.6 | 14.03 | 17.77 | 7.667 | 2.304 | 63.07 | .0391 | 107.7 | 31.37 |
| #1 | -.0024 | .0166 | -.0020 | .0035 | .0134 | .0182 | .0002 | 11.73 | -.0008 | -.0004 |
| #2 | -.0010 | -.0087 | -.0024 | .0045 | .0150 | .0177 | .0001 | 11.74 | -.0001 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0016 | .0484 | 1.355 | 2.251 | .0302 | .0011 | 40.12 | .0003 | .0004 |
| Stddev | .0091 | .0012 | .0119 | .025 | .057 | .0000 | .0001 | .01 | .0016 | .0025 |
| %RSD | 541.6 | 73.45 | 24.63 | 1.846 | 2.516 | .1632 | 11.41 | .0238 | 517.6 | 568.1 |
| #1 | -.0047 | .0024 | .0399 | 1.337 | 2.211 | .0302 | .0012 | 40.13 | -.0008 | .0022 |
| #2 | .0081 | .0008 | .0568 | 1.373 | 2.291 | .0301 | .0010 | 40.11 | .0015 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | -.0148 | 2.735 | .0033 | -.0029 | 2.835 | -.0020 | .0777 | .0009 | .0007 |
| Stddev | .0081 | .0347 | .002 | .0002 | .0046 | .013 | .0038 | .0003 | .0024 | .0007 |
| %RSD | 284.0 | 234.7 | .0642 | 7.118 | 158.4 | .4468 | 191.8 | .3365 | 262.0 | 87.25 |
| #1 | .0086 | .0098 | 2.734 | .0031 | .0003 | 2.826 | .0007 | .0775 | .0026 | .0003 |
| #2 | -.0029 | -.0394 | 2.736 | .0035 | -.0062 | 2.844 | -.0046 | .0778 | -.0008 | .0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0038 | .0060 | -.0145 |
| Stddev | .0027 | .0064 | .0010 | .0031 |
| %RSD | 1988. | 169.6 | 16.04 | 21.28 |
| #1 | -.0018 | .0007 | .0053 | -.0123 |
| #2 | .0021 | -.0083 | .0067 | -.0167 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.4 | 41135. | 17849. |
| Stddev | 1.1 | 396. | 44. |
| %RSD | .08669 | .96385 | .24878 |
| #1 | 1222.2 | 40854. | 17817. |
| #2 | 1220.7 | 41415. | 17880. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/29/2013 16:52:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.1112 | .0063 | -.0436 | .2725 | .0504 | .0002 | 64.13 | .0003 | .0037 |
| Stddev | .0007 | .0014 | .0042 | .0026 | .0020 | .0004 | .0001 | .01 | .0001 | .0001 |
| %RSD | 326.5 | 1.284 | 65.53 | 5.945 | .7366 | .8231 | 59.95 | .0228 | 39.24 | 2.504 |
| #1 | .0007 | -.1101 | .0093 | -.0455 | .2710 | .0501 | .0001 | 64.12 | .0004 | .0038 |
| #2 | -.0003 | -.1122 | .0034 | -.0418 | .2739 | .0507 | .0002 | 64.14 | .0002 | .0037 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0010 | .7064 | 17.83 | 10.17 | 12.35 | .0008 | 32.32 | .0045 | -.0040 |
| Stddev | .0013 | .0005 | .0198 | .06 | .04 | .03 | .0001 | .05 | .0008 | .0026 |
| %RSD | 237.8 | 55.37 | 2.798 | .3609 | .3884 | .2393 | 11.74 | .1505 | 18.29 | 65.81 |
| #1 | -.0004 | .0014 | .6924 | 17.78 | 10.19 | 12.37 | .0007 | 32.36 | .0039 | -.0021 |
| #2 | .0014 | .0006 | .7204 | 17.87 | 10.14 | 12.33 | .0008 | 32.29 | .0051 | -.0058 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0852 | 1.188 | .0023 | .0000 | 7.340 | -.0019 | 1.209 | .0023 | -.0013 |
| Stddev | .0005 | .0077 | .006 | .0020 | .003 | .000 | .0017 | .001 | .0007 | .0011 |
| %RSD | 72.09 | 9.011 | .4823 | 86.30 | 16050. | .0011 | 94.20 | .0526 | 31.24 | 82.23 |
| #1 | -.0011 | .0797 | 1.192 | .0037 | .0021 | 7.340 | -.0006 | 1.209 | .0028 | -.0021 |
| #2 | -.0004 | .0906 | 1.184 | .0009 | -.0021 | 7.340 | -.0031 | 1.208 | .0018 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0010 | -.0055 | .0172 | -.0396 |
| Stddev | .0014 | .0128 | .0002 | .0002 |
| %RSD | 147.4 | 232.2 | 1.284 | .5247 |
| #1 | .0000 | .0035 | .0170 | -.0394 |
| #2 | -.0020 | -.0145 | .0173 | -.0397 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.5 | 40873. | 17932. |
| Stddev | 7.8 | 18. | 29. |
| %RSD | .64026 | .04293 | .16297 |
| #1 | 1206.0 | 40885. | 17911. |
| #2 | 1216.9 | 40860. | 17952. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 16:57:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2552 | 9.870 | 1.922 | -.0080 | 1.938 | 2.003 | 2.024 | 9.954 | 1.982 | 2.010 |
| Stddev | .0010 | .043 | .014 | .0007 | .005 | .004 | .009 | .079 | .001 | .004 |
| %RSD | .3790 | .4346 | .7384 | 8.982 | .2634 | .2003 | .4584 | .7977 | .0481 | .1958 |
| #1 | .2559 | 9.839 | 1.912 | -.0085 | 1.935 | 2.001 | 2.017 | 9.897 | 1.982 | 2.007 |
| #2 | .2545 | 9.900 | 1.932 | -.0074 | 1.942 | 2.006 | 2.030 | 10.01 | 1.983 | 2.013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.073 | 1.992 | 9.934 | 9.933 | 10.03 | 2.009 | 1.925 | 9.875 | 1.899 | 1.912 |
| Stddev | .011 | .012 | .053 | .043 | .12 | .007 | .006 | .020 | .004 | .005 |
| %RSD | .5451 | .6172 | .5383 | .4375 | 1.220 | .3667 | .3194 | .1984 | .2284 | .2464 |
| #1 | 2.081 | 2.001 | 9.896 | 9.902 | 9.943 | 2.014 | 1.921 | 9.861 | 1.896 | 1.909 |
| #2 | 2.065 | 1.983 | 9.972 | 9.963 | 10.12 | 2.004 | 1.930 | 9.889 | 1.902 | 1.915 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0094 | -.0046 | 1.927 | 1.921 | -.0072 | 1.913 | 1.941 | 1.977 | 1.925 |
| Stddev | .0007 | .0007 | .0025 | .002 | .008 | .0007 | .006 | .010 | .008 | .009 |
| %RSD | 38.12 | 7.569 | 53.12 | .0884 | .4076 | 9.539 | .3056 | .5168 | .3853 | .4679 |
| #1 | .0023 | .0099 | -.0064 | 1.926 | 1.915 | -.0077 | 1.909 | 1.934 | 1.982 | 1.919 |
| #2 | .0013 | .0089 | -.0029 | 1.929 | 1.926 | -.0067 | 1.917 | 1.948 | 1.971 | 1.932 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.984 | -.0157 | 1.903 | -.0070 |
| Stddev | .011 | .0065 | .006 | .0002 |
| %RSD | .5717 | 41.39 | .3430 | 3.037 |
| #1 | 1.992 | -.0111 | 1.898 | -.0071 |
| #2 | 1.976 | -.0203 | 1.907 | -.0068 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.0 | 40355. | 18067. |
| Stddev | 4.2 | 86. | 156. |
| %RSD | .33991 | .21227 | .86094 |
| #1 | 1224.1 | 40294. | 18177. |
| #2 | 1230.0 | 40415. | 17957. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 17:08:38 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0005 | -.0013 | -.0001 | .0007 | -.0002 | .0001 | .0029 | .0000 | -.0001 |
| Stddev | .0002 | .0001 | .0003 | .0005 | .0001 | .0001 | .0001 | .0019 | .0001 | .0001 |
| %RSD | 594.4 | 19.29 | 26.37 | 689.9 | 17.17 | 50.61 | 139.3 | 65.33 | 724.1 | 192.6 |
| #1 | -.0001 | -.0004 | -.0011 | -.0005 | .0006 | -.0001 | .0000 | .0016 | .0001 | -.0001 |
| #2 | .0002 | -.0006 | -.0015 | .0003 | .0008 | -.0002 | .0001 | .0043 | .0000 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0001 | .0006 | .0192 | .0088 | .0001 | .0007 | .0075 | -.0001 | -.0001 |
| Stddev | .0001 | .0000 | .0001 | .0222 | .0048 | .0000 | .0002 | .0016 | .0002 | .0002 |
| %RSD | 27.58 | 1.215 | 11.57 | 115.7 | 54.85 | 4.183 | 23.80 | 21.92 | 180.2 | 397.9 |
| #1 | .0002 | .0001 | .0006 | .0035 | .0054 | .0001 | .0006 | .0087 | -.0002 | -.0002 |
| #2 | .0004 | .0001 | .0007 | .0349 | .0122 | .0001 | .0008 | .0063 | .0000 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0029 | .0009 | .0006 | -.0004 | .0006 | -.0009 | .0000 | .0004 | .0010 |
| Stddev | .0005 | .0023 | .0001 | .0005 | .0012 | .0010 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 39.91 | 79.43 | 11.27 | 87.24 | 290.5 | 164.4 | 41.80 | 34.03 | 32.31 | 47.16 |
| #1 | .0016 | -.0013 | .0008 | .0002 | .0004 | .0013 | -.0011 | .0000 | .0005 | .0007 |
| #2 | .0009 | -.0046 | .0010 | .0009 | -.0013 | -.0001 | -.0006 | .0000 | .0003 | .0013 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0006 | -.0003 | -.0006 |
| Stddev | .0003 | .0029 | .0003 | .0004 |
| %RSD | 227.3 | 493.9 | 106.5 | 70.59 |
| #1 | -.0001 | -.0027 | -.0005 | -.0003 |
| #2 | .0003 | .0015 | -.0001 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.6 | 41502. | 17877. |
| Stddev | 2.9 | 154. | 80. |
| %RSD | .23638 | .36989 | .44713 |
| #1 | 1208.5 | 41393. | 17820. |
| #2 | 1212.6 | 41611. | 17933. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/29/2013 17:13:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0988 | .0049 | -.0395 | .2878 | .0507 | .0003 | 67.25 | .0001 | .0046 |
| Stddev | .0023 | .0387 | .0047 | .0116 | .0034 | .0003 | .0002 | .20 | .0011 | .0009 |
| %RSD | 412.7 | 39.17 | 94.80 | 29.37 | 1.167 | .6903 | 74.84 | .2958 | 734.2 | 18.57 |
| #1 | .0011 | -.1261 | .0016 | -.0477 | .2901 | .0504 | .0002 | 67.39 | .0009 | .0052 |
| #2 | -.0022 | -.0714 | .0082 | -.0313 | .2854 | .0509 | .0005 | 67.11 | -.0006 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0092 | .6405 | 18.55 | 10.51 | 12.92 | .0047 | 33.59 | .0027 | -.0060 |
| Stddev | .0091 | .0023 | .0054 | .21 | .10 | .13 | .0004 | .03 | .0003 | .0027 |
| %RSD | 503.7 | 24.73 | .8482 | 1.125 | .9148 | 1.017 | 9.228 | .0948 | 9.398 | 44.64 |
| #1 | -.0083 | .0076 | .6367 | 18.70 | 10.58 | 13.02 | .0050 | 33.57 | .0025 | -.0079 |
| #2 | .0046 | .0108 | .6443 | 18.40 | 10.45 | 12.83 | .0044 | 33.61 | .0029 | -.0041 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .1006 | 1.239 | .0045 | -.0173 | 7.670 | .0031 | 1.248 | .0028 | .0050 |
| Stddev | .0082 | .0538 | .021 | .0088 | .0129 | .022 | .0006 | .002 | .0003 | .0091 |
| %RSD | 323.2 | 53.48 | 1.681 | 196.4 | 74.61 | .2916 | 18.88 | .1425 | 11.21 | 180.2 |
| #1 | .0032 | .1387 | 1.224 | .0107 | -.0082 | 7.686 | .0027 | 1.249 | .0026 | -.0014 |
| #2 | -.0083 | .0626 | 1.254 | -.0017 | -.0264 | 7.654 | .0035 | 1.247 | .0031 | .0114 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | -.0912 | .0866 | -.0393 |
| Stddev | .0110 | .0068 | .0056 | .0003 |
| %RSD | 1251. | 7.458 | 6.519 | .7890 |
| #1 | -.0087 | -.0864 | .0906 | -.0390 |
| #2 | .0069 | -.0960 | .0826 | -.0395 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.0 | 40851. | 17983. |
| Stddev | 3.3 | 212. | 72. |
| %RSD | .27664 | .51787 | .40017 |
| #1 | 1204.6 | 40701. | 17933. |
| #2 | 1209.3 | 41001. | 18034. |



Zoom In Zoom Out

Sample Name: MC25522-8F Acquired: 10/29/2013 17:18:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0353 | .7308 | -.0093 | .0828 | .1340 | .0001 | 45.01 | .0035 | .0056 |
| Stddev | .0010 | .0116 | .0005 | .0011 | .0019 | .0005 | .0000 | .12 | .0003 | .0005 |
| %RSD | 308.8 | 32.81 | .0624 | 11.90 | 2.304 | .3604 | 47.56 | .2614 | 7.943 | 8.816 |
| #1 | .0004 | -.0271 | .7311 | -.0101 | .0815 | .1343 | .0001 | 45.09 | .0037 | .0059 |
| #2 | -.0011 | -.0435 | .7304 | -.0085 | .0842 | .1336 | .0000 | 44.92 | .0033 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0015 | 27.56 | 8.662 | 6.114 | 3.744 | .0023 | 27.28 | .0096 | -.0035 |
| Stddev | .0014 | .0016 | .01 | .090 | .037 | .001 | .0007 | .04 | .0003 | .0019 |
| %RSD | 59.69 | 109.0 | .0415 | 1.035 | .6049 | .0235 | 30.84 | .1533 | 2.797 | 53.83 |
| #1 | .0013 | .0003 | 27.55 | 8.726 | 6.140 | 3.743 | .0028 | 27.31 | .0094 | -.0049 |
| #2 | .0033 | .0027 | 27.57 | 8.599 | 6.088 | 3.744 | .0018 | 27.25 | .0098 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0284 | 6.684 | .0032 | -.0018 | 14.11 | -.0010 | .4852 | .0013 | .0027 |
| Stddev | .0038 | .0086 | .026 | .0000 | .0048 | .02 | .0004 | .0007 | .0012 | .0028 |
| %RSD | 123.8 | 30.37 | .3860 | .6491 | 260.9 | .1727 | 37.43 | .1381 | 89.49 | 101.7 |
| #1 | .0058 | .0345 | 6.665 | .0032 | -.0052 | 14.09 | -.0013 | .4856 | .0005 | .0047 |
| #2 | .0004 | .0223 | 6.702 | .0032 | .0015 | 14.12 | -.0008 | .4847 | .0022 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0060 | .0074 | -.0784 |
| Stddev | .0022 | .0066 | .0005 | .0003 |
| %RSD | 277.9 | 111.0 | 7.313 | .4150 |
| #1 | .0024 | -.0013 | .0078 | -.0786 |
| #2 | -.0008 | -.0107 | .0071 | -.0781 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1196.7 | 41017. | 17988. |
| Stddev | .1 | 88. | 63. |
| %RSD | .00487 | .21540 | .34768 |
| #1 | 1196.8 | 41080. | 17944. |
| #2 | 1196.7 | 40955. | 18033. |

Zoom In Zoom Out

Sample Name: MC25522-9F Acquired: 10/29/2013 17:23:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0043 | .0402 | .0058 | .3527 | .4698 | -.0002 | 162.0 | -.0009 | -.0006 |
| Stddev | .0038 | .0322 | .0121 | .0028 | .0028 | .0023 | .0001 | .8 | .0009 | .0005 |
| %RSD | 314.5 | 752.9 | 30.19 | 48.17 | .7964 | .4946 | 74.40 | .4828 | 101.3 | 76.11 |
| #1 | .0015 | -.0185 | .0316 | .0078 | .3547 | .4715 | -.0001 | 162.6 | -.0015 | -.0003 |
| #2 | -.0039 | .0271 | .0488 | .0038 | .3507 | .4682 | -.0002 | 161.5 | -.0002 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0032 | 75.38 | 16.65 | 15.48 | .5002 | .0010 | 16.40 | .0016 | .0032 |
| Stddev | .0100 | .0007 | .59 | .01 | .19 | .0017 | .0002 | .09 | .0013 | .0062 |
| %RSD | 760.3 | 20.92 | .7831 | .0488 | 1.225 | .3415 | 18.48 | .5268 | 85.87 | 195.7 |
| #1 | -.0084 | .0027 | 74.96 | 16.66 | 15.62 | .4990 | .0012 | 16.34 | .0025 | .0075 |
| #2 | .0058 | .0037 | 75.80 | 16.65 | 15.35 | .5014 | .0009 | 16.46 | .0006 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | -.0194 | .3701 | .0083 | -.0228 | 14.78 | .0018 | 1.129 | .0012 | .0003 |
| Stddev | .0037 | .0683 | .0018 | .0033 | .0000 | .02 | .0036 | .004 | .0035 | .0021 |
| %RSD | 79.90 | 351.4 | .4799 | 39.74 | .1905 | .1187 | 204.5 | .3863 | 304.1 | 683.9 |
| #1 | .0072 | -.0678 | .3688 | .0106 | -.0228 | 14.79 | .0044 | 1.132 | -.0013 | .0018 |
| #2 | .0020 | .0289 | .3713 | .0060 | -.0228 | 14.77 | -.0008 | 1.125 | .0036 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0081 | -.0397 | .0381 | -.0836 |
| Stddev | .0046 | .0061 | .0011 | .0003 |
| %RSD | 57.12 | 15.28 | 2.866 | .3408 |
| #1 | .0048 | -.0354 | .0388 | -.0834 |
| #2 | .0114 | -.0440 | .0373 | -.0838 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1198.7 | 41201. | 17947. |
| Stddev | 1.1 | 55. | 100. |
| %RSD | .09462 | .13445 | .55518 |
| #1 | 1199.5 | 41161. | 17877. |
| #2 | 1197.9 | 41240. | 18018. |



Zoom In Zoom Out

Sample Name: MC25522-13F Acquired: 10/29/2013 17:28:26 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0035 | .0356 | -.0035 | .0186 | .0500 | .0001 | 27.01 | .0004 | .0071 |
| Stddev | .0008 | .0109 | .0008 | .0002 | .0012 | .0001 | .0001 | .05 | .0000 | .0003 |
| %RSD | 175.0 | 309.7 | 2.224 | 5.669 | 6.201 | .2663 | 80.16 | .1680 | 10.39 | 4.492 |
| #1 | -.0010 | -.0042 | .0362 | -.0037 | .0194 | .0499 | .0000 | 27.05 | .0004 | .0073 |
| #2 | .0001 | .0113 | .0351 | -.0034 | .0178 | .0501 | .0001 | 26.98 | .0004 | .0068 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0012 | 6.549 | 6.587 | 3.394 | .4428 | .0008 | 12.36 | .0036 | -.0014 |
| Stddev | .0023 | .0010 | .029 | .073 | .015 | .0009 | .0002 | .00 | .0004 | .0001 |
| %RSD | 1278. | 80.45 | .4509 | 1.109 | .4302 | .2019 | 27.96 | .0100 | 10.55 | 8.414 |
| #1 | .0015 | .0005 | 6.570 | 6.638 | 3.404 | .4421 | .0006 | 12.36 | .0039 | -.0015 |
| #2 | -.0018 | .0019 | 6.529 | 6.535 | 3.383 | .4434 | .0010 | 12.36 | .0034 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0007 | 3.536 | .0032 | -.0009 | 4.250 | -.0015 | .1098 | -.0001 | .0005 |
| Stddev | .0008 | .0019 | .007 | .0015 | .0008 | .016 | .0008 | .0003 | .0013 | .0014 |
| %RSD | 56.86 | 264.5 | .1877 | 45.91 | 90.31 | .3721 | 50.44 | .2656 | 957.9 | 254.5 |
| #1 | .0021 | -.0006 | 3.540 | .0022 | -.0015 | 4.261 | -.0010 | .1100 | .0008 | -.0004 |
| #2 | .0009 | .0021 | 3.531 | .0043 | -.0003 | 4.239 | -.0020 | .1096 | -.0011 | .0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0013 | .0082 | -.0241 |
| Stddev | .000 | .0022 | .0001 | .0014 |
| %RSD | 450.7 | 170.7 | 1.328 | 6.021 |
| #1 | .0001 | .0029 | .0081 | -.0251 |
| #2 | -.0001 | -.0003 | .0083 | -.0230 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1197.7 | 41027. | 17961. |
| Stddev | 2.4 | 295. | 82. |
| %RSD | .20450 | .71994 | .45616 |
| #1 | 1196.0 | 41236. | 17903. |
| #2 | 1199.5 | 40818. | 18019. |



Zoom In Zoom Out

Sample Name: MC25522-14F Acquired: 10/29/2013 17:33:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0309 | 2.688 | -.0246 | .0071 | .0120 | .0001 | 10.42 | .0122 | .0054 |
| Stddev | .0002 | .0094 | .006 | .0042 | .0021 | .0000 | .0001 | .02 | .0004 | .0012 |
| %RSD | 19.53 | 30.55 | .2382 | 17.04 | 29.68 | .2474 | 51.22 | .1625 | 3.169 | 22.25 |
| #1 | -.0011 | -.0242 | 2.693 | -.0276 | .0086 | .0121 | .0001 | 10.41 | .0124 | .0062 |
| #2 | -.0008 | -.0375 | 2.684 | -.0216 | .0056 | .0120 | .0002 | 10.44 | .0119 | .0045 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0009 | 43.33 | .6990 | .9341 | 6.427 | .0007 | 2.620 | .0051 | -.0018 |
| Stddev | .0015 | .0016 | .15 | .0087 | .0418 | .024 | .0000 | .006 | .0021 | .0010 |
| %RSD | 1496. | 188.1 | .3510 | 1.244 | 4.475 | .3690 | 4.610 | .2181 | 41.28 | 55.72 |
| #1 | -.0010 | .0020 | 43.22 | .7052 | .9045 | 6.444 | .0006 | 2.616 | .0036 | -.0011 |
| #2 | .0012 | -.0003 | 43.43 | .6929 | .9637 | 6.410 | .0007 | 2.624 | .0066 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0073 | .0434 | 1.989 | -.0009 | .0026 | 5.943 | .0004 | .0600 | .0012 | .0005 |
| Stddev | .0078 | .0056 | .011 | .0024 | .0004 | .012 | .0020 | .0006 | .0010 | .0063 |
| %RSD | 107.0 | 12.82 | .5554 | 268.5 | 15.30 | .1958 | 493.3 | 1.073 | 89.57 | 1183. |
| #1 | .0018 | .0474 | 1.982 | -.0026 | .0028 | 5.951 | .0019 | .0604 | .0019 | .0050 |
| #2 | .0128 | .0395 | 1.997 | .0008 | .0023 | 5.935 | -.0010 | .0595 | .0004 | -.0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | -.0022 | .0116 | -.0322 |
| Stddev | .0013 | .0026 | .0009 | .0003 |
| %RSD | 82.54 | 117.5 | 7.678 | .9804 |
| #1 | .0024 | -.0004 | .0123 | -.0324 |
| #2 | .0006 | -.0040 | .0110 | -.0320 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1206.1 | 40927. | 17919. |
| Stddev | .8 | 86. | 102. |
| %RSD | .06753 | .20975 | .56770 |
| #1 | 1205.5 | 40866. | 17991. |
| #2 | 1206.6 | 40987. | 17847. |



Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/29/2013 17:38:19 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0853 | 1.128 | -.0309 | .2021 | .0402 | .0000 | 77.90 | .0053 | .0145 |
| Stddev | .0005 | .0092 | .004 | .0024 | .0005 | .0013 | .0001 | 2.39 | .0000 | .0004 |
| %RSD | 229.6 | 10.76 | .3428 | 7.643 | .2646 | 3.167 | 235.6 | 3.072 | .4600 | 3.059 |
| #1 | -.0001 | -.0917 | 1.130 | -.0326 | .2025 | .0411 | .0000 | 79.60 | .0053 | .0142 |
| #2 | .0006 | -.0788 | 1.125 | -.0293 | .2017 | .0393 | .0001 | 76.21 | .0054 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0013 | 31.33 | 8.322 | 11.90 | 9.299 | .0016 | 27.99 | .0041 | -.0041 |
| Stddev | .0001 | .0008 | 1.01 | .299 | .42 | .009 | .0001 | .72 | .0002 | .0014 |
| %RSD | 4.684 | 60.53 | 3.234 | 3.597 | 3.509 | .0930 | 8.175 | 2.585 | 6.030 | 34.96 |
| #1 | .0013 | .0018 | 32.05 | 8.533 | 12.20 | 9.293 | .0015 | 28.50 | .0039 | -.0031 |
| #2 | .0012 | .0007 | 30.62 | 8.110 | 11.61 | 9.305 | .0017 | 27.47 | .0043 | -.0051 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0602 | 1.412 | .0023 | .0006 | 12.88 | -.0013 | .9371 | .0009 | -.0018 |
| Stddev | .0033 | .0016 | .006 | .0012 | .0007 | .01 | .0010 | .0255 | .0002 | .0008 |
| %RSD | 10550. | 2.611 | .4505 | 52.83 | 111.4 | .0924 | 80.13 | 2.723 | 25.66 | 47.29 |
| #1 | .0024 | .0591 | 1.416 | .0015 | .0001 | 12.89 | -.0020 | .9551 | .0007 | -.0023 |
| #2 | -.0023 | .0613 | 1.407 | .0032 | .0011 | 12.87 | -.0005 | .9190 | .0010 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0040 | .0080 | -.0694 |
| Stddev | .0010 | .0018 | .0001 | .0005 |
| %RSD | 325.8 | 45.85 | .9439 | .6774 |
| #1 | -.0004 | -.0027 | .0081 | -.0690 |
| #2 | .0010 | -.0052 | .0080 | -.0697 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1192.2 | 40523. | 17797. |
| Stddev | .1 | 80. | 466. |
| %RSD | .00625 | .19809 | 2.6185 |
| #1 | 1192.2 | 40579. | 17467. |
| #2 | 1192.3 | 40466. | 18126. |

Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/29/2013 17:43:16 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0719 | 1.128 | -.0338 | .2045 | .0399 | .0001 | 78.16 | .0047 | .0146 |
| Stddev | .0000 | .0260 | .009 | .0009 | .0009 | .0000 | .0000 | .60 | .0005 | .0003 |
| %RSD | 20.11 | 36.23 | .7991 | 2.543 | .4523 | .0305 | 33.12 | .7636 | 10.31 | 2.109 |
| #1 | .0003 | -.0903 | 1.134 | -.0344 | .2039 | .0399 | .0000 | 78.58 | .0044 | .0144 |
| #2 | .0002 | -.0535 | 1.121 | -.0332 | .2052 | .0399 | .0001 | 77.74 | .0051 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0070 | -.0025 | 31.93 | 8.539 | 11.93 | 9.451 | .0027 | 27.84 | .0058 | .0003 |
| Stddev | .0025 | .0026 | .26 | .082 | .10 | .027 | .0004 | .04 | .0014 | .0019 |
| %RSD | 35.55 | 105.7 | .8070 | .9637 | .8382 | .2858 | 14.52 | .1611 | 24.10 | 654.6 |
| #1 | .0052 | -.0043 | 32.11 | 8.597 | 12.00 | 9.432 | .0030 | 27.87 | .0049 | -.0010 |
| #2 | .0087 | -.0006 | 31.75 | 8.481 | 11.86 | 9.470 | .0025 | 27.81 | .0068 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0061 | .0476 | 1.446 | .0038 | -.0040 | 12.93 | -.0034 | .9375 | .0014 | -.0013 |
| Stddev | .0051 | .0129 | .006 | .0043 | .0061 | .02 | .0009 | .0016 | .0010 | .0047 |
| %RSD | 83.12 | 27.06 | .4220 | 114.4 | 151.0 | .1686 | 26.30 | .1696 | 75.22 | 367.9 |
| #1 | .0025 | .0567 | 1.441 | .0068 | .0003 | 12.94 | -.0041 | .9386 | .0021 | .0020 |
| #2 | .0097 | .0385 | 1.450 | .0007 | -.0083 | 12.91 | -.0028 | .9364 | .0006 | -.0046 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | -.0068 | .0541 | -.0689 |
| Stddev | .0038 | .0319 | .0007 | .0035 |
| %RSD | 1013. | 471.5 | 1.364 | 5.014 |
| #1 | -.0023 | .0158 | .0546 | -.0713 |
| #2 | .0030 | -.0293 | .0536 | -.0664 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.3 | 40825. | 17938. |
| Stddev | .5 | 123. | 212. |
| %RSD | .04248 | .30097 | 1.1844 |
| #1 | 1210.7 | 40912. | 17787. |
| #2 | 1209.9 | 40738. | 18088. |



Zoom In Zoom Out

Sample Name: MC25568-4F Acquired: 10/29/2013 17:48:12 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0059 | .6867 | -.0002 | .0578 | .0227 | .0000 | 12.98 | .0029 | .0087 |
| Stddev | .0016 | .0023 | .0026 | .0017 | .0001 | .0002 | .000 | .01 | .0005 | .0003 |
| %RSD | 228.8 | 38.66 | .3796 | 938.6 | .2495 | .7645 | 344.9 | .0902 | 17.99 | 3.798 |
| #1 | -.0018 | -.0075 | .6849 | -.0014 | .0577 | .0226 | .0000 | 12.99 | .0026 | .0089 |
| #2 | .0004 | -.0043 | .6886 | .0010 | .0579 | .0228 | -.0001 | 12.97 | .0033 | .0085 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0004 | 21.39 | 7.883 | 2.568 | .5944 | .0040 | 3.954 | .0021 | -.0012 |
| Stddev | .0001 | .0000 | .00 | .040 | .054 | .0010 | .0003 | .026 | .0006 | .0012 |
| %RSD | 9.769 | 2.013 | .0070 | .5091 | 2.119 | .1670 | 7.204 | .6591 | 29.61 | 100.9 |
| #1 | .0015 | .0004 | 21.39 | 7.854 | 2.530 | .5937 | .0042 | 3.935 | .0017 | -.0021 |
| #2 | .0013 | .0004 | 21.39 | 7.911 | 2.607 | .5951 | .0038 | 3.972 | .0025 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0082 | 1.517 | .0022 | -.0007 | 6.124 | -.0007 | .1495 | -.0003 | -.0010 |
| Stddev | .0028 | .0165 | .006 | .0030 | .0013 | .001 | .0016 | .0004 | .0003 | .0010 |
| %RSD | 106.6 | 200.0 | .3685 | 134.1 | 184.5 | .0213 | 212.5 | .2837 | 128.2 | 95.97 |
| #1 | .0007 | -.0034 | 1.513 | .0001 | -.0016 | 6.125 | -.0018 | .1498 | -.0005 | -.0017 |
| #2 | .0046 | .0199 | 1.521 | .0044 | .0002 | 6.123 | .0004 | .1492 | .0000 | -.0003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0092 | .0087 | -.0330 |
| Stddev | .0010 | .0124 | .0001 | .0010 |
| %RSD | 2810. | 134.4 | .8432 | 2.975 |
| #1 | .0007 | -.0005 | .0087 | -.0337 |
| #2 | -.0007 | -.0180 | .0088 | -.0324 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1202.1 | 40762. | 17909. |
| Stddev | 3.4 | 259. | 15. |
| %RSD | .28367 | .63423 | .08503 |
| #1 | 1204.5 | 40945. | 17898. |
| #2 | 1199.7 | 40579. | 17919. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/29/2013 17:53:07 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0931 | .0506 | -.0326 | .1919 | .0104 | .0002 | 110.2 | .0000 | .0007 |
| Stddev | .0002 | .0042 | .0002 | .0004 | .0011 | .0001 | .0000 | .2 | .000 | .0001 |
| %RSD | 183.3 | 4.529 | .3348 | 1.078 | .5835 | 1.417 | 13.87 | .1930 | 1540. | 16.01 |
| #1 | .0000 | -.0901 | .0507 | -.0329 | .1911 | .0105 | .0002 | 110.1 | -.0002 | .0008 |
| #2 | -.0003 | -.0961 | .0505 | -.0324 | .1927 | .0103 | .0002 | 110.4 | .0002 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0004 | .6075 | 4.813 | 13.98 | 9.417 | .0021 | 27.39 | .0148 | -.0031 |
| Stddev | .0016 | .0010 | .0125 | .026 | .14 | .008 | .0003 | .04 | .0010 | .0008 |
| %RSD | 181.1 | 227.1 | 2.050 | .5431 | 1.030 | .0894 | 16.56 | .1567 | 6.830 | 24.32 |
| #1 | .0020 | -.0003 | .6163 | 4.831 | 14.08 | 9.411 | .0023 | 27.42 | .0141 | -.0036 |
| #2 | -.0002 | .0011 | .5987 | 4.795 | 13.88 | 9.422 | .0018 | 27.36 | .0155 | -.0026 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0548 | 2.122 | .0030 | -.0005 | 9.831 | -.0014 | .5753 | .0007 | .0012 |
| Stddev | .0011 | .0183 | .005 | .0005 | .0032 | .012 | .0003 | .0014 | .0017 | .0011 |
| %RSD | 24.48 | 33.36 | .2356 | 15.40 | 691.6 | .1258 | 19.15 | .2415 | 236.4 | 94.58 |
| #1 | -.0037 | .0678 | 2.125 | .0027 | -.0027 | 9.822 | -.0012 | .5763 | .0019 | .0004 |
| #2 | -.0053 | .0419 | 2.118 | .0033 | .0018 | 9.839 | -.0016 | .5743 | -.0005 | .0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | -.0181 | .0146 | -.0509 |
| Stddev | .0001 | .0115 | .0004 | .0002 |
| %RSD | 36.89 | 63.72 | 2.920 | .3399 |
| #1 | -.0003 | -.0099 | .0143 | -.0508 |
| #2 | -.0002 | -.0262 | .0149 | -.0510 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.7 | 40545. | 17904. |
| Stddev | 3.1 | 12. | 23. |
| %RSD | .25693 | .02948 | .12598 |
| #1 | 1219.9 | 40553. | 17920. |
| #2 | 1215.5 | 40536. | 17888. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/29/2013 17:58:02 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0665 | .0440 | -.0294 | .1987 | .0107 | .0006 | 114.1 | .0013 | -.0006 |
| Stddev | .0099 | .0238 | .0221 | .0065 | .0038 | .0002 | .0002 | .4 | .0005 | .0032 |
| %RSD | 824.2 | 35.80 | 50.17 | 22.27 | 1.893 | 1.443 | 30.86 | .3135 | 43.84 | 574.2 |
| #1 | .0058 | -.0496 | .0284 | -.0247 | .2013 | .0106 | .0004 | 114.4 | .0009 | -.0028 |
| #2 | -.0082 | -.0833 | .0596 | -.0340 | .1960 | .0108 | .0007 | 113.9 | .0016 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | -.0036 | .6310 | 5.276 | 14.72 | 9.701 | .0036 | 28.87 | .0121 | .0030 |
| Stddev | .0040 | .0010 | .0142 | .063 | .20 | .038 | .0005 | .18 | .0003 | .0035 |
| %RSD | 69.89 | 28.19 | 2.257 | 1.199 | 1.360 | .3944 | 15.05 | .6251 | 2.532 | 118.0 |
| #1 | .0029 | -.0043 | .6210 | 5.232 | 14.58 | 9.674 | .0040 | 28.99 | .0123 | .0055 |
| #2 | .0085 | -.0029 | .6411 | 5.321 | 14.86 | 9.728 | .0032 | 28.74 | .0119 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0161 | .0963 | 2.219 | .0036 | -.0171 | 10.14 | .0044 | .6099 | .0020 | .0043 |
| Stddev | .0092 | .1057 | .009 | .0072 | .0190 | .00 | .0087 | .0002 | .0012 | .0062 |
| %RSD | 57.10 | 109.8 | .4045 | 200.3 | 111.2 | .0464 | 197.4 | .0330 | 60.00 | 143.5 |
| #1 | -.0096 | .1710 | 2.213 | -.0015 | -.0037 | 10.13 | .0105 | .6098 | .0012 | -.0001 |
| #2 | -.0225 | .0215 | 2.226 | .0087 | -.0305 | 10.14 | -.0017 | .6101 | .0029 | .0087 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0064 | -.0637 | .0269 | -.0446 |
| Stddev | .0039 | .0051 | .0014 | .0025 |
| %RSD | 61.42 | 7.958 | 5.160 | 5.630 |
| #1 | -.0036 | -.0601 | .0279 | -.0464 |
| #2 | -.0091 | -.0673 | .0260 | -.0429 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.3 | 40699. | 17764. |
| Stddev | 1.0 | 16. | 115. |
| %RSD | .07846 | .03809 | .64516 |
| #1 | 1234.0 | 40710. | 17682. |
| #2 | 1232.6 | 40688. | 17845. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 18:02:58 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2579 | 9.887 | 1.902 | -.0075 | 1.942 | 1.991 | 2.055 | 10.04 | 1.996 | 2.000 |
| Stddev | .0010 | .008 | .009 | .0001 | .003 | .002 | .008 | .03 | .000 | .005 |
| %RSD | .3838 | .0787 | .4770 | .8399 | .1678 | .1069 | .4032 | .2620 | .0108 | .2653 |
| #1 | .2572 | 9.882 | 1.895 | -.0074 | 1.940 | 1.993 | 2.061 | 10.06 | 1.996 | 1.997 |
| #2 | .2586 | 9.893 | 1.908 | -.0075 | 1.945 | 1.990 | 2.049 | 10.02 | 1.997 | 2.004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.154 | 2.031 | 9.859 | 9.934 | 10.07 | 2.008 | 1.907 | 9.823 | 1.863 | 1.892 |
| Stddev | .001 | .001 | .041 | .003 | .08 | .001 | .004 | .008 | .002 | .000 |
| %RSD | .0658 | .0608 | .4198 | .0254 | .7846 | .0653 | .1847 | .0850 | .1002 | .0064 |
| #1 | 2.153 | 2.030 | 9.888 | 9.936 | 10.12 | 2.007 | 1.904 | 9.817 | 1.861 | 1.892 |
| #2 | 2.155 | 2.032 | 9.830 | 9.932 | 10.01 | 2.009 | 1.909 | 9.829 | 1.864 | 1.892 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0058 | -.0051 | 1.908 | 1.891 | -.0125 | 1.862 | 1.972 | 1.979 | 1.927 |
| Stddev | .0012 | .0021 | .0003 | .002 | .001 | .0007 | .002 | .010 | .003 | .001 |
| %RSD | 105.2 | 36.77 | 6.797 | .1204 | .0548 | 5.533 | .1100 | .5236 | .1630 | .0625 |
| #1 | .0003 | .0073 | -.0054 | 1.910 | 1.890 | -.0130 | 1.864 | 1.979 | 1.977 | 1.927 |
| #2 | .0020 | .0043 | -.0049 | 1.907 | 1.892 | -.0120 | 1.861 | 1.964 | 1.982 | 1.928 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.004 | -.0126 | 1.896 | -.0061 |
| Stddev | .001 | .0019 | .008 | .0002 |
| %RSD | .0642 | 15.43 | .4179 | 2.877 |
| #1 | 2.003 | -.0112 | 1.890 | -.0063 |
| #2 | 2.005 | -.0140 | 1.902 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.6 | 39639. | 17683. |
| Stddev | 4.5 | 20. | 51. |
| %RSD | .36558 | .05165 | .28769 |
| #1 | 1233.4 | 39625. | 17647. |
| #2 | 1239.8 | 39654. | 17719. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 18:07:45 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0051 | -.0006 | -.0001 | .0016 | .0000 | .0000 | .0020 | -.0001 | .0000 |
| Stddev | .0004 | .0023 | .0016 | .0012 | .0005 | .000 | .0001 | .0019 | .0000 | .000 |
| %RSD | 189.5 | 45.21 | 265.3 | 823.0 | 29.78 | 873.0 | 185.7 | 95.29 | 47.06 | 261.6 |
| #1 | -.0006 | .0035 | -.0018 | -.0010 | .0020 | .0000 | .0001 | .0007 | .0000 | -.0001 |
| #2 | .0001 | .0068 | .0005 | .0007 | .0013 | .0000 | .0000 | .0034 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0001 | .0007 | .0144 | .0097 | .0001 | .0022 | .0038 | .0003 | -.0003 |
| Stddev | .0011 | .0004 | .0002 | .0265 | .0075 | .0002 | .0005 | .0055 | .0004 | .0004 |
| %RSD | 77.97 | 275.1 | 29.67 | 184.6 | 77.52 | 201.1 | 25.44 | 146.8 | 144.2 | 118.1 |
| #1 | .0022 | -.0004 | .0005 | -.0044 | .0151 | .0000 | .0025 | -.0001 | .0006 | -.0006 |
| #2 | .0006 | .0001 | .0008 | .0331 | .0044 | .0002 | .0018 | .0077 | .0000 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0046 | -.0011 | .0007 | -.0015 | -.0021 | .0000 | .0001 | .0008 | .0009 |
| Stddev | .001 | .0021 | .0025 | .0008 | .0023 | .0007 | .000 | .0000 | .0000 | .0012 |
| %RSD | 1386. | 44.69 | 222.3 | 120.5 | 156.0 | 34.61 | 214.5 | 63.59 | 3.673 | 139.3 |
| #1 | .0003 | -.0032 | .0006 | .0013 | .0002 | -.0016 | .0000 | .0001 | .0008 | .0017 |
| #2 | -.0004 | -.0061 | -.0029 | .0001 | -.0031 | -.0026 | -.0001 | .0000 | .0007 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | -.0017 | -.0002 | .0014 |
| Stddev | .0005 | .0014 | .0000 | .0003 |
| %RSD | 161.7 | 79.58 | 6.186 | 22.87 |
| #1 | .0000 | -.0008 | -.0002 | .0012 |
| #2 | -.0007 | -.0027 | -.0002 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 40454. | 17807. |
| Stddev | 9.6 | 117. | 43. |
| %RSD | .78684 | .28949 | .23889 |
| #1 | 1215.4 | 40537. | 17837. |
| #2 | 1229.0 | 40371. | 17777. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/29/2013 18:12:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2005 | .0036 | -.0011 | .1015 | .0517 | .0044 | 5.094 | .0043 | .0520 |
| Stddev | .0003 | .0004 | .0009 | .0008 | .0004 | .0001 | .0001 | .018 | .0001 | .0001 |
| %RSD | 6.031 | .2042 | 25.36 | 78.66 | .4099 | .1402 | 1.504 | .3553 | 2.067 | .2265 |
| #1 | .0052 | .2002 | .0042 | -.0005 | .1012 | .0518 | .0045 | 5.106 | .0042 | .0519 |
| #2 | .0048 | .2008 | .0029 | -.0017 | .1018 | .0517 | .0044 | 5.081 | .0044 | .0521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0114 | .0257 | .1041 | 4.990 | 5.046 | .0159 | .0995 | 4.904 | .0389 | .0046 |
| Stddev | .0000 | .0003 | .0007 | .024 | .023 | .0001 | .0003 | .009 | .0004 | .0005 |
| %RSD | .1747 | 1.221 | .7033 | .4876 | .4605 | .7848 | .3425 | .1869 | 1.134 | 10.09 |
| #1 | .0114 | .0255 | .1046 | 4.973 | 5.030 | .0160 | .0993 | 4.910 | .0386 | .0043 |
| #2 | .0114 | .0259 | .1036 | 5.007 | 5.063 | .0158 | .0998 | 4.897 | .0392 | .0049 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0029 | .0016 | .0075 | .0094 | .0057 | .0937 | .0103 | .0514 | .0055 |
| Stddev | .0010 | .0045 | .0002 | .0012 | .0017 | .0005 | .0011 | .0000 | .0004 | .0019 |
| %RSD | 61.48 | 157.2 | 11.91 | 16.29 | 17.95 | 9.246 | 1.225 | .1246 | .6816 | 33.47 |
| #1 | .0009 | .0061 | .0015 | .0066 | .0082 | .0061 | .0929 | .0103 | .0516 | .0069 |
| #2 | .0024 | -.0003 | .0018 | .0084 | .0106 | .0054 | .0945 | .0103 | .0511 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0103 | -.0069 | .0208 | .0007 |
| Stddev | .0005 | .0018 | .0003 | .0004 |
| %RSD | 4.921 | 26.58 | 1.371 | 50.73 |
| #1 | .0099 | -.0083 | .0206 | .0010 |
| #2 | .0106 | -.0056 | .0210 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.0 | 40574. | 17832. |
| Stddev | .7 | 125. | 11. |
| %RSD | .06035 | .30696 | .06400 |
| #1 | 1233.5 | 40485. | 17824. |
| #2 | 1232.5 | 40662. | 17840. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 18:17:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2550 | 9.768 | 1.890 | -.0079 | 1.927 | 1.970 | 2.056 | 9.983 | 1.976 | 1.981 |
| Stddev | .0001 | .038 | .003 | .0005 | .007 | .003 | .003 | .009 | .006 | .008 |
| %RSD | .0458 | .3871 | .1549 | 6.658 | .3499 | .1267 | .1284 | .0863 | .3228 | .4202 |
| #1 | .2551 | 9.742 | 1.892 | -.0075 | 1.932 | 1.968 | 2.054 | 9.977 | 1.981 | 1.987 |
| #2 | .2549 | 9.795 | 1.888 | -.0082 | 1.923 | 1.972 | 2.058 | 9.989 | 1.972 | 1.975 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.169 | 2.014 | 9.719 | 9.789 | 10.05 | 1.987 | 1.889 | 9.687 | 1.838 | 1.871 |
| Stddev | .001 | .003 | .017 | .022 | .09 | .003 | .005 | .023 | .008 | .005 |
| %RSD | .0585 | .1527 | .1726 | .2263 | .9017 | .1245 | .2498 | .2348 | .4411 | .2911 |
| #1 | 2.168 | 2.016 | 9.731 | 9.805 | 10.12 | 1.988 | 1.892 | 9.670 | 1.843 | 1.875 |
| #2 | 2.170 | 2.012 | 9.707 | 9.773 | 9.990 | 1.985 | 1.885 | 9.703 | 1.832 | 1.867 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0085 | -.0028 | 1.884 | 1.875 | -.0120 | 1.829 | 1.958 | 1.961 | 1.907 |
| Stddev | .0012 | .0026 | .0004 | .010 | .009 | .0012 | .007 | .022 | .000 | .006 |
| %RSD | 37.20 | 30.23 | 12.79 | .5255 | .4550 | 9.800 | .3647 | 1.107 | .0072 | .2952 |
| #1 | .0041 | .0103 | -.0025 | 1.891 | 1.881 | -.0112 | 1.833 | 1.973 | 1.961 | 1.911 |
| #2 | .0024 | .0067 | -.0030 | 1.877 | 1.869 | -.0129 | 1.824 | 1.942 | 1.962 | 1.903 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.998 | -.0027 | 1.879 | -.0066 |
| Stddev | .001 | .0027 | .002 | .0002 |
| %RSD | .0324 | 99.64 | .1059 | 3.557 |
| #1 | 1.997 | -.0046 | 1.880 | -.0064 |
| #2 | 1.998 | -.0008 | 1.877 | -.0068 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.2 | 40003. | 17951. |
| Stddev | 3.0 | 36. | 51. |
| %RSD | .24450 | .09066 | .28154 |
| #1 | 1233.1 | 39978. | 17915. |
| #2 | 1237.3 | 40029. | 17986. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 18:22:25 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0017 | .0002 | -.0001 | .0019 | .0001 | .0001 | .0003 | .0000 |
| Stddev | .0001 | .0041 | .0003 | .0006 | .0003 | .0001 | .0000 | .0035 | .0002 |
| %RSD | 15.42 | 244.2 | 172.0 | 568.0 | 13.71 | 163.3 | 5.356 | 1337. | 1915. |
| #1 | -.0009 | -.0012 | .0000 | -.0005 | .0021 | .0000 | .0001 | .0028 | .0001 |
| #2 | -.0007 | .0046 | .0004 | .0003 | .0017 | .0002 | .0001 | -.0022 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0010 | -.0005 | -.0008 | -.0044 | -.0029 | .0001 | .0024 | .0068 |
| Stddev | .0001 | .0005 | .0001 | .0001 | .0299 | .0038 | .0000 | .0007 | .0027 |
| %RSD | 55.43 | 46.95 | 12.02 | 10.05 | 684.1 | 128.9 | 2.188 | 30.32 | 40.07 |
| #1 | .0001 | .0007 | -.0005 | -.0009 | -.0255 | -.0056 | .0001 | .0029 | .0088 |
| #2 | .0002 | .0013 | -.0006 | -.0008 | .0168 | -.0003 | .0001 | .0019 | .0049 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0000 | -.0001 | .0010 | -.0006 | .0007 | -.0005 | -.0020 | .0004 |
| Stddev | .0002 | .0007 | .0010 | .0017 | .0005 | .0002 | .0013 | .0001 | .0000 |
| %RSD | 284.8 | 2280. | 753.1 | 166.6 | 74.97 | 25.76 | 240.2 | 3.210 | 10.45 |
| #1 | .0002 | -.0004 | .0006 | -.0002 | -.0003 | .0008 | .0004 | -.0021 | .0004 |
| #2 | -.0001 | .0005 | -.0008 | .0022 | -.0009 | .0006 | -.0014 | -.0020 | .0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | F.0021 | -.0003 | -.0004 | -.0003 | .0009 |
| Stddev | .0000 | .0004 | .0009 | .0001 | .0030 | .0004 | .0000 |
| %RSD | 13.01 | 57.79 | 44.55 | 35.84 | 838.0 | 175.0 | .8707 |
| #1 | .0001 | .0010 | .0027 | -.0003 | -.0024 | .0001 | .0009 |
| #2 | .0001 | .0004 | .0014 | -.0002 | .0017 | -.0006 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.0 | 40679. | 17698. |
| Stddev | 1.2 | 77. | 91. |
| %RSD | .09555 | .18949 | .51281 |
| #1 | 1229.8 | 40624. | 17634. |
| #2 | 1228.1 | 40733. | 17762. |



Zoom In Zoom Out

Sample Name: MC25652-1UND Acquired: 10/29/2013 18:27:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0065 | .0029 | -.0019 | .0537 | .2229 | .0001 | 5.786 | .0000 | .0009 |
| Stddev | .0003 | .0029 | .0002 | .0008 | .0006 | .0019 | .0000 | .012 | .000 | .0001 |
| %RSD | 213.1 | 44.07 | 7.870 | 42.27 | 1.097 | .8326 | 12.43 | .2003 | 345.2 | 14.58 |
| #1 | -.0004 | -.0045 | .0031 | -.0013 | .0541 | .2215 | .0001 | 5.794 | -.0001 | .0008 |
| #2 | .0001 | -.0086 | .0027 | -.0024 | .0532 | .2242 | .0001 | 5.777 | .0000 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0002 | .0892 | 8.743 | 2.294 | .6989 | .0010 | 52.05 | .0069 | .0003 |
| Stddev | .0012 | .0005 | .0018 | .016 | .017 | .0029 | .0002 | .25 | .0000 | .0004 |
| %RSD | 151.7 | 240.9 | 2.057 | .1769 | .7304 | .4115 | 15.36 | .4876 | .3465 | 137.1 |
| #1 | .0016 | .0001 | .0879 | 8.754 | 2.282 | .7009 | .0011 | 51.87 | .0070 | .0000 |
| #2 | -.0001 | -.0006 | .0905 | 8.732 | 2.306 | .6969 | .0009 | 52.22 | .0069 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0053 | 7.692 | -.0022 | .0002 | 6.419 | .0007 | .0288 | .0007 | .0058 |
| Stddev | .0012 | .0039 | .014 | .0003 | .0005 | .017 | .0005 | .0001 | .0008 | .0005 |
| %RSD | 169.0 | 72.74 | .1853 | 13.47 | 317.2 | .2632 | 68.58 | .1953 | 101.9 | 9.011 |
| #1 | .0001 | .0081 | 7.702 | -.0025 | .0006 | 6.431 | .0010 | .0289 | .0013 | .0062 |
| #2 | -.0015 | .0026 | 7.682 | -.0020 | -.0002 | 6.407 | .0004 | .0288 | .0002 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0020 | .0113 | -.0342 |
| Stddev | .0004 | .0014 | .0001 | .0005 |
| %RSD | 107.4 | 72.51 | 1.160 | 1.397 |
| #1 | -.0001 | .0010 | .0112 | -.0346 |
| #2 | -.0007 | .0030 | .0114 | -.0339 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.9 | 41668. | 18101. |
| Stddev | 1.5 | 24. | 73. |
| %RSD | .12035 | .05856 | .40343 |
| #1 | 1283.0 | 41685. | 18152. |
| #2 | 1280.8 | 41651. | 18049. |



Zoom In Zoom Out

Sample Name: MC25652-1FUND Acquired: 10/29/2013 18:32:17 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0033 | .0027 | -.0031 | .0527 | .2215 | .0001 | 5.786 | .0000 | .0011 |
| Stddev | .0001 | .0001 | .0002 | .0015 | .0002 | .0011 | .0000 | .039 | .000 | .0001 |
| %RSD | 28.49 | 3.869 | 5.862 | 46.87 | .3544 | .4897 | 32.41 | .6759 | 85.80 | 5.363 |
| #1 | -.0002 | -.0032 | .0026 | -.0021 | .0528 | .2208 | .0001 | 5.814 | .0000 | .0012 |
| #2 | -.0003 | -.0034 | .0029 | -.0042 | .0525 | .2223 | .0001 | 5.758 | .0000 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0001 | .2535 | 8.389 | 2.270 | 1.115 | .0002 | 51.92 | .0069 | .0005 |
| Stddev | .0001 | .0001 | .0055 | .017 | .016 | .003 | .0000 | .06 | .0002 | .0003 |
| %RSD | 31.92 | 116.4 | 2.168 | .2023 | .7134 | .2808 | 17.85 | .1161 | 2.985 | 56.16 |
| #1 | .0005 | .0000 | .2496 | 8.401 | 2.259 | 1.113 | .0002 | 51.88 | .0068 | .0003 |
| #2 | .0003 | .0001 | .2574 | 8.377 | 2.281 | 1.118 | .0002 | 51.96 | .0070 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0038 | 7.534 | -.0022 | -.0009 | 6.479 | .0007 | .0292 | .0010 | .0065 |
| Stddev | .0020 | .0042 | .016 | .0008 | .0003 | .003 | .0002 | .0001 | .0000 | .0001 |
| %RSD | 2690. | 110.0 | .2108 | 37.03 | 36.38 | .0433 | 31.66 | .2324 | 4.153 | 1.222 |
| #1 | -.0015 | .0008 | 7.545 | -.0016 | -.0011 | 6.481 | .0008 | .0292 | .0010 | .0066 |
| #2 | .0014 | .0068 | 7.523 | -.0028 | -.0007 | 6.477 | .0005 | .0292 | .0010 | .0065 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0029 | .0140 | -.0347 |
| Stddev | .0006 | .0064 | .0002 | .0002 |
| %RSD | 329.7 | 216.9 | 1.480 | .4796 |
| #1 | .0002 | .0074 | .0139 | -.0349 |
| #2 | -.0006 | -.0016 | .0142 | -.0346 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.2 | 41444. | 18087. |
| Stddev | 4.5 | 189. | 82. |
| %RSD | .35377 | .45710 | .45579 |
| #1 | 1273.4 | 41578. | 18029. |
| #2 | 1267.1 | 41310. | 18146. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000001 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000002 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000568 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | | Fe | 0.000030 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000046 | 0.000000 | No |
| | | | | Mn | 0.000111 | 0.000000 | No |
| | | | | Mo | -0.001080 | 0.000000 | No |
| | | | | Co | 0.000023 | 0.000000 | No |
| | | | | Cu | -0.000002 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000058 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Ni | 0.000029 | 0.000000 | No |
| | | | | Si | 0.000132 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000342 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.006177 | 0.000000 | No |
| | | | | Ni | -0.000225 | 0.000000 | No |
| | | | | Mn | -0.008486 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | S 182.034 {485} | ☒ | None | | | | |
| | Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000028 | 0.000000 | No |
| | | | | Cr | 0.003719 | 0.000000 | No |
| | | | | Mo | -0.001502 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000192 | 0.000000 | No |
| | | | | V | -0.001150 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | | | | Ti | -0.000072 | 0.000000 | No |
| | | | | Cu | 0.000040 | 0.000000 | No |
| | | | | Sn | -0.009353 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 7 | Al | -0.000008 | 0.000000 | No |
| | | | | Fe | -0.000390 | 0.000000 | No |
| | | | | Mn | 0.000070 | 0.000000 | No |
| | | | | Mo | 0.000004 | 0.000000 | No |
| | | | | Ca | -0.000010 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | | | | Co | -0.001109 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | | Ti | 0.012159 | 0.000000 | No |
| | | | | Mo | 0.022364 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | | Cr | 0.000398 | 0.000000 | No |
| | | | | V | -0.025265 | 0.000000 | No |
| | | | | Co | 0.002209 | 0.000000 | No |
| | | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\001CAL
Date Acquired: Oct 31 2013 10:38 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2526977.00 | A | 8185.00 | 0.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 120.00 | P | 14.53 | 12.11 |
| 9 | Be | 93.34 | P | 10.00 | 10.71 |
| 11 | B | 701.15 | P | 15.40 | 2.20 |
| 11 | B | 100.00 | P | 13.33 | 13.33 |
| 23 | Na | 501156.00 | P | 11300.00 | 2.25 |
| 23 | Na | 56214.45 | P | 163.30 | 0.29 |
| 24 | Mg | 8110.20 | P | 87.22 | 1.08 |
| 24 | Mg | 426.69 | P | 75.13 | 17.61 |
| 27 | Al | 18257.42 | P | 561.70 | 3.08 |
| 27 | Al | 494.47 | P | 66.70 | 13.49 |
| 39 | K | 4083702.00 | A | 14920.00 | 0.37 |
| 44 | Ca | 28760.68 | P | 132.50 | 0.46 |
| 45 | Sc | 3313873.00 | A | 20240.00 | 0.61 |
| 45 | Sc | 366239.31 | P | 924.90 | 0.25 |
| 47 | Ti | 226.68 | P | 48.08 | 21.21 |
| 51 | V | 6405.85 | P | 194.60 | 3.04 |
| 52 | Cr | 1979.71 | P | 81.78 | 4.13 |
| 55 | Mn | 612.47 | P | 17.71 | 2.89 |
| 56 | Fe | 26197.55 | P | 360.80 | 1.38 |
| 59 | Co | 102.22 | P | 16.88 | 16.51 |
| 60 | Ni | 281.78 | P | 28.61 | 10.15 |
| 63 | Cu | 3200.82 | P | 123.90 | 3.87 |
| 66 | Zn | 463.79 | P | 9.67 | 2.08 |
| 72 | Ge | 719670.31 | P | 9252.00 | 1.29 |
| 72 | Ge | 145000.80 | P | 911.60 | 0.63 |
| 75 | As | 254.67 | P | 8.51 | 3.34 |
| 78 | Se | 241.56 | P | 8.04 | 3.33 |
| 88 | Sr | 706.71 | P | 17.64 | 2.50 |
| 98 | Mo | 132.23 | P | 11.71 | 8.86 |
| 103 | Rh | 3927675.00 | A | 88150.00 | 2.24 |
| 107 | Ag | 184.45 | P | 37.91 | 20.55 |






ACCUTEST LABORATORIES MC25522

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 77.78 | P | 17.10 | 21.99 |
| 115 | In | 3980065.00 | A | 22630.00 | 0.57 |
| 115 | In | 1082158.00 | A | 8614.00 | 0.80 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 348.91 | P | 52.12 | 14.94 |
| 121 | Sb | 470.02 | P | 26.46 | 5.63 |
| 137 | Ba | 643.37 | P | 20.82 | 3.24 |
| 159 | Tb | 4950937.00 | A | 12540.00 | 0.25 |
| 175 | Lu | 4612562.00 | A | 22190.00 | 0.48 |
| 205 | Tl | 647.82 | P | 55.21 | 8.52 |
| 206 | (Pb) | 282.24 | P | 25.02 | 8.86 |
| 207 | (Pb) | 240.01 | P | 14.53 | 6.05 |
| 208 | Pb | 2698.06 | P | 103.10 | 3.82 |
| 209 | Bi | 2755955.00 | A | 23340.00 | 0.85 |

C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\002CAL
Date Acquired: Oct 31 2013 10:45 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2521858.00 | A | 17270.00 | 0.68 |
| 7 | (Li) | | P | | |
| 9 | Be | 98.89 | P | 8.39 | 8.48 |
| 9 | Be | 46.67 | P | 12.02 | 25.76 |
| 11 | B | 683.37 | P | 60.83 | 8.90 |
| 11 | B | 43.33 | P | 20.82 | 48.05 |
| 23 | Na | 496308.41 | P | 6820.00 | 1.37 |
| 23 | Na | 56242.39 | P | 163.60 | 0.29 |
| 24 | Mg | 8674.88 | P | 339.80 | 3.92 |
| 24 | Mg | 464.47 | P | 25.46 | 5.48 |
| 27 | Al | 18675.53 | P | 665.90 | 3.57 |
| 27 | Al | 457.80 | P | 3.85 | 0.84 |
| 39 | K | 4093980.00 | A | 19160.00 | 0.47 |
| 44 | Ca | 28943.20 | P | 459.10 | 1.59 |
| 45 | Sc | 3362635.00 | A | 13600.00 | 0.40 |
| 45 | Sc | 367626.41 | P | 1586.00 | 0.43 |
| 47 | Ti | 223.34 | P | 8.82 | 3.95 |
| 51 | V | 6756.23 | P | 60.73 | 0.90 |
| 52 | Cr | 1873.47 | P | 74.10 | 3.96 |
| 55 | Mn | 618.69 | P | 42.67 | 6.90 |
| 56 | Fe | 27119.24 | P | 504.90 | 1.86 |
| 59 | Co | 77.33 | P | 10.41 | 13.46 |
| 60 | Ni | 235.12 | P | 26.81 | 11.40 |
| 63 | Cu | 2911.87 | P | 137.00 | 4.70 |
| 66 | Zn | 442.68 | P | 30.62 | 6.92 |
| 72 | Ge | 714805.50 | P | 5302.00 | 0.74 |
| 72 | Ge | 144801.50 | P | 255.50 | 0.18 |
| 75 | As | 243.11 | P | 16.23 | 6.68 |
| 78 | Se | 212.00 | P | 9.17 | 4.32 |
| 88 | Sr | 730.04 | P | 55.68 | 7.63 |
| 98 | Mo | 125.56 | P | 20.09 | 16.00 |
| 103 | Rh | 3924881.00 | A | 20780.00 | 0.53 |
| 107 | Ag | 143.34 | P | 23.33 | 16.28 |

C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 30.00 | P | 6.67 | 22.22 |
| 115 | In | 3944903.00 | A | 35950.00 | 0.91 |
| 115 | In | 1086949.00 | A | 10020.00 | 0.92 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 310.01 | P | 34.80 | 11.23 |
| 121 | Sb | 302.24 | P | 17.11 | 5.66 |
| 137 | Ba | 640.04 | P | 36.06 | 5.63 |
| 159 | Tb | 4942952.00 | A | 16220.00 | 0.33 |
| 175 | Lu | 4623930.00 | A | 24240.00 | 0.52 |
| 205 | Tl | 623.37 | P | 13.33 | 2.14 |
| 206 | (Pb) | 260.01 | P | 36.06 | 13.87 |
| 207 | (Pb) | 171.12 | P | 25.24 | 14.75 |
| 208 | Pb | 2500.26 | P | 94.54 | 3.78 |
| 209 | Bi | 2757011.00 | A | 4441.00 | 0.16 |

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# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\003CALS.D\003CALS.D#
Date Acquired: Oct 31 2013 10:52 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | A | 348400.00 | 12.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 4456.33 | P | 297.70 | 6.68 |
| 9 | Be | 205.56 | P | 39.77 | 19.35 |
| 11 | B | 3472.72 | P | 131.90 | 3.80 |
| 11 | B | 133.34 | P | 6.67 | 5.00 |
| 23 | Na | 533030.13 | P | 7025.00 | 1.32 |
| 23 | Na | 57848.01 | P | 452.40 | 0.78 |
| 24 | Mg | 23492.75 | P | 143.30 | 0.61 |
| 24 | Mg | 1156.75 | P | 40.42 | 3.49 |
| 27 | Al | 39564.34 | P | 191.80 | 0.48 |
| 27 | Al | 993.40 | P | 60.83 | 6.12 |
| 39 | K | 4079743.00 | A | 26340.00 | 0.65 |
| 44 | Ca | 29534.48 | P | 431.90 | 1.46 |
| 45 | Sc | 3707282.00 | A | 599700.00 | 16.18 |
| 45 | Sc | 368476.91 | P | 1487.00 | 0.40 |
| 47 | Ti | 1931.29 | P | 57.96 | 3.00 |
| 51 | V | 11704.11 | P | 87.08 | 0.74 |
| 52 | Cr | 6929.64 | P | 105.40 | 1.52 |
| 55 | Mn | 4595.41 | P | 78.14 | 1.70 |
| 56 | Fe | 31942.03 | P | 396.30 | 1.24 |
| 59 | Co | 7124.85 | P | 101.40 | 1.42 |
| 60 | Ni | 2011.27 | P | 48.34 | 2.40 |
| 63 | Cu | 7489.04 | P | 98.47 | 1.31 |
| 66 | Zn | 1377.85 | P | 14.63 | 1.06 |
| 72 | Ge | 757217.00 | M | 65800.00 | 8.69 |
| 72 | Ge | 146230.09 | P | 672.20 | 0.46 |
| 75 | As | 872.25 | P | 16.02 | 1.84 |
| 78 | Se | 308.89 | P | 9.65 | 3.12 |
| 88 | Sr | 28904.18 | P | 843.00 | 2.92 |
| 98 | Mo | 8418.23 | P | 375.90 | 4.47 |
| 103 | Rh | 4375582.00 | A | 718200.00 | 16.41 |
| 107 | Ag | 13178.49 | P | 448.40 | 3.40 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1047.85 | P | 30.25 | 2.89 |
| 115 | In | 4402088.00 | A | 702000.00 | 15.95 |
| 115 | In | 1104538.00 | A | 14630.00 | 1.32 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 10983.34 | P | 275.60 | 2.51 |
| 121 | Sb | 10344.02 | P | 307.50 | 2.97 |
| 137 | Ba | 4565.32 | P | 42.48 | 0.93 |
| 159 | Tb | 5482200.00 | A | 958100.00 | 17.48 |
| 175 | Lu | 5170287.00 | A | 898800.00 | 17.38 |
| 205 | Tl | 15857.36 | P | 416.20 | 2.62 |
| 206 | (Pb) | 6716.31 | P | 360.70 | 5.37 |
| 207 | (Pb) | 5673.57 | P | 122.80 | 2.16 |
| 208 | Pb | 27755.59 | P | 763.70 | 2.75 |
| 209 | Bi | 2991521.00 | A | 455600.00 | 15.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | 12.70 | 2521858.30 | 108.8 | 70 - 130 | |
| 45 | Sc | 3707282.00 | 16.18 | 3362635.00 | 110.2 | 70 - 130 | |
| 45 | Sc | 368476.97 | 0.40 | 367626.47 | 100.2 | 70 - 130 | |
| 72 | Ge | 757217.00 | 8.69 | 714805.50 | 105.9 | 70 - 130 | |
| 72 | Ge | 146230.14 | 0.46 | 144801.52 | 101.0 | 70 - 130 | |
| 103 | Rh | 4375581.50 | 16.41 | 3924880.80 | 111.5 | 70 - 130 | |
| 115 | In | 4402088.00 | 15.95 | 3944903.30 | 111.6 | 70 - 130 | |
| 115 | In | 1104538.10 | 1.32 | 1086949.30 | 101.6 | 70 - 130 | |
| 159 | Tb | 5482200.00 | 17.48 | 4942952.00 | 110.9 | 70 - 130 | |
| 175 | Lu | 5170287.50 | 17.38 | 4623930.50 | 111.8 | 70 - 130 | |
| 209 | Bi | 2991521.30 | 15.23 | 2757011.00 | 108.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#
Date Acquired: Oct 31 2013 10:59 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2553325.00 | A | 8311.00 | 0.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 45712.10 | P | 593.40 | 1.30 |
| 9 | Be | 1495.67 | P | 61.95 | 4.14 |
| 11 | B | 28437.50 | P | 260.80 | 0.92 |
| 11 | B | 604.48 | P | 41.41 | 6.85 |
| 23 | Na | 695685.31 | P | 8057.00 | 1.16 |
| 23 | Na | 67480.80 | P | 386.00 | 0.57 |
| 24 | Mg | 146674.59 | P | 2042.00 | 1.39 |
| 24 | Mg | 7290.81 | P | 50.91 | 0.70 |
| 27 | Al | 193900.50 | P | 1380.00 | 0.71 |
| 27 | Al | 4933.38 | P | 171.50 | 3.48 |
| 39 | K | 4246089.00 | A | 17290.00 | 0.41 |
| 44 | Ca | 36620.73 | P | 1209.00 | 3.30 |
| 45 | Sc | 3330758.00 | A | 35960.00 | 1.08 |
| 45 | Sc | 373982.69 | P | 1581.00 | 0.42 |
| 47 | Ti | 17177.85 | P | 472.30 | 2.75 |
| 51 | V | 54019.60 | P | 464.10 | 0.86 |
| 52 | Cr | 52432.46 | P | 376.80 | 0.72 |
| 55 | Mn | 39866.83 | P | 295.30 | 0.74 |
| 56 | Fe | 74586.55 | P | 225.80 | 0.30 |
| 59 | Co | 70004.74 | P | 568.90 | 0.81 |
| 60 | Ni | 17951.10 | P | 78.96 | 0.44 |
| 63 | Cu | 46981.36 | P | 193.30 | 0.41 |
| 66 | Zn | 8530.42 | P | 103.00 | 1.21 |
| 72 | Ge | 709484.13 | P | 5389.00 | 0.76 |
| 72 | Ge | 147533.20 | P | 349.00 | 0.24 |
| 75 | As | 6295.12 | P | 181.30 | 2.88 |
| 78 | Se | 918.70 | P | 40.07 | 4.36 |
| 88 | Sr | 285361.19 | P | 2416.00 | 0.85 |
| 98 | Mo | 82377.52 | P | 1387.00 | 1.68 |
| 103 | Rh | 3945762.00 | A | 5246.00 | 0.13 |
| 107 | Ag | 127337.00 | P | 1500.00 | 1.18 |

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9524.51 | P | 114.70 | 1.20 |
| 115 | In | 3968207.00 | A | 27320.00 | 0.69 |
| 115 | In | 1106060.00 | A | 8043.00 | 0.73 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 107685.80 | P | 1649.00 | 1.53 |
| 121 | Sb | 99506.15 | P | 1475.00 | 1.48 |
| 137 | Ba | 37691.06 | P | 487.90 | 1.29 |
| 159 | Tb | 4976040.00 | A | 40080.00 | 0.81 |
| 175 | Lu | 4663351.00 | A | 50120.00 | 1.07 |
| 205 | Tl | 169389.30 | P | 1383.00 | 0.82 |
| 206 | (Pb) | 64819.20 | P | 1011.00 | 1.56 |
| 207 | (Pb) | 54568.32 | P | 501.90 | 0.92 |
| 208 | Pb | 253451.09 | P | 2201.00 | 0.87 |
| 209 | Bi | 2776037.00 | A | 2838.00 | 0.10 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2553324.80 | 0.33 | 2521858.30 | 101.2 | 70 - 130 | |
| 45 Sc | 3330758.50 | 1.08 | 3362635.00 | 99.1 | 70 - 130 | |
| 45 Sc | 373982.66 | 0.42 | 367626.47 | 101.7 | 70 - 130 | |
| 72 Ge | 709484.13 | 0.76 | 714805.50 | 99.3 | 70 - 130 | |
| 72 Ge | 147533.23 | 0.24 | 144801.52 | 101.9 | 70 - 130 | |
| 103 Rh | 3945762.00 | 0.13 | 3924880.80 | 100.5 | 70 - 130 | |
| 115 In | 3968207.50 | 0.69 | 3944903.30 | 100.6 | 70 - 130 | |
| 115 In | 1106060.40 | 0.73 | 1086949.30 | 101.8 | 70 - 130 | |
| 159 Tb | 4976040.50 | 0.81 | 4942952.00 | 100.7 | 70 - 130 | |
| 175 Lu | 4663351.00 | 1.07 | 4623930.50 | 100.9 | 70 - 130 | |
| 209 Bi | 2776037.30 | 0.10 | 2757011.00 | 100.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#
Date Acquired: Oct 31 2013 11:06 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2534878.00 | A | 5189.00 | 0.20 |
| 7 | (Li) | | P | | |
| 9 | Be | 222660.59 | P | 3442.00 | 1.55 |
| 9 | Be | 7247.45 | P | 210.50 | 2.90 |
| 11 | B | 136266.91 | P | 1240.00 | 0.91 |
| 11 | B | 2930.38 | P | 135.50 | 4.62 |
| 23 | Na | 1468576.00 | A | 20040.00 | 1.36 |
| 23 | Na | 114306.40 | P | 386.50 | 0.34 |
| 24 | Mg | 682444.81 | P | 9319.00 | 1.37 |
| 24 | Mg | 33651.22 | P | 167.50 | 0.50 |
| 27 | Al | 866361.63 | P | 9346.00 | 1.08 |
| 27 | Al | 21686.78 | P | 381.90 | 1.76 |
| 39 | K | 4990979.00 | A | 10910.00 | 0.22 |
| 44 | Ca | 70583.38 | P | 1030.00 | 1.46 |
| 45 | Sc | 3360063.00 | A | 27480.00 | 0.82 |
| 45 | Sc | 372320.00 | P | 706.80 | 0.19 |
| 47 | Ti | 82465.80 | P | 251.40 | 0.30 |
| 51 | V | 234524.80 | P | 707.70 | 0.30 |
| 52 | Cr | 249053.09 | P | 724.90 | 0.29 |
| 55 | Mn | 191983.09 | P | 340.50 | 0.18 |
| 56 | Fe | 254029.70 | P | 1345.00 | 0.53 |
| 59 | Co | 342445.50 | P | 1982.00 | 0.58 |
| 60 | Ni | 86221.73 | P | 234.30 | 0.27 |
| 63 | Cu | 217255.70 | P | 1051.00 | 0.48 |
| 66 | Zn | 39905.25 | P | 141.20 | 0.35 |
| 72 | Ge | 696368.88 | P | 6754.00 | 0.97 |
| 72 | Ge | 145570.41 | P | 710.80 | 0.49 |
| 75 | As | 29852.18 | P | 148.00 | 0.50 |
| 78 | Se | 3561.77 | P | 67.66 | 1.90 |
| 88 | Sr | 1335333.00 | A | 12620.00 | 0.95 |
| 98 | Mo | 401803.19 | P | 4209.00 | 1.05 |
| 103 | Rh | 3932761.00 | A | 24980.00 | 0.64 |
| 107 | Ag | 618134.88 | P | 11950.00 | 1.93 |

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 46343.66 | P | 815.40 | 1.76 |
| 115 | In | 4004576.00 | A | 39360.00 | 0.98 |
| 115 | In | 1101115.00 | A | 5484.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 523694.50 | P | 9711.00 | 1.85 |
| 121 | Sb | 482500.81 | P | 8606.00 | 1.78 |
| 137 | Ba | 182800.30 | P | 1531.00 | 0.84 |
| 159 | Tb | 4990311.00 | A | 39910.00 | 0.80 |
| 175 | Lu | 4742163.00 | A | 32980.00 | 0.70 |
| 205 | Tl | 881688.31 | P | 7184.00 | 0.81 |
| 206 | (Pb) | 308862.41 | P | 517.30 | 0.17 |
| 207 | (Pb) | 260390.70 | P | 963.10 | 0.37 |
| 208 | Pb | 1201585.00 | P | 3603.00 | 0.30 |
| 209 | Bi | 2747095.00 | A | 33090.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2534878.30 | 0.20 | 2521858.30 | 100.5 | 70 - 130 | |
| 45 | Sc | 3360062.80 | 0.82 | 3362635.00 | 99.9 | 70 - 130 | |
| 45 | Sc | 372319.97 | 0.19 | 367626.47 | 101.3 | 70 - 130 | |
| 72 | Ge | 696368.88 | 0.97 | 714805.50 | 97.4 | 70 - 130 | |
| 72 | Ge | 145570.42 | 0.49 | 144801.52 | 100.5 | 70 - 130 | |
| 103 | Rh | 3932760.80 | 0.64 | 3924880.80 | 100.2 | 70 - 130 | |
| 115 | In | 4004575.80 | 0.98 | 3944903.30 | 101.5 | 70 - 130 | |
| 115 | In | 1101115.00 | 0.50 | 1086949.30 | 101.3 | 70 - 130 | |
| 159 | Tb | 4990311.00 | 0.80 | 4942952.00 | 101.0 | 70 - 130 | |
| 175 | Lu | 4742163.00 | 0.70 | 4623930.50 | 102.6 | 70 - 130 | |
| 209 | Bi | 2747095.30 | 1.20 | 2757011.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#
Date Acquired: Oct 31 2013 11:13 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2554999.00 | A | 11570.00 | 0.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 458173.00 | P | 5052.00 | 1.10 |
| 9 | Be | 14280.16 | P | 225.00 | 1.58 |
| 11 | B | 278049.19 | P | 394.00 | 0.14 |
| 11 | B | 5869.05 | P | 200.70 | 3.42 |
| 23 | Na | 2420442.00 | A | 15590.00 | 0.64 |
| 23 | Na | 171436.91 | P | 1073.00 | 0.63 |
| 24 | Mg | 1361045.00 | A | 7844.00 | 0.58 |
| 24 | Mg | 67698.79 | P | 567.70 | 0.84 |
| 27 | Al | 1758436.00 | A | 10330.00 | 0.59 |
| 27 | Al | 44564.05 | P | 1041.00 | 2.34 |
| 39 | K | 5923329.00 | A | 4698.00 | 0.08 |
| 44 | Ca | 111747.80 | P | 1047.00 | 0.94 |
| 45 | Sc | 3379753.00 | A | 6041.00 | 0.18 |
| 45 | Sc | 367079.00 | P | 799.50 | 0.22 |
| 47 | Ti | 168526.80 | P | 1211.00 | 0.72 |
| 51 | V | 466183.81 | P | 721.40 | 0.15 |
| 52 | Cr | 500861.41 | P | 1386.00 | 0.28 |
| 55 | Mn | 386867.91 | P | 215.70 | 0.06 |
| 56 | Fe | 486001.19 | P | 1427.00 | 0.29 |
| 59 | Co | 689386.19 | P | 2026.00 | 0.29 |
| 60 | Ni | 172552.09 | P | 315.70 | 0.18 |
| 63 | Cu | 434420.00 | P | 2179.00 | 0.50 |
| 66 | Zn | 80606.68 | P | 326.70 | 0.41 |
| 72 | Ge | 702498.81 | P | 6436.00 | 0.92 |
| 72 | Ge | 144683.70 | P | 999.40 | 0.69 |
| 75 | As | 60327.10 | P | 243.90 | 0.40 |
| 78 | Se | 7028.12 | P | 66.11 | 0.94 |
| 88 | Sr | 2663174.00 | A | 32620.00 | 1.22 |
| 98 | Mo | 820507.31 | P | 11230.00 | 1.37 |
| 103 | Rh | 4000867.00 | A | 9947.00 | 0.25 |
| 107 | Ag | 1227686.00 | A | 5599.00 | 0.46 |

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 93618.49 | P | 955.70 | 1.02 |
| 115 | In | 3983582.00 | A | 17780.00 | 0.45 |
| 115 | In | 1111090.00 | A | 4386.00 | 0.39 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1058400.00 | P | 8101.00 | 0.77 |
| 121 | Sb | 980593.50 | P | 8668.00 | 0.88 |
| 137 | Ba | 371980.19 | P | 2984.00 | 0.80 |
| 159 | Tb | 5031697.00 | A | 45770.00 | 0.91 |
| 175 | Lu | 4737849.00 | A | 6463.00 | 0.14 |
| 205 | Tl | 1765993.00 | A | 24190.00 | 1.37 |
| 206 | (Pb) | 631151.63 | P | 9215.00 | 1.46 |
| 207 | (Pb) | 532716.63 | P | 5420.00 | 1.02 |
| 208 | Pb | 2414942.00 | A | 28440.00 | 1.18 |
| 209 | Bi | 2769470.00 | A | 23600.00 | 0.85 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | | Flag |
|---|---|---|---|---|---|---|---|---|
| 6 | Li | 2554998.80 | 0.45 | 2521858.30 | 101.3 | 70 - | 130 | |
| 45 | Sc | 3379752.80 | 0.18 | 3362635.00 | 100.5 | 70 - | 130 | |
| 45 | Sc | 367079.03 | 0.22 | 367626.47 | 99.9 | 70 - | 130 | |
| 72 | Ge | 702498.81 | 0.92 | 714805.50 | 98.3 | 70 - | 130 | |
| 72 | Ge | 144683.70 | 0.69 | 144801.52 | 99.9 | 70 - | 130 | |
| 103 | Rh | 4000867.50 | 0.25 | 3924880.80 | 101.9 | 70 - | 130 | |
| 115 | In | 3983582.00 | 0.45 | 3944903.30 | 101.0 | 70 - | 130 | |
| 115 | In | 1111089.90 | 0.39 | 1086949.30 | 102.2 | 70 - | 130 | |
| 159 | Tb | 5031697.00 | 0.91 | 4942952.00 | 101.8 | 70 - | 130 | |
| 175 | Lu | 4737848.50 | 0.14 | 4623930.50 | 102.5 | 70 - | 130 | |
| 209 | Bi | 2769469.80 | 0.85 | 2757011.00 | 100.5 | 70 - | 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#
Date Acquired: Oct 31 2013 11:20 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2536726.00 | A | 39000.00 | 1.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 931693.81 | A | 12860.00 | 1.38 |
| 9 | Be | 28857.00 | P | 308.50 | 1.07 |
| 11 | B | 549230.31 | P | 2858.00 | 0.52 |
| 11 | B | 11555.74 | P | 236.60 | 2.05 |
| 23 | Na | 4311364.00 | A | 32320.00 | 0.75 |
| 23 | Na | 284823.81 | P | 939.80 | 0.33 |
| 24 | Mg | 2646307.00 | A | 17150.00 | 0.65 |
| 24 | Mg | 133938.50 | P | 557.90 | 0.42 |
| 27 | Al | 3318237.00 | A | 14060.00 | 0.42 |
| 27 | Al | 84601.57 | P | 850.60 | 1.01 |
| 39 | K | 7727199.00 | A | 42080.00 | 0.54 |
| 44 | Ca | 193099.70 | P | 1455.00 | 0.75 |
| 45 | Sc | 3330294.00 | A | 15130.00 | 0.45 |
| 45 | Sc | 365762.91 | P | 2061.00 | 0.56 |
| 47 | Ti | 335417.31 | P | 3450.00 | 1.03 |
| 51 | V | 917515.69 | P | 5324.00 | 0.58 |
| 52 | Cr | 973556.38 | M | 24080.00 | 2.47 |
| 55 | Mn | 762431.38 | P | 4046.00 | 0.53 |
| 56 | Fe | 924542.38 | P | 9154.00 | 0.99 |
| 59 | Co | 1303678.00 | A | 8292.00 | 0.64 |
| 60 | Ni | 339766.69 | P | 2463.00 | 0.72 |
| 63 | Cu | 853054.81 | P | 5681.00 | 0.67 |
| 66 | Zn | 157874.80 | P | 1078.00 | 0.68 |
| 72 | Ge | 706224.81 | P | 10130.00 | 1.43 |
| 72 | Ge | 143582.50 | P | 817.20 | 0.57 |
| 75 | As | 119295.20 | P | 827.00 | 0.69 |
| 78 | Se | 13725.61 | P | 86.36 | 0.63 |
| 88 | Sr | 5223529.00 | A | 65620.00 | 1.26 |
| 98 | Mo | 1608264.00 | A | 9337.00 | 0.58 |
| 103 | Rh | 3941595.00 | A | 16160.00 | 0.41 |
| 107 | Ag | 2396045.00 | A | 5518.00 | 0.23 |

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 185812.30 | P | 784.50 | 0.42 |
| 115 | In | 3961243.00 | A | 24130.00 | 0.61 |
| 115 | In | 1102240.00 | A | 6341.00 | 0.58 |
| 118 | (In) | | A | | |
| 118 | (In) | | P | | |
| 120 | Sn | 2000071.00 | A | 8538.00 | 0.43 |
| 121 | Sb | 1848809.00 | A | 20180.00 | 1.09 |
| 137 | Ba | 744011.31 | P | 8116.00 | 1.09 |
| 159 | Tb | 4997242.00 | A | 46950.00 | 0.94 |
| 175 | Lu | 4725955.00 | A | 46920.00 | 0.99 |
| 205 | Tl | 3492071.00 | A | 5762.00 | 0.17 |
| 206 | (Pb) | 1220915.00 | A | 20140.00 | 1.65 |
| 207 | (Pb) | 1071976.00 | P | 12970.00 | 1.21 |
| 208 | Pb | 4742554.00 | A | 36410.00 | 0.77 |
| 209 | Bi | 2784998.00 | A | 28090.00 | 1.01 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2536726.50 | 1.54 | 2521858.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 3330294.50 | 0.45 | 3362635.00 | 99.0 | 70 - 130 | |
| 45 | Sc | 365762.88 | 0.56 | 367626.47 | 99.5 | 70 - 130 | |
| 72 | Ge | 706224.81 | 1.43 | 714805.50 | 98.8 | 70 - 130 | |
| 72 | Ge | 143582.52 | 0.57 | 144801.52 | 99.2 | 70 - 130 | |
| 103 | Rh | 3941595.00 | 0.41 | 3924880.80 | 100.4 | 70 - 130 | |
| 115 | In | 3961243.30 | 0.61 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1102240.00 | 0.58 | 1086949.30 | 101.4 | 70 - 130 | |
| 159 | Tb | 4997241.50 | 0.94 | 4942952.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 4725954.50 | 0.99 | 4623930.50 | 102.2 | 70 - 130 | |
| 209 | Bi | 2784998.00 | 1.01 | 2757011.00 | 101.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#
Date Acquired: Oct 31 2013 11:27 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2487333.00 | A | 26170.00 | 1.05 |
| 7 | (Li) | | P | | |
| 9 | Be | 363.35 | P | 23.33 | 6.42 |
| 9 | Be | 164.45 | P | 45.99 | 27.97 |
| 11 | B | 4451.89 | P | 48.58 | 1.09 |
| 11 | B | 264.45 | P | 30.97 | 11.71 |
| 23 | Na | 37259048.00 | A | 324300.00 | 0.87 |
| 23 | Na | 2188867.00 | A | 11840.00 | 0.54 |
| 24 | Mg | 24938700.00 | A | 215400.00 | 0.86 |
| 24 | Mg | 1237019.00 | A | 13810.00 | 1.12 |
| 27 | Al | 31161050.00 | A | 289100.00 | 0.93 |
| 27 | Al | 831312.31 | P | 8787.00 | 1.06 |
| 39 | K | 39269200.00 | A | 452700.00 | 1.15 |
| 44 | Ca | 1128635.00 | A | 2982.00 | 0.26 |
| 45 | Sc | 3356362.00 | A | 22390.00 | 0.67 |
| 45 | Sc | 378445.41 | P | 1052.00 | 0.28 |
| 47 | Ti | 374.46 | P | 41.14 | 10.99 |
| 51 | V | 5724.25 | P | 248.80 | 4.35 |
| 52 | Cr | 2383.33 | P | 43.51 | 1.83 |
| 55 | Mn | 1121.83 | P | 30.12 | 2.68 |
| 56 | Fe | 8171571.00 | A | 46890.00 | 0.57 |
| 59 | Co | 774.25 | P | 41.43 | 5.35 |
| 60 | Ni | 475.12 | P | 25.52 | 5.37 |
| 63 | Cu | 3560.02 | P | 71.73 | 2.01 |
| 66 | Zn | 623.80 | P | 60.83 | 9.75 |
| 72 | Ge | 727258.38 | P | 6318.00 | 0.87 |
| 72 | Ge | 149444.09 | P | 466.40 | 0.31 |
| 75 | As | 368.23 | P | 10.21 | 2.77 |
| 78 | Se | 337.12 | P | 26.85 | 7.96 |
| 88 | Sr | 3843.96 | P | 122.20 | 3.18 |
| 98 | Mo | 1916.86 | P | 66.93 | 3.49 |
| 103 | Rh | 3902106.00 | A | 45530.00 | 1.17 |
| 107 | Ag | 818.94 | P | 58.35 | 7.13 |

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 203.34 | P | 37.57 | 18.48 |
| 115 | In | 3961190.00 | A | 29500.00 | 0.74 |
| 115 | In | 1118718.00 | A | 5538.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1749.06 | P | 92.65 | 5.30 |
| 121 | Sb | 2078.00 | P | 37.91 | 1.82 |
| 137 | Ba | 967.84 | P | 81.95 | 8.47 |
| 159 | Tb | 4963982.00 | A | 5580.00 | 0.11 |
| 175 | Lu | 4708879.00 | A | 36680.00 | 0.78 |
| 205 | Tl | 5834.75 | P | 175.10 | 3.00 |
| 206 | (Pb) | 618.93 | P | 27.15 | 4.39 |
| 207 | (Pb) | 493.36 | P | 36.06 | 7.31 |
| 208 | Pb | 4003.81 | P | 55.08 | 1.38 |
| 209 | Bi | 2754453.00 | A | 19680.00 | 0.71 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2487332.80 | 1.05 | 2521858.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 3356361.80 | 0.67 | 3362635.00 | 99.8 | 70 - 130 | |
| 45 | Sc | 378445.47 | 0.28 | 367626.47 | 102.9 | 70 - 130 | |
| 72 | Ge | 727258.38 | 0.87 | 714805.50 | 101.7 | 70 - 130 | |
| 72 | Ge | 149444.05 | 0.31 | 144801.52 | 103.2 | 70 - 130 | |
| 103 | Rh | 3902105.80 | 1.17 | 3924880.80 | 99.4 | 70 - 130 | |
| 115 | In | 3961190.00 | 0.74 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1118718.00 | 0.50 | 1086949.30 | 102.9 | 70 - 130 | |
| 159 | Tb | 4963982.00 | 0.11 | 4942952.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4708878.50 | 0.78 | 4623930.50 | 101.8 | 70 - 130 | |
| 209 | Bi | 2754452.80 | 0.71 | 2757011.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#
Date Acquired: Oct 31 2013 11:35 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2464318.00 | A | 7530.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 290.02 | P | 225.00 | 77.58 |
| 9 | Be | 82.22 | P | 1.93 | 2.34 |
| 11 | B | 2095.76 | P | 146.90 | 7.01 |
| 11 | B | 126.67 | P | 21.86 | 17.26 |
| 23 | Na | 362118690.00 | A | 2552000.00 | 0.70 |
| 23 | Na | 20296390.00 | A | 271700.00 | 1.34 |
| 24 | Mg | 242174800.00 | A | 1367000.00 | 0.56 |
| 24 | Mg | 11605370.00 | A | 113800.00 | 0.98 |
| 27 | Al | 304862300.00 | A | 1997000.00 | 0.66 |
| 27 | Al | 7437361.00 | A | 44410.00 | 0.60 |
| 39 | K | 346324000.00 | A | 2590000.00 | 0.75 |
| 44 | Ca | 10384030.00 | A | 59790.00 | 0.58 |
| 45 | Sc | 3348449.00 | A | 10160.00 | 0.30 |
| 45 | Sc | 378948.91 | P | 3362.00 | 0.89 |
| 47 | Ti | 408.91 | P | 206.00 | 50.38 |
| 51 | V | 5451.25 | P | 119.80 | 2.20 |
| 52 | Cr | 3749.39 | P | 64.03 | 1.71 |
| 55 | Mn | 3311.96 | P | 51.26 | 1.55 |
| 56 | Fe | 79734328.00 | A | 1292000.00 | 1.62 |
| 59 | Co | 2786.07 | P | 82.66 | 2.97 |
| 60 | Ni | 976.93 | P | 17.35 | 1.78 |
| 63 | Cu | 3904.11 | P | 37.01 | 0.95 |
| 66 | Zn | 8183.12 | P | 69.40 | 0.85 |
| 72 | Ge | 732295.69 | P | 5927.00 | 0.81 |
| 72 | Ge | 149667.41 | P | 2474.00 | 1.65 |
| 75 | As | 276.23 | P | 7.78 | 2.82 |
| 78 | Se | 260.45 | P | 31.74 | 12.19 |
| 88 | Sr | 23682.73 | P | 363.10 | 1.53 |
| 98 | Mo | 934.51 | P | 208.00 | 22.26 |
| 103 | Rh | 3772556.00 | A | 11130.00 | 0.30 |
| 107 | Ag | 1088.97 | P | 298.40 | 27.40 |

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 161.12 | P | 19.53 | 12.12 |
| 115 | In | 3831564.00 | A | 6845.00 | 0.18 |
| 115 | In | 1088822.00 | A | 22910.00 | 2.10 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1105.64 | P | 272.80 | 24.67 |
| 121 | Sb | 1206.76 | P | 126.00 | 10.44 |
| 137 | Ba | 1476.80 | P | 121.00 | 8.19 |
| 159 | Tb | 4972797.00 | A | 17990.00 | 0.36 |
| 175 | Lu | 4680171.00 | A | 17030.00 | 0.36 |
| 205 | Tl | 2286.94 | P | 259.90 | 11.37 |
| 206 | (Pb) | 922.29 | P | 183.10 | 19.85 |
| 207 | (Pb) | 794.50 | P | 223.00 | 28.07 |
| 208 | Pb | 5107.36 | P | 981.90 | 19.23 |
| 209 | Bi | 2623461.00 | A | 9222.00 | 0.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2464317.80 | 0.31 | 2521858.30 | 97.7 | 70 - 130 | |
| 45 | Sc | 3348449.00 | 0.30 | 3362635.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 378948.88 | 0.89 | 367626.47 | 103.1 | 70 - 130 | |
| 72 | Ge | 732295.69 | 0.81 | 714805.50 | 102.4 | 70 - 130 | |
| 72 | Ge | 149667.39 | 1.65 | 144801.52 | 103.4 | 70 - 130 | |
| 103 | Rh | 3772556.30 | 0.30 | 3924880.80 | 96.1 | 70 - 130 | |
| 115 | In | 3831563.80 | 0.18 | 3944903.30 | 97.1 | 70 - 130 | |
| 115 | In | 1088821.90 | 2.10 | 1086949.30 | 100.2 | 70 - 130 | |
| 159 | Tb | 4972797.00 | 0.36 | 4942952.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 4680171.00 | 0.36 | 4623930.50 | 101.2 | 70 - 130 | |
| 209 | Bi | 2623461.00 | 0.35 | 2757011.00 | 95.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 11:42 am | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2101 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.45 | 60.45 | ppb | 0.14 | 900.00 | |
| 9 Be | 45 | 2 | 59.57 | 59.57 | ppb | 1.03 | 900.00 | |
| 11 B | 6 | 1 | 59.71 | 59.71 | ppb | 0.86 | 900.00 | |
| 11 B | 45 | 2 | 56.70 | 56.70 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5611.00 | 5611.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5835.00 | 5835.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 5730.00 | 5730.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 5471.00 | 5471.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 5914.00 | 5914.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5456.00 | 5456.00 | ppb | 0.79 | 90000.00 | |
| 39 K | 45 | 1 | 5641.00 | 5641.00 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 5595.00 | 5595.00 | ppb | 0.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.41 | 60.41 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 60.85 | 60.85 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 59.64 | 59.64 | ppb | 0.62 | 900.00 | |
| 55 Mn | 45 | 2 | 59.79 | 59.79 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5796.00 | 5796.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 60.48 | 60.48 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 58.51 | 58.51 | ppb | 0.87 | 900.00 | |
| 63 Cu | 72 | 2 | 57.50 | 57.50 | ppb | 1.05 | 900.00 | |
| 66 Zn | 72 | 2 | 61.31 | 61.31 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 59.46 | 59.46 | ppb | 0.93 | 900.00 | |
| 78 Se | 72 | 2 | 59.28 | 59.28 | ppb | 2.62 | 900.00 | |
| 88 Sr | 103 | 1 | 61.89 | 61.89 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 64.52 | 64.52 | ppb | 0.15 | 900.00 | |
| 107 Ag | 115 | 1 | 61.30 | 61.30 | ppb | 0.97 | 900.00 | |
| 111 Cd | 115 | 2 | 59.51 | 59.51 | ppb | 1.06 | 900.00 | |
| 120 Sn | 115 | 1 | 60.75 | 60.75 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 60.14 | 60.14 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 60.20 | 60.20 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 58.85 | 58.85 | ppb | 0.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.90 | 60.90 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2486272 | 0.84 | 2521858 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 3367463 | 0.57 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 371203 | 0.52 | 367626 | 101.0 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 708654 | 0.82 | 714806 | 99.1 | 70 | - | 130 |
| 72 | Ge | 2 | 146540 | 0.82 | 144802 | 101.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3818770 | 0.36 | 3924881 | 97.3 | 70 | - | 130 |
| 115 | In | 1 | 3860230 | 0.28 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1098177 | 2.18 | 1086949 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4968707 | 0.86 | 4942952 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4673059 | 0.37 | 4623931 | 101.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2677828 | 0.46 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Oct 31 2013 11:49 am |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 11.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 89.95 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 9.85 | 900.00 | |
| 11 B | 45 | 2 | 0.41 | 0.41 | ppb | 27.96 | 900.00 | |
| 23 Na | 45 | 1 | 1.13 | 1.13 | ppb | 4.93 | 90000.00 | |
| 23 Na | 45 | 2 | 3.40 | 3.40 | ppb | 33.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.65 | 0.65 | ppb | 21.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.01 | 3.01 | ppb | 35.24 | 90000.00 | |
| 27 Al | 45 | 1 | 0.75 | 0.75 | ppb | 8.86 | 90000.00 | |
| 27 Al | 45 | 2 | 3.00 | 3.00 | ppb | 31.51 | 90000.00 | |
| 39 K | 45 | 1 | -0.53 | -0.53 | ppb | 136.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.80 | 0.80 | ppb | 64.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 6.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.05 | 0.05 | ppb | 121.91 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 23.64 | 900.00 | |
| 56 Fe | 45 | 2 | 3.66 | 3.66 | ppb | 35.55 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 31.60 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 18.17 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 142.97 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.57 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 56.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 32.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 17.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 7.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.83 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 72.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 3.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 32.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2545401 | 0.75 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3384524 | 0.33 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381055 | 0.51 | 367626 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724776 | 0.30 | 714806 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 149806 | 0.48 | 144802 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 3972545 | 0.16 | 3924881 | 101.2 | 70 | - | 130 |
| 115 In | 1 | 4015489 | 0.44 | 3944903 | 101.8 | 70 | - | 130 |
| 115 In | 2 | 1135391 | 0.48 | 1086949 | 104.5 | 70 | - | 130 |
| 159 Tb | 1 | 5024319 | 0.65 | 4942952 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4721330 | 0.64 | 4623931 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2810982 | 0.86 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D# |
| Date Acquired: | Oct 31 2013 11:58 am |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2103 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.30 | 50.30 | ppb | 0.28 | 900.00 | |
| 9 Be | 45 | 2 | 49.74 | 49.74 | ppb | 3.60 | 900.00 | |
| 11 B | 6 | 1 | 51.06 | 51.06 | ppb | 0.73 | 900.00 | |
| 11 B | 45 | 2 | 49.28 | 49.28 | ppb | 3.55 | 900.00 | |
| 23 Na | 45 | 1 | 5101.00 | 5101.00 | ppb | 0.15 | 90000.00 | |
| 23 Na | 45 | 2 | 5229.00 | 5229.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5104.00 | 5104.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4676.00 | 4676.00 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.69 | 49.69 | ppb | 0.45 | 900.00 | |
| 51 V | 45 | 2 | 49.03 | 49.03 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 48.81 | 48.81 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 3.40 | 900.00 | |
| 56 Fe | 45 | 2 | 5147.00 | 5147.00 | ppb | 3.53 | 90000.00 | |
| 59 Co | 45 | 2 | 49.77 | 49.77 | ppb | 3.23 | 900.00 | |
| 60 Ni | 45 | 2 | 48.16 | 48.16 | ppb | 1.61 | 900.00 | |
| 63 Cu | 72 | 2 | 47.34 | 47.34 | ppb | 2.18 | 900.00 | |
| 66 Zn | 72 | 2 | 48.58 | 48.58 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 49.65 | 49.65 | ppb | 1.23 | 900.00 | |
| 78 Se | 72 | 2 | 48.64 | 48.64 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 51.54 | 51.54 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 52.50 | 52.50 | ppb | 1.16 | 900.00 | |
| 107 Ag | 115 | 1 | 49.05 | 49.05 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 48.72 | 48.72 | ppb | 1.85 | 900.00 | |
| 120 Sn | 115 | 1 | 52.57 | 52.57 | ppb | 0.80 | 900.00 | |
| 121 Sb | 115 | 1 | 53.07 | 53.07 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.55 | 49.55 | ppb | 1.46 | 900.00 | |
| 205 Tl | 209 | 1 | 48.77 | 48.77 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 0.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2483818 | 1.63 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3388282 | 0.95 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 375804 | 1.31 | 367626 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708720 | 0.60 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 147585 | 1.31 | 144802 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3877887 | 0.41 | 3924881 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 3930373 | 0.60 | 3944903 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1110154 | 0.80 | 1086949 | 102.1 | 70 | - | 130 |
| 159 Tb | 1 | 5017846 | 0.83 | 4942952 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 4706974 | 0.68 | 4623931 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 2692495 | 0.58 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D# |
| Date Acquired: | Oct 31 2013 12:09 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 33.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.07 | ppb | 35.29 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 7.29 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 10.15 | 900.00 | |
| 23 Na | 45 | 1 | 1.02 | 1.02 | ppb | 6.43 | 90000.00 | |
| 23 Na | 45 | 2 | 2.99 | 2.99 | ppb | 13.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 26.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.74 | 2.74 | ppb | 17.13 | 90000.00 | |
| 27 Al | 45 | 1 | 0.79 | 0.79 | ppb | 25.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2.51 | 2.51 | ppb | 16.86 | 90000.00 | |
| 39 K | 45 | 1 | 0.59 | 0.59 | ppb | 53.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.37 | 0.37 | ppb | 133.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.74 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 10.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 32.87 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 26.81 | 900.00 | |
| 56 Fe | 45 | 2 | 2.97 | 2.97 | ppb | 18.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 28.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.03 | ppb | 17.92 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 129.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.20 | ppb | 47.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 25.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.03 | ppb | 6.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.75 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 5.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 16.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.84 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 49.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 2.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 23.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2564763 | 0.65 | 2521858 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 3385504 | 0.08 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381602 | 0.41 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 728382 | 0.79 | 714806 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 150502 | 0.79 | 144802 | 103.9 | 70 | - | 130 |
| 103 Rh | 1 | 3990804 | 0.66 | 3924881 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 4003275 | 0.71 | 3944903 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 1146737 | 0.28 | 1086949 | 105.5 | 70 | - | 130 |
| 159 Tb | 1 | 5044716 | 0.40 | 4942952 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 4768985 | 0.29 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2812956 | 0.34 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#
Date Acquired: Oct 31 2013 12:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.68 | 0.68 | ppb | 10.90 | 900.00 | |
| 11 B | 6 | 1 | 5.15 | 5.15 | ppb | 1.70 | 900.00 | |
| 11 B | 45 | 2 | 5.73 | 5.73 | ppb | 16.15 | 900.00 | |
| 23 Na | 45 | 1 | 269.70 | 269.70 | ppb | 2.93 | 90000.00 | |
| 23 Na | 45 | 2 | 301.50 | 301.50 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 277.50 | 277.50 | ppb | 3.09 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.10 | 285.10 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 29.60 | 29.60 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 2 | 27.44 | 27.44 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 271.00 | 271.00 | ppb | 2.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 286.90 | 286.90 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 1.06 | ppb | 1.86 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 2.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 1.00 | ppb | 1.29 | 900.00 | |
| 55 Mn | 45 | 2 | 1.04 | 1.04 | ppb | 2.15 | 900.00 | |
| 56 Fe | 45 | 2 | 30.27 | 30.27 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.54 | 0.54 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 2.46 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 1.00 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 5.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.79 | 0.79 | ppb | 25.84 | 900.00 | |
| 88 Sr | 103 | 1 | 5.44 | 5.44 | ppb | 2.24 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 4.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.55 | 0.55 | ppb | 2.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.54 | 0.54 | ppb | 6.48 | 900.00 | |
| 120 Sn | 115 | 1 | 5.24 | 5.24 | ppb | 2.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 2.29 | 900.00 | |
| 137 Ba | 159 | 1 | 1.08 | 1.08 | ppb | 2.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 0.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.57 | 0.57 | ppb | 1.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2589735 | 1.01 | 2521858 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 3355864 | 1.98 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 379685 | 0.18 | 367626 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724065 | 1.81 | 714806 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 149892 | 0.36 | 144802 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 4024897 | 0.54 | 3924881 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 4035904 | 1.45 | 3944903 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 1142700 | 0.18 | 1086949 | 105.1 | 70 | - | 130 |
| 159 Tb | 1 | 5014331 | 1.26 | 4942952 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4771893 | 2.00 | 4623931 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 2836056 | 1.18 | 2757011 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#
Date Acquired: Oct 31 2013 12:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 42.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.14 | ppb | 82.13 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 14.12 | 900.00 | |
| 23 Na | 45 | 1 | 97480.00 | 97480.00 | ppb | 0.39 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98970.00 | 98970.00 | ppb | 0.83 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96950.00 | 96950.00 | ppb | 1.26 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 91660.00 | 91660.00 | ppb | 0.49 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 98320.00 | 98320.00 | ppb | 1.30 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88420.00 | 88420.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 97780.00 | 97780.00 | ppb | 1.66 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96150.00 | 96150.00 | ppb | 1.21 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1921.00 | 1921.00 | ppb | 1.53 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 19.58 | 900.00 | |
| 52 Cr | 45 | 2 | 1.06 | 1.06 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.25 | ppb | 4.62 | 900.00 | |
| 56 Fe | 45 | 2 | 96500.00 | 96500.00 | ppb | 0.48 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.70 | ppb | 2.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.55 | 0.55 | ppb | 21.47 | 900.00 | |
| 66 Zn | 72 | 2 | 1.84 | 1.84 | ppb | 2.56 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 7.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.40 | ppb | 31.68 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 5.23 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 2005.00 | 2005.00 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 8.29 | 900.00 | |
| 111 Cd | 115 | 2 | 1.15 | 1.15 | ppb | 3.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 2.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 3.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2349052 | 0.38 | 2521858 | 93.1 | 70 - 130 | |
| 45 Sc | 1 | 3218230 | 1.07 | 3362635 | 95.7 | 70 - 130 | |
| 45 Sc | 2 | 359881 | 0.45 | 367626 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 746203 | 1.30 | 714806 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 144679 | 0.76 | 144802 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3415071 | 0.45 | 3924881 | 87.0 | 70 | - | 130 |
| 115 In | 1 | 3583008 | 0.44 | 3944903 | 90.8 | 70 | - | 130 |
| 115 In | 2 | 1086267 | 0.59 | 1086949 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 4753298 | 0.72 | 4942952 | 96.2 | 70 | - | 130 |
| 175 Lu | 1 | 4541982 | 0.96 | 4623931 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2390792 | 0.63 | 2757011 | 86.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Oct 31 2013 12:33 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 58.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 270.25 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 2.95 | 900.00 | |
| 11 B | 45 | 2 | 0.33 | 0.33 | ppb | 69.55 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100200.00 | 100200.00 | ppb | 0.72 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96730.00 | 96730.00 | ppb | 0.14 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93470.00 | 93470.00 | ppb | 0.23 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 97140.00 | 97140.00 | ppb | 1.19 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88750.00 | 88750.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 96590.00 | 96590.00 | ppb | 0.55 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96510.00 | 96510.00 | ppb | 0.09 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1917.00 | 1917.00 | ppb | 0.69 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 0.89 | 900.00 | |
| 52 Cr | 45 | 2 | 20.78 | 20.78 | ppb | 0.14 | 900.00 | |
| 55 Mn | 45 | 2 | 19.72 | 19.72 | ppb | 0.11 | 900.00 | |
| 56 Fe | 45 | 2 | 98200.00 | 98200.00 | ppb | 0.37 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.78 | 19.78 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 19.44 | 19.44 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 18.69 | 18.69 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 19.82 | 19.82 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 20.05 | 20.05 | ppb | 0.04 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.23 | ppb | 2.89 | 900.00 | |
| 88 Sr | 103 | 1 | 5.22 | 5.22 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2013.00 | 2013.00 | ppb | 0.76 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.01 | 21.01 | ppb | 1.13 | 900.00 | |
| 111 Cd | 115 | 2 | 19.54 | 19.54 | ppb | 1.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 11.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2352990 | 1.02 | 2521858 | 93.3 | 70 - 130 | |
| 45 Sc | 1 | 3230003 | 0.66 | 3362635 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 349042 | 0.49 | 367626 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735288 | 0.66 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 141497 | 0.36 | 144802 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3406075 | 0.61 | 3924881 | 86.8 | 70 | - | 130 |
| 115 | In | 1 | 3587248 | 1.33 | 3944903 | 90.9 | 70 | - | 130 |
| 115 | In | 2 | 1060516 | 0.46 | 1086949 | 97.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4753899 | 0.90 | 4942952 | 96.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4545631 | 0.84 | 4623931 | 98.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2416343 | 1.44 | 2757011 | 87.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 12:45 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2108 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 261.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.06 | ppb | 197.81 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.13 | ppb | 16.79 | 900.00 | |
| 11 B | 45 | 2 | 0.55 | 0.28 | ppb | 39.26 | 900.00 | |
| 23 Na | 45 | 1 | 98860.00 | 49430.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 100020.00 | 50010.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 98680.00 | 49340.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 92720.00 | 46360.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 98820.00 | 49410.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 2 | 87660.00 | 43830.00 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 98880.00 | 49440.00 | ppb | 0.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 96800.00 | 48400.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1961.40 | 980.70 | ppb | 0.63 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.31 | -0.15 | ppb | 2.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 0.52 | ppb | 1.70 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.13 | ppb | 2.48 | 900.00 | |
| 56 Fe | 45 | 2 | 98500.00 | 49250.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.05 | 0.02 | ppb | 9.81 | 900.00 | |
| 60 Ni | 45 | 2 | 0.77 | 0.39 | ppb | 3.23 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 5.85 | 900.00 | |
| 66 Zn | 72 | 2 | 2.50 | 1.25 | ppb | 2.06 | 900.00 | |
| 75 As | 72 | 2 | 0.11 | 0.06 | ppb | 15.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.04 | ppb | 281.16 | 900.00 | |
| 88 Sr | 103 | 1 | 5.28 | 2.64 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 2012.00 | 1006.00 | ppb | 0.22 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 8.91 | 900.00 | |
| 111 Cd | 115 | 2 | 1.16 | 0.58 | ppb | 9.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 2.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.34 | 0.17 | ppb | 1.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.14 | ppb | 5.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 12.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.08 | ppb | 3.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2398945 | 0.29 | 2521858 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 3294112 | 0.15 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 358411 | 0.46 | 367626 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 737194 | 0.75 | 714806 | 103.1 | 70 | - | 130 |
| 72 | Ge | 2 | 143481 | 0.23 | 144802 | 99.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3541786 | 0.44 | 3924881 | 90.2 | 70 | - | 130 |
| 115 | In | 1 | 3729426 | 0.29 | 3944903 | 94.5 | 70 | - | 130 |
| 115 | In | 2 | 1084651 | 5.52 | 1086949 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4942713 | 0.41 | 4942952 | 100.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4796502 | 0.99 | 4623931 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2594849 | 0.22 | 2757011 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D# |
| Date Acquired: | Oct 31 2013 12:52 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2109 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2065.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | -0.04 | ppb | 75.85 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.12 | ppb | 17.32 | 900.00 | |
| 11 B | 45 | 2 | 0.50 | 0.25 | ppb | 83.71 | 900.00 | |
| 23 Na | 45 | 1 | 99060.00 | 49530.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 101180.00 | 50590.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 98740.00 | 49370.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 93400.00 | 46700.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 98460.00 | 49230.00 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 2 | 88040.00 | 44020.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 99100.00 | 49550.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 97140.00 | 48570.00 | ppb | 0.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 1957.80 | 978.90 | ppb | 0.17 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.28 | -0.14 | ppb | 2.65 | 900.00 | |
| 52 Cr | 45 | 2 | 21.16 | 10.58 | ppb | 0.24 | 900.00 | |
| 55 Mn | 45 | 2 | 19.95 | 9.98 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 99480.00 | 49740.00 | ppb | 0.55 | 90000.00 | |
| 59 Co | 45 | 2 | 20.24 | 10.12 | ppb | 0.04 | 900.00 | |
| 60 Ni | 45 | 2 | 19.97 | 9.98 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 19.28 | 9.64 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 21.62 | 10.81 | ppb | 1.86 | 900.00 | |
| 75 As | 72 | 2 | 20.16 | 10.08 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 110.10 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 2.61 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1996.20 | 998.10 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.00 | 10.50 | ppb | 0.85 | 900.00 | |
| 111 Cd | 115 | 2 | 20.58 | 10.29 | ppb | 4.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 7.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.13 | ppb | 11.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 14.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.08 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2382373 | 0.25 | 2521858 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 3285512 | 0.55 | 3362635 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 355689 | 0.54 | 367626 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731001 | 1.08 | 714806 | 102.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142086 | 0.77 | 144802 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3527709 | 0.47 | 3924881 | 89.9 | 70 | - | 130 |
| 115 | In | 1 | 3730995 | 0.73 | 3944903 | 94.6 | 70 | - | 130 |
| 115 | In | 2 | 1078845 | 4.93 | 1086949 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4895208 | 0.99 | 4942952 | 99.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4692431 | 0.22 | 4623931 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2569894 | 0.37 | 2757011 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D# |
| Date Acquired: | Oct 31 2013 01:01 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2110 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 52.61 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 528.82 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 36.44 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 69.01 | 900.00 | |
| 23 Na | 45 | 1 | 27.72 | 27.72 | ppb | 1.95 | 90000.00 | |
| 23 Na | 45 | 2 | 45.36 | 45.36 | ppb | 17.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 16.87 | 16.87 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 27.79 | 27.79 | ppb | 21.34 | 90000.00 | |
| 27 Al | 45 | 1 | 16.50 | 16.50 | ppb | 1.86 | 90000.00 | |
| 27 Al | 45 | 2 | 24.32 | 24.32 | ppb | 19.63 | 90000.00 | |
| 39 K | 45 | 1 | 20.95 | 20.95 | ppb | 1.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.21 | 13.21 | ppb | 6.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.36 | 0.36 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 2.39 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 60.80 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 266.31 | 900.00 | |
| 56 Fe | 45 | 2 | 28.73 | 28.73 | ppb | 20.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 55.13 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 89.05 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 84.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.97 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.04 | ppb | 21.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 1980.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 73.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.68 | 0.68 | ppb | 1.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 11.38 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 6.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 63.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 57.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 5007.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 32.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2498751 | 0.42 | 2521858 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 3390213 | 0.34 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 368852 | 0.41 | 367626 | 100.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731633 | 0.94 | 714806 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 146898 | 0.41 | 144802 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4019365 | 1.06 | 3924881 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 4083533 | 0.98 | 3944903 | 103.5 | 70 | - | 130 |
| 115 | In | 2 | 1127201 | 1.02 | 1086949 | 103.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5172897 | 0.84 | 4942952 | 104.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4940078 | 0.88 | 4623931 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2928841 | 0.35 | 2757011 | 106.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D# |
| Date Acquired: | Oct 31 2013 01:08 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-MB1 |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 133.88 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 125.45 | 900.00 | |
| 11 B | 6 | 1 | 0.76 | 0.38 | ppb | 6.64 | 900.00 | |
| 11 B | 45 | 2 | 1.21 | 0.60 | ppb | 45.45 | 900.00 | |
| 23 Na | 45 | 1 | 43.22 | 21.61 | ppb | 2.45 | 90000.00 | |
| 23 Na | 45 | 2 | 50.66 | 25.33 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.68 | 0.84 | ppb | 3.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.70 | 0.85 | ppb | 9.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4.23 | 2.12 | ppb | 3.19 | 90000.00 | |
| 27 Al | 45 | 2 | 3.94 | 1.97 | ppb | 10.64 | 90000.00 | |
| 39 K | 45 | 1 | 36.82 | 18.41 | ppb | 8.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 15.16 | 7.58 | ppb | 13.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.27 | 0.14 | ppb | 15.59 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.23 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.13 | ppb | 1.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 12.85 | 900.00 | |
| 56 Fe | 45 | 2 | 10.36 | 5.18 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 50.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 40.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 6.81 | 900.00 | |
| 66 Zn | 72 | 2 | 0.46 | 0.23 | ppb | 7.29 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 11.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 37.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 8.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 10.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 17.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 9.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 10.02 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 8.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 14.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 19.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2465116 | 0.84 | 2521858 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 3348074 | 1.03 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361019 | 0.19 | 367626 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725503 | 0.88 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 143062 | 0.38 | 144802 | 98.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3898227 | 0.34 | 3924881 | 99.3 | 70 | - | 130 |
| 115 | In | 1 | 3928722 | 0.27 | 3944903 | 99.6 | 70 | - | 130 |
| 115 | In | 2 | 1097808 | 1.71 | 1086949 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5124053 | 0.26 | 4942952 | 103.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4893381 | 0.57 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2868404 | 1.31 | 2757011 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#
Date Acquired: Oct 31 2013 01:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-6F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 77.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 99.06 | 900.00 | |
| 11 B | 6 | 1 | 6.13 | 3.07 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 6.75 | 3.38 | ppb | 11.41 | 900.00 | |
| 23 Na | 45 | 1 | 6282.00 | 3141.00 | ppb | 2.09 | 90000.00 | |
| 23 Na | 45 | 2 | 6654.00 | 3327.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 1224.00 | 612.00 | ppb | 1.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 1309.80 | 654.90 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 2.79 | 1.40 | ppb | 5.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2.46 | 1.23 | ppb | 7.29 | 90000.00 | |
| 39 K | 45 | 1 | 1337.00 | 668.50 | ppb | 0.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.36 | 0.68 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 4.10 | 2.05 | ppb | 5.44 | 900.00 | |
| 52 Cr | 45 | 2 | 1.52 | 0.76 | ppb | 2.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1.81 | 0.91 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 9.54 | 4.77 | ppb | 2.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.52 | 900.00 | |
| 60 Ni | 45 | 2 | 0.44 | 0.22 | ppb | 4.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.25 | ppb | 9.93 | 900.00 | |
| 66 Zn | 72 | 2 | 5.40 | 2.70 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 1.08 | 0.54 | ppb | 8.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.23 | ppb | 32.76 | 900.00 | |
| 88 Sr | 103 | 1 | 47.90 | 23.95 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.19 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 28.16 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 39.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 3.55 | 900.00 | |
| 137 Ba | 159 | 1 | 4.59 | 2.30 | ppb | 1.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 4.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 18.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2415341 | 0.97 | 2521858 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 3413094 | 0.95 | 3362635 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 362118 | 0.47 | 367626 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735766 | 0.77 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 143334 | 0.30 | 144802 | 99.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3825786 | 0.88 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3953835 | 0.86 | 3944903 | 100.2 | 70 | - | 130 |
| 115 | In | 2 | 1101544 | 0.69 | 1086949 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5110872 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4875635 | 0.70 | 4623931 | 105.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2831445 | 0.41 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D# |
| Date Acquired: | Oct 31 2013 01:22 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-SD1 |
| Misc Info: | |
| Vial Number: | 2201 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2942.30 | 900.00 | |
| 9 Be | 45 | 2 | -0.06 | -0.01 | ppb | 1665.40 | 900.00 | |
| 11 B | 6 | 1 | 5.46 | 0.55 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 7.46 | 0.75 | ppb | 19.13 | 900.00 | |
| 23 Na | 45 | 1 | 6452.00 | 645.20 | ppb | 2.32 | 90000.00 | |
| 23 Na | 45 | 2 | 6916.00 | 691.60 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1283.00 | 128.30 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1314.00 | 131.40 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 6.59 | 0.66 | ppb | 5.33 | 90000.00 | |
| 27 Al | 45 | 2 | 6.75 | 0.68 | ppb | 15.34 | 90000.00 | |
| 39 K | 45 | 1 | 1340.00 | 134.00 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 7652.00 | 765.20 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.78 | 0.18 | ppb | 2.50 | 900.00 | |
| 51 V | 45 | 2 | 2.38 | 0.24 | ppb | 2.86 | 900.00 | |
| 52 Cr | 45 | 2 | 1.18 | 0.12 | ppb | 3.37 | 900.00 | |
| 55 Mn | 45 | 2 | 2.29 | 0.23 | ppb | 1.86 | 900.00 | |
| 56 Fe | 45 | 2 | 16.90 | 1.69 | ppb | 9.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.00 | ppb | 88.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.38 | 0.04 | ppb | 26.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.24 | 0.12 | ppb | 15.52 | 900.00 | |
| 66 Zn | 72 | 2 | 5.57 | 0.56 | ppb | 4.36 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.06 | ppb | 10.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.02 | ppb | 600.21 | 900.00 | |
| 88 Sr | 103 | 1 | 50.31 | 5.03 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.06 | ppb | 2.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 54.59 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.01 | ppb | 137.85 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 99.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.01 | ppb | 14.39 | 900.00 | |
| 137 Ba | 159 | 1 | 4.63 | 0.46 | ppb | 2.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 295.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.01 | ppb | 22.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2482879 | 1.35 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3420383 | 1.12 | 3362635 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 371770 | 0.29 | 367626 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 744329 | 1.20 | 714806 | 104.1 | 70 | - | 130 |
| 72 | Ge | 2 | 148139 | 0.17 | 144802 | 102.3 | 70 | - | 130 |
| 103 | Rh | 1 | 4005313 | 0.67 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4059712 | 1.11 | 3944903 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1131537 | 0.04 | 1086949 | 104.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5133324 | 1.38 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4929720 | 1.92 | 4623931 | 106.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2985354 | 0.34 | 2757011 | 108.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#
Date Acquired: Oct 31 2013 01:31 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-1F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 275.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.93 | 0.05 | ppb | 38.10 | 900.00 | |
| 11 B | 6 | 1 | 70.30 | 3.52 | ppb | 0.97 | 900.00 | |
| 11 B | 45 | 2 | 74.42 | 3.72 | ppb | 6.07 | 900.00 | |
| 23 Na | 45 | 1 | 23180.00 | 1159.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 24520.00 | 1226.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 2750.00 | 137.50 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2852.00 | 142.60 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 7.55 | 0.38 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 7.90 | 0.40 | ppb | 9.49 | 90000.00 | |
| 39 K | 45 | 1 | 8598.00 | 429.90 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 23960.00 | 1198.00 | ppb | 0.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.07 | 0.10 | ppb | 10.03 | 900.00 | |
| 51 V | 45 | 2 | -6.81 | -0.34 | ppb | 1.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.56 | -0.03 | ppb | 4.46 | 900.00 | |
| 55 Mn | 45 | 2 | 1612.00 | 80.60 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 41000.00 | 2050.00 | ppb | 1.03 | 90000.00 | |
| 59 Co | 45 | 2 | 5.48 | 0.27 | ppb | 2.19 | 900.00 | |
| 60 Ni | 45 | 2 | 5.12 | 0.26 | ppb | 5.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.84 | 0.09 | ppb | 9.26 | 900.00 | |
| 66 Zn | 72 | 2 | 7.60 | 0.38 | ppb | 6.50 | 900.00 | |
| 75 As | 72 | 2 | 631.80 | 31.59 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 4.20 | 0.21 | ppb | 69.03 | 900.00 | |
| 88 Sr | 103 | 1 | 304.20 | 15.21 | ppb | 1.58 | 900.00 | |
| 98 Mo | 103 | 1 | 1.95 | 0.10 | ppb | 7.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 51.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.33 | 0.02 | ppb | 23.05 | 900.00 | |
| 120 Sn | 115 | 1 | 7.91 | 0.40 | ppb | 3.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.99 | 0.05 | ppb | 9.21 | 900.00 | |
| 137 Ba | 159 | 1 | 92.20 | 4.61 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 390.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.01 | ppb | 24.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432574 | 1.33 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3444577 | 0.24 | 3362635 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 373863 | 0.20 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 745003 | 0.63 | 714806 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 150308 | 0.24 | 144802 | 103.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3949980 | 0.99 | 3924881 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 4047208 | 0.43 | 3944903 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1140631 | 1.14 | 1086949 | 104.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5152171 | 1.44 | 4942952 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4901614 | 0.15 | 4623931 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2920341 | 0.26 | 2757011 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#
Date Acquired: Oct 31 2013 01:38 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.46 | 48.46 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 51.27 | 51.27 | ppb | 0.35 | 900.00 | |
| 11 B | 6 | 1 | 50.61 | 50.61 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 48.23 | 48.23 | ppb | 3.03 | 900.00 | |
| 23 Na | 45 | 1 | 5137.00 | 5137.00 | ppb | 1.40 | 90000.00 | |
| 23 Na | 45 | 2 | 5303.00 | 5303.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 5068.00 | 5068.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 5017.00 | 5017.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4552.00 | 4552.00 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5129.00 | 5129.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.79 | 49.79 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 50.18 | 50.18 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 50.33 | 50.33 | ppb | 0.19 | 900.00 | |
| 55 Mn | 45 | 2 | 48.68 | 48.68 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 5230.00 | 5230.00 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 50.76 | 50.76 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 49.84 | 49.84 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 49.56 | 49.56 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 50.08 | 50.08 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 0.00 | 900.00 | |
| 78 Se | 72 | 2 | 48.87 | 48.87 | ppb | 1.95 | 900.00 | |
| 88 Sr | 103 | 1 | 52.17 | 52.17 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 52.36 | 52.36 | ppb | 1.01 | 900.00 | |
| 107 Ag | 115 | 1 | 48.97 | 48.97 | ppb | 0.90 | 900.00 | |
| 111 Cd | 115 | 2 | 50.26 | 50.26 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 52.44 | 52.44 | ppb | 0.75 | 900.00 | |
| 121 Sb | 115 | 1 | 52.78 | 52.78 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 48.75 | 48.75 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.75 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.26 | 50.26 | ppb | 0.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2418800 | 0.99 | 2521858 | 95.9 | 70 - 130 | |
| 45 Sc | 1 | 3405698 | 1.31 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 362801 | 0.36 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 709550 | 0.69 | 714806 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 142307 | 0.85 | 144802 | 98.3 | 70 | - | 130 |
| 103 Rh | 1 | 3832982 | 0.67 | 3924881 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 3915975 | 0.42 | 3944903 | 99.3 | 70 | - | 130 |
| 115 In | 2 | 1082519 | 0.84 | 1086949 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 5052165 | 0.77 | 4942952 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4840523 | 0.75 | 4623931 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 2771873 | 0.28 | 2757011 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#
Date Acquired: Oct 31 2013 01:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.03 | ppb | 37.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.34 | 0.34 | ppb | 62.79 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 13.38 | 900.00 | |
| 11 B | 45 | 2 | 1.01 | 1.01 | ppb | 42.45 | 900.00 | |
| 23 Na | 45 | 1 | 2.26 | 2.26 | ppb | 7.43 | 90000.00 | |
| 23 Na | 45 | 2 | 7.64 | 7.64 | ppb | 10.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.70 | 0.70 | ppb | 19.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.48 | 2.48 | ppb | 17.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.46 | 0.46 | ppb | 27.35 | 90000.00 | |
| 27 Al | 45 | 2 | 1.89 | 1.89 | ppb | 19.92 | 90000.00 | |
| 39 K | 45 | 1 | 2.69 | 2.69 | ppb | 25.03 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.21 | -3.21 | ppb | 14.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 31.82 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 8.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 89.60 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 25.71 | 900.00 | |
| 56 Fe | 45 | 2 | 2.48 | 2.48 | ppb | 23.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.05 | ppb | 12.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 12.05 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 41.34 | 900.00 | |
| 75 As | 72 | 2 | 0.05 | 0.05 | ppb | 66.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.70 | 0.70 | ppb | 42.80 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 29.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 7.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.26 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.08 | ppb | 30.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 42.48 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 42.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.09 | ppb | 3.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 18.88 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2468104 | 0.95 | 2521858 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 3376968 | 0.28 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 367817 | 0.24 | 367626 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 729967 | 1.14 | 714806 | 102.1 | 70 | - | 130 |
| 72 | Ge | 2 | 145309 | 0.23 | 144802 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3959574 | 0.74 | 3924881 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 4017152 | 0.14 | 3944903 | 101.8 | 70 | - | 130 |
| 115 | In | 2 | 1109430 | 0.73 | 1086949 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5099116 | 0.01 | 4942952 | 103.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4854603 | 0.31 | 4623931 | 105.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2889785 | 1.09 | 2757011 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 31 2013 01:58 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-2F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.01 | ppb | 87.17 | 900.00 | |
| 9 Be | 45 | 2 | -0.17 | -0.01 | ppb | 281.52 | 900.00 | |
| 11 B | 6 | 1 | 72.66 | 3.63 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 79.02 | 3.95 | ppb | 11.01 | 900.00 | |
| 23 Na | 45 | 1 | 23560.00 | 1178.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 24720.00 | 1236.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 2772.00 | 138.60 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 2844.00 | 142.20 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 9.99 | 0.50 | ppb | 14.60 | 90000.00 | |
| 27 Al | 45 | 2 | 11.22 | 0.56 | ppb | 11.75 | 90000.00 | |
| 39 K | 45 | 1 | 8678.00 | 433.90 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 24280.00 | 1214.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.17 | 0.11 | ppb | 8.83 | 900.00 | |
| 51 V | 45 | 2 | -7.69 | -0.38 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.67 | -0.03 | ppb | 2.31 | 900.00 | |
| 55 Mn | 45 | 2 | 1619.00 | 80.95 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 41740.00 | 2087.00 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 5.56 | 0.28 | ppb | 2.49 | 900.00 | |
| 60 Ni | 45 | 2 | 5.56 | 0.28 | ppb | 3.50 | 900.00 | |
| 63 Cu | 72 | 2 | -0.09 | 0.00 | ppb | 243.37 | 900.00 | |
| 66 Zn | 72 | 2 | 5.74 | 0.29 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 641.00 | 32.05 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.36 | -0.02 | ppb | 438.55 | 900.00 | |
| 88 Sr | 103 | 1 | 306.00 | 15.30 | ppb | 1.33 | 900.00 | |
| 98 Mo | 103 | 1 | 1.67 | 0.08 | ppb | 8.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.15 | 0.01 | ppb | 18.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.31 | 0.02 | ppb | 84.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.00 | ppb | 38.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.01 | ppb | 22.55 | 900.00 | |
| 137 Ba | 159 | 1 | 92.12 | 4.61 | ppb | 2.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.68 | 0.03 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.02 | ppb | 23.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2484931 | 0.69 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3409920 | 0.44 | 3362635 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 370330 | 0.55 | 367626 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 738401 | 0.89 | 714806 | 103.3 | 70 | - | 130 |
| 72 | Ge | 2 | 147731 | 0.65 | 144802 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3919761 | 0.20 | 3924881 | 99.9 | 70 | - | 130 |
| 115 | In | 1 | 4024920 | 0.57 | 3944903 | 102.0 | 70 | - | 130 |
| 115 | In | 2 | 1121517 | 1.45 | 1086949 | 103.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5109909 | 0.74 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4889984 | 0.56 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2908478 | 0.45 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#
Date Acquired: Oct 31 2013 02:05 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-3F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.45 | 0.00 | ppb | 49.00 | 900.00 | |
| 9 Be | 45 | 2 | 14.13 | 0.14 | ppb | 40.57 | 900.00 | |
| 11 B | 6 | 1 | 152.30 | 1.52 | ppb | 5.35 | 900.00 | |
| 11 B | 45 | 2 | 200.60 | 2.01 | ppb | 23.92 | 900.00 | |
| 23 Na | 45 | 1 | 25020.00 | 250.20 | ppb | 1.73 | 90000.00 | |
| 23 Na | 45 | 2 | 28390.00 | 283.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12700.00 | 127.00 | ppb | 2.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 13050.00 | 130.50 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 7.50 | 0.07 | ppb | 25.76 | 90000.00 | |
| 27 Al | 45 | 2 | 25.30 | 0.25 | ppb | 28.74 | 90000.00 | |
| 39 K | 45 | 1 | 7823.00 | 78.23 | ppb | 3.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 83710.00 | 837.10 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.16 | 0.03 | ppb | 13.71 | 900.00 | |
| 51 V | 45 | 2 | -55.28 | -0.55 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | -5.31 | -0.05 | ppb | 3.54 | 900.00 | |
| 55 Mn | 45 | 2 | 9723.00 | 97.23 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 27320.00 | 273.20 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 16.13 | 0.16 | ppb | 0.89 | 900.00 | |
| 60 Ni | 45 | 2 | 11.10 | 0.11 | ppb | 6.65 | 900.00 | |
| 63 Cu | 72 | 2 | -3.04 | -0.03 | ppb | 36.54 | 900.00 | |
| 66 Zn | 72 | 2 | 17.60 | 0.18 | ppb | 6.77 | 900.00 | |
| 75 As | 72 | 2 | 1659.00 | 16.59 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 28.18 | 0.28 | ppb | 41.31 | 900.00 | |
| 88 Sr | 103 | 1 | 832.30 | 8.32 | ppb | 1.96 | 900.00 | |
| 98 Mo | 103 | 1 | 4.57 | 0.05 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.32 | 0.00 | ppb | 59.16 | 900.00 | |
| 111 Cd | 115 | 2 | 2.97 | 0.03 | ppb | 37.49 | 900.00 | |
| 120 Sn | 115 | 1 | -0.39 | 0.00 | ppb | 5.59 | 900.00 | |
| 121 Sb | 115 | 1 | -0.49 | 0.00 | ppb | 28.60 | 900.00 | |
| 137 Ba | 159 | 1 | 42.85 | 0.43 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | 3.19 | 0.03 | ppb | 6.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.75 | 0.02 | ppb | 23.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2474419 | 2.00 | 2521858 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 3486729 | 1.51 | 3362635 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 378227 | 0.47 | 367626 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 749077 | 1.66 | 714806 | 104.8 | 70 | - | 130 |
| 72 | Ge | 2 | 150211 | 0.61 | 144802 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3991628 | 1.07 | 3924881 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 4094209 | 2.36 | 3944903 | 103.8 | 70 | - | 130 |
| 115 | In | 2 | 1160105 | 1.22 | 1086949 | 106.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5240197 | 1.84 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5000904 | 2.03 | 4623931 | 108.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2893590 | 1.28 | 2757011 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#
Date Acquired: Oct 31 2013 02:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-4F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.81 | 0.01 | ppb | 13.69 | 900.00 | |
| 9 Be | 45 | 2 | 12.31 | 0.12 | ppb | 45.48 | 900.00 | |
| 11 B | 6 | 1 | 76.64 | 0.77 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 115.80 | 1.16 | ppb | 8.73 | 900.00 | |
| 23 Na | 45 | 1 | 18100.00 | 181.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 20690.00 | 206.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12360.00 | 123.60 | ppb | 0.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 12780.00 | 127.80 | ppb | 0.93 | 90000.00 | |
| 27 Al | 45 | 1 | 5.17 | 0.05 | ppb | 40.68 | 90000.00 | |
| 27 Al | 45 | 2 | 23.81 | 0.24 | ppb | 14.62 | 90000.00 | |
| 39 K | 45 | 1 | 3816.00 | 38.16 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 92130.00 | 921.30 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.80 | 0.06 | ppb | 18.18 | 900.00 | |
| 51 V | 45 | 2 | -55.91 | -0.56 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | -4.79 | -0.05 | ppb | 4.12 | 900.00 | |
| 55 Mn | 45 | 2 | 8148.00 | 81.48 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 8863.00 | 88.63 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 4.97 | 0.05 | ppb | 6.39 | 900.00 | |
| 60 Ni | 45 | 2 | 8.98 | 0.09 | ppb | 4.78 | 900.00 | |
| 63 Cu | 72 | 2 | -3.14 | -0.03 | ppb | 38.21 | 900.00 | |
| 66 Zn | 72 | 2 | 201.90 | 2.02 | ppb | 2.67 | 900.00 | |
| 75 As | 72 | 2 | 2495.00 | 24.95 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 35.71 | 0.36 | ppb | 41.47 | 900.00 | |
| 88 Sr | 103 | 1 | 471.40 | 4.71 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 5.49 | 0.05 | ppb | 8.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 37.25 | 900.00 | |
| 111 Cd | 115 | 2 | 4.13 | 0.04 | ppb | 28.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.23 | 0.00 | ppb | 24.76 | 900.00 | |
| 121 Sb | 115 | 1 | -0.52 | -0.01 | ppb | 11.63 | 900.00 | |
| 137 Ba | 159 | 1 | 66.90 | 0.67 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 1.48 | 0.01 | ppb | 8.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.78 | 0.02 | ppb | 28.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2523998 | 1.27 | 2521858 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 3452086 | 0.41 | 3362635 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 377687 | 0.37 | 367626 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 747496 | 0.28 | 714806 | 104.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150545 | 0.63 | 144802 | 104.0 | 70 | - | 130 |
| 103 | Rh | 1 | 4031355 | 1.16 | 3924881 | 102.7 | 70 | - | 130 |
| 115 | In | 1 | 4105530 | 1.28 | 3944903 | 104.1 | 70 | - | 130 |
| 115 | In | 2 | 1163876 | 1.19 | 1086949 | 107.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5195666 | 1.41 | 4942952 | 105.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4946174 | 0.72 | 4623931 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2904942 | 0.75 | 2757011 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#
Date Acquired: Oct 31 2013 02:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-5F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 23.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.92 | 0.46 | ppb | 59.58 | 900.00 | |
| 11 B | 6 | 1 | 13.83 | 6.92 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 15.58 | 7.79 | ppb | 8.23 | 900.00 | |
| 23 Na | 45 | 1 | 39960.00 | 19980.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 41240.00 | 20620.00 | ppb | 0.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 2338.00 | 1169.00 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 2304.00 | 1152.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 9.60 | 4.80 | ppb | 1.76 | 90000.00 | |
| 27 Al | 45 | 2 | 9.12 | 4.56 | ppb | 4.31 | 90000.00 | |
| 39 K | 45 | 1 | 1395.80 | 697.90 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 11548.00 | 5774.00 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.69 | 0.35 | ppb | 2.13 | 900.00 | |
| 51 V | 45 | 2 | 2.87 | 1.43 | ppb | 2.68 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 6.45 | 900.00 | |
| 55 Mn | 45 | 2 | 28.36 | 14.18 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 52.66 | 26.33 | ppb | 0.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.26 | 0.13 | ppb | 3.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.53 | 0.26 | ppb | 4.52 | 900.00 | |
| 63 Cu | 72 | 2 | 1.37 | 0.68 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 7.49 | 3.75 | ppb | 0.80 | 900.00 | |
| 75 As | 72 | 2 | 1.26 | 0.63 | ppb | 6.01 | 900.00 | |
| 78 Se | 72 | 2 | 2.07 | 1.04 | ppb | 67.41 | 900.00 | |
| 88 Sr | 103 | 1 | 79.76 | 39.88 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 47.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 4.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.16 | ppb | 3.22 | 900.00 | |
| 137 Ba | 159 | 1 | 17.92 | 8.96 | ppb | 1.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 7.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.06 | ppb | 10.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2403807 | 0.34 | 2521858 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 3336611 | 0.31 | 3362635 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 365523 | 0.22 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 727585 | 0.39 | 714806 | 101.8 | 70 | - | 130 |
| 72 | Ge | 2 | 143553 | 0.16 | 144802 | 99.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3729590 | 0.49 | 3924881 | 95.0 | 70 | - | 130 |
| 115 | In | 1 | 3861663 | 0.54 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1069868 | 0.61 | 1086949 | 98.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4984549 | 0.74 | 4942952 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4771347 | 0.72 | 4623931 | 103.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2703412 | 0.22 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#
Date Acquired: Oct 31 2013 02:27 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-7F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 24.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.25 | ppb | 28.18 | 900.00 | |
| 11 B | 6 | 1 | 299.00 | 149.50 | ppb | 2.50 | 900.00 | |
| 11 B | 45 | 2 | 276.80 | 138.40 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 31960.00 | 15980.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 33400.00 | 16700.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 9960.00 | 4980.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 9640.00 | 4820.00 | ppb | 1.37 | 90000.00 | |
| 27 Al | 45 | 1 | 3.67 | 1.84 | ppb | 2.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4.01 | 2.00 | ppb | 10.31 | 90000.00 | |
| 39 K | 45 | 1 | 17260.00 | 8630.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 63600.00 | 31800.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.51 | 0.76 | ppb | 3.96 | 900.00 | |
| 51 V | 45 | 2 | 2.01 | 1.01 | ppb | 1.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 3.14 | 900.00 | |
| 55 Mn | 45 | 2 | 10510.00 | 5255.00 | ppb | 1.35 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 631.80 | 315.90 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 5.62 | 2.81 | ppb | 1.56 | 900.00 | |
| 60 Ni | 45 | 2 | 5.16 | 2.58 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 2.44 | 900.00 | |
| 66 Zn | 72 | 2 | 6.66 | 3.33 | ppb | 2.30 | 900.00 | |
| 75 As | 72 | 2 | 5.52 | 2.76 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 1.57 | 0.79 | ppb | 19.97 | 900.00 | |
| 88 Sr | 103 | 1 | 1242.40 | 621.20 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.22 | ppb | 4.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 27.29 | 900.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.05 | ppb | 44.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 9.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 4.55 | 900.00 | |
| 137 Ba | 159 | 1 | 48.38 | 24.19 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 9.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 4.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355536 | 0.42 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3349674 | 0.35 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361647 | 0.78 | 367626 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 713146 | 0.12 | 714806 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 140922 | 0.41 | 144802 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3633444 | 0.50 | 3924881 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 3781227 | 0.40 | 3944903 | 95.9 | 70 | - | 130 |
| 115 In | 2 | 1078109 | 6.28 | 1086949 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4952196 | 0.43 | 4942952 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4766946 | 0.43 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2631621 | 0.47 | 2757011 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#
Date Acquired: Oct 31 2013 02:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-8F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.01 | ppb | 48.88 | 900.00 | |
| 9 Be | 45 | 2 | 3.46 | 0.17 | ppb | 24.87 | 900.00 | |
| 11 B | 6 | 1 | 93.52 | 4.68 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 96.64 | 4.83 | ppb | 13.98 | 900.00 | |
| 23 Na | 45 | 1 | 28580.00 | 1429.00 | ppb | 1.75 | 90000.00 | |
| 23 Na | 45 | 2 | 29680.00 | 1484.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 6408.00 | 320.40 | ppb | 1.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 6702.00 | 335.10 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 6.44 | 0.32 | ppb | 5.42 | 90000.00 | |
| 27 Al | 45 | 2 | 8.93 | 0.45 | ppb | 12.07 | 90000.00 | |
| 39 K | 45 | 1 | 8842.00 | 442.10 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 47800.00 | 2390.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.08 | 0.15 | ppb | 10.07 | 900.00 | |
| 51 V | 45 | 2 | -8.18 | -0.41 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 9.94 | 900.00 | |
| 55 Mn | 45 | 2 | 3560.00 | 178.00 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 28940.00 | 1447.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 7.21 | 0.36 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 10.81 | 0.54 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.49 | -0.02 | ppb | 43.59 | 900.00 | |
| 66 Zn | 72 | 2 | 7.52 | 0.38 | ppb | 3.63 | 900.00 | |
| 75 As | 72 | 2 | 751.80 | 37.59 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 7.73 | 0.39 | ppb | 22.65 | 900.00 | |
| 88 Sr | 103 | 1 | 518.60 | 25.93 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 2.47 | 0.12 | ppb | 8.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.00 | ppb | 11.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.73 | 0.04 | ppb | 12.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.01 | ppb | 13.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.00 | ppb | 49.06 | 900.00 | |
| 137 Ba | 159 | 1 | 133.52 | 6.68 | ppb | 2.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.01 | ppb | 16.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.39 | 0.02 | ppb | 11.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2477208 | 0.32 | 2521858 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 3506022 | 0.94 | 3362635 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 384949 | 0.47 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 763559 | 1.35 | 714806 | 106.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153216 | 0.69 | 144802 | 105.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4016380 | 0.53 | 3924881 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4131860 | 0.84 | 3944903 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1154965 | 0.13 | 1086949 | 106.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5240608 | 0.86 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4934201 | 0.31 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2900428 | 0.65 | 2757011 | 105.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#
Date Acquired: Oct 31 2013 02:41 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-9F
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 50.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.02 | 0.51 | ppb | 21.73 | 900.00 | |
| 11 B | 6 | 1 | 373.80 | 186.90 | ppb | 1.05 | 900.00 | |
| 11 B | 45 | 2 | 343.60 | 171.80 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 15202.00 | 7601.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 16088.00 | 8044.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 14272.00 | 7136.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 14038.00 | 7019.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 8.96 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 17.30 | 8.65 | ppb | 1.98 | 90000.00 | |
| 39 K | 45 | 1 | 15258.00 | 7629.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 151560.00 | 75780.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.03 | 1.52 | ppb | 4.01 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 1.26 | 0.63 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 420.20 | 210.10 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 71440.00 | 35720.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 1.20 | 0.60 | ppb | 2.56 | 900.00 | |
| 60 Ni | 45 | 2 | 1.96 | 0.98 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.70 | 0.35 | ppb | 3.27 | 900.00 | |
| 66 Zn | 72 | 2 | 7.37 | 3.69 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 21.20 | 10.60 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 2.59 | 1.30 | ppb | 16.47 | 900.00 | |
| 88 Sr | 103 | 1 | 1133.40 | 566.70 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 2.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.94 | 900.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.10 | ppb | 2.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.18 | ppb | 4.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.14 | ppb | 4.92 | 900.00 | |
| 137 Ba | 159 | 1 | 397.00 | 198.50 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 53.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 14.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2370648 | 0.64 | 2521858 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 3383276 | 0.30 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 358759 | 0.39 | 367626 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 723952 | 0.34 | 714806 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 141646 | 0.15 | 144802 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3565724 | 0.51 | 3924881 | 90.8 | 70 | - | 130 |
| 115 | In | 1 | 3680381 | 0.93 | 3944903 | 93.3 | 70 | - | 130 |
| 115 | In | 2 | 1115612 | 0.41 | 1086949 | 102.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4906655 | 0.52 | 4942952 | 99.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4729753 | 0.19 | 4623931 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2611028 | 0.92 | 2757011 | 94.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Oct 31 2013 02:48 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-10F |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.03 | ppb | 7.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.20 | 0.60 | ppb | 3.43 | 900.00 | |
| 11 B | 6 | 1 | 15.82 | 7.91 | ppb | 0.27 | 900.00 | |
| 11 B | 45 | 2 | 18.40 | 9.20 | ppb | 11.08 | 900.00 | |
| 23 Na | 45 | 1 | 3780.00 | 1890.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3978.00 | 1989.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 1737.80 | 868.90 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1742.40 | 871.20 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 230.60 | 115.30 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 223.00 | 111.50 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 1829.60 | 914.80 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 11792.00 | 5896.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.90 | 1.95 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 2.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.67 | 0.33 | ppb | 2.15 | 900.00 | |
| 55 Mn | 45 | 2 | 400.40 | 200.20 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 2454.00 | 1227.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 1.98 | 900.00 | |
| 60 Ni | 45 | 2 | 0.86 | 0.43 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 6.72 | 900.00 | |
| 66 Zn | 72 | 2 | 7.46 | 3.73 | ppb | 0.75 | 900.00 | |
| 75 As | 72 | 2 | 15.11 | 7.55 | ppb | 0.51 | 900.00 | |
| 78 Se | 72 | 2 | 2.21 | 1.10 | ppb | 7.32 | 900.00 | |
| 88 Sr | 103 | 1 | 80.54 | 40.27 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.23 | 0.12 | ppb | 7.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.02 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 12.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.15 | ppb | 0.99 | 900.00 | |
| 137 Ba | 159 | 1 | 7.21 | 3.60 | ppb | 2.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 15.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.10 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2391083 | 0.55 | 2521858 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 3384915 | 0.28 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 366067 | 0.46 | 367626 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 724167 | 1.01 | 714806 | 101.3 | 70 - | 130 |
| 72 | Ge | 2 | 142951 | 0.35 | 144802 | 98.7 | 70 - | 130 |
| 103 | Rh | 1 | 3799471 | 0.52 | 3924881 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 3876364 | 0.77 | 3944903 | 98.3 | 70 - | 130 |
| 115 | In | 2 | 1065427 | 0.99 | 1086949 | 98.0 | 70 - | 130 |
| 159 | Tb | 1 | 5037342 | 0.22 | 4942952 | 101.9 | 70 - | 130 |
| 175 | Lu | 1 | 4791372 | 0.34 | 4623931 | 103.6 | 70 - | 130 |
| 209 | Bi | 1 | 2757520 | 0.33 | 2757011 | 100.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#
Date Acquired: Oct 31 2013 02:55 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-11F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 27.15 | 900.00 | |
| 9 Be | 45 | 2 | 0.31 | 0.16 | ppb | 56.42 | 900.00 | |
| 11 B | 6 | 1 | 14.46 | 7.23 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 14.43 | 7.22 | ppb | 0.91 | 900.00 | |
| 23 Na | 45 | 1 | 7710.00 | 3855.00 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 7992.00 | 3996.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 1304.80 | 652.40 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 1384.40 | 692.20 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 5.33 | 2.66 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 5.50 | 2.75 | ppb | 8.21 | 90000.00 | |
| 39 K | 45 | 1 | 790.60 | 395.30 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 8434.00 | 4217.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.26 | 0.63 | ppb | 4.71 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.14 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 3.76 | 900.00 | |
| 55 Mn | 45 | 2 | 0.73 | 0.37 | ppb | 1.68 | 900.00 | |
| 56 Fe | 45 | 2 | 6.40 | 3.20 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 2.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.12 | ppb | 4.88 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.23 | ppb | 1.78 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.20 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 0.66 | 0.33 | ppb | 6.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.84 | 0.42 | ppb | 29.20 | 900.00 | |
| 88 Sr | 103 | 1 | 65.38 | 32.69 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 11.56 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 33.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 2.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.16 | ppb | 2.11 | 900.00 | |
| 137 Ba | 159 | 1 | 6.70 | 3.35 | ppb | 2.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 16.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 3.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2356853 | 1.01 | 2521858 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 3365435 | 0.83 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 363427 | 0.56 | 367626 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 720731 | 0.63 | 714806 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 141916 | 0.42 | 144802 | 98.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3723669 | 0.97 | 3924881 | 94.9 | 70 | - | 130 |
| 115 | In | 1 | 3862927 | 0.94 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1075134 | 0.48 | 1086949 | 98.9 | 70 | - | 130 |
| 159 | Tb | 1 | 4996899 | 1.04 | 4942952 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4742802 | 0.54 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2794592 | 0.52 | 2757011 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#
Date Acquired: Oct 31 2013 03:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-12F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 104.83 | 900.00 | |
| 9 Be | 45 | 2 | -0.12 | -0.06 | ppb | 48.60 | 900.00 | |
| 11 B | 6 | 1 | 1.61 | 0.81 | ppb | 5.05 | 900.00 | |
| 11 B | 45 | 2 | 1.66 | 0.83 | ppb | 32.97 | 900.00 | |
| 23 Na | 45 | 1 | 19.76 | 9.88 | ppb | 3.15 | 90000.00 | |
| 23 Na | 45 | 2 | 26.18 | 13.09 | ppb | 3.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.79 | 0.90 | ppb | 3.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.65 | 0.83 | ppb | 9.16 | 90000.00 | |
| 27 Al | 45 | 1 | 2.58 | 1.29 | ppb | 20.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.01 | 1.00 | ppb | 4.18 | 90000.00 | |
| 39 K | 45 | 1 | 33.00 | 16.50 | ppb | 6.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.98 | 8.49 | ppb | 7.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.28 | 0.14 | ppb | 17.83 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 3.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 4.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.14 | 0.07 | ppb | 10.62 | 900.00 | |
| 56 Fe | 45 | 2 | 5.46 | 2.73 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 94.09 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 70.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.12 | ppb | 1.93 | 900.00 | |
| 66 Zn | 72 | 2 | 4.77 | 2.39 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 0.40 | 0.20 | ppb | 7.83 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 756.03 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 11.70 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.01 | ppb | 4.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 98.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 0.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 10.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 251.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2405624 | 0.69 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3293872 | 0.68 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 362970 | 0.12 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 707997 | 0.96 | 714806 | 99.0 | 70 | - | 130 |
| 72 | Ge | 2 | 141664 | 0.38 | 144802 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3776067 | 0.58 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3863543 | 0.41 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1105273 | 4.54 | 1086949 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4962227 | 0.11 | 4942952 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4745784 | 0.88 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2757693 | 0.68 | 2757011 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#
Date Acquired: Oct 31 2013 03:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.91 | 48.91 | ppb | 1.05 | 900.00 | |
| 9 Be | 45 | 2 | 49.21 | 49.21 | ppb | 2.30 | 900.00 | |
| 11 B | 6 | 1 | 50.43 | 50.43 | ppb | 0.52 | 900.00 | |
| 11 B | 45 | 2 | 47.66 | 47.66 | ppb | 1.40 | 900.00 | |
| 23 Na | 45 | 1 | 5051.00 | 5051.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5182.00 | 5182.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 4822.00 | 4822.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5003.00 | 5003.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 4543.00 | 4543.00 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 5074.00 | 5074.00 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 5093.00 | 5093.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.59 | 49.59 | ppb | 0.71 | 900.00 | |
| 51 V | 45 | 2 | 49.43 | 49.43 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 49.53 | 49.53 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 48.36 | 48.36 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 5110.00 | 5110.00 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 48.92 | 48.92 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 47.75 | 47.75 | ppb | 0.31 | 900.00 | |
| 63 Cu | 72 | 2 | 48.88 | 48.88 | ppb | 0.28 | 900.00 | |
| 66 Zn | 72 | 2 | 49.97 | 49.97 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 49.44 | 49.44 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 49.72 | 49.72 | ppb | 1.15 | 900.00 | |
| 88 Sr | 103 | 1 | 52.10 | 52.10 | ppb | 0.02 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.10 | 900.00 | |
| 107 Ag | 115 | 1 | 48.66 | 48.66 | ppb | 0.26 | 900.00 | |
| 111 Cd | 115 | 2 | 49.95 | 49.95 | ppb | 1.59 | 900.00 | |
| 120 Sn | 115 | 1 | 52.21 | 52.21 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 52.48 | 52.48 | ppb | 1.31 | 900.00 | |
| 137 Ba | 159 | 1 | 48.56 | 48.56 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 48.53 | 48.53 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.70 | 49.70 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355568 | 0.45 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3343887 | 0.33 | 3362635 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 368331 | 0.71 | 367626 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702617 | 1.00 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142355 | 0.08 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3777490 | 0.19 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3852513 | 0.48 | 3944903 | 97.7 | 70 | - | 130 |
| 115 | In | 2 | 1078330 | 1.00 | 1086949 | 99.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4982829 | 1.37 | 4942952 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4751014 | 0.25 | 4623931 | 102.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2687347 | 1.02 | 2757011 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#
Date Acquired: Oct 31 2013 03:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 6.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 41.49 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 2.41 | 900.00 | |
| 11 B | 45 | 2 | 0.68 | 0.68 | ppb | 20.85 | 900.00 | |
| 23 Na | 45 | 1 | 0.21 | 0.21 | ppb | 61.62 | 90000.00 | |
| 23 Na | 45 | 2 | 3.71 | 3.71 | ppb | 19.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.46 | ppb | 6.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.57 | 1.57 | ppb | 33.23 | 90000.00 | |
| 27 Al | 45 | 1 | 0.27 | 0.27 | ppb | 12.92 | 90000.00 | |
| 27 Al | 45 | 2 | 1.27 | 1.27 | ppb | 30.94 | 90000.00 | |
| 39 K | 45 | 1 | 2.84 | 2.84 | ppb | 17.59 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.67 | -5.67 | ppb | 1.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 90.10 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 7.55 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 174.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 41.32 | 900.00 | |
| 56 Fe | 45 | 2 | 1.87 | 1.87 | ppb | 21.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 27.10 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 19.87 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 25.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 11.64 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 88.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.15 | ppb | 54.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 66.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 12.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.30 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 39.10 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 7.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 52.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2461488 | 0.25 | 2521858 | 97.6 | 70 - 130 | |
| 45 Sc | 1 | 3366281 | 0.38 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 375513 | 0.57 | 367626 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725613 | 1.06 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 147156 | 0.41 | 144802 | 101.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3933484 | 0.30 | 3924881 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3971547 | 0.68 | 3944903 | 100.7 | 70 | - | 130 |
| 115 | In | 2 | 1120946 | 0.50 | 1086949 | 103.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5031228 | 1.12 | 4942952 | 101.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4779265 | 0.99 | 4623931 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2833268 | 0.76 | 2757011 | 102.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#
Date Acquired: Oct 31 2013 03:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-13F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 22.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.23 | ppb | 40.56 | 900.00 | |
| 11 B | 6 | 1 | 19.33 | 9.67 | ppb | 2.03 | 900.00 | |
| 11 B | 45 | 2 | 20.48 | 10.24 | ppb | 5.38 | 900.00 | |
| 23 Na | 45 | 1 | 12510.00 | 6255.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 13036.00 | 6518.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 3400.00 | 1700.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 3394.00 | 1697.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 12.52 | 6.26 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 12.06 | 6.03 | ppb | 7.72 | 90000.00 | |
| 39 K | 45 | 1 | 6552.00 | 3276.00 | ppb | 0.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 27280.00 | 13640.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 2.09 | 900.00 | |
| 51 V | 45 | 2 | 1.81 | 0.91 | ppb | 2.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 2.54 | 900.00 | |
| 55 Mn | 45 | 2 | 405.20 | 202.60 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 6730.00 | 3365.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 8.03 | 4.02 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 4.27 | 2.14 | ppb | 1.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 4.36 | 900.00 | |
| 66 Zn | 72 | 2 | 6.70 | 3.35 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 34.90 | 17.45 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.76 | 0.38 | ppb | 75.02 | 900.00 | |
| 88 Sr | 103 | 1 | 114.34 | 57.17 | ppb | 1.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 25.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 80.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 4.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 0.56 | 900.00 | |
| 137 Ba | 159 | 1 | 48.94 | 24.47 | ppb | 1.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 6.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.08 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2400415 | 0.67 | 2521858 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 3339006 | 0.50 | 3362635 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 362639 | 0.43 | 367626 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 716412 | 1.02 | 714806 | 100.2 | 70 - | 130 |
| 72 | Ge | 2 | 142934 | 0.38 | 144802 | 98.7 | 70 - | 130 |
| 103 | Rh | 1 | 3697648 | 1.01 | 3924881 | 94.2 | 70 - | 130 |
| 115 | In | 1 | 3842065 | 0.26 | 3944903 | 97.4 | 70 - | 130 |
| 115 | In | 2 | 1069425 | 0.55 | 1086949 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 4991004 | 0.79 | 4942952 | 101.0 | 70 - | 130 |
| 175 | Lu | 1 | 4769215 | 0.49 | 4623931 | 103.1 | 70 - | 130 |
| 209 | Bi | 1 | 2703978 | 0.60 | 2757011 | 98.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#
Date Acquired: Oct 31 2013 03:32 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-14F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.99 | 0.01 | ppb | 36.46 | 900.00 | |
| 9 Be | 45 | 2 | 31.42 | 0.31 | ppb | 0.70 | 900.00 | |
| 11 B | 6 | 1 | 14.22 | 0.14 | ppb | 8.54 | 900.00 | |
| 11 B | 45 | 2 | 91.14 | 0.91 | ppb | 20.34 | 900.00 | |
| 23 Na | 45 | 1 | 3046.00 | 30.46 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 3664.00 | 36.64 | ppb | 2.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1194.00 | 11.94 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1185.00 | 11.85 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 0.18 | ppb | 12.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.93 | 0.28 | ppb | 18.05 | 90000.00 | |
| 39 K | 45 | 1 | 508.20 | 5.08 | ppb | 10.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 11980.00 | 119.80 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.72 | 0.05 | ppb | 37.44 | 900.00 | |
| 51 V | 45 | 2 | -53.36 | -0.53 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | -5.13 | -0.05 | ppb | 3.00 | 900.00 | |
| 55 Mn | 45 | 2 | 6282.00 | 62.82 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 44900.00 | 449.00 | ppb | 0.95 | 90000.00 | |
| 59 Co | 45 | 2 | 7.57 | 0.08 | ppb | 2.21 | 900.00 | |
| 60 Ni | 45 | 2 | 8.71 | 0.09 | ppb | 11.94 | 900.00 | |
| 63 Cu | 72 | 2 | -6.94 | -0.07 | ppb | 12.42 | 900.00 | |
| 66 Zn | 72 | 2 | 6.08 | 0.06 | ppb | 21.58 | 900.00 | |
| 75 As | 72 | 2 | 2761.00 | 27.61 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 67.37 | 0.67 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 69.74 | 0.70 | ppb | 1.83 | 900.00 | |
| 98 Mo | 103 | 1 | 1.19 | 0.01 | ppb | 8.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 41.28 | 900.00 | |
| 111 Cd | 115 | 2 | 5.96 | 0.06 | ppb | 38.55 | 900.00 | |
| 120 Sn | 115 | 1 | -0.15 | 0.00 | ppb | 102.00 | 900.00 | |
| 121 Sb | 115 | 1 | -0.35 | 0.00 | ppb | 49.70 | 900.00 | |
| 137 Ba | 159 | 1 | 16.24 | 0.16 | ppb | 6.19 | 900.00 | |
| 205 Tl | 209 | 1 | 3.41 | 0.03 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.88 | 0.02 | ppb | 2.63 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2533461 | 0.73 | 2521858 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 3466656 | 0.47 | 3362635 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 392672 | 0.46 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 752123 | 1.26 | 714806 | 105.2 | 70 | - | 130 |
| 72 Ge | 2 | 154361 | 0.41 | 144802 | 106.6 | 70 | - | 130 |
| 103 Rh | 1 | 4028650 | 0.14 | 3924881 | 102.6 | 70 | - | 130 |
| 115 In | 1 | 4107597 | 0.58 | 3944903 | 104.1 | 70 | - | 130 |
| 115 In | 2 | 1180841 | 0.32 | 1086949 | 108.6 | 70 | - | 130 |
| 159 Tb | 1 | 5158826 | 0.27 | 4942952 | 104.4 | 70 | - | 130 |
| 175 Lu | 1 | 4903888 | 0.39 | 4623931 | 106.1 | 70 | - | 130 |
| 209 Bi | 1 | 2909399 | 1.17 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#
Date Acquired: Oct 31 2013 03:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-1F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.44 | 0.01 | ppb | 21.21 | 900.00 | |
| 9 Be | 45 | 2 | 18.67 | 0.37 | ppb | 50.04 | 900.00 | |
| 11 B | 6 | 1 | 198.05 | 3.96 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 242.75 | 4.86 | ppb | 4.74 | 900.00 | |
| 23 Na | 45 | 1 | 28895.00 | 577.90 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 30525.00 | 610.50 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 12370.00 | 247.40 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 12885.00 | 257.70 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 9.37 | 0.19 | ppb | 18.91 | 90000.00 | |
| 27 Al | 45 | 2 | 16.54 | 0.33 | ppb | 13.35 | 90000.00 | |
| 39 K | 45 | 1 | 8375.00 | 167.50 | ppb | 1.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 81500.00 | 1630.00 | ppb | 1.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.50 | 0.07 | ppb | 26.63 | 900.00 | |
| 51 V | 45 | 2 | -25.73 | -0.51 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | -2.24 | -0.04 | ppb | 17.37 | 900.00 | |
| 55 Mn | 45 | 2 | 8620.00 | 172.40 | ppb | 1.58 | 900.00 | |
| 56 Fe | 45 | 2 | 32705.00 | 654.10 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 16.36 | 0.33 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 7.53 | 0.15 | ppb | 6.59 | 900.00 | |
| 63 Cu | 72 | 2 | -2.88 | -0.06 | ppb | 12.22 | 900.00 | |
| 66 Zn | 72 | 2 | 23.42 | 0.47 | ppb | 2.59 | 900.00 | |
| 75 As | 72 | 2 | 1154.00 | 23.08 | ppb | 0.05 | 900.00 | |
| 78 Se | 72 | 2 | 37.16 | 0.74 | ppb | 9.09 | 900.00 | |
| 88 Sr | 103 | 1 | 966.50 | 19.33 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 2.05 | 0.04 | ppb | 10.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.19 | 0.00 | ppb | 43.84 | 900.00 | |
| 111 Cd | 115 | 2 | 2.78 | 0.06 | ppb | 38.76 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 366.90 | 900.00 | |
| 121 Sb | 115 | 1 | -0.06 | 0.00 | ppb | 82.37 | 900.00 | |
| 137 Ba | 159 | 1 | 40.39 | 0.81 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.77 | 0.02 | ppb | 10.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.80 | 0.02 | ppb | 27.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2501781 | 0.43 | 2521858 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 3437949 | 0.65 | 3362635 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 386528 | 0.23 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 742481 | 0.90 | 714806 | 103.9 | 70 | - | 130 |
| 72 Ge | 2 | 152966 | 0.25 | 144802 | 105.6 | 70 | - | 130 |
| 103 Rh | 1 | 3979599 | 0.40 | 3924881 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 4049938 | 0.33 | 3944903 | 102.7 | 70 | - | 130 |
| 115 In | 2 | 1172919 | 0.74 | 1086949 | 107.9 | 70 | - | 130 |
| 159 Tb | 1 | 5112366 | 0.96 | 4942952 | 103.4 | 70 | - | 130 |
| 175 Lu | 1 | 4880484 | 0.27 | 4623931 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 2882069 | 0.71 | 2757011 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#
Date Acquired: Oct 31 2013 03:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-2F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.03 | ppb | 127.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.84 | 0.42 | ppb | 29.45 | 900.00 | |
| 11 B | 6 | 1 | 9.91 | 4.96 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 11.20 | 5.60 | ppb | 5.90 | 900.00 | |
| 23 Na | 45 | 1 | 12544.00 | 6272.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 12944.00 | 6472.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 1017.00 | 508.50 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 1074.00 | 537.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 58.60 | 29.30 | ppb | 2.41 | 90000.00 | |
| 27 Al | 45 | 2 | 54.34 | 27.17 | ppb | 1.32 | 90000.00 | |
| 39 K | 45 | 1 | 486.60 | 243.30 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 10856.00 | 5428.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 0.50 | ppb | 17.63 | 900.00 | |
| 51 V | 45 | 2 | 2.26 | 1.13 | ppb | 2.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.53 | 0.27 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 290.80 | 145.40 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 4928.00 | 2464.00 | ppb | 18.66 | 90000.00 | |
| 59 Co | 45 | 2 | 2.52 | 1.26 | ppb | 1.51 | 900.00 | |
| 60 Ni | 45 | 2 | 1.11 | 0.55 | ppb | 2.84 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 8.75 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.37 | ppb | 1.70 | 900.00 | |
| 75 As | 72 | 2 | 14.17 | 7.08 | ppb | 0.62 | 900.00 | |
| 78 Se | 72 | 2 | 1.70 | 0.85 | ppb | 9.93 | 900.00 | |
| 88 Sr | 103 | 1 | 67.84 | 33.92 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.04 | ppb | 38.43 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 104.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.19 | 0.09 | ppb | 20.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 40.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 16.95 | 900.00 | |
| 137 Ba | 159 | 1 | 8.85 | 4.43 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 29.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 24.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2426493 | 1.72 | 2521858 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3299466 | 0.38 | 3362635 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 359630 | 0.06 | 367626 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 710615 | 0.97 | 714806 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 142235 | 0.26 | 144802 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 3711335 | 0.68 | 3924881 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 3881980 | 0.63 | 3944903 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1079301 | 0.90 | 1086949 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5011846 | 0.86 | 4942952 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4796839 | 0.94 | 4623931 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 2749142 | 0.91 | 2757011 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#
Date Acquired: Oct 31 2013 03:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-3F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.08 | 0.04 | ppb | 60.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.91 | 0.45 | ppb | 31.85 | 900.00 | |
| 11 B | 6 | 1 | 9.62 | 4.81 | ppb | 1.99 | 900.00 | |
| 11 B | 45 | 2 | 11.46 | 5.73 | ppb | 0.95 | 900.00 | |
| 23 Na | 45 | 1 | 12512.00 | 6256.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 12858.00 | 6429.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 1012.40 | 506.20 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 1067.20 | 533.60 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 1 | 58.84 | 29.42 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 54.40 | 27.20 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 480.60 | 240.30 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 10884.00 | 5442.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 11.01 | 900.00 | |
| 51 V | 45 | 2 | 2.34 | 1.17 | ppb | 1.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 3.79 | 900.00 | |
| 55 Mn | 45 | 2 | 291.00 | 145.50 | ppb | 1.32 | 900.00 | |
| 56 Fe | 45 | 2 | 4438.00 | 2219.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 2.53 | 1.27 | ppb | 1.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 0.51 | ppb | 2.10 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 15.96 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.19 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 14.63 | 7.32 | ppb | 1.21 | 900.00 | |
| 78 Se | 72 | 2 | 1.93 | 0.96 | ppb | 13.30 | 900.00 | |
| 88 Sr | 103 | 1 | 67.62 | 33.81 | ppb | 0.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 14.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 61.95 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 13.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 21.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.12 | ppb | 10.98 | 900.00 | |
| 137 Ba | 159 | 1 | 8.54 | 4.27 | ppb | 2.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 17.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 20.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2407456 | 1.06 | 2521858 | 95.5 | 70 - 130 | |
| 45 Sc | 1 | 3313845 | 0.49 | 3362635 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 361197 | 0.74 | 367626 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 715075 | 0.83 | 714806 | 100.0 | 70 | - | 130 |
| 72 | Ge | 2 | 142660 | 0.75 | 144802 | 98.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3733833 | 0.13 | 3924881 | 95.1 | 70 | - | 130 |
| 115 | In | 1 | 3889800 | 0.70 | 3944903 | 98.6 | 70 | - | 130 |
| 115 | In | 2 | 1091288 | 0.51 | 1086949 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5054070 | 1.10 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4815279 | 0.41 | 4623931 | 104.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2764012 | 0.52 | 2757011 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#
Date Acquired: Oct 31 2013 04:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-4F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.00 | ppb | 52.15 | 900.00 | |
| 9 Be | 45 | 2 | 5.81 | 0.29 | ppb | 18.99 | 900.00 | |
| 11 B | 6 | 1 | 56.82 | 2.84 | ppb | 2.74 | 900.00 | |
| 11 B | 45 | 2 | 67.26 | 3.36 | ppb | 19.87 | 900.00 | |
| 23 Na | 45 | 1 | 4168.00 | 208.40 | ppb | 2.72 | 90000.00 | |
| 23 Na | 45 | 2 | 4718.00 | 235.90 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 2688.00 | 134.40 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 2760.00 | 138.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 11.27 | 0.56 | ppb | 14.64 | 90000.00 | |
| 27 Al | 45 | 2 | 16.14 | 0.81 | ppb | 34.18 | 90000.00 | |
| 39 K | 45 | 1 | 8100.00 | 405.00 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 14734.00 | 736.70 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.88 | 0.09 | ppb | 15.38 | 900.00 | |
| 51 V | 45 | 2 | -7.51 | -0.38 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 26.65 | 900.00 | |
| 55 Mn | 45 | 2 | 595.80 | 29.79 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 22780.00 | 1139.00 | ppb | 0.17 | 90000.00 | |
| 59 Co | 45 | 2 | 10.11 | 0.51 | ppb | 1.95 | 900.00 | |
| 60 Ni | 45 | 2 | 3.54 | 0.18 | ppb | 5.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.77 | -0.04 | ppb | 31.96 | 900.00 | |
| 66 Zn | 72 | 2 | 9.99 | 0.50 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 716.40 | 35.82 | ppb | 1.33 | 900.00 | |
| 78 Se | 72 | 2 | 13.48 | 0.67 | ppb | 9.89 | 900.00 | |
| 88 Sr | 103 | 1 | 166.74 | 8.34 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 4.37 | 0.22 | ppb | 7.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.00 | ppb | 30.49 | 900.00 | |
| 111 Cd | 115 | 2 | 1.06 | 0.05 | ppb | 16.96 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 146.58 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.01 | ppb | 53.63 | 900.00 | |
| 137 Ba | 159 | 1 | 23.22 | 1.16 | ppb | 2.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.00 | ppb | 13.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.45 | 0.02 | ppb | 7.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2539074 | 0.37 | 2521858 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 3405034 | 0.33 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 385041 | 0.30 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 740882 | 2.27 | 714806 | 103.6 | 70 | - | 130 |
| 72 | Ge | 2 | 152196 | 0.37 | 144802 | 105.1 | 70 | - | 130 |
| 103 | Rh | 1 | 4047377 | 1.31 | 3924881 | 103.1 | 70 | - | 130 |
| 115 | In | 1 | 4116485 | 0.76 | 3944903 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1171381 | 0.12 | 1086949 | 107.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5155539 | 1.55 | 4942952 | 104.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4923227 | 0.29 | 4623931 | 106.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2945286 | 1.26 | 2757011 | 106.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#
Date Acquired: Oct 31 2013 04:08 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-5F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.12 | 0.06 | ppb | 72.46 | 900.00 | |
| 11 B | 6 | 1 | 14.08 | 7.04 | ppb | 2.06 | 900.00 | |
| 11 B | 45 | 2 | 14.53 | 7.27 | ppb | 10.18 | 900.00 | |
| 23 Na | 45 | 1 | 2496.00 | 1248.00 | ppb | 1.39 | 90000.00 | |
| 23 Na | 45 | 2 | 2654.00 | 1327.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 1011.20 | 505.60 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1073.60 | 536.80 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 1.98 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 3.88 | 1.94 | ppb | 1.84 | 90000.00 | |
| 39 K | 45 | 1 | 1945.00 | 972.50 | ppb | 1.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6750.00 | 3375.00 | ppb | 1.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.86 | 0.43 | ppb | 2.67 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 4.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 7.29 | 900.00 | |
| 55 Mn | 45 | 2 | 65.04 | 32.52 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 130.86 | 65.43 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 3.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.62 | 0.31 | ppb | 4.93 | 900.00 | |
| 63 Cu | 72 | 2 | 1.28 | 0.64 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 6.22 | 3.11 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.85 | 0.42 | ppb | 6.38 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 147.16 | 900.00 | |
| 88 Sr | 103 | 1 | 54.36 | 27.18 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.03 | ppb | 6.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 10.82 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 22.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 11.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 6.01 | 900.00 | |
| 137 Ba | 159 | 1 | 8.90 | 4.45 | ppb | 2.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 9.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 10.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2447659 | 0.70 | 2521858 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 3349160 | 1.42 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 365409 | 0.62 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 723055 | 1.12 | 714806 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 143968 | 0.69 | 144802 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 3795541 | 0.39 | 3924881 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3923511 | 0.36 | 3944903 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1119770 | 0.36 | 1086949 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 5052522 | 0.34 | 4942952 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4838536 | 1.45 | 4623931 | 104.6 | 70 | - | 130 |
| 209 Bi | 1 | 2814640 | 0.72 | 2757011 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#
Date Acquired: Oct 31 2013 04:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.10 | 0.05 | ppb | 7.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.28 | 0.14 | ppb | 44.61 | 900.00 | |
| 11 B | 6 | 1 | 205.20 | 102.60 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 205.40 | 102.70 | ppb | 11.40 | 900.00 | |
| 23 Na | 45 | 1 | 27720.00 | 13860.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 29720.00 | 14860.00 | ppb | 11.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 13722.00 | 6861.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 13894.00 | 6947.00 | ppb | 11.95 | 90000.00 | |
| 27 Al | 45 | 1 | 3.78 | 1.89 | ppb | 5.61 | 90000.00 | |
| 27 Al | 45 | 2 | 3.54 | 1.77 | ppb | 19.45 | 90000.00 | |
| 39 K | 45 | 1 | 4782.00 | 2391.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 107680.00 | 53840.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.92 | ppb | 7.06 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.87 | ppb | 19.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 30.72 | 900.00 | |
| 55 Mn | 45 | 2 | 8388.00 | 4194.00 | ppb | 11.50 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 672.00 | 336.00 | ppb | 11.89 | 90000.00 | |
| 59 Co | 45 | 2 | 2.57 | 1.29 | ppb | 12.08 | 900.00 | |
| 60 Ni | 45 | 2 | 15.94 | 7.97 | ppb | 11.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 23.31 | 900.00 | |
| 66 Zn | 72 | 2 | 14.03 | 7.02 | ppb | 10.52 | 900.00 | |
| 75 As | 72 | 2 | 55.08 | 27.54 | ppb | 8.68 | 900.00 | |
| 78 Se | 72 | 2 | 1.03 | 0.52 | ppb | 80.17 | 900.00 | |
| 88 Sr | 103 | 1 | 595.00 | 297.50 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 1.79 | 0.89 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 16.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 37.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 8.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 2.70 | 900.00 | |
| 137 Ba | 159 | 1 | 10.67 | 5.33 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 12.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 15.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2404974 | 0.87 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3355829 | 0.95 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 353833 | 11.23 | 367626 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 701148 | 1.03 | 714806 | 98.1 | 70 | - | 130 |
| 72 | Ge | 2 | 137521 | 8.21 | 144802 | 95.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3647764 | 0.80 | 3924881 | 92.9 | 70 | - | 130 |
| 115 | In | 1 | 3783791 | 0.37 | 3944903 | 95.9 | 70 | - | 130 |
| 115 | In | 2 | 1036755 | 12.08 | 1086949 | 95.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5038264 | 0.63 | 4942952 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4869682 | 0.50 | 4623931 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2677984 | 0.87 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#
Date Acquired: Oct 31 2013 04:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-B1
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 516.40 | 25.82 | ppb | 0.78 | 900.00 | |
| 9 Be | 45 | 2 | 532.80 | 26.64 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 10.80 | 0.54 | ppb | 2.20 | 900.00 | |
| 11 B | 45 | 2 | 20.64 | 1.03 | ppb | 14.28 | 900.00 | |
| 23 Na | 45 | 1 | 27620.00 | 1381.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 28820.00 | 1441.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 27680.00 | 1384.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 27200.00 | 1360.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 2348.00 | 117.40 | ppb | 1.20 | 90000.00 | |
| 27 Al | 45 | 2 | 2302.00 | 115.10 | ppb | 0.98 | 90000.00 | |
| 39 K | 45 | 1 | 27460.00 | 1373.00 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 28040.00 | 1402.00 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 523.60 | 26.18 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 534.40 | 26.72 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 536.80 | 26.84 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 557.60 | 27.88 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 2316.00 | 115.80 | ppb | 1.81 | 90000.00 | |
| 59 Co | 45 | 2 | 552.80 | 27.64 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 526.00 | 26.30 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 533.60 | 26.68 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 571.20 | 28.56 | ppb | 0.22 | 900.00 | |
| 75 As | 72 | 2 | 574.60 | 28.73 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 574.00 | 28.70 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 544.60 | 27.23 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 220.60 | 11.03 | ppb | 2.04 | 900.00 | |
| 111 Cd | 115 | 2 | 534.20 | 26.71 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 33.45 | 900.00 | |
| 121 Sb | 115 | 1 | 573.60 | 28.68 | ppb | 1.69 | 900.00 | |
| 137 Ba | 159 | 1 | 2122.00 | 106.10 | ppb | 0.68 | 900.00 | |
| 205 Tl | 209 | 1 | 546.80 | 27.34 | ppb | 0.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1073.40 | 53.67 | ppb | 0.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2594586 | 0.13 | 2521858 | 102.9 | 70 - 130 | |
| 45 Sc | 1 | 3514292 | 0.43 | 3362635 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 391610 | 0.37 | 367626 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734604 | 0.95 | 714806 | 102.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153101 | 0.51 | 144802 | 105.7 | 70 | - | 130 |
| 103 | Rh | 1 | 4045898 | 1.07 | 3924881 | 103.1 | 70 | - | 130 |
| 115 | In | 1 | 4120646 | 0.98 | 3944903 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1192046 | 1.57 | 1086949 | 109.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5232840 | 0.99 | 4942952 | 105.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4946101 | 0.38 | 4623931 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2875877 | 0.20 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#
Date Acquired: Oct 31 2013 04:29 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-S1
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.20 | 25.41 | ppb | 0.27 | 900.00 | |
| 9 Be | 45 | 2 | 520.00 | 26.00 | ppb | 1.75 | 900.00 | |
| 11 B | 6 | 1 | 9.41 | 0.47 | ppb | 3.42 | 900.00 | |
| 11 B | 45 | 2 | 11.68 | 0.58 | ppb | 9.10 | 900.00 | |
| 23 Na | 45 | 1 | 34400.00 | 1720.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 35200.00 | 1760.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 28960.00 | 1448.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 28400.00 | 1420.00 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2308.00 | 115.40 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 2264.00 | 113.20 | ppb | 0.16 | 90000.00 | |
| 39 K | 45 | 1 | 28820.00 | 1441.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 35080.00 | 1754.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 513.80 | 25.69 | ppb | 0.18 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 525.00 | 26.25 | ppb | 0.05 | 900.00 | |
| 55 Mn | 45 | 2 | 521.00 | 26.05 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 2444.00 | 122.20 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 539.60 | 26.98 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 514.20 | 25.71 | ppb | 0.66 | 900.00 | |
| 63 Cu | 72 | 2 | 522.40 | 26.12 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 563.80 | 28.19 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 564.40 | 28.22 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 557.40 | 27.87 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 581.60 | 29.08 | ppb | 1.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.03 | ppb | 21.62 | 900.00 | |
| 107 Ag | 115 | 1 | 218.00 | 10.90 | ppb | 2.00 | 900.00 | |
| 111 Cd | 115 | 2 | 531.60 | 26.58 | ppb | 0.53 | 900.00 | |
| 120 Sn | 115 | 1 | -0.07 | 0.00 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 559.80 | 27.99 | ppb | 1.42 | 900.00 | |
| 137 Ba | 159 | 1 | 2082.00 | 104.10 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 544.60 | 27.23 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1063.40 | 53.17 | ppb | 1.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2554381 | 0.41 | 2521858 | 101.3 | 70 - 130 | |
| 45 Sc | 1 | 3414793 | 0.27 | 3362635 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 383031 | 0.45 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 718167 | 0.28 | 714806 | 100.5 | 70 | - | 130 |
| 72 Ge | 2 | 150324 | 0.30 | 144802 | 103.8 | 70 | - | 130 |
| 103 Rh | 1 | 3966473 | 0.28 | 3924881 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 4059601 | 1.09 | 3944903 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1164375 | 0.85 | 1086949 | 107.1 | 70 | - | 130 |
| 159 Tb | 1 | 5120350 | 0.53 | 4942952 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4899137 | 0.28 | 4623931 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 2822232 | 1.36 | 2757011 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#
Date Acquired: Oct 31 2013 04:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.18 | 48.18 | ppb | 0.17 | 900.00 | |
| 9 Be | 45 | 2 | 50.49 | 50.49 | ppb | 0.74 | 900.00 | |
| 11 B | 6 | 1 | 49.74 | 49.74 | ppb | 0.38 | 900.00 | |
| 11 B | 45 | 2 | 48.03 | 48.03 | ppb | 1.60 | 900.00 | |
| 23 Na | 45 | 1 | 5140.00 | 5140.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5246.00 | 5246.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 5132.00 | 5132.00 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 4839.00 | 4839.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 4637.00 | 4637.00 | ppb | 1.75 | 90000.00 | |
| 39 K | 45 | 1 | 5135.00 | 5135.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5131.00 | 5131.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.60 | 49.60 | ppb | 1.41 | 900.00 | |
| 51 V | 45 | 2 | 49.48 | 49.48 | ppb | 0.96 | 900.00 | |
| 52 Cr | 45 | 2 | 49.61 | 49.61 | ppb | 1.69 | 900.00 | |
| 55 Mn | 45 | 2 | 49.01 | 49.01 | ppb | 2.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5145.00 | 5145.00 | ppb | 1.42 | 90000.00 | |
| 59 Co | 45 | 2 | 49.08 | 49.08 | ppb | 1.76 | 900.00 | |
| 60 Ni | 45 | 2 | 47.90 | 47.90 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 47.93 | 47.93 | ppb | 1.14 | 900.00 | |
| 66 Zn | 72 | 2 | 49.52 | 49.52 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 48.98 | 48.98 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 49.29 | 49.29 | ppb | 1.40 | 900.00 | |
| 88 Sr | 103 | 1 | 52.53 | 52.53 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 52.09 | 52.09 | ppb | 0.56 | 900.00 | |
| 107 Ag | 115 | 1 | 48.37 | 48.37 | ppb | 0.55 | 900.00 | |
| 111 Cd | 115 | 2 | 49.51 | 49.51 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 52.45 | 52.45 | ppb | 0.43 | 900.00 | |
| 121 Sb | 115 | 1 | 52.69 | 52.69 | ppb | 0.62 | 900.00 | |
| 137 Ba | 159 | 1 | 48.97 | 48.97 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.17 | 50.17 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2505687 | 0.67 | 2521858 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 3346716 | 0.58 | 3362635 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 373959 | 0.86 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702838 | 1.12 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 146328 | 0.67 | 144802 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3828027 | 0.43 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3918218 | 0.41 | 3944903 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1136772 | 0.66 | 1086949 | 104.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5069558 | 0.16 | 4942952 | 102.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4895602 | 0.32 | 4623931 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2769147 | 0.51 | 2757011 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Oct 31 2013 04:43 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2404
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Nov 01 2013 08:50 am
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.77 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.06 | ppb | 207.03 | 900.00 | |
| 11 B | 6 | 1 | 0.31 | 0.31 | ppb | 4.75 | 900.00 | |
| 11 B | 45 | 2 | 0.38 | 0.38 | ppb | 47.70 | 900.00 | |
| 23 Na | 45 | 1 | 0.32 | 0.32 | ppb | 70.24 | 90000.00 | |
| 23 Na | 45 | 2 | 1.97 | 1.97 | ppb | 17.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.42 | 0.42 | ppb | 5.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.93 | 0.93 | ppb | 12.55 | 90000.00 | |
| 27 Al | 45 | 1 | 0.21 | 0.21 | ppb | 8.18 | 90000.00 | |
| 27 Al | 45 | 2 | 0.63 | 0.63 | ppb | 25.51 | 90000.00 | |
| 39 K | 45 | 1 | 2.93 | 2.93 | ppb | 20.76 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.71 | -6.71 | ppb | 3.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 177.72 | 900.00 | |
| 51 V | 45 | 2 | -0.19 | -0.19 | ppb | 4.21 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 24.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 24.46 | 900.00 | |
| 56 Fe | 45 | 2 | 0.97 | 0.97 | ppb | 15.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 20.69 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.55 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 0.78 | 0.78 | ppb | 4.73 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 56.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.26 | ppb | 31.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 79.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 66.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 10.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.28 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 27.25 | 900.00 | |
| 205 Tl | 209 | 1 | 0.26 | 0.26 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 13.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520286 | 1.16 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3332724 | 0.52 | 3362635 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 381367 | 0.27 | 367626 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 725015 | 1.15 | 714806 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 150180 | 0.39 | 144802 | 103.7 | 70 | - | 130 |
| 103 Rh | 1 | 3959119 | 0.30 | 3924881 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 4019905 | 0.47 | 3944903 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 1166758 | 1.31 | 1086949 | 107.3 | 70 | - | 130 |
| 159 Tb | 1 | 5122623 | 0.54 | 4942952 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4883718 | 0.28 | 4623931 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2890418 | 0.28 | 2757011 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#
Date Acquired: Oct 31 2013 04:56 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-S2
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.00 | 25.20 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 540.20 | 27.01 | ppb | 1.94 | 900.00 | |
| 11 B | 6 | 1 | 8.33 | 0.42 | ppb | 5.72 | 900.00 | |
| 11 B | 45 | 2 | 16.84 | 0.84 | ppb | 30.31 | 900.00 | |
| 23 Na | 45 | 1 | 33820.00 | 1691.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 34820.00 | 1741.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 28520.00 | 1426.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 28200.00 | 1410.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 2314.00 | 115.70 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.39 | 90000.00 | |
| 39 K | 45 | 1 | 28380.00 | 1419.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 34520.00 | 1726.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 509.00 | 25.45 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 518.40 | 25.92 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 522.20 | 26.11 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 512.40 | 25.62 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 2406.00 | 120.30 | ppb | 2.88 | 90000.00 | |
| 59 Co | 45 | 2 | 534.80 | 26.74 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 507.40 | 25.37 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 520.20 | 26.01 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 562.60 | 28.13 | ppb | 1.22 | 900.00 | |
| 75 As | 72 | 2 | 560.00 | 28.00 | ppb | 1.13 | 900.00 | |
| 78 Se | 72 | 2 | 574.20 | 28.71 | ppb | 1.18 | 900.00 | |
| 88 Sr | 103 | 1 | 577.60 | 28.88 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.84 | 0.04 | ppb | 6.34 | 900.00 | |
| 107 Ag | 115 | 1 | 215.40 | 10.77 | ppb | 0.34 | 900.00 | |
| 111 Cd | 115 | 2 | 522.60 | 26.13 | ppb | 0.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.01 | ppb | 39.82 | 900.00 | |
| 121 Sb | 115 | 1 | 554.60 | 27.73 | ppb | 0.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2078.00 | 103.90 | ppb | 0.80 | 900.00 | |
| 205 Tl | 209 | 1 | 535.80 | 26.79 | ppb | 0.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1058.20 | 52.91 | ppb | 0.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543276 | 1.47 | 2521858 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 3388882 | 0.89 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 383035 | 0.35 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 719038 | 1.69 | 714806 | 100.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150028 | 0.78 | 144802 | 103.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3953785 | 0.74 | 3924881 | 100.7 | 70 | - | 130 |
| 115 | In | 1 | 4066495 | 1.01 | 3944903 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1170993 | 0.22 | 1086949 | 107.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5128641 | 0.50 | 4942952 | 103.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4904070 | 1.19 | 4623931 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2831389 | 0.75 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#
Date Acquired: Oct 31 2013 05:03 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 7.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.32 | ppb | 10.34 | 900.00 | |
| 11 B | 6 | 1 | 202.60 | 101.30 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 196.92 | 98.46 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 28060.00 | 14030.00 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 28720.00 | 14360.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 13930.00 | 6965.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 13324.00 | 6662.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 3.84 | 1.92 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 3.80 | 1.90 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 4842.00 | 2421.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 108960.00 | 54480.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.97 | 0.99 | ppb | 2.82 | 900.00 | |
| 51 V | 45 | 2 | 1.62 | 0.81 | ppb | 1.01 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | 8046.00 | 4023.00 | ppb | 0.23 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 644.00 | 322.00 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 2.47 | 1.23 | ppb | 1.27 | 900.00 | |
| 60 Ni | 45 | 2 | 15.32 | 7.66 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.16 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 13.48 | 6.74 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 53.12 | 26.56 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 1.21 | 0.61 | ppb | 3.26 | 900.00 | |
| 88 Sr | 103 | 1 | 603.40 | 301.70 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1.78 | 0.89 | ppb | 1.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.04 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 18.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 15.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 2.52 | 900.00 | |
| 137 Ba | 159 | 1 | 10.75 | 5.38 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.21 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.05 | ppb | 7.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432777 | 0.86 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3270318 | 1.01 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 365135 | 0.61 | 367626 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687027 | 0.24 | 714806 | 96.1 | 70 | - | 130 |
| 72 Ge | 2 | 141539 | 0.21 | 144802 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3562540 | 1.01 | 3924881 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3735694 | 0.46 | 3944903 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 1076183 | 0.76 | 1086949 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 4973796 | 0.38 | 4942952 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 4732692 | 0.36 | 4623931 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2654849 | 1.26 | 2757011 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#
Date Acquired: Oct 31 2013 05:10 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 30.31 | 900.00 | |
| 11 B | 6 | 1 | 0.47 | 0.47 | ppb | 5.64 | 900.00 | |
| 11 B | 45 | 2 | 0.95 | 0.95 | ppb | 17.86 | 900.00 | |
| 23 Na | 45 | 1 | 3.94 | 3.94 | ppb | 10.55 | 90000.00 | |
| 23 Na | 45 | 2 | 10.45 | 10.45 | ppb | 11.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.17 | 2.17 | ppb | 14.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.47 | 4.47 | ppb | 7.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.53 | 0.53 | ppb | 13.07 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 4.70 | 4.70 | ppb | 5.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.93 | 4.93 | ppb | 46.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 46.24 | 900.00 | |
| 51 V | 45 | 2 | -0.16 | -0.16 | ppb | 4.75 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 7.08 | 900.00 | |
| 55 Mn | 45 | 2 | 2.27 | 2.27 | ppb | 14.06 | 900.00 | |
| 56 Fe | 45 | 2 | 1.24 | 1.24 | ppb | 5.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 36.54 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 10.43 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 7.75 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 18.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.42 | 0.42 | ppb | 14.83 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.07 | ppb | 18.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 17.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.44 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 34.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 5.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 18.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2630669 | 1.00 | 2521858 | 104.3 | 70 - 130 | |
| 45 Sc | 1 | 3441144 | 0.30 | 3362635 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 388808 | 0.34 | 367626 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734247 | 1.04 | 714806 | 102.7 | 70 | - | 130 |
| 72 | Ge | 2 | 151773 | 0.37 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4005175 | 0.24 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4109803 | 0.94 | 3944903 | 104.2 | 70 | - | 130 |
| 115 | In | 2 | 1165121 | 1.01 | 1086949 | 107.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5207454 | 0.84 | 4942952 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4918373 | 0.45 | 4623931 | 106.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2875063 | 0.15 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#
Date Acquired: Oct 31 2013 05:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 3.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.63 | ppb | 20.76 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 2.30 | 900.00 | |
| 11 B | 45 | 2 | 5.42 | 5.42 | ppb | 7.19 | 900.00 | |
| 23 Na | 45 | 1 | 270.40 | 270.40 | ppb | 2.04 | 90000.00 | |
| 23 Na | 45 | 2 | 303.90 | 303.90 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 1 | 272.10 | 272.10 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.70 | 285.70 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 28.86 | 28.86 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.42 | 27.42 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 271.40 | 271.40 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 280.90 | 280.90 | ppb | 1.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 7.54 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 2.83 | 900.00 | |
| 55 Mn | 45 | 2 | 1.44 | 1.44 | ppb | 5.65 | 900.00 | |
| 56 Fe | 45 | 2 | 29.89 | 29.89 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 3.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.42 | 900.00 | |
| 66 Zn | 72 | 2 | 2.05 | 2.05 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 4.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.71 | ppb | 52.82 | 900.00 | |
| 88 Sr | 103 | 1 | 5.48 | 5.48 | ppb | 2.66 | 900.00 | |
| 98 Mo | 103 | 1 | 1.08 | 1.08 | ppb | 2.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 3.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.52 | 0.52 | ppb | 3.92 | 900.00 | |
| 120 Sn | 115 | 1 | 5.23 | 5.23 | ppb | 1.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 2.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.58 | 0.58 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2607879 | 0.95 | 2521858 | 103.4 | 70 - 130 | |
| 45 Sc | 1 | 3382703 | 1.29 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 384186 | 0.43 | 367626 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 726579 | 1.37 | 714806 | 101.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150878 | 0.33 | 144802 | 104.2 | 70 | - | 130 |
| 103 | Rh | 1 | 4007590 | 1.55 | 3924881 | 102.1 | 70 | - | 130 |
| 115 | In | 1 | 4067180 | 0.95 | 3944903 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1173517 | 1.87 | 1086949 | 108.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5156548 | 1.48 | 4942952 | 104.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4924327 | 1.35 | 4623931 | 106.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2879634 | 1.26 | 2757011 | 104.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#
Date Acquired: Oct 31 2013 05:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.04 | 48.04 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 50.41 | 50.41 | ppb | 0.22 | 900.00 | |
| 11 B | 6 | 1 | 49.78 | 49.78 | ppb | 0.67 | 900.00 | |
| 11 B | 45 | 2 | 49.09 | 49.09 | ppb | 2.61 | 900.00 | |
| 23 Na | 45 | 1 | 5111.00 | 5111.00 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5228.00 | 5228.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 5122.00 | 5122.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4876.00 | 4876.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 5055.00 | 5055.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 2 | 4646.00 | 4646.00 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 5052.00 | 5052.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5076.00 | 5076.00 | ppb | 1.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.05 | 49.05 | ppb | 0.78 | 900.00 | |
| 51 V | 45 | 2 | 48.96 | 48.96 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 49.21 | 49.21 | ppb | 0.29 | 900.00 | |
| 55 Mn | 45 | 2 | 49.10 | 49.10 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 5123.00 | 5123.00 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 49.21 | 49.21 | ppb | 1.43 | 900.00 | |
| 60 Ni | 45 | 2 | 48.01 | 48.01 | ppb | 1.40 | 900.00 | |
| 63 Cu | 72 | 2 | 47.46 | 47.46 | ppb | 0.15 | 900.00 | |
| 66 Zn | 72 | 2 | 49.12 | 49.12 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 49.16 | 49.16 | ppb | 0.71 | 900.00 | |
| 78 Se | 72 | 2 | 50.23 | 50.23 | ppb | 0.74 | 900.00 | |
| 88 Sr | 103 | 1 | 51.96 | 51.96 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 48.32 | 48.32 | ppb | 0.57 | 900.00 | |
| 111 Cd | 115 | 2 | 49.13 | 49.13 | ppb | 0.94 | 900.00 | |
| 120 Sn | 115 | 1 | 52.22 | 52.22 | ppb | 1.44 | 900.00 | |
| 121 Sb | 115 | 1 | 52.44 | 52.44 | ppb | 1.27 | 900.00 | |
| 137 Ba | 159 | 1 | 49.03 | 49.03 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 49.04 | 49.04 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.11 | 50.11 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520073 | 0.32 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3380257 | 0.55 | 3362635 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 374433 | 0.10 | 367626 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 704830 | 0.82 | 714806 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 146620 | 0.23 | 144802 | 101.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3852278 | 0.30 | 3924881 | 98.2 | 70 | - | 130 |
| 115 | In | 1 | 3955072 | 1.06 | 3944903 | 100.3 | 70 | - | 130 |
| 115 | In | 2 | 1143264 | 1.08 | 1086949 | 105.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5110338 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4931863 | 0.57 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2751597 | 0.42 | 2757011 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#
Date Acquired: Oct 31 2013 05:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.15 | ppb | 18.17 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 3.32 | 900.00 | |
| 11 B | 45 | 2 | 0.71 | 0.71 | ppb | 34.87 | 900.00 | |
| 23 Na | 45 | 1 | 0.99 | 0.99 | ppb | 23.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3.16 | 3.16 | ppb | 8.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.52 | 0.52 | ppb | 15.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.28 | 1.28 | ppb | 20.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.52 | 0.52 | ppb | 17.61 | 90000.00 | |
| 27 Al | 45 | 2 | 1.09 | 1.09 | ppb | 20.21 | 90000.00 | |
| 39 K | 45 | 1 | 2.21 | 2.21 | ppb | 32.52 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.95 | -5.95 | ppb | 7.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 17.31 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 3.61 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 26.56 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 17.27 | 900.00 | |
| 56 Fe | 45 | 2 | 1.37 | 1.37 | ppb | 13.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 8.73 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 5.73 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 8.73 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 153.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.25 | ppb | 44.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 20.14 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 3.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.52 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 10.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 21.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 13.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 56.77 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 2.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 17.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543389 | 0.08 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3376321 | 0.97 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 386363 | 0.22 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725310 | 0.43 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 151732 | 0.35 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3964871 | 0.69 | 3924881 | 101.0 | 70 | - | 130 |
| 115 | In | 1 | 4039159 | 0.56 | 3944903 | 102.4 | 70 | - | 130 |
| 115 | In | 2 | 1178109 | 0.58 | 1086949 | 108.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5137591 | 0.57 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4888911 | 0.07 | 4623931 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2886554 | 0.12 | 2757011 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

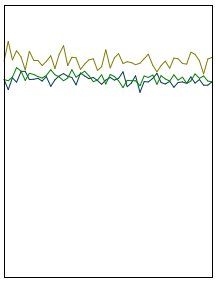




NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

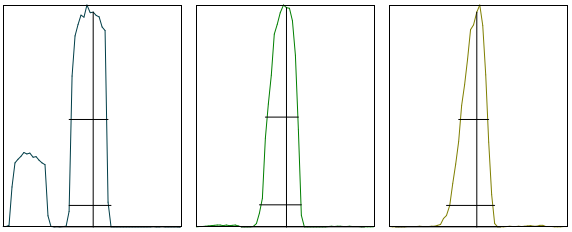
# Tune Report

Tune File : nogas.u
Comment : 103113



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3603.0 | 3628.3 | 2.32 | 43.30 |
| 89 | 10,000 | 7192.0 | 7345.2 | 2.11 | 46.80 |
| 205 | 5,000 | 4051.0 | 3990.0 | 3.07 | 46.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.146%
Doubly Charged: 70/140 10.724%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,573 | 7,426 | 3,966 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.65 | 0.55 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 111 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 0 V | Axis Offset | : | -0.06 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 662.6 | 4.88 | |
| QP Focus: | -8 V | 59 | 1406.8 | 3.44 | |
| Cell Exit: | -34 V | 89 | 1546.8 | 3.51 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Oct 31, 2013 09:39:04
Printed : Oct 31, 2013 09:39:54

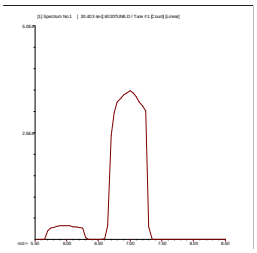
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Oct 31 2013 09:49 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

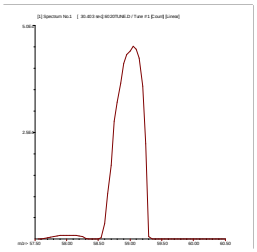
**QC Tune Summary:**
**Pass**

**RSD%**

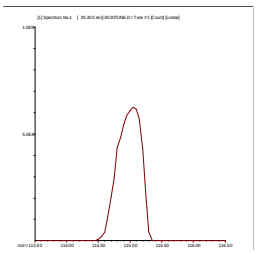
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.87 | 5.00 | 0 |
| 59 Co | 1.48 | 5.00 | |
| 115 In | 1.03 | 5.00 | |
| 205 Tl | 2.86 | 5.00 | |



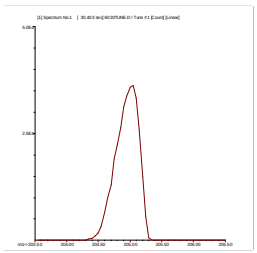
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

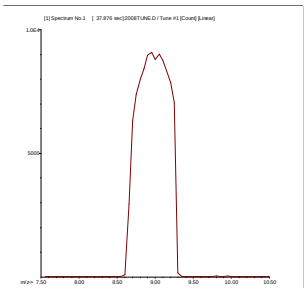
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13J31j00.B\2008TUNE.D
**Date Acquired:** Oct 31 2013 09:55 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

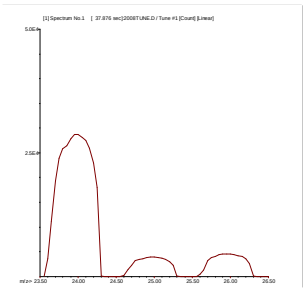


**RSD (%)**

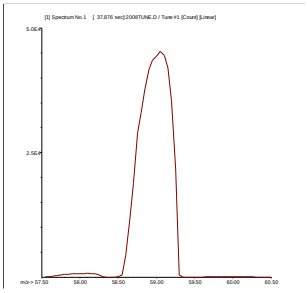
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 50584 | 50323 | 50320 | 50548 | 50497 | 51230 | **1.03** | 5.00 | |
| 24 Mg | 159033 | 159088 | 159429 | 159259 | 158330 | 159059 | **0.65** | 5.00 | |
| 59 Co | 226953 | 226499 | 225840 | 225449 | 227454 | 229525 | **0.81** | 5.00 | |
| 115 In | 295171 | 294589 | 293462 | 294231 | 296442 | 297129 | **0.73** | 5.00 | |
| 208 Pb | 117967 | 115934 | 116788 | 118441 | 118674 | 119997 | **1.40** | 5.00 | |



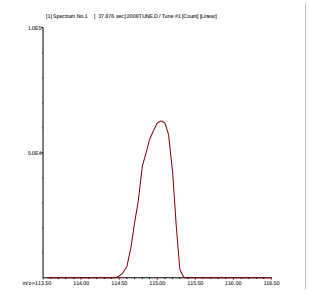
**9 Be**
**Mass Calib.**
Actual: 9.00
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.60
Required:1.00
Flag:



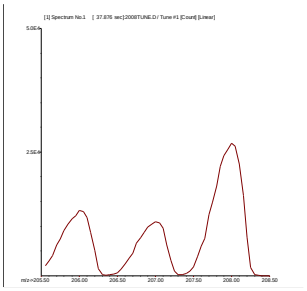
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Oct 31, 2013 11:38 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

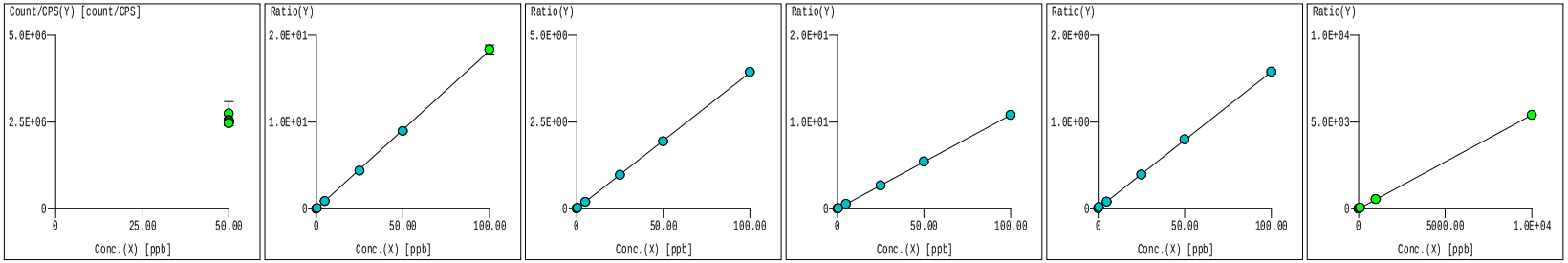
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13j31k00.b\002calb.d\002calb.d# | STDA | Oct 31 2013 10:45 am |
| 2 | c:\icpchem\1\data\13j31k00.b\003cals.d\003cals.d# | STDB | Oct 31 2013 10:52 am |
| 3 | c:\icpchem\1\data\13j31k00.b\004cals.d\004cals.d# | STDC | Oct 31 2013 10:59 am |
| 4 | c:\icpchem\1\data\13j31k00.b\005cals.d\005cals.d# | STDD | Oct 31 2013 11:06 am |
| 5 | c:\icpchem\1\data\13j31k00.b\006cals.d\006cals.d# | STDE | Oct 31 2013 11:13 am |
| 6 | c:\icpchem\1\data\13j31k00.b\007cals.d\007cals.d# | STDF | Oct 31 2013 11:20 am |
| 7 | c:\icpchem\1\data\13j31k00.b\008cals.d\008cals.d# | STDG | Oct 31 2013 11:27 am |
| 8 | c:\icpchem\1\data\13j31k00.b\009cals.d\009cals.d# | STDH | Oct 31 2013 11:35 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

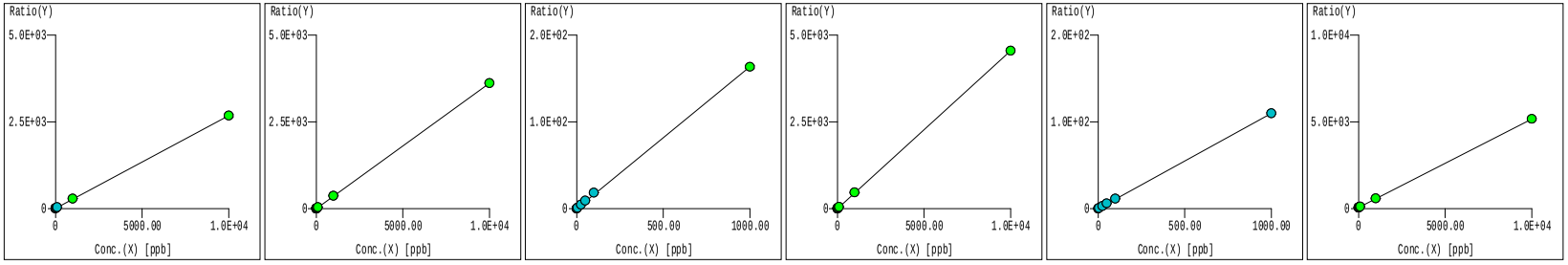
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 2.684E-03 ppb | 1.253E-01 ppb | 3.258E-02 ppb | 5.335E-01 ppb | 5.060E-01 ppb |
| < BEC > | --- ppb | 1.075E-02 ppb | 1.618E-01 ppb | 1.252E-01 ppb | 3.737E-01 ppb | 13.66 ppb |



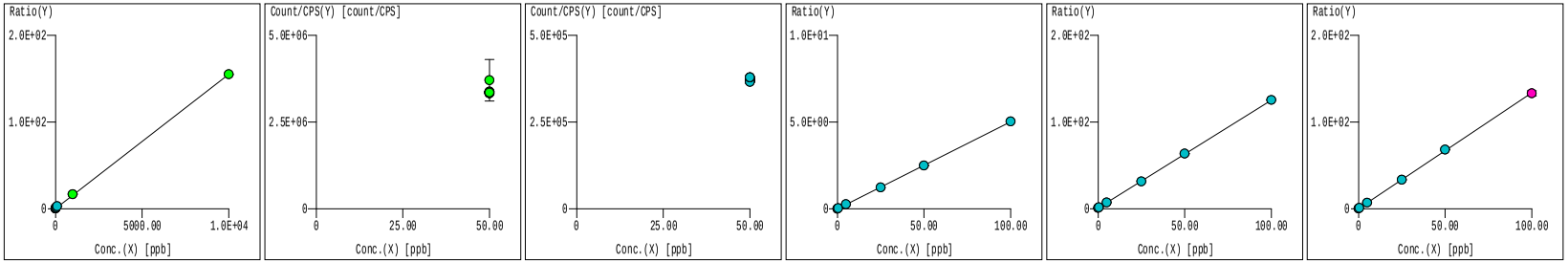

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.135E-01 ppb | 3.784E-02 ppb | 6.078E-02 ppb | 5.874E-02 ppb | 1.052E-02 ppb | 1.115 ppb |
| < BEC > | 28.63 ppb | 3.566E-01 ppb | 3.861E-01 ppb | 6.099E-01 ppb | 5.668E-01 ppb | 119.1 ppb |



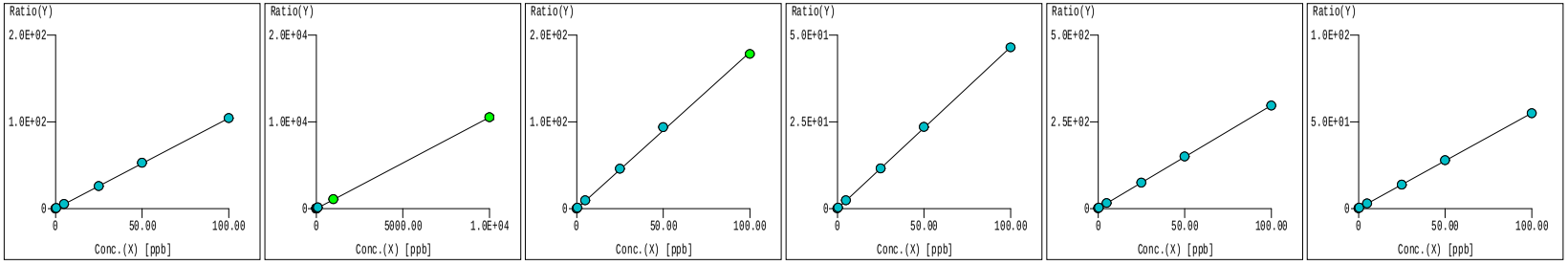
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 1.441 ppb | --- ppb | --- ppb | 8.592E-03 ppb | 2.663E-02 ppb | 2.359E-02 ppb |
| < BEC > | 27.81 ppb | --- ppb | --- ppb | 6.621E-02 ppb | 7.379E-01 ppb | 1.910E-01 ppb |



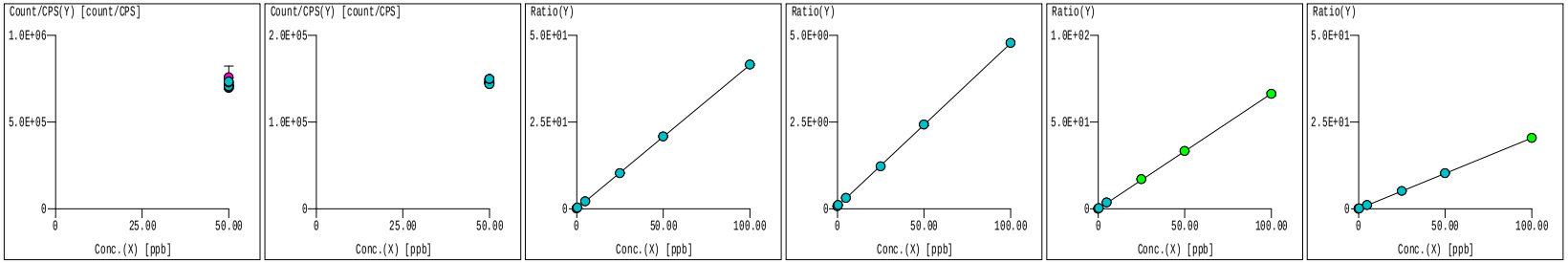

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9997 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.650E-02 ppb | 1.605E-01 ppb | 2.345E-03 ppb | 2.316E-02 ppb | 4.967E-02 ppb | 5.742E-02 ppb |
| < BEC > | 8.069E-02 ppb | 3.506 ppb | 5.833E-03 ppb | 6.875E-02 ppb | 3.392E-01 ppb | 2.784E-01 ppb |



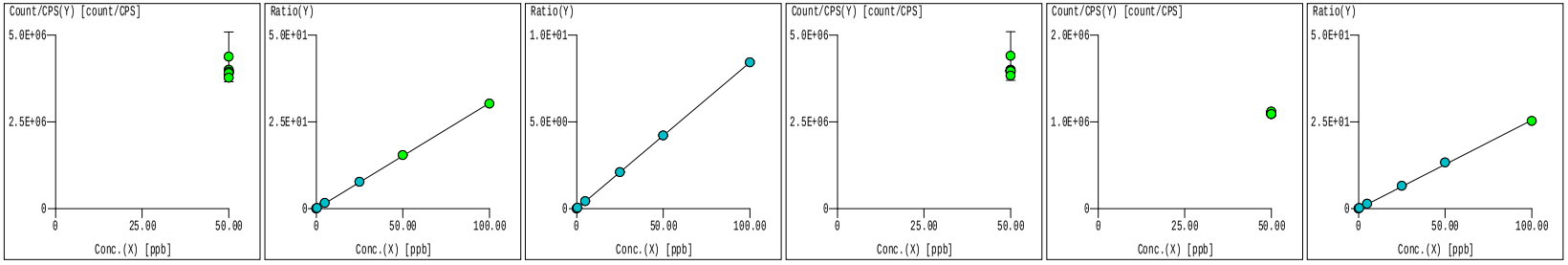
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 4.086E-02 ppb | 2.098E-01 ppb | 3.378E-03 ppb | 3.640E-03 ppb |
| < BEC > | --- ppb | --- ppb | 2.026E-01 ppb | 1.557 ppb | 1.401E-02 ppb | 7.829E-03 ppb |



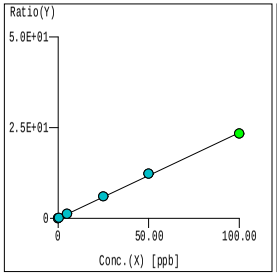

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9997 |
| < DL > | --- ppb | 3.048E-03 ppb | 1.089E-02 ppb | --- ppb | --- ppb | 4.821E-03 ppb |
| < BEC > | --- ppb | 5.984E-03 ppb | 1.638E-02 ppb | --- ppb | --- ppb | 1.538E-02 ppb |

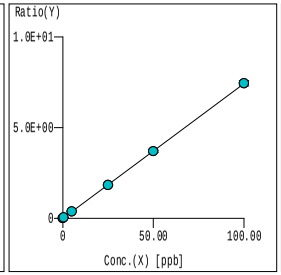


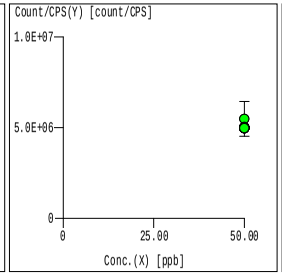
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

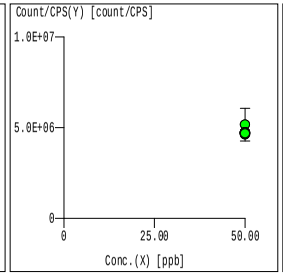
=== Graph Summary ===
Page: 4/4

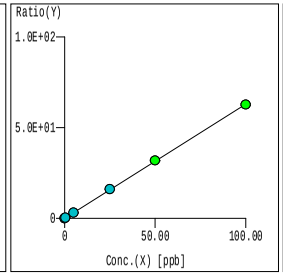
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 0.9996 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9998 |
| < DL > | 2.319E-03 ppb | 1.497E-02 ppb | --- ppb | --- ppb | 1.149E-03 ppb | --- ppb |
| < BEC > | 1.622E-02 ppb | 8.724E-02 ppb | --- ppb | --- ppb | 1.796E-02 ppb | --- ppb |

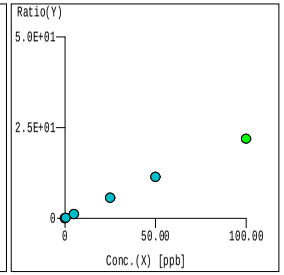




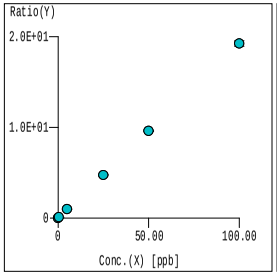


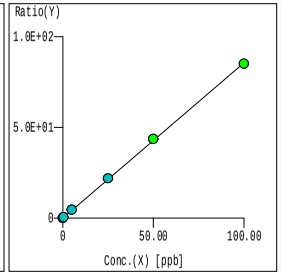


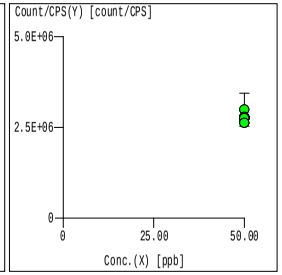





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 0.9999 | 0.0000 |
| < DL > | --- ppb | 5.918E-03 ppb | --- ppb |
| < BEC > | --- ppb | 5.297E-02 ppb | --- ppb |







Prep QC: MP21908

ACCUTEST

| Date: | 10/28/13 |
|---|---|
| Time | 9:40 |

| Name: | EDOUARDA |
|---|---|
| MP Batch ID: | MP21908 |
| QC Sample ID: | MC25522-6F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37805-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95.5 | Factor | -1 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21908-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21908-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S2 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-10F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25522-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-5F | 50 | 50 | | | | 3 | 5 | | |
| 9 | MC25522-6F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-9F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-5F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-6F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 10/29/13

**(Format edits must be done by dept. Manager)**

7.4.1

7

Prep QC: MP21908

ACCUTEST

| Date: | 10/28/13 |
|---|---|
| Time | 9:40 |

| | |
|---|---|
| Name: | EDOUARDA |
| MP Batch ID: | MP21908 |
| QC Sample ID: | MC25522-6F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37805-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95.5 | Factor | -1 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21908-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21908-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S2 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-10F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25522-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-5F | 50 | 50 | | | | 3 | 5 | | |
| 9 | MC25522-6F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-9F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-5F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-6F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review PuiY Date: 10/29/13

**(Format edits must be done by dept. Manager)**

7.4.2

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44848 | 5.0 | 1.1 | mg/l | 250 | 256 | 102.4 | 80-120% |
| Alkalinity, Total as CaCO3 | GN44888 | 5.0 | 1.1 | mg/l | 250 | 262 | 104.8 | 80-120% |
| Chloride | GN44882 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16782/GN44844 | 0.10 | 0.0 | mg/l | 2 | 2.04 | 102.0 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | 0.10 | 0.028 | mg/l | 2 | 2.03 | 101.5 | 90-110% |
| Nitrogen, Nitrite | GP16755/GN44786 | 0.010 | 0.0 | mg/l | .02 | 0.020 | 100.0 | 80-120% |

Associated Samples:
Batch GN44848: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GN44882: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GN44888: MC25522-11, MC25522-13, MC25522-14
Batch GP16755: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GP16782: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GP16783: MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44848 | MC25522-6 | mg/l | 17.5 | 17.5 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 71.2 | 0.0 | 0-20% |
| Chloride | GN44882 | MC25522-6 | mg/l | 6.8 | 6.8 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16782/GN44844 | MC25522-6 | mg/l | 0.18 | 0.17 | 5.7 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | MC25522-11 | mg/l | 0.087 | 0.093 | 6.7 | 0-20% |
| Nitrogen, Nitrite | GP16755/GN44786 | MC25522-6 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN44848: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GN44882: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GN44888: MC25522-11, MC25522-13, MC25522-14
Batch GP16755: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GP16782: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GP16783: MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44848 | MC25522-6 | mg/l | 17.5 | 250 | 279 | 104.6 | 75-125% |
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 250 | 341 | 107.9 | 75-125% |
| Chloride | GN44882 | MC25522-6 | mg/l | 6.8 | 10 | 16.7 | 99.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16782/GN44844 | MC25522-6 | mg/l | 0.18 | 2 | 2.2 | 101.0 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | MC25522-11 | mg/l | 0.087 | 2 | 2.1 | 100.7 | 90-110% |
| Nitrogen, Nitrite | GP16755/GN44786 | MC25522-6 | mg/l | 0.0017 U | .02 | 0.020 | 100.0 | 75-125% |

Associated Samples:
Batch GN44848: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GN44882: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GN44888: MC25522-11, MC25522-13, MC25522-14
Batch GP16755: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
Batch GP16782: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10
Batch GP16783: MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

8.3

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:38 | GN44844-STD1 | 1 | | STDA5.0 |
| 13:39 | GN44844-STD2 | 1 | | STDB2.0 |
| 13:40 | GN44844-STD3 | 1 | | STDC1.0 |
| 13:41 | GN44844-STD4 | 1 | | STDD0.80 |
| 13:43 | GN44844-STD5 | 1 | | STDE0.50 |
| 13:44 | GN44844-STD6 | 1 | | STDF0.30 |
| 13:45 | GN44844-STD7 | 1 | | STDG0.10 |
| 13:46 | GN44844-STD8 | 1 | | STDH0.0 |
| 13:49 | GN44844-ICV1 | 1 | | |
| 13:50 | GN44844-ICB1 | 1 | | |
| 13:51 | GN44844-CCV1 | 1 | | |
| 13:52 | GN44844-CCB1 | 1 | | |
| 13:54 | ZZZZZZ | 1 | | Column efficiency. |
| 13:55 | GP16782-MB1 | 1 | | |
| 13:56 | GP16782-B1 | 1 | | |
| 13:57 | GP16782-S1 | 1 | | |
| 13:59 | GP16782-D1 | 1 | | |
| 14:00 | MC25522-6 | 1 | | |
| 14:01 | MC25522-1 | 1 | | |
| 14:02 | MC25522-2 | 1 | | |
| 14:04 | MC25522-3 | 1 | | |
| 14:05 | MC25522-4 | 1 | | |
| 14:06 | GN44844-CCV2 | 1 | | |
| 14:07 | GN44844-CCB2 | 1 | | |
| 14:09 | MC25522-5 | 1 | | |
| 14:10 | MC25522-7 | 1 | | |
| 14:11 | MC25522-8 | 1 | | |
| 14:12 | MC25522-9 | 1 | | |
| 14:13 | MC25522-10 | 1 | | |
| 14:15 | GN44844-CCV3 | 1 | | |
| 14:16 | GN44844-CCB3 | 1 | | |
| 14:17 | GN44844-ICV2 | 1 | | |
| 14:18 | GN44844-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:20 | GN44844-CCV4 | 1 | | |
| 14:21 | GN44844-CCB4 | 1 | | Raw data typo, CCV changed to CCB. |
| 14:22 | ZZZZZZ | 1 | | Column efficiency. |
| 14:23 | GP16783-MB1 | 1 | | |
| 14:25 | GP16783-B1 | 1 | | |
| 14:26 | GP16783-S1 | 1 | | |
| 14:27 | GP16783-D1 | 1 | | |
| 14:28 | MC25522-11 | 1 | | |
| 14:30 | MC25522-13 | 1 | | |
| 14:31 | MC25522-14 | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 1 | | |
| 14:35 | GN44844-CCV5 | 1 | | |
| 14:36 | GN44844-CCB5 | 1 | | |
| 14:37 | ZZZZZZ | 1 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:41 | GN44844-CCV6 | 1 | | |
| 14:42 | GN44844-CCB6 | 1 | | |
| 14:43 | GN44844-ICV3 | 1 | | |
| 14:44 | GN44844-ICB3 | 1 | | |
| 14:46 | GN44844-CCV7 | 1 | | |
| 14:47 | GN44844-CCB7 | 1 | | |
| 14:48 | ZZZZZZ | 1 | | Column efficiency. |
| 14:49 | GP16784-MB1 | 1 | | |
| 14:51 | GP16784-B1 | 1 | | |
| 14:52 | GP16784-S1 | 1 | | |
| 14:53 | GP16784-D1 | 1 | | |
| 14:54 | MC25568-11 | 1 | | (sample used for QC only; not part of login MC25522) |
| 14:56 | ZZZZZZ | 1 | | |
| 14:57 | ZZZZZZ | 1 | | |
| 14:58 | ZZZZZZ | 1 | | |
| 14:59 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:01 | GN44844-CCV8 | 1 | | |
| 15:02 | GN44844-CCB8 | 1 | | |
| 15:03 | ZZZZZZ | 1 | | |
| 15:04 | ZZZZZZ | 1 | | |
| 15:06 | ZZZZZZ | 1 | | |
| 15:07 | ZZZZZZ | 1 | | |
| 15:08 | ZZZZZZ | 1 | | |
| 15:09 | GN44844-CCV9 | 1 | | |
| 15:11 | GN44844-CCB9 | 1 | | |
| 15:12 | GN44844-ICV4 | 1 | | |
| 15:13 | GN44844-ICB4 | 1 | | |
| 15:14 | GN44844-CCV10 | 1 | | |
| 15:16 | GN44844-CCB10 | 1 | | |
| 15:17 | ZZZZZZ | 1 | | Column efficiency. |
| 15:18 | GP16785-MB1 | 1 | | |
| 15:19 | GP16785-B1 | 1 | | |
| 15:20 | GP16785-S1 | 1 | | |
| 15:22 | GP16785-D1 | 1 | | |
| 15:23 | MC25594-1 | 1 | | (sample used for QC only; not part of login MC25522) |
| 15:24 | ZZZZZZ | 1 | | |
| 15:25 | ZZZZZZ | 1 | | |
| 15:27 | ZZZZZZ | 1 | | |
| 15:28 | GN44844-CCV11 | 1 | | |
| 15:29 | GN44844-CCB11 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25522
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Run ID: GN44844 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN44844-ICV1 | Nitrogen, Nitrate + Nitrite | 2.9 | 0.10 | 0.027 | 3 | 96.7 | 90-110 |
| GN44844-ICB1 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV1 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN44844-CCV2 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB2 | Nitrogen, Nitrate + Nitrite | 0.031 | 0.10 | 0.027 | | | |
| GN44844-CCV3 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB3 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-ICV2 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB2 | Nitrogen, Nitrate + Nitrite | 0.030 | 0.10 | 0.027 | | | |
| GN44844-CCV4 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB4 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-CCV5 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV6 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB6 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV7 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB7 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV8 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV9 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-ICV4 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN44844-ICB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV10 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN44844-CCB10 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV11 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB11 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ Units: mg/l as N
SM 21TH 4500 NO2 B M (Solids) ○ mg/kg as I

Analyst: MEHDIA
GN Batch ID: GN44786
GP Batch ID: GP16755
Date: 10/22/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 10/22/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.036 | 0.071 | 0.171 | 0.339 | 0.678 | 1.354 | | | | |
| Actual Value: | -0.001 | 0.010 | 0.020 | 0.050 | 0.100 | 0.200 | 0.400 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-31654-NO2 | Reagent | |
| CCV | GNSTD-31654-NO2-5 | Reagent | |
| ICV | GNSTD-31655-NO2-2 | Reagent | |
| Reagent | RGT-37839-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 1.00000
Slope = 0.29580
Intercept = -0.00051

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC25522-6 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC25522-6 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.021 | % Rec: | 105% | |
| MB Prep Date: | 10/22/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 10/22/13 | Res: | 0.020 | Spike Amt: | 0.02 | % Rec: | 100% | | | |
| SB Prep Date: | 10/22/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.100 | % Rec: | 100% | |
| CCV (1) Res: | 0.2030 | Known: | 0.20 | % Rec: | 101% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:06 | CCV | N/A | | 50 | 50 | 1 | 0.688 | 0.000 | 0.203 | 0.2030 | 0.010 |
| 17:21 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 17:21 | ICV | N/A | | 50 | 50 | 1 | 0.340 | 0.000 | 0.100 | 0.1001 | 0.010 |
| 17:21 | GP16755-MB1 | N/A | | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0002 | 0.010 |
| 17:21 | GP16755-B1 | N/A | | 50 | 50 | 1 | 0.069 | 0.000 | 0.020 | 0.0199 | 0.010 |
| 17:21 | GP16755-S1 | 7 | 1 | 50 | 50 | 1 | 0.071 | 0.000 | 0.020 | 0.0205 | 0.010 |
| 17:21 | GP16755-D1 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 17:21 | MC25522-6 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 17:21 | MC25522-1 | 7 | 1 | 50 | 50 | 1 | 0.022 | 0.000 | 0.006 | 0.0060 | 0.010 |
| 17:21 | MC25522-2 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:21 | MC25522-3 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:21 | MC25522-4 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:21 | CCV | N/A | | 50 | 50 | 1 | 0.689 | 0.000 | 0.203 | 0.2033 | 0.010 |
| 17:28 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 17:28 | MC25522-5 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:28 | MC25522-7 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 17:28 | MC25522-8 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 17:28 | MC25522-9 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:28 | MC25522-10 | 7 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.000 | 0.0004 | 0.010 |
| 17:28 | MC25522-11 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 17:28 | MC25522-13 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:28 | MC25522-14 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:28 | MC25520-2 | 7 | 1 | 50 | 50 | 1 | 0.273 | 0.000 | 0.080 | 0.0802 | 0.010 |
| 17:28 | MC25520-4 | 7 | 3 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:28 | CCV | N/A | | 50 | 50 | 1 | 0.679 | 0.000 | 0.200 | 0.2003 | 0.010 |
| 17:32 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |
| 17:32 | MC25520-6 | 7 | 3 | 50 | 50 | 1 | 0.077 | 0.000 | 0.022 | 0.0223 | 0.010 |
| 17:32 | MC25520-9 | 7 | 3 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 17:32 | MC25520-13 | 7 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.002 | 0.0019 | 0.010 |
| 17:32 | CCV | N/A | | 50 | 50 | 1 | 0.686 | 0.000 | 0.202 | 0.2024 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | -0.001 | -0.0005 | 0.010 |

Analyst: [signature] Date: 10-22-13 QC Reviewer: [signature] Date: 10/23/13

ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 10/28/13 | **Analysis Batch ID** | GN44844 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16782,GP16783,GP16784,GP16785 |
| **File ID** | 102813W2.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 31704-NO3 | **Color Reagent** | RGT- | 38151-NO3 |
| **ICV** | GNSTD- | 31705-NO3-2 | **Buffer** | RGT- | 37722-NO3 |
| **CCV** | GNSTD- | 31704-NO3-4 | | | |
| **Column EFF STD** | GNSTD- | 31706-NO3-2 | | | |
| **Ammonium Hydroxide** | VENDOR- | 12241 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16782-S1 | 4 | 8.0 | MC25522-9 | 2 | 8.4 | MC25568-15 | 2 | 8.4 | MC25568-6 | 2 | 8.7 |
| GP16782-D1 | 2 | 8.0 | MC25522-10 | 2 | 8.2 | MC25568-16 | 2 | 8.2 | MC25568-7 | 2 | 8.3 |
| MC25522-6 | 2 | 8.0 | GP16783-S1 | 2 | 8.5 | GP16784-S1 | 2 | 8.1 | MC25568-8 | 2 | 8.6 |
| MC25522-1 | 2 | 8.1 | GP16783-D1 | 2 | 8.5 | GP16784-D1 | 4 | 8.1 | MC25568-9 | 2 | 8.4 |
| MC25522-2 | 2 | 8.6 | MC25522-11 | 2 | 8.5 | MC25568-11 | 4 | 8.1 | GP16785-S1 | 4 | 8.0 |
| MC25522-3 | 2 | 8.4 | MC25522-13 | 2 | 8.6 | MC25568-1 | 4 | 8.6 | GP16785-D1 | 4 | 8.0 |
| MC25522-4 | 2 | 8.6 | MC25522-14 | 2 | 8.4 | MC25568-2 | 2 | 8.2 | MC25594-1 | 4 | 8.0 |
| MC25522-5 | 2 | 8.7 | MC25568-10 | 2 | 8.6 | MC25568-3 | 2 | 8.2 | MC25594-2 | 2 | 8.5 |
| MC25522-7 | 2 | 8.1 | MC25568-12 | 2 | 8.5 | MC25568-4 | 2 | 8.4 | MC25594-3 | 2 | 8.6 |
| MC25522-8 | 2 | 8.5 | MC25568-13 | 2 | 8.0 | MC25568-5 | 2 | 8.2 | MC25594-4 | 2 | 8.4 |

**COMMENTS**

**QC Review** **Date:** 10/29/13

Author: chemistry

Date : 10/28/2013

Original Run Filename: OM_10-28-2013_01-37-15PM.OMN Created: 10/28/2013 1:37:15 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_10-28-2013_01-37-15PM.OMN Last Modified: 10/28/2013 3:31:00 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 2.89 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0281 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0266 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16782-MB1 | 1 | 0.0228 | |
| GP16782-B1 | 1 | 2.04 | |
| GP16782-S1 | 1 | 2.23 | |
| GP16782-D1 | 1 | 0.174 | |
| MC25522-6 | 1 | 0.183 | |
| MC25522-1 | 1 | 0.402 | |
| MC25522-2 | 1 | 0.365 | |
| MC25522-3 | 1 | 0.313 | |
| MC25522-4 | 1 | 0.0378 | |
| CCV | 1 | 2.03 | |
| CCB | 1 | 0.0306 | |
| MC25522-5 | 1 | 0.0362 | |
| MC25522-7 | 1 | 0.0345 | |
| MC25522-8 | 1 | 0.343 | |
| MC25522-9 | 1 | 0.455 | |
| MC25522-10 | 1 | 0.0417 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0277 | |
| ICV | 1 | 3.11 | |
| ICB | 1 | 0.0302 | |
| CCV | 1 | 2.04 | |
| ~~CCV~~ CCB | 1 | 0.0294 | Typo CW 10-28-13 |
| COLEFFCONF | 1 | 2.20 | |
| GP16783-MB1 | 1 | 0.0284 | |
| GP16783-B1 | 1 | 2.03 | |
| GP16783-S1 | 1 | 2.10 | |
| GP16783-D1 | 1 | 0.0925 | |
| MC25522-11 | 1 | 0.0865 | |
| MC25522-13 | 1 | 0.555 | |
| MC25522-14 | 1 | 0.163 | |
| MC25568-10 | 1 | 0.218 | |
| MC25568-12 | 1 | 0.0319 | |
| CCV | 1 | 2.02 | |
| CCB | 1 | 0.0228 | |
| MC25568-13 | 1 | 0.275 | |
| MC25568-15 | 1 | 0.252 | |
| MC25568-16 | 1 | 0.273 | |
| CCV | 1 | 2.01 | |
| CCB | 1 | 0.0292 | |
| ICV | 1 | 3.05 | |
| ICB | 1 | 0.0246 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0281 | |
| COLEFFCONF | 1 | 2.24 | |
| GP16784-MB1 | 1 | 0.0233 | |
| GP16784-B1 | 1 | 2.00 | |

10/29/13

- 1 -

9.2 9

Author: chemistry

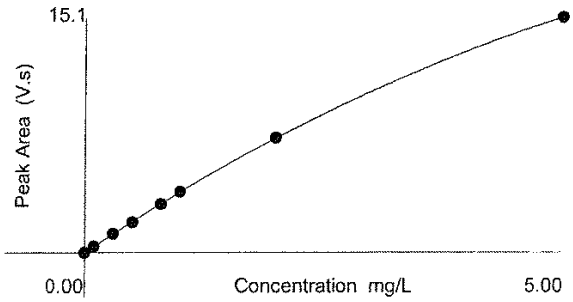
Date : 10/28/2013

| | | | |
|---|---|---|---|
| GP16784-S1 | 1 | 1.98 | |
| GP16784-D1 | 1 | 0.179 | |
| MC25568-11 | 1 | 0.181 | |
| MC25568-1 | 1 | 0.263 | |
| MC25568-2 | 1 | 0.0330 | |
| MC25568-3 | 1 | 0.0326 | |
| MC25568-4 | 1 | 0.256 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0233 | |
| MC25568-5 | 1 | 0.106 | |
| MC25568-6 | 1 | 0.0233 | |
| MC25568-7 | 1 | 0.0209 | |
| MC25568-8 | 1 | 0.201 | |
| MC25568-9 | 1 | 0.0474 | |
| CCV | 1 | 1.98 | |
| CCB | 1 | 0.0228 | |
| ICV | 1 | 2.98 | |
| ICB | 1 | 0.0210 | |
| CCV | 1 | 1.94 | |
| CCB | 1 | 0.0228 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16785-MB1 | 1 | 0.0240 | |
| GP16785-B1 | 1 | 1.99 | |
| GP16785-S1 | 1 | 2.15 | |
| GP16785-D1 | 1 | 0.158 | |
| MC25594-1 | 1 | 0.160 | |
| MC25594-2 | 1 | 0.399 | |
| MC25594-3 | 1 | 0.298 | |
| MC25594-4 | 1 | 0.294 | |
| CCV | 1 | 1.95 | |
| CCB | 1 | 0.0226 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.1 | 1.20 | 0.0 | 0.0 | 4.99 | 10/28/2013 | 1:38:12 PM |
| 2 | 2.00 | 1 | 7.39 | 0.654 | 0.0 | -0.3 | 2.04 | 10/28/2013 | 1:39:27 PM |
| 3 | 1.00 | 1 | 3.92 | 0.357 | 0.0 | -0.7 | 0.991 | 10/28/2013 | 1:40:42 PM |
| 4 | 0.800 | 1 | 3.12 | 0.284 | 0.0 | 1.0 | 0.774 | 10/28/2013 | 1:41:58 PM |
| 5 | 0.500 | 1 | 1.94 | 0.178 | 0.0 | 2.8 | 0.473 | 10/28/2013 | 1:43:13 PM |
| 6 | 0.300 | 1 | 1.20 | 0.111 | 0.0 | -0.4 | 0.296 | 10/28/2013 | 1:44:28 PM |
| 7 | 0.100 | 1 | 0.406 | 0.0374 | 0.0 | -5.3 | 0.114 | 10/28/2013 | 1:45:44 PM |
| 8 | 0.00 | 1 | -6.84e-3 | -9.59e-4 | | | 0.0226 | 10/28/2013 | 1:46:59 PM |

Figure : 1 (NO3)




Area = - 0.224 * Conc^2 + 4.15 * Conc - 0.0271
Conc = 7.36e-3 * Area^2 + 0.218 * Area + 0.0240
Correlation Coefficient (r) = 0.99998

Weighting : None

10/29/13

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44848** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 10/28/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25522-6 Original: 17.5 MS: 280 Spk Amt: 250 % Rec: 105%

Dup Sample ID: MC25522-6 Original: 17.5 Duplicate: 17.5 % RPD: 0%

MB Date: 10/28/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 256 Spike Amt: 250 % Rec: 102.4

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 52.6 % REC: 105.2

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44848-MB1 | 100 | 4.74 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44848-B1 | 100 | 8.62 | 0.1 | 23.5 | 23.4 | | | 256.2 | 256.23 | 5 |
| 1 | GN44848-S1 | 100 | 8.01 | 23.5 | 49.0 | 25.5 | | | 279.2 | 279.225 | 5 |
| 1 | GN44848-D1 | 100 | 5.97 | 0.0 | 1.9 | 1.9 | 0.3 | 2.2 | 17.5 | 17.52 | 5 |
| 1 | MC25522-6 | 100 | 5.98 | 2.2 | 4.1 | 1.9 | 0.3 | 2.2 | 17.5 | 17.52 | 5 |
| 1 | MC25522-1 | 100 | 6.06 | 4.4 | 11.8 | 7.4 | | | 81.0 | 81.03 | 5 |
| 1 | MC25522-2 | 100 | 6.04 | 11.8 | 19.2 | 7.4 | | | 81.0 | 81.03 | 5 |
| 1 | MC25522-3 | 100 | 6.35 | 19.2 | 48.0 | 28.8 | | | 315.4 | 315.36 | 5 |
| 1 | MC25522-4 | 100 | 6.61 | 0.0 | 28.6 | 28.6 | | | 313.2 | 313.17 | 5 |
| 1 | MC25522-5 | 100 | 5.89 | 28.6 | 30.7 | 2.1 | | | 23.0 | 22.995 | 5 |
| 1 | MC25522-7 | 100 | 6.25 | 30.7 | 59.5 | 28.8 | | | 315.4 | 315.36 | 5 |
| 1 | MC25522-8 | 100 | 6.22 | 9.5 | 24.5 | 15.0 | | | 164.3 | 164.25 | 5 |
| 1 | MC25522-9 | 100 | 6.26 | 24.5 | 84.0 | 59.5 | | | 651.5 | 651.525 | 5 |
| 1 | MC25522-10 | 100 | 5.89 | 34.0 | 38.0 | 4.0 | | | 43.8 | 43.8 | 5 |
| | ICV | 100 | 8.49 | 38.0 | 42.8 | 4.8 | | | 52.6 | 52.56 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 10/28/2013 5:00:11 PM

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN44882** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 10/30/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN44882-MB1 | Date: | 10/30/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN44882-B1 | Date: | 10/30/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC25522-6 | Smpl Res:: | 6.8 | Dup Res: | 6.8 | % RPD: | 0% | | | | |
| MS ID: | MC25522-6 | Smpl Res: | 6.8 | MS Res: | 16.7 | Spike: | 10 | % Rec: | 99% | | |
| External: | GNSTD-31299-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.075 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44882-MB1 | 2.54 | 50.0 | 1 | 0.0 | 0.0750 | 0.0750 | 0.000 | 0.0 | 0 | 1 |
| | GN44882-B1 | 2.46 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.025 | 10.3 | 10.25 | 1 |
| 2 | GN44882-S1 | 2.5 | 50.0 | 1 | 0.0 | 1.7500 | 1.7500 | 1.675 | 16.7 | 16.74 | 1 |
| 2 | GN44882-D1 | 2.47 | 50.0 | 1 | 0.0 | 0.7500 | 0.7500 | 0.675 | 6.8 | 6.75 | 1 |
| 2 | MC25522-6 | 2.47 | 50.0 | 1 | 0.0 | 0.7500 | 0.7500 | 0.675 | 6.8 | 6.75 | 1 |
| 1 | MC25522-1 | 2.5 | 50.0 | 1 | 0.0 | 5.0500 | 5.0500 | 4.975 | 49.7 | 49.73 | 1 |
| 1 | MC25522-2 | 2.54 | 50.0 | 1 | 0.0 | 5.0500 | 5.0500 | 4.975 | 49.7 | 49.73 | 1 |
| 1 | MC25522-3 | 2.52 | 50.0 | 1 | 0.0 | 1.8500 | 1.8500 | 1.775 | 17.7 | 17.74 | 1 |
| 1 | MC25522-4 | 2.55 | 50.0 | 1 | 0.0 | 1.8500 | 1.8500 | 1.775 | 17.7 | 17.74 | 1 |
| 1 | MC25522-5 | 2.56 | 50.0 | 1 | 0.0 | 7.2000 | 7.2000 | 7.125 | 71.2 | 71.23 | 1 |
| 1 | MC25522-7 | 2.49 | 50.0 | 1 | 0.0 | 2.0000 | 2.0000 | 1.925 | 19.2 | 19.24 | 1 |
| 1 | MC25522-8 | 2.46 | 50.0 | 1 | 0.0 | 4.3500 | 4.3500 | 4.275 | 42.7 | 42.74 | 1 |
| 1 | MC25522-9 | 2.45 | 50.0 | 1 | 0.0 | 1.6000 | 1.6000 | 1.525 | 15.3 | 15.25 | 1 |
| 1 | MC25522-10 | 2.48 | 50.0 | 1 | 0.0 | 0.5000 | 0.5000 | 0.425 | 4.3 | 4.25 | 1 |
| 1 | MC25522-11 | 2.48 | 50.0 | 1 | 0.0 | 1.2500 | 1.2500 | 1.175 | 11.8 | 11.75 | 1 |
| 1 | MC25522-13 | 2.54 | 50.0 | 1 | 0.0 | 1.7500 | 1.7500 | 1.675 | 16.7 | 16.74 | 1 |
| 1 | MC25522-14 | 2.54 | 50.0 | 1 | 0.0 | 0.3000 | 0.3000 | 0.225 | 2.3 | 2.25 | 1 |
| 4 | MC25694-1 | 2.55 | 50.0 | 10 | 0.0 | 5.5000 | 5.5000 | 5.425 | 54.2 | 542.3 | 10 |
| 1 | MC25698-1 | 2.5 | 50.0 | 10 | 0.0 | 1.7500 | 1.7500 | 1.675 | 16.7 | 167.4 | 10 |
| 1 | MC25698-2 | 2.51 | 50.0 | 10 | 0.0 | 1.0500 | 1.0500 | 0.975 | 9.8 | 97.5 | 10 |
| 1 | MC25698-3 | 2.5 | 50.0 | 1 | 0.0 | 4.8000 | 4.8000 | 4.725 | 47.2 | 47.24 | 1 |
| 1 | MC25698-4 | 2.51 | 50.0 | 10 | 0.0 | 1.3000 | 1.3000 | 1.225 | 12.3 | 122.5 | 10 |
| 1 | MC25698-5 | 2.52 | 50.0 | 10 | 0.0 | 1.9000 | 1.9000 | 1.825 | 18.2 | 182.4 | 10 |
| 1 | MC25698-6 | 2.53 | 50.0 | 10 | 0.0 | 3.3000 | 3.3000 | 3.225 | 32.2 | 322.4 | 10 |
| | ICV | 2.47 | 50.0 | 1 | 0.0 | 0.5750 | 0.5750 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13659 | #4 | | |
| #2 | Acidic Indicator | RGT-37867-CHL | #5 | | |
| #3 | Spike | GNSTD-30654-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-14074, Result 2.03.

**Approved By:** mehdia **Date:** 10/30/2013 4:43:53 PM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44888** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 10/30/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25594-1 Original: 71.2 MS: 341 Spk Amt: 250 % Rec: 108%

Dup Sample ID: MC25594-1 Original: 71.2 Duplicate: 71.2 % RPD: 0%

MB Date: 10/30/2013 Result: <5 RL: 5 < RL?: y

Spike blank: 262 Spike Amt: 250 % Rec: 104.8

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 52.6 % REC: 105.2

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44888-MB1 | 100 | 4.92 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44888-B1 | 100 | 8.89 | 0.1 | 24.0 | 23.9 | | | 261.7 | 261.705 | 5 |
| 1 | GN44888-S1 | 100 | 7.71 | 24.0 | 55.1 | 31.1 | | | 340.5 | 340.545 | 5 |
| 1 | GN44888-D1 | 100 | 6.15 | 5.1 | 11.6 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-1 | 100 | 6.17 | 11.6 | 18.1 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-2 | 100 | 6.09 | 18.1 | 24.0 | 5.9 | | | 64.6 | 64.605 | 5 |
| 1 | MC25594-3 | 100 | 5.91 | 24.0 | 28.7 | 4.7 | | | 51.5 | 51.465 | 5 |
| 1 | MC25522-11 | 100 | 5.91 | 28.7 | 30.2 | 1.5 | 0.3 | 1.8 | 13.1 | 13.14 | 5 |
| 1 | MC25522-13 | 100 | 5.85 | 30.5 | 38.8 | 8.3 | | | 90.9 | 90.885 | 5 |
| 1 | MC25522-14 | 100 | 5.81 | 38.8 | 48.0 | 9.2 | | | 100.7 | 100.74 | 5 |
| 1 | MC25568-12 | 100 | 6.85 | 0.0 | 12.5 | 12.5 | | | 136.9 | 136.875 | 5 |
| 1 | MC25568-13 | 100 | 6.65 | 12.5 | 45.7 | 33.2 | | | 363.5 | 363.54 | 5 |
| 1 | MC25568-15 | 100 | 6.14 | 0.0 | 5.8 | 5.8 | | | 63.5 | 63.51 | 5 |
| 1 | MC25568-16 | 100 | 6.24 | 5.8 | 37.0 | 31.2 | | | 341.6 | 341.64 | 5 |
| | ICV | 100 | 8.62 | 37.0 | 41.8 | 4.8 | | | 52.6 | 52.56 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 10/31/2013 11:02:43 AM

New England ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

| | |
|---|---|
| Accutest Job #: | MC25522 |
| Accutest Quote #: | Page 1 of 2 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | | | Subcontract Laboratory Information | | |
|---|---|---|---|---|---|
| Name: Accutest New England | | | Name: Accutest - New Jersey | | |
| Address: 50 D'Angelo Drive | | | Address: 2235 Route 130 | | |
| City: Marlborough | State: MA | Zip: 01752 | City: Dayton | State: NJ | Zip: 08810 |
| Send Report to: | | | Contact: | | |
| Any questions contact: Frank D'Agostino | | | Sample Management | | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | | | Phone: (732) 329-0200 | | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation: HCL | NaOH | HNO3 | H2SO4 | None | SO4 by 300 | MS/MSD | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC25522 -1 | 10/22/13 | 10:00 AM | | GW | 1 | | | | | X | X | | | | | B6MA |
| MC25522 -2 | 10/22/13 | 00:00 | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -3 | 10/22/13 | 10:06 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -4 | 10/22/13 | 10:10 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -5 | 10/22/13 | 10:10 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -6,-6D,-6S | 10/22/13 | 11:20 AM | | GW | 1 | | | | | X | X | X | | | | |
| MC25522 -7 | 10/22/13 | 11:25 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -8 | 10/22/13 | 12:05 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -9 | 10/22/13 | 12:18 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -10 | 10/22/13 | 1:28 PM | | GW | 1 | | | | | X | X | | | | | |

| Data Deliverable Information | | Comments / Remarks |
|---|---|---|
| [x] STD | [ ] Commercial "A" | [ ] PDF | STD - Due 11/5/13 |
| [ ] Other _____ (Days) | [ ] Commercial "B" | [ ] Compact Disk Deliverable | |
| | [ ] Commercial "BN" | [ ] Electronic Delivery: | |
| | [ ] Reduced Tier 1 | [ ] State Forms | |
| 10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved. | [X] Full Tier 1 | [ ] Other (Specify) | |

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by: 1 | | 10/23/13 | Received By: 1 FedEx | Date & Time: 1 | Seal #: 10/23/13 NO # | Headspace: Yes [ ] No [ ] NA [ ] |
| Relinquished by: 2 Fed Ex | 10/24/13 1000 | | Received By: 2 | Date & Time: 2 10/24/13 1000 | Preserved where applicable: [ ] | |
| Relinquished by: 3 | Date & Time: | | Received By: 3 | Date & Time: 3 | Temperature °C 6.0 | On Ice [x] |

Intact IP

3A

Fed Ex Trk # 5743 4540 2415

DM

10.1 10

**MC25522: Chain of Custody**
**Page 1 of 3**
**Accutest New Jersey**

# CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

| | |
|---|---|
| Accutest Job #: | MC25522 |
| Accutest Quote #: | Page 2 of 2 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | | | Subcontract Laboratory Information | | | Analytical Information |
|---|---|---|---|---|---|---|
| Name: Accutest New England | | | Name: Accutest - New Jersey | | | |
| Address: 50 D'Angelo Drive | | | Address: 2235 Route 130 | | | |
| City: Marlborough | State: MA | Zip: 01752 | City: Dayton | State: NJ | Zip: 08810 | |
| Send Report to: | | | Contact: | | | |
| Any questions contact: Frank D'Agostino | | | Phone: (732) 329-0200 | | | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | | | | | | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation HCL | NaOH | HNO3 | H2SO4 | None | SO4 by 300 | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC25522 -11 | 10/22/13 | 1:30 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -13 | 10/22/13 | 2:00 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25522 -14 | 10/22/13 | 2:19 PM | | GW | 1 | | | | | X | X | | | | | |

| Data Deliverable Information | | Comments / Remarks |
|---|---|---|
| [x] STD | [ ] Commercial "A" | [ ] PDF | STD - Due 11/5/13 |
| [ ] Other _____ (Days) | [ ] Commercial "B" | [ ] Compact Disk Deliverable | |
| | [ ] Commercial "BN" | [ ] Electronic Delivery: | |
| | [ ] Reduced Tier 1 | [ ] State Forms | |
| 10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved. | [X] Full Tier 1 | [ ] Other (Specify) | |

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 10/23/13 | Received By: 1 FedEx | Date & Time: 1 | Seal #: 10/23/13 NO # Headspace: Yes [ ] No [ ] NA [ ] |
| Relinquished by: 2 Fed Ex | 10/24/1000 | Received By: 2 | Date & Time: 2 10/24/13 1000 | Preserved where applicable: [ ] |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 6.0 On Ice [X] |

Intact IP

3A

Fed Ex Trk #
5743 4540 2415

DM

10.1 10

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25522 **Client:** _____ **Project:** _____

**Date / Time Received:** 10/24/2013 **Delivery Method:** _____ **Airbill #'s:** _____

**Cooler Temps (Initial/Adjusted):** #1: (6/6); 0

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com



**MC25522: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC25522

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-1 Collected: 22-OCT-13 10:00 By: EFVC SHL-20-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-1 | EPA 300/SW846 9056A | 01-NOV-13 18:21 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-2 Collected: 22-OCT-13 00:00 By: EFVC DUP-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-2 | EPA 300/SW846 9056A | 01-NOV-13 19:33 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-3 Collected: 22-OCT-13 10:06 By: EFVC SHM-96-5B-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-3 | EPA 300/SW846 9056A | 01-NOV-13 19:56 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-4 Collected: 22-OCT-13 10:10 By: EFVC N5-P1-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-4 | EPA 300/SW846 9056A | 01-NOV-13 20:20 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-5 Collected: 22-OCT-13 10:10 By: EFVC SHL-13-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-5 | EPA 300/SW846 9056A | 01-NOV-13 20:44 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-6 Collected: 22-OCT-13 11:20 By: EFVC SHL-8S-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-6 | EPA 300/SW846 9056A | 01-NOV-13 17:33 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-7 Collected: 22-OCT-13 11:25 By: EFVC SHM-96-5C-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-7 | EPA 300/SW846 9056A | 01-NOV-13 21:08 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-8 Collected: 22-OCT-13 12:05 By: EFVC SHL-11-102213 | | | | Received: 22-OCT-13 | By: AS | |
| MC25522-8 | EPA 300/SW846 9056A | 01-NOV-13 21:32 | NP | 01-NOV-13 | NP | SO4 |

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC25522

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25522-9 | Collected: 22-OCT-13 12:18 By: EFVC | Received: 22-OCT-13 By: AS | | | | |
| N5-P2-102213 | | | | | | |
| MC25522-9 | EPA 300/SW846 9056A | 01-NOV-13 21:56 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-10 | Collected: 22-OCT-13 13:28 By: EFVC | Received: 22-OCT-13 By: AS | | | | |
| SHL-5-102213 | | | | | | |
| MC25522-10 | EPA 300/SW846 9056A | 01-NOV-13 22:20 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-11 | Collected: 22-OCT-13 13:30 By: EFVC | Received: 22-OCT-13 By: AS | | | | |
| SHL-8D-102213 | | | | | | |
| MC25522-11 | EPA 300/SW846 9056A | 01-NOV-13 22:44 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-13 | Collected: 22-OCT-13 14:00 By: EFVC | Received: 22-OCT-13 By: AS | | | | |
| SHL-15-102213 | | | | | | |
| MC25522-13 | EPA 300/SW846 9056A | 01-NOV-13 23:08 | NP | 01-NOV-13 | NP | SO4 |
| MC25522-14 | Collected: 22-OCT-13 14:19 By: EFVC | Received: 22-OCT-13 By: AS | | | | |
| SHP-99-29X-102213 | | | | | | |
| MC25522-14 | EPA 300/SW846 9056A | 02-NOV-13 00:20 | NP | 01-NOV-13 | NP | SO4 |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-1.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-1.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-1.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-1.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-1.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-1.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-2.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-2.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-2.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-2.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-2.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-2.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-3.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-3.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-3.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-3.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-3.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-3.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-4.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-4.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-4.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-4.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-4.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-4.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-5.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-5.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-5.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-5.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-5.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-5.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-6.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-6.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-6.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-6.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-6.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-6.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-7.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-7.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-7.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-7.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-7.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-7.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-8.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-8.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-8.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-8.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-8.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-8.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-9.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-9.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-9.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-9.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-9.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-9.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-10.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-10.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-10.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-10.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-10.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-10.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-11.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-11.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-11.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-11.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-11.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-11.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-13.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-13.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-13.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-13.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |
| MC25522-13.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-13.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |
| MC25522-14.1 | Secured Storage | Todd Shoemaker | 10/31/13 09:02 | Retrieve from Storage |
| MC25522-14.1 | Todd Shoemaker | Secured Staging Area | 10/31/13 09:02 | Return to Storage |
| MC25522-14.1 | Secured Staging Area | Nirali Patel | 10/31/13 09:05 | Retrieve from Storage |
| MC25522-14.1 | Nirali Patel | Secured Storage | 10/31/13 17:01 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25522
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/22/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25522-14.1 | Secured Storage | Nirali Patel | 11/01/13 08:16 | Retrieve from Storage |
| MC25522-14.1 | Nirali Patel | Secured Storage | 11/01/13 15:52 | Return to Storage |

New England ACCUTEST LABORATORIES

## General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75681/GN94269 | 10 | 0.0 | mg/l | 80 | 79.3 | 99.1 | 90-110% |

Associated Samples:
Batch GP75681: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | GP75681/GN94269 | MC25522-6 | mg/l | 6.4 | 6.2 | 3.2 | 0-20% |

Associated Samples:
Batch GP75681: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75681/GN94269 | MC25522-6 | mg/l | 6.4 | 80 | 84.0 | 97.0 | 80-120% |
| Sulfate | GP75681/GN94269 | MC25522-1 | mg/l | 23.0 | 80 | 99.4 | 95.5 | 80-120% |

Associated Samples:
Batch GP75681: MC25522-1, MC25522-2, MC25522-3, MC25522-4, MC25522-5, MC25522-6, MC25522-7, MC25522-8, MC25522-9, MC25522-10, MC25522-11, MC25522-13, MC25522-14
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110101.TXT  Date Analyzed: 11/01/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94269
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:43 | GN94269-STD1 | 1 | | Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. |
| 13:31 | GN94269-STD2 | 1 | | STDB |
| 13:55 | GN94269-STD3 | 1 | | STDC |
| 14:43 | GN94269-STD4 | 1 | | STDD |
| 15:31 | GN94269-STD5 | 1 | | STDE |
| 15:55 | GN94269-STD6 | 1 | | STDF |
| 16:19 | GN94269-STD7 | 1 | | STDG |
| 13:34 | GN94269-ICV1 | 1 | | |
| 13:58 | GN94269-CCV1 | 1 | | |
| 14:21 | GN94269-CCB1 | 1 | | |
| 14:45 | GP75488-MB2 | 1 | | |
| 14:45 | GP75681-MB1 | 1 | | Sample shown for QC tracking purposes only. |
| 15:09 | GP75488-B2 | 1 | | |
| 15:09 | GP75681-B1 | 1 | | Sample shown for QC tracking purposes only. |
| 15:34 | ZZZZZZ | 1 | | |
| 15:57 | ZZZZZZ | 1 | | |
| 16:21 | ZZZZZZ | 1 | | |
| 16:45 | GP75681-S1 | 1 | | |
| 17:09 | GP75681-D1 | 1 | | |
| 17:33 | MC25522-6 | 1 | | |
| 17:57 | GP75681-S2 | 1 | | |
| 18:21 | MC25522-1 | 1 | | |
| 18:45 | GN94269-CCV2 | 1 | | |
| 19:09 | GN94269-CCB2 | 1 | | |
| 19:33 | MC25522-2 | 1 | | |
| 19:56 | MC25522-3 | 1 | | |
| 20:20 | MC25522-4 | 1 | | |
| 20:44 | MC25522-5 | 1 | | |
| 21:08 | MC25522-7 | 1 | | |
| 21:32 | MC25522-8 | 1 | | |
| 21:56 | MC25522-9 | 1 | | |
| 22:20 | MC25522-10 | 1 | | |
| 22:44 | MC25522-11 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110101.TXT  Date Analyzed: 11/01/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94269
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:08 | MC25522-13 | 1 | | |
| 23:32 | GN94269-CCV3 | 1 | | |
| 23:56 | GN94269-CCB3 | 1 | | |
| 00:20 | MC25522-14 | 1 | | |
| 00:44 | ZZZZZZ | 1 | | |
| 01:07 | ZZZZZZ | 1 | | |
| 01:31 | ZZZZZZ | 1 | | |
| 01:55 | ZZZZZZ | 1 | | |
| 02:19 | GP75386-MB5 | 1 | | |
| 02:19 | GP75682-MB1 | 1 | | Sample shown for QC tracking purposes only. |
| 02:43 | GP75386-B5 | 1 | | |
| 02:43 | GP75682-B1 | 1 | | Sample shown for QC tracking purposes only. |
| 03:07 | ZZZZZZ | 1 | | |
| 03:31 | ZZZZZZ | 1 | | |
| 03:55 | ZZZZZZ | 1 | | |
| 04:19 | GN94269-CCV4 | 1 | | |
| 04:43 | GN94269-CCB4 | 1 | | |
| 05:07 | GP75682-S1 | 1 | | |
| 05:31 | GP75682-D1 | 1 | | |
| 05:55 | JB50975-1 | 1 | | (sample used for QC only; not part of login MC25522) |
| 06:19 | ZZZZZZ | 1 | | |
| 06:42 | ZZZZZZ | 1 | | |
| 07:06 | ZZZZZZ | 1 | | |
| 07:30 | ZZZZZZ | 1 | | |
| 07:54 | ZZZZZZ | 1 | | |
| 08:18 | ZZZZZZ | 1 | | |
| 08:42 | ZZZZZZ | 1 | | |
| 09:06 | GN94269-CCV5 | 1 | | |
| 09:30 | GN94269-CCB5 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25522
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110101.TXT  Date Analyzed: 11/01/13  Methods: EPA 300/SW846 9056A
Run ID: GN94269  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN94269-ICV1 | Sulfate | 113 | 10 | 0.094 | 110.12 | 102.6 | 90-110 |
| GN94269-CCV1 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94269-CCB1 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94269-CCV2 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94269-CCB2 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94269-CCV3 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94269-CCB3 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94269-CCV4 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94269-CCB4 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94269-CCV5 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94269-CCB5 | Sulfate | 0.094 U | 10 | 0.094 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

(Accutest New Jersey)

Sequence: 213110101
Operator: Chemistry

GN94269


Printed: 11/1/2013 3:26:22 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2
#Samples: 60

Created: 11/1/2013 9:24:08 AM by Chemistry
Last Update: 11/1/2013 3:26:11 PM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | BLANKCONF | Unknown | 1 | 20.0 | 1.0000 | Finished | 11/1/2013 1:10:34 PM | |
| 2 | STDA | Standard | 3 | 20.0 | 1.0000 | Finished | 10/31/2013 12:43:44 PM | |
| 3 | STDB | Standard | 4 | 20.0 | 1.0000 | Finished | 10/31/2013 1:31:36 PM | |
| 4 | STDC | Standard | 5 | 20.0 | 1.0000 | Finished | 10/31/2013 1:55:33 PM | |
| 5 | STDD | Standard | 7 | 20.0 | 1.0000 | Finished | 10/31/2013 2:43:23 PM | |
| 6 | STDE | Standard | 9 | 20.0 | 1.0000 | Finished | 10/31/2013 3:31:15 PM | |
| 7 | STDF | Standard | 10 | 20.0 | 1.0000 | Finished | 10/31/2013 3:55:10 PM | |
| 8 | STDG | Standard | 11 | 20.0 | 1.0000 | Finished | 10/31/2013 4:19:06 PM | |
| 9 | ICV | Unknown | 2 | 20.0 | 1.0000 | Finished | 11/1/2013 1:34:06 PM | |
| 10 | CCV | Unknown | 3 | 20.0 | 1.0000 | Finished | 11/1/2013 1:58:02 PM | |
| 11 | CCB | Unknown | 4 | 20.0 | 1.0000 | Finished | 11/1/2013 2:21:57 PM | |
| 12 | MB | Unknown | 5 | 20.0 | 1.0000 | Finished | 11/1/2013 2:45:52 PM | |
| | BSP | Unknown | 6 | 20.0 | 1.0000 | Running | 11/1/2013 3:09:48 PM | |
| 14 | JB50882-1 | Unknown | 7 | 20.0 | 1.0000 | Single | | |
| 15 | JB50882-2 | Unknown | 8 | 20.0 | 1.0000 | Single | | |
| 16 | JB50882-3 | Unknown | 9 | 20.0 | 1.0000 | Single | | |
| 17 | MC25522-6MS | Unknown | 10 | 20.0 | 1.0000 | Single | | |
| 18 | MC25522-6DUP | Unknown | 11 | 20.0 | 1.0000 | Single | | |
| 19 | MC25522-6 | Unknown | 12 | 20.0 | 1.0000 | Single | | |
| 20 | MC25522-1MS | Unknown | 13 | 20.0 | 1.0000 | Single | | |
| 21 | MC25522-1 | Unknown | 14 | 20.0 | 1.0000 | Single | | |
| 22 | CCV | Unknown | 15 | 20.0 | 1.0000 | Single | | |
| 23 | CCB | Unknown | 16 | 20.0 | 1.0000 | Single | | |
| 24 | MC25522-2 | Unknown | 17 | 20.0 | 1.0000 | Single | | |
| 25 | MC25522-3 | Unknown | 18 | 20.0 | 1.0000 | Single | | |
| 26 | MC25522-4 | Unknown | 19 | 20.0 | 1.0000 | Single | | |
| 27 | MC25522-5 | Unknown | 20 | 20.0 | 1.0000 | Single | | |
| 28 | MC25522-7 | Unknown | 21 | 20.0 | 1.0000 | Single | | |
| 29 | MC25522-8 | Unknown | 22 | 20.0 | 1.0000 | Single | | |
| 30 | MC25522-9 | Unknown | 23 | 20.0 | 1.0000 | Single | | |
| 31 | MC25522-10 | Unknown | 24 | 20.0 | 1.0000 | Single | | |
| 32 | MC25522-11 | Unknown | 25 | 20.0 | 1.0000 | Single | | |
| 33 | MC25522-13 | Unknown | 26 | 20.0 | 1.0000 | Single | | |
| 34 | CCV | Unknown | 27 | 20.0 | 1.0000 | Single | | |
| 35 | CCB | Unknown | 28 | 20.0 | 1.0000 | Single | | |
| 36 | MC25522-14 | Unknown | 29 | 20.0 | 1.0000 | Single | | |
| 37 | JB51226-2A | Unknown | 30 | 20.0 | 1.0000 | Single | | |
| 38 | JB50883-2 | Unknown | 31 | 20.0 | 1.0000 | Single | | |
| 39 | JB50883-3 | Unknown | 32 | 20.0 | 1.0000 | Single | | |
| 40 | JB50883-4 | Unknown | 33 | 20.0 | 1.0000 | Single | | |
| 41 | MB | Unknown | 34 | 20.0 | 1.0000 | Single | | |
| 42 | BSP | Unknown | 35 | 20.0 | 1.0000 | Single | | |

Bottle #5

GP75488 F.AQ (2)

GP75681 504 AQ (1)

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 213110101
Operator: Chemistry

GN94269



Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2
#Samples: 60

Created: 11/1/2013 9:24:08 AM by Chemistry
Last Update: 11/1/2013 3:26:11 PM by Chemistry

GP75386 SO4 A9 (5)

GP75682 SO4 A9 (11)

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 43 | JB50883-5 | Unknown | 36 | 20.0 | 1.0000 | Single | | |
| 44 | JB50883-6 | Unknown | 37 | 20.0 | 1.0000 | Single | | |
| 45 | JB50883-7 FB | Unknown | 38 | 20.0 | 1.0000 | Single | | |
| 46 | CCV | Unknown | 39 | 20.0 | 1.0000 | Single | | |
| 47 | CCB | Unknown | 40 | 20.0 | 1.0000 | Single | | |
| 48 | JB50975-1MS | Unknown | 41 | 20.0 | 1.0000 | Single | | |
| 49 | JB50975-1DUP | Unknown | 42 | 20.0 | 1.0000 | Single | | |
| 50 | JB50975-1 | Unknown | 43 | 20.0 | 1.0000 | Single | | |
| 51 | JB50975-2 | Unknown | 44 | 20.0 | 1.0000 | Single | | |
| 52 | JB50975-3 | Unknown | 45 | 20.0 | 1.0000 | Single | | |
| 53 | JB50975-4 | Unknown | 46 | 20.0 | 1.0000 | Single | | |
| 54 | JB51030-2 | Unknown | 47 | 20.0 | 1.0000 | Single | | |
| 55 | JB51030-3 | Unknown | 48 | 20.0 | 1.0000 | Single | | |
| 56 | JB51030-4 FB | Unknown | 49 | 20.0 | 1.0000 | Single | | |
| 57 | JB51030-5 | Unknown | 50 | 20.0 | 1.0000 | Single | | |
| 58 | CCV | Unknown | 1 | 20.0 | 1.0000 | Single | | |
| 59 | CCB | Unknown | 2 | 20.0 | 1.0000 | Single | | |
| 60 | STDBY | Unknown | 3 | 20.0 | 1.0000 | Single | | |



Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

ACCUTEST

Analyst NP Product IC2 Autopipette # 3

Date 11/1/13 Batch ID GN94269 Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| BSP | ✓ | ✓ mL | 50 mL | @ 50-mL GN13-218-62 |
| MC25522-6MS | ✓ | ✓ mL | ↓ mL | ↓ |
| MC25522-1MS | ✓ | ✓ mL | ↓ mL | ↓ |
| JB50975-1MS | ✓ | ✓ mL | ↓ mL | ↓ |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
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| | | mL | mL | |
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| | | mL | mL | |
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| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |

Diluent = DI H2O

QC Reviewer: _____ Date: _____

Form: GN165-01
Rev. Date: 2/25/03

ACCUTEST

# Reagent Information Log - IONC - Water /Soil

**GN Batch ID#:** GN94269

Curve Ran on: 10/31/13

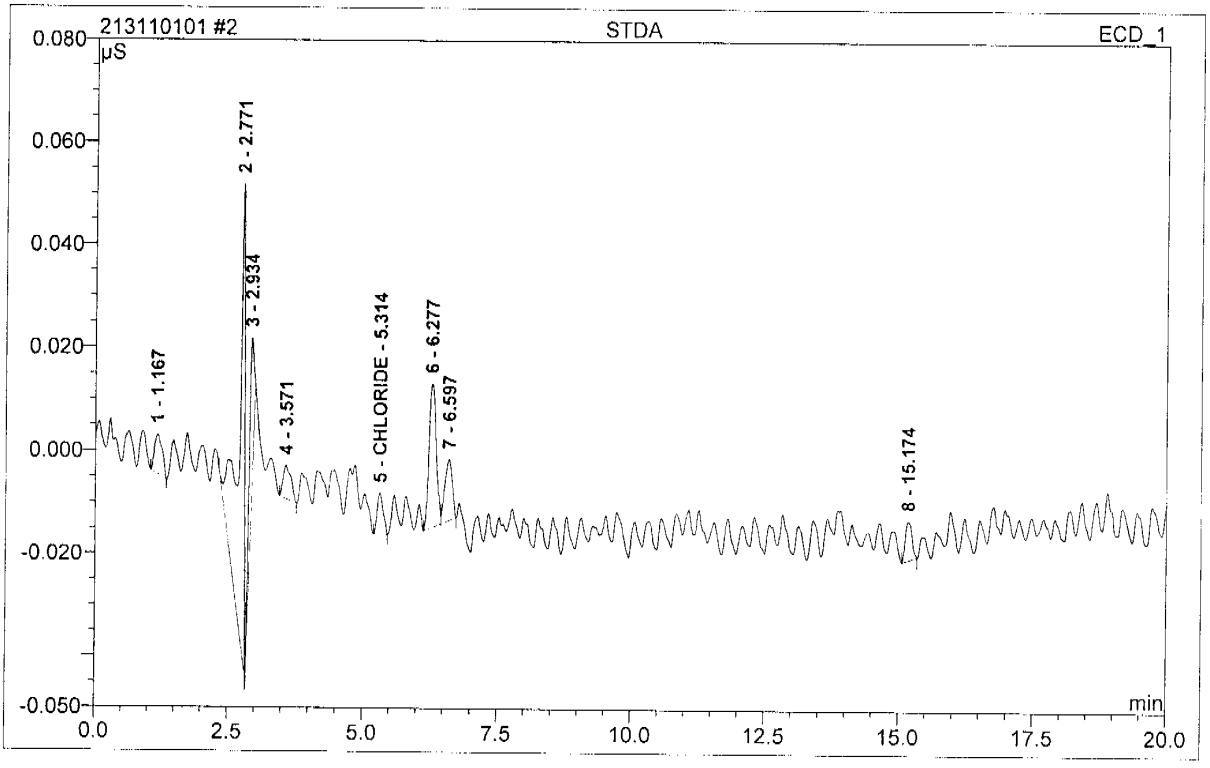
| Reagent | Reagent # or Manufacturer/Lot | Exp. Date |
|---|---|---|
| Standard Intermediate (for Calibration Curve) | GN12-212-205 | 11/4/2013 |
| Standard Intermediate (for Calibration Curve) | GN12-212-207 | 11/4/2013 |
| ICV | GN13-231-35 | 11/28/2013 |
| Eluent | 130552201016 | 05/2015 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-205 | 11/4/2013 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-207 | 11/4/2013 |
| CCV | GN13-220-92 | 11/4/2013 |
| Spiking Solution Intermediate | GN13-218-60 | 11/28/2013 |
| Spiking Solution Intermediate | GN13-218-61 | 11/28/2013 |
| Spiking Solution | GN13-218-62 | 11/4/2013 |
| Filter lot numbers | LAB SALES # 120426002 | NA |

**Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error**

Form : GN087A-76
Rev. Date: 4/7/09

## 2 STDA

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDA** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 12:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



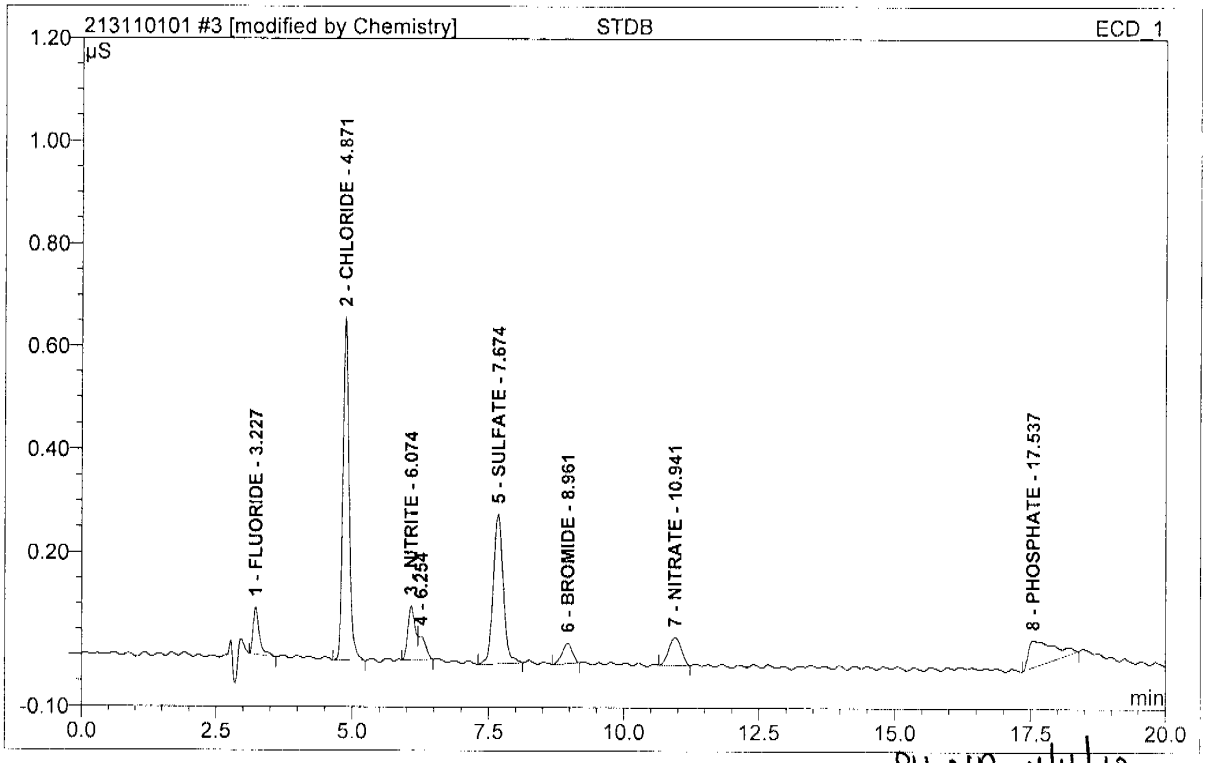

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.17 | n.a. | 0.008 | 0.001 | 4.53 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.091 | 0.012 | 42.91 | n.a. | BMB |
| 3 | 2.93 | n.a. | 0.034 | 0.003 | 10.94 | n.a. | BMB |
| 4 | 3.57 | n.a. | 0.006 | 0.001 | 3.86 | n.a. | BMB |
| 5 | 5.31 | CHLORIDE | 0.008 | 0.001 | 3.57 | 0.006 | BMB |
| 6 | 6.28 | n.a. | 0.028 | 0.004 | 15.60 | n.a. | BM |
| 7 | 6.60 | n.a. | 0.012 | 0.002 | 6.71 | n.a. | MB |
| 8 | 15.17 | n.a. | 0.008 | 0.001 | 3.89 | n.a. | BMB |
| 9 | 20.27 | n.a. | 0.017 | 0.002 | 7.99 | n.a. | BMB |
| **Total:** | | | 0.212 | 0.028 | 100.00 | 0.006 | |



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## 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

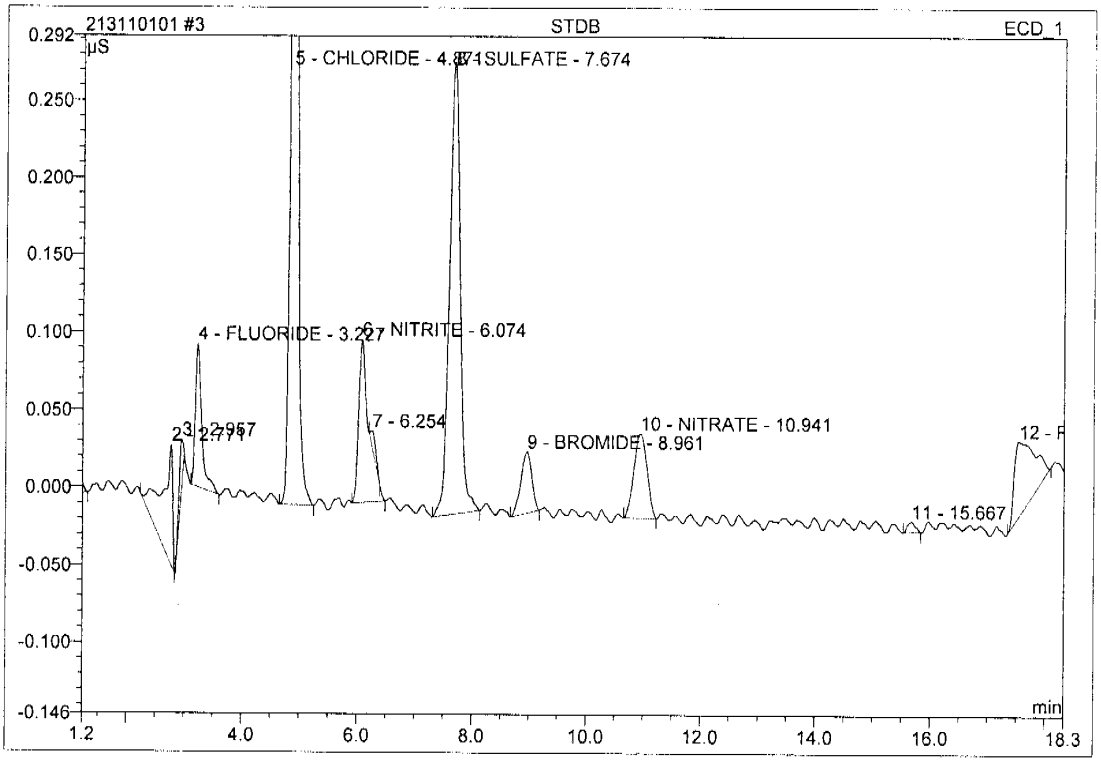



PL NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.092 | 0.012 | 5.07 | 0.041 | BMB |
| 2 | 4.87 | CHLORIDE | 0.669 | 0.088 | 37.20 | 0.492 | BMB |
| 3 | 6.07 | NITRITE | 0.105 | 0.016 | 6.94 | 0.039 | BM * |
| 4 | 6.25 | n.a. | 0.046 | 0.007 | 2.89 | n.a. | MB* |
| 5 | 7.67 | SULFATE | 0.292 | 0.063 | 26.60 | 0.479 | BMB |
| 6 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.75 | 0.115 | BMB |
| 7 | 10.94 | NITRATE | 0.054 | 0.015 | 6.19 | 0.034 | BMB |
| 8 | 17.54 | PHOSPHATE | 0.052 | 0.027 | 11.35 | 0.166 | BMB* |
| **Total:** | | | 1.349 | 0.236 | 100.00 | 1.365 | |

# 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.18 | n.a. | 0.008 | 0.001 | 0.44 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.076 | 0.016 | 6.36 | n.a. | BMB |
| 3 | 2.96 | n.a. | 0.033 | 0.003 | 1.13 | n.a. | BMB |
| 4 | 3.23 | FLUORIDE | 0.092 | 0.012 | 4.81 | 0.041 | BMB |
| 5 | 4.87 | CHLORIDE | 0.669 | 0.088 | 35.29 | 0.492 | BMB |
| 6 | 6.07 | NITRITE | 0.105 | 0.022 | 8.81 | 0.052 | BMB |
| 7 | 6.25 | n.a. | 0.009 | 0.001 | 0.52 | n.a. | Rd |
| 8 | 7.67 | SULFATE | 0.292 | 0.063 | 25.24 | 0.479 | BMB |
| 9 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.56 | 0.115 | BMB |
| 10 | 10.94 | NITRATE | 0.054 | 0.015 | 5.88 | 0.034 | BMB |
| 11 | 15.67 | n.a. | 0.007 | 0.001 | 0.45 | n.a. | BMB |

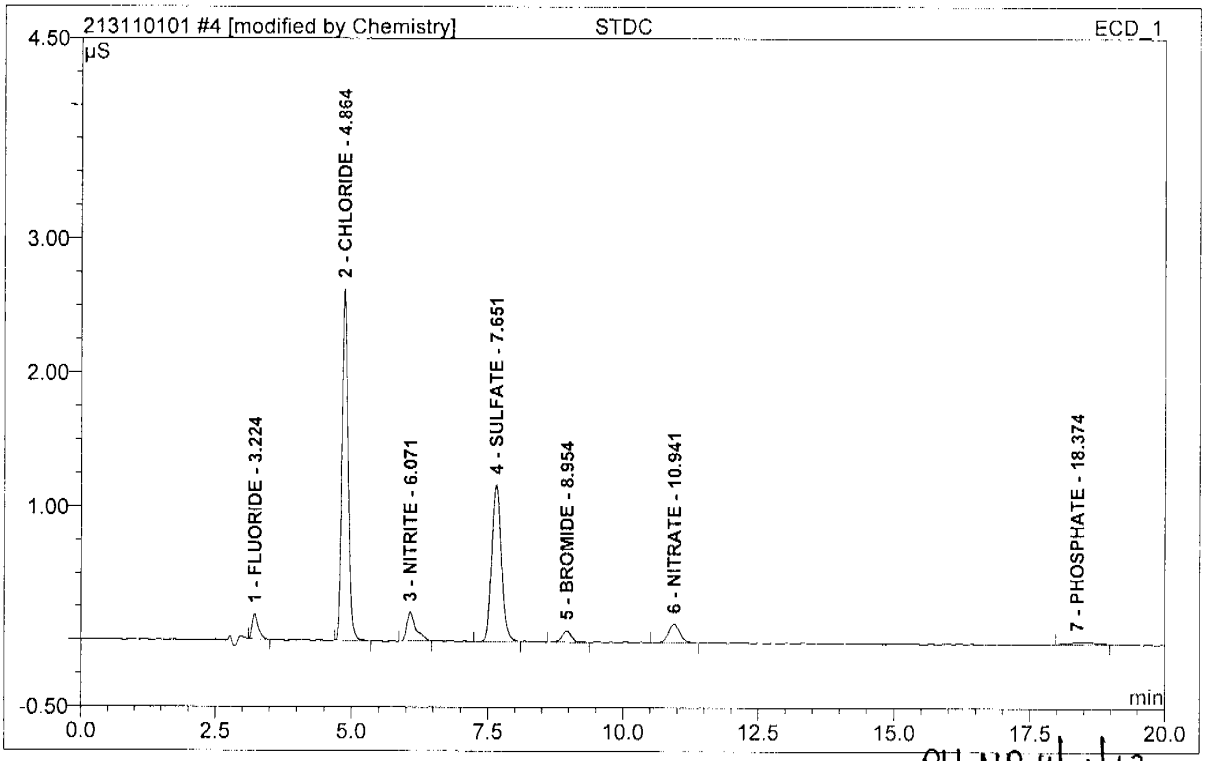
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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.54 | PHOSPHATE | 0.049 | 0.019 | 7.52 | 0.116 | BMB |
| **Total:** | | | 1.432 | 0.249 | 100.00 | 1.328 | |

# 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

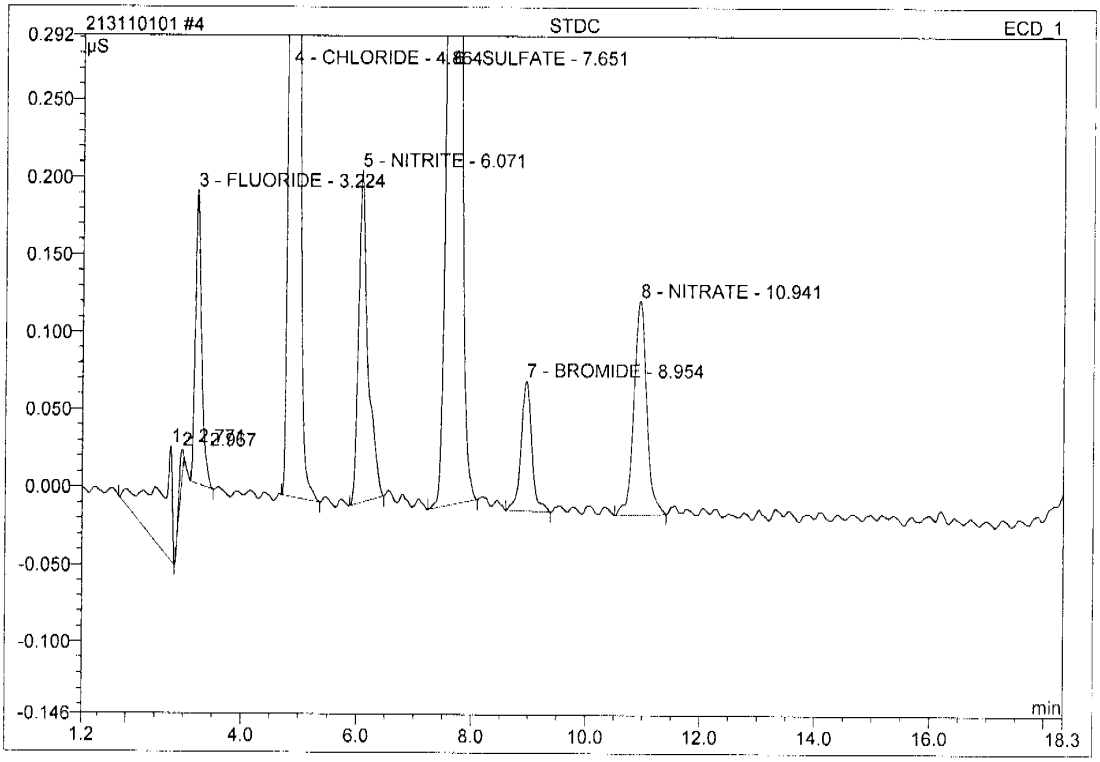



PM NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.28 | 0.081 | BMB |
| 2 | 4.86 | CHLORIDE | 2.632 | 0.342 | 47.68 | 1.916 | BMB |
| 3 | 6.07 | NITRITE | 0.215 | 0.041 | 5.73 | 0.097 | BMB |
| 4 | 7.65 | SULFATE | 1.178 | 0.245 | 34.17 | 1.868 | BMB |
| 5 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.59 | 0.242 | BMB |
| 6 | 10.94 | NITRATE | 0.138 | 0.036 | 5.06 | 0.084 | BMB |
| 7 | 18.37 | PHOSPHATE | 0.019 | 0.011 | 1.47 | 0.065 | BMB* |
| **Total:** | | | 4.456 | 0.718 | 100.00 | 4.354 | |

# 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



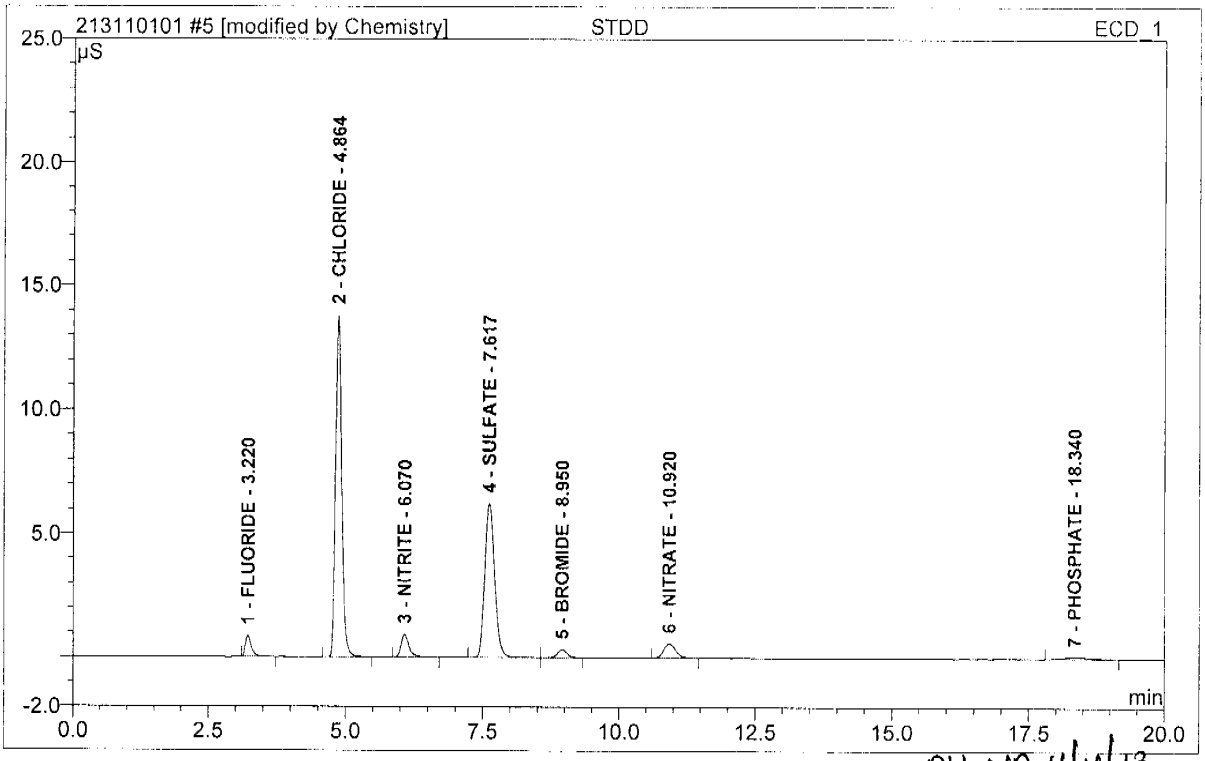

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.073 | 0.024 | 3.23 | n.a. | BMB |
| 2 | 2.97 | n.a. | 0.021 | 0.002 | 0.27 | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.22 | 0.081 | BMB |
| 4 | 4.86 | CHLORIDE | 2.632 | 0.342 | 46.70 | 1.916 | BMB |
| 5 | 6.07 | NITRITE | 0.215 | 0.041 | 5.61 | 0.097 | BMB |
| 6 | 7.65 | SULFATE | 1.178 | 0.245 | 33.47 | 1.868 | BMB |
| 7 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.54 | 0.242 | BMB |
| 8 | 10.94 | NITRATE | 0.138 | 0.036 | 4.96 | 0.084 | BMB |
| **Total:** | | | 4.530 | 0.733 | 100.00 | 4.289 | |

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# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PII NP 11/4/13

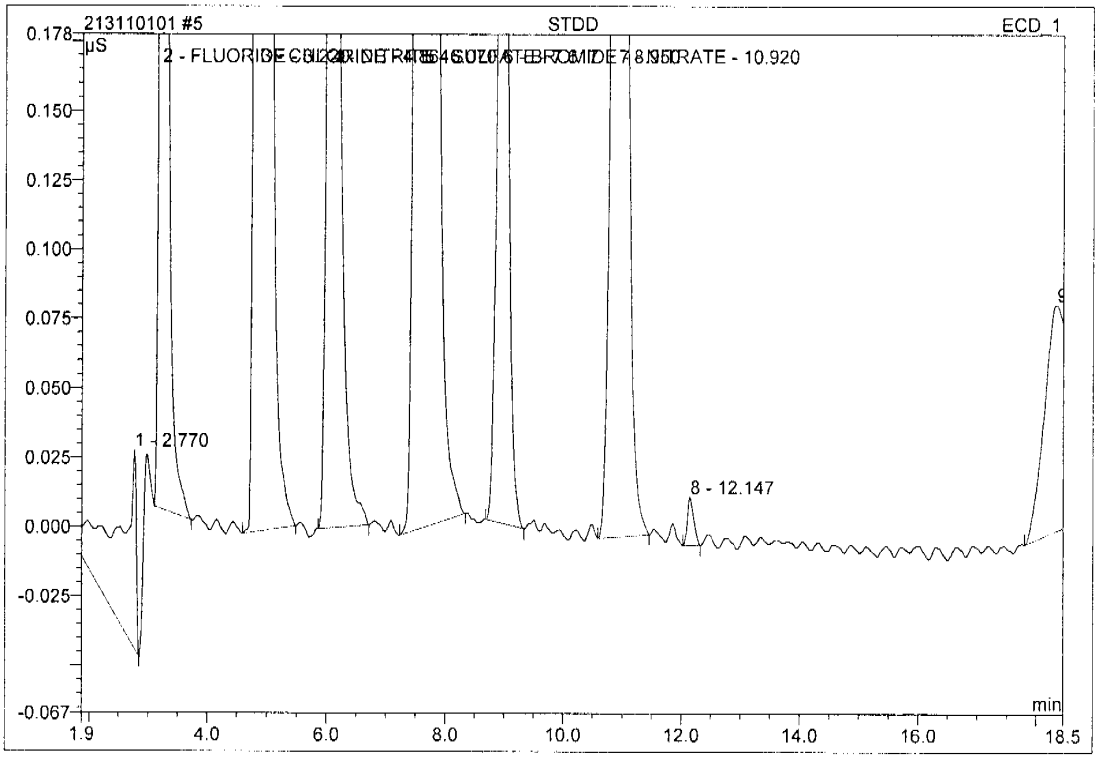
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.90 | 0.362 | BMB |
| 2 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.37 | 10.102 | BMB |
| 3 | 6.07 | NITRITE | 0.940 | 0.158 | 4.31 | 0.370 | BMB |
| 4 | 7.62 | SULFATE | 6.264 | 1.318 | 36.06 | 10.038 | BM * |
| 5 | 8.95 | BROMIDE | 0.324 | 0.068 | 1.87 | 0.889 | MB* |
| 6 | 10.92 | NITRATE | 0.583 | 0.152 | 4.15 | 0.352 | BMB |
| 7 | 18.34 | PHOSPHATE | 0.085 | 0.049 | 1.34 | 0.303 | BMB* |
| Total: | | | 22.859 | 3.655 | 100.00 | 22.416 | |



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# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



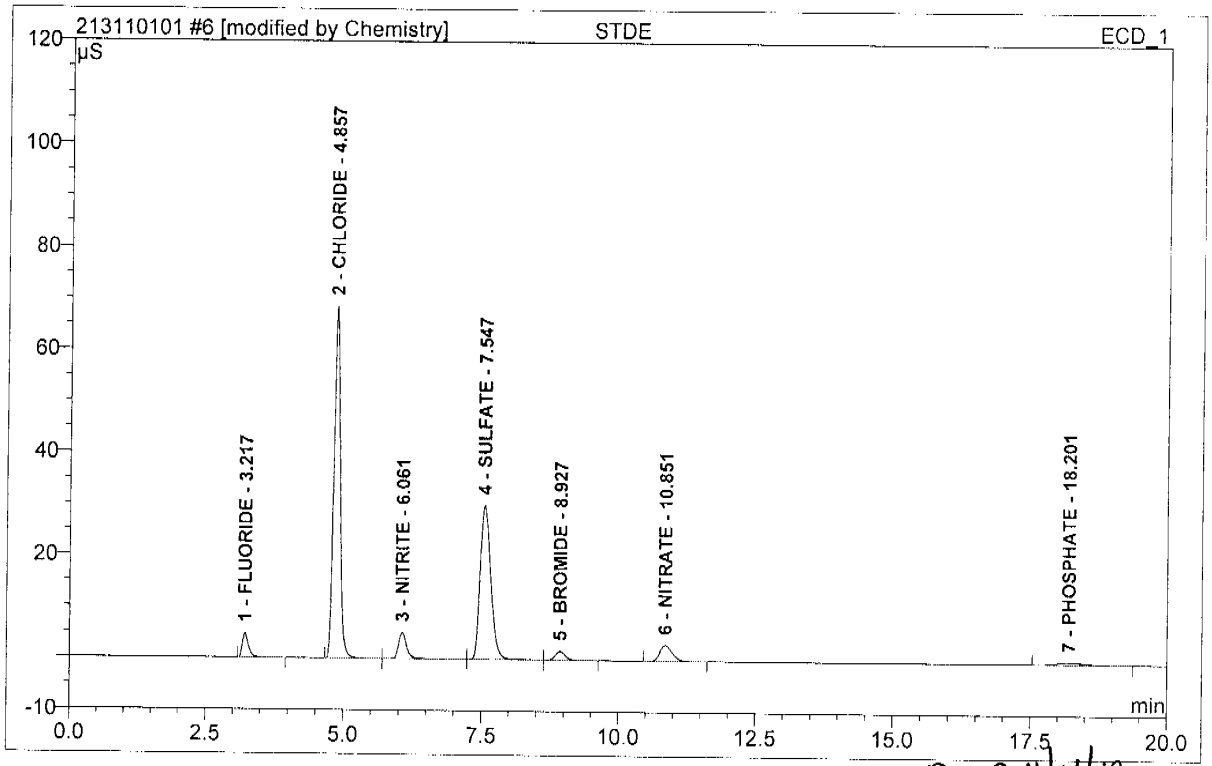

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.071 | 0.029 | 0.79 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.88 | 0.362 | BMB |
| 3 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.11 | 10.102 | BMB |
| 4 | 6.07 | NITRITE | 0.940 | 0.158 | 4.29 | 0.370 | BMB |
| 5 | 7.62 | SULFATE | 6.261 | 1.313 | 35.75 | 10.002 | BMB |
| 6 | 8.95 | BROMIDE | 0.321 | 0.066 | 1.81 | 0.865 | BMB |
| 7 | 10.92 | NITRATE | 0.583 | 0.152 | 4.13 | 0.352 | BMB |
| 8 | 12.15 | n.a. | 0.017 | 0.002 | 0.06 | n.a. | BMB |
| 9 | 18.34 | PHOSPHATE | 0.081 | 0.044 | 1.19 | 0.271 | BMB |
| **Total:** | | | 22.940 | 3.674 | 100.00 | 22.325 | |

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# 6 STDE

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

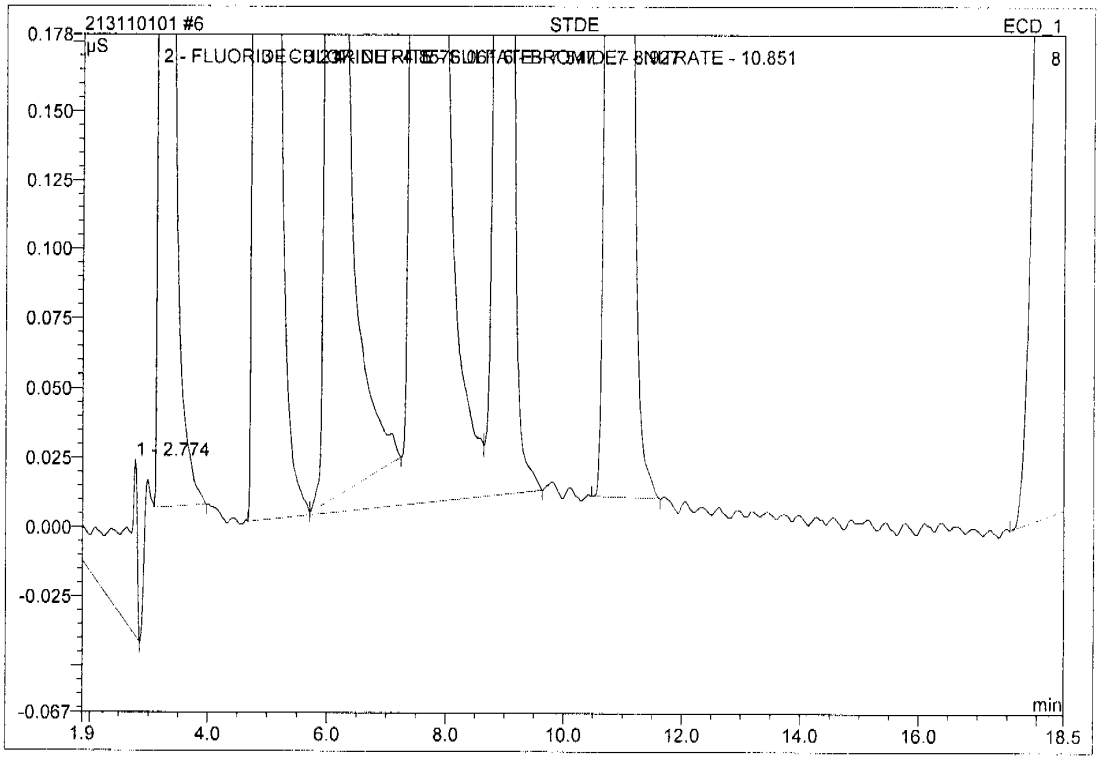



SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB* |
| 2 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.47 | 50.890 | BM |
| 3 | 6.06 | NITRITE | 5.063 | 0.877 | 4.68 | 2.062 | M * |
| 4 | 7.55 | SULFATE | 30.013 | 6.714 | 35.80 | 51.125 | M * |
| 5 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 6 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 7 | 18.20 | PHOSPHATE | 0.525 | 0.303 | 1.62 | 1.876 | BMB |
| **Total:** | | | 113.566 | 18.755 | 100.00 | 114.663 | |

# 6 STDE

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



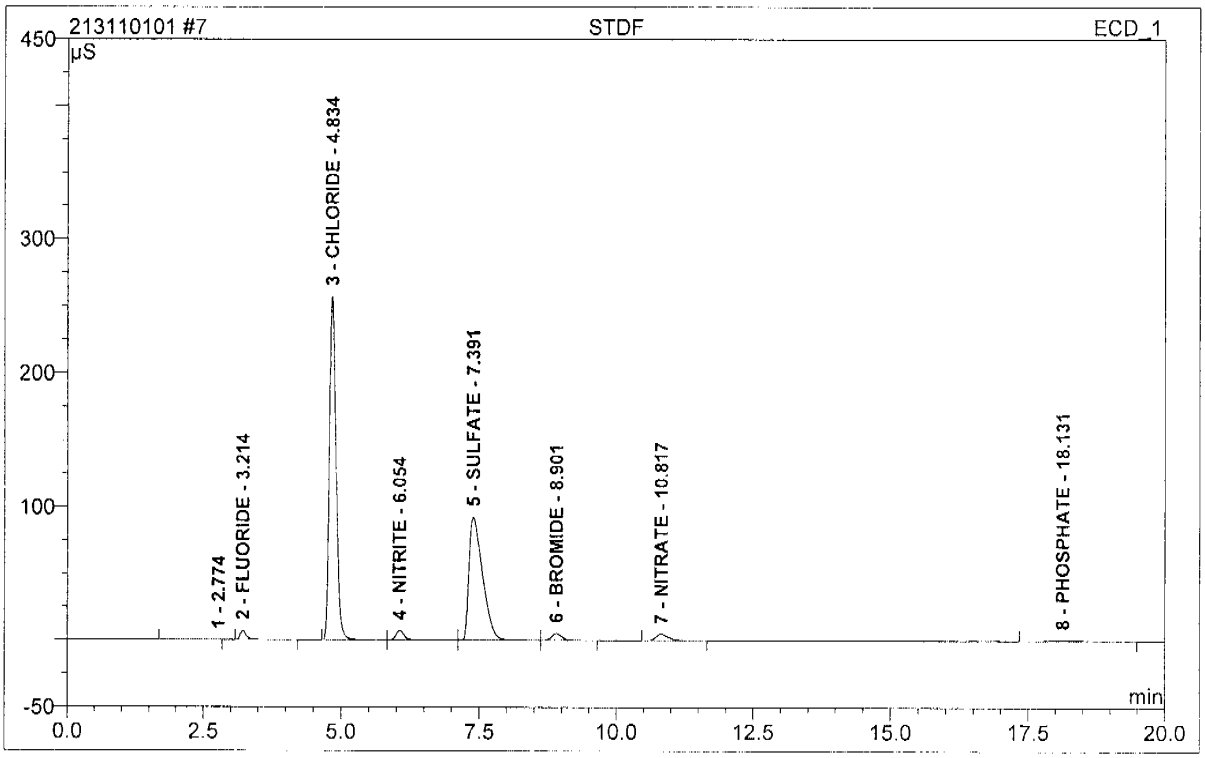

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.064 | 0.027 | 0.15 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB |
| 3 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.40 | 50.890 | BM |
| 4 | 6.06 | NITRITE | 5.058 | 0.863 | 4.60 | 2.032 | Ru |
| 5 | 7.55 | SULFATE | 30.013 | 6.728 | 35.82 | 51.230 | M |
| 6 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 7 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 8 | 18.20 | PHOSPHATE | 0.525 | 0.303 | 1.61 | 1.876 | BMB |
| **Total:** | | | 113.625 | 18.782 | 100.00 | 114.738 | |



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# 7 STDF

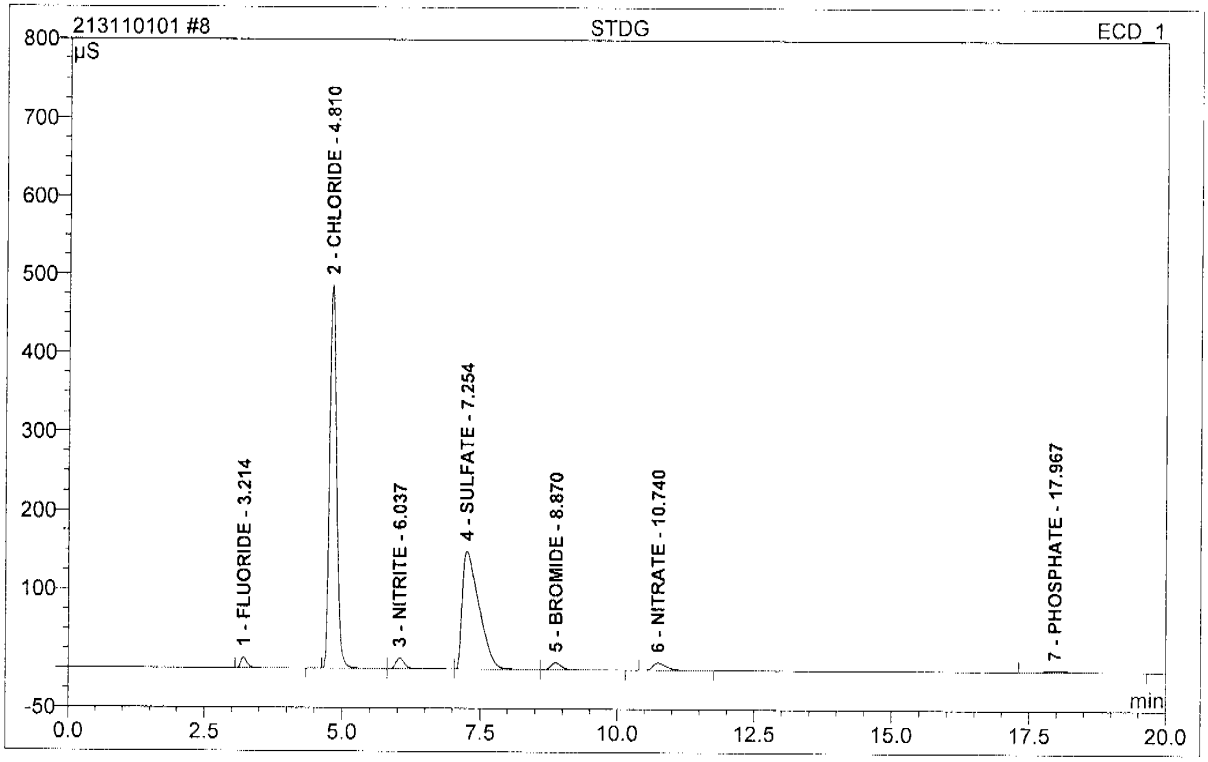
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDF** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



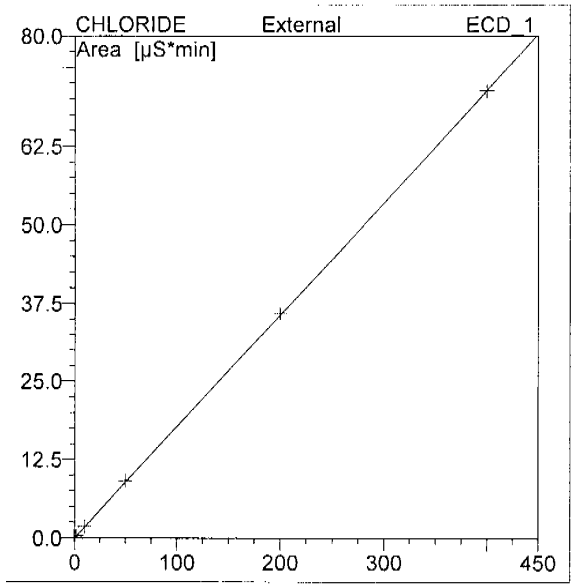

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.051 | 0.019 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.921 | 0.875 | 1.30 | 2.991 | BMB |
| 3 | 4.83 | CHLORIDE | 257.257 | 35.968 | 53.36 | 201.358 | BM |
| 4 | 6.05 | NITRITE | 7.308 | 1.270 | 1.88 | 2.984 | M |
| 5 | 7.39 | SULFATE | 92.481 | 26.388 | 39.15 | 200.943 | M |
| 6 | 8.90 | BROMIDE | 5.209 | 1.127 | 1.67 | 14.678 | MB |
| 7 | 10.82 | NITRATE | 4.748 | 1.287 | 1.91 | 2.989 | BMB |
| 8 | 18.13 | PHOSPHATE | 0.797 | 0.471 | 0.70 | 2.913 | BMB |
| **Total:** | | | 374.773 | 67.404 | 100.00 | 428.855 | |

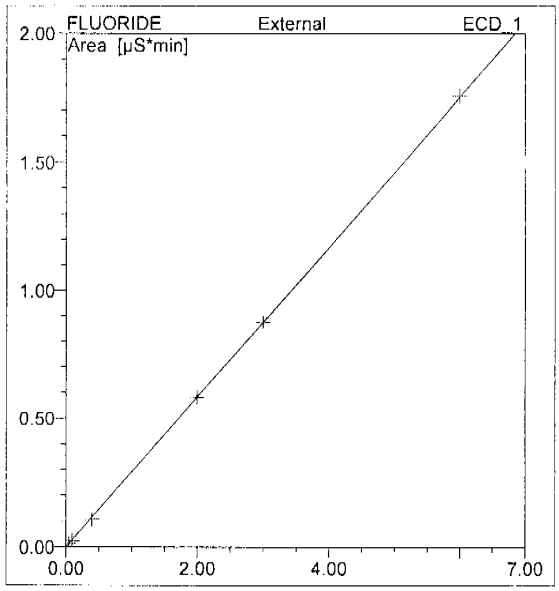
## 8 STDG

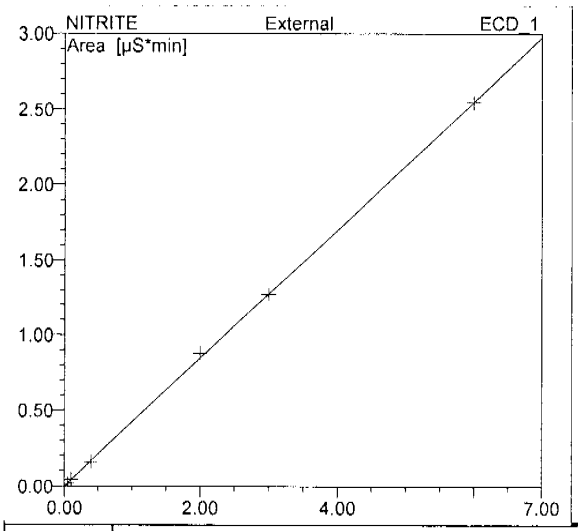
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDG** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 16:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

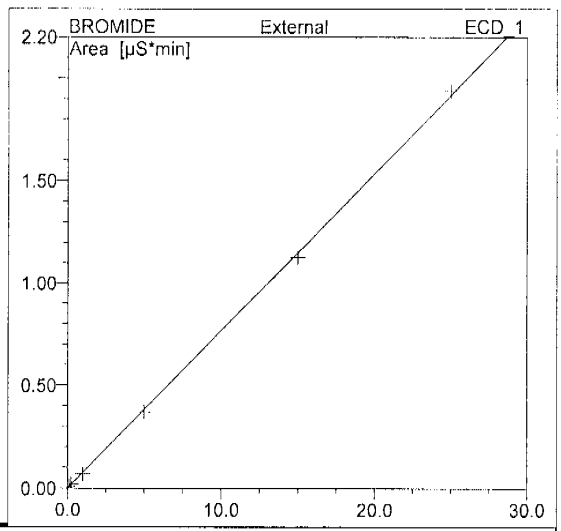



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 13.394 | 1.758 | 1.32 | 6.011 | BMB |
| 2 | 4.81 | CHLORIDE | 486.510 | 71.310 | 53.38 | 399.208 | BM |
| 3 | 6.04 | NITRITE | 13.872 | 2.548 | 1.91 | 5.989 | M |
| 4 | 7.25 | SULFATE | 149.803 | 52.448 | 39.26 | 399.388 | M |
| 5 | 8.87 | BROMIDE | 8.715 | 1.937 | 1.45 | 25.234 | MB |
| 6 | 10.74 | NITRATE | 9.087 | 2.603 | 1.95 | 6.043 | BMB |
| 7 | 17.97 | PHOSPHATE | 1.587 | 0.984 | 0.74 | 6.091 | BMB |
| Total: | | | 682.969 | 133.587 | 100.00 | 847.963 | |

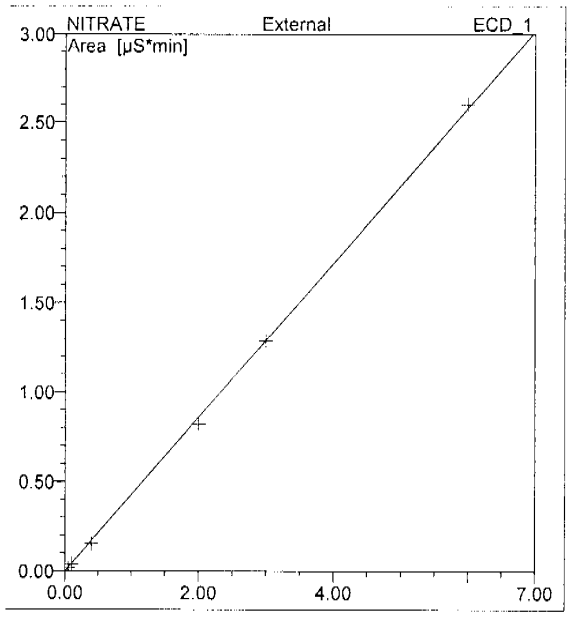


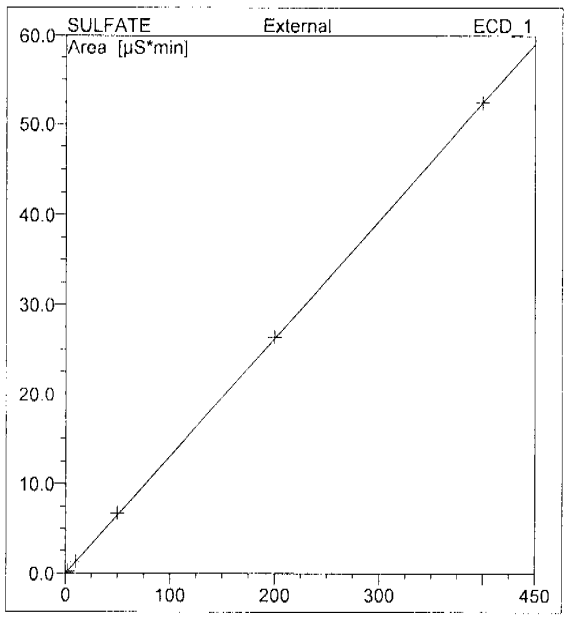



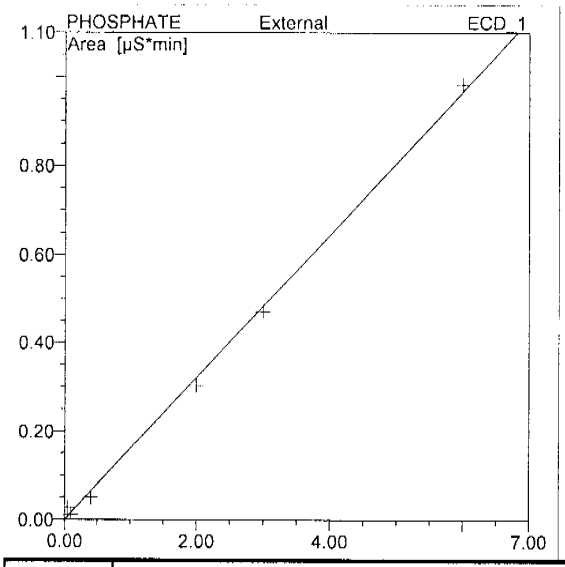




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 6 | 99.9097 | 0.0000 | 0.1616 | 0.0000 |
| Average: | | | | | 99.9810 | 0.0000 | 0.2424 | 0.0000 |



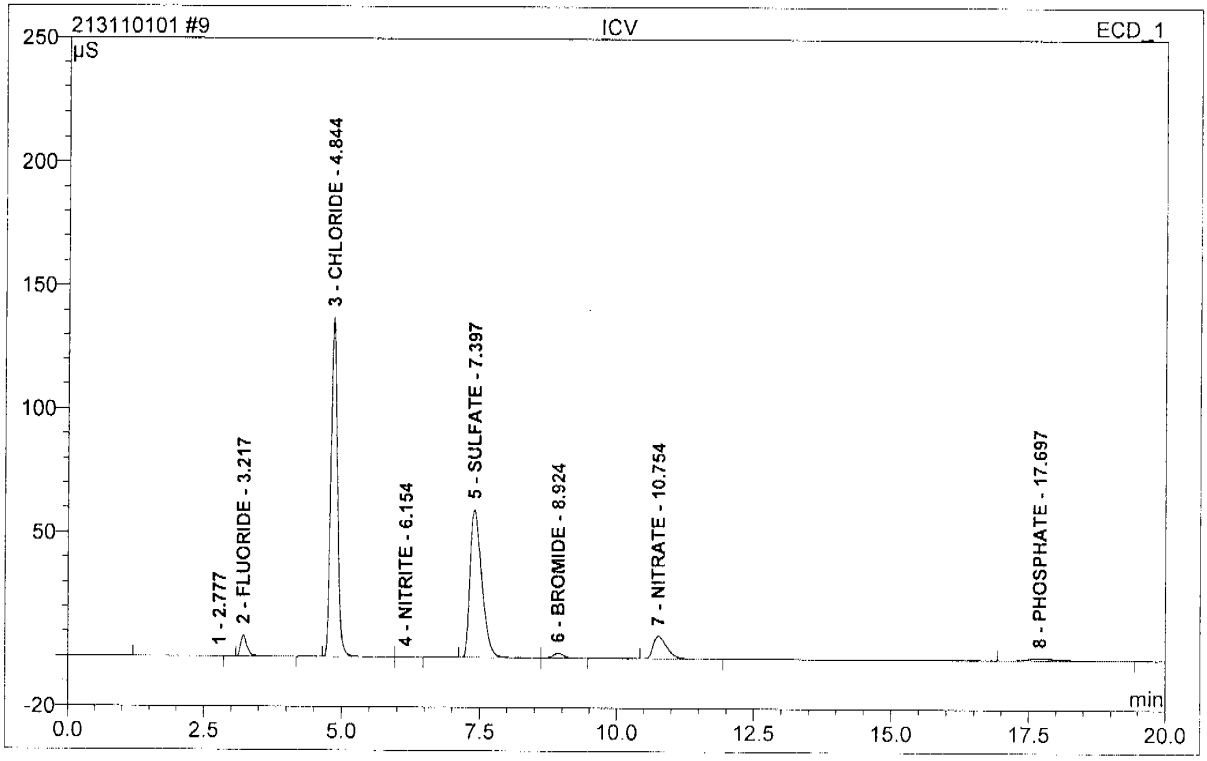




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 6 | 99.9097 | 0.0000 | 0.1616 | 0.0000 |
| Average: | | | | | 99.9810 | 0.0000 | 0.2424 | 0.0000 |

## 9 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 13:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.063 | 0.035 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 8.561 | 1.098 | 2.87 | 3.754 | BMB |
| 3 | 4.84 | CHLORIDE | 137.161 | 18.792 | 49.06 | 105.203 | BM |
| 4 | 6.15 | NITRITE | 0.059 | 0.012 | 0.03 | 0.029 | MB |
| 5 | 7.40 | SULFATE | 59.615 | 14.834 | 38.73 | 112.962 | BM |
| 6 | 8.92 | BROMIDE | 1.917 | 0.405 | 1.06 | 5.270 | MB |
| 7 | 10.75 | NITRATE | 9.061 | 2.596 | 6.78 | 6.028 | BMB |
| 8 | 17.70 | PHOSPHATE | 0.901 | 0.534 | 1.39 | 3.307 | BMB |
| **Total:** | | | 217.337 | 38.306 | 100.00 | 236.554 | |

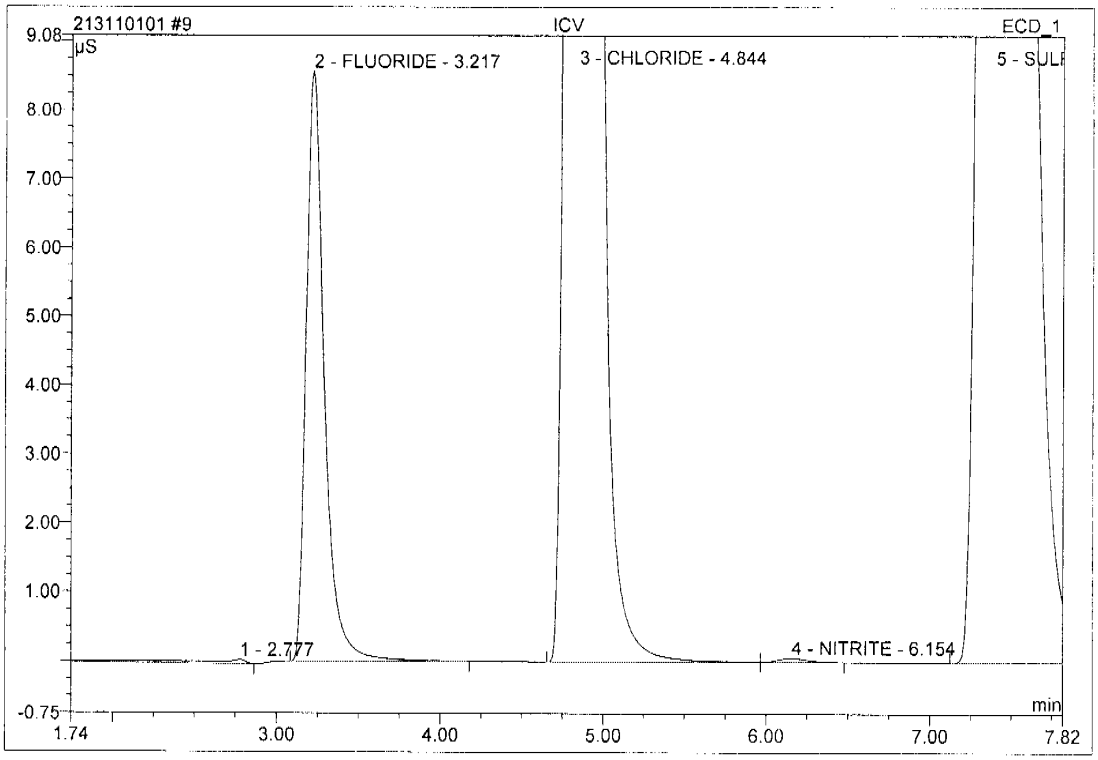
3.796 102.936 110.12

98-89
102.20
102.58

12.1 12

# 9 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 13:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



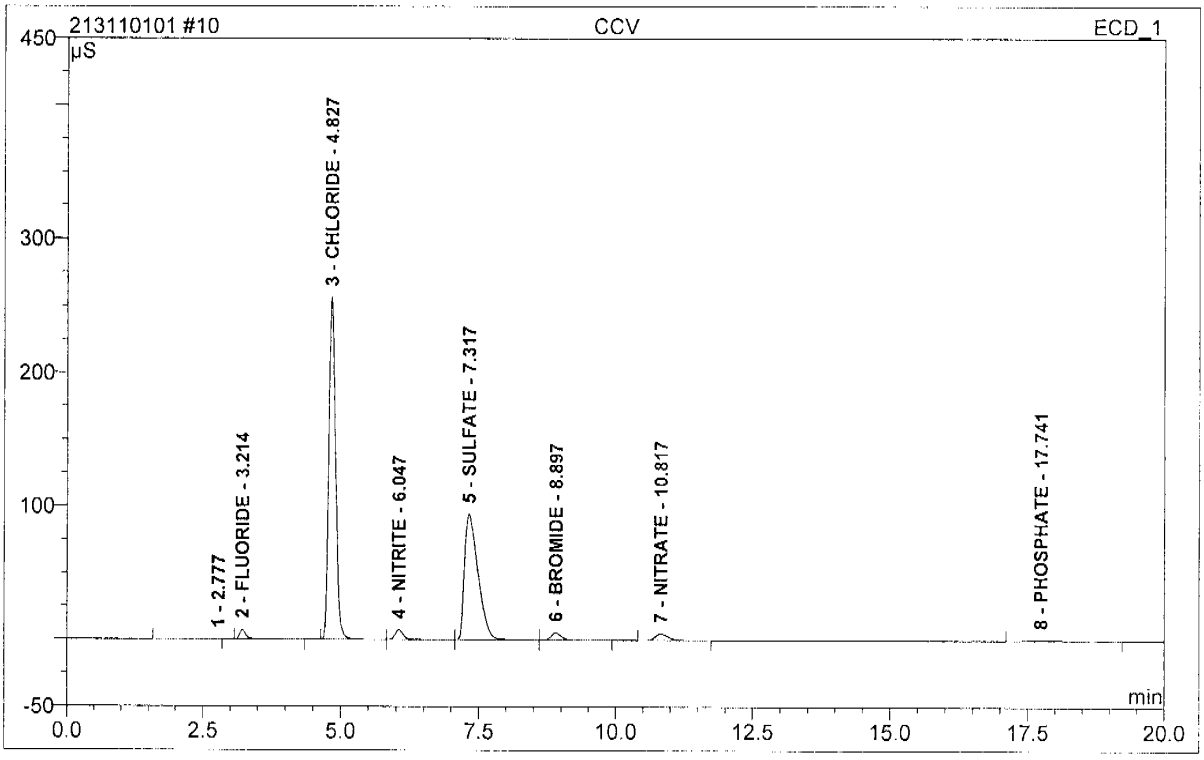

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.063 | 0.035 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 8.561 | 1.098 | 2.87 | 3.754 | BMB |
| 3 | 4.84 | CHLORIDE | 137.161 | 18.792 | 49.06 | 105.203 | BM |
| 4 | 6.15 | NITRITE | 0.059 | 0.012 | 0.03 | 0.029 | MB |
| 5 | 7.40 | SULFATE | 59.615 | 14.834 | 38.73 | 112.962 | BM |
| 6 | 8.92 | BROMIDE | 1.917 | 0.405 | 1.06 | 5.270 | MB |
| 7 | 10.75 | NITRATE | 9.061 | 2.596 | 6.78 | 6.028 | BMB |
| 8 | 17.70 | PHOSPHATE | 0.901 | 0.534 | 1.39 | 3.307 | BMB |
| **Total:** | | | 217.337 | 38.306 | 100.00 | 236.554 | |

DEFAULT/Integration

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## 10 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 13:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.052 | 0.022 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 7.037 | 0.897 | 1.32 | 3.068 | BMB |
| 3 | 4.83 | CHLORIDE | 256.504 | 36.242 | 53.22 | 202.893 | BM |
| 4 | 6.05 | NITRITE | 7.379 | 1.283 | 1.88 | 3.016 | M |
| 5 | 7.32 | SULFATE | 94.184 | 26.713 | 39.23 | 203.421 | M |
| 6 | 8.90 | BROMIDE | 5.277 | 1.144 | 1.68 | 14.896 | MB |
| 7 | 10.82 | NITRATE | 4.833 | 1.309 | 1.92 | 3.040 | BMB |
| 8 | 17.74 | PHOSPHATE | 0.829 | 0.486 | 0.71 | 3.006 | BMB |
| **Total:** | | | 376.096 | 68.096 | 100.00 | 433.340 | |

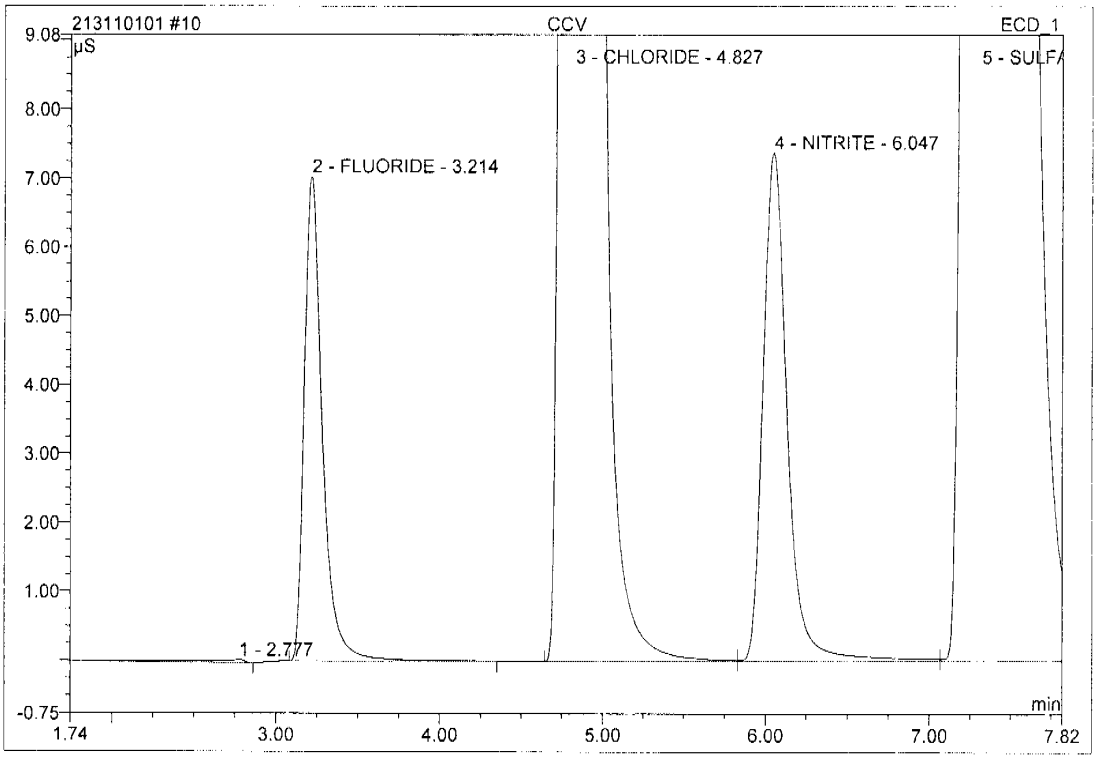
3.0
200
200

102.27
101.45
101.71

12.1
12

# 10 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 13:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



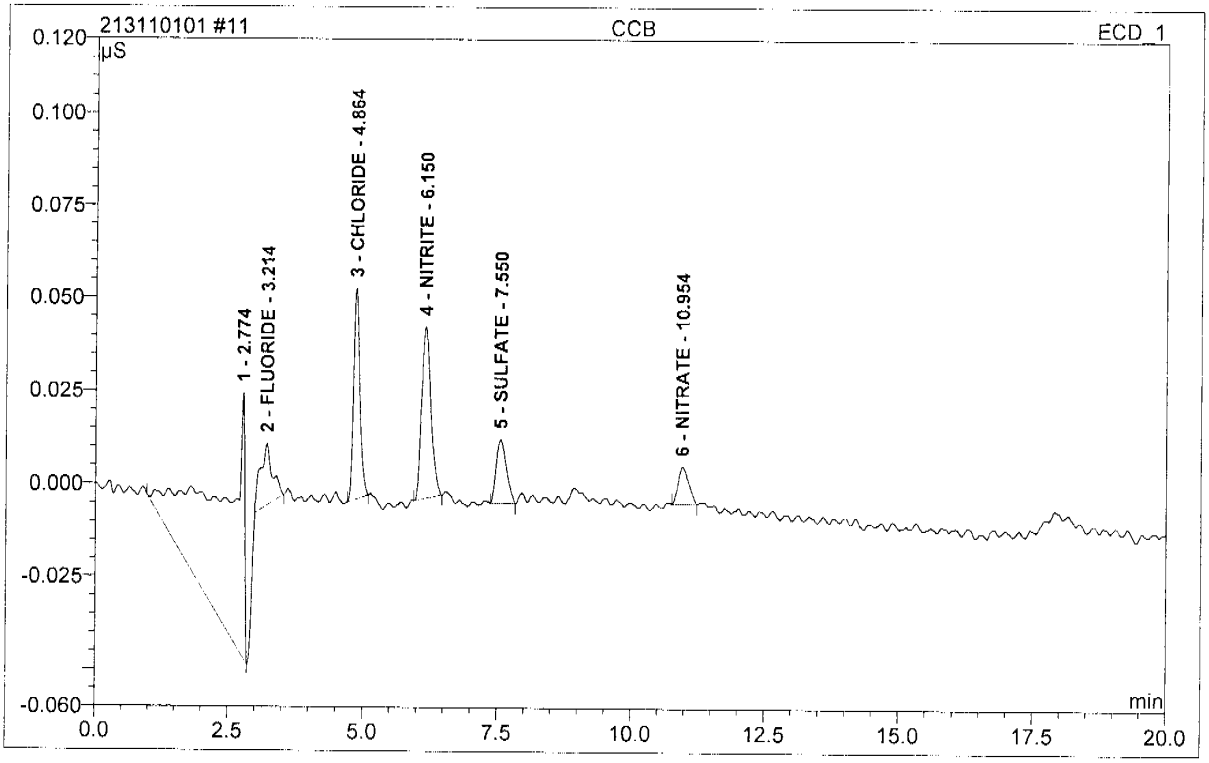

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.052 | 0.022 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 7.037 | 0.897 | 1.32 | 3.068 | BMB |
| 3 | 4.83 | CHLORIDE | 256.504 | 36.242 | 53.22 | 202.893 | BM |
| 4 | 6.05 | NITRITE | 7.379 | 1.283 | 1.88 | 3.016 | M |
| 5 | 7.32 | SULFATE | 94.184 | 26.713 | 39.23 | 203.421 | M |
| 6 | 8.90 | BROMIDE | 5.277 | 1.144 | 1.68 | 14.896 | MB |
| 7 | 10.82 | NITRATE | 4.833 | 1.309 | 1.92 | 3.040 | BMB |
| 8 | 17.74 | PHOSPHATE | 0.829 | 0.486 | 0.71 | 3.006 | BMB |
| **Total:** | | | 376.096 | 68.096 | 100.00 | 433.340 | |

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## 11 CCB

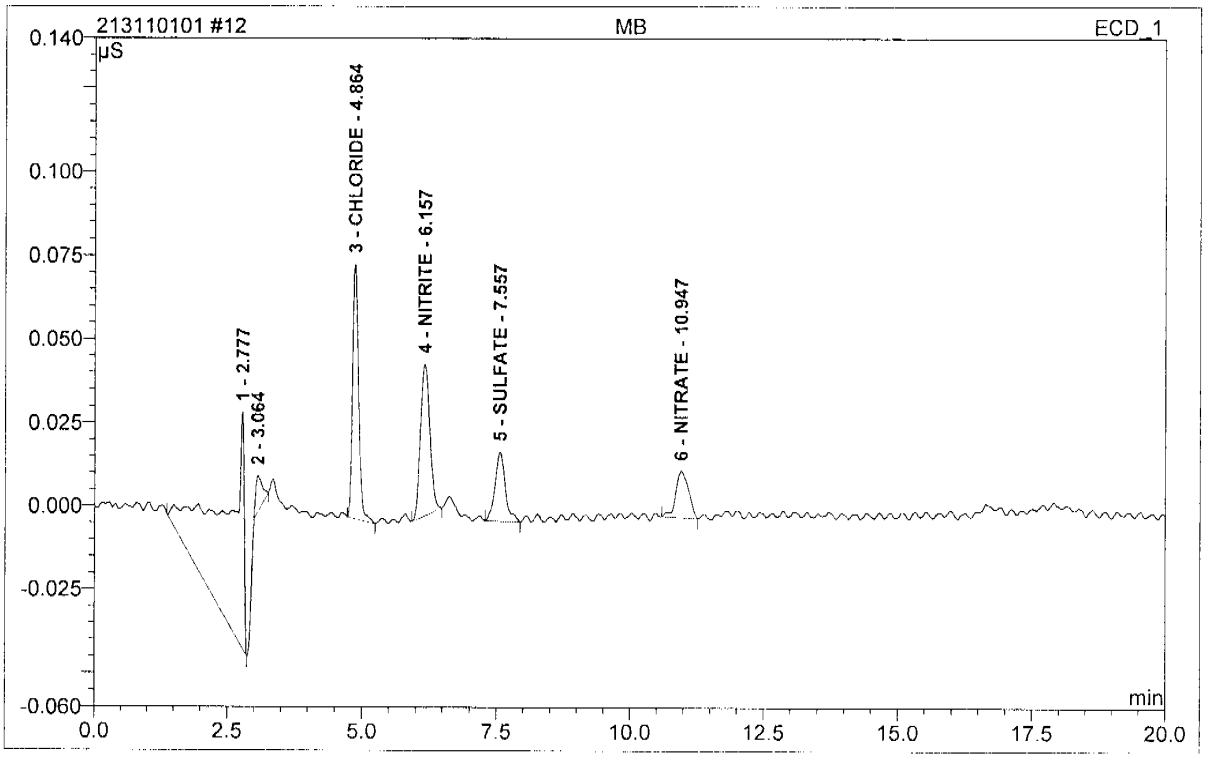
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 14:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.071 | 0.043 | 61.02 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.017 | 0.004 | 6.18 | 0.015 ✓ | BMB |
| 3 | 4.86 | CHLORIDE | 0.057 | 0.008 | 10.86 | 0.042 ✓ | BMB |
| 4 | 6.15 | NITRITE | 0.046 | 0.009 | 13.19 | 0.022 | BMB |
| 5 | 7.55 | SULFATE | 0.017 | 0.004 | 5.48 | 0.029 ✓ | BMB |
| 6 | 10.95 | NITRATE | 0.010 | 0.002 | 3.28 | 0.005 | BMB |
| **Total:** | | | 0.217 | 0.070 | 100.00 | 0.113 | |

## 12 MB

| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 14:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



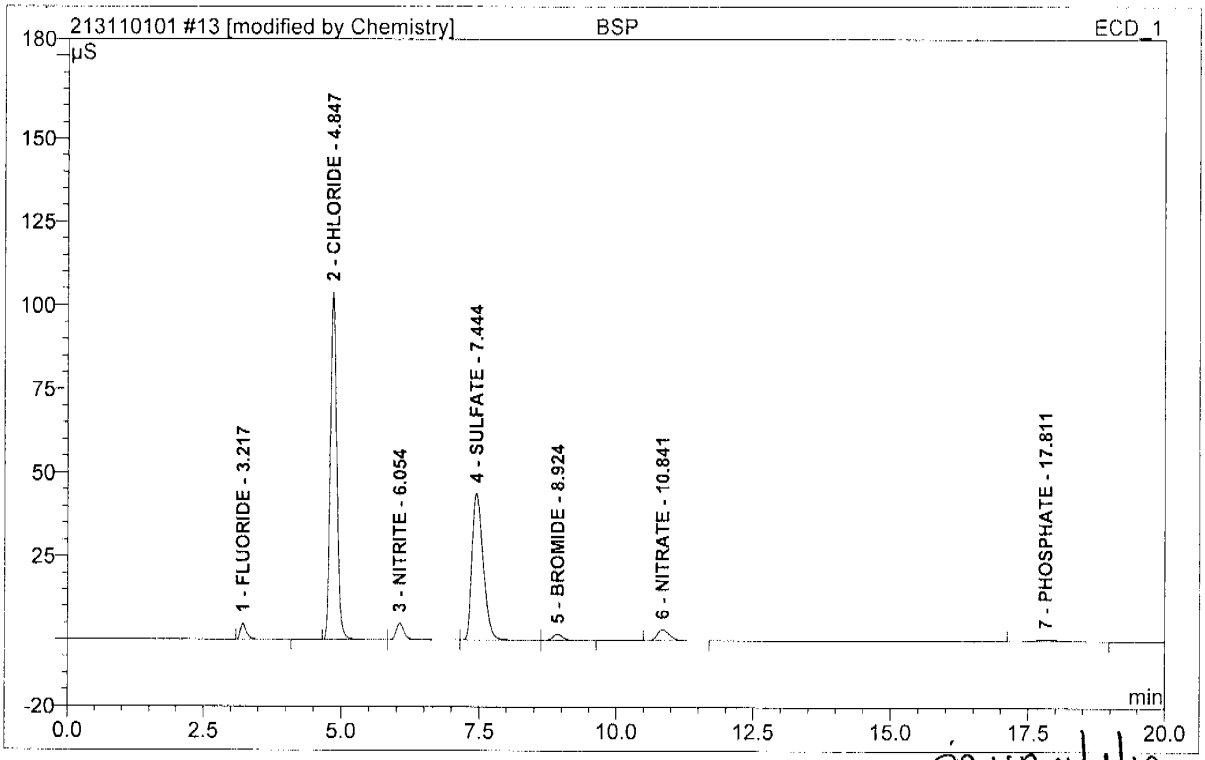

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.071 | 0.033 | 53.41 | n.a. | BMB |
| 2 | 3.06 | n.a. | 0.011 | 0.001 | 2.33 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.076 | 0.010 | 15.75 | 0.055 | BMB |
| 4 | 6.16 | NITRITE | 0.046 | 0.009 | 14.78 | 0.022 | BMB |
| 5 | 7.56 | SULFATE | 0.021 | 0.005 | 7.45 | 0.035 | BMB |
| 6 | 10.95 | NITRATE | 0.014 | 0.004 | 6.28 | 0.009 | BMB |
| **Total:** | | | 0.238 | 0.063 | 100.00 | 0.122 | |



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## 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

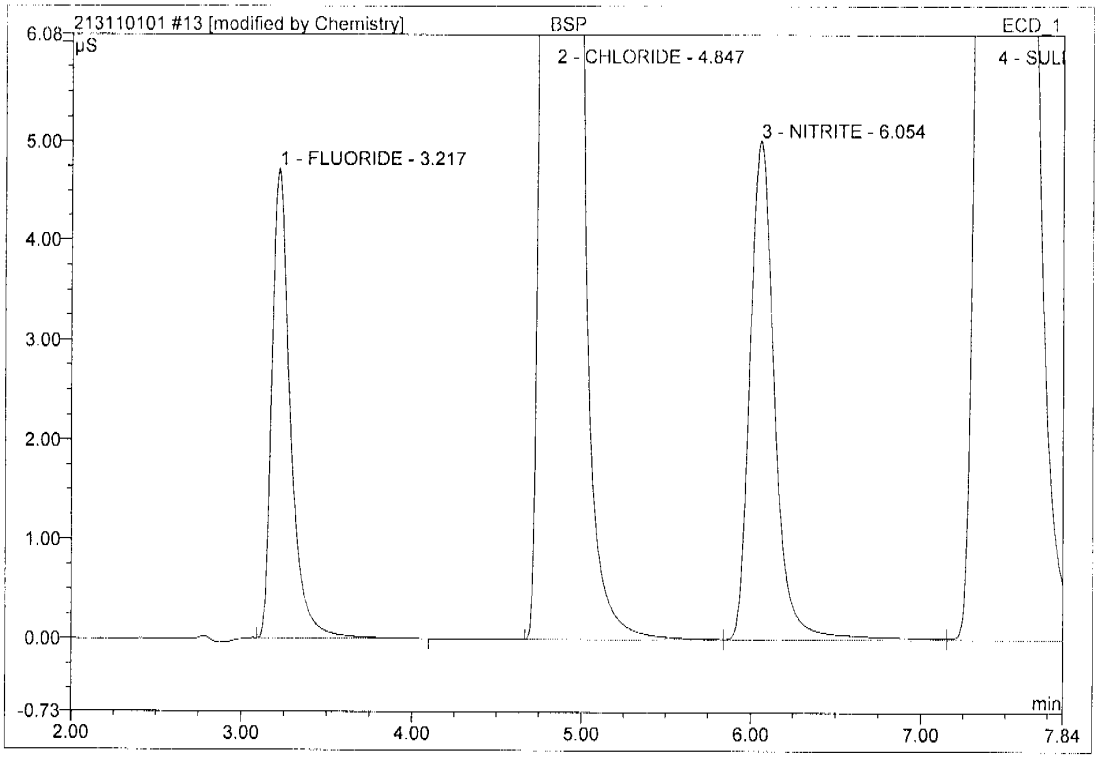



SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | | Type | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.727 | 0.592 | 2.15 | 2.0 | 2.023 | ✓ | BMB | 101.15 |
| 2 | 4.85 | CHLORIDE | 103.970 | 14.053 | 51.16 | 80 | 78.675 | ✓ | BM | 98.34 |
| 3 | 6.05 | NITRITE | 5.017 | 0.853 | 3.11 | | 2.006 | | M * | |
| 4 | 7.44 | SULFATE | 44.084 | 10.414 | 37.91 | 80 | 79.301 | ✓ | M * | 99.13 |
| 5 | 8.92 | BROMIDE | 1.778 | 0.378 | 1.38 | | 4.926 | | MB | |
| 6 | 10.84 | NITRATE | 3.285 | 0.872 | 3.18 | | 2.026 | | BMB | |
| 7 | 17.81 | PHOSPHATE | 0.523 | 0.305 | 1.11 | | 1.885 | | BMB | |
| Total: | | | 163.383 | 27.468 | 100.00 | | 170.841 | | | |

# 13 BSP

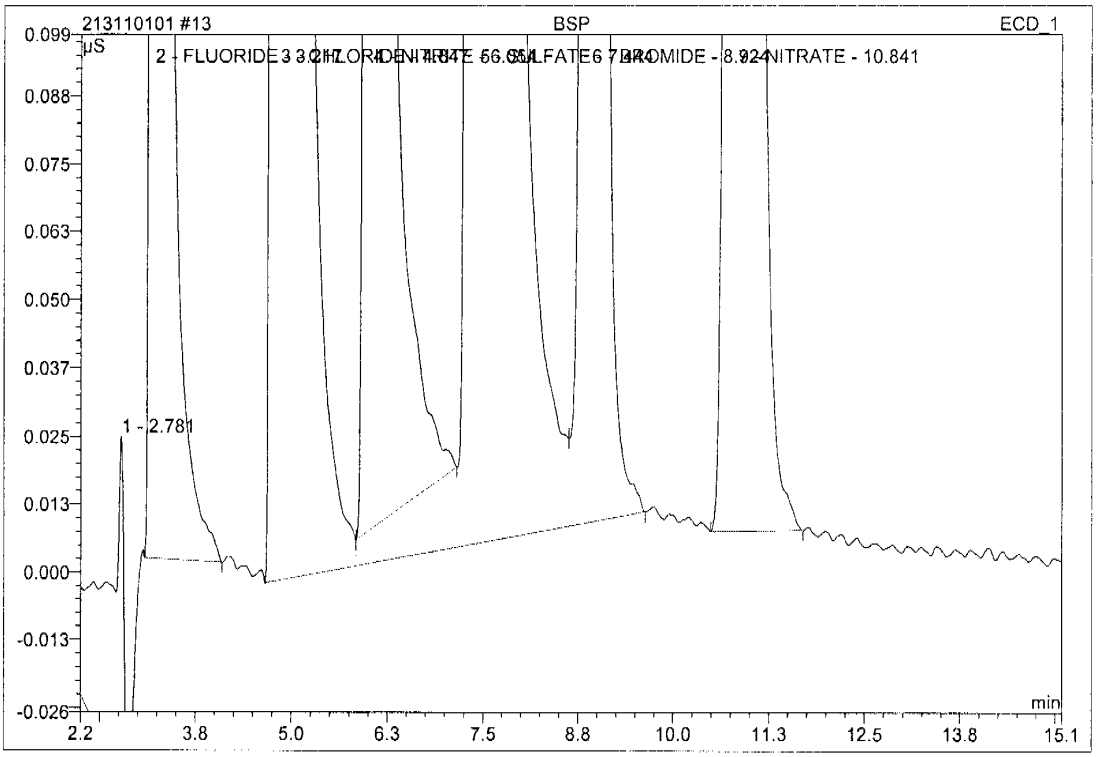
| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.727 | 0.592 | 2.15 | 2.023 | BMB |
| 2 | 4.85 | CHLORIDE | 103.970 | 14.053 | 51.16 | 78.675 | BM |
| 3 | 6.05 | NITRITE | 5.017 | 0.853 | 3.11 | 2.006 | M * |
| 4 | 7.44 | SULFATE | 44.084 | 10.414 | 37.91 | 79.301 | M * |
| 5 | 8.92 | BROMIDE | 1.778 | 0.378 | 1.38 | 4.926 | MB |
| 6 | 10.84 | NITRATE | 3.285 | 0.872 | 3.18 | 2.026 | BMB |
| 7 | 17.81 | PHOSPHATE | 0.523 | 0.305 | 1.11 | 1.885 | BMB |
| **Total:** | | | 163.383 | 27.468 | 100.00 | 170.841 | |

# 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



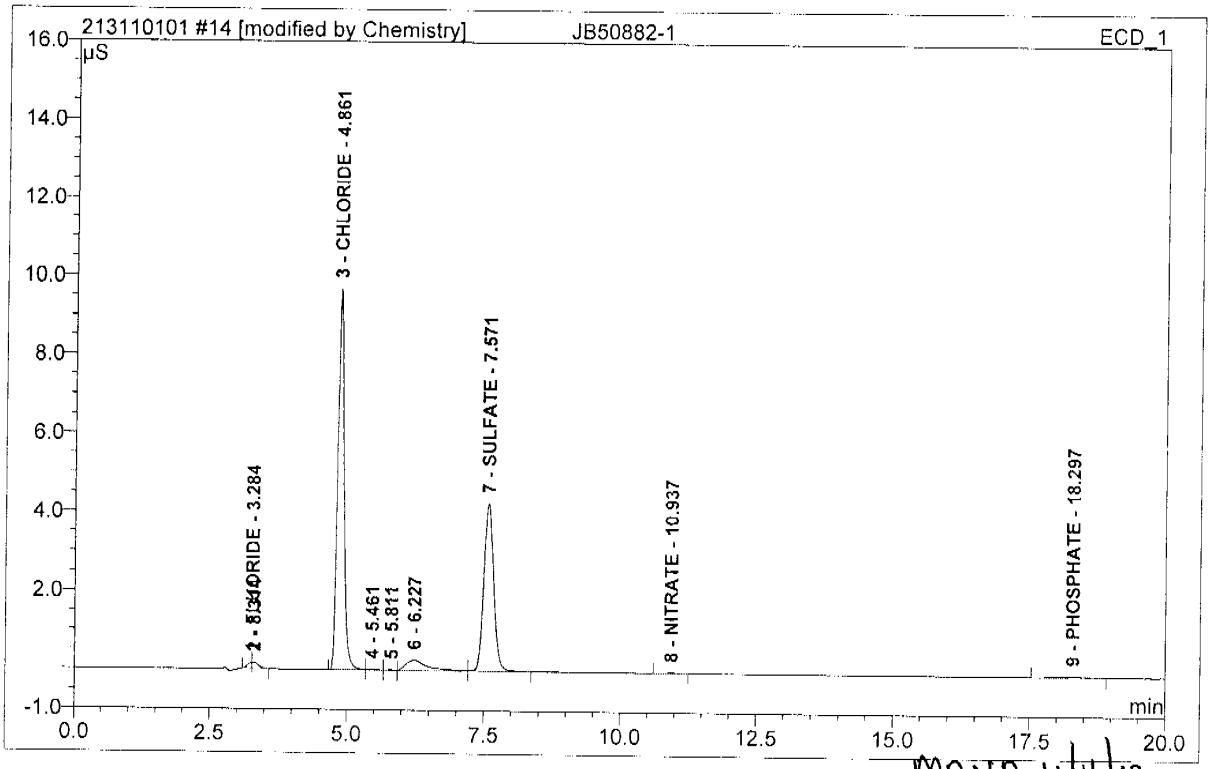

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.065 | 0.025 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.727 | 0.592 | 2.15 | 2.023 | BMB |
| 3 | 4.85 | CHLORIDE | 103.970 | 14.053 | 51.12 | 78.675 | BM |
| 4 | 6.05 | NITRITE | 5.011 | 0.840 | 3.06 | 1.976 | Ru |
| 5 | 7.44 | SULFATE | 44.084 | 10.427 | 37.93 | 79.400 | M |
| 6 | 8.92 | BROMIDE | 1.778 | 0.378 | 1.38 | 4.926 | MB |
| 7 | 10.84 | NITRATE | 3.285 | 0.872 | 3.17 | 2.026 | BMB |
| 8 | 17.81 | PHOSPHATE | 0.523 | 0.305 | 1.11 | 1.885 | BMB |
| **Total:** | | | 163.441 | 27.493 | 100.00 | 170.909 | |



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## 14 JB50882-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 11/4/13

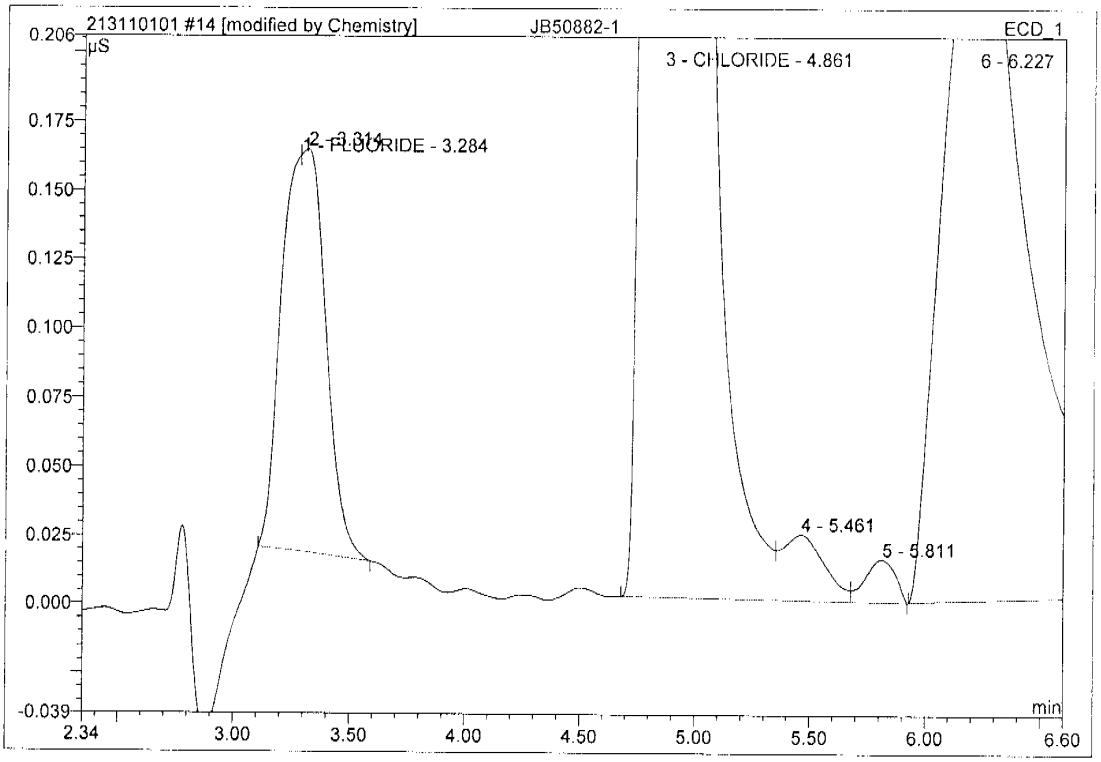
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.28 | FLUORIDE | 0.144 | 0.014 | 0.59 | 0.048 ✓ | BM * |
| 2 | 3.31 | n.a. | 0.146 | 0.018 | 0.75 | n.a. | MB* |
| 3 | 4.86 | CHLORIDE | 9.683 | 1.303 | 54.71 | 7.294 | BM |
| 4 | 5.46 | n.a. | 0.024 | 0.005 | 0.22 | n.a. | M |
| 5 | 5.81 | n.a. | 0.016 | 0.002 | 0.10 | n.a. | MB |
| 6 | 6.23 | n.a. | 0.264 | 0.122 | 5.14 | n.a. | BM |
| 7 | 7.57 | SULFATE | 4.263 | 0.899 | 37.74 | 6.843 | MB |
| 8 | 10.94 | NITRATE | 0.015 | 0.004 | 0.16 | 0.009 | BMB |
| 9 | 18.30 | PHOSPHATE | 0.021 | 0.014 | 0.60 | 0.089 | BMB |
| **Total:** | | | 14.576 | 2.382 | 100.00 | 14.283 | |

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

## 14 JB50882-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.28 | FLUORIDE | 0.144 | 0.014 | 0.59 | 0.048 | BM * |
| 2 | 3.31 | n.a. | 0.146 | 0.018 | 0.75 | n.a. | MB* |
| 3 | 4.86 | CHLORIDE | 9.683 | 1.303 | 54.71 | 7.294 | BM |
| 4 | 5.46 | n.a. | 0.024 | 0.005 | 0.22 | n.a. | M |
| 5 | 5.81 | n.a. | 0.016 | 0.002 | 0.10 | n.a. | MB |
| 6 | 6.23 | n.a. | 0.264 | 0.122 | 5.14 | n.a. | BM |
| 7 | 7.57 | SULFATE | 4.263 | 0.899 | 37.74 | 6.843 | MB |
| 8 | 10.94 | NITRATE | 0.015 | 0.004 | 0.16 | 0.009 | BMB |
| 9 | 18.30 | PHOSPHATE | 0.021 | 0.014 | 0.60 | 0.089 | BMB |
| **Total:** | | | 14.576 | 2.382 | 100.00 | 14.283 | |

DEFAULT/Integration

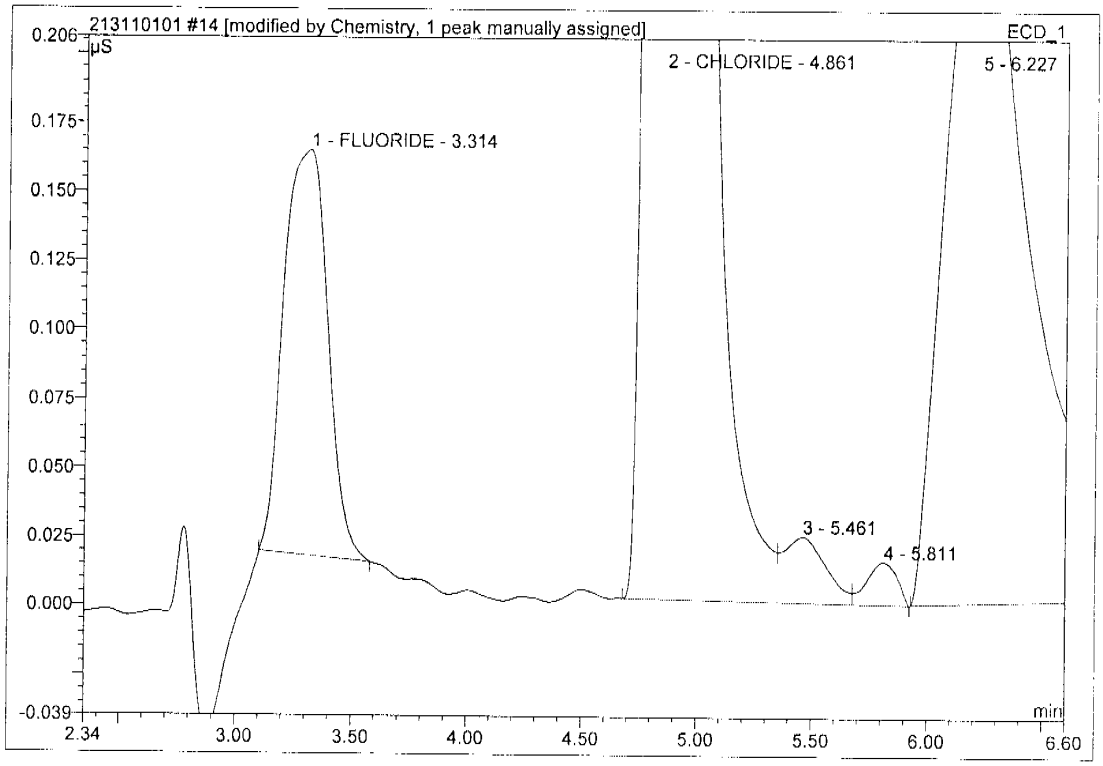
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110101


11/4/2013 10:14 AM

## 14 JB50882-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.31 | FLUORIDE | 0.147 | 0.032 | 1.35 | 0.110 | BMB*^ |
| 2 | 4.86 | CHLORIDE | 9.683 | 1.303 | 54.71 | 7.294 | BM |
| 3 | 5.46 | n.a. | 0.024 | 0.005 | 0.22 | n.a. | M |
| 4 | 5.81 | n.a. | 0.016 | 0.002 | 0.10 | n.a. | MB |
| 5 | 6.23 | n.a. | 0.264 | 0.122 | 5.14 | n.a. | BM |
| 6 | 7.57 | SULFATE | 4.263 | 0.899 | 37.73 | 6.843 | MB |
| 7 | 10.94 | NITRATE | 0.015 | 0.004 | 0.16 | 0.009 | BMB |
| 8 | 18.30 | PHOSPHATE | 0.021 | 0.014 | 0.60 | 0.089 | BMB |
| **Total:** | | | 14.433 | 2.382 | 100.00 | 14.345 | |

DEFAULT/Integration

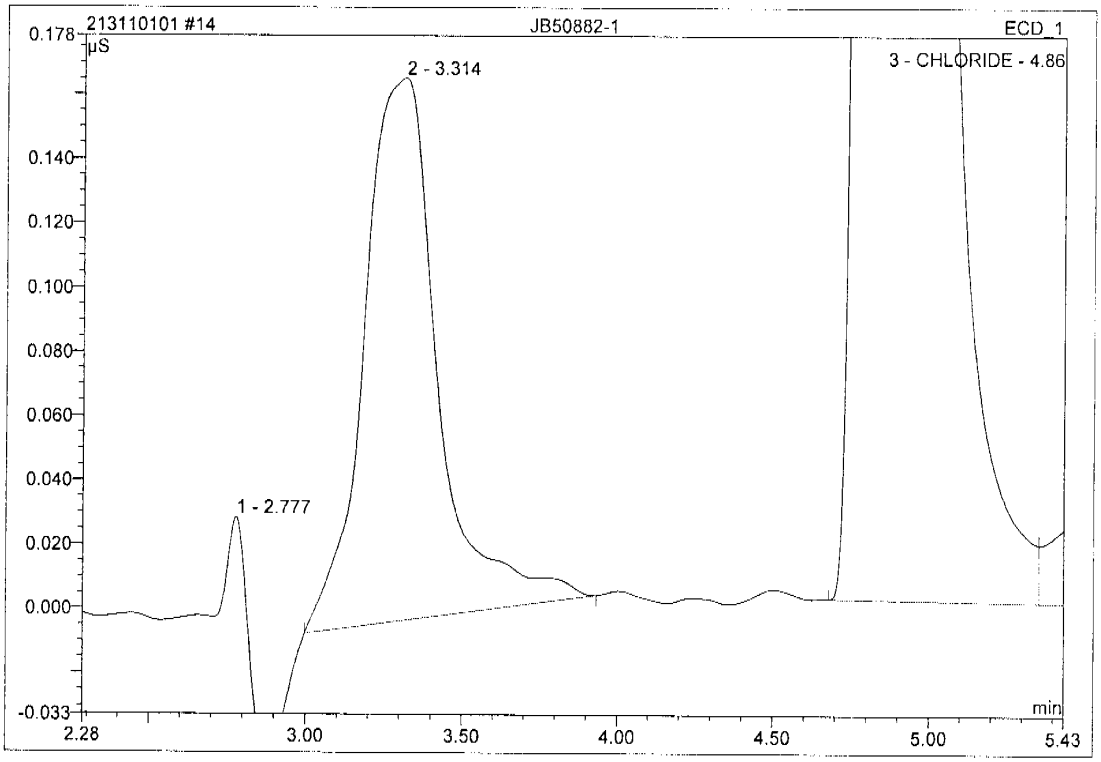
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110101


11/4/2013 10:01 AM

## 14 JB50882-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



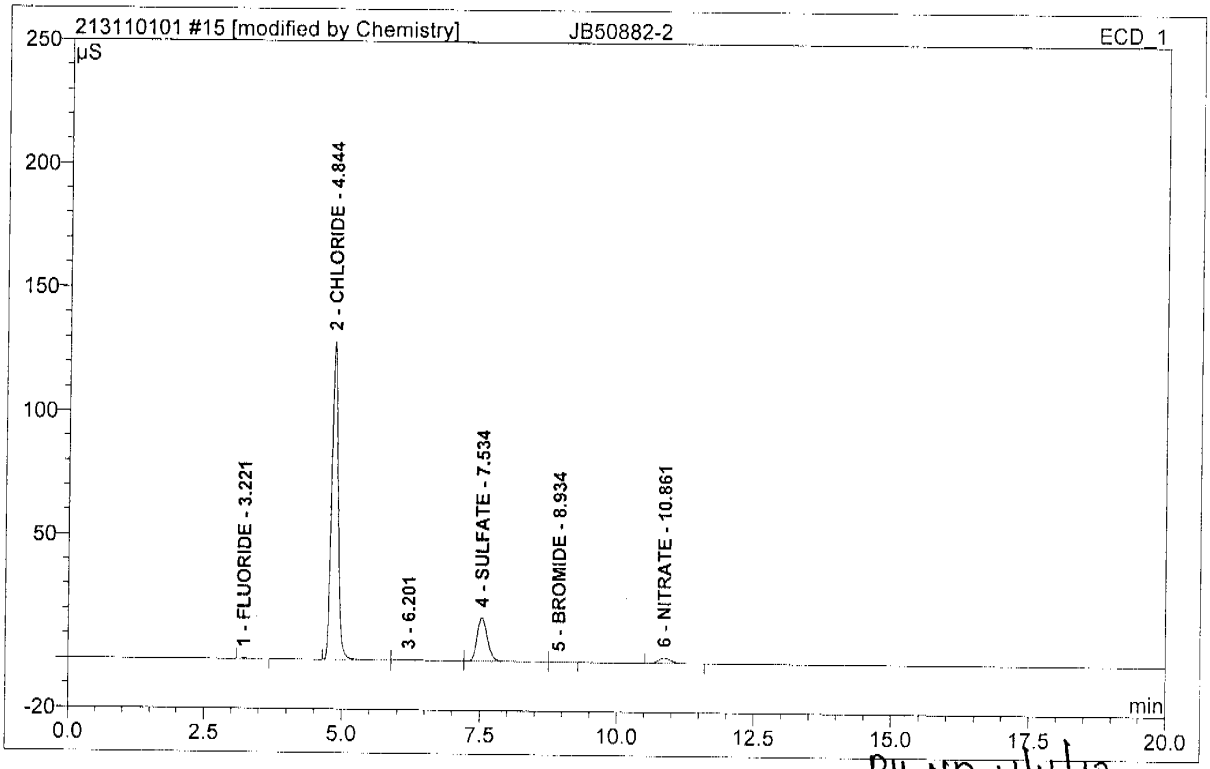

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.070 | 0.044 | 1.79 | n.a. | BMB |
| 2 | 3.31 | n.a. | 0.169 | 0.046 | 1.90 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 9.683 | 1.303 | 53.40 | 7.294 | BM |
| 4 | 5.46 | n.a. | 0.024 | 0.005 | 0.21 | n.a. | M |
| 5 | 5.81 | n.a. | 0.016 | 0.002 | 0.10 | n.a. | MB |
| 6 | 6.23 | n.a. | 0.264 | 0.122 | 5.01 | n.a. | BM |
| 7 | 7.57 | SULFATE | 4.263 | 0.899 | 36.83 | 6.843 | MB |
| 8 | 10.94 | NITRATE | 0.015 | 0.004 | 0.15 | 0.009 | BMB |
| 9 | 18.30 | PHOSPHATE | 0.021 | 0.014 | 0.59 | 0.089 | BMB |
| **Total:** | | | 14.525 | 2.440 | 100.00 | 14.235 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 15 JB50882-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

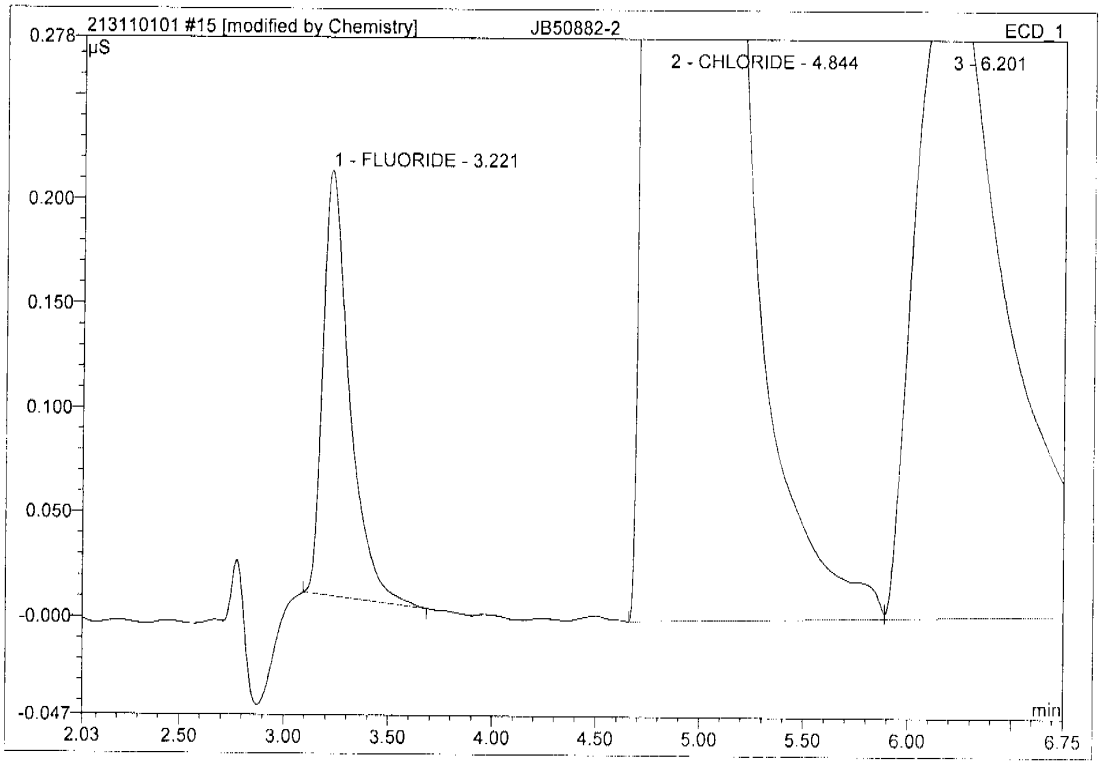



PIL NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.204 | 0.030 | 0.14 | 0.103 ✓ | BMB* |
| 2 | 4.84 | CHLORIDE | 128.676 | 17.502 | 79.25 | 97.982 | BM |
| 3 | 6.20 | n.a. | 0.308 | 0.169 | 0.77 | n.a. | M |
| 4 | 7.53 | SULFATE | 17.458 | 3.815 | 17.27 | 29.051 | M |
| 5 | 8.93 | BROMIDE | 0.024 | 0.005 | 0.02 | 0.070 | MB |
| 6 | 10.86 | NITRATE | 2.152 | 0.562 | 2.55 | 1.306 | BMB |
| Total: | | | 148.821 | 22.085 | 100.00 | 128.512 | |

## 15 JB50882-2

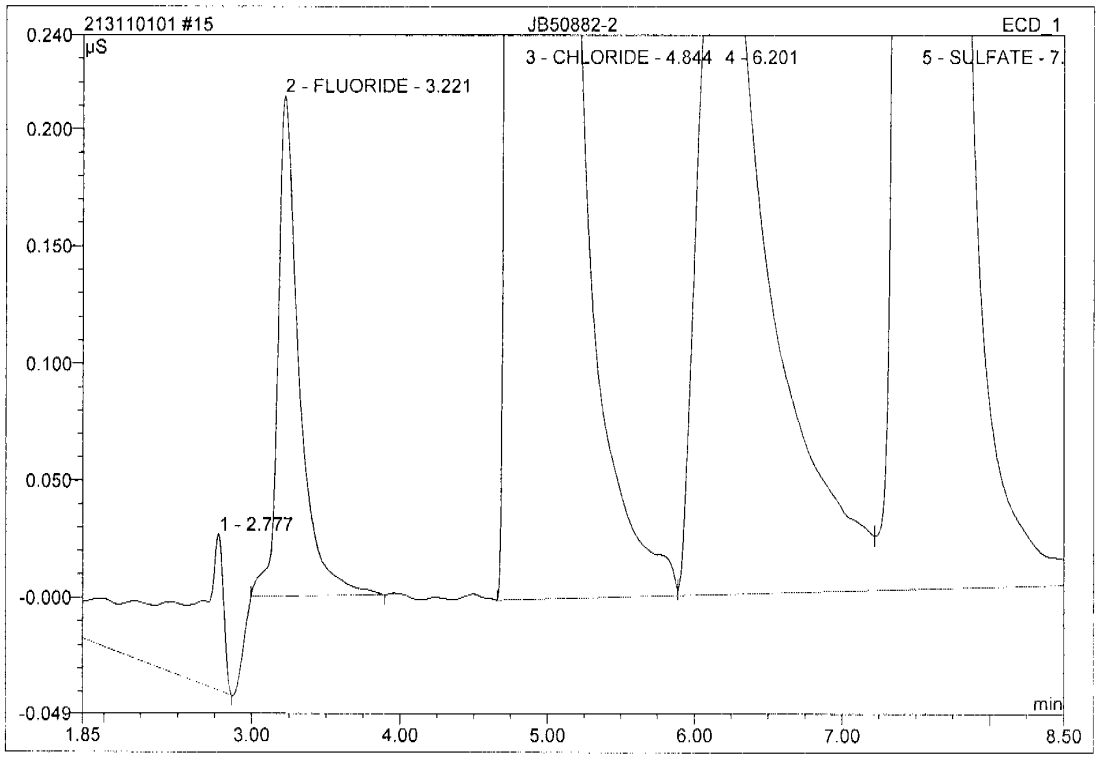
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.204 | 0.030 | 0.14 | 0.103 | BMB* |
| 2 | 4.84 | CHLORIDE | 128.676 | 17.502 | 79.25 | 97.982 | BM |
| 3 | 6.20 | n.a. | 0.308 | 0.169 | 0.77 | n.a. | M |
| 4 | 7.53 | SULFATE | 17.458 | 3.815 | 17.27 | 29.051 | M |
| 5 | 8.93 | BROMIDE | 0.024 | 0.005 | 0.02 | 0.070 | MB |
| 6 | 10.86 | NITRATE | 2.152 | 0.562 | 2.55 | 1.306 | BMB |
| Total: | | | 148.821 | 22.085 | 100.00 | 128.512 | |

## 15 JB50882-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 15:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



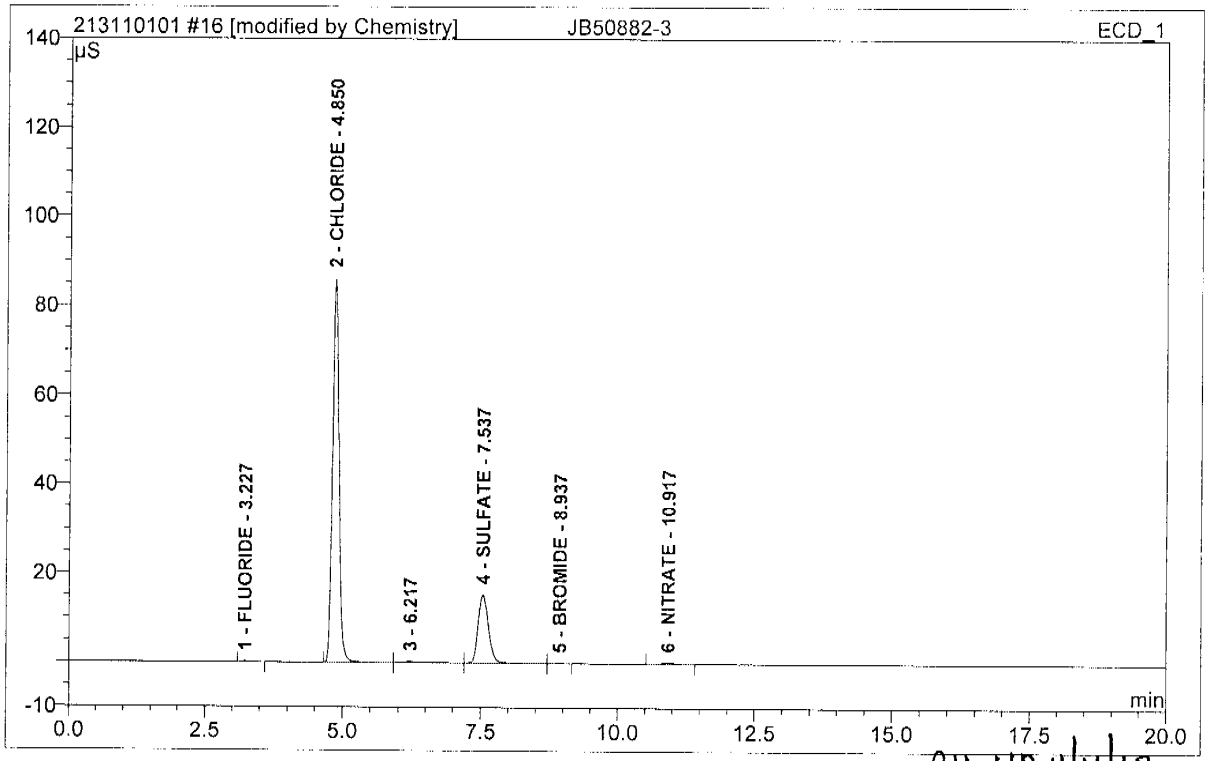

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.066 | 0.033 | 0.15 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.214 | 0.036 | 0.16 | 0.122 | BMB |
| 3 | 4.84 | CHLORIDE | 128.676 | 17.502 | 79.11 | 97.982 | BM |
| 4 | 6.20 | n.a. | 0.308 | 0.169 | 0.77 | n.a. | M |
| 5 | 7.53 | SULFATE | 17.458 | 3.815 | 17.24 | 29.051 | M |
| 6 | 8.93 | BROMIDE | 0.024 | 0.005 | 0.02 | 0.070 | MB |
| 7 | 10.86 | NITRATE | 2.152 | 0.562 | 2.54 | 1.306 | BMB |
| **Total:** | | | 148.898 | 22.124 | 100.00 | 128.531 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 16 JB50882-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 16:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PII NP 11/4/13

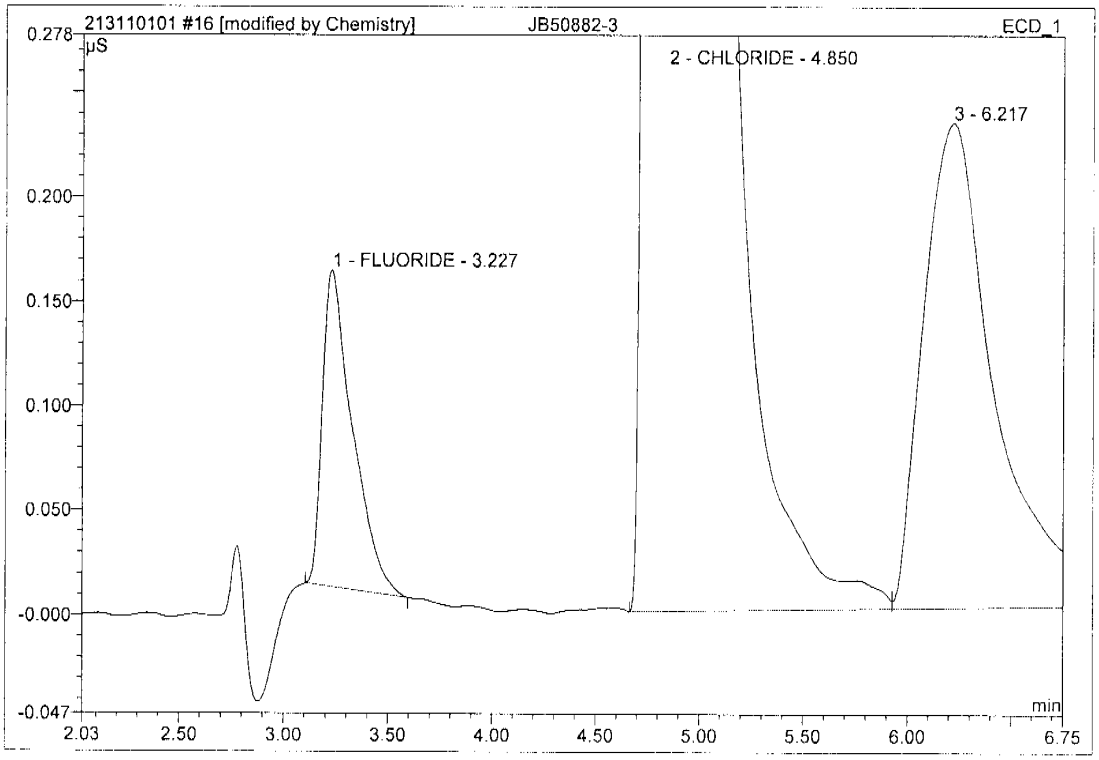
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.152 | 0.025 | 0.17 | 0.087 ✓ | BMB* |
| 2 | 4.85 | CHLORIDE | 86.023 | 11.586 | 76.80 | 64.859 | BM |
| 3 | 6.22 | n.a. | 0.232 | 0.097 | 0.64 | n.a. | M |
| 4 | 7.54 | SULFATE | 15.217 | 3.306 | 21.91 | 25.171 | M |
| 5 | 8.94 | BROMIDE | 0.020 | 0.004 | 0.03 | 0.058 | MB |
| 6 | 10.92 | NITRATE | 0.257 | 0.067 | 0.44 | 0.155 | BMB |
| **Total:** | | | 101.900 | 15.085 | 100.00 | 90.330 | |



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Version 6.80 SR9a Build 2680 (163077)

## 16 JB50882-3

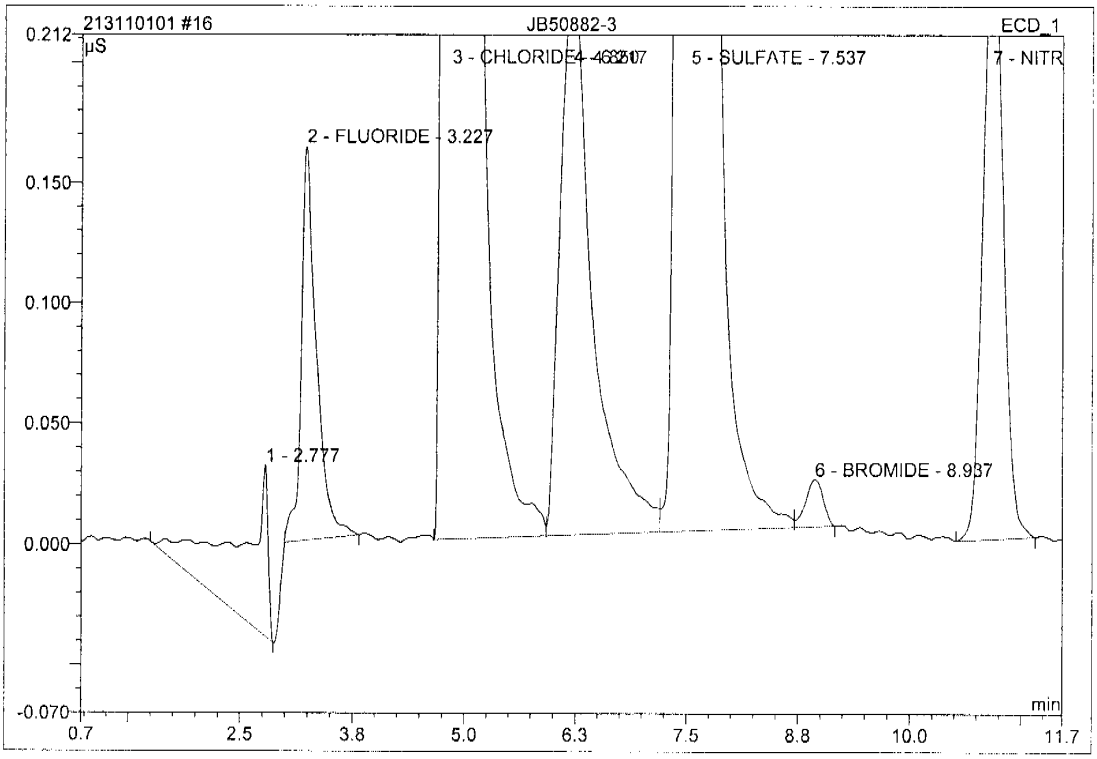
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 16:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.152 | 0.025 | 0.17 | 0.087 | BMB* |
| 2 | 4.85 | CHLORIDE | 86.023 | 11.586 | 76.80 | 64.859 | BM |
| 3 | 6.22 | n.a. | 0.232 | 0.097 | 0.64 | n.a. | M |
| 4 | 7.54 | SULFATE | 15.217 | 3.306 | 21.91 | 25.171 | M |
| 5 | 8.94 | BROMIDE | 0.020 | 0.004 | 0.03 | 0.058 | MB |
| 6 | 10.92 | NITRATE | 0.257 | 0.067 | 0.44 | 0.155 | BMB |
| **Total:** | | | 101.900 | 15.085 | 100.00 | 90.330 | |

## 16 JB50882-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50882-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 16:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



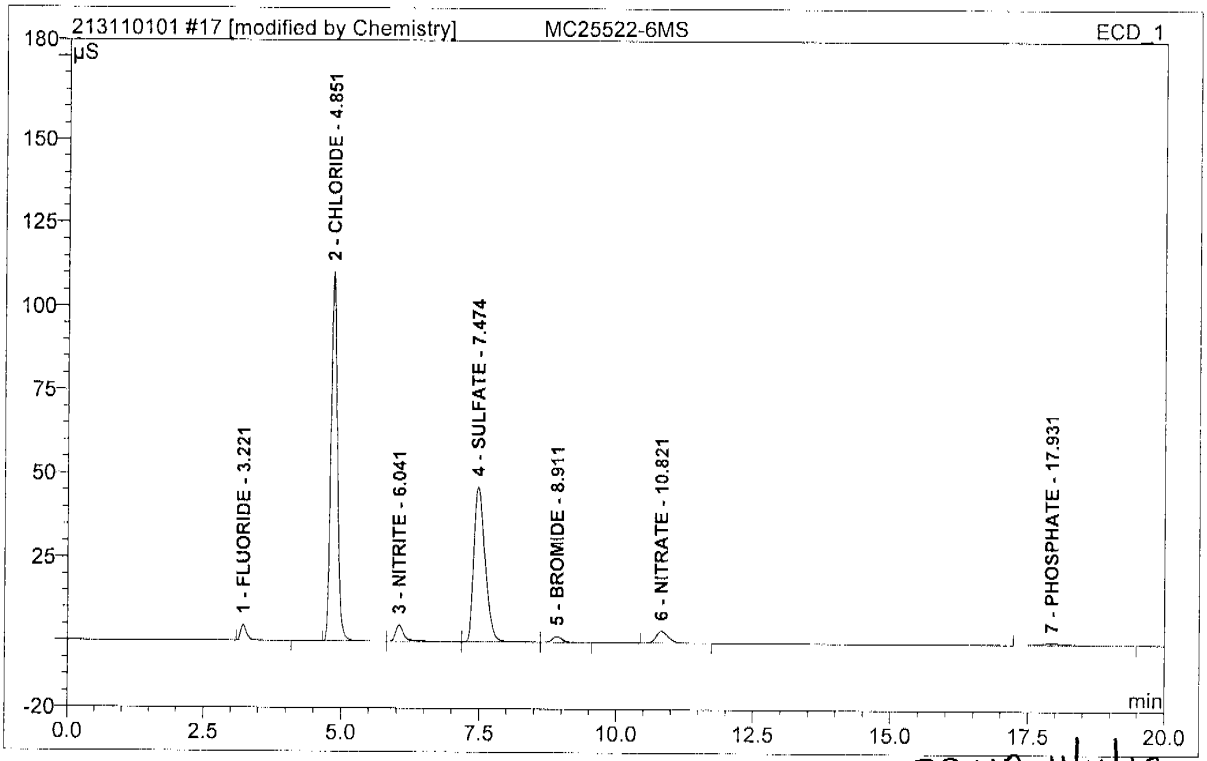

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.071 | 0.028 | 0.19 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.163 | 0.032 | 0.21 | 0.109 | BMB |
| 3 | 4.85 | CHLORIDE | 86.023 | 11.586 | 76.63 | 64.859 | BM |
| 4 | 6.22 | n.a. | 0.232 | 0.097 | 0.64 | n.a. | M |
| 5 | 7.54 | SULFATE | 15.217 | 3.306 | 21.86 | 25.171 | M |
| 6 | 8.94 | BROMIDE | 0.020 | 0.004 | 0.03 | 0.058 | MB |
| 7 | 10.92 | NITRATE | 0.257 | 0.067 | 0.44 | 0.155 | BMB |
| **Total:** | | | 101.983 | 15.119 | 100.00 | 90.352 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 17 MC25522-6MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-6MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 16:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/4/13

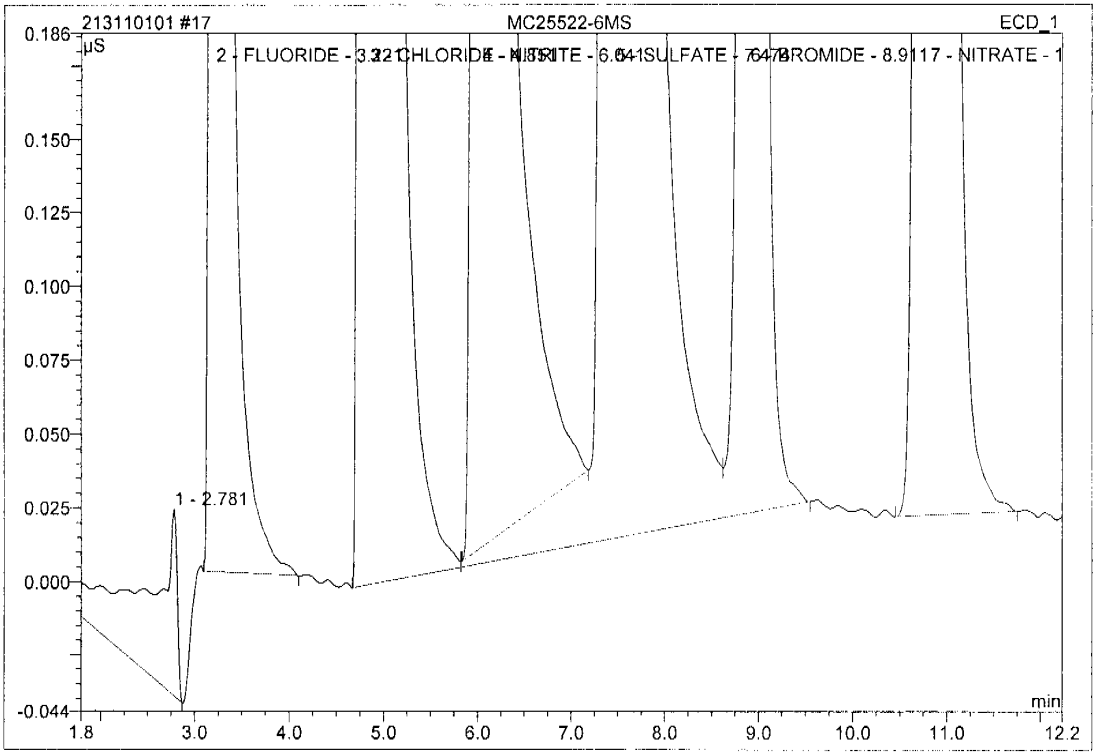
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.732 | 0.590 | 2.03 | 2.017 | BMB |
| 2 | 4.85 | CHLORIDE | 110.478 | 14.937 | 51.40 | 83.619 | BM |
| 3 | 6.04 | NITRITE | 4.910 | 0.892 | 3.07 | 2.097 | M * |
| 4 | 7.47 | SULFATE | 46.261 | 11.032 | 37.96 | 84.007 ✓ | M * |
| 5 | 8.91 | BROMIDE | 1.755 | 0.372 | 1.28 | 4.840 | MB |
| 6 | 10.82 | NITRATE | 3.493 | 0.926 | 3.19 | 2.151 | BMB |
| 7 | 17.93 | PHOSPHATE | 0.518 | 0.312 | 1.07 | 1.928 | BMB |
| **Total:** | | | 172.148 | 29.060 | 100.00 | 180.660 | |



Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

# 17 MC25522-6MS

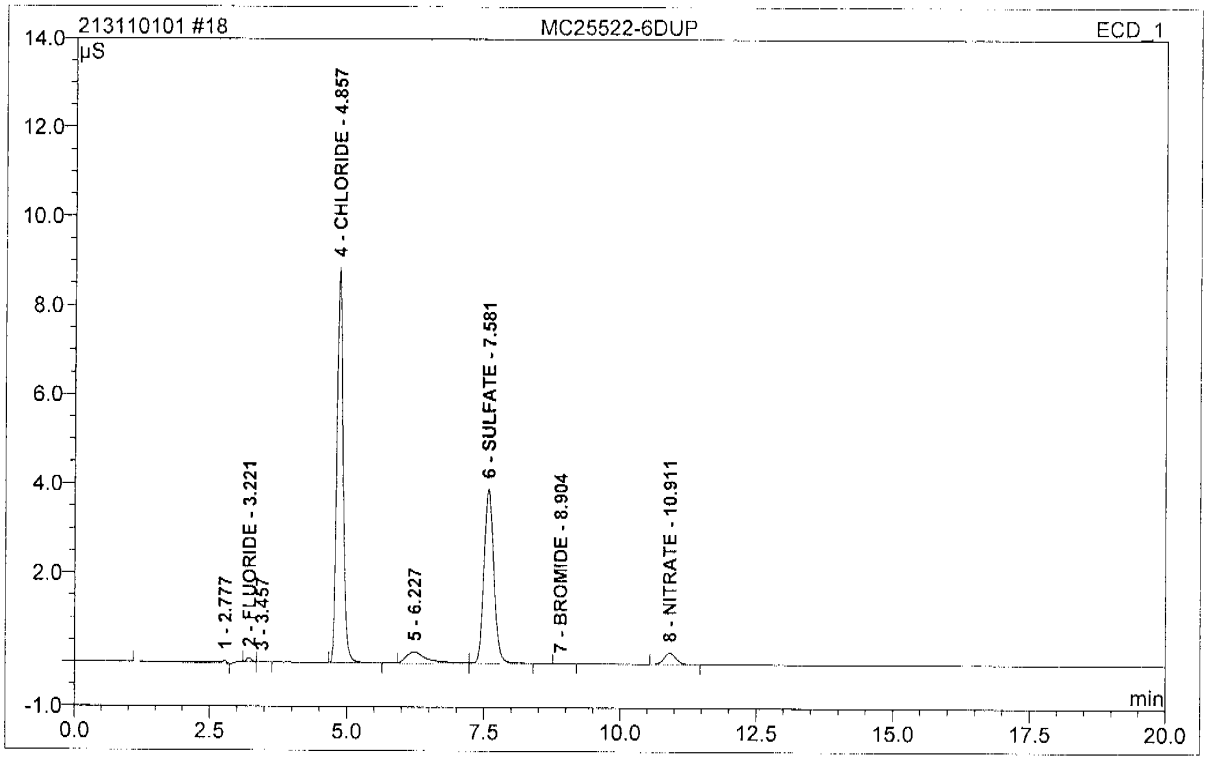
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-6MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 16:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.064 | 0.028 | 0.10 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.732 | 0.590 | 2.03 | 2.017 | BMB |
| 3 | 4.85 | CHLORIDE | 110.478 | 14.937 | 51.35 | 83.619 | BM |
| 4 | 6.04 | NITRITE | 4.904 | 0.874 | 3.00 | 2.055 | Ru |
| 5 | 7.47 | SULFATE | 46.261 | 11.050 | 37.99 | 84.145 | M |
| 6 | 8.91 | BROMIDE | 1.755 | 0.372 | 1.28 | 4.840 | MB |
| 7 | 10.82 | NITRATE | 3.493 | 0.926 | 3.18 | 2.151 | BMB |
| 8 | 17.93 | PHOSPHATE | 0.518 | 0.312 | 1.07 | 1.928 | BMB |
| **Total:** | | | 172.206 | 29.088 | 100.00 | 180.755 | |

## 18 MC25522-6DUP

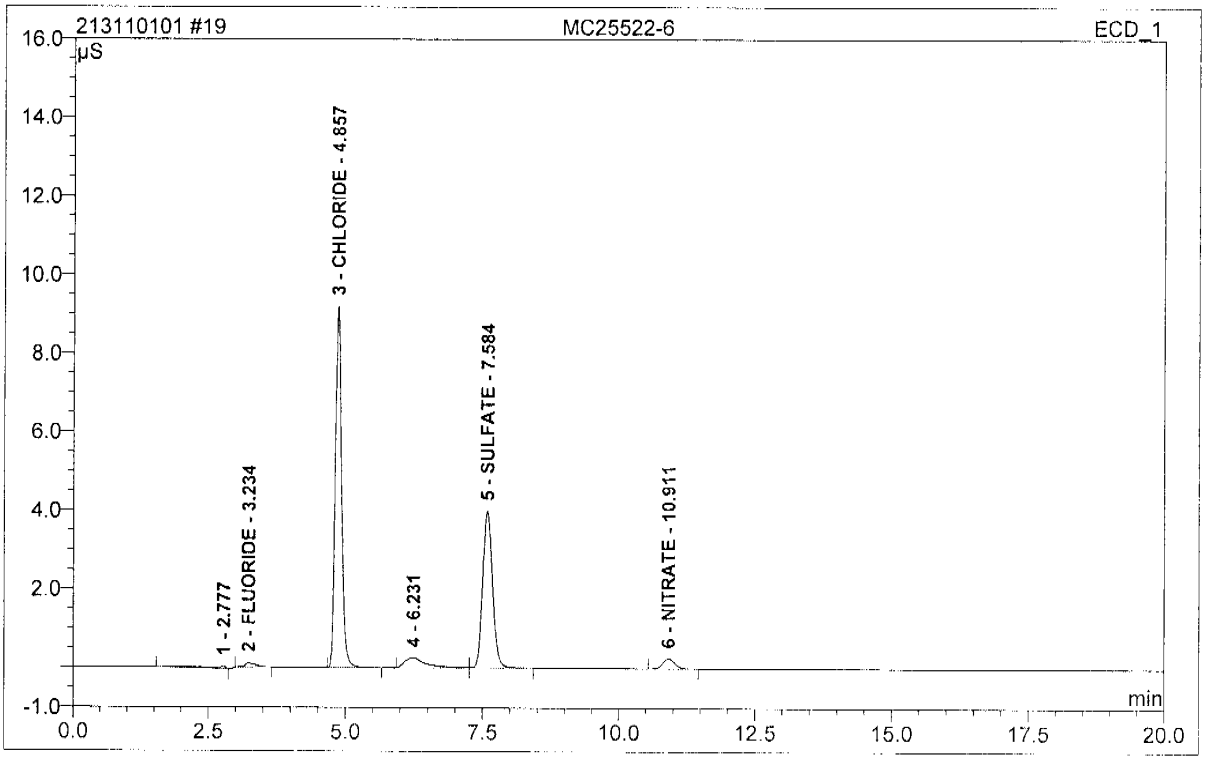
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-6DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 17:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.071 | 0.037 | 1.66 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.087 | 0.009 | 0.41 | 0.031 | BMB |
| 3 | 3.46 | n.a. | 0.010 | 0.001 | 0.06 | n.a. | BMB |
| 4 | 4.86 | CHLORIDE | 8.867 | 1.159 | 52.50 | 6.489 | BMB |
| 5 | 6.23 | n.a. | 0.254 | 0.114 | 5.16 | n.a. | BM |
| 6 | 7.58 | SULFATE | 3.911 | 0.819 | 37.11 | 6.240 | MB |
| 7 | 8.90 | BROMIDE | 0.006 | 0.001 | 0.06 | 0.016 | BMB |
| 8 | 10.91 | NITRATE | 0.258 | 0.067 | 3.04 | 0.156 | BMB |
| **Total:** | | | 13.465 | 2.208 | 100.00 | 12.931 | |

## 19 MC25522-6

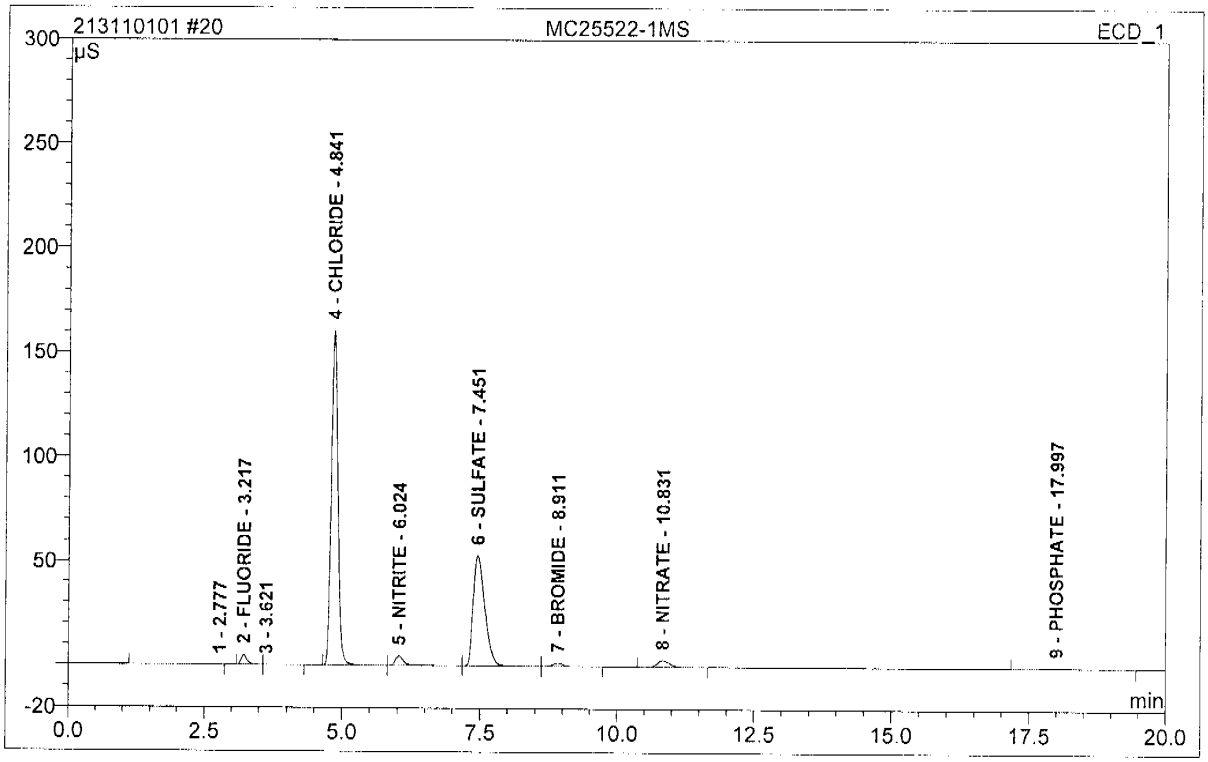
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 17:33** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.070 | 0.027 | 1.17 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.112 | 0.026 | 1.11 | 0.088 | BMB |
| 3 | 4.86 | CHLORIDE | 9.207 | 1.223 | 52.96 | 6.844 | BMB |
| 4 | 6.23 | n.a. | 0.263 | 0.124 | 5.36 | n.a. | BM |
| 5 | 7.58 | SULFATE | 3.993 | 0.841 | 36.45 | 6.408 | MB |
| 6 | 10.91 | NITRATE | 0.262 | 0.068 | 2.95 | 0.158 | BMB |
| **Total:** | | | 13.907 | 2.309 | 100.00 | 13.498 | |

## 20 MC25522-1MS

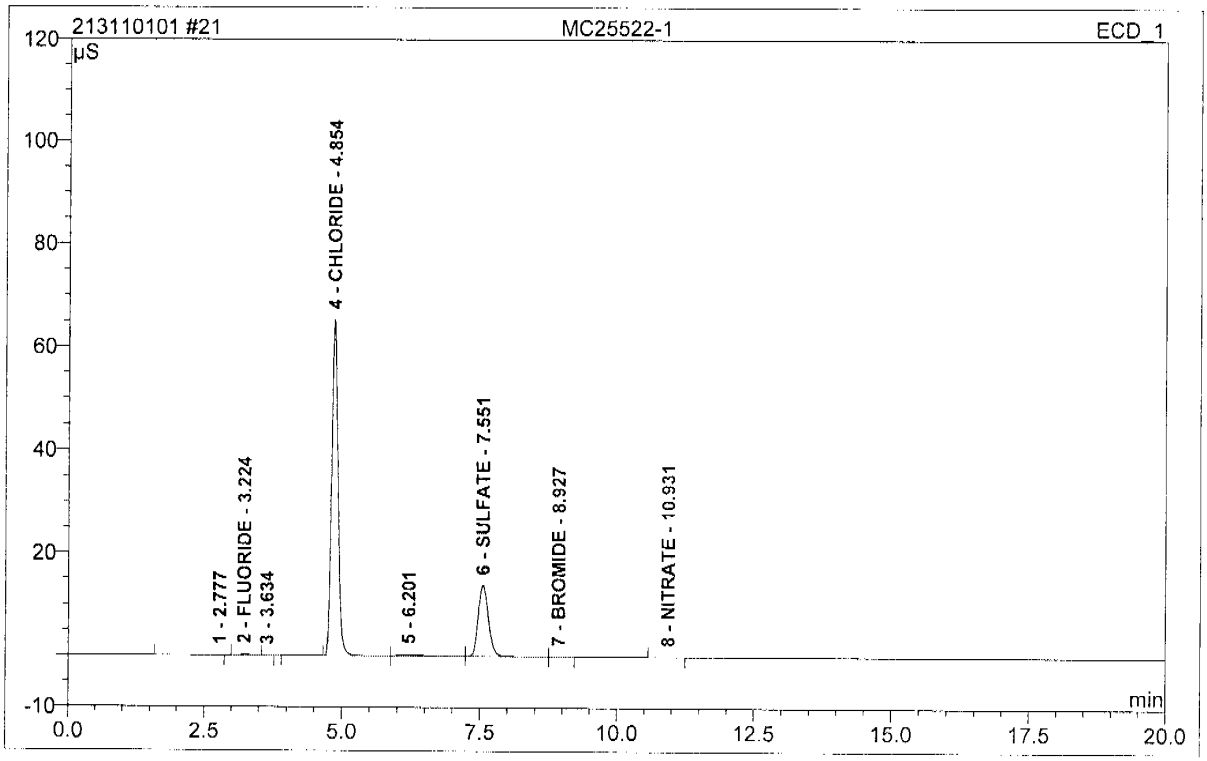
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 17:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.065 | 0.034 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.770 | 0.594 | 1.56 | 2.030 | BM |
| 3 | 3.62 | n.a. | 0.054 | 0.011 | 0.03 | n.a. | MB |
| 4 | 4.84 | CHLORIDE | 160.704 | 22.041 | 57.76 | 123.391 | BM |
| 5 | 6.02 | NITRITE | 4.602 | 0.934 | 2.45 | 2.196 | M |
| 6 | 7.45 | SULFATE | 53.349 | 13.054 | 34.21 | 99.405 | M |
| 7 | 8.91 | BROMIDE | 1.749 | 0.377 | 0.99 | 4.904 | MB |
| 8 | 10.83 | NITRATE | 3.216 | 0.852 | 2.23 | 1.977 | BMB |
| 9 | 18.00 | PHOSPHATE | 0.416 | 0.262 | 0.69 | 1.620 | BMB |
| **Total:** | | | 228.924 | 38.157 | 100.00 | 235.523 | |

## 21 MC25522-1

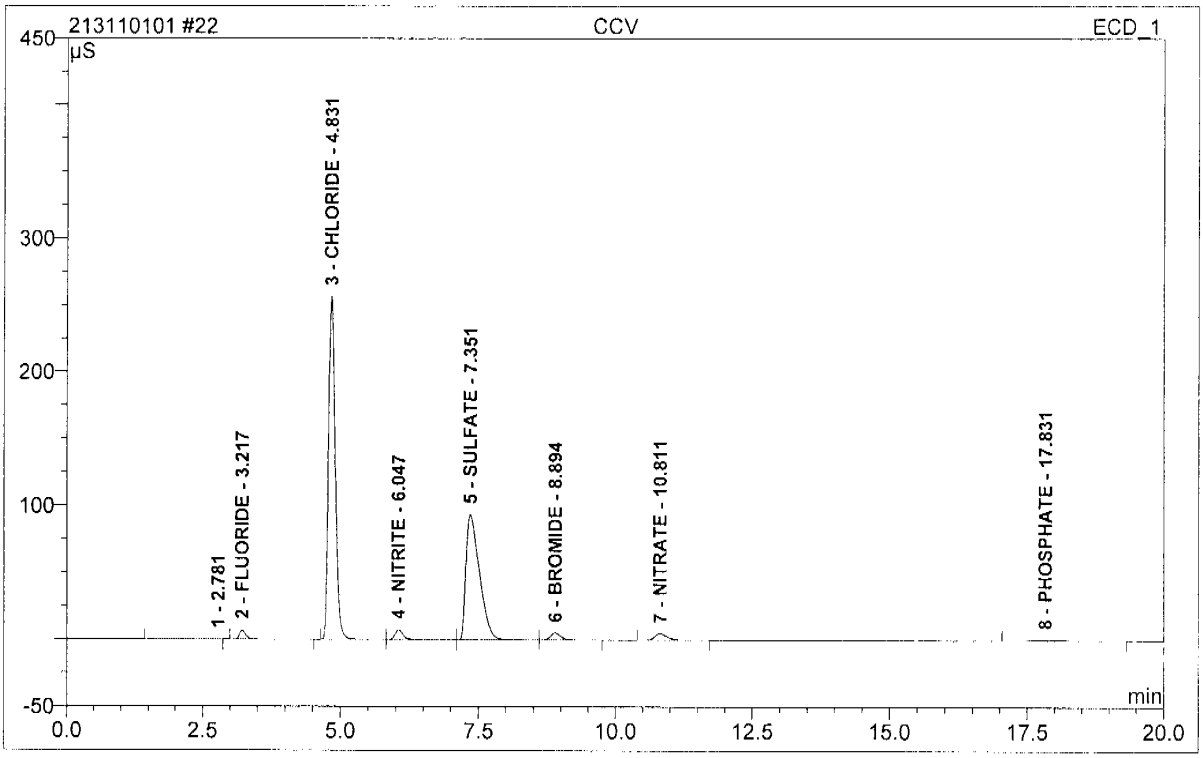
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 18:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.070 | 0.026 | 0.22 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.199 | 0.040 | 0.33 | 0.137 | BMB |
| 3 | 3.63 | n.a. | 0.018 | 0.002 | 0.01 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 65.370 | 8.720 | 72.70 | 48.819 | BM |
| 5 | 6.20 | n.a. | 0.315 | 0.179 | 1.50 | n.a. | M |
| 6 | 7.55 | SULFATE | 13.933 | 3.017 | 25.16 | 22.977 | M |
| 7 | 8.93 | BROMIDE | 0.017 | 0.004 | 0.03 | 0.050 | MB |
| 8 | 10.93 | NITRATE | 0.024 | 0.006 | 0.05 | 0.015 | BMB |
| **Total:** | | | 79.946 | 11.995 | 100.00 | 71.998 | |

## 22 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 18:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.054 | 0.024 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.050 | 0.900 | 1.32 | 3.076 | BMB |
| 3 | 4.83 | CHLORIDE | 256.585 | 36.184 | 53.23 | 202.569 | BM |
| 4 | 6.05 | NITRITE | 7.415 | 1.291 | 1.90 | 3.035 | M |
| 5 | 7.35 | SULFATE | 93.583 | 26.659 | 39.21 | 203.005 | M |
| 6 | 8.89 | BROMIDE | 5.293 | 1.138 | 1.67 | 14.826 | MB |
| 7 | 10.81 | NITRATE | 4.821 | 1.306 | 1.92 | 3.033 | BMB |
| 8 | 17.83 | PHOSPHATE | 0.819 | 0.481 | 0.71 | 2.976 | BMB |
| **Total:** | | | 375.621 | 67.983 | 100.00 | 432.519 | |

3.0
200
200

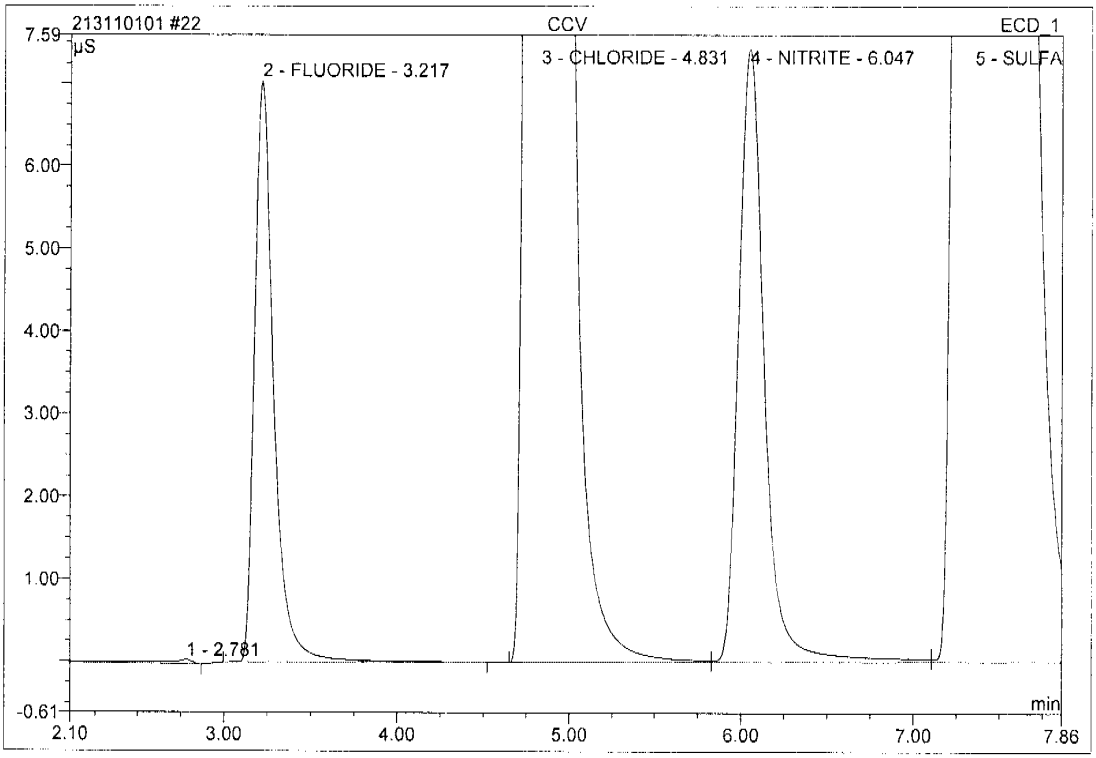
102.53
101.28
101.50



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## 22 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 18:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



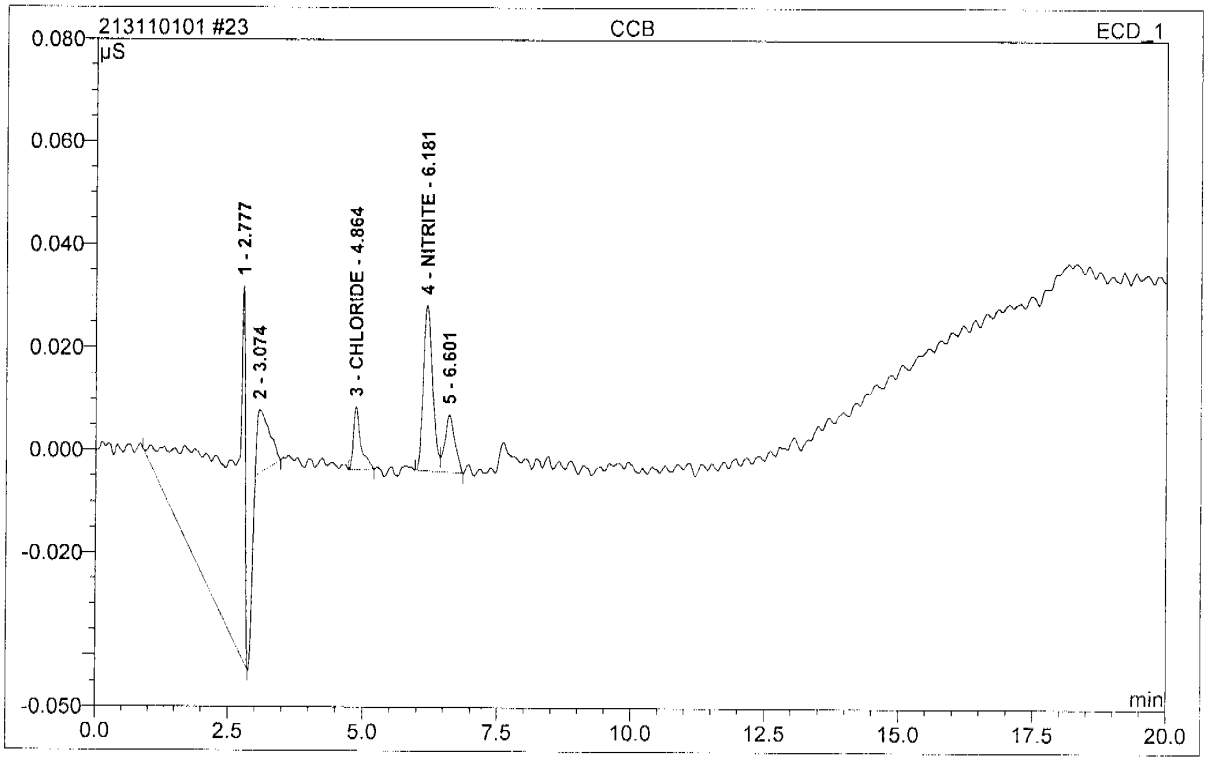

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.054 | 0.024 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.050 | 0.900 | 1.32 | 3.076 | BMB |
| 3 | 4.83 | CHLORIDE | 256.585 | 36.184 | 53.23 | 202.569 | BM |
| 4 | 6.05 | NITRITE | 7.415 | 1.291 | 1.90 | 3.035 | M |
| 5 | 7.35 | SULFATE | 93.583 | 26.659 | 39.21 | 203.005 | M |
| 6 | 8.89 | BROMIDE | 5.293 | 1.138 | 1.67 | 14.826 | MB |
| 7 | 10.81 | NITRATE | 4.821 | 1.306 | 1.92 | 3.033 | BMB |
| 8 | 17.83 | PHOSPHATE | 0.819 | 0.481 | 0.71 | 2.976 | BMB |
| **Total:** | | | 375.621 | 67.983 | 100.00 | 432.519 | |

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## 23 CCB

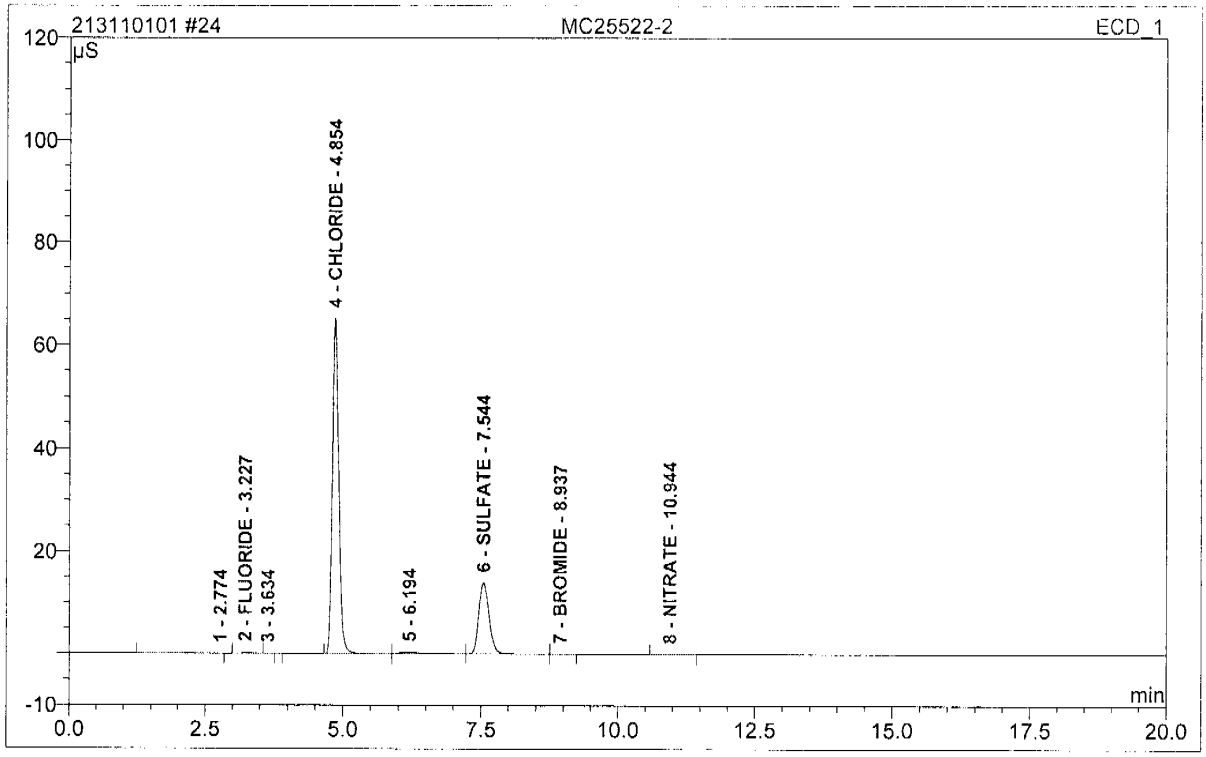
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 19:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.073 | 0.041 | 74.31 | n.a. | BMB |
| 2 | 3.07 | n.a. | 0.012 | 0.003 | 5.85 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.012 | 0.002 | 3.53 | 0.011 | BMB |
| 4 | 6.18 | NITRITE | 0.032 | 0.007 | 11.90 | 0.015 | BM |
| 5 | 6.60 | n.a. | 0.011 | 0.002 | 4.41 | n.a. | MB |
| **Total:** | | | 0.141 | 0.055 | 100.00 | 0.026 | |

## 24 MC25522-2

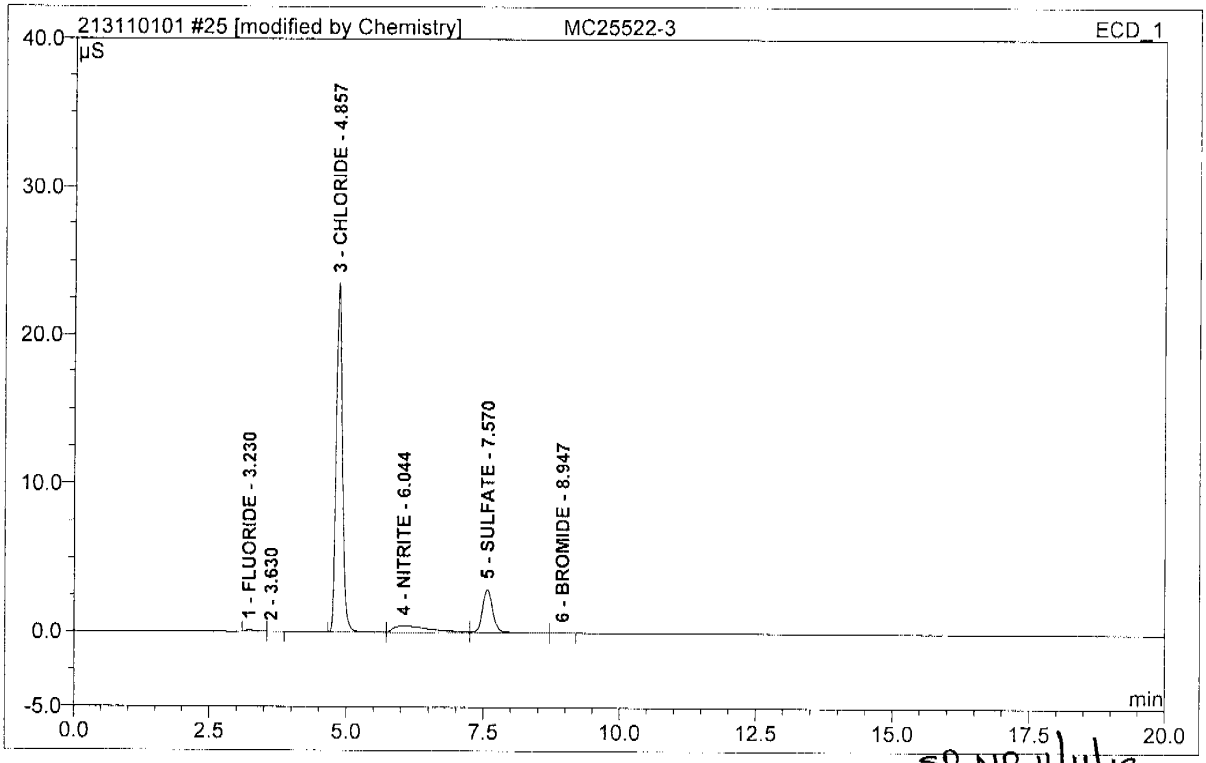
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 19:33** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.063 | 0.030 | 0.25 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.200 | 0.042 | 0.35 | 0.145 | BMB |
| 3 | 3.63 | n.a. | 0.017 | 0.002 | 0.01 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 65.252 | 8.721 | 72.56 | 48.823 | BM |
| 5 | 6.19 | n.a. | 0.314 | 0.180 | 1.50 | n.a. | M |
| 6 | 7.54 | SULFATE | 13.976 | 3.032 | 25.22 | 23.086 | M |
| 7 | 8.94 | BROMIDE | 0.018 | 0.004 | 0.03 | 0.054 | MB |
| 8 | 10.94 | NITRATE | 0.026 | 0.007 | 0.06 | 0.017 | BMB |
| **Total:** | | | 79.867 | 12.019 | 100.00 | 72.125 | |

## 25 MC25522-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 19:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

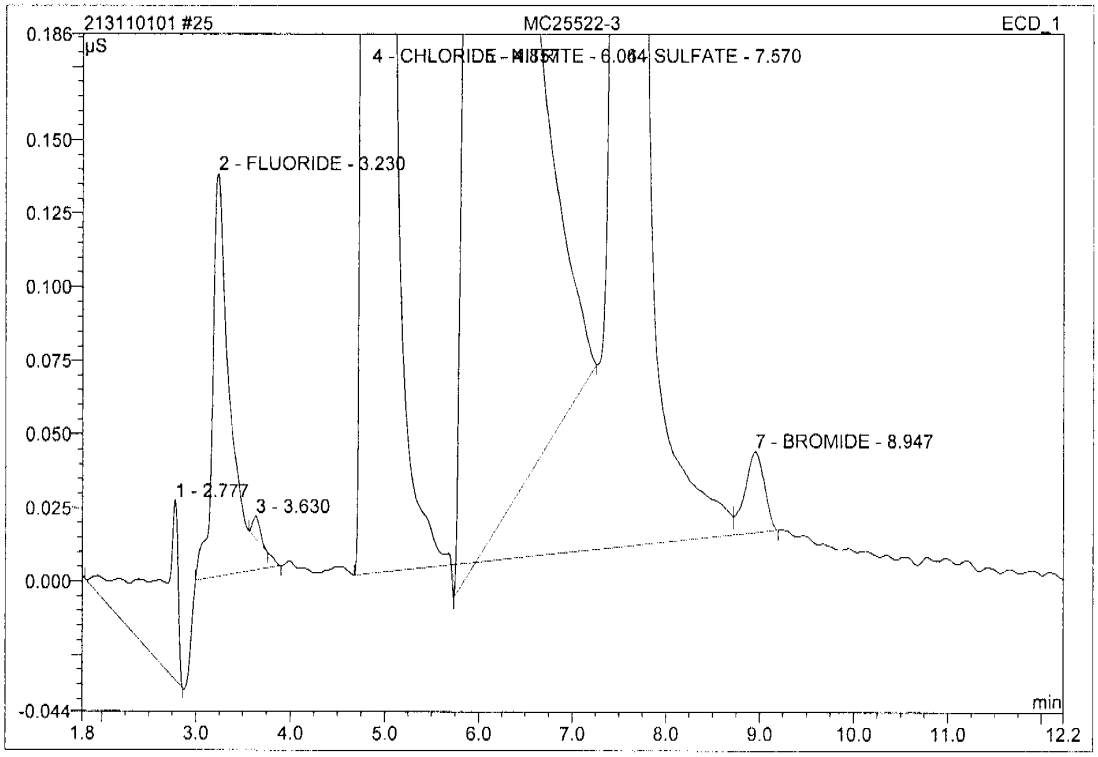



SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.126 | 0.023 | 0.55 | 0.077 | BM * |
| 2 | 3.63 | n.a. | 0.014 | 0.002 | 0.05 | n.a. | MB* |
| 3 | 4.86 | CHLORIDE | 23.529 | 3.077 | 74.63 | 17.223 | BMb* |
| 4 | 6.04 | NITRITE | 0.444 | 0.361 | 8.76 | 0.849 | bM * |
| 5 | 7.57 | SULFATE | 2.940 | 0.653 | 15.84 | 4.972 | M * |
| 6 | 8.95 | BROMIDE | 0.029 | 0.007 | 0.17 | 0.092 | MB* |
| **Total:** | | | 27.081 | 4.122 | 100.00 | 23.213 | |

## 25 MC25522-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 19:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



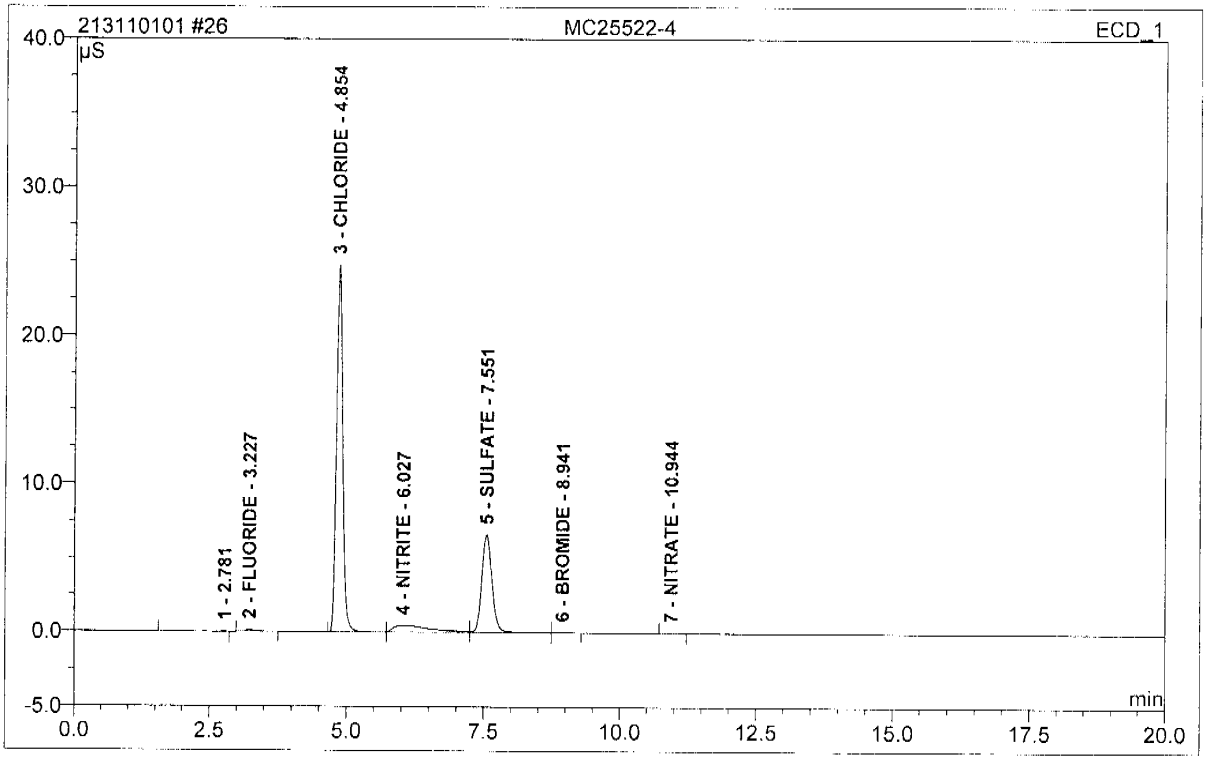

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.061 | 0.019 | 0.46 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.137 | 0.030 | 0.73 | 0.103 | BMB |
| 3 | 3.63 | n.a. | 0.008 | 0.001 | 0.02 | n.a. | Rd |
| 4 | 4.86 | CHLORIDE | 23.527 | 3.070 | 74.50 | 17.189 | BM |
| 5 | 6.04 | NITRITE | 0.430 | 0.308 | 7.47 | 0.724 | Ru |
| 6 | 7.57 | SULFATE | 2.935 | 0.686 | 16.65 | 5.226 | M |
| 7 | 8.95 | BROMIDE | 0.028 | 0.007 | 0.16 | 0.087 | MB |
| **Total:** | | | 27.125 | 4.121 | 100.00 | 23.329 | |

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## 26 MC25522-4

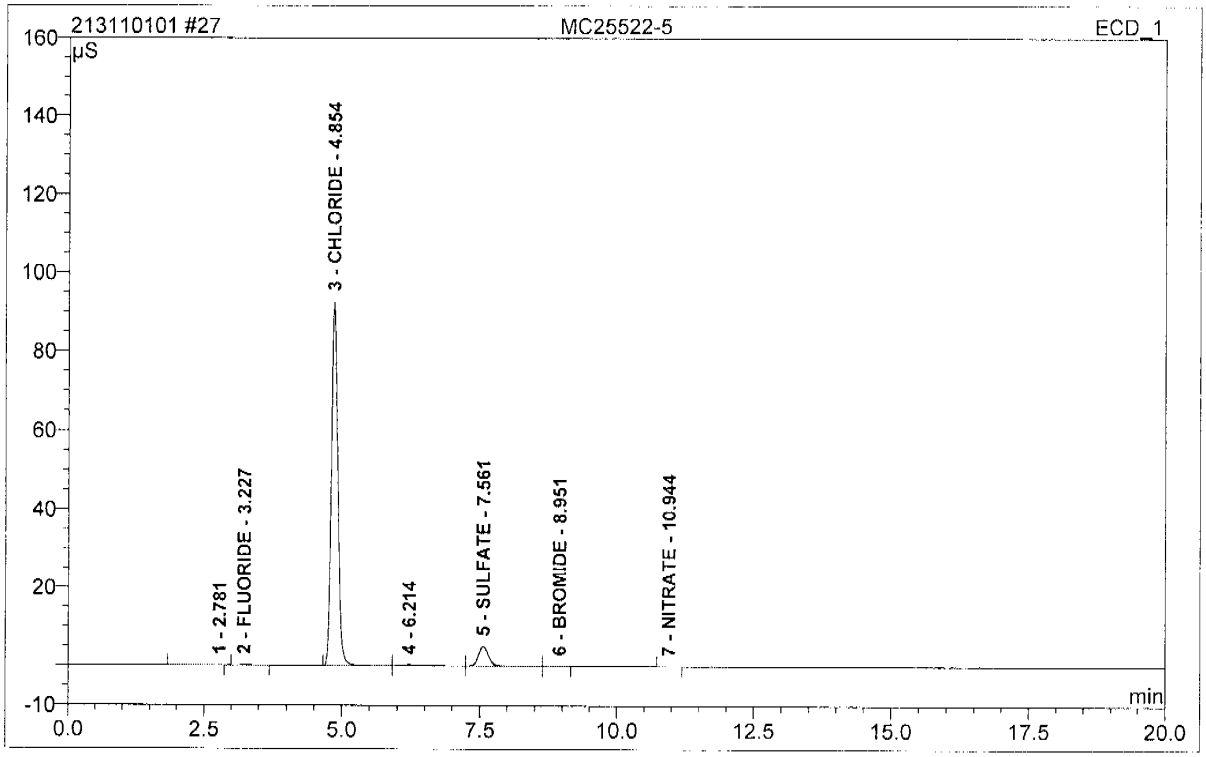
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 20:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.062 | 0.024 | 0.47 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.124 | 0.024 | 0.48 | 0.083 | BMB |
| 3 | 4.85 | CHLORIDE | 24.760 | 3.236 | 63.58 | 18.115 | BM |
| 4 | 6.03 | NITRITE | 0.440 | 0.352 | 6.92 | 0.828 | M |
| 5 | 7.55 | SULFATE | 6.617 | 1.442 | 28.34 | 10.984 | M |
| 6 | 8.94 | BROMIDE | 0.031 | 0.008 | 0.15 | 0.099 | MB |
| 7 | 10.94 | NITRATE | 0.011 | 0.003 | 0.05 | 0.006 | BMB |
| **Total:** | | | 32.045 | 5.089 | 100.00 | 30.115 | |

## 27 MC25522-5

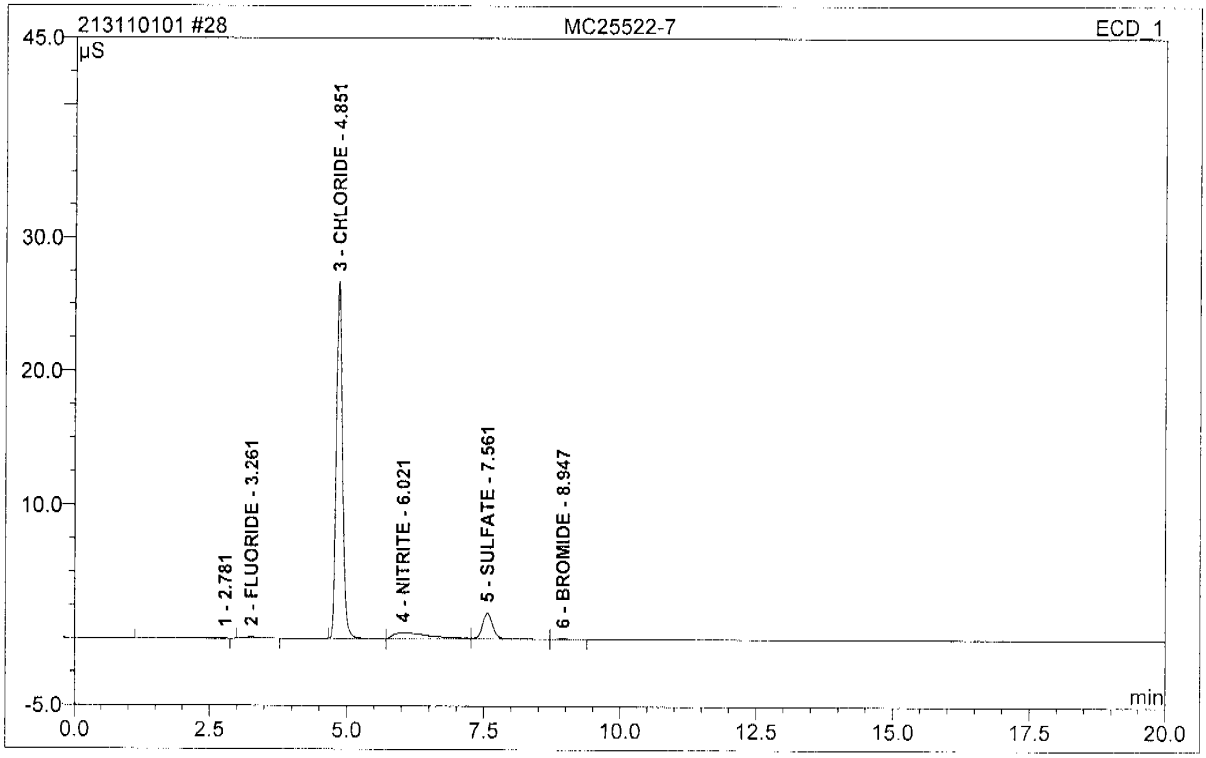
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **20** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 20:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.066 | 0.019 | 0.14 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.128 | 0.024 | 0.17 | 0.082 | BMB |
| 3 | 4.85 | CHLORIDE | 92.656 | 12.509 | 91.05 | 70.027 | BM |
| 4 | 6.21 | n.a. | 0.259 | 0.126 | 0.91 | n.a. | M |
| 5 | 7.56 | SULFATE | 4.995 | 1.056 | 7.69 | 8.042 | M |
| 6 | 8.95 | BROMIDE | 0.013 | 0.003 | 0.02 | 0.038 | MB |
| 7 | 10.94 | NITRATE | 0.008 | 0.002 | 0.01 | 0.005 | BMB |
| **Total:** | | | 98.124 | 13.738 | 100.00 | 78.194 | |

## 28 MC25522-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 21:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



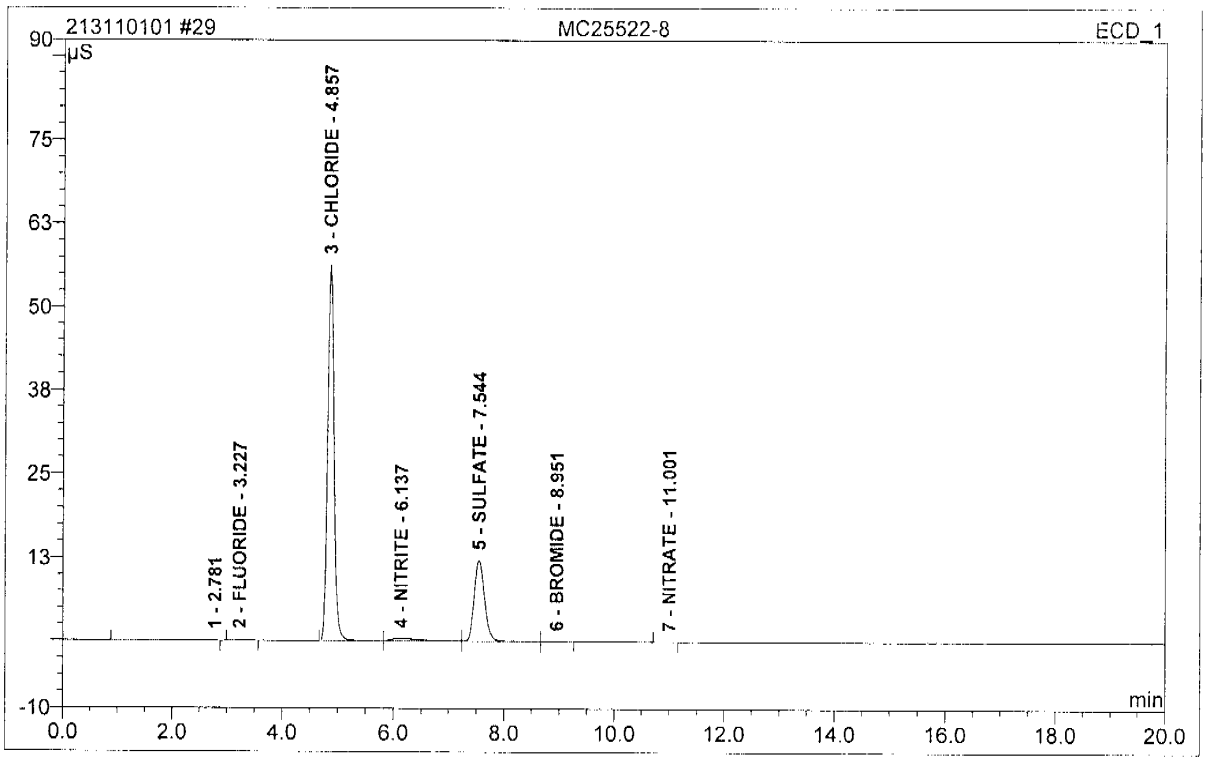

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.066 | 0.036 | 0.81 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.112 | 0.026 | 0.59 | 0.089 | BMB |
| 3 | 4.85 | CHLORIDE | 26.696 | 3.494 | 79.79 | 19.561 | BM |
| 4 | 6.02 | NITRITE | 0.449 | 0.363 | 8.29 | 0.854 | M |
| 5 | 7.56 | SULFATE | 1.960 | 0.449 | 10.26 | 3.423 | M |
| 6 | 8.95 | BROMIDE | 0.044 | 0.011 | 0.25 | 0.142 | MB |
| **Total:** | | | 29.327 | 4.379 | 100.00 | 24.069 | |



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## 29 MC25522-8

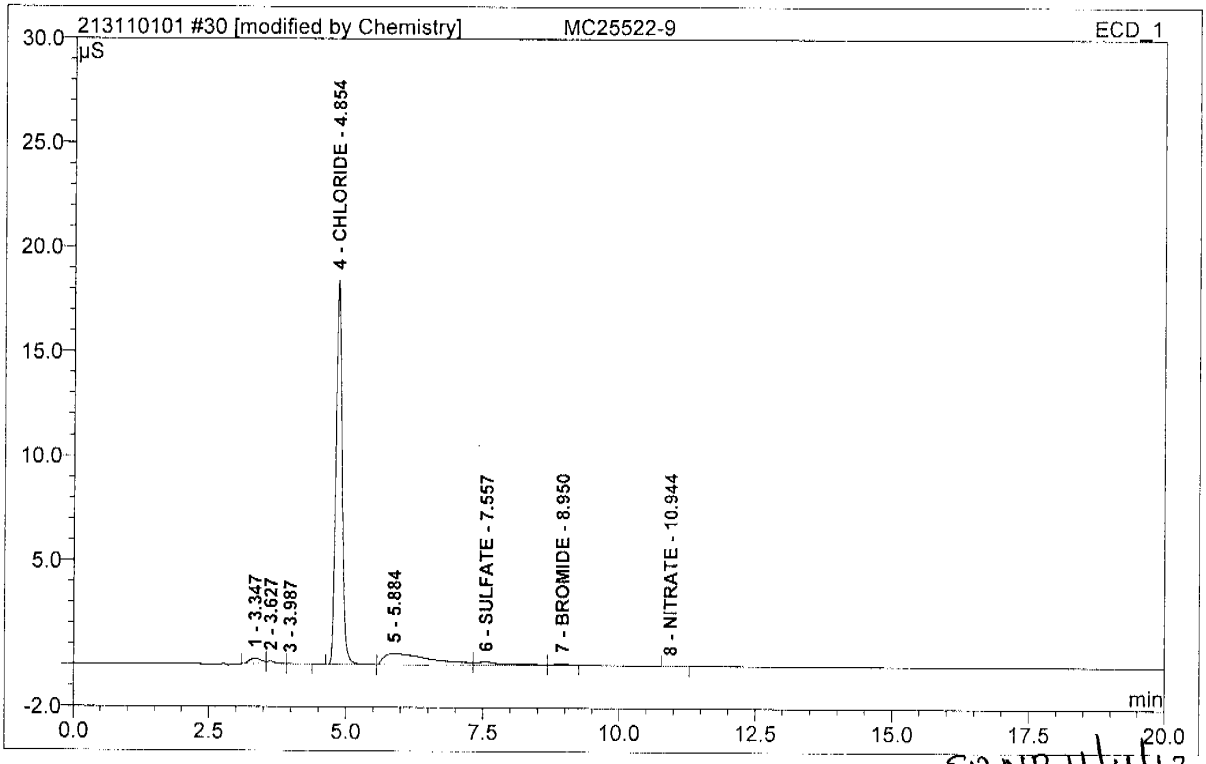
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 21:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.073 | 0.041 | 0.40 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.137 | 0.023 | 0.22 | 0.077 | BMB |
| 3 | 4.86 | CHLORIDE | 56.311 | 7.470 | 71.56 | 41.817 | BM |
| 4 | 6.14 | NITRITE | 0.373 | 0.248 | 2.38 | 0.584 | M |
| 5 | 7.54 | SULFATE | 12.222 | 2.650 | 25.38 | 20.176 | M |
| 6 | 8.95 | BROMIDE | 0.020 | 0.006 | 0.05 | 0.073 | MB |
| 7 | 11.00 | NITRATE | 0.005 | 0.001 | 0.01 | 0.003 | BMB |
| **Total:** | | | 69.141 | 10.439 | 100.00 | 62.731 | |

## 30 MC25522-9

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 21:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/4/13

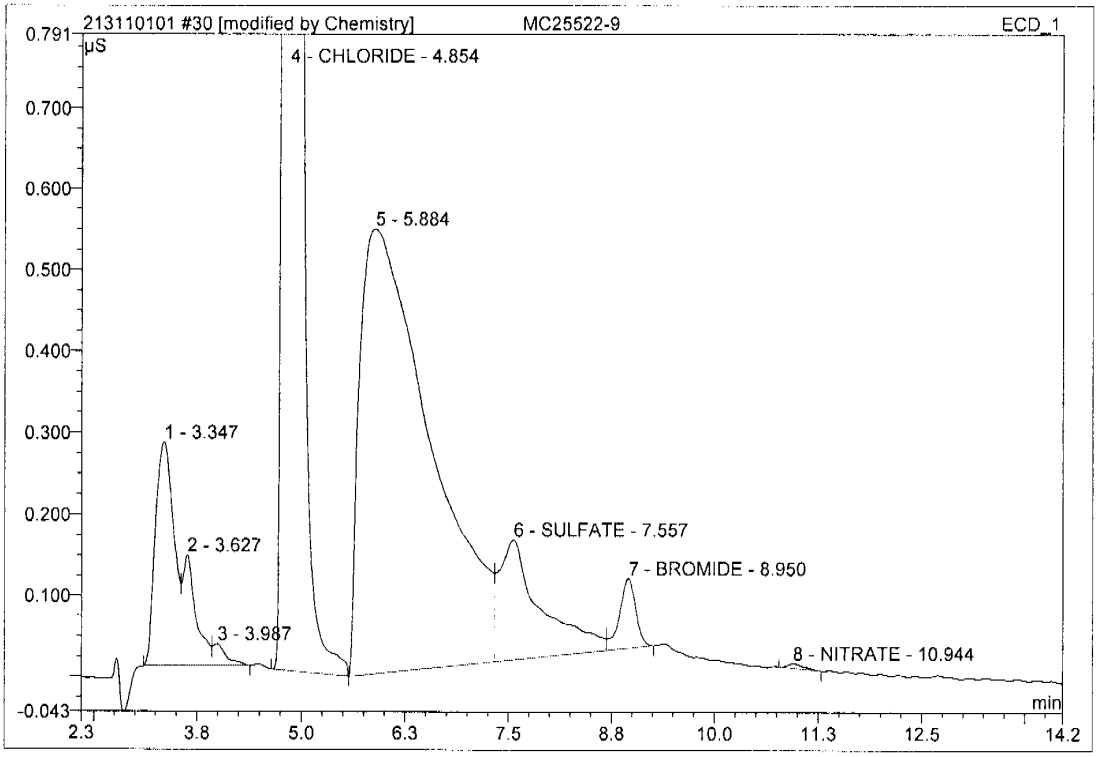
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.35 | n.a. | 0.275 | 0.072 | 2.27 | n.a. | BM * |
| 2 | 3.63 | n.a. | 0.137 | 0.026 | 0.82 | n.a. | M * |
| 3 | 3.99 | n.a. | 0.027 | 0.005 | 0.16 | n.a. | MB* |
| 4 | 4.85 | CHLORIDE | 18.447 | 2.406 | 76.25 | 13.472 | BMB |
| 5 | 5.88 | n.a. | 0.547 | 0.538 | 17.05 | n.a. | BM * |
| 6 | 7.56 | SULFATE | 0.148 | 0.087 | 2.77 | 0.666 ✓ | M * |
| 7 | 8.95 | BROMIDE | 0.086 | 0.020 | 0.63 | 0.259 | MB* |
| 8 | 10.94 | NITRATE | 0.006 | 0.001 | 0.04 | 0.003 | BMB |
| Total: | | | 19.673 | 3.156 | 100.00 | 14.401 | |



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## 30 MC25522-9

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 21:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



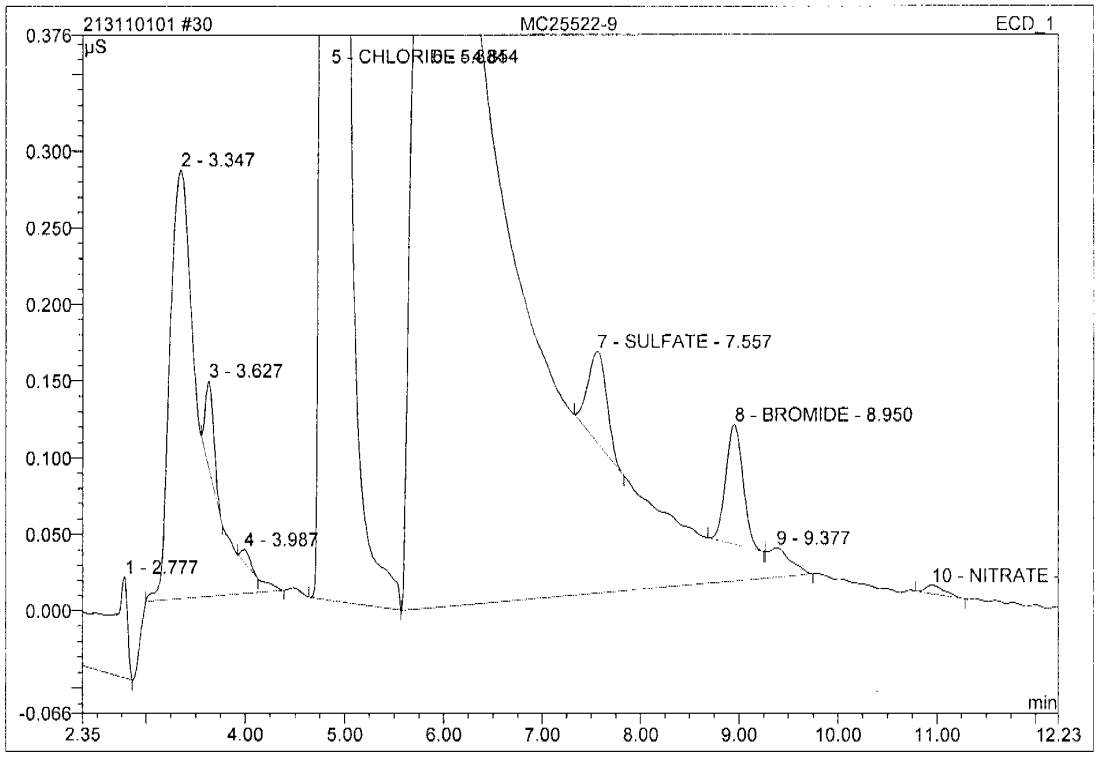

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.35 | n.a. | 0.275 | 0.072 | 2.27 | n.a. | BM * |
| 2 | 3.63 | n.a. | 0.137 | 0.026 | 0.82 | n.a. | M * |
| 3 | 3.99 | n.a. | 0.027 | 0.005 | 0.16 | n.a. | MB* |
| 4 | 4.85 | CHLORIDE | 18.447 | 2.406 | 76.25 | 13.472 | BMB |
| 5 | 5.88 | n.a. | 0.547 | 0.538 | 17.05 | n.a. | BM * |
| 6 | 7.56 | SULFATE | 0.148 | 0.087 | 2.77 | 0.666 | M * |
| 7 | 8.95 | BROMIDE | 0.086 | 0.020 | 0.63 | 0.259 | MB* |
| 8 | 10.94 | NITRATE | 0.006 | 0.001 | 0.04 | 0.003 | BMB |
| **Total:** | | | 19.673 | 3.156 | 100.00 | 14.401 | |

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## 30 MC25522-9

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 21:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



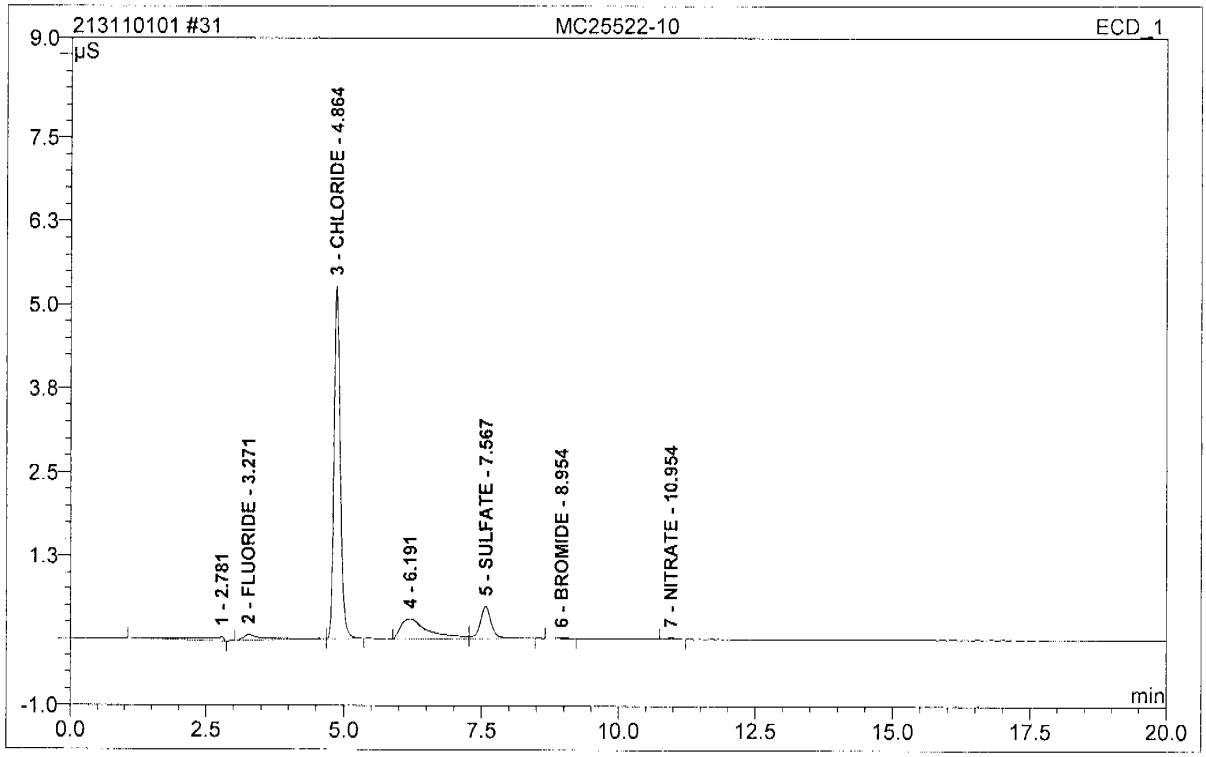

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.066 | 0.056 | 1.72 | n.a. | BMB |
| 2 | 3.35 | n.a. | 0.280 | 0.101 | 3.10 | n.a. | BMB |
| 3 | 3.63 | n.a. | 0.055 | 0.005 | 0.17 | n.a. | Rd |
| 4 | 3.99 | n.a. | 0.008 | 0.001 | 0.03 | n.a. | Rd |
| 5 | 4.85 | CHLORIDE | 18.447 | 2.406 | 73.97 | 13.472 | BMB |
| 6 | 5.88 | n.a. | 0.548 | 0.649 | 19.94 | n.a. | BM |
| 7 | 7.56 | SULFATE | 0.059 | 0.013 | 0.40 | 0.099 | Rd |
| 8 | 8.95 | BROMIDE | 0.078 | 0.016 | 0.48 | 0.204 | Rd |
| 9 | 9.38 | n.a. | 0.019 | 0.005 | 0.16 | n.a. | MB |
| 10 | 10.94 | NITRATE | 0.006 | 0.001 | 0.04 | 0.003 | BMB |
| **Total:** | | | 19.566 | 3.253 | 100.00 | 13.778 | |

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## 31 MC25522-10

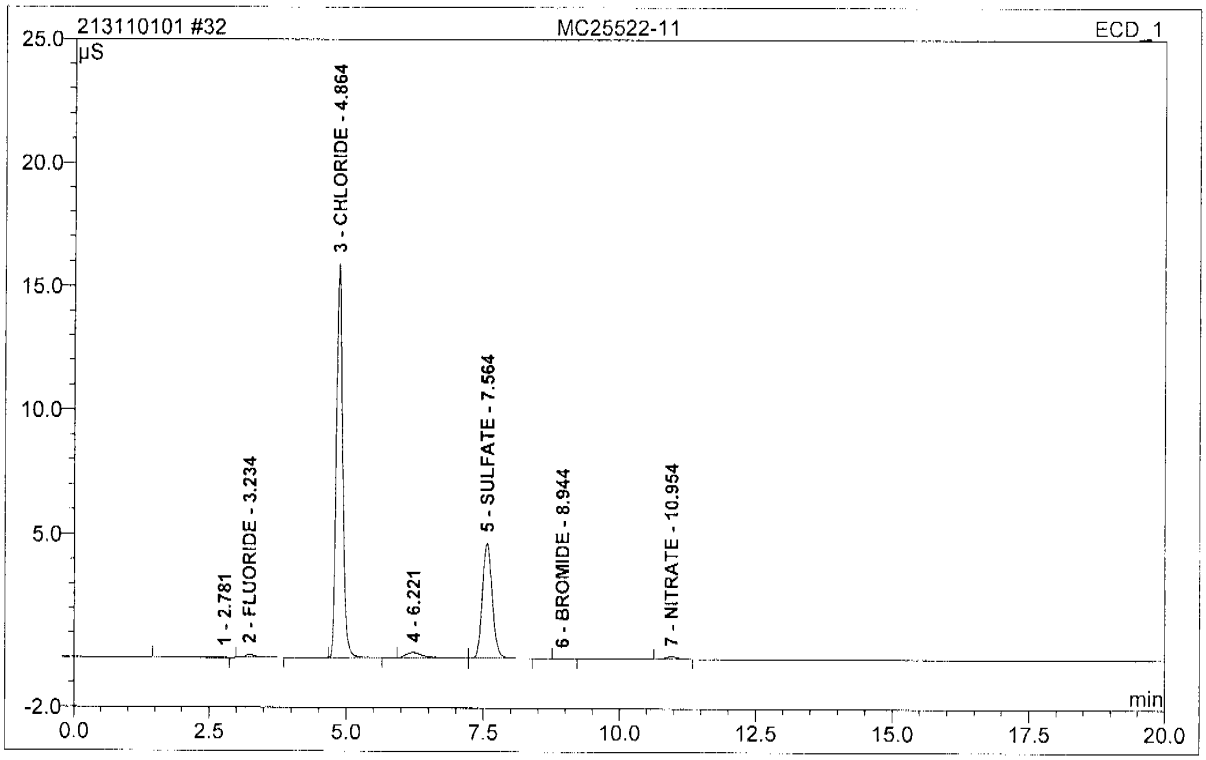
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 22:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.076 | 0.042 | 3.87 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.089 | 0.043 | 4.00 | 0.148 | BMB |
| 3 | 4.86 | CHLORIDE | 5.279 | 0.700 | 64.60 | 3.916 | BMB |
| 4 | 6.19 | n.a. | 0.308 | 0.178 | 16.45 | n.a. | BM |
| 5 | 7.57 | SULFATE | 0.481 | 0.114 | 10.49 | 0.865 | MB |
| 6 | 8.95 | BROMIDE | 0.009 | 0.002 | 0.20 | 0.028 | BMB |
| 7 | 10.95 | NITRATE | 0.017 | 0.004 | 0.39 | 0.010 | BMB |
| **Total:** | | | 6.260 | 1.083 | 100.00 | 4.967 | |

## 32 MC25522-11

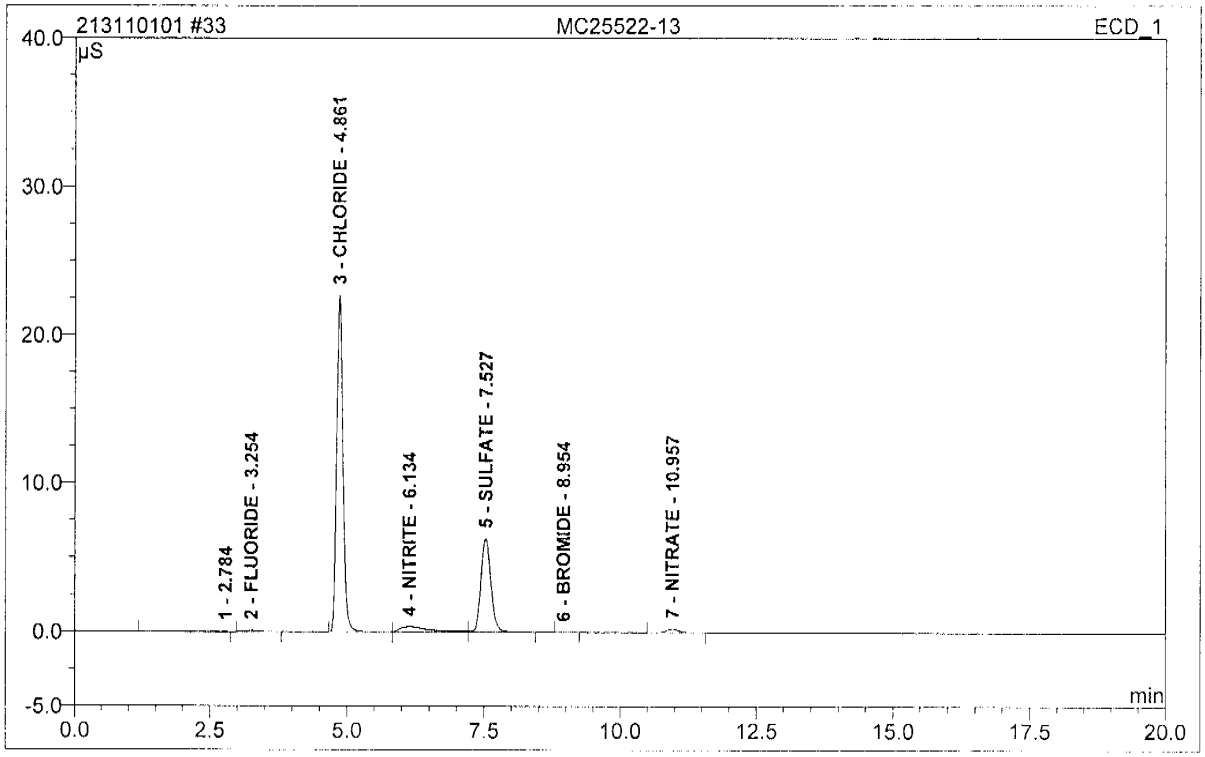
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-11** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 22:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.075 | 0.032 | 0.98 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.133 | 0.027 | 0.84 | 0.094 | BMB |
| 3 | 4.86 | CHLORIDE | 15.935 | 2.117 | 64.44 | 11.851 | BMB |
| 4 | 6.22 | n.a. | 0.230 | 0.092 | 2.79 | n.a. | BM |
| 5 | 7.56 | SULFATE | 4.689 | 0.988 | 30.07 | 7.521 | MB |
| 6 | 8.94 | BROMIDE | 0.007 | 0.002 | 0.05 | 0.020 | BMB |
| 7 | 10.95 | NITRATE | 0.106 | 0.027 | 0.83 | 0.063 | BMB |
| **Total:** | | | 21.176 | 3.285 | 100.00 | 19.549 | |

## 33 MC25522-13

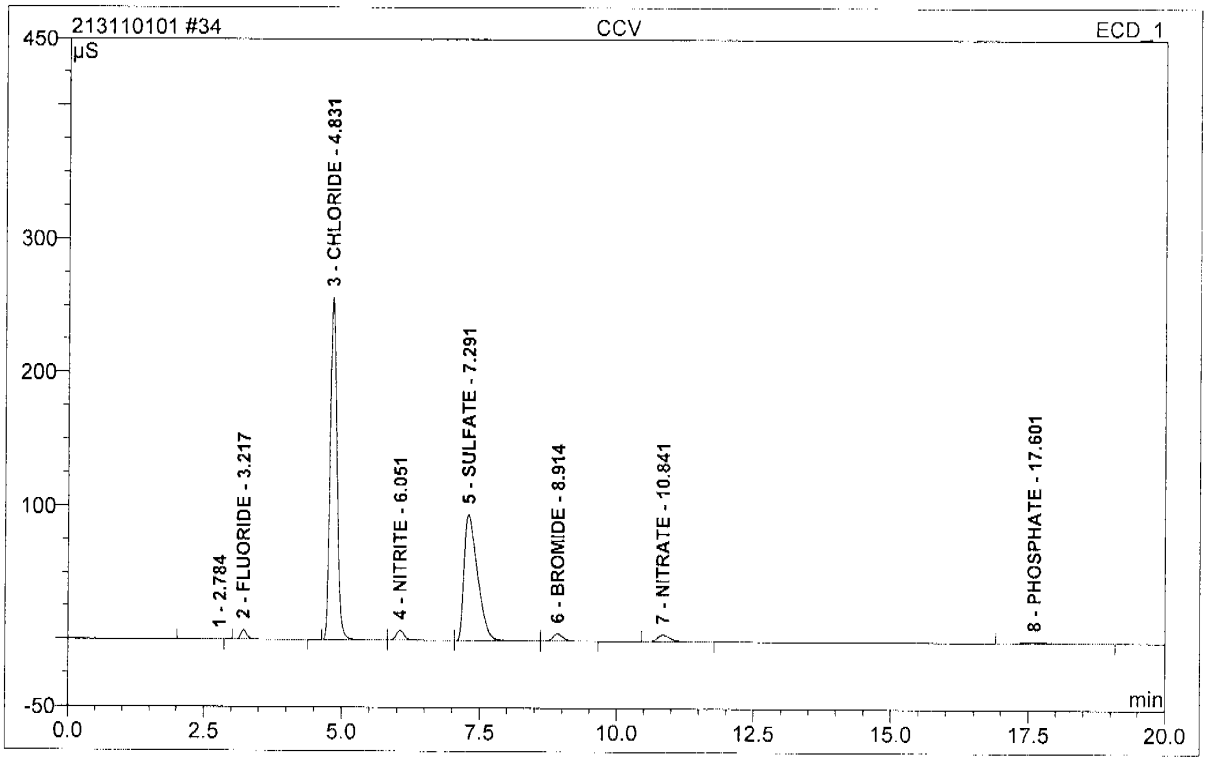
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 23:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.074 | 0.038 | 0.81 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.088 | 0.022 | 0.48 | 0.076 | BMB |
| 3 | 4.86 | CHLORIDE | 22.673 | 2.995 | 64.08 | 16.767 | BM |
| 4 | 6.13 | NITRITE | 0.353 | 0.219 | 4.70 | 0.516 | M |
| 5 | 7.53 | SULFATE | 6.254 | 1.331 | 28.48 | 10.135 | MB |
| 6 | 8.95 | BROMIDE | 0.008 | 0.002 | 0.03 | 0.021 | BMB |
| 7 | 10.96 | NITRATE | 0.254 | 0.066 | 1.42 | 0.154 | BMB |
| **Total:** | | | 29.705 | 4.674 | 100.00 | 27.669 | |

## 34 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 23:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.053 | 0.014 | 0.02 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.023 | 0.903 | 1.33 | 3.089 | BMB |
| 3 | 4.83 | CHLORIDE | 256.582 | 36.309 | 53.27 | 203.268 | BM |
| 4 | 6.05 | NITRITE | 7.391 | 1.292 | 1.90 | 3.037 | M |
| 5 | 7.29 | SULFATE | 94.552 | 26.724 | 39.21 | 203.501 | M |
| 6 | 8.91 | BROMIDE | 5.269 | 1.138 | 1.67 | 14.825 | MB |
| 7 | 10.84 | NITRATE | 4.819 | 1.313 | 1.93 | 3.050 | BMB |
| 8 | 17.60 | PHOSPHATE | 0.808 | 0.466 | 0.68 | 2.882 | BMB |
| **Total:** | | | 376.496 | 68.160 | 100.00 | 433.651 | |

3.0
200
200

102.97
101.63
101.75

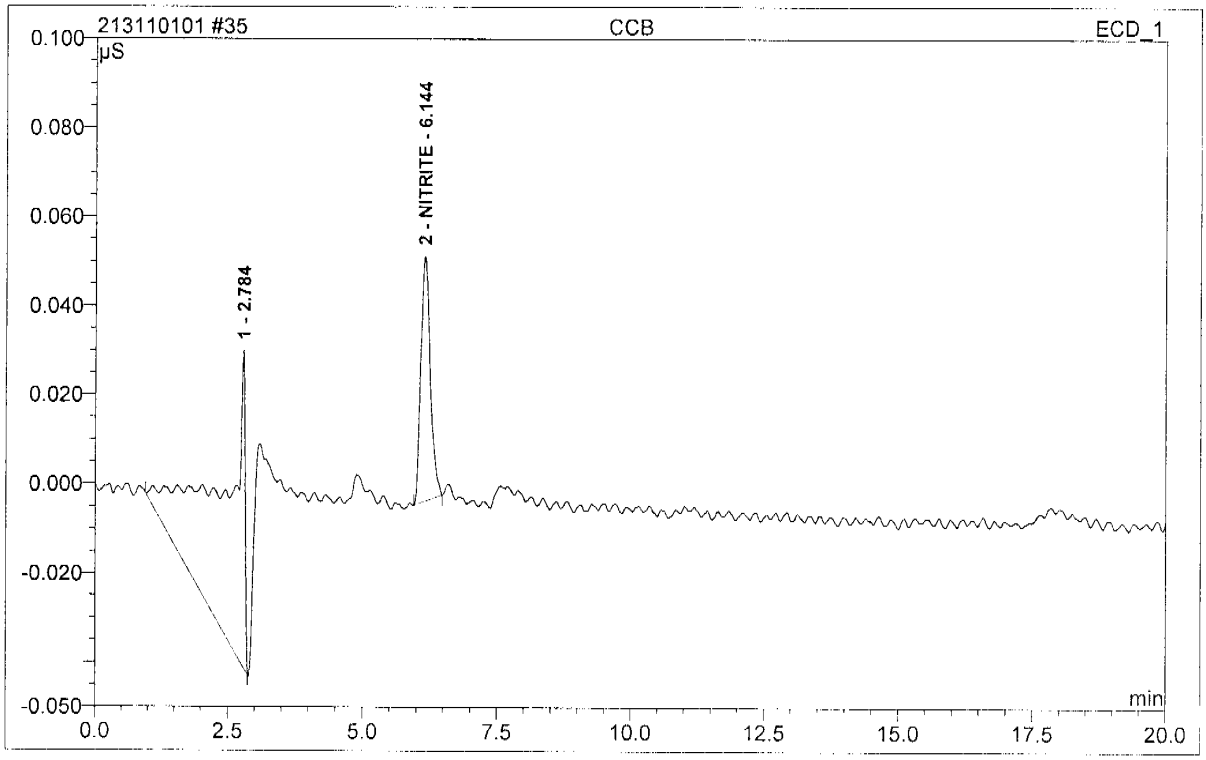
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12.1 12

## 35 CCB

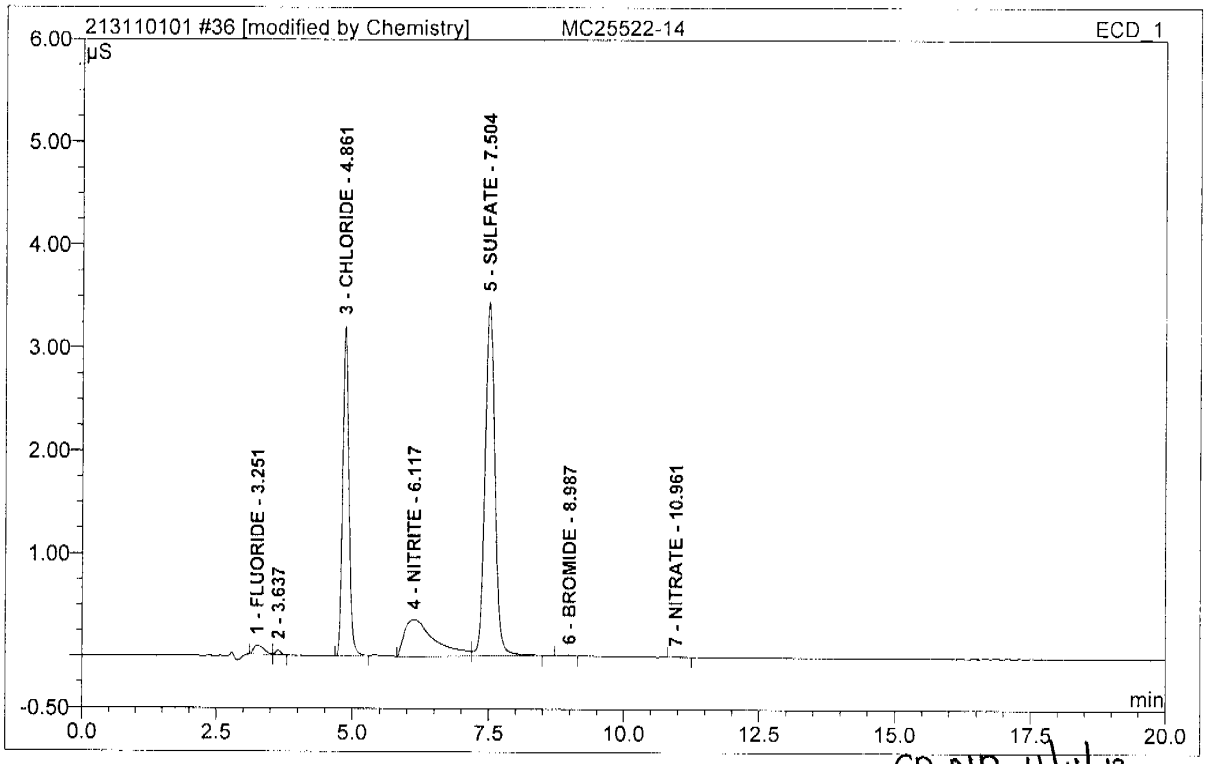
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/1/2013 23:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.071 | 0.041 | 78.35 | n.a. | BMB |
| 2 | 6.14 | NITRITE | 0.055 | 0.011 | 21.65 | 0.026 | BMB |
| **Total:** | | | 0.126 | 0.052 | 100.00 | 0.026 | |

## 36 MC25522-14

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-14** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 0:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

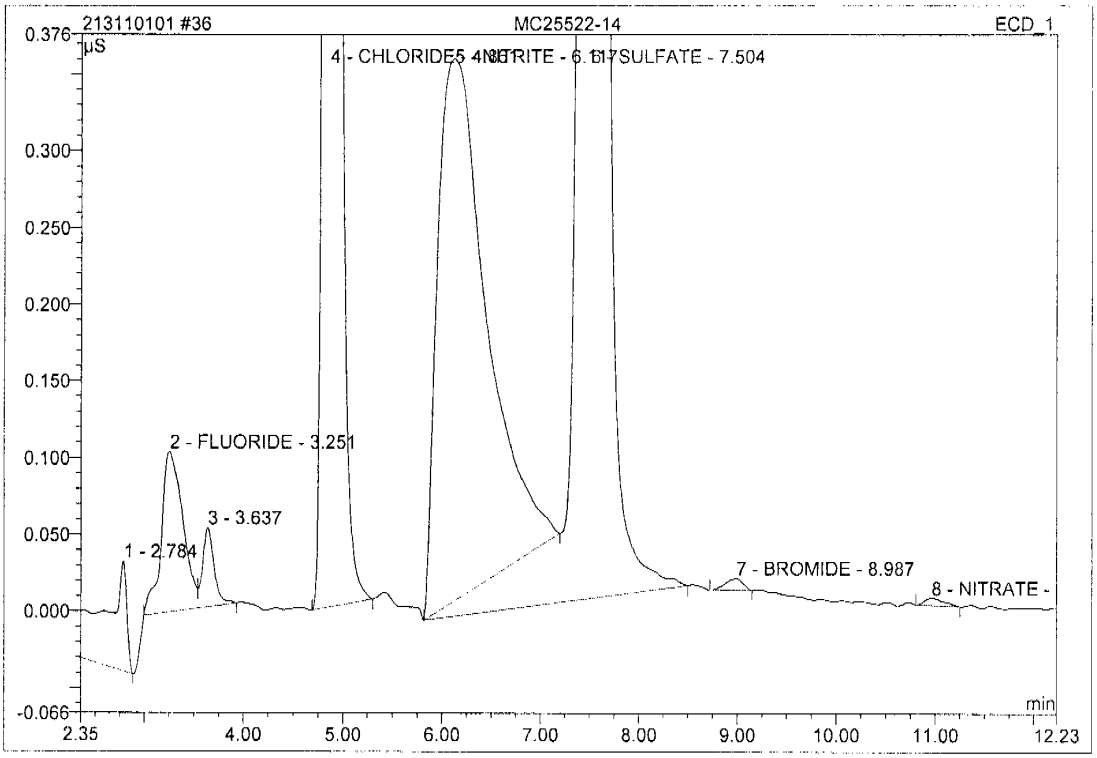



SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.25 | FLUORIDE | 0.088 | 0.019 | 1.32 | 0.064 | BM * |
| 2 | 3.64 | n.a. | 0.045 | 0.005 | 0.36 | n.a. | MB* |
| 3 | 4.86 | CHLORIDE | 3.219 | 0.422 | 29.78 | 2.363 | BMB |
| 4 | 6.12 | NITRITE | 0.363 | 0.235 | 16.61 | 0.554 | BM * |
| 5 | 7.50 | SULFATE | 3.444 | 0.733 | 51.75 | 5.585 | MB* |
| 6 | 8.99 | BROMIDE | 0.008 | 0.002 | 0.11 | 0.020 | BMB |
| 7 | 10.96 | NITRATE | 0.005 | 0.001 | 0.08 | 0.003 | BMB |
| **Total:** | | | 7.171 | 1.417 | 100.00 | 8.588 | |

## 36 MC25522-14

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25522-14** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 0:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



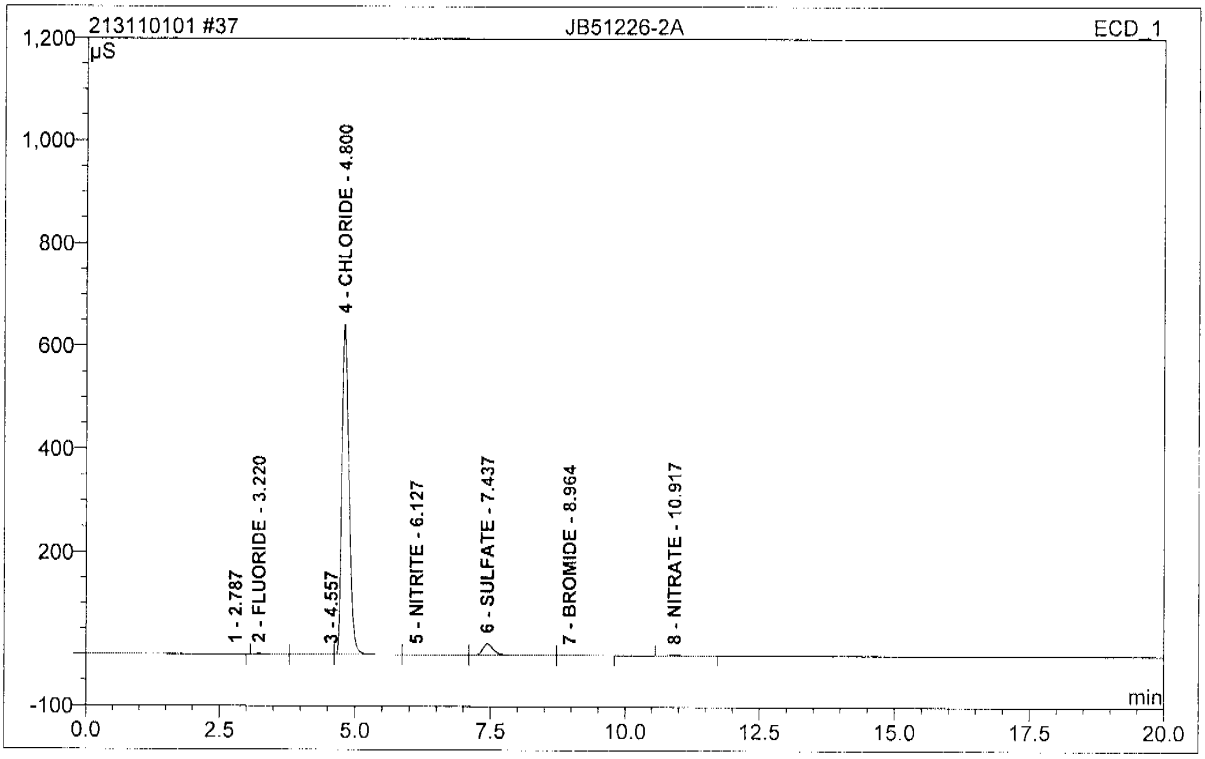

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.072 | 0.042 | 2.83 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.104 | 0.026 | 1.80 | 0.090 | BM |
| 3 | 3.64 | n.a. | 0.052 | 0.007 | 0.47 | n.a. | MB |
| 4 | 4.86 | CHLORIDE | 3.219 | 0.422 | 28.74 | 2.363 | BMB |
| 5 | 6.12 | NITRITE | 0.353 | 0.204 | 13.91 | 0.480 | Ru |
| 6 | 7.50 | SULFATE | 3.444 | 0.765 | 52.07 | 5.822 | BMB |
| 7 | 8.99 | BROMIDE | 0.008 | 0.002 | 0.11 | 0.020 | BMB |
| 8 | 10.96 | NITRATE | 0.005 | 0.001 | 0.08 | 0.003 | BMB |
| **Total:** | | | 7.256 | 1.469 | 100.00 | 8.779 | |

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## 37 JB51226-2A

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51226-2A** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 0:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



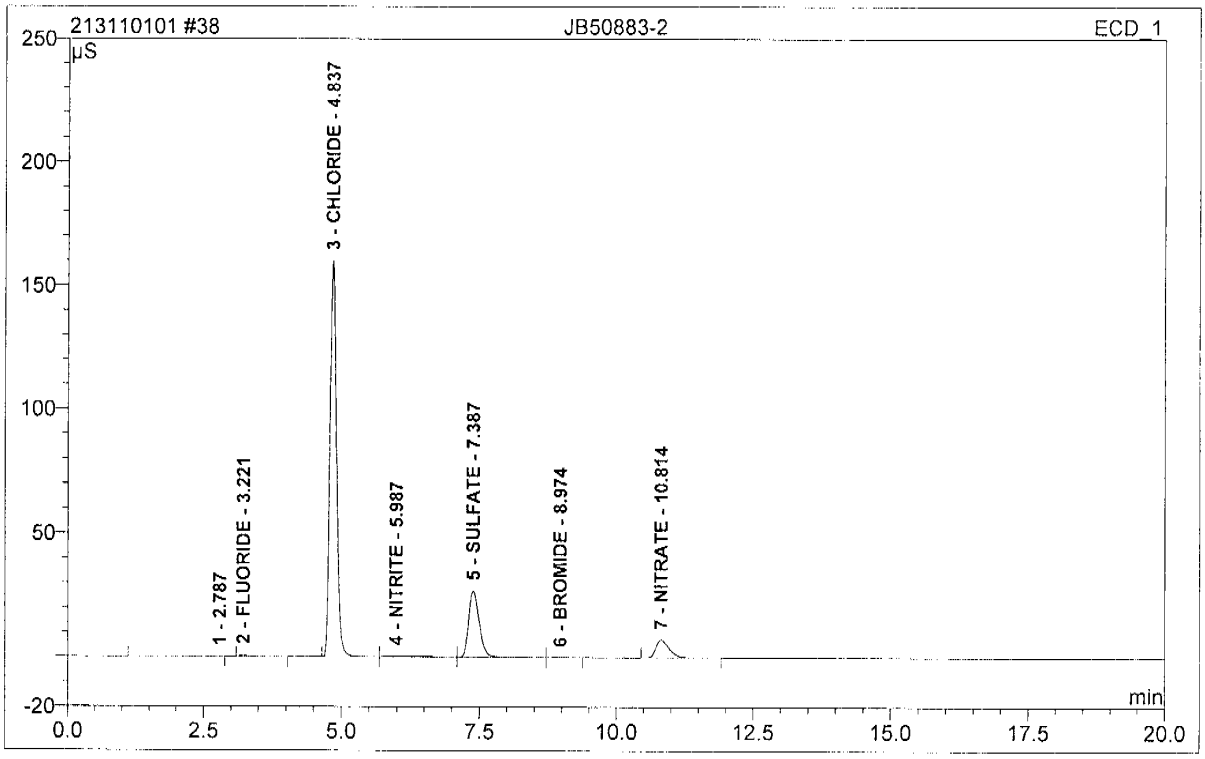

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.211 | 0.289 | 0.28 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 1.780 | 0.273 | 0.26 | 0.932 | BMB |
| 3 | 4.56 | n.a. | 0.008 | 0.003 | 0.00 | n.a. | bM |
| 4 | 4.80 | CHLORIDE | 643.274 | 97.634 | 93.97 | 546.579 | M |
| 5 | 6.13 | NITRITE | 0.291 | 0.155 | 0.15 | 0.364 | M |
| 6 | 7.44 | SULFATE | 22.081 | 5.082 | 4.89 | 38.700 ✓ | M |
| 7 | 8.96 | BROMIDE | 0.210 | 0.060 | 0.06 | 0.776 | MB |
| 8 | 10.92 | NITRATE | 1.549 | 0.407 | 0.39 | 0.944 | BMB |
| **Total:** | | | 669.405 | 103.902 | 100.00 | 588.295 | |

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## 38 JB50883-2

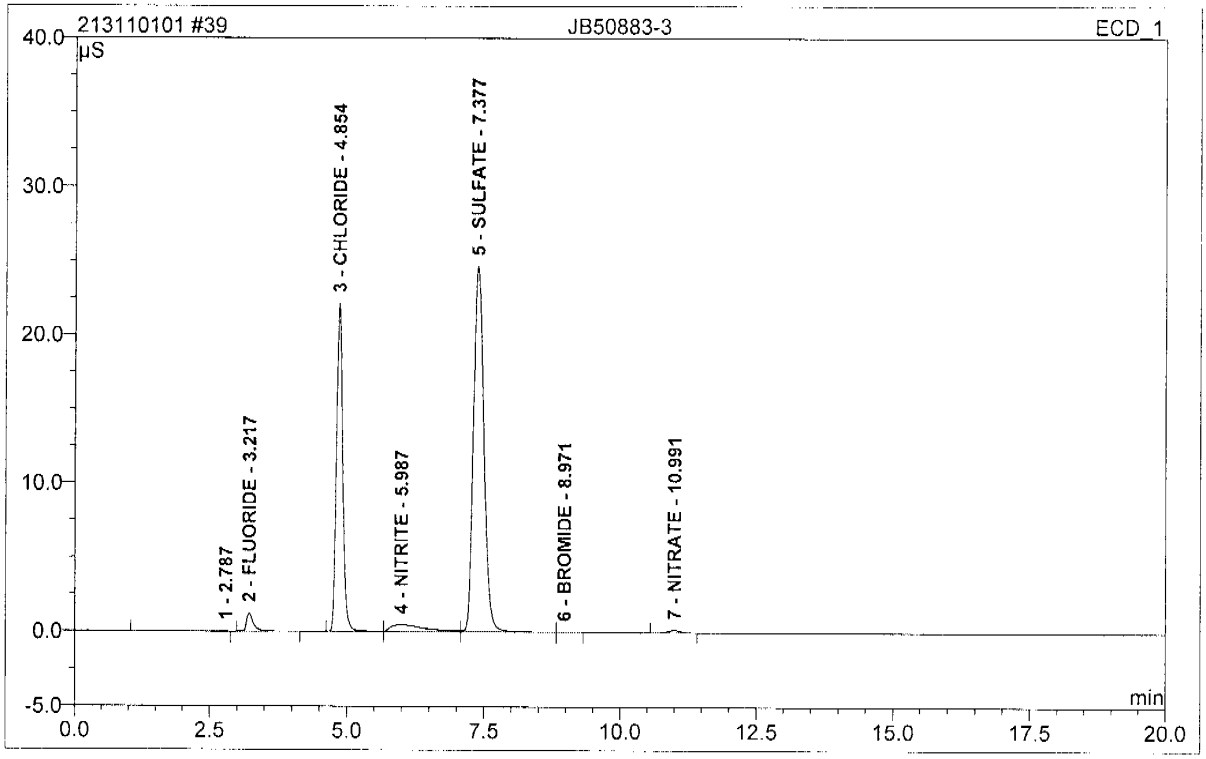
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 1:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.062 | 0.032 | 0.10 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.730 | 0.097 | 0.32 | 0.332 | BMB |
| 3 | 4.84 | CHLORIDE | 159.983 | 21.942 | 71.97 | 122.835 | BM |
| 4 | 5.99 | NITRITE | 0.464 | 0.345 | 1.13 | 0.811 | M |
| 5 | 7.39 | SULFATE | 26.867 | 5.999 | 19.68 | 45.683 | M |
| 6 | 8.97 | BROMIDE | 0.070 | 0.017 | 0.06 | 0.227 | MB |
| 7 | 10.81 | NITRATE | 7.298 | 2.057 | 6.75 | 4.776 | BMB |
| **Total:** | | | 195.473 | 30.489 | 100.00 | 174.664 | |

## 39 JB50883-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **32** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 1:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



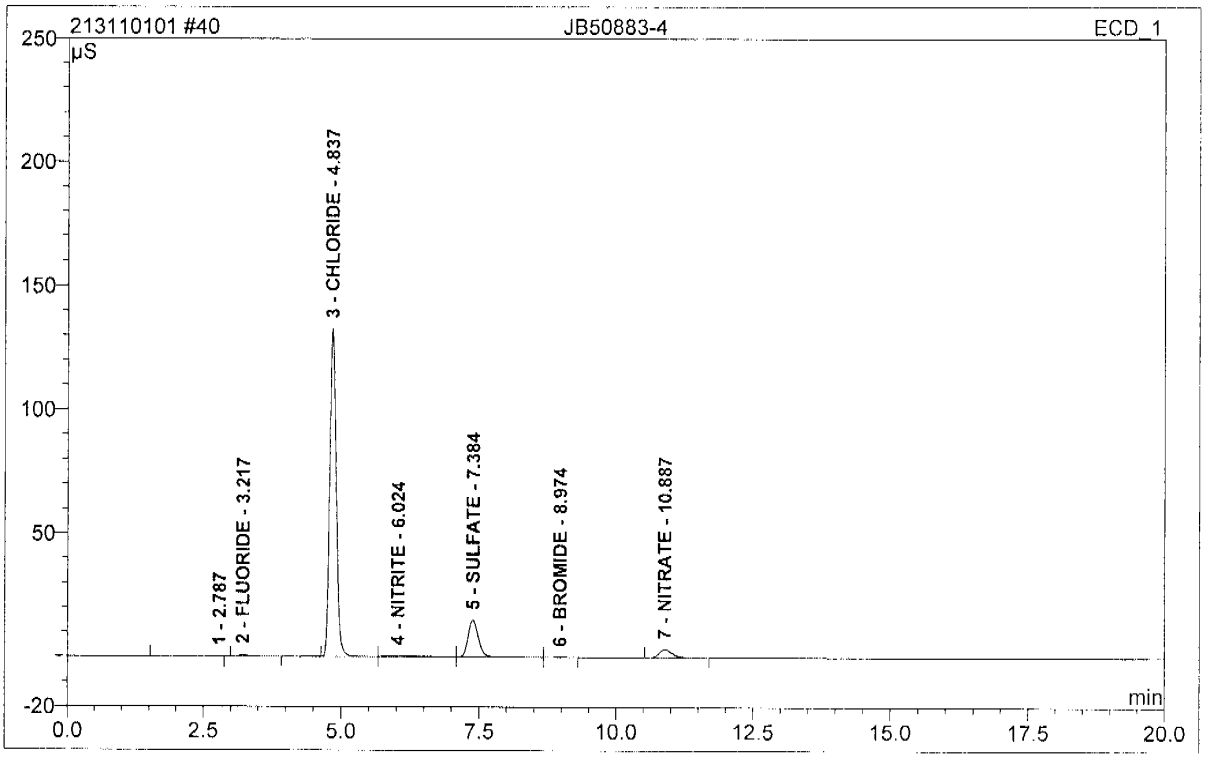

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.063 | 0.034 | 0.38 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 1.218 | 0.177 | 1.97 | 0.606 | BMB |
| 3 | 4.85 | CHLORIDE | 22.138 | 2.918 | 32.41 | 16.336 | BM |
| 4 | 5.99 | NITRITE | 0.476 | 0.351 | 3.90 | 0.825 | M |
| 5 | 7.38 | SULFATE | 24.650 | 5.473 | 60.79 | 41.673 ✓ | M |
| 6 | 8.97 | BROMIDE | 0.014 | 0.004 | 0.04 | 0.046 | MB |
| 7 | 10.99 | NITRATE | 0.179 | 0.047 | 0.52 | 0.108 | BMB |
| **Total:** | | | 48.738 | 9.003 | 100.00 | 59.595 | |



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## 40 JB50883-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **33** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 1:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



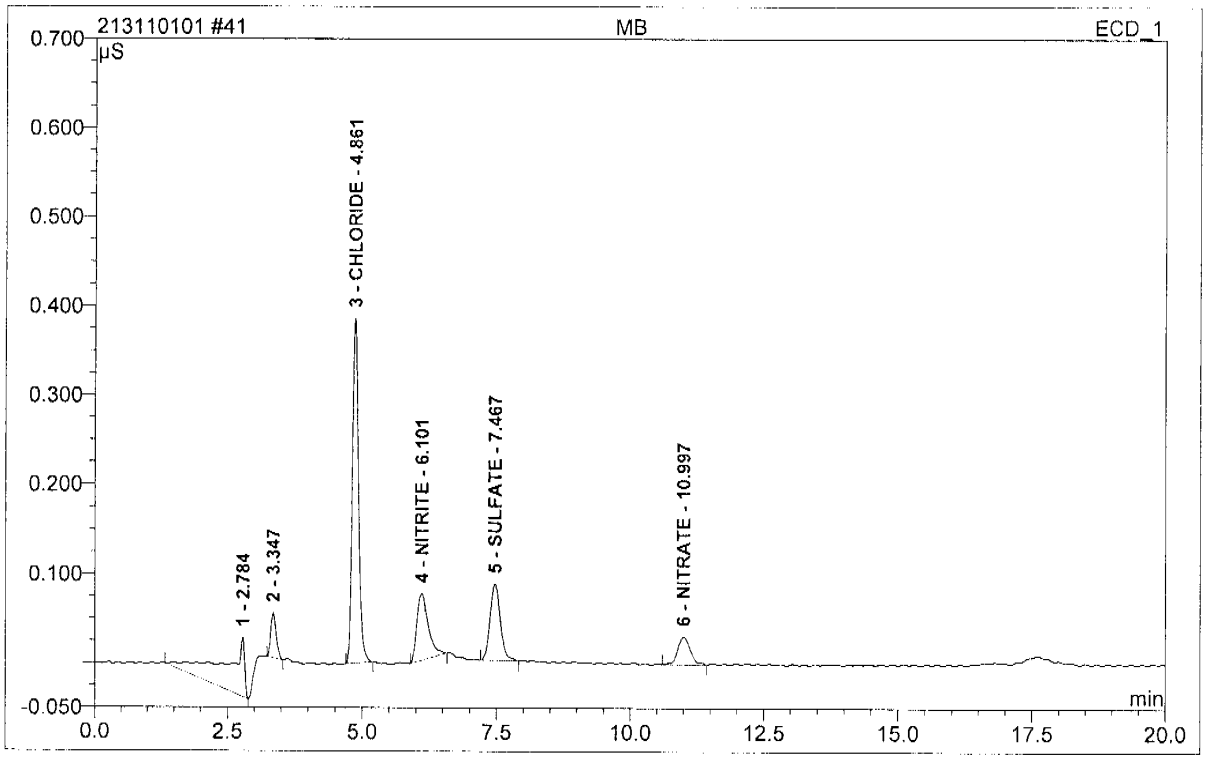

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.060 | 0.023 | 0.10 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.708 | 0.118 | 0.52 | 0.402 | BMB |
| 3 | 4.84 | CHLORIDE | 132.637 | 17.971 | 79.46 | 100.606 | BM |
| 4 | 6.02 | NITRITE | 0.553 | 0.361 | 1.60 | 0.849 | M |
| 5 | 7.38 | SULFATE | 14.949 | 3.249 | 14.37 | 24.743 | M |
| 6 | 8.97 | BROMIDE | 0.047 | 0.012 | 0.05 | 0.156 | MB |
| 7 | 10.89 | NITRATE | 3.291 | 0.883 | 3.90 | 2.050 | BMB |
| **Total:** | | | 152.246 | 22.617 | 100.00 | 128.806 | |



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## 41 MB

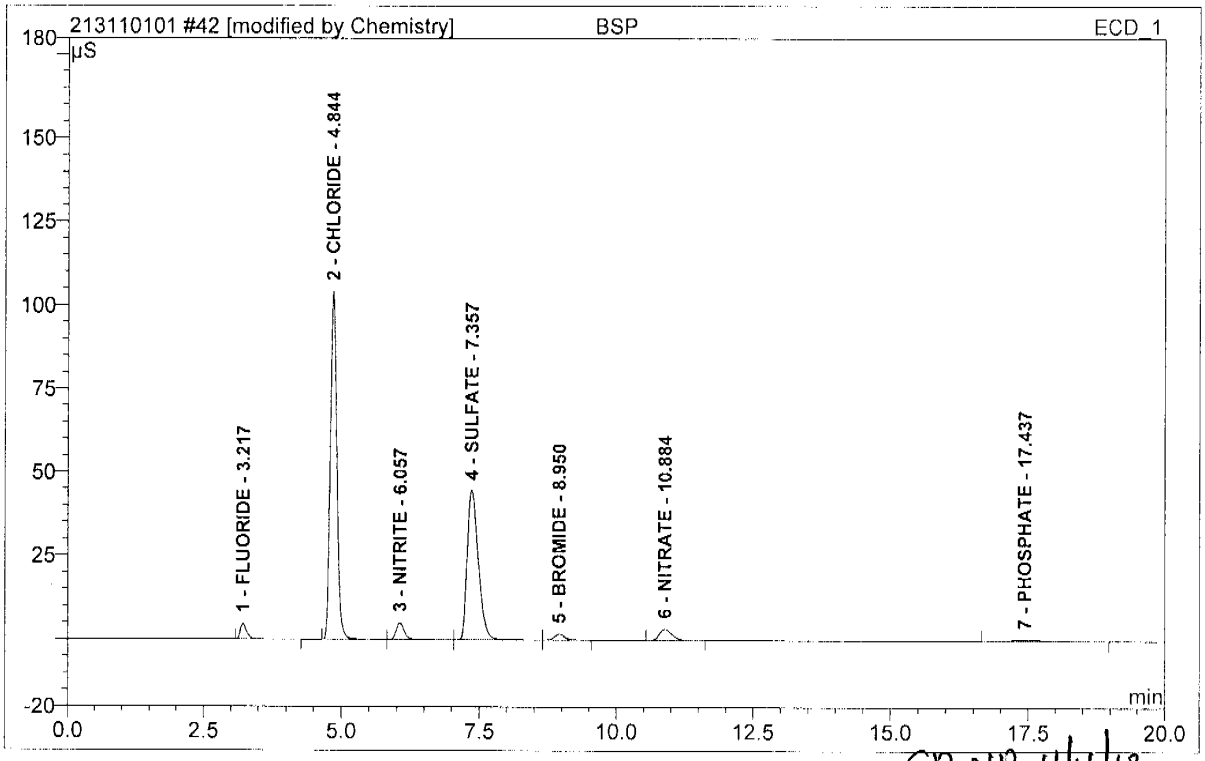
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **34** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 2:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.066 | 0.030 | 22.74 | n.a. | BMB |
| 2 | 3.35 | n.a. | 0.050 | 0.006 | 4.36 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.387 | 0.051 | 38.19 | 0.287 | BMB |
| 4 | 6.10 | NITRITE | 0.075 | 0.019 | 13.85 | 0.044 | BMB |
| 5 | 7.47 | SULFATE | 0.086 | 0.019 | 14.28 | 0.146 | BMB |
| 6 | 11.00 | NITRATE | 0.031 | 0.009 | 6.57 | 0.020 | BMB |
| **Total:** | | | 0.697 | 0.134 | 100.00 | 0.497 | |

## 42 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 2:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.699 | 0.603 | 2.17 | 2.062 | BMB |
| 2 | 4.84 | CHLORIDE | 104.074 | 14.212 | 51.25 | 79.560 | BM |
| 3 | 6.06 | NITRITE | 5.007 | 0.860 | 3.10 | 2.023 | M * |
| 4 | 7.36 | SULFATE | 44.666 | 10.496 | 37.85 | 79.925 | M * |
| 5 | 8.95 | BROMIDE | 1.773 | 0.379 | 1.37 | 4.936 | MB |
| 6 | 10.88 | NITRATE | 3.289 | 0.883 | 3.18 | 2.049 | BMB |
| 7 | 17.44 | PHOSPHATE | 0.510 | 0.299 | 1.08 | 1.852 | BMB |
| **Total:** | | | 164.018 | 27.732 | 100.00 | 172.408 | |

80

99.91

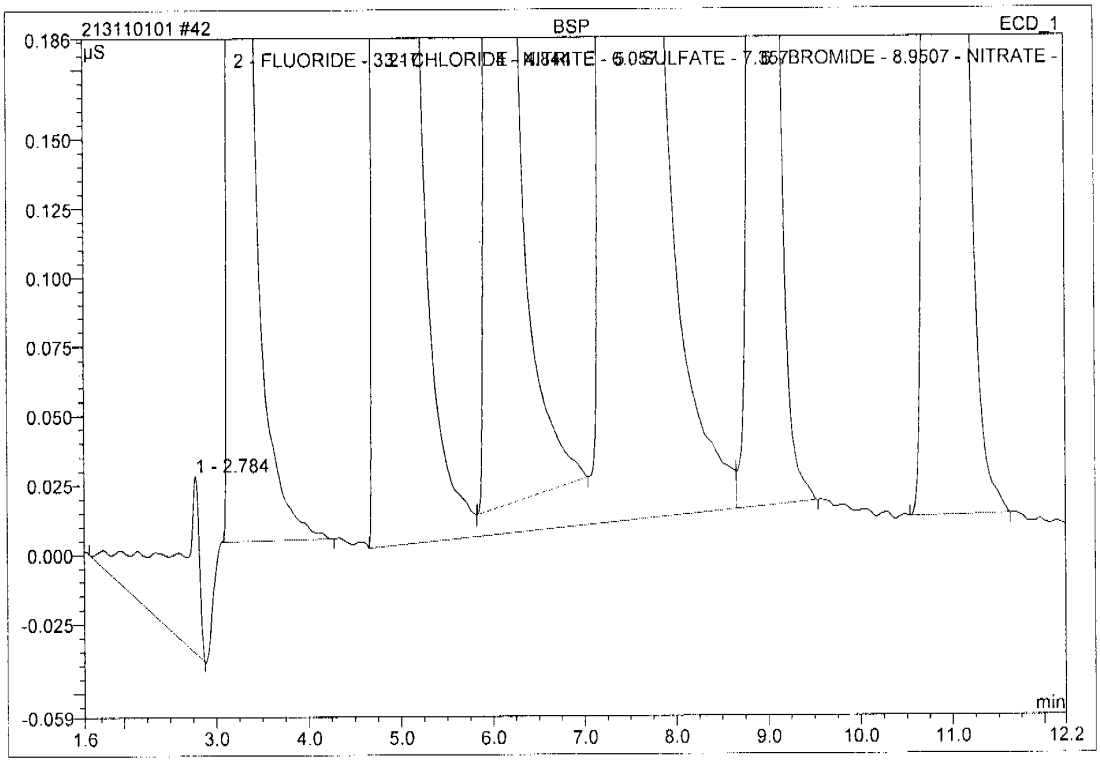


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12.1 12

# 42 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 2:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



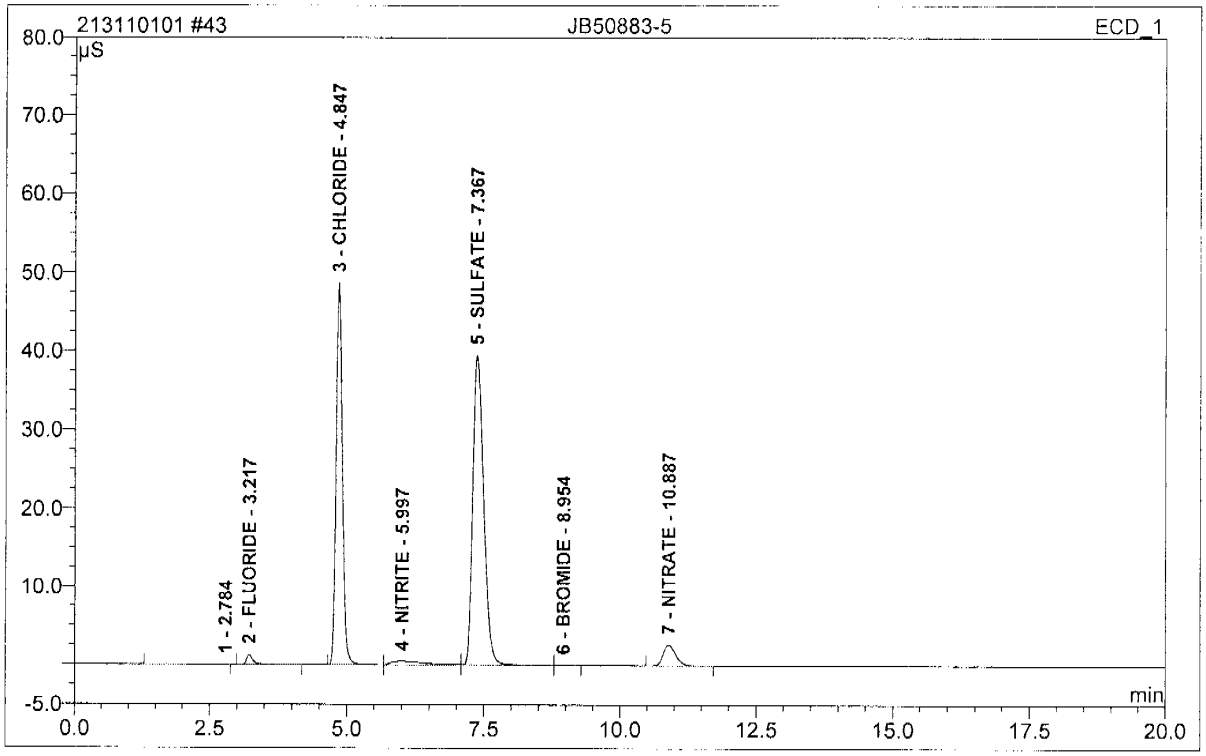

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.064 | 0.024 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.699 | 0.603 | 2.17 | 2.062 | BMB |
| 3 | 4.84 | CHLORIDE | 104.074 | 14.212 | 51.20 | 79.560 | BM |
| 4 | 6.06 | NITRITE | 4.998 | 0.845 | 3.05 | 1.987 | Ru |
| 5 | 7.36 | SULFATE | 44.666 | 10.511 | 37.87 | 80.040 | M |
| 6 | 8.95 | BROMIDE | 1.773 | 0.379 | 1.37 | 4.936 | MB |
| 7 | 10.88 | NITRATE | 3.289 | 0.883 | 3.18 | 2.049 | BMB |
| 8 | 17.44 | PHOSPHATE | 0.510 | 0.299 | 1.08 | 1.852 | BMB |
| **Total:** | | | 164.073 | 27.756 | 100.00 | 172.487 | |

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## 43 JB50883-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 3:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



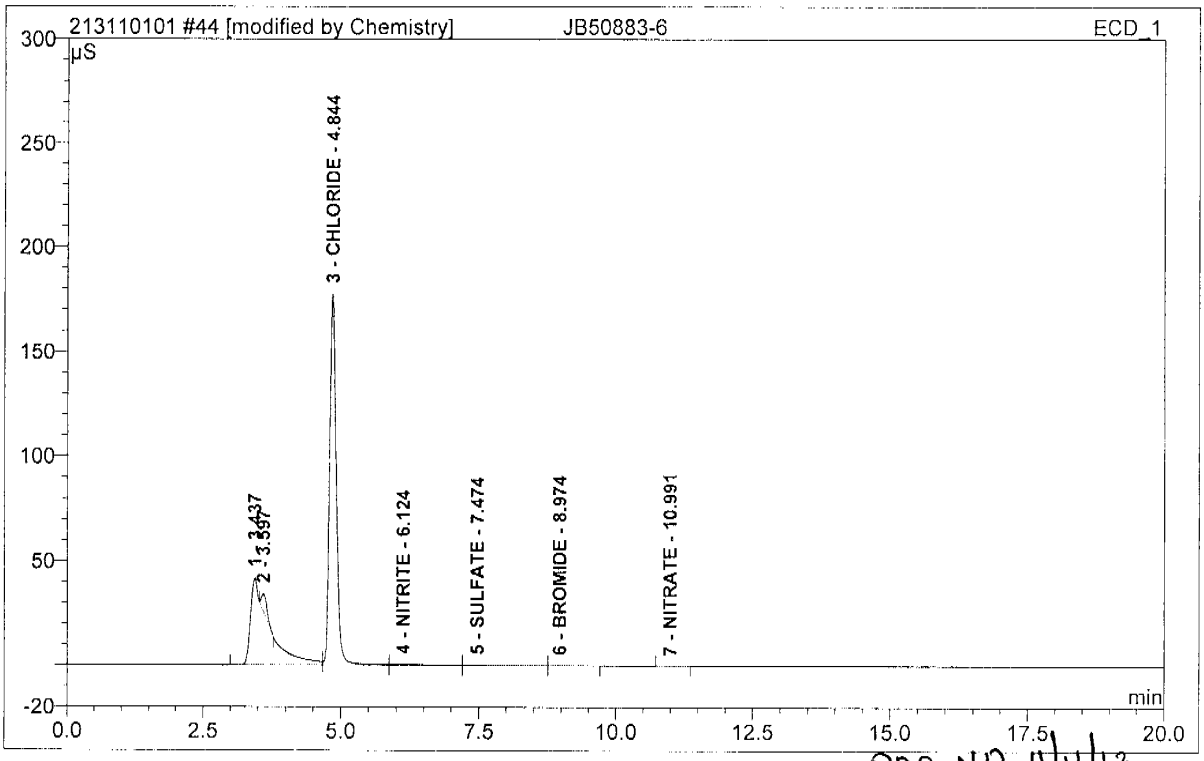

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.064 | 0.030 | 0.18 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 1.255 | 0.172 | 1.02 | 0.587 | BMB |
| 3 | 4.85 | CHLORIDE | 48.703 | 6.419 | 38.19 | 35.937 | BM |
| 4 | 6.00 | NITRITE | 0.467 | 0.343 | 2.04 | 0.807 | M |
| 5 | 7.37 | SULFATE | 39.480 | 9.138 | 54.37 | 69.586 | M |
| 6 | 8.95 | BROMIDE | 0.020 | 0.005 | 0.03 | 0.062 | MB |
| 7 | 10.89 | NITRATE | 2.646 | 0.700 | 4.17 | 1.626 | BMB |
| **Total:** | | | 92.634 | 16.808 | 100.00 | 108.606 | |



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## 44 JB50883-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 3:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

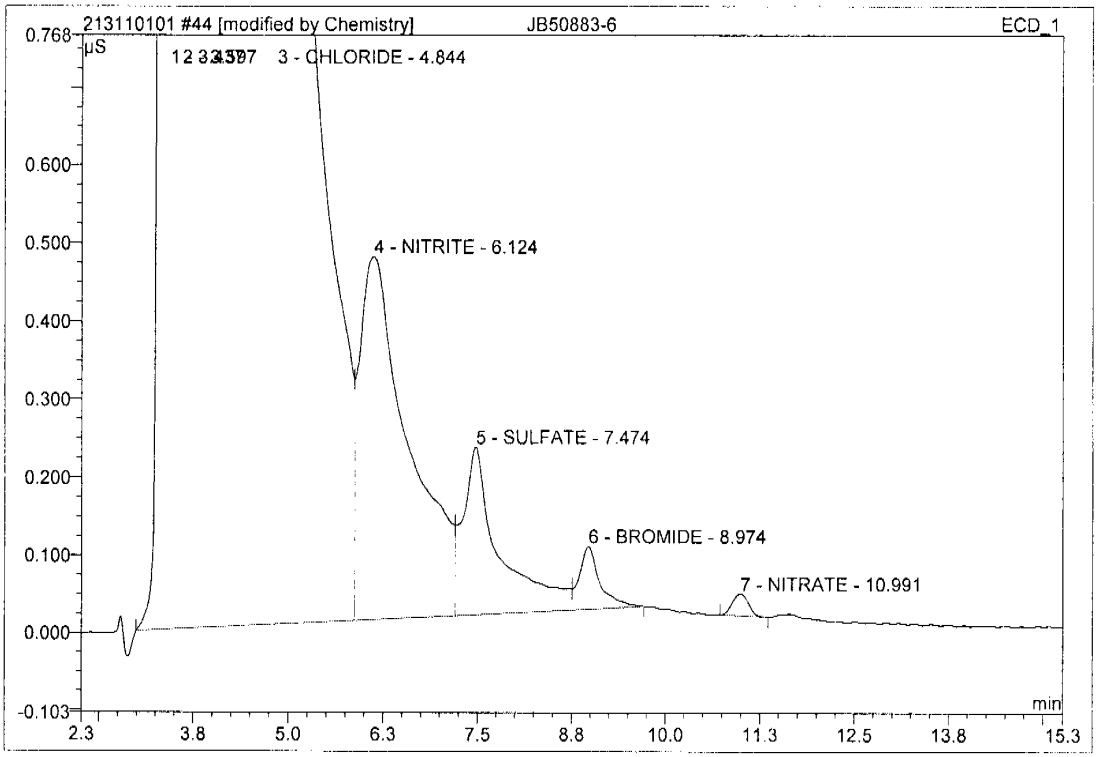



PDB NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.44 | n.a. | 41.867 | 16.711 | 38.65 | n.a. | BM * |
| 2 | 3.60 | n.a. | 8.185 | 0.978 | 2.26 | n.a. | Rd |
| 3 | 4.84 | CHLORIDE | 177.660 | 25.037 | 57.91 | 140.162 | M * |
| 4 | 6.12 | NITRITE | 0.465 | 0.353 | 0.82 | 0.829 | M * |
| 5 | 7.47 | SULFATE | 0.215 | 0.122 | 0.28 | 0.928 | M * |
| 6 | 8.97 | BROMIDE | 0.081 | 0.026 | 0.06 | 0.337 | MB* |
| 7 | 10.99 | NITRATE | 0.028 | 0.007 | 0.02 | 0.016 | BMB |
| **Total:** | | | 228.502 | 43.233 | 100.00 | 142.273 | |

## 44 JB50883-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 3:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



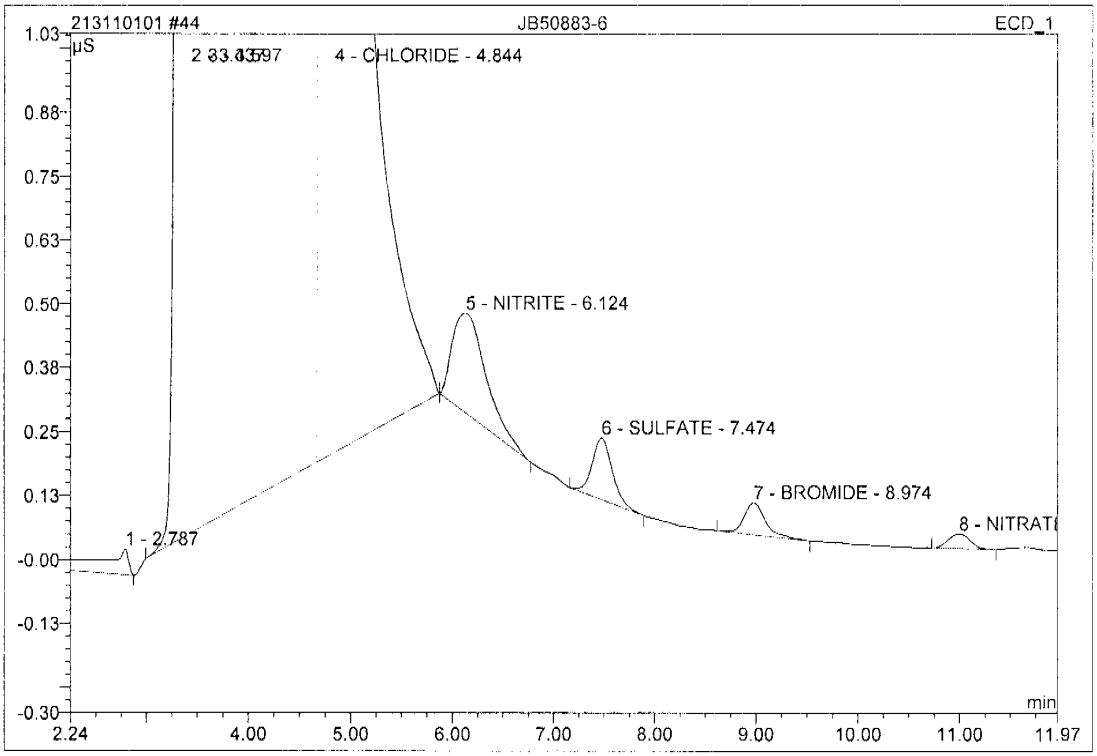

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.44 | n.a. | 41.867 | 16.711 | 38.65 | n.a. | BM * |
| 2 | 3.60 | n.a. | 8.185 | 0.978 | 2.26 | n.a. | Rd |
| 3 | 4.84 | CHLORIDE | 177.660 | 25.037 | 57.91 | 140.162 | M * |
| 4 | 6.12 | NITRITE | 0.465 | 0.353 | 0.82 | 0.829 | M * |
| 5 | 7.47 | SULFATE | 0.215 | 0.122 | 0.28 | 0.928 | M * |
| 6 | 8.97 | BROMIDE | 0.081 | 0.026 | 0.06 | 0.337 | MB* |
| 7 | 10.99 | NITRATE | 0.028 | 0.007 | 0.02 | 0.016 | BMB |
| **Total:** | | | 228.502 | 43.233 | 100.00 | 142.273 | |

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# 44 JB50883-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 3:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



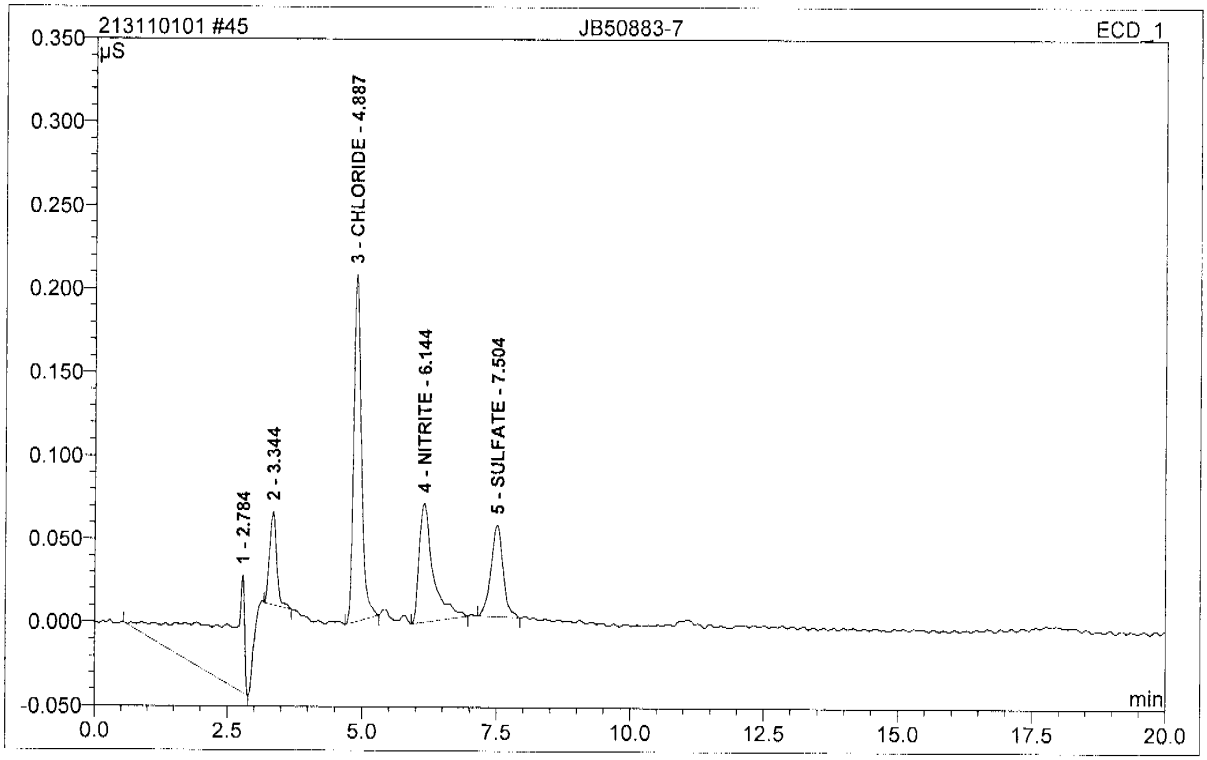

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.030 | 0.07 | n.a. | BMB |
| 2 | 3.44 | n.a. | 41.819 | 16.560 | 39.02 | n.a. | BM |
| 3 | 3.60 | n.a. | 8.185 | 0.978 | 2.31 | n.a. | Rd |
| 4 | 4.84 | CHLORIDE | 177.462 | 24.743 | 58.31 | 138.519 | Mb |
| 5 | 6.12 | NITRITE | 0.194 | 0.075 | 0.18 | 0.176 | bMB |
| 6 | 7.47 | SULFATE | 0.121 | 0.028 | 0.07 | 0.214 | BMB |
| 7 | 8.97 | BROMIDE | 0.063 | 0.015 | 0.04 | 0.200 | BMB |
| 8 | 10.99 | NITRATE | 0.028 | 0.007 | 0.02 | 0.016 | BMB |
| **Total:** | | | 227.923 | 42.437 | 100.00 | 139.125 | |

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## 45 JB50883-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50883-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 3:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



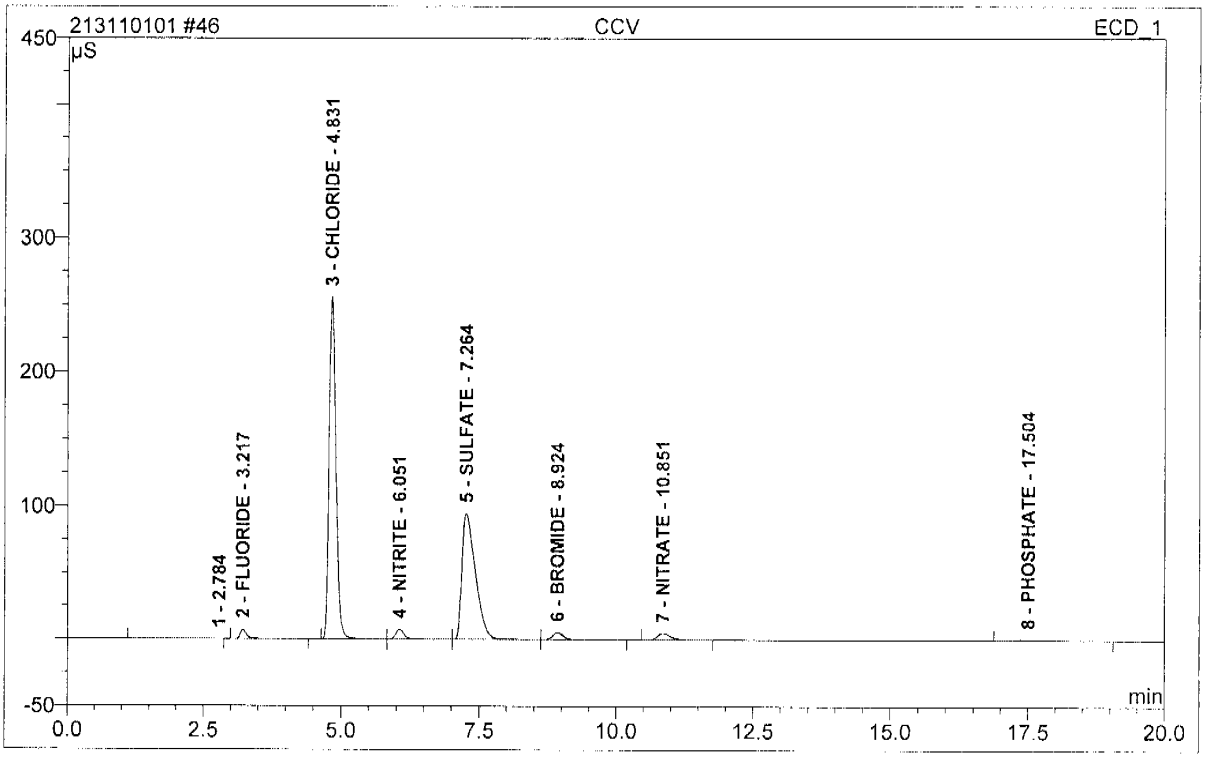

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.070 | 0.048 | 37.81 | n.a. | BMB |
| 2 | 3.34 | n.a. | 0.056 | 0.009 | 6.72 | n.a. | BMB |
| 3 | 4.89 | CHLORIDE | 0.208 | 0.034 | 26.95 | 0.192 | BMB |
| 4 | 6.14 | NITRITE | 0.072 | 0.022 | 17.14 | 0.051 | BMB |
| 5 | 7.50 | SULFATE | 0.055 | 0.014 | 11.38 | 0.110 ✓ | BMB |
| **Total:** | | | 0.462 | 0.127 | 100.00 | 0.353 | |



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# 46 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **39** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 4:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.054 | 0.029 | 0.04 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 6.968 | 0.905 | 1.33 | 3.096 | BMB |
| 3 | 4.83 | CHLORIDE | 255.760 | 36.324 | 53.17 | 203.352 | BM |
| 4 | 6.05 | NITRITE | 7.376 | 1.293 | 1.89 | 3.040 | M |
| 5 | 7.26 | SULFATE | 94.813 | 26.841 | 39.29 | 204.394 | M |
| 6 | 8.92 | BROMIDE | 5.280 | 1.152 | 1.69 | 14.999 | MB |
| 7 | 10.85 | NITRATE | 4.833 | 1.320 | 1.93 | 3.065 | BMB |
| 8 | 17.50 | PHOSPHATE | 0.746 | 0.446 | 0.65 | 2.762 | BMB |
| **Total:** | | | 375.830 | 68.312 | 100.00 | 434.708 | |

3.0
200
200

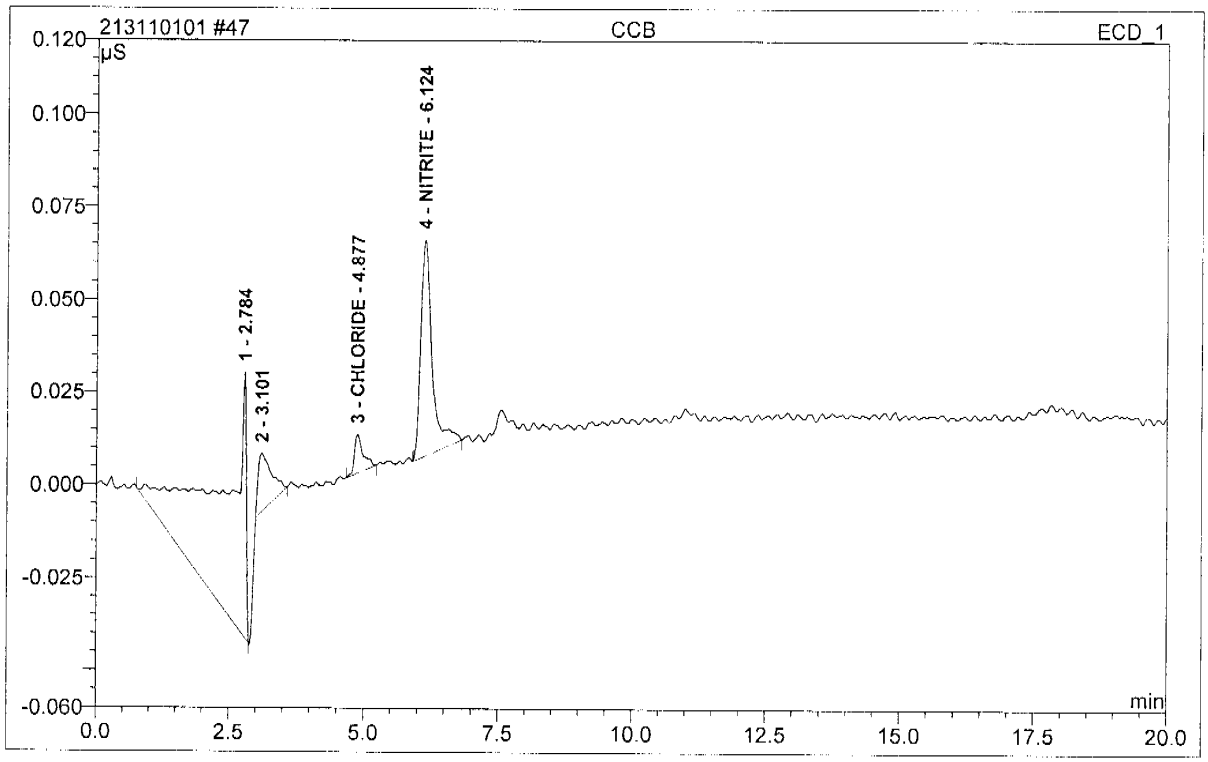
103.2
101.68
102.2



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# 47 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **40** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 4:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



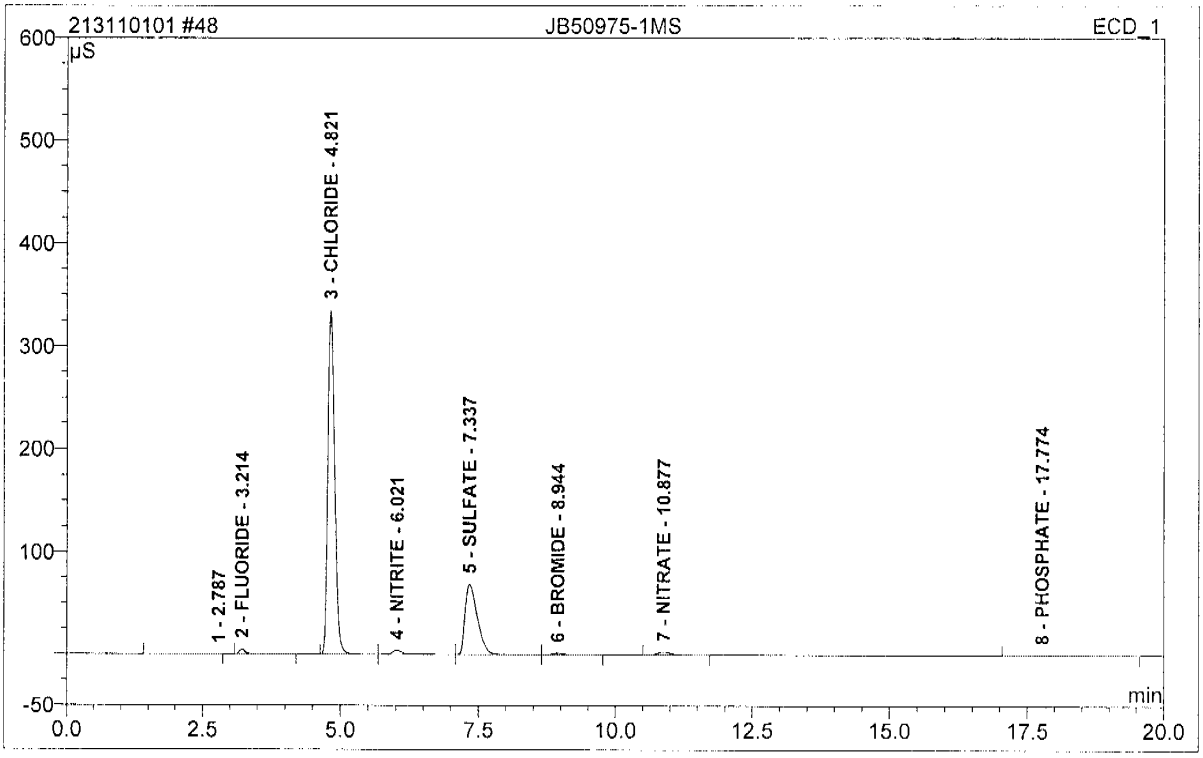

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.071 | 0.043 | 67.49 | n.a. | BMB |
| 2 | 3.10 | n.a. | 0.016 | 0.004 | 6.90 | n.a. | BMB |
| 3 | 4.88 | CHLORIDE | 0.010 | 0.002 | 3.04 | 0.011 | BMB |
| 4 | 6.12 | NITRITE | 0.058 | 0.014 | 22.57 | 0.034 | BMB |
| **Total:** | | | 0.156 | 0.064 | 100.00 | 0.045 | |



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## 48 JB50975-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **41** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 5:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



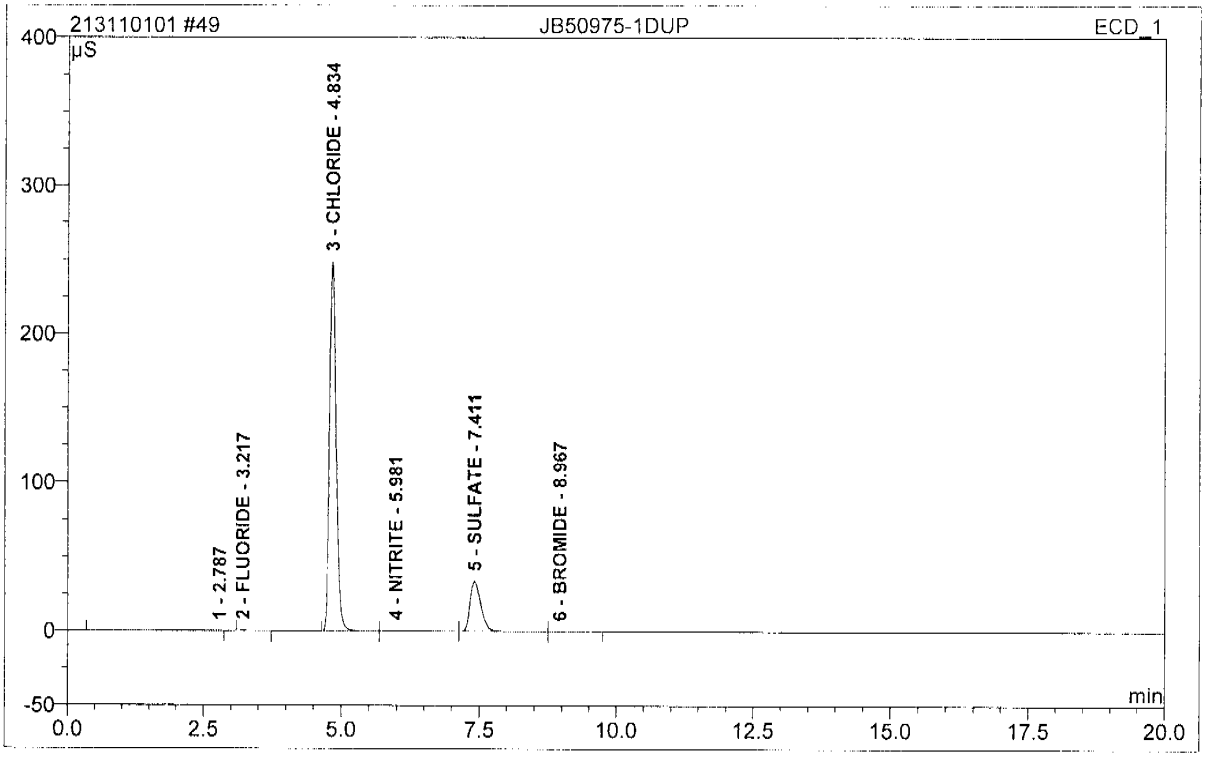

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.048 | 0.022 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 4.931 | 0.629 | 0.91 | 2.150 | BMB |
| 3 | 4.82 | CHLORIDE | 335.118 | 47.827 | 69.42 | 267.748 | BM |
| 4 | 6.02 | NITRITE | 4.326 | 1.096 | 1.59 | 2.576 | M |
| 5 | 7.34 | SULFATE | 68.800 | 17.806 | 25.84 | 135.593 | M |
| 6 | 8.94 | BROMIDE | 1.779 | 0.389 | 0.56 | 5.062 | MB |
| 7 | 10.88 | NITRATE | 3.210 | 0.857 | 1.24 | 1.989 | BMB |
| 8 | 17.77 | PHOSPHATE | 0.398 | 0.273 | 0.40 | 1.690 | BMB |
| **Total:** | | | 418.609 | 68.898 | 100.00 | 416.808 | |



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## 49 JB50975-1DUP

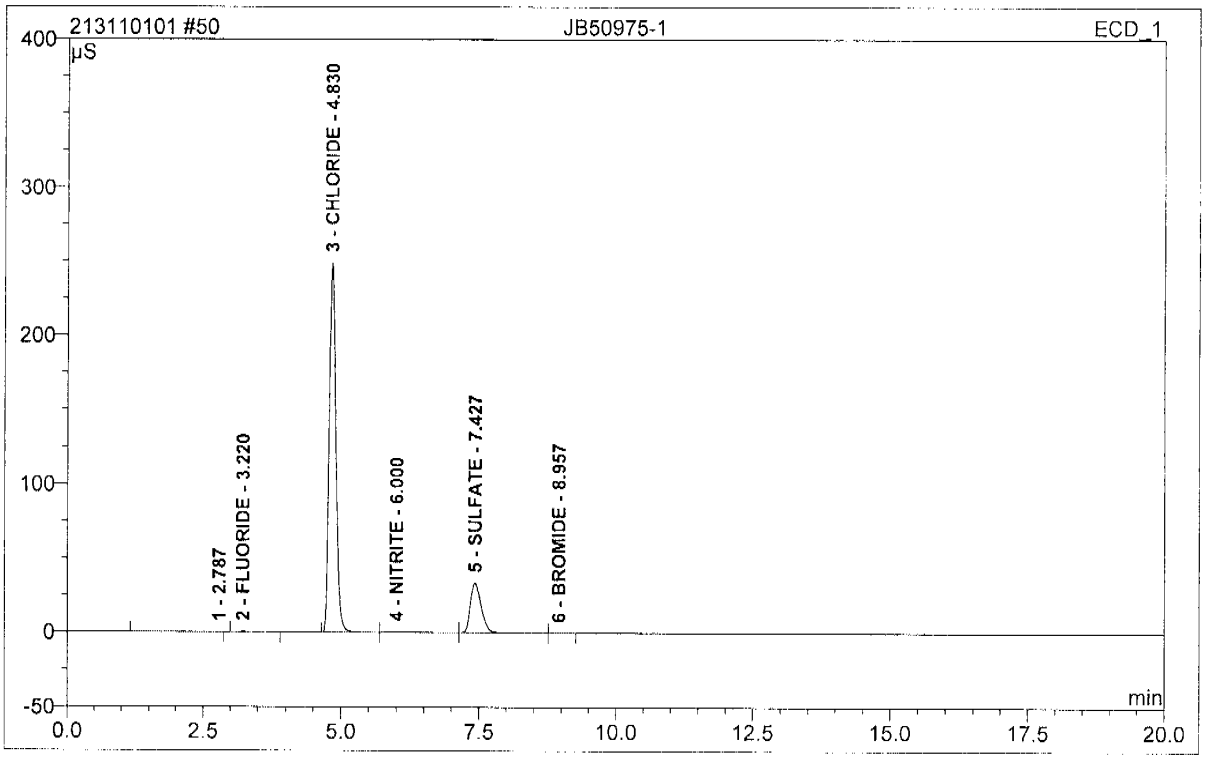
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 5:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.060 | 0.046 | 0.11 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.364 | 0.044 | 0.10 | 0.152 | BMB |
| 3 | 4.83 | CHLORIDE | 248.558 | 34.740 | 80.90 | 194.484 | BM |
| 4 | 5.98 | NITRITE | 0.473 | 0.369 | 0.86 | 0.868 | M |
| 5 | 7.41 | SULFATE | 33.686 | 7.724 | 17.99 | 58.820 | M |
| 6 | 8.97 | BROMIDE | 0.046 | 0.016 | 0.04 | 0.205 | MB |
| **Total:** | | | 283.187 | 42.940 | 100.00 | 254.529 | |

## 50 JB50975-1

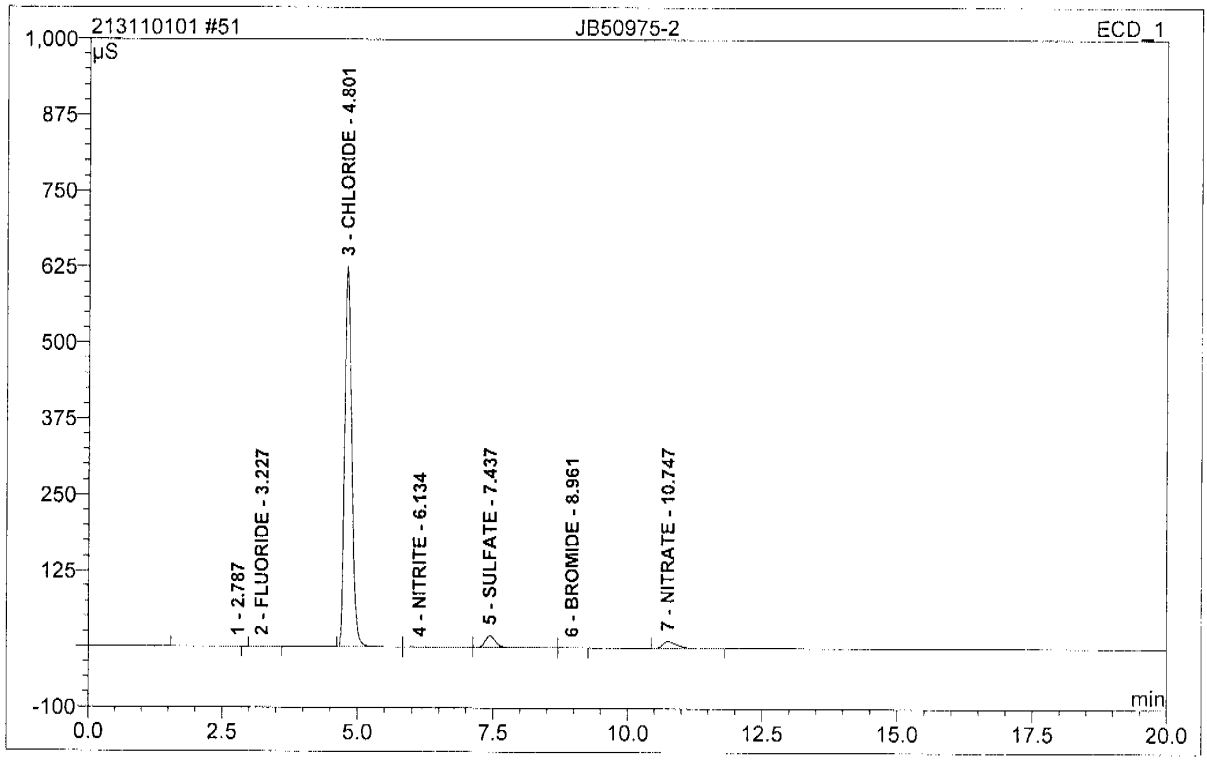
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **43** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 5:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.059 | 0.030 | 0.07 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.381 | 0.056 | 0.13 | 0.190 | BMB |
| 3 | 4.83 | CHLORIDE | 248.879 | 34.763 | 80.94 | 194.612 | BM |
| 4 | 6.00 | NITRITE | 0.471 | 0.366 | 0.85 | 0.861 | M |
| 5 | 7.43 | SULFATE | 33.709 | 7.724 | 17.99 | 58.821 | M |
| 6 | 8.96 | BROMIDE | 0.040 | 0.010 | 0.02 | 0.128 | MB |
| Total: | | | 283.539 | 42.949 | 100.00 | 254.612 | |

## 51 JB50975-2

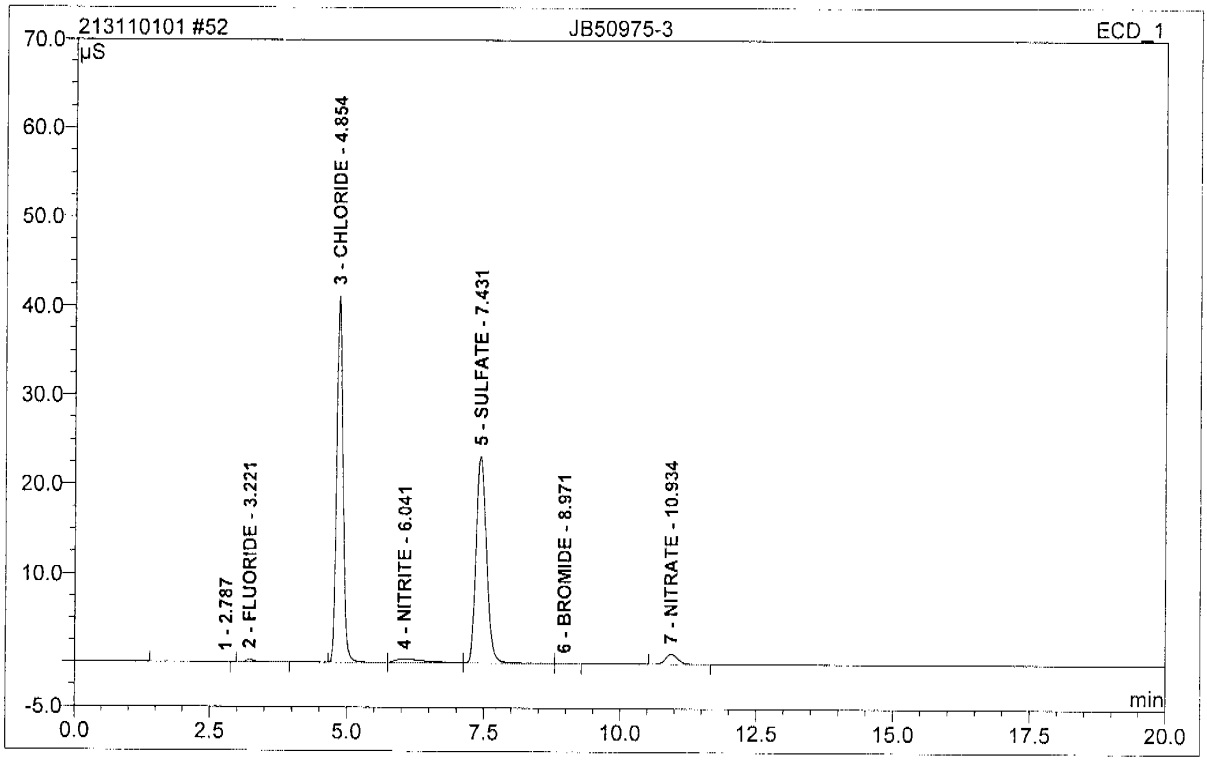
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **44** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 6:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.018 | 0.02 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.116 | 0.022 | 0.02 | 0.074 | BMB |
| 3 | 4.80 | CHLORIDE | 626.031 | 94.746 | 92.48 | 530.409 | BM |
| 4 | 6.13 | NITRITE | 0.339 | 0.192 | 0.19 | 0.452 | M |
| 5 | 7.44 | SULFATE | 19.185 | 4.215 | 4.11 | 32.096 | M |
| 6 | 8.96 | BROMIDE | 0.051 | 0.012 | 0.01 | 0.152 | MB |
| 7 | 10.75 | NITRATE | 11.007 | 3.245 | 3.17 | 7.534 | BMB |
| **Total:** | | | 656.773 | 102.449 | 100.00 | 570.717 | |

## 52 JB50975-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 6:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



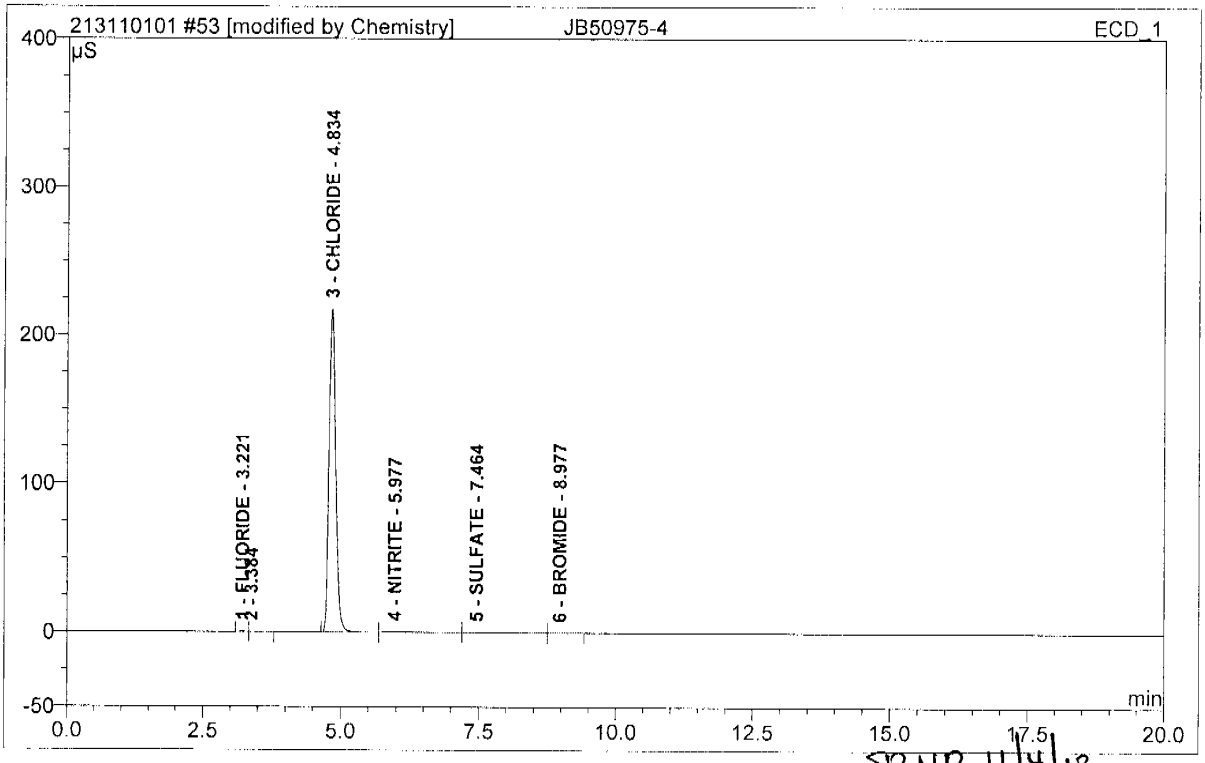

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.071 | 0.032 | 0.28 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.351 | 0.054 | 0.48 | 0.185 | BMB |
| 3 | 4.85 | CHLORIDE | 41.187 | 5.476 | 48.24 | 30.658 | BM |
| 4 | 6.04 | NITRITE | 0.414 | 0.285 | 2.51 | 0.671 | M |
| 5 | 7.43 | SULFATE | 23.253 | 5.193 | 45.75 | 39.546 | M |
| 6 | 8.97 | BROMIDE | 0.019 | 0.004 | 0.04 | 0.059 | MB |
| 7 | 10.93 | NITRATE | 1.169 | 0.307 | 2.70 | 0.712 | BMB |
| **Total:** | | | 66.465 | 11.352 | 100.00 | 71.830 | |



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## 53 JB50975-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

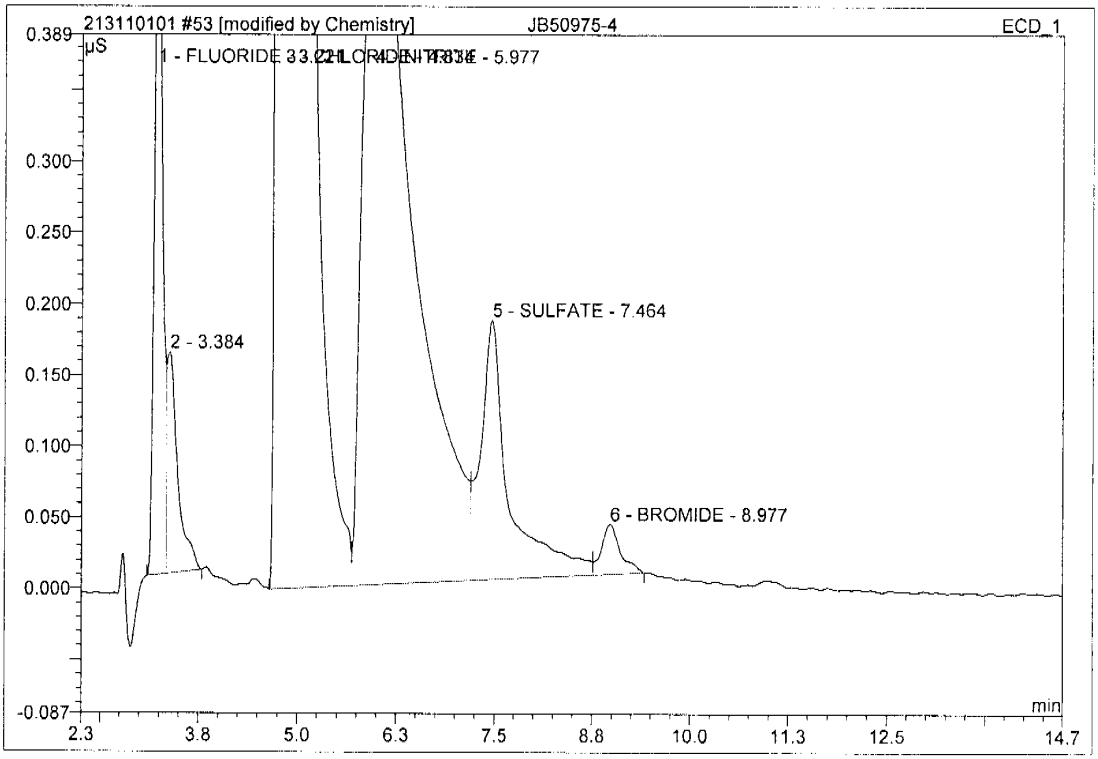



SP NP 11/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.515 | 0.061 | 0.20 | 0.209 | BM * |
| 2 | 3.38 | n.a. | 0.156 | 0.024 | 0.08 | n.a. | MB* |
| 3 | 4.83 | CHLORIDE | 217.653 | 30.224 | 98.24 | 169.201 | BM |
| 4 | 5.98 | NITRITE | 0.473 | 0.369 | 1.20 | 0.868 | M |
| 5 | 7.46 | SULFATE | 0.182 | 0.078 | 0.25 | 0.592 | M * |
| 6 | 8.98 | BROMIDE | 0.035 | 0.010 | 0.03 | 0.129 | MB* |
| **Total:** | | | 219.014 | 30.766 | 100.00 | 170.998 | |

## 53 JB50975-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



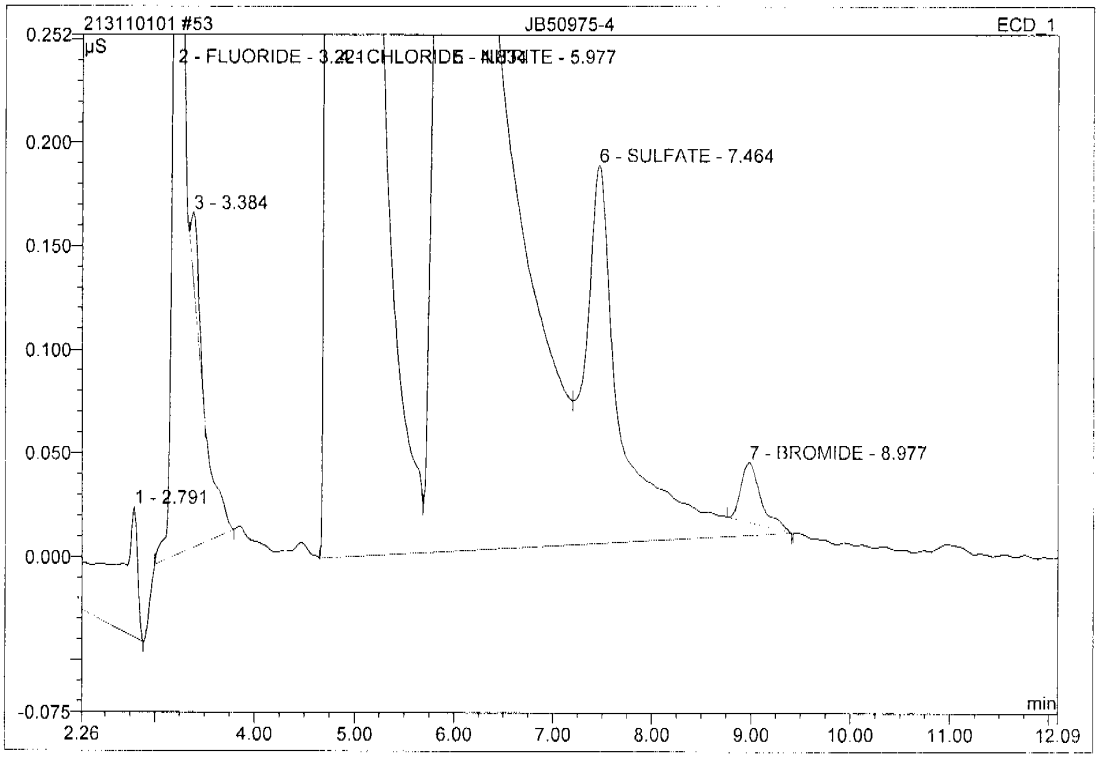

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.515 | 0.061 | 0.20 | 0.209 | BM * |
| 2 | 3.38 | n.a. | 0.156 | 0.024 | 0.08 | n.a. | MB* |
| 3 | 4.83 | CHLORIDE | 217.653 | 30.224 | 98.24 | 169.201 | BM |
| 4 | 5.98 | NITRITE | 0.473 | 0.369 | 1.20 | 0.868 | M |
| 5 | 7.46 | SULFATE | 0.182 | 0.078 | 0.25 | 0.592 | M * |
| 6 | 8.98 | BROMIDE | 0.035 | 0.010 | 0.03 | 0.129 | MB* |
| **Total:** | | | 219.014 | 30.766 | 100.00 | 170.998 | |

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## 53 JB50975-4

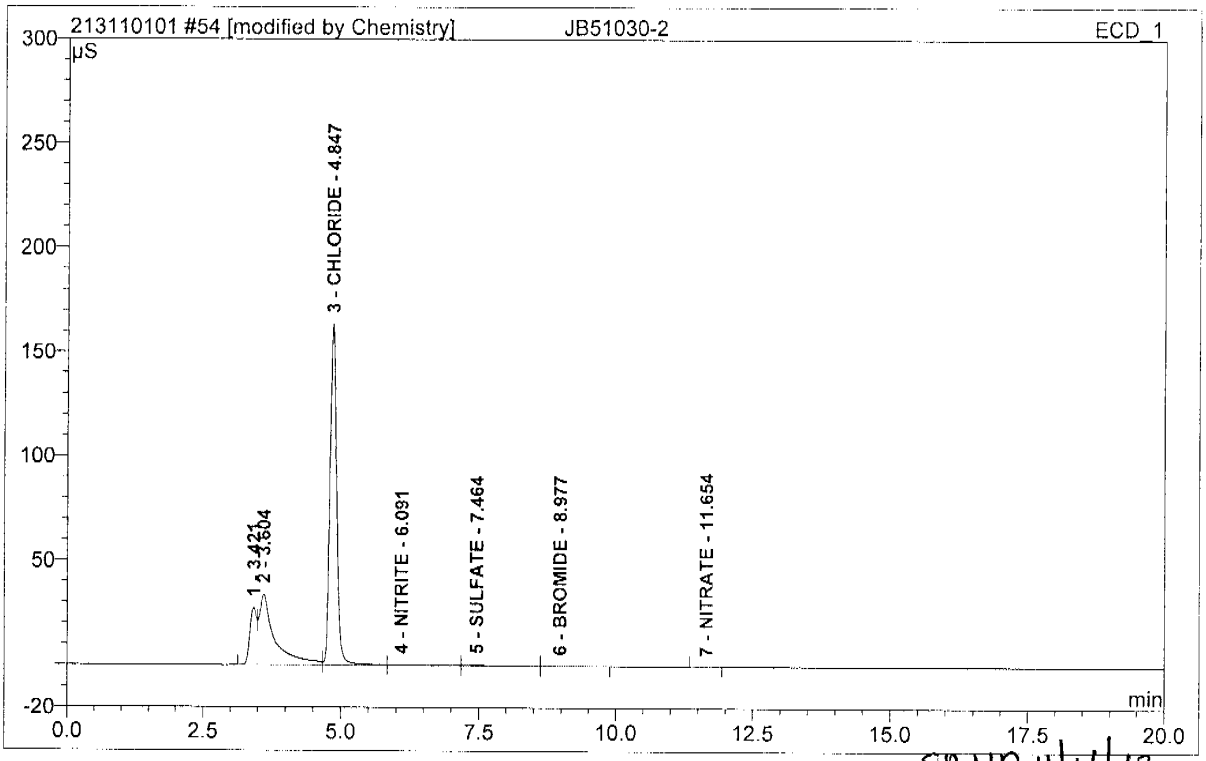
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50975-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.063 | 0.030 | 0.10 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.523 | 0.087 | 0.28 | 0.297 | BMB |
| 3 | 3.38 | n.a. | 0.033 | 0.003 | 0.01 | n.a. | Rd |
| 4 | 4.83 | CHLORIDE | 217.653 | 30.224 | 98.13 | 169.201 | BM |
| 5 | 5.98 | NITRITE | 0.473 | 0.369 | 1.20 | 0.868 | M |
| 6 | 7.46 | SULFATE | 0.182 | 0.081 | 0.26 | 0.616 | MB |
| 7 | 8.98 | BROMIDE | 0.029 | 0.007 | 0.02 | 0.088 | Rd |
| Total: | | | 218.956 | 30.801 | 100.00 | 171.069 | |

## 54 JB51030-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




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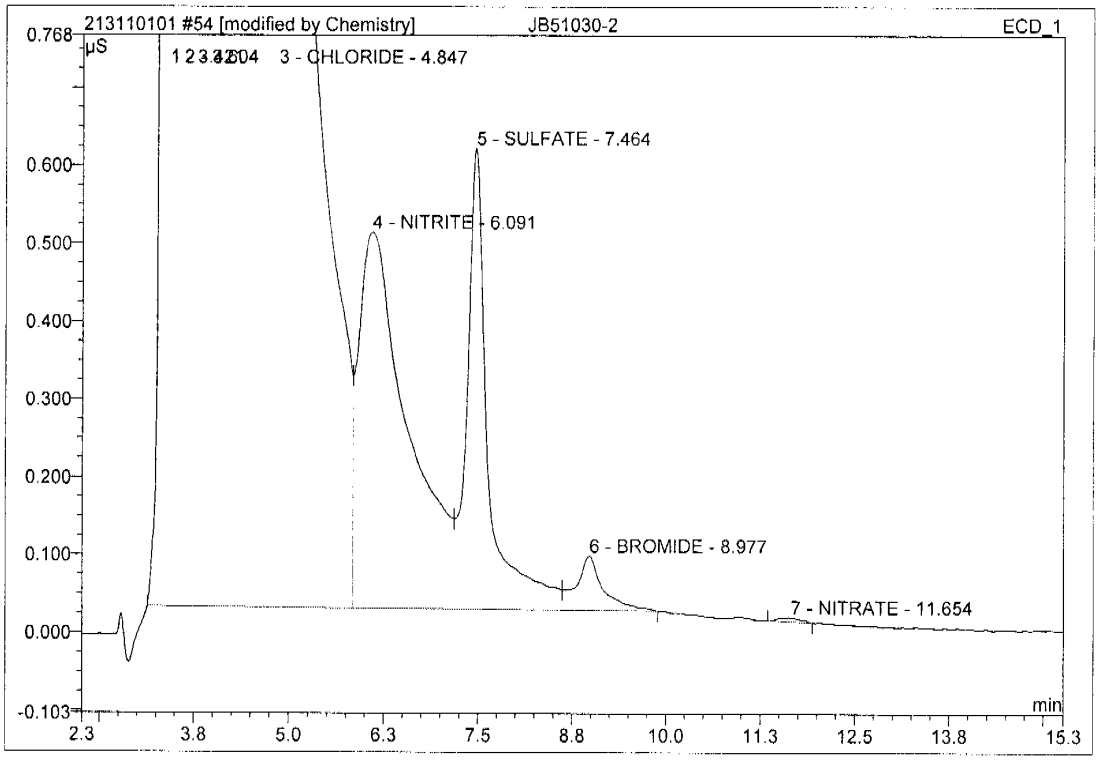
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.42 | n.a. | 27.504 | 3.986 | 10.32 | n.a. | BM * |
| 2 | 3.60 | n.a. | 33.847 | 11.006 | 28.49 | n.a. | M * |
| 3 | 4.85 | CHLORIDE | 163.726 | 23.047 | 59.66 | 129.021 | M * |
| 4 | 6.09 | NITRITE | 0.483 | 0.366 | 0.95 | 0.859 | M * |
| 5 | 7.46 | SULFATE | 0.591 | 0.196 | 0.51 | 1.496 | M * |
| 6 | 8.98 | BROMIDE | 0.070 | 0.029 | 0.08 | 0.380 | MB* |
| 7 | 11.65 | NITRATE | 0.005 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 226.227 | 38.632 | 100.00 | 131.761 | |



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## 54 JB51030-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



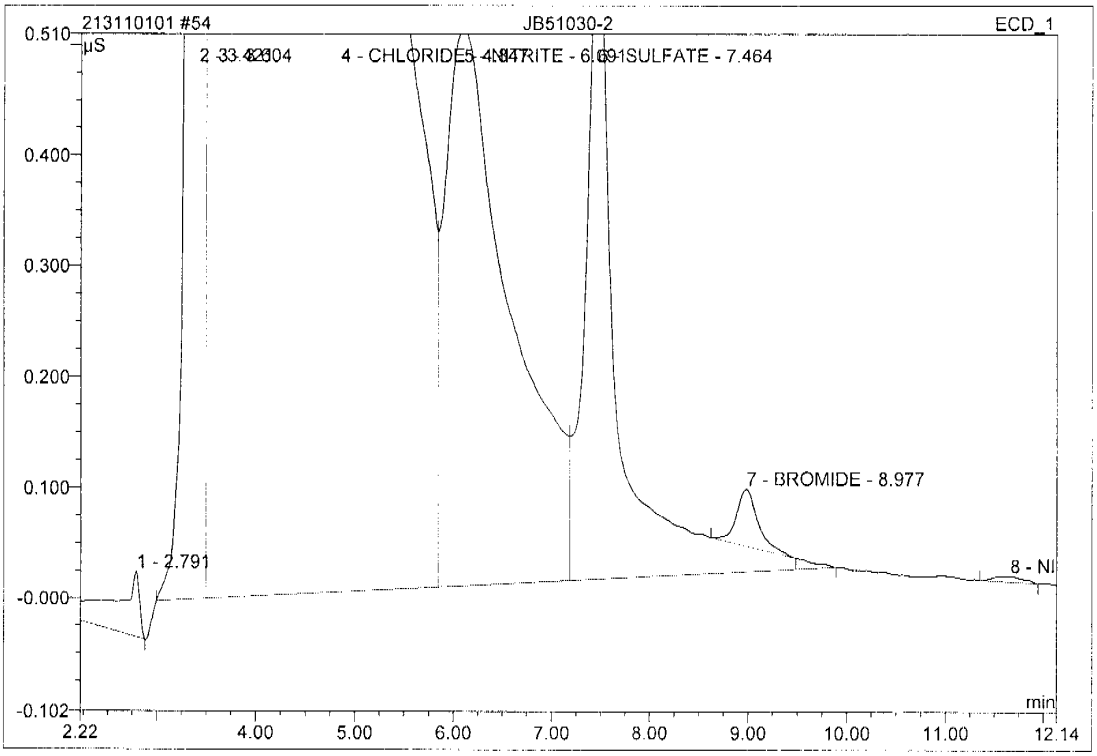

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.42 | n.a. | 27.504 | 3.986 | 10.32 | n.a. | BM * |
| 2 | 3.60 | n.a. | 33.847 | 11.006 | 28.49 | n.a. | M * |
| 3 | 4.85 | CHLORIDE | 163.726 | 23.047 | 59.66 | 129.021 | M * |
| 4 | 6.09 | NITRITE | 0.483 | 0.366 | 0.95 | 0.859 | M * |
| 5 | 7.46 | SULFATE | 0.591 | 0.196 | 0.51 | 1.496 | M * |
| 6 | 8.98 | BROMIDE | 0.070 | 0.029 | 0.08 | 0.380 | MB* |
| 7 | 11.65 | NITRATE | 0.005 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 226.227 | 38.632 | 100.00 | 131.761 | |

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# 54 JB51030-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



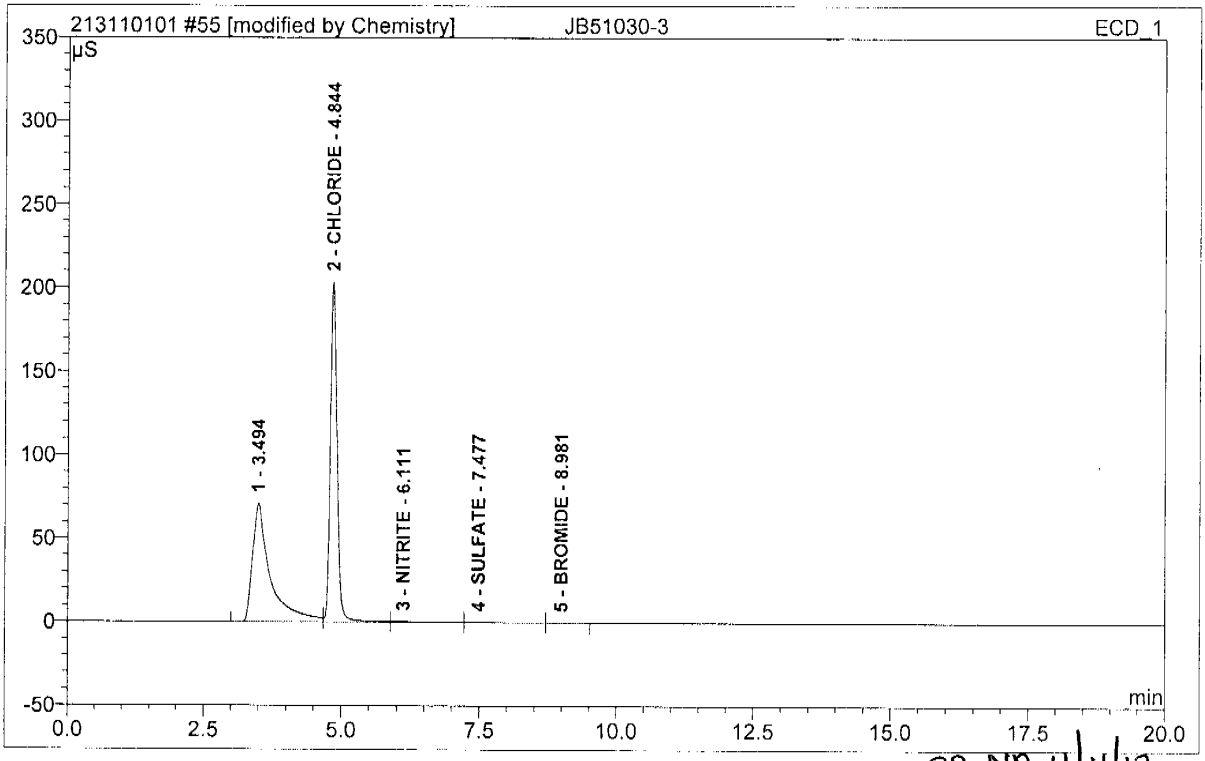

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.059 | 0.025 | 0.07 | n.a. | BMB |
| 2 | 3.42 | n.a. | 27.538 | 4.001 | 10.32 | n.a. | BM |
| 3 | 3.60 | n.a. | 33.881 | 11.042 | 28.47 | n.a. | M |
| 4 | 4.85 | CHLORIDE | 163.752 | 23.075 | 59.50 | 129.181 | M |
| 5 | 6.09 | NITRITE | 0.503 | 0.389 | 1.00 | 0.916 | M |
| 6 | 7.46 | SULFATE | 0.604 | 0.232 | 0.60 | 1.766 | MB |
| 7 | 8.98 | BROMIDE | 0.051 | 0.013 | 0.03 | 0.172 | Rd |
| 8 | 11.65 | NITRATE | 0.005 | 0.002 | 0.00 | 0.004 | BMB |
| 9 | 20.48 | n.a. | 0.005 | 0.002 | 0.00 | n.a. | BMB |
| **Total:** | | | 226.399 | 38.782 | 100.00 | 132.038 | |

DEFAULT/Integration

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## 55 JB51030-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/4/13

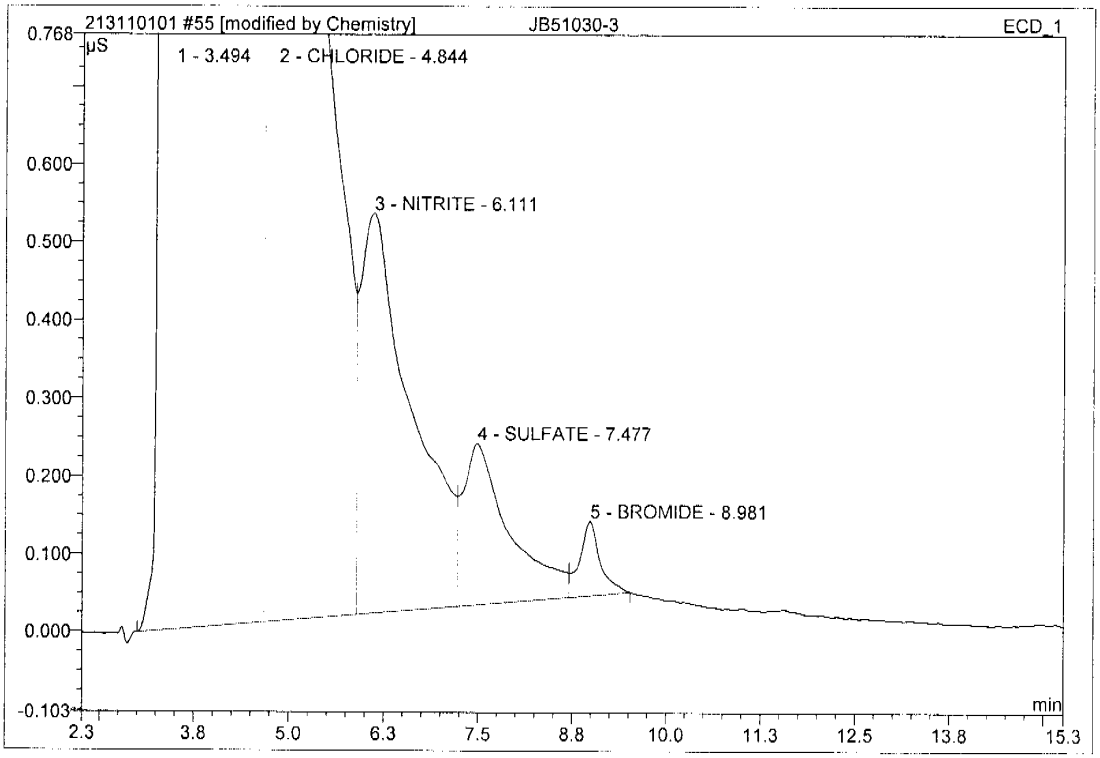
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 70.956 | 26.424 | 47.23 | n.a. | BM * |
| 2 | 4.84 | CHLORIDE | 203.521 | 28.942 | 51.73 | 162.025 | M * |
| 3 | 6.11 | NITRITE | 0.513 | 0.404 | 0.72 | 0.951 | M * |
| 4 | 7.48 | SULFATE | 0.207 | 0.148 | 0.26 | 1.128 | M * |
| 5 | 8.98 | BROMIDE | 0.095 | 0.031 | 0.05 | 0.399 | MB* |
| **Total:** | | | 275.293 | 55.949 | 100.00 | 164.503 | |



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## 55 JB51030-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



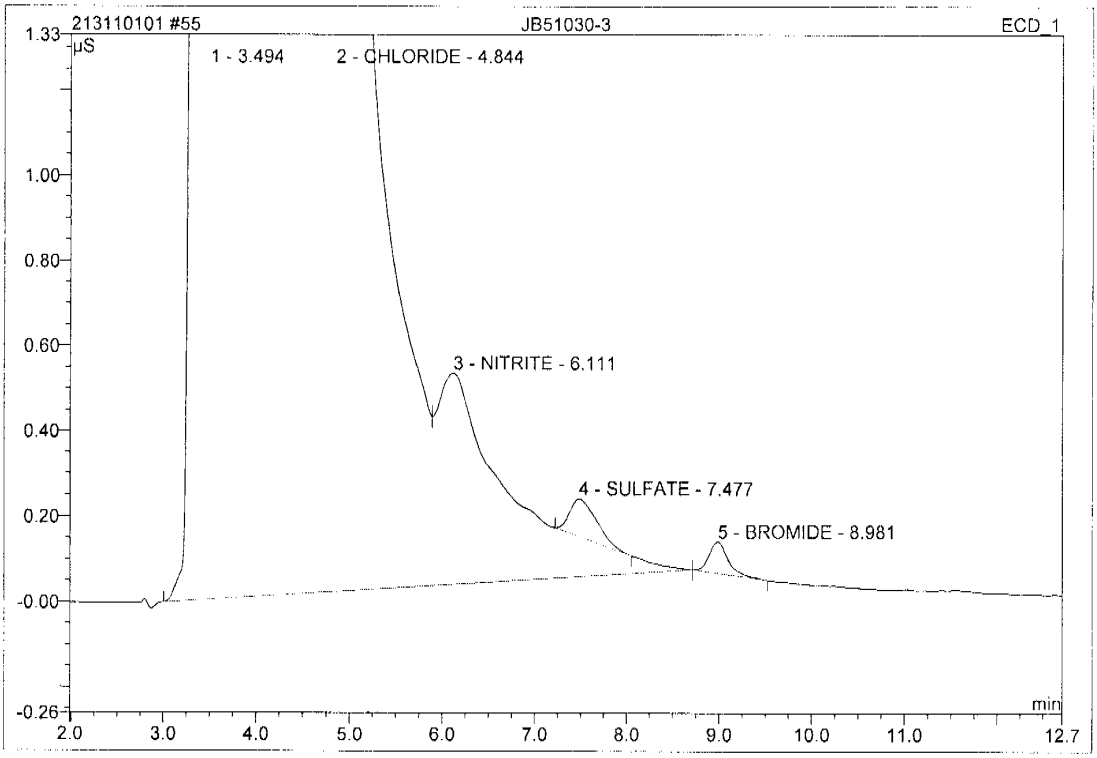

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 70.956 | 26.424 | 47.23 | n.a. | BM * |
| 2 | 4.84 | CHLORIDE | 203.521 | 28.942 | 51.73 | 162.025 | M * |
| 3 | 6.11 | NITRITE | 0.513 | 0.404 | 0.72 | 0.951 | M * |
| 4 | 7.48 | SULFATE | 0.207 | 0.148 | 0.26 | 1.128 | M * |
| 5 | 8.98 | BROMIDE | 0.095 | 0.031 | 0.05 | 0.399 | MB* |
| **Total:** | | | 275.293 | 55.949 | 100.00 | 164.503 | |

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## 55 JB51030-3

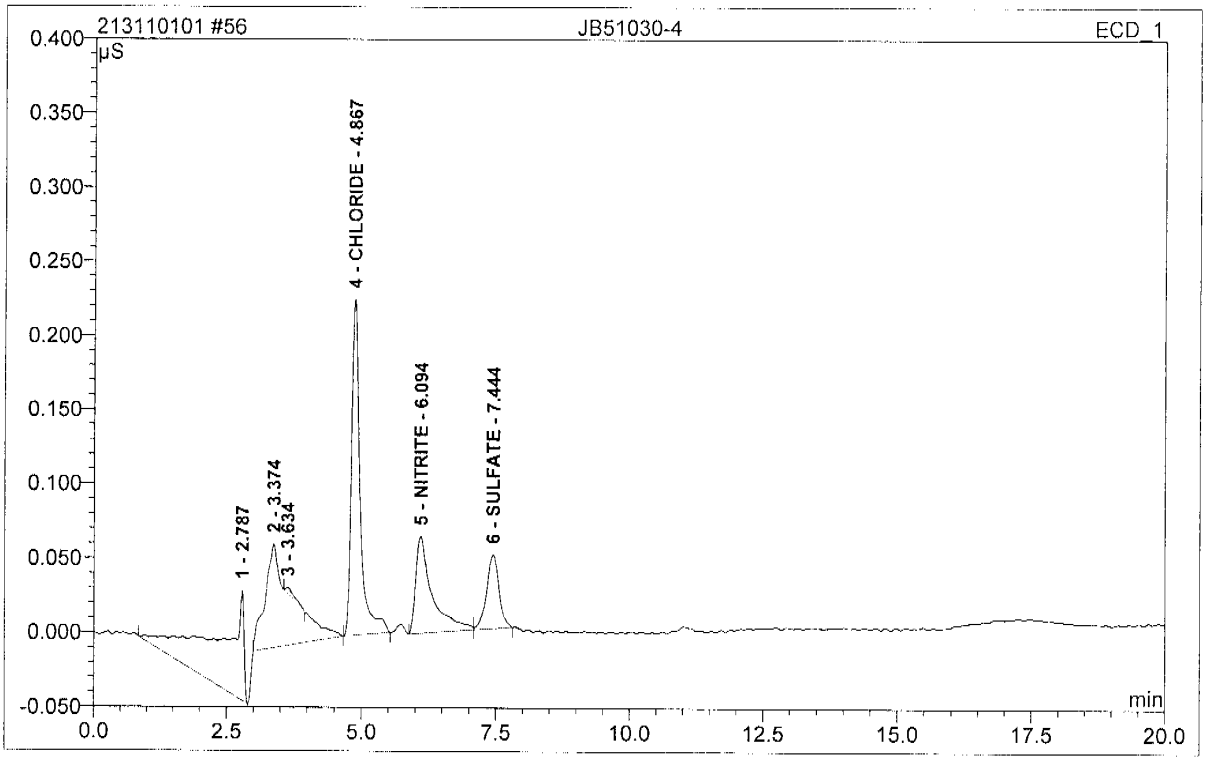
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 7:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 70.954 | 26.416 | 47.30 | n.a. | BM |
| 2 | 4.84 | CHLORIDE | 203.511 | 28.927 | 51.80 | 161.938 | M |
| 3 | 6.11 | NITRITE | 0.495 | 0.455 | 0.81 | 1.069 | Mb |
| 4 | 7.48 | SULFATE | 0.088 | 0.030 | 0.05 | 0.229 | Rd |
| 5 | 8.98 | BROMIDE | 0.074 | 0.018 | 0.03 | 0.230 | bMB |
| **Total:** | | | 275.121 | 55.845 | 100.00 | 163.465 | |

## 56 JB51030-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 8:18** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



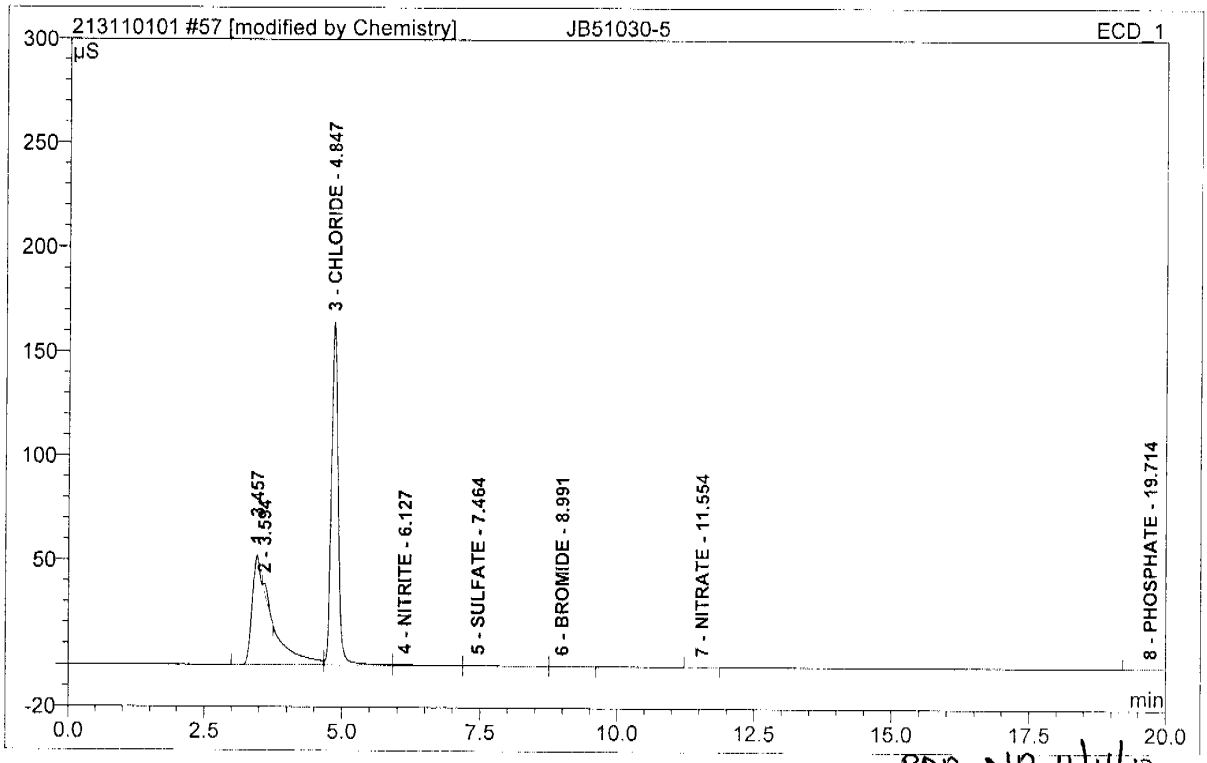

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.074 | 0.044 | 26.90 | n.a. | BMB |
| 2 | 3.37 | n.a. | 0.070 | 0.040 | 24.49 | n.a. | BMB |
| 3 | 3.63 | n.a. | 0.004 | 0.001 | 0.52 | n.a. | Rd |
| 4 | 4.87 | CHLORIDE | 0.226 | 0.042 | 25.67 | 0.236 | BMB |
| 5 | 6.09 | NITRITE | 0.065 | 0.023 | 14.24 | 0.055 | BM |
| 6 | 7.44 | SULFATE | 0.050 | 0.013 | 8.18 | 0.102 | MB |
| **Total:** | | | 0.489 | 0.164 | 100.00 | 0.392 | |



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Version 6.80 SR9a Build 2680 (163077)

## 57 JB51030-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 8:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PDB NP 11/4/13

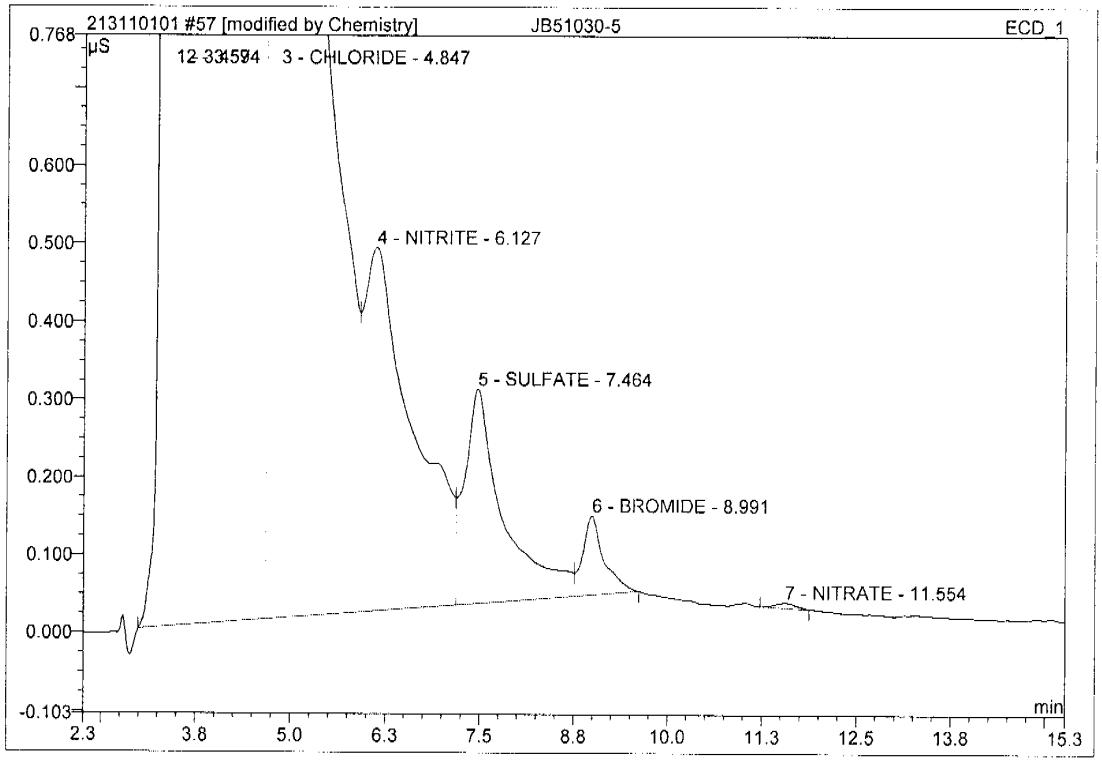
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.46 | n.a. | 52.553 | 20.912 | 45.97 | n.a. | BM * |
| 2 | 3.59 | n.a. | 4.415 | 0.555 | 1.22 | n.a. | Rd |
| 3 | 4.85 | CHLORIDE | 164.672 | 23.463 | 51.58 | 131.352 | M * |
| 4 | 6.13 | NITRITE | 0.467 | 0.356 | 0.78 | 0.837 | M * |
| 5 | 7.46 | SULFATE | 0.276 | 0.165 | 0.36 | 1.259 ✓ | M * |
| 6 | 8.99 | BROMIDE | 0.101 | 0.033 | 0.07 | 0.433 | MB* |
| 7 | 11.55 | NITRATE | 0.007 | 0.002 | 0.01 | 0.005 | BMB |
| 8 | 19.71 | PHOSPHATE | 0.008 | 0.004 | 0.01 | 0.022 | BMB |
| **Total:** | | | 222.499 | 45.491 | 100.00 | 133.907 | |



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Version 6.80 SR9a Build 2680 (163077)

## 57 JB51030-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 8:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



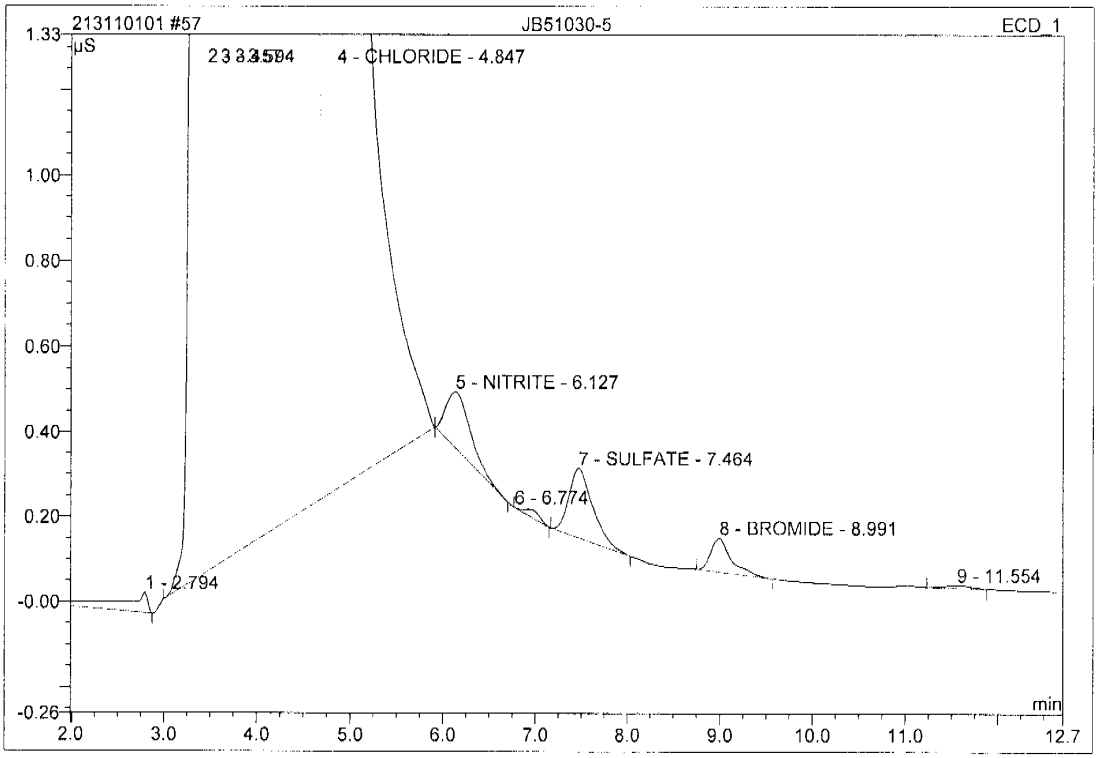

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.46 | n.a. | 52.553 | 20.912 | 45.97 | n.a. | BM * |
| 2 | 3.59 | n.a. | 4.415 | 0.555 | 1.22 | n.a. | Rd |
| 3 | 4.85 | CHLORIDE | 164.672 | 23.463 | 51.58 | 131.352 | M * |
| 4 | 6.13 | NITRITE | 0.467 | 0.356 | 0.78 | 0.837 | M * |
| 5 | 7.46 | SULFATE | 0.276 | 0.165 | 0.36 | 1.259 | M * |
| 6 | 8.99 | BROMIDE | 0.101 | 0.033 | 0.07 | 0.433 | MB* |
| 7 | 11.55 | NITRATE | 0.007 | 0.002 | 0.01 | 0.005 | BMB |
| 8 | 19.71 | PHOSPHATE | 0.008 | 0.004 | 0.01 | 0.022 | BMB |
| **Total:** | | | 222.499 | 45.491 | 100.00 | 133.907 | |

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Version 6.80 SR9a Build 2680 (163077)

## 57 JB51030-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 8:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



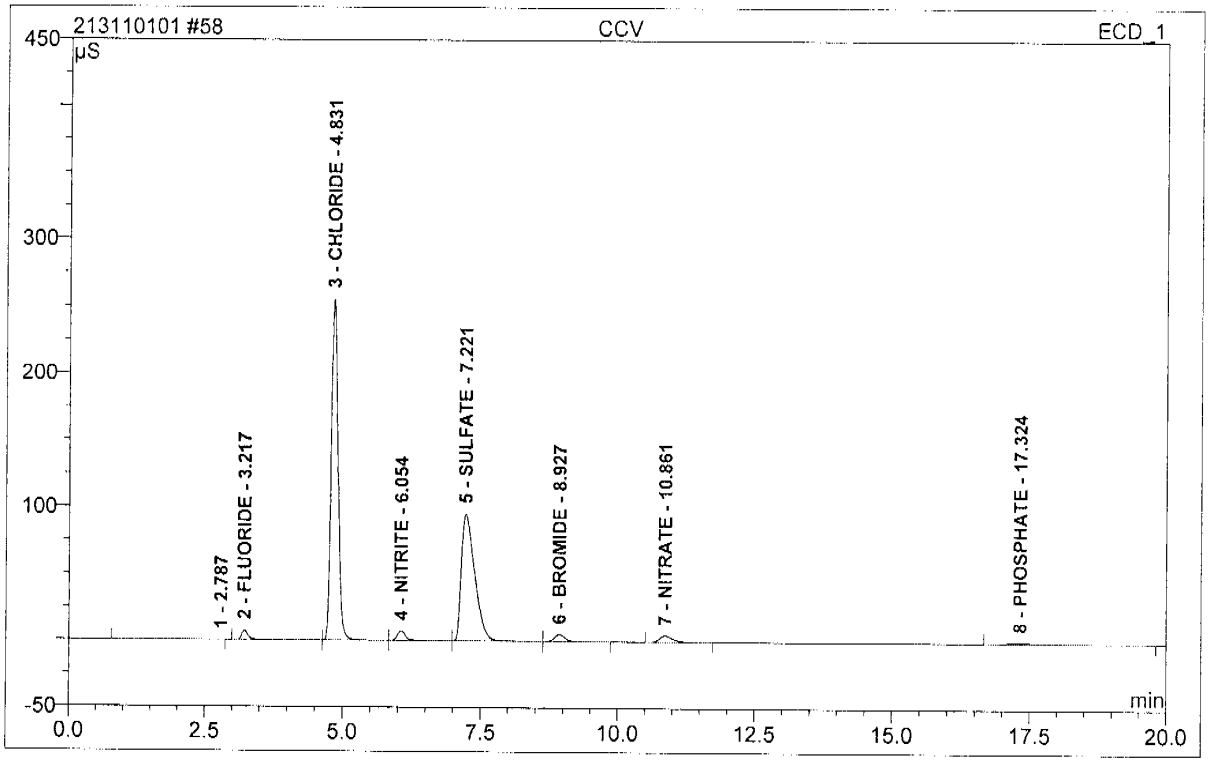

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.048 | 0.020 | 0.05 | n.a. | BMB |
| 2 | 3.46 | n.a. | 52.492 | 20.725 | 46.57 | n.a. | BM |
| 3 | 3.59 | n.a. | 4.415 | 0.555 | 1.25 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 164.427 | 23.087 | 51.87 | 129.246 | Mb |
| 5 | 6.13 | NITRITE | 0.131 | 0.041 | 0.09 | 0.095 | bMB |
| 6 | 6.77 | n.a. | 0.000 | 0.003 | 0.01 | n.a. | BMB |
| 7 | 7.46 | SULFATE | 0.162 | 0.049 | 0.11 | 0.373 | BMB |
| 8 | 8.99 | BROMIDE | 0.080 | 0.021 | 0.05 | 0.269 | BMB |
| 9 | 11.55 | n.a. | 0.007 | 0.002 | 0.01 | n.a. | BMB |
| 10 | 19.71 | PHOSPHATE | 0.008 | 0.004 | 0.01 | 0.022 | BMB |
| **Total:** | | | 221.770 | 44.506 | 100.00 | 130.006 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

# 58 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 9:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.058 | 0.038 | 0.06 | | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.036 | 0.931 | 1.36 | 3.0 | 3.185 ✓ | BMB |
| 3 | 4.83 | CHLORIDE | 255.627 | 36.257 | 53.11 | 200 | 202.975 ✓ | BM |
| 4 | 6.05 | NITRITE | 7.375 | 1.292 | 1.89 | | 3.038 | M |
| 5 | 7.22 | SULFATE | 95.309 | 26.834 | 39.31 | 200 | 204.341 ✓ | M |
| 6 | 8.93 | BROMIDE | 5.258 | 1.143 | 1.67 | | 14.892 | MB |
| 7 | 10.86 | NITRATE | 4.783 | 1.315 | 1.93 | | 3.054 | BMB |
| 8 | 17.32 | PHOSPHATE | 0.681 | 0.458 | 0.67 | | 2.833 | BMB |
| **Total:** | | | 376.127 | 68.269 | 100.00 | | 434.319 | |

10617
101.49
102.17

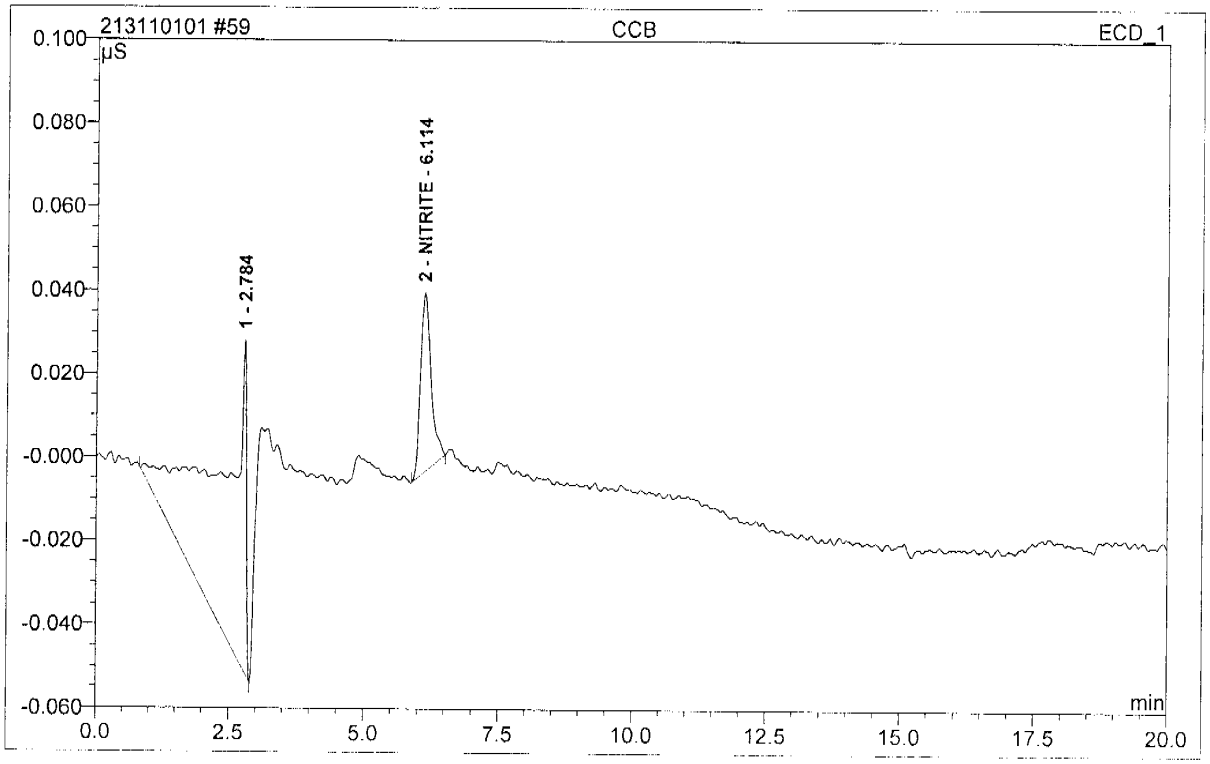
12.1
12



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# 59 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/2/2013 9:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.080 | 0.051 | 83.85 | n.a. | BMB |
| 2 | 6.11 | NITRITE | 0.043 | 0.010 | 16.15 | 0.023 | BMB |
| **Total:** | | | 0.123 | 0.061 | 100.00 | 0.023 | |



Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

New England ACCUTEST LABORATORIES

11/06/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02E.08

Accutest Job Number: MC25568

Sampling Date: 10/23/13

Report to:

Sovereign Consulting
16 Chestnut Street Suite 520
Foxborough, MA 02035
spassafaro@sovcon.com; jchaffee@sovcon.com;
Denise.King@amec.com
ATTN: Jonathan Chaffee

Total number of pages in report: **590**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25568-1 | 10/23/13 | 09:20 | DCCS | 10/23/13 | AQ | Ground Water | SHM-93-22B-102313 |
| MC25568-1F | 10/23/13 | 09:20 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-93-22B-102313 |
| MC25568-2 | 10/23/13 | 09:15 | DCCS | 10/23/13 | AQ | Ground Water | SHP-99-31A-102313 |
| MC25568-2F | 10/23/13 | 09:15 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHP-99-31A-102313 |
| MC25568-3 | 10/23/13 | 00:00 | DCCS | 10/23/13 | AQ | Ground Water | DUP01-102313 |
| MC25568-3F | 10/23/13 | 00:00 | DCCS | 10/23/13 | AQ | Groundwater Filtered | DUP01-102313 |
| MC25568-4 | 10/23/13 | 09:52 | DCCS | 10/23/13 | AQ | Ground Water | SHM-05-41B-102313 |
| MC25568-4F | 10/23/13 | 09:52 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-05-41B-102313 |
| MC25568-5 | 10/23/13 | 10:20 | DCCS | 10/23/13 | AQ | Ground Water | SHM-05-42A-102313 |
| MC25568-5F | 10/23/13 | 10:20 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-05-42A-102313 |
| MC25568-6 | 10/23/13 | 10:25 | DCCS | 10/23/13 | AQ | Ground Water | SHL-22-102313 |
| MC25568-6F | 10/23/13 | 10:25 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHL-22-102313 |
| MC25568-7 | 10/23/13 | 00:00 | DCCS | 10/23/13 | AQ | Ground Water | DUP02-102313 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25568-7F | 10/23/13 | 00:00 | DCCS | 10/23/13 | AQ | Groundwater Filtered | DUP02-102313 |
| MC25568-8 | 10/23/13 | 10:49 | DCCS | 10/23/13 | AQ | Ground Water | SHP-99-31B-102313 |
| MC25568-8F | 10/23/13 | 10:49 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHP-99-31B-102313 |
| MC25568-9 | 10/23/13 | 11:10 | DCCS | 10/23/13 | AQ | Ground Water | SHM-05-41A-102313 |
| MC25568-9F | 10/23/13 | 11:10 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-05-41A-102313 |
| MC25568-10 | 10/23/13 | 12:12 | DCCS | 10/23/13 | AQ | Ground Water | SHP-99-31C-102313 |
| MC25568-10F | 10/23/13 | 12:12 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHP-99-31C-102313 |
| MC25568-11 | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Ground Water | SHM-05-42B-102313 |
| MC25568-11D | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Water Dup/MSD | SHM-05-42B-102313 |
| MC25568-11F | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-05-42B-102313 |
| MC25568-11FD | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Water Dup/MSD | SHM-05-42B-102313 |
| MC25568-11FS | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Water Matrix Spike | SHM-05-42B-102313 |
| MC25568-11S | 10/23/13 | 11:45 | DCCS | 10/23/13 | AQ | Water Matrix Spike | SHM-05-42B-102313 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25568-12 | 10/23/13 | 12:30 | DCCS | 10/23/13 | AQ | Ground Water | SHM-93-22C-102313 |
| MC25568-12F | 10/23/13 | 12:30 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-93-22C-102313 |
| MC25568-13 | 10/23/13 | 12:41 | DCCS | 10/23/13 | AQ | Ground Water | SHM-05-41C-102313 |
| MC25568-13F | 10/23/13 | 12:41 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-05-41C-102313 |
| MC25568-14F | 10/23/13 | 13:45 | DCCS | 10/23/13 | AQ | Equip Blank Filtered | RB-102313 |
| MC25568-15 | 10/23/13 | 13:40 | DCCS | 10/23/13 | AQ | Ground Water | SHL-9-102313 |
| MC25568-15F | 10/23/13 | 13:40 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHL-9-102313 |
| MC25568-16 | 10/23/13 | 13:45 | DCCS | 10/23/13 | AQ | Ground Water | SHM-99-32X-102313 |
| MC25568-16F | 10/23/13 | 13:45 | DCCS | 10/23/13 | AQ | Groundwater Filtered | SHM-99-32X-102313 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC25568 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/6/2013 5:52:53 PM |

16 Sample(s) were collected on 10/23/2013 and were received at Accutest on 10/23/2013 properly preserved, at 0.2 Deg. C and intact. These Samples received an Accutest job number of MC25568. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21908

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6FMS, MC25522-6FMSD, MC25522-6FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Iron, Magnesium, Manganese are outside control limits for sample MP21908-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix** AQ **Batch ID:** MP21920

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11FMS, MC25568-11FMSD, MC25568-11FSDL were used as the QC samples for metals.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP21908A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-6FMS, MC25522-6FMSD, MC25522-6FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP21908A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix** AQ **Batch ID:** MP21920A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11FMS, MC25568-11FMSD, MC25568-11FSDL were used as the QC samples for metals.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix** AQ **Batch ID:** N:GP75722

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

## Wet Chemistry By Method EPA 353.2

**Matrix** AQ **Batch ID:** GP16783

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25522-11DUP, MC25522-11MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** GP16784

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11DUP, MC25568-11MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix** AQ **Batch ID:** R33927

- MC25568-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33928

- MC25568-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33931

- MC25568-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33932

- MC25568-15 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33933

- MC25568-16 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33934

- MC25568-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33935

- MC25568-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33936

- MC25568-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33937

- MC25568-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33938

- MC25568-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33939

- MC25568-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33940

- MC25568-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33941

- MC25568-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33942

- MC25568-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

**Matrix** AQ **Batch ID:** R33943

- MC25568-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

| Matrix | AQ | Batch ID: | GP16762 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11DUP, MC25568-11MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM21 2320B

| Matrix | AQ | Batch ID: | GN44849 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11DUP, MC25568-11MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN44888 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN44897 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-10DUP, MC25568-10MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN44893 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11DUP, MC25568-11MS were used as the QC samples for Chloride.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC25568).

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Accutest Labs of New England, Inc. | **Job No** | MC25568 |
| **Site:** | SCMAW: Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/6/2013 3:36:31 PM |

On 10/24/2013, 15 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 6 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC25568 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** GP75722

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11DUP, MC25568-11MS, MC25568-1MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# Summary of Hits



**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25568-1** | **SHM-93-22B-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 334 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 20.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.26 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.26 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 4.4 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-1F** | **SHM-93-22B-102313** | | | | | |
| Arsenic | | 1150 | 100 | 50 | ug/l | SW846 6020A |
| Calcium | | 78200 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 31300 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 11300 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 9450 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 8040 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 28000 | 10000 | 400 | ug/l | SW846 6010C |
| **MC25568-2** | **SHP-99-31A-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 15.3 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 25.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 9.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-2F** | **SHP-99-31A-102313** | | | | | |
| Arsenic | | 14.2 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 10600 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 4210 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 971 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 311 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 11900 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-3** | **DUP01-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 15.3 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 25.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 9.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-3F** | **DUP01-102313** | | | | | |
| Arsenic | | 14.6 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 10600 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 4250 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 960 J | 5000 | 200 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Manganese | | 308 | 15 | 2.5 | ug/l | SW846 6010C |
| Sodium | | 11900 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-4** | **SHM-05-41B-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 81.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 4.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.26 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.26 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 4.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-4F** | **SHM-05-41B-102313** | | | | | |
| Arsenic | | 716 | 40 | 20 | ug/l | SW846 6020A |
| Calcium | | 12700 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 21400 | 200 | 60 | ug/l | SW846 6010C |
| Magnesium | | 2430 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 583 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 7500 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 3780 J | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-5** | **SHM-05-42A-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 23.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 2.8 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.11 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.11 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 6.3 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-5F** | **SHM-05-42A-102313** | | | | | |
| Calcium | | 6520 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 111 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 976 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 66.0 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1880 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2420 J | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-6** | **SHL-22-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 388 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 20.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 6.6 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |

# Summary of Hits

**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25568-6F** | **SHL-22-102313** | | | | | |
| Arsenic | | 53.1 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 114000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 615 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 13700 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 9700 | 150 | 25 | ug/l | SW846 6010C |
| Potassium | | 4790 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 27400 | 15000 | 600 | ug/l | SW846 6010C |
| **MC25568-7** | **DUP02-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 389 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 19.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 6.6 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-7F** | **DUP02-102313** | | | | | |
| Arsenic | | 54.3 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 112000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 610 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 13500 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 10300 | 150 | 25 | ug/l | SW846 6010C |
| Potassium | | 4830 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 26700 | 15000 | 600 | ug/l | SW846 6010C |
| **MC25568-8** | **SHP-99-31B-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 63.5 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 4.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.20 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.20 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 7.6 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-8F** | **SHP-99-31B-102313** | | | | | |
| Arsenic | | 61.6 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 16900 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 9460 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1880 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 448 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3030 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 3510 J | 5000 | 200 | ug/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25568-9** | **SHM-05-41A-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 40.5 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 2.8 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 5.8 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-9F** | **SHM-05-41A-102313** | | | | | |
| Arsenic | | 12.5 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 9230 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 4560 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1390 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 534 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 1660 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2680 J | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-10** | **SHP-99-31C-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 348 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 32.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.22 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.22 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 5.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-10F** | **SHP-99-31C-102313** | | | | | |
| Arsenic | | 205 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 90900 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 16400 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 12800 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 6160 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 7220 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 30600 | 25000 | 1000 | ug/l | SW846 6010C |
| **MC25568-11** | **SHM-05-42B-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 313 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 20.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.18 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.18 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 3.3 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-11F** | **SHM-05-42B-102313** | | | | | |
| Arsenic | | 232 | 10 | 5.0 | ug/l | SW846 6020A |

# Summary of Hits

**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Calcium | | 60900 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 43200 | 500 | 150 | ug/l | SW846 6010C |
| Magnesium | | 9300 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 3280 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 8820 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 27500 | 25000 | 1000 | ug/l | SW846 6010C |
| **MC25568-12** | **SHM-93-22C-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 137 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 11.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 7.0 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-12F** | **SHM-93-22C-102313** | | | | | |
| Arsenic | | 25.1 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 41900 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 555 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 3920 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 154 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 4170 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 9830 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-13** | **SHM-05-41C-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 364 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 28.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.28 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.28 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 1.4 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-13F** | **SHM-05-41C-102313** | | | | | |
| Arsenic | | 890 | 40 | 20 | ug/l | SW846 6020A |
| Calcium | | 106000 | 50000 | 1500 | ug/l | SW846 6010C |
| Iron | | 16200 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 13000 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 2940 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3580 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 33700 | 25000 | 1000 | ug/l | SW846 6010C |
| **MC25568-14F** | **RB-102313** | | | | | |

No hits reported in this sample.

# Summary of Hits

**Job Number:** MC25568
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25568-15** | **SHL-9-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 63.5 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 22.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.25 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.25 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 2.1 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-15F** | **SHL-9-102313** | | | | | |
| Arsenic | | 33.1 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 26300 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 8890 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 2520 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 439 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 2550 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 6280 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25568-16** | **SHM-99-32X-102313** | | | | | |
| Alkalinity, Total as CaCO3 | | 342 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 32.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.27 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.27 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 2.9 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25568-16F** | **SHM-99-32X-102313** | | | | | |
| Arsenic | | 107 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 83700 | 25000 | 750 | ug/l | SW846 6010C |
| Iron | | 18400 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 11500 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 10900 | 75 | 13 | ug/l | SW846 6010C |
| Potassium | | 5250 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 33400 | 25000 | 1000 | ug/l | SW846 6010C |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-93-22B-102313
**Lab Sample ID:** MC25568-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 334 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 20.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.26 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:56 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.26 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:56 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:35 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 4.4 J | 10 | 0.50 | mg/l | 1 | 11/05/13 01:27 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22B-102313
**Lab Sample ID:** MC25568-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1150 | 100 | 50 | ug/l | 50 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 78200 | 25000 | 750 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 31300 | 200 | 60 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 11300 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 9450 | 75 | 13 | ug/l | 5 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 8040 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 28000 | 10000 | 400 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31A-102313
**Lab Sample ID:** MC25568-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 15.3 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 25.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:57 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:57 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:35 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 9.7 J | 10 | 0.50 | mg/l | 1 | 11/05/13 01:51 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31A-102313
**Lab Sample ID:** MC25568-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 14.2 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 10600 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 4210 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 971 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 311 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 11900 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP01-102313
**Lab Sample ID:** MC25568-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 15.3 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 25.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:58 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:58 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:35 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 9.7 J | 10 | 0.50 | mg/l | 1 | 11/05/13 02:15 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP01-102313
**Lab Sample ID:** MC25568-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 14.6 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 10600 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 4250 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 960 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 308 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 11900 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41B-102313
**Lab Sample ID:** MC25568-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 81.0 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 4.3 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.26 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:59 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.26 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:59 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:35 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 4.7 J | 10 | 0.50 | mg/l | 1 | 11/05/13 02:39 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41B-102313
**Lab Sample ID:** MC25568-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 716 | 40 | 20 | ug/l | 20 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 12700 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Iron | 21400 | 200 | 60 | ug/l | 2 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2430 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 583 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Potassium | 7500 | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 3780 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42A-102313
**Lab Sample ID:** MC25568-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 23.0 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 2.8 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.11 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:03 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.11 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:03 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 6.3 J | 10 | 0.50 | mg/l | 1 | 11/05/13 03:03 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42A-102313
**Lab Sample ID:** MC25568-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [2] | SW846 3010A [4] |
| Calcium | 6520 | 5000 | 150 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Iron | 111 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Magnesium | 976 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Manganese | 66.0 | 15 | 2.5 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Potassium | 1880 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |
| Sodium | 2420 J | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16321
(3) Prep QC Batch: MP21908
(4) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-22-102313
**Lab Sample ID:** MC25568-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 388 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 20.2 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:04 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:04 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 6.6 J | 10 | 0.50 | mg/l | 1 | 11/05/13 03:27 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-22-102313
**Lab Sample ID:** MC25568-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 53.1 | 4.0 | 2.0 | ug/l | 2 | 10/28/13 | 10/31/13 | SA | SW846 6020A [3] | SW846 3010A [5] |
| Calcium | 114000 | 50000 | 1500 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 615 | 100 | 30 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Magnesium | 13700 | 5000 | 200 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Manganese | 9700 | 150 | 25 | ug/l | 10 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 4790 J | 5000 | 500 | ug/l | 1 | 10/28/13 | 10/28/13 | EAL | SW846 6010C [1] | SW846 3010A [4] |
| Sodium | 27400 | 15000 | 600 | ug/l | 3 | 10/28/13 | 10/29/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16303
(2) Instrument QC Batch: MA16313
(3) Instrument QC Batch: MA16321
(4) Prep QC Batch: MP21908
(5) Prep QC Batch: MP21908A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP02-102313
**Lab Sample ID:** MC25568-7
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 389 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 19.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:06 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:06 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 6.6 J | 10 | 0.50 | mg/l | 1 | 11/05/13 03:50 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUP02-102313
**Lab Sample ID:** MC25568-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 54.3 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 112000 | 50000 | 1500 | ug/l | 10 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 610 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 13500 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 10300 | 150 | 25 | ug/l | 10 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Potassium | 4830 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 26700 | 15000 | 600 | ug/l | 3 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31B-102313
**Lab Sample ID:** MC25568-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 63.5 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 4.3 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.20 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:07 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.20 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:07 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 7.6 J | 10 | 0.50 | mg/l | 1 | 11/05/13 04:14 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31B-102313
**Lab Sample ID:** MC25568-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 61.6 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 16900 | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 9460 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 1880 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 448 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 3030 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 3510 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Prep QC Batch: MP21920
(4) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41A-102313
**Lab Sample ID:** MC25568-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 40.5 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 2.8 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:08 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:08 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 5.8 J | 10 | 0.50 | mg/l | 1 | 11/05/13 04:38 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41A-102313
**Lab Sample ID:** MC25568-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 12.5 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 9230 | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 4560 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 1390 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 534 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 1660 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 2680 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Prep QC Batch: MP21920
(4) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31C-102313
**Lab Sample ID:** MC25568-10
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 348 | 5.0 | 3.0 | mg/l | 1 | 10/31/13 | MC | SM21 2320B |
| Chloride | 32.2 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.22 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:32 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.22 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:32 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 5.7 J | 10 | 0.50 | mg/l | 1 | 11/05/13 05:50 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-99-31C-102313
**Lab Sample ID:** MC25568-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 205 | 10 | 5.0 | ug/l | 5 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 90900 | 25000 | 750 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 16400 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 12800 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 6160 | 75 | 13 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Potassium | 7220 | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 30600 | 25000 | 1000 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42B-102313
**Lab Sample ID:** MC25568-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 313 | 5.0 | 3.0 | mg/l | 1 | 10/28/13 | BF | SM21 2320B |
| Chloride | 20.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.18 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:54 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.18 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:54 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:35 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 3.3 J | 10 | 0.50 | mg/l | 1 | 11/04/13 23:51 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-42B-102313
**Lab Sample ID:** MC25568-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 232 | 10 | 5.0 | ug/l | 5 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 60900 | 25000 | 750 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 43200 | 500 | 150 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Magnesium | 9300 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 3280 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 8820 | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 27500 | 25000 | 1000 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22C-102313
**Lab Sample ID:** MC25568-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 137 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 11.3 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:33 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:33 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 7.0 J | 10 | 0.50 | mg/l | 1 | 11/05/13 06:14 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-93-22C-102313
**Lab Sample ID:** MC25568-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 25.1 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 41900 | 25000 | 750 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 555 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 3920 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 154 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 4170 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 9830 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41C-102313
**Lab Sample ID:** MC25568-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 364 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 28.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.28 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:37 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.28 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:37 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 1.4 J | 10 | 0.50 | mg/l | 1 | 11/05/13 06:38 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-41C-102313
**Lab Sample ID:** MC25568-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 890 | 40 | 20 | ug/l | 20 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 106000 | 50000 | 1500 | ug/l | 10 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 16200 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 13000 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 2940 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 3580 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 33700 | 25000 | 1000 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-102313
**Lab Sample ID:** MC25568-14F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Prep QC Batch: MP21920
(4) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-9-102313
**Lab Sample ID:** MC25568-15
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 63.5 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 22.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.25 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:38 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.25 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:38 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 2.1 J | 10 | 0.50 | mg/l | 1 | 11/05/13 07:02 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-9-102313
**Lab Sample ID:** MC25568-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 33.1 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 26300 | 15000 | 450 | ug/l | 3 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 8890 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 2520 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 439 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 2550 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 6280 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-99-32X-102313
**Lab Sample ID:** MC25568-16
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 342 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 32.2 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.27 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 14:40 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.27 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 14:40 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/23/13 17:40 | MA | SM 21 4500 NO2 B |
| Sulfate [b] | 2.9 J | 10 | 0.50 | mg/l | 1 | 11/05/13 07:26 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-99-32X-102313
**Lab Sample ID:** MC25568-16F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/23/13
**Date Received:** 10/23/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 107 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 83700 | 25000 | 750 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 18400 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 11500 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 10900 | 75 | 13 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Potassium | 5250 | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 33400 | 25000 | 1000 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

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FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC25568

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Jonathan Chaffee E-mail: jchaffee@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02E.08
Client Purchase Order #: State: Zip:
Project Manager: Jonathan Chaffee

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHM-93-22B-102313 | | 10-23-13 | 0920 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -2F | SHP-99-3IA-102313 | | 10-23-13 | 0915 | CS | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -3F | DUP01-102313 | | 10-23-13 | — | CS | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -4F | SHM-05-41A-102313 | | 10-23-13 | 0952 | VC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -5F | SHM-05-42A-102313 | | 10-23-13 | 1020 | EF | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -6F | SHL-22-102313 | | 10-23-13 | 1025 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -7F | DUP07-102313 | | 10-23-13 | — | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -8F | SHP-99-3IB-102313 | | 10-23-13 | 1049 | CS | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -9F | SHM-05-41A-102313 | | 10-23-13 | 1110 | VC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -10F | SHP-99-31C-102313 | | 10-23-13 | 1212 | CS | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | 10A, 5D |
| -11SDF | SHM-05-42BS-102313 | | 10-23-13 | 1145 | EF | GW | 9 | | | X | X | X | | | | X | X | X | X | X | X | |
| -12F | SHM-93-22C-102313 | | 10-23-13 | 1230 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other , See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals samples were field filtered.
6010C Metals List = Ca, Fe, Mg, Mn, K, Na
Extra volume for SHM-05-42B-102313 Use for MS/MSD
SDG # 002: OPEN
Send Copy of COC to jchaffee@sovcon.com

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10-23-13/1520 | 1 | 2 | 10/23/13 1545 | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp: 0.2°C, 0.7°C, 0.3°C

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC25568

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Jonathan Chaffee E-mail: jchaffee@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Stabb Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02E.08
Client Purchase Order #: State: Zip:
Project Manager: Jonathan Chaffee

**Requested Analysis ( see TEST CODE sheet)**

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -13F | SHM-05-41C-102313 | | 10-23-13 | 1241 | VC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -14F | RB-102313 | | 10-23-13 | 1345 | JC | RB | 1 | | | X | | | | | | X | X | | | | | |
| -15F | SHL-9-102313 | | 10-23-13 | 1340 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -16F | SHM-99-32X-102313 | | 10-23-13 | 1345 | PE | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals samples were field filtered.
6010C Metals List = Ca, Fe, Mg, Mn, K, Na
SDG# 002 Closed
SEDD Required

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10-23-13/1580 | | 2 | 10/23/13 1541 | 2 |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | | | |

Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] | On Ice [✓] | Cooler Temp.

**MC25568: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25568 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 10/23/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS SDG2 **No. Coolers:** 3 **Airbill #'s:**

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | Infared gun | |
| 3. Cooler media: | Ice (bag) | |

| Quality Control Preservation | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC25568: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-1 Collected: 23-OCT-13 09:20 By: DCCS Received: 23-OCT-13 By: SHM-93-22B-102313 | | | | | | |
| MC25568-1 | SM 21 4500 NO2 B | 23-OCT-13 17:35 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-1 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-1 | EPA 353.2 | 28-OCT-13 14:56 | CF | | | NO3O |
| MC25568-1 | EPA 353.2 | 28-OCT-13 14:56 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-1 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-1 | EPA 300/SW846 9056A | 05-NOV-13 01:27 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-2 Collected: 23-OCT-13 09:15 By: DCCS Received: 23-OCT-13 By: SHP-99-31A-102313 | | | | | | |
| MC25568-2 | SM 21 4500 NO2 B | 23-OCT-13 17:35 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-2 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-2 | EPA 353.2 | 28-OCT-13 14:57 | CF | | | NO3O |
| MC25568-2 | EPA 353.2 | 28-OCT-13 14:57 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-2 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-2 | EPA 300/SW846 9056A | 05-NOV-13 01:51 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-3 Collected: 23-OCT-13 00:00 By: DCCS Received: 23-OCT-13 By: DUP01-102313 | | | | | | |
| MC25568-3 | SM 21 4500 NO2 B | 23-OCT-13 17:35 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-3 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-3 | EPA 353.2 | 28-OCT-13 14:58 | CF | | | NO3O |
| MC25568-3 | EPA 353.2 | 28-OCT-13 14:58 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-3 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-3 | EPA 300/SW846 9056A | 05-NOV-13 02:15 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-4 Collected: 23-OCT-13 09:52 By: DCCS Received: 23-OCT-13 By: SHM-05-41B-102313 | | | | | | |
| MC25568-4 | SM 21 4500 NO2 B | 23-OCT-13 17:35 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-4 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-4 | EPA 353.2 | 28-OCT-13 14:59 | CF | | | NO3O |
| MC25568-4 | EPA 353.2 | 28-OCT-13 14:59 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-4 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-4 | EPA 300/SW846 9056A | 05-NOV-13 02:39 | ANJ | 04-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-5 Collected: 23-OCT-13 10:20 By: DCCS Received: 23-OCT-13 By: SHM-05-42A-102313 | | | | | | |
| MC25568-5 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-5 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-5 | EPA 353.2 | 28-OCT-13 15:03 | CF | | | NO3O |
| MC25568-5 | EPA 353.2 | 28-OCT-13 15:03 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-5 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-5 | EPA 300/SW846 9056A | 05-NOV-13 03:03 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-6 Collected: 23-OCT-13 10:25 By: DCCS Received: 23-OCT-13 By: SHL-22-102313 | | | | | | |
| MC25568-6 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-6 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-6 | EPA 353.2 | 28-OCT-13 15:04 | CF | | | NO3O |
| MC25568-6 | EPA 353.2 | 28-OCT-13 15:04 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-6 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-6 | EPA 300/SW846 9056A | 05-NOV-13 03:27 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-7 Collected: 23-OCT-13 00:00 By: DCCS Received: 23-OCT-13 By: DUP02-102313 | | | | | | |
| MC25568-7 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-7 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-7 | EPA 353.2 | 28-OCT-13 15:06 | CF | | | NO3O |
| MC25568-7 | EPA 353.2 | 28-OCT-13 15:06 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-7 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-7 | EPA 300/SW846 9056A | 05-NOV-13 03:50 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-8 Collected: 23-OCT-13 10:49 By: DCCS Received: 23-OCT-13 By: SHP-99-31B-102313 | | | | | | |
| MC25568-8 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-8 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-8 | EPA 353.2 | 28-OCT-13 15:07 | CF | | | NO3O |
| MC25568-8 | EPA 353.2 | 28-OCT-13 15:07 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-8 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-8 | EPA 300/SW846 9056A | 05-NOV-13 04:14 | ANJ | 04-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-9 | Collected: 23-OCT-13 11:10 By: DCCS SHM-05-41A-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-9 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-9 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-9 | EPA 353.2 | 28-OCT-13 15:08 | CF | | | NO3O |
| MC25568-9 | EPA 353.2 | 28-OCT-13 15:08 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-9 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-9 | EPA 300/SW846 9056A | 05-NOV-13 04:38 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-10 | Collected: 23-OCT-13 12:12 By: DCCS SHP-99-31C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-10 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-10 | EPA 353.2 | 28-OCT-13 14:32 | CF | | | NO3O |
| MC25568-10 | EPA 353.2 | 28-OCT-13 14:32 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-10 | SM21 2320B | 31-OCT-13 | MC | | | ALK |
| MC25568-10 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-10 | EPA 300/SW846 9056A | 05-NOV-13 05:50 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-11 | Collected: 23-OCT-13 11:45 By: DCCS SHM-05-42B-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-11 | SM 21 4500 NO2 B | 23-OCT-13 17:35 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-11 | SM21 2320B | 28-OCT-13 | BF | | | ALK |
| MC25568-11 | EPA 353.2 | 28-OCT-13 14:54 | CF | | | NO3O |
| MC25568-11 | EPA 353.2 | 28-OCT-13 14:54 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-11 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-11 | EPA 300/SW846 9056A | 04-NOV-13 23:51 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-12 | Collected: 23-OCT-13 12:30 By: DCCS SHM-93-22C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-12 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-12 | EPA 353.2 | 28-OCT-13 14:33 | CF | | | NO3O |
| MC25568-12 | EPA 353.2 | 28-OCT-13 14:33 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-12 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25568-12 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-12 | EPA 300/SW846 9056A | 05-NOV-13 06:14 | ANJ | 04-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-13 | Collected: 23-OCT-13 12:41 By: DCCS SHM-05-41C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-13 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-13 | EPA 353.2 | 28-OCT-13 14:37 | CF | | | NO3O |
| MC25568-13 | EPA 353.2 | 28-OCT-13 14:37 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-13 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25568-13 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-13 | EPA 300/SW846 9056A | 05-NOV-13 06:38 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-15 | Collected: 23-OCT-13 13:40 By: DCCS SHL-9-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-15 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-15 | EPA 353.2 | 28-OCT-13 14:38 | CF | | | NO3O |
| MC25568-15 | EPA 353.2 | 28-OCT-13 14:38 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-15 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25568-15 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-15 | EPA 300/SW846 9056A | 05-NOV-13 07:02 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-16 | Collected: 23-OCT-13 13:45 By: DCCS SHM-99-32X-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-16 | SM 21 4500 NO2 B | 23-OCT-13 17:40 | MA | 23-OCT-13 | MA | NO2 |
| MC25568-16 | EPA 353.2 | 28-OCT-13 14:40 | CF | | | NO3O |
| MC25568-16 | EPA 353.2 | 28-OCT-13 14:40 | CF | 28-OCT-13 | CF | NO32 |
| MC25568-16 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25568-16 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25568-16 | EPA 300/SW846 9056A | 05-NOV-13 07:26 | ANJ | 04-NOV-13 | | SO4 |
| MC25568-1I | Collected: 23-OCT-13 09:20 By: DCCS SHM-93-22B-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-1I | SW846 6010C | 28-OCT-13 18:32 | EAL | 28-OCT-13 | EAL | K,MG |
| MC25568-1I | SW846 6010C | 29-OCT-13 17:38 | EAL | 28-OCT-13 | EAL | FE,NA |
| MC25568-1I | SW846 6010C | 29-OCT-13 17:43 | EAL | 28-OCT-13 | EAL | CA,MN |
| MC25568-1I | SW846 6020A | 31-OCT-13 15:39 | SA | 28-OCT-13 | EAL | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-2F | Collected: 23-OCT-13 09:15 By: DCCS SHP-99-31A-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-2F | SW846 6010C | 28-OCT-13 18:37 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25568-2F | SW846 6020A | 31-OCT-13 15:46 | SA | 28-OCT-13 | EAL | ASMS |
| MC25568-3F | Collected: 23-OCT-13 00:00 By: DCCS DUP01-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-3F | SW846 6010C | 28-OCT-13 18:42 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25568-3F | SW846 6020A | 31-OCT-13 15:53 | SA | 28-OCT-13 | EAL | ASMS |
| MC25568-4F | Collected: 23-OCT-13 09:52 By: DCCS SHM-05-41B-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-4F | SW846 6010C | 28-OCT-13 18:47 | EAL | 28-OCT-13 | EAL | CA,K,MG,MN,NA |
| MC25568-4F | SW846 6010C | 29-OCT-13 17:48 | EAL | 28-OCT-13 | EAL | FE |
| MC25568-4F | SW846 6020A | 31-OCT-13 16:01 | SA | 28-OCT-13 | EAL | ASMS |
| MC25568-5F | Collected: 23-OCT-13 10:20 By: DCCS SHM-05-42A-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-5F | SW846 6010C | 28-OCT-13 18:52 | EAL | 28-OCT-13 | EAL | CA,FE,K,MG,MN,NA |
| MC25568-5F | SW846 6020A | 31-OCT-13 16:08 | SA | 28-OCT-13 | EAL | ASMS |
| MC25568-6F | Collected: 23-OCT-13 10:25 By: DCCS SHL-22-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-6F | SW846 6010C | 28-OCT-13 18:56 | EAL | 28-OCT-13 | EAL | FE,K,MG |
| MC25568-6F | SW846 6010C | 29-OCT-13 17:53 | EAL | 28-OCT-13 | EAL | NA |
| MC25568-6F | SW846 6010C | 29-OCT-13 17:58 | EAL | 28-OCT-13 | EAL | CA,MN |
| MC25568-6F | SW846 6020A | 31-OCT-13 17:03 | SA | 28-OCT-13 | EAL | ASMS |
| MC25568-7F | Collected: 23-OCT-13 00:00 By: DCCS DUP02-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-7F | SW846 6010C | 31-OCT-13 14:16 | EAL | 29-OCT-13 | SA | FE,K,MG |
| MC25568-7F | SW846 6020A | 31-OCT-13 18:11 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-7F | SW846 6010C | 31-OCT-13 19:57 | EAL | 29-OCT-13 | SA | NA |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-7E | SW846 6010C | 31-OCT-13 20:02 | EAL | 29-OCT-13 | SA | CA,MN |
| MC25568-8E | Collected: 23-OCT-13 10:49 By: DCCS<br>SHP-99-31B-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-8E | SW846 6010C | 31-OCT-13 14:21 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN,NA |
| MC25568-8E | SW846 6020A | 31-OCT-13 18:18 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-9E | Collected: 23-OCT-13 11:10 By: DCCS<br>SHM-05-41A-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-9E | SW846 6010C | 31-OCT-13 14:26 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN,NA |
| MC25568-9E | SW846 6020A | 31-OCT-13 18:25 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-10E | Collected: 23-OCT-13 12:12 By: DCCS<br>SHP-99-31C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-10E | SW846 6010C | 31-OCT-13 14:30 | EAL | 29-OCT-13 | SA | FE,K,MG |
| MC25568-10E | SW846 6020A | 31-OCT-13 18:32 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-10E | SW846 6010C | 31-OCT-13 20:07 | EAL | 29-OCT-13 | SA | CA,MN,NA |
| MC25568-11E | Collected: 23-OCT-13 11:45 By: DCCS<br>SHM-05-42B-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-11E | SW846 6010C | 31-OCT-13 13:42 | EAL | 29-OCT-13 | SA | K,MG,MN |
| MC25568-11E | SW846 6020A | 31-OCT-13 17:49 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-11E | SW846 6010C | 31-OCT-13 19:23 | EAL | 29-OCT-13 | SA | CA,FE,NA |
| MC25568-12E | Collected: 23-OCT-13 12:30 By: DCCS<br>SHM-93-22C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-12E | SW846 6010C | 31-OCT-13 14:35 | EAL | 29-OCT-13 | SA | FE,K,MG,MN,NA |
| MC25568-12E | SW846 6020A | 31-OCT-13 18:39 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-12E | SW846 6010C | 31-OCT-13 20:12 | EAL | 29-OCT-13 | SA | CA |
| MC25568-13E | Collected: 23-OCT-13 12:41 By: DCCS<br>SHM-05-41C-102313 | | Received: 23-OCT-13 By: | | | |
| MC25568-13E | SW846 6010C | 31-OCT-13 14:40 | EAL | 29-OCT-13 | SA | FE,K,MG,MN |
| MC25568-13E | SW846 6020A | 31-OCT-13 18:46 | SA | 29-OCT-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25568

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-13 | SW846 6010C | 31-OCT-13 20:17 | EAL | 29-OCT-13 | SA | NA |
| MC25568-13 | SW846 6010C | 31-OCT-13 20:22 | EAL | 29-OCT-13 | SA | CA |
| MC25568-14 | Collected: 23-OCT-13 13:45 By: DCCS RB-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-14 | SW846 6010C | 31-OCT-13 14:45 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN,NA |
| MC25568-14 | SW846 6020A | 31-OCT-13 19:07 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-15 | Collected: 23-OCT-13 13:40 By: DCCS SHL-9-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-15 | SW846 6010C | 31-OCT-13 14:50 | EAL | 29-OCT-13 | SA | FE,K,MG,MN,NA |
| MC25568-15 | SW846 6020A | 31-OCT-13 19:15 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-15 | SW846 6010C | 31-OCT-13 20:27 | EAL | 29-OCT-13 | SA | CA |
| MC25568-16 | Collected: 23-OCT-13 13:45 By: DCCS SHM-99-32X-102313 | | | Received: 23-OCT-13 By: | | |
| MC25568-16 | SW846 6010C | 31-OCT-13 15:16 | EAL | 29-OCT-13 | SA | FE,K,MG |
| MC25568-16 | SW846 6020A | 31-OCT-13 19:22 | SA | 29-OCT-13 | SA | ASMS |
| MC25568-16 | SW846 6010C | 31-OCT-13 20:32 | EAL | 29-OCT-13 | SA | CA,MN,NA |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-1.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-1.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-1.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-1.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-1.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-1.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-1.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-1.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-1F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-1F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-2.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-2.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-2.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-2.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-2.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-2.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-2.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-2.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-2F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-2F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-3.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-3.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-3.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-3.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-3.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-3.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-3.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-3.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-3F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-3F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-4.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-4.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-4.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-4.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-4.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-4.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-4.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-4.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-4F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-4F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-5.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-5.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-5.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-5.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-5.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-5.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-5.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-5.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-5F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-5F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-6.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-6.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-6.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-6.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-6.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-6.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-6.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-6.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-6F.3 | Walk In Ref #5 | Edouard Adrian Lee | 10/28/13 09:04 | Retrieve from Storage |
| MC25568-6F.3 | Edouard Adrian Lee | Walk In Ref #5 | 10/28/13 09:53 | Return to Storage |
| MC25568-7.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-7.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-7.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-7.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-7.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-7.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-7.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-7.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-7F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-7F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-8.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-8.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-8.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-8.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-8.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-8.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-8.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-8.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-8F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-8F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-9.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-9.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-9.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-9.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-9.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-9.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-9.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-9.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-9F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-9F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-10.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-10.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-10.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-10.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-10.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 09:58 | Retrieve from Storage |
| MC25568-10.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 13:03 | Return to Storage |
| MC25568-10.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 10:20 | Retrieve from Storage |
| MC25568-10.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-10F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-10F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-11.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-11.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-11.1 | Walk In Ref #9 | Bijan Firowznin | 10/28/13 08:16 | Retrieve from Storage |
| MC25568-11.1 | Bijan Firowznin | Walk In Ref #9 | 10/28/13 15:39 | Return to Storage |
| MC25568-11.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-11.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-11.4 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-11.4 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-11.6 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-11.6 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 10:19 | Return to Storage |
| MC25568-11F.7 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-11F.7 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-12.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-12.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-12.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25568-12.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25568-12.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-12.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-12.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-12.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-12F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-12F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-13.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-13.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-13.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25568-13.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25568-13.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-13.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-13.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-13.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-13F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-13F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-14F.1 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-14F.1 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-15.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-15.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-15.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25568-15.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25568-15.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-15.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-15.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-15.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-15F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-15F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25568-16.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/23/13 17:16 | Retrieve from Storage |
| MC25568-16.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/23/13 17:56 | Return to Storage |
| MC25568-16.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25568-16.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25568-16.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25568-16.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25568-16.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25568-16.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25568-16F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25568-16F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:57 | MA16303-STD1 | 1 | | STD1 |
| 13:02 | MA16303-STD2 | 1 | | STD2 |
| 13:07 | MA16303-STD3 | 1 | | STD3 |
| 13:12 | MA16303-STD4 | 1 | | STD4 |
| 13:17 | MA16303-ICV1 | 1 | | |
| 13:21 | MA16303-ICB1 | 1 | | |
| 13:27 | MA16303-CCV1 | 1 | | |
| 13:32 | MA16303-CCB1 | 1 | | |
| 13:37 | MA16303-CRIA1 | 1 | | |
| 13:42 | MA16303-ICSA1 | 1 | | |
| 13:47 | MA16303-ICSAB1 | 1 | | |
| 13:52 | MP21905-B1 | 1 | | |
| 13:56 | MP21905-MB1 | 1 | | |
| 14:01 | MP21905-S1 | 1 | | |
| 14:06 | MP21905-S2 | 1 | | |
| 14:11 | MC25455-16 | 1 | | (sample used for QC only; not part of login MC25568) |
| 14:16 | MP21905-SD1 | 5 | | |
| 14:21 | MP21905-LC1 | 1 | | |
| 14:25 | MA16303-CCV2 | 1 | | |
| 14:30 | MA16303-CCB2 | 1 | | |
| 14:35 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:55 | ZZZZZZ | 1 | | |
| 15:00 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:10 | ZZZZZZ | 1 | | |
| 15:15 | ZZZZZZ | 1 | | |
| 15:19 | ZZZZZZ | 1 | | |
| 15:24 | MA16303-CCV3 | 1 | | |
| 15:29 | MA16303-CCB3 | 1 | | |
| 15:34 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:39 | ZZZZZZ | 1 | | |
| 15:44 | ZZZZZZ | 1 | | |
| 15:49 | ZZZZZZ | 1 | | |
| 15:54 | ZZZZZZ | 1 | | |
| 15:59 | ZZZZZZ | 1 | | |
| 16:04 | ZZZZZZ | 1 | | |
| 16:09 | ZZZZZZ | 1 | | |
| 16:13 | ZZZZZZ | 1 | | |
| 16:19 | MA16303-CRIA2 | 1 | | |
| 16:24 | MA16303-CCV4 | 1 | | |
| 16:29 | MA16303-CCB4 | 1 | | |
| 16:34 | MA16303-CRI1 | 1 | | |
| 16:39 | MP21908-B1 | 1 | | |
| 16:43 | MP21908-MB1 | 1 | | |
| 16:48 | MP21908-S1 | 1 | | |
| 16:53 | MP21908-S2 | 1 | | |
| 16:58 | MC25522-6F | 1 | | (sample used for QC only; not part of login MC25568) |
| 17:03 | MP21908-SD1 | 5 | | |
| 17:08 | ZZZZZZ | 1 | | |
| 17:13 | ZZZZZZ | 1 | | |
| 17:18 | ZZZZZZ | 1 | | |
| 17:23 | MA16303-CCV5 | 1 | | |
| 17:28 | MA16303-CCB5 | 1 | | |
| 17:33 | ZZZZZZ | 1 | | |
| 17:38 | ZZZZZZ | 1 | | |
| 17:42 | ZZZZZZ | 1 | | |
| 17:47 | ZZZZZZ | 1 | | |
| 17:52 | ZZZZZZ | 1 | | |
| 17:57 | ZZZZZZ | 1 | | |
| 18:02 | ZZZZZZ | 1 | | |
| 18:07 | ZZZZZZ | 1 | | |
| 18:12 | ZZZZZZ | 1 | | |
| 18:17 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:22 | MA16303-CCV6 | 1 | | |
| 18:27 | MA16303-CCB6 | 1 | | |
| 18:32 | MC25568-1F | 1 | | |
| 18:37 | MC25568-2F | 1 | | |
| 18:42 | MC25568-3F | 1 | | |
| 18:47 | MC25568-4F | 1 | | |
| 18:52 | MC25568-5F | 1 | | |
| 18:56 | MC25568-6F | 1 | | |
| ----------> | Last reportable sample/prep for job MC25568 | | | |
| 19:01 | MA16303-CRI2 | 1 | | |
| 19:06 | MA16303-CCV7 | 1 | | |
| 19:11 | MA16303-CCB7 | 1 | | |
| ----------> | Last reportable CCB for job MC25568 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:57 | MA16303-STD1 | 1231 R | 39634 R | 17672 R |
| 13:02 | MA16303-STD2 | 1207 | 39229 | 17798 |
| 13:07 | MA16303-STD3 | | | 17838 |
| 13:12 | MA16303-STD4 | 1223 | 39221 | 17899 |
| 13:17 | MA16303-ICV1 | 1223 | 38319 | 17827 |
| 13:21 | MA16303-ICB1 | 1226 | 38911 | 17586 |
| 13:27 | MA16303-CCV1 | 1243 | 38400 | 17869 |
| 13:32 | MA16303-CCB1 | 1222 | 38948 | 17699 |
| 13:37 | MA16303-CRIA1 | 1239 | 38573 | 17764 |
| 13:42 | MA16303-ICSA1 | 1148 | 35300 | 17440 |
| 13:47 | MA16303-ICSAB1 | 1159 | 35327 | 17501 |
| 13:52 | MP21905-B1 | 1217 | 38528 | 17668 |
| 13:56 | MP21905-MB1 | 1239 | 39090 | 17742 |
| 14:01 | MP21905-S1 | 1250 | 39165 | 18315 |
| 14:06 | MP21905-S2 | 1271 | 38912 | 18254 |
| 14:11 | MC25455-16 | 1297 | 39905 | 18916 |
| 14:16 | MP21905-SD1 | 1262 | 38981 | 18116 |
| 14:21 | MP21905-LC1 | 1338 | 41855 | 19110 |
| 14:25 | MA16303-CCV2 | 1239 | 38663 | 17974 |
| 14:30 | MA16303-CCB2 | 1228 | 39229 | 17695 |
| 14:35 | ZZZZZZ | 1284 | 39133 | 19149 |
| 14:40 | ZZZZZZ | 1258 | 38795 | 18771 |
| 14:45 | ZZZZZZ | 1304 | 39881 | 19141 |
| 14:50 | ZZZZZZ | 1307 | 39053 | 18966 |
| 14:55 | ZZZZZZ | 1304 | 39457 | 19131 |
| 15:00 | ZZZZZZ | 1317 | 39471 | 19374 |
| 15:05 | ZZZZZZ | 1333 | 40618 | 19763 |
| 15:10 | ZZZZZZ | 1311 | 40161 | 18800 |
| 15:15 | ZZZZZZ | 1298 | 40132 | 18878 |
| 15:19 | ZZZZZZ | 1313 | 40368 | 18629 |
| 15:24 | MA16303-CCV3 | 1237 | 38861 | 17997 |
| 15:29 | MA16303-CCB3 | 1237 | 39623 | 17888 |
| 15:34 | ZZZZZZ | 1289 | 40242 | 18629 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP Date Analyzed: 10/28/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:39 | ZZZZZZ | 1295 | 40362 | 18727 |
| 15:44 | ZZZZZZ | 1328 | 39800 | 19287 |
| 15:49 | ZZZZZZ | 1299 | 40228 | 19239 |
| 15:54 | ZZZZZZ | 1320 | 39763 | 19163 |
| 15:59 | ZZZZZZ | 1352 | 40768 | 19721 |
| 16:04 | ZZZZZZ | 1328 | 40906 | 19447 |
| 16:09 | ZZZZZZ | 1314 | 39885 | 19292 |
| 16:13 | ZZZZZZ | 1305 | 39325 | 18966 |
| 16:19 | MA16303-CRIA2 | 1234 | 39438 | 17899 |
| 16:24 | MA16303-CCV4 | 1235 | 39703 | 18080 |
| 16:29 | MA16303-CCB4 | 1235 | 39974 | 17912 |
| 16:34 | MA16303-CRI1 | 1238 | 39436 | 17829 |
| 16:39 | MP21908-B1 | 1199 | 39169 | 17936 |
| 16:43 | MP21908-MB1 | 1215 | 39721 | 18031 |
| 16:48 | MP21908-S1 | 1216 | 38898 | 17850 |
| 16:53 | MP21908-S2 | 1208 | 39208 | 18050 |
| 16:58 | MC25522-6F | 1222 | 39645 | 18075 |
| 17:03 | MP21908-SD1 | 1240 | 39707 | 17980 |
| 17:08 | ZZZZZZ | 1211 | 39276 | 17962 |
| 17:13 | ZZZZZZ | 1212 | 39359 | 18066 |
| 17:18 | ZZZZZZ | 1211 | 39340 | 17921 |
| 17:23 | MA16303-CCV5 | 1250 | 39270 | 17962 |
| 17:28 | MA16303-CCB5 | 1230 | 39824 | 17914 |
| 17:33 | ZZZZZZ | 1192 | 39326 | 17917 |
| 17:38 | ZZZZZZ | 1223 | 39511 | 17978 |
| 17:42 | ZZZZZZ | 1207 | 39542 | 17683 |
| 17:47 | ZZZZZZ | 1214 | 39360 | 17860 |
| 17:52 | ZZZZZZ | 1183 | 39043 | 17812 |
| 17:57 | ZZZZZZ | 1222 | 39915 | 18050 |
| 18:02 | ZZZZZZ | 1230 | 39735 | 18090 |
| 18:07 | ZZZZZZ | 1230 | 39802 | 17872 |
| 18:12 | ZZZZZZ | 1223 | 39217 | 17806 |
| 18:17 | ZZZZZZ | 1226 | 39805 | 18064 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16303
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 18:22 | MA16303-CCV6 | 1249 | 39496 | 18025 |
| 18:27 | MA16303-CCB6 | 1240 | 40228 | 17901 |
| 18:32 | MC25568-1F | 1212 | 39384 | 17986 |
| 18:37 | MC25568-2F | 1242 | 39525 | 17858 |
| 18:42 | MC25568-3F | 1237 | 39658 | 17913 |
| 18:47 | MC25568-4F | 1230 | 39701 | 17936 |
| 18:52 | MC25568-5F | 1242 | 39831 | 18062 |
| 18:56 | MC25568-6F | 1218 | 39555 | 17767 |
| 19:01 | MA16303-CRI2 | 1272 | 39959 | 17887 |
| 19:06 | MA16303-CCV7 | 1270 | 39319 | 17898 |
| 19:11 | MA16303-CCB7 | 1264 | 39881 | 17779 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: | | | | 13:21 ICB1 | | 13:32 CCB1 | | 14:30 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.1 | <5000 | 0.0 | <5000 | -0.40 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.8 | <100 | 0.80 | <100 | 1.9 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 16.7 | <5000 | 22.0 | <5000 | 35.9 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.10 | <15 | 0.0 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -4.6 | <5000 | 1.5 | <5000 | -1.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -5.3 | <5000 | -1.7 | <5000 | -1.7 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: | | | | 15:29 CCB3 | | 16:29 CCB4 | | 17:28 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.30 | <5000 | -0.30 | <5000 | 0.80 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.5 | <100 | 2.4 | <100 | 1.0 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 7.4 | <5000 | 14.0 | <5000 | 20.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.10 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 11.8 | <5000 | 4.3 | <5000 | 7.6 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -8.4 | <5000 | -9.2 | <5000 | -8.4 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 18:27 CCB6 raw | final | 19:11 CCB7 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.30 | <5000 | 1.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 0.70 | <100 | -0.10 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 14.3 | <5000 | 14.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 6.1 | <5000 | -1.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | -8.1 | <5000 | -8.7 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16303  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 13:17 | | | 13:27 | | | 14:25 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17600 | 97.8 | 10000 | 9950 | 99.5 | 10000 | 9930 | 99.3 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17700 | 98.3 | 10000 | 9800 | 98.0 | 10000 | 9940 | 99.4 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 17700 | 98.3 | 10000 | 9680 | 96.8 | 10000 | 9750 | 97.5 |
| Manganese | 3000 | 3050 | 101.7 | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15300 | 102.0 | 10000 | 9720 | 97.2 | 10000 | 9790 | 97.9 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 14900 | 99.3 | 10000 | 9890 | 98.9 | 10000 | 9870 | 98.7 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 15:24 | | | 16:24 | | | 17:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9820 | 98.2 | 10000 | 9870 | 98.7 | 10000 | 9900 | 99.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9860 | 98.6 | 10000 | 9960 | 99.6 | 10000 | 9930 | 99.3 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 9650 | 96.5 | 10000 | 9670 | 96.7 | 10000 | 9740 | 97.4 |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9710 | 97.1 | 10000 | 9720 | 97.2 | 10000 | 9710 | 97.1 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 9780 | 97.8 | 10000 | 9700 | 97.0 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | 18:22 | | | 19:06 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | 10000 | 9970 | 99.7 | 10000 | 9930 | 99.3 |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9960 | 99.6 | 10000 | 9880 | 98.8 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 9720 | 97.2 | 10000 | 9700 | 97.0 |
| Manganese | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9630 | 96.3 | 10000 | 9580 | 95.8 |
| Selenium | anr | | | | | |
| Silicon | | | | | | |
| Silver | anr | | | | | |
| Sodium | 10000 | 9610 | 96.1 | 10000 | 9640 | 96.4 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16303  Units: ug/l

| Time: | | | 13:37 | | 16:19 | | 16:34 | | 19:01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRIA1 | | CRIA2 | | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | | | | | |
| Antimony | 6.0 | 10 | | | | | | | | |
| Arsenic | 4.0 | 10 | anr | | | | | | | |
| Barium | 50 | 50 | anr | | | | | | | |
| Beryllium | 4.0 | 4.0 | | | | | | | | |
| Boron | 100 | 100 | | | | | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | | | | | |
| Calcium | 5000 | 5000 | 5050 | 101.0 | 5050 | 101.0 | 5080 | 101.6 | 5100 | 102.0 |
| Chromium | 10 | 10 | anr | | | | | | | |
| Cobalt | 50 | 50 | | | | | | | | |
| Copper | 25 | 25 | | | | | | | | |
| Gold | 50 | 50 | | | | | | | | |
| Iron | 100 | 100 | 103 | 103.0 | 115 | 115.0 | 105 | 105.0 | 105 | 105.0 |
| Lead | 5.0 | 10 | anr | | | | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 4940 | 98.8 | 4960 | 99.2 | 4940 | 98.8 |
| Manganese | 15 | 15 | 16.1 | 107.3 | 15.8 | 105.3 | 15.7 | 104.7 | 16.1 | 107.3 |
| Molybdenum | 100 | 100 | | | | | | | | |
| Nickel | 40 | 40 | | | | | | | | |
| Palladium | 50 | 50 | | | | | | | | |
| Platinum | 50 | 50 | | | | | | | | |
| Potassium | 5000 | 5000 | 4960 | 99.2 | 4990 | 99.8 | 4990 | 99.8 | 4910 | 98.2 |
| Selenium | 10 | 10 | anr | | | | | | | |
| Silicon | 100 | 100 | | | | | | | | |
| Silver | 5.0 | 5.0 | anr | | | | | | | |
| Sodium | 5000 | 5000 | 5010 | 100.2 | 4910 | 98.2 | 4920 | 98.4 | 4880 | 97.6 |
| Sulfur | 50 | 50 | | | | | | | | |
| Strontium | 10 | 10 | | | | | | | | |
| Thallium | 5.0 | 10 | | | | | | | | |
| Tin | 100 | 100 | | | | | | | | |
| Titanium | 50 | 50 | | | | | | | | |
| Tungsten | 100 | 100 | | | | | | | | |
| Vanadium | 10 | 10 | | | | | | | | |
| Zinc | 20 | 20 | | | | | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16303  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16303  Units: ug/l

| Time: | | | 13:42 | | 13:47 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 523000 | 104.6 | 527000 | 105.4 |
| Antimony | | 2000 | 0.80 | | 1940 | 97.0 |
| Arsenic | | 2000 | 0.10 | | 2020 | 101.0 |
| Barium | | 500 | -0.10 | | 479 | 95.8 |
| Beryllium | | 500 | 0.10 | | 460 | 92.0 |
| Boron | | 1000 | 0.90 | | 942 | 94.2 |
| Cadmium | | 1000 | -0.10 | | 1020 | 102.0 |
| Calcium | 500000 | 500000 | 459000 | 91.8 | 455000 | 91.0 |
| Chromium | | 500 | 0.30 | | 528 | 105.6 |
| Cobalt | | 500 | 1.3 | | 457 | 91.4 |
| Copper | | 500 | 0.30 | | 546 | 109.2 |
| Gold | | 500 | 23.7* | | 532 | 106.4 |
| Iron | 200000 | 200000 | 180000 | 90.0 | 179000 | 89.5 |
| Lead | | 1000 | -0.10 | | 862 | 86.2 |
| Magnesium | 500000 | 500000 | 515000 | 103.0 | 512000 | 102.4 |
| Manganese | | 500 | 0.40 | | 519 | 103.8 |
| Molybdenum | | 1000 | -0.10 | | 916 | 91.6 |
| Nickel | | 1000 | -1.9* | | 834 | 83.4 |
| Palladium | | 500 | -7.0 | | 564 | 112.8 |
| Platinum | | 500 | -33* | | 491 | 98.2 |
| Potassium | | | 47.1 | | 48.6 | |
| Selenium | | 2000 | -0.70 | | 1910 | 95.5 |
| Silicon | | 2000 | 37.6 | | 2030 | 101.5 |
| Silver | | 1000 | 0.90 | | 1080 | 108.0 |
| Sodium | | | 29.3 | | 24.9 | |
| Sulfur | | 500 | 89.6* | | 558 | 111.6 |
| Strontium | | 1000 | -8.3* | | 943 | 94.3 |
| Thallium | | 2000 | -1.8 | | 1740 | 87.0 |
| Tin | | 1000 | 0.80 | | 927 | 92.7 |
| Titanium | | 500 | 5.8* | | 539 | 107.8 |
| Tungsten | | 2000 | -6.4 | | 1960 | 98.0 |
| Vanadium | | 500 | 10.4* | | 535 | 107.0 |
| Zinc | | 1000 | -0.80 | | 869 | 86.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102813M2L.ICP  Date Analyzed: 10/28/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16303  Units: ug/l

| Time: / Sample ID: / Metal | | | | | |
|---|---|---|---|---|---|
| Zirconium | 500 | 9.1* | | 431 | 86.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:48 | MA16313-STD1 | 1 | | STD1 |
| 11:53 | MA16313-STD2 | 1 | | STD2 |
| 11:58 | MA16313-STD3 | 1 | | STD3 |
| 12:03 | MA16313-STD4 | 1 | | STD4 |
| 12:08 | MA16313-ICV1 | 1 | | |
| 12:16 | MA16313-ICB1 | 1 | | |
| 12:28 | MA16313-CCV1 | 1 | | |
| 12:34 | MA16313-CCB1 | 1 | | |
| 12:39 | MA16313-CRIA1 | 1 | | |
| 12:44 | MA16313-ICSA1 | 1 | | |
| 12:49 | MA16313-ICSAB1 | 1 | | |
| 12:54 | MP21910-B1 | 1 | | |
| 12:59 | MP21910-MB1 | 1 | | |
| 13:04 | MP21910-S1 | 1 | | |
| 13:08 | MP21910-S2 | 1 | | |
| 13:13 | MC25455-23 | 1 | | (sample used for QC only; not part of login MC25568) |
| 13:18 | MP21910-SD1 | 5 | | |
| 13:23 | MP21910-LC1 | 1 | | |
| 13:28 | MA16313-CCV2 | 1 | | |
| 13:40 | MA16313-CCB2 | 1 | | |
| 13:49 | ZZZZZZ | 1 | | |
| 13:54 | ZZZZZZ | 1 | | |
| 13:59 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:21 | ZZZZZZ | 100 | | |
| 14:25 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 100 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:44 | ZZZZZZ | 100 | | |
| 14:50 | MA16313-CCV3 | 1 | | |
| 14:58 | MA16313-CCB3 | 1 | | |
| 15:03 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:10 | ZZZZZZ | 20 | | |
| 15:15 | ZZZZZZ | 500 | | |
| 15:20 | ZZZZZZ | 1 | | |
| 15:26 | ZZZZZZ | 10 | | |
| 15:31 | ZZZZZZ | 10 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:41 | MP21905-PS1 | 1 | | |
| 15:46 | MA16313-CRIA2 | 1 | | |
| 15:51 | MA16313-CRI1 | 1 | | AS OUT. |
| 15:56 | MA16313-CCV4 | 1 | | |
| 16:03 | MA16313-CCB4 | 1 | | |
| 16:08 | MP21908-B1 | 5 | | |
| 16:13 | MP21908-S1 | 5 | | |
| 16:18 | MP21908-S2 | 5 | | |
| 16:22 | ZZZZZZ | 2 | | |
| 16:27 | ZZZZZZ | 2 | | |
| 16:32 | ZZZZZZ | 2 | | |
| 16:37 | ZZZZZZ | 5 | | |
| 16:42 | ZZZZZZ | 10 | | |
| 16:47 | ZZZZZZ | 5 | | |
| 16:52 | ZZZZZZ | 3 | | |
| 16:57 | MA16313-CCV5 | 1 | | |
| 17:08 | MA16313-CCB5 | 1 | | |
| 17:13 | ZZZZZZ | 10 | | |
| 17:18 | ZZZZZZ | 3 | | |
| 17:23 | ZZZZZZ | 10 | | |
| 17:28 | ZZZZZZ | 2 | | |
| 17:33 | ZZZZZZ | 5 | | |
| 17:38 | MC25568-1F | 2 | | |
| 17:43 | MC25568-1F | 5 | | |
| 17:48 | MC25568-4F | 2 | | |
| 17:53 | MC25568-6F | 3 | | |
| 17:58 | MC25568-6F | 10 | | |

----------> Last reportable sample/prep for job MC25568

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:02 | MA16313-CCV6 | 1 | | |
| 18:07 | MA16313-CCB6 | 1 | | |
| 18:12 | MA16313-CRI2 | 1 | | |
| 18:17 | MA16313-CCV7 | 1 | | |
| 18:22 | MA16313-CCB7 | 1 | | |

----------> Last reportable CCB for job MC25568
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP Date Analyzed: 10/29/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 11:48 | MA16313-STD1 | 1210 R | 41370 R | 18049 R |
| 11:53 | MA16313-STD2 | 1203 | 41405 | 18027 |
| 11:58 | MA16313-STD3 | | | 18191 |
| 12:03 | MA16313-STD4 | 1219 | 41016 | 17961 |
| 12:08 | MA16313-ICV1 | 1215 | 40721 | 18109 |
| 12:16 | MA16313-ICB1 | 1208 | 41843 | 18191 |
| 12:28 | MA16313-CCV1 | 1216 | 40880 | 18193 |
| 12:34 | MA16313-CCB1 | 1199 | 41295 | 17938 |
| 12:39 | MA16313-CRIA1 | 1204 | 41144 | 17799 |
| 12:44 | MA16313-ICSA1 | 1130 | 37316 | 17603 |
| 12:49 | MA16313-ICSAB1 | 1123 | 36895 | 17583 |
| 12:54 | MP21910-B1 | 1205 | 40704 | 17809 |
| 12:59 | MP21910-MB1 | 1201 | 41304 | 18144 |
| 13:04 | MP21910-S1 | 1256 | 42580 | 18859 |
| 13:08 | MP21910-S2 | 1243 | 42446 | 18995 |
| 13:13 | MC25455-23 | 1289 | 42784 | 18940 |
| 13:18 | MP21910-SD1 | 1237 | 41542 | 18259 |
| 13:23 | MP21910-LC1 | 1303 | 43581 | 19637 |
| 13:28 | MA16313-CCV2 | 1211 | 40731 | 17996 |
| 13:40 | MA16313-CCB2 | 1204 | 41391 | 17849 |
| 13:49 | ZZZZZZ | 1266 | 42387 | 19079 |
| 13:54 | ZZZZZZ | 1258 | 41445 | 18753 |
| 13:59 | ZZZZZZ | 1262 | 41901 | 18623 |
| 14:04 | ZZZZZZ | 1265 | 41378 | 18710 |
| 14:08 | ZZZZZZ | 1266 | 43972 | 19863 |
| 14:21 | ZZZZZZ | 1214 | 41379 | 18098 |
| 14:25 | ZZZZZZ | 1248 | 43383 | 19664 |
| 14:33 | ZZZZZZ | 1222 | 41278 | 18095 |
| 14:38 | ZZZZZZ | 1440 | 50143 | 22599 |
| 14:44 | ZZZZZZ | 1221 | 41174 | 18087 |
| 14:50 | MA16313-CCV3 | 1213 | 40858 | 18155 |
| 14:58 | MA16313-CCB3 | 1211 | 41244 | 17884 |
| 15:03 | ZZZZZZ | 1288 | 43432 | 19472 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP Date Analyzed: 10/29/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:10 | ZZZZZZ | 1228 | 40869 | 18156 |
| 15:15 | ZZZZZZ | 1212 | 41361 | 18069 |
| 15:20 | ZZZZZZ | 1287 | 43714 | 19548 |
| 15:26 | ZZZZZZ | 1229 | 41187 | 18404 |
| 15:31 | ZZZZZZ | 1234 | 41218 | 18360 |
| 15:36 | ZZZZZZ | 1334 | 43050 | 19854 |
| 15:41 | MP21905-PS1 | 1252 | 41543 | 18779 |
| 15:46 | MA16313-CRIA2 | 1217 | 40854 | 17843 |
| 15:51 | MA16313-CRI1 | 1212 | 41237 | 17844 |
| 15:56 | MA16313-CCV4 | 1215 | 40635 | 18243 |
| 16:03 | MA16313-CCB4 | 1214 | 41218 | 17933 |
| 16:08 | MP21908-B1 | 1210 | 41197 | 18032 |
| 16:13 | MP21908-S1 | 1217 | 41157 | 18119 |
| 16:18 | MP21908-S2 | 1219 | 40935 | 17994 |
| 16:22 | ZZZZZZ | 1210 | 40941 | 17940 |
| 16:27 | ZZZZZZ | 1205 | 40959 | 17941 |
| 16:32 | ZZZZZZ | 1190 | 40817 | 18061 |
| 16:37 | ZZZZZZ | 1213 | 41312 | 18008 |
| 16:42 | ZZZZZZ | 1221 | 41543 | 18069 |
| 16:47 | ZZZZZZ | 1221 | 41135 | 17849 |
| 16:52 | ZZZZZZ | 1212 | 40873 | 17932 |
| 16:57 | MA16313-CCV5 | 1227 | 40355 | 18067 |
| 17:08 | MA16313-CCB5 | 1211 | 41502 | 17877 |
| 17:13 | ZZZZZZ | 1207 | 40851 | 17983 |
| 17:18 | ZZZZZZ | 1197 | 41017 | 17988 |
| 17:23 | ZZZZZZ | 1199 | 41201 | 17947 |
| 17:28 | ZZZZZZ | 1198 | 41027 | 17961 |
| 17:33 | ZZZZZZ | 1206 | 40927 | 17919 |
| 17:38 | MC25568-1F | 1192 | 40523 | 17797 |
| 17:43 | MC25568-1F | 1210 | 40825 | 17938 |
| 17:48 | MC25568-4F | 1202 | 40762 | 17909 |
| 17:53 | MC25568-6F | 1218 | 40545 | 17904 |
| 17:58 | MC25568-6F | 1233 | 40699 | 17764 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16313
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 18:02 | MA16313-CCV6 | 1237 | 39639 | 17683 |
| 18:07 | MA16313-CCB6 | 1222 | 40454 | 17807 |
| 18:12 | MA16313-CRI2 | 1233 | 40574 | 17832 |
| 18:17 | MA16313-CCV7 | 1235 | 40003 | 17951 |
| 18:22 | MA16313-CCB7 | 1229 | 40679 | 17698 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 12:16 ICB1 | | 12:34 CCB1 | | 13:40 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 4.7 | <5000 | 3.2 | <5000 | 46.7 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | -0.30 | <100 | 0.10 | <100 | 0.20 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -9.1 | <5000 | 13.8 | <5000 | 15.6 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.0 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -1.7 | <5000 | 1.6 | <5000 | 15.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -0.20 | <5000 | 4.0 | <5000 | 4.9 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 14:58 CCB3 | | 16:03 CCB4 | | 17:08 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 3.0 | <5000 | 1.3 | <5000 | 2.9 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.2 | <100 | -1.1 | <100 | 0.60 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 10.7 | <5000 | -5.1 | <5000 | 8.8 | <5000 |
| Manganese | 15 | .17 | 2.5 | -0.10 | <15 | 0.0 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 7.3 | <5000 | -8.4 | <5000 | 19.2 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -1.7 | <5000 | -0.90 | <5000 | 7.5 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: | | | | 18:07 CCB6 | | 18:22 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.0 | <5000 | 0.30 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 0.70 | <100 | -0.80 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 9.7 | <5000 | -2.9 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.10 | <15 | 0.10 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 14.4 | <5000 | -4.4 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | 3.8 | <5000 | 6.8 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16313  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 12:08 | | | 12:28 | | | 13:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17800 | 98.9 | 10000 | 9850 | 98.5 | 10000 | 9890 | 98.9 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 9900 | 99.0 | 10000 | 9990 | 99.9 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 18300 | 101.7 | 10000 | 9750 | 97.5 | 10000 | 9940 | 99.4 |
| Manganese | 3000 | 3050 | 101.7 | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15600 | 104.0 | 10000 | 9840 | 98.4 | 10000 | 9990 | 99.9 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 15100 | 100.7 | 10000 | 9830 | 98.3 | 10000 | 9910 | 99.1 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 14:50 | | | 15:56 | | | 16:57 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9870 | 98.7 | 10000 | 9890 | 98.9 | 10000 | 9950 | 99.5 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9950 | 99.5 | 10000 | 9920 | 99.2 | 10000 | 9930 | 99.3 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 9950 | 99.5 | 10000 | 9930 | 99.3 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9970 | 99.7 | 10000 | 9900 | 99.0 | 10000 | 9930 | 99.3 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 9890 | 98.9 | 10000 | 9860 | 98.6 | 10000 | 9880 | 98.8 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| | |
|---|---|
| Time: | |
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | 18:02 | | | 18:17 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | 10000 | 10000 | 100.0 | 10000 | 9980 | 99.8 |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9860 | 98.6 | 10000 | 9720 | 97.2 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9930 | 99.3 | 10000 | 9790 | 97.9 |
| Selenium | anr | | | | | |
| Silicon | | | | | | |
| Silver | anr | | | | | |
| Sodium | 10000 | 9820 | 98.2 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP Date Analyzed: 10/29/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA16313 Units: ug/l

| Time: | | | 12:39 | | 15:46 | | 15:51 | | 18:12 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRIA1 | | CRIA2 | | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | | | | | |
| Antimony | 6.0 | 10 | | | | | | | | |
| Arsenic | 4.0 | 10 | anr | | | | | | | |
| Barium | 50 | 50 | anr | | | | | | | |
| Beryllium | 4.0 | 4.0 | | | | | | | | |
| Boron | 100 | 100 | | | | | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | | | | | |
| Calcium | 5000 | 5000 | 5150 | 103.0 | 5110 | 102.2 | 5060 | 101.2 | 5090 | 101.8 |
| Chromium | 10 | 10 | anr | | | | | | | |
| Cobalt | 50 | 50 | | | | | | | | |
| Copper | 25 | 25 | | | | | | | | |
| Gold | 50 | 50 | | | | | | | | |
| Iron | 100 | 100 | 106 | 106.0 | 111 | 111.0 | 105 | 105.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | anr | | | | | | | |
| Magnesium | 5000 | 5000 | 5090 | 101.8 | 5070 | 101.4 | 5050 | 101.0 | 5050 | 101.0 |
| Manganese | 15 | 15 | 16.0 | 106.7 | 16.1 | 107.3 | 15.6 | 104.0 | 15.9 | 106.0 |
| Molybdenum | 100 | 100 | | | | | | | | |
| Nickel | 40 | 40 | | | | | | | | |
| Palladium | 50 | 50 | | | | | | | | |
| Platinum | 50 | 50 | | | | | | | | |
| Potassium | 5000 | 5000 | 5110 | 102.2 | 5150 | 103.0 | 5120 | 102.4 | 4990 | 99.8 |
| Selenium | 10 | 10 | anr | | | | | | | |
| Silicon | 100 | 100 | | | | | | | | |
| Silver | 5.0 | 5.0 | anr | | | | | | | |
| Sodium | 5000 | 5000 | 5110 | 102.2 | 5070 | 101.4 | 5040 | 100.8 | 4900 | 98.0 |
| Sulfur | 50 | 50 | | | | | | | | |
| Strontium | 10 | 10 | | | | | | | | |
| Thallium | 5.0 | 10 | | | | | | | | |
| Tin | 100 | 100 | | | | | | | | |
| Titanium | 50 | 50 | | | | | | | | |
| Tungsten | 100 | 100 | | | | | | | | |
| Vanadium | 10 | 10 | | | | | | | | |
| Zinc | 20 | 20 | | | | | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16313  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16313  Units: ug/l

| Time: | | | 12:44 | | 12:49 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 541000 | 108.2 | 544000 | 108.8 |
| Antimony | | 2000 | -0.10 | | 2010 | 100.5 |
| Arsenic | | 2000 | 0.70 | | 2090 | 104.5 |
| Barium | | 500 | 0.0 | | 521 | 104.2 |
| Beryllium | | 500 | 0.10 | | 476 | 95.2 |
| Boron | | 1000 | 0.60 | | 971 | 97.1 |
| Cadmium | | 1000 | 0.40 | | 1050 | 105.0 |
| Calcium | 500000 | 500000 | 469000 | 93.8 | 468000 | 93.6 |
| Chromium | | 500 | -0.20 | | 527 | 105.4 |
| Cobalt | | 500 | 1.0 | | 471 | 94.2 |
| Copper | | 500 | -0.60 | | 562 | 112.4 |
| Gold | | 500 | 5.4 | | 529 | 105.8 |
| Iron | 200000 | 200000 | 184000 | 92.0 | 185000 | 92.5 |
| Lead | | 1000 | -0.10 | | 894 | 89.4 |
| Magnesium | 500000 | 500000 | 534000 | 106.8 | 535000 | 107.0 |
| Manganese | | 500 | 0.40 | | 524 | 104.8 |
| Molybdenum | | 1000 | -0.80 | | 948 | 94.8 |
| Nickel | | 1000 | 0.20 | | 857 | 85.7 |
| Palladium | | 500 | -19 | | 555 | 111.0 |
| Platinum | | 500 | -28 | | 500 | 100.0 |
| Potassium | | | 30.9 | | 45.9 | |
| Selenium | | 2000 | 0.0 | | 1980 | 99.0 |
| Silicon | | 2000 | 40.5 | | 2130 | 106.5 |
| Silver | | 1000 | -0.10 | | 1110 | 111.0 |
| Sodium | | | 25.2 | | 26.2 | |
| Sulfur | | 500 | 91.3* | | 577 | 115.4 |
| Strontium | | 1000 | -8.5* | | 966 | 96.6 |
| Thallium | | 2000 | -4.1* | | 1790 | 89.5 |
| Tin | | 1000 | 0.50 | | 958 | 95.8 |
| Titanium | | 500 | 6.6* | | 550 | 110.0 |
| Tungsten | | 2000 | -19 | | 1980 | 99.0 |
| Vanadium | | 500 | 10.1* | | 544 | 108.8 |
| Zinc | | 1000 | -1.4 | | 885 | 88.5 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB102913M1L.ICP  Date Analyzed: 10/29/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16313  Units: ug/l

| Time: / Sample ID: / Metal | | | | |
|---|---|---|---|---|
| Zirconium | 500 | 9.8* | 431 | 86.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 1 | | STDA |
| 10:52 | MA16321-STD2 | 1 | | STDB |
| 10:59 | MA16321-STD3 | 1 | | STDC |
| 11:06 | MA16321-STD4 | 1 | | STDD |
| 11:13 | MA16321-STD5 | 1 | | STDE |
| 11:20 | MA16321-STD6 | 1 | | STDF |
| 11:27 | MA16321-STD7 | 1 | | STDG |
| 11:35 | MA16321-STD8 | 1 | | STDH |
| 11:42 | MA16321-ICV1 | 1 | | |
| 11:49 | MA16321-ICB1 | 1 | | |
| 11:58 | MA16321-CCV1 | 1 | | |
| 12:09 | MA16321-CCB1 | 1 | | |
| 12:17 | MA16321-CRI1 | 1 | | |
| 12:26 | MA16321-ICSA1 | 1 | | |
| 12:33 | MA16321-ICSAB1 | 1 | | |
| 12:45 | MA16321-ICSA2 | 2 | | |
| 12:52 | MA16321-ICSAB2 | 2 | | |
| 13:01 | ZZZZZZ | 1 | | RINSECONF |
| 13:08 | MP21908A-MB1 | 2 | | |
| 13:15 | MC25522-6F | 2 | | (sample used for QC only; not part of login MC25568) |
| 13:22 | MP21908A-SD1 | 10 | | |
| 13:31 | ZZZZZZ | 20 | | |
| 13:38 | MA16321-CCV2 | 1 | | |
| 13:50 | MA16321-CCB2 | 1 | | |
| 13:58 | ZZZZZZ | 20 | | |
| 14:05 | ZZZZZZ | 100 | | |
| 14:13 | ZZZZZZ | 100 | | |
| 14:20 | ZZZZZZ | 2 | | |
| 14:27 | ZZZZZZ | 2 | | |
| 14:34 | ZZZZZZ | 20 | | |
| 14:41 | ZZZZZZ | 2 | | |
| 14:48 | ZZZZZZ | 2 | | |
| 14:55 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:02 | ZZZZZZ | 2 | | |
| 15:09 | MA16321-CCV3 | 1 | | |
| 15:17 | MA16321-CCB3 | 1 | | |
| 15:25 | ZZZZZZ | 2 | | |
| 15:32 | ZZZZZZ | 100 | | |
| 15:39 | MC25568-1F | 50 | | |
| 15:46 | MC25568-2F | 2 | | |
| 15:53 | MC25568-3F | 2 | | |
| 16:01 | MC25568-4F | 20 | | |
| 16:08 | MC25568-5F | 2 | | |
| 16:15 | ZZZZZZ | 2 | | DNR: HIGH RSD, SEE RERUN. |
| 16:22 | MP21908A-B1 | 20 | | |
| 16:29 | MP21908A-S1 | 20 | | |
| 16:36 | MA16321-CCV4 | 1 | | |
| 16:43 | MA16321-CCB4 | 1 | | |
| 16:56 | MP21908A-S2 | 20 | | |
| 17:03 | MC25568-6F | 2 | | |
| 17:10 | ZZZZZZ | 1 | | RINSECONF |
| 17:17 | MA16321-CRI2 | 1 | | |
| 17:26 | MA16321-CCV5 | 1 | | |
| 17:34 | MA16321-CCB5 | 1 | | |
| 17:42 | MP21920A-MB1 | 2 | | |
| 17:49 | MC25568-11F | 5 | | |
| 17:57 | MP21920A-SD1 | 25 | | |
| 18:04 | MC25594-1F | 5 | | (sample used for QC only; not part of login MC25568) |
| 18:11 | MC25568-7F | 2 | | |
| 18:18 | MC25568-8F | 2 | | |
| 18:25 | MC25568-9F | 2 | | |
| 18:32 | MC25568-10F | 5 | | |
| 18:39 | MC25568-12F | 2 | | |
| 18:46 | MC25568-13F | 20 | | |
| 18:53 | MA16321-CCV6 | 1 | | |
| 19:00 | MA16321-CCB6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:07 | MC25568-14F | 2 | | |
| 19:15 | MC25568-15F | 2 | | |
| 19:22 | MC25568-16F | 2 | | |
| 19:29 | ZZZZZZ | 2 | | |
| 19:36 | ZZZZZZ | 5 | | |
| 19:43 | ZZZZZZ | 50 | | |
| 19:50 | ZZZZZZ | 2 | | |
| 19:57 | MP21920A-B1 | 20 | | |
| 20:04 | MP21920A-S1 | 20 | | |
| 20:11 | MP21920A-S2 | 20 | | |
| ----------> | Last reportable sample/prep for job MC25568 | | | |
| 20:18 | MA16321-CCV7 | 1 | | |
| 20:26 | MA16321-CCB7 | 1 | | |
| 20:33 | MP21920A-S3 | 20 | | |
| 20:40 | MP21920A-S4 | 20 | | |
| 20:47 | ZZZZZZ | 1 | | RINSECONF |
| 20:54 | MA16321-CRI3 | 1 | | |
| 21:01 | MA16321-CCV8 | 1 | | |
| 21:08 | MA16321-CCB8 | 1 | | |
| ----------> | Last reportable CCB for job MC25568 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 2521858 R | 3362635 R | 367626 R | 714806 R | 144802 R | 3924881 R | 3944903 R | 1086949 R |
| 10:52 | MA16321-STD2 | 2743673 | 3707282 | 368477 | 757217 | 146230 | 4375582 | 4402088 | 1104538 |
| 10:59 | MA16321-STD3 | 2553325 | 3330758 | 373983 | 709484 | 147533 | 3945762 | 3968207 | 1106060 |
| 11:06 | MA16321-STD4 | 2534878 | 3360063 | 372320 | 696369 | 145570 | 3932761 | 4004576 | 1101115 |
| 11:13 | MA16321-STD5 | 2554999 | 3379753 | 367079 | 702499 | 144684 | 4000867 | 3983582 | 1111090 |
| 11:20 | MA16321-STD6 | 2536726 | 3330294 | 365763 | 706225 | 143583 | 3941595 | 3961243 | 1102240 |
| 11:27 | MA16321-STD7 | 2487333 | 3356362 | 378445 | 727258 | 149444 | 3902106 | 3961190 | 1118718 |
| 11:35 | MA16321-STD8 | 2464318 | 3348449 | 378949 | 732296 | 149667 | 3772556 | 3831564 | 1088822 |
| 11:42 | MA16321-ICV1 | 2486272 | 3367462 | 371203 | 708654 | 146540 | 3818770 | 3860230 | 1098177 |
| 11:49 | MA16321-ICB1 | 2545401 | 3384524 | 381055 | 724776 | 149806 | 3972545 | 4015489 | 1135391 |
| 11:58 | MA16321-CCV1 | 2483817 | 3388281 | 375804 | 708720 | 147585 | 3877887 | 3930373 | 1110154 |
| 12:09 | MA16321-CCB1 | 2564763 | 3385504 | 381602 | 728382 | 150502 | 3990804 | 4003275 | 1146737 |
| 12:17 | MA16321-CRI1 | 2589735 | 3355864 | 379685 | 724065 | 149892 | 4024897 | 4035904 | 1142700 |
| 12:26 | MA16321-ICSA1 | 2349052 | 3218230 | 359882 | 746203 | 144679 | 3415071 | 3583008 | 1086266 |
| 12:33 | MA16321-ICSAB1 | 2352990 | 3230003 | 349042 | 735288 | 141498 | 3406074 | 3587248 | 1060516 |
| 12:45 | MA16321-ICSA2 | 2398945 | 3294112 | 358411 | 737194 | 143481 | 3541786 | 3729426 | 1084651 |
| 12:52 | MA16321-ICSAB2 | 2382373 | 3285512 | 355689 | 731001 | 142087 | 3527709 | 3730995 | 1078845 |
| 13:01 | ZZZZZZ | 2498751 | 3390213 | 368852 | 731633 | 146898 | 4019365 | 4083532 | 1127201 |
| 13:08 | MP21908A-MB1 | 2465116 | 3348074 | 361019 | 725503 | 143062 | 3898227 | 3928722 | 1097807 |
| 13:15 | MC25522-6F | 2415341 | 3413094 | 362118 | 735766 | 143334 | 3825786 | 3953835 | 1101544 |
| 13:22 | MP21908A-SD1 | 2482879 | 3420382 | 371770 | 744329 | 148139 | 4005313 | 4059712 | 1131536 |
| 13:31 | ZZZZZZ | 2432574 | 3444577 | 373863 | 745003 | 150308 | 3949980 | 4047208 | 1140631 |
| 13:38 | MA16321-CCV2 | 2418800 | 3405698 | 362801 | 709550 | 142307 | 3832982 | 3915975 | 1082519 |
| 13:50 | MA16321-CCB2 | 2468104 | 3376968 | 367817 | 729967 | 145309 | 3959574 | 4017152 | 1109429 |
| 13:58 | ZZZZZZ | 2484931 | 3409920 | 370330 | 738401 | 147731 | 3919761 | 4024920 | 1121517 |
| 14:05 | ZZZZZZ | 2474419 | 3486729 | 378227 | 749077 | 150211 | 3991628 | 4094209 | 1160104 |
| 14:13 | ZZZZZZ | 2523998 | 3452086 | 377687 | 747496 | 150545 | 4031355 | 4105530 | 1163876 |
| 14:20 | ZZZZZZ | 2403807 | 3336610 | 365523 | 727585 | 143553 | 3729589 | 3861663 | 1069868 |
| 14:27 | ZZZZZZ | 2355535 | 3349674 | 361647 | 713146 | 140922 | 3633444 | 3781227 | 1078109 |
| 14:34 | ZZZZZZ | 2477207 | 3506022 | 384949 | 763559 | 153216 | 4016380 | 4131860 | 1154965 |
| 14:41 | ZZZZZZ | 2370648 | 3383276 | 358759 | 723952 | 141646 | 3565724 | 3680381 | 1115611 |
| 14:48 | ZZZZZZ | 2391083 | 3384915 | 366067 | 724167 | 142952 | 3799471 | 3876364 | 1065427 |
| 14:55 | ZZZZZZ | 2356853 | 3365435 | 363427 | 720731 | 141916 | 3723669 | 3862927 | 1075134 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:02 | ZZZZZZ | 2405623 | 3293872 | 362970 | 707997 | 141664 | 3776067 | 3863542 | 1105273 |
| 15:09 | MA16321-CCV3 | 2355568 | 3343886 | 368331 | 702617 | 142355 | 3777490 | 3852513 | 1078330 |
| 15:17 | MA16321-CCB3 | 2461488 | 3366281 | 375513 | 725613 | 147156 | 3933484 | 3971547 | 1120946 |
| 15:25 | ZZZZZZ | 2400415 | 3339006 | 362639 | 716412 | 142934 | 3697648 | 3842065 | 1069425 |
| 15:32 | ZZZZZZ | 2533460 | 3466656 | 392672 | 752123 | 154361 | 4028650 | 4107597 | 1180841 |
| 15:39 | MC25568-1F | 2501781 | 3437949 | 386528 | 742481 | 152966 | 3979599 | 4049938 | 1172919 |
| 15:46 | MC25568-2F | 2426493 | 3299466 | 359630 | 710615 | 142235 | 3711335 | 3881979 | 1079301 |
| 15:53 | MC25568-3F | 2407456 | 3313845 | 361197 | 715075 | 142660 | 3733833 | 3889800 | 1091288 |
| 16:01 | MC25568-4F | 2539074 | 3405034 | 385041 | 740882 | 152196 | 4047377 | 4116485 | 1171381 |
| 16:08 | MC25568-5F | 2447659 | 3349160 | 365409 | 723055 | 143968 | 3795541 | 3923511 | 1119770 |
| 16:15 | ZZZZZZ | 2404974 | 3355829 | 353833 | 701148 | 137521 | 3647764 | 3783791 | 1036755 |
| 16:22 | MP21908A-B1 | 2594586 | 3514292 | 391610 | 734604 | 153102 | 4045897 | 4120646 | 1192046 |
| 16:29 | MP21908A-S1 | 2554381 | 3414793 | 383031 | 718167 | 150324 | 3966473 | 4059601 | 1164374 |
| 16:36 | MA16321-CCV4 | 2505687 | 3346716 | 373959 | 702838 | 146328 | 3828027 | 3918217 | 1136772 |
| 16:43 | MA16321-CCB4 | 2520286 | 3332724 | 381367 | 725015 | 150180 | 3959119 | 4019905 | 1166757 |
| 16:56 | MP21908A-S2 | 2543275 | 3388882 | 383035 | 719038 | 150028 | 3953784 | 4066495 | 1170993 |
| 17:03 | MC25568-6F | 2432777 | 3270318 | 365135 | 687027 | 141539 | 3562540 | 3735694 | 1076183 |
| 17:10 | ZZZZZZ | 2630669 | 3441144 | 388808 | 734247 | 151773 | 4005175 | 4109803 | 1165121 |
| 17:17 | MA16321-CRI2 | 2607879 | 3382703 | 384186 | 726579 | 150878 | 4007589 | 4067180 | 1173517 |
| 17:26 | MA16321-CCV5 | 2520073 | 3380257 | 374433 | 704830 | 146620 | 3852278 | 3955072 | 1143264 |
| 17:34 | MA16321-CCB5 | 2543389 | 3376320 | 386363 | 725310 | 151733 | 3964871 | 4039159 | 1178109 |
| 17:42 | MP21920A-MB1 | 2557954 | 3301748 | 375109 | 703236 | 145995 | 3831595 | 3880392 | 1135116 |
| 17:49 | MC25568-11F | 2467173 | 3346258 | 378594 | 725889 | 149255 | 3812888 | 3964992 | 1140492 |
| 17:57 | MP21920A-SD1 | 2540478 | 3380506 | 392758 | 735567 | 154287 | 3949231 | 4048882 | 1185310 |
| 18:04 | MC25594-1F | 2425870 | 3301202 | 374990 | 711151 | 146945 | 3746901 | 3829898 | 1126421 |
| 18:11 | MC25568-7F | 2393236 | 3251240 | 365640 | 681463 | 140431 | 3534495 | 3687807 | 1086014 |
| 18:18 | MC25568-8F | 2439751 | 3308196 | 374620 | 710168 | 145395 | 3701459 | 3825284 | 1099093 |
| 18:25 | MC25568-9F | 2431657 | 3280646 | 370526 | 704508 | 144389 | 3697536 | 3776330 | 1099104 |
| 18:32 | MC25568-10F | 2386237 | 3287569 | 377638 | 705861 | 146664 | 3661206 | 3813220 | 1089126 |
| 18:39 | MC25568-12F | 2390348 | 3230818 | 366766 | 688267 | 141827 | 3598570 | 3734786 | 1082924 |
| 18:46 | MC25568-13F | 2464839 | 3321694 | 387518 | 723390 | 150220 | 3855452 | 3932511 | 1139140 |
| 18:53 | MA16321-CCV6 | 2604731 | 3409006 | 378912 | 708359 | 145331 | 3906498 | 3948637 | 1119285 |
| 19:00 | MA16321-CCB6 | 2454010 | 3284581 | 381598 | 708067 | 148664 | 3848541 | 3900894 | 1111328 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 19:07 | MC25568-14F | 2430671 | 3254802 | 369033 | 691733 | 142337 | 3727777 | 3786325 | 1079114 |
| 19:15 | MC25568-15F | 2394131 | 3252742 | 365914 | 692235 | 142645 | 3636337 | 3765264 | 1074089 |
| 19:22 | MC25568-16F | 2350794 | 3262281 | 364723 | 690398 | 140335 | 3508631 | 3656175 | 1095806 |
| 19:29 | ZZZZZZ | 2388533 | 3320874 | 370447 | 707766 | 143793 | 3657185 | 3778377 | 1111959 |
| 19:36 | ZZZZZZ | 2535560 | 3430015 | 378355 | 742335 | 148126 | 3930664 | 4043075 | 1123005 |
| 19:43 | ZZZZZZ | 2515179 | 3366128 | 392661 | 722192 | 152353 | 3932651 | 3983725 | 1150425 |
| 19:50 | ZZZZZZ | 2420650 | 3205740 | 366339 | 686085 | 142313 | 3724415 | 3771725 | 1082927 |
| 19:57 | MP21920A-B1 | 2587423 | 3447020 | 379972 | 722488 | 146878 | 4029634 | 4112988 | 1221724 |
| 20:04 | MP21920A-S1 | 2422842 | 3360915 | 383147 | 692847 | 147745 | 3749048 | 3875038 | 1118264 |
| 20:11 | MP21920A-S2 | 2556057 | 3393762 | 380479 | 721056 | 148430 | 3733200 | 3650287 | 1117442 |
| 20:18 | MA16321-CCV7 | 2359303 | 3262756 | 371696 | 677116 | 143591 | 3673670 | 3751758 | 1077773 |
| 20:26 | MA16321-CCB7 | 2420687 | 3266401 | 379335 | 697824 | 147504 | 3806144 | 3834855 | 1115105 |
| 20:33 | MP21920A-S3 | 2424479 | 3298326 | 382043 | 689195 | 147750 | 3787890 | 3851812 | 1115208 |
| 20:40 | MP21920A-S4 | 2423189 | 3280099 | 381634 | 691492 | 147888 | 3780020 | 3863122 | 1120902 |
| 20:47 | ZZZZZZ | 2427414 | 3272124 | 378858 | 699778 | 146661 | 3812422 | 3825615 | 1129073 |
| 20:54 | MA16321-CRI3 | 2411318 | 3252378 | 378832 | 694286 | 146814 | 3834016 | 3842115 | 1134360 |
| 21:01 | MA16321-CCV8 | 2386733 | 3272139 | 374904 | 682267 | 144512 | 3687174 | 3753894 | 1089920 |
| 21:08 | MA16321-CCB8 | 2436986 | 3280404 | 380839 | 699479 | 147299 | 3811312 | 3886244 | 1115423 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:45 | MA16321-STD1 | 4942952 R | 2757011 R |
| 10:52 | MA16321-STD2 | 5482200 | 2991521 |
| 10:59 | MA16321-STD3 | 4976040 | 2776037 |
| 11:06 | MA16321-STD4 | 4990311 | 2747095 |
| 11:13 | MA16321-STD5 | 5031697 | 2769470 |
| 11:20 | MA16321-STD6 | 4997242 | 2784998 |
| 11:27 | MA16321-STD7 | 4963982 | 2754453 |
| 11:35 | MA16321-STD8 | 4972797 | 2623461 |
| 11:42 | MA16321-ICV1 | 4968707 | 2677828 |
| 11:49 | MA16321-ICB1 | 5024319 | 2810982 |
| 11:58 | MA16321-CCV1 | 5017845 | 2692495 |
| 12:09 | MA16321-CCB1 | 5044715 | 2812956 |
| 12:17 | MA16321-CRI1 | 5014331 | 2836056 |
| 12:26 | MA16321-ICSA1 | 4753297 | 2390792 |
| 12:33 | MA16321-ICSAB1 | 4753898 | 2416343 |
| 12:45 | MA16321-ICSA2 | 4942712 | 2594849 |
| 12:52 | MA16321-ICSAB2 | 4895207 | 2569894 |
| 13:01 | ZZZZZZ | 5172897 | 2928841 |
| 13:08 | MP21908A-MB1 | 5124053 | 2868404 |
| 13:15 | MC25522-6F | 5110872 | 2831445 |
| 13:22 | MP21908A-SD1 | 5133324 | 2985354 |
| 13:31 | ZZZZZZ | 5152170 | 2920341 |
| 13:38 | MA16321-CCV2 | 5052165 | 2771873 |
| 13:50 | MA16321-CCB2 | 5099116 | 2889785 |
| 13:58 | ZZZZZZ | 5109909 | 2908477 |
| 14:05 | ZZZZZZ | 5240197 | 2893590 |
| 14:13 | ZZZZZZ | 5195666 | 2904942 |
| 14:20 | ZZZZZZ | 4984549 | 2703411 |
| 14:27 | ZZZZZZ | 4952195 | 2631621 |
| 14:34 | ZZZZZZ | 5240608 | 2900428 |
| 14:41 | ZZZZZZ | 4906655 | 2611028 |
| 14:48 | ZZZZZZ | 5037342 | 2757519 |
| 14:55 | ZZZZZZ | 4996899 | 2794592 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:02 | ZZZZZZ | 4962226 | 2757693 |
| 15:09 | MA16321-CCV3 | 4982829 | 2687347 |
| 15:17 | MA16321-CCB3 | 5031228 | 2833268 |
| 15:25 | ZZZZZZ | 4991003 | 2703978 |
| 15:32 | ZZZZZZ | 5158826 | 2909399 |
| 15:39 | MC25568-1F | 5112365 | 2882069 |
| 15:46 | MC25568-2F | 5011846 | 2749141 |
| 15:53 | MC25568-3F | 5054069 | 2764012 |
| 16:01 | MC25568-4F | 5155539 | 2945286 |
| 16:08 | MC25568-5F | 5052522 | 2814640 |
| 16:15 | ZZZZZZ | 5038264 | 2677984 |
| 16:22 | MP21908A-B1 | 5232839 | 2875876 |
| 16:29 | MP21908A-S1 | 5120349 | 2822232 |
| 16:36 | MA16321-CCV4 | 5069557 | 2769146 |
| 16:43 | MA16321-CCB4 | 5122623 | 2890418 |
| 16:56 | MP21908A-S2 | 5128641 | 2831388 |
| 17:03 | MC25568-6F | 4973796 | 2654849 |
| 17:10 | ZZZZZZ | 5207454 | 2875063 |
| 17:17 | MA16321-CRI2 | 5156548 | 2879634 |
| 17:26 | MA16321-CCV5 | 5110338 | 2751597 |
| 17:34 | MA16321-CCB5 | 5137591 | 2886554 |
| 17:42 | MP21920A-MB1 | 5042557 | 2810853 |
| 17:49 | MC25568-11F | 5097124 | 2770792 |
| 17:57 | MP21920A-SD1 | 5138788 | 2893458 |
| 18:04 | MC25594-1F | 4954569 | 2761642 |
| 18:11 | MC25568-7F | 4837143 | 2580617 |
| 18:18 | MC25568-8F | 4978287 | 2703460 |
| 18:25 | MC25568-9F | 4887589 | 2692928 |
| 18:32 | MC25568-10F | 4875999 | 2695605 |
| 18:39 | MC25568-12F | 4827997 | 2637491 |
| 18:46 | MC25568-13F | 4942656 | 2792201 |
| 18:53 | MA16321-CCV6 | 5139457 | 2758528 |
| 19:00 | MA16321-CCB6 | 4898727 | 2754653 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 19:07 | MC25568-14F | 4850365 | 2694749 |
| 19:15 | MC25568-15F | 4843089 | 2647634 |
| 19:22 | MC25568-16F | 4738366 | 2553633 |
| 19:29 | ZZZZZZ | 4852854 | 2655784 |
| 19:36 | ZZZZZZ | 5068779 | 2796741 |
| 19:43 | ZZZZZZ | 4949048 | 2773051 |
| 19:50 | ZZZZZZ | 4826825 | 2681949 |
| 19:57 | MP21920A-B1 | 5138109 | 2857981 |
| 20:04 | MP21920A-S1 | 4836936 | 2697229 |
| 20:11 | MP21920A-S2 | 5054130 | 2779128 |
| 20:18 | MA16321-CCV7 | 4801643 | 2607663 |
| 20:26 | MA16321-CCB7 | 4835631 | 2725816 |
| 20:33 | MP21920A-S3 | 4876906 | 2671246 |
| 20:40 | MP21920A-S4 | 4810356 | 2660361 |
| 20:47 | ZZZZZZ | 4858534 | 2716826 |
| 20:54 | MA16321-CRI3 | 4831859 | 2729062 |
| 21:01 | MA16321-CCV8 | 4819884 | 2609363 |
| 21:08 | MA16321-CCB8 | 4859260 | 2711250 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 11:49 ICB1 | | 12:09 CCB1 | | 13:50 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.025 | <2.0 | 0.016 | <2.0 | 0.055 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 15:17 CCB3 | | 16:43 CCB4 | | 17:34 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | -0.0094 | <2.0 | -0.022 | <2.0 | -0.0052 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 19:00 CCB6 | | 20:26 CCB7 | | 21:08 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.0051 | <2.0 | -0.015 | <2.0 | -0.017 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 11:42 | | | 11:58 | | | 13:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.5 | 99.2 | 50 | 49.7 | 99.4 | 50 | 49.5 | 99.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 15:09 | | | 16:36 | | | 17:26 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.4 | 98.8 | 50 | 49.0 | 98.0 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 18:53 | | | 20:18 | | | 21:01 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.5 | 99.0 | 50 | 48.4 | 96.8 | 50 | 48.6 | 97.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:17 | | 17:17 | | 20:54 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | | | |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.55 | 110.0 | 0.50 | 100.0 | 0.50 | 100.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Magnesium | 250 | 250 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Sodium | 250 | 250 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:26 | | 12:33 | | 12:45 | | 12:52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 98300 | 98.3 | 97100 | 97.1 | | | | |
| Antimony | | | 0.31 | | 0.31 | | | | | |
| Arsenic | | 20 | 0.24 | | 20.1 | 100.5 | | | | |
| Barium | | | 0.27 | | 0.27 | | | | | |
| Beryllium | | | 0.0090 | | 0.0029 | | | | | |
| Boron | | | 0.23 | | 0.20 | | | | | |
| Cadmium | | 20 | 1.1 | | 19.5 | 97.5 | | | | |
| Calcium | 100000 | 100000 | 96200 | 96.2 | 96500 | 96.5 | | | | |
| Chromium | | 20 | 1.1 | | 20.8 | 104.0 | | | | |
| Cobalt | | 20 | 0.048 | | 19.8 | 99.0 | | | | |
| Copper | | 20 | 0.55 | | 18.7 | 93.5 | | | | |
| Iron | 100000 | 100000 | 96500 | 96.5 | 98200 | 98.2 | | | | |
| Lead | | | 0.15 | | 0.15 | | | | | |
| Magnesium | 100000 | 100000 | 97000 | 97.0 | 96700 | 96.7 | | | | |
| Manganese | | 20 | 0.25 | | 19.7 | 98.5 | | | | |
| Molybdenum | 2000 | 2000 | 2010 | 100.5 | 2010 | 100.5 | | | | |
| Nickel | | 20 | 0.70 | | 19.4 | 97.0 | | | | |
| Potassium | 100000 | 100000 | 97800 | 97.8 | 96600 | 96.6 | | | | |
| Selenium | | | 0.40 | | 0.23 | | | | | |
| Silver | | 20 | 0.065 | | 21.0 | 105.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 98900 | 98.9 | 99100 | 99.1 |
| Strontium | | | 5.2* | | 5.2* | | | | | |
| Thallium | | | 0.043 | | 0.026 | | | | | |
| Tin | | | 0.12 | | 0.10 | | | | | |
| Titanium | 2000 | 2000 | 1920 | 96.0 | 1920 | 96.0 | | | | |
| Vanadium | | | -0.11 | | -0.11 | | | | | |
| Zinc | | 20 | 1.8 | | 19.8 | 99.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:11 | MA16323-STD1 | 1 | | STD1 |
| 12:16 | MA16323-STD2 | 1 | | STD2 |
| 12:21 | MA16323-STD3 | 1 | | STD3 |
| 12:26 | MA16323-STD4 | 1 | | STD4 |
| 12:31 | MA16323-ICV1 | 1 | | |
| 12:45 | MA16323-ICB1 | 1 | | |
| 12:52 | MA16323-CCV1 | 1 | | |
| 12:58 | MA16323-CCB1 | 1 | | |
| 13:03 | MA16323-CRI1 | 1 | | |
| 13:13 | MA16323-ICSA1 | 1 | | |
| 13:18 | MA16323-ICSAB1 | 1 | | |
| 13:23 | MP21920-B1 | 1 | | |
| 13:27 | MP21920-MB1 | 1 | | |
| 13:32 | MP21920-S1 | 1 | | |
| 13:37 | MP21920-S2 | 1 | | |
| 13:42 | MC25568-11F | 1 | | |
| 13:47 | MP21920-SD1 | 5 | | |
| 13:52 | MP21920-S3 | 1 | | |
| 13:56 | MA16323-CCV2 | 1 | | |
| 14:01 | MA16323-CCB2 | 1 | | |
| 14:06 | MP21920-S4 | 1 | | |
| 14:11 | MC25594-1F | 1 | | (sample used for QC only; not part of login MC25568) |
| 14:16 | MC25568-7F | 1 | | |
| 14:21 | MC25568-8F | 1 | | |
| 14:26 | MC25568-9F | 1 | | |
| 14:30 | MC25568-10F | 1 | | |
| 14:35 | MC25568-12F | 1 | | |
| 14:40 | MC25568-13F | 1 | | |
| 14:45 | MC25568-14F | 1 | | |
| 14:50 | MC25568-15F | 1 | | |
| 14:55 | MA16323-CCV3 | 1 | | |
| 15:00 | MA16323-CCB3 | 1 | | |
| 15:16 | MC25568-16F | 1 | | |

----------> Last reportable sample/prep for job MC25568

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:21 | ZZZZZZ | 1 | | |
| 15:26 | ZZZZZZ | 1 | | |
| 15:31 | ZZZZZZ | 1 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:41 | MA16323-CRI2 | 1 | | |
| 15:46 | MA16323-CCV4 | 1 | | |
| 15:50 | MA16323-CCB4 | 1 | | |

----------> Last reportable CCB for job MC25568
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP Date Analyzed: 10/31/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:11 | MA16323-STD1 | 1241 R | 37476 R | 17838 R |
| 12:16 | MA16323-STD2 | 1222 | 36620 | 17604 |
| 12:21 | MA16323-STD3 | | | 17743 |
| 12:26 | MA16323-STD4 | 1228 | 36797 | 17803 |
| 12:31 | MA16323-ICV1 | 1237 | 36200 | 17793 |
| 12:45 | MA16323-ICB1 | 1236 | 36760 | 17692 |
| 12:52 | MA16323-CCV1 | 1245 | 35998 | 17691 |
| 12:58 | MA16323-CCB1 | 1227 | 36679 | 17581 |
| 13:03 | MA16323-CRI1 | 1235 | 36446 | 17660 |
| 13:13 | MA16323-ICSA1 | 1160 | 32844 | 17497 |
| 13:18 | MA16323-ICSAB1 | 1150 | 32602 | 17499 |
| 13:23 | MP21920-B1 | 1213 | 35410 | 17494 |
| 13:27 | MP21920-MB1 | 1226 | 35741 | 17651 |
| 13:32 | MP21920-S1 | 1194 | 35264 | 17548 |
| 13:37 | MP21920-S2 | 1201 | 35141 | 17511 |
| 13:42 | MC25568-11F | 1203 | 35598 | 17676 |
| 13:47 | MP21920-SD1 | 1234 | 35920 | 17470 |
| 13:52 | MP21920-S3 | 1209 | 35476 | 17546 |
| 13:56 | MA16323-CCV2 | 1247 | 35420 | 17681 |
| 14:01 | MA16323-CCB2 | 1245 | 36099 | 17487 |
| 14:06 | MP21920-S4 | 1202 | 35394 | 17466 |
| 14:11 | MC25594-1F | 1209 | 35526 | 17490 |
| 14:16 | MC25568-7F | 1192 | 35361 | 17477 |
| 14:21 | MC25568-8F | 1211 | 35584 | 17326 |
| 14:26 | MC25568-9F | 1222 | 35338 | 17430 |
| 14:30 | MC25568-10F | 1194 | 35096 | 17496 |
| 14:35 | MC25568-12F | 1212 | 35388 | 17263 |
| 14:40 | MC25568-13F | 1200 | 34799 | 17263 |
| 14:45 | MC25568-14F | 1222 | 35209 | 17304 |
| 14:50 | MC25568-15F | 1217 | 35050 | 17345 |
| 14:55 | MA16323-CCV3 | 1258 | 34561 | 17334 |
| 15:00 | MA16323-CCB3 | 1245 | 35149 | 17095 |
| 15:16 | MC25568-16F | 1208 | 34666 | 17273 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:21 | ZZZZZZ | 1233 | 34889 | 17319 |
| 15:26 | ZZZZZZ | 1228 | 35287 | 17433 |
| 15:31 | ZZZZZZ | 1223 | 34754 | 17196 |
| 15:36 | ZZZZZZ | 1220 | 35169 | 17307 |
| 15:41 | MA16323-CRI2 | 1246 | 35600 | 17332 |
| 15:46 | MA16323-CCV4 | 1245 | 34906 | 17405 |
| 15:50 | MA16323-CCB4 | 1237 | 35773 | 17350 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: | | | | 12:45 ICB1 | | 12:58 CCB1 | | 14:01 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.2 | <5000 | 0.80 | <5000 | 2.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.9 | <100 | 2.3 | <100 | 2.2 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 12.5 | <5000 | -5.7 | <5000 | 23.0 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -0.50 | <5000 | 3.9 | <5000 | 26.5 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 7.1 | <5000 | 6.2 | <5000 | 12.8 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 15:00 CCB3 raw | final | 15:50 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | 0.20 | <5000 | 2.0 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 3.5 | <100 | 4.5 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 16.8 | <5000 | 0.20 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.50 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 13.2 | <5000 | 6.6 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | 8.2 | <5000 | 5.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | 12:31 | | | 12:52 | | | 13:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17400 | 96.7 | 10000 | 9680 | 96.8 | 10000 | 9680 | 96.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17600 | 97.8 | 10000 | 9700 | 97.0 | 10000 | 9580 | 95.8 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 17600 | 97.8 | 10000 | 9540 | 95.4 | 10000 | 9690 | 96.9 |
| Manganese | 3000 | 3000 | 100.0 | 2000 | 1970 | 98.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15300 | 102.0 | 10000 | 9740 | 97.4 | 10000 | 9860 | 98.6 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 14800 | 98.7 | 10000 | 9740 | 97.4 | 10000 | 9710 | 97.1 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | 14:55 | | | 15:46 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9510 | 95.1 | 10000 | 9730 | 97.3 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9330 | 93.3 | 10000 | 9530 | 95.3 |
| Lead | | | | | | |
| Magnesium | 10000 | 9800 | 98.0 | 10000 | 9890 | 98.9 |
| Manganese | 2000 | 2110 | 105.5 | 2000 | 2090 | 104.5 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9690 | 96.9 | 10000 | 9820 | 98.2 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9510 | 95.1 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16323  Units: ug/l

| Time: | | | 13:03 | | 15:41 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4950 | 99.0 | 4970 | 99.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 100 | 100.0 | 101 | 101.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 5030 | 100.6 |
| Manganese | 15 | 15 | 15.9 | 106.0 | 16.7 | 111.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 5010 | 100.2 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4930 | 98.6 | 4890 | 97.8 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16323  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | | 13:13 | | 13:18 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 515000 | 103.0 | 514000 | 102.8 |
| Antimony | | 2000 | -2.5 | | 1910 | 95.5 |
| Arsenic | | 2000 | -0.30 | | 2000 | 100.0 |
| Barium | | 500 | -0.20 | | 480 | 96.0 |
| Beryllium | | 500 | 0.0 | | 460 | 92.0 |
| Boron | | 1000 | 0.50 | | 929 | 92.9 |
| Cadmium | | 1000 | 0.0 | | 998 | 99.8 |
| Calcium | 500000 | 500000 | 441000 | 88.2 | 444000 | 88.8 |
| Chromium | | 500 | 0.10 | | 526 | 105.2 |
| Cobalt | | 500 | 0.90 | | 448 | 89.6 |
| Copper | | 500 | 1.0 | | 550 | 110.0 |
| Gold | | 500 | 7.2 | | 511 | 102.2 |
| Iron | 200000 | 200000 | 174000 | 87.0 | 175000 | 87.5 |
| Lead | | 1000 | 0.10 | | 842 | 84.2 |
| Magnesium | 500000 | 500000 | 503000 | 100.6 | 503000 | 100.6 |
| Manganese | | 500 | 0.40 | | 515 | 103.0 |
| Molybdenum | | 1000 | -1.1 | | 902 | 90.2 |
| Nickel | | 1000 | 0.10 | | 809 | 80.9 |
| Palladium | | 500 | -14 | | 553 | 110.6 |
| Platinum | | 500 | -19 | | 497 | 99.4 |
| Potassium | | | 49.7 | | 62.1 | |
| Selenium | | 2000 | -0.80 | | 1880 | 94.0 |
| Silicon | | 2000 | 31.8 | | 1990 | 99.5 |
| Silver | | 1000 | -0.40 | | 1070 | 107.0 |
| Sodium | | | 36.1 | | 29.8 | |
| Sulfur | | 500 | 86.8* | | 548 | 109.6 |
| Strontium | | 1000 | -7.9* | | 943 | 94.3 |
| Thallium | | 2000 | -4.7* | | 1710 | 85.5 |
| Tin | | 1000 | 0.60 | | 904 | 90.4 |
| Titanium | | 500 | 5.8* | | 535 | 107.0 |
| Tungsten | | 2000 | -20 | | 1940 | 97.0 |
| Vanadium | | 500 | 10.4* | | 534 | 106.8 |
| Zinc | | 1000 | -1.2 | | 842 | 84.2 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: / Metal | | | | |
|---|---|---|---|---|
| Zirconium | 500 | 9.5* | 421 | 84.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:53 | MA16324-STD1 | 1 | | STD1 |
| 17:58 | MA16324-STD2 | 1 | | STD2 |
| 18:03 | MA16324-STD3 | 1 | | STD3 |
| 18:08 | MA16324-STD4 | 1 | | STD4 |
| 18:13 | MA16324-ICV1 | 1 | | |
| 18:19 | MA16324-ICB1 | 1 | | |
| 18:32 | MA16324-CCV1 | 1 | | |
| 18:37 | MA16324-CCB1 | 1 | | |
| 18:47 | MA16324-CRI1 | 1 | | |
| 18:59 | MA16324-ICSA1 | 1 | | |
| 19:04 | MA16324-ICSAB1 | 1 | | |
| 19:09 | MP21920-B1 | 5 | | |
| 19:14 | MP21920-S1 | 5 | | |
| 19:18 | MP21920-S2 | 5 | | |
| 19:23 | MC25568-11F | 5 | | |
| 19:28 | MP21920-SD1 | 25 | | |
| 19:33 | MP21920-S3 | 5 | | |
| 19:38 | MP21920-S4 | 5 | | |
| 19:43 | MA16324-CCV2 | 1 | | |
| 19:47 | MA16324-CCB2 | 1 | | |
| 19:52 | MC25594-1F | 5 | | (sample used for QC only; not part of login MC25568) |
| 19:57 | MC25568-7F | 3 | | |
| 20:02 | MC25568-7F | 10 | | |
| 20:07 | MC25568-10F | 5 | | |
| 20:12 | MC25568-12F | 5 | | |
| 20:17 | MC25568-13F | 5 | | |
| 20:22 | MC25568-13F | 10 | | |
| 20:27 | MC25568-15F | 3 | | |
| 20:32 | MC25568-16F | 5 | | |
| ----------> | Last reportable sample/prep for job MC25568 | | | |
| 20:36 | ZZZZZZ | 3 | | |
| 20:41 | MA16324-CCV3 | 1 | | |
| 20:46 | MA16324-CCB3 | 1 | | |
| 20:51 | ZZZZZZ | 3 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:56 | MA16324-CRI2 | 1 | | |
| 21:01 | MA16324-CRIB1 | 1 | | |
| 21:06 | MP21935-B1 | 1 | | |
| 21:11 | MP21935-MB1 | 1 | | |
| 21:16 | MP21935-S1 | 1 | | |
| 21:21 | MP21935-S2 | 1 | | |
| 21:26 | MC25697-1 | 1 | | (sample used for QC only; not part of login MC25568) |
| 21:31 | MP21935-SD1 | 5 | | |
| 21:36 | MP21935-LB1 | 1 | | |
| 21:41 | MA16324-CCV4 | 1 | | |
| 21:46 | MA16324-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC25568 | | | |
| 21:51 | ZZZZZZ | 1 | | |
| 21:56 | ZZZZZZ | 1 | | |
| 22:01 | MA16324-CRIB2 | 1 | | |
| 22:06 | MA16324-CCV5 | 1 | | |
| 22:10 | MA16324-CCB5 | 1 | | |
| 22:15 | MA16324-CRIA1 | 1 | | |
| 22:20 | ZZZZZZ | 10 | | |
| 22:25 | ZZZZZZ | 100 | | |
| 22:30 | ZZZZZZ | 1 | | RINSECONF |
| 22:35 | MA16324-CRIA2 | 1 | | |
| 22:40 | MA16324-CCV6 | 1 | | |
| 22:45 | MA16324-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP Date Analyzed: 10/31/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16324
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:53 | MA16324-STD1 | 1224 R | 35420 R | 17349 R |
| 17:58 | MA16324-STD2 | 1213 | 34908 | 17328 |
| 18:03 | MA16324-STD3 | | | 17270 |
| 18:08 | MA16324-STD4 | 1240 | 34624 | 17159 |
| 18:13 | MA16324-ICV1 | 1244 | 33829 | 17121 |
| 18:19 | MA16324-ICB1 | 1247 | 34483 | 16924 |
| 18:32 | MA16324-CCV1 | 1262 | 33926 | 17140 |
| 18:37 | MA16324-CCB1 | 1258 | 34517 | 16904 |
| 18:47 | MA16324-CRI1 | 1264 | 34255 | 16902 |
| 18:59 | MA16324-ICSA1 | 1181 | 30676 | 16631 |
| 19:04 | MA16324-ICSAB1 | 1181 | 30670 | 16578 |
| 19:09 | MP21920-B1 | 1272 | 34117 | 16921 |
| 19:14 | MP21920-S1 | 1259 | 33868 | 16975 |
| 19:18 | MP21920-S2 | 1259 | 33877 | 16853 |
| 19:23 | MC25568-11F | 1266 | 33891 | 16771 |
| 19:28 | MP21920-SD1 | 1270 | 34197 | 16647 |
| 19:33 | MP21920-S3 | 1266 | 33915 | 16799 |
| 19:38 | MP21920-S4 | 1270 | 33936 | 16763 |
| 19:43 | MA16324-CCV2 | 1280 | 33092 | 16847 |
| 19:47 | MA16324-CCB2 | 1269 | 33941 | 16626 |
| 19:52 | MC25594-1F | 1268 | 33889 | 16718 |
| 19:57 | MC25568-7F | 1265 | 33566 | 16720 |
| 20:02 | MC25568-7F | 1271 | 33701 | 16731 |
| 20:07 | MC25568-10F | 1268 | 33501 | 16713 |
| 20:12 | MC25568-12F | 1273 | 33739 | 16305 |
| 20:17 | MC25568-13F | 1271 | 33498 | 16768 |
| 20:22 | MC25568-13F | 1277 | 33269 | 16525 |
| 20:27 | MC25568-15F | 1265 | 33373 | 16604 |
| 20:32 | MC25568-16F | 1272 | 33265 | 16647 |
| 20:36 | ZZZZZZ | 1272 | 33188 | 16605 |
| 20:41 | MA16324-CCV3 | 1282 | 32923 | 16664 |
| 20:46 | MA16324-CCB3 | 1277 | 33397 | 16515 |
| 20:51 | ZZZZZZ | 1263 | 33042 | 16504 |

INTERNAL STANDARD SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 20:56 | MA16324-CRI2 | 1281 | 33059 | 16613 |
| 21:01 | MA16324-CRIB1 | 1277 | 32924 | 16407 |
| 21:06 | MP21935-B1 | 1189 | 33415 | 16483 |
| 21:11 | MP21935-MB1 | 1253 | 33025 | 16565 |
| 21:16 | MP21935-S1 | 1116 | 32375 | 15802 |
| 21:21 | MP21935-S2 | 1118 | 32357 | 15814 |
| 21:26 | MC25697-1 | 1105 | 32487 | 15843 |
| 21:31 | MP21935-SD1 | 1218 | 33249 | 16438 |
| 21:36 | MP21935-LB1 | 1169 | 33927 | 16263 |
| 21:41 | MA16324-CCV4 | 1284 | 33086 | 16811 |
| 21:46 | MA16324-CCB4 | 1268 | 33828 | 16681 |
| 21:51 | ZZZZZZ | 1105 | 32421 | 15767 |
| 21:56 | ZZZZZZ | 1103 | 32874 | 15912 |
| 22:01 | MA16324-CRIB2 | 1273 | 33554 | 16513 |
| 22:06 | MA16324-CCV5 | 1277 | 33221 | 16750 |
| 22:10 | MA16324-CCB5 | 1266 | 34054 | 16728 |
| 22:15 | MA16324-CRIA1 | 1265 | 33552 | 16603 |
| 22:20 | ZZZZZZ | 1286 | 33508 | 16892 |
| 22:25 | ZZZZZZ | 1275 | 33559 | 16708 |
| 22:30 | ZZZZZZ | 1261 | 33586 | 16580 |
| 22:35 | MA16324-CRIA2 | 1263 | 33317 | 16480 |
| 22:40 | MA16324-CCV6 | 1273 | 32785 | 16624 |
| 22:45 | MA16324-CCB6 | 1261 | 33400 | 16504 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: | | | | 18:19 ICB1 | | 18:37 CCB1 | | 19:47 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -1.5 | <5000 | -0.80 | <5000 | 17.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.1 | <100 | 0.80 | <100 | 3.8 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 19.0 | <5000 | 34.7 | <5000 | -1.7 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.30 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 21.0 | <5000 | 17.0 | <5000 | 19.3 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 6.6 | <5000 | 4.7 | <5000 | 8.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 20:46 CCB3 raw | final | 21:46 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | -1.5 | <5000 | -0.10 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 1.4 | <100 | 0.60 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 15.4 | <5000 | 24.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 10.9 | <5000 | 24.8 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | -0.80 | <5000 | 126 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 18:13 | | | 18:32 | | | 19:43 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17500 | 97.2 | 10000 | 9750 | 97.5 | 10000 | 9830 | 98.3 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17600 | 97.8 | 10000 | 9660 | 96.6 | 10000 | 9580 | 95.8 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 17800 | 98.9 | 10000 | 9700 | 97.0 | 10000 | 9940 | 99.4 |
| Manganese | 3000 | 3070 | 102.3 | 2000 | 2020 | 101.0 | 2000 | 2100 | 105.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9760 | 97.6 | 10000 | 9750 | 97.5 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 14900 | 99.3 | 10000 | 9600 | 96.0 | 10000 | 9500 | 95.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 20:41 | | | 21:41 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9800 | 98.0 | 10000 | 9840 | 98.4 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9470 | 94.7 | 10000 | 9550 | 95.5 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Manganese | 2000 | 2140 | 107.0 | 2000 | 2120 | 106.0 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9760 | 97.6 | 10000 | 9830 | 98.3 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9440 | 94.4 | 10000 | 9560 | 95.6 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16324  Units: ug/l

| Time: | | | 18:47 | | 20:56 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | anr | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5030 | 100.6 | 4990 | 99.8 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 101 | 101.0 | 99.0 | 99.0 |
| Lead | 5.0 | 10 | anr | | | |
| Magnesium | 5000 | 5000 | 4950 | 99.0 | 5040 | 100.8 |
| Manganese | 15 | 15 | 16.0 | 106.7 | 17.2 | 114.7 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 4990 | 99.8 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4870 | 97.4 | 4790 | 95.8 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16324  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 70 to 130 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 21:01 | |
|---|---|---|---|
| Sample ID: | CRIB | CRIB1 | |
| Metal | True | Results | % Rec |
| Aluminum | 200 | | |
| Antimony | 6.0 | | |
| Arsenic | 10 | | |
| Barium | 500 | | |
| Beryllium | 4.0 | | |
| Boron | 100 | | |
| Cadmium | 4.0 | | |
| Calcium | 5000 | 5020 | 100.4 |
| Chromium | 10 | | |
| Cobalt | 50 | | |
| Copper | 25 | | |
| Gold | 50 | | |
| Iron | 100 | 99.2 | 99.2 |
| Lead | 10 | | |
| Magnesium | 5000 | 5100 | 102.0 |
| Manganese | 15 | 17.0 | 113.3 |
| Molybdenum | 100 | | |
| Nickel | 40 | | |
| Palladium | 50 | | |
| Platinum | 50 | | |
| Potassium | 5000 | 5010 | 100.2 |
| Selenium | 25 | | |
| Silicon | 100 | | |
| Silver | 5.0 | | |
| Sodium | 5000 | 4800 | 96.0 |
| Sulfur | 50 | | |
| Strontium | 10 | | |
| Thallium | 5.0 | | |
| Tin | 100 | | |
| Titanium | 50 | | |
| Tungsten | 100 | | |
| Vanadium | 10 | | |
| Zinc | 100 | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 70 to 130 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |
| Zirconium | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | | 18:59 | | 19:04 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 517000 | 103.4 | 518000 | 103.6 |
| Antimony | | 2000 | 0.0 | | 1860 | 93.0 |
| Arsenic | | 2000 | -0.80 | | 1970 | 98.5 |
| Barium | | 500 | -0.20 | | 481 | 96.2 |
| Beryllium | | 500 | 0.10 | | 471 | 94.2 |
| Boron | | 1000 | 1.5 | | 918 | 91.8 |
| Cadmium | | 1000 | -0.10 | | 987 | 98.7 |
| Calcium | 500000 | 500000 | 456000 | 91.2 | 457000 | 91.4 |
| Chromium | | 500 | 0.10 | | 550 | 110.0 |
| Cobalt | | 500 | 1.1 | | 443 | 88.6 |
| Copper | | 500 | -0.10 | | 554 | 110.8 |
| Gold | | 500 | 11.4* | | 524 | 104.8 |
| Iron | 200000 | 200000 | 176000 | 88.0 | 176000 | 88.0 |
| Lead | | 1000 | -0.30 | | 834 | 83.4 |
| Magnesium | 500000 | 500000 | 516000 | 103.2 | 518000 | 103.6 |
| Manganese | | 500 | 0.40 | | 532 | 106.4 |
| Molybdenum | | 1000 | -1.0 | | 885 | 88.5 |
| Nickel | | 1000 | 0.90 | | 791 | 79.1* |
| Palladium | | 500 | -5.4 | | 548 | 109.6 |
| Platinum | | 500 | -11 | | 496 | 99.2 |
| Potassium | | | 72.4 | | 50.3 | |
| Selenium | | 2000 | 0.20 | | 1850 | 92.5 |
| Silicon | | 2000 | 31.4 | | 1980 | 99.0 |
| Silver | | 1000 | 0.10 | | 1080 | 108.0 |
| Sodium | | | 24.0 | | 20.1 | |
| Sulfur | | 500 | 91.7* | | 554 | 110.8 |
| Strontium | | 1000 | -8.3* | | 942 | 94.2 |
| Thallium | | 2000 | -2.2* | | 1690 | 84.5 |
| Tin | | 1000 | 1.3 | | 917 | 91.7 |
| Titanium | | 500 | 5.9* | | 542 | 108.4 |
| Tungsten | | 2000 | -7.8 | | 1990 | 99.5 |
| Vanadium | | 500 | 11.9* | | 544 | 108.8 |
| Zinc | | 1000 | -0.80 | | 849 | 84.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: / Metal | | | | |
|---|---|---|---|---|
| Zirconium | 500 | 13.9* | 427 | 85.4 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 4.7 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 5.2 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | 15.7 | <5000 |
| Manganese | 15 | .17 | .81 | 0.10 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | -0.70 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 3.5 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP21908: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 6730 | 33100 | 25000 | 105.5 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 4.9 | 2050 | 2000 | 102.3 | 75-125 |
| Lead | | | | | |
| Magnesium | 1180 | 27900 | 25000 | 106.9 | 75-125 |
| Manganese | 1.8 | 510 | 500 | 101.6 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 1330 | 28000 | 25000 | 106.7 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 6060 | 32400 | 25000 | 105.4 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 6730 | 32500 | 25000 | 103.1 | 1.8 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 4.9 | 2060 | 2000 | 102.8 | 0.5 | 20 |
| Lead | | | | | | |
| Magnesium | 1180 | 27500 | 25000 | 105.3 | 1.4 | 20 |
| Manganese | 1.8 | 503 | 500 | 100.2 | 1.4 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 1330 | 27500 | 25000 | 104.7 | 1.8 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 6060 | 31800 | 25000 | 103.0 | 1.9 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 26300 | 25000 | 105.2 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2110 | 2000 | 105.5 | 80-120 |
| Lead | | | | |
| Magnesium | 26300 | 25000 | 105.2 | 80-120 |
| Manganese | 512 | 500 | 102.4 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 26600 | 25000 | 106.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 26100 | 25000 | 104.4 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 6730 | 7130 | 5.9 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 4.90 | 0.00 | 100.0(a) | 0-10 |
| Lead | | | | |
| Magnesium | 1180 | 1300 | 10.3 (a) | 0-10 |
| Manganese | 1.80 | 1.60 | 11.1 (a) | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 1330 | 1350 | 1.4 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 6060 | 6270 | 3.4 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21908: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.54 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP21908A: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 1.1 | 564 | 500 | 112.6 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21908A: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 1.1 | 560 | 500 | 111.8 | 0.7 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21908A: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 575 | 500 | 115.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21908A: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21908A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/28/13

| Metal | MC25522-6F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.08 | 0.575 | 46.9 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21908A: MC25568-1F, MC25568-2F, MC25568-3F, MC25568-4F, MC25568-5F, MC25568-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 5.7 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 20.1 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | 6.3 | <5000 |
| Manganese | 15 | .17 | .81 | 0.30 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | 11.6 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 11.3 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP21920: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 60900 | 85400 | 25000 | 98.0 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 43200 | 45200 | 2000 | 100.0 | 75-125 |
| Lead | | | | | |
| Magnesium | 9300 | 35800 | 25000 | 106.0 | 75-125 |
| Manganese | 3280 | 3810 | 500 | 106.0 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 8820 | 34800 | 25000 | 103.9 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 27500 | 52400 | 25000 | 99.6 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP21920: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 60900 | 86100 | 25000 | 100.8 | 0.8 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 43200 | 45200 | 2000 | 100.0 | 0.0 | 20 |
| Lead | | | | | | |
| Magnesium | 9300 | 36100 | 25000 | 107.2 | 0.8 | 20 |
| Manganese | 3280 | 3790 | 500 | 102.0 | 0.5 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 8820 | 35100 | 25000 | 105.1 | 0.9 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 27500 | 52500 | 25000 | 100.0 | 0.2 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25600 | 25000 | 102.4 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 1980 | 2000 | 99.0 | 80-120 |
| Lead | | | | |
| Magnesium | 25900 | 25000 | 103.6 | 80-120 |
| Manganese | 505 | 500 | 101.0 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25700 | 25000 | 102.8 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 24700 | 25000 | 98.8 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 60900 | 63900 | 5.0 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 43200 | 45000 | 4.0 | 0-10 |
| Lead | | | | |
| Magnesium | 9300 | 9590 | 3.1 | 0-10 |
| Manganese | 3280 | 3370 | 2.8 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 8820 | 8980 | 1.7 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 27500 | 28500 | 3.6 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.40 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP21920A: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 232 | 791 | 500 | 111.8 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21920A: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 232 | 784 | 500 | 110.4 | 0.9 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21920A: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 570 | 500 | 114.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21920A: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | SDL 5:25 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 232 | 237 | 2.4 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21920A: MC25568-7F, MC25568-8F, MC25568-9F, MC25568-10F, MC25568-11F, MC25568-12F, MC25568-13F, MC25568-14F, MC25568-15F, MC25568-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/28/2013 12:57:15 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0006 | .0010 | -.0002 | -.0002 | .0021 | .0082 | -.0002 | .0027 | .0035 |
| Stddev | .0000 | .0004 | .0001 | .0000 | .0001 | .0001 | .0000 | .0002 | .0002 |
| %RSD | 1.168 | 37.71 | 36.39 | 13.68 | 3.973 | 1.090 | 4.476 | 7.906 | 5.672 |
| #1 | -.0006 | .0013 | -.0001 | -.0003 | .0021 | .0083 | -.0002 | .0025 | .0037 |
| #2 | -.0006 | .0007 | -.0002 | -.0002 | .0020 | .0082 | -.0002 | .0028 | .0034 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | .0001 | .0150 | .0004 | .0007 | -.0002 | .0003 | .0009 | .0029 |
| Stddev | .0001 | .0000 | .0003 | .0000 | .0006 | .0000 | .0001 | .0001 | .0001 |
| %RSD | 7.767 | 13.28 | 2.032 | 1.970 | 80.72 | 14.13 | 27.20 | 9.841 | 3.209 |
| #1 | -.0014 | .0001 | .0152 | .0004 | .0003 | -.0002 | .0003 | .0009 | .0030 |
| #2 | -.0016 | .0001 | .0148 | .0004 | .0011 | -.0002 | .0004 | .0010 | .0028 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0005 | -.0016 | -.0007 | -.0001 | .0040 | .0014 | .0013 | .0369 | .0001 |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0001 | .0002 | .0001 | .0001 | .0002 |
| %RSD | 39.07 | 7.119 | 16.04 | 37.46 | 2.641 | 14.48 | 11.62 | .1425 | 121.5 |
| #1 | .0006 | -.0016 | -.0008 | -.0001 | .0040 | .0012 | .0012 | .0369 | .0000 |
| #2 | .0003 | -.0015 | -.0006 | -.0001 | .0039 | .0015 | .0014 | .0369 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0078 | .0001 | -.0040 | .0000 | .0001 | -.0015 | .0314 |
| Stddev | .0004 | .0000 | .0003 | .0001 | .0000 | .0001 | .0002 |
| %RSD | 5.382 | 3.084 | 6.652 | 714.4 | 31.59 | 7.010 | .5957 |
| #1 | .0075 | .0001 | -.0042 | -.0001 | .0001 | -.0014 | .0315 |
| #2 | .0081 | .0001 | -.0038 | .0001 | .0001 | -.0015 | .0312 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/28/2013 12:57:15 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1230.5 | 39634. | 17672. |
| Stddev | 2.0 | 7. | 91. |
| %RSD | .15925 | .01746 | .51360 |
| #1 | 1231.9 | 39639. | 17608. |
| #2 | 1229.1 | 39629. | 17736. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/28/2013 13:02:13 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1892 | .5685 | 2.768 | 19.28 | 14.66 | 10.71 | 8.925 | .4877 | 2.944 | 4.266 |
| Stddev | .0006 | .0021 | .004 | .05 | .10 | .02 | .018 | .0001 | .005 | .002 |
| %RSD | .3287 | .3660 | .1284 | .2427 | .7139 | .2204 | .1976 | .0184 | .1767 | .0530 |
| #1 | .1896 | .5699 | 2.770 | 19.24 | 14.74 | 10.73 | 8.937 | .4876 | 2.948 | 4.264 |
| #2 | .1888 | .5670 | 2.765 | 19.31 | 14.59 | 10.70 | 8.912 | .4878 | 2.941 | 4.268 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.188 | 6.183 | 2.591 | 1.828 | .8595 | 1.168 | 6.618 |
| Stddev | .012 | .008 | .004 | .005 | .0044 | .005 | .012 |
| %RSD | .1475 | .1336 | .1383 | .2823 | .5073 | .4555 | .1849 |
| #1 | 8.196 | 6.189 | 2.594 | 1.831 | .8625 | 1.172 | 6.627 |
| #2 | 8.179 | 6.177 | 2.589 | 1.824 | .8564 | 1.164 | 6.609 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1206.7 | 39229. | 17798. |
| Stddev | 1.8 | 3. | 38. |
| %RSD | .14586 | .00728 | .21619 |
| #1 | 1205.4 | 39227. | 17825. |
| #2 | 1207.9 | 39231. | 17770. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/28/2013 13:07:11 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.438 | 1.723 | 1.420 | .7369 | .1577 | 2.741 |
| Stddev | .001 | .005 | .004 | .0025 | .0009 | .000 |
| %RSD | .0441 | .2962 | .2482 | .3388 | .5574 | .0004 |
| #1 | 1.438 | 1.726 | 1.423 | .7387 | .1583 | 2.741 |
| #2 | 1.438 | 1.719 | 1.418 | .7352 | .1571 | 2.741 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17838. |
| Stddev | 56. |
| %RSD | .31394 |
| #1 | 17799. |
| #2 | 17878. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/28/2013 13:12:06 Type: Cal
Method: Accutest -SS2 with S(v115) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3262 | .5548 | .0713 | .6988 | 2.521 | 1.491 | 36.22 | 1.249 | 1.054 | .0656 |
| Stddev | .0004 | .0003 | .0002 | .0005 | .004 | .002 | .33 | .003 | .000 | .0002 |
| %RSD | .1266 | .0587 | .2731 | .0731 | .1692 | .1118 | .9219 | .2054 | .0133 | .2911 |
| #1 | .3265 | .5550 | .0715 | .6991 | 2.518 | 1.490 | 35.99 | 1.247 | 1.054 | .0655 |
| #2 | .3259 | .5546 | .0712 | .6984 | 2.524 | 1.492 | 36.46 | 1.250 | 1.054 | .0658 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.800 |
| Stddev | .005 |
| %RSD | .1746 |
| #1 | 2.797 |
| #2 | 2.804 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1222.5 | 39221. | 17899. |
| Stddev | 2.8 | 21. | 19. |
| %RSD | .23295 | .05237 | .10482 |
| #1 | 1224.5 | 39207. | 17912. |
| #2 | 1220.4 | 39236. | 17886. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/28/2013 13:17:04 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5056 | 15.49 | 2.964 | 2.962 | 2.943 | 2.960 | 2.965 | 17.58 | 2.940 | 2.905 |
| Stddev | .0003 | .06 | .006 | .017 | .007 | .005 | .013 | .08 | .002 | .002 |
| %RSD | .0685 | .3886 | .2020 | .5733 | .2228 | .1635 | .4414 | .4400 | .0619 | .0640 |
| #1 | .5058 | 15.53 | 2.960 | 2.974 | 2.938 | 2.957 | 2.975 | 17.63 | 2.939 | 2.904 |
| #2 | .5053 | 15.44 | 2.969 | 2.950 | 2.947 | 2.964 | 2.956 | 17.53 | 2.941 | 2.906 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.106 | 2.974 | 17.74 | 15.28 | 17.73 | 3.054 | 2.795 | 14.92 | 2.811 | 2.838 |
| Stddev | .006 | .024 | .10 | .07 | .08 | .003 | .007 | .06 | .003 | .003 |
| %RSD | .2106 | .8013 | .5488 | .4288 | .4453 | .0853 | .2521 | .3710 | .1210 | .0950 |
| #1 | 3.111 | 2.991 | 17.81 | 15.33 | 17.78 | 3.052 | 2.790 | 14.96 | 2.808 | 2.836 |
| #2 | 3.102 | 2.957 | 17.67 | 15.24 | 17.67 | 3.056 | 2.800 | 14.89 | 2.813 | 2.839 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.063 | 2.982 | 2.934 | 2.883 | 2.895 | 2.980 | 3.035 | 2.928 | 3.002 | 2.900 |
| Stddev | .012 | .020 | .005 | .001 | .002 | .002 | .002 | .005 | .009 | .003 |
| %RSD | .4062 | .6580 | .1607 | .0432 | .0725 | .0731 | .0780 | .1773 | .2853 | .1013 |
| #1 | 3.072 | 2.996 | 2.931 | 2.884 | 2.893 | 2.979 | 3.033 | 2.925 | 3.008 | 2.897 |
| #2 | 3.054 | 2.969 | 2.938 | 2.882 | 2.896 | 2.982 | 3.036 | 2.932 | 2.996 | 2.902 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.962 | 2.903 | 2.838 | 3.035 |
| Stddev | .005 | .015 | .002 | .010 |
| %RSD | .1751 | .5016 | .0767 | .3174 |
| #1 | 2.966 | 2.913 | 2.840 | 3.042 |
| #2 | 2.959 | 2.892 | 2.837 | 3.028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.4 | 38319. | 17827. |
| Stddev | 1.2 | 91. | 105. |
| %RSD | .10115 | .23691 | .59149 |
| #1 | 1224.3 | 38255. | 17752. |
| #2 | 1222.5 | 38383. | 17901. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 10/28/2013 13:21:55 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0068 | .0009 | .0038 | .0034 | .0001 | .0001 | .0021 | .0001 | .0001 |
| Stddev | .0001 | .0005 | .0001 | .0009 | .0005 | .0001 | .0001 | .0009 | .0001 | .0001 |
| %RSD | 38.20 | 7.873 | 10.02 | 24.44 | 13.73 | 146.4 | 65.65 | 42.28 | 126.6 | 176.8 |
| #1 | .0002 | -.0065 | .0010 | .0044 | .0037 | .0002 | .0001 | .0015 | .0000 | .0000 |
| #2 | .0003 | -.0072 | .0009 | .0031 | .0030 | .0000 | .0000 | .0027 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0003 | .0028 | -.0046 | .0167 | .0001 | .0035 | -.0053 | -.0001 | .0002 |
| Stddev | .0006 | .0002 | .0009 | .0129 | .0362 | .0001 | .0006 | .0038 | .0004 | .0001 |
| %RSD | 64.63 | 57.48 | 31.25 | 277.4 | 216.3 | 71.08 | 17.23 | 71.66 | 385.5 | 30.59 |
| #1 | -.0013 | .0002 | .0034 | .0045 | .0423 | .0001 | .0039 | -.0026 | -.0003 | .0002 |
| #2 | -.0005 | .0004 | .0022 | -.0138 | -.0089 | .0000 | .0030 | -.0079 | .0002 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0119 | -.0008 | .0008 | .0009 | .0006 | -.0004 | .0001 | .0007 | .0020 |
| Stddev | .0014 | .0047 | .0009 | .0009 | .0015 | .0006 | .0003 | .0000 | .0001 | .0001 |
| %RSD | 182.2 | 39.76 | 108.9 | 116.6 | 169.1 | 117.3 | 74.40 | 20.72 | 18.55 | 4.959 |
| #1 | -.0002 | -.0152 | -.0014 | .0014 | -.0002 | .0001 | -.0002 | .0001 | .0006 | .0020 |
| #2 | .0018 | -.0085 | -.0002 | .0001 | .0019 | .0010 | -.0006 | .0001 | .0008 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0210 | .0002 | .0013 |
| Stddev | .0004 | .0017 | .0000 | .0002 |
| %RSD | 135.8 | 7.973 | 5.893 | 13.29 |
| #1 | .0000 | .0222 | .0002 | .0015 |
| #2 | -.0006 | .0199 | .0002 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.1 | 38911. | 17586. |
| Stddev | .3 | 17. | 11. |
| %RSD | .02206 | .04313 | .06337 |
| #1 | 1225.9 | 38900. | 17594. |
| #2 | 1226.3 | 38923. | 17578. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 13:27:46 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2516 | 9.809 | 1.917 | -.0066 | 1.929 | 1.888 | 1.985 | 9.945 | 1.982 | 1.999 |
| Stddev | .0007 | .040 | .001 | .0004 | .001 | .000 | .005 | .027 | .005 | .000 |
| %RSD | .2812 | .4107 | .0264 | 6.722 | .0610 | .0088 | .2703 | .2727 | .2331 | .0121 |
| #1 | .2521 | 9.838 | 1.916 | -.0069 | 1.928 | 1.888 | 1.989 | 9.964 | 1.985 | 1.999 |
| #2 | .2511 | 9.781 | 1.917 | -.0063 | 1.930 | 1.888 | 1.981 | 9.926 | 1.979 | 1.999 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.042 | 1.963 | 9.801 | 9.721 | 9.682 | 2.051 | 1.911 | 9.893 | 1.918 | 1.905 |
| Stddev | .000 | .005 | .025 | .004 | .029 | .000 | .003 | .005 | .001 | .005 |
| %RSD | .0175 | .2566 | .2533 | .0402 | .3040 | .0115 | .1717 | .0552 | .0396 | .2408 |
| #1 | 2.042 | 1.967 | 9.818 | 9.724 | 9.662 | 2.050 | 1.908 | 9.889 | 1.918 | 1.908 |
| #2 | 2.041 | 1.960 | 9.783 | 9.718 | 9.703 | 2.051 | 1.913 | 9.896 | 1.917 | 1.902 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | .0078 | -.0014 | 1.921 | 1.910 | -.0001 | 1.931 | 1.945 | 1.952 | 1.920 |
| Stddev | .0012 | .0065 | .0003 | .002 | .002 | .0001 | .001 | .000 | .002 | .002 |
| %RSD | 43.37 | 84.26 | 23.02 | .0984 | .0888 | 102.2 | .0621 | .0196 | .0831 | .1146 |
| #1 | .0019 | .0031 | -.0012 | 1.920 | 1.909 | .0000 | 1.932 | 1.945 | 1.951 | 1.918 |
| #2 | .0036 | .0124 | -.0016 | 1.923 | 1.911 | -.0001 | 1.930 | 1.945 | 1.953 | 1.921 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.960 | .0115 | 1.916 | .0097 |
| Stddev | .003 | .0019 | .003 | .0020 |
| %RSD | .1542 | 16.88 | .1667 | 20.72 |
| #1 | 1.962 | .0128 | 1.918 | .0112 |
| #2 | 1.958 | .0101 | 1.914 | .0083 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1243.3 | 38400. | 17869. |
| Stddev | 1.9 | 14. | 5. |
| %RSD | .15343 | .03773 | .02556 |
| #1 | 1244.6 | 38390. | 17866. |
| #2 | 1241.9 | 38410. | 17872. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 13:32:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0060 | .0007 | -.0014 | .0026 | .0000 | .0001 | .0000 | .0001 |
| Stddev | .0000 | .0001 | .0017 | .0008 | .0006 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 1.708 | 1.884 | 231.7 | 60.20 | 24.16 | 1058. | 78.51 | 470.6 | 120.5 |
| #1 | .0006 | -.0059 | .0019 | -.0008 | .0030 | .0000 | .0001 | -.0001 | .0000 |
| #2 | .0006 | -.0060 | -.0005 | -.0020 | .0021 | .0000 | .0000 | .0002 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0002 | .0001 | .0008 | .0015 | .0220 | .0000 | .0025 | -.0017 |
| Stddev | .0001 | .0001 | .0009 | .0011 | .0000 | .0139 | .0001 | .0006 | .0044 |
| %RSD | 77.90 | 23.88 | 622.9 | 132.7 | 1.393 | 63.32 | 321.1 | 23.91 | 264.5 |
| #1 | .0001 | -.0003 | .0008 | .0001 | .0015 | .0121 | .0000 | .0030 | .0014 |
| #2 | .0002 | -.0002 | -.0005 | .0016 | .0015 | .0318 | .0001 | .0021 | -.0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0009 | -.0001 | -.0057 | -.0006 | .0002 | -.0003 | .0015 | .0004 |
| Stddev | .0001 | .0010 | .0002 | .0097 | .0021 | .0003 | .0017 | .0002 | .0006 |
| %RSD | 25.47 | 105.9 | 334.7 | 169.7 | 386.5 | 150.8 | 524.0 | 15.92 | 172.3 |
| #1 | -.0003 | .0016 | -.0002 | -.0126 | .0010 | .0004 | .0009 | .0016 | .0008 |
| #2 | -.0002 | .0002 | .0001 | .0011 | -.0021 | .0000 | -.0016 | .0013 | -.0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | F.0036 | -.0007 | .0144 | .0001 | -.0002 |
| Stddev | .0000 | .0008 | .0003 | .0002 | .0015 | .0001 | .0002 |
| %RSD | 8.819 | 232.4 | 7.934 | 24.63 | 10.67 | 81.47 | 108.1 |
| #1 | .0001 | -.0002 | .0038 | -.0006 | .0155 | .0000 | -.0004 |
| #2 | .0001 | .0009 | .0034 | -.0009 | .0133 | .0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 38948. | 17699. |
| Stddev | 1.5 | 108. | 1. |
| %RSD | .12442 | .27787 | .00586 |
| #1 | 1221.1 | 39025. | 17698. |
| #2 | 1223.3 | 38872. | 17700. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/28/2013 13:37:25 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | .2034 | .0115 | -.0012 | .1010 | .0499 | .0042 | 5.046 | .0042 | .0521 |
| Stddev | .0005 | .0013 | .0004 | .0010 | .0006 | .0001 | .0001 | .036 | .0000 | .0002 |
| %RSD | 8.330 | .6249 | 3.757 | 81.38 | .6283 | .1932 | 1.397 | .7052 | .5395 | .4072 |
| #1 | .0060 | .2043 | .0118 | -.0005 | .1015 | .0499 | .0042 | 5.021 | .0042 | .0522 |
| #2 | .0054 | .2025 | .0112 | -.0019 | .1006 | .0500 | .0043 | 5.072 | .0043 | .0519 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0096 | .0255 | .1031 | 4.964 | 4.889 | .0161 | .1006 | 5.010 | .0401 | .0104 |
| Stddev | .0001 | .0002 | .0005 | .026 | .009 | .0001 | .0000 | .024 | .0001 | .0006 |
| %RSD | 1.550 | .8795 | .5011 | .5344 | .1924 | .5325 | .0149 | .4748 | .3539 | 6.189 |
| #1 | .0097 | .0253 | .1035 | 4.946 | 4.882 | .0162 | .1006 | 4.993 | .0402 | .0099 |
| #2 | .0095 | .0256 | .1028 | 4.983 | 4.896 | .0160 | .1006 | 5.027 | .0400 | .0109 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0049 | -.0002 | .0103 | .0108 | .0050 | .0977 | .0102 | .0516 | .0116 |
| Stddev | .0024 | .0055 | .0001 | .0010 | .0006 | .0001 | .0004 | .0000 | .0002 | .0008 |
| %RSD | 4644. | 112.7 | 75.52 | 10.10 | 5.998 | 1.809 | .3676 | .1722 | .3292 | 6.910 |
| #1 | .0016 | -.0010 | -.0002 | .0095 | .0113 | .0049 | .0980 | .0102 | .0517 | .0122 |
| #2 | -.0017 | -.0088 | -.0001 | .0110 | .0103 | .0050 | .0975 | .0101 | .0515 | .0110 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0097 | .0075 | .0212 | .0006 |
| Stddev | .0001 | .0006 | .0006 | .0002 |
| %RSD | 1.291 | 8.271 | 2.887 | 31.85 |
| #1 | .0098 | .0080 | .0208 | .0007 |
| #2 | .0096 | .0071 | .0217 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1239.2 | 38573. | 17764. |
| Stddev | 5.7 | 96. | 162. |
| %RSD | .45627 | .24945 | .90915 |
| #1 | 1235.2 | 38505. | 17879. |
| #2 | 1243.2 | 38641. | 17650. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/28/2013 13:42:19 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | 522.9 | .0001 | .0237 | .0009 | -.0001 | .0001 | 458.9 | -.0001 | .0013 |
| Stddev | .0001 | 2.4 | .0029 | .0010 | .0000 | .0001 | .0000 | 3.0 | .0004 | .0000 |
| %RSD | 10.57 | .4559 | 3057. | 4.306 | .5600 | 43.58 | 19.31 | .6461 | 251.5 | 3.717 |
| #1 | .0008 | 521.2 | .0021 | .0244 | .0009 | -.0001 | .0001 | 456.8 | .0001 | .0013 |
| #2 | .0009 | 524.6 | -.0020 | .0230 | .0009 | -.0002 | .0001 | 461.0 | -.0004 | .0013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0003 | 179.7 | .0471 | 515.4 | .0004 | -.0001 | .0293 | -.0019 | -.0001 |
| Stddev | .0000 | .0002 | .4 | .0062 | 1.7 | .0000 | .0003 | .0075 | .0001 | .0035 |
| %RSD | 16.70 | 58.70 | .2169 | 13.26 | .3254 | 1.106 | 282.4 | 25.56 | 5.016 | 3750. |
| #1 | .0003 | .0004 | 179.5 | .0515 | 514.2 | .0004 | .0001 | .0240 | -.0019 | .0024 |
| #2 | .0002 | .0002 | 180.0 | .0427 | 516.6 | .0004 | -.0003 | .0346 | -.0020 | -.0026 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0070 | -.0328 | .0896 | .0008 | -.0007 | .0376 | .0008 | -.0083 | .0058 | -.0018 |
| Stddev | .0001 | .0023 | .0000 | .0026 | .0013 | .0016 | .0005 | .0001 | .0003 | .0001 |
| %RSD | 1.151 | 6.923 | .0084 | 331.8 | 190.6 | 4.385 | 59.38 | 1.122 | 4.617 | 7.495 |
| #1 | -.0070 | -.0312 | .0896 | -.0010 | -.0016 | .0388 | .0011 | -.0082 | .0060 | -.0017 |
| #2 | -.0071 | -.0344 | .0896 | .0026 | .0002 | .0364 | .0005 | -.0084 | .0056 | -.0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0104 | -.0064 | -.0008 | .0091 |
| Stddev | .0007 | .0017 | .0002 | .0000 |
| %RSD | 6.406 | 25.89 | 27.14 | .3496 |
| #1 | .0099 | -.0076 | -.0006 | .0091 |
| #2 | .0108 | -.0053 | -.0009 | .0090 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1148.4 | 35300. | 17440. |
| Stddev | .2 | 31. | 110. |
| %RSD | .01768 | .08801 | .63103 |
| #1 | 1148.5 | 35278. | 17518. |
| #2 | 1148.3 | 35322. | 17362. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/28/2013 13:47:19 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.082 | 526.7 | 2.024 | .5322 | .9420 | .4794 | .4604 | 454.5 | 1.016 | .4571 |
| Stddev | .004 | 6.8 | .012 | .0054 | .0002 | .0015 | .0015 | 1.3 | .002 | .0021 |
| %RSD | .4039 | 1.291 | .5711 | 1.021 | .0264 | .3206 | .3339 | .2793 | .2166 | .4598 |
| #1 | 1.079 | 531.5 | 2.016 | .5284 | .9418 | .4805 | .4615 | 455.4 | 1.014 | .4556 |
| #2 | 1.085 | 521.9 | 2.032 | .5361 | .9422 | .4783 | .4593 | 453.6 | 1.017 | .4586 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5281 | .5459 | 178.6 | .0486 | 511.5 | .5188 | .9161 | .0249 | .8335 | .8618 |
| Stddev | .0043 | .0019 | .3 | .0103 | 1.8 | .0007 | .0026 | .0030 | .0016 | .0006 |
| %RSD | .8112 | .3434 | .1562 | 21.26 | .3462 | .1354 | .2805 | 12.12 | .1917 | .0740 |
| #1 | .5250 | .5445 | 178.8 | .0559 | 512.7 | .5183 | .9143 | .0270 | .8324 | .8614 |
| #2 | .5311 | .5472 | 178.4 | .0413 | 510.2 | .5193 | .9179 | .0228 | .8346 | .8623 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5640 | .4908 | .5575 | 1.938 | 1.905 | 2.031 | .9271 | .9426 | .5386 | 1.735 |
| Stddev | .0029 | .0068 | .0018 | .008 | .009 | .009 | .0049 | .0027 | .0031 | .003 |
| %RSD | .5228 | 1.377 | .3152 | .3959 | .4896 | .4175 | .5235 | .2815 | .5714 | .1679 |
| #1 | .5661 | .4860 | .5563 | 1.933 | 1.898 | 2.025 | .9236 | .9445 | .5364 | 1.733 |
| #2 | .5619 | .4955 | .5587 | 1.944 | 1.912 | 2.037 | .9305 | .9407 | .5408 | 1.737 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5345 | 1.956 | .8685 | .4307 |
| Stddev | .0008 | .013 | .0024 | .0050 |
| %RSD | .1533 | .6612 | .2757 | 1.160 |
| #1 | .5339 | 1.947 | .8668 | .4272 |
| #2 | .5351 | 1.965 | .8702 | .4342 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1158.8 | 35327. | 17501. |
| Stddev | 2.2 | 136. | 46. |
| %RSD | .18743 | .38418 | .26111 |
| #1 | 1160.4 | 35423. | 17469. |
| #2 | 1157.3 | 35231. | 17533. |

Zoom In Zoom Out

Sample Name: MP21905-B1 Acquired: 10/28/2013 13:52:11 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2086 | 2.216 | .5430 | -.0010 | .0030 | 2.050 | .5266 | 25.55 | .5440 | .5271 |
| Stddev | .0004 | .013 | .0009 | .0001 | .0001 | .001 | .0026 | .15 | .0001 | .0009 |
| %RSD | .1796 | .5864 | .1612 | 7.224 | 3.364 | .0530 | .5010 | .5889 | .0188 | .1744 |
| #1 | .2083 | 2.225 | .5437 | -.0010 | .0030 | 2.050 | .5285 | 25.65 | .5441 | .5277 |
| #2 | .2089 | 2.207 | .5424 | -.0011 | .0029 | 2.049 | .5248 | 25.44 | .5439 | .5264 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5592 | .5163 | 2.149 | 26.06 | 26.05 | .5331 | .0015 | 26.21 | .5015 | 1.007 |
| Stddev | .0030 | .0011 | .011 | .02 | .21 | .0004 | .0004 | .05 | .0018 | .005 |
| %RSD | .5279 | .2150 | .5293 | .0717 | .8203 | .0787 | 24.05 | .1878 | .3511 | .5177 |
| #1 | .5613 | .5171 | 2.157 | 26.07 | 26.20 | .5333 | .0017 | 26.24 | .5027 | 1.011 |
| #2 | .5572 | .5156 | 2.141 | 26.04 | 25.90 | .5328 | .0012 | 26.18 | .5002 | 1.004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0021 | .0022 | .5167 | .5127 | .0197 | .0084 | .5146 | .5291 | .5169 |
| Stddev | .0011 | .0033 | .0005 | .0009 | .0009 | .0002 | .0002 | .0010 | .0019 | .0024 |
| %RSD | 112.5 | 156.7 | 23.43 | .1657 | .1774 | 1.179 | 2.491 | .1885 | .3503 | .4574 |
| #1 | -.0002 | -.0002 | .0025 | .5173 | .5134 | .0199 | .0086 | .5153 | .5305 | .5185 |
| #2 | -.0018 | .0045 | .0018 | .5161 | .5121 | .0196 | .0083 | .5139 | .5278 | .5152 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5419 | .0220 | .5314 | .0291 |
| Stddev | .0025 | .0092 | .0002 | .0024 |
| %RSD | .4662 | 41.61 | .0438 | 8.164 |
| #1 | .5437 | .0285 | .5316 | .0308 |
| #2 | .5402 | .0156 | .5313 | .0274 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.6 | 38528. | 17668. |
| Stddev | 5.0 | 153. | 92. |
| %RSD | .41441 | .39646 | .52292 |
| #1 | 1213.0 | 38420. | 17602. |
| #2 | 1220.1 | 38636. | 17733. |



Zoom In Zoom Out

Sample Name: MP21905-MB1 Acquired: 10/28/2013 13:56:57 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0305 | .0026 | -.0008 | .0004 | .0006 | .0001 | .0184 | .0002 | .0003 |
| Stddev | .0004 | .0034 | .0004 | .0005 | .0000 | .0001 | .0000 | .0040 | .0001 | .0000 |
| %RSD | 134.2 | 11.30 | 16.78 | 64.59 | 9.801 | 15.65 | 43.53 | 21.96 | 71.23 | 2.532 |
| #1 | .0005 | .0280 | .0029 | -.0012 | .0005 | .0005 | .0001 | .0156 | .0001 | .0003 |
| #2 | .0000 | .0329 | .0023 | -.0004 | .0004 | .0006 | .0001 | .0213 | .0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0003 | .0571 | .0108 | .0269 | .0006 | .0003 | .0080 | -.0001 | .0004 |
| Stddev | .0005 | .0004 | .0002 | .0096 | .0039 | .0001 | .0001 | .0002 | .0001 | .0006 |
| %RSD | 129.3 | 149.7 | .4340 | 89.41 | 14.48 | 9.833 | 25.14 | 3.064 | 213.2 | 160.3 |
| #1 | -.0008 | .0000 | .0569 | .0040 | .0242 | .0006 | .0003 | .0082 | -.0002 | .0008 |
| #2 | .0000 | .0006 | .0573 | .0176 | .0297 | .0005 | .0004 | .0079 | .0000 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0028 | .0016 | .0010 | -.0006 | .0074 | .0098 | .0001 | .0009 | .0031 |
| Stddev | .0006 | .0020 | .0008 | .0002 | .0016 | .0008 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 105.1 | 72.60 | 49.87 | 18.73 | 260.3 | 10.32 | 4.516 | .7741 | 8.146 | 15.04 |
| #1 | .0010 | -.0014 | .0022 | .0008 | -.0017 | .0068 | .0095 | .0001 | .0008 | .0034 |
| #2 | .0001 | -.0042 | .0010 | .0011 | .0005 | .0079 | .0101 | .0001 | .0009 | .0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0075 | .0016 | .0005 |
| Stddev | .0008 | .0043 | .0001 | .0006 |
| %RSD | 141.9 | 57.73 | 4.648 | 128.8 |
| #1 | .0000 | .0105 | .0016 | .0010 |
| #2 | -.0011 | .0044 | .0017 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1238.9 | 39090. | 17742. |
| Stddev | .1 | 166. | 40. |
| %RSD | .00750 | .42520 | .22682 |
| #1 | 1238.9 | 38973. | 17770. |
| #2 | 1238.8 | 39208. | 17713. |



Zoom In Zoom Out

Sample Name: MP21905-S1 Acquired: 10/28/2013 14:01:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2022 | 89.41 | .5514 | .0239 | .0085 | 2.243 | .4994 | 25.45 | .5105 |
| Stddev | .0002 | .14 | .0001 | .0018 | .0003 | .002 | .0002 | .03 | .0010 |
| %RSD | .1066 | .1547 | .0222 | 7.495 | 3.997 | .0967 | .0431 | .1206 | .2016 |
| #1 | .2021 | 89.31 | .5514 | .0226 | .0088 | 2.242 | .4992 | 25.47 | .5098 |
| #2 | .2024 | 89.51 | .5513 | .0251 | .0083 | 2.245 | .4995 | 25.43 | .5113 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5309 | .6421 | .5746 | F229.9 | 27.90 | 33.10 | 1.340 | .0032 | 25.12 |
| Stddev | .0000 | .0003 | .0008 | .2 | .03 | .05 | .000 | .0001 | .04 |
| %RSD | .0034 | .0431 | .1443 | .0771 | .0967 | .1464 | .0233 | 2.044 | .1464 |
| #1 | .5309 | .6423 | .5752 | 230.0 | 27.88 | 33.06 | 1.341 | .0032 | 25.09 |
| #2 | .5310 | .6419 | .5740 | 229.8 | 27.92 | 33.13 | 1.340 | .0033 | 25.14 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5660 | 1.053 | .0267 | .0006 | 1.196 | .1688 | .4640 | 4.393 | .0076 |
| Stddev | .0006 | .001 | .0016 | .0059 | .001 | .0002 | .0000 | .002 | .0004 |
| %RSD | .0977 | .0751 | 5.835 | 985.4 | .0486 | .1402 | .0062 | .0404 | 4.997 |
| #1 | .5656 | 1.053 | .0278 | .0048 | 1.196 | .1687 | .4640 | 4.394 | .0079 |
| #2 | .5664 | 1.052 | .0256 | -.0036 | 1.195 | .1690 | .4640 | 4.391 | .0074 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5314 | .9046 | .4697 | .6995 | .0217 | .8456 | .0268 |
| Stddev | .0006 | .0013 | .0014 | .0002 | .0003 | .0018 | .0001 |
| %RSD | .1078 | .1432 | .3018 | .0343 | 1.457 | .2152 | .5142 |
| #1 | .5310 | .9055 | .4687 | .6997 | .0220 | .8444 | .0269 |
| #2 | .5318 | .9037 | .4707 | .6993 | .0215 | .8469 | .0267 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.6 | 39165. | 18315. |
| Stddev | .9 | 75. | 39. |
| %RSD | .07072 | .19123 | .21204 |
| #1 | 1248.9 | 39112. | 18287. |
| #2 | 1250.2 | 39218. | 18342. |



Zoom In Zoom Out

Sample Name: MP21905-S2 Acquired: 10/28/2013 14:06:43 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2044 | 88.88 | .5188 | .0136 | .0095 | 2.220 | .4988 | 25.70 | .5096 | .5217 |
| Stddev | .0007 | .05 | .0007 | .0003 | .0006 | .004 | .0002 | .04 | .0018 | .0010 |
| %RSD | .3634 | .0588 | .1303 | 1.857 | 6.680 | .1755 | .0469 | .1453 | .3507 | .1988 |
| #1 | .2039 | 88.84 | .5193 | .0134 | .0100 | 2.218 | .4989 | 25.73 | .5109 | .5225 |
| #2 | .2049 | 88.91 | .5183 | .0137 | .0091 | 2.223 | .4986 | 25.67 | .5084 | .5210 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .6285 | .5710 | 140.0 | 27.80 | 33.57 | 1.227 | .0032 | 25.17 | .5533 | 1.036 |
| Stddev | .0031 | .0003 | .1 | .07 | .04 | .001 | .0002 | .02 | .0006 | .004 |
| %RSD | .4892 | .0597 | .0485 | .2396 | .1217 | .1129 | 6.526 | .0846 | .1155 | .3686 |
| #1 | .6263 | .5707 | 140.1 | 27.75 | 33.54 | 1.226 | .0034 | 25.15 | .5528 | 1.039 |
| #2 | .6306 | .5712 | 140.0 | 27.84 | 33.60 | 1.228 | .0031 | 25.18 | .5537 | 1.033 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0143 | -.0007 | .9661 | .1653 | .4650 | 4.506 | .0060 | .5295 | .8812 | .4720 |
| Stddev | .0015 | .0002 | .0032 | .0005 | .0007 | .004 | .0006 | .0001 | .0032 | .0003 |
| %RSD | 10.29 | 27.43 | .3267 | .2733 | .1500 | .0818 | 10.67 | .0221 | .3617 | .0545 |
| #1 | .0154 | -.0006 | .9684 | .1656 | .4655 | 4.508 | .0064 | .5295 | .8790 | .4718 |
| #2 | .0133 | -.0009 | .9639 | .1650 | .4645 | 4.503 | .0055 | .5294 | .8835 | .4722 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6700 | .0097 | .7774 | .0194 |
| Stddev | .0009 | .0075 | .0026 | .0006 |
| %RSD | .1347 | 76.58 | .3385 | 3.251 |
| #1 | .6707 | .0150 | .7755 | .0190 |
| #2 | .6694 | .0045 | .7792 | .0199 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.5 | 38912. | 18254. |
| Stddev | 8.5 | 36. | 29. |
| %RSD | .67235 | .09361 | .15685 |
| #1 | 1264.4 | 38938. | 18234. |
| #2 | 1276.5 | 38887. | 18275. |

Zoom In Zoom Out

Sample Name: MC25455-16 Acquired: 10/28/2013 14:11:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | 68.44 | .0657 | .0122 | .0035 | .2908 | .0036 | 8.171 | .0007 | .0423 |
| Stddev | .0002 | .17 | .0007 | .0021 | .0001 | .0011 | .0000 | .004 | .0000 | .0001 |
| %RSD | 4.401 | .2556 | .9959 | 17.20 | 3.607 | .3660 | .0149 | .0488 | 3.763 | .1294 |
| #1 | .0047 | 68.57 | .0652 | .0137 | .0034 | .2915 | .0036 | 8.173 | .0007 | .0423 |
| #2 | .0044 | 68.32 | .0662 | .0108 | .0036 | .2900 | .0036 | 8.168 | .0008 | .0423 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1079 | .0941 | 135.3 | 10.01 | 21.01 | 1.869 | .0019 | .3740 | .0841 | .3961 |
| Stddev | .0005 | .0002 | .2 | .00 | .02 | .008 | .0002 | .0022 | .0002 | .0005 |
| %RSD | .4295 | .1827 | .1584 | .0488 | .0791 | .4186 | 10.47 | .5986 | .1812 | .1346 |
| #1 | .1082 | .0943 | 135.5 | 10.00 | 21.02 | 1.874 | .0021 | .3755 | .0840 | .3965 |
| #2 | .1076 | .0940 | 135.2 | 10.01 | 20.99 | 1.863 | .0018 | .3724 | .0842 | .3958 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0167 | .0115 | 1.133 | .0007 | .0016 | 4.292 | .0038 | .0403 | 4.125 | .0045 |
| Stddev | .0002 | .0086 | .005 | .0002 | .0014 | .000 | .0002 | .0000 | .006 | .0001 |
| %RSD | 1.075 | 74.55 | .4511 | 35.41 | 83.69 | .0048 | 6.171 | .0180 | .1575 | 2.048 |
| #1 | .0166 | .0175 | 1.137 | .0005 | .0007 | 4.292 | .0039 | .0403 | 4.130 | .0045 |
| #2 | .0168 | .0054 | 1.129 | .0008 | .0026 | 4.292 | .0036 | .0403 | 4.120 | .0044 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1708 | .0146 | .3137 | -.0109 |
| Stddev | .0003 | .0061 | .0011 | .0009 |
| %RSD | .1654 | 42.09 | .3564 | 8.542 |
| #1 | .1710 | .0189 | .3144 | -.0103 |
| #2 | .1706 | .0103 | .3129 | -.0116 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1296.5 | 39905. | 18916. |
| Stddev | .4 | 71. | 7. |
| %RSD | .02873 | .17715 | .03761 |
| #1 | 1296.8 | 39855. | 18911. |
| #2 | 1296.3 | 39955. | 18921. |



Zoom In Zoom Out

Sample Name: MP21905-SD1 Acquired: 10/28/2013 14:16:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0056 | 72.09 | .0743 | .0069 | .0040 | .3082 | .0038 | 8.912 | .0008 | .0446 |
| Stddev | .0001 | .02 | .0014 | .0012 | .0001 | .0011 | .0000 | .030 | .0004 | .0008 |
| %RSD | 1.261 | .0308 | 1.895 | 17.80 | 3.390 | .3593 | .0130 | .3368 | 56.16 | 1.896 |
| #1 | .0055 | 72.08 | .0733 | .0061 | .0041 | .3075 | .0038 | 8.933 | .0005 | .0440 |
| #2 | .0056 | 72.11 | .0753 | .0078 | .0039 | .3090 | .0038 | 8.890 | .0011 | .0452 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1090 | .0951 | 146.5 | 10.51 | 22.03 | 1.973 | .0012 | .4168 | .0894 | .4281 |
| Stddev | .0020 | .0028 | .1 | .02 | .13 | .009 | .0000 | .0163 | .0003 | .0025 |
| %RSD | 1.807 | 2.897 | .0513 | .1990 | .5836 | .4561 | 1.622 | 3.920 | .3824 | .5824 |
| #1 | .1077 | .0932 | 146.4 | 10.50 | 21.94 | 1.967 | .0012 | .4284 | .0891 | .4299 |
| #2 | .1104 | .0971 | 146.5 | 10.53 | 22.12 | 1.980 | .0012 | .4053 | .0896 | .4264 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0153 | -.0446 | 1.209 | .0002 | -.0024 | 4.773 | .0063 | .0425 | 4.333 | .0105 |
| Stddev | .0033 | .0014 | .018 | .0051 | .0036 | .005 | .0005 | .0000 | .021 | .0012 |
| %RSD | 21.77 | 3.199 | 1.501 | 2718. | 153.4 | .1009 | 8.526 | .1090 | .4925 | 10.94 |
| #1 | .0129 | -.0436 | 1.222 | -.0034 | -.0049 | 4.776 | .0067 | .0426 | 4.318 | .0113 |
| #2 | .0177 | -.0456 | 1.196 | .0038 | .0002 | 4.769 | .0059 | .0425 | 4.348 | .0097 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1781 | .0331 | .3445 | -.0167 |
| Stddev | .0013 | .0083 | .0011 | .0021 |
| %RSD | .7283 | 25.05 | .3333 | 12.31 |
| #1 | .1790 | .0272 | .3453 | -.0182 |
| #2 | .1772 | .0390 | .3437 | -.0153 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.2 | 38981. | 18116. |
| Stddev | 2.2 | 151. | 33. |
| %RSD | .17461 | .38701 | .18407 |
| #1 | 1260.6 | 39088. | 18093. |
| #2 | 1263.7 | 38874. | 18140. |



Zoom In Zoom Out

Sample Name: MP21905-LC1 Acquired: 10/28/2013 14:21:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3712 | 67.18 | .9633 | .0057 | .9040 | 1.684 | .5690 | 63.44 | .6536 | 1.032 |
| Stddev | .0019 | 1.86 | .0053 | .0005 | .0000 | .045 | .0141 | 1.55 | .0005 | .002 |
| %RSD | .4991 | 2.761 | .5454 | 8.342 | .0012 | 2.696 | 2.480 | 2.441 | .0835 | .1425 |
| #1 | .3699 | 65.87 | .9670 | .0054 | .9040 | 1.652 | .5590 | 62.34 | .6540 | 1.033 |
| #2 | .3725 | 68.49 | .9596 | .0060 | .9041 | 1.716 | .5790 | 64.53 | .6532 | 1.031 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7568 | .8091 | 117.2 | 36.99 | 29.56 | 3.021 | .3874 | 6.845 | .5612 | .9252 |
| Stddev | .0032 | .0054 | 2.9 | .89 | .85 | .012 | .0007 | .160 | .0007 | .0026 |
| %RSD | .4219 | .6656 | 2.486 | 2.402 | 2.887 | .3819 | .1844 | 2.343 | .1282 | .2841 |
| #1 | .7591 | .8053 | 115.1 | 36.36 | 28.96 | 3.013 | .3879 | 6.732 | .5617 | .9271 |
| #2 | .7545 | .8129 | 119.2 | 37.62 | 30.17 | 3.029 | .3869 | 6.959 | .5607 | .9233 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0122 | .0009 | 2.509 | .7142 | 1.664 | 5.129 | 1.046 | .6897 | 1.630 | 1.212 |
| Stddev | .0013 | .0019 | .010 | .0011 | .005 | .007 | .003 | .0181 | .005 | .007 |
| %RSD | 10.52 | 217.5 | .3979 | .1576 | .3039 | .1327 | .2386 | 2.628 | .2850 | .5579 |
| #1 | .0131 | .0022 | 2.516 | .7150 | 1.668 | 5.134 | 1.048 | .6768 | 1.626 | 1.217 |
| #2 | .0113 | -.0005 | 2.502 | .7134 | 1.661 | 5.125 | 1.044 | .7025 | 1.633 | 1.207 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5585 | .0068 | 1.328 | .0334 |
| Stddev | .0021 | .0032 | .003 | .0005 |
| %RSD | .3811 | 46.25 | .2136 | 1.580 |
| #1 | .5570 | .0046 | 1.330 | .0338 |
| #2 | .5600 | .0090 | 1.326 | .0331 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1338.1 | 41855. | 19110. |
| Stddev | .9 | 156. | 409. |
| %RSD | .06600 | .37204 | 2.1403 |
| #1 | 1337.5 | 41965. | 19399. |
| #2 | 1338.7 | 41745. | 18821. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 14:25:48 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2514 | 9.850 | 1.921 | -.0078 | 1.924 | 1.918 | 1.982 | 9.933 | 1.977 | 2.004 |
| Stddev | .0007 | .001 | .003 | .0002 | .003 | .001 | .001 | .020 | .001 | .002 |
| %RSD | .2588 | .0076 | .1439 | 2.827 | .1604 | .0388 | .0290 | .1990 | .0586 | .0776 |
| #1 | .2510 | 9.850 | 1.923 | -.0077 | 1.926 | 1.918 | 1.982 | 9.919 | 1.978 | 2.005 |
| #2 | .2519 | 9.851 | 1.919 | -.0080 | 1.922 | 1.919 | 1.982 | 9.947 | 1.976 | 2.003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.027 | 1.971 | 9.936 | 9.785 | 9.752 | 2.028 | 1.919 | 9.866 | 1.914 | 1.910 |
| Stddev | .008 | .002 | .012 | .014 | .102 | .005 | .001 | .021 | .003 | .005 |
| %RSD | .3911 | .1140 | .1202 | .1380 | 1.048 | .2504 | .0386 | .2078 | .1529 | .2689 |
| #1 | 2.021 | 1.969 | 9.928 | 9.795 | 9.680 | 2.024 | 1.919 | 9.880 | 1.917 | 1.913 |
| #2 | 2.033 | 1.972 | 9.945 | 9.776 | 9.825 | 2.031 | 1.918 | 9.851 | 1.912 | 1.906 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0079 | -.0033 | 1.927 | 1.918 | .0040 | 1.928 | 1.954 | 1.970 | 1.924 |
| Stddev | .0002 | .0035 | .0002 | .001 | .003 | .0003 | .002 | .004 | .003 | .002 |
| %RSD | 12.13 | 44.57 | 5.159 | .0260 | .1667 | 8.023 | .0936 | .2302 | .1702 | .0927 |
| #1 | .0016 | .0104 | -.0035 | 1.927 | 1.920 | .0038 | 1.927 | 1.957 | 1.967 | 1.925 |
| #2 | .0019 | .0054 | -.0032 | 1.928 | 1.916 | .0043 | 1.929 | 1.951 | 1.972 | 1.923 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.969 | .0077 | 1.917 | .0003 |
| Stddev | .004 | .0031 | .003 | .0002 |
| %RSD | .1883 | 40.31 | .1352 | 59.32 |
| #1 | 1.966 | .0099 | 1.919 | .0005 |
| #2 | 1.971 | .0055 | 1.915 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1239.3 | 38663. | 17974. |
| Stddev | .6 | 8. | 6. |
| %RSD | .04492 | .02166 | .03316 |
| #1 | 1239.6 | 38657. | 17978. |
| #2 | 1238.9 | 38669. | 17969. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 14:30:32 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0012 | -.0004 | .0002 | .0022 | .0001 | .0001 | -.0004 | .0002 |
| Stddev | .0005 | .0006 | .0019 | .0000 | .0002 | .0001 | .0000 | .0004 | .0002 |
| %RSD | 149.0 | 50.66 | 448.8 | 9.606 | 11.07 | 212.6 | 5.076 | 101.2 | 117.8 |
| #1 | .0007 | -.0017 | .0009 | .0002 | .0020 | .0000 | .0001 | -.0001 | .0000 |
| #2 | .0000 | -.0008 | -.0018 | .0002 | .0023 | .0001 | .0001 | -.0007 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0013 | .0001 | .0019 | -.0019 | .0359 | .0001 | .0023 | -.0017 |
| Stddev | .0002 | .0007 | .0004 | .0003 | .0153 | .0068 | .0000 | .0004 | .0016 |
| %RSD | 49.48 | 56.17 | 347.9 | 13.99 | 819.9 | 19.08 | 37.79 | 17.20 | 94.00 |
| #1 | .0002 | -.0018 | .0004 | .0017 | -.0127 | .0407 | .0001 | .0026 | -.0006 |
| #2 | .0005 | -.0008 | -.0002 | .0021 | .0090 | .0311 | .0001 | .0020 | -.0029 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0011 | -.0004 | -.0072 | -.0001 | .0003 | .0004 | .0025 | .0010 |
| Stddev | .0001 | .0007 | .0000 | .0044 | .0022 | .0003 | .0000 | .0006 | .0004 |
| %RSD | 19.24 | 61.17 | 9.872 | 60.76 | 1658. | 88.63 | 1.614 | 23.01 | 42.48 |
| #1 | -.0004 | .0015 | -.0004 | -.0103 | -.0017 | .0001 | .0004 | .0029 | .0013 |
| #2 | -.0005 | .0006 | -.0004 | -.0041 | .0014 | .0005 | .0004 | .0021 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | F.0038 | .0001 | .0033 | .0001 | -.0010 |
| Stddev | .0000 | .0000 | .0003 | .0000 | .0018 | .0003 | .0004 |
| %RSD | 3.966 | 9.156 | 8.682 | 57.74 | 54.54 | 259.5 | 41.53 |
| #1 | .0001 | .0005 | .0040 | .0001 | .0020 | -.0001 | -.0007 |
| #2 | .0001 | .0005 | .0036 | .0000 | .0045 | .0003 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1228.3 | 39229. | 17695. |
| Stddev | 4.2 | 19. | 50. |
| %RSD | .33835 | .04818 | .28475 |
| #1 | 1225.3 | 39216. | 17731. |
| #2 | 1231.2 | 39242. | 17659. |



Zoom In Zoom Out

Sample Name: MC25455-1 Acquired: 10/28/2013 14:35:29 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | 260.3 | .0952 | .0199 | .0171 | .9043 | .0107 | 7.065 | .0006 |
| Stddev | .0004 | 2.8 | .0035 | .0001 | .0001 | .0091 | .0000 | .055 | .0003 |
| %RSD | 31.30 | 1.093 | 3.658 | .5785 | .7593 | 1.009 | .1936 | .7841 | 50.62 |
| #1 | .0009 | 262.3 | .0977 | .0200 | .0172 | .9107 | .0106 | 7.104 | .0004 |
| #2 | .0014 | 258.3 | .0928 | .0199 | .0171 | .8978 | .0107 | 7.026 | .0008 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1720 | .4679 | .1940 | F331.4 | 32.87 | 67.35 | 6.211 | .0059 | .8235 |
| Stddev | .0002 | .0034 | .0014 | .6 | .34 | .70 | .050 | .0005 | .0028 |
| %RSD | .0930 | .7286 | .7363 | .1959 | 1.050 | 1.035 | .7976 | 8.276 | .3406 |
| #1 | .1721 | .4703 | .1950 | 331.8 | 33.11 | 67.84 | 6.246 | .0062 | .8215 |
| #2 | .1719 | .4655 | .1929 | 330.9 | 32.63 | 66.86 | 6.176 | .0055 | .8255 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2758 | .4222 | .0326 | .0170 | 4.004 | -.0001 | .0038 | 3.722 | -.0011 |
| Stddev | .0003 | .0010 | .0018 | .0058 | .012 | .0001 | .0017 | .010 | .0004 |
| %RSD | .1076 | .2253 | 5.539 | 34.11 | .3060 | 119.0 | 43.68 | .2730 | 39.35 |
| #1 | .2760 | .4215 | .0338 | .0211 | 4.013 | .0000 | .0026 | 3.729 | -.0014 |
| #2 | .2756 | .4229 | .0313 | .0129 | 3.995 | -.0002 | .0050 | 3.715 | -.0008 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0699 | 11.04 | .0067 | .5957 | .0226 | .9805 | -.0117 |
| Stddev | .0006 | .07 | .0008 | .0046 | .0007 | .0011 | .0004 |
| %RSD | .8302 | .6133 | 12.19 | .7760 | 3.130 | .1091 | 3.817 |
| #1 | .0703 | 11.09 | .0073 | .5990 | .0221 | .9813 | -.0114 |
| #2 | .0695 | 10.99 | .0061 | .5925 | .0231 | .9798 | -.0120 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1284.2 | 39133. | 19149. |
| Stddev | 1.0 | 194. | 110. |
| %RSD | .07407 | .49637 | .57195 |
| #1 | 1283.5 | 38996. | 19071. |
| #2 | 1284.8 | 39270. | 19226. |



Zoom In Zoom Out

Sample Name: MC25455-10 Acquired: 10/28/2013 14:40:33 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 185.1 | .0660 | .0173 | .0205 | .4460 | .0069 | 165.6 | .0004 |
| Stddev | .0000 | .8 | .0007 | .0001 | .0001 | .0019 | .0000 | .6 | .0003 |
| %RSD | 1.980 | .4549 | .9991 | .7347 | .2468 | .4231 | .4358 | .3543 | 73.57 |
| #1 | .0006 | 184.5 | .0656 | .0173 | .0204 | .4473 | .0069 | 165.2 | .0002 |
| #2 | .0007 | 185.7 | .0665 | .0174 | .0205 | .4447 | .0069 | 166.0 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0789 | .2939 | .1399 | F231.2 | 17.51 | 126.9 | 3.576 | .0031 | .4787 |
| Stddev | .0008 | .0023 | .0003 | 1.5 | .06 | .0 | .019 | .0002 | .0053 |
| %RSD | .9578 | .7952 | .2217 | .6646 | .3626 | .0025 | .5369 | 6.049 | 1.112 |
| #1 | .0795 | .2922 | .1397 | 230.1 | 17.55 | 126.9 | 3.562 | .0032 | .4825 |
| #2 | .0784 | .2955 | .1401 | 232.3 | 17.46 | 126.9 | 3.590 | .0029 | .4750 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1873 | .1770 | .0151 | .0063 | 1.898 | .0008 | .0021 | 3.353 | -.0069 |
| Stddev | .0008 | .0008 | .0008 | .0027 | .000 | .0011 | .0018 | .010 | .0007 |
| %RSD | .4261 | .4362 | 5.612 | 43.24 | .0013 | 141.0 | 84.43 | .2884 | 9.717 |
| #1 | .1878 | .1776 | .0145 | .0082 | 1.898 | .0000 | .0008 | 3.360 | -.0065 |
| #2 | .1867 | .1765 | .0157 | .0044 | 1.898 | .0016 | .0033 | 3.346 | -.0074 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .1063 | 7.956 | .0059 | .4063 | .0161 | .6222 | -.0047 |
| Stddev | .0003 | .011 | .0008 | .0010 | .0072 | .0001 | .0004 |
| %RSD | .2817 | .1434 | 12.79 | .2451 | 45.13 | .0153 | 9.553 |
| #1 | .1065 | 7.948 | .0054 | .4056 | .0212 | .6223 | -.0050 |
| #2 | .1061 | 7.964 | .0065 | .4070 | .0109 | .6222 | -.0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.4 | 38795. | 18771. |
| Stddev | 2.9 | 169. | 14. |
| %RSD | .23307 | .43502 | .07320 |
| #1 | 1256.4 | 38914. | 18781. |
| #2 | 1260.5 | 38676. | 18761. |



Zoom In Zoom Out

Sample Name: MC25455-11 Acquired: 10/28/2013 14:45:34 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | 172.1 | .0666 | .0178 | .0097 | .4434 | .0073 | 6.804 | -.0003 |
| Stddev | .0004 | .1 | .0013 | .0008 | .0000 | .0001 | .0001 | .009 | .0000 |
| %RSD | 31.04 | .0723 | 1.975 | 4.265 | .3747 | .0132 | 1.506 | .1277 | 6.312 |
| #1 | .0010 | 172.1 | .0657 | .0183 | .0096 | .4434 | .0073 | 6.810 | -.0003 |
| #2 | .0016 | 172.0 | .0675 | .0173 | .0097 | .4433 | .0072 | 6.798 | -.0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0793 | .2798 | .1318 | F247.4 | 13.30 | 42.45 | 3.899 | .0043 | .4271 |
| Stddev | .0004 | .0012 | .0002 | .5 | .04 | .03 | .020 | .0002 | .0013 |
| %RSD | .4513 | .4357 | .1852 | .1914 | .3174 | .0663 | .5230 | 5.697 | .2930 |
| #1 | .0790 | .2807 | .1320 | 247.8 | 13.33 | 42.47 | 3.914 | .0045 | .4280 |
| #2 | .0795 | .2790 | .1317 | 247.1 | 13.27 | 42.43 | 3.885 | .0041 | .4263 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1823 | .1813 | .0262 | .0081 | 2.231 | -.0008 | .0029 | 3.442 | -.0009 |
| Stddev | .0002 | .0001 | .0005 | .0025 | .018 | .0002 | .0029 | .003 | .0002 |
| %RSD | .1211 | .0329 | 1.951 | 30.73 | .7998 | 24.13 | 97.03 | .0743 | 22.42 |
| #1 | .1821 | .1813 | .0266 | .0099 | 2.243 | -.0009 | .0050 | 3.440 | -.0007 |
| #2 | .1824 | .1813 | .0258 | .0063 | 2.218 | -.0006 | .0009 | 3.444 | -.0010 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0649 | 6.916 | .0048 | .4169 | .0165 | .7133 | -.0102 |
| Stddev | .0001 | .024 | .0003 | .0012 | .0000 | .0015 | .0007 |
| %RSD | .0880 | .3523 | 6.377 | .2970 | .2406 | .2166 | 7.246 |
| #1 | .0650 | 6.933 | .0045 | .4178 | .0165 | .7144 | -.0096 |
| #2 | .0649 | 6.899 | .0050 | .4160 | .0166 | .7122 | -.0107 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1303.6 | 39881. | 19141. |
| Stddev | 4.0 | 148. | 3. |
| %RSD | .30670 | .37095 | .01700 |
| #1 | 1306.4 | 39776. | 19143. |
| #2 | 1300.8 | 39985. | 19139. |

Zoom In Zoom Out

Sample Name: MC25455-12 Acquired: 10/28/2013 14:50:28 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | 162.3 | .0559 | .0188 | .0096 | .3524 | .0065 | 3.500 | -.0001 | .0688 |
| Stddev | .0001 | .2 | .0003 | .0011 | .0002 | .0011 | .0001 | .004 | .0001 | .0008 |
| %RSD | 11.54 | .1189 | .6225 | 5.792 | 1.697 | .3060 | 1.556 | .1221 | 95.11 | 1.111 |
| #1 | .0004 | 162.4 | .0556 | .0180 | .0097 | .3531 | .0064 | 3.497 | -.0001 | .0693 |
| #2 | .0005 | 162.2 | .0561 | .0196 | .0094 | .3516 | .0066 | 3.503 | .0000 | .0682 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2602 | .1154 | 213.3 | 11.97 | 39.59 | 2.722 | .0042 | .3276 | .1608 | .1499 |
| Stddev | .0000 | .0004 | 2.5 | .06 | .07 | .010 | .0000 | .0018 | .0001 | .0012 |
| %RSD | .0182 | .3483 | 1.153 | .4800 | .1852 | .3613 | .6507 | .5521 | .0451 | .7838 |
| #1 | .2602 | .1157 | 211.6 | 12.01 | 39.64 | 2.715 | .0043 | .3289 | .1609 | .1490 |
| #2 | .2602 | .1151 | 215.1 | 11.93 | 39.53 | 2.729 | .0042 | .3263 | .1608 | .1507 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0205 | -.0003 | 2.675 | -.0007 | .0053 | 5.923 | -.0042 | .0378 | 7.141 | .0055 |
| Stddev | .0010 | .0016 | .001 | .0012 | .0014 | .018 | .0002 | .0001 | .020 | .0007 |
| %RSD | 4.845 | 493.8 | .0485 | 164.5 | 26.04 | .3098 | 4.378 | .2412 | .2816 | 12.23 |
| #1 | .0212 | -.0014 | 2.676 | .0001 | .0062 | 5.936 | -.0044 | .0377 | 7.127 | .0051 |
| #2 | .0198 | .0008 | 2.674 | -.0016 | .0043 | 5.910 | -.0041 | .0378 | 7.155 | .0060 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3748 | .0189 | .5019 | -.0219 |
| Stddev | .0025 | .0068 | .0032 | .0006 |
| %RSD | .6766 | 35.91 | .6355 | 2.832 |
| #1 | .3730 | .0141 | .5042 | -.0223 |
| #2 | .3766 | .0238 | .4997 | -.0215 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1307.4 | 39053. | 18966. |
| Stddev | 1.4 | 84. | 13. |
| %RSD | .11080 | .21560 | .06604 |
| #1 | 1306.4 | 39113. | 18975. |
| #2 | 1308.5 | 38994. | 18957. |



Zoom In Zoom Out

Sample Name: MC25455-13 Acquired: 10/28/2013 14:55:21 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 177.2 | .0545 | .0203 | .0097 | .4087 | .0063 | 6.566 | -.0001 |
| Stddev | .0000 | .0 | .0010 | .0005 | .0003 | .0003 | .0000 | .012 | .0000 |
| %RSD | 4.994 | .0048 | 1.750 | 2.512 | 3.276 | .0718 | .0483 | .1834 | 5.509 |
| #1 | .0004 | 177.3 | .0538 | .0206 | .0095 | .4085 | .0063 | 6.575 | -.0001 |
| #2 | .0004 | 177.2 | .0552 | .0199 | .0099 | .4090 | .0063 | 6.558 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0780 | .2854 | .1115 | F230.4 | 12.11 | 42.55 | 2.894 | .0044 | .4586 |
| Stddev | .0001 | .0025 | .0000 | 2.1 | .04 | .02 | .006 | .0002 | .0027 |
| %RSD | .1307 | .8743 | .0166 | .9098 | .3142 | .0356 | .2089 | 5.421 | .5833 |
| #1 | .0780 | .2837 | .1115 | 228.9 | 12.08 | 42.54 | 2.890 | .0046 | .4605 |
| #2 | .0781 | .2872 | .1115 | 231.9 | 12.14 | 42.56 | 2.898 | .0042 | .4567 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1777 | .1767 | .0225 | -.0051 | 2.400 | -.0010 | .0041 | 4.425 | -.0023 |
| Stddev | .0004 | .0002 | .0012 | .0083 | .006 | .0004 | .0010 | .015 | .0000 |
| %RSD | .2373 | .1243 | 5.178 | 162.7 | .2347 | 40.72 | 24.36 | .3423 | .7459 |
| #1 | .1780 | .1769 | .0217 | -.0110 | 2.404 | -.0007 | .0049 | 4.415 | -.0024 |
| #2 | .1774 | .1766 | .0233 | .0008 | 2.396 | -.0013 | .0034 | 4.436 | -.0023 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0670 | 6.719 | .0042 | .4274 | .0119 | .5864 | -.0130 |
| Stddev | .0005 | .003 | .0009 | .0027 | .0007 | .0001 | .0002 |
| %RSD | .7408 | .0371 | 21.97 | .6236 | 5.775 | .0109 | 1.580 |
| #1 | .0666 | 6.717 | .0036 | .4255 | .0124 | .5864 | -.0131 |
| #2 | .0673 | 6.721 | .0049 | .4293 | .0114 | .5863 | -.0128 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1304.2 | 39457. | 19131. |
| Stddev | 3.7 | 129. | 82. |
| %RSD | .28543 | .32581 | .42965 |
| #1 | 1306.8 | 39548. | 19189. |
| #2 | 1301.6 | 39366. | 19073. |



Zoom In Zoom Out

Sample Name: MC25455-14 Acquired: 10/28/2013 15:00:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | 190.9 | .0645 | .0207 | .0176 | .3458 | .0082 | 10.37 | .0001 | .0743 |
| Stddev | .0004 | .4 | .0013 | .0011 | .0010 | .0000 | .0000 | .03 | .0001 | .0002 |
| %RSD | 41.74 | .2206 | 2.019 | 5.141 | 5.646 | .0012 | .0747 | .2522 | 85.55 | .2880 |
| #1 | .0013 | 191.2 | .0654 | .0214 | .0169 | .3458 | .0082 | 10.38 | .0000 | .0745 |
| #2 | .0007 | 190.6 | .0636 | .0199 | .0183 | .3458 | .0082 | 10.35 | .0001 | .0742 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3016 | .1476 | 204.4 | 15.70 | 48.62 | 1.893 | .0082 | 1.976 | .1993 | .1689 |
| Stddev | .0001 | .0010 | .9 | .01 | .14 | .002 | .0000 | .007 | .0003 | .0018 |
| %RSD | .0265 | .6469 | .4493 | .0552 | .2940 | .1149 | .3012 | .3558 | .1260 | 1.066 |
| #1 | .3017 | .1482 | 205.1 | 15.71 | 48.52 | 1.895 | .0082 | 1.981 | .1991 | .1702 |
| #2 | .3015 | .1469 | 203.8 | 15.70 | 48.72 | 1.892 | .0083 | 1.971 | .1995 | .1676 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0214 | -.0078 | 7.196 | .0003 | .0055 | 2.529 | -.0037 | .1238 | 7.649 | .0046 |
| Stddev | .0012 | .0038 | .029 | .0008 | .0003 | .009 | .0000 | .0002 | .005 | .0002 |
| %RSD | 5.434 | 48.86 | .4045 | 275.3 | 6.165 | .3353 | .0005 | .1499 | .0638 | 5.277 |
| #1 | .0222 | -.0106 | 7.176 | -.0003 | .0057 | 2.535 | -.0037 | .1239 | 7.646 | .0048 |
| #2 | .0205 | -.0051 | 7.217 | .0009 | .0052 | 2.523 | -.0037 | .1236 | 7.653 | .0045 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4034 | .0137 | .5628 | .0005 |
| Stddev | .0028 | .0060 | .0013 | .0004 |
| %RSD | .6996 | 43.93 | .2325 | 89.98 |
| #1 | .4054 | .0179 | .5637 | .0008 |
| #2 | .4014 | .0094 | .5619 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1317.3 | 39471. | 19374. |
| Stddev | 1.0 | 58. | 48. |
| %RSD | .07546 | .14598 | .24663 |
| #1 | 1316.6 | 39512. | 19340. |
| #2 | 1318.0 | 39430. | 19408. |



Zoom In Zoom Out

Sample Name: MC25455-15 Acquired: 10/28/2013 15:05:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 168.0 | .1395 | .0072 | .0288 | .4930 | .0080 | 18.79 | .0010 | .1030 |
| Stddev | .0002 | .3 | .0003 | .0009 | .0004 | .0016 | .0001 | .02 | .0000 | .0007 |
| %RSD | 32.82 | .2010 | .2189 | 12.24 | 1.487 | .3211 | .6799 | .0822 | 1.036 | .6444 |
| #1 | .0005 | 168.3 | .1393 | .0078 | .0285 | .4942 | .0080 | 18.78 | .0010 | .1025 |
| #2 | .0008 | 167.8 | .1397 | .0066 | .0291 | .4919 | .0081 | 18.80 | .0010 | .1035 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1030 | .2783 | .1363 | F232.7 | 16.52 | 48.96 | 6.671 | .0093 | 1.713 |
| Stddev | .0007 | .0006 | .0003 | 1.9 | .01 | .09 | .010 | .0000 | .000 |
| %RSD | .6444 | .2010 | .2125 | .7996 | .0811 | .1908 | .1546 | .0723 | .0122 |
| #1 | .1025 | .2787 | .1365 | 231.4 | 16.52 | 48.89 | 6.664 | .0093 | 1.714 |
| #2 | .1035 | .2779 | .1361 | 234.0 | 16.51 | 49.02 | 6.678 | .0093 | 1.713 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1994 | .1369 | .0229 | .0302 | 4.238 | -.0004 | .0023 | 2.518 | -.0047 |
| Stddev | .0002 | .0004 | .0028 | .0087 | .002 | .0006 | .0001 | .006 | .0001 |
| %RSD | .1209 | .3273 | 12.03 | 28.76 | .0364 | 144.2 | 5.411 | .2497 | 3.071 |
| #1 | .1996 | .1373 | .0209 | .0240 | 4.239 | .0000 | .0022 | 2.523 | -.0046 |
| #2 | .1992 | .1366 | .0248 | .0363 | 4.237 | -.0008 | .0024 | 2.514 | -.0048 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .1604 | 7.097 | .0035 | .3828 | .0115 | .5789 | .0032 |
| Stddev | .0004 | .009 | .0005 | .0014 | .0047 | .0000 | .0002 |
| %RSD | .2618 | .1260 | 15.25 | .3662 | 40.95 | .0060 | 5.464 |
| #1 | .1607 | 7.103 | .0038 | .3818 | .0148 | .5789 | .0030 |
| #2 | .1601 | 7.091 | .0031 | .3838 | .0082 | .5788 | .0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1333.2 | 40618. | 19763. |
| Stddev | 4.1 | 2. | 35. |
| %RSD | .31051 | .00558 | .17779 |
| #1 | 1336.1 | 40619. | 19788. |
| #2 | 1330.3 | 40616. | 19738. |

Zoom In Zoom Out

Sample Name: MC25455-17 Acquired: 10/28/2013 15:10:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0041 | 73.81 | .0274 | .0058 | .0025 | .2083 | .0033 | 6.003 | .0003 | .0450 |
| Stddev | .0005 | .27 | .0003 | .0007 | .0002 | .0006 | .0000 | .039 | .0000 | .0001 |
| %RSD | 11.87 | .3700 | .9713 | 11.41 | 7.127 | .2792 | .6357 | .6455 | 13.93 | .2877 |
| #1 | .0038 | 74.00 | .0272 | .0053 | .0023 | .2087 | .0033 | 6.030 | .0004 | .0451 |
| #2 | .0044 | 73.61 | .0276 | .0062 | .0026 | .2079 | .0033 | 5.975 | .0003 | .0449 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1142 | .0882 | 94.33 | 10.83 | 22.67 | 1.568 | .0013 | .2890 | .0862 | .0782 |
| Stddev | .0008 | .0010 | .53 | .03 | .15 | .007 | .0001 | .0032 | .0004 | .0006 |
| %RSD | .6810 | 1.095 | .5570 | .3008 | .6774 | .4220 | 7.163 | 1.117 | .4943 | .7316 |
| #1 | .1137 | .0875 | 94.70 | 10.85 | 22.77 | 1.573 | .0012 | .2867 | .0859 | .0786 |
| #2 | .1148 | .0889 | 93.96 | 10.81 | 22.56 | 1.564 | .0013 | .2913 | .0865 | .0778 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0106 | .0004 | .5395 | -.0013 | .0021 | 2.791 | -.0008 | .0233 | 4.681 | .0025 |
| Stddev | .0019 | .0001 | .0003 | .0007 | .0003 | .002 | .0002 | .0002 | .015 | .0009 |
| %RSD | 17.42 | 25.72 | .0491 | 53.32 | 13.33 | .0729 | 23.93 | .7358 | .3178 | 34.76 |
| #1 | .0120 | .0005 | .5393 | -.0008 | .0019 | 2.793 | -.0007 | .0234 | 4.692 | .0019 |
| #2 | .0093 | .0003 | .5396 | -.0017 | .0024 | 2.790 | -.0010 | .0232 | 4.671 | .0032 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1692 | .0070 | .2359 | -.0112 |
| Stddev | .0005 | .0030 | .0009 | .0003 |
| %RSD | .2978 | 42.23 | .3959 | 2.712 |
| #1 | .1688 | .0049 | .2365 | -.0109 |
| #2 | .1695 | .0091 | .2352 | -.0114 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1310.9 | 40161. | 18800. |
| Stddev | 1.9 | 201. | 86. |
| %RSD | .14582 | .50068 | .45791 |
| #1 | 1309.5 | 40019. | 18739. |
| #2 | 1312.2 | 40303. | 18861. |



Zoom In Zoom Out

Sample Name: MC25455-18 Acquired: 10/28/2013 15:15:04 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0055 | 73.79 | .0322 | .0097 | .0030 | .2346 | .0035 | 6.667 | .0010 | .0420 |
| Stddev | .0002 | .10 | .0010 | .0001 | .0002 | .0004 | .0000 | .039 | .0000 | .0001 |
| %RSD | 3.599 | .1291 | 3.170 | .5298 | 5.523 | .1876 | .3774 | .5910 | 3.935 | .2403 |
| #1 | .0056 | 73.85 | .0329 | .0097 | .0029 | .2349 | .0034 | 6.695 | .0009 | .0421 |
| #2 | .0054 | 73.72 | .0315 | .0096 | .0031 | .2343 | .0035 | 6.639 | .0010 | .0420 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1165 | .1101 | 119.9 | 11.61 | 22.68 | 1.758 | .0021 | .3286 | .0978 | .0927 |
| Stddev | .0009 | .0001 | .3 | .02 | .02 | .005 | .0000 | .0064 | .0006 | .0012 |
| %RSD | .7970 | .1346 | .2678 | .1383 | .1077 | .2803 | .3654 | 1.944 | .6614 | 1.242 |
| #1 | .1158 | .1102 | 120.1 | 11.60 | 22.69 | 1.754 | .0021 | .3241 | .0983 | .0935 |
| #2 | .1171 | .1100 | 119.7 | 11.62 | 22.66 | 1.761 | .0021 | .3332 | .0974 | .0919 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0160 | -.0003 | .8282 | -.0004 | .0025 | 4.750 | .0021 | .0279 | 4.510 | .0028 |
| Stddev | .0005 | .0111 | .0070 | .0007 | .0023 | .013 | .0001 | .0000 | .011 | .0001 |
| %RSD | 2.841 | 3498. | .8510 | 173.8 | 92.29 | .2785 | 2.508 | .1673 | .2471 | 4.396 |
| #1 | .0157 | .0075 | .8332 | .0001 | .0009 | 4.759 | .0021 | .0279 | 4.502 | .0027 |
| #2 | .0163 | -.0082 | .8232 | -.0009 | .0041 | 4.741 | .0021 | .0279 | 4.518 | .0028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1682 | .0067 | .2996 | -.0205 |
| Stddev | .0006 | .0075 | .0007 | .0003 |
| %RSD | .3544 | 113.3 | .2430 | 1.706 |
| #1 | .1678 | .0013 | .3001 | -.0207 |
| #2 | .1687 | .0120 | .2991 | -.0202 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1298.2 | 40132. | 18878. |
| Stddev | 3.2 | 27. | 73. |
| %RSD | .24830 | .06650 | .38509 |
| #1 | 1295.9 | 40151. | 18826. |
| #2 | 1300.5 | 40113. | 18929. |



Zoom In Zoom Out

Sample Name: MC25455-19 Acquired: 10/28/2013 15:19:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | 52.58 | .0213 | .0066 | .0010 | .1552 | .0031 | 7.198 | .0000 | .0332 |
| Stddev | .0003 | .12 | .0006 | .0005 | .0001 | .0001 | .0000 | .056 | .000 | .0000 |
| %RSD | 36.53 | .2207 | 2.725 | 7.143 | 5.912 | .0514 | .1618 | .7727 | 207.8 | .1214 |
| #1 | .0011 | 52.66 | .0209 | .0069 | .0011 | .1553 | .0031 | 7.237 | .0000 | .0332 |
| #2 | .0006 | 52.50 | .0217 | .0062 | .0010 | .1552 | .0031 | 7.158 | -.0001 | .0332 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0887 | .0657 | 79.80 | 10.40 | 19.25 | 1.093 | .0009 | .2588 | .0661 | .0827 |
| Stddev | .0010 | .0003 | .47 | .03 | .15 | .001 | .0002 | .0043 | .0002 | .0000 |
| %RSD | 1.167 | .3810 | .5833 | .3330 | .7674 | .0653 | 19.54 | 1.664 | .3746 | .0364 |
| #1 | .0894 | .0659 | 80.13 | 10.42 | 19.35 | 1.093 | .0007 | .2558 | .0659 | .0827 |
| #2 | .0880 | .0655 | 79.47 | 10.38 | 19.14 | 1.092 | .0010 | .2619 | .0663 | .0828 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | -.0065 | .3723 | .0003 | -.0009 | 2.964 | -.0011 | .0193 | 3.696 | .0038 |
| Stddev | .0002 | .0054 | .0001 | .0008 | .0008 | .003 | .0002 | .0000 | .001 | .0010 |
| %RSD | 1.915 | 82.35 | .0159 | 238.5 | 86.37 | .1097 | 15.65 | .2315 | .0367 | 25.66 |
| #1 | .0101 | -.0103 | .3723 | -.0002 | -.0003 | 2.962 | -.0010 | .0193 | 3.695 | .0031 |
| #2 | .0099 | -.0027 | .3723 | .0009 | -.0014 | 2.967 | -.0012 | .0193 | 3.697 | .0045 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1392 | .0042 | .1811 | -.0103 |
| Stddev | .0003 | .0044 | .0006 | .0003 |
| %RSD | .2331 | 105.6 | .3070 | 3.087 |
| #1 | .1394 | .0073 | .1807 | -.0100 |
| #2 | .1389 | .0011 | .1815 | -.0105 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1312.8 | 40368. | 18629. |
| Stddev | .7 | 62. | 150. |
| %RSD | .05082 | .15243 | .80679 |
| #1 | 1313.3 | 40324. | 18523. |
| #2 | 1312.3 | 40411. | 18736. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 15:24:45 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2487 | 9.780 | 1.904 | -.0072 | 1.920 | 1.910 | 1.961 | 9.822 | 1.975 | 1.996 |
| Stddev | .0001 | .002 | .005 | .0017 | .002 | .001 | .001 | .010 | .002 | .001 |
| %RSD | .0227 | .0206 | .2858 | 23.80 | .0974 | .0362 | .0571 | .0993 | .0936 | .0367 |
| #1 | .2487 | 9.781 | 1.908 | -.0084 | 1.918 | 1.910 | 1.960 | 9.815 | 1.974 | 1.996 |
| #2 | .2486 | 9.778 | 1.901 | -.0060 | 1.921 | 1.911 | 1.962 | 9.829 | 1.976 | 1.997 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.999 | 1.948 | 9.860 | 9.706 | 9.654 | 1.992 | 1.911 | 9.778 | 1.906 | 1.903 |
| Stddev | .009 | .004 | .015 | .003 | .135 | .004 | .001 | .005 | .001 | .001 |
| %RSD | .4384 | .1855 | .1529 | .0284 | 1.396 | .1895 | .0481 | .0507 | .0364 | .0271 |
| #1 | 1.993 | 1.945 | 9.870 | 9.708 | 9.750 | 1.989 | 1.911 | 9.782 | 1.907 | 1.903 |
| #2 | 2.005 | 1.951 | 9.849 | 9.705 | 9.559 | 1.994 | 1.912 | 9.775 | 1.906 | 1.904 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0079 | -.0040 | 1.923 | 1.905 | .0091 | 1.915 | 1.940 | 1.955 | 1.905 |
| Stddev | .0009 | .0015 | .0003 | .001 | .008 | .0028 | .003 | .001 | .002 | .009 |
| %RSD | 87.95 | 18.33 | 6.970 | .0582 | .4211 | 30.38 | .1308 | .0482 | .0968 | .4756 |
| #1 | .0004 | .0089 | -.0042 | 1.924 | 1.911 | .0110 | 1.916 | 1.940 | 1.956 | 1.912 |
| #2 | .0017 | .0069 | -.0038 | 1.922 | 1.900 | .0071 | 1.913 | 1.941 | 1.953 | 1.899 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.954 | .0016 | 1.901 | -.0062 |
| Stddev | .005 | .0036 | .000 | .0002 |
| %RSD | .2380 | 224.7 | .0114 | 3.321 |
| #1 | 1.951 | .0041 | 1.900 | -.0063 |
| #2 | 1.957 | -.0009 | 1.901 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.5 | 38861. | 17997. |
| Stddev | .2 | 122. | 39. |
| %RSD | .01827 | .31346 | .21543 |
| #1 | 1236.3 | 38947. | 17970. |
| #2 | 1236.6 | 38774. | 18025. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 15:29:29 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0054 | .0011 | .0000 | .0015 | .0001 | .0001 | -.0003 | -.0001 |
| Stddev | .0002 | .0020 | .0004 | .001 | .0001 | .0000 | .0000 | .0001 | .0001 |
| %RSD | 26.28 | 36.73 | 33.66 | 5478. | 7.551 | 4.918 | 10.54 | 18.99 | 65.45 |
| #1 | .0005 | -.0040 | .0008 | .0004 | .0016 | .0001 | .0001 | -.0003 | -.0001 |
| #2 | .0008 | -.0069 | .0014 | -.0005 | .0014 | .0001 | .0001 | -.0004 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0010 | -.0002 | .0025 | .0118 | .0074 | .0000 | .0023 | -.0084 |
| Stddev | .0000 | .0006 | .0002 | .0015 | .0055 | .0041 | .0000 | .0008 | .0015 |
| %RSD | 12.52 | 57.10 | 76.74 | 61.00 | 46.34 | 56.15 | 27.92 | 32.10 | 18.27 |
| #1 | .0001 | -.0006 | -.0001 | .0014 | .0156 | .0045 | .0000 | .0029 | -.0095 |
| #2 | .0001 | -.0014 | -.0003 | .0036 | .0079 | .0103 | .0000 | .0018 | -.0074 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0006 | -.0008 | -.0074 | -.0014 | .0003 | .0014 | .0060 | .0010 |
| Stddev | .0003 | .0001 | .0000 | .0012 | .0007 | .0009 | .0008 | .0001 | .0006 |
| %RSD | 126.3 | 13.31 | 3.843 | 15.61 | 51.42 | 326.1 | 59.03 | 1.340 | 54.16 |
| #1 | .0000 | .0007 | -.0009 | -.0082 | -.0019 | -.0004 | .0008 | .0061 | .0006 |
| #2 | -.0004 | .0006 | -.0008 | -.0066 | -.0009 | .0009 | .0020 | .0060 | .0014 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0004 | F.0035 | -.0002 | .0033 | .0002 | -.0010 |
| Stddev | .0000 | .0000 | .0010 | .0001 | .0010 | .0003 | .0007 |
| %RSD | 11.93 | 1.632 | 28.49 | 58.52 | 29.37 | 168.2 | 76.67 |
| #1 | .0000 | .0004 | .0028 | -.0003 | .0026 | .0004 | -.0004 |
| #2 | .0000 | .0004 | .0042 | -.0001 | .0039 | .0000 | -.0015 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.6 | 39623. | 17888. |
| Stddev | 3.5 | 240. | 19. |
| %RSD | .28225 | .60572 | .10692 |
| #1 | 1239.0 | 39453. | 17901. |
| #2 | 1234.1 | 39792. | 17874. |



Zoom In Zoom Out

Sample Name: MC25455-20 Acquired: 10/28/2013 15:34:26 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | 50.84 | .0197 | .0054 | .0024 | .1417 | .0024 | 6.918 | .0000 | .0317 |
| Stddev | .0001 | .02 | .0023 | .0019 | .0002 | .0002 | .0000 | .012 | .000 | .0003 |
| %RSD | 9.861 | .0373 | 11.90 | 35.11 | 7.998 | .1227 | .3887 | .1676 | 559.5 | .9646 |
| #1 | .0007 | 50.82 | .0213 | .0041 | .0026 | .1418 | .0025 | 6.910 | -.0001 | .0319 |
| #2 | .0008 | 50.85 | .0180 | .0067 | .0023 | .1416 | .0024 | 6.926 | .0001 | .0315 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0810 | .0623 | 75.66 | 9.134 | 17.55 | 1.082 | .0013 | .2446 | .0638 | .0709 |
| Stddev | .0020 | .0003 | .03 | .036 | .03 | .001 | .0001 | .0017 | .0013 | .0000 |
| %RSD | 2.497 | .5044 | .0355 | .3911 | .1608 | .0453 | 9.932 | .6752 | 2.075 | .0528 |
| #1 | .0824 | .0625 | 75.64 | 9.160 | 17.53 | 1.083 | .0014 | .2458 | .0648 | .0709 |
| #2 | .0795 | .0620 | 75.68 | 9.109 | 17.57 | 1.082 | .0012 | .2434 | .0629 | .0709 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0082 | .0027 | .3686 | .0001 | .0016 | 2.272 | .0011 | .0195 | 3.355 | .0031 |
| Stddev | .0008 | .0048 | .0016 | .0004 | .0005 | .030 | .0006 | .0000 | .000 | .0002 |
| %RSD | 9.346 | 177.0 | .4297 | 382.7 | 34.36 | 1.330 | 56.10 | .1634 | .0115 | 6.358 |
| #1 | .0077 | -.0007 | .3697 | .0003 | .0012 | 2.294 | .0007 | .0194 | 3.355 | .0032 |
| #2 | .0088 | .0061 | .3674 | -.0002 | .0019 | 2.251 | .0015 | .0195 | 3.354 | .0030 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1324 | .0031 | .1775 | -.0078 |
| Stddev | .0000 | .0021 | .0027 | .0001 |
| %RSD | .0051 | 66.98 | 1.549 | 1.313 |
| #1 | .1324 | .0016 | .1794 | -.0079 |
| #2 | .1324 | .0046 | .1755 | -.0077 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1289.3 | 40242. | 18629. |
| Stddev | 15.2 | 11. | 28. |
| %RSD | 1.1766 | .02782 | .15048 |
| #1 | 1278.6 | 40234. | 18649. |
| #2 | 1300.0 | 40250. | 18609. |



Zoom In Zoom Out

Sample Name: MC25455-21 Acquired: 10/28/2013 15:39:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | 54.00 | .0207 | .0058 | .0023 | .1484 | .0024 | 6.197 | .0002 | .0347 |
| Stddev | .0000 | .07 | .0019 | .0011 | .0007 | .0004 | .0000 | .022 | .0001 | .0001 |
| %RSD | 1.177 | .1274 | 9.243 | 18.61 | 30.35 | .2788 | .4296 | .3549 | 61.67 | .2865 |
| #1 | .0020 | 54.05 | .0220 | .0050 | .0028 | .1487 | .0024 | 6.182 | .0001 | .0348 |
| #2 | .0020 | 53.95 | .0193 | .0065 | .0018 | .1481 | .0024 | 6.213 | .0003 | .0346 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0976 | .0696 | 95.73 | 9.780 | 19.01 | 1.349 | .0017 | .2548 | .0660 | .1388 |
| Stddev | .0002 | .0002 | .14 | .052 | .03 | .001 | .0001 | .0009 | .0003 | .0004 |
| %RSD | .2152 | .2396 | .1423 | .5308 | .1483 | .0631 | 6.348 | .3426 | .4642 | .2975 |
| #1 | .0978 | .0697 | 95.83 | 9.744 | 18.99 | 1.349 | .0016 | .2554 | .0662 | .1390 |
| #2 | .0975 | .0695 | 95.63 | 9.817 | 19.03 | 1.350 | .0018 | .2542 | .0658 | .1385 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0123 | .0039 | .6379 | -.0008 | .0003 | 2.892 | .0006 | .0195 | 3.822 | .0047 |
| Stddev | .0007 | .0060 | .0039 | .0001 | .0011 | .007 | .0003 | .0002 | .000 | .0003 |
| %RSD | 6.081 | 152.1 | .6061 | 8.189 | 423.8 | .2292 | 56.09 | .7757 | .0095 | 6.976 |
| #1 | .0128 | .0082 | .6406 | -.0008 | -.0005 | 2.887 | .0009 | .0194 | 3.822 | .0045 |
| #2 | .0117 | -.0003 | .6352 | -.0007 | .0010 | 2.897 | .0004 | .0196 | 3.822 | .0049 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1577 | .0109 | .1905 | -.0118 |
| Stddev | .0004 | .0020 | .0007 | .0001 |
| %RSD | .2327 | 18.59 | .3745 | .5205 |
| #1 | .1579 | .0123 | .1910 | -.0118 |
| #2 | .1574 | .0094 | .1900 | -.0117 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1295.2 | 40362. | 18727. |
| Stddev | 2.0 | 84. | 41. |
| %RSD | .15104 | .20762 | .21965 |
| #1 | 1296.6 | 40421. | 18698. |
| #2 | 1293.9 | 40303. | 18756. |



Zoom In Zoom Out

Sample Name: MC25455-3 Acquired: 10/28/2013 15:44:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 210.3 | .0732 | .0177 | .0087 | .5037 | .0083 | 3.126 | -.0006 |
| Stddev | .0004 | .2 | .0015 | .0019 | .0001 | .0001 | .0000 | .029 | .0002 |
| %RSD | 96.87 | .0721 | 1.988 | 10.68 | 1.127 | .0172 | .3348 | .9399 | 40.72 |
| #1 | .0007 | 210.2 | .0742 | .0190 | .0088 | .5037 | .0084 | 3.105 | -.0007 |
| #2 | .0001 | 210.4 | .0722 | .0164 | .0087 | .5038 | .0083 | 3.146 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1339 | .3650 | .1501 | F277.7 | 16.36 | 58.63 | 5.490 | .0046 | .4239 |
| Stddev | .0000 | .0014 | .0002 | 1.5 | .06 | .42 | .000 | .0001 | .0038 |
| %RSD | .0049 | .3839 | .1013 | .5324 | .3937 | .7165 | .0037 | 1.162 | .8898 |
| #1 | .1339 | .3660 | .1500 | 276.6 | 16.41 | 58.34 | 5.490 | .0046 | .4212 |
| #2 | .1339 | .3640 | .1502 | 278.7 | 16.32 | 58.93 | 5.490 | .0046 | .4265 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2373 | .1681 | .0264 | .0157 | 1.740 | -.0008 | .0018 | 2.721 | -.0057 |
| Stddev | .0003 | .0002 | .0018 | .0008 | .007 | .0009 | .0019 | .005 | .0011 |
| %RSD | .1211 | .1005 | 6.714 | 5.062 | .3771 | 110.6 | 101.9 | .1984 | 19.63 |
| #1 | .2375 | .1682 | .0252 | .0162 | 1.735 | -.0015 | .0031 | 2.725 | -.0049 |
| #2 | .2371 | .1679 | .0277 | .0151 | 1.744 | -.0002 | .0005 | 2.717 | -.0064 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0396 | 8.054 | .0045 | .4778 | .0114 | .6537 | .0042 |
| Stddev | .0003 | .005 | .0002 | .0006 | .0099 | .0036 | .0002 |
| %RSD | .7286 | .0588 | 4.648 | .1264 | 86.36 | .5550 | 3.617 |
| #1 | .0394 | 8.057 | .0044 | .4773 | .0044 | .6511 | .0043 |
| #2 | .0398 | 8.050 | .0047 | .4782 | .0184 | .6562 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1327.9 | 39800. | 19287. |
| Stddev | .3 | 84. | 55. |
| %RSD | .02157 | .20984 | .28666 |
| #1 | 1327.7 | 39741. | 19326. |
| #2 | 1328.1 | 39859. | 19248. |

Zoom In Zoom Out

Sample Name: MC25455-4 Acquired: 10/28/2013 15:49:12 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 130.3 | .0671 | .0147 | .0134 | .3982 | .0067 | 15.51 | .0007 | .0835 |
| Stddev | .0006 | .0 | .0005 | .0014 | .0004 | .0003 | .0000 | .02 | .0000 | .0002 |
| %RSD | 98.76 | .0157 | .8084 | 9.206 | 3.016 | .0843 | .6438 | .1440 | 2.566 | .2499 |
| #1 | .0011 | 130.3 | .0667 | .0138 | .0137 | .3980 | .0067 | 15.49 | .0007 | .0834 |
| #2 | .0002 | 130.3 | .0674 | .0157 | .0131 | .3985 | .0067 | 15.52 | .0007 | .0837 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2045 | .1153 | 224.6 | 10.08 | 34.14 | 3.506 | .0066 | .5373 | .1776 | .1834 |
| Stddev | .0013 | .0010 | .1 | .04 | .12 | .004 | .0000 | .0074 | .0001 | .0004 |
| %RSD | .6411 | .8734 | .0652 | .3492 | .3432 | .1261 | .4162 | 1.383 | .0578 | .1950 |
| #1 | .2035 | .1146 | 224.7 | 10.06 | 34.05 | 3.503 | .0066 | .5321 | .1777 | .1837 |
| #2 | .2054 | .1160 | 224.5 | 10.11 | 34.22 | 3.509 | .0066 | .5426 | .1776 | .1832 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0229 | .0126 | 4.197 | -.0003 | .0042 | 5.284 | .0013 | .1272 | 5.376 | .0030 |
| Stddev | .0018 | .0012 | .004 | .0014 | .0006 | .002 | .0007 | .0002 | .006 | .0011 |
| %RSD | 7.970 | 9.569 | .0873 | 555.0 | 13.28 | .0306 | 53.44 | .1430 | .1187 | 37.18 |
| #1 | .0242 | .0135 | 4.195 | -.0013 | .0046 | 5.283 | .0008 | .1273 | 5.372 | .0038 |
| #2 | .0216 | .0118 | 4.200 | .0008 | .0038 | 5.285 | .0018 | .1271 | 5.381 | .0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3033 | .0083 | .4427 | -.0153 |
| Stddev | .0018 | .0104 | .0009 | .0000 |
| %RSD | .6011 | 126.3 | .1955 | .1140 |
| #1 | .3020 | .0156 | .4433 | -.0153 |
| #2 | .3046 | .0009 | .4420 | -.0152 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1298.6 | 40228. | 19239. |
| Stddev | 1.5 | 142. | 34. |
| %RSD | .11507 | .35287 | .17832 |
| #1 | 1297.6 | 40328. | 19263. |
| #2 | 1299.7 | 40128. | 19215. |



Zoom In Zoom Out

Sample Name: MC25455-5 Acquired: 10/28/2013 15:54:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | 215.9 | .0681 | .0178 | .0115 | .5102 | .0085 | 4.328 | -.0004 |
| Stddev | .0001 | .9 | .0031 | .0000 | .0005 | .0009 | .0000 | .001 | .0000 |
| %RSD | 16.40 | .4048 | 4.616 | .2104 | 3.958 | .1740 | .3757 | .0330 | 9.640 |
| #1 | .0004 | 215.3 | .0704 | .0178 | .0118 | .5109 | .0085 | 4.329 | -.0003 |
| #2 | .0003 | 216.5 | .0659 | .0179 | .0111 | .5096 | .0085 | 4.327 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1447 | .3700 | .1523 | F287.2 | 16.61 | 59.94 | 5.902 | .0039 | .4956 |
| Stddev | .0002 | .0015 | .0005 | .2 | .08 | .04 | .015 | .0002 | .0009 |
| %RSD | .1191 | .4019 | .3600 | .0650 | .4752 | .0641 | .2488 | 5.362 | .1743 |
| #1 | .1448 | .3690 | .1519 | 287.0 | 16.67 | 59.91 | 5.892 | .0038 | .4950 |
| #2 | .1446 | .3711 | .1526 | 287.3 | 16.56 | 59.96 | 5.913 | .0040 | .4962 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2355 | .1847 | .0298 | .0132 | 2.194 | -.0021 | -.0009 | 5.399 | -.0080 |
| Stddev | .0003 | .0011 | .0002 | .0018 | .002 | .0003 | .0011 | .010 | .0007 |
| %RSD | .1133 | .5940 | .5805 | 13.82 | .0925 | 12.55 | 119.7 | .1822 | 8.558 |
| #1 | .2357 | .1839 | .0296 | .0145 | 2.192 | -.0023 | -.0001 | 5.392 | -.0075 |
| #2 | .2353 | .1855 | .0299 | .0119 | 2.195 | -.0019 | -.0017 | 5.405 | -.0085 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0495 | 8.774 | .0047 | .4973 | .0200 | .7071 | -.0116 |
| Stddev | .0001 | .020 | .0012 | .0002 | .0066 | .0016 | .0002 |
| %RSD | .3023 | .2233 | 26.32 | .0431 | 32.84 | .2223 | 1.896 |
| #1 | .0494 | 8.760 | .0039 | .4971 | .0154 | .7082 | -.0115 |
| #2 | .0496 | 8.788 | .0056 | .4974 | .0247 | .7060 | -.0118 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1320.0 | 39763. | 19163. |
| Stddev | 3.3 | 11. | 88. |
| %RSD | .24831 | .02784 | .45775 |
| #1 | 1322.3 | 39771. | 19101. |
| #2 | 1317.7 | 39755. | 19225. |



Zoom In Zoom Out

Sample Name: MC25455-6 Acquired: 10/28/2013 15:59:10 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 184.7 | .0750 | .0178 | .0132 | .4722 | .0083 | 7.416 | -.0006 |
| Stddev | .0003 | 1.7 | .0039 | .0010 | .0004 | .0015 | .0000 | .021 | .0001 |
| %RSD | 99.22 | .8962 | 5.258 | 5.824 | 2.932 | .3220 | .2554 | .2766 | 11.71 |
| #1 | .0001 | 183.6 | .0778 | .0185 | .0129 | .4733 | .0083 | 7.402 | -.0007 |
| #2 | .0005 | 185.9 | .0722 | .0171 | .0135 | .4711 | .0083 | 7.431 | -.0006 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1326 | .3179 | .1898 | F249.6 | 21.67 | 55.71 | 4.059 | .0042 | .5452 |
| Stddev | .0007 | .0009 | .0004 | 2.4 | .07 | .28 | .005 | .0002 | .0018 |
| %RSD | .5483 | .2959 | .1894 | .9803 | .3145 | .5057 | .1349 | 5.541 | .3363 |
| #1 | .1321 | .3173 | .1900 | 247.8 | 21.72 | 55.52 | 4.055 | .0040 | .5439 |
| #2 | .1331 | .3186 | .1895 | 251.3 | 21.63 | 55.91 | 4.063 | .0044 | .5465 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2198 | .1485 | .0258 | .0043 | 4.320 | -.0004 | .0004 | 5.099 | -.0105 |
| Stddev | .0010 | .0001 | .0016 | .0029 | .016 | .0010 | .0021 | .017 | .0014 |
| %RSD | .4411 | .0622 | 6.147 | 66.92 | .3679 | 242.3 | 512.0 | .3397 | 13.70 |
| #1 | .2192 | .1486 | .0247 | .0022 | 4.309 | -.0012 | -.0011 | 5.087 | -.0095 |
| #2 | .2205 | .1485 | .0270 | .0063 | 4.331 | .0003 | .0019 | 5.112 | -.0115 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0370 | 9.246 | .0062 | .4460 | .0183 | .5701 | .0007 |
| Stddev | .0002 | .004 | .0010 | .0005 | .0107 | .0030 | .0005 |
| %RSD | .6094 | .0380 | 15.62 | .1095 | 58.57 | .5291 | 69.84 |
| #1 | .0368 | 9.243 | .0055 | .4457 | .0107 | .5680 | .0004 |
| #2 | .0372 | 9.248 | .0068 | .4464 | .0259 | .5723 | .0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1352.0 | 40768. | 19721. |
| Stddev | .5 | 92. | 114. |
| %RSD | .03964 | .22604 | .57691 |
| #1 | 1351.6 | 40833. | 19802. |
| #2 | 1352.4 | 40702. | 19641. |



Zoom In Zoom Out

Sample Name: MC25455-7 Acquired: 10/28/2013 16:04:09 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 163.5 | .0752 | .0131 | .0163 | .4841 | .0061 | 13.10 | -.0004 |
| Stddev | .0002 | .4 | .0007 | .0002 | .0007 | .0024 | .0001 | .01 | .0003 |
| %RSD | 1814. | .2568 | .8980 | 1.269 | 4.136 | .4976 | 1.266 | .0610 | 62.07 |
| #1 | .0002 | 163.2 | .0757 | .0130 | .0158 | .4824 | .0060 | 13.10 | -.0006 |
| #2 | -.0002 | 163.8 | .0747 | .0132 | .0167 | .4858 | .0061 | 13.11 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1119 | .3342 | .1749 | F230.8 | 28.42 | 60.74 | 4.875 | .0032 | .7204 |
| Stddev | .0000 | .0010 | .0011 | 1.2 | .08 | .23 | .002 | .0002 | .0030 |
| %RSD | .0071 | .3003 | .6302 | .5300 | .2813 | .3737 | .0481 | 6.737 | .4133 |
| #1 | .1119 | .3349 | .1756 | 229.9 | 28.37 | 60.57 | 4.873 | .0031 | .7183 |
| #2 | .1119 | .3335 | .1741 | 231.6 | 28.48 | 60.90 | 4.876 | .0034 | .7225 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2341 | .1239 | .0238 | .0107 | 1.417 | -.0012 | .0012 | 4.664 | -.0092 |
| Stddev | .0003 | .0009 | .0001 | .0028 | .002 | .0002 | .0018 | .005 | .0001 |
| %RSD | .1424 | .7627 | .4748 | 26.11 | .1669 | 13.18 | 154.7 | .1037 | 1.625 |
| #1 | .2343 | .1245 | .0238 | .0087 | 1.419 | -.0011 | -.0001 | 4.660 | -.0093 |
| #2 | .2339 | .1232 | .0239 | .0127 | 1.415 | -.0013 | .0025 | 4.667 | -.0091 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0925 | 8.373 | .0043 | .4033 | .0079 | .5975 | -.0032 |
| Stddev | .0003 | .003 | .0021 | .0013 | .0036 | .0004 | .0004 |
| %RSD | .3362 | .0350 | 47.67 | .3140 | 45.55 | .0677 | 12.91 |
| #1 | .0923 | 8.371 | .0029 | .4042 | .0054 | .5977 | -.0029 |
| #2 | .0927 | 8.375 | .0058 | .4024 | .0104 | .5972 | -.0035 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1328.2 | 40906. | 19447. |
| Stddev | 2.1 | 111. | 18. |
| %RSD | .15641 | .27252 | .09048 |
| #1 | 1329.7 | 40984. | 19460. |
| #2 | 1326.7 | 40827. | 19435. |

Zoom In Zoom Out

Sample Name: MC25455-8 Acquired: 10/28/2013 16:09:03 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 164.9 | .0624 | .0158 | .0087 | .3624 | .0066 | 3.145 | -.0001 | .0810 |
| Stddev | .0001 | .0 | .0006 | .0022 | .0002 | .0007 | .0001 | .019 | .0000 | .0005 |
| %RSD | 24.09 | .0044 | .9290 | 14.09 | 1.894 | .2004 | 1.401 | .6114 | 36.57 | .5633 |
| #1 | .0007 | 164.9 | .0619 | .0142 | .0086 | .3619 | .0066 | 3.158 | -.0001 | .0813 |
| #2 | .0005 | 164.9 | .0628 | .0173 | .0088 | .3629 | .0065 | 3.131 | -.0001 | .0806 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2605 | .1209 | 214.8 | 12.05 | 39.83 | 3.325 | .0041 | .3116 | .1717 | .1480 |
| Stddev | .0000 | .0002 | 1.5 | .01 | .29 | .009 | .0000 | .0026 | .0009 | .0020 |
| %RSD | .0109 | .1880 | .7113 | .0990 | .7314 | .2758 | .3475 | .8406 | .5099 | 1.358 |
| #1 | .2605 | .1207 | 215.9 | 12.06 | 40.04 | 3.332 | .0041 | .3135 | .1723 | .1494 |
| #2 | .2605 | .1210 | 213.7 | 12.04 | 39.62 | 3.319 | .0041 | .3098 | .1710 | .1466 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0217 | .0028 | 1.957 | -.0002 | .0044 | 4.614 | -.0043 | .0337 | 7.057 | .0040 |
| Stddev | .0010 | .0052 | .001 | .0010 | .0014 | .002 | .0006 | .0001 | .010 | .0003 |
| %RSD | 4.822 | 186.7 | .0285 | 519.6 | 32.82 | .0413 | 13.45 | .3300 | .1433 | 6.559 |
| #1 | .0224 | .0065 | 1.957 | .0005 | .0054 | 4.615 | -.0048 | .0338 | 7.064 | .0038 |
| #2 | .0209 | -.0009 | 1.958 | -.0009 | .0034 | 4.613 | -.0039 | .0336 | 7.050 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3794 | .0099 | .4890 | -.0149 |
| Stddev | .0000 | .0028 | .0025 | .0001 |
| %RSD | .0086 | 27.92 | .5069 | .9312 |
| #1 | .3794 | .0118 | .4908 | -.0148 |
| #2 | .3794 | .0079 | .4873 | -.0150 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1313.5 | 39885. | 19292. |
| Stddev | 2.2 | 38. | 128. |
| %RSD | .17052 | .09552 | .66153 |
| #1 | 1315.1 | 39858. | 19202. |
| #2 | 1312.0 | 39912. | 19382. |



Zoom In Zoom Out

Sample Name: MC25455-9 Acquired: 10/28/2013 16:13:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | 179.2 | .0563 | .0207 | .0096 | .4155 | .0063 | 6.489 | .0001 |
| Stddev | .0003 | 1.8 | .0017 | .0003 | .0003 | .0004 | .0001 | .051 | .0001 |
| %RSD | 38.09 | .9914 | 2.948 | 1.376 | 2.855 | .0875 | .9177 | .7835 | 119.5 |
| #1 | .0010 | 180.5 | .0575 | .0209 | .0098 | .4157 | .0063 | 6.525 | .0002 |
| #2 | .0006 | 178.0 | .0552 | .0205 | .0094 | .4152 | .0063 | 6.453 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0812 | .2898 | .1141 | F241.0 | 11.85 | 42.78 | 2.934 | .0045 | .4042 |
| Stddev | .0003 | .0019 | .0000 | 2.6 | .03 | .14 | .011 | .0001 | .0047 |
| %RSD | .3261 | .6555 | .0125 | 1.081 | .2598 | .3205 | .3587 | 1.924 | 1.174 |
| #1 | .0810 | .2911 | .1141 | 242.8 | 11.87 | 42.88 | 2.942 | .0044 | .4076 |
| #2 | .0814 | .2885 | .1141 | 239.1 | 11.83 | 42.69 | 2.927 | .0045 | .4008 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1791 | .1869 | .0244 | -.0025 | 2.409 | .0003 | .0049 | 4.762 | -.0026 |
| Stddev | .0005 | .0010 | .0014 | .0013 | .005 | .0003 | .0005 | .019 | .0008 |
| %RSD | .3041 | .5283 | 5.817 | 53.00 | .1952 | 99.28 | 10.81 | .3989 | 29.78 |
| #1 | .1795 | .1876 | .0254 | -.0035 | 2.413 | .0001 | .0045 | 4.749 | -.0021 |
| #2 | .1787 | .1862 | .0234 | -.0016 | 2.406 | .0006 | .0053 | 4.776 | -.0032 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0669 | 6.841 | .0054 | .4490 | .0117 | .6026 | -.0130 |
| Stddev | .0007 | .025 | .0008 | .0039 | .0025 | .0000 | .0006 |
| %RSD | .9793 | .3647 | 15.05 | .8584 | 21.21 | .0066 | 4.892 |
| #1 | .0674 | 6.858 | .0060 | .4518 | .0135 | .6026 | -.0125 |
| #2 | .0664 | 6.823 | .0048 | .4463 | .0100 | .6026 | -.0134 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1305.4 | 39325. | 18966. |
| Stddev | .5 | 150. | 140. |
| %RSD | .04059 | .38118 | .73847 |
| #1 | 1305.8 | 39219. | 18867. |
| #2 | 1305.0 | 39431. | 19065. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/28/2013 16:19:31 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0053 | .2003 | .0112 | -.0016 | .0994 | .0505 | .0042 | 5.048 | .0044 | .0522 |
| Stddev | .0003 | .0008 | .0006 | .0005 | .0002 | .0003 | .0000 | .033 | .0002 | .0001 |
| %RSD | 4.731 | .4145 | 5.758 | 28.44 | .1785 | .6805 | .8360 | .6626 | 4.549 | .1699 |
| #1 | .0055 | .2009 | .0108 | -.0013 | .0995 | .0503 | .0042 | 5.024 | .0045 | .0522 |
| #2 | .0051 | .1997 | .0117 | -.0019 | .0992 | .0507 | .0043 | 5.071 | .0042 | .0521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0084 | .0255 | .1147 | 4.992 | 4.937 | .0158 | .1004 | 4.911 | .0403 | .0113 |
| Stddev | .0009 | .0002 | .0011 | .029 | .018 | .0001 | .0003 | .010 | .0002 | .0000 |
| %RSD | 10.67 | .9341 | .9699 | .5830 | .3634 | .7285 | .2844 | .1994 | .5836 | .1557 |
| #1 | .0090 | .0256 | .1139 | 4.972 | 4.924 | .0157 | .1006 | 4.904 | .0401 | .0113 |
| #2 | .0078 | .0253 | .1155 | 5.013 | 4.950 | .0159 | .1002 | 4.918 | .0405 | .0113 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0070 | -.0010 | .0103 | .0108 | .0101 | .0979 | .0102 | .0522 | .0100 |
| Stddev | .0025 | .0052 | .0000 | .0004 | .0006 | .0011 | .0005 | .0001 | .0001 | .0000 |
| %RSD | 252.1 | 73.80 | 2.123 | 3.708 | 5.214 | 10.58 | .4858 | .9901 | .1104 | .0662 |
| #1 | .0008 | -.0033 | -.0010 | .0100 | .0112 | .0109 | .0976 | .0101 | .0521 | .0100 |
| #2 | -.0027 | -.0106 | -.0010 | .0105 | .0104 | .0094 | .0983 | .0102 | .0522 | .0100 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0099 | -.0011 | .0212 | -.0011 |
| Stddev | .0001 | .0016 | .0001 | .0004 |
| %RSD | .8432 | 151.8 | .4568 | 32.74 |
| #1 | .0099 | .0001 | .0211 | -.0014 |
| #2 | .0100 | -.0022 | .0212 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1234.2 | 39438. | 17899. |
| Stddev | 5.5 | 42. | 8. |
| %RSD | .44729 | .10754 | .04740 |
| #1 | 1230.3 | 39468. | 17893. |
| #2 | 1238.1 | 39408. | 17905. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 16:24:26 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2459 | 9.817 | 1.928 | -.0067 | 1.928 | 1.918 | 1.955 | 9.872 | 1.984 | 2.012 |
| Stddev | .0003 | .038 | .004 | .0001 | .005 | .003 | .004 | .026 | .002 | .000 |
| %RSD | .1283 | .3875 | .1899 | 1.439 | .2619 | .1624 | .2198 | .2595 | .1005 | .0019 |
| #1 | .2461 | 9.844 | 1.931 | -.0066 | 1.924 | 1.920 | 1.958 | 9.890 | 1.982 | 2.012 |
| #2 | .2456 | 9.790 | 1.926 | -.0067 | 1.931 | 1.916 | 1.952 | 9.853 | 1.985 | 2.012 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.936 | 1.908 | 9.964 | 9.722 | 9.669 | 1.947 | 1.928 | 9.698 | 1.907 | 1.922 |
| Stddev | .001 | .000 | .014 | .029 | .070 | .002 | .003 | .028 | .000 | .000 |
| %RSD | .0341 | .0047 | .1392 | .3003 | .7245 | .1032 | .1689 | .2840 | .0020 | .0125 |
| #1 | 1.937 | 1.908 | 9.974 | 9.742 | 9.619 | 1.946 | 1.925 | 9.717 | 1.907 | 1.923 |
| #2 | 1.936 | 1.908 | 9.954 | 9.701 | 9.718 | 1.949 | 1.930 | 9.678 | 1.907 | 1.922 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0082 | -.0038 | 1.938 | 1.931 | .0094 | 1.920 | 1.933 | 1.931 | 1.922 |
| Stddev | .0004 | .0038 | .0008 | .002 | .000 | .0005 | .001 | .006 | .002 | .001 |
| %RSD | 39.80 | 46.75 | 20.25 | .1008 | .0232 | 5.405 | .0287 | .3204 | .1081 | .0587 |
| #1 | .0008 | .0109 | -.0032 | 1.936 | 1.931 | .0098 | 1.920 | 1.928 | 1.930 | 1.921 |
| #2 | .0014 | .0055 | -.0043 | 1.939 | 1.931 | .0091 | 1.919 | 1.937 | 1.933 | 1.923 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.919 | -.0056 | 1.917 | -.0083 |
| Stddev | .003 | .0008 | .003 | .0004 |
| %RSD | .1661 | 15.03 | .1384 | 4.435 |
| #1 | 1.917 | -.0050 | 1.919 | -.0086 |
| #2 | 1.922 | -.0061 | 1.915 | -.0081 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.0 | 39703. | 18080. |
| Stddev | 1.3 | 123. | 6. |
| %RSD | .10499 | .31060 | .03188 |
| #1 | 1235.9 | 39790. | 18084. |
| #2 | 1234.1 | 39616. | 18076. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 16:29:15 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0027 | .0014 | -.0009 | .0010 | .0000 | .0001 | -.0003 | .0000 |
| Stddev | .0001 | .0051 | .0008 | .0020 | .0000 | .0001 | .0000 | .0020 | .000 |
| %RSD | 15.46 | 184.9 | 56.11 | 223.5 | .1818 | 116.1 | 56.24 | 594.4 | 388.1 |
| #1 | .0006 | .0008 | .0020 | .0005 | .0010 | .0001 | .0001 | .0011 | .0000 |
| #2 | .0008 | -.0063 | .0009 | -.0023 | .0010 | .0000 | .0000 | -.0018 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0006 | .0000 | .0024 | .0043 | .0140 | .0001 | .0025 | -.0092 |
| Stddev | .0001 | .0008 | .0005 | .0002 | .0042 | .0229 | .0001 | .0005 | .0034 |
| %RSD | 74.98 | 118.1 | 9531. | 9.427 | 96.87 | 163.7 | 135.5 | 19.06 | 36.41 |
| #1 | .0001 | -.0001 | .0003 | .0026 | .0014 | .0302 | .0002 | .0028 | -.0069 |
| #2 | .0002 | -.0012 | -.0003 | .0023 | .0073 | -.0022 | .0000 | .0021 | -.0116 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0015 | .0008 | -.0084 | -.0010 | .0006 | .0001 | .0042 | .0000 |
| Stddev | .0002 | .0007 | .0014 | .0023 | .0014 | .0005 | .0006 | .0007 | .0004 |
| %RSD | 100.2 | 45.74 | 187.6 | 27.69 | 139.4 | 81.38 | 969.6 | 15.73 | 2758. |
| #1 | .0000 | .0010 | .0018 | -.0101 | .0000 | .0002 | -.0004 | .0047 | .0003 |
| #2 | -.0003 | .0020 | -.0002 | -.0068 | -.0020 | .0009 | .0005 | .0037 | -.0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | F.0025 | .0000 | .0009 | .0000 | -.0014 |
| Stddev | .0000 | .0008 | .0015 | .000 | .0033 | .0001 | .0003 |
| %RSD | 7.296 | 135.0 | 59.63 | 521.0 | 360.5 | 1052. | 21.81 |
| #1 | .0001 | .0011 | .0036 | .0001 | .0033 | .0001 | -.0011 |
| #2 | .0001 | .0000 | .0015 | -.0002 | -.0014 | -.0001 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1234.8 | 39974. | 17912. |
| Stddev | 4.0 | 118. | 9. |
| %RSD | .32513 | .29531 | .04847 |
| #1 | 1237.6 | 40057. | 17906. |
| #2 | 1231.9 | 39890. | 17918. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/28/2013 16:34:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0054 | .1999 | .0035 | -.0010 | .1007 | .0506 | .0042 | 5.075 | .0045 |
| Stddev | .0004 | .0058 | .0023 | .0009 | .0002 | .0001 | .0000 | .007 | .0002 |
| %RSD | 8.106 | 2.912 | 66.32 | 90.90 | .2374 | .1641 | .5928 | .1442 | 3.831 |
| #1 | .0051 | .2040 | .0018 | -.0003 | .1009 | .0505 | .0042 | 5.070 | .0046 |
| #2 | .0057 | .1958 | .0051 | -.0016 | .1006 | .0507 | .0042 | 5.080 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0526 | .0085 | .0251 | .1051 | 4.993 | 4.957 | .0157 | .1016 | 4.923 |
| Stddev | .0001 | .0000 | .0002 | .0014 | .002 | .039 | .0002 | .0003 | .012 |
| %RSD | .1152 | .4053 | .9120 | 1.373 | .0347 | .7887 | 1.150 | .3231 | .2509 |
| #1 | .0526 | .0085 | .0250 | .1041 | 4.992 | 4.985 | .0156 | .1014 | 4.915 |
| #2 | .0525 | .0085 | .0253 | .1061 | 4.994 | 4.930 | .0158 | .1018 | 4.932 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0402 | .0046 | .0005 | -.0092 | -.0005 | .0062 | .0109 | .0165 | .0984 |
| Stddev | .0001 | .0002 | .0004 | .0069 | .0011 | .0000 | .0031 | .0063 | .0003 |
| %RSD | .3435 | 3.670 | 84.90 | 75.52 | 196.4 | .6591 | 28.60 | 38.16 | .2978 |
| #1 | .0401 | .0048 | .0002 | -.0043 | .0002 | .0061 | .0131 | .0121 | .0986 |
| #2 | .0403 | .0045 | .0007 | -.0141 | -.0013 | .0062 | .0087 | .0210 | .0982 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0517 | F.0068 | .0101 | .0001 | .0231 | -.0011 |
| Stddev | .0001 | .0004 | .0000 | .0001 | .0017 | .0003 | .0000 |
| %RSD | .7291 | .7818 | .6513 | .6536 | 1884. | 1.347 | .6562 |
| #1 | .0101 | .0519 | .0068 | .0100 | .0013 | .0233 | -.0011 |
| #2 | .0102 | .0514 | .0068 | .0101 | -.0011 | .0229 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1238.4 | 39436. | 17829. |
| Stddev | 4.2 | 56. | 23. |
| %RSD | .33750 | .14295 | .13057 |
| #1 | 1235.4 | 39476. | 17845. |
| #2 | 1241.3 | 39397. | 17812. |



Zoom In Zoom Out

Sample Name: MP21908-B1 Acquired: 10/28/2013 16:39:09 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2040 | 2.184 | .5477 | -.0019 | .0025 | 2.043 | .5123 | 25.03 | .5441 | .5288 |
| Stddev | .0003 | .001 | .0028 | .0007 | .0000 | .005 | .0000 | .03 | .0055 | .0047 |
| %RSD | .1260 | .0447 | .5183 | 35.87 | .8572 | .2414 | .0083 | .1009 | 1.015 | .8846 |
| #1 | .2038 | 2.183 | .5457 | -.0014 | .0025 | 2.039 | .5123 | 25.05 | .5402 | .5255 |
| #2 | .2042 | 2.185 | .5498 | -.0024 | .0024 | 2.046 | .5122 | 25.01 | .5480 | .5321 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5345 | .5039 | 2.105 | 25.59 | 25.48 | .5123 | .0004 | 25.49 | .4973 | 1.018 |
| Stddev | .0016 | .0001 | .000 | .01 | .10 | .0018 | .0001 | .09 | .0047 | .008 |
| %RSD | .2942 | .0183 | .0014 | .0485 | .3767 | .3601 | 14.31 | .3413 | .9410 | .7592 |
| #1 | .5334 | .5040 | 2.105 | 25.58 | 25.42 | .5110 | .0005 | 25.43 | .4940 | 1.012 |
| #2 | .5356 | .5039 | 2.105 | 25.60 | 25.55 | .5136 | .0004 | 25.55 | .5006 | 1.023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0022 | .0017 | .5235 | .5185 | .0312 | -.0013 | .5058 | .5193 | .5153 |
| Stddev | .0022 | .0061 | .0018 | .0072 | .0053 | .0007 | .0004 | .0009 | .0008 | .0036 |
| %RSD | 445.1 | 277.9 | 107.0 | 1.366 | 1.027 | 2.172 | 30.56 | .1872 | .1449 | .7078 |
| #1 | .0011 | -.0065 | .0004 | .5184 | .5147 | .0307 | -.0010 | .5051 | .5188 | .5127 |
| #2 | -.0021 | .0021 | .0030 | .5286 | .5223 | .0317 | -.0015 | .5065 | .5199 | .5179 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5332 | .0032 | .5269 | -.0018 |
| Stddev | .0012 | .0078 | .0047 | .0003 |
| %RSD | .2175 | 243.9 | .8936 | 18.11 |
| #1 | .5324 | .0087 | .5236 | -.0021 |
| #2 | .5340 | -.0023 | .5303 | -.0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1199.1 | 39169. | 17936. |
| Stddev | 10.6 | 133. | 14. |
| %RSD | .88074 | .33835 | .07897 |
| #1 | 1206.6 | 39263. | 17946. |
| #2 | 1191.6 | 39075. | 17925. |



Zoom In Zoom Out

Sample Name: MP21908-MB1 Acquired: 10/28/2013 16:43:58 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0022 | -.0005 | -.0014 | .0009 | .0001 | .0000 | .0047 | .0001 | -.0005 |
| Stddev | .0000 | .0064 | .0006 | .0004 | .0004 | .0000 | .0000 | .0009 | .0000 | .0001 |
| %RSD | .8196 | 285.2 | 118.4 | 29.82 | 46.54 | 90.38 | 124.8 | 19.43 | 29.55 | 23.40 |
| #1 | .0004 | .0023 | -.0001 | -.0018 | .0012 | .0001 | .0000 | .0041 | .0001 | -.0004 |
| #2 | .0004 | -.0067 | -.0009 | -.0011 | .0006 | .0000 | .0000 | .0054 | .0000 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0007 | .0052 | -.0007 | .0157 | .0001 | .0003 | .0035 | -.0001 | .0002 |
| Stddev | .0004 | .0004 | .0008 | .0206 | .0018 | .0001 | .0001 | .0002 | .0002 | .0000 |
| %RSD | 36.50 | 61.10 | 15.36 | 3030. | 11.40 | 50.77 | 16.27 | 6.528 | 322.1 | 11.00 |
| #1 | -.0013 | .0004 | .0047 | -.0153 | .0144 | .0002 | .0003 | .0037 | -.0002 | .0002 |
| #2 | -.0008 | .0010 | .0058 | .0139 | .0169 | .0001 | .0004 | .0033 | .0001 | .0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0064 | -.0013 | .0005 | .0006 | .0322 | .0003 | .0000 | .0007 | .0007 |
| Stddev | .0004 | .0047 | .0013 | .0009 | .0003 | .0004 | .0007 | .0000 | .0003 | .0002 |
| %RSD | 330.8 | 72.45 | 100.7 | 191.9 | 56.17 | 1.092 | 214.1 | 93.48 | 46.78 | 27.26 |
| #1 | -.0002 | -.0031 | -.0004 | -.0002 | .0004 | .0324 | -.0002 | .0001 | .0004 | .0008 |
| #2 | .0004 | -.0097 | -.0023 | .0011 | .0008 | .0319 | .0008 | .0000 | .0009 | .0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0001 | .0007 | -.0018 |
| Stddev | .0003 | .0015 | .0000 | .0008 |
| %RSD | 110.5 | 1140. | 4.925 | 43.16 |
| #1 | -.0004 | -.0012 | .0007 | -.0024 |
| #2 | -.0001 | .0009 | .0007 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.8 | 39721. | 18031. |
| Stddev | 3.2 | 86. | 89. |
| %RSD | .26264 | .21708 | .49261 |
| #1 | 1217.0 | 39782. | 18094. |
| #2 | 1212.5 | 39660. | 17969. |

Zoom In Zoom Out

Sample Name: MP21908-S1 Acquired: 10/28/2013 16:48:57 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2041 | 2.143 | .5347 | -.0030 | .0077 | 1.999 | .5049 | 31.65 | .5327 | .5152 |
| Stddev | .0008 | .036 | .0007 | .0008 | .0005 | .022 | .0047 | .28 | .0019 | .0005 |
| %RSD | .3904 | 1.703 | .1263 | 26.88 | 6.330 | 1.109 | .9297 | .8990 | .3657 | .0933 |
| #1 | .2047 | 2.117 | .5351 | -.0036 | .0080 | 1.983 | .5016 | 31.45 | .5341 | .5149 |
| #2 | .2035 | 2.169 | .5342 | -.0024 | .0073 | 2.015 | .5083 | 31.85 | .5313 | .5156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5264 | .4995 | 2.049 | 26.57 | 26.45 | .5096 | .0005 | 31.52 | .4860 | .9897 |
| Stddev | .0013 | .0037 | .010 | .25 | .24 | .0018 | .0001 | .35 | .0009 | .0035 |
| %RSD | .2398 | .7335 | .4703 | .9544 | .9162 | .3454 | 14.08 | 1.119 | .1754 | .3507 |
| #1 | .5255 | .5021 | 2.043 | 26.39 | 26.28 | .5109 | .0005 | 31.27 | .4854 | .9922 |
| #2 | .5273 | .4969 | 2.056 | 26.75 | 26.62 | .5084 | .0004 | 31.77 | .4866 | .9873 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0034 | 2.090 | .5123 | .5062 | 8.149 | -.0013 | .5407 | .5110 | .4994 |
| Stddev | .0016 | .0046 | .006 | .0003 | .0015 | .002 | .0002 | .0059 | .0006 | .0000 |
| %RSD | 144.1 | 137.9 | .2720 | .0558 | .3034 | .0202 | 15.17 | 1.094 | .1215 | .0026 |
| #1 | .0000 | -.0001 | 2.086 | .5125 | .5052 | 8.150 | -.0012 | .5365 | .5115 | .4995 |
| #2 | -.0023 | -.0066 | 2.094 | .5121 | .5073 | 8.148 | -.0015 | .5449 | .5106 | .4994 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5235 | .0033 | .5232 | -.0467 |
| Stddev | .0008 | .0039 | .0003 | .0001 |
| %RSD | .1619 | 116.6 | .0536 | .1568 |
| #1 | .5241 | .0006 | .5234 | -.0467 |
| #2 | .5229 | .0060 | .5230 | -.0466 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1215.5 | 38898. | 17850. |
| Stddev | 5.1 | 197. | 91. |
| %RSD | .41750 | .50579 | .50970 |
| #1 | 1212.0 | 38759. | 17914. |
| #2 | 1219.1 | 39037. | 17786. |



Zoom In Zoom Out

Sample Name: MP21908-S2 Acquired: 10/28/2013 16:53:43 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2016 | 2.128 | .5316 | -.0025 | .0065 | 1.995 | .5009 | 31.24 | .5307 | .5130 |
| Stddev | .0008 | .009 | .0046 | .0007 | .0002 | .003 | .0001 | .02 | .0000 | .0004 |
| %RSD | .3786 | .4329 | .8564 | 30.26 | 3.294 | .1328 | .0153 | .0616 | .0042 | .0871 |
| #1 | .2022 | 2.122 | .5348 | -.0019 | .0064 | 1.993 | .5008 | 31.26 | .5307 | .5133 |
| #2 | .2011 | 2.135 | .5284 | -.0030 | .0067 | 1.997 | .5009 | 31.23 | .5307 | .5127 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5245 | .4951 | 2.058 | 26.41 | 26.16 | .5031 | .0003 | 31.12 | .4828 | .9867 |
| Stddev | .0022 | .0026 | .005 | .02 | .05 | .0004 | .0001 | .01 | .0003 | .0019 |
| %RSD | .4268 | .5181 | .2392 | .0701 | .2062 | .0817 | 46.41 | .0418 | .0528 | .1971 |
| #1 | .5229 | .4969 | 2.061 | 26.43 | 26.19 | .5034 | .0004 | 31.11 | .4826 | .9881 |
| #2 | .5261 | .4933 | 2.054 | 26.40 | 26.12 | .5028 | .0002 | 31.13 | .4829 | .9853 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0048 | 2.026 | .5110 | .5055 | 7.955 | -.0021 | .5359 | .5119 | .4984 |
| Stddev | .0008 | .0000 | .009 | .0012 | .0032 | .008 | .0010 | .0005 | .0033 | .0016 |
| %RSD | 43.08 | .5034 | .4221 | .2288 | .6380 | .0955 | 47.86 | .0933 | .6356 | .3238 |
| #1 | -.0025 | -.0048 | 2.032 | .5119 | .5078 | 7.960 | -.0028 | .5356 | .5142 | .4996 |
| #2 | -.0013 | -.0049 | 2.020 | .5102 | .5032 | 7.949 | -.0014 | .5363 | .5096 | .4973 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5245 | -.0036 | .5170 | -.0459 |
| Stddev | .0020 | .0004 | .0018 | .0002 |
| %RSD | .3762 | 9.830 | .3440 | .5365 |
| #1 | .5259 | -.0033 | .5183 | -.0458 |
| #2 | .5231 | -.0038 | .5158 | -.0461 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.3 | 39208. | 18050. |
| Stddev | 1.1 | 55. | 56. |
| %RSD | .08953 | .14042 | .30836 |
| #1 | 1207.6 | 39169. | 18011. |
| #2 | 1209.1 | 39247. | 18089. |



Zoom In Zoom Out

Sample Name: MC25522-6F Acquired: 10/28/2013 16:58:31 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0014 | .0019 | -.0010 | .0055 | .0046 | .0000 | 6.731 | .0000 | -.0003 |
| Stddev | .0001 | .0042 | .0002 | .0001 | .0001 | .0001 | .000 | .061 | .0002 | .0001 |
| %RSD | 15.33 | 294.1 | 10.13 | 11.39 | 2.525 | 1.334 | 24050. | .9137 | 2338. | 39.52 |
| #1 | .0004 | .0015 | .0018 | -.0009 | .0056 | .0046 | .0000 | 6.774 | -.0001 | -.0004 |
| #2 | .0005 | -.0044 | .0020 | -.0010 | .0054 | .0045 | .0000 | 6.687 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0049 | 1.333 | 1.176 | .0018 | .0003 | 6.062 | -.0001 | -.0014 |
| Stddev | .0002 | .0002 | .0011 | .015 | .011 | .0001 | .0000 | .007 | .0001 | .0003 |
| %RSD | 205.0 | 33.61 | 23.20 | 1.104 | .9337 | 4.659 | 14.48 | .1244 | 60.90 | 18.71 |
| #1 | .0000 | .0005 | .0041 | 1.322 | 1.169 | .0019 | .0003 | 6.067 | -.0002 | -.0016 |
| #2 | .0002 | .0009 | .0057 | 1.343 | 1.184 | .0018 | .0004 | 6.056 | -.0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0023 | 2.060 | .0001 | .0009 | 8.013 | .0000 | .0455 | .0004 | -.0003 |
| Stddev | .0015 | .0039 | .001 | .0003 | .0004 | .014 | .001 | .0000 | .0005 | .0002 |
| %RSD | 151.9 | 172.0 | .0329 | 355.7 | 49.69 | .1706 | 2329. | .0396 | 127.9 | 65.06 |
| #1 | .0001 | -.0050 | 2.061 | .0003 | .0006 | 8.003 | -.0006 | .0455 | .0007 | -.0005 |
| #2 | -.0021 | .0005 | 2.060 | -.0001 | .0012 | 8.022 | .0005 | .0455 | .0000 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0096 | .0054 | -.0463 |
| Stddev | .0005 | .0041 | .0000 | .0005 |
| %RSD | 281.3 | 42.76 | .9188 | 1.132 |
| #1 | .0002 | .0126 | .0055 | -.0459 |
| #2 | -.0005 | .0067 | .0054 | -.0467 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 39645. | 18075. |
| Stddev | 3.6 | 56. | 169. |
| %RSD | .29302 | .14116 | .93387 |
| #1 | 1224.7 | 39605. | 17955. |
| #2 | 1219.6 | 39685. | 18194. |



Zoom In Zoom Out

Sample Name: MP21908-SD1 Acquired: 10/28/2013 17:03:27 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | -.0291 | .0010 | -.0082 | .0079 | .0048 | .0001 | 7.130 | .0000 | -.0010 |
| Stddev | .0000 | .0054 | .0027 | .0023 | .0005 | .0008 | .0002 | .057 | .0002 | .0012 |
| %RSD | .0006 | 18.49 | 273.4 | 28.51 | 5.920 | 16.09 | 123.6 | .7970 | 466.7 | 123.7 |
| #1 | .0027 | -.0330 | .0029 | -.0066 | .0075 | .0054 | .0003 | 7.170 | .0001 | -.0001 |
| #2 | .0027 | -.0253 | -.0009 | -.0099 | .0082 | .0043 | .0000 | 7.089 | -.0001 | -.0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | -.0006 | .0069 | 1.351 | 1.297 | .0016 | .0012 | 6.270 | .0000 | .0002 |
| Stddev | .0017 | .0030 | .0090 | .082 | .073 | .0002 | .0017 | .064 | .001 | .0012 |
| %RSD | 95.14 | 498.5 | 130.3 | 6.084 | 5.595 | 10.79 | 136.0 | 1.022 | 4672. | 529.3 |
| #1 | -.0030 | -.0027 | .0132 | 1.293 | 1.246 | .0014 | .0000 | 6.315 | .0005 | -.0006 |
| #2 | -.0006 | .0015 | .0005 | 1.410 | 1.348 | .0017 | .0024 | 6.225 | -.0005 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0084 | -.0277 | 2.104 | .0031 | .0010 | 8.146 | .0008 | .0461 | .0025 | .0031 |
| Stddev | .0004 | .0126 | .007 | .0067 | .0066 | .022 | .0037 | .0010 | .0016 | .0036 |
| %RSD | 4.332 | 45.34 | .3302 | 216.9 | 663.1 | .2714 | 457.8 | 2.093 | 63.54 | 115.4 |
| #1 | -.0086 | -.0188 | 2.109 | .0078 | .0057 | 8.130 | -.0018 | .0468 | .0036 | .0006 |
| #2 | -.0081 | -.0366 | 2.099 | -.0017 | -.0037 | 8.161 | .0035 | .0454 | .0014 | .0056 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0024 | .0078 | .0114 | -.0496 |
| Stddev | .0014 | .0291 | .0006 | .0023 |
| %RSD | 57.33 | 371.5 | 5.683 | 4.609 |
| #1 | -.0034 | .0284 | .0119 | -.0480 |
| #2 | -.0014 | -.0128 | .0109 | -.0512 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1240.3 | 39707. | 17980. |
| Stddev | 3.7 | 85. | 2. |
| %RSD | .29905 | .21508 | .01173 |
| #1 | 1242.9 | 39647. | 17982. |
| #2 | 1237.6 | 39768. | 17979. |

Zoom In Zoom Out

Sample Name: MC25522-1F Acquired: 10/28/2013 17:08:24 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0025 | .6140 | -.0033 | .0692 | .0892 | .0000 | 21.87 | .0015 | .0047 |
| Stddev | .0004 | .0065 | .0013 | .0004 | .0004 | .0001 | .0000 | .01 | .0002 | .0001 |
| %RSD | 44.59 | 261.7 | .2117 | 11.15 | .5447 | .1581 | 4447. | .0542 | 13.74 | 1.904 |
| #1 | .0012 | .0071 | .6131 | -.0030 | .0694 | .0891 | .0000 | 21.88 | .0014 | .0046 |
| #2 | .0006 | -.0021 | .6149 | -.0035 | .0689 | .0893 | .0000 | 21.86 | .0017 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0016 | 38.22 | 8.309 | 2.531 | 1.585 | .0009 | 21.71 | .0043 | -.0013 |
| Stddev | .0003 | .0003 | .04 | .015 | .024 | .005 | .0002 | .04 | .0001 | .0002 |
| %RSD | 24.38 | 19.83 | .1174 | .1823 | .9563 | .3102 | 21.12 | .1911 | 3.094 | 13.58 |
| #1 | -.0009 | .0013 | 38.25 | 8.320 | 2.514 | 1.588 | .0008 | 21.74 | .0042 | -.0012 |
| #2 | -.0013 | .0018 | 38.19 | 8.299 | 2.548 | 1.581 | .0011 | 21.68 | .0044 | -.0015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0019 | 7.309 | .0021 | .0014 | 10.80 | .0006 | .2658 | .0003 | -.0014 |
| Stddev | .0017 | .0040 | .004 | .0010 | .0009 | .03 | .0003 | .0007 | .0002 | .0002 |
| %RSD | 48.86 | 211.7 | .0553 | 47.21 | 68.10 | .2832 | 44.38 | .2720 | 81.78 | 13.09 |
| #1 | .0046 | .0047 | 7.306 | .0028 | .0007 | 10.82 | .0004 | .2663 | .0001 | -.0015 |
| #2 | .0023 | -.0009 | 7.312 | .0014 | .0020 | 10.78 | .0008 | .2653 | .0004 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0020 | .0048 | .0065 | -.0608 |
| Stddev | .0002 | .0013 | .0000 | .0005 |
| %RSD | 9.820 | 27.09 | .4799 | .7402 |
| #1 | .0018 | .0057 | .0065 | -.0605 |
| #2 | .0021 | .0039 | .0066 | -.0612 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.3 | 39276. | 17962. |
| Stddev | 4.8 | 180. | 27. |
| %RSD | .39680 | .45933 | .15220 |
| #1 | 1207.9 | 39149. | 17943. |
| #2 | 1214.7 | 39404. | 17981. |



Zoom In Zoom Out

Sample Name: MC25522-2F Acquired: 10/28/2013 17:13:18 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0014 | .6151 | -.0014 | .0697 | .0886 | .0000 | 21.86 | .0015 | .0042 |
| Stddev | .0004 | .0034 | .0030 | .0007 | .0002 | .0004 | .000 | .01 | .0002 | .0001 |
| %RSD | 78.19 | 236.7 | .4858 | 51.43 | .2981 | .3984 | 46.52 | .0504 | 14.89 | 3.207 |
| #1 | .0002 | -.0039 | .6130 | -.0009 | .0696 | .0884 | .0000 | 21.87 | .0016 | .0042 |
| #2 | .0008 | .0010 | .6172 | -.0019 | .0699 | .0889 | .0000 | 21.86 | .0013 | .0041 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0005 | 38.35 | 8.305 | 2.506 | 1.588 | .0010 | 21.67 | .0045 | -.0016 |
| Stddev | .0006 | .0001 | .05 | .018 | .031 | .002 | .0001 | .01 | .0002 | .0005 |
| %RSD | 46.37 | 31.59 | .1215 | .2145 | 1.247 | .1357 | 13.16 | .0365 | 5.037 | 32.68 |
| #1 | -.0008 | .0004 | 38.38 | 8.293 | 2.528 | 1.586 | .0010 | 21.67 | .0043 | -.0020 |
| #2 | -.0017 | .0006 | 38.31 | 8.318 | 2.484 | 1.589 | .0009 | 21.68 | .0046 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0027 | .0032 | 7.292 | .0009 | .0022 | 10.82 | .0001 | .2656 | .0003 | -.0019 |
| Stddev | .0004 | .0006 | .026 | .0002 | .0016 | .02 | .0001 | .0003 | .0003 | .0009 |
| %RSD | 14.27 | 18.46 | .3626 | 20.55 | 72.73 | .1869 | 70.35 | .1231 | 108.1 | 49.53 |
| #1 | .0024 | .0036 | 7.273 | .0008 | .0034 | 10.81 | .0002 | .2653 | .0006 | -.0012 |
| #2 | .0030 | .0028 | 7.310 | .0010 | .0011 | 10.84 | .0001 | .2658 | .0001 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0020 | .0059 | .0062 | -.0606 |
| Stddev | .0001 | .0045 | .0001 | .0002 |
| %RSD | 4.641 | 75.48 | 1.524 | .2703 |
| #1 | .0021 | .0028 | .0062 | -.0605 |
| #2 | .0019 | .0091 | .0063 | -.0607 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.9 | 39359. | 18066. |
| Stddev | 2.6 | 103. | 28. |
| %RSD | .21259 | .26177 | .15419 |
| #1 | 1213.8 | 39286. | 18047. |
| #2 | 1210.1 | 39432. | 18086. |



Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/28/2013 17:18:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0076 | 1.607 | -.0271 | .1552 | .0396 | .0000 | 74.43 | .0049 | .0140 |
| Stddev | .0002 | .0040 | .001 | .0003 | .0000 | .0002 | .0000 | .17 | .0001 | .0001 |
| %RSD | 42.36 | 52.04 | .0697 | 1.066 | .0018 | .4470 | 52.39 | .2219 | 2.329 | .4692 |
| #1 | .0006 | -.0048 | 1.607 | -.0273 | .1552 | .0395 | .0000 | 74.31 | .0048 | .0140 |
| #2 | .0003 | -.0104 | 1.606 | -.0269 | .1552 | .0397 | .0001 | 74.55 | .0050 | .0139 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0005 | 24.50 | 8.002 | 11.64 | 9.455 | .0024 | 23.64 | .0082 | -.0021 |
| Stddev | .0009 | .0004 | .02 | .045 | .05 | .086 | .0000 | .00 | .0000 | .0007 |
| %RSD | 132.4 | 69.61 | .0680 | .5630 | .3888 | .9090 | .2827 | .0006 | .3803 | 33.64 |
| #1 | -.0013 | .0003 | 24.49 | 7.970 | 11.61 | 9.516 | .0024 | 23.64 | .0082 | -.0026 |
| #2 | .0000 | .0008 | 24.51 | 8.034 | 11.67 | 9.394 | .0024 | 23.63 | .0082 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0521 | 1.616 | .0000 | -.0007 | 12.59 | -.0006 | .7302 | .0012 | -.0012 |
| Stddev | .0001 | .0025 | .007 | .0000 | .0023 | .01 | .0007 | .0007 | .0002 | .0000 |
| %RSD | 40.40 | 4.726 | .4580 | 403.5 | 311.4 | .0852 | 127.7 | .0890 | 16.17 | 2.884 |
| #1 | -.0005 | .0538 | 1.621 | .0000 | .0009 | 12.60 | -.0001 | .7297 | .0010 | -.0012 |
| #2 | -.0003 | .0503 | 1.611 | .0000 | -.0024 | 12.59 | -.0011 | .7306 | .0013 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0038 | .0117 | -.0701 |
| Stddev | .0001 | .0007 | .0002 | .0004 |
| %RSD | 31.00 | 18.75 | 1.564 | .5325 |
| #1 | -.0005 | .0033 | .0118 | -.0704 |
| #2 | -.0003 | .0043 | .0116 | -.0699 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.8 | 39340. | 17921. |
| Stddev | .9 | 41. | 16. |
| %RSD | .07711 | .10328 | .08938 |
| #1 | 1210.1 | 39369. | 17933. |
| #2 | 1211.4 | 39312. | 17910. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 17:23:14 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2480 | 9.814 | 1.909 | -.0078 | 1.910 | 1.901 | 1.947 | 9.903 | 1.981 | 1.999 |
| Stddev | .0005 | .025 | .004 | .0007 | .004 | .004 | .003 | .003 | .002 | .005 |
| %RSD | .2120 | .2596 | .2107 | 9.073 | .2250 | .1849 | .1402 | .0281 | .0749 | .2496 |
| #1 | .2484 | 9.832 | 1.906 | -.0083 | 1.907 | 1.898 | 1.949 | 9.905 | 1.980 | 1.995 |
| #2 | .2477 | 9.796 | 1.912 | -.0073 | 1.913 | 1.903 | 1.945 | 9.901 | 1.982 | 2.002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.959 | 1.922 | 9.925 | 9.709 | 9.737 | 1.965 | 1.912 | 9.685 | 1.895 | 1.908 |
| Stddev | .009 | .008 | .003 | .034 | .045 | .007 | .007 | .025 | .005 | .002 |
| %RSD | .4586 | .3990 | .0290 | .3508 | .4597 | .3357 | .3677 | .2572 | .2857 | .1083 |
| #1 | 1.965 | 1.917 | 9.923 | 9.685 | 9.705 | 1.970 | 1.907 | 9.667 | 1.891 | 1.906 |
| #2 | 1.952 | 1.928 | 9.927 | 9.733 | 9.769 | 1.960 | 1.917 | 9.702 | 1.899 | 1.909 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | -.0042 | 1.926 | 1.909 | .0070 | 1.912 | 1.926 | 1.938 | 1.907 |
| Stddev | .0010 | .0081 | .0017 | .000 | .000 | .0008 | .002 | .007 | .001 | .002 |
| %RSD | 4361. | 1321. | 40.84 | .0043 | .0117 | 11.32 | .1182 | .3625 | .0605 | .0907 |
| #1 | .0007 | .0063 | -.0054 | 1.926 | 1.910 | .0075 | 1.911 | 1.922 | 1.937 | 1.906 |
| #2 | -.0007 | -.0051 | -.0030 | 1.926 | 1.909 | .0064 | 1.914 | 1.931 | 1.939 | 1.909 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.931 | -.0078 | 1.918 | -.0075 |
| Stddev | .003 | .0003 | .010 | .0002 |
| %RSD | .1354 | 3.556 | .5384 | 3.029 |
| #1 | 1.933 | -.0076 | 1.911 | -.0074 |
| #2 | 1.929 | -.0080 | 1.925 | -.0077 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.6 | 39270. | 17962. |
| Stddev | 1.7 | 35. | 18. |
| %RSD | .13683 | .09033 | .10091 |
| #1 | 1248.4 | 39245. | 17949. |
| #2 | 1250.8 | 39295. | 17975. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 17:28:03 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0020 | F.0026 | .0000 | .0014 | .0001 | .0001 | .0008 | .0000 |
| Stddev | .0001 | .0059 | .0014 | .0006 | .0003 | .0000 | .0000 | .0003 | .0000 |
| %RSD | 67.86 | 292.6 | 54.70 | 1829. | 19.90 | 2.585 | 50.98 | 32.13 | 2.882 |
| #1 | .0001 | -.0062 | .0016 | -.0004 | .0016 | .0001 | .0000 | .0010 | .0000 |
| #2 | .0002 | .0022 | .0036 | .0004 | .0012 | .0001 | .0001 | .0006 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0003 | .0000 | .0010 | .0076 | .0205 | .0001 | .0020 | -.0084 |
| Stddev | .0000 | .0002 | .000 | .0007 | .0060 | .0214 | .0000 | .0004 | .0035 |
| %RSD | 8.433 | 83.74 | 524.8 | 64.53 | 78.35 | 104.4 | 35.01 | 17.67 | 42.01 |
| #1 | .0002 | -.0004 | .0000 | .0015 | .0119 | .0054 | .0001 | .0022 | -.0109 |
| #2 | .0002 | -.0001 | -.0001 | .0006 | .0034 | .0356 | .0001 | .0017 | -.0059 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0005 | -.0002 | -.0067 | -.0026 | -.0006 | .0007 | .0021 | .0006 |
| Stddev | .0002 | .0010 | .0006 | .0072 | .0012 | .0004 | .0000 | .0008 | .0001 |
| %RSD | 170.5 | 200.9 | 272.0 | 107.7 | 46.42 | 70.50 | 4.434 | 37.86 | 10.56 |
| #1 | -.0002 | -.0002 | .0002 | -.0118 | -.0018 | -.0009 | .0007 | .0026 | .0005 |
| #2 | .0000 | .0013 | -.0006 | -.0016 | -.0035 | -.0003 | .0007 | .0015 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | F.0024 | -.0003 | .0005 | .0000 | -.0009 |
| Stddev | .0000 | .0006 | .0001 | .0001 | .0017 | .0002 | .0002 |
| %RSD | 25.43 | 291.8 | 4.696 | 46.65 | 353.4 | 1795. | 20.88 |
| #1 | .0000 | .0006 | .0023 | -.0004 | -.0007 | -.0001 | -.0010 |
| #2 | .0001 | -.0002 | .0025 | -.0002 | .0017 | .0002 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.5 | 39824. | 17914. |
| Stddev | 1.0 | 41. | 10. |
| %RSD | .08390 | .10275 | .05714 |
| #1 | 1228.8 | 39853. | 17922. |
| #2 | 1230.2 | 39795. | 17907. |



Zoom In Zoom Out

Sample Name: MC25522-4F Acquired: 10/28/2013 17:33:02 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0066 | 2.447 | -.0253 | .0820 | .0629 | .0000 | 84.90 | .0073 | .0035 |
| Stddev | .0003 | .0049 | .006 | .0001 | .0000 | .0002 | .0000 | .10 | .0001 | .0001 |
| %RSD | 87.45 | 74.91 | .2355 | .4587 | .0602 | .2452 | 27.87 | .1234 | 1.326 | 2.370 |
| #1 | .0005 | -.0031 | 2.452 | -.0254 | .0820 | .0630 | .0000 | 84.83 | .0072 | .0034 |
| #2 | .0001 | -.0101 | 2.443 | -.0252 | .0821 | .0628 | .0000 | 84.97 | .0073 | .0036 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0003 | 7.521 | 4.334 | 11.56 | 7.954 | .0043 | 17.31 | .0061 | -.0017 |
| Stddev | .0007 | .0001 | .018 | .024 | .22 | .018 | .0000 | .05 | .0004 | .0004 |
| %RSD | 103.6 | 38.65 | .2407 | .5518 | 1.890 | .2305 | .4073 | .3135 | 6.565 | 23.97 |
| #1 | .0002 | .0002 | 7.533 | 4.317 | 11.41 | 7.942 | .0042 | 17.35 | .0058 | -.0020 |
| #2 | .0011 | .0004 | 7.508 | 4.351 | 11.72 | 7.967 | .0043 | 17.27 | .0063 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0033 | .0381 | 3.676 | .0015 | -.0011 | 12.04 | -.0001 | .4208 | .0008 | -.0002 |
| Stddev | .0000 | .0011 | .003 | .0006 | .0023 | .00 | .0005 | .0011 | .0002 | .0002 |
| %RSD | .7538 | 2.966 | .0879 | 39.15 | 204.1 | .0321 | 637.2 | .2609 | 29.25 | 105.4 |
| #1 | -.0033 | .0373 | 3.678 | .0020 | .0005 | 12.04 | .0003 | .4216 | .0010 | -.0003 |
| #2 | -.0033 | .0389 | 3.673 | .0011 | -.0027 | 12.04 | -.0004 | .4200 | .0007 | -.0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0014 | .0084 | -.0678 |
| Stddev | .0007 | .0085 | .0000 | .0000 |
| %RSD | 125.2 | 609.0 | .4380 | .0191 |
| #1 | -.0001 | -.0046 | .0084 | -.0678 |
| #2 | -.0011 | .0074 | .0084 | -.0678 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1191.5 | 39326. | 17917. |
| Stddev | .7 | 134. | 7. |
| %RSD | .06274 | .33989 | .04156 |
| #1 | 1192.1 | 39421. | 17922. |
| #2 | 1191.0 | 39232. | 17912. |



Zoom In Zoom Out

Sample Name: MC25522-5F Acquired: 10/28/2013 17:38:01 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0058 | .0019 | -.0026 | .0132 | .0176 | .0000 | 11.28 | .0001 | .0000 |
| Stddev | .0002 | .0010 | .0022 | .0000 | .0001 | .0001 | .0001 | .09 | .0001 | .000 |
| %RSD | 44.98 | 17.33 | 113.3 | 1.910 | .4493 | .5473 | 420.9 | .8234 | 137.2 | 2120. |
| #1 | .0004 | .0051 | .0034 | -.0026 | .0132 | .0176 | .0001 | 11.21 | .0002 | -.0002 |
| #2 | .0007 | .0065 | .0004 | -.0025 | .0131 | .0177 | .0000 | 11.34 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0017 | .0433 | 1.361 | 2.289 | .0296 | .0004 | 39.10 | .0000 | -.0001 |
| Stddev | .0009 | .0003 | .0010 | .004 | .046 | .0002 | .0001 | .05 | .000 | .0005 |
| %RSD | 73.78 | 16.50 | 2.384 | .3209 | 2.024 | .5270 | 17.12 | .1197 | 617.8 | 458.7 |
| #1 | -.0018 | .0015 | .0426 | 1.364 | 2.256 | .0297 | .0004 | 39.06 | .0001 | .0002 |
| #2 | -.0006 | .0019 | .0441 | 1.358 | 2.322 | .0295 | .0005 | 39.13 | -.0001 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0086 | 2.644 | .0010 | .0011 | 2.783 | .0002 | .0756 | .0004 | -.0011 |
| Stddev | .0002 | .0013 | .008 | .0003 | .0021 | .011 | .0007 | .0002 | .0001 | .0013 |
| %RSD | 28.33 | 15.59 | .3077 | 25.37 | 187.5 | .3766 | 309.5 | .2561 | 36.05 | 117.5 |
| #1 | -.0005 | -.0095 | 2.650 | .0012 | -.0004 | 2.776 | .0007 | .0754 | .0003 | -.0002 |
| #2 | -.0008 | -.0076 | 2.638 | .0008 | .0026 | 2.791 | -.0003 | .0757 | .0005 | -.0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0047 | .0077 | -.0163 |
| Stddev | .0003 | .0006 | .0002 | .0005 |
| %RSD | 43.38 | 12.05 | 2.373 | 3.241 |
| #1 | -.0004 | .0043 | .0079 | -.0159 |
| #2 | -.0008 | .0051 | .0076 | -.0166 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.0 | 39511. | 17978. |
| Stddev | 3.9 | 109. | 138. |
| %RSD | .31882 | .27605 | .76745 |
| #1 | 1225.8 | 39434. | 18075. |
| #2 | 1220.3 | 39588. | 17880. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/28/2013 17:42:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0056 | -.0344 | .2672 | .0484 | .0000 | 63.51 | .0002 | .0049 |
| Stddev | .0001 | .0008 | .0020 | .0003 | .0000 | .0002 | .0000 | .01 | .0001 | .0000 |
| %RSD | 27.08 | 104.3 | 35.28 | .9659 | .0116 | .3165 | 128.8 | .0094 | 44.72 | .4737 |
| #1 | .0005 | .0002 | .0070 | -.0341 | .2673 | .0483 | .0000 | 63.51 | .0002 | .0049 |
| #2 | .0003 | .0013 | .0042 | -.0346 | .2672 | .0485 | .0000 | 63.50 | .0001 | .0049 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0005 | .6088 | 17.35 | 9.910 | 11.52 | .0003 | 31.81 | .0050 | -.0016 |
| Stddev | .0009 | .0004 | .0014 | .04 | .057 | .06 | .0002 | .13 | .0000 | .0006 |
| %RSD | 132.4 | 67.52 | .2262 | .2532 | .5699 | .5590 | 57.66 | .4113 | .9480 | 39.63 |
| #1 | .0000 | .0003 | .6078 | 17.32 | 9.950 | 11.57 | .0002 | 31.72 | .0050 | -.0011 |
| #2 | .0013 | .0008 | .6098 | 17.38 | 9.870 | 11.48 | .0004 | 31.91 | .0050 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0661 | 1.153 | .0013 | .0017 | 7.355 | .0003 | 1.193 | .0008 | -.0021 |
| Stddev | .0016 | .0006 | .003 | .0008 | .0015 | .000 | .0001 | .006 | .0001 | .0004 |
| %RSD | 63.07 | .9086 | .2518 | 66.07 | 84.54 | .0036 | 44.03 | .4701 | 14.42 | 17.49 |
| #1 | -.0037 | .0656 | 1.155 | .0007 | .0027 | 7.354 | .0002 | 1.189 | .0007 | -.0023 |
| #2 | -.0014 | .0665 | 1.151 | .0019 | .0007 | 7.355 | .0004 | 1.197 | .0009 | -.0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | .0048 | .0064 | -.0417 |
| Stddev | .0004 | .0024 | .0000 | .0007 |
| %RSD | 24.12 | 50.03 | .6839 | 1.668 |
| #1 | -.0020 | .0031 | .0064 | -.0412 |
| #2 | -.0014 | .0065 | .0065 | -.0422 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.2 | 39542. | 17683. |
| Stddev | 3.1 | 310. | 34. |
| %RSD | .25349 | .78352 | .19104 |
| #1 | 1205.1 | 39323. | 17659. |
| #2 | 1209.4 | 39761. | 17707. |

Zoom In Zoom Out

Sample Name: MC25522-8F Acquired: 10/28/2013 17:47:58 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0017 | .7144 | -.0084 | .0797 | .1250 | .0000 | 44.12 | .0020 | .0057 |
| Stddev | .0001 | .0005 | .0013 | .0001 | .0001 | .0005 | .0000 | .02 | .0002 | .0001 |
| %RSD | 14.24 | 30.21 | .1864 | .9147 | .1619 | .3699 | .2686 | .0345 | 9.480 | 1.049 |
| #1 | .0006 | -.0014 | .7153 | -.0085 | .0798 | .1247 | .0000 | 44.13 | .0022 | .0056 |
| #2 | .0005 | -.0021 | .7135 | -.0084 | .0796 | .1254 | .0000 | 44.11 | .0019 | .0057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0011 | 26.95 | 8.469 | 5.904 | 3.611 | .0022 | 26.33 | .0091 | -.0016 |
| Stddev | .0001 | .0007 | .01 | .019 | .004 | .012 | .0001 | .06 | .0004 | .0028 |
| %RSD | 7.682 | 61.61 | .0521 | .2212 | .0682 | .3214 | 4.141 | .2114 | 4.669 | 178.2 |
| #1 | -.0013 | .0016 | 26.94 | 8.455 | 5.901 | 3.603 | .0021 | 26.29 | .0088 | .0004 |
| #2 | -.0011 | .0006 | 26.96 | 8.482 | 5.907 | 3.619 | .0022 | 26.37 | .0094 | -.0035 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0181 | 6.444 | .0011 | .0016 | 13.89 | -.0004 | .4734 | .0006 | -.0012 |
| Stddev | .0015 | .0077 | .005 | .0001 | .0011 | .05 | .0005 | .0010 | .0000 | .0010 |
| %RSD | 70.19 | 42.79 | .0810 | 6.515 | 71.71 | .3532 | 134.5 | .2165 | 7.714 | 80.63 |
| #1 | .0011 | .0126 | 6.440 | .0011 | .0008 | 13.93 | .0000 | .4727 | .0006 | -.0019 |
| #2 | .0031 | .0236 | 6.447 | .0012 | .0024 | 13.86 | -.0008 | .4742 | .0006 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | .0071 | .0067 | -.0775 |
| Stddev | .0002 | .0003 | .0001 | .0001 |
| %RSD | 21.83 | 3.573 | 1.756 | .0832 |
| #1 | .0006 | .0069 | .0066 | -.0776 |
| #2 | .0009 | .0073 | .0068 | -.0775 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.6 | 39360. | 17860. |
| Stddev | 9.1 | 120. | 8. |
| %RSD | .75209 | .30576 | .04664 |
| #1 | 1207.2 | 39446. | 17854. |
| #2 | 1220.1 | 39275. | 17866. |



Zoom In Zoom Out

Sample Name: MC25522-9F Acquired: 10/28/2013 17:52:54 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0032 | .0202 | .0057 | .3266 | .4193 | .0000 | 152.9 | -.0004 | .0000 |
| Stddev | .0003 | .0042 | .0006 | .0020 | .0012 | .0010 | .0000 | .2 | .0001 | .0001 |
| %RSD | 99.01 | 128.9 | 3.202 | 34.77 | .3589 | .2303 | 28.89 | .1096 | 19.06 | 1267. |
| #1 | .0001 | .0062 | .0197 | .0043 | .3274 | .4187 | .0000 | 152.8 | -.0005 | -.0001 |
| #2 | .0006 | .0003 | .0206 | .0071 | .3258 | .4200 | .0000 | 153.0 | -.0003 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0007 | 69.22 | 15.43 | 14.35 | .4589 | -.0003 | 15.22 | .0007 | -.0026 |
| Stddev | .0004 | .0001 | .11 | .04 | .24 | .0013 | .0000 | .05 | .0001 | .0003 |
| %RSD | 88.73 | 10.41 | .1571 | .2854 | 1.647 | .2729 | 9.577 | .3263 | 14.01 | 12.75 |
| #1 | -.0007 | .0006 | 69.15 | 15.40 | 14.19 | .4580 | -.0003 | 15.18 | .0008 | -.0028 |
| #2 | -.0002 | .0007 | 69.30 | 15.46 | 14.52 | .4597 | -.0003 | 15.25 | .0007 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0035 | .0021 | .3169 | .0013 | .0016 | 14.28 | .0005 | 1.065 | .0013 | -.0014 |
| Stddev | .0007 | .0062 | .0013 | .0000 | .0030 | .04 | .0002 | .002 | .0003 | .0000 |
| %RSD | 19.61 | 296.9 | .4100 | 1.045 | 190.0 | .2713 | 40.16 | .1683 | 21.92 | .0088 |
| #1 | .0040 | .0064 | .3178 | .0013 | -.0005 | 14.31 | .0006 | 1.064 | .0015 | -.0014 |
| #2 | .0030 | -.0023 | .3160 | .0013 | .0037 | 14.25 | .0003 | 1.066 | .0011 | -.0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0042 | .0113 | .0055 | -.0792 |
| Stddev | .0002 | .0009 | .0004 | .0006 |
| %RSD | 4.175 | 8.031 | 7.387 | .7780 |
| #1 | .0041 | .0107 | .0058 | -.0796 |
| #2 | .0044 | .0119 | .0052 | -.0787 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1182.8 | 39043. | 17812. |
| Stddev | 1.7 | 38. | 40. |
| %RSD | .14119 | .09803 | .22315 |
| #1 | 1181.6 | 39070. | 17840. |
| #2 | 1184.0 | 39016. | 17784. |



Zoom In Zoom Out

Sample Name: MC25522-10F Acquired: 10/28/2013 17:57:50 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .2157 | .0135 | -.0020 | .0134 | .0068 | .0001 | 11.49 | .0000 | .0002 |
| Stddev | .0000 | .0039 | .0008 | .0004 | .0001 | .0000 | .0000 | .14 | .0000 | .0001 |
| %RSD | 7.176 | 1.824 | 5.747 | 18.86 | .7381 | .1349 | 61.68 | 1.215 | 205.9 | 87.06 |
| #1 | .0007 | .2184 | .0130 | -.0017 | .0135 | .0068 | .0001 | 11.59 | .0000 | .0001 |
| #2 | .0006 | .2129 | .0141 | -.0023 | .0134 | .0069 | .0000 | 11.40 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | 2.384 | 1.783 | 1.648 | .4294 | .0003 | 3.593 | .0005 | .0002 |
| Stddev | .0003 | .0002 | .023 | .017 | .002 | .0009 | .0000 | .007 | .0001 | .0012 |
| %RSD | 89.42 | 28.07 | .9666 | .9625 | .1449 | .2057 | 4.847 | .1985 | 23.58 | 468.6 |
| #1 | .0006 | .0005 | 2.400 | 1.795 | 1.646 | .4300 | .0004 | 3.588 | .0006 | .0011 |
| #2 | .0001 | .0007 | 2.367 | 1.771 | 1.649 | .4288 | .0003 | 3.598 | .0004 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0035 | .3815 | .0008 | .0019 | 3.151 | -.0005 | .0764 | .0031 | -.0007 |
| Stddev | .0024 | .0021 | .0008 | .0004 | .0010 | .002 | .0005 | .0001 | .0009 | .0011 |
| %RSD | 391.4 | 59.05 | .2087 | 52.32 | 51.06 | .0557 | 99.66 | .1504 | 29.33 | 146.5 |
| #1 | .0023 | -.0020 | .3820 | .0005 | .0012 | 3.150 | -.0009 | .0763 | .0024 | .0000 |
| #2 | -.0011 | -.0050 | .3809 | .0011 | .0026 | 3.152 | -.0002 | .0765 | .0037 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | .0010 | .0071 | -.0190 |
| Stddev | .0004 | .0010 | .0001 | .0002 |
| %RSD | 40.47 | 102.6 | 1.694 | 1.173 |
| #1 | .0012 | .0017 | .0070 | -.0188 |
| #2 | .0007 | .0003 | .0072 | -.0191 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.7 | 39915. | 18050. |
| Stddev | 2.9 | 60. | 191. |
| %RSD | .23858 | .15008 | 1.0584 |
| #1 | 1223.8 | 39872. | 17915. |
| #2 | 1219.6 | 39957. | 18185. |



Zoom In Zoom Out

Sample Name: MC25522-11F Acquired: 10/28/2013 18:02:46 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0020 | .0005 | -.0018 | .0125 | .0064 | .0001 | 8.192 | .0000 | -.0004 |
| Stddev | .0001 | .0047 | .0010 | .0000 | .0005 | .0001 | .0000 | .029 | .0001 | .0002 |
| %RSD | 66.97 | 233.1 | 210.2 | 1.764 | 4.134 | 1.259 | 83.02 | .3497 | 289.7 | 59.15 |
| #1 | .0002 | -.0053 | .0012 | -.0018 | .0121 | .0063 | .0001 | 8.213 | .0001 | -.0002 |
| #2 | .0001 | .0013 | -.0002 | -.0019 | .0128 | .0064 | .0000 | 8.172 | -.0001 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0006 | .0021 | .7590 | 1.262 | .0006 | .0003 | 7.346 | .0000 | -.0009 |
| Stddev | .0002 | .0009 | .0016 | .0094 | .003 | .0001 | .0000 | .007 | .0001 | .0001 |
| %RSD | 76.43 | 143.7 | 76.20 | 1.237 | .2313 | 10.19 | 5.993 | .0928 | 169.5 | 11.04 |
| #1 | -.0005 | .0012 | .0010 | .7657 | 1.264 | .0006 | .0003 | 7.351 | .0001 | -.0009 |
| #2 | -.0001 | .0000 | .0032 | .7524 | 1.260 | .0007 | .0003 | 7.341 | .0000 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0028 | 2.390 | -.0004 | .0017 | 6.373 | -.0001 | .0613 | .0005 | -.0008 |
| Stddev | .0002 | .0004 | .001 | .0002 | .0005 | .017 | .0003 | .0002 | .0005 | .0009 |
| %RSD | 35.50 | 14.77 | .0561 | 48.40 | 30.92 | .2585 | 212.4 | .2985 | 96.15 | 108.8 |
| #1 | .0004 | .0025 | 2.389 | -.0003 | .0013 | 6.361 | .0001 | .0614 | .0008 | -.0002 |
| #2 | .0006 | .0031 | 2.391 | -.0006 | .0021 | 6.385 | -.0003 | .0612 | .0002 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0001 | .0057 | -.0367 |
| Stddev | .0002 | .0005 | .0002 | .0005 |
| %RSD | 435.1 | 560.2 | 3.217 | 1.367 |
| #1 | -.0001 | .0005 | .0058 | -.0364 |
| #2 | .0002 | -.0003 | .0056 | -.0371 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.7 | 39735. | 18090. |
| Stddev | 3.3 | 133. | 54. |
| %RSD | .27203 | .33360 | .29948 |
| #1 | 1232.1 | 39642. | 18051. |
| #2 | 1227.3 | 39829. | 18128. |

Zoom In Zoom Out

Sample Name: MC25522-12F Acquired: 10/28/2013 18:07:42 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0048 | -.0011 | -.0025 | .0012 | .0000 | .0000 | .0171 | -.0001 | -.0002 |
| Stddev | .0003 | .0042 | .0021 | .0011 | .0000 | .0000 | .0000 | .0002 | .0001 | .0001 |
| %RSD | 61.13 | 88.97 | 201.3 | 44.38 | 3.664 | 28.61 | 119.9 | .9001 | 85.06 | 31.26 |
| #1 | .0003 | -.0018 | -.0026 | -.0033 | .0012 | .0000 | .0000 | .0170 | .0000 | -.0002 |
| #2 | .0008 | -.0078 | .0004 | -.0017 | .0011 | .0000 | .0000 | .0172 | -.0001 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0003 | .0027 | .0230 | .0116 | .0000 | .0001 | .0052 | -.0004 | .0017 |
| Stddev | .0007 | .0002 | .0011 | .0244 | .0145 | .0000 | .0002 | .0009 | .0001 | .0005 |
| %RSD | 81.30 | 55.14 | 40.30 | 106.2 | 125.3 | 80.91 | 348.1 | 18.04 | 26.71 | 27.52 |
| #1 | -.0014 | .0002 | .0035 | .0057 | .0218 | .0000 | -.0001 | .0059 | -.0005 | .0014 |
| #2 | -.0004 | .0004 | .0019 | .0402 | .0013 | .0001 | .0002 | .0045 | -.0003 | .0021 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0031 | -.0006 | .0010 | .0023 | .0211 | -.0002 | .0000 | .0002 | -.0009 |
| Stddev | .001 | .0094 | .0003 | .0002 | .0001 | .0010 | .0003 | .0000 | .0008 | .0006 |
| %RSD | 2901. | 304.9 | 43.65 | 17.08 | 4.822 | 4.631 | 156.1 | 357.6 | 493.8 | 68.39 |
| #1 | .0010 | .0036 | -.0004 | .0011 | .0022 | .0218 | .0000 | .0000 | -.0004 | -.0013 |
| #2 | -.0011 | -.0097 | -.0008 | .0008 | .0023 | .0204 | -.0004 | .0000 | .0007 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | -.0037 | .0056 | -.0013 |
| Stddev | .0004 | .0009 | .0000 | .0014 |
| %RSD | 92.33 | 23.64 | .7260 | 112.6 |
| #1 | -.0001 | -.0031 | .0055 | -.0023 |
| #2 | -.0007 | -.0043 | .0056 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.8 | 39802. | 17872. |
| Stddev | 3.4 | 1053. | 232. |
| %RSD | .27935 | 2.6464 | 1.2967 |
| #1 | 1232.2 | 40547. | 17708. |
| #2 | 1227.4 | 39058. | 18036. |



Zoom In Zoom Out

Sample Name: MC25522-13F Acquired: 10/28/2013 18:12:40 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0150 | .0355 | -.0017 | .0174 | .0479 | .0000 | 26.80 | .0000 | .0072 |
| Stddev | .0001 | .0097 | .0008 | .0001 | .0002 | .0000 | .0000 | .05 | .0000 | .0004 |
| %RSD | 32.23 | 64.92 | 2.342 | 4.500 | .8778 | .0494 | 14.55 | .2006 | 50.74 | 5.082 |
| #1 | .0004 | .0219 | .0349 | -.0017 | .0173 | .0479 | .0000 | 26.77 | .0000 | .0074 |
| #2 | .0006 | .0081 | .0361 | -.0018 | .0175 | .0480 | .0000 | 26.84 | .0000 | .0069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0009 | 6.606 | 6.482 | 3.339 | .4372 | .0002 | 12.13 | .0037 | -.0007 |
| Stddev | .0005 | .0001 | .021 | .002 | .018 | .0021 | .0002 | .01 | .0001 | .0003 |
| %RSD | 44.80 | 7.731 | .3103 | .0292 | .5236 | .4757 | 67.36 | .0874 | 3.763 | 39.94 |
| #1 | -.0008 | .0010 | 6.592 | 6.484 | 3.352 | .4357 | .0003 | 12.14 | .0038 | -.0009 |
| #2 | -.0015 | .0009 | 6.621 | 6.481 | 3.327 | .4387 | .0001 | 12.12 | .0036 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0017 | 3.484 | .0018 | .0002 | 4.225 | -.0002 | .1068 | .0004 | -.0010 |
| Stddev | .003 | .0012 | .004 | .0014 | .0010 | .014 | .0003 | .0002 | .0001 | .0007 |
| %RSD | 29470. | 69.63 | .1051 | 78.29 | 413.5 | .3233 | 179.0 | .2075 | 13.93 | 67.34 |
| #1 | .0021 | -.0025 | 3.481 | .0029 | -.0005 | 4.216 | .0000 | .1069 | .0003 | -.0015 |
| #2 | -.0021 | -.0008 | 3.486 | .0008 | .0009 | 4.235 | -.0004 | .1066 | .0004 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | .0050 | .0068 | -.0241 |
| Stddev | .0003 | .0008 | .0002 | .0002 |
| %RSD | 59.65 | 16.88 | 3.162 | .8557 |
| #1 | .0003 | .0056 | .0067 | -.0242 |
| #2 | .0007 | .0044 | .0070 | -.0239 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.8 | 39217. | 17806. |
| Stddev | 2.5 | 75. | 21. |
| %RSD | .20346 | .19099 | .11812 |
| #1 | 1221.0 | 39270. | 17820. |
| #2 | 1224.6 | 39164. | 17791. |



Zoom In Zoom Out

Sample Name: MC25522-14F Acquired: 10/28/2013 18:17:34 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0057 | 2.602 | -.0154 | .0047 | .0117 | .0001 | 9.967 | .0074 | .0057 |
| Stddev | .0001 | .0075 | .001 | .0003 | .0003 | .0001 | .0000 | .127 | .0001 | .0003 |
| %RSD | 247.2 | 130.9 | .0425 | 1.784 | 7.278 | .7116 | 25.93 | 1.270 | 1.605 | 4.591 |
| #1 | .0002 | .0110 | 2.603 | -.0152 | .0049 | .0116 | .0001 | 9.878 | .0075 | .0059 |
| #2 | .0000 | .0004 | 2.601 | -.0156 | .0045 | .0118 | .0001 | 10.06 | .0074 | .0055 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0000 | 41.75 | .6379 | .8885 | 6.064 | -.0003 | 2.498 | .0054 | -.0007 |
| Stddev | .0000 | .0003 | .42 | .0019 | .0011 | .022 | .0001 | .006 | .0001 | .0007 |
| %RSD | 3.987 | 776.2 | 1.003 | .3051 | .1231 | .3662 | 21.64 | .2511 | 2.121 | 93.18 |
| #1 | -.0011 | .0002 | 41.46 | .6393 | .8878 | 6.080 | -.0003 | 2.494 | .0055 | -.0002 |
| #2 | -.0010 | -.0002 | 42.05 | .6365 | .8893 | 6.049 | -.0003 | 2.503 | .0053 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0042 | .0278 | 1.885 | .0004 | .0002 | 5.758 | .0004 | .0584 | .0002 | -.0013 |
| Stddev | .0013 | .0033 | .005 | .0002 | .0008 | .005 | .0002 | .0000 | .0006 | .0001 |
| %RSD | 30.81 | 12.00 | .2756 | 45.90 | 523.8 | .0884 | 46.78 | .0135 | 238.1 | 9.019 |
| #1 | .0051 | .0254 | 1.889 | .0003 | -.0004 | 5.762 | .0006 | .0584 | .0007 | -.0014 |
| #2 | .0033 | .0301 | 1.881 | .0005 | .0008 | 5.754 | .0003 | .0584 | -.0002 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0011 | .0040 | .0087 | -.0333 |
| Stddev | .0002 | .0037 | .0001 | .0011 |
| %RSD | 21.39 | 92.62 | 1.604 | 3.319 |
| #1 | .0010 | .0014 | .0088 | -.0326 |
| #2 | .0013 | .0066 | .0086 | -.0341 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.4 | 39805. | 18064. |
| Stddev | 4.5 | 165. | 215. |
| %RSD | .36421 | .41483 | 1.1905 |
| #1 | 1223.3 | 39689. | 18216. |
| #2 | 1229.6 | 39922. | 17911. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 18:22:33 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.778 | 1.905 | -.0076 | 1.904 | 1.892 | 1.952 | 9.972 | 1.981 | 1.997 |
| Stddev | .0007 | .030 | .006 | .0013 | .005 | .002 | .002 | .009 | .002 | .001 |
| %RSD | .2879 | .3031 | .2996 | 17.58 | .2809 | .0769 | .0771 | .0912 | .0913 | .0480 |
| #1 | .2474 | 9.799 | 1.909 | -.0086 | 1.900 | 1.891 | 1.953 | 9.978 | 1.980 | 1.998 |
| #2 | .2464 | 9.757 | 1.901 | -.0067 | 1.908 | 1.893 | 1.950 | 9.965 | 1.983 | 1.996 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.945 | 1.916 | 9.960 | 9.628 | 9.716 | 1.970 | 1.911 | 9.613 | 1.887 | 1.910 |
| Stddev | .009 | .000 | .016 | .025 | .003 | .009 | .001 | .002 | .001 | .005 |
| %RSD | .4453 | .0171 | .1608 | .2595 | .0299 | .4410 | .0730 | .0196 | .0619 | .2863 |
| #1 | 1.951 | 1.915 | 9.948 | 9.645 | 9.714 | 1.976 | 1.910 | 9.615 | 1.888 | 1.914 |
| #2 | 1.939 | 1.916 | 9.971 | 9.610 | 9.718 | 1.963 | 1.912 | 9.612 | 1.887 | 1.907 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0004 | -.0060 | 1.918 | 1.909 | .0035 | 1.905 | 1.921 | 1.947 | 1.898 |
| Stddev | .0021 | .0029 | .0019 | .000 | .005 | .0009 | .004 | .007 | .005 | .001 |
| %RSD | 203.7 | 716.9 | 32.37 | .0235 | .2577 | 26.89 | .1901 | .3435 | .2699 | .0425 |
| #1 | -.0005 | -.0024 | -.0046 | 1.918 | 1.912 | .0041 | 1.908 | 1.916 | 1.951 | 1.897 |
| #2 | .0025 | .0016 | -.0074 | 1.918 | 1.905 | .0028 | 1.903 | 1.925 | 1.943 | 1.898 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.930 | -.0014 | 1.914 | -.0084 |
| Stddev | .009 | .0049 | .007 | .0006 |
| %RSD | .4932 | 341.0 | .3639 | 6.979 |
| #1 | 1.937 | -.0049 | 1.919 | -.0080 |
| #2 | 1.923 | .0020 | 1.909 | -.0088 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1249.1 | 39496. | 18025. |
| Stddev | 1.7 | 153. | 19. |
| %RSD | .13358 | .38810 | .10613 |
| #1 | 1250.3 | 39387. | 18038. |
| #2 | 1247.9 | 39604. | 18011. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 18:27:20 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0031 | .0014 | -.0010 | .0014 | .0000 | .0001 | -.0003 | .0000 |
| Stddev | .0000 | .0002 | .0008 | .0011 | .0001 | .000 | .0000 | .0011 | .0000 |
| %RSD | 2.256 | 7.710 | 58.00 | 112.7 | 5.268 | 255.4 | 42.90 | 399.0 | 517.4 |
| #1 | .0006 | -.0029 | .0008 | -.0002 | .0015 | -.0001 | .0001 | -.0011 | .0000 |
| #2 | .0005 | -.0032 | .0020 | -.0018 | .0014 | .0000 | .0001 | .0005 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0014 | -.0004 | .0007 | .0061 | .0143 | .0000 | .0023 | -.0081 |
| Stddev | .0001 | .0001 | .0001 | .0007 | .0148 | .0099 | .0002 | .0008 | .0012 |
| %RSD | 3706. | 10.53 | 25.10 | 95.65 | 240.8 | 69.15 | 751.3 | 33.75 | 15.39 |
| #1 | .0001 | -.0013 | -.0003 | .0002 | -.0043 | .0073 | .0001 | .0028 | -.0072 |
| #2 | -.0001 | -.0015 | -.0004 | .0012 | .0166 | .0212 | -.0001 | .0017 | -.0089 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0002 | .0006 | -.0029 | -.0024 | .0007 | -.0004 | .0014 | -.0001 |
| Stddev | .0002 | .0004 | .0007 | .0021 | .0000 | .0010 | .0000 | .0004 | .0005 |
| %RSD | 297.6 | 224.1 | 109.4 | 71.49 | .5165 | 156.0 | 8.129 | 26.75 | 322.9 |
| #1 | .0001 | -.0001 | .0001 | -.0015 | -.0024 | -.0001 | -.0003 | .0011 | -.0005 |
| #2 | -.0002 | .0005 | .0011 | -.0044 | -.0024 | .0014 | -.0004 | .0017 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0003 | F.0024 | -.0004 | .0042 | .0001 | -.0012 |
| Stddev | .0000 | .0001 | .0018 | .0001 | .0054 | .0002 | .0001 |
| %RSD | 30.99 | 34.10 | 76.77 | 15.01 | 127.4 | 190.3 | 12.14 |
| #1 | .0000 | .0002 | .0036 | -.0004 | .0004 | .0003 | -.0013 |
| #2 | .0001 | .0004 | .0011 | -.0003 | .0081 | .0000 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1240.4 | 40228. | 17901. |
| Stddev | 1.5 | 7. | 57. |
| %RSD | .12489 | .01830 | .31917 |
| #1 | 1241.5 | 40223. | 17941. |
| #2 | 1239.3 | 40234. | 17860. |



Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/28/2013 18:32:18 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0085 | 1.118 | -.0268 | .1987 | .0373 | .0000 | 75.51 | .0033 | .0148 |
| Stddev | .0005 | .0024 | .002 | .0010 | .0004 | .0004 | .0000 | .03 | .0001 | .0001 |
| %RSD | 114.7 | 27.76 | .1587 | 3.905 | .2136 | .9882 | 93.44 | .0403 | 1.563 | .4923 |
| #1 | .0008 | -.0069 | 1.117 | -.0260 | .1984 | .0370 | .0000 | 75.49 | .0033 | .0147 |
| #2 | .0001 | -.0102 | 1.120 | -.0275 | .1990 | .0376 | .0000 | 75.53 | .0033 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0008 | 30.50 | 8.041 | 11.31 | 8.923 | .0019 | 26.93 | .0047 | -.0019 |
| Stddev | .0007 | .0003 | .07 | .036 | .10 | .044 | .0000 | .11 | .0003 | .0007 |
| %RSD | 436.4 | 34.33 | .2351 | .4542 | .8624 | .4885 | 1.369 | .4188 | 6.062 | 38.16 |
| #1 | -.0003 | .0006 | 30.45 | 8.015 | 11.24 | 8.954 | .0019 | 26.85 | .0045 | -.0025 |
| #2 | .0007 | .0009 | 30.56 | 8.067 | 11.37 | 8.893 | .0020 | 27.01 | .0049 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0496 | 1.389 | .0004 | -.0001 | 12.94 | -.0011 | .9025 | .0005 | -.0020 |
| Stddev | .0003 | .0056 | .003 | .0010 | .0015 | .05 | .0001 | .0025 | .0002 | .0009 |
| %RSD | 61.32 | 11.24 | .2062 | 253.7 | 1288. | .3758 | 5.739 | .2753 | 39.71 | 44.56 |
| #1 | -.0007 | .0456 | 1.391 | .0011 | .0009 | 12.90 | -.0011 | .9008 | .0007 | -.0014 |
| #2 | -.0003 | .0535 | 1.387 | -.0003 | -.0012 | 12.97 | -.0010 | .9043 | .0004 | -.0026 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | .0057 | .0068 | -.0721 |
| Stddev | .0002 | .0000 | .0002 | .0005 |
| %RSD | 83.73 | .2887 | 2.269 | .6605 |
| #1 | .0004 | .0057 | .0067 | -.0717 |
| #2 | .0001 | .0057 | .0069 | -.0724 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1212.3 | 39384. | 17986. |
| Stddev | 5.2 | 162. | 1. |
| %RSD | .42851 | .41254 | .00448 |
| #1 | 1216.0 | 39269. | 17986. |
| #2 | 1208.6 | 39499. | 17985. |



Zoom In Zoom Out

Sample Name: MC25568-2F Acquired: 10/28/2013 18:37:16 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0490 | .0144 | -.0015 | .0088 | .0084 | .0000 | 10.61 | .0002 | .0021 |
| Stddev | .0003 | .0039 | .0004 | .0005 | .0007 | .0001 | .0000 | .00 | .0001 | .0001 |
| %RSD | 55.29 | 8.017 | 2.449 | 34.04 | 7.477 | .7885 | 73.45 | .0064 | 35.27 | 3.633 |
| #1 | .0008 | .0518 | .0142 | -.0019 | .0084 | .0084 | .0000 | 10.61 | .0002 | .0020 |
| #2 | .0003 | .0463 | .0147 | -.0012 | .0093 | .0085 | .0000 | 10.61 | .0001 | .0021 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0004 | 4.210 | .4506 | .9710 | .3113 | .0004 | 11.86 | .0007 | .0006 |
| Stddev | .0007 | .0002 | .020 | .0129 | .0162 | .0001 | .0001 | .02 | .0001 | .0010 |
| %RSD | 122.7 | 49.19 | .4816 | 2.854 | 1.667 | .0170 | 19.35 | .1938 | 18.40 | 168.2 |
| #1 | -.0010 | .0003 | 4.195 | .4597 | .9596 | .3112 | .0003 | 11.88 | .0008 | .0013 |
| #2 | -.0001 | .0006 | 4.224 | .4415 | .9825 | .3113 | .0005 | 11.84 | .0006 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0026 | 3.182 | .0008 | .0017 | 3.196 | .0004 | .0626 | .0003 | -.0011 |
| Stddev | .0016 | .0091 | .006 | .0002 | .0006 | .008 | .0002 | .0001 | .0003 | .0000 |
| %RSD | 245.7 | 352.2 | .1886 | 23.29 | 35.71 | .2520 | 54.30 | .1101 | 102.0 | 3.151 |
| #1 | .0018 | .0038 | 3.178 | .0006 | .0013 | 3.190 | .0002 | .0625 | .0005 | -.0012 |
| #2 | -.0005 | -.0090 | 3.186 | .0009 | .0021 | 3.202 | .0005 | .0626 | .0001 | -.0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0077 | .0064 | -.0184 |
| Stddev | .0004 | .0016 | .0001 | .0000 |
| %RSD | 96.54 | 21.12 | 1.189 | .0249 |
| #1 | .0001 | .0065 | .0065 | -.0185 |
| #2 | .0007 | .0088 | .0064 | -.0184 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.3 | 39525. | 17858. |
| Stddev | 1.3 | 103. | 35. |
| %RSD | .10366 | .26175 | .19453 |
| #1 | 1243.2 | 39452. | 17834. |
| #2 | 1241.4 | 39598. | 17883. |



Zoom In Zoom Out

Sample Name: MC25568-3F Acquired: 10/28/2013 18:42:11 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0504 | .0151 | -.0025 | .0085 | .0080 | .0000 | 10.56 | .0002 | .0020 |
| Stddev | .0009 | .0045 | .0009 | .0003 | .0001 | .0000 | .0000 | .02 | .0001 | .0002 |
| %RSD | 257.4 | 8.834 | 5.975 | 12.30 | 1.734 | .3711 | 10.18 | .2200 | 85.80 | 11.22 |
| #1 | .0010 | .0472 | .0158 | -.0028 | .0086 | .0080 | .0000 | 10.54 | .0001 | .0022 |
| #2 | -.0003 | .0535 | .0145 | -.0023 | .0083 | .0080 | .0000 | 10.57 | .0003 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0004 | 4.246 | .4432 | .9602 | .3083 | .0001 | 11.89 | .0006 | .0001 |
| Stddev | .0004 | .0003 | .026 | .0205 | .0032 | .0054 | .0001 | .11 | .0002 | .0006 |
| %RSD | 32.04 | 72.61 | .6234 | 4.626 | .3366 | 1.764 | 94.88 | .9291 | 28.96 | 1019. |
| #1 | -.0013 | .0002 | 4.227 | .4577 | .9579 | .3044 | .0002 | 11.81 | .0008 | -.0004 |
| #2 | -.0008 | .0006 | 4.264 | .4287 | .9625 | .3121 | .0000 | 11.96 | .0005 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | 3.136 | .0009 | .0011 | 3.186 | .0005 | .0626 | .0000 | -.0006 |
| Stddev | .0005 | .0004 | .023 | .0009 | .0004 | .030 | .0003 | .0006 | .0002 | .0005 |
| %RSD | 450.8 | 31.48 | .7217 | 97.01 | 34.51 | .9305 | 53.98 | .9062 | 3101. | 82.15 |
| #1 | .0003 | -.0009 | 3.152 | .0015 | .0008 | 3.207 | .0003 | .0622 | -.0001 | -.0009 |
| #2 | -.0005 | -.0014 | 3.120 | .0003 | .0014 | 3.165 | .0007 | .0630 | .0001 | -.0003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0011 | .0066 | -.0188 |
| Stddev | .0002 | .0009 | .0001 | .0008 |
| %RSD | 46.05 | 76.59 | 1.983 | 4.237 |
| #1 | .0002 | -.0017 | .0065 | -.0194 |
| #2 | .0005 | -.0005 | .0067 | -.0182 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.7 | 39658. | 17913. |
| Stddev | 17.6 | 635. | 1. |
| %RSD | 1.4243 | 1.6001 | .00829 |
| #1 | 1224.2 | 40107. | 17914. |
| #2 | 1249.2 | 39209. | 17912. |

Zoom In Zoom Out

Sample Name: MC25568-4F Acquired: 10/28/2013 18:47:06 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0015 | .6769 | -.0019 | .0557 | .0214 | .0000 | 12.74 | .0019 | .0090 |
| Stddev | .0000 | .0010 | .0009 | .0004 | .0005 | .0000 | .0000 | .03 | .0000 | .0002 |
| %RSD | 120.0 | 68.39 | .1353 | 21.83 | .8744 | .0399 | 13.26 | .2586 | 1.024 | 2.621 |
| #1 | .0001 | .0022 | .6762 | -.0016 | .0561 | .0214 | .0000 | 12.76 | .0018 | .0088 |
| #2 | .0000 | .0008 | .6775 | -.0022 | .0554 | .0214 | .0000 | 12.72 | .0019 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0009 | 21.22 | 7.503 | 2.426 | .5827 | .0041 | 3.776 | .0025 | -.0010 |
| Stddev | .0005 | .0001 | .10 | .050 | .030 | .0012 | .0001 | .020 | .0004 | .0002 |
| %RSD | 71.25 | 12.58 | .4515 | .6714 | 1.255 | .2057 | 1.966 | .5339 | 16.92 | 17.11 |
| #1 | -.0003 | .0008 | 21.28 | 7.539 | 2.447 | .5818 | .0042 | 3.790 | .0022 | -.0009 |
| #2 | -.0009 | .0010 | 21.15 | 7.468 | 2.404 | .5835 | .0040 | 3.762 | .0028 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0053 | 1.465 | .0008 | .0018 | 6.072 | .0000 | .1457 | .0004 | -.0009 |
| Stddev | .0013 | .0035 | .001 | .0005 | .0000 | .006 | .000 | .0010 | .0001 | .0007 |
| %RSD | 77.34 | 65.84 | .0690 | 69.83 | 1.699 | .1053 | 2235. | .6844 | 20.14 | 77.86 |
| #1 | .0026 | .0078 | 1.464 | .0012 | .0018 | 6.068 | .0001 | .1464 | .0004 | -.0004 |
| #2 | .0008 | .0029 | 1.466 | .0004 | .0018 | 6.077 | -.0001 | .1450 | .0003 | -.0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0019 | .0092 | -.0348 |
| Stddev | .0002 | .0042 | .0002 | .0002 |
| %RSD | 34.08 | 221.5 | 1.681 | .7079 |
| #1 | .0008 | -.0011 | .0091 | -.0349 |
| #2 | .0005 | .0048 | .0093 | -.0346 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.5 | 39701. | 17936. |
| Stddev | 2.4 | 40. | 57. |
| %RSD | .19872 | .10185 | .31748 |
| #1 | 1231.3 | 39730. | 17896. |
| #2 | 1227.8 | 39673. | 17976. |



Zoom In Zoom Out

Sample Name: MC25568-5F Acquired: 10/28/2013 18:52:00 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0023 | -.0011 | -.0019 | .0127 | .0085 | .0000 | 6.515 | .0000 | .0003 |
| Stddev | .0004 | .0005 | .0004 | .0013 | .0001 | .0001 | .0000 | .008 | .0000 | .0002 |
| %RSD | 102.9 | 23.00 | 33.38 | 71.37 | .6706 | .6118 | 130.3 | .1265 | 80.11 | 57.79 |
| #1 | .0007 | -.0019 | -.0013 | -.0009 | .0126 | .0085 | .0001 | 6.509 | .0000 | .0002 |
| #2 | .0001 | -.0026 | -.0008 | -.0028 | .0127 | .0084 | .0000 | 6.521 | .0001 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0013 | .1114 | 1.877 | .9761 | .0660 | .0001 | 2.415 | .0004 | .0001 |
| Stddev | .0008 | .0003 | .0019 | .008 | .0251 | .0004 | .0000 | .003 | .0001 | .0015 |
| %RSD | 94.78 | 26.03 | 1.698 | .4451 | 2.567 | .6356 | 23.94 | .1084 | 12.54 | 2379. |
| #1 | -.0003 | .0011 | .1128 | 1.883 | .9584 | .0657 | .0001 | 2.413 | .0004 | -.0010 |
| #2 | -.0014 | .0015 | .1101 | 1.871 | .9939 | .0663 | .0001 | 2.417 | .0004 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0045 | 2.043 | .0011 | .0025 | 3.511 | -.0001 | .0515 | .0000 | .0000 |
| Stddev | .0011 | .0110 | .013 | .0008 | .0022 | .012 | .0001 | .0003 | .0009 | .000 |
| %RSD | 348.9 | 247.8 | .6126 | 75.26 | 86.87 | .3529 | 161.7 | .5191 | 23330. | 713.1 |
| #1 | .0005 | .0034 | 2.052 | .0017 | .0041 | 3.520 | .0000 | .0513 | .0006 | -.0003 |
| #2 | -.0011 | -.0123 | 2.034 | .0005 | .0010 | 3.502 | -.0002 | .0517 | -.0006 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0014 | .0067 | -.0206 |
| Stddev | .0002 | .0004 | .0000 | .0003 |
| %RSD | 32.38 | 28.95 | .0193 | 1.499 |
| #1 | -.0004 | .0011 | .0067 | -.0208 |
| #2 | -.0006 | .0016 | .0067 | -.0204 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.4 | 39831. | 18062. |
| Stddev | 1.0 | 159. | 54. |
| %RSD | .07992 | .39953 | .30153 |
| #1 | 1241.7 | 39718. | 18024. |
| #2 | 1243.1 | 39943. | 18101. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/28/2013 18:56:56 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0048 | .0514 | -.0285 | .1867 | .0103 | .0001 | 109.8 | .0002 | .0017 |
| Stddev | .0003 | .0034 | .0009 | .0007 | .0002 | .0002 | .0000 | .6 | .0001 | .0003 |
| %RSD | 153.7 | 70.94 | 1.707 | 2.469 | .0871 | 1.968 | 29.68 | .5278 | 25.80 | 17.69 |
| #1 | .0004 | -.0024 | .0521 | -.0280 | .1865 | .0102 | .0001 | 109.4 | .0003 | .0019 |
| #2 | .0000 | -.0073 | .0508 | -.0290 | .1868 | .0105 | .0002 | 110.2 | .0002 | .0015 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .6153 | 4.793 | 13.69 | 9.028 | .0015 | 27.36 | .0145 | -.0013 |
| Stddev | .0004 | .0003 | .0080 | .054 | .08 | .048 | .0001 | .08 | .0003 | .0004 |
| %RSD | 171.4 | 198.0 | 1.297 | 1.135 | .5633 | .5357 | 3.687 | .3019 | 2.215 | 34.25 |
| #1 | -.0005 | .0004 | .6096 | 4.755 | 13.63 | 8.994 | .0014 | 27.31 | .0143 | -.0010 |
| #2 | .0000 | -.0001 | .6209 | 4.832 | 13.74 | 9.062 | .0015 | 27.42 | .0147 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0047 | .0490 | 2.113 | .0019 | .0011 | 9.964 | -.0008 | .5642 | .0011 | -.0015 |
| Stddev | .0008 | .0037 | .005 | .0009 | .0006 | .013 | .0003 | .0025 | .0003 | .0014 |
| %RSD | 17.48 | 7.637 | .2601 | 48.92 | 55.72 | .1308 | 33.78 | .4372 | 24.84 | 92.46 |
| #1 | -.0041 | .0516 | 2.117 | .0025 | .0016 | 9.973 | -.0006 | .5624 | .0009 | -.0005 |
| #2 | -.0053 | .0463 | 2.109 | .0012 | .0007 | 9.955 | -.0010 | .5659 | .0013 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | .0007 | .0132 | -.0551 |
| Stddev | .0003 | .0046 | .0001 | .0001 |
| %RSD | 16.83 | 655.0 | .9948 | .1981 |
| #1 | -.0019 | .0039 | .0133 | -.0550 |
| #2 | -.0015 | -.0025 | .0131 | -.0552 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.5 | 39555. | 17767. |
| Stddev | 1.1 | 79. | 149. |
| %RSD | .09104 | .19942 | .83626 |
| #1 | 1218.2 | 39610. | 17872. |
| #2 | 1216.7 | 39499. | 17662. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/28/2013 19:01:55 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0058 | .2008 | .0051 | -.0010 | .0994 | .0495 | .0042 | 5.101 | .0044 | .0522 |
| Stddev | .0004 | .0063 | .0017 | .0003 | .0010 | .0003 | .0000 | .006 | .0001 | .0001 |
| %RSD | 7.260 | 3.154 | 33.89 | 26.87 | .9810 | .5208 | .8543 | .1266 | 2.416 | .2279 |
| #1 | .0055 | .1963 | .0063 | -.0008 | .0987 | .0496 | .0043 | 5.106 | .0045 | .0521 |
| #2 | .0061 | .2052 | .0039 | -.0012 | .1001 | .0493 | .0042 | 5.097 | .0043 | .0523 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0094 | .0248 | .1046 | 4.911 | 4.937 | .0161 | .1000 | 4.880 | .0397 | .0058 |
| Stddev | .0003 | .0007 | .0017 | .021 | .040 | .0000 | .0008 | .009 | .0003 | .0001 |
| %RSD | 2.914 | 2.886 | 1.622 | .4192 | .8171 | .2970 | .8094 | .1863 | .7322 | 2.044 |
| #1 | .0096 | .0243 | .1034 | 4.925 | 4.908 | .0161 | .0994 | 4.874 | .0395 | .0059 |
| #2 | .0092 | .0253 | .1058 | 4.896 | 4.965 | .0161 | .1005 | 4.887 | .0399 | .0058 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0029 | -.0013 | .0068 | .0110 | .0095 | .0972 | .0101 | .0516 | .0057 |
| Stddev | .0002 | .0059 | .0001 | .0001 | .0001 | .0004 | .0003 | .0000 | .0005 | .0004 |
| %RSD | 39.59 | 205.6 | 9.680 | 1.081 | 1.067 | 4.097 | .2840 | .0925 | 1.064 | 6.307 |
| #1 | -.0003 | -.0071 | -.0012 | .0067 | .0111 | .0092 | .0974 | .0101 | .0512 | .0055 |
| #2 | -.0006 | .0013 | -.0014 | .0068 | .0109 | .0098 | .0970 | .0101 | .0520 | .0060 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0102 | .0024 | .0231 | -.0004 |
| Stddev | .0003 | .0046 | .0001 | .0012 |
| %RSD | 2.947 | 190.6 | .4977 | 331.1 |
| #1 | .0104 | .0056 | .0230 | -.0012 |
| #2 | .0100 | -.0008 | .0232 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 39959. | 17887. |
| Stddev | 7.3 | 200. | . |
| %RSD | .57321 | .49938 | .00210 |
| #1 | 1277.0 | 40100. | 17887. |
| #2 | 1266.7 | 39818. | 17888. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/28/2013 19:06:49 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2474 | 9.732 | 1.903 | -.0079 | 1.900 | 1.874 | 1.946 | 9.926 | 1.980 | 1.989 |
| Stddev | .0024 | .070 | .005 | .0016 | .004 | .014 | .015 | .049 | .001 | .005 |
| %RSD | .9692 | .7159 | .2514 | 20.86 | .2244 | .7246 | .7843 | .4940 | .0364 | .2380 |
| #1 | .2457 | 9.683 | 1.899 | -.0067 | 1.897 | 1.864 | 1.936 | 9.891 | 1.980 | 1.986 |
| #2 | .2491 | 9.781 | 1.906 | -.0091 | 1.903 | 1.883 | 1.957 | 9.961 | 1.981 | 1.992 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.974 | 1.910 | 9.879 | 9.576 | 9.702 | 1.979 | 1.899 | 9.643 | 1.889 | 1.899 |
| Stddev | .016 | .018 | .059 | .045 | .013 | .017 | .006 | .088 | .008 | .008 |
| %RSD | .7926 | .9418 | .6005 | .4725 | .1381 | .8409 | .3053 | .9152 | .4181 | .4012 |
| #1 | 1.963 | 1.898 | 9.837 | 9.544 | 9.712 | 1.967 | 1.895 | 9.581 | 1.884 | 1.894 |
| #2 | 1.985 | 1.923 | 9.921 | 9.608 | 9.693 | 1.991 | 1.903 | 9.705 | 1.895 | 1.905 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0007 | -.0060 | 1.903 | 1.900 | .0010 | 1.904 | 1.907 | 1.934 | 1.889 |
| Stddev | .0002 | .0003 | .0011 | .005 | .006 | .0002 | .002 | .014 | .014 | .002 |
| %RSD | 12.17 | 35.08 | 17.36 | .2410 | .3125 | 17.91 | .1090 | .7345 | .7000 | .0813 |
| #1 | .0015 | .0005 | -.0068 | 1.907 | 1.896 | .0011 | 1.902 | 1.897 | 1.924 | 1.888 |
| #2 | .0013 | .0009 | -.0053 | 1.900 | 1.904 | .0008 | 1.905 | 1.917 | 1.943 | 1.890 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.928 | -.0052 | 1.918 | -.0074 |
| Stddev | .018 | .0010 | .009 | .0002 |
| %RSD | .9081 | 19.92 | .4840 | 2.543 |
| #1 | 1.915 | -.0059 | 1.912 | -.0076 |
| #2 | 1.940 | -.0045 | 1.925 | -.0073 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1269.7 | 39319. | 17898. |
| Stddev | 3.6 | 222. | 37. |
| %RSD | .27965 | .56347 | .20715 |
| #1 | 1267.2 | 39476. | 17924. |
| #2 | 1272.2 | 39162. | 17871. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/28/2013 19:11:32 Type: Unk
Method: Accutest -SS2 with S(v115) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0042 | .0013 | -.0004 | .0011 | -.0001 | .0001 | .0011 | .0003 |
| Stddev | .0006 | .0025 | .0001 | .0012 | .0006 | .0000 | .0001 | .0015 | .0000 |
| %RSD | 118.3 | 60.06 | 11.23 | 310.9 | 58.64 | 68.20 | 71.75 | 134.5 | 5.576 |
| #1 | .0009 | -.0060 | .0012 | -.0012 | .0015 | -.0001 | .0000 | .0001 | .0003 |
| #2 | .0001 | -.0024 | .0014 | .0004 | .0006 | .0000 | .0001 | .0022 | .0003 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0006 | -.0007 | -.0001 | -.0010 | .0142 | .0000 | .0021 | -.0087 |
| Stddev | .000 | .0013 | .0002 | .0021 | .0053 | .0011 | .0000 | .0001 | .0013 |
| %RSD | 8286. | 201.1 | 33.26 | 1667. | 538.5 | 7.715 | 185.1 | 5.612 | 14.63 |
| #1 | .0001 | -.0015 | -.0006 | -.0016 | -.0047 | .0150 | .0000 | .0022 | -.0096 |
| #2 | -.0001 | .0003 | -.0009 | .0014 | .0027 | .0135 | .0000 | .0020 | -.0078 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | -.0001 | -.0080 | -.0034 | .0002 | .0008 | .0003 | -.0003 |
| Stddev | .000 | .0010 | .0010 | .0043 | .0020 | .0000 | .0007 | .0004 | .0000 |
| %RSD | 951.4 | 87.77 | 1286. | 53.78 | 59.73 | 7.136 | 82.15 | 130.7 | 10.04 |
| #1 | -.0001 | .0019 | .0006 | -.0111 | -.0019 | .0002 | .0003 | .0000 | -.0002 |
| #2 | .0001 | .0004 | -.0008 | -.0050 | -.0048 | .0002 | .0013 | .0006 | -.0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | F.0028 | .0001 | .0001 | .0003 | -.0008 |
| Stddev | .000 | .0001 | .0006 | .0001 | .0002 | .0000 | .0000 |
| %RSD | 476.0 | 12.64 | 21.82 | 90.73 | 207.9 | 1.059 | 3.225 |
| #1 | .0000 | .0006 | .0032 | .0002 | .0003 | .0003 | -.0008 |
| #2 | .0000 | .0005 | .0024 | .0001 | .0000 | .0003 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.7 | 39881. | 17779. |
| Stddev | 2.4 | 16. | 30. |
| %RSD | .19245 | .03948 | .16984 |
| #1 | 1262.0 | 39870. | 17758. |
| #2 | 1265.4 | 39892. | 17801. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000105 | 0.000000 | No |
| | | | Mo | 0.000027 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000165 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000164 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000002 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Cr | 0.000452 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | -0.000002 | 0.000000 | No |
| | | | Mn | 0.000386 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | Fe | 0.000012 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000052 | 0.000000 | No |
| | | | Mn | 0.000060 | 0.000000 | No |
| | | | Mo | -0.001394 | 0.000000 | No |
| | | | Co | -0.000033 | 0.000000 | No |
| | | | Cu | 0.000176 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Fe | 0.000054 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ni | 0.000184 | 0.000000 | No |
| | | | Si | 0.000258 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000028 | 0.000000 | No |
| | | | Cr | 0.004104 | 0.000000 | No |
| | | | Mo | -0.001502 | 0.000000 | No |
| | | | Mg | -0.000002 | 0.000000 | No |
| | | | Ni | -0.000192 | 0.000000 | No |
| | | | V | -0.001499 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | -0.000072 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000006 | 0.000000 | No |
| | | | Fe | -0.000195 | 0.000000 | No |
| | | | Mn | 0.000467 | 0.000000 | No |
| | | | Mo | 0.000004 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.000187 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.000754 | 0.000000 | No |
| | | | Cr | 0.000398 | 0.000000 | No |
| | | | V | -0.026236 | 0.000000 | No |
| | | | Co | 0.002353 | 0.000000 | No |
| | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/29/2013 11:48:42 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0023 | .0009 | -.0002 | -.0002 | .0018 | .0083 | -.0001 | .0027 | .0038 |
| Stddev | .0000 | .0001 | .0001 | .0000 | .0002 | .0003 | .0001 | .0000 | .0004 |
| %RSD | .1691 | 16.61 | 59.56 | 17.20 | 10.77 | 4.157 | 44.00 | 1.197 | 11.49 |
| #1 | -.0023 | .0008 | -.0003 | -.0002 | .0020 | .0080 | -.0001 | .0028 | .0041 |
| #2 | -.0023 | .0010 | -.0001 | -.0001 | .0017 | .0085 | -.0002 | .0027 | .0035 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0015 | -.0001 | .0160 | .0004 | .0013 | -.0001 | .0003 | -.0004 | .0013 |
| Stddev | .0001 | .0000 | .0002 | .0000 | .0001 | .0001 | .0001 | .0001 | .0000 |
| %RSD | 6.970 | 10.92 | .9507 | 9.364 | 7.726 | 102.8 | 33.57 | 31.82 | 3.282 |
| #1 | -.0015 | -.0001 | .0159 | .0005 | .0012 | .0000 | .0003 | -.0005 | .0013 |
| #2 | -.0016 | -.0001 | .0161 | .0004 | .0014 | -.0002 | .0002 | -.0003 | .0012 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0022 | -.0009 | -.0006 | -.0002 | .0033 | .0010 | .0009 | .0400 | -.0002 |
| Stddev | .0001 | .0002 | .0002 | .0001 | .0000 | .0006 | .0004 | .0002 | .0004 |
| %RSD | 2.744 | 22.11 | 23.73 | 33.74 | .3282 | 58.98 | 46.69 | .5559 | 174.3 |
| #1 | -.0022 | -.0008 | -.0008 | -.0002 | .0033 | .0015 | .0012 | .0402 | .0000 |
| #2 | -.0023 | -.0010 | -.0005 | -.0002 | .0033 | .0006 | .0006 | .0399 | -.0005 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0071 | .0001 | -.0039 | .0000 | .0002 | -.0007 | .0300 |
| Stddev | .0000 | .0001 | .0003 | .000 | .0000 | .0005 | .0000 |
| %RSD | .3171 | 34.85 | 7.205 | 225.7 | 15.60 | 73.20 | .0385 |
| #1 | .0071 | .0001 | -.0041 | -.0001 | .0001 | -.0011 | .0300 |
| #2 | .0071 | .0002 | -.0037 | .0000 | .0002 | -.0004 | .0300 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/29/2013 11:48:42 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1210.3 | 41370. | 18049. |
| Stddev | 5.9 | 54. | 80. |
| %RSD | .48911 | .13041 | .44175 |
| #1 | 1206.1 | 41332. | 17993. |
| #2 | 1214.5 | 41408. | 18105. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/29/2013 11:53:37 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1805 | .5864 | 2.757 | 18.81 | 13.81 | 10.95 | 9.227 | .4200 | 2.753 | 3.912 |
| Stddev | .0003 | .0043 | .018 | .03 | .08 | .04 | .064 | .0011 | .009 | .020 |
| %RSD | .1574 | .7341 | .6685 | .1566 | .5875 | .3894 | .6895 | .2616 | .3437 | .5213 |
| #1 | .1807 | .5833 | 2.744 | 18.83 | 13.75 | 10.92 | 9.182 | .4208 | 2.760 | 3.926 |
| #2 | .1803 | .5894 | 2.770 | 18.79 | 13.86 | 10.98 | 9.272 | .4192 | 2.747 | 3.897 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.468 | 6.822 | 2.716 | 1.909 | .8962 | 1.167 | 6.925 |
| Stddev | .069 | .053 | .020 | .012 | .0062 | .009 | .054 |
| %RSD | .8092 | .7816 | .7219 | .6162 | .6908 | .7894 | .7771 |
| #1 | 8.420 | 6.784 | 2.702 | 1.901 | .8918 | 1.160 | 6.887 |
| #2 | 8.517 | 6.859 | 2.730 | 1.917 | .9006 | 1.173 | 6.963 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1203.4 | 41405. | 18027. |
| Stddev | 2.8 | 148. | 26. |
| %RSD | .23069 | .35624 | .14551 |
| #1 | 1205.4 | 41301. | 18046. |
| #2 | 1201.4 | 41509. | 18009. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/29/2013 11:58:36 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.460 | 1.750 | 1.502 | .7294 | .1528 | 2.759 |
| Stddev | .004 | .003 | .003 | .0015 | .0001 | .007 |
| %RSD | .2642 | .1677 | .1969 | .2115 | .0511 | .2557 |
| #1 | 1.462 | 1.748 | 1.500 | .7283 | .1528 | 2.764 |
| #2 | 1.457 | 1.752 | 1.504 | .7305 | .1527 | 2.754 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18191. |
| Stddev | 114. |
| %RSD | .62926 |
| #1 | 18272. |
| #2 | 18110. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/29/2013 12:03:32 Type: Cal
Method: Accutest -SS2 with S(v116) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3107 | .5155 | .0724 | .6954 | 2.694 | 1.461 | 35.17 | 1.256 | 1.017 | .0617 |
| Stddev | .0002 | .0011 | .0003 | .0019 | .004 | .001 | .14 | .001 | .000 | .0001 |
| %RSD | .0722 | .2039 | .4486 | .2782 | .1459 | .0469 | .3890 | .0856 | .0247 | .0953 |
| #1 | .3109 | .5163 | .0727 | .6968 | 2.691 | 1.461 | 35.27 | 1.257 | 1.017 | .0617 |
| #2 | .3105 | .5148 | .0722 | .6940 | 2.697 | 1.460 | 35.08 | 1.255 | 1.017 | .0617 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.765 |
| Stddev | .001 |
| %RSD | .0282 |
| #1 | 2.765 |
| #2 | 2.764 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1219.4 | 41016. | 17961. |
| Stddev | 2.3 | 34. | 91. |
| %RSD | .18854 | .08408 | .50575 |
| #1 | 1217.8 | 40992. | 18025. |
| #2 | 1221.1 | 41041. | 17897. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/29/2013 12:08:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5098 | 15.71 | 3.001 | 3.016 | 2.957 | 3.119 | 3.040 | 17.79 | 2.964 | 2.942 |
| Stddev | .0025 | .01 | .012 | .018 | .004 | .009 | .004 | .07 | .003 | .007 |
| %RSD | .4827 | .0894 | .3932 | .6136 | .1193 | .2779 | .1432 | .3742 | .0860 | .2309 |
| #1 | .5115 | 15.72 | 2.992 | 3.029 | 2.954 | 3.125 | 3.037 | 17.75 | 2.962 | 2.937 |
| #2 | .5081 | 15.70 | 3.009 | 3.003 | 2.959 | 3.113 | 3.043 | 17.84 | 2.965 | 2.947 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.140 | 2.986 | 17.99 | 15.63 | 18.27 | 3.049 | 2.833 | 15.14 | 2.837 | 2.883 |
| Stddev | .011 | .020 | .01 | .02 | .02 | .009 | .007 | .01 | .009 | .001 |
| %RSD | .3595 | .6649 | .0605 | .0969 | .1331 | .2865 | .2642 | .0503 | .3164 | .0294 |
| #1 | 3.148 | 3.000 | 17.98 | 15.62 | 18.25 | 3.056 | 2.827 | 15.15 | 2.830 | 2.883 |
| #2 | 3.132 | 2.972 | 17.99 | 15.64 | 18.29 | 3.043 | 2.838 | 15.14 | 2.843 | 2.884 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.033 | 2.993 | 2.969 | 2.914 | 2.948 | 3.009 | 3.075 | 2.970 | 3.002 | 2.925 |
| Stddev | .017 | .022 | .006 | .003 | .008 | .007 | .009 | .003 | .012 | .004 |
| %RSD | .5598 | .7443 | .2116 | .0936 | .2862 | .2194 | .2998 | .1062 | .4141 | .1313 |
| #1 | 3.045 | 3.009 | 2.964 | 2.912 | 2.942 | 3.005 | 3.069 | 2.972 | 3.011 | 2.922 |
| #2 | 3.021 | 2.978 | 2.973 | 2.916 | 2.954 | 3.014 | 3.082 | 2.968 | 2.994 | 2.928 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.965 | 2.877 | 2.871 | 3.032 |
| Stddev | .014 | .008 | .010 | .011 |
| %RSD | .4856 | .2674 | .3630 | .3503 |
| #1 | 2.975 | 2.871 | 2.864 | 3.040 |
| #2 | 2.955 | 2.882 | 2.879 | 3.025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.5 | 40721. | 18109. |
| Stddev | 3.0 | 144. | 35. |
| %RSD | .24553 | .35299 | .19454 |
| #1 | 1212.3 | 40619. | 18134. |
| #2 | 1216.6 | 40822. | 18084. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 10/29/2013 12:16:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | .0002 | .0012 | .0016 | .0000 | .0001 | .0047 | .0000 | .0001 |
| Stddev | .0001 | .0016 | .0011 | .0005 | .0000 | .0000 | .0000 | .0031 | .0000 | .0001 |
| %RSD | 67.16 | 77.85 | 660.5 | 42.96 | 2.471 | 61.57 | 37.70 | 64.73 | 81.59 | 136.7 |
| #1 | -.0002 | .0009 | -.0006 | .0008 | .0016 | .0000 | .0001 | .0026 | .0001 | .0001 |
| #2 | -.0001 | .0032 | .0009 | .0016 | .0016 | .0000 | .0000 | .0069 | .0000 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0002 | -.0003 | -.0017 | -.0091 | .0000 | .0017 | -.0002 | .0002 | -.0002 |
| Stddev | .0008 | .0001 | .0001 | .0005 | .0007 | .000 | .0004 | .0012 | .0002 | .0006 |
| %RSD | 116.8 | 68.41 | 37.90 | 29.21 | 7.998 | 415.5 | 24.77 | 495.3 | 98.74 | 292.1 |
| #1 | .0013 | -.0003 | -.0002 | -.0020 | -.0086 | .0000 | .0020 | -.0011 | .0001 | .0002 |
| #2 | .0001 | -.0001 | -.0003 | -.0013 | -.0096 | -.0001 | .0014 | .0006 | .0004 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0015 | -.0006 | -.0001 | -.0020 | .0012 | -.0004 | .0000 | .0000 | .0006 |
| Stddev | .0006 | .0016 | .0009 | .0001 | .0005 | .0005 | .0003 | .000 | .000 | .0009 |
| %RSD | 158.7 | 110.7 | 140.4 | 36.12 | 24.54 | 39.04 | 70.88 | 22.38 | 485.5 | 140.9 |
| #1 | .0000 | .0026 | .0000 | -.0002 | -.0017 | .0015 | -.0002 | .0000 | .0001 | .0013 |
| #2 | -.0008 | .0003 | -.0013 | -.0001 | -.0024 | .0009 | -.0006 | .0000 | -.0002 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0068 | -.0005 | .0007 |
| Stddev | .0003 | .0027 | .0002 | .0002 |
| %RSD | 76.46 | 39.29 | 51.45 | 22.20 |
| #1 | .0002 | .0086 | -.0003 | .0008 |
| #2 | .0006 | .0049 | -.0006 | .0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.4 | 41843. | 18191. |
| Stddev | .2 | 141. | 100. |
| %RSD | .01947 | .33640 | .54839 |
| #1 | 1208.5 | 41942. | 18120. |
| #2 | 1208.2 | 41743. | 18261. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 12:28:05 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2503 | 9.811 | 1.931 | -.0077 | 1.935 | 1.981 | 1.972 | 9.854 | 1.981 | 2.011 |
| Stddev | .0013 | .038 | .004 | .0001 | .004 | .005 | .003 | .029 | .006 | .005 |
| %RSD | .5071 | .3844 | .1869 | 1.017 | .2092 | .2362 | .1712 | .2899 | .3125 | .2384 |
| #1 | .2512 | 9.784 | 1.934 | -.0077 | 1.938 | 1.977 | 1.970 | 9.834 | 1.985 | 2.014 |
| #2 | .2494 | 9.837 | 1.929 | -.0076 | 1.932 | 1.984 | 1.975 | 9.874 | 1.976 | 2.007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.990 | 1.943 | 9.899 | 9.838 | 9.746 | 1.998 | 1.929 | 9.829 | 1.921 | 1.922 |
| Stddev | .000 | .004 | .025 | .009 | .056 | .005 | .001 | .028 | .004 | .001 |
| %RSD | .0017 | .2159 | .2535 | .0890 | .5780 | .2507 | .0571 | .2863 | .2120 | .0359 |
| #1 | 1.990 | 1.946 | 9.882 | 9.832 | 9.785 | 2.001 | 1.930 | 9.809 | 1.924 | 1.922 |
| #2 | 1.990 | 1.940 | 9.917 | 9.844 | 9.706 | 1.994 | 1.929 | 9.849 | 1.918 | 1.921 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0135 | -.0042 | 1.938 | 1.931 | -.0062 | 1.945 | 1.904 | 1.954 | 1.919 |
| Stddev | .0006 | .0036 | .0009 | .007 | .005 | .0004 | .002 | .010 | .001 | .004 |
| %RSD | 42.06 | 26.46 | 21.71 | .3580 | .2801 | 6.040 | .1217 | .5363 | .0291 | .1811 |
| #1 | .0010 | .0160 | -.0048 | 1.943 | 1.935 | -.0060 | 1.947 | 1.896 | 1.954 | 1.916 |
| #2 | .0018 | .0110 | -.0035 | 1.933 | 1.927 | -.0065 | 1.944 | 1.911 | 1.953 | 1.921 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.938 | -.0034 | 1.906 | .0051 |
| Stddev | .003 | .0014 | .001 | .0017 |
| %RSD | .1690 | 41.88 | .0303 | 32.48 |
| #1 | 1.940 | -.0024 | 1.907 | .0063 |
| #2 | 1.936 | -.0044 | 1.906 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.0 | 40880. | 18193. |
| Stddev | 8.6 | 83. | 90. |
| %RSD | .70337 | .20228 | .49284 |
| #1 | 1210.0 | 40822. | 18257. |
| #2 | 1222.1 | 40939. | 18130. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 12:34:43 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | .0000 | -.0004 | .0018 | -.0001 | .0000 | .0032 | -.0001 | -.0001 |
| Stddev | .0000 | .0025 | .002 | .0001 | .0002 | .0001 | .0000 | .0001 | .0002 | .0002 |
| %RSD | .1894 | 120.7 | 11880. | 20.27 | 11.90 | 158.5 | 33.32 | 2.268 | 306.9 | 376.7 |
| #1 | -.0003 | -.0003 | .0013 | -.0003 | .0019 | -.0001 | .0000 | .0032 | -.0002 | .0001 |
| #2 | -.0003 | -.0038 | -.0014 | -.0004 | .0016 | .0000 | .0000 | .0033 | .0001 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0001 | .0001 | .0016 | .0138 | .0000 | .0017 | .0040 | .0000 | -.0001 |
| Stddev | .0014 | .0000 | .0001 | .0057 | .0081 | .0001 | .0001 | .0060 | .000 | .0009 |
| %RSD | 153.5 | 41.93 | 101.7 | 352.9 | 58.45 | 312.9 | 4.200 | 149.2 | 1400. | 1278. |
| #1 | .0019 | .0001 | .0000 | -.0024 | .0195 | .0001 | .0018 | .0082 | .0003 | .0006 |
| #2 | -.0001 | .0001 | .0002 | .0057 | .0081 | .0000 | .0017 | -.0002 | -.0003 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0049 | -.0003 | .0003 | .0001 | .0009 | -.0006 | .0000 | .0005 | .0017 |
| Stddev | .0006 | .0088 | .0016 | .0000 | .0010 | .0005 | .0002 | .0000 | .0000 | .0011 |
| %RSD | 441.1 | 178.6 | 594.7 | 9.951 | 1733. | 57.59 | 29.98 | 34.08 | 4.300 | 62.94 |
| #1 | .0006 | .0111 | .0009 | .0003 | -.0006 | .0013 | -.0007 | .0000 | .0005 | .0009 |
| #2 | -.0003 | -.0013 | -.0014 | .0003 | .0007 | .0006 | -.0005 | .0000 | .0005 | .0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0015 | -.0003 | .0006 |
| Stddev | .0004 | .0045 | .0001 | .0007 |
| %RSD | 306.8 | 298.4 | 32.24 | 112.9 |
| #1 | .0005 | -.0017 | -.0002 | .0012 |
| #2 | -.0002 | .0047 | -.0003 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1198.5 | 41295. | 17938. |
| Stddev | 3.2 | 272. | 58. |
| %RSD | .26858 | .65875 | .32385 |
| #1 | 1200.8 | 41103. | 17979. |
| #2 | 1196.2 | 41487. | 17897. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/29/2013 12:39:43 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2090 | .0102 | -.0003 | .1034 | .0529 | .0043 | 5.146 | .0045 | .0534 |
| Stddev | .0001 | .0020 | .0004 | .0007 | .0005 | .0003 | .0001 | .003 | .0001 | .0004 |
| %RSD | 2.410 | .9597 | 3.929 | 253.2 | .5233 | .5265 | 1.188 | .0544 | 1.442 | .7907 |
| #1 | .0049 | .2105 | .0099 | .0002 | .1037 | .0531 | .0044 | 5.144 | .0044 | .0537 |
| #2 | .0050 | .2076 | .0105 | -.0007 | .1030 | .0527 | .0043 | 5.148 | .0045 | .0531 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0113 | .0262 | .1056 | 5.113 | 5.092 | .0160 | .1037 | 5.107 | .0409 | .0084 |
| Stddev | .0007 | .0002 | .0005 | .022 | .000 | .0001 | .0001 | .021 | .0000 | .0003 |
| %RSD | 6.005 | .6247 | .4903 | .4271 | .0037 | .9095 | .1161 | .4152 | .0767 | 3.942 |
| #1 | .0109 | .0261 | .1060 | 5.128 | 5.091 | .0159 | .1037 | 5.122 | .0409 | .0081 |
| #2 | .0118 | .0264 | .1052 | 5.098 | 5.092 | .0161 | .1038 | 5.092 | .0409 | .0086 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0031 | .0006 | .0115 | .0111 | .0054 | .1008 | .0103 | .0530 | .0106 |
| Stddev | .0002 | .0052 | .0009 | .0007 | .0002 | .0005 | .0007 | .0000 | .0002 | .0013 |
| %RSD | 18.81 | 165.3 | 145.9 | 5.885 | 2.074 | 9.993 | .6561 | .3464 | .4028 | 11.87 |
| #1 | .0013 | .0005 | .0012 | .0120 | .0112 | .0058 | .1012 | .0103 | .0529 | .0115 |
| #2 | .0010 | -.0068 | .0000 | .0110 | .0109 | .0051 | .1003 | .0102 | .0532 | .0097 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0098 | .0002 | .0210 | .0003 |
| Stddev | .0003 | .0003 | .0002 | .0001 |
| %RSD | 2.926 | 169.0 | .7580 | 34.71 |
| #1 | .0096 | .0000 | .0208 | .0002 |
| #2 | .0100 | .0004 | .0211 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.3 | 41144. | 17799. |
| Stddev | .2 | 87. | 2. |
| %RSD | .01338 | .21102 | .01285 |
| #1 | 1204.2 | 41082. | 17801. |
| #2 | 1204.4 | 41205. | 17797. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/29/2013 12:44:36 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 541.0 | .0007 | .0054 | .0006 | .0000 | .0001 | 469.1 | .0004 | .0010 |
| Stddev | .0004 | 1.8 | .0021 | .0023 | .0008 | .0000 | .0000 | 3.6 | .0001 | .0002 |
| %RSD | 268.8 | .3414 | 322.5 | 43.04 | 150.9 | 176.2 | 27.74 | .7581 | 15.93 | 22.35 |
| #1 | -.0004 | 542.3 | .0022 | .0037 | .0011 | .0000 | .0001 | 466.6 | .0004 | .0008 |
| #2 | .0001 | 539.7 | -.0008 | .0070 | .0000 | .0000 | .0001 | 471.7 | .0003 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0006 | 184.1 | .0309 | 534.0 | .0004 | -.0008 | .0252 | .0002 | -.0001 |
| Stddev | .0011 | .0004 | .8 | .0176 | 2.1 | .0001 | .0007 | .0070 | .0005 | .0001 |
| %RSD | 459.9 | 64.84 | .4353 | 57.07 | .3983 | 33.53 | 83.84 | 27.62 | 301.2 | 231.7 |
| #1 | .0005 | -.0008 | 183.6 | .0184 | 532.5 | .0003 | -.0003 | .0203 | .0005 | .0000 |
| #2 | -.0010 | -.0003 | 184.7 | .0434 | 535.5 | .0005 | -.0012 | .0301 | -.0002 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0194 | -.0275 | .0913 | -.0001 | .0000 | .0405 | .0005 | -.0085 | .0066 | -.0041 |
| Stddev | .0002 | .0036 | .0000 | .0017 | .001 | .0007 | .0001 | .0001 | .0002 | .0026 |
| %RSD | .9932 | 13.04 | .0079 | 3172. | 4263. | 1.822 | 22.38 | .6615 | 3.207 | 62.55 |
| #1 | -.0196 | -.0250 | .0913 | -.0012 | .0005 | .0410 | .0004 | -.0084 | .0065 | -.0059 |
| #2 | -.0193 | -.0301 | .0913 | .0011 | -.0005 | .0400 | .0006 | -.0085 | .0068 | -.0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0101 | -.0191 | -.0014 | .0098 |
| Stddev | .0007 | .0070 | .0002 | .0002 |
| %RSD | 6.660 | 36.59 | 11.96 | 2.334 |
| #1 | .0096 | -.0241 | -.0012 | .0100 |
| #2 | .0106 | -.0142 | -.0015 | .0097 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1130.1 | 37316. | 17603. |
| Stddev | 1.8 | 58. | 85. |
| %RSD | .15664 | .15643 | .48183 |
| #1 | 1131.4 | 37275. | 17663. |
| #2 | 1128.9 | 37358. | 17543. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/29/2013 12:49:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.114 | 543.5 | 2.090 | .5290 | .9710 | .5211 | .4756 | 467.7 | 1.046 | .4708 |
| Stddev | .001 | 2.3 | .001 | .0025 | .0010 | .0002 | .0009 | 1.5 | .000 | .0005 |
| %RSD | .1137 | .4208 | .0230 | .4763 | .1020 | .0352 | .1941 | .3102 | .0307 | .1031 |
| #1 | 1.114 | 545.1 | 2.090 | .5308 | .9717 | .5210 | .4762 | 468.7 | 1.045 | .4712 |
| #2 | 1.115 | 541.9 | 2.091 | .5272 | .9703 | .5213 | .4749 | 466.7 | 1.046 | .4705 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5268 | .5615 | 185.2 | .0459 | 534.5 | .5235 | .9481 | .0262 | .8574 | .8938 |
| Stddev | .0009 | .0018 | .3 | .0007 | 1.0 | .0007 | .0006 | .0002 | .0006 | .0002 |
| %RSD | .1645 | .3120 | .1764 | 1.523 | .1910 | .1378 | .0600 | .8981 | .0684 | .0214 |
| #1 | .5274 | .5602 | 185.4 | .0464 | 535.2 | .5230 | .9477 | .0263 | .8569 | .8937 |
| #2 | .5262 | .5627 | 184.9 | .0454 | 533.8 | .5240 | .9485 | .0260 | .8578 | .8940 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5547 | .4999 | .5770 | 2.009 | 1.978 | 2.127 | .9584 | .9657 | .5504 | 1.794 |
| Stddev | .0022 | .0054 | .0032 | .004 | .006 | .002 | .0016 | .0004 | .0011 | .001 |
| %RSD | .3949 | 1.087 | .5626 | .1801 | .2954 | .1103 | .1699 | .0383 | .2035 | .0518 |
| #1 | .5563 | .4961 | .5747 | 2.007 | 1.973 | 2.125 | .9572 | .9660 | .5496 | 1.794 |
| #2 | .5532 | .5038 | .5793 | 2.012 | 1.982 | 2.129 | .9595 | .9654 | .5512 | 1.793 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5438 | 1.976 | .8849 | .4311 |
| Stddev | .0016 | .001 | .0032 | .0034 |
| %RSD | .3014 | .0565 | .3666 | .7783 |
| #1 | .5426 | 1.975 | .8826 | .4287 |
| #2 | .5449 | 1.976 | .8872 | .4335 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1123.3 | 36895. | 17583. |
| Stddev | 3.7 | 98. | 81. |
| %RSD | .33120 | .26473 | .45886 |
| #1 | 1120.6 | 36964. | 17526. |
| #2 | 1125.9 | 36826. | 17640. |

Zoom In Zoom Out

Sample Name: MP21910-B1 Acquired: 10/29/2013 12:54:28 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1989 | 2.128 | .5239 | -.0006 | .0040 | 2.032 | .5085 | 24.38 | .5171 | .4985 |
| Stddev | .0009 | .001 | .0009 | .0002 | .0001 | .002 | .0006 | .08 | .0011 | .0013 |
| %RSD | .4564 | .0252 | .1671 | 35.49 | 1.752 | .1045 | .1239 | .3336 | .2121 | .2544 |
| #1 | .1983 | 2.128 | .5245 | -.0005 | .0039 | 2.034 | .5081 | 24.32 | .5179 | .4994 |
| #2 | .1996 | 2.129 | .5233 | -.0008 | .0040 | 2.031 | .5090 | 24.44 | .5164 | .4976 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5249 | .4886 | 2.053 | 25.12 | 25.34 | .4976 | .0018 | 25.07 | .4738 | .9746 |
| Stddev | .0030 | .0010 | .007 | .01 | .03 | .0008 | .0002 | .01 | .0016 | .0012 |
| %RSD | .5638 | .2141 | .3195 | .0304 | .1366 | .1644 | 12.06 | .0444 | .3290 | .1210 |
| #1 | .5270 | .4878 | 2.048 | 25.13 | 25.31 | .4982 | .0019 | 25.08 | .4727 | .9755 |
| #2 | .5228 | .4893 | 2.057 | 25.12 | 25.36 | .4971 | .0016 | 25.06 | .4749 | .9738 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0065 | .0196 | .4931 | .5125 | .0241 | .0061 | .4803 | .4974 | .4982 |
| Stddev | .0000 | .0017 | .0007 | .0004 | .0010 | .0002 | .0001 | .0001 | .0000 | .0016 |
| %RSD | 5.581 | 25.32 | 3.364 | .0746 | .1985 | .7000 | 1.290 | .0295 | .0096 | .3153 |
| #1 | .0009 | .0054 | .0191 | .4934 | .5118 | .0242 | .0062 | .4804 | .4974 | .4993 |
| #2 | .0008 | .0077 | .0200 | .4929 | .5132 | .0240 | .0060 | .4802 | .4974 | .4971 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5106 | .0059 | .5070 | .0200 |
| Stddev | .0005 | .0015 | .0011 | .0012 |
| %RSD | .1000 | 26.17 | .2232 | 5.807 |
| #1 | .5103 | .0069 | .5062 | .0208 |
| #2 | .5110 | .0048 | .5078 | .0191 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1205.2 | 40704. | 17809. |
| Stddev | 7.8 | 108. | 10. |
| %RSD | .64362 | .26483 | .05418 |
| #1 | 1199.8 | 40628. | 17816. |
| #2 | 1210.7 | 40780. | 17803. |



Zoom In Zoom Out

Sample Name: MP21910-MB1 Acquired: 10/29/2013 12:59:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0739 | .0003 | .0005 | .0020 | .0010 | .0001 | .0722 | .0001 | .0004 |
| Stddev | .0001 | .0029 | .0003 | .0010 | .0004 | .0000 | .0000 | .0014 | .0002 | .0000 |
| %RSD | 50.09 | 3.959 | 118.7 | 221.6 | 18.60 | 3.789 | 19.87 | 1.915 | 271.3 | 3.044 |
| #1 | -.0001 | .0759 | .0000 | -.0003 | .0022 | .0010 | .0001 | .0732 | .0002 | .0004 |
| #2 | -.0002 | .0718 | .0005 | .0012 | .0017 | .0010 | .0001 | .0712 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0010 | .1630 | .0376 | .0380 | .0033 | .0007 | .0647 | .0004 | .0003 |
| Stddev | .0004 | .0002 | .0004 | .0114 | .0196 | .0000 | .0001 | .0030 | .0001 | .0010 |
| %RSD | 100.3 | 14.91 | .2365 | 30.20 | 51.42 | .4842 | 12.65 | 4.613 | 16.21 | 312.8 |
| #1 | .0006 | .0009 | .1633 | .0457 | .0519 | .0033 | .0008 | .0626 | .0005 | -.0004 |
| #2 | .0001 | .0012 | .1628 | .0296 | .0242 | .0033 | .0007 | .0668 | .0004 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0006 | .0092 | .0005 | -.0013 | .0387 | .0065 | .0002 | .0025 | .0035 |
| Stddev | .0005 | .0029 | .0006 | .0009 | .0008 | .0002 | .0007 | .0000 | .0001 | .0005 |
| %RSD | 21.76 | 475.7 | 6.760 | 193.1 | 63.96 | .5552 | 10.21 | 3.519 | 3.556 | 14.67 |
| #1 | .0026 | .0026 | .0096 | .0012 | -.0007 | .0388 | .0069 | .0002 | .0026 | .0032 |
| #2 | .0019 | -.0014 | .0088 | -.0002 | -.0019 | .0385 | .0060 | .0002 | .0024 | .0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0058 | .0043 | .0030 |
| Stddev | .0003 | .0008 | .0006 | .0009 |
| %RSD | 78.86 | 13.26 | 13.75 | 28.99 |
| #1 | -.0006 | .0064 | .0047 | .0036 |
| #2 | -.0002 | .0053 | .0039 | .0023 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1200.5 | 41304. | 18144. |
| Stddev | 7.3 | 70. | 84. |
| %RSD | .60476 | .17056 | .46400 |
| #1 | 1195.4 | 41254. | 18204. |
| #2 | 1205.6 | 41354. | 18085. |



Zoom In Zoom Out

Sample Name: MP21910-S1 Acquired: 10/29/2013 13:04:10 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1911 | 56.53 | .5162 | -.0047 | .0050 | 2.099 | .4795 | 30.50 | .4917 | .5043 |
| Stddev | .0004 | .07 | .0045 | .0002 | .0000 | .001 | .0009 | .02 | .0007 | .0012 |
| %RSD | .1960 | .1171 | .8757 | 5.103 | .1254 | .0331 | .1854 | .0674 | .1454 | .2313 |
| #1 | .1908 | 56.58 | .5194 | -.0049 | .0050 | 2.100 | .4802 | 30.51 | .4922 | .5051 |
| #2 | .1913 | 56.49 | .5130 | -.0045 | .0050 | 2.099 | .4789 | 30.48 | .4912 | .5034 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5863 | .5339 | 80.71 | 33.58 | 42.95 | 1.599 | .0016 | 24.33 | .5102 | .9833 |
| Stddev | .0006 | .0008 | .15 | .08 | .06 | .001 | .0004 | .03 | .0019 | .0041 |
| %RSD | .1010 | .1465 | .1918 | .2444 | .1481 | .0767 | 25.31 | .1358 | .3761 | .4214 |
| #1 | .5858 | .5344 | 80.82 | 33.64 | 43.00 | 1.598 | .0018 | 24.35 | .5116 | .9862 |
| #2 | .5867 | .5333 | 80.60 | 33.52 | 42.91 | 1.600 | .0013 | 24.30 | .5089 | .9804 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0079 | .0079 | .3988 | .2570 | .4873 | 3.043 | -.0020 | .4856 | 4.493 | .4691 |
| Stddev | .0018 | .0084 | .0009 | .0000 | .0012 | .010 | .0001 | .0008 | .002 | .0002 |
| %RSD | 22.61 | 106.8 | .2271 | .0183 | .2388 | .3198 | 2.748 | .1603 | .0370 | .0449 |
| #1 | .0092 | .0138 | .3995 | .2570 | .4881 | 3.050 | -.0019 | .4861 | 4.494 | .4693 |
| #2 | .0067 | .0019 | .3982 | .2570 | .4864 | 3.036 | -.0020 | .4850 | 4.492 | .4690 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6344 | .0074 | .6470 | .0075 |
| Stddev | .0008 | .0065 | .0046 | .0002 |
| %RSD | .1312 | 87.71 | .7040 | 2.365 |
| #1 | .6350 | .0120 | .6502 | .0076 |
| #2 | .6339 | .0028 | .6437 | .0074 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1255.8 | 42580. | 18859. |
| Stddev | 2.9 | 144. | 8. |
| %RSD | .23009 | .33810 | .04420 |
| #1 | 1253.7 | 42682. | 18853. |
| #2 | 1257.8 | 42478. | 18865. |



Zoom In Zoom Out

Sample Name: MP21910-S2 Acquired: 10/29/2013 13:08:55 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1902 | 56.62 | .5037 | -.0055 | .0056 | 2.092 | .4714 | 31.37 | .4829 | .5015 |
| Stddev | .0007 | .00 | .0032 | .0003 | .0007 | .004 | .0000 | .04 | .0015 | .0015 |
| %RSD | .3473 | .0034 | .6331 | 5.014 | 12.34 | .1758 | .0035 | .1268 | .3120 | .3051 |
| #1 | .1906 | 56.63 | .5060 | -.0057 | .0061 | 2.090 | .4714 | 31.40 | .4818 | .5005 |
| #2 | .1897 | 56.62 | .5015 | -.0053 | .0051 | 2.095 | .4714 | 31.34 | .4840 | .5026 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5760 | .5319 | 79.79 | 33.21 | 42.34 | 1.642 | .0014 | 24.20 | .5090 | .9681 |
| Stddev | .0006 | .0004 | .04 | .02 | .10 | .003 | .0002 | .01 | .0015 | .0005 |
| %RSD | .1037 | .0798 | .0488 | .0610 | .2280 | .1764 | 16.07 | .0318 | .2927 | .0540 |
| #1 | .5764 | .5316 | 79.82 | 33.20 | 42.27 | 1.640 | .0016 | 24.19 | .5079 | .9677 |
| #2 | .5756 | .5322 | 79.76 | 33.23 | 42.41 | 1.644 | .0013 | 24.20 | .5100 | .9684 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0074 | .0063 | .3797 | .2633 | .4617 | 3.053 | -.0004 | .4893 | 4.619 | .4565 |
| Stddev | .0011 | .0013 | .0004 | .0008 | .0008 | .009 | .0008 | .0012 | .016 | .0003 |
| %RSD | 15.05 | 20.44 | .0939 | .2956 | .1822 | .3069 | 225.1 | .2547 | .3548 | .0758 |
| #1 | .0066 | .0054 | .3799 | .2639 | .4623 | 3.047 | -.0010 | .4884 | 4.607 | .4563 |
| #2 | .0082 | .0073 | .3794 | .2628 | .4611 | 3.060 | .0002 | .4901 | 4.630 | .4568 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .6344 | .0057 | .6401 | .0021 |
| Stddev | .0004 | .0018 | .0018 | .0002 |
| %RSD | .0574 | 31.90 | .2808 | 10.79 |
| #1 | .6346 | .0070 | .6388 | .0023 |
| #2 | .6341 | .0044 | .6414 | .0019 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1242.8 | 42446. | 18995. |
| Stddev | 2.5 | 31. | 54. |
| %RSD | .20473 | .07224 | .28644 |
| #1 | 1244.6 | 42425. | 18957. |
| #2 | 1241.0 | 42468. | 19034. |

Zoom In Zoom Out

Sample Name: MC25455-23 Acquired: 10/29/2013 13:13:40 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 52.19 | .0193 | -.0025 | .0028 | .1519 | .0052 | 6.881 | -.0001 | .0314 |
| Stddev | .0004 | .09 | .0003 | .0020 | .0009 | .0001 | .0000 | .023 | .0001 | .0000 |
| %RSD | 124.4 | .1725 | 1.553 | 80.48 | 30.76 | .0806 | .7300 | .3292 | 101.1 | .0387 |
| #1 | .0000 | 52.13 | .0191 | -.0039 | .0035 | .1518 | .0052 | 6.865 | -.0002 | .0314 |
| #2 | .0006 | 52.25 | .0195 | -.0011 | .0022 | .1520 | .0053 | 6.897 | .0000 | .0314 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0855 | .0593 | 77.84 | 9.352 | 18.34 | 1.107 | .0012 | .4212 | .0645 | .0662 |
| Stddev | .0004 | .0006 | .05 | .041 | .09 | .001 | .0000 | .0015 | .0002 | .0000 |
| %RSD | .4526 | 1.029 | .0617 | .4342 | .4764 | .0957 | 3.750 | .3657 | .2901 | .0534 |
| #1 | .0852 | .0589 | 77.81 | 9.323 | 18.40 | 1.106 | .0012 | .4202 | .0644 | .0661 |
| #2 | .0858 | .0597 | 77.87 | 9.381 | 18.28 | 1.108 | .0012 | .4223 | .0646 | .0662 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0075 | .0015 | .4053 | .0014 | .0008 | 2.592 | .0001 | .0236 | 3.956 | .0071 |
| Stddev | .0027 | .0070 | .0016 | .0007 | .0015 | .001 | .0009 | .0001 | .002 | .0005 |
| %RSD | 35.69 | 478.9 | .4014 | 49.52 | 204.8 | .0443 | 896.6 | .3869 | .0553 | 6.458 |
| #1 | .0056 | .0064 | .4042 | .0019 | -.0003 | 2.591 | .0007 | .0236 | 3.955 | .0075 |
| #2 | .0093 | -.0035 | .4065 | .0009 | .0018 | 2.593 | -.0005 | .0237 | 3.958 | .0068 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1446 | .0018 | .1813 | .0000 |
| Stddev | .0006 | .0053 | .0001 | .0005 |
| %RSD | .4236 | 294.0 | .0760 | 3413. |
| #1 | .1441 | .0055 | .1812 | .0003 |
| #2 | .1450 | -.0019 | .1814 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1288.5 | 42784. | 18940. |
| Stddev | 4.4 | 46. | 47. |
| %RSD | .34318 | .10781 | .24961 |
| #1 | 1291.6 | 42817. | 18973. |
| #2 | 1285.3 | 42751. | 18907. |



Zoom In Zoom Out

Sample Name: MP21910-SD1 Acquired: 10/29/2013 13:18:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | 54.03 | .0235 | -.0048 | .0018 | .1581 | .0052 | 7.276 | .0000 | .0335 |
| Stddev | .0027 | .06 | .0042 | .0058 | .0013 | .0008 | .0001 | .003 | .001 | .0000 |
| %RSD | 160.6 | .1068 | 17.82 | 121.1 | 72.74 | .5273 | 2.260 | .0468 | 11610. | .0417 |
| #1 | -.0036 | 53.98 | .0264 | -.0088 | .0009 | .1575 | .0051 | 7.278 | -.0004 | .0335 |
| #2 | .0002 | 54.07 | .0205 | -.0007 | .0027 | .1587 | .0052 | 7.274 | .0004 | .0335 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0937 | .0596 | 82.00 | 9.775 | 18.67 | 1.142 | .0028 | .4564 | .0675 | .0670 |
| Stddev | .0029 | .0001 | .14 | .087 | .00 | .005 | .0002 | .0187 | .0004 | .0024 |
| %RSD | 3.077 | .1908 | .1706 | .8864 | .0240 | .4215 | 6.313 | 4.099 | .6322 | 3.574 |
| #1 | .0957 | .0597 | 82.10 | 9.836 | 18.67 | 1.139 | .0027 | .4696 | .0678 | .0687 |
| #2 | .0916 | .0596 | 81.90 | 9.713 | 18.67 | 1.146 | .0029 | .4432 | .0672 | .0653 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0073 | -.0016 | .4174 | .0054 | .0034 | 2.691 | -.0007 | .0248 | 4.081 | .0074 |
| Stddev | .0084 | .0156 | .0067 | .0027 | .0028 | .016 | .0004 | .0002 | .009 | .0030 |
| %RSD | 114.4 | 1002. | 1.616 | 50.34 | 84.01 | .5882 | 54.06 | .6107 | .2125 | 40.75 |
| #1 | .0133 | .0095 | .4221 | .0035 | .0054 | 2.679 | -.0004 | .0247 | 4.075 | .0095 |
| #2 | .0014 | -.0126 | .4126 | .0074 | .0014 | 2.702 | -.0010 | .0249 | 4.087 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1486 | -.0022 | .1895 | -.0034 |
| Stddev | .0009 | .0130 | .0002 | .0012 |
| %RSD | .6245 | 589.2 | .0949 | 36.20 |
| #1 | .1479 | .0070 | .1897 | -.0043 |
| #2 | .1492 | -.0114 | .1894 | -.0025 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.4 | 41542. | 18259. |
| Stddev | 4.1 | 258. | 11. |
| %RSD | .33359 | .62168 | .06071 |
| #1 | 1240.3 | 41725. | 18251. |
| #2 | 1234.5 | 41360. | 18267. |



Zoom In Zoom Out

Sample Name: MP21910-LC1 Acquired: 10/29/2013 13:23:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .3317 | 85.52 | .8910 | -.0072 | .9105 | 1.636 | .5057 | 56.69 | .5933 | .9409 |
| Stddev | .0005 | .04 | .0009 | .0018 | .0038 | .002 | .0011 | .07 | .0018 | .0004 |
| %RSD | .1381 | .0502 | .0994 | 25.19 | .4132 | .1322 | .2120 | .1217 | .2985 | .0462 |
| #1 | .3320 | 85.55 | .8904 | -.0084 | .9131 | 1.638 | .5065 | 56.74 | .5945 | .9412 |
| #2 | .3313 | 85.49 | .8916 | -.0059 | .9078 | 1.635 | .5050 | 56.64 | .5920 | .9406 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7200 | .7464 | 127.4 | 36.85 | 29.24 | 2.856 | .3725 | 6.345 | .5174 | .8191 |
| Stddev | .0013 | .0011 | .2 | .04 | .06 | .008 | .0012 | .004 | .0006 | .0035 |
| %RSD | .1754 | .1466 | .1379 | .1194 | .2163 | .2723 | .3194 | .0669 | .1102 | .4260 |
| #1 | .7209 | .7472 | 127.5 | 36.88 | 29.28 | 2.851 | .3733 | 6.348 | .5170 | .8216 |
| #2 | .7191 | .7456 | 127.3 | 36.82 | 29.19 | 2.862 | .3716 | 6.342 | .5178 | .8167 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0065 | .0173 | 2.368 | .7911 | 1.542 | 3.887 | .9549 | .6742 | 2.448 | 1.116 |
| Stddev | .0008 | .0021 | .014 | .0014 | .004 | .014 | .0015 | .0013 | .003 | .003 |
| %RSD | 12.48 | 12.35 | .5744 | .1728 | .2320 | .3481 | .1614 | .1948 | .1392 | .2529 |
| #1 | .0071 | .0188 | 2.377 | .7921 | 1.545 | 3.878 | .9560 | .6752 | 2.450 | 1.118 |
| #2 | .0059 | .0158 | 2.358 | .7901 | 1.539 | 3.897 | .9538 | .6733 | 2.445 | 1.114 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5803 | .0071 | 1.243 | .0446 |
| Stddev | .0026 | .0028 | .000 | .0004 |
| %RSD | .4397 | 39.56 | .0197 | .9522 |
| #1 | .5821 | .0051 | 1.243 | .0449 |
| #2 | .5785 | .0091 | 1.243 | .0443 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1303.3 | 43581. | 19637. |
| Stddev | 2.5 | 23. | 51. |
| %RSD | .19383 | .05248 | .26141 |
| #1 | 1301.5 | 43598. | 19601. |
| #2 | 1305.1 | 43565. | 19674. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 13:28:04 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2509 | 9.891 | 1.923 | -.0077 | 1.939 | 2.008 | 1.989 | 9.891 | 1.986 | 2.014 |
| Stddev | .0002 | .015 | .006 | .0014 | .007 | .005 | .007 | .061 | .004 | .005 |
| %RSD | .0793 | .1533 | .3200 | 18.10 | .3662 | .2641 | .3487 | .6206 | .1800 | .2591 |
| #1 | .2508 | 9.901 | 1.927 | -.0087 | 1.944 | 2.012 | 1.994 | 9.934 | 1.989 | 2.018 |
| #2 | .2511 | 9.880 | 1.919 | -.0067 | 1.934 | 2.004 | 1.984 | 9.847 | 1.984 | 2.011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.997 | 1.966 | 9.987 | 9.988 | 9.942 | 1.989 | 1.932 | 9.912 | 1.919 | 1.923 |
| Stddev | .001 | .001 | .054 | .025 | .093 | .003 | .004 | .012 | .005 | .004 |
| %RSD | .0298 | .0519 | .5364 | .2515 | .9384 | .1448 | .1900 | .1202 | .2469 | .1871 |
| #1 | 1.996 | 1.965 | 10.02 | 10.01 | 10.01 | 1.987 | 1.934 | 9.920 | 1.922 | 1.925 |
| #2 | 1.997 | 1.967 | 9.949 | 9.970 | 9.876 | 1.991 | 1.929 | 9.903 | 1.916 | 1.920 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0061 | -.0012 | 1.949 | 1.927 | -.0018 | 1.938 | 1.941 | 1.959 | 1.931 |
| Stddev | .0007 | .0066 | .0006 | .003 | .001 | .0010 | .001 | .011 | .000 | .001 |
| %RSD | 86.68 | 108.5 | 50.33 | .1766 | .0592 | 54.65 | .0435 | .5587 | .0156 | .0543 |
| #1 | .0003 | .0107 | -.0016 | 1.952 | 1.926 | -.0011 | 1.939 | 1.949 | 1.959 | 1.931 |
| #2 | .0012 | .0014 | -.0007 | 1.947 | 1.928 | -.0025 | 1.938 | 1.933 | 1.959 | 1.930 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.949 | -.0070 | 1.898 | -.0003 |
| Stddev | .001 | .0034 | .005 | .0012 |
| %RSD | .0687 | 48.56 | .2660 | 358.7 |
| #1 | 1.948 | -.0046 | 1.894 | .0005 |
| #2 | 1.950 | -.0095 | 1.902 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.4 | 40731. | 17996. |
| Stddev | 9.8 | 11. | 93. |
| %RSD | .80637 | .02600 | .51760 |
| #1 | 1204.5 | 40723. | 17930. |
| #2 | 1218.4 | 40738. | 18062. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 13:40:17 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0002 | .0003 | .0008 | .0008 | -.0001 | .0001 | .0467 | .0000 |
| Stddev | .0001 | .0037 | .0008 | .0002 | .0001 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 31.57 | 2426. | 242.0 | 30.60 | 12.75 | 41.38 | 46.76 | .2648 | 162.5 |
| #1 | -.0002 | -.0025 | -.0002 | .0009 | .0009 | -.0001 | .0001 | .0467 | .0000 |
| #2 | -.0003 | .0028 | .0009 | .0006 | .0007 | -.0002 | .0001 | .0468 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0002 | .0000 | .0002 | .0150 | .0156 | .0000 | .0005 | .0049 |
| Stddev | .0001 | .0005 | .000 | .0003 | .0099 | .0055 | .000 | .0000 | .0004 |
| %RSD | 45.18 | 263.3 | 121.2 | 127.6 | 65.90 | 34.97 | 102.9 | 7.837 | 7.620 |
| #1 | -.0001 | -.0006 | .0000 | .0000 | .0080 | .0117 | .0000 | .0005 | .0052 |
| #2 | -.0002 | .0002 | .0000 | .0005 | .0219 | .0195 | -.0001 | .0005 | .0047 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0001 | .0011 | -.0048 | .0024 | .0018 | .0003 | .0013 | -.0001 |
| Stddev | .000 | .0011 | .0028 | .0003 | .0010 | .0006 | .0012 | .0001 | .0002 |
| %RSD | 1847. | 763.7 | 247.8 | 5.308 | 44.48 | 35.20 | 470.1 | 7.160 | 154.2 |
| #1 | -.0001 | .0010 | -.0009 | -.0050 | .0031 | .0013 | -.0006 | .0014 | -.0003 |
| #2 | .0001 | -.0007 | .0031 | -.0046 | .0016 | .0022 | .0011 | .0013 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | .0016 | -.0005 | .0012 | F.0047 | -.0004 |
| Stddev | .0000 | .0008 | .0008 | .0003 | .0076 | .0001 | .0007 |
| %RSD | 107.9 | 433.7 | 50.70 | 66.00 | 615.5 | 1.112 | 187.2 |
| #1 | .0000 | .0007 | .0022 | -.0007 | .0066 | .0047 | -.0009 |
| #2 | .0001 | -.0004 | .0010 | -.0002 | -.0041 | .0046 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.3 | 41391. | 17849. |
| Stddev | 5.3 | 112. | 43. |
| %RSD | .43976 | .27142 | .23902 |
| #1 | 1200.5 | 41470. | 17879. |
| #2 | 1208.0 | 41311. | 17818. |



Zoom In Zoom Out

Sample Name: MC25455-22 Acquired: 10/29/2013 13:49:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | 47.88 | .0182 | -.0020 | .0033 | .1613 | .0020 | 8.054 | .0002 | .0281 |
| Stddev | .0001 | .06 | .0006 | .0004 | .0002 | .0001 | .0000 | .020 | .0001 | .0002 |
| %RSD | 20.54 | .1151 | 3.410 | 20.15 | 5.082 | .0426 | .3543 | .2503 | 24.05 | .7540 |
| #1 | .0005 | 47.84 | .0177 | -.0023 | .0034 | .1613 | .0020 | 8.068 | .0002 | .0280 |
| #2 | .0007 | 47.92 | .0186 | -.0017 | .0031 | .1612 | .0020 | 8.039 | .0003 | .0283 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0889 | .0605 | 72.75 | 9.500 | 18.33 | .9191 | .0013 | .4529 | .0637 | .0598 |
| Stddev | .0011 | .0005 | .01 | .015 | .01 | .0009 | .0000 | .0013 | .0001 | .0011 |
| %RSD | 1.271 | .7572 | .0088 | .1606 | .0295 | .1030 | 3.687 | .2970 | .0832 | 1.842 |
| #1 | .0897 | .0608 | 72.75 | 9.489 | 18.34 | .9184 | .0014 | .4519 | .0636 | .0591 |
| #2 | .0881 | .0601 | 72.74 | 9.510 | 18.33 | .9197 | .0013 | .4538 | .0637 | .0606 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0027 | .6618 | .0002 | .0036 | 2.318 | .0010 | .0332 | 3.837 | .0031 |
| Stddev | .0005 | .0070 | .0002 | .0005 | .0013 | .007 | .0003 | .0002 | .007 | .0003 |
| %RSD | 6.451 | 257.1 | .0284 | 255.9 | 37.40 | .2887 | 33.11 | .5360 | .1760 | 11.02 |
| #1 | .0082 | .0077 | .6619 | -.0002 | .0045 | 2.323 | .0008 | .0330 | 3.842 | .0029 |
| #2 | .0075 | -.0022 | .6616 | .0006 | .0026 | 2.313 | .0013 | .0333 | 3.832 | .0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1305 | .0006 | .1980 | -.0044 |
| Stddev | .0002 | .0084 | .0001 | .0006 |
| %RSD | .1272 | 1468. | .0454 | 14.42 |
| #1 | .1304 | -.0054 | .1980 | -.0049 |
| #2 | .1307 | .0065 | .1979 | -.0040 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.9 | 42387. | 19079. |
| Stddev | 4.2 | 139. | 17. |
| %RSD | .33204 | .32792 | .09025 |
| #1 | 1268.9 | 42485. | 19091. |
| #2 | 1263.0 | 42289. | 19067. |



Zoom In Zoom Out

Sample Name: MC25455-24 Acquired: 10/29/2013 13:54:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 62.89 | .0182 | .0007 | .0050 | .2711 | .0019 | 3.793 | .0003 | .0157 |
| Stddev | .0002 | .16 | .0022 | .0006 | .0003 | .0003 | .0000 | .014 | .0001 | .0002 |
| %RSD | 48.85 | .2554 | 11.89 | 80.83 | 6.045 | .1156 | 2.023 | .3656 | 45.25 | 1.065 |
| #1 | -.0003 | 63.00 | .0167 | .0003 | .0048 | .2714 | .0019 | 3.784 | .0004 | .0158 |
| #2 | -.0006 | 62.78 | .0197 | .0012 | .0052 | .2709 | .0019 | 3.803 | .0002 | .0155 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0713 | .0839 | 72.80 | 3.525 | 7.726 | .5698 | .0022 | .3761 | .0344 | .0879 |
| Stddev | .0010 | .0009 | .03 | .012 | .002 | .0026 | .0001 | .0023 | .0001 | .0004 |
| %RSD | 1.371 | 1.032 | .0475 | .3288 | .0286 | .4526 | 5.300 | .6028 | .1822 | .4413 |
| #1 | .0706 | .0833 | 72.82 | 3.516 | 7.728 | .5680 | .0023 | .3745 | .0344 | .0881 |
| #2 | .0720 | .0845 | 72.78 | 3.533 | 7.725 | .5716 | .0022 | .3777 | .0345 | .0876 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0062 | .0007 | 1.374 | -.0004 | .0062 | 3.364 | .0029 | .0330 | 3.920 | .0052 |
| Stddev | .0004 | .0003 | .003 | .0002 | .0004 | .015 | .0004 | .0001 | .012 | .0014 |
| %RSD | 5.660 | 41.97 | .2014 | 39.71 | 7.084 | .4491 | 12.64 | .1585 | .3063 | 26.50 |
| #1 | .0065 | .0005 | 1.372 | -.0006 | .0065 | 3.353 | .0032 | .0330 | 3.912 | .0062 |
| #2 | .0060 | .0009 | 1.376 | -.0003 | .0059 | 3.375 | .0027 | .0331 | 3.929 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1894 | -.0008 | .1086 | -.0129 |
| Stddev | .0007 | .0108 | .0002 | .0000 |
| %RSD | .3758 | 1355. | .2188 | .3570 |
| #1 | .1889 | .0069 | .1085 | -.0130 |
| #2 | .1899 | -.0084 | .1088 | -.0129 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1257.6 | 41445. | 18753. |
| Stddev | 7.7 | 122. | 55. |
| %RSD | .61456 | .29442 | .29127 |
| #1 | 1263.1 | 41531. | 18792. |
| #2 | 1252.2 | 41358. | 18715. |



Zoom In Zoom Out

Sample Name: MC25455-25 Acquired: 10/29/2013 13:59:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | 63.48 | .0257 | -.0016 | .0059 | .4489 | .0024 | 11.71 | -.0001 | .0321 |
| Stddev | .0000 | .09 | .0002 | .0002 | .0000 | .0005 | .0000 | .02 | .0000 | .0002 |
| %RSD | 10.27 | .1406 | .9302 | 13.52 | .2060 | .1204 | 1.377 | .1606 | 17.42 | .6157 |
| #1 | -.0002 | 63.41 | .0256 | -.0014 | .0059 | .4485 | .0024 | 11.70 | -.0001 | .0319 |
| #2 | -.0002 | 63.54 | .0259 | -.0017 | .0059 | .4492 | .0024 | 11.72 | -.0001 | .0322 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1075 | .1807 | 91.59 | 7.774 | 15.80 | 1.480 | .0027 | .5886 | .0661 | .1601 |
| Stddev | .0006 | .0008 | .16 | .015 | .10 | .003 | .0000 | .0021 | .0000 | .0002 |
| %RSD | .5991 | .4605 | .1694 | .1940 | .6428 | .1685 | .5530 | .3627 | .0541 | .1102 |
| #1 | .1071 | .1801 | 91.48 | 7.764 | 15.73 | 1.479 | .0027 | .5871 | .0661 | .1600 |
| #2 | .1080 | .1813 | 91.70 | 7.785 | 15.87 | 1.482 | .0027 | .5901 | .0661 | .1602 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0086 | 1.629 | .0001 | .0055 | 3.096 | .0024 | .0620 | 4.531 | .0063 |
| Stddev | .0009 | .0020 | .003 | .0007 | .0019 | .005 | .0000 | .0001 | .010 | .0003 |
| %RSD | 11.31 | 22.85 | .1519 | 942.8 | 34.40 | .1486 | .3561 | .1712 | .2125 | 4.337 |
| #1 | .0084 | .0100 | 1.627 | -.0004 | .0068 | 3.092 | .0024 | .0620 | 4.538 | .0061 |
| #2 | .0071 | .0072 | 1.630 | .0006 | .0042 | 3.099 | .0025 | .0621 | 4.524 | .0064 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .2294 | -.0020 | .4135 | -.0074 |
| Stddev | .0007 | .0003 | .0024 | .0001 |
| %RSD | .3213 | 16.77 | .5813 | 1.161 |
| #1 | .2289 | -.0023 | .4118 | -.0074 |
| #2 | .2300 | -.0018 | .4152 | -.0075 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.1 | 41901. | 18623. |
| Stddev | 1.2 | 203. | 30. |
| %RSD | .09868 | .48351 | .15895 |
| #1 | 1263.0 | 41758. | 18602. |
| #2 | 1261.2 | 42045. | 18644. |

Zoom In Zoom Out

Sample Name: MC25455-26 Acquired: 10/29/2013 14:04:05 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | 59.09 | .0188 | .0009 | .0050 | .1034 | .0022 | 3.878 | .0002 | .0287 |
| Stddev | .0003 | .02 | .0011 | .0018 | .0008 | .0001 | .0000 | .005 | .0000 | .0002 |
| %RSD | 61.80 | .0336 | 5.754 | 205.9 | 16.63 | .0549 | 1.518 | .1359 | 2.498 | .5244 |
| #1 | -.0006 | 59.10 | .0196 | .0021 | .0044 | .1034 | .0022 | 3.881 | .0002 | .0286 |
| #2 | -.0003 | 59.07 | .0180 | -.0004 | .0056 | .1033 | .0022 | 3.874 | .0002 | .0288 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0781 | .0422 | 66.51 | 4.749 | 11.87 | 1.043 | .0013 | .3196 | .0614 | .1179 |
| Stddev | .0007 | .0006 | .04 | .018 | .02 | .001 | .0001 | .0014 | .0001 | .0008 |
| %RSD | .9320 | 1.373 | .0622 | .3774 | .1498 | .1036 | 4.878 | .4504 | .1721 | .6634 |
| #1 | .0776 | .0418 | 66.54 | 4.736 | 11.85 | 1.042 | .0014 | .3186 | .0613 | .1185 |
| #2 | .0786 | .0426 | 66.48 | 4.762 | 11.88 | 1.044 | .0013 | .3207 | .0615 | .1174 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | .0006 | 2.179 | -.0003 | .0030 | 2.621 | .0028 | .0316 | 3.127 | .0055 |
| Stddev | .0002 | .0065 | .001 | .0004 | .0022 | .000 | .0003 | .0000 | .006 | .0002 |
| %RSD | 2.966 | 1132. | .0331 | 137.3 | 71.07 | .0099 | 9.936 | .0599 | .1949 | 4.435 |
| #1 | .0070 | -.0040 | 2.179 | -.0006 | .0015 | 2.622 | .0026 | .0316 | 3.131 | .0053 |
| #2 | .0067 | .0052 | 2.180 | .0000 | .0046 | 2.621 | .0030 | .0316 | 3.123 | .0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .1438 | .0049 | .1599 | .0037 |
| Stddev | .0010 | .0002 | .0002 | .0001 |
| %RSD | .7238 | 3.632 | .0981 | 2.056 |
| #1 | .1431 | .0050 | .1598 | .0036 |
| #2 | .1445 | .0047 | .1600 | .0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.7 | 41378. | 18710. |
| Stddev | 6.0 | 23. | 23. |
| %RSD | .47473 | .05675 | .12484 |
| #1 | 1260.5 | 41361. | 18694. |
| #2 | 1269.0 | 41394. | 18727. |



Zoom In Zoom Out

Sample Name: MC25628-1 Acquired: 10/29/2013 14:08:54 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0238 | 141.6 | .1967 | -.0257 | .1412 | 4.107 | .0286 | 88.84 | .1336 |
| Stddev | .0001 | .0 | .0028 | .0016 | .0010 | .001 | .0001 | .12 | .0006 |
| %RSD | .3515 | .0265 | 1.442 | 6.292 | .7172 | .0342 | .2232 | .1371 | .4826 |
| #1 | .0238 | 141.6 | .1987 | -.0269 | .1405 | 4.106 | .0286 | 88.92 | .1331 |
| #2 | .0239 | 141.5 | .1947 | -.0246 | .1419 | 4.108 | .0285 | 88.75 | .1340 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.840 | 4.142 | F24.25 | F460.9 | 32.83 | 83.15 | 8.419 | .4281 | 3.271 |
| Stddev | .009 | .003 | .06 | .6 | .01 | .23 | .043 | .0021 | .014 |
| %RSD | .2430 | .0672 | .2593 | .1351 | .0366 | .2765 | .5121 | .4837 | .4335 |
| #1 | 3.834 | 4.144 | 24.21 | 461.3 | 32.84 | 83.31 | 8.449 | .4266 | 3.281 |
| #2 | 3.847 | 4.140 | 24.30 | 460.4 | 32.82 | 82.99 | 8.388 | .4296 | 3.261 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F15.13 | F169.2 | .0151 | .0346 | 7.435 | .5938 | -.0053 | 8.554 | .5856 |
| Stddev | .02 | .3 | .0017 | .0017 | .017 | .0027 | .0022 | .021 | .0000 |
| %RSD | .1054 | .1801 | 11.40 | 4.927 | .2286 | .4485 | 41.69 | .2401 | .0077 |
| #1 | 15.12 | 169.0 | .0163 | .0358 | 7.423 | .5919 | -.0037 | 8.540 | .5856 |
| #2 | 15.15 | 169.4 | .0139 | .0334 | 7.447 | .5956 | -.0068 | 8.569 | .5857 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5695 | 7.357 | -.0010 | .4858 | .2421 | F26.30 | .0775 |
| Stddev | .0003 | .006 | .0016 | .0001 | .0095 | .03 | .0003 |
| %RSD | .0472 | .0819 | 164.4 | .0140 | 3.941 | .1010 | .3844 |
| #1 | .5697 | 7.361 | .0002 | .4859 | .2488 | 26.28 | .0773 |
| #2 | .5693 | 7.352 | -.0021 | .4858 | .2353 | 26.32 | .0777 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.6 | 43972. | 19863. |
| Stddev | .5 | 54. | 20. |
| %RSD | .03798 | .12247 | .10017 |
| #1 | 1265.9 | 44010. | 19877. |
| #2 | 1265.2 | 43934. | 19849. |



Zoom In Zoom Out

Sample Name: MC25628-1 Acquired: 10/29/2013 14:21:00 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0214 | 154.3 | .3112 | -.0316 | .1895 | 4.647 | .0351 | 104.9 | .1268 | 4.445 |
| Stddev | .0305 | .2 | .0419 | .0378 | .0478 | .020 | .0059 | .3 | .0015 | .012 |
| %RSD | 142.1 | .1252 | 13.45 | 119.7 | 25.22 | .4388 | 16.83 | .2762 | 1.147 | .2604 |
| #1 | -.0001 | 154.4 | .2816 | -.0583 | .1557 | 4.632 | .0393 | 104.7 | .1278 | 4.437 |
| #2 | .0430 | 154.1 | .3408 | -.0048 | .2233 | 4.661 | .0309 | 105.1 | .1257 | 4.453 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 4.788 | 25.48 | 597.2 | 36.14 | 92.05 | 9.786 | .5102 | 4.019 | 17.94 | 195.8 |
| Stddev | .086 | .10 | 1.7 | .81 | 1.35 | .046 | .0105 | .026 | .03 | .1 |
| %RSD | 1.803 | .4087 | .2858 | 2.248 | 1.463 | .4707 | 2.066 | .6399 | .1685 | .0369 |
| #1 | 4.849 | 25.56 | 596.0 | 35.56 | 93.00 | 9.818 | .5176 | 4.001 | 17.92 | 195.7 |
| #2 | 4.727 | 25.41 | 598.4 | 36.71 | 91.10 | 9.753 | .5027 | 4.038 | 17.96 | 195.8 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1307 | .0922 | 8.305 | .7289 | -.1940 | 9.589 | .6952 | .6426 | 8.263 | .0003 |
| Stddev | .0264 | .0688 | .315 | .1433 | .0013 | .130 | .0056 | .0041 | .098 | .0245 |
| %RSD | 20.22 | 74.63 | 3.792 | 19.66 | .6492 | 1.355 | .8022 | .6352 | 1.180 | 7755. |
| #1 | .1120 | .1409 | 8.082 | .8302 | -.1948 | 9.681 | .6992 | .6397 | 8.332 | -.0170 |
| #2 | .1494 | .0436 | 8.528 | .6276 | -.1931 | 9.497 | .6913 | .6454 | 8.194 | .0176 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4841 | .5047 | 33.15 | .0020 |
| Stddev | .0467 | .8713 | .11 | .0121 |
| %RSD | 9.651 | 172.6 | .3359 | 603.5 |
| #1 | .5171 | 1.121 | 33.07 | .0105 |
| #2 | .4510 | -.1114 | 33.23 | -.0065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.1 | 41379. | 18098. |
| Stddev | 4.2 | 65. | 34. |
| %RSD | .34619 | .15651 | .18579 |
| #1 | 1217.0 | 41333. | 18122. |
| #2 | 1211.1 | 41425. | 18074. |



Zoom In Zoom Out

Sample Name: MC25628-2 Acquired: 10/29/2013 14:25:51 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0329 | 131.3 | .1888 | -.0266 | .1805 | 5.002 | .0074 | 113.8 | .1725 |
| Stddev | .0002 | .1 | .0041 | .0022 | .0001 | .042 | .0000 | .3 | .0002 |
| %RSD | .4852 | .0434 | 2.181 | 8.173 | .0721 | .8444 | .1020 | .2527 | .0919 |
| #1 | .0330 | 131.4 | .1917 | -.0251 | .1804 | 5.032 | .0074 | 114.0 | .1726 |
| #2 | .0328 | 131.3 | .1859 | -.0282 | .1806 | 4.972 | .0074 | 113.6 | .1724 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1923 | 2.067 | 14.14 | F443.1 | 29.77 | 66.18 | 8.478 | .2646 | 4.471 |
| Stddev | .0002 | .008 | .08 | 1.5 | .05 | .02 | .016 | .0003 | .005 |
| %RSD | .1205 | .3698 | .5932 | .3385 | .1626 | .0227 | .1930 | .1069 | .1211 |
| #1 | .1921 | 2.062 | 14.08 | 444.2 | 29.80 | 66.19 | 8.467 | .2648 | 4.474 |
| #2 | .1925 | 2.073 | 14.20 | 442.1 | 29.74 | 66.17 | 8.490 | .2644 | 4.467 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 8.745 | F262.2 | .0111 | .0389 | 16.44 | .8678 | -.0070 | 7.929 | .5592 |
| Stddev | .022 | .4 | .0004 | .0072 | .02 | .0006 | .0004 | .013 | .0010 |
| %RSD | .2520 | .1613 | 3.916 | 18.43 | .1070 | .0640 | 6.153 | .1576 | .1735 |
| #1 | 8.760 | 262.5 | .0108 | .0440 | 16.46 | .8674 | -.0074 | 7.937 | .5598 |
| #2 | 8.729 | 261.9 | .0115 | .0339 | 16.43 | .8682 | -.0067 | 7.920 | .5585 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8017 | 7.520 | -.0036 | .5115 | .0833 | F35.32 | .0820 |
| Stddev | .0009 | .000 | .0016 | .0007 | .0167 | .09 | .0007 |
| %RSD | .1160 | .0011 | 44.34 | .1324 | 20.05 | .2449 | .8375 |
| #1 | .8010 | 7.520 | -.0025 | .5120 | .0951 | 35.38 | .0825 |
| #2 | .8023 | 7.520 | -.0047 | .5111 | .0715 | 35.26 | .0816 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.6 | 43383. | 19664. |
| Stddev | 2.5 | 90. | 13. |
| %RSD | .19674 | .20858 | .06480 |
| #1 | 1245.9 | 43447. | 19655. |
| #2 | 1249.3 | 43319. | 19673. |

Zoom In Zoom Out

Sample Name: MC25628-2 Acquired: 10/29/2013 14:33:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0559 | 140.3 | .3131 | -.0670 | .1855 | 5.527 | .0129 | 131.0 | .1753 | .2150 |
| Stddev | .0158 | .4 | .1867 | .1992 | .0162 | .006 | .0031 | .8 | .0084 | .0094 |
| %RSD | 28.25 | .2604 | 59.63 | 297.1 | 8.761 | .1067 | 23.91 | .5743 | 4.786 | 4.388 |
| #1 | .0671 | 140.6 | .1811 | -.2079 | .1970 | 5.523 | .0108 | 131.6 | .1813 | .2083 |
| #2 | .0448 | 140.1 | .4452 | .0738 | .1740 | 5.531 | .0151 | 130.5 | .1694 | .2217 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.355 | 14.64 | 559.5 | 34.91 | 73.39 | 9.774 | .3121 | 4.894 | 10.12 | 301.0 |
| Stddev | .137 | .01 | 2.2 | 1.50 | 2.00 | .045 | .0141 | .022 | .02 | .8 |
| %RSD | 5.821 | .0347 | .3944 | 4.297 | 2.731 | .4561 | 4.509 | .4582 | .1950 | .2631 |
| #1 | 2.452 | 14.65 | 561.1 | 35.98 | 74.81 | 9.805 | .3022 | 4.910 | 10.13 | 300.5 |
| #2 | 2.259 | 14.64 | 557.9 | 33.85 | 71.97 | 9.742 | .3221 | 4.879 | 10.11 | 301.6 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .3344 | 18.18 | 1.017 | -.0740 | 8.640 | .6337 | .9030 | 8.339 | .1629 |
| Stddev | .0391 | .5337 | .20 | .018 | .0207 | .021 | .0031 | .0019 | .033 | .0203 |
| %RSD | 384.9 | 159.6 | 1.073 | 1.733 | 27.96 | .2398 | .4901 | .2115 | .3916 | 12.46 |
| #1 | .0378 | .7118 | 18.32 | 1.004 | -.0886 | 8.625 | .6315 | .9043 | 8.315 | .1773 |
| #2 | -.0175 | -.0430 | 18.04 | 1.029 | -.0594 | 8.655 | .6359 | .9016 | 8.362 | .1486 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5635 | .3497 | 44.91 | .0358 |
| Stddev | .0177 | .0878 | .19 | .0074 |
| %RSD | 3.139 | 25.12 | .4297 | 20.80 |
| #1 | .5510 | .4118 | 44.77 | .0410 |
| #2 | .5760 | .2876 | 45.04 | .0305 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.1 | 41278. | 18095. |
| Stddev | 1.7 | 84. | 218. |
| %RSD | .14261 | .20420 | 1.2068 |
| #1 | 1220.9 | 41219. | 17940. |
| #2 | 1223.4 | 41338. | 18249. |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:38:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1406 | 103.8 | .2257 | -.0302 | .1040 | 2.082 | .0066 | 110.3 |
| Stddev | .0006 | .0 | .0039 | .0007 | .0012 | .002 | .0000 | .3 |
| %RSD | .4016 | .0006 | 1.734 | 2.184 | 1.138 | .0718 | .6663 | .3135 |
| #1 | .1402 | 103.8 | .2229 | -.0298 | .1032 | 2.083 | .0066 | 110.0 |
| #2 | .1410 | 103.8 | .2285 | -.0307 | .1049 | 2.081 | .0066 | 110.5 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1187 | .1451 | 1.059 | F24.93 | F428.7 | 22.25 | 48.06 | 9.500 |
| Stddev | .0013 | .0007 | .005 | .10 | 2.5 | .01 | .19 | .009 |
| %RSD | 1.106 | .5077 | .5017 | .4126 | .5915 | .0665 | .3895 | .0963 |
| #1 | .1178 | .1446 | 1.056 | 24.86 | 426.9 | 22.26 | 47.93 | 9.507 |
| #2 | .1197 | .1456 | 1.063 | 25.00 | 430.5 | 22.24 | 48.19 | 9.494 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .1977 | 3.548 | 3.958 | F331.7 | .0106 | .0536 | 7.455 | 6.252 |
| Stddev | .0018 | .009 | .030 | 2.6 | .0002 | .0082 | .055 | .048 |
| %RSD | .8923 | .2616 | .7505 | .7755 | 2.138 | 15.34 | .7426 | .7597 |
| #1 | .1965 | 3.554 | 3.937 | 329.9 | .0107 | .0478 | 7.416 | 6.218 |
| #2 | .1990 | 3.541 | 3.979 | 333.5 | .0104 | .0594 | 7.494 | 6.286 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0067 | 7.132 | .6777 | .6149 | 6.131 | F-.0081 | .4258 | .0621 |
| Stddev | .0010 | .050 | .0058 | .0008 | .011 | .0029 | .0020 | .0016 |
| %RSD | 15.20 | .6973 | .8550 | .1241 | .1819 | 35.71 | .4708 | 2.591 |
| #1 | -.0074 | 7.096 | .6736 | .6154 | 6.123 | -.0102 | .4244 | .0609 |
| #2 | -.0060 | 7.167 | .6818 | .6143 | 6.139 | -.0061 | .4273 | .0632 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | F18.39 | .1238 |
| Stddev | .14 | .0018 |
| %RSD | .7602 | 1.459 |
| #1 | 18.29 | .1251 |
| #2 | 18.49 | .1225 |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:38:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1439.9 | 50143. | 22599. |
| Stddev | 6.9 | 58. | 97. |
| %RSD | .47852 | .11471 | .42831 |
| #1 | 1444.8 | 50102. | 22668. |
| #2 | 1435.1 | 50184. | 22531. |



Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 14:44:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 100.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 100X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1106 | 130.0 | .3155 | -.0596 | .1621 | 2.660 | .0123 | 148.8 | .1396 | .1781 |
| Stddev | .0432 | 1.2 | .0483 | .0803 | .0349 | .044 | .0024 | 1.9 | .0000 | .0193 |
| %RSD | 39.08 | .9233 | 15.31 | 134.9 | 21.55 | 1.645 | 19.61 | 1.251 | .0260 | 10.84 |
| #1 | .0800 | 130.9 | .3497 | -.1164 | .1868 | 2.691 | .0106 | 150.1 | .1396 | .1918 |
| #2 | .1412 | 129.2 | .2814 | -.0028 | .1374 | 2.630 | .0140 | 147.5 | .1397 | .1645 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.496 | 30.80 | 643.0 | 29.19 | 62.90 | 13.09 | .2734 | 4.624 | 5.395 | 459.0 |
| Stddev | .054 | .20 | 9.4 | 2.02 | .41 | .22 | .0102 | .097 | .050 | 3.5 |
| %RSD | 3.609 | .6454 | 1.456 | 6.906 | .6479 | 1.653 | 3.747 | 2.090 | .9255 | .7680 |
| #1 | 1.534 | 30.94 | 649.6 | 30.61 | 62.62 | 13.24 | .2806 | 4.693 | 5.360 | 456.5 |
| #2 | 1.457 | 30.66 | 636.4 | 27.76 | 63.19 | 12.94 | .2661 | 4.556 | 5.430 | 461.5 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1289 | .2075 | 9.636 | 8.133 | -.0407 | 9.067 | .8588 | .8016 | 8.058 | -.0199 |
| Stddev | .1908 | .3443 | .253 | .024 | .0785 | .089 | .0659 | .0146 | .025 | .0984 |
| %RSD | 148.0 | 165.9 | 2.629 | .2931 | 192.7 | .9774 | 7.674 | 1.827 | .3052 | 494.5 |
| #1 | .2639 | .4510 | 9.457 | 8.116 | .0148 | 9.004 | .9054 | .8120 | 8.076 | .0497 |
| #2 | -.0060 | -.0359 | 9.815 | 8.150 | -.0963 | 9.130 | .8122 | .7913 | 8.041 | -.0894 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5174 | -.1000 | 26.47 | .1058 |
| Stddev | .0141 | .3930 | .10 | .0361 |
| %RSD | 2.723 | 392.8 | .3778 | 34.09 |
| #1 | .5075 | -.3779 | 26.40 | .1313 |
| #2 | .5274 | .1778 | 26.55 | .0803 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1220.8 | 41174. | 18087. |
| Stddev | 6.6 | 143. | 69. |
| %RSD | .54432 | .34840 | .37999 |
| #1 | 1225.5 | 41072. | 18038. |
| #2 | 1216.1 | 41275. | 18135. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 14:50:18 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2508 | 9.836 | 1.924 | -.0076 | 1.937 | 2.014 | 1.998 | 9.874 | 1.976 | 2.010 |
| Stddev | .0005 | .009 | .007 | .0001 | .002 | .004 | .000 | .004 | .002 | .004 |
| %RSD | .1979 | .0865 | .3575 | 1.669 | .0880 | .1862 | .0008 | .0402 | .0769 | .1799 |
| #1 | .2511 | 9.842 | 1.929 | -.0077 | 1.938 | 2.017 | 1.998 | 9.877 | 1.975 | 2.012 |
| #2 | .2504 | 9.830 | 1.919 | -.0075 | 1.936 | 2.012 | 1.998 | 9.871 | 1.977 | 2.007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.036 | 1.970 | 9.947 | 9.968 | 9.948 | 1.988 | 1.930 | 9.889 | 1.909 | 1.919 |
| Stddev | .000 | .005 | .004 | .009 | .085 | .005 | .001 | .003 | .004 | .001 |
| %RSD | .0047 | .2696 | .0454 | .0888 | .8512 | .2756 | .0477 | .0269 | .1915 | .0486 |
| #1 | 2.036 | 1.974 | 9.944 | 9.962 | 9.888 | 1.984 | 1.931 | 9.891 | 1.911 | 1.919 |
| #2 | 2.036 | 1.967 | 9.950 | 9.975 | 10.01 | 1.992 | 1.929 | 9.887 | 1.906 | 1.918 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0029 | .0070 | -.0014 | 1.934 | 1.929 | -.0031 | 1.927 | 1.935 | 1.965 | 1.929 |
| Stddev | .0010 | .0061 | .0011 | .001 | .004 | .0012 | .005 | .024 | .004 | .004 |
| %RSD | 34.55 | 86.77 | 75.16 | .0480 | .1907 | 38.01 | .2688 | 1.226 | .2121 | .2138 |
| #1 | .0022 | .0027 | -.0007 | 1.934 | 1.931 | -.0023 | 1.931 | 1.918 | 1.962 | 1.932 |
| #2 | .0037 | .0113 | -.0022 | 1.935 | 1.926 | -.0039 | 1.923 | 1.952 | 1.968 | 1.926 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.964 | -.0071 | 1.896 | -.0035 |
| Stddev | .002 | .0045 | .006 | .0003 |
| %RSD | .0848 | 62.55 | .3166 | 8.665 |
| #1 | 1.962 | -.0103 | 1.901 | -.0037 |
| #2 | 1.965 | -.0040 | 1.892 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.2 | 40858. | 18155. |
| Stddev | 1.3 | 167. | 11. |
| %RSD | .10710 | .40973 | .05792 |
| #1 | 1214.1 | 40976. | 18163. |
| #2 | 1212.3 | 40739. | 18148. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 14:58:55 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0022 | -.0016 | -.0005 | .0008 | .0000 | .0000 | .0030 | .0000 | -.0001 |
| Stddev | .0006 | .0028 | .0003 | .0000 | .0002 | .000 | .0000 | .0014 | .000 | .0001 |
| %RSD | 136.9 | 130.0 | 19.10 | 7.403 | 29.93 | 126.4 | 262.7 | 48.46 | 39.24 | 76.38 |
| #1 | .0000 | -.0042 | -.0014 | -.0004 | .0009 | -.0001 | .0000 | .0040 | .0000 | .0000 |
| #2 | -.0008 | -.0002 | -.0018 | -.0005 | .0006 | .0000 | .0000 | .0020 | .0000 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0003 | .0012 | .0073 | .0107 | -.0001 | .0010 | -.0017 | -.0001 | -.0002 |
| Stddev | .0002 | .0001 | .0014 | .0053 | .0033 | .0000 | .0002 | .0014 | .0002 | .0004 |
| %RSD | 29.15 | 43.06 | 120.7 | 72.48 | 30.97 | 4.022 | 16.82 | 83.83 | 185.8 | 246.6 |
| #1 | .0010 | .0002 | .0002 | .0111 | .0084 | -.0001 | .0009 | -.0027 | .0000 | .0001 |
| #2 | .0007 | .0004 | .0022 | .0036 | .0130 | -.0001 | .0012 | -.0007 | -.0002 | -.0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0066 | .0013 | .0008 | -.0005 | .0019 | .0005 | .0001 | .0000 | .0010 |
| Stddev | .0009 | .0024 | .0006 | .0003 | .0003 | .0005 | .0001 | .0000 | .0003 | .0003 |
| %RSD | 162.5 | 36.58 | 50.38 | 38.27 | 50.11 | 29.28 | 25.70 | 45.27 | 1093. | 33.15 |
| #1 | .0001 | .0049 | .0017 | .0006 | -.0007 | .0015 | .0006 | .0000 | .0002 | .0012 |
| #2 | -.0012 | .0083 | .0008 | .0011 | -.0003 | .0022 | .0004 | .0001 | -.0002 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0038 | -.0004 | -.0002 |
| Stddev | .0003 | .0014 | .0000 | .0005 |
| %RSD | 141.7 | 37.47 | .6271 | 233.3 |
| #1 | -.0005 | -.0028 | -.0004 | .0001 |
| #2 | .0000 | -.0048 | -.0004 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.8 | 41244. | 17884. |
| Stddev | 1.7 | 199. | 64. |
| %RSD | .14087 | .48218 | .35528 |
| #1 | 1209.6 | 41104. | 17839. |
| #2 | 1212.0 | 41385. | 17929. |



Zoom In Zoom Out

Sample Name: MC25628-4 Acquired: 10/29/2013 15:03:53 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | 110.0 | .1568 | -.0138 | .0721 | 1.343 | .0063 | 60.88 | .0449 |
| Stddev | .0001 | .2 | .0001 | .0014 | .0008 | .005 | .0000 | .09 | .0004 |
| %RSD | 1.902 | .1423 | .0828 | 10.39 | 1.145 | .4128 | .0903 | .1522 | .8046 |
| #1 | .0047 | 110.1 | .1567 | -.0148 | .0715 | 1.347 | .0063 | 60.82 | .0447 |
| #2 | .0046 | 109.8 | .1569 | -.0128 | .0726 | 1.339 | .0063 | 60.95 | .0452 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1180 | .6601 | F16.77 | F303.8 | 23.04 | 61.39 | 5.204 | .0667 | 2.647 |
| Stddev | .0001 | .0011 | .15 | .7 | .13 | .83 | .049 | .0001 | .003 |
| %RSD | .0828 | .1733 | .9236 | .2344 | .5495 | 1.360 | .9422 | .1181 | .1233 |
| #1 | .1181 | .6593 | 16.66 | 303.3 | 23.13 | 60.80 | 5.169 | .0667 | 2.645 |
| #2 | .1179 | .6609 | 16.88 | 304.3 | 22.95 | 61.98 | 5.238 | .0666 | 2.649 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.786 | F58.54 | .0163 | .0237 | 6.311 | .1135 | .0060 | 8.047 | .3452 |
| Stddev | .004 | .14 | .0016 | .0057 | .034 | .0014 | .0000 | .011 | .0002 |
| %RSD | .2084 | .2461 | 9.806 | 24.16 | .5452 | 1.195 | .6896 | .1373 | .0592 |
| #1 | 1.783 | 58.44 | .0175 | .0197 | 6.286 | .1126 | .0060 | 8.054 | .3450 |
| #2 | 1.788 | 58.64 | .0152 | .0278 | 6.335 | .1145 | .0061 | 8.039 | .3453 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .4408 | 6.422 | .0048 | .3589 | .0268 | 11.78 | .0062 |
| Stddev | .0013 | .035 | .0017 | .0022 | .0005 | .08 | .0011 |
| %RSD | .3015 | .5437 | 36.42 | .6007 | 1.688 | .6444 | 17.69 |
| #1 | .4417 | 6.398 | .0036 | .3574 | .0271 | 11.73 | .0054 |
| #2 | .4398 | 6.447 | .0060 | .3605 | .0265 | 11.83 | .0070 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1287.5 | 43432. | 19472. |
| Stddev | 6.9 | 252. | 47. |
| %RSD | .53814 | .57936 | .24044 |
| #1 | 1282.6 | 43610. | 19505. |
| #2 | 1292.4 | 43254. | 19439. |



Zoom In Zoom Out

Sample Name: MC25628-4 Acquired: 10/29/2013 15:10:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 119.7 | .1563 | -.0028 | .0789 | 1.478 | .0070 | 69.76 | .0490 | .1300 |
| Stddev | .0086 | .7 | .0255 | .0191 | .0113 | .012 | .0003 | .14 | .0012 | .0008 |
| %RSD | 379.0 | .5903 | 16.33 | 686.3 | 14.28 | .7850 | 3.827 | .2018 | 2.505 | .6502 |
| #1 | .0083 | 120.2 | .1383 | -.0163 | .0868 | 1.486 | .0071 | 69.86 | .0482 | .1294 |
| #2 | -.0038 | 119.2 | .1744 | .0107 | .0709 | 1.470 | .0068 | 69.66 | .0499 | .1306 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .7433 | 17.52 | 357.5 | 26.00 | 66.69 | 5.861 | .0802 | 2.968 | 2.043 | 64.63 |
| Stddev | .0221 | .04 | .6 | .27 | .82 | .019 | .0038 | .004 | .009 | .12 |
| %RSD | 2.975 | .2446 | .1694 | 1.054 | 1.232 | .3227 | 4.756 | .1173 | .4585 | .1798 |
| #1 | .7589 | 17.55 | 358.0 | 25.81 | 67.27 | 5.847 | .0775 | 2.971 | 2.037 | 64.55 |
| #2 | .7277 | 17.49 | 357.1 | 26.19 | 66.11 | 5.874 | .0829 | 2.966 | 2.050 | 64.71 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0673 | .0074 | 6.758 | .1298 | -.0172 | 8.656 | .3931 | .4972 | 7.142 | .0154 |
| Stddev | .0048 | .0014 | .022 | .0081 | .0065 | .040 | .0085 | .0032 | .004 | .0015 |
| %RSD | 7.192 | 19.16 | .3200 | 6.233 | 38.11 | .4588 | 2.173 | .6469 | .0615 | 9.869 |
| #1 | .0638 | .0084 | 6.743 | .1240 | -.0218 | 8.684 | .3871 | .4995 | 7.145 | .0143 |
| #2 | .0707 | .0064 | 6.773 | .1355 | -.0125 | 8.628 | .3992 | .4949 | 7.139 | .0165 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3902 | -.0035 | 13.95 | .0033 |
| Stddev | .0156 | .1269 | .08 | .0036 |
| %RSD | 4.005 | 3624. | .5608 | 110.1 |
| #1 | .3792 | .0862 | 13.89 | .0007 |
| #2 | .4013 | -.0932 | 14.01 | .0059 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.9 | 40869. | 18156. |
| Stddev | 7.2 | 1. | 66. |
| %RSD | .58686 | .00273 | .36296 |
| #1 | 1222.8 | 40868. | 18109. |
| #2 | 1233.0 | 40870. | 18202. |

Zoom In Zoom Out

Sample Name: MC25628-3 Acquired: 10/29/2013 15:15:13 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 500.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 500X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0642 | 134.1 | .0937 | -.1510 | .3303 | 2.717 | .0270 | 153.6 | .1276 | .0941 |
| Stddev | .2846 | .8 | .5865 | .2915 | .2606 | .034 | .0130 | 2.1 | .0008 | .0747 |
| %RSD | 443.6 | .6191 | 626.0 | 193.1 | 78.88 | 1.257 | 48.29 | 1.358 | .6063 | 79.39 |
| #1 | .2654 | 133.5 | -.3210 | -.3571 | .1461 | 2.693 | .0178 | 152.1 | .1281 | .0413 |
| #2 | -.1371 | 134.7 | .5084 | .0551 | .5146 | 2.741 | .0362 | 155.0 | .1270 | .1468 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.986 | 31.08 | 647.7 | 34.02 | 58.01 | 13.08 | .5024 | 4.158 | 5.580 | 470.9 |
| Stddev | .129 | .20 | 4.0 | 3.50 | 13.72 | .07 | .1045 | 2.051 | .026 | .1 |
| %RSD | 6.506 | .6495 | .6193 | 10.30 | 23.65 | .5343 | 20.80 | 49.32 | .4655 | .0147 |
| #1 | 2.078 | 31.23 | 644.9 | 31.54 | 48.31 | 13.13 | .4285 | 5.608 | 5.599 | 471.0 |
| #2 | 1.895 | 30.94 | 650.6 | 36.49 | 67.71 | 13.03 | .5764 | 2.708 | 5.562 | 470.9 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.1117 | -.3730 | 10.51 | 8.297 | -.2410 | 9.374 | .6927 | .8188 | 8.163 | .1298 |
| Stddev | .2818 | 1.079 | .78 | .286 | .2525 | .049 | .1432 | .0178 | .041 | .0802 |
| %RSD | 252.3 | 289.2 | 7.391 | 3.443 | 104.8 | .5217 | 20.67 | 2.177 | .4965 | 61.83 |
| #1 | -.3110 | -1.136 | 11.06 | 8.499 | -.4196 | 9.409 | .7939 | .8062 | 8.134 | .1865 |
| #2 | .0876 | .3898 | 9.964 | 8.095 | -.0625 | 9.340 | .5914 | .8314 | 8.192 | .0730 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5530 | -1.227 | 26.99 | -.3113 |
| Stddev | .3782 | .306 | .06 | .0490 |
| %RSD | 68.39 | 24.95 | .2220 | 15.73 |
| #1 | .8205 | -1.444 | 27.03 | -.2766 |
| #2 | .2856 | -1.011 | 26.95 | -.3459 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.5 | 41361. | 18069. |
| Stddev | .8 | 23. | 76. |
| %RSD | .06853 | .05508 | .42181 |
| #1 | 1211.0 | 41345. | 18123. |
| #2 | 1212.1 | 41377. | 18016. |



Zoom In Zoom Out

Sample Name: MC25427-2R Acquired: 10/29/2013 15:20:10 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | 117.2 | .1900 | -.0115 | .0256 | 1.123 | .0050 | 53.26 | .0139 |
| Stddev | .0009 | .2 | .0026 | .0002 | .0006 | .000 | .0000 | .15 | .0000 |
| %RSD | 13.21 | .1413 | 1.375 | 1.573 | 2.233 | .0082 | .1991 | .2784 | .2192 |
| #1 | .0063 | 117.1 | .1919 | -.0117 | .0260 | 1.123 | .0050 | 53.15 | .0139 |
| #2 | .0076 | 117.3 | .1882 | -.0114 | .0252 | 1.123 | .0050 | 53.36 | .0139 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1142 | .5389 | F30.25 | 208.2 | 30.21 | 77.13 | 4.299 | .0079 | 2.142 |
| Stddev | .0005 | .0011 | .20 | 1.5 | .03 | .16 | .010 | .0001 | .001 |
| %RSD | .4569 | .1991 | .6771 | .7168 | .0846 | .2123 | .2414 | .8344 | .0556 |
| #1 | .1146 | .5382 | 30.40 | 207.2 | 30.23 | 77.01 | 4.306 | .0079 | 2.143 |
| #2 | .1139 | .5397 | 30.11 | 209.3 | 30.19 | 77.25 | 4.292 | .0080 | 2.141 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5406 | F27.61 | .0111 | .0231 | 3.968 | .1076 | .0078 | 4.973 | .3450 |
| Stddev | .0014 | .06 | .0004 | .0027 | .006 | .0008 | .0006 | .022 | .0021 |
| %RSD | .2654 | .2189 | 3.915 | 11.68 | .1494 | .7107 | 7.663 | .4401 | .6128 |
| #1 | .5417 | 27.65 | .0115 | .0212 | 3.964 | .1070 | .0073 | 4.988 | .3465 |
| #2 | .5396 | 27.57 | .0108 | .0250 | 3.972 | .1081 | .0082 | 4.957 | .3435 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5039 | 6.613 | .0040 | .3311 | .0121 | 11.14 | .0158 |
| Stddev | .0002 | .011 | .0010 | .0007 | .0046 | .02 | .0002 |
| %RSD | .0420 | .1599 | 24.29 | .2026 | 38.20 | .1657 | 1.572 |
| #1 | .5038 | 6.621 | .0046 | .3315 | .0088 | 11.15 | .0160 |
| #2 | .5041 | 6.606 | .0033 | .3306 | .0153 | 11.13 | .0156 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1286.9 | 43714. | 19548. |
| Stddev | 2.8 | 8. | 106. |
| %RSD | .21528 | .01818 | .54169 |
| #1 | 1284.9 | 43708. | 19623. |
| #2 | 1288.8 | 43720. | 19473. |



Zoom In Zoom Out

Sample Name: MC25427-2R Acquired: 10/29/2013 15:26:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0067 | 126.1 | .2084 | -.0179 | .0289 | 1.220 | .0053 | 59.64 | .0154 | .1278 |
| Stddev | .0009 | .3 | .0145 | .0089 | .0006 | .004 | .0007 | .06 | .0013 | .0006 |
| %RSD | 13.00 | .2498 | 6.946 | 49.57 | 2.105 | .3175 | 12.75 | .1067 | 8.503 | .4796 |
| #1 | .0073 | 125.9 | .2187 | -.0116 | .0293 | 1.217 | .0058 | 59.69 | .0145 | .1283 |
| #2 | .0060 | 126.3 | .1982 | -.0241 | .0284 | 1.223 | .0048 | 59.60 | .0163 | .1274 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5999 | 33.11 | 241.9 | 33.20 | 83.21 | 4.786 | .0089 | 2.333 | .6151 | 30.35 |
| Stddev | .0179 | .05 | 1.0 | .26 | .26 | .018 | .0003 | .023 | .0026 | .08 |
| %RSD | 2.986 | .1537 | .3995 | .7781 | .3154 | .3711 | 3.556 | .9685 | .4182 | .2787 |
| #1 | .5872 | 33.08 | 241.2 | 33.02 | 83.02 | 4.773 | .0092 | 2.349 | .6169 | 30.41 |
| #2 | .6125 | 33.15 | 242.6 | 33.38 | 83.39 | 4.799 | .0087 | 2.318 | .6132 | 30.29 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0231 | .0628 | 4.321 | .1159 | -.0024 | 5.412 | .3911 | .5621 | 7.264 | .0076 |
| Stddev | .0118 | .0298 | .032 | .0036 | .0073 | .032 | .0022 | .0045 | .020 | .0162 |
| %RSD | 51.27 | 47.42 | .7398 | 3.098 | 298.9 | .5954 | .5698 | .7958 | .2680 | 211.8 |
| #1 | .0314 | .0839 | 4.344 | .1184 | .0027 | 5.434 | .3927 | .5590 | 7.250 | .0191 |
| #2 | .0147 | .0418 | 4.299 | .1133 | -.0076 | 5.389 | .3895 | .5653 | 7.278 | -.0038 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3558 | .0427 | 12.97 | .0200 |
| Stddev | .0095 | .0159 | .05 | .0039 |
| %RSD | 2.680 | 37.31 | .3832 | 19.29 |
| #1 | .3626 | .0540 | 13.01 | .0173 |
| #2 | .3491 | .0314 | 12.94 | .0228 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1228.6 | 41187. | 18404. |
| Stddev | 2.7 | 73. | 41. |
| %RSD | .21864 | .17698 | .22056 |
| #1 | 1226.7 | 41136. | 18433. |
| #2 | 1230.5 | 41239. | 18375. |



Zoom In Zoom Out

Sample Name: MC25427-3R Acquired: 10/29/2013 15:31:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | 102.5 | .2170 | .0002 | .0142 | 1.038 | .0051 | 39.10 | .0109 | .1341 |
| Stddev | .0007 | .7 | .0165 | .0001 | .0012 | .007 | .0000 | .10 | .0002 | .0041 |
| %RSD | 28.34 | .6344 | 7.601 | 53.48 | 8.539 | .6591 | .1194 | .2505 | 1.797 | 3.053 |
| #1 | .0020 | 102.0 | .2287 | .0002 | .0151 | 1.033 | .0051 | 39.03 | .0107 | .1312 |
| #2 | .0030 | 102.9 | .2053 | .0001 | .0134 | 1.043 | .0051 | 39.17 | .0110 | .1370 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4929 | 8.793 | 292.6 | 21.01 | 63.53 | 4.499 | .0138 | 2.280 | .9169 | 18.12 |
| Stddev | .0136 | .011 | .5 | .08 | .02 | .004 | .0007 | .037 | .0035 | .04 |
| %RSD | 2.766 | .1292 | .1863 | .3921 | .0337 | .1011 | 4.812 | 1.610 | .3803 | .2040 |
| #1 | .5026 | 8.784 | 292.2 | 21.07 | 63.55 | 4.496 | .0133 | 2.254 | .9194 | 18.15 |
| #2 | .4833 | 8.801 | 293.0 | 20.95 | 63.52 | 4.503 | .0143 | 2.306 | .9145 | 18.09 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0213 | .0450 | 2.921 | .0483 | .0120 | 4.156 | .3806 | .3809 | 5.963 | .0097 |
| Stddev | .0133 | .0008 | .019 | .0006 | .0011 | .015 | .0124 | .0018 | .016 | .0138 |
| %RSD | 62.38 | 1.858 | .6503 | 1.276 | 9.068 | .3639 | 3.256 | .4817 | .2601 | 141.5 |
| #1 | .0119 | .0456 | 2.934 | .0487 | .0128 | 4.167 | .3893 | .3796 | 5.974 | .0195 |
| #2 | .0307 | .0444 | 2.907 | .0479 | .0113 | 4.146 | .3718 | .3822 | 5.952 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .3242 | -.0123 | 12.43 | .0230 |
| Stddev | .0030 | .0314 | .03 | .0017 |
| %RSD | .9257 | 255.4 | .2058 | 7.255 |
| #1 | .3221 | -.0345 | 12.45 | .0218 |
| #2 | .3263 | .0099 | 12.41 | .0242 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.5 | 41218. | 18360. |
| Stddev | 1.5 | 210. | 30. |
| %RSD | .11939 | .50879 | .16329 |
| #1 | 1234.5 | 41367. | 18339. |
| #2 | 1232.4 | 41070. | 18381. |

Zoom In Zoom Out

Sample Name: MC25455-6 Acquired: 10/29/2013 15:36:20 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 186.5 | .0768 | -.0104 | .0141 | .4911 | .0080 | 7.588 | -.0003 |
| Stddev | .0006 | .4 | .0036 | .0008 | .0002 | .0008 | .0000 | .047 | .0001 |
| %RSD | 148.6 | .2392 | 4.716 | 7.610 | 1.087 | .1529 | .2679 | .6192 | 47.37 |
| #1 | -.0008 | 186.2 | .0794 | -.0109 | .0142 | .4916 | .0080 | 7.555 | -.0002 |
| #2 | .0000 | 186.8 | .0743 | -.0098 | .0140 | .4905 | .0080 | 7.621 | -.0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1331 | .3278 | .1891 | F249.8 | 22.00 | 57.22 | 4.080 | .0043 | .5590 |
| Stddev | .0000 | .0033 | .0005 | 2.0 | .03 | .02 | .002 | .0003 | .0042 |
| %RSD | .0214 | 1.019 | .2640 | .8077 | .1541 | .0330 | .0558 | 6.730 | .7596 |
| #1 | .1331 | .3255 | .1887 | 248.3 | 21.98 | 57.21 | 4.082 | .0046 | .5620 |
| #2 | .1331 | .3302 | .1894 | 251.2 | 22.02 | 57.24 | 4.078 | .0041 | .5560 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2225 | .1439 | .0171 | .0123 | 4.346 | -.0010 | .0059 | 11.84 | -.0064 |
| Stddev | .0002 | .0008 | .0005 | .0064 | .000 | .0001 | .0002 | .02 | .0003 |
| %RSD | .0855 | .5314 | 2.846 | 52.45 | .0001 | 8.854 | 3.484 | .2037 | 5.165 |
| #1 | .2224 | .1444 | .0175 | .0168 | 4.346 | -.0011 | .0058 | 11.82 | -.0067 |
| #2 | .2227 | .1433 | .0168 | .0077 | 4.346 | -.0010 | .0061 | 11.85 | -.0062 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0374 | 9.439 | .0051 | .4466 | -.0015 | .5662 | -.0293 |
| Stddev | .0002 | .007 | .0003 | .0008 | .0003 | .0007 | .0001 |
| %RSD | .4788 | .0754 | 5.767 | .1877 | 19.70 | .1279 | .2661 |
| #1 | .0375 | 9.444 | .0053 | .4460 | -.0013 | .5667 | -.0293 |
| #2 | .0373 | 9.434 | .0049 | .4472 | -.0017 | .5657 | -.0294 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1333.6 | 43050. | 19854. |
| Stddev | 4.5 | 13. | 173. |
| %RSD | .33571 | .03095 | .87212 |
| #1 | 1336.7 | 43059. | 19977. |
| #2 | 1330.4 | 43041. | 19732. |



Zoom In Zoom Out

Sample Name: MP21905-PS1 Acquired: 10/29/2013 15:41:18 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2226 | 62.98 | .2234 | -.0040 | 4.090 | 2.374 | .1720 | 48.10 | .1782 | 2.118 |
| Stddev | .0005 | .04 | .0001 | .0010 | .007 | .001 | .0003 | .03 | .0005 | .003 |
| %RSD | .2185 | .0591 | .0656 | 24.23 | .1736 | .0547 | .1894 | .0645 | .3065 | .1370 |
| #1 | .2223 | 63.01 | .2235 | -.0047 | 4.085 | 2.373 | .1723 | 48.12 | .1786 | 2.116 |
| #2 | .2230 | 62.95 | .2233 | -.0033 | 4.095 | 2.375 | .1718 | 48.08 | .1778 | 2.120 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5356 | 1.140 | 119.3 | 49.99 | 60.69 | 2.258 | 3.992 | 41.95 | 1.658 | .5465 |
| Stddev | .0006 | .000 | .1 | .04 | .00 | .002 | .011 | .02 | .004 | .0003 |
| %RSD | .1209 | .0147 | .0927 | .0752 | .0019 | .1009 | .2823 | .0420 | .2201 | .0498 |
| #1 | .5351 | 1.140 | 119.3 | 49.96 | 60.69 | 2.260 | 3.984 | 41.96 | 1.655 | .5467 |
| #2 | .5360 | 1.139 | 119.2 | 50.01 | 60.69 | 2.256 | 4.000 | 41.94 | 1.660 | .5464 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0091 | .0096 | 1.028 | .2521 | .4246 | 6.264 | 3.943 | .4408 | 5.778 | .2037 |
| Stddev | .0005 | .0033 | .001 | .0022 | .0015 | .026 | .014 | .0002 | .002 | .0009 |
| %RSD | 5.543 | 34.59 | .0463 | .8798 | .3641 | .4226 | .3476 | .0458 | .0287 | .4185 |
| #1 | .0088 | .0072 | 1.027 | .2536 | .4257 | 6.245 | 3.933 | .4410 | 5.779 | .2043 |
| #2 | .0095 | .0119 | 1.028 | .2505 | .4235 | 6.283 | 3.952 | .4407 | 5.777 | .2031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5746 | -.0034 | 1.062 | -.0380 |
| Stddev | .0007 | .0033 | .001 | .0007 |
| %RSD | .1181 | 96.89 | .0574 | 1.728 |
| #1 | .5751 | -.0011 | 1.063 | -.0375 |
| #2 | .5741 | -.0058 | 1.062 | -.0384 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1252.4 | 41543. | 18779. |
| Stddev | .8 | 95. | 54. |
| %RSD | .06101 | .22939 | .28944 |
| #1 | 1251.9 | 41476. | 18741. |
| #2 | 1253.0 | 41610. | 18818. |



Zoom In Zoom Out

Sample Name: CRIA Acquired: 10/29/2013 15:46:53 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2085 | .0096 | -.0007 | .1039 | .0532 | .0043 | 5.114 | .0043 | .0531 |
| Stddev | .0003 | .0026 | .0006 | .0006 | .0003 | .0001 | .0000 | .009 | .0001 | .0009 |
| %RSD | 5.301 | 1.226 | 5.904 | 81.19 | .2645 | .2742 | .4560 | .1696 | 3.012 | 1.605 |
| #1 | .0048 | .2067 | .0092 | -.0011 | .1037 | .0534 | .0043 | 5.108 | .0042 | .0525 |
| #2 | .0051 | .2103 | .0100 | -.0003 | .1041 | .0531 | .0044 | 5.121 | .0044 | .0537 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0108 | .0261 | .1107 | 5.154 | 5.069 | .0161 | .1051 | 5.073 | .0408 | .0098 |
| Stddev | .0008 | .0005 | .0006 | .027 | .013 | .0000 | .0005 | .002 | .0003 | .0009 |
| %RSD | 7.739 | 1.995 | .5018 | .5158 | .2463 | .3044 | .4988 | .0336 | .8339 | 9.353 |
| #1 | .0102 | .0265 | .1111 | 5.173 | 5.077 | .0160 | .1047 | 5.074 | .0406 | .0092 |
| #2 | .0114 | .0257 | .1103 | 5.135 | 5.060 | .0161 | .1054 | 5.071 | .0411 | .0105 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0024 | .0027 | .0110 | .0084 | .0077 | .0994 | .0104 | .0521 | .0104 |
| Stddev | .0000 | .0007 | .0013 | .0005 | .0014 | .0002 | .0008 | .0000 | .0003 | .0005 |
| %RSD | 3.422 | 30.61 | 48.28 | 4.842 | 16.16 | 1.989 | .8239 | .2364 | .6472 | 4.944 |
| #1 | -.0010 | .0019 | .0036 | .0114 | .0093 | .0076 | .1000 | .0104 | .0518 | .0108 |
| #2 | -.0010 | .0029 | .0018 | .0106 | .0074 | .0078 | .0989 | .0104 | .0523 | .0101 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0106 | -.0017 | .0210 | .0004 |
| Stddev | .0001 | .0007 | .0005 | .0001 |
| %RSD | 1.069 | 40.09 | 2.259 | 33.52 |
| #1 | .0105 | -.0022 | .0207 | .0003 |
| #2 | .0106 | -.0012 | .0214 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.4 | 40854. | 17843. |
| Stddev | .1 | 42. | 12. |
| %RSD | .00741 | .10347 | .06670 |
| #1 | 1217.4 | 40883. | 17834. |
| #2 | 1217.5 | 40824. | 17851. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/29/2013 15:51:48 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0052 | .2078 | F.0057 | -.0012 | .1022 | .0532 | .0043 | 5.055 | .0043 |
| Stddev | .0001 | .0015 | .0013 | .0006 | .0002 | .0003 | .0000 | .039 | .0000 |
| %RSD | 2.478 | .7195 | 22.13 | 52.46 | .1697 | .5803 | .8773 | .7700 | .4256 |
| #1 | .0052 | .2068 | .0066 | -.0016 | .1020 | .0530 | .0043 | 5.028 | .0043 |
| #2 | .0053 | .2089 | .0048 | -.0007 | .1023 | .0535 | .0043 | 5.083 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0525 | .0106 | .0256 | .1052 | 5.115 | 5.052 | .0156 | .1022 | 5.037 |
| Stddev | .0001 | .0009 | .0005 | .0004 | .040 | .035 | .0002 | .0002 | .048 |
| %RSD | .1452 | 8.698 | 1.913 | .4249 | .7811 | .6837 | 1.543 | .1972 | .9592 |
| #1 | .0525 | .0113 | .0253 | .1055 | 5.086 | 5.028 | .0155 | .1020 | 5.003 |
| #2 | .0524 | .0100 | .0259 | .1048 | 5.143 | 5.076 | .0158 | .1023 | 5.071 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0400 | .0047 | -.0001 | .0011 | -.0002 | .0064 | .0089 | .0091 | .0982 |
| Stddev | .0001 | .0014 | .0007 | .0048 | .0002 | .0002 | .0008 | .0003 | .0002 |
| %RSD | .1966 | 29.16 | 1235. | 456.5 | 102.9 | 2.358 | 8.550 | 3.314 | .2475 |
| #1 | .0400 | .0037 | -.0006 | -.0023 | -.0001 | .0065 | .0095 | .0093 | .0980 |
| #2 | .0399 | .0057 | .0005 | .0045 | -.0003 | .0063 | .0084 | .0089 | .0984 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0103 | .0507 | .0053 | .0096 | -.0047 | .0209 | -.0003 |
| Stddev | .0001 | .0010 | .0003 | .0003 | .0016 | .0001 | .0009 |
| %RSD | .6430 | 1.883 | 6.140 | 3.292 | 33.27 | .4650 | 326.4 |
| #1 | .0102 | .0500 | .0051 | .0094 | -.0036 | .0208 | -.0009 |
| #2 | .0103 | .0514 | .0055 | .0098 | -.0058 | .0209 | .0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.7 | 41237. | 17844. |
| Stddev | 5.7 | 382. | 168. |
| %RSD | .47125 | .92748 | .94093 |
| #1 | 1207.6 | 41508. | 17962. |
| #2 | 1215.7 | 40967. | 17725. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 15:56:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.842 | 1.931 | -.0084 | 1.939 | 2.004 | 2.010 | 9.886 | 1.982 | 2.013 |
| Stddev | .0012 | .048 | .006 | .0015 | .006 | .007 | .008 | .019 | .004 | .007 |
| %RSD | .4722 | .4829 | .3356 | 18.30 | .3305 | .3335 | .4120 | .1886 | .1785 | .3459 |
| #1 | .2534 | 9.875 | 1.936 | -.0095 | 1.944 | 2.009 | 2.016 | 9.900 | 1.985 | 2.017 |
| #2 | .2517 | 9.808 | 1.927 | -.0074 | 1.935 | 1.999 | 2.004 | 9.873 | 1.980 | 2.008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.047 | 1.979 | 9.915 | 9.895 | 9.933 | 2.005 | 1.930 | 9.863 | 1.908 | 1.916 |
| Stddev | .002 | .009 | .030 | .062 | .001 | .001 | .003 | .025 | .008 | .005 |
| %RSD | .1176 | .4403 | .2994 | .6258 | .0137 | .0696 | .1642 | .2572 | .4055 | .2401 |
| #1 | 2.048 | 1.973 | 9.936 | 9.939 | 9.934 | 2.006 | 1.932 | 9.881 | 1.914 | 1.920 |
| #2 | 2.045 | 1.985 | 9.894 | 9.851 | 9.932 | 2.004 | 1.928 | 9.846 | 1.903 | 1.913 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0119 | -.0033 | 1.940 | 1.929 | -.0047 | 1.925 | 1.929 | 1.970 | 1.926 |
| Stddev | .0013 | .0027 | .0004 | .012 | .010 | .0008 | .006 | .005 | .001 | .006 |
| %RSD | 44.15 | 22.88 | 10.89 | .6173 | .5089 | 17.54 | .3097 | .2840 | .0633 | .3261 |
| #1 | .0040 | .0139 | -.0031 | 1.948 | 1.936 | -.0042 | 1.929 | 1.933 | 1.969 | 1.931 |
| #2 | .0021 | .0100 | -.0036 | 1.931 | 1.922 | -.0053 | 1.921 | 1.925 | 1.971 | 1.922 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.972 | -.0153 | 1.902 | -.0075 |
| Stddev | .000 | .0038 | .006 | .0000 |
| %RSD | .0047 | 24.80 | .3371 | .4008 |
| #1 | 1.972 | -.0127 | 1.906 | -.0075 |
| #2 | 1.972 | -.0180 | 1.897 | -.0075 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1214.9 | 40635. | 18243. |
| Stddev | 2.0 | 77. | 93. |
| %RSD | .16715 | .18879 | .51012 |
| #1 | 1213.5 | 40689. | 18177. |
| #2 | 1216.3 | 40581. | 18309. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 16:03:27 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0004 | -.0003 | .0013 | .0021 | .0001 | .0000 | .0013 | .0001 | .0001 |
| Stddev | .0000 | .0003 | .0022 | .0001 | .0002 | .0000 | .0000 | .0010 | .0000 | .0002 |
| %RSD | 3.920 | 59.48 | 735.0 | 9.609 | 9.333 | 65.53 | 14.76 | 78.18 | 39.98 | 197.6 |
| #1 | -.0004 | .0003 | .0013 | .0012 | .0019 | .0001 | .0000 | .0021 | .0001 | .0000 |
| #2 | -.0004 | .0006 | -.0018 | .0014 | .0022 | .0000 | .0001 | .0006 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0004 | -.0011 | -.0084 | -.0051 | .0000 | .0015 | -.0009 | .0002 | -.0008 |
| Stddev | .0013 | .0002 | .0014 | .0053 | .0024 | .0000 | .0001 | .0010 | .0000 | .0001 |
| %RSD | 179.0 | 37.13 | 135.1 | 63.19 | 47.75 | 10.14 | 6.722 | 118.0 | 2.168 | 6.651 |
| #1 | .0017 | .0003 | .0000 | -.0047 | -.0068 | .0000 | .0016 | -.0016 | .0002 | -.0009 |
| #2 | -.0002 | .0006 | -.0021 | -.0122 | -.0034 | .0000 | .0014 | -.0001 | .0002 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0019 | .0009 | .0008 | -.0020 | .0002 | -.0002 | .0000 | .0004 | .0019 |
| Stddev | .0006 | .0034 | .0007 | .0005 | .0009 | .0001 | .0000 | .0000 | .0002 | .0004 |
| %RSD | 60.38 | 179.4 | 71.96 | 57.80 | 46.61 | 43.76 | 3.506 | 154.0 | 63.52 | 24.00 |
| #1 | -.0013 | -.0005 | .0005 | .0005 | -.0014 | .0001 | -.0002 | .0000 | .0006 | .0015 |
| #2 | -.0005 | .0043 | .0014 | .0012 | -.0027 | .0003 | -.0002 | .0000 | .0002 | .0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | -.0058 | .0013 | -.0003 |
| Stddev | .0002 | .0025 | .0000 | .0002 |
| %RSD | 76.25 | 42.83 | 1.175 | 47.91 |
| #1 | .0001 | -.0076 | .0013 | -.0002 |
| #2 | .0004 | -.0041 | .0013 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.9 | 41218. | 17933. |
| Stddev | 5.9 | 49. | 66. |
| %RSD | .48596 | .12007 | .36800 |
| #1 | 1218.1 | 41183. | 17979. |
| #2 | 1209.7 | 41253. | 17886. |



Zoom In Zoom Out

Sample Name: MP21908-B1 Acquired: 10/29/2013 16:08:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2102 | 2.209 | .5600 | -.0034 | .0092 | 2.140 | .5401 | 26.27 | .5569 | .5384 |
| Stddev | .0026 | .016 | .0090 | .0011 | .0001 | .003 | .0015 | .02 | .0002 | .0032 |
| %RSD | 1.245 | .7188 | 1.605 | 31.08 | 1.059 | .1331 | .2852 | .0916 | .0275 | .5947 |
| #1 | .2083 | 2.220 | .5664 | -.0042 | .0091 | 2.142 | .5390 | 26.25 | .5571 | .5407 |
| #2 | .2120 | 2.198 | .5536 | -.0027 | .0092 | 2.138 | .5411 | 26.29 | .5568 | .5361 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5635 | .5216 | 2.153 | 26.56 | 26.33 | .5369 | .0035 | 26.08 | .5064 | 1.031 |
| Stddev | .0014 | .0083 | .021 | .01 | .06 | .0026 | .0010 | .05 | .0004 | .003 |
| %RSD | .2569 | 1.584 | .9626 | .0426 | .2429 | .4753 | 29.13 | .2075 | .0704 | .3203 |
| #1 | .5625 | .5157 | 2.139 | 26.55 | 26.28 | .5351 | .0042 | 26.12 | .5066 | 1.034 |
| #2 | .5646 | .5274 | 2.168 | 26.57 | 26.37 | .5387 | .0027 | 26.05 | .5061 | 1.029 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0083 | .0117 | .5278 | .5284 | .0336 | -.0039 | .5145 | .5256 | .5296 |
| Stddev | .0045 | .0275 | .0005 | .0023 | .0086 | .0009 | .0003 | .0001 | .0066 | .0017 |
| %RSD | 1346. | 333.5 | 4.190 | .4317 | 1.633 | 2.561 | 7.145 | .0167 | 1.252 | .3279 |
| #1 | -.0035 | -.0112 | .0121 | .5294 | .5345 | .0330 | -.0037 | .5144 | .5210 | .5284 |
| #2 | .0028 | .0277 | .0114 | .5262 | .5223 | .0342 | -.0041 | .5146 | .5303 | .5308 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5411 | .0042 | .5483 | -.0018 |
| Stddev | .0048 | .0196 | .0022 | .0022 |
| %RSD | .8957 | 466.4 | .4054 | 123.4 |
| #1 | .5376 | -.0097 | .5498 | -.0034 |
| #2 | .5445 | .0181 | .5467 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1209.8 | 41197. | 18032. |
| Stddev | 1.2 | 140. | 30. |
| %RSD | .10315 | .34026 | .16831 |
| #1 | 1208.9 | 41296. | 18010. |
| #2 | 1210.7 | 41098. | 18053. |



Zoom In Zoom Out

Sample Name: MP21908-S1 Acquired: 10/29/2013 16:13:15 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2100 | 2.174 | .5449 | -.0025 | .0112 | 2.112 | .5421 | 33.09 | .5471 | .5298 |
| Stddev | .0002 | .017 | .0087 | .0062 | .0011 | .010 | .0016 | .14 | .0052 | .0037 |
| %RSD | .1093 | .7915 | 1.591 | 246.3 | 9.718 | .4640 | .2936 | .4322 | .9573 | .6919 |
| #1 | .2098 | 2.161 | .5510 | -.0069 | .0105 | 2.105 | .5410 | 33.19 | .5508 | .5323 |
| #2 | .2101 | 2.186 | .5388 | .0019 | .0120 | 2.119 | .5432 | 32.98 | .5434 | .5272 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5631 | .5247 | 2.139 | 28.04 | 27.93 | .5387 | .0031 | 32.37 | .5002 | 1.014 |
| Stddev | .0004 | .0071 | .007 | .30 | .08 | .0005 | .0003 | .16 | .0042 | .003 |
| %RSD | .0684 | 1.352 | .3200 | 1.071 | .2947 | .0930 | 10.02 | .4946 | .8340 | .2919 |
| #1 | .5634 | .5197 | 2.134 | 27.83 | 27.99 | .5383 | .0029 | 32.26 | .5032 | 1.016 |
| #2 | .5629 | .5297 | 2.144 | 28.25 | 27.88 | .5390 | .0034 | 32.48 | .4973 | 1.012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0048 | .0003 | 2.156 | .5188 | .5162 | 8.269 | -.0017 | .5549 | .5206 | .5203 |
| Stddev | .0020 | .0153 | .012 | .0037 | .0121 | .043 | .0014 | .0023 | .0024 | .0020 |
| %RSD | 40.98 | 4767. | .5664 | .7129 | 2.353 | .5243 | 79.50 | .4164 | .4603 | .3882 |
| #1 | .0062 | .0111 | 2.164 | .5214 | .5076 | 8.300 | -.0008 | .5533 | .5189 | .5188 |
| #2 | .0034 | -.0105 | 2.147 | .5162 | .5248 | 8.238 | -.0027 | .5565 | .5223 | .5217 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5380 | -.0196 | .5442 | -.0448 |
| Stddev | .0025 | .0248 | .0041 | .0004 |
| %RSD | .4696 | 126.2 | .7491 | .9602 |
| #1 | .5398 | -.0371 | .5471 | -.0444 |
| #2 | .5362 | -.0021 | .5414 | -.0451 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1216.9 | 41157. | 18119. |
| Stddev | .1 | 29. | 106. |
| %RSD | .00762 | .07092 | .58583 |
| #1 | 1216.8 | 41137. | 18044. |
| #2 | 1216.9 | 41178. | 18194. |

Zoom In Zoom Out

Sample Name: MP21908-S2 Acquired: 10/29/2013 16:18:06 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2069 | 2.158 | .5434 | .0005 | .0100 | 2.081 | .5316 | 32.45 | .5409 | .5254 |
| Stddev | .0006 | .042 | .0063 | .0006 | .0015 | .001 | .0023 | .26 | .0019 | .0020 |
| %RSD | .3054 | 1.936 | 1.165 | 124.9 | 15.42 | .0522 | .4310 | .8101 | .3481 | .3807 |
| #1 | .2074 | 2.128 | .5389 | .0010 | .0111 | 2.081 | .5300 | 32.26 | .5423 | .5269 |
| #2 | .2065 | 2.187 | .5479 | .0001 | .0089 | 2.080 | .5332 | 32.63 | .5396 | .5240 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5529 | .5128 | 2.107 | 27.54 | 27.54 | .5277 | .0029 | 31.75 | .4952 | 1.006 |
| Stddev | .0044 | .0002 | .021 | .03 | .46 | .0058 | .0003 | .06 | .0023 | .004 |
| %RSD | .7935 | .0470 | .9731 | .1236 | 1.653 | 1.108 | 9.046 | .1928 | .4727 | .3899 |
| #1 | .5560 | .5126 | 2.092 | 27.52 | 27.22 | .5319 | .0027 | 31.79 | .4969 | 1.003 |
| #2 | .5498 | .5129 | 2.121 | 27.57 | 27.86 | .5236 | .0031 | 31.71 | .4936 | 1.009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0016 | .0010 | 2.086 | .5117 | .5104 | 8.009 | .0003 | .5463 | .5091 | .5093 |
| Stddev | .0098 | .0010 | .015 | .0080 | .0013 | .017 | .0032 | .0011 | .0113 | .0045 |
| %RSD | 617.4 | 101.9 | .7129 | 1.560 | .2629 | .2064 | 1106. | .2070 | 2.219 | .8932 |
| #1 | .0085 | .0003 | 2.097 | .5174 | .5094 | 7.997 | .0025 | .5471 | .5171 | .5126 |
| #2 | -.0054 | .0018 | 2.076 | .5061 | .5113 | 8.020 | -.0020 | .5455 | .5011 | .5061 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5274 | -.0023 | .5393 | -.0437 |
| Stddev | .0049 | .0007 | .0018 | .0017 |
| %RSD | .9228 | 32.28 | .3297 | 3.942 |
| #1 | .5308 | -.0028 | .5405 | -.0425 |
| #2 | .5239 | -.0017 | .5380 | -.0449 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1219.2 | 40935. | 17994. |
| Stddev | 2.4 | 94. | 182. |
| %RSD | .19835 | .22998 | 1.0136 |
| #1 | 1220.9 | 40869. | 18123. |
| #2 | 1217.5 | 41002. | 17865. |



Zoom In Zoom Out

Sample Name: MC25522-1F Acquired: 10/29/2013 16:22:58 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0120 | .6165 | -.0043 | .0705 | .0927 | .0001 | 22.20 | .0025 | .0040 |
| Stddev | .0001 | .0140 | .0014 | .0016 | .0001 | .0005 | .0000 | .05 | .0003 | .0000 |
| %RSD | 44.74 | 116.3 | .2315 | 38.05 | .1688 | .5546 | 70.27 | .2199 | 12.93 | .6036 |
| #1 | .0004 | -.0219 | .6175 | -.0055 | .0706 | .0923 | .0000 | 22.23 | .0023 | .0040 |
| #2 | .0002 | -.0021 | .6155 | -.0032 | .0704 | .0931 | .0001 | 22.16 | .0028 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0013 | 38.47 | 8.474 | 2.531 | 1.605 | .0014 | 22.08 | .0038 | -.0004 |
| Stddev | .0013 | .0013 | .03 | .020 | .010 | .000 | .0000 | .07 | .0007 | .0006 |
| %RSD | 60.21 | 96.36 | .0663 | .2333 | .4079 | .0201 | 2.088 | .2947 | 18.18 | 165.0 |
| #1 | .0012 | .0022 | 38.45 | 8.460 | 2.539 | 1.605 | .0015 | 22.04 | .0033 | .0001 |
| #2 | .0031 | .0004 | 38.49 | 8.488 | 2.524 | 1.604 | .0014 | 22.13 | .0043 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0177 | 7.456 | .0008 | .0020 | 10.81 | .0017 | .2682 | -.0001 | -.0004 |
| Stddev | .0002 | .0007 | .008 | .0002 | .0013 | .03 | .0005 | .0008 | .0003 | .0002 |
| %RSD | 11.77 | 4.175 | .1124 | 19.45 | 63.87 | .2530 | 27.21 | .2895 | 234.6 | 47.92 |
| #1 | .0016 | .0172 | 7.462 | .0007 | .0011 | 10.80 | .0013 | .2676 | -.0003 | -.0005 |
| #2 | .0014 | .0182 | 7.450 | .0009 | .0029 | 10.83 | .0020 | .2687 | .0001 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0018 | -.0048 | .0075 | -.0607 |
| Stddev | .0008 | .0090 | .0002 | .0000 |
| %RSD | 46.69 | 186.2 | 2.047 | .0586 |
| #1 | .0012 | .0015 | .0074 | -.0607 |
| #2 | .0024 | -.0111 | .0076 | -.0607 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.3 | 40941. | 17940. |
| Stddev | 2.5 | 62. | 99. |
| %RSD | .20825 | .15125 | .55428 |
| #1 | 1208.5 | 40897. | 17870. |
| #2 | 1212.0 | 40984. | 18010. |



Zoom In Zoom Out

Sample Name: MC25522-2F Acquired: 10/29/2013 16:27:52 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0120 | .6185 | -.0054 | .0725 | .0927 | .0001 | 22.24 | .0027 | .0040 |
| Stddev | .0002 | .0014 | .0016 | .0004 | .0000 | .0005 | .0000 | .18 | .0003 | .0002 |
| %RSD | 36.95 | 11.55 | .2667 | 8.109 | .0541 | .5232 | 32.55 | .8234 | 9.735 | 6.100 |
| #1 | -.0004 | -.0130 | .6197 | -.0057 | .0725 | .0930 | .0002 | 22.11 | .0025 | .0041 |
| #2 | -.0007 | -.0110 | .6174 | -.0051 | .0725 | .0923 | .0001 | 22.37 | .0029 | .0038 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | 38.89 | 8.489 | 2.622 | 1.607 | .0014 | 22.20 | .0044 | -.0032 |
| Stddev | .0002 | .0001 | .26 | .007 | .050 | .004 | .0003 | .06 | .0005 | .0018 |
| %RSD | 78.28 | 34.10 | .6695 | .0852 | 1.905 | .2759 | 24.68 | .2597 | 12.22 | 56.89 |
| #1 | .0003 | .0003 | 38.70 | 8.484 | 2.586 | 1.604 | .0016 | 22.16 | .0047 | -.0044 |
| #2 | .0001 | .0002 | 39.07 | 8.494 | 2.657 | 1.610 | .0012 | 22.25 | .0040 | -.0019 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0044 | .0059 | 7.481 | .0015 | .0000 | 10.82 | -.0011 | .2700 | .0005 | .0002 |
| Stddev | .0005 | .0027 | .028 | .0015 | .001 | .03 | .0017 | .0006 | .0001 | .0023 |
| %RSD | 11.85 | 45.25 | .3712 | 101.2 | 2506. | .2492 | 159.0 | .2100 | 18.96 | 982.3 |
| #1 | .0047 | .0078 | 7.501 | .0004 | -.0006 | 10.84 | -.0022 | .2696 | .0005 | -.0014 |
| #2 | .0040 | .0040 | 7.462 | .0026 | .0005 | 10.80 | .0001 | .2704 | .0006 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | -.0081 | .0059 | -.0598 |
| Stddev | .0002 | .0070 | .0001 | .0010 |
| %RSD | 13.42 | 86.44 | 2.381 | 1.609 |
| #1 | .0017 | -.0130 | .0060 | -.0605 |
| #2 | .0014 | -.0031 | .0058 | -.0591 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1204.7 | 40959. | 17941. |
| Stddev | 8.8 | 64. | 179. |
| %RSD | .72757 | .15722 | 1.0001 |
| #1 | 1198.5 | 41005. | 18068. |
| #2 | 1210.9 | 40913. | 17814. |



Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/29/2013 16:32:47 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0919 | 1.623 | -.0317 | .1602 | .0414 | .0000 | 74.70 | .0077 | .0140 |
| Stddev | .0003 | .0028 | .007 | .0016 | .0003 | .0002 | .000 | .20 | .0001 | .0004 |
| %RSD | 179.9 | 3.096 | .4549 | 5.207 | .1733 | .4037 | 190.2 | .2743 | .6743 | 2.627 |
| #1 | -.0003 | -.0939 | 1.628 | -.0305 | .1604 | .0412 | .0000 | 74.55 | .0077 | .0143 |
| #2 | .0000 | -.0899 | 1.618 | -.0328 | .1600 | .0415 | .0000 | 74.84 | .0076 | .0137 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0016 | 24.73 | 8.146 | 11.87 | 9.753 | .0028 | 24.02 | .0073 | -.0027 |
| Stddev | .0030 | .0000 | .08 | .053 | .04 | .021 | .0009 | .03 | .0007 | .0004 |
| %RSD | 357.7 | 1.355 | .3039 | .6562 | .3412 | .2186 | 34.01 | .1192 | 9.123 | 16.24 |
| #1 | -.0013 | .0015 | 24.68 | 8.108 | 11.84 | 9.738 | .0034 | 24.00 | .0077 | -.0024 |
| #2 | .0029 | .0016 | 24.78 | 8.184 | 11.90 | 9.768 | .0021 | 24.04 | .0068 | -.0030 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0539 | 1.651 | .0035 | .0017 | 12.65 | .0001 | .7413 | .0011 | -.0017 |
| Stddev | .0019 | .0096 | .003 | .0001 | .0004 | .00 | .0002 | .0008 | .0006 | .0025 |
| %RSD | 405.3 | 17.91 | .1970 | 4.038 | 21.67 | .0030 | 140.0 | .1029 | 59.82 | 146.6 |
| #1 | .0018 | .0607 | 1.653 | .0034 | .0014 | 12.65 | .0000 | .7418 | .0006 | .0001 |
| #2 | -.0009 | .0470 | 1.649 | .0036 | .0019 | 12.65 | .0003 | .7408 | .0015 | -.0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0022 | .0132 | -.0683 |
| Stddev | .0001 | .0229 | .0002 | .0009 |
| %RSD | 22.07 | 1030. | 1.570 | 1.330 |
| #1 | .0004 | .0140 | .0134 | -.0689 |
| #2 | .0005 | -.0184 | .0131 | -.0676 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1189.8 | 40817. | 18061. |
| Stddev | 1.0 | 103. | 80. |
| %RSD | .08304 | .25158 | .44421 |
| #1 | 1190.5 | 40890. | 18118. |
| #2 | 1189.1 | 40744. | 18004. |

Zoom In Zoom Out

Sample Name: MC25522-3F Acquired: 10/29/2013 16:37:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0808 | 1.635 | -.0371 | .1624 | .0426 | .0000 | 76.54 | .0077 | .0130 |
| Stddev | .0003 | .0075 | .024 | .0000 | .0017 | .0006 | .0002 | .35 | .0007 | .0010 |
| %RSD | 42.00 | 9.303 | 1.487 | .0550 | 1.075 | 1.471 | 548.5 | .4598 | 9.773 | 7.787 |
| #1 | -.0005 | -.0862 | 1.652 | -.0371 | .1636 | .0421 | .0002 | 76.79 | .0082 | .0137 |
| #2 | -.0009 | -.0755 | 1.617 | -.0371 | .1612 | .0430 | -.0001 | 76.29 | .0071 | .0123 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0068 | .0025 | 26.08 | 8.365 | 12.29 | 9.984 | .0030 | 24.38 | .0079 | -.0026 |
| Stddev | .0019 | .0009 | .07 | .044 | .04 | .003 | .0001 | .12 | .0005 | .0019 |
| %RSD | 27.38 | 34.32 | .2512 | .5238 | .2996 | .0339 | 2.512 | .4963 | 5.715 | 74.14 |
| #1 | .0055 | .0032 | 26.03 | 8.334 | 12.31 | 9.981 | .0029 | 24.29 | .0076 | -.0012 |
| #2 | .0082 | .0019 | 26.12 | 8.396 | 12.26 | 9.986 | .0030 | 24.46 | .0082 | -.0039 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0055 | .0765 | 1.673 | .0039 | .0047 | 12.75 | -.0035 | .7519 | .0009 | .0015 |
| Stddev | .0021 | .0043 | .013 | .0004 | .0017 | .05 | .0007 | .0040 | .0001 | .0020 |
| %RSD | 38.88 | 5.661 | .7974 | 10.46 | 35.49 | .3710 | 19.83 | .5274 | 8.326 | 135.3 |
| #1 | .0040 | .0734 | 1.683 | .0036 | .0059 | 12.78 | -.0040 | .7491 | .0009 | .0001 |
| #2 | .0070 | .0795 | 1.664 | .0042 | .0035 | 12.72 | -.0030 | .7547 | .0010 | .0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0027 | -.0452 | .0181 | -.0679 |
| Stddev | .0021 | .0206 | .0010 | .0019 |
| %RSD | 76.99 | 45.45 | 5.618 | 2.825 |
| #1 | -.0012 | -.0598 | .0189 | -.0666 |
| #2 | -.0042 | -.0307 | .0174 | -.0693 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.1 | 41312. | 18008. |
| Stddev | 2.1 | 59. | 127. |
| %RSD | .17674 | .14236 | .70433 |
| #1 | 1211.6 | 41270. | 17918. |
| #2 | 1214.6 | 41353. | 18098. |



Zoom In Zoom Out

Sample Name: MC25522-4F Acquired: 10/29/2013 16:42:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0448 | 2.560 | -.0333 | .0871 | .0671 | .0002 | 89.54 | .0120 | .0044 |
| Stddev | .0057 | .0868 | .019 | .0072 | .0004 | .0002 | .0004 | .64 | .0008 | .0004 |
| %RSD | 568.3 | 194.0 | .7435 | 21.47 | .4440 | .2819 | 178.8 | .7147 | 6.887 | 10.21 |
| #1 | -.0050 | -.1062 | 2.573 | -.0384 | .0868 | .0670 | .0004 | 90.00 | .0126 | .0041 |
| #2 | .0030 | .0166 | 2.546 | -.0283 | .0874 | .0672 | -.0001 | 89.09 | .0114 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0013 | 7.957 | 4.835 | 12.12 | 8.568 | .0074 | 18.30 | .0062 | -.0056 |
| Stddev | .0006 | .0037 | .039 | .057 | .23 | .003 | .0026 | .01 | .0027 | .0122 |
| %RSD | 7370. | 290.0 | .4832 | 1.183 | 1.869 | .0303 | 35.61 | .0277 | 44.29 | 215.8 |
| #1 | .0004 | -.0013 | 7.985 | 4.875 | 11.96 | 8.570 | .0092 | 18.30 | .0081 | -.0143 |
| #2 | -.0004 | .0039 | 7.930 | 4.794 | 12.28 | 8.566 | .0055 | 18.29 | .0042 | .0030 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0107 | .0446 | 3.869 | .0047 | -.0093 | 12.41 | .0028 | .4482 | .0023 | .0093 |
| Stddev | .0034 | .0392 | .016 | .0010 | .0114 | .00 | .0000 | .0008 | .0023 | .0034 |
| %RSD | 31.57 | 87.70 | .4086 | 20.34 | 123.1 | .0033 | .7749 | .1834 | 100.8 | 36.33 |
| #1 | .0083 | .0170 | 3.880 | .0040 | -.0173 | 12.42 | .0028 | .4488 | .0040 | .0117 |
| #2 | .0131 | .0723 | 3.858 | .0054 | -.0012 | 12.41 | .0028 | .4476 | .0007 | .0069 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0018 | .0464 | .0157 | -.0722 |
| Stddev | .0030 | .0128 | .0015 | .0038 |
| %RSD | 163.0 | 27.46 | 9.881 | 5.280 |
| #1 | -.0003 | .0374 | .0168 | -.0749 |
| #2 | .0040 | .0554 | .0146 | -.0695 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1220.7 | 41543. | 18069. |
| Stddev | 1.8 | 55. | 140. |
| %RSD | .14536 | .13211 | .77229 |
| #1 | 1221.9 | 41582. | 17970. |
| #2 | 1219.4 | 41504. | 18167. |



Zoom In Zoom Out

Sample Name: MC25522-5F Acquired: 10/29/2013 16:47:33 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0039 | -.0022 | .0040 | .0142 | .0180 | .0002 | 11.74 | -.0005 | -.0005 |
| Stddev | .0010 | .0179 | .0003 | .0007 | .0011 | .0004 | .0001 | .00 | .0005 | .0002 |
| %RSD | 57.74 | 453.6 | 14.03 | 17.77 | 7.667 | 2.304 | 63.07 | .0391 | 107.7 | 31.37 |
| #1 | -.0024 | .0166 | -.0020 | .0035 | .0134 | .0182 | .0002 | 11.73 | -.0008 | -.0004 |
| #2 | -.0010 | -.0087 | -.0024 | .0045 | .0150 | .0177 | .0001 | 11.74 | -.0001 | -.0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0016 | .0484 | 1.355 | 2.251 | .0302 | .0011 | 40.12 | .0003 | .0004 |
| Stddev | .0091 | .0012 | .0119 | .025 | .057 | .0000 | .0001 | .01 | .0016 | .0025 |
| %RSD | 541.6 | 73.45 | 24.63 | 1.846 | 2.516 | .1632 | 11.41 | .0238 | 517.6 | 568.1 |
| #1 | -.0047 | .0024 | .0399 | 1.337 | 2.211 | .0302 | .0012 | 40.13 | -.0008 | .0022 |
| #2 | .0081 | .0008 | .0568 | 1.373 | 2.291 | .0301 | .0010 | 40.11 | .0015 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | -.0148 | 2.735 | .0033 | -.0029 | 2.835 | -.0020 | .0777 | .0009 | .0007 |
| Stddev | .0081 | .0347 | .002 | .0002 | .0046 | .013 | .0038 | .0003 | .0024 | .0007 |
| %RSD | 284.0 | 234.7 | .0642 | 7.118 | 158.4 | .4468 | 191.8 | .3365 | 262.0 | 87.25 |
| #1 | .0086 | .0098 | 2.734 | .0031 | .0003 | 2.826 | .0007 | .0775 | .0026 | .0003 |
| #2 | -.0029 | -.0394 | 2.736 | .0035 | -.0062 | 2.844 | -.0046 | .0778 | -.0008 | .0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0038 | .0060 | -.0145 |
| Stddev | .0027 | .0064 | .0010 | .0031 |
| %RSD | 1988. | 169.6 | 16.04 | 21.28 |
| #1 | -.0018 | .0007 | .0053 | -.0123 |
| #2 | .0021 | -.0083 | .0067 | -.0167 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.4 | 41135. | 17849. |
| Stddev | 1.1 | 396. | 44. |
| %RSD | .08669 | .96385 | .24878 |
| #1 | 1222.2 | 40854. | 17817. |
| #2 | 1220.7 | 41415. | 17880. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/29/2013 16:52:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.1112 | .0063 | -.0436 | .2725 | .0504 | .0002 | 64.13 | .0003 | .0037 |
| Stddev | .0007 | .0014 | .0042 | .0026 | .0020 | .0004 | .0001 | .01 | .0001 | .0001 |
| %RSD | 326.5 | 1.284 | 65.53 | 5.945 | .7366 | .8231 | 59.95 | .0228 | 39.24 | 2.504 |
| #1 | .0007 | -.1101 | .0093 | -.0455 | .2710 | .0501 | .0001 | 64.12 | .0004 | .0038 |
| #2 | -.0003 | -.1122 | .0034 | -.0418 | .2739 | .0507 | .0002 | 64.14 | .0002 | .0037 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0010 | .7064 | 17.83 | 10.17 | 12.35 | .0008 | 32.32 | .0045 | -.0040 |
| Stddev | .0013 | .0005 | .0198 | .06 | .04 | .03 | .0001 | .05 | .0008 | .0026 |
| %RSD | 237.8 | 55.37 | 2.798 | .3609 | .3884 | .2393 | 11.74 | .1505 | 18.29 | 65.81 |
| #1 | -.0004 | .0014 | .6924 | 17.78 | 10.19 | 12.37 | .0007 | 32.36 | .0039 | -.0021 |
| #2 | .0014 | .0006 | .7204 | 17.87 | 10.14 | 12.33 | .0008 | 32.29 | .0051 | -.0058 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0852 | 1.188 | .0023 | .0000 | 7.340 | -.0019 | 1.209 | .0023 | -.0013 |
| Stddev | .0005 | .0077 | .006 | .0020 | .003 | .000 | .0017 | .001 | .0007 | .0011 |
| %RSD | 72.09 | 9.011 | .4823 | 86.30 | 16050. | .0011 | 94.20 | .0526 | 31.24 | 82.23 |
| #1 | -.0011 | .0797 | 1.192 | .0037 | .0021 | 7.340 | -.0006 | 1.209 | .0028 | -.0021 |
| #2 | -.0004 | .0906 | 1.184 | .0009 | -.0021 | 7.340 | -.0031 | 1.208 | .0018 | -.0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0010 | -.0055 | .0172 | -.0396 |
| Stddev | .0014 | .0128 | .0002 | .0002 |
| %RSD | 147.4 | 232.2 | 1.284 | .5247 |
| #1 | .0000 | .0035 | .0170 | -.0394 |
| #2 | -.0020 | -.0145 | .0173 | -.0397 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.5 | 40873. | 17932. |
| Stddev | 7.8 | 18. | 29. |
| %RSD | .64026 | .04293 | .16297 |
| #1 | 1206.0 | 40885. | 17911. |
| #2 | 1216.9 | 40860. | 17952. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 16:57:24 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2552 | 9.870 | 1.922 | -.0080 | 1.938 | 2.003 | 2.024 | 9.954 | 1.982 | 2.010 |
| Stddev | .0010 | .043 | .014 | .0007 | .005 | .004 | .009 | .079 | .001 | .004 |
| %RSD | .3790 | .4346 | .7384 | 8.982 | .2634 | .2003 | .4584 | .7977 | .0481 | .1958 |
| #1 | .2559 | 9.839 | 1.912 | -.0085 | 1.935 | 2.001 | 2.017 | 9.897 | 1.982 | 2.007 |
| #2 | .2545 | 9.900 | 1.932 | -.0074 | 1.942 | 2.006 | 2.030 | 10.01 | 1.983 | 2.013 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.073 | 1.992 | 9.934 | 9.933 | 10.03 | 2.009 | 1.925 | 9.875 | 1.899 | 1.912 |
| Stddev | .011 | .012 | .053 | .043 | .12 | .007 | .006 | .020 | .004 | .005 |
| %RSD | .5451 | .6172 | .5383 | .4375 | 1.220 | .3667 | .3194 | .1984 | .2284 | .2464 |
| #1 | 2.081 | 2.001 | 9.896 | 9.902 | 9.943 | 2.014 | 1.921 | 9.861 | 1.896 | 1.909 |
| #2 | 2.065 | 1.983 | 9.972 | 9.963 | 10.12 | 2.004 | 1.930 | 9.889 | 1.902 | 1.915 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0094 | -.0046 | 1.927 | 1.921 | -.0072 | 1.913 | 1.941 | 1.977 | 1.925 |
| Stddev | .0007 | .0007 | .0025 | .002 | .008 | .0007 | .006 | .010 | .008 | .009 |
| %RSD | 38.12 | 7.569 | 53.12 | .0884 | .4076 | 9.539 | .3056 | .5168 | .3853 | .4679 |
| #1 | .0023 | .0099 | -.0064 | 1.926 | 1.915 | -.0077 | 1.909 | 1.934 | 1.982 | 1.919 |
| #2 | .0013 | .0089 | -.0029 | 1.929 | 1.926 | -.0067 | 1.917 | 1.948 | 1.971 | 1.932 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.984 | -.0157 | 1.903 | -.0070 |
| Stddev | .011 | .0065 | .006 | .0002 |
| %RSD | .5717 | 41.39 | .3430 | 3.037 |
| #1 | 1.992 | -.0111 | 1.898 | -.0071 |
| #2 | 1.976 | -.0203 | 1.907 | -.0068 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.0 | 40355. | 18067. |
| Stddev | 4.2 | 86. | 156. |
| %RSD | .33991 | .21227 | .86094 |
| #1 | 1224.1 | 40294. | 18177. |
| #2 | 1230.0 | 40415. | 17957. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 17:08:38 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0005 | -.0013 | -.0001 | .0007 | -.0002 | .0001 | .0029 | .0000 | -.0001 |
| Stddev | .0002 | .0001 | .0003 | .0005 | .0001 | .0001 | .0001 | .0019 | .0001 | .0001 |
| %RSD | 594.4 | 19.29 | 26.37 | 689.9 | 17.17 | 50.61 | 139.3 | 65.33 | 724.1 | 192.6 |
| #1 | -.0001 | -.0004 | -.0011 | -.0005 | .0006 | -.0001 | .0000 | .0016 | .0001 | -.0001 |
| #2 | .0002 | -.0006 | -.0015 | .0003 | .0008 | -.0002 | .0001 | .0043 | .0000 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0001 | .0006 | .0192 | .0088 | .0001 | .0007 | .0075 | -.0001 | -.0001 |
| Stddev | .0001 | .0000 | .0001 | .0222 | .0048 | .0000 | .0002 | .0016 | .0002 | .0002 |
| %RSD | 27.58 | 1.215 | 11.57 | 115.7 | 54.85 | 4.183 | 23.80 | 21.92 | 180.2 | 397.9 |
| #1 | .0002 | .0001 | .0006 | .0035 | .0054 | .0001 | .0006 | .0087 | -.0002 | -.0002 |
| #2 | .0004 | .0001 | .0007 | .0349 | .0122 | .0001 | .0008 | .0063 | .0000 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0029 | .0009 | .0006 | -.0004 | .0006 | -.0009 | .0000 | .0004 | .0010 |
| Stddev | .0005 | .0023 | .0001 | .0005 | .0012 | .0010 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 39.91 | 79.43 | 11.27 | 87.24 | 290.5 | 164.4 | 41.80 | 34.03 | 32.31 | 47.16 |
| #1 | .0016 | -.0013 | .0008 | .0002 | .0004 | .0013 | -.0011 | .0000 | .0005 | .0007 |
| #2 | .0009 | -.0046 | .0010 | .0009 | -.0013 | -.0001 | -.0006 | .0000 | .0003 | .0013 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0006 | -.0003 | -.0006 |
| Stddev | .0003 | .0029 | .0003 | .0004 |
| %RSD | 227.3 | 493.9 | 106.5 | 70.59 |
| #1 | -.0001 | -.0027 | -.0005 | -.0003 |
| #2 | .0003 | .0015 | -.0001 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.6 | 41502. | 17877. |
| Stddev | 2.9 | 154. | 80. |
| %RSD | .23638 | .36989 | .44713 |
| #1 | 1208.5 | 41393. | 17820. |
| #2 | 1212.6 | 41611. | 17933. |



Zoom In Zoom Out

Sample Name: MC25522-7F Acquired: 10/29/2013 17:13:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0988 | .0049 | -.0395 | .2878 | .0507 | .0003 | 67.25 | .0001 | .0046 |
| Stddev | .0023 | .0387 | .0047 | .0116 | .0034 | .0003 | .0002 | .20 | .0011 | .0009 |
| %RSD | 412.7 | 39.17 | 94.80 | 29.37 | 1.167 | .6903 | 74.84 | .2958 | 734.2 | 18.57 |
| #1 | .0011 | -.1261 | .0016 | -.0477 | .2901 | .0504 | .0002 | 67.39 | .0009 | .0052 |
| #2 | -.0022 | -.0714 | .0082 | -.0313 | .2854 | .0509 | .0005 | 67.11 | -.0006 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0018 | .0092 | .6405 | 18.55 | 10.51 | 12.92 | .0047 | 33.59 | .0027 | -.0060 |
| Stddev | .0091 | .0023 | .0054 | .21 | .10 | .13 | .0004 | .03 | .0003 | .0027 |
| %RSD | 503.7 | 24.73 | .8482 | 1.125 | .9148 | 1.017 | 9.228 | .0948 | 9.398 | 44.64 |
| #1 | -.0083 | .0076 | .6367 | 18.70 | 10.58 | 13.02 | .0050 | 33.57 | .0025 | -.0079 |
| #2 | .0046 | .0108 | .6443 | 18.40 | 10.45 | 12.83 | .0044 | 33.61 | .0029 | -.0041 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .1006 | 1.239 | .0045 | -.0173 | 7.670 | .0031 | 1.248 | .0028 | .0050 |
| Stddev | .0082 | .0538 | .021 | .0088 | .0129 | .022 | .0006 | .002 | .0003 | .0091 |
| %RSD | 323.2 | 53.48 | 1.681 | 196.4 | 74.61 | .2916 | 18.88 | .1425 | 11.21 | 180.2 |
| #1 | .0032 | .1387 | 1.224 | .0107 | -.0082 | 7.686 | .0027 | 1.249 | .0026 | -.0014 |
| #2 | -.0083 | .0626 | 1.254 | -.0017 | -.0264 | 7.654 | .0035 | 1.247 | .0031 | .0114 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | -.0912 | .0866 | -.0393 |
| Stddev | .0110 | .0068 | .0056 | .0003 |
| %RSD | 1251. | 7.458 | 6.519 | .7890 |
| #1 | -.0087 | -.0864 | .0906 | -.0390 |
| #2 | .0069 | -.0960 | .0826 | -.0395 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.0 | 40851. | 17983. |
| Stddev | 3.3 | 212. | 72. |
| %RSD | .27664 | .51787 | .40017 |
| #1 | 1204.6 | 40701. | 17933. |
| #2 | 1209.3 | 41001. | 18034. |



Zoom In Zoom Out

Sample Name: MC25522-8F Acquired: 10/29/2013 17:18:35 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0353 | .7308 | -.0093 | .0828 | .1340 | .0001 | 45.01 | .0035 | .0056 |
| Stddev | .0010 | .0116 | .0005 | .0011 | .0019 | .0005 | .0000 | .12 | .0003 | .0005 |
| %RSD | 308.8 | 32.81 | .0624 | 11.90 | 2.304 | .3604 | 47.56 | .2614 | 7.943 | 8.816 |
| #1 | .0004 | -.0271 | .7311 | -.0101 | .0815 | .1343 | .0001 | 45.09 | .0037 | .0059 |
| #2 | -.0011 | -.0435 | .7304 | -.0085 | .0842 | .1336 | .0000 | 44.92 | .0033 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0015 | 27.56 | 8.662 | 6.114 | 3.744 | .0023 | 27.28 | .0096 | -.0035 |
| Stddev | .0014 | .0016 | .01 | .090 | .037 | .001 | .0007 | .04 | .0003 | .0019 |
| %RSD | 59.69 | 109.0 | .0415 | 1.035 | .6049 | .0235 | 30.84 | .1533 | 2.797 | 53.83 |
| #1 | .0013 | .0003 | 27.55 | 8.726 | 6.140 | 3.743 | .0028 | 27.31 | .0094 | -.0049 |
| #2 | .0033 | .0027 | 27.57 | 8.599 | 6.088 | 3.744 | .0018 | 27.25 | .0098 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0031 | .0284 | 6.684 | .0032 | -.0018 | 14.11 | -.0010 | .4852 | .0013 | .0027 |
| Stddev | .0038 | .0086 | .026 | .0000 | .0048 | .02 | .0004 | .0007 | .0012 | .0028 |
| %RSD | 123.8 | 30.37 | .3860 | .6491 | 260.9 | .1727 | 37.43 | .1381 | 89.49 | 101.7 |
| #1 | .0058 | .0345 | 6.665 | .0032 | -.0052 | 14.09 | -.0013 | .4856 | .0005 | .0047 |
| #2 | .0004 | .0223 | 6.702 | .0032 | .0015 | 14.12 | -.0008 | .4847 | .0022 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0060 | .0074 | -.0784 |
| Stddev | .0022 | .0066 | .0005 | .0003 |
| %RSD | 277.9 | 111.0 | 7.313 | .4150 |
| #1 | .0024 | -.0013 | .0078 | -.0786 |
| #2 | -.0008 | -.0107 | .0071 | -.0781 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1196.7 | 41017. | 17988. |
| Stddev | .1 | 88. | 63. |
| %RSD | .00487 | .21540 | .34768 |
| #1 | 1196.8 | 41080. | 17944. |
| #2 | 1196.7 | 40955. | 18033. |

Zoom In Zoom Out

Sample Name: MC25522-9F Acquired: 10/29/2013 17:23:29 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0043 | .0402 | .0058 | .3527 | .4698 | -.0002 | 162.0 | -.0009 | -.0006 |
| Stddev | .0038 | .0322 | .0121 | .0028 | .0028 | .0023 | .0001 | .8 | .0009 | .0005 |
| %RSD | 314.5 | 752.9 | 30.19 | 48.17 | .7964 | .4946 | 74.40 | .4828 | 101.3 | 76.11 |
| #1 | .0015 | -.0185 | .0316 | .0078 | .3547 | .4715 | -.0001 | 162.6 | -.0015 | -.0003 |
| #2 | -.0039 | .0271 | .0488 | .0038 | .3507 | .4682 | -.0002 | 161.5 | -.0002 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0032 | 75.38 | 16.65 | 15.48 | .5002 | .0010 | 16.40 | .0016 | .0032 |
| Stddev | .0100 | .0007 | .59 | .01 | .19 | .0017 | .0002 | .09 | .0013 | .0062 |
| %RSD | 760.3 | 20.92 | .7831 | .0488 | 1.225 | .3415 | 18.48 | .5268 | 85.87 | 195.7 |
| #1 | -.0084 | .0027 | 74.96 | 16.66 | 15.62 | .4990 | .0012 | 16.34 | .0025 | .0075 |
| #2 | .0058 | .0037 | 75.80 | 16.65 | 15.35 | .5014 | .0009 | 16.46 | .0006 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | -.0194 | .3701 | .0083 | -.0228 | 14.78 | .0018 | 1.129 | .0012 | .0003 |
| Stddev | .0037 | .0683 | .0018 | .0033 | .0000 | .02 | .0036 | .004 | .0035 | .0021 |
| %RSD | 79.90 | 351.4 | .4799 | 39.74 | .1905 | .1187 | 204.5 | .3863 | 304.1 | 683.9 |
| #1 | .0072 | -.0678 | .3688 | .0106 | -.0228 | 14.79 | .0044 | 1.132 | -.0013 | .0018 |
| #2 | .0020 | .0289 | .3713 | .0060 | -.0228 | 14.77 | -.0008 | 1.125 | .0036 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0081 | -.0397 | .0381 | -.0836 |
| Stddev | .0046 | .0061 | .0011 | .0003 |
| %RSD | 57.12 | 15.28 | 2.866 | .3408 |
| #1 | .0048 | -.0354 | .0388 | -.0834 |
| #2 | .0114 | -.0440 | .0373 | -.0838 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1198.7 | 41201. | 17947. |
| Stddev | 1.1 | 55. | 100. |
| %RSD | .09462 | .13445 | .55518 |
| #1 | 1199.5 | 41161. | 17877. |
| #2 | 1197.9 | 41240. | 18018. |



Zoom In Zoom Out

Sample Name: MC25522-13F Acquired: 10/29/2013 17:28:26 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0035 | .0356 | -.0035 | .0186 | .0500 | .0001 | 27.01 | .0004 | .0071 |
| Stddev | .0008 | .0109 | .0008 | .0002 | .0012 | .0001 | .0001 | .05 | .0000 | .0003 |
| %RSD | 175.0 | 309.7 | 2.224 | 5.669 | 6.201 | .2663 | 80.16 | .1680 | 10.39 | 4.492 |
| #1 | -.0010 | -.0042 | .0362 | -.0037 | .0194 | .0499 | .0000 | 27.05 | .0004 | .0073 |
| #2 | .0001 | .0113 | .0351 | -.0034 | .0178 | .0501 | .0001 | 26.98 | .0004 | .0068 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0012 | 6.549 | 6.587 | 3.394 | .4428 | .0008 | 12.36 | .0036 | -.0014 |
| Stddev | .0023 | .0010 | .029 | .073 | .015 | .0009 | .0002 | .00 | .0004 | .0001 |
| %RSD | 1278. | 80.45 | .4509 | 1.109 | .4302 | .2019 | 27.96 | .0100 | 10.55 | 8.414 |
| #1 | .0015 | .0005 | 6.570 | 6.638 | 3.404 | .4421 | .0006 | 12.36 | .0039 | -.0015 |
| #2 | -.0018 | .0019 | 6.529 | 6.535 | 3.383 | .4434 | .0010 | 12.36 | .0034 | -.0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0007 | 3.536 | .0032 | -.0009 | 4.250 | -.0015 | .1098 | -.0001 | .0005 |
| Stddev | .0008 | .0019 | .007 | .0015 | .0008 | .016 | .0008 | .0003 | .0013 | .0014 |
| %RSD | 56.86 | 264.5 | .1877 | 45.91 | 90.31 | .3721 | 50.44 | .2656 | 957.9 | 254.5 |
| #1 | .0021 | -.0006 | 3.540 | .0022 | -.0015 | 4.261 | -.0010 | .1100 | .0008 | -.0004 |
| #2 | .0009 | .0021 | 3.531 | .0043 | -.0003 | 4.239 | -.0020 | .1096 | -.0011 | .0015 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0013 | .0082 | -.0241 |
| Stddev | .000 | .0022 | .0001 | .0014 |
| %RSD | 450.7 | 170.7 | 1.328 | 6.021 |
| #1 | .0001 | .0029 | .0081 | -.0251 |
| #2 | -.0001 | -.0003 | .0083 | -.0230 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1197.7 | 41027. | 17961. |
| Stddev | 2.4 | 295. | 82. |
| %RSD | .20450 | .71994 | .45616 |
| #1 | 1196.0 | 41236. | 17903. |
| #2 | 1199.5 | 40818. | 18019. |



Zoom In Zoom Out

Sample Name: MC25522-14F Acquired: 10/29/2013 17:33:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0309 | 2.688 | -.0246 | .0071 | .0120 | .0001 | 10.42 | .0122 | .0054 |
| Stddev | .0002 | .0094 | .006 | .0042 | .0021 | .0000 | .0001 | .02 | .0004 | .0012 |
| %RSD | 19.53 | 30.55 | .2382 | 17.04 | 29.68 | .2474 | 51.22 | .1625 | 3.169 | 22.25 |
| #1 | -.0011 | -.0242 | 2.693 | -.0276 | .0086 | .0121 | .0001 | 10.41 | .0124 | .0062 |
| #2 | -.0008 | -.0375 | 2.684 | -.0216 | .0056 | .0120 | .0002 | 10.44 | .0119 | .0045 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0009 | 43.33 | .6990 | .9341 | 6.427 | .0007 | 2.620 | .0051 | -.0018 |
| Stddev | .0015 | .0016 | .15 | .0087 | .0418 | .024 | .0000 | .006 | .0021 | .0010 |
| %RSD | 1496. | 188.1 | .3510 | 1.244 | 4.475 | .3690 | 4.610 | .2181 | 41.28 | 55.72 |
| #1 | -.0010 | .0020 | 43.22 | .7052 | .9045 | 6.444 | .0006 | 2.616 | .0036 | -.0011 |
| #2 | .0012 | -.0003 | 43.43 | .6929 | .9637 | 6.410 | .0007 | 2.624 | .0066 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0073 | .0434 | 1.989 | -.0009 | .0026 | 5.943 | .0004 | .0600 | .0012 | .0005 |
| Stddev | .0078 | .0056 | .011 | .0024 | .0004 | .012 | .0020 | .0006 | .0010 | .0063 |
| %RSD | 107.0 | 12.82 | .5554 | 268.5 | 15.30 | .1958 | 493.3 | 1.073 | 89.57 | 1183. |
| #1 | .0018 | .0474 | 1.982 | -.0026 | .0028 | 5.951 | .0019 | .0604 | .0019 | .0050 |
| #2 | .0128 | .0395 | 1.997 | .0008 | .0023 | 5.935 | -.0010 | .0595 | .0004 | -.0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | -.0022 | .0116 | -.0322 |
| Stddev | .0013 | .0026 | .0009 | .0003 |
| %RSD | 82.54 | 117.5 | 7.678 | .9804 |
| #1 | .0024 | -.0004 | .0123 | -.0324 |
| #2 | .0006 | -.0040 | .0110 | -.0320 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1206.1 | 40927. | 17919. |
| Stddev | .8 | 86. | 102. |
| %RSD | .06753 | .20975 | .56770 |
| #1 | 1205.5 | 40866. | 17991. |
| #2 | 1206.6 | 40987. | 17847. |



Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/29/2013 17:38:19 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0853 | 1.128 | -.0309 | .2021 | .0402 | .0000 | 77.90 | .0053 | .0145 |
| Stddev | .0005 | .0092 | .004 | .0024 | .0005 | .0013 | .0001 | 2.39 | .0000 | .0004 |
| %RSD | 229.6 | 10.76 | .3428 | 7.643 | .2646 | 3.167 | 235.6 | 3.072 | .4600 | 3.059 |
| #1 | -.0001 | -.0917 | 1.130 | -.0326 | .2025 | .0411 | .0000 | 79.60 | .0053 | .0142 |
| #2 | .0006 | -.0788 | 1.125 | -.0293 | .2017 | .0393 | .0001 | 76.21 | .0054 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0013 | 31.33 | 8.322 | 11.90 | 9.299 | .0016 | 27.99 | .0041 | -.0041 |
| Stddev | .0001 | .0008 | 1.01 | .299 | .42 | .009 | .0001 | .72 | .0002 | .0014 |
| %RSD | 4.684 | 60.53 | 3.234 | 3.597 | 3.509 | .0930 | 8.175 | 2.585 | 6.030 | 34.96 |
| #1 | .0013 | .0018 | 32.05 | 8.533 | 12.20 | 9.293 | .0015 | 28.50 | .0039 | -.0031 |
| #2 | .0012 | .0007 | 30.62 | 8.110 | 11.61 | 9.305 | .0017 | 27.47 | .0043 | -.0051 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0602 | 1.412 | .0023 | .0006 | 12.88 | -.0013 | .9371 | .0009 | -.0018 |
| Stddev | .0033 | .0016 | .006 | .0012 | .0007 | .01 | .0010 | .0255 | .0002 | .0008 |
| %RSD | 10550. | 2.611 | .4505 | 52.83 | 111.4 | .0924 | 80.13 | 2.723 | 25.66 | 47.29 |
| #1 | .0024 | .0591 | 1.416 | .0015 | .0001 | 12.89 | -.0020 | .9551 | .0007 | -.0023 |
| #2 | -.0023 | .0613 | 1.407 | .0032 | .0011 | 12.87 | -.0005 | .9190 | .0010 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0040 | .0080 | -.0694 |
| Stddev | .0010 | .0018 | .0001 | .0005 |
| %RSD | 325.8 | 45.85 | .9439 | .6774 |
| #1 | -.0004 | -.0027 | .0081 | -.0690 |
| #2 | .0010 | -.0052 | .0080 | -.0697 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1192.2 | 40523. | 17797. |
| Stddev | .1 | 80. | 466. |
| %RSD | .00625 | .19809 | 2.6185 |
| #1 | 1192.2 | 40579. | 17467. |
| #2 | 1192.3 | 40466. | 18126. |

Zoom In Zoom Out

Sample Name: MC25568-1F Acquired: 10/29/2013 17:43:16 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0719 | 1.128 | -.0338 | .2045 | .0399 | .0001 | 78.16 | .0047 | .0146 |
| Stddev | .0000 | .0260 | .009 | .0009 | .0009 | .0000 | .0000 | .60 | .0005 | .0003 |
| %RSD | 20.11 | 36.23 | .7991 | 2.543 | .4523 | .0305 | 33.12 | .7636 | 10.31 | 2.109 |
| #1 | .0003 | -.0903 | 1.134 | -.0344 | .2039 | .0399 | .0000 | 78.58 | .0044 | .0144 |
| #2 | .0002 | -.0535 | 1.121 | -.0332 | .2052 | .0399 | .0001 | 77.74 | .0051 | .0148 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0070 | -.0025 | 31.93 | 8.539 | 11.93 | 9.451 | .0027 | 27.84 | .0058 | .0003 |
| Stddev | .0025 | .0026 | .26 | .082 | .10 | .027 | .0004 | .04 | .0014 | .0019 |
| %RSD | 35.55 | 105.7 | .8070 | .9637 | .8382 | .2858 | 14.52 | .1611 | 24.10 | 654.6 |
| #1 | .0052 | -.0043 | 32.11 | 8.597 | 12.00 | 9.432 | .0030 | 27.87 | .0049 | -.0010 |
| #2 | .0087 | -.0006 | 31.75 | 8.481 | 11.86 | 9.470 | .0025 | 27.81 | .0068 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0061 | .0476 | 1.446 | .0038 | -.0040 | 12.93 | -.0034 | .9375 | .0014 | -.0013 |
| Stddev | .0051 | .0129 | .006 | .0043 | .0061 | .02 | .0009 | .0016 | .0010 | .0047 |
| %RSD | 83.12 | 27.06 | .4220 | 114.4 | 151.0 | .1686 | 26.30 | .1696 | 75.22 | 367.9 |
| #1 | .0025 | .0567 | 1.441 | .0068 | .0003 | 12.94 | -.0041 | .9386 | .0021 | .0020 |
| #2 | .0097 | .0385 | 1.450 | .0007 | -.0083 | 12.91 | -.0028 | .9364 | .0006 | -.0046 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | -.0068 | .0541 | -.0689 |
| Stddev | .0038 | .0319 | .0007 | .0035 |
| %RSD | 1013. | 471.5 | 1.364 | 5.014 |
| #1 | -.0023 | .0158 | .0546 | -.0713 |
| #2 | .0030 | -.0293 | .0536 | -.0664 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.3 | 40825. | 17938. |
| Stddev | .5 | 123. | 212. |
| %RSD | .04248 | .30097 | 1.1844 |
| #1 | 1210.7 | 40912. | 17787. |
| #2 | 1209.9 | 40738. | 18088. |



Zoom In Zoom Out

Sample Name: MC25568-4F Acquired: 10/29/2013 17:48:12 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | -.0059 | .6867 | -.0002 | .0578 | .0227 | .0000 | 12.98 | .0029 | .0087 |
| Stddev | .0016 | .0023 | .0026 | .0017 | .0001 | .0002 | .000 | .01 | .0005 | .0003 |
| %RSD | 228.8 | 38.66 | .3796 | 938.6 | .2495 | .7645 | 344.9 | .0902 | 17.99 | 3.798 |
| #1 | -.0018 | -.0075 | .6849 | -.0014 | .0577 | .0226 | .0000 | 12.99 | .0026 | .0089 |
| #2 | .0004 | -.0043 | .6886 | .0010 | .0579 | .0228 | -.0001 | 12.97 | .0033 | .0085 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0004 | 21.39 | 7.883 | 2.568 | .5944 | .0040 | 3.954 | .0021 | -.0012 |
| Stddev | .0001 | .0000 | .00 | .040 | .054 | .0010 | .0003 | .026 | .0006 | .0012 |
| %RSD | 9.769 | 2.013 | .0070 | .5091 | 2.119 | .1670 | 7.204 | .6591 | 29.61 | 100.9 |
| #1 | .0015 | .0004 | 21.39 | 7.854 | 2.530 | .5937 | .0042 | 3.935 | .0017 | -.0021 |
| #2 | .0013 | .0004 | 21.39 | 7.911 | 2.607 | .5951 | .0038 | 3.972 | .0025 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0082 | 1.517 | .0022 | -.0007 | 6.124 | -.0007 | .1495 | -.0003 | -.0010 |
| Stddev | .0028 | .0165 | .006 | .0030 | .0013 | .001 | .0016 | .0004 | .0003 | .0010 |
| %RSD | 106.6 | 200.0 | .3685 | 134.1 | 184.5 | .0213 | 212.5 | .2837 | 128.2 | 95.97 |
| #1 | .0007 | -.0034 | 1.513 | .0001 | -.0016 | 6.125 | -.0018 | .1498 | -.0005 | -.0017 |
| #2 | .0046 | .0199 | 1.521 | .0044 | .0002 | 6.123 | .0004 | .1492 | .0000 | -.0003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0092 | .0087 | -.0330 |
| Stddev | .0010 | .0124 | .0001 | .0010 |
| %RSD | 2810. | 134.4 | .8432 | 2.975 |
| #1 | .0007 | -.0005 | .0087 | -.0337 |
| #2 | -.0007 | -.0180 | .0088 | -.0324 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1202.1 | 40762. | 17909. |
| Stddev | 3.4 | 259. | 15. |
| %RSD | .28367 | .63423 | .08503 |
| #1 | 1204.5 | 40945. | 17898. |
| #2 | 1199.7 | 40579. | 17919. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/29/2013 17:53:07 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0931 | .0506 | -.0326 | .1919 | .0104 | .0002 | 110.2 | .0000 | .0007 |
| Stddev | .0002 | .0042 | .0002 | .0004 | .0011 | .0001 | .0000 | .2 | .000 | .0001 |
| %RSD | 183.3 | 4.529 | .3348 | 1.078 | .5835 | 1.417 | 13.87 | .1930 | 1540. | 16.01 |
| #1 | .0000 | -.0901 | .0507 | -.0329 | .1911 | .0105 | .0002 | 110.1 | -.0002 | .0008 |
| #2 | -.0003 | -.0961 | .0505 | -.0324 | .1927 | .0103 | .0002 | 110.4 | .0002 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0004 | .6075 | 4.813 | 13.98 | 9.417 | .0021 | 27.39 | .0148 | -.0031 |
| Stddev | .0016 | .0010 | .0125 | .026 | .14 | .008 | .0003 | .04 | .0010 | .0008 |
| %RSD | 181.1 | 227.1 | 2.050 | .5431 | 1.030 | .0894 | 16.56 | .1567 | 6.830 | 24.32 |
| #1 | .0020 | -.0003 | .6163 | 4.831 | 14.08 | 9.411 | .0023 | 27.42 | .0141 | -.0036 |
| #2 | -.0002 | .0011 | .5987 | 4.795 | 13.88 | 9.422 | .0018 | 27.36 | .0155 | -.0026 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0548 | 2.122 | .0030 | -.0005 | 9.831 | -.0014 | .5753 | .0007 | .0012 |
| Stddev | .0011 | .0183 | .005 | .0005 | .0032 | .012 | .0003 | .0014 | .0017 | .0011 |
| %RSD | 24.48 | 33.36 | .2356 | 15.40 | 691.6 | .1258 | 19.15 | .2415 | 236.4 | 94.58 |
| #1 | -.0037 | .0678 | 2.125 | .0027 | -.0027 | 9.822 | -.0012 | .5763 | .0019 | .0004 |
| #2 | -.0053 | .0419 | 2.118 | .0033 | .0018 | 9.839 | -.0016 | .5743 | -.0005 | .0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | -.0181 | .0146 | -.0509 |
| Stddev | .0001 | .0115 | .0004 | .0002 |
| %RSD | 36.89 | 63.72 | 2.920 | .3399 |
| #1 | -.0003 | -.0099 | .0143 | -.0508 |
| #2 | -.0002 | -.0262 | .0149 | -.0510 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.7 | 40545. | 17904. |
| Stddev | 3.1 | 12. | 23. |
| %RSD | .25693 | .02948 | .12598 |
| #1 | 1219.9 | 40553. | 17920. |
| #2 | 1215.5 | 40536. | 17888. |



Zoom In Zoom Out

Sample Name: MC25568-6F Acquired: 10/29/2013 17:58:02 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0665 | .0440 | -.0294 | .1987 | .0107 | .0006 | 114.1 | .0013 | -.0006 |
| Stddev | .0099 | .0238 | .0221 | .0065 | .0038 | .0002 | .0002 | .4 | .0005 | .0032 |
| %RSD | 824.2 | 35.80 | 50.17 | 22.27 | 1.893 | 1.443 | 30.86 | .3135 | 43.84 | 574.2 |
| #1 | .0058 | -.0496 | .0284 | -.0247 | .2013 | .0106 | .0004 | 114.4 | .0009 | -.0028 |
| #2 | -.0082 | -.0833 | .0596 | -.0340 | .1960 | .0108 | .0007 | 113.9 | .0016 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | -.0036 | .6310 | 5.276 | 14.72 | 9.701 | .0036 | 28.87 | .0121 | .0030 |
| Stddev | .0040 | .0010 | .0142 | .063 | .20 | .038 | .0005 | .18 | .0003 | .0035 |
| %RSD | 69.89 | 28.19 | 2.257 | 1.199 | 1.360 | .3944 | 15.05 | .6251 | 2.532 | 118.0 |
| #1 | .0029 | -.0043 | .6210 | 5.232 | 14.58 | 9.674 | .0040 | 28.99 | .0123 | .0055 |
| #2 | .0085 | -.0029 | .6411 | 5.321 | 14.86 | 9.728 | .0032 | 28.74 | .0119 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0161 | .0963 | 2.219 | .0036 | -.0171 | 10.14 | .0044 | .6099 | .0020 | .0043 |
| Stddev | .0092 | .1057 | .009 | .0072 | .0190 | .00 | .0087 | .0002 | .0012 | .0062 |
| %RSD | 57.10 | 109.8 | .4045 | 200.3 | 111.2 | .0464 | 197.4 | .0330 | 60.00 | 143.5 |
| #1 | -.0096 | .1710 | 2.213 | -.0015 | -.0037 | 10.13 | .0105 | .6098 | .0012 | -.0001 |
| #2 | -.0225 | .0215 | 2.226 | .0087 | -.0305 | 10.14 | -.0017 | .6101 | .0029 | .0087 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0064 | -.0637 | .0269 | -.0446 |
| Stddev | .0039 | .0051 | .0014 | .0025 |
| %RSD | 61.42 | 7.958 | 5.160 | 5.630 |
| #1 | -.0036 | -.0601 | .0279 | -.0464 |
| #2 | -.0091 | -.0673 | .0260 | -.0429 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.3 | 40699. | 17764. |
| Stddev | 1.0 | 16. | 115. |
| %RSD | .07846 | .03809 | .64516 |
| #1 | 1234.0 | 40710. | 17682. |
| #2 | 1232.6 | 40688. | 17845. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 18:02:58 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2579 | 9.887 | 1.902 | -.0075 | 1.942 | 1.991 | 2.055 | 10.04 | 1.996 | 2.000 |
| Stddev | .0010 | .008 | .009 | .0001 | .003 | .002 | .008 | .03 | .000 | .005 |
| %RSD | .3838 | .0787 | .4770 | .8399 | .1678 | .1069 | .4032 | .2620 | .0108 | .2653 |
| #1 | .2572 | 9.882 | 1.895 | -.0074 | 1.940 | 1.993 | 2.061 | 10.06 | 1.996 | 1.997 |
| #2 | .2586 | 9.893 | 1.908 | -.0075 | 1.945 | 1.990 | 2.049 | 10.02 | 1.997 | 2.004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.154 | 2.031 | 9.859 | 9.934 | 10.07 | 2.008 | 1.907 | 9.823 | 1.863 | 1.892 |
| Stddev | .001 | .001 | .041 | .003 | .08 | .001 | .004 | .008 | .002 | .000 |
| %RSD | .0658 | .0608 | .4198 | .0254 | .7846 | .0653 | .1847 | .0850 | .1002 | .0064 |
| #1 | 2.153 | 2.030 | 9.888 | 9.936 | 10.12 | 2.007 | 1.904 | 9.817 | 1.861 | 1.892 |
| #2 | 2.155 | 2.032 | 9.830 | 9.932 | 10.01 | 2.009 | 1.909 | 9.829 | 1.864 | 1.892 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0058 | -.0051 | 1.908 | 1.891 | -.0125 | 1.862 | 1.972 | 1.979 | 1.927 |
| Stddev | .0012 | .0021 | .0003 | .002 | .001 | .0007 | .002 | .010 | .003 | .001 |
| %RSD | 105.2 | 36.77 | 6.797 | .1204 | .0548 | 5.533 | .1100 | .5236 | .1630 | .0625 |
| #1 | .0003 | .0073 | -.0054 | 1.910 | 1.890 | -.0130 | 1.864 | 1.979 | 1.977 | 1.927 |
| #2 | .0020 | .0043 | -.0049 | 1.907 | 1.892 | -.0120 | 1.861 | 1.964 | 1.982 | 1.928 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.004 | -.0126 | 1.896 | -.0061 |
| Stddev | .001 | .0019 | .008 | .0002 |
| %RSD | .0642 | 15.43 | .4179 | 2.877 |
| #1 | 2.003 | -.0112 | 1.890 | -.0063 |
| #2 | 2.005 | -.0140 | 1.902 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.6 | 39639. | 17683. |
| Stddev | 4.5 | 20. | 51. |
| %RSD | .36558 | .05165 | .28769 |
| #1 | 1233.4 | 39625. | 17647. |
| #2 | 1239.8 | 39654. | 17719. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 18:07:45 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0051 | -.0006 | -.0001 | .0016 | .0000 | .0000 | .0020 | -.0001 | .0000 |
| Stddev | .0004 | .0023 | .0016 | .0012 | .0005 | .000 | .0001 | .0019 | .0000 | .000 |
| %RSD | 189.5 | 45.21 | 265.3 | 823.0 | 29.78 | 873.0 | 185.7 | 95.29 | 47.06 | 261.6 |
| #1 | -.0006 | .0035 | -.0018 | -.0010 | .0020 | .0000 | .0001 | .0007 | .0000 | -.0001 |
| #2 | .0001 | .0068 | .0005 | .0007 | .0013 | .0000 | .0000 | .0034 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | -.0001 | .0007 | .0144 | .0097 | .0001 | .0022 | .0038 | .0003 | -.0003 |
| Stddev | .0011 | .0004 | .0002 | .0265 | .0075 | .0002 | .0005 | .0055 | .0004 | .0004 |
| %RSD | 77.97 | 275.1 | 29.67 | 184.6 | 77.52 | 201.1 | 25.44 | 146.8 | 144.2 | 118.1 |
| #1 | .0022 | -.0004 | .0005 | -.0044 | .0151 | .0000 | .0025 | -.0001 | .0006 | -.0006 |
| #2 | .0006 | .0001 | .0008 | .0331 | .0044 | .0002 | .0018 | .0077 | .0000 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0046 | -.0011 | .0007 | -.0015 | -.0021 | .0000 | .0001 | .0008 | .0009 |
| Stddev | .001 | .0021 | .0025 | .0008 | .0023 | .0007 | .000 | .0000 | .0000 | .0012 |
| %RSD | 1386. | 44.69 | 222.3 | 120.5 | 156.0 | 34.61 | 214.5 | 63.59 | 3.673 | 139.3 |
| #1 | .0003 | -.0032 | .0006 | .0013 | .0002 | -.0016 | .0000 | .0001 | .0008 | .0017 |
| #2 | -.0004 | -.0061 | -.0029 | .0001 | -.0031 | -.0026 | -.0001 | .0000 | .0007 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | -.0017 | -.0002 | .0014 |
| Stddev | .0005 | .0014 | .0000 | .0003 |
| %RSD | 161.7 | 79.58 | 6.186 | 22.87 |
| #1 | .0000 | -.0008 | -.0002 | .0012 |
| #2 | -.0007 | -.0027 | -.0002 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1222.2 | 40454. | 17807. |
| Stddev | 9.6 | 117. | 43. |
| %RSD | .78684 | .28949 | .23889 |
| #1 | 1215.4 | 40537. | 17837. |
| #2 | 1229.0 | 40371. | 17777. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/29/2013 18:12:42 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .2005 | .0036 | -.0011 | .1015 | .0517 | .0044 | 5.094 | .0043 | .0520 |
| Stddev | .0003 | .0004 | .0009 | .0008 | .0004 | .0001 | .0001 | .018 | .0001 | .0001 |
| %RSD | 6.031 | .2042 | 25.36 | 78.66 | .4099 | .1402 | 1.504 | .3553 | 2.067 | .2265 |
| #1 | .0052 | .2002 | .0042 | -.0005 | .1012 | .0518 | .0045 | 5.106 | .0042 | .0519 |
| #2 | .0048 | .2008 | .0029 | -.0017 | .1018 | .0517 | .0044 | 5.081 | .0044 | .0521 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0114 | .0257 | .1041 | 4.990 | 5.046 | .0159 | .0995 | 4.904 | .0389 | .0046 |
| Stddev | .0000 | .0003 | .0007 | .024 | .023 | .0001 | .0003 | .009 | .0004 | .0005 |
| %RSD | .1747 | 1.221 | .7033 | .4876 | .4605 | .7848 | .3425 | .1869 | 1.134 | 10.09 |
| #1 | .0114 | .0255 | .1046 | 4.973 | 5.030 | .0160 | .0993 | 4.910 | .0386 | .0043 |
| #2 | .0114 | .0259 | .1036 | 5.007 | 5.063 | .0158 | .0998 | 4.897 | .0392 | .0049 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0029 | .0016 | .0075 | .0094 | .0057 | .0937 | .0103 | .0514 | .0055 |
| Stddev | .0010 | .0045 | .0002 | .0012 | .0017 | .0005 | .0011 | .0000 | .0004 | .0019 |
| %RSD | 61.48 | 157.2 | 11.91 | 16.29 | 17.95 | 9.246 | 1.225 | .1246 | .6816 | 33.47 |
| #1 | .0009 | .0061 | .0015 | .0066 | .0082 | .0061 | .0929 | .0103 | .0516 | .0069 |
| #2 | .0024 | -.0003 | .0018 | .0084 | .0106 | .0054 | .0945 | .0103 | .0511 | .0042 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0103 | -.0069 | .0208 | .0007 |
| Stddev | .0005 | .0018 | .0003 | .0004 |
| %RSD | 4.921 | 26.58 | 1.371 | 50.73 |
| #1 | .0099 | -.0083 | .0206 | .0010 |
| #2 | .0106 | -.0056 | .0210 | .0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.0 | 40574. | 17832. |
| Stddev | .7 | 125. | 11. |
| %RSD | .06035 | .30696 | .06400 |
| #1 | 1233.5 | 40485. | 17824. |
| #2 | 1232.5 | 40662. | 17840. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/29/2013 18:17:37 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2550 | 9.768 | 1.890 | -.0079 | 1.927 | 1.970 | 2.056 | 9.983 | 1.976 | 1.981 |
| Stddev | .0001 | .038 | .003 | .0005 | .007 | .003 | .003 | .009 | .006 | .008 |
| %RSD | .0458 | .3871 | .1549 | 6.658 | .3499 | .1267 | .1284 | .0863 | .3228 | .4202 |
| #1 | .2551 | 9.742 | 1.892 | -.0075 | 1.932 | 1.968 | 2.054 | 9.977 | 1.981 | 1.987 |
| #2 | .2549 | 9.795 | 1.888 | -.0082 | 1.923 | 1.972 | 2.058 | 9.989 | 1.972 | 1.975 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.169 | 2.014 | 9.719 | 9.789 | 10.05 | 1.987 | 1.889 | 9.687 | 1.838 | 1.871 |
| Stddev | .001 | .003 | .017 | .022 | .09 | .003 | .005 | .023 | .008 | .005 |
| %RSD | .0585 | .1527 | .1726 | .2263 | .9017 | .1245 | .2498 | .2348 | .4411 | .2911 |
| #1 | 2.168 | 2.016 | 9.731 | 9.805 | 10.12 | 1.988 | 1.892 | 9.670 | 1.843 | 1.875 |
| #2 | 2.170 | 2.012 | 9.707 | 9.773 | 9.990 | 1.985 | 1.885 | 9.703 | 1.832 | 1.867 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0085 | -.0028 | 1.884 | 1.875 | -.0120 | 1.829 | 1.958 | 1.961 | 1.907 |
| Stddev | .0012 | .0026 | .0004 | .010 | .009 | .0012 | .007 | .022 | .000 | .006 |
| %RSD | 37.20 | 30.23 | 12.79 | .5255 | .4550 | 9.800 | .3647 | 1.107 | .0072 | .2952 |
| #1 | .0041 | .0103 | -.0025 | 1.891 | 1.881 | -.0112 | 1.833 | 1.973 | 1.961 | 1.911 |
| #2 | .0024 | .0067 | -.0030 | 1.877 | 1.869 | -.0129 | 1.824 | 1.942 | 1.962 | 1.903 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.998 | -.0027 | 1.879 | -.0066 |
| Stddev | .001 | .0027 | .002 | .0002 |
| %RSD | .0324 | 99.64 | .1059 | 3.557 |
| #1 | 1.997 | -.0046 | 1.880 | -.0064 |
| #2 | 1.998 | -.0008 | 1.877 | -.0068 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.2 | 40003. | 17951. |
| Stddev | 3.0 | 36. | 51. |
| %RSD | .24450 | .09066 | .28154 |
| #1 | 1233.1 | 39978. | 17915. |
| #2 | 1237.3 | 40029. | 17986. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/29/2013 18:22:25 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0017 | .0002 | -.0001 | .0019 | .0001 | .0001 | .0003 | .0000 |
| Stddev | .0001 | .0041 | .0003 | .0006 | .0003 | .0001 | .0000 | .0035 | .0002 |
| %RSD | 15.42 | 244.2 | 172.0 | 568.0 | 13.71 | 163.3 | 5.356 | 1337. | 1915. |
| #1 | -.0009 | -.0012 | .0000 | -.0005 | .0021 | .0000 | .0001 | .0028 | .0001 |
| #2 | -.0007 | .0046 | .0004 | .0003 | .0017 | .0002 | .0001 | -.0022 | -.0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0010 | -.0005 | -.0008 | -.0044 | -.0029 | .0001 | .0024 | .0068 |
| Stddev | .0001 | .0005 | .0001 | .0001 | .0299 | .0038 | .0000 | .0007 | .0027 |
| %RSD | 55.43 | 46.95 | 12.02 | 10.05 | 684.1 | 128.9 | 2.188 | 30.32 | 40.07 |
| #1 | .0001 | .0007 | -.0005 | -.0009 | -.0255 | -.0056 | .0001 | .0029 | .0088 |
| #2 | .0002 | .0013 | -.0006 | -.0008 | .0168 | -.0003 | .0001 | .0019 | .0049 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0000 | -.0001 | .0010 | -.0006 | .0007 | -.0005 | -.0020 | .0004 |
| Stddev | .0002 | .0007 | .0010 | .0017 | .0005 | .0002 | .0013 | .0001 | .0000 |
| %RSD | 284.8 | 2280. | 753.1 | 166.6 | 74.97 | 25.76 | 240.2 | 3.210 | 10.45 |
| #1 | .0002 | -.0004 | .0006 | -.0002 | -.0003 | .0008 | .0004 | -.0021 | .0004 |
| #2 | -.0001 | .0005 | -.0008 | .0022 | -.0009 | .0006 | -.0014 | -.0020 | .0003 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | F.0021 | -.0003 | -.0004 | -.0003 | .0009 |
| Stddev | .0000 | .0004 | .0009 | .0001 | .0030 | .0004 | .0000 |
| %RSD | 13.01 | 57.79 | 44.55 | 35.84 | 838.0 | 175.0 | .8707 |
| #1 | .0001 | .0010 | .0027 | -.0003 | -.0024 | .0001 | .0009 |
| #2 | .0001 | .0004 | .0014 | -.0002 | .0017 | -.0006 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1229.0 | 40679. | 17698. |
| Stddev | 1.2 | 77. | 91. |
| %RSD | .09555 | .18949 | .51281 |
| #1 | 1229.8 | 40624. | 17634. |
| #2 | 1228.1 | 40733. | 17762. |



Zoom In Zoom Out

Sample Name: MC25652-1UND Acquired: 10/29/2013 18:27:22 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0065 | .0029 | -.0019 | .0537 | .2229 | .0001 | 5.786 | .0000 | .0009 |
| Stddev | .0003 | .0029 | .0002 | .0008 | .0006 | .0019 | .0000 | .012 | .000 | .0001 |
| %RSD | 213.1 | 44.07 | 7.870 | 42.27 | 1.097 | .8326 | 12.43 | .2003 | 345.2 | 14.58 |
| #1 | -.0004 | -.0045 | .0031 | -.0013 | .0541 | .2215 | .0001 | 5.794 | -.0001 | .0008 |
| #2 | .0001 | -.0086 | .0027 | -.0024 | .0532 | .2242 | .0001 | 5.777 | .0000 | .0010 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0002 | .0892 | 8.743 | 2.294 | .6989 | .0010 | 52.05 | .0069 | .0003 |
| Stddev | .0012 | .0005 | .0018 | .016 | .017 | .0029 | .0002 | .25 | .0000 | .0004 |
| %RSD | 151.7 | 240.9 | 2.057 | .1769 | .7304 | .4115 | 15.36 | .4876 | .3465 | 137.1 |
| #1 | .0016 | .0001 | .0879 | 8.754 | 2.282 | .7009 | .0011 | 51.87 | .0070 | .0000 |
| #2 | -.0001 | -.0006 | .0905 | 8.732 | 2.306 | .6969 | .0009 | 52.22 | .0069 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0053 | 7.692 | -.0022 | .0002 | 6.419 | .0007 | .0288 | .0007 | .0058 |
| Stddev | .0012 | .0039 | .014 | .0003 | .0005 | .017 | .0005 | .0001 | .0008 | .0005 |
| %RSD | 169.0 | 72.74 | .1853 | 13.47 | 317.2 | .2632 | 68.58 | .1953 | 101.9 | 9.011 |
| #1 | .0001 | .0081 | 7.702 | -.0025 | .0006 | 6.431 | .0010 | .0289 | .0013 | .0062 |
| #2 | -.0015 | .0026 | 7.682 | -.0020 | -.0002 | 6.407 | .0004 | .0288 | .0002 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0020 | .0113 | -.0342 |
| Stddev | .0004 | .0014 | .0001 | .0005 |
| %RSD | 107.4 | 72.51 | 1.160 | 1.397 |
| #1 | -.0001 | .0010 | .0112 | -.0346 |
| #2 | -.0007 | .0030 | .0114 | -.0339 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.9 | 41668. | 18101. |
| Stddev | 1.5 | 24. | 73. |
| %RSD | .12035 | .05856 | .40343 |
| #1 | 1283.0 | 41685. | 18152. |
| #2 | 1280.8 | 41651. | 18049. |



Zoom In Zoom Out

Sample Name: MC25652-1FUND Acquired: 10/29/2013 18:32:17 Type: Unk
Method: Accutest -SS2 with S(v116) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0033 | .0027 | -.0031 | .0527 | .2215 | .0001 | 5.786 | .0000 | .0011 |
| Stddev | .0001 | .0001 | .0002 | .0015 | .0002 | .0011 | .0000 | .039 | .000 | .0001 |
| %RSD | 28.49 | 3.869 | 5.862 | 46.87 | .3544 | .4897 | 32.41 | .6759 | 85.80 | 5.363 |
| #1 | -.0002 | -.0032 | .0026 | -.0021 | .0528 | .2208 | .0001 | 5.814 | .0000 | .0012 |
| #2 | -.0003 | -.0034 | .0029 | -.0042 | .0525 | .2223 | .0001 | 5.758 | .0000 | .0011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0001 | .2535 | 8.389 | 2.270 | 1.115 | .0002 | 51.92 | .0069 | .0005 |
| Stddev | .0001 | .0001 | .0055 | .017 | .016 | .003 | .0000 | .06 | .0002 | .0003 |
| %RSD | 31.92 | 116.4 | 2.168 | .2023 | .7134 | .2808 | 17.85 | .1161 | 2.985 | 56.16 |
| #1 | .0005 | .0000 | .2496 | 8.401 | 2.259 | 1.113 | .0002 | 51.88 | .0068 | .0003 |
| #2 | .0003 | .0001 | .2574 | 8.377 | 2.281 | 1.118 | .0002 | 51.96 | .0070 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0038 | 7.534 | -.0022 | -.0009 | 6.479 | .0007 | .0292 | .0010 | .0065 |
| Stddev | .0020 | .0042 | .016 | .0008 | .0003 | .003 | .0002 | .0001 | .0000 | .0001 |
| %RSD | 2690. | 110.0 | .2108 | 37.03 | 36.38 | .0433 | 31.66 | .2324 | 4.153 | 1.222 |
| #1 | -.0015 | .0008 | 7.545 | -.0016 | -.0011 | 6.481 | .0008 | .0292 | .0010 | .0066 |
| #2 | .0014 | .0068 | 7.523 | -.0028 | -.0007 | 6.477 | .0005 | .0292 | .0010 | .0065 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0029 | .0140 | -.0347 |
| Stddev | .0006 | .0064 | .0002 | .0002 |
| %RSD | 329.7 | 216.9 | 1.480 | .4796 |
| #1 | .0002 | .0074 | .0139 | -.0349 |
| #2 | -.0006 | -.0016 | .0142 | -.0346 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.2 | 41444. | 18087. |
| Stddev | 4.5 | 189. | 82. |
| %RSD | .35377 | .45710 | .45579 |
| #1 | 1273.4 | 41578. | 18029. |
| #2 | 1267.1 | 41310. | 18146. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000001 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000002 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | Fe | 0.000030 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000046 | 0.000000 | No |
| | | | Mn | 0.000111 | 0.000000 | No |
| | | | Mo | -0.001080 | 0.000000 | No |
| | | | Co | 0.000023 | 0.000000 | No |
| | | | Cu | -0.000002 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000058 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ni | 0.000029 | 0.000000 | No |
| | | | Si | 0.000132 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000028 | 0.000000 | No |
| | | | Cr | 0.003719 | 0.000000 | No |
| | | | Mo | -0.001502 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000192 | 0.000000 | No |
| | | | V | -0.001150 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | -0.000072 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000008 | 0.000000 | No |
| | | | Fe | -0.000390 | 0.000000 | No |
| | | | Mn | 0.000070 | 0.000000 | No |
| | | | Mo | 0.000004 | 0.000000 | No |
| | | | Ca | -0.000010 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.001109 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | Cr | 0.000398 | 0.000000 | No |
| | | | V | -0.025265 | 0.000000 | No |
| | | | Co | 0.002209 | 0.000000 | No |
| | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\001CAL
Date Acquired: Oct 31 2013 10:38 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2526977.00 | A | 8185.00 | 0.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 120.00 | P | 14.53 | 12.11 |
| 9 | Be | 93.34 | P | 10.00 | 10.71 |
| 11 | B | 701.15 | P | 15.40 | 2.20 |
| 11 | B | 100.00 | P | 13.33 | 13.33 |
| 23 | Na | 501156.00 | P | 11300.00 | 2.25 |
| 23 | Na | 56214.45 | P | 163.30 | 0.29 |
| 24 | Mg | 8110.20 | P | 87.22 | 1.08 |
| 24 | Mg | 426.69 | P | 75.13 | 17.61 |
| 27 | Al | 18257.42 | P | 561.70 | 3.08 |
| 27 | Al | 494.47 | P | 66.70 | 13.49 |
| 39 | K | 4083702.00 | A | 14920.00 | 0.37 |
| 44 | Ca | 28760.68 | P | 132.50 | 0.46 |
| 45 | Sc | 3313873.00 | A | 20240.00 | 0.61 |
| 45 | Sc | 366239.31 | P | 924.90 | 0.25 |
| 47 | Ti | 226.68 | P | 48.08 | 21.21 |
| 51 | V | 6405.85 | P | 194.60 | 3.04 |
| 52 | Cr | 1979.71 | P | 81.78 | 4.13 |
| 55 | Mn | 612.47 | P | 17.71 | 2.89 |
| 56 | Fe | 26197.55 | P | 360.80 | 1.38 |
| 59 | Co | 102.22 | P | 16.88 | 16.51 |
| 60 | Ni | 281.78 | P | 28.61 | 10.15 |
| 63 | Cu | 3200.82 | P | 123.90 | 3.87 |
| 66 | Zn | 463.79 | P | 9.67 | 2.08 |
| 72 | Ge | 719670.31 | P | 9252.00 | 1.29 |
| 72 | Ge | 145000.80 | P | 911.60 | 0.63 |
| 75 | As | 254.67 | P | 8.51 | 3.34 |
| 78 | Se | 241.56 | P | 8.04 | 3.33 |
| 88 | Sr | 706.71 | P | 17.64 | 2.50 |
| 98 | Mo | 132.23 | P | 11.71 | 8.86 |
| 103 | Rh | 3927675.00 | A | 88150.00 | 2.24 |
| 107 | Ag | 184.45 | P | 37.91 | 20.55 |

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 77.78 | P | 17.10 | 21.99 |
| 115 | In | 3980065.00 | A | 22630.00 | 0.57 |
| 115 | In | 1082158.00 | A | 8614.00 | 0.80 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 348.91 | P | 52.12 | 14.94 |
| 121 | Sb | 470.02 | P | 26.46 | 5.63 |
| 137 | Ba | 643.37 | P | 20.82 | 3.24 |
| 159 | Tb | 4950937.00 | A | 12540.00 | 0.25 |
| 175 | Lu | 4612562.00 | A | 22190.00 | 0.48 |
| 205 | Tl | 647.82 | P | 55.21 | 8.52 |
| 206 | (Pb) | 282.24 | P | 25.02 | 8.86 |
| 207 | (Pb) | 240.01 | P | 14.53 | 6.05 |
| 208 | Pb | 2698.06 | P | 103.10 | 3.82 |
| 209 | Bi | 2755955.00 | A | 23340.00 | 0.85 |

C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\002CAL
Date Acquired: Oct 31 2013 10:45 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2521858.00 | A | 17270.00 | 0.68 |
| 7 | (Li) | | P | | |
| 9 | Be | 98.89 | P | 8.39 | 8.48 |
| 9 | Be | 46.67 | P | 12.02 | 25.76 |
| 11 | B | 683.37 | P | 60.83 | 8.90 |
| 11 | B | 43.33 | P | 20.82 | 48.05 |
| 23 | Na | 496308.41 | P | 6820.00 | 1.37 |
| 23 | Na | 56242.39 | P | 163.60 | 0.29 |
| 24 | Mg | 8674.88 | P | 339.80 | 3.92 |
| 24 | Mg | 464.47 | P | 25.46 | 5.48 |
| 27 | Al | 18675.53 | P | 665.90 | 3.57 |
| 27 | Al | 457.80 | P | 3.85 | 0.84 |
| 39 | K | 4093980.00 | A | 19160.00 | 0.47 |
| 44 | Ca | 28943.20 | P | 459.10 | 1.59 |
| 45 | Sc | 3362635.00 | A | 13600.00 | 0.40 |
| 45 | Sc | 367626.41 | P | 1586.00 | 0.43 |
| 47 | Ti | 223.34 | P | 8.82 | 3.95 |
| 51 | V | 6756.23 | P | 60.73 | 0.90 |
| 52 | Cr | 1873.47 | P | 74.10 | 3.96 |
| 55 | Mn | 618.69 | P | 42.67 | 6.90 |
| 56 | Fe | 27119.24 | P | 504.90 | 1.86 |
| 59 | Co | 77.33 | P | 10.41 | 13.46 |
| 60 | Ni | 235.12 | P | 26.81 | 11.40 |
| 63 | Cu | 2911.87 | P | 137.00 | 4.70 |
| 66 | Zn | 442.68 | P | 30.62 | 6.92 |
| 72 | Ge | 714805.50 | P | 5302.00 | 0.74 |
| 72 | Ge | 144801.50 | P | 255.50 | 0.18 |
| 75 | As | 243.11 | P | 16.23 | 6.68 |
| 78 | Se | 212.00 | P | 9.17 | 4.32 |
| 88 | Sr | 730.04 | P | 55.68 | 7.63 |
| 98 | Mo | 125.56 | P | 20.09 | 16.00 |
| 103 | Rh | 3924881.00 | A | 20780.00 | 0.53 |
| 107 | Ag | 143.34 | P | 23.33 | 16.28 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 30.00 | P | 6.67 | 22.22 |
| 115 | In | 3944903.00 | A | 35950.00 | 0.91 |
| 115 | In | 1086949.00 | A | 10020.00 | 0.92 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 310.01 | P | 34.80 | 11.23 |
| 121 | Sb | 302.24 | P | 17.11 | 5.66 |
| 137 | Ba | 640.04 | P | 36.06 | 5.63 |
| 159 | Tb | 4942952.00 | A | 16220.00 | 0.33 |
| 175 | Lu | 4623930.00 | A | 24240.00 | 0.52 |
| 205 | Tl | 623.37 | P | 13.33 | 2.14 |
| 206 | (Pb) | 260.01 | P | 36.06 | 13.87 |
| 207 | (Pb) | 171.12 | P | 25.24 | 14.75 |
| 208 | Pb | 2500.26 | P | 94.54 | 3.78 |
| 209 | Bi | 2757011.00 | A | 4441.00 | 0.16 |

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# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\003CALS.D\003CALS.D#
Date Acquired: Oct 31 2013 10:52 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | A | 348400.00 | 12.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 4456.33 | P | 297.70 | 6.68 |
| 9 | Be | 205.56 | P | 39.77 | 19.35 |
| 11 | B | 3472.72 | P | 131.90 | 3.80 |
| 11 | B | 133.34 | P | 6.67 | 5.00 |
| 23 | Na | 533030.13 | P | 7025.00 | 1.32 |
| 23 | Na | 57848.01 | P | 452.40 | 0.78 |
| 24 | Mg | 23492.75 | P | 143.30 | 0.61 |
| 24 | Mg | 1156.75 | P | 40.42 | 3.49 |
| 27 | Al | 39564.34 | P | 191.80 | 0.48 |
| 27 | Al | 993.40 | P | 60.83 | 6.12 |
| 39 | K | 4079743.00 | A | 26340.00 | 0.65 |
| 44 | Ca | 29534.48 | P | 431.90 | 1.46 |
| 45 | Sc | 3707282.00 | A | 599700.00 | 16.18 |
| 45 | Sc | 368476.91 | P | 1487.00 | 0.40 |
| 47 | Ti | 1931.29 | P | 57.96 | 3.00 |
| 51 | V | 11704.11 | P | 87.08 | 0.74 |
| 52 | Cr | 6929.64 | P | 105.40 | 1.52 |
| 55 | Mn | 4595.41 | P | 78.14 | 1.70 |
| 56 | Fe | 31942.03 | P | 396.30 | 1.24 |
| 59 | Co | 7124.85 | P | 101.40 | 1.42 |
| 60 | Ni | 2011.27 | P | 48.34 | 2.40 |
| 63 | Cu | 7489.04 | P | 98.47 | 1.31 |
| 66 | Zn | 1377.85 | P | 14.63 | 1.06 |
| 72 | Ge | 757217.00 | M | 65800.00 | 8.69 |
| 72 | Ge | 146230.09 | P | 672.20 | 0.46 |
| 75 | As | 872.25 | P | 16.02 | 1.84 |
| 78 | Se | 308.89 | P | 9.65 | 3.12 |
| 88 | Sr | 28904.18 | P | 843.00 | 2.92 |
| 98 | Mo | 8418.23 | P | 375.90 | 4.47 |
| 103 | Rh | 4375582.00 | A | 718200.00 | 16.41 |
| 107 | Ag | 13178.49 | P | 448.40 | 3.40 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1047.85 | P | 30.25 | 2.89 |
| 115 | In | 4402088.00 | A | 702000.00 | 15.95 |
| 115 | In | 1104538.00 | A | 14630.00 | 1.32 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 10983.34 | P | 275.60 | 2.51 |
| 121 | Sb | 10344.02 | P | 307.50 | 2.97 |
| 137 | Ba | 4565.32 | P | 42.48 | 0.93 |
| 159 | Tb | 5482200.00 | A | 958100.00 | 17.48 |
| 175 | Lu | 5170287.00 | A | 898800.00 | 17.38 |
| 205 | Tl | 15857.36 | P | 416.20 | 2.62 |
| 206 | (Pb) | 6716.31 | P | 360.70 | 5.37 |
| 207 | (Pb) | 5673.57 | P | 122.80 | 2.16 |
| 208 | Pb | 27755.59 | P | 763.70 | 2.75 |
| 209 | Bi | 2991521.00 | A | 455600.00 | 15.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | 12.70 | 2521858.30 | 108.8 | 70 - 130 | |
| 45 | Sc | 3707282.00 | 16.18 | 3362635.00 | 110.2 | 70 - 130 | |
| 45 | Sc | 368476.97 | 0.40 | 367626.47 | 100.2 | 70 - 130 | |
| 72 | Ge | 757217.00 | 8.69 | 714805.50 | 105.9 | 70 - 130 | |
| 72 | Ge | 146230.14 | 0.46 | 144801.52 | 101.0 | 70 - 130 | |
| 103 | Rh | 4375581.50 | 16.41 | 3924880.80 | 111.5 | 70 - 130 | |
| 115 | In | 4402088.00 | 15.95 | 3944903.30 | 111.6 | 70 - 130 | |
| 115 | In | 1104538.10 | 1.32 | 1086949.30 | 101.6 | 70 - 130 | |
| 159 | Tb | 5482200.00 | 17.48 | 4942952.00 | 110.9 | 70 - 130 | |
| 175 | Lu | 5170287.50 | 17.38 | 4623930.50 | 111.8 | 70 - 130 | |
| 209 | Bi | 2991521.30 | 15.23 | 2757011.00 | 108.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#
Date Acquired: Oct 31 2013 10:59 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2553325.00 | A | 8311.00 | 0.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 45712.10 | P | 593.40 | 1.30 |
| 9 | Be | 1495.67 | P | 61.95 | 4.14 |
| 11 | B | 28437.50 | P | 260.80 | 0.92 |
| 11 | B | 604.48 | P | 41.41 | 6.85 |
| 23 | Na | 695685.31 | P | 8057.00 | 1.16 |
| 23 | Na | 67480.80 | P | 386.00 | 0.57 |
| 24 | Mg | 146674.59 | P | 2042.00 | 1.39 |
| 24 | Mg | 7290.81 | P | 50.91 | 0.70 |
| 27 | Al | 193900.50 | P | 1380.00 | 0.71 |
| 27 | Al | 4933.38 | P | 171.50 | 3.48 |
| 39 | K | 4246089.00 | A | 17290.00 | 0.41 |
| 44 | Ca | 36620.73 | P | 1209.00 | 3.30 |
| 45 | Sc | 3330758.00 | A | 35960.00 | 1.08 |
| 45 | Sc | 373982.69 | P | 1581.00 | 0.42 |
| 47 | Ti | 17177.85 | P | 472.30 | 2.75 |
| 51 | V | 54019.60 | P | 464.10 | 0.86 |
| 52 | Cr | 52432.46 | P | 376.80 | 0.72 |
| 55 | Mn | 39866.83 | P | 295.30 | 0.74 |
| 56 | Fe | 74586.55 | P | 225.80 | 0.30 |
| 59 | Co | 70004.74 | P | 568.90 | 0.81 |
| 60 | Ni | 17951.10 | P | 78.96 | 0.44 |
| 63 | Cu | 46981.36 | P | 193.30 | 0.41 |
| 66 | Zn | 8530.42 | P | 103.00 | 1.21 |
| 72 | Ge | 709484.13 | P | 5389.00 | 0.76 |
| 72 | Ge | 147533.20 | P | 349.00 | 0.24 |
| 75 | As | 6295.12 | P | 181.30 | 2.88 |
| 78 | Se | 918.70 | P | 40.07 | 4.36 |
| 88 | Sr | 285361.19 | P | 2416.00 | 0.85 |
| 98 | Mo | 82377.52 | P | 1387.00 | 1.68 |
| 103 | Rh | 3945762.00 | A | 5246.00 | 0.13 |
| 107 | Ag | 127337.00 | P | 1500.00 | 1.18 |

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9524.51 | P | 114.70 | 1.20 |
| 115 | In | 3968207.00 | A | 27320.00 | 0.69 |
| 115 | In | 1106060.00 | A | 8043.00 | 0.73 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 107685.80 | P | 1649.00 | 1.53 |
| 121 | Sb | 99506.15 | P | 1475.00 | 1.48 |
| 137 | Ba | 37691.06 | P | 487.90 | 1.29 |
| 159 | Tb | 4976040.00 | A | 40080.00 | 0.81 |
| 175 | Lu | 4663351.00 | A | 50120.00 | 1.07 |
| 205 | Tl | 169389.30 | P | 1383.00 | 0.82 |
| 206 | (Pb) | 64819.20 | P | 1011.00 | 1.56 |
| 207 | (Pb) | 54568.32 | P | 501.90 | 0.92 |
| 208 | Pb | 253451.09 | P | 2201.00 | 0.87 |
| 209 | Bi | 2776037.00 | A | 2838.00 | 0.10 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2553324.80 | 0.33 | 2521858.30 | 101.2 | 70 - 130 | |
| 45 Sc | 3330758.50 | 1.08 | 3362635.00 | 99.1 | 70 - 130 | |
| 45 Sc | 373982.66 | 0.42 | 367626.47 | 101.7 | 70 - 130 | |
| 72 Ge | 709484.13 | 0.76 | 714805.50 | 99.3 | 70 - 130 | |
| 72 Ge | 147533.23 | 0.24 | 144801.52 | 101.9 | 70 - 130 | |
| 103 Rh | 3945762.00 | 0.13 | 3924880.80 | 100.5 | 70 - 130 | |
| 115 In | 3968207.50 | 0.69 | 3944903.30 | 100.6 | 70 - 130 | |
| 115 In | 1106060.40 | 0.73 | 1086949.30 | 101.8 | 70 - 130 | |
| 159 Tb | 4976040.50 | 0.81 | 4942952.00 | 100.7 | 70 - 130 | |
| 175 Lu | 4663351.00 | 1.07 | 4623930.50 | 100.9 | 70 - 130 | |
| 209 Bi | 2776037.30 | 0.10 | 2757011.00 | 100.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#
Date Acquired: Oct 31 2013 11:06 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2534878.00 | A | 5189.00 | 0.20 |
| 7 | (Li) | | P | | |
| 9 | Be | 222660.59 | P | 3442.00 | 1.55 |
| 9 | Be | 7247.45 | P | 210.50 | 2.90 |
| 11 | B | 136266.91 | P | 1240.00 | 0.91 |
| 11 | B | 2930.38 | P | 135.50 | 4.62 |
| 23 | Na | 1468576.00 | A | 20040.00 | 1.36 |
| 23 | Na | 114306.40 | P | 386.50 | 0.34 |
| 24 | Mg | 682444.81 | P | 9319.00 | 1.37 |
| 24 | Mg | 33651.22 | P | 167.50 | 0.50 |
| 27 | Al | 866361.63 | P | 9346.00 | 1.08 |
| 27 | Al | 21686.78 | P | 381.90 | 1.76 |
| 39 | K | 4990979.00 | A | 10910.00 | 0.22 |
| 44 | Ca | 70583.38 | P | 1030.00 | 1.46 |
| 45 | Sc | 3360063.00 | A | 27480.00 | 0.82 |
| 45 | Sc | 372320.00 | P | 706.80 | 0.19 |
| 47 | Ti | 82465.80 | P | 251.40 | 0.30 |
| 51 | V | 234524.80 | P | 707.70 | 0.30 |
| 52 | Cr | 249053.09 | P | 724.90 | 0.29 |
| 55 | Mn | 191983.09 | P | 340.50 | 0.18 |
| 56 | Fe | 254029.70 | P | 1345.00 | 0.53 |
| 59 | Co | 342445.50 | P | 1982.00 | 0.58 |
| 60 | Ni | 86221.73 | P | 234.30 | 0.27 |
| 63 | Cu | 217255.70 | P | 1051.00 | 0.48 |
| 66 | Zn | 39905.25 | P | 141.20 | 0.35 |
| 72 | Ge | 696368.88 | P | 6754.00 | 0.97 |
| 72 | Ge | 145570.41 | P | 710.80 | 0.49 |
| 75 | As | 29852.18 | P | 148.00 | 0.50 |
| 78 | Se | 3561.77 | P | 67.66 | 1.90 |
| 88 | Sr | 1335333.00 | A | 12620.00 | 0.95 |
| 98 | Mo | 401803.19 | P | 4209.00 | 1.05 |
| 103 | Rh | 3932761.00 | A | 24980.00 | 0.64 |
| 107 | Ag | 618134.88 | P | 11950.00 | 1.93 |

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 46343.66 | P | 815.40 | 1.76 |
| 115 | In | 4004576.00 | A | 39360.00 | 0.98 |
| 115 | In | 1101115.00 | A | 5484.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 523694.50 | P | 9711.00 | 1.85 |
| 121 | Sb | 482500.81 | P | 8606.00 | 1.78 |
| 137 | Ba | 182800.30 | P | 1531.00 | 0.84 |
| 159 | Tb | 4990311.00 | A | 39910.00 | 0.80 |
| 175 | Lu | 4742163.00 | A | 32980.00 | 0.70 |
| 205 | Tl | 881688.31 | P | 7184.00 | 0.81 |
| 206 | (Pb) | 308862.41 | P | 517.30 | 0.17 |
| 207 | (Pb) | 260390.70 | P | 963.10 | 0.37 |
| 208 | Pb | 1201585.00 | P | 3603.00 | 0.30 |
| 209 | Bi | 2747095.00 | A | 33090.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2534878.30 | 0.20 | 2521858.30 | 100.5 | 70 - 130 | |
| 45 | Sc | 3360062.80 | 0.82 | 3362635.00 | 99.9 | 70 - 130 | |
| 45 | Sc | 372319.97 | 0.19 | 367626.47 | 101.3 | 70 - 130 | |
| 72 | Ge | 696368.88 | 0.97 | 714805.50 | 97.4 | 70 - 130 | |
| 72 | Ge | 145570.42 | 0.49 | 144801.52 | 100.5 | 70 - 130 | |
| 103 | Rh | 3932760.80 | 0.64 | 3924880.80 | 100.2 | 70 - 130 | |
| 115 | In | 4004575.80 | 0.98 | 3944903.30 | 101.5 | 70 - 130 | |
| 115 | In | 1101115.00 | 0.50 | 1086949.30 | 101.3 | 70 - 130 | |
| 159 | Tb | 4990311.00 | 0.80 | 4942952.00 | 101.0 | 70 - 130 | |
| 175 | Lu | 4742163.00 | 0.70 | 4623930.50 | 102.6 | 70 - 130 | |
| 209 | Bi | 2747095.30 | 1.20 | 2757011.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#
Date Acquired: Oct 31 2013 11:13 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2554999.00 | A | 11570.00 | 0.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 458173.00 | P | 5052.00 | 1.10 |
| 9 | Be | 14280.16 | P | 225.00 | 1.58 |
| 11 | B | 278049.19 | P | 394.00 | 0.14 |
| 11 | B | 5869.05 | P | 200.70 | 3.42 |
| 23 | Na | 2420442.00 | A | 15590.00 | 0.64 |
| 23 | Na | 171436.91 | P | 1073.00 | 0.63 |
| 24 | Mg | 1361045.00 | A | 7844.00 | 0.58 |
| 24 | Mg | 67698.79 | P | 567.70 | 0.84 |
| 27 | Al | 1758436.00 | A | 10330.00 | 0.59 |
| 27 | Al | 44564.05 | P | 1041.00 | 2.34 |
| 39 | K | 5923329.00 | A | 4698.00 | 0.08 |
| 44 | Ca | 111747.80 | P | 1047.00 | 0.94 |
| 45 | Sc | 3379753.00 | A | 6041.00 | 0.18 |
| 45 | Sc | 367079.00 | P | 799.50 | 0.22 |
| 47 | Ti | 168526.80 | P | 1211.00 | 0.72 |
| 51 | V | 466183.81 | P | 721.40 | 0.15 |
| 52 | Cr | 500861.41 | P | 1386.00 | 0.28 |
| 55 | Mn | 386867.91 | P | 215.70 | 0.06 |
| 56 | Fe | 486001.19 | P | 1427.00 | 0.29 |
| 59 | Co | 689386.19 | P | 2026.00 | 0.29 |
| 60 | Ni | 172552.09 | P | 315.70 | 0.18 |
| 63 | Cu | 434420.00 | P | 2179.00 | 0.50 |
| 66 | Zn | 80606.68 | P | 326.70 | 0.41 |
| 72 | Ge | 702498.81 | P | 6436.00 | 0.92 |
| 72 | Ge | 144683.70 | P | 999.40 | 0.69 |
| 75 | As | 60327.10 | P | 243.90 | 0.40 |
| 78 | Se | 7028.12 | P | 66.11 | 0.94 |
| 88 | Sr | 2663174.00 | A | 32620.00 | 1.22 |
| 98 | Mo | 820507.31 | P | 11230.00 | 1.37 |
| 103 | Rh | 4000867.00 | A | 9947.00 | 0.25 |
| 107 | Ag | 1227686.00 | A | 5599.00 | 0.46 |

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 93618.49 | P | 955.70 | 1.02 |
| 115 | In | 3983582.00 | A | 17780.00 | 0.45 |
| 115 | In | 1111090.00 | A | 4386.00 | 0.39 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1058400.00 | P | 8101.00 | 0.77 |
| 121 | Sb | 980593.50 | P | 8668.00 | 0.88 |
| 137 | Ba | 371980.19 | P | 2984.00 | 0.80 |
| 159 | Tb | 5031697.00 | A | 45770.00 | 0.91 |
| 175 | Lu | 4737849.00 | A | 6463.00 | 0.14 |
| 205 | Tl | 1765993.00 | A | 24190.00 | 1.37 |
| 206 | (Pb) | 631151.63 | P | 9215.00 | 1.46 |
| 207 | (Pb) | 532716.63 | P | 5420.00 | 1.02 |
| 208 | Pb | 2414942.00 | A | 28440.00 | 1.18 |
| 209 | Bi | 2769470.00 | A | 23600.00 | 0.85 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2554998.80 | 0.45 | 2521858.30 | 101.3 | 70 - 130 | |
| 45 | Sc | 3379752.80 | 0.18 | 3362635.00 | 100.5 | 70 - 130 | |
| 45 | Sc | 367079.03 | 0.22 | 367626.47 | 99.9 | 70 - 130 | |
| 72 | Ge | 702498.81 | 0.92 | 714805.50 | 98.3 | 70 - 130 | |
| 72 | Ge | 144683.70 | 0.69 | 144801.52 | 99.9 | 70 - 130 | |
| 103 | Rh | 4000867.50 | 0.25 | 3924880.80 | 101.9 | 70 - 130 | |
| 115 | In | 3983582.00 | 0.45 | 3944903.30 | 101.0 | 70 - 130 | |
| 115 | In | 1111089.90 | 0.39 | 1086949.30 | 102.2 | 70 - 130 | |
| 159 | Tb | 5031697.00 | 0.91 | 4942952.00 | 101.8 | 70 - 130 | |
| 175 | Lu | 4737848.50 | 0.14 | 4623930.50 | 102.5 | 70 - 130 | |
| 209 | Bi | 2769469.80 | 0.85 | 2757011.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#
Date Acquired: Oct 31 2013 11:20 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2536726.00 | A | 39000.00 | 1.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 931693.81 | A | 12860.00 | 1.38 |
| 9 | Be | 28857.00 | P | 308.50 | 1.07 |
| 11 | B | 549230.31 | P | 2858.00 | 0.52 |
| 11 | B | 11555.74 | P | 236.60 | 2.05 |
| 23 | Na | 4311364.00 | A | 32320.00 | 0.75 |
| 23 | Na | 284823.81 | P | 939.80 | 0.33 |
| 24 | Mg | 2646307.00 | A | 17150.00 | 0.65 |
| 24 | Mg | 133938.50 | P | 557.90 | 0.42 |
| 27 | Al | 3318237.00 | A | 14060.00 | 0.42 |
| 27 | Al | 84601.57 | P | 850.60 | 1.01 |
| 39 | K | 7727199.00 | A | 42080.00 | 0.54 |
| 44 | Ca | 193099.70 | P | 1455.00 | 0.75 |
| 45 | Sc | 3330294.00 | A | 15130.00 | 0.45 |
| 45 | Sc | 365762.91 | P | 2061.00 | 0.56 |
| 47 | Ti | 335417.31 | P | 3450.00 | 1.03 |
| 51 | V | 917515.69 | P | 5324.00 | 0.58 |
| 52 | Cr | 973556.38 | M | 24080.00 | 2.47 |
| 55 | Mn | 762431.38 | P | 4046.00 | 0.53 |
| 56 | Fe | 924542.38 | P | 9154.00 | 0.99 |
| 59 | Co | 1303678.00 | A | 8292.00 | 0.64 |
| 60 | Ni | 339766.69 | P | 2463.00 | 0.72 |
| 63 | Cu | 853054.81 | P | 5681.00 | 0.67 |
| 66 | Zn | 157874.80 | P | 1078.00 | 0.68 |
| 72 | Ge | 706224.81 | P | 10130.00 | 1.43 |
| 72 | Ge | 143582.50 | P | 817.20 | 0.57 |
| 75 | As | 119295.20 | P | 827.00 | 0.69 |
| 78 | Se | 13725.61 | P | 86.36 | 0.63 |
| 88 | Sr | 5223529.00 | A | 65620.00 | 1.26 |
| 98 | Mo | 1608264.00 | A | 9337.00 | 0.58 |
| 103 | Rh | 3941595.00 | A | 16160.00 | 0.41 |
| 107 | Ag | 2396045.00 | A | 5518.00 | 0.23 |

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 185812.30 | P | 784.50 | 0.42 |
| 115 | In | 3961243.00 | A | 24130.00 | 0.61 |
| 115 | In | 1102240.00 | A | 6341.00 | 0.58 |
| 118 | (In) | | A | | |
| 118 | (In) | | P | | |
| 120 | Sn | 2000071.00 | A | 8538.00 | 0.43 |
| 121 | Sb | 1848809.00 | A | 20180.00 | 1.09 |
| 137 | Ba | 744011.31 | P | 8116.00 | 1.09 |
| 159 | Tb | 4997242.00 | A | 46950.00 | 0.94 |
| 175 | Lu | 4725955.00 | A | 46920.00 | 0.99 |
| 205 | Tl | 3492071.00 | A | 5762.00 | 0.17 |
| 206 | (Pb) | 1220915.00 | A | 20140.00 | 1.65 |
| 207 | (Pb) | 1071976.00 | P | 12970.00 | 1.21 |
| 208 | Pb | 4742554.00 | A | 36410.00 | 0.77 |
| 209 | Bi | 2784998.00 | A | 28090.00 | 1.01 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2536726.50 | 1.54 | 2521858.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 3330294.50 | 0.45 | 3362635.00 | 99.0 | 70 - 130 | |
| 45 | Sc | 365762.88 | 0.56 | 367626.47 | 99.5 | 70 - 130 | |
| 72 | Ge | 706224.81 | 1.43 | 714805.50 | 98.8 | 70 - 130 | |
| 72 | Ge | 143582.52 | 0.57 | 144801.52 | 99.2 | 70 - 130 | |
| 103 | Rh | 3941595.00 | 0.41 | 3924880.80 | 100.4 | 70 - 130 | |
| 115 | In | 3961243.30 | 0.61 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1102240.00 | 0.58 | 1086949.30 | 101.4 | 70 - 130 | |
| 159 | Tb | 4997241.50 | 0.94 | 4942952.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 4725954.50 | 0.99 | 4623930.50 | 102.2 | 70 - 130 | |
| 209 | Bi | 2784998.00 | 1.01 | 2757011.00 | 101.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#
Date Acquired: Oct 31 2013 11:27 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2487333.00 | A | 26170.00 | 1.05 |
| 7 | (Li) | | P | | |
| 9 | Be | 363.35 | P | 23.33 | 6.42 |
| 9 | Be | 164.45 | P | 45.99 | 27.97 |
| 11 | B | 4451.89 | P | 48.58 | 1.09 |
| 11 | B | 264.45 | P | 30.97 | 11.71 |
| 23 | Na | 37259048.00 | A | 324300.00 | 0.87 |
| 23 | Na | 2188867.00 | A | 11840.00 | 0.54 |
| 24 | Mg | 24938700.00 | A | 215400.00 | 0.86 |
| 24 | Mg | 1237019.00 | A | 13810.00 | 1.12 |
| 27 | Al | 31161050.00 | A | 289100.00 | 0.93 |
| 27 | Al | 831312.31 | P | 8787.00 | 1.06 |
| 39 | K | 39269200.00 | A | 452700.00 | 1.15 |
| 44 | Ca | 1128635.00 | A | 2982.00 | 0.26 |
| 45 | Sc | 3356362.00 | A | 22390.00 | 0.67 |
| 45 | Sc | 378445.41 | P | 1052.00 | 0.28 |
| 47 | Ti | 374.46 | P | 41.14 | 10.99 |
| 51 | V | 5724.25 | P | 248.80 | 4.35 |
| 52 | Cr | 2383.33 | P | 43.51 | 1.83 |
| 55 | Mn | 1121.83 | P | 30.12 | 2.68 |
| 56 | Fe | 8171571.00 | A | 46890.00 | 0.57 |
| 59 | Co | 774.25 | P | 41.43 | 5.35 |
| 60 | Ni | 475.12 | P | 25.52 | 5.37 |
| 63 | Cu | 3560.02 | P | 71.73 | 2.01 |
| 66 | Zn | 623.80 | P | 60.83 | 9.75 |
| 72 | Ge | 727258.38 | P | 6318.00 | 0.87 |
| 72 | Ge | 149444.09 | P | 466.40 | 0.31 |
| 75 | As | 368.23 | P | 10.21 | 2.77 |
| 78 | Se | 337.12 | P | 26.85 | 7.96 |
| 88 | Sr | 3843.96 | P | 122.20 | 3.18 |
| 98 | Mo | 1916.86 | P | 66.93 | 3.49 |
| 103 | Rh | 3902106.00 | A | 45530.00 | 1.17 |
| 107 | Ag | 818.94 | P | 58.35 | 7.13 |

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 203.34 | P | 37.57 | 18.48 |
| 115 | In | 3961190.00 | A | 29500.00 | 0.74 |
| 115 | In | 1118718.00 | A | 5538.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1749.06 | P | 92.65 | 5.30 |
| 121 | Sb | 2078.00 | P | 37.91 | 1.82 |
| 137 | Ba | 967.84 | P | 81.95 | 8.47 |
| 159 | Tb | 4963982.00 | A | 5580.00 | 0.11 |
| 175 | Lu | 4708879.00 | A | 36680.00 | 0.78 |
| 205 | Tl | 5834.75 | P | 175.10 | 3.00 |
| 206 | (Pb) | 618.93 | P | 27.15 | 4.39 |
| 207 | (Pb) | 493.36 | P | 36.06 | 7.31 |
| 208 | Pb | 4003.81 | P | 55.08 | 1.38 |
| 209 | Bi | 2754453.00 | A | 19680.00 | 0.71 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2487332.80 | 1.05 | 2521858.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 3356361.80 | 0.67 | 3362635.00 | 99.8 | 70 - 130 | |
| 45 | Sc | 378445.47 | 0.28 | 367626.47 | 102.9 | 70 - 130 | |
| 72 | Ge | 727258.38 | 0.87 | 714805.50 | 101.7 | 70 - 130 | |
| 72 | Ge | 149444.05 | 0.31 | 144801.52 | 103.2 | 70 - 130 | |
| 103 | Rh | 3902105.80 | 1.17 | 3924880.80 | 99.4 | 70 - 130 | |
| 115 | In | 3961190.00 | 0.74 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1118718.00 | 0.50 | 1086949.30 | 102.9 | 70 - 130 | |
| 159 | Tb | 4963982.00 | 0.11 | 4942952.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4708878.50 | 0.78 | 4623930.50 | 101.8 | 70 - 130 | |
| 209 | Bi | 2754452.80 | 0.71 | 2757011.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#
Date Acquired: Oct 31 2013 11:35 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2464318.00 | A | 7530.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 290.02 | P | 225.00 | 77.58 |
| 9 | Be | 82.22 | P | 1.93 | 2.34 |
| 11 | B | 2095.76 | P | 146.90 | 7.01 |
| 11 | B | 126.67 | P | 21.86 | 17.26 |
| 23 | Na | 362118690.00 | A | 2552000.00 | 0.70 |
| 23 | Na | 20296390.00 | A | 271700.00 | 1.34 |
| 24 | Mg | 242174800.00 | A | 1367000.00 | 0.56 |
| 24 | Mg | 11605370.00 | A | 113800.00 | 0.98 |
| 27 | Al | 304862300.00 | A | 1997000.00 | 0.66 |
| 27 | Al | 7437361.00 | A | 44410.00 | 0.60 |
| 39 | K | 346324000.00 | A | 2590000.00 | 0.75 |
| 44 | Ca | 10384030.00 | A | 59790.00 | 0.58 |
| 45 | Sc | 3348449.00 | A | 10160.00 | 0.30 |
| 45 | Sc | 378948.91 | P | 3362.00 | 0.89 |
| 47 | Ti | 408.91 | P | 206.00 | 50.38 |
| 51 | V | 5451.25 | P | 119.80 | 2.20 |
| 52 | Cr | 3749.39 | P | 64.03 | 1.71 |
| 55 | Mn | 3311.96 | P | 51.26 | 1.55 |
| 56 | Fe | 79734328.00 | A | 1292000.00 | 1.62 |
| 59 | Co | 2786.07 | P | 82.66 | 2.97 |
| 60 | Ni | 976.93 | P | 17.35 | 1.78 |
| 63 | Cu | 3904.11 | P | 37.01 | 0.95 |
| 66 | Zn | 8183.12 | P | 69.40 | 0.85 |
| 72 | Ge | 732295.69 | P | 5927.00 | 0.81 |
| 72 | Ge | 149667.41 | P | 2474.00 | 1.65 |
| 75 | As | 276.23 | P | 7.78 | 2.82 |
| 78 | Se | 260.45 | P | 31.74 | 12.19 |
| 88 | Sr | 23682.73 | P | 363.10 | 1.53 |
| 98 | Mo | 934.51 | P | 208.00 | 22.26 |
| 103 | Rh | 3772556.00 | A | 11130.00 | 0.30 |
| 107 | Ag | 1088.97 | P | 298.40 | 27.40 |

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 161.12 | P | 19.53 | 12.12 |
| 115 | In | 3831564.00 | A | 6845.00 | 0.18 |
| 115 | In | 1088822.00 | A | 22910.00 | 2.10 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1105.64 | P | 272.80 | 24.67 |
| 121 | Sb | 1206.76 | P | 126.00 | 10.44 |
| 137 | Ba | 1476.80 | P | 121.00 | 8.19 |
| 159 | Tb | 4972797.00 | A | 17990.00 | 0.36 |
| 175 | Lu | 4680171.00 | A | 17030.00 | 0.36 |
| 205 | Tl | 2286.94 | P | 259.90 | 11.37 |
| 206 | (Pb) | 922.29 | P | 183.10 | 19.85 |
| 207 | (Pb) | 794.50 | P | 223.00 | 28.07 |
| 208 | Pb | 5107.36 | P | 981.90 | 19.23 |
| 209 | Bi | 2623461.00 | A | 9222.00 | 0.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2464317.80 | 0.31 | 2521858.30 | 97.7 | 70 - 130 | |
| 45 | Sc | 3348449.00 | 0.30 | 3362635.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 378948.88 | 0.89 | 367626.47 | 103.1 | 70 - 130 | |
| 72 | Ge | 732295.69 | 0.81 | 714805.50 | 102.4 | 70 - 130 | |
| 72 | Ge | 149667.39 | 1.65 | 144801.52 | 103.4 | 70 - 130 | |
| 103 | Rh | 3772556.30 | 0.30 | 3924880.80 | 96.1 | 70 - 130 | |
| 115 | In | 3831563.80 | 0.18 | 3944903.30 | 97.1 | 70 - 130 | |
| 115 | In | 1088821.90 | 2.10 | 1086949.30 | 100.2 | 70 - 130 | |
| 159 | Tb | 4972797.00 | 0.36 | 4942952.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 4680171.00 | 0.36 | 4623930.50 | 101.2 | 70 - 130 | |
| 209 | Bi | 2623461.00 | 0.35 | 2757011.00 | 95.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 31 2013 11:42 am
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.45 | 60.45 | ppb | 0.14 | 900.00 | |
| 9 Be | 45 | 2 | 59.57 | 59.57 | ppb | 1.03 | 900.00 | |
| 11 B | 6 | 1 | 59.71 | 59.71 | ppb | 0.86 | 900.00 | |
| 11 B | 45 | 2 | 56.70 | 56.70 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5611.00 | 5611.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5835.00 | 5835.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 5730.00 | 5730.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 5471.00 | 5471.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 5914.00 | 5914.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5456.00 | 5456.00 | ppb | 0.79 | 90000.00 | |
| 39 K | 45 | 1 | 5641.00 | 5641.00 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 5595.00 | 5595.00 | ppb | 0.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.41 | 60.41 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 60.85 | 60.85 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 59.64 | 59.64 | ppb | 0.62 | 900.00 | |
| 55 Mn | 45 | 2 | 59.79 | 59.79 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5796.00 | 5796.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 60.48 | 60.48 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 58.51 | 58.51 | ppb | 0.87 | 900.00 | |
| 63 Cu | 72 | 2 | 57.50 | 57.50 | ppb | 1.05 | 900.00 | |
| 66 Zn | 72 | 2 | 61.31 | 61.31 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 59.46 | 59.46 | ppb | 0.93 | 900.00 | |
| 78 Se | 72 | 2 | 59.28 | 59.28 | ppb | 2.62 | 900.00 | |
| 88 Sr | 103 | 1 | 61.89 | 61.89 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 64.52 | 64.52 | ppb | 0.15 | 900.00 | |
| 107 Ag | 115 | 1 | 61.30 | 61.30 | ppb | 0.97 | 900.00 | |
| 111 Cd | 115 | 2 | 59.51 | 59.51 | ppb | 1.06 | 900.00 | |
| 120 Sn | 115 | 1 | 60.75 | 60.75 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 60.14 | 60.14 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 60.20 | 60.20 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 58.85 | 58.85 | ppb | 0.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.90 | 60.90 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2486272 | 0.84 | 2521858 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 3367463 | 0.57 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 371203 | 0.52 | 367626 | 101.0 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 708654 | 0.82 | 714806 | 99.1 | 70 | - | 130 |
| 72 | Ge | 2 | 146540 | 0.82 | 144802 | 101.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3818770 | 0.36 | 3924881 | 97.3 | 70 | - | 130 |
| 115 | In | 1 | 3860230 | 0.28 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1098177 | 2.18 | 1086949 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4968707 | 0.86 | 4942952 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4673059 | 0.37 | 4623931 | 101.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2677828 | 0.46 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Oct 31 2013 11:49 am |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 11.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 89.95 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 9.85 | 900.00 | |
| 11 B | 45 | 2 | 0.41 | 0.41 | ppb | 27.96 | 900.00 | |
| 23 Na | 45 | 1 | 1.13 | 1.13 | ppb | 4.93 | 90000.00 | |
| 23 Na | 45 | 2 | 3.40 | 3.40 | ppb | 33.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.65 | 0.65 | ppb | 21.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.01 | 3.01 | ppb | 35.24 | 90000.00 | |
| 27 Al | 45 | 1 | 0.75 | 0.75 | ppb | 8.86 | 90000.00 | |
| 27 Al | 45 | 2 | 3.00 | 3.00 | ppb | 31.51 | 90000.00 | |
| 39 K | 45 | 1 | -0.53 | -0.53 | ppb | 136.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.80 | 0.80 | ppb | 64.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 6.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.05 | 0.05 | ppb | 121.91 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 23.64 | 900.00 | |
| 56 Fe | 45 | 2 | 3.66 | 3.66 | ppb | 35.55 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 31.60 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 18.17 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 142.97 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.57 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 56.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 32.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 17.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 7.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.83 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 72.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 3.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 32.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2545401 | 0.75 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3384524 | 0.33 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381055 | 0.51 | 367626 | 103.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724776 | 0.30 | 714806 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 149806 | 0.48 | 144802 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 3972545 | 0.16 | 3924881 | 101.2 | 70 | - | 130 |
| 115 In | 1 | 4015489 | 0.44 | 3944903 | 101.8 | 70 | - | 130 |
| 115 In | 2 | 1135391 | 0.48 | 1086949 | 104.5 | 70 | - | 130 |
| 159 Tb | 1 | 5024319 | 0.65 | 4942952 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4721330 | 0.64 | 4623931 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2810982 | 0.86 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#
Date Acquired: Oct 31 2013 11:58 am
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.30 | 50.30 | ppb | 0.28 | 900.00 | |
| 9 Be | 45 | 2 | 49.74 | 49.74 | ppb | 3.60 | 900.00 | |
| 11 B | 6 | 1 | 51.06 | 51.06 | ppb | 0.73 | 900.00 | |
| 11 B | 45 | 2 | 49.28 | 49.28 | ppb | 3.55 | 900.00 | |
| 23 Na | 45 | 1 | 5101.00 | 5101.00 | ppb | 0.15 | 90000.00 | |
| 23 Na | 45 | 2 | 5229.00 | 5229.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5104.00 | 5104.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4676.00 | 4676.00 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.69 | 49.69 | ppb | 0.45 | 900.00 | |
| 51 V | 45 | 2 | 49.03 | 49.03 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 48.81 | 48.81 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 3.40 | 900.00 | |
| 56 Fe | 45 | 2 | 5147.00 | 5147.00 | ppb | 3.53 | 90000.00 | |
| 59 Co | 45 | 2 | 49.77 | 49.77 | ppb | 3.23 | 900.00 | |
| 60 Ni | 45 | 2 | 48.16 | 48.16 | ppb | 1.61 | 900.00 | |
| 63 Cu | 72 | 2 | 47.34 | 47.34 | ppb | 2.18 | 900.00 | |
| 66 Zn | 72 | 2 | 48.58 | 48.58 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 49.65 | 49.65 | ppb | 1.23 | 900.00 | |
| 78 Se | 72 | 2 | 48.64 | 48.64 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 51.54 | 51.54 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 52.50 | 52.50 | ppb | 1.16 | 900.00 | |
| 107 Ag | 115 | 1 | 49.05 | 49.05 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 48.72 | 48.72 | ppb | 1.85 | 900.00 | |
| 120 Sn | 115 | 1 | 52.57 | 52.57 | ppb | 0.80 | 900.00 | |
| 121 Sb | 115 | 1 | 53.07 | 53.07 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.55 | 49.55 | ppb | 1.46 | 900.00 | |
| 205 Tl | 209 | 1 | 48.77 | 48.77 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 0.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2483818 | 1.63 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3388282 | 0.95 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 375804 | 1.31 | 367626 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708720 | 0.60 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 147585 | 1.31 | 144802 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3877887 | 0.41 | 3924881 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 3930373 | 0.60 | 3944903 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1110154 | 0.80 | 1086949 | 102.1 | 70 | - | 130 |
| 159 Tb | 1 | 5017846 | 0.83 | 4942952 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 4706974 | 0.68 | 4623931 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 2692495 | 0.58 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 12:09 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2104 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 33.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.07 | ppb | 35.29 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 7.29 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 10.15 | 900.00 | |
| 23 Na | 45 | 1 | 1.02 | 1.02 | ppb | 6.43 | 90000.00 | |
| 23 Na | 45 | 2 | 2.99 | 2.99 | ppb | 13.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 26.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.74 | 2.74 | ppb | 17.13 | 90000.00 | |
| 27 Al | 45 | 1 | 0.79 | 0.79 | ppb | 25.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2.51 | 2.51 | ppb | 16.86 | 90000.00 | |
| 39 K | 45 | 1 | 0.59 | 0.59 | ppb | 53.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.37 | 0.37 | ppb | 133.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.74 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 10.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 32.87 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 26.81 | 900.00 | |
| 56 Fe | 45 | 2 | 2.97 | 2.97 | ppb | 18.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 28.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.03 | ppb | 17.92 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 129.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.20 | ppb | 47.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 25.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.03 | ppb | 6.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.75 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 5.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 16.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.84 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 49.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 2.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 23.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2564763 | 0.65 | 2521858 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 3385504 | 0.08 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381602 | 0.41 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 728382 | 0.79 | 714806 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 150502 | 0.79 | 144802 | 103.9 | 70 | - | 130 |
| 103 Rh | 1 | 3990804 | 0.66 | 3924881 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 4003275 | 0.71 | 3944903 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 1146737 | 0.28 | 1086949 | 105.5 | 70 | - | 130 |
| 159 Tb | 1 | 5044716 | 0.40 | 4942952 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 4768985 | 0.29 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2812956 | 0.34 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#** | | |
| **Date Acquired:** | **Oct 31 2013 12:17 pm** | | |
| **Acq. Method:** | **EPA6020A.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **CRI** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2105** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020A.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020A.C** | | |
| **Last Cal. Update:** | **Nov 01 2013 08:50 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.68 | 0.68 | ppb | 10.90 | 900.00 | |
| 11 B | 6 | 1 | 5.15 | 5.15 | ppb | 1.70 | 900.00 | |
| 11 B | 45 | 2 | 5.73 | 5.73 | ppb | 16.15 | 900.00 | |
| 23 Na | 45 | 1 | 269.70 | 269.70 | ppb | 2.93 | 90000.00 | |
| 23 Na | 45 | 2 | 301.50 | 301.50 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 277.50 | 277.50 | ppb | 3.09 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.10 | 285.10 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 29.60 | 29.60 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 2 | 27.44 | 27.44 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 271.00 | 271.00 | ppb | 2.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 286.90 | 286.90 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 1.06 | ppb | 1.86 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 2.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 1.00 | ppb | 1.29 | 900.00 | |
| 55 Mn | 45 | 2 | 1.04 | 1.04 | ppb | 2.15 | 900.00 | |
| 56 Fe | 45 | 2 | 30.27 | 30.27 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.54 | 0.54 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 2.46 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 1.00 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 5.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.79 | 0.79 | ppb | 25.84 | 900.00 | |
| 88 Sr | 103 | 1 | 5.44 | 5.44 | ppb | 2.24 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 4.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.55 | 0.55 | ppb | 2.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.54 | 0.54 | ppb | 6.48 | 900.00 | |
| 120 Sn | 115 | 1 | 5.24 | 5.24 | ppb | 2.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 2.29 | 900.00 | |
| 137 Ba | 159 | 1 | 1.08 | 1.08 | ppb | 2.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 0.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.57 | 0.57 | ppb | 1.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2589735 | 1.01 | 2521858 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 3355864 | 1.98 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 379685 | 0.18 | 367626 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 724065 | 1.81 | 714806 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 149892 | 0.36 | 144802 | 103.5 | 70 | - | 130 |
| 103 | Rh | 1 | 4024897 | 0.54 | 3924881 | 102.5 | 70 | - | 130 |
| 115 | In | 1 | 4035904 | 1.45 | 3944903 | 102.3 | 70 | - | 130 |
| 115 | In | 2 | 1142700 | 0.18 | 1086949 | 105.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5014331 | 1.26 | 4942952 | 101.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4771893 | 2.00 | 4623931 | 103.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2836056 | 1.18 | 2757011 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D# |
| Date Acquired: | Oct 31 2013 12:26 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICSA |
| Misc Info: | |
| Vial Number: | 2106 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 42.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.14 | ppb | 82.13 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 14.12 | 900.00 | |
| 23 Na | 45 | 1 | 97480.00 | 97480.00 | ppb | 0.39 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98970.00 | 98970.00 | ppb | 0.83 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96950.00 | 96950.00 | ppb | 1.26 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 91660.00 | 91660.00 | ppb | 0.49 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 98320.00 | 98320.00 | ppb | 1.30 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88420.00 | 88420.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 97780.00 | 97780.00 | ppb | 1.66 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96150.00 | 96150.00 | ppb | 1.21 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1921.00 | 1921.00 | ppb | 1.53 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 19.58 | 900.00 | |
| 52 Cr | 45 | 2 | 1.06 | 1.06 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.25 | ppb | 4.62 | 900.00 | |
| 56 Fe | 45 | 2 | 96500.00 | 96500.00 | ppb | 0.48 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.70 | ppb | 2.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.55 | 0.55 | ppb | 21.47 | 900.00 | |
| 66 Zn | 72 | 2 | 1.84 | 1.84 | ppb | 2.56 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 7.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.40 | ppb | 31.68 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 5.23 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 2005.00 | 2005.00 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 8.29 | 900.00 | |
| 111 Cd | 115 | 2 | 1.15 | 1.15 | ppb | 3.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 2.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 3.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2349052 | 0.38 | 2521858 | 93.1 | 70 - 130 | |
| 45 Sc | 1 | 3218230 | 1.07 | 3362635 | 95.7 | 70 - 130 | |
| 45 Sc | 2 | 359881 | 0.45 | 367626 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 746203 | 1.30 | 714806 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 144679 | 0.76 | 144802 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3415071 | 0.45 | 3924881 | 87.0 | 70 | - | 130 |
| 115 In | 1 | 3583008 | 0.44 | 3944903 | 90.8 | 70 | - | 130 |
| 115 In | 2 | 1086267 | 0.59 | 1086949 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 4753298 | 0.72 | 4942952 | 96.2 | 70 | - | 130 |
| 175 Lu | 1 | 4541982 | 0.96 | 4623931 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2390792 | 0.63 | 2757011 | 86.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D# |
| Date Acquired: | Oct 31 2013 12:33 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICSAB |
| Misc Info: | |
| Vial Number: | 2107 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 58.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 270.25 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 2.95 | 900.00 | |
| 11 B | 45 | 2 | 0.33 | 0.33 | ppb | 69.55 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100200.00 | 100200.00 | ppb | 0.72 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96730.00 | 96730.00 | ppb | 0.14 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93470.00 | 93470.00 | ppb | 0.23 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 97140.00 | 97140.00 | ppb | 1.19 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88750.00 | 88750.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 96590.00 | 96590.00 | ppb | 0.55 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96510.00 | 96510.00 | ppb | 0.09 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1917.00 | 1917.00 | ppb | 0.69 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 0.89 | 900.00 | |
| 52 Cr | 45 | 2 | 20.78 | 20.78 | ppb | 0.14 | 900.00 | |
| 55 Mn | 45 | 2 | 19.72 | 19.72 | ppb | 0.11 | 900.00 | |
| 56 Fe | 45 | 2 | 98200.00 | 98200.00 | ppb | 0.37 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.78 | 19.78 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 19.44 | 19.44 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 18.69 | 18.69 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 19.82 | 19.82 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 20.05 | 20.05 | ppb | 0.04 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.23 | ppb | 2.89 | 900.00 | |
| 88 Sr | 103 | 1 | 5.22 | 5.22 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2013.00 | 2013.00 | ppb | 0.76 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.01 | 21.01 | ppb | 1.13 | 900.00 | |
| 111 Cd | 115 | 2 | 19.54 | 19.54 | ppb | 1.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 11.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2352990 | 1.02 | 2521858 | 93.3 | 70 - 130 | |
| 45 Sc | 1 | 3230003 | 0.66 | 3362635 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 349042 | 0.49 | 367626 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735288 | 0.66 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 141497 | 0.36 | 144802 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3406075 | 0.61 | 3924881 | 86.8 | 70 | - | 130 |
| 115 | In | 1 | 3587248 | 1.33 | 3944903 | 90.9 | 70 | - | 130 |
| 115 | In | 2 | 1060516 | 0.46 | 1086949 | 97.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4753899 | 0.90 | 4942952 | 96.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4545631 | 0.84 | 4623931 | 98.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2416343 | 1.44 | 2757011 | 87.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#
Date Acquired: Oct 31 2013 12:45 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 261.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.06 | ppb | 197.81 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.13 | ppb | 16.79 | 900.00 | |
| 11 B | 45 | 2 | 0.55 | 0.28 | ppb | 39.26 | 900.00 | |
| 23 Na | 45 | 1 | 98860.00 | 49430.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 100020.00 | 50010.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 98680.00 | 49340.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 92720.00 | 46360.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 98820.00 | 49410.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 2 | 87660.00 | 43830.00 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 98880.00 | 49440.00 | ppb | 0.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 96800.00 | 48400.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1961.40 | 980.70 | ppb | 0.63 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.31 | -0.15 | ppb | 2.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 0.52 | ppb | 1.70 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.13 | ppb | 2.48 | 900.00 | |
| 56 Fe | 45 | 2 | 98500.00 | 49250.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.05 | 0.02 | ppb | 9.81 | 900.00 | |
| 60 Ni | 45 | 2 | 0.77 | 0.39 | ppb | 3.23 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 5.85 | 900.00 | |
| 66 Zn | 72 | 2 | 2.50 | 1.25 | ppb | 2.06 | 900.00 | |
| 75 As | 72 | 2 | 0.11 | 0.06 | ppb | 15.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.04 | ppb | 281.16 | 900.00 | |
| 88 Sr | 103 | 1 | 5.28 | 2.64 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 2012.00 | 1006.00 | ppb | 0.22 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 8.91 | 900.00 | |
| 111 Cd | 115 | 2 | 1.16 | 0.58 | ppb | 9.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 2.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.34 | 0.17 | ppb | 1.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.14 | ppb | 5.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 12.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.08 | ppb | 3.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2398945 | 0.29 | 2521858 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 3294112 | 0.15 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 358411 | 0.46 | 367626 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 737194 | 0.75 | 714806 | 103.1 | 70 | - | 130 |
| 72 | Ge | 2 | 143481 | 0.23 | 144802 | 99.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3541786 | 0.44 | 3924881 | 90.2 | 70 | - | 130 |
| 115 | In | 1 | 3729426 | 0.29 | 3944903 | 94.5 | 70 | - | 130 |
| 115 | In | 2 | 1084651 | 5.52 | 1086949 | 99.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4942713 | 0.41 | 4942952 | 100.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4796502 | 0.99 | 4623931 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2594849 | 0.22 | 2757011 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#** | | |
| **Date Acquired:** | **Oct 31 2013 12:52 pm** | | |
| **Acq. Method:** | **EPA6020A.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Fail** |
| **Sample Name:** | **ICSAB** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2109** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020A.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020A.C** | | |
| **Last Cal. Update:** | **Nov 01 2013 08:50 am** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **2.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **2.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2065.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | -0.04 | ppb | 75.85 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.12 | ppb | 17.32 | 900.00 | |
| 11 B | 45 | 2 | 0.50 | 0.25 | ppb | 83.71 | 900.00 | |
| 23 Na | 45 | 1 | 99060.00 | 49530.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 101180.00 | 50590.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 98740.00 | 49370.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 93400.00 | 46700.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 98460.00 | 49230.00 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 2 | 88040.00 | 44020.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 99100.00 | 49550.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 97140.00 | 48570.00 | ppb | 0.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 1957.80 | 978.90 | ppb | 0.17 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.28 | -0.14 | ppb | 2.65 | 900.00 | |
| 52 Cr | 45 | 2 | 21.16 | 10.58 | ppb | 0.24 | 900.00 | |
| 55 Mn | 45 | 2 | 19.95 | 9.98 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 99480.00 | 49740.00 | ppb | 0.55 | 90000.00 | |
| 59 Co | 45 | 2 | 20.24 | 10.12 | ppb | 0.04 | 900.00 | |
| 60 Ni | 45 | 2 | 19.97 | 9.98 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 19.28 | 9.64 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 21.62 | 10.81 | ppb | 1.86 | 900.00 | |
| 75 As | 72 | 2 | 20.16 | 10.08 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 110.10 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 2.61 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1996.20 | 998.10 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.00 | 10.50 | ppb | 0.85 | 900.00 | |
| 111 Cd | 115 | 2 | 20.58 | 10.29 | ppb | 4.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 7.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.13 | ppb | 11.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 14.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.08 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2382373 | 0.25 | 2521858 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 3285512 | 0.55 | 3362635 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 355689 | 0.54 | 367626 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731001 | 1.08 | 714806 | 102.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142086 | 0.77 | 144802 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3527709 | 0.47 | 3924881 | 89.9 | 70 | - | 130 |
| 115 | In | 1 | 3730995 | 0.73 | 3944903 | 94.6 | 70 | - | 130 |
| 115 | In | 2 | 1078845 | 4.93 | 1086949 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4895208 | 0.99 | 4942952 | 99.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4692431 | 0.22 | 4623931 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2569894 | 0.37 | 2757011 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#
Date Acquired: Oct 31 2013 01:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 52.61 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 528.82 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 36.44 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 69.01 | 900.00 | |
| 23 Na | 45 | 1 | 27.72 | 27.72 | ppb | 1.95 | 90000.00 | |
| 23 Na | 45 | 2 | 45.36 | 45.36 | ppb | 17.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 16.87 | 16.87 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 27.79 | 27.79 | ppb | 21.34 | 90000.00 | |
| 27 Al | 45 | 1 | 16.50 | 16.50 | ppb | 1.86 | 90000.00 | |
| 27 Al | 45 | 2 | 24.32 | 24.32 | ppb | 19.63 | 90000.00 | |
| 39 K | 45 | 1 | 20.95 | 20.95 | ppb | 1.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.21 | 13.21 | ppb | 6.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.36 | 0.36 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 2.39 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 60.80 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 266.31 | 900.00 | |
| 56 Fe | 45 | 2 | 28.73 | 28.73 | ppb | 20.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 55.13 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 89.05 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 84.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.97 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.04 | ppb | 21.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 1980.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 73.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.68 | 0.68 | ppb | 1.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 11.38 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 6.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 63.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 57.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 5007.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 32.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.86 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2498751 | 0.42 | 2521858 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 3390213 | 0.34 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 368852 | 0.41 | 367626 | 100.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731633 | 0.94 | 714806 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 146898 | 0.41 | 144802 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4019365 | 1.06 | 3924881 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 4083533 | 0.98 | 3944903 | 103.5 | 70 | - | 130 |
| 115 | In | 2 | 1127201 | 1.02 | 1086949 | 103.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5172897 | 0.84 | 4942952 | 104.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4940078 | 0.88 | 4623931 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2928841 | 0.35 | 2757011 | 106.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D# |
| Date Acquired: | Oct 31 2013 01:08 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-MB1 |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 133.88 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 125.45 | 900.00 | |
| 11 B | 6 | 1 | 0.76 | 0.38 | ppb | 6.64 | 900.00 | |
| 11 B | 45 | 2 | 1.21 | 0.60 | ppb | 45.45 | 900.00 | |
| 23 Na | 45 | 1 | 43.22 | 21.61 | ppb | 2.45 | 90000.00 | |
| 23 Na | 45 | 2 | 50.66 | 25.33 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.68 | 0.84 | ppb | 3.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.70 | 0.85 | ppb | 9.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4.23 | 2.12 | ppb | 3.19 | 90000.00 | |
| 27 Al | 45 | 2 | 3.94 | 1.97 | ppb | 10.64 | 90000.00 | |
| 39 K | 45 | 1 | 36.82 | 18.41 | ppb | 8.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 15.16 | 7.58 | ppb | 13.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.27 | 0.14 | ppb | 15.59 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.23 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.13 | ppb | 1.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 12.85 | 900.00 | |
| 56 Fe | 45 | 2 | 10.36 | 5.18 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 50.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 40.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 6.81 | 900.00 | |
| 66 Zn | 72 | 2 | 0.46 | 0.23 | ppb | 7.29 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 11.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 37.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 8.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 10.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 17.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 9.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 10.02 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 8.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 14.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 19.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2465116 | 0.84 | 2521858 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 3348074 | 1.03 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361019 | 0.19 | 367626 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725503 | 0.88 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 143062 | 0.38 | 144802 | 98.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3898227 | 0.34 | 3924881 | 99.3 | 70 | - | 130 |
| 115 | In | 1 | 3928722 | 0.27 | 3944903 | 99.6 | 70 | - | 130 |
| 115 | In | 2 | 1097808 | 1.71 | 1086949 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5124053 | 0.26 | 4942952 | 103.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4893381 | 0.57 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2868404 | 1.31 | 2757011 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#
Date Acquired: Oct 31 2013 01:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-6F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 77.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 99.06 | 900.00 | |
| 11 B | 6 | 1 | 6.13 | 3.07 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 6.75 | 3.38 | ppb | 11.41 | 900.00 | |
| 23 Na | 45 | 1 | 6282.00 | 3141.00 | ppb | 2.09 | 90000.00 | |
| 23 Na | 45 | 2 | 6654.00 | 3327.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 1224.00 | 612.00 | ppb | 1.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 1309.80 | 654.90 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 2.79 | 1.40 | ppb | 5.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2.46 | 1.23 | ppb | 7.29 | 90000.00 | |
| 39 K | 45 | 1 | 1337.00 | 668.50 | ppb | 0.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.36 | 0.68 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 4.10 | 2.05 | ppb | 5.44 | 900.00 | |
| 52 Cr | 45 | 2 | 1.52 | 0.76 | ppb | 2.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1.81 | 0.91 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 9.54 | 4.77 | ppb | 2.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.52 | 900.00 | |
| 60 Ni | 45 | 2 | 0.44 | 0.22 | ppb | 4.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.25 | ppb | 9.93 | 900.00 | |
| 66 Zn | 72 | 2 | 5.40 | 2.70 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 1.08 | 0.54 | ppb | 8.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.23 | ppb | 32.76 | 900.00 | |
| 88 Sr | 103 | 1 | 47.90 | 23.95 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.19 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 28.16 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 39.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 3.55 | 900.00 | |
| 137 Ba | 159 | 1 | 4.59 | 2.30 | ppb | 1.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 4.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 18.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2415341 | 0.97 | 2521858 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 3413094 | 0.95 | 3362635 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 362118 | 0.47 | 367626 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735766 | 0.77 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 143334 | 0.30 | 144802 | 99.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3825786 | 0.88 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3953835 | 0.86 | 3944903 | 100.2 | 70 | - | 130 |
| 115 | In | 2 | 1101544 | 0.69 | 1086949 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5110872 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4875635 | 0.70 | 4623931 | 105.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2831445 | 0.41 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D# |
| Date Acquired: | Oct 31 2013 01:22 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-SD1 |
| Misc Info: | |
| Vial Number: | 2201 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2942.30 | 900.00 | |
| 9 Be | 45 | 2 | -0.06 | -0.01 | ppb | 1665.40 | 900.00 | |
| 11 B | 6 | 1 | 5.46 | 0.55 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 7.46 | 0.75 | ppb | 19.13 | 900.00 | |
| 23 Na | 45 | 1 | 6452.00 | 645.20 | ppb | 2.32 | 90000.00 | |
| 23 Na | 45 | 2 | 6916.00 | 691.60 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1283.00 | 128.30 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1314.00 | 131.40 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 6.59 | 0.66 | ppb | 5.33 | 90000.00 | |
| 27 Al | 45 | 2 | 6.75 | 0.68 | ppb | 15.34 | 90000.00 | |
| 39 K | 45 | 1 | 1340.00 | 134.00 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 7652.00 | 765.20 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.78 | 0.18 | ppb | 2.50 | 900.00 | |
| 51 V | 45 | 2 | 2.38 | 0.24 | ppb | 2.86 | 900.00 | |
| 52 Cr | 45 | 2 | 1.18 | 0.12 | ppb | 3.37 | 900.00 | |
| 55 Mn | 45 | 2 | 2.29 | 0.23 | ppb | 1.86 | 900.00 | |
| 56 Fe | 45 | 2 | 16.90 | 1.69 | ppb | 9.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.00 | ppb | 88.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.38 | 0.04 | ppb | 26.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.24 | 0.12 | ppb | 15.52 | 900.00 | |
| 66 Zn | 72 | 2 | 5.57 | 0.56 | ppb | 4.36 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.06 | ppb | 10.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.02 | ppb | 600.21 | 900.00 | |
| 88 Sr | 103 | 1 | 50.31 | 5.03 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.06 | ppb | 2.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 54.59 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.01 | ppb | 137.85 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 99.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.01 | ppb | 14.39 | 900.00 | |
| 137 Ba | 159 | 1 | 4.63 | 0.46 | ppb | 2.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 295.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.01 | ppb | 22.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2482879 | 1.35 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3420383 | 1.12 | 3362635 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 371770 | 0.29 | 367626 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 744329 | 1.20 | 714806 | 104.1 | 70 | - | 130 |
| 72 | Ge | 2 | 148139 | 0.17 | 144802 | 102.3 | 70 | - | 130 |
| 103 | Rh | 1 | 4005313 | 0.67 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4059712 | 1.11 | 3944903 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1131537 | 0.04 | 1086949 | 104.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5133324 | 1.38 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4929720 | 1.92 | 4623931 | 106.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2985354 | 0.34 | 2757011 | 108.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D# |
| Date Acquired: | Oct 31 2013 01:31 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-1F |
| Misc Info: | |
| Vial Number: | 2202 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 275.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.93 | 0.05 | ppb | 38.10 | 900.00 | |
| 11 B | 6 | 1 | 70.30 | 3.52 | ppb | 0.97 | 900.00 | |
| 11 B | 45 | 2 | 74.42 | 3.72 | ppb | 6.07 | 900.00 | |
| 23 Na | 45 | 1 | 23180.00 | 1159.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 24520.00 | 1226.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 2750.00 | 137.50 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2852.00 | 142.60 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 7.55 | 0.38 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 7.90 | 0.40 | ppb | 9.49 | 90000.00 | |
| 39 K | 45 | 1 | 8598.00 | 429.90 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 23960.00 | 1198.00 | ppb | 0.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.07 | 0.10 | ppb | 10.03 | 900.00 | |
| 51 V | 45 | 2 | -6.81 | -0.34 | ppb | 1.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.56 | -0.03 | ppb | 4.46 | 900.00 | |
| 55 Mn | 45 | 2 | 1612.00 | 80.60 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 41000.00 | 2050.00 | ppb | 1.03 | 90000.00 | |
| 59 Co | 45 | 2 | 5.48 | 0.27 | ppb | 2.19 | 900.00 | |
| 60 Ni | 45 | 2 | 5.12 | 0.26 | ppb | 5.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.84 | 0.09 | ppb | 9.26 | 900.00 | |
| 66 Zn | 72 | 2 | 7.60 | 0.38 | ppb | 6.50 | 900.00 | |
| 75 As | 72 | 2 | 631.80 | 31.59 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 4.20 | 0.21 | ppb | 69.03 | 900.00 | |
| 88 Sr | 103 | 1 | 304.20 | 15.21 | ppb | 1.58 | 900.00 | |
| 98 Mo | 103 | 1 | 1.95 | 0.10 | ppb | 7.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 51.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.33 | 0.02 | ppb | 23.05 | 900.00 | |
| 120 Sn | 115 | 1 | 7.91 | 0.40 | ppb | 3.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.99 | 0.05 | ppb | 9.21 | 900.00 | |
| 137 Ba | 159 | 1 | 92.20 | 4.61 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 390.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.01 | ppb | 24.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432574 | 1.33 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3444577 | 0.24 | 3362635 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 373863 | 0.20 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 745003 | 0.63 | 714806 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 150308 | 0.24 | 144802 | 103.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3949980 | 0.99 | 3924881 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 4047208 | 0.43 | 3944903 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1140631 | 1.14 | 1086949 | 104.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5152171 | 1.44 | 4942952 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4901614 | 0.15 | 4623931 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2920341 | 0.26 | 2757011 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#
Date Acquired: Oct 31 2013 01:38 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.46 | 48.46 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 51.27 | 51.27 | ppb | 0.35 | 900.00 | |
| 11 B | 6 | 1 | 50.61 | 50.61 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 48.23 | 48.23 | ppb | 3.03 | 900.00 | |
| 23 Na | 45 | 1 | 5137.00 | 5137.00 | ppb | 1.40 | 90000.00 | |
| 23 Na | 45 | 2 | 5303.00 | 5303.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 5068.00 | 5068.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 5017.00 | 5017.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4552.00 | 4552.00 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5129.00 | 5129.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.79 | 49.79 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 50.18 | 50.18 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 50.33 | 50.33 | ppb | 0.19 | 900.00 | |
| 55 Mn | 45 | 2 | 48.68 | 48.68 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 5230.00 | 5230.00 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 50.76 | 50.76 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 49.84 | 49.84 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 49.56 | 49.56 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 50.08 | 50.08 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 0.00 | 900.00 | |
| 78 Se | 72 | 2 | 48.87 | 48.87 | ppb | 1.95 | 900.00 | |
| 88 Sr | 103 | 1 | 52.17 | 52.17 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 52.36 | 52.36 | ppb | 1.01 | 900.00 | |
| 107 Ag | 115 | 1 | 48.97 | 48.97 | ppb | 0.90 | 900.00 | |
| 111 Cd | 115 | 2 | 50.26 | 50.26 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 52.44 | 52.44 | ppb | 0.75 | 900.00 | |
| 121 Sb | 115 | 1 | 52.78 | 52.78 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 48.75 | 48.75 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.75 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.26 | 50.26 | ppb | 0.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2418800 | 0.99 | 2521858 | 95.9 | 70 - 130 | |
| 45 Sc | 1 | 3405698 | 1.31 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 362801 | 0.36 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 709550 | 0.69 | 714806 | 99.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142307 | 0.85 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3832982 | 0.67 | 3924881 | 97.7 | 70 | - | 130 |
| 115 | In | 1 | 3915975 | 0.42 | 3944903 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1082519 | 0.84 | 1086949 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5052165 | 0.77 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4840523 | 0.75 | 4623931 | 104.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2771873 | 0.28 | 2757011 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#
Date Acquired: Oct 31 2013 01:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.03 | ppb | 37.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.34 | 0.34 | ppb | 62.79 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 13.38 | 900.00 | |
| 11 B | 45 | 2 | 1.01 | 1.01 | ppb | 42.45 | 900.00 | |
| 23 Na | 45 | 1 | 2.26 | 2.26 | ppb | 7.43 | 90000.00 | |
| 23 Na | 45 | 2 | 7.64 | 7.64 | ppb | 10.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.70 | 0.70 | ppb | 19.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.48 | 2.48 | ppb | 17.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.46 | 0.46 | ppb | 27.35 | 90000.00 | |
| 27 Al | 45 | 2 | 1.89 | 1.89 | ppb | 19.92 | 90000.00 | |
| 39 K | 45 | 1 | 2.69 | 2.69 | ppb | 25.03 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.21 | -3.21 | ppb | 14.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 31.82 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 8.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 89.60 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 25.71 | 900.00 | |
| 56 Fe | 45 | 2 | 2.48 | 2.48 | ppb | 23.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.05 | ppb | 12.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 12.05 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 41.34 | 900.00 | |
| 75 As | 72 | 2 | 0.05 | 0.05 | ppb | 66.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.70 | 0.70 | ppb | 42.80 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 29.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 7.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.26 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.08 | ppb | 30.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 42.48 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 42.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.09 | ppb | 3.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 18.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2468104 | 0.95 | 2521858 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 3376968 | 0.28 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 367817 | 0.24 | 367626 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 729967 | 1.14 | 714806 | 102.1 | 70 | - | 130 |
| 72 | Ge | 2 | 145309 | 0.23 | 144802 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3959574 | 0.74 | 3924881 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 4017152 | 0.14 | 3944903 | 101.8 | 70 | - | 130 |
| 115 | In | 2 | 1109430 | 0.73 | 1086949 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5099116 | 0.01 | 4942952 | 103.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4854603 | 0.31 | 4623931 | 105.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2889785 | 1.09 | 2757011 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 31 2013 01:58 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-2F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.01 | ppb | 87.17 | 900.00 | |
| 9 Be | 45 | 2 | -0.17 | -0.01 | ppb | 281.52 | 900.00 | |
| 11 B | 6 | 1 | 72.66 | 3.63 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 79.02 | 3.95 | ppb | 11.01 | 900.00 | |
| 23 Na | 45 | 1 | 23560.00 | 1178.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 24720.00 | 1236.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 2772.00 | 138.60 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 2844.00 | 142.20 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 9.99 | 0.50 | ppb | 14.60 | 90000.00 | |
| 27 Al | 45 | 2 | 11.22 | 0.56 | ppb | 11.75 | 90000.00 | |
| 39 K | 45 | 1 | 8678.00 | 433.90 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 24280.00 | 1214.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.17 | 0.11 | ppb | 8.83 | 900.00 | |
| 51 V | 45 | 2 | -7.69 | -0.38 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.67 | -0.03 | ppb | 2.31 | 900.00 | |
| 55 Mn | 45 | 2 | 1619.00 | 80.95 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 41740.00 | 2087.00 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 5.56 | 0.28 | ppb | 2.49 | 900.00 | |
| 60 Ni | 45 | 2 | 5.56 | 0.28 | ppb | 3.50 | 900.00 | |
| 63 Cu | 72 | 2 | -0.09 | 0.00 | ppb | 243.37 | 900.00 | |
| 66 Zn | 72 | 2 | 5.74 | 0.29 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 641.00 | 32.05 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.36 | -0.02 | ppb | 438.55 | 900.00 | |
| 88 Sr | 103 | 1 | 306.00 | 15.30 | ppb | 1.33 | 900.00 | |
| 98 Mo | 103 | 1 | 1.67 | 0.08 | ppb | 8.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.15 | 0.01 | ppb | 18.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.31 | 0.02 | ppb | 84.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.00 | ppb | 38.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.01 | ppb | 22.55 | 900.00 | |
| 137 Ba | 159 | 1 | 92.12 | 4.61 | ppb | 2.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.68 | 0.03 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.02 | ppb | 23.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2484931 | 0.69 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3409920 | 0.44 | 3362635 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 370330 | 0.55 | 367626 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 738401 | 0.89 | 714806 | 103.3 | 70 | - | 130 |
| 72 | Ge | 2 | 147731 | 0.65 | 144802 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3919761 | 0.20 | 3924881 | 99.9 | 70 | - | 130 |
| 115 | In | 1 | 4024920 | 0.57 | 3944903 | 102.0 | 70 | - | 130 |
| 115 | In | 2 | 1121517 | 1.45 | 1086949 | 103.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5109909 | 0.74 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4889984 | 0.56 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2908478 | 0.45 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Oct 31 2013 02:05 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-3F |
| Misc Info: | |
| Vial Number: | 2206 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 100.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 100.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.45 | 0.00 | ppb | 49.00 | 900.00 | |
| 9 Be | 45 | 2 | 14.13 | 0.14 | ppb | 40.57 | 900.00 | |
| 11 B | 6 | 1 | 152.30 | 1.52 | ppb | 5.35 | 900.00 | |
| 11 B | 45 | 2 | 200.60 | 2.01 | ppb | 23.92 | 900.00 | |
| 23 Na | 45 | 1 | 25020.00 | 250.20 | ppb | 1.73 | 90000.00 | |
| 23 Na | 45 | 2 | 28390.00 | 283.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12700.00 | 127.00 | ppb | 2.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 13050.00 | 130.50 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 7.50 | 0.07 | ppb | 25.76 | 90000.00 | |
| 27 Al | 45 | 2 | 25.30 | 0.25 | ppb | 28.74 | 90000.00 | |
| 39 K | 45 | 1 | 7823.00 | 78.23 | ppb | 3.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 83710.00 | 837.10 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.16 | 0.03 | ppb | 13.71 | 900.00 | |
| 51 V | 45 | 2 | -55.28 | -0.55 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | -5.31 | -0.05 | ppb | 3.54 | 900.00 | |
| 55 Mn | 45 | 2 | 9723.00 | 97.23 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 27320.00 | 273.20 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 16.13 | 0.16 | ppb | 0.89 | 900.00 | |
| 60 Ni | 45 | 2 | 11.10 | 0.11 | ppb | 6.65 | 900.00 | |
| 63 Cu | 72 | 2 | -3.04 | -0.03 | ppb | 36.54 | 900.00 | |
| 66 Zn | 72 | 2 | 17.60 | 0.18 | ppb | 6.77 | 900.00 | |
| 75 As | 72 | 2 | 1659.00 | 16.59 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 28.18 | 0.28 | ppb | 41.31 | 900.00 | |
| 88 Sr | 103 | 1 | 832.30 | 8.32 | ppb | 1.96 | 900.00 | |
| 98 Mo | 103 | 1 | 4.57 | 0.05 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.32 | 0.00 | ppb | 59.16 | 900.00 | |
| 111 Cd | 115 | 2 | 2.97 | 0.03 | ppb | 37.49 | 900.00 | |
| 120 Sn | 115 | 1 | -0.39 | 0.00 | ppb | 5.59 | 900.00 | |
| 121 Sb | 115 | 1 | -0.49 | 0.00 | ppb | 28.60 | 900.00 | |
| 137 Ba | 159 | 1 | 42.85 | 0.43 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | 3.19 | 0.03 | ppb | 6.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.75 | 0.02 | ppb | 23.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2474419 | 2.00 | 2521858 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 3486729 | 1.51 | 3362635 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 378227 | 0.47 | 367626 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 749077 | 1.66 | 714806 | 104.8 | 70 | - | 130 |
| 72 | Ge | 2 | 150211 | 0.61 | 144802 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3991628 | 1.07 | 3924881 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 4094209 | 2.36 | 3944903 | 103.8 | 70 | - | 130 |
| 115 | In | 2 | 1160105 | 1.22 | 1086949 | 106.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5240197 | 1.84 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5000904 | 2.03 | 4623931 | 108.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2893590 | 1.28 | 2757011 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#
**Date Acquired:** Oct 31 2013 02:13 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC25522-4F
**Misc Info:**
**Vial Number:** 2207
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Nov 01 2013 08:50 am
**Sample Type:** Sample
**Dilution Factor:** 100.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 100.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.81 | 0.01 | ppb | 13.69 | 900.00 | |
| 9 Be | 45 | 2 | 12.31 | 0.12 | ppb | 45.48 | 900.00 | |
| 11 B | 6 | 1 | 76.64 | 0.77 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 115.80 | 1.16 | ppb | 8.73 | 900.00 | |
| 23 Na | 45 | 1 | 18100.00 | 181.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 20690.00 | 206.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12360.00 | 123.60 | ppb | 0.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 12780.00 | 127.80 | ppb | 0.93 | 90000.00 | |
| 27 Al | 45 | 1 | 5.17 | 0.05 | ppb | 40.68 | 90000.00 | |
| 27 Al | 45 | 2 | 23.81 | 0.24 | ppb | 14.62 | 90000.00 | |
| 39 K | 45 | 1 | 3816.00 | 38.16 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 92130.00 | 921.30 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.80 | 0.06 | ppb | 18.18 | 900.00 | |
| 51 V | 45 | 2 | -55.91 | -0.56 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | -4.79 | -0.05 | ppb | 4.12 | 900.00 | |
| 55 Mn | 45 | 2 | 8148.00 | 81.48 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 8863.00 | 88.63 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 4.97 | 0.05 | ppb | 6.39 | 900.00 | |
| 60 Ni | 45 | 2 | 8.98 | 0.09 | ppb | 4.78 | 900.00 | |
| 63 Cu | 72 | 2 | -3.14 | -0.03 | ppb | 38.21 | 900.00 | |
| 66 Zn | 72 | 2 | 201.90 | 2.02 | ppb | 2.67 | 900.00 | |
| 75 As | 72 | 2 | 2495.00 | 24.95 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 35.71 | 0.36 | ppb | 41.47 | 900.00 | |
| 88 Sr | 103 | 1 | 471.40 | 4.71 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 5.49 | 0.05 | ppb | 8.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 37.25 | 900.00 | |
| 111 Cd | 115 | 2 | 4.13 | 0.04 | ppb | 28.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.23 | 0.00 | ppb | 24.76 | 900.00 | |
| 121 Sb | 115 | 1 | -0.52 | -0.01 | ppb | 11.63 | 900.00 | |
| 137 Ba | 159 | 1 | 66.90 | 0.67 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 1.48 | 0.01 | ppb | 8.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.78 | 0.02 | ppb | 28.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2523998 | 1.27 | 2521858 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 3452086 | 0.41 | 3362635 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 377687 | 0.37 | 367626 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 747496 | 0.28 | 714806 | 104.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150545 | 0.63 | 144802 | 104.0 | 70 | - | 130 |
| 103 | Rh | 1 | 4031355 | 1.16 | 3924881 | 102.7 | 70 | - | 130 |
| 115 | In | 1 | 4105530 | 1.28 | 3944903 | 104.1 | 70 | - | 130 |
| 115 | In | 2 | 1163876 | 1.19 | 1086949 | 107.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5195666 | 1.41 | 4942952 | 105.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4946174 | 0.72 | 4623931 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2904942 | 0.75 | 2757011 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#
Date Acquired: Oct 31 2013 02:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-5F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 23.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.92 | 0.46 | ppb | 59.58 | 900.00 | |
| 11 B | 6 | 1 | 13.83 | 6.92 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 15.58 | 7.79 | ppb | 8.23 | 900.00 | |
| 23 Na | 45 | 1 | 39960.00 | 19980.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 41240.00 | 20620.00 | ppb | 0.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 2338.00 | 1169.00 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 2304.00 | 1152.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 9.60 | 4.80 | ppb | 1.76 | 90000.00 | |
| 27 Al | 45 | 2 | 9.12 | 4.56 | ppb | 4.31 | 90000.00 | |
| 39 K | 45 | 1 | 1395.80 | 697.90 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 11548.00 | 5774.00 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.69 | 0.35 | ppb | 2.13 | 900.00 | |
| 51 V | 45 | 2 | 2.87 | 1.43 | ppb | 2.68 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 6.45 | 900.00 | |
| 55 Mn | 45 | 2 | 28.36 | 14.18 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 52.66 | 26.33 | ppb | 0.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.26 | 0.13 | ppb | 3.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.53 | 0.26 | ppb | 4.52 | 900.00 | |
| 63 Cu | 72 | 2 | 1.37 | 0.68 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 7.49 | 3.75 | ppb | 0.80 | 900.00 | |
| 75 As | 72 | 2 | 1.26 | 0.63 | ppb | 6.01 | 900.00 | |
| 78 Se | 72 | 2 | 2.07 | 1.04 | ppb | 67.41 | 900.00 | |
| 88 Sr | 103 | 1 | 79.76 | 39.88 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 47.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 4.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.16 | ppb | 3.22 | 900.00 | |
| 137 Ba | 159 | 1 | 17.92 | 8.96 | ppb | 1.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 7.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.06 | ppb | 10.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2403807 | 0.34 | 2521858 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 3336611 | 0.31 | 3362635 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 365523 | 0.22 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 727585 | 0.39 | 714806 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 143553 | 0.16 | 144802 | 99.1 | 70 | - | 130 |
| 103 Rh | 1 | 3729590 | 0.49 | 3924881 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 3861663 | 0.54 | 3944903 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1069868 | 0.61 | 1086949 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 4984549 | 0.74 | 4942952 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 4771347 | 0.72 | 4623931 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 2703412 | 0.22 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 02:27 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC25522-7F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2209 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 24.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.25 | ppb | 28.18 | 900.00 | |
| 11 B | 6 | 1 | 299.00 | 149.50 | ppb | 2.50 | 900.00 | |
| 11 B | 45 | 2 | 276.80 | 138.40 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 31960.00 | 15980.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 33400.00 | 16700.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 9960.00 | 4980.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 9640.00 | 4820.00 | ppb | 1.37 | 90000.00 | |
| 27 Al | 45 | 1 | 3.67 | 1.84 | ppb | 2.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4.01 | 2.00 | ppb | 10.31 | 90000.00 | |
| 39 K | 45 | 1 | 17260.00 | 8630.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 63600.00 | 31800.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.51 | 0.76 | ppb | 3.96 | 900.00 | |
| 51 V | 45 | 2 | 2.01 | 1.01 | ppb | 1.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 3.14 | 900.00 | |
| 55 Mn | 45 | 2 | 10510.00 | 5255.00 | ppb | 1.35 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 631.80 | 315.90 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 5.62 | 2.81 | ppb | 1.56 | 900.00 | |
| 60 Ni | 45 | 2 | 5.16 | 2.58 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 2.44 | 900.00 | |
| 66 Zn | 72 | 2 | 6.66 | 3.33 | ppb | 2.30 | 900.00 | |
| 75 As | 72 | 2 | 5.52 | 2.76 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 1.57 | 0.79 | ppb | 19.97 | 900.00 | |
| 88 Sr | 103 | 1 | 1242.40 | 621.20 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.22 | ppb | 4.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 27.29 | 900.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.05 | ppb | 44.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 9.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 4.55 | 900.00 | |
| 137 Ba | 159 | 1 | 48.38 | 24.19 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 9.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 4.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355536 | 0.42 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3349674 | 0.35 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361647 | 0.78 | 367626 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 713146 | 0.12 | 714806 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 140922 | 0.41 | 144802 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3633444 | 0.50 | 3924881 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 3781227 | 0.40 | 3944903 | 95.9 | 70 | - | 130 |
| 115 In | 2 | 1078109 | 6.28 | 1086949 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4952196 | 0.43 | 4942952 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4766946 | 0.43 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2631621 | 0.47 | 2757011 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 02:34 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC25522-8F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2210 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.01 | ppb | 48.88 | 900.00 | |
| 9 Be | 45 | 2 | 3.46 | 0.17 | ppb | 24.87 | 900.00 | |
| 11 B | 6 | 1 | 93.52 | 4.68 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 96.64 | 4.83 | ppb | 13.98 | 900.00 | |
| 23 Na | 45 | 1 | 28580.00 | 1429.00 | ppb | 1.75 | 90000.00 | |
| 23 Na | 45 | 2 | 29680.00 | 1484.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 6408.00 | 320.40 | ppb | 1.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 6702.00 | 335.10 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 6.44 | 0.32 | ppb | 5.42 | 90000.00 | |
| 27 Al | 45 | 2 | 8.93 | 0.45 | ppb | 12.07 | 90000.00 | |
| 39 K | 45 | 1 | 8842.00 | 442.10 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 47800.00 | 2390.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.08 | 0.15 | ppb | 10.07 | 900.00 | |
| 51 V | 45 | 2 | -8.18 | -0.41 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 9.94 | 900.00 | |
| 55 Mn | 45 | 2 | 3560.00 | 178.00 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 28940.00 | 1447.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 7.21 | 0.36 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 10.81 | 0.54 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.49 | -0.02 | ppb | 43.59 | 900.00 | |
| 66 Zn | 72 | 2 | 7.52 | 0.38 | ppb | 3.63 | 900.00 | |
| 75 As | 72 | 2 | 751.80 | 37.59 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 7.73 | 0.39 | ppb | 22.65 | 900.00 | |
| 88 Sr | 103 | 1 | 518.60 | 25.93 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 2.47 | 0.12 | ppb | 8.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.00 | ppb | 11.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.73 | 0.04 | ppb | 12.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.01 | ppb | 13.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.00 | ppb | 49.06 | 900.00 | |
| 137 Ba | 159 | 1 | 133.52 | 6.68 | ppb | 2.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.01 | ppb | 16.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.39 | 0.02 | ppb | 11.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2477208 | 0.32 | 2521858 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 3506022 | 0.94 | 3362635 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 384949 | 0.47 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 763559 | 1.35 | 714806 | 106.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153216 | 0.69 | 144802 | 105.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4016380 | 0.53 | 3924881 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4131860 | 0.84 | 3944903 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1154965 | 0.13 | 1086949 | 106.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5240608 | 0.86 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4934201 | 0.31 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2900428 | 0.65 | 2757011 | 105.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#
Date Acquired: Oct 31 2013 02:41 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-9F
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 50.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.02 | 0.51 | ppb | 21.73 | 900.00 | |
| 11 B | 6 | 1 | 373.80 | 186.90 | ppb | 1.05 | 900.00 | |
| 11 B | 45 | 2 | 343.60 | 171.80 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 15202.00 | 7601.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 16088.00 | 8044.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 14272.00 | 7136.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 14038.00 | 7019.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 8.96 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 17.30 | 8.65 | ppb | 1.98 | 90000.00 | |
| 39 K | 45 | 1 | 15258.00 | 7629.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 151560.00 | 75780.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.03 | 1.52 | ppb | 4.01 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 1.26 | 0.63 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 420.20 | 210.10 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 71440.00 | 35720.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 1.20 | 0.60 | ppb | 2.56 | 900.00 | |
| 60 Ni | 45 | 2 | 1.96 | 0.98 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.70 | 0.35 | ppb | 3.27 | 900.00 | |
| 66 Zn | 72 | 2 | 7.37 | 3.69 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 21.20 | 10.60 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 2.59 | 1.30 | ppb | 16.47 | 900.00 | |
| 88 Sr | 103 | 1 | 1133.40 | 566.70 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 2.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.94 | 900.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.10 | ppb | 2.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.18 | ppb | 4.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.14 | ppb | 4.92 | 900.00 | |
| 137 Ba | 159 | 1 | 397.00 | 198.50 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 53.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 14.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2370648 | 0.64 | 2521858 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 3383276 | 0.30 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 358759 | 0.39 | 367626 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 723952 | 0.34 | 714806 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 141646 | 0.15 | 144802 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3565724 | 0.51 | 3924881 | 90.8 | 70 | - | 130 |
| 115 | In | 1 | 3680381 | 0.93 | 3944903 | 93.3 | 70 | - | 130 |
| 115 | In | 2 | 1115612 | 0.41 | 1086949 | 102.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4906655 | 0.52 | 4942952 | 99.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4729753 | 0.19 | 4623931 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2611028 | 0.92 | 2757011 | 94.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#
Date Acquired: Oct 31 2013 02:48 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-10F
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.03 | ppb | 7.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.20 | 0.60 | ppb | 3.43 | 900.00 | |
| 11 B | 6 | 1 | 15.82 | 7.91 | ppb | 0.27 | 900.00 | |
| 11 B | 45 | 2 | 18.40 | 9.20 | ppb | 11.08 | 900.00 | |
| 23 Na | 45 | 1 | 3780.00 | 1890.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3978.00 | 1989.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 1737.80 | 868.90 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1742.40 | 871.20 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 230.60 | 115.30 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 223.00 | 111.50 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 1829.60 | 914.80 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 11792.00 | 5896.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.90 | 1.95 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 2.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.67 | 0.33 | ppb | 2.15 | 900.00 | |
| 55 Mn | 45 | 2 | 400.40 | 200.20 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 2454.00 | 1227.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 1.98 | 900.00 | |
| 60 Ni | 45 | 2 | 0.86 | 0.43 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 6.72 | 900.00 | |
| 66 Zn | 72 | 2 | 7.46 | 3.73 | ppb | 0.75 | 900.00 | |
| 75 As | 72 | 2 | 15.11 | 7.55 | ppb | 0.51 | 900.00 | |
| 78 Se | 72 | 2 | 2.21 | 1.10 | ppb | 7.32 | 900.00 | |
| 88 Sr | 103 | 1 | 80.54 | 40.27 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.23 | 0.12 | ppb | 7.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.02 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 12.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.15 | ppb | 0.99 | 900.00 | |
| 137 Ba | 159 | 1 | 7.21 | 3.60 | ppb | 2.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 15.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.10 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2391083 | 0.55 | 2521858 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 3384915 | 0.28 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 366067 | 0.46 | 367626 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 724167 | 1.01 | 714806 | 101.3 | 70 - | 130 |
| 72 | Ge | 2 | 142951 | 0.35 | 144802 | 98.7 | 70 - | 130 |
| 103 | Rh | 1 | 3799471 | 0.52 | 3924881 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 3876364 | 0.77 | 3944903 | 98.3 | 70 - | 130 |
| 115 | In | 2 | 1065427 | 0.99 | 1086949 | 98.0 | 70 - | 130 |
| 159 | Tb | 1 | 5037342 | 0.22 | 4942952 | 101.9 | 70 - | 130 |
| 175 | Lu | 1 | 4791372 | 0.34 | 4623931 | 103.6 | 70 - | 130 |
| 209 | Bi | 1 | 2757520 | 0.33 | 2757011 | 100.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#
Date Acquired: Oct 31 2013 02:55 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-11F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 27.15 | 900.00 | |
| 9 Be | 45 | 2 | 0.31 | 0.16 | ppb | 56.42 | 900.00 | |
| 11 B | 6 | 1 | 14.46 | 7.23 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 14.43 | 7.22 | ppb | 0.91 | 900.00 | |
| 23 Na | 45 | 1 | 7710.00 | 3855.00 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 7992.00 | 3996.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 1304.80 | 652.40 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 1384.40 | 692.20 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 5.33 | 2.66 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 5.50 | 2.75 | ppb | 8.21 | 90000.00 | |
| 39 K | 45 | 1 | 790.60 | 395.30 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 8434.00 | 4217.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.26 | 0.63 | ppb | 4.71 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.14 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 3.76 | 900.00 | |
| 55 Mn | 45 | 2 | 0.73 | 0.37 | ppb | 1.68 | 900.00 | |
| 56 Fe | 45 | 2 | 6.40 | 3.20 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 2.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.12 | ppb | 4.88 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.23 | ppb | 1.78 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.20 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 0.66 | 0.33 | ppb | 6.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.84 | 0.42 | ppb | 29.20 | 900.00 | |
| 88 Sr | 103 | 1 | 65.38 | 32.69 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 11.56 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 33.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 2.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.16 | ppb | 2.11 | 900.00 | |
| 137 Ba | 159 | 1 | 6.70 | 3.35 | ppb | 2.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 16.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 3.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2356853 | 1.01 | 2521858 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 3365435 | 0.83 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 363427 | 0.56 | 367626 | 98.9 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 720731 | 0.63 | 714806 | 100.8 | 70 | - | 130 |
| 72 Ge | 2 | 141916 | 0.42 | 144802 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 3723669 | 0.97 | 3924881 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 3862927 | 0.94 | 3944903 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1075134 | 0.48 | 1086949 | 98.9 | 70 | - | 130 |
| 159 Tb | 1 | 4996899 | 1.04 | 4942952 | 101.1 | 70 | - | 130 |
| 175 Lu | 1 | 4742802 | 0.54 | 4623931 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 2794592 | 0.52 | 2757011 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#
Date Acquired: Oct 31 2013 03:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-12F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 104.83 | 900.00 | |
| 9 Be | 45 | 2 | -0.12 | -0.06 | ppb | 48.60 | 900.00 | |
| 11 B | 6 | 1 | 1.61 | 0.81 | ppb | 5.05 | 900.00 | |
| 11 B | 45 | 2 | 1.66 | 0.83 | ppb | 32.97 | 900.00 | |
| 23 Na | 45 | 1 | 19.76 | 9.88 | ppb | 3.15 | 90000.00 | |
| 23 Na | 45 | 2 | 26.18 | 13.09 | ppb | 3.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.79 | 0.90 | ppb | 3.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.65 | 0.83 | ppb | 9.16 | 90000.00 | |
| 27 Al | 45 | 1 | 2.58 | 1.29 | ppb | 20.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.01 | 1.00 | ppb | 4.18 | 90000.00 | |
| 39 K | 45 | 1 | 33.00 | 16.50 | ppb | 6.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.98 | 8.49 | ppb | 7.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.28 | 0.14 | ppb | 17.83 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 3.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 4.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.14 | 0.07 | ppb | 10.62 | 900.00 | |
| 56 Fe | 45 | 2 | 5.46 | 2.73 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 94.09 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 70.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.12 | ppb | 1.93 | 900.00 | |
| 66 Zn | 72 | 2 | 4.77 | 2.39 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 0.40 | 0.20 | ppb | 7.83 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 756.03 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 11.70 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.01 | ppb | 4.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 98.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 0.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 10.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 251.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2405624 | 0.69 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3293872 | 0.68 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 362970 | 0.12 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 707997 | 0.96 | 714806 | 99.0 | 70 | - | 130 |
| 72 | Ge | 2 | 141664 | 0.38 | 144802 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3776067 | 0.58 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3863543 | 0.41 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1105273 | 4.54 | 1086949 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4962227 | 0.11 | 4942952 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4745784 | 0.88 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2757693 | 0.68 | 2757011 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#
Date Acquired: Oct 31 2013 03:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.91 | 48.91 | ppb | 1.05 | 900.00 | |
| 9 Be | 45 | 2 | 49.21 | 49.21 | ppb | 2.30 | 900.00 | |
| 11 B | 6 | 1 | 50.43 | 50.43 | ppb | 0.52 | 900.00 | |
| 11 B | 45 | 2 | 47.66 | 47.66 | ppb | 1.40 | 900.00 | |
| 23 Na | 45 | 1 | 5051.00 | 5051.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5182.00 | 5182.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 4822.00 | 4822.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5003.00 | 5003.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 4543.00 | 4543.00 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 5074.00 | 5074.00 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 5093.00 | 5093.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.59 | 49.59 | ppb | 0.71 | 900.00 | |
| 51 V | 45 | 2 | 49.43 | 49.43 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 49.53 | 49.53 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 48.36 | 48.36 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 5110.00 | 5110.00 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 48.92 | 48.92 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 47.75 | 47.75 | ppb | 0.31 | 900.00 | |
| 63 Cu | 72 | 2 | 48.88 | 48.88 | ppb | 0.28 | 900.00 | |
| 66 Zn | 72 | 2 | 49.97 | 49.97 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 49.44 | 49.44 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 49.72 | 49.72 | ppb | 1.15 | 900.00 | |
| 88 Sr | 103 | 1 | 52.10 | 52.10 | ppb | 0.02 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.10 | 900.00 | |
| 107 Ag | 115 | 1 | 48.66 | 48.66 | ppb | 0.26 | 900.00 | |
| 111 Cd | 115 | 2 | 49.95 | 49.95 | ppb | 1.59 | 900.00 | |
| 120 Sn | 115 | 1 | 52.21 | 52.21 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 52.48 | 52.48 | ppb | 1.31 | 900.00 | |
| 137 Ba | 159 | 1 | 48.56 | 48.56 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 48.53 | 48.53 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.70 | 49.70 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355568 | 0.45 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3343887 | 0.33 | 3362635 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 368331 | 0.71 | 367626 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702617 | 1.00 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142355 | 0.08 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3777490 | 0.19 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3852513 | 0.48 | 3944903 | 97.7 | 70 | - | 130 |
| 115 | In | 2 | 1078330 | 1.00 | 1086949 | 99.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4982829 | 1.37 | 4942952 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4751014 | 0.25 | 4623931 | 102.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2687347 | 1.02 | 2757011 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#
Date Acquired: Oct 31 2013 03:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 6.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 41.49 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 2.41 | 900.00 | |
| 11 B | 45 | 2 | 0.68 | 0.68 | ppb | 20.85 | 900.00 | |
| 23 Na | 45 | 1 | 0.21 | 0.21 | ppb | 61.62 | 90000.00 | |
| 23 Na | 45 | 2 | 3.71 | 3.71 | ppb | 19.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.46 | ppb | 6.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.57 | 1.57 | ppb | 33.23 | 90000.00 | |
| 27 Al | 45 | 1 | 0.27 | 0.27 | ppb | 12.92 | 90000.00 | |
| 27 Al | 45 | 2 | 1.27 | 1.27 | ppb | 30.94 | 90000.00 | |
| 39 K | 45 | 1 | 2.84 | 2.84 | ppb | 17.59 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.67 | -5.67 | ppb | 1.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 90.10 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 7.55 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 174.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 41.32 | 900.00 | |
| 56 Fe | 45 | 2 | 1.87 | 1.87 | ppb | 21.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 27.10 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 19.87 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 25.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 11.64 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 88.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.15 | ppb | 54.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 66.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 12.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.30 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 39.10 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 7.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 52.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2461488 | 0.25 | 2521858 | 97.6 | 70 - 130 | |
| 45 Sc | 1 | 3366281 | 0.38 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 375513 | 0.57 | 367626 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725613 | 1.06 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 147156 | 0.41 | 144802 | 101.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3933484 | 0.30 | 3924881 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3971547 | 0.68 | 3944903 | 100.7 | 70 | - | 130 |
| 115 | In | 2 | 1120946 | 0.50 | 1086949 | 103.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5031228 | 1.12 | 4942952 | 101.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4779265 | 0.99 | 4623931 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2833268 | 0.76 | 2757011 | 102.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#
Date Acquired: Oct 31 2013 03:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-13F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 22.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.23 | ppb | 40.56 | 900.00 | |
| 11 B | 6 | 1 | 19.33 | 9.67 | ppb | 2.03 | 900.00 | |
| 11 B | 45 | 2 | 20.48 | 10.24 | ppb | 5.38 | 900.00 | |
| 23 Na | 45 | 1 | 12510.00 | 6255.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 13036.00 | 6518.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 3400.00 | 1700.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 3394.00 | 1697.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 12.52 | 6.26 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 12.06 | 6.03 | ppb | 7.72 | 90000.00 | |
| 39 K | 45 | 1 | 6552.00 | 3276.00 | ppb | 0.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 27280.00 | 13640.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 2.09 | 900.00 | |
| 51 V | 45 | 2 | 1.81 | 0.91 | ppb | 2.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 2.54 | 900.00 | |
| 55 Mn | 45 | 2 | 405.20 | 202.60 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 6730.00 | 3365.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 8.03 | 4.02 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 4.27 | 2.14 | ppb | 1.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 4.36 | 900.00 | |
| 66 Zn | 72 | 2 | 6.70 | 3.35 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 34.90 | 17.45 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.76 | 0.38 | ppb | 75.02 | 900.00 | |
| 88 Sr | 103 | 1 | 114.34 | 57.17 | ppb | 1.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 25.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 80.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 4.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 0.56 | 900.00 | |
| 137 Ba | 159 | 1 | 48.94 | 24.47 | ppb | 1.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 6.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.08 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2400415 | 0.67 | 2521858 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 3339006 | 0.50 | 3362635 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 362639 | 0.43 | 367626 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 716412 | 1.02 | 714806 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 142934 | 0.38 | 144802 | 98.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3697648 | 1.01 | 3924881 | 94.2 | 70 | - | 130 |
| 115 | In | 1 | 3842065 | 0.26 | 3944903 | 97.4 | 70 | - | 130 |
| 115 | In | 2 | 1069425 | 0.55 | 1086949 | 98.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4991004 | 0.79 | 4942952 | 101.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4769215 | 0.49 | 4623931 | 103.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2703978 | 0.60 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D# |
| Date Acquired: | Oct 31 2013 03:32 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-14F |
| Misc Info: | |
| Vial Number: | 2306 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 100.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 100.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.99 | 0.01 | ppb | 36.46 | 900.00 | |
| 9 Be | 45 | 2 | 31.42 | 0.31 | ppb | 0.70 | 900.00 | |
| 11 B | 6 | 1 | 14.22 | 0.14 | ppb | 8.54 | 900.00 | |
| 11 B | 45 | 2 | 91.14 | 0.91 | ppb | 20.34 | 900.00 | |
| 23 Na | 45 | 1 | 3046.00 | 30.46 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 3664.00 | 36.64 | ppb | 2.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1194.00 | 11.94 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1185.00 | 11.85 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 0.18 | ppb | 12.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.93 | 0.28 | ppb | 18.05 | 90000.00 | |
| 39 K | 45 | 1 | 508.20 | 5.08 | ppb | 10.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 11980.00 | 119.80 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.72 | 0.05 | ppb | 37.44 | 900.00 | |
| 51 V | 45 | 2 | -53.36 | -0.53 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | -5.13 | -0.05 | ppb | 3.00 | 900.00 | |
| 55 Mn | 45 | 2 | 6282.00 | 62.82 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 44900.00 | 449.00 | ppb | 0.95 | 90000.00 | |
| 59 Co | 45 | 2 | 7.57 | 0.08 | ppb | 2.21 | 900.00 | |
| 60 Ni | 45 | 2 | 8.71 | 0.09 | ppb | 11.94 | 900.00 | |
| 63 Cu | 72 | 2 | -6.94 | -0.07 | ppb | 12.42 | 900.00 | |
| 66 Zn | 72 | 2 | 6.08 | 0.06 | ppb | 21.58 | 900.00 | |
| 75 As | 72 | 2 | 2761.00 | 27.61 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 67.37 | 0.67 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 69.74 | 0.70 | ppb | 1.83 | 900.00 | |
| 98 Mo | 103 | 1 | 1.19 | 0.01 | ppb | 8.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 41.28 | 900.00 | |
| 111 Cd | 115 | 2 | 5.96 | 0.06 | ppb | 38.55 | 900.00 | |
| 120 Sn | 115 | 1 | -0.15 | 0.00 | ppb | 102.00 | 900.00 | |
| 121 Sb | 115 | 1 | -0.35 | 0.00 | ppb | 49.70 | 900.00 | |
| 137 Ba | 159 | 1 | 16.24 | 0.16 | ppb | 6.19 | 900.00 | |
| 205 Tl | 209 | 1 | 3.41 | 0.03 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.88 | 0.02 | ppb | 2.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2533461 | 0.73 | 2521858 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 3466656 | 0.47 | 3362635 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 392672 | 0.46 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 752123 | 1.26 | 714806 | 105.2 | 70 | - | 130 |
| 72 | Ge | 2 | 154361 | 0.41 | 144802 | 106.6 | 70 | - | 130 |
| 103 | Rh | 1 | 4028650 | 0.14 | 3924881 | 102.6 | 70 | - | 130 |
| 115 | In | 1 | 4107597 | 0.58 | 3944903 | 104.1 | 70 | - | 130 |
| 115 | In | 2 | 1180841 | 0.32 | 1086949 | 108.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5158826 | 0.27 | 4942952 | 104.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4903888 | 0.39 | 4623931 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2909399 | 1.17 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#
Date Acquired: Oct 31 2013 03:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-1F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.44 | 0.01 | ppb | 21.21 | 900.00 | |
| 9 Be | 45 | 2 | 18.67 | 0.37 | ppb | 50.04 | 900.00 | |
| 11 B | 6 | 1 | 198.05 | 3.96 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 242.75 | 4.86 | ppb | 4.74 | 900.00 | |
| 23 Na | 45 | 1 | 28895.00 | 577.90 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 30525.00 | 610.50 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 12370.00 | 247.40 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 12885.00 | 257.70 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 9.37 | 0.19 | ppb | 18.91 | 90000.00 | |
| 27 Al | 45 | 2 | 16.54 | 0.33 | ppb | 13.35 | 90000.00 | |
| 39 K | 45 | 1 | 8375.00 | 167.50 | ppb | 1.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 81500.00 | 1630.00 | ppb | 1.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.50 | 0.07 | ppb | 26.63 | 900.00 | |
| 51 V | 45 | 2 | -25.73 | -0.51 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | -2.24 | -0.04 | ppb | 17.37 | 900.00 | |
| 55 Mn | 45 | 2 | 8620.00 | 172.40 | ppb | 1.58 | 900.00 | |
| 56 Fe | 45 | 2 | 32705.00 | 654.10 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 16.36 | 0.33 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 7.53 | 0.15 | ppb | 6.59 | 900.00 | |
| 63 Cu | 72 | 2 | -2.88 | -0.06 | ppb | 12.22 | 900.00 | |
| 66 Zn | 72 | 2 | 23.42 | 0.47 | ppb | 2.59 | 900.00 | |
| 75 As | 72 | 2 | 1154.00 | 23.08 | ppb | 0.05 | 900.00 | |
| 78 Se | 72 | 2 | 37.16 | 0.74 | ppb | 9.09 | 900.00 | |
| 88 Sr | 103 | 1 | 966.50 | 19.33 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 2.05 | 0.04 | ppb | 10.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.19 | 0.00 | ppb | 43.84 | 900.00 | |
| 111 Cd | 115 | 2 | 2.78 | 0.06 | ppb | 38.76 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 366.90 | 900.00 | |
| 121 Sb | 115 | 1 | -0.06 | 0.00 | ppb | 82.37 | 900.00 | |
| 137 Ba | 159 | 1 | 40.39 | 0.81 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.77 | 0.02 | ppb | 10.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.80 | 0.02 | ppb | 27.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2501781 | 0.43 | 2521858 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 3437949 | 0.65 | 3362635 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 386528 | 0.23 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 742481 | 0.90 | 714806 | 103.9 | 70 | - | 130 |
| 72 Ge | 2 | 152966 | 0.25 | 144802 | 105.6 | 70 | - | 130 |
| 103 Rh | 1 | 3979599 | 0.40 | 3924881 | 101.4 | 70 | - | 130 |
| 115 In | 1 | 4049938 | 0.33 | 3944903 | 102.7 | 70 | - | 130 |
| 115 In | 2 | 1172919 | 0.74 | 1086949 | 107.9 | 70 | - | 130 |
| 159 Tb | 1 | 5112366 | 0.96 | 4942952 | 103.4 | 70 | - | 130 |
| 175 Lu | 1 | 4880484 | 0.27 | 4623931 | 105.5 | 70 | - | 130 |
| 209 Bi | 1 | 2882069 | 0.71 | 2757011 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#
Date Acquired: Oct 31 2013 03:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-2F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.03 | ppb | 127.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.84 | 0.42 | ppb | 29.45 | 900.00 | |
| 11 B | 6 | 1 | 9.91 | 4.96 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 11.20 | 5.60 | ppb | 5.90 | 900.00 | |
| 23 Na | 45 | 1 | 12544.00 | 6272.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 12944.00 | 6472.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 1017.00 | 508.50 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 1074.00 | 537.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 58.60 | 29.30 | ppb | 2.41 | 90000.00 | |
| 27 Al | 45 | 2 | 54.34 | 27.17 | ppb | 1.32 | 90000.00 | |
| 39 K | 45 | 1 | 486.60 | 243.30 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 10856.00 | 5428.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 0.50 | ppb | 17.63 | 900.00 | |
| 51 V | 45 | 2 | 2.26 | 1.13 | ppb | 2.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.53 | 0.27 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 290.80 | 145.40 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 4928.00 | 2464.00 | ppb | 18.66 | 90000.00 | |
| 59 Co | 45 | 2 | 2.52 | 1.26 | ppb | 1.51 | 900.00 | |
| 60 Ni | 45 | 2 | 1.11 | 0.55 | ppb | 2.84 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 8.75 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.37 | ppb | 1.70 | 900.00 | |
| 75 As | 72 | 2 | 14.17 | 7.08 | ppb | 0.62 | 900.00 | |
| 78 Se | 72 | 2 | 1.70 | 0.85 | ppb | 9.93 | 900.00 | |
| 88 Sr | 103 | 1 | 67.84 | 33.92 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.04 | ppb | 38.43 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 104.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.19 | 0.09 | ppb | 20.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 40.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 16.95 | 900.00 | |
| 137 Ba | 159 | 1 | 8.85 | 4.43 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 29.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 24.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2426493 | 1.72 | 2521858 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3299466 | 0.38 | 3362635 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 359630 | 0.06 | 367626 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 710615 | 0.97 | 714806 | 99.4 | 70 | - | 130 |
| 72 | Ge | 2 | 142235 | 0.26 | 144802 | 98.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3711335 | 0.68 | 3924881 | 94.6 | 70 | - | 130 |
| 115 | In | 1 | 3881980 | 0.63 | 3944903 | 98.4 | 70 | - | 130 |
| 115 | In | 2 | 1079301 | 0.90 | 1086949 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5011846 | 0.86 | 4942952 | 101.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4796839 | 0.94 | 4623931 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2749142 | 0.91 | 2757011 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#
Date Acquired: Oct 31 2013 03:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-3F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.08 | 0.04 | ppb | 60.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.91 | 0.45 | ppb | 31.85 | 900.00 | |
| 11 B | 6 | 1 | 9.62 | 4.81 | ppb | 1.99 | 900.00 | |
| 11 B | 45 | 2 | 11.46 | 5.73 | ppb | 0.95 | 900.00 | |
| 23 Na | 45 | 1 | 12512.00 | 6256.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 12858.00 | 6429.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 1012.40 | 506.20 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 1067.20 | 533.60 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 1 | 58.84 | 29.42 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 54.40 | 27.20 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 480.60 | 240.30 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 10884.00 | 5442.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 11.01 | 900.00 | |
| 51 V | 45 | 2 | 2.34 | 1.17 | ppb | 1.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 3.79 | 900.00 | |
| 55 Mn | 45 | 2 | 291.00 | 145.50 | ppb | 1.32 | 900.00 | |
| 56 Fe | 45 | 2 | 4438.00 | 2219.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 2.53 | 1.27 | ppb | 1.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 0.51 | ppb | 2.10 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 15.96 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.19 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 14.63 | 7.32 | ppb | 1.21 | 900.00 | |
| 78 Se | 72 | 2 | 1.93 | 0.96 | ppb | 13.30 | 900.00 | |
| 88 Sr | 103 | 1 | 67.62 | 33.81 | ppb | 0.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 14.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 61.95 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 13.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 21.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.12 | ppb | 10.98 | 900.00 | |
| 137 Ba | 159 | 1 | 8.54 | 4.27 | ppb | 2.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 17.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 20.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2407456 | 1.06 | 2521858 | 95.5 | 70 - 130 | |
| 45 Sc | 1 | 3313845 | 0.49 | 3362635 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 361197 | 0.74 | 367626 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 715075 | 0.83 | 714806 | 100.0 | 70 | - | 130 |
| 72 | Ge | 2 | 142660 | 0.75 | 144802 | 98.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3733833 | 0.13 | 3924881 | 95.1 | 70 | - | 130 |
| 115 | In | 1 | 3889800 | 0.70 | 3944903 | 98.6 | 70 | - | 130 |
| 115 | In | 2 | 1091288 | 0.51 | 1086949 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5054070 | 1.10 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4815279 | 0.41 | 4623931 | 104.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2764012 | 0.52 | 2757011 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#
Date Acquired: Oct 31 2013 04:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-4F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.00 | ppb | 52.15 | 900.00 | |
| 9 Be | 45 | 2 | 5.81 | 0.29 | ppb | 18.99 | 900.00 | |
| 11 B | 6 | 1 | 56.82 | 2.84 | ppb | 2.74 | 900.00 | |
| 11 B | 45 | 2 | 67.26 | 3.36 | ppb | 19.87 | 900.00 | |
| 23 Na | 45 | 1 | 4168.00 | 208.40 | ppb | 2.72 | 90000.00 | |
| 23 Na | 45 | 2 | 4718.00 | 235.90 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 2688.00 | 134.40 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 2760.00 | 138.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 11.27 | 0.56 | ppb | 14.64 | 90000.00 | |
| 27 Al | 45 | 2 | 16.14 | 0.81 | ppb | 34.18 | 90000.00 | |
| 39 K | 45 | 1 | 8100.00 | 405.00 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 14734.00 | 736.70 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.88 | 0.09 | ppb | 15.38 | 900.00 | |
| 51 V | 45 | 2 | -7.51 | -0.38 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 26.65 | 900.00 | |
| 55 Mn | 45 | 2 | 595.80 | 29.79 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 22780.00 | 1139.00 | ppb | 0.17 | 90000.00 | |
| 59 Co | 45 | 2 | 10.11 | 0.51 | ppb | 1.95 | 900.00 | |
| 60 Ni | 45 | 2 | 3.54 | 0.18 | ppb | 5.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.77 | -0.04 | ppb | 31.96 | 900.00 | |
| 66 Zn | 72 | 2 | 9.99 | 0.50 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 716.40 | 35.82 | ppb | 1.33 | 900.00 | |
| 78 Se | 72 | 2 | 13.48 | 0.67 | ppb | 9.89 | 900.00 | |
| 88 Sr | 103 | 1 | 166.74 | 8.34 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 4.37 | 0.22 | ppb | 7.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.00 | ppb | 30.49 | 900.00 | |
| 111 Cd | 115 | 2 | 1.06 | 0.05 | ppb | 16.96 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 146.58 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.01 | ppb | 53.63 | 900.00 | |
| 137 Ba | 159 | 1 | 23.22 | 1.16 | ppb | 2.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.00 | ppb | 13.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.45 | 0.02 | ppb | 7.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2539074 | 0.37 | 2521858 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 3405034 | 0.33 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 385041 | 0.30 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 740882 | 2.27 | 714806 | 103.6 | 70 | - | 130 |
| 72 | Ge | 2 | 152196 | 0.37 | 144802 | 105.1 | 70 | - | 130 |
| 103 | Rh | 1 | 4047377 | 1.31 | 3924881 | 103.1 | 70 | - | 130 |
| 115 | In | 1 | 4116485 | 0.76 | 3944903 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1171381 | 0.12 | 1086949 | 107.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5155539 | 1.55 | 4942952 | 104.3 | 70 | - | 130 |
| 175 | Lu | 1 | 4923227 | 0.29 | 4623931 | 106.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2945286 | 1.26 | 2757011 | 106.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#
Date Acquired: Oct 31 2013 04:08 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-5F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.12 | 0.06 | ppb | 72.46 | 900.00 | |
| 11 B | 6 | 1 | 14.08 | 7.04 | ppb | 2.06 | 900.00 | |
| 11 B | 45 | 2 | 14.53 | 7.27 | ppb | 10.18 | 900.00 | |
| 23 Na | 45 | 1 | 2496.00 | 1248.00 | ppb | 1.39 | 90000.00 | |
| 23 Na | 45 | 2 | 2654.00 | 1327.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 1011.20 | 505.60 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1073.60 | 536.80 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 1.98 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 3.88 | 1.94 | ppb | 1.84 | 90000.00 | |
| 39 K | 45 | 1 | 1945.00 | 972.50 | ppb | 1.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6750.00 | 3375.00 | ppb | 1.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.86 | 0.43 | ppb | 2.67 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 4.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 7.29 | 900.00 | |
| 55 Mn | 45 | 2 | 65.04 | 32.52 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 130.86 | 65.43 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 3.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.62 | 0.31 | ppb | 4.93 | 900.00 | |
| 63 Cu | 72 | 2 | 1.28 | 0.64 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 6.22 | 3.11 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.85 | 0.42 | ppb | 6.38 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 147.16 | 900.00 | |
| 88 Sr | 103 | 1 | 54.36 | 27.18 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.03 | ppb | 6.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 10.82 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 22.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 11.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 6.01 | 900.00 | |
| 137 Ba | 159 | 1 | 8.90 | 4.45 | ppb | 2.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 9.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 10.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2447659 | 0.70 | 2521858 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 3349160 | 1.42 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 365409 | 0.62 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 723055 | 1.12 | 714806 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 143968 | 0.69 | 144802 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 3795541 | 0.39 | 3924881 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3923511 | 0.36 | 3944903 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1119770 | 0.36 | 1086949 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 5052522 | 0.34 | 4942952 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4838536 | 1.45 | 4623931 | 104.6 | 70 | - | 130 |
| 209 Bi | 1 | 2814640 | 0.72 | 2757011 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#
Date Acquired: Oct 31 2013 04:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.10 | 0.05 | ppb | 7.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.28 | 0.14 | ppb | 44.61 | 900.00 | |
| 11 B | 6 | 1 | 205.20 | 102.60 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 205.40 | 102.70 | ppb | 11.40 | 900.00 | |
| 23 Na | 45 | 1 | 27720.00 | 13860.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 29720.00 | 14860.00 | ppb | 11.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 13722.00 | 6861.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 13894.00 | 6947.00 | ppb | 11.95 | 90000.00 | |
| 27 Al | 45 | 1 | 3.78 | 1.89 | ppb | 5.61 | 90000.00 | |
| 27 Al | 45 | 2 | 3.54 | 1.77 | ppb | 19.45 | 90000.00 | |
| 39 K | 45 | 1 | 4782.00 | 2391.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 107680.00 | 53840.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.92 | ppb | 7.06 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.87 | ppb | 19.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 30.72 | 900.00 | |
| 55 Mn | 45 | 2 | 8388.00 | 4194.00 | ppb | 11.50 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 672.00 | 336.00 | ppb | 11.89 | 90000.00 | |
| 59 Co | 45 | 2 | 2.57 | 1.29 | ppb | 12.08 | 900.00 | |
| 60 Ni | 45 | 2 | 15.94 | 7.97 | ppb | 11.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 23.31 | 900.00 | |
| 66 Zn | 72 | 2 | 14.03 | 7.02 | ppb | 10.52 | 900.00 | |
| 75 As | 72 | 2 | 55.08 | 27.54 | ppb | 8.68 | 900.00 | |
| 78 Se | 72 | 2 | 1.03 | 0.52 | ppb | 80.17 | 900.00 | |
| 88 Sr | 103 | 1 | 595.00 | 297.50 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 1.79 | 0.89 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 16.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 37.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 8.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 2.70 | 900.00 | |
| 137 Ba | 159 | 1 | 10.67 | 5.33 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 12.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 15.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2404974 | 0.87 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3355829 | 0.95 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 353833 | 11.23 | 367626 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 701148 | 1.03 | 714806 | 98.1 | 70 | - | 130 |
| 72 | Ge | 2 | 137521 | 8.21 | 144802 | 95.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3647764 | 0.80 | 3924881 | 92.9 | 70 | - | 130 |
| 115 | In | 1 | 3783791 | 0.37 | 3944903 | 95.9 | 70 | - | 130 |
| 115 | In | 2 | 1036755 | 12.08 | 1086949 | 95.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5038264 | 0.63 | 4942952 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4869682 | 0.50 | 4623931 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2677984 | 0.87 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#
Date Acquired: Oct 31 2013 04:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-B1
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 516.40 | 25.82 | ppb | 0.78 | 900.00 | |
| 9 Be | 45 | 2 | 532.80 | 26.64 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 10.80 | 0.54 | ppb | 2.20 | 900.00 | |
| 11 B | 45 | 2 | 20.64 | 1.03 | ppb | 14.28 | 900.00 | |
| 23 Na | 45 | 1 | 27620.00 | 1381.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 28820.00 | 1441.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 27680.00 | 1384.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 27200.00 | 1360.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 2348.00 | 117.40 | ppb | 1.20 | 90000.00 | |
| 27 Al | 45 | 2 | 2302.00 | 115.10 | ppb | 0.98 | 90000.00 | |
| 39 K | 45 | 1 | 27460.00 | 1373.00 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 28040.00 | 1402.00 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 523.60 | 26.18 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 534.40 | 26.72 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 536.80 | 26.84 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 557.60 | 27.88 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 2316.00 | 115.80 | ppb | 1.81 | 90000.00 | |
| 59 Co | 45 | 2 | 552.80 | 27.64 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 526.00 | 26.30 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 533.60 | 26.68 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 571.20 | 28.56 | ppb | 0.22 | 900.00 | |
| 75 As | 72 | 2 | 574.60 | 28.73 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 574.00 | 28.70 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 544.60 | 27.23 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 220.60 | 11.03 | ppb | 2.04 | 900.00 | |
| 111 Cd | 115 | 2 | 534.20 | 26.71 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 33.45 | 900.00 | |
| 121 Sb | 115 | 1 | 573.60 | 28.68 | ppb | 1.69 | 900.00 | |
| 137 Ba | 159 | 1 | 2122.00 | 106.10 | ppb | 0.68 | 900.00 | |
| 205 Tl | 209 | 1 | 546.80 | 27.34 | ppb | 0.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1073.40 | 53.67 | ppb | 0.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2594586 | 0.13 | 2521858 | 102.9 | 70 - 130 | |
| 45 Sc | 1 | 3514292 | 0.43 | 3362635 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 391610 | 0.37 | 367626 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734604 | 0.95 | 714806 | 102.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153101 | 0.51 | 144802 | 105.7 | 70 | - | 130 |
| 103 | Rh | 1 | 4045898 | 1.07 | 3924881 | 103.1 | 70 | - | 130 |
| 115 | In | 1 | 4120646 | 0.98 | 3944903 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1192046 | 1.57 | 1086949 | 109.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5232840 | 0.99 | 4942952 | 105.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4946101 | 0.38 | 4623931 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2875877 | 0.20 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#
Date Acquired: Oct 31 2013 04:29 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-S1
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.20 | 25.41 | ppb | 0.27 | 900.00 | |
| 9 Be | 45 | 2 | 520.00 | 26.00 | ppb | 1.75 | 900.00 | |
| 11 B | 6 | 1 | 9.41 | 0.47 | ppb | 3.42 | 900.00 | |
| 11 B | 45 | 2 | 11.68 | 0.58 | ppb | 9.10 | 900.00 | |
| 23 Na | 45 | 1 | 34400.00 | 1720.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 35200.00 | 1760.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 28960.00 | 1448.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 28400.00 | 1420.00 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2308.00 | 115.40 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 2264.00 | 113.20 | ppb | 0.16 | 90000.00 | |
| 39 K | 45 | 1 | 28820.00 | 1441.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 35080.00 | 1754.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 513.80 | 25.69 | ppb | 0.18 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 525.00 | 26.25 | ppb | 0.05 | 900.00 | |
| 55 Mn | 45 | 2 | 521.00 | 26.05 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 2444.00 | 122.20 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 539.60 | 26.98 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 514.20 | 25.71 | ppb | 0.66 | 900.00 | |
| 63 Cu | 72 | 2 | 522.40 | 26.12 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 563.80 | 28.19 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 564.40 | 28.22 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 557.40 | 27.87 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 581.60 | 29.08 | ppb | 1.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.03 | ppb | 21.62 | 900.00 | |
| 107 Ag | 115 | 1 | 218.00 | 10.90 | ppb | 2.00 | 900.00 | |
| 111 Cd | 115 | 2 | 531.60 | 26.58 | ppb | 0.53 | 900.00 | |
| 120 Sn | 115 | 1 | -0.07 | 0.00 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 559.80 | 27.99 | ppb | 1.42 | 900.00 | |
| 137 Ba | 159 | 1 | 2082.00 | 104.10 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 544.60 | 27.23 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1063.40 | 53.17 | ppb | 1.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2554381 | 0.41 | 2521858 | 101.3 | 70 - 130 | |
| 45 Sc | 1 | 3414793 | 0.27 | 3362635 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 383031 | 0.45 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 718167 | 0.28 | 714806 | 100.5 | 70 | - | 130 |
| 72 | Ge | 2 | 150324 | 0.30 | 144802 | 103.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3966473 | 0.28 | 3924881 | 101.1 | 70 | - | 130 |
| 115 | In | 1 | 4059601 | 1.09 | 3944903 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1164375 | 0.85 | 1086949 | 107.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5120350 | 0.53 | 4942952 | 103.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4899137 | 0.28 | 4623931 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2822232 | 1.36 | 2757011 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#
Date Acquired: Oct 31 2013 04:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.18 | 48.18 | ppb | 0.17 | 900.00 | |
| 9 Be | 45 | 2 | 50.49 | 50.49 | ppb | 0.74 | 900.00 | |
| 11 B | 6 | 1 | 49.74 | 49.74 | ppb | 0.38 | 900.00 | |
| 11 B | 45 | 2 | 48.03 | 48.03 | ppb | 1.60 | 900.00 | |
| 23 Na | 45 | 1 | 5140.00 | 5140.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5246.00 | 5246.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 5132.00 | 5132.00 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 4839.00 | 4839.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 4637.00 | 4637.00 | ppb | 1.75 | 90000.00 | |
| 39 K | 45 | 1 | 5135.00 | 5135.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5131.00 | 5131.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.60 | 49.60 | ppb | 1.41 | 900.00 | |
| 51 V | 45 | 2 | 49.48 | 49.48 | ppb | 0.96 | 900.00 | |
| 52 Cr | 45 | 2 | 49.61 | 49.61 | ppb | 1.69 | 900.00 | |
| 55 Mn | 45 | 2 | 49.01 | 49.01 | ppb | 2.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5145.00 | 5145.00 | ppb | 1.42 | 90000.00 | |
| 59 Co | 45 | 2 | 49.08 | 49.08 | ppb | 1.76 | 900.00 | |
| 60 Ni | 45 | 2 | 47.90 | 47.90 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 47.93 | 47.93 | ppb | 1.14 | 900.00 | |
| 66 Zn | 72 | 2 | 49.52 | 49.52 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 48.98 | 48.98 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 49.29 | 49.29 | ppb | 1.40 | 900.00 | |
| 88 Sr | 103 | 1 | 52.53 | 52.53 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 52.09 | 52.09 | ppb | 0.56 | 900.00 | |
| 107 Ag | 115 | 1 | 48.37 | 48.37 | ppb | 0.55 | 900.00 | |
| 111 Cd | 115 | 2 | 49.51 | 49.51 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 52.45 | 52.45 | ppb | 0.43 | 900.00 | |
| 121 Sb | 115 | 1 | 52.69 | 52.69 | ppb | 0.62 | 900.00 | |
| 137 Ba | 159 | 1 | 48.97 | 48.97 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.17 | 50.17 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2505687 | 0.67 | 2521858 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 3346716 | 0.58 | 3362635 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 373959 | 0.86 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702838 | 1.12 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 146328 | 0.67 | 144802 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3828027 | 0.43 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3918218 | 0.41 | 3944903 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1136772 | 0.66 | 1086949 | 104.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5069558 | 0.16 | 4942952 | 102.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4895602 | 0.32 | 4623931 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2769147 | 0.51 | 2757011 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#
Date Acquired: Oct 31 2013 04:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.77 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.06 | ppb | 207.03 | 900.00 | |
| 11 B | 6 | 1 | 0.31 | 0.31 | ppb | 4.75 | 900.00 | |
| 11 B | 45 | 2 | 0.38 | 0.38 | ppb | 47.70 | 900.00 | |
| 23 Na | 45 | 1 | 0.32 | 0.32 | ppb | 70.24 | 90000.00 | |
| 23 Na | 45 | 2 | 1.97 | 1.97 | ppb | 17.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.42 | 0.42 | ppb | 5.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.93 | 0.93 | ppb | 12.55 | 90000.00 | |
| 27 Al | 45 | 1 | 0.21 | 0.21 | ppb | 8.18 | 90000.00 | |
| 27 Al | 45 | 2 | 0.63 | 0.63 | ppb | 25.51 | 90000.00 | |
| 39 K | 45 | 1 | 2.93 | 2.93 | ppb | 20.76 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.71 | -6.71 | ppb | 3.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 177.72 | 900.00 | |
| 51 V | 45 | 2 | -0.19 | -0.19 | ppb | 4.21 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 24.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 24.46 | 900.00 | |
| 56 Fe | 45 | 2 | 0.97 | 0.97 | ppb | 15.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 20.69 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.55 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 0.78 | 0.78 | ppb | 4.73 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 56.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.26 | ppb | 31.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 79.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 66.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 10.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.28 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 27.25 | 900.00 | |
| 205 Tl | 209 | 1 | 0.26 | 0.26 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 13.35 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520286 | 1.16 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3332724 | 0.52 | 3362635 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 381367 | 0.27 | 367626 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 725015 | 1.15 | 714806 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 150180 | 0.39 | 144802 | 103.7 | 70 | - | 130 |
| 103 Rh | 1 | 3959119 | 0.30 | 3924881 | 100.9 | 70 | - | 130 |
| 115 In | 1 | 4019905 | 0.47 | 3944903 | 101.9 | 70 | - | 130 |
| 115 In | 2 | 1166758 | 1.31 | 1086949 | 107.3 | 70 | - | 130 |
| 159 Tb | 1 | 5122623 | 0.54 | 4942952 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4883718 | 0.28 | 4623931 | 105.6 | 70 | - | 130 |
| 209 Bi | 1 | 2890418 | 0.28 | 2757011 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#
Date Acquired: Oct 31 2013 04:56 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-S2
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.00 | 25.20 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 540.20 | 27.01 | ppb | 1.94 | 900.00 | |
| 11 B | 6 | 1 | 8.33 | 0.42 | ppb | 5.72 | 900.00 | |
| 11 B | 45 | 2 | 16.84 | 0.84 | ppb | 30.31 | 900.00 | |
| 23 Na | 45 | 1 | 33820.00 | 1691.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 34820.00 | 1741.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 28520.00 | 1426.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 28200.00 | 1410.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 2314.00 | 115.70 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.39 | 90000.00 | |
| 39 K | 45 | 1 | 28380.00 | 1419.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 34520.00 | 1726.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 509.00 | 25.45 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 518.40 | 25.92 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 522.20 | 26.11 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 512.40 | 25.62 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 2406.00 | 120.30 | ppb | 2.88 | 90000.00 | |
| 59 Co | 45 | 2 | 534.80 | 26.74 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 507.40 | 25.37 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 520.20 | 26.01 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 562.60 | 28.13 | ppb | 1.22 | 900.00 | |
| 75 As | 72 | 2 | 560.00 | 28.00 | ppb | 1.13 | 900.00 | |
| 78 Se | 72 | 2 | 574.20 | 28.71 | ppb | 1.18 | 900.00 | |
| 88 Sr | 103 | 1 | 577.60 | 28.88 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.84 | 0.04 | ppb | 6.34 | 900.00 | |
| 107 Ag | 115 | 1 | 215.40 | 10.77 | ppb | 0.34 | 900.00 | |
| 111 Cd | 115 | 2 | 522.60 | 26.13 | ppb | 0.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.01 | ppb | 39.82 | 900.00 | |
| 121 Sb | 115 | 1 | 554.60 | 27.73 | ppb | 0.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2078.00 | 103.90 | ppb | 0.80 | 900.00 | |
| 205 Tl | 209 | 1 | 535.80 | 26.79 | ppb | 0.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1058.20 | 52.91 | ppb | 0.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543276 | 1.47 | 2521858 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 3388882 | 0.89 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 383035 | 0.35 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 719038 | 1.69 | 714806 | 100.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150028 | 0.78 | 144802 | 103.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3953785 | 0.74 | 3924881 | 100.7 | 70 | - | 130 |
| 115 | In | 1 | 4066495 | 1.01 | 3944903 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1170993 | 0.22 | 1086949 | 107.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5128641 | 0.50 | 4942952 | 103.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4904070 | 1.19 | 4623931 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2831389 | 0.75 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#
Date Acquired: Oct 31 2013 05:03 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 7.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.32 | ppb | 10.34 | 900.00 | |
| 11 B | 6 | 1 | 202.60 | 101.30 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 196.92 | 98.46 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 28060.00 | 14030.00 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 28720.00 | 14360.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 13930.00 | 6965.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 13324.00 | 6662.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 3.84 | 1.92 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 3.80 | 1.90 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 4842.00 | 2421.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 108960.00 | 54480.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.97 | 0.99 | ppb | 2.82 | 900.00 | |
| 51 V | 45 | 2 | 1.62 | 0.81 | ppb | 1.01 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | 8046.00 | 4023.00 | ppb | 0.23 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 644.00 | 322.00 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 2.47 | 1.23 | ppb | 1.27 | 900.00 | |
| 60 Ni | 45 | 2 | 15.32 | 7.66 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.16 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 13.48 | 6.74 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 53.12 | 26.56 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 1.21 | 0.61 | ppb | 3.26 | 900.00 | |
| 88 Sr | 103 | 1 | 603.40 | 301.70 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1.78 | 0.89 | ppb | 1.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.04 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 18.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 15.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 2.52 | 900.00 | |
| 137 Ba | 159 | 1 | 10.75 | 5.38 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.21 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.05 | ppb | 7.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432777 | 0.86 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3270318 | 1.01 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 365135 | 0.61 | 367626 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687027 | 0.24 | 714806 | 96.1 | 70 | - | 130 |
| 72 Ge | 2 | 141539 | 0.21 | 144802 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3562540 | 1.01 | 3924881 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3735694 | 0.46 | 3944903 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 1076183 | 0.76 | 1086949 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 4973796 | 0.38 | 4942952 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 4732692 | 0.36 | 4623931 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2654849 | 1.26 | 2757011 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 05:10 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2407 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 30.31 | 900.00 | |
| 11 B | 6 | 1 | 0.47 | 0.47 | ppb | 5.64 | 900.00 | |
| 11 B | 45 | 2 | 0.95 | 0.95 | ppb | 17.86 | 900.00 | |
| 23 Na | 45 | 1 | 3.94 | 3.94 | ppb | 10.55 | 90000.00 | |
| 23 Na | 45 | 2 | 10.45 | 10.45 | ppb | 11.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.17 | 2.17 | ppb | 14.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.47 | 4.47 | ppb | 7.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.53 | 0.53 | ppb | 13.07 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 4.70 | 4.70 | ppb | 5.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.93 | 4.93 | ppb | 46.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 46.24 | 900.00 | |
| 51 V | 45 | 2 | -0.16 | -0.16 | ppb | 4.75 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 7.08 | 900.00 | |
| 55 Mn | 45 | 2 | 2.27 | 2.27 | ppb | 14.06 | 900.00 | |
| 56 Fe | 45 | 2 | 1.24 | 1.24 | ppb | 5.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 36.54 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 10.43 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 7.75 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 18.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.42 | 0.42 | ppb | 14.83 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.07 | ppb | 18.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 17.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.44 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 34.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 5.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 18.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2630669 | 1.00 | 2521858 | 104.3 | 70 - 130 | |
| 45 Sc | 1 | 3441144 | 0.30 | 3362635 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 388808 | 0.34 | 367626 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734247 | 1.04 | 714806 | 102.7 | 70 | - | 130 |
| 72 | Ge | 2 | 151773 | 0.37 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4005175 | 0.24 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4109803 | 0.94 | 3944903 | 104.2 | 70 | - | 130 |
| 115 | In | 2 | 1165121 | 1.01 | 1086949 | 107.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5207454 | 0.84 | 4942952 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4918373 | 0.45 | 4623931 | 106.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2875063 | 0.15 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#
Date Acquired: Oct 31 2013 05:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 3.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.63 | ppb | 20.76 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 2.30 | 900.00 | |
| 11 B | 45 | 2 | 5.42 | 5.42 | ppb | 7.19 | 900.00 | |
| 23 Na | 45 | 1 | 270.40 | 270.40 | ppb | 2.04 | 90000.00 | |
| 23 Na | 45 | 2 | 303.90 | 303.90 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 1 | 272.10 | 272.10 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.70 | 285.70 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 28.86 | 28.86 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.42 | 27.42 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 271.40 | 271.40 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 280.90 | 280.90 | ppb | 1.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 7.54 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 2.83 | 900.00 | |
| 55 Mn | 45 | 2 | 1.44 | 1.44 | ppb | 5.65 | 900.00 | |
| 56 Fe | 45 | 2 | 29.89 | 29.89 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 3.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.42 | 900.00 | |
| 66 Zn | 72 | 2 | 2.05 | 2.05 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 4.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.71 | ppb | 52.82 | 900.00 | |
| 88 Sr | 103 | 1 | 5.48 | 5.48 | ppb | 2.66 | 900.00 | |
| 98 Mo | 103 | 1 | 1.08 | 1.08 | ppb | 2.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 3.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.52 | 0.52 | ppb | 3.92 | 900.00 | |
| 120 Sn | 115 | 1 | 5.23 | 5.23 | ppb | 1.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 2.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.58 | 0.58 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2607879 | 0.95 | 2521858 | 103.4 | 70 - 130 | |
| 45 Sc | 1 | 3382703 | 1.29 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 384186 | 0.43 | 367626 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 726579 | 1.37 | 714806 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 150878 | 0.33 | 144802 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 4007590 | 1.55 | 3924881 | 102.1 | 70 | - | 130 |
| 115 In | 1 | 4067180 | 0.95 | 3944903 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1173517 | 1.87 | 1086949 | 108.0 | 70 | - | 130 |
| 159 Tb | 1 | 5156548 | 1.48 | 4942952 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4924327 | 1.35 | 4623931 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 2879634 | 1.26 | 2757011 | 104.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#
Date Acquired: Oct 31 2013 05:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.04 | 48.04 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 50.41 | 50.41 | ppb | 0.22 | 900.00 | |
| 11 B | 6 | 1 | 49.78 | 49.78 | ppb | 0.67 | 900.00 | |
| 11 B | 45 | 2 | 49.09 | 49.09 | ppb | 2.61 | 900.00 | |
| 23 Na | 45 | 1 | 5111.00 | 5111.00 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5228.00 | 5228.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 5122.00 | 5122.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4876.00 | 4876.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 5055.00 | 5055.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 2 | 4646.00 | 4646.00 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 5052.00 | 5052.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5076.00 | 5076.00 | ppb | 1.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.05 | 49.05 | ppb | 0.78 | 900.00 | |
| 51 V | 45 | 2 | 48.96 | 48.96 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 49.21 | 49.21 | ppb | 0.29 | 900.00 | |
| 55 Mn | 45 | 2 | 49.10 | 49.10 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 5123.00 | 5123.00 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 49.21 | 49.21 | ppb | 1.43 | 900.00 | |
| 60 Ni | 45 | 2 | 48.01 | 48.01 | ppb | 1.40 | 900.00 | |
| 63 Cu | 72 | 2 | 47.46 | 47.46 | ppb | 0.15 | 900.00 | |
| 66 Zn | 72 | 2 | 49.12 | 49.12 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 49.16 | 49.16 | ppb | 0.71 | 900.00 | |
| 78 Se | 72 | 2 | 50.23 | 50.23 | ppb | 0.74 | 900.00 | |
| 88 Sr | 103 | 1 | 51.96 | 51.96 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 48.32 | 48.32 | ppb | 0.57 | 900.00 | |
| 111 Cd | 115 | 2 | 49.13 | 49.13 | ppb | 0.94 | 900.00 | |
| 120 Sn | 115 | 1 | 52.22 | 52.22 | ppb | 1.44 | 900.00 | |
| 121 Sb | 115 | 1 | 52.44 | 52.44 | ppb | 1.27 | 900.00 | |
| 137 Ba | 159 | 1 | 49.03 | 49.03 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 49.04 | 49.04 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.11 | 50.11 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520073 | 0.32 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3380257 | 0.55 | 3362635 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 374433 | 0.10 | 367626 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 704830 | 0.82 | 714806 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 146620 | 0.23 | 144802 | 101.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3852278 | 0.30 | 3924881 | 98.2 | 70 | - | 130 |
| 115 | In | 1 | 3955072 | 1.06 | 3944903 | 100.3 | 70 | - | 130 |
| 115 | In | 2 | 1143264 | 1.08 | 1086949 | 105.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5110338 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4931863 | 0.57 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2751597 | 0.42 | 2757011 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#
Date Acquired: Oct 31 2013 05:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.15 | ppb | 18.17 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 3.32 | 900.00 | |
| 11 B | 45 | 2 | 0.71 | 0.71 | ppb | 34.87 | 900.00 | |
| 23 Na | 45 | 1 | 0.99 | 0.99 | ppb | 23.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3.16 | 3.16 | ppb | 8.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.52 | 0.52 | ppb | 15.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.28 | 1.28 | ppb | 20.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.52 | 0.52 | ppb | 17.61 | 90000.00 | |
| 27 Al | 45 | 2 | 1.09 | 1.09 | ppb | 20.21 | 90000.00 | |
| 39 K | 45 | 1 | 2.21 | 2.21 | ppb | 32.52 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.95 | -5.95 | ppb | 7.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 17.31 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 3.61 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 26.56 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 17.27 | 900.00 | |
| 56 Fe | 45 | 2 | 1.37 | 1.37 | ppb | 13.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 8.73 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 5.73 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 8.73 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 153.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.25 | ppb | 44.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 20.14 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 3.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.52 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 10.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 21.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 13.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 56.77 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 2.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 17.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543389 | 0.08 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3376321 | 0.97 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 386363 | 0.22 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725310 | 0.43 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 151732 | 0.35 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3964871 | 0.69 | 3924881 | 101.0 | 70 | - | 130 |
| 115 | In | 1 | 4039159 | 0.56 | 3944903 | 102.4 | 70 | - | 130 |
| 115 | In | 2 | 1178109 | 0.58 | 1086949 | 108.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5137591 | 0.57 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4888911 | 0.07 | 4623931 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2886554 | 0.12 | 2757011 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#
Date Acquired: Oct 31 2013 05:42 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-MB1
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 89.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 130.69 | 900.00 | |
| 11 B | 6 | 1 | 0.66 | 0.33 | ppb | 3.67 | 900.00 | |
| 11 B | 45 | 2 | 1.60 | 0.80 | ppb | 22.74 | 900.00 | |
| 23 Na | 45 | 1 | 12.10 | 6.05 | ppb | 7.14 | 90000.00 | |
| 23 Na | 45 | 2 | 15.05 | 7.53 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.10 | 0.55 | ppb | 6.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.18 | 0.59 | ppb | 8.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.54 | 1.77 | ppb | 4.60 | 90000.00 | |
| 27 Al | 45 | 2 | 3.47 | 1.74 | ppb | 5.43 | 90000.00 | |
| 39 K | 45 | 1 | 19.18 | 9.59 | ppb | 19.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.71 | 0.36 | ppb | 164.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.22 | 0.11 | ppb | 9.24 | 900.00 | |
| 51 V | 45 | 2 | 1.61 | 0.80 | ppb | 1.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.24 | 0.12 | ppb | 2.88 | 900.00 | |
| 55 Mn | 45 | 2 | 0.49 | 0.25 | ppb | 3.56 | 900.00 | |
| 56 Fe | 45 | 2 | 26.16 | 13.08 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 19.84 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 3.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.05 | ppb | 19.91 | 900.00 | |
| 66 Zn | 72 | 2 | 1.34 | 0.67 | ppb | 2.83 | 900.00 | |
| 75 As | 72 | 2 | 0.40 | 0.20 | ppb | 8.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.25 | ppb | 12.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 10.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.04 | ppb | 10.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.08 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 46.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 16.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 4.38 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.05 | ppb | 5.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 4.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 11.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2557954 | 1.41 | 2521858 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 3301748 | 1.13 | 3362635 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 375109 | 0.09 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 703236 | 0.10 | 714806 | 98.4 | 70 | - | 130 |
| 72 | Ge | 2 | 145995 | 0.15 | 144802 | 100.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3831595 | 2.72 | 3924881 | 97.6 | 70 | - | 130 |
| 115 | In | 1 | 3880392 | 1.58 | 3944903 | 98.4 | 70 | - | 130 |
| 115 | In | 2 | 1135116 | 1.83 | 1086949 | 104.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5042558 | 1.48 | 4942952 | 102.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4804868 | 1.67 | 4623931 | 103.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2810853 | 1.68 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#
Date Acquired: Oct 31 2013 05:49 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-11F
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 209.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.01 | ppb | 544.47 | 900.00 | |
| 11 B | 6 | 1 | 294.60 | 58.92 | ppb | 1.07 | 900.00 | |
| 11 B | 45 | 2 | 280.05 | 56.01 | ppb | 1.31 | 900.00 | |
| 23 Na | 45 | 1 | 28515.00 | 5703.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 28455.00 | 5691.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 9740.00 | 1948.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 9390.00 | 1878.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 8.61 | 1.72 | ppb | 2.80 | 90000.00 | |
| 27 Al | 45 | 2 | 8.52 | 1.70 | ppb | 6.75 | 90000.00 | |
| 39 K | 45 | 1 | 8930.00 | 1786.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 60650.00 | 12130.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.30 | ppb | 3.97 | 900.00 | |
| 51 V | 45 | 2 | -0.65 | -0.13 | ppb | 4.93 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.02 | ppb | 47.83 | 900.00 | |
| 55 Mn | 45 | 2 | 2855.00 | 571.00 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 43940.00 | 8788.00 | ppb | 0.23 | 90000.00 | |
| 59 Co | 45 | 2 | 14.65 | 2.93 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 3.17 | 0.63 | ppb | 0.91 | 900.00 | |
| 63 Cu | 72 | 2 | -0.26 | -0.05 | ppb | 22.23 | 900.00 | |
| 66 Zn | 72 | 2 | 10.14 | 2.03 | ppb | 1.87 | 900.00 | |
| 75 As | 72 | 2 | 231.50 | 46.30 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.07 | ppb | 243.26 | 900.00 | |
| 88 Sr | 103 | 1 | 492.05 | 98.41 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.44 | 0.29 | ppb | 0.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 19.01 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 189.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.02 | ppb | 5.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.04 | ppb | 11.07 | 900.00 | |
| 137 Ba | 159 | 1 | 44.27 | 8.85 | ppb | 0.82 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.04 | ppb | 3.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.03 | ppb | 13.76 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2467173 | 0.48 | 2521858 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 3346259 | 0.60 | 3362635 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 378594 | 0.34 | 367626 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 725889 | 0.28 | 714806 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 149255 | 0.31 | 144802 | 103.1 | 70 | - | 130 |
| 103 Rh | 1 | 3812888 | 0.39 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3964993 | 0.34 | 3944903 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1140492 | 0.57 | 1086949 | 104.9 | 70 | - | 130 |
| 159 Tb | 1 | 5097125 | 0.25 | 4942952 | 103.1 | 70 | - | 130 |
| 175 Lu | 1 | 4930493 | 0.55 | 4623931 | 106.6 | 70 | - | 130 |
| 209 Bi | 1 | 2770792 | 0.24 | 2757011 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 05:57 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21920A-SD1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 25.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 25.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 575.42 | 900.00 | |
| 9 Be | 45 | 2 | 1.10 | 0.04 | ppb | 109.39 | 900.00 | |
| 11 B | 6 | 1 | 286.50 | 11.46 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 275.75 | 11.03 | ppb | 9.88 | 900.00 | |
| 23 Na | 45 | 1 | 28925.00 | 1157.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 29700.00 | 1188.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 9980.00 | 399.20 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 10320.00 | 412.80 | ppb | 0.10 | 90000.00 | |
| 27 Al | 45 | 1 | 12.83 | 0.51 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 13.00 | 0.52 | ppb | 18.86 | 90000.00 | |
| 39 K | 45 | 1 | 8997.50 | 359.90 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 62775.00 | 2511.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.87 | 0.07 | ppb | 9.82 | 900.00 | |
| 51 V | 45 | 2 | -12.67 | -0.51 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | -1.46 | -0.06 | ppb | 8.82 | 900.00 | |
| 55 Mn | 45 | 2 | 2982.50 | 119.30 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 44325.00 | 1773.00 | ppb | 0.61 | 90000.00 | |
| 59 Co | 45 | 2 | 14.75 | 0.59 | ppb | 0.46 | 900.00 | |
| 60 Ni | 45 | 2 | 3.29 | 0.13 | ppb | 9.21 | 900.00 | |
| 63 Cu | 72 | 2 | -2.74 | -0.11 | ppb | 4.02 | 900.00 | |
| 66 Zn | 72 | 2 | 9.64 | 0.39 | ppb | 5.61 | 900.00 | |
| 75 As | 72 | 2 | 237.03 | 9.48 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 6.15 | 0.25 | ppb | 32.22 | 900.00 | |
| 88 Sr | 103 | 1 | 497.50 | 19.90 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 1.37 | 0.05 | ppb | 5.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.04 | 0.00 | ppb | 22.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.02 | ppb | 69.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 619.44 | 900.00 | |
| 121 Sb | 115 | 1 | -0.11 | 0.00 | ppb | 41.29 | 900.00 | |
| 137 Ba | 159 | 1 | 44.23 | 1.77 | ppb | 0.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.02 | ppb | 29.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.02 | ppb | 13.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2540479 | 0.71 | 2521858 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 3380506 | 0.72 | 3362635 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 392757 | 0.48 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735567 | 0.76 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 154287 | 0.34 | 144802 | 106.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3949231 | 0.61 | 3924881 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 4048882 | 0.97 | 3944903 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1185310 | 0.42 | 1086949 | 109.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5138789 | 0.51 | 4942952 | 104.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4892064 | 0.84 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2893458 | 1.10 | 2757011 | 104.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#
Date Acquired: Oct 31 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-1F
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 108.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.19 | 0.04 | ppb | 94.58 | 900.00 | |
| 11 B | 6 | 1 | 29.32 | 5.86 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 26.73 | 5.35 | ppb | 5.07 | 900.00 | |
| 23 Na | 45 | 1 | 63200.00 | 12640.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 64550.00 | 12910.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 1754.50 | 350.90 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 1836.00 | 367.20 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 7.49 | 1.50 | ppb | 7.71 | 90000.00 | |
| 27 Al | 45 | 2 | 6.64 | 1.33 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 3048.50 | 609.70 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 17475.00 | 3495.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.22 | ppb | 7.89 | 900.00 | |
| 51 V | 45 | 2 | -0.37 | -0.07 | ppb | 2.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.04 | 0.01 | ppb | 37.60 | 900.00 | |
| 55 Mn | 45 | 2 | 1089.50 | 217.90 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 10065.00 | 2013.00 | ppb | 0.94 | 90000.00 | |
| 59 Co | 45 | 2 | 2.33 | 0.47 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 1.37 | 0.27 | ppb | 7.91 | 900.00 | |
| 63 Cu | 72 | 2 | -0.30 | -0.06 | ppb | 12.08 | 900.00 | |
| 66 Zn | 72 | 2 | 25.40 | 5.08 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 112.95 | 22.59 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 0.94 | 0.19 | ppb | 86.56 | 900.00 | |
| 88 Sr | 103 | 1 | 112.00 | 22.40 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.41 | ppb | 4.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 30.08 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.02 | ppb | 42.25 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.01 | ppb | 11.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.03 | ppb | 9.87 | 900.00 | |
| 137 Ba | 159 | 1 | 17.19 | 3.44 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.01 | ppb | 8.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.02 | ppb | 4.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2425871 | 1.43 | 2521858 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3301202 | 0.05 | 3362635 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 374990 | 0.24 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 711151 | 0.11 | 714806 | 99.5 | 70 | - | 130 |
| 72 | Ge | 2 | 146945 | 0.28 | 144802 | 101.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3746901 | 0.28 | 3924881 | 95.5 | 70 | - | 130 |
| 115 | In | 1 | 3829898 | 0.56 | 3944903 | 97.1 | 70 | - | 130 |
| 115 | In | 2 | 1126421 | 0.53 | 1086949 | 103.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4954569 | 0.77 | 4942952 | 100.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4744171 | 0.74 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2761642 | 1.00 | 2757011 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#
Date Acquired: Oct 31 2013 06:11 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-7F
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.08 | 0.04 | ppb | 14.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.05 | ppb | 49.28 | 900.00 | |
| 11 B | 6 | 1 | 193.22 | 96.61 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 188.04 | 94.02 | ppb | 3.42 | 900.00 | |
| 23 Na | 45 | 1 | 26940.00 | 13470.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 28020.00 | 14010.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 13398.00 | 6699.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 12944.00 | 6472.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.07 | 1.53 | ppb | 2.02 | 90000.00 | |
| 27 Al | 45 | 2 | 3.03 | 1.52 | ppb | 3.59 | 90000.00 | |
| 39 K | 45 | 1 | 4658.00 | 2329.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 104540.00 | 52270.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.73 | 0.86 | ppb | 1.36 | 900.00 | |
| 51 V | 45 | 2 | 1.30 | 0.65 | ppb | 4.22 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.21 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 7804.00 | 3902.00 | ppb | 0.35 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 648.00 | 324.00 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 2.43 | 1.21 | ppb | 1.72 | 900.00 | |
| 60 Ni | 45 | 2 | 14.70 | 7.35 | ppb | 0.66 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 13.06 | 6.53 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 54.32 | 27.16 | ppb | 0.77 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.11 | ppb | 75.95 | 900.00 | |
| 88 Sr | 103 | 1 | 584.40 | 292.20 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 1.75 | 0.87 | ppb | 1.69 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 18.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 34.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 0.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.09 | ppb | 4.08 | 900.00 | |
| 137 Ba | 159 | 1 | 10.67 | 5.34 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 18.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 20.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2393236 | 1.43 | 2521858 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 3251240 | 0.68 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 365640 | 0.07 | 367626 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 681463 | 0.49 | 714806 | 95.3 | 70 | - | 130 |
| 72 Ge | 2 | 140431 | 0.65 | 144802 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 3534495 | 0.54 | 3924881 | 90.1 | 70 | - | 130 |
| 115 In | 1 | 3687808 | 0.26 | 3944903 | 93.5 | 70 | - | 130 |
| 115 In | 2 | 1086014 | 5.52 | 1086949 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 4837143 | 0.37 | 4942952 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 4600206 | 0.17 | 4623931 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 2580617 | 0.80 | 2757011 | 93.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#
Date Acquired: Oct 31 2013 06:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-8F
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 69.68 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 235.52 | 900.00 | |
| 11 B | 6 | 1 | 60.90 | 30.45 | ppb | 1.70 | 900.00 | |
| 11 B | 45 | 2 | 58.96 | 29.48 | ppb | 2.11 | 900.00 | |
| 23 Na | 45 | 1 | 3578.00 | 1789.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 3684.00 | 1842.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 1928.80 | 964.40 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 1910.00 | 955.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 14.13 | 7.07 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 2 | 13.10 | 6.55 | ppb | 1.53 | 90000.00 | |
| 39 K | 45 | 1 | 3002.00 | 1501.00 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 17388.00 | 8694.00 | ppb | 0.72 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.43 | ppb | 5.09 | 900.00 | |
| 51 V | 45 | 2 | 1.43 | 0.72 | ppb | 3.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.55 | 0.28 | ppb | 2.19 | 900.00 | |
| 55 Mn | 45 | 2 | 399.00 | 199.50 | ppb | 0.93 | 900.00 | |
| 56 Fe | 45 | 2 | 9878.00 | 4939.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 6.39 | 3.20 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.49 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.21 | 0.11 | ppb | 3.85 | 900.00 | |
| 66 Zn | 72 | 2 | 6.33 | 3.16 | ppb | 1.58 | 900.00 | |
| 75 As | 72 | 2 | 61.56 | 30.78 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 226.74 | 900.00 | |
| 88 Sr | 103 | 1 | 98.96 | 49.48 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 5.18 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 698.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 29.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 14.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 20.98 | 10.49 | ppb | 1.24 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 25.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 17.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2439752 | 1.19 | 2521858 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 3308197 | 0.31 | 3362635 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 374620 | 0.20 | 367626 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 710168 | 0.58 | 714806 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 145395 | 0.13 | 144802 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 3701459 | 0.47 | 3924881 | 94.3 | 70 | - | 130 |
| 115 In | 1 | 3825284 | 0.41 | 3944903 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1099093 | 0.45 | 1086949 | 101.1 | 70 | - | 130 |
| 159 Tb | 1 | 4978287 | 0.63 | 4942952 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 4690650 | 0.51 | 4623931 | 101.4 | 70 | - | 130 |
| 209 Bi | 1 | 2703460 | 0.81 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#
Date Acquired: Oct 31 2013 06:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-9F
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 190.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 90.31 | 900.00 | |
| 11 B | 6 | 1 | 15.89 | 7.94 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 15.99 | 7.99 | ppb | 6.78 | 900.00 | |
| 23 Na | 45 | 1 | 2738.00 | 1369.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 2802.00 | 1401.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 1454.00 | 727.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 1526.20 | 763.10 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4.79 | 2.40 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 2 | 4.56 | 2.28 | ppb | 7.13 | 90000.00 | |
| 39 K | 45 | 1 | 1666.00 | 833.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 9600.00 | 4800.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.43 | ppb | 3.48 | 900.00 | |
| 51 V | 45 | 2 | 1.15 | 0.58 | ppb | 4.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 5.11 | 900.00 | |
| 55 Mn | 45 | 2 | 468.20 | 234.10 | ppb | 0.30 | 900.00 | |
| 56 Fe | 45 | 2 | 4756.00 | 2378.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 3.51 | 1.76 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.64 | 0.32 | ppb | 3.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.10 | 0.05 | ppb | 3.18 | 900.00 | |
| 66 Zn | 72 | 2 | 12.45 | 6.23 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 12.50 | 6.25 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.35 | ppb | 32.85 | 900.00 | |
| 88 Sr | 103 | 1 | 64.26 | 32.13 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 1.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 81.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 30.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 9.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.10 | 900.00 | |
| 137 Ba | 159 | 1 | 8.56 | 4.28 | ppb | 2.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 10.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 13.44 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2431657 | 0.36 | 2521858 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3280646 | 0.79 | 3362635 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 370526 | 0.25 | 367626 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 704508 | 0.29 | 714806 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 144389 | 0.47 | 144802 | 99.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3697536 | 0.34 | 3924881 | 94.2 | 70 | - | 130 |
| 115 | In | 1 | 3776330 | 0.30 | 3944903 | 95.7 | 70 | - | 130 |
| 115 | In | 2 | 1099104 | 0.62 | 1086949 | 101.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4887590 | 0.68 | 4942952 | 98.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4661082 | 0.54 | 4623931 | 100.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2692928 | 0.62 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#
Date Acquired: Oct 31 2013 06:32 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-10F
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 173.49 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.10 | ppb | 74.44 | 900.00 | |
| 11 B | 6 | 1 | 250.65 | 50.13 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 234.70 | 46.94 | ppb | 1.25 | 900.00 | |
| 23 Na | 45 | 1 | 31470.00 | 6294.00 | ppb | 0.91 | 90000.00 | |
| 23 Na | 45 | 2 | 31860.00 | 6372.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 13200.00 | 2640.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 12640.00 | 2528.00 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 1 | 4.20 | 0.84 | ppb | 3.42 | 90000.00 | |
| 27 Al | 45 | 2 | 4.22 | 0.84 | ppb | 4.64 | 90000.00 | |
| 39 K | 45 | 1 | 7220.00 | 1444.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 89700.00 | 17940.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.68 | 0.34 | ppb | 6.81 | 900.00 | |
| 51 V | 45 | 2 | -0.60 | -0.12 | ppb | 9.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.01 | ppb | 66.34 | 900.00 | |
| 55 Mn | 45 | 2 | 4961.00 | 992.20 | ppb | 0.60 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 17430.00 | 3486.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 10.12 | 2.02 | ppb | 0.10 | 900.00 | |
| 60 Ni | 45 | 2 | 8.07 | 1.61 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | -0.28 | -0.06 | ppb | 13.49 | 900.00 | |
| 66 Zn | 72 | 2 | 6.04 | 1.21 | ppb | 4.43 | 900.00 | |
| 75 As | 72 | 2 | 204.55 | 40.91 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | 1.79 | 0.36 | ppb | 13.93 | 900.00 | |
| 88 Sr | 103 | 1 | 805.00 | 161.00 | ppb | 0.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.80 | 0.36 | ppb | 6.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 76.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.02 | ppb | 22.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.01 | ppb | 21.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.05 | ppb | 6.21 | 900.00 | |
| 137 Ba | 159 | 1 | 53.25 | 10.65 | ppb | 1.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 55.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.01 | ppb | 28.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2386237 | 1.19 | 2521858 | 94.6 | 70 - 130 | |
| 45 Sc | 1 | 3287569 | 0.54 | 3362635 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 377638 | 0.23 | 367626 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 705861 | 0.91 | 714806 | 98.7 | 70 | - | 130 |
| 72 | Ge | 2 | 146664 | 0.28 | 144802 | 101.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3661206 | 0.80 | 3924881 | 93.3 | 70 | - | 130 |
| 115 | In | 1 | 3813220 | 0.86 | 3944903 | 96.7 | 70 | - | 130 |
| 115 | In | 2 | 1089126 | 1.62 | 1086949 | 100.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4875999 | 0.86 | 4942952 | 98.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4650735 | 0.14 | 4623931 | 100.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2695605 | 1.37 | 2757011 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#
Date Acquired: Oct 31 2013 06:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-12F
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 25.25 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.09 | ppb | 87.12 | 900.00 | |
| 11 B | 6 | 1 | 20.86 | 10.43 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 22.04 | 11.02 | ppb | 3.58 | 900.00 | |
| 23 Na | 45 | 1 | 10056.00 | 5028.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 10382.00 | 5191.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 4020.00 | 2010.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 3932.00 | 1966.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 26.06 | 13.03 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 24.10 | 12.05 | ppb | 0.98 | 90000.00 | |
| 39 K | 45 | 1 | 4172.00 | 2086.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 40140.00 | 20070.00 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 0.52 | ppb | 4.30 | 900.00 | |
| 51 V | 45 | 2 | 1.33 | 0.66 | ppb | 2.79 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.37 | ppb | 1.66 | 900.00 | |
| 55 Mn | 45 | 2 | 141.66 | 70.83 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 596.00 | 298.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.28 | 0.14 | ppb | 4.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.46 | 0.23 | ppb | 7.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.13 | ppb | 6.48 | 900.00 | |
| 66 Zn | 72 | 2 | 6.35 | 3.18 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 25.14 | 12.57 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.86 | 0.43 | ppb | 9.09 | 900.00 | |
| 88 Sr | 103 | 1 | 281.00 | 140.50 | ppb | 0.48 | 900.00 | |
| 98 Mo | 103 | 1 | 1.34 | 0.67 | ppb | 0.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 8.86 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 34.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.27 | 0.14 | ppb | 3.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 6.89 | 900.00 | |
| 137 Ba | 159 | 1 | 59.72 | 29.86 | ppb | 1.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 418.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 30.15 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2390348 | 0.41 | 2521858 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 3230818 | 0.53 | 3362635 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 366766 | 0.35 | 367626 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 688267 | 0.80 | 714806 | 96.3 | 70 | - | 130 |
| 72 Ge | 2 | 141827 | 0.40 | 144802 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 3598570 | 0.42 | 3924881 | 91.7 | 70 | - | 130 |
| 115 In | 1 | 3734786 | 0.61 | 3944903 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 1082924 | 0.78 | 1086949 | 99.6 | 70 | - | 130 |
| 159 Tb | 1 | 4827997 | 0.82 | 4942952 | 97.7 | 70 | - | 130 |
| 175 Lu | 1 | 4595581 | 0.23 | 4623931 | 99.4 | 70 | - | 130 |
| 209 Bi | 1 | 2637491 | 0.26 | 2757011 | 95.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#
Date Acquired: Oct 31 2013 06:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-13F
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2353.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.42 | 0.02 | ppb | 31.22 | 900.00 | |
| 11 B | 6 | 1 | 105.70 | 5.29 | ppb | 2.36 | 900.00 | |
| 11 B | 45 | 2 | 99.74 | 4.99 | ppb | 10.46 | 900.00 | |
| 23 Na | 45 | 1 | 35560.00 | 1778.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 36220.00 | 1811.00 | ppb | 0.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 13734.00 | 686.70 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 14224.00 | 711.20 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 5.65 | 0.28 | ppb | 12.35 | 90000.00 | |
| 27 Al | 45 | 2 | 7.01 | 0.35 | ppb | 8.92 | 90000.00 | |
| 39 K | 45 | 1 | 3724.00 | 186.20 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 104400.00 | 5220.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.26 | 0.16 | ppb | 15.83 | 900.00 | |
| 51 V | 45 | 2 | -9.42 | -0.47 | ppb | 0.99 | 900.00 | |
| 52 Cr | 45 | 2 | -1.02 | -0.05 | ppb | 2.07 | 900.00 | |
| 55 Mn | 45 | 2 | 2630.00 | 131.50 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 17566.00 | 878.30 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 6.66 | 0.33 | ppb | 1.38 | 900.00 | |
| 60 Ni | 45 | 2 | 5.39 | 0.27 | ppb | 9.22 | 900.00 | |
| 63 Cu | 72 | 2 | -2.23 | -0.11 | ppb | 7.15 | 900.00 | |
| 66 Zn | 72 | 2 | 5.12 | 0.26 | ppb | 2.40 | 900.00 | |
| 75 As | 72 | 2 | 889.40 | 44.47 | ppb | 0.56 | 900.00 | |
| 78 Se | 72 | 2 | 5.07 | 0.25 | ppb | 55.39 | 900.00 | |
| 88 Sr | 103 | 1 | 476.00 | 23.80 | ppb | 0.28 | 900.00 | |
| 98 Mo | 103 | 1 | 5.81 | 0.29 | ppb | 1.35 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 141.84 | 900.00 | |
| 111 Cd | 115 | 2 | 0.40 | 0.02 | ppb | 36.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 929.25 | 900.00 | |
| 121 Sb | 115 | 1 | -0.06 | 0.00 | ppb | 58.85 | 900.00 | |
| 137 Ba | 159 | 1 | 20.56 | 1.03 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | 0.00 | ppb | 102.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.00 | ppb | 114.84 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2464839 | 0.30 | 2521858 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 3321694 | 0.42 | 3362635 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 387518 | 0.15 | 367626 | 105.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 723390 | 1.02 | 714806 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 150220 | 0.47 | 144802 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3855452 | 0.35 | 3924881 | 98.2 | 70 | - | 130 |
| 115 | In | 1 | 3932511 | 0.66 | 3944903 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 1139140 | 1.00 | 1086949 | 104.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4942656 | 0.33 | 4942952 | 100.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4678978 | 0.29 | 4623931 | 101.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2792201 | 0.61 | 2757011 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#
Date Acquired: Oct 31 2013 06:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 46.63 | 46.63 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 51.24 | 51.24 | ppb | 1.03 | 900.00 | |
| 11 B | 6 | 1 | 52.39 | 52.39 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 50.88 | 50.88 | ppb | 5.51 | 900.00 | |
| 23 Na | 45 | 1 | 5200.00 | 5200.00 | ppb | 3.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5185.00 | 5185.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 5080.00 | 5080.00 | ppb | 2.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 4809.00 | 4809.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 5035.00 | 5035.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 4576.00 | 4576.00 | ppb | 1.38 | 90000.00 | |
| 39 K | 45 | 1 | 5039.00 | 5039.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 5131.00 | 5131.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.17 | 49.17 | ppb | 1.94 | 900.00 | |
| 51 V | 45 | 2 | 48.65 | 48.65 | ppb | 0.78 | 900.00 | |
| 52 Cr | 45 | 2 | 47.56 | 47.56 | ppb | 1.16 | 900.00 | |
| 55 Mn | 45 | 2 | 47.47 | 47.47 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 5126.00 | 5126.00 | ppb | 1.79 | 90000.00 | |
| 59 Co | 45 | 2 | 49.57 | 49.57 | ppb | 1.64 | 900.00 | |
| 60 Ni | 45 | 2 | 47.45 | 47.45 | ppb | 1.00 | 900.00 | |
| 63 Cu | 72 | 2 | 46.29 | 46.29 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | 49.63 | 49.63 | ppb | 1.13 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 1.43 | 900.00 | |
| 78 Se | 72 | 2 | 50.81 | 50.81 | ppb | 0.57 | 900.00 | |
| 88 Sr | 103 | 1 | 52.13 | 52.13 | ppb | 4.82 | 900.00 | |
| 98 Mo | 103 | 1 | 51.45 | 51.45 | ppb | 1.57 | 900.00 | |
| 107 Ag | 115 | 1 | 49.72 | 49.72 | ppb | 1.70 | 900.00 | |
| 111 Cd | 115 | 2 | 48.14 | 48.14 | ppb | 3.21 | 900.00 | |
| 120 Sn | 115 | 1 | 52.25 | 52.25 | ppb | 1.95 | 900.00 | |
| 121 Sb | 115 | 1 | 50.87 | 50.87 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 48.80 | 48.80 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 47.87 | 47.87 | ppb | 2.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.13 | 50.13 | ppb | 3.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2604731 | 1.31 | 2521858 | 103.3 | 70 - 130 | |
| 45 Sc | 1 | 3409006 | 0.97 | 3362635 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 378912 | 0.33 | 367626 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708359 | 0.53 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 145331 | 1.08 | 144802 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 3906498 | 2.52 | 3924881 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3948638 | 1.10 | 3944903 | 100.1 | 70 | - | 130 |
| 115 In | 2 | 1119286 | 1.94 | 1086949 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 5139458 | 1.77 | 4942952 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 4839839 | 0.23 | 4623931 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 2758528 | 0.79 | 2757011 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D# | | |
| Date Acquired: | Oct 31 2013 07:00 pm | | |
| Acq. Method: | EPA6020A.M | Data Results: | |
| Operator: | METALS | Analytes: | Pass |
| Sample Name: | CCB | ISTD: | Pass |
| Misc Info: | | | |
| Vial Number: | 2510 | | |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| Last Cal. Update: | Nov 01 2013 08:50 am | | |
| Sample Type: | Sample | | |
| Dilution Factor: | 1.00 | | |
| Autodil Factor: | Undiluted | | |
| Final Dil Factor: | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 73.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.16 | ppb | 31.84 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.30 | ppb | 10.32 | 900.00 | |
| 11 B | 45 | 2 | 0.91 | 0.91 | ppb | 4.63 | 900.00 | |
| 23 Na | 45 | 1 | 0.68 | 0.68 | ppb | 25.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5.41 | 5.41 | ppb | 8.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.49 | 0.49 | ppb | 58.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.67 | 2.67 | ppb | 17.76 | 90000.00 | |
| 27 Al | 45 | 1 | 0.40 | 0.40 | ppb | 76.73 | 90000.00 | |
| 27 Al | 45 | 2 | 2.23 | 2.23 | ppb | 18.30 | 90000.00 | |
| 39 K | 45 | 1 | 2.06 | 2.06 | ppb | 16.75 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.42 | -5.42 | ppb | 9.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 141.41 | 900.00 | |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 5.53 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 34.00 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 25.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2.86 | 2.86 | ppb | 13.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 19.88 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 38.70 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 5.98 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 18.79 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 235.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 39.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 80.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 5.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.97 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.06 | ppb | 26.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 20.25 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 11.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 53.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 1.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 38.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2454010 | 0.65 | 2521858 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 3284581 | 0.81 | 3362635 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 381598 | 0.29 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708067 | 0.87 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 148664 | 0.52 | 144802 | 102.7 | 70 | - | 130 |
| 103 Rh | 1 | 3848541 | 1.03 | 3924881 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 3900894 | 0.15 | 3944903 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 1111328 | 0.88 | 1086949 | 102.2 | 70 | - | 130 |
| 159 Tb | 1 | 4898727 | 0.29 | 4942952 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 4618663 | 0.69 | 4623931 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2754654 | 0.05 | 2757011 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 07:07 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC25568-14F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2511 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 418.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 125.00 | 900.00 | |
| 11 B | 6 | 1 | 1.49 | 0.75 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 1.49 | 0.75 | ppb | 25.65 | 900.00 | |
| 23 Na | 45 | 1 | 13.84 | 6.92 | ppb | 6.55 | 90000.00 | |
| 23 Na | 45 | 2 | 17.51 | 8.75 | ppb | 4.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.45 | 0.72 | ppb | 4.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 0.66 | ppb | 7.37 | 90000.00 | |
| 27 Al | 45 | 1 | 2.80 | 1.40 | ppb | 3.69 | 90000.00 | |
| 27 Al | 45 | 2 | 2.88 | 1.44 | ppb | 3.60 | 90000.00 | |
| 39 K | 45 | 1 | 15.50 | 7.75 | ppb | 14.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 19.02 | 9.51 | ppb | 7.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.24 | 0.12 | ppb | 14.85 | 900.00 | |
| 51 V | 45 | 2 | 1.36 | 0.68 | ppb | 4.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.14 | ppb | 8.09 | 900.00 | |
| 55 Mn | 45 | 2 | 0.23 | 0.12 | ppb | 4.75 | 900.00 | |
| 56 Fe | 45 | 2 | 8.11 | 4.05 | ppb | 1.37 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 42.26 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 10.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 1600.70 | 900.00 | |
| 66 Zn | 72 | 2 | 6.24 | 3.12 | ppb | 1.59 | 900.00 | |
| 75 As | 72 | 2 | 0.33 | 0.16 | ppb | 4.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 101.47 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 7.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.08 | ppb | 3.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 31.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 66.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 6.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 7.59 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 9.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 2.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 7.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2430672 | 0.77 | 2521858 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3254802 | 0.87 | 3362635 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 369033 | 0.54 | 367626 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 691733 | 0.83 | 714806 | 96.8 | 70 | - | 130 |
| 72 Ge | 2 | 142337 | 0.51 | 144802 | 98.3 | 70 | - | 130 |
| 103 Rh | 1 | 3727777 | 0.49 | 3924881 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 3786325 | 0.56 | 3944903 | 96.0 | 70 | - | 130 |
| 115 In | 2 | 1079115 | 1.40 | 1086949 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 4850366 | 0.59 | 4942952 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 4626130 | 1.37 | 4623931 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 2694749 | 0.85 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#
Date Acquired: Oct 31 2013 07:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-15F
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 7.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.40 | 0.20 | ppb | 35.18 | 900.00 | |
| 11 B | 6 | 1 | 30.16 | 15.08 | ppb | 1.16 | 900.00 | |
| 11 B | 45 | 2 | 31.28 | 15.64 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 6452.00 | 3226.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 6674.00 | 3337.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 2576.00 | 1288.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 2524.00 | 1262.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 56.08 | 28.04 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 2 | 52.20 | 26.10 | ppb | 1.22 | 90000.00 | |
| 39 K | 45 | 1 | 2574.00 | 1287.00 | ppb | 0.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 25780.00 | 12890.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 0.50 | ppb | 2.51 | 900.00 | |
| 51 V | 45 | 2 | 1.42 | 0.71 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.60 | 0.30 | ppb | 5.88 | 900.00 | |
| 55 Mn | 45 | 2 | 377.20 | 188.60 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 9426.00 | 4713.00 | ppb | 0.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.89 | 0.45 | ppb | 1.17 | 900.00 | |
| 60 Ni | 45 | 2 | 0.55 | 0.27 | ppb | 4.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.19 | 0.10 | ppb | 3.94 | 900.00 | |
| 66 Zn | 72 | 2 | 6.60 | 3.30 | ppb | 0.80 | 900.00 | |
| 75 As | 72 | 2 | 33.06 | 16.53 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 1.04 | 0.52 | ppb | 30.71 | 900.00 | |
| 88 Sr | 103 | 1 | 149.20 | 74.60 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.07 | ppb | 5.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 40.76 | 900.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.05 | ppb | 8.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 14.74 | 7.37 | ppb | 2.24 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 9.63 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2394131 | 0.65 | 2521858 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 3252743 | 0.22 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 365914 | 0.28 | 367626 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 692235 | 1.01 | 714806 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 142645 | 0.30 | 144802 | 98.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3636337 | 0.24 | 3924881 | 92.6 | 70 | - | 130 |
| 115 | In | 1 | 3765265 | 0.92 | 3944903 | 95.4 | 70 | - | 130 |
| 115 | In | 2 | 1074089 | 0.44 | 1086949 | 98.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4843090 | 0.95 | 4942952 | 98.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4601464 | 0.91 | 4623931 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2647634 | 0.45 | 2757011 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#
Date Acquired: Oct 31 2013 07:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-16F
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 133.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.17 | 0.09 | ppb | 120.33 | 900.00 | |
| 11 B | 6 | 1 | 246.00 | 123.00 | ppb | 0.38 | 900.00 | |
| 11 B | 45 | 2 | 232.80 | 116.40 | ppb | 1.05 | 900.00 | |
| 23 Na | 45 | 1 | 33860.00 | 16930.00 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 34760.00 | 17380.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 11506.00 | 5753.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 11024.00 | 5512.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.01 | 1.50 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 3.03 | 1.52 | ppb | 14.23 | 90000.00 | |
| 39 K | 45 | 1 | 5172.00 | 2586.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 82260.00 | 41130.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.57 | 0.79 | ppb | 4.10 | 900.00 | |
| 51 V | 45 | 2 | 1.00 | 0.50 | ppb | 1.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 6.20 | 900.00 | |
| 55 Mn | 45 | 2 | 8484.00 | 4242.00 | ppb | 0.11 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 19646.00 | 9823.00 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 14.57 | 7.29 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 7.19 | 3.60 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 0.42 | 0.21 | ppb | 4.21 | 900.00 | |
| 66 Zn | 72 | 2 | 7.19 | 3.60 | ppb | 1.36 | 900.00 | |
| 75 As | 72 | 2 | 106.58 | 53.29 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.65 | 0.32 | ppb | 46.20 | 900.00 | |
| 88 Sr | 103 | 1 | 854.80 | 427.40 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.64 | 0.82 | ppb | 0.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 103.46 | 900.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 46.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 7.15 | 900.00 | |
| 137 Ba | 159 | 1 | 28.22 | 14.11 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 6.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 30.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2350794 | 0.78 | 2521858 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 3262281 | 0.41 | 3362635 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 364723 | 0.18 | 367626 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 690398 | 1.21 | 714806 | 96.6 | 70 | - | 130 |
| 72 | Ge | 2 | 140335 | 0.18 | 144802 | 96.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3508631 | 0.45 | 3924881 | 89.4 | 70 | - | 130 |
| 115 | In | 1 | 3656175 | 0.72 | 3944903 | 92.7 | 70 | - | 130 |
| 115 | In | 2 | 1095807 | 5.36 | 1086949 | 100.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4738367 | 0.62 | 4942952 | 95.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4525254 | 0.87 | 4623931 | 97.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2553633 | 1.62 | 2757011 | 92.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D#
Date Acquired: Oct 31 2013 07:29 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-2F
Misc Info:
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.81 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.26 | ppb | 26.44 | 900.00 | |
| 11 B | 6 | 1 | 23.70 | 11.85 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 24.18 | 12.09 | ppb | 1.86 | 900.00 | |
| 23 Na | 45 | 1 | 3028.00 | 1514.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 3176.00 | 1588.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 3670.00 | 1835.00 | ppb | 1.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 3674.00 | 1837.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.03 | 1.51 | ppb | 1.80 | 90000.00 | |
| 27 Al | 45 | 2 | 3.13 | 1.57 | ppb | 10.22 | 90000.00 | |
| 39 K | 45 | 1 | 3278.00 | 1639.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 22060.00 | 11030.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.34 | 0.67 | ppb | 3.91 | 900.00 | |
| 51 V | 45 | 2 | 1.01 | 0.50 | ppb | 1.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 5.40 | 900.00 | |
| 55 Mn | 45 | 2 | 1349.00 | 674.50 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 8948.00 | 4474.00 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 9.67 | 4.84 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 6.26 | 3.13 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 6.21 | 900.00 | |
| 66 Zn | 72 | 2 | 9.43 | 4.71 | ppb | 1.08 | 900.00 | |
| 75 As | 72 | 2 | 33.64 | 16.82 | ppb | 1.01 | 900.00 | |
| 78 Se | 72 | 2 | 1.42 | 0.71 | ppb | 13.35 | 900.00 | |
| 88 Sr | 103 | 1 | 136.66 | 68.33 | ppb | 1.33 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 10.67 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.18 | 0.09 | ppb | 18.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 7.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 4.46 | 900.00 | |
| 137 Ba | 159 | 1 | 16.67 | 8.34 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 1.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 14.42 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2388533 | 0.23 | 2521858 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3320874 | 1.04 | 3362635 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 370447 | 0.27 | 367626 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 707766 | 0.92 | 714806 | 99.0 | 70 | - | 130 |
| 72 | Ge | 2 | 143793 | 0.30 | 144802 | 99.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3657185 | 0.97 | 3924881 | 93.2 | 70 | - | 130 |
| 115 | In | 1 | 3778377 | 0.85 | 3944903 | 95.8 | 70 | - | 130 |
| 115 | In | 2 | 1111959 | 4.88 | 1086949 | 102.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4852854 | 0.90 | 4942952 | 98.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4598889 | 0.41 | 4623931 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2655784 | 0.96 | 2757011 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 07:36 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC25594-3F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 3103 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.07 | 0.01 | ppb | 20.75 | 900.00 | |
| 9 Be | 45 | 2 | 3.26 | 0.65 | ppb | 18.35 | 900.00 | |
| 11 B | 6 | 1 | 70.65 | 14.13 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 76.70 | 15.34 | ppb | 3.02 | 900.00 | |
| 23 Na | 45 | 1 | 5290.00 | 1058.00 | ppb | 1.12 | 90000.00 | |
| 23 Na | 45 | 2 | 5605.00 | 1121.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 1843.50 | 368.70 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 1961.50 | 392.30 | ppb | 1.41 | 90000.00 | |
| 27 Al | 45 | 1 | 10.70 | 2.14 | ppb | 2.23 | 90000.00 | |
| 27 Al | 45 | 2 | 11.33 | 2.27 | ppb | 2.56 | 90000.00 | |
| 39 K | 45 | 1 | 5300.00 | 1060.00 | ppb | 2.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 16595.00 | 3319.00 | ppb | 1.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.25 | ppb | 6.78 | 900.00 | |
| 51 V | 45 | 2 | -0.99 | -0.20 | ppb | 1.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.02 | ppb | 38.50 | 900.00 | |
| 55 Mn | 45 | 2 | 540.00 | 108.00 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 15615.00 | 3123.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 5.59 | 1.12 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 4.76 | 0.95 | ppb | 0.26 | 900.00 | |
| 63 Cu | 72 | 2 | -0.22 | -0.04 | ppb | 39.49 | 900.00 | |
| 66 Zn | 72 | 2 | 23.42 | 4.68 | ppb | 1.24 | 900.00 | |
| 75 As | 72 | 2 | 146.45 | 29.29 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 7.52 | 1.50 | ppb | 23.34 | 900.00 | |
| 88 Sr | 103 | 1 | 140.90 | 28.18 | ppb | 1.02 | 900.00 | |
| 98 Mo | 103 | 1 | 1.21 | 0.24 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 2.42 | 900.00 | |
| 111 Cd | 115 | 2 | 0.55 | 0.11 | ppb | 16.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.02 | ppb | 2.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.03 | ppb | 11.54 | 900.00 | |
| 137 Ba | 159 | 1 | 16.11 | 3.22 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.01 | ppb | 11.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.02 | ppb | 17.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2535560 | 2.11 | 2521858 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 3430015 | 1.72 | 3362635 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 378355 | 1.19 | 367626 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 742335 | 1.35 | 714806 | 103.9 | 70 | - | 130 |
| 72 Ge | 2 | 148126 | 0.71 | 144802 | 102.3 | 70 | - | 130 |
| 103 Rh | 1 | 3930664 | 1.00 | 3924881 | 100.1 | 70 | - | 130 |
| 115 In | 1 | 4043075 | 0.51 | 3944903 | 102.5 | 70 | - | 130 |
| 115 In | 2 | 1123005 | 1.11 | 1086949 | 103.3 | 70 | - | 130 |
| 159 Tb | 1 | 5068779 | 1.77 | 4942952 | 102.5 | 70 | - | 130 |
| 175 Lu | 1 | 4816005 | 1.35 | 4623931 | 104.2 | 70 | - | 130 |
| 209 Bi | 1 | 2796741 | 1.16 | 2757011 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D# |
| Date Acquired: | Oct 31 2013 07:43 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25594-4F |
| Misc Info: | |
| Vial Number: | 3104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 254.30 | 900.00 | |
| 9 Be | 45 | 2 | 5.07 | 0.10 | ppb | 58.52 | 900.00 | |
| 11 B | 6 | 1 | 115.95 | 2.32 | ppb | 1.66 | 900.00 | |
| 11 B | 45 | 2 | 137.65 | 2.75 | ppb | 14.93 | 900.00 | |
| 23 Na | 45 | 1 | 16120.00 | 322.40 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 17895.00 | 357.90 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 6000.00 | 120.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 6125.00 | 122.50 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 5.67 | 0.11 | ppb | 31.67 | 90000.00 | |
| 27 Al | 45 | 2 | 12.69 | 0.25 | ppb | 26.95 | 90000.00 | |
| 39 K | 45 | 1 | 6690.00 | 133.80 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 41885.00 | 837.70 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.30 | 0.05 | ppb | 10.11 | 900.00 | |
| 51 V | 45 | 2 | -28.02 | -0.56 | ppb | 0.78 | 900.00 | |
| 52 Cr | 45 | 2 | -2.86 | -0.06 | ppb | 16.94 | 900.00 | |
| 55 Mn | 45 | 2 | 851.50 | 17.03 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 30480.00 | 609.60 | ppb | 0.40 | 90000.00 | |
| 59 Co | 45 | 2 | 10.33 | 0.21 | ppb | 2.55 | 900.00 | |
| 60 Ni | 45 | 2 | 16.26 | 0.33 | ppb | 1.71 | 900.00 | |
| 63 Cu | 72 | 2 | -7.39 | -0.15 | ppb | 5.23 | 900.00 | |
| 66 Zn | 72 | 2 | 15.13 | 0.30 | ppb | 6.39 | 900.00 | |
| 75 As | 72 | 2 | 3098.50 | 61.97 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 18.69 | 0.37 | ppb | 50.13 | 900.00 | |
| 88 Sr | 103 | 1 | 408.45 | 8.17 | ppb | 1.29 | 900.00 | |
| 98 Mo | 103 | 1 | 8.67 | 0.17 | ppb | 1.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.00 | ppb | 45.02 | 900.00 | |
| 111 Cd | 115 | 2 | 1.99 | 0.04 | ppb | 16.88 | 900.00 | |
| 120 Sn | 115 | 1 | -0.13 | 0.00 | ppb | 73.38 | 900.00 | |
| 121 Sb | 115 | 1 | -0.25 | -0.01 | ppb | 27.03 | 900.00 | |
| 137 Ba | 159 | 1 | 32.24 | 0.64 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.01 | ppb | 8.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.07 | 0.00 | ppb | 97.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2515179 | 0.87 | 2521858 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 3366129 | 0.86 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 392661 | 0.13 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 722192 | 1.36 | 714806 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 152353 | 0.20 | 144802 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 3932651 | 0.72 | 3924881 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 3983725 | 0.56 | 3944903 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1150425 | 0.88 | 1086949 | 105.8 | 70 | - | 130 |
| 159 Tb | 1 | 4949049 | 0.90 | 4942952 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 4672385 | 0.94 | 4623931 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 2773051 | 1.08 | 2757011 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#
Date Acquired: Oct 31 2013 07:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-5F
Misc Info:
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 35.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.78 | 0.39 | ppb | 25.51 | 900.00 | |
| 11 B | 6 | 1 | 1.63 | 0.82 | ppb | 5.90 | 900.00 | |
| 11 B | 45 | 2 | 3.41 | 1.71 | ppb | 8.15 | 900.00 | |
| 23 Na | 45 | 1 | 15.18 | 7.59 | ppb | 3.82 | 90000.00 | |
| 23 Na | 45 | 2 | 19.24 | 9.62 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.85 | 0.93 | ppb | 2.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.05 | 1.03 | ppb | 9.24 | 90000.00 | |
| 27 Al | 45 | 1 | 3.44 | 1.72 | ppb | 1.97 | 90000.00 | |
| 27 Al | 45 | 2 | 3.49 | 1.75 | ppb | 5.34 | 90000.00 | |
| 39 K | 45 | 1 | 16.56 | 8.28 | ppb | 10.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 18.93 | 9.46 | ppb | 4.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.31 | 0.15 | ppb | 2.90 | 900.00 | |
| 51 V | 45 | 2 | 1.14 | 0.57 | ppb | 1.41 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 2.87 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.14 | ppb | 5.32 | 900.00 | |
| 56 Fe | 45 | 2 | 6.28 | 3.14 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 8.32 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 12.14 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.02 | ppb | 19.76 | 900.00 | |
| 66 Zn | 72 | 2 | 7.08 | 3.54 | ppb | 1.16 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 15.43 | 900.00 | |
| 78 Se | 72 | 2 | 1.77 | 0.89 | ppb | 16.24 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.02 | ppb | 7.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.06 | ppb | 14.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 38.18 | 900.00 | |
| 111 Cd | 115 | 2 | 0.14 | 0.07 | ppb | 15.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.73 | 0.36 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.35 | 900.00 | |
| 137 Ba | 159 | 1 | 0.13 | 0.07 | ppb | 24.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 17.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 18.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2420651 | 0.90 | 2521858 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 3205740 | 0.15 | 3362635 | 95.3 | 70 - 130 | |
| 45 Sc | 2 | 366339 | 0.37 | 367626 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 686085 | 0.51 | 714806 | 96.0 | 70 | - | 130 |
| 72 | Ge | 2 | 142313 | 0.76 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3724415 | 0.22 | 3924881 | 94.9 | 70 | - | 130 |
| 115 | In | 1 | 3771725 | 0.28 | 3944903 | 95.6 | 70 | - | 130 |
| 115 | In | 2 | 1082927 | 0.40 | 1086949 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4826826 | 0.30 | 4942952 | 97.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4542641 | 0.61 | 4623931 | 98.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2681949 | 0.50 | 2757011 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 07:57 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21920A-B1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 3106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 484.40 | 24.22 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 484.00 | 24.20 | ppb | 4.96 | 900.00 | |
| 11 B | 6 | 1 | 2.15 | 0.11 | ppb | 9.61 | 900.00 | |
| 11 B | 45 | 2 | 7.95 | 0.40 | ppb | 33.70 | 900.00 | |
| 23 Na | 45 | 1 | 26440.00 | 1322.00 | ppb | 1.91 | 90000.00 | |
| 23 Na | 45 | 2 | 29240.00 | 1462.00 | ppb | 5.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 26520.00 | 1326.00 | ppb | 1.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 28200.00 | 1410.00 | ppb | 7.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2238.00 | 111.90 | ppb | 2.18 | 90000.00 | |
| 27 Al | 45 | 2 | 2404.00 | 120.20 | ppb | 6.66 | 90000.00 | |
| 39 K | 45 | 1 | 26060.00 | 1303.00 | ppb | 1.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 26620.00 | 1331.00 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.00 | 24.35 | ppb | 1.47 | 900.00 | |
| 51 V | 45 | 2 | 529.40 | 26.47 | ppb | 5.20 | 900.00 | |
| 52 Cr | 45 | 2 | 521.40 | 26.07 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 482.60 | 24.13 | ppb | 2.00 | 900.00 | |
| 56 Fe | 45 | 2 | 2254.00 | 112.70 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 549.80 | 27.49 | ppb | 6.01 | 900.00 | |
| 60 Ni | 45 | 2 | 512.00 | 25.60 | ppb | 4.74 | 900.00 | |
| 63 Cu | 72 | 2 | 489.20 | 24.46 | ppb | 1.41 | 900.00 | |
| 66 Zn | 72 | 2 | 584.60 | 29.23 | ppb | 4.99 | 900.00 | |
| 75 As | 72 | 2 | 570.40 | 28.52 | ppb | 4.20 | 900.00 | |
| 78 Se | 72 | 2 | 599.60 | 29.98 | ppb | 1.11 | 900.00 | |
| 88 Sr | 103 | 1 | 511.60 | 25.58 | ppb | 1.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.48 | 0.02 | ppb | 13.44 | 900.00 | |
| 107 Ag | 115 | 1 | 209.00 | 10.45 | ppb | 0.48 | 900.00 | |
| 111 Cd | 115 | 2 | 520.80 | 26.04 | ppb | 4.16 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 78.10 | 900.00 | |
| 121 Sb | 115 | 1 | 518.40 | 25.92 | ppb | 0.64 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 510.20 | 25.51 | ppb | 2.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.60 | 50.58 | ppb | 1.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2587423 | 1.08 | 2521858 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 3447020 | 1.66 | 3362635 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 379972 | 2.27 | 367626 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 722488 | 0.51 | 714806 | 101.1 | 70 | - | 130 |
| 72 | Ge | 2 | 146878 | 2.63 | 144802 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4029634 | 0.86 | 3924881 | 102.7 | 70 | - | 130 |
| 115 | In | 1 | 4112988 | 0.84 | 3944903 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1221724 | 2.47 | 1086949 | 112.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5138109 | 0.74 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4847306 | 0.80 | 4623931 | 104.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2857981 | 1.51 | 2757011 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D#
Date Acquired: Oct 31 2013 08:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-S1
Misc Info:
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.40 | 25.07 | ppb | 3.20 | 900.00 | |
| 9 Be | 45 | 2 | 509.60 | 25.48 | ppb | 2.25 | 900.00 | |
| 11 B | 6 | 1 | 300.60 | 15.03 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 295.20 | 14.76 | ppb | 8.69 | 900.00 | |
| 23 Na | 45 | 1 | 55360.00 | 2768.00 | ppb | 1.62 | 90000.00 | |
| 23 Na | 45 | 2 | 56740.00 | 2837.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 36300.00 | 1815.00 | ppb | 2.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 35860.00 | 1793.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2228.00 | 111.40 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 2230.00 | 111.50 | ppb | 1.80 | 90000.00 | |
| 39 K | 45 | 1 | 35340.00 | 1767.00 | ppb | 1.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 88880.00 | 4444.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 499.80 | 24.99 | ppb | 2.91 | 900.00 | |
| 51 V | 45 | 2 | 501.40 | 25.07 | ppb | 1.46 | 900.00 | |
| 52 Cr | 45 | 2 | 503.20 | 25.16 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 3532.00 | 176.60 | ppb | 1.51 | 900.00 | |
| 56 Fe | 45 | 2 | 47680.00 | 2384.00 | ppb | 1.04 | 90000.00 | |
| 59 Co | 45 | 2 | 528.20 | 26.41 | ppb | 0.84 | 900.00 | |
| 60 Ni | 45 | 2 | 486.00 | 24.30 | ppb | 1.37 | 900.00 | |
| 63 Cu | 72 | 2 | 501.80 | 25.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 555.40 | 27.77 | ppb | 2.46 | 900.00 | |
| 75 As | 72 | 2 | 791.40 | 39.57 | ppb | 1.09 | 900.00 | |
| 78 Se | 72 | 2 | 579.40 | 28.97 | ppb | 2.89 | 900.00 | |
| 88 Sr | 103 | 1 | 1014.60 | 50.73 | ppb | 2.62 | 900.00 | |
| 98 Mo | 103 | 1 | 1.90 | 0.10 | ppb | 5.74 | 900.00 | |
| 107 Ag | 115 | 1 | 212.60 | 10.63 | ppb | 3.92 | 900.00 | |
| 111 Cd | 115 | 2 | 517.00 | 25.85 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.01 | ppb | 23.76 | 900.00 | |
| 121 Sb | 115 | 1 | 538.80 | 26.94 | ppb | 7.82 | 900.00 | |
| 137 Ba | 159 | 1 | 2084.00 | 104.20 | ppb | 2.52 | 900.00 | |
| 205 Tl | 209 | 1 | 520.80 | 26.04 | ppb | 2.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.80 | 51.99 | ppb | 2.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2422842 | 2.59 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3360915 | 3.24 | 3362635 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 383147 | 0.27 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 692847 | 3.29 | 714806 | 96.9 | 70 | - | 130 |
| 72 Ge | 2 | 147745 | 0.74 | 144802 | 102.0 | 70 | - | 130 |
| 103 Rh | 1 | 3749048 | 2.50 | 3924881 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3875038 | 4.00 | 3944903 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1118264 | 0.54 | 1086949 | 102.9 | 70 | - | 130 |
| 159 Tb | 1 | 4836936 | 5.22 | 4942952 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 4563127 | 2.19 | 4623931 | 98.7 | 70 | - | 130 |
| 209 Bi | 1 | 2697229 | 1.64 | 2757011 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 08:11 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21920A-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 3108 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 494.20 | 24.71 | ppb | 6.97 | 900.00 | |
| 9 Be | 45 | 2 | 509.40 | 25.47 | ppb | 2.01 | 900.00 | |
| 11 B | 6 | 1 | 283.60 | 14.18 | ppb | 12.04 | 900.00 | |
| 11 B | 45 | 2 | 303.40 | 15.17 | ppb | 5.21 | 900.00 | |
| 23 Na | 45 | 1 | 51140.00 | 2557.00 | ppb | 5.74 | 90000.00 | |
| 23 Na | 45 | 2 | 57180.00 | 2859.00 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 33440.00 | 1672.00 | ppb | 6.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 36260.00 | 1813.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 2088.00 | 104.40 | ppb | 5.68 | 90000.00 | |
| 27 Al | 45 | 2 | 2270.00 | 113.50 | ppb | 1.04 | 90000.00 | |
| 39 K | 45 | 1 | 33600.00 | 1680.00 | ppb | 3.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 87640.00 | 4382.00 | ppb | 1.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 505.20 | 25.26 | ppb | 4.34 | 900.00 | |
| 51 V | 45 | 2 | 510.60 | 25.53 | ppb | 3.09 | 900.00 | |
| 52 Cr | 45 | 2 | 504.40 | 25.22 | ppb | 0.65 | 900.00 | |
| 55 Mn | 45 | 2 | 3504.00 | 175.20 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 47300.00 | 2365.00 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 524.60 | 26.23 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 494.80 | 24.74 | ppb | 2.01 | 900.00 | |
| 63 Cu | 72 | 2 | 506.20 | 25.31 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 564.00 | 28.20 | ppb | 1.14 | 900.00 | |
| 75 As | 72 | 2 | 784.00 | 39.20 | ppb | 1.27 | 900.00 | |
| 78 Se | 72 | 2 | 571.20 | 28.56 | ppb | 1.09 | 900.00 | |
| 88 Sr | 103 | 1 | 1091.60 | 54.58 | ppb | 4.18 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.10 | ppb | 7.11 | 900.00 | |
| 107 Ag | 115 | 1 | 215.40 | 10.77 | ppb | 2.07 | 900.00 | |
| 111 Cd | 115 | 2 | 517.40 | 25.87 | ppb | 2.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.01 | ppb | 34.22 | 900.00 | |
| 121 Sb | 115 | 1 | 595.40 | 29.77 | ppb | 8.92 | 900.00 | |
| 137 Ba | 159 | 1 | 2120.00 | 106.00 | ppb | 5.12 | 900.00 | |
| 205 Tl | 209 | 1 | 491.40 | 24.57 | ppb | 7.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 985.20 | 49.26 | ppb | 4.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2556058 | 7.01 | 2521858 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 3393762 | 2.48 | 3362635 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 380479 | 0.51 | 367626 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 721056 | 5.40 | 714806 | 100.9 | 70 | - | 130 |
| 72 Ge | 2 | 148429 | 1.41 | 144802 | 102.5 | 70 | - | 130 |
| 103 Rh | 1 | 3733200 | 2.71 | 3924881 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 3650288 | 3.65 | 3944903 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 1117442 | 2.74 | 1086949 | 102.8 | 70 | - | 130 |
| 159 Tb | 1 | 5054131 | 2.34 | 4942952 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4618929 | 3.36 | 4623931 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2779128 | 3.88 | 2757011 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#
Date Acquired: Oct 31 2013 08:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.43 | 48.43 | ppb | 1.22 | 900.00 | |
| 9 Be | 45 | 2 | 48.96 | 48.96 | ppb | 0.87 | 900.00 | |
| 11 B | 6 | 1 | 49.52 | 49.52 | ppb | 0.11 | 900.00 | |
| 11 B | 45 | 2 | 47.85 | 47.85 | ppb | 2.54 | 900.00 | |
| 23 Na | 45 | 1 | 5010.00 | 5010.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 5170.00 | 5170.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 5020.00 | 5020.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 4834.00 | 4834.00 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4977.00 | 4977.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 4665.00 | 4665.00 | ppb | 0.34 | 90000.00 | |
| 39 K | 45 | 1 | 5016.00 | 5016.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 5033.00 | 5033.00 | ppb | 1.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.72 | 48.72 | ppb | 1.89 | 900.00 | |
| 51 V | 45 | 2 | 47.99 | 47.99 | ppb | 0.43 | 900.00 | |
| 52 Cr | 45 | 2 | 48.08 | 48.08 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 48.05 | 48.05 | ppb | 0.77 | 900.00 | |
| 56 Fe | 45 | 2 | 5070.00 | 5070.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 48.09 | 48.09 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 46.56 | 46.56 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 46.81 | 46.81 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 48.36 | 48.36 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 48.41 | 48.41 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 50.21 | 50.21 | ppb | 1.71 | 900.00 | |
| 88 Sr | 103 | 1 | 52.08 | 52.08 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 51.80 | 51.80 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | 47.93 | 47.93 | ppb | 0.99 | 900.00 | |
| 111 Cd | 115 | 2 | 48.11 | 48.11 | ppb | 0.34 | 900.00 | |
| 120 Sn | 115 | 1 | 51.52 | 51.52 | ppb | 1.54 | 900.00 | |
| 121 Sb | 115 | 1 | 51.71 | 51.71 | ppb | 1.33 | 900.00 | |
| 137 Ba | 159 | 1 | 48.25 | 48.25 | ppb | 1.60 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 1.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.15 | 50.15 | ppb | 2.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2359303 | 1.22 | 2521858 | 93.6 | 70 - 130 | |
| 45 Sc | 1 | 3262756 | 1.22 | 3362635 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 371696 | 0.33 | 367626 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 677116 | 0.52 | 714806 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 143591 | 0.53 | 144802 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 3673670 | 0.82 | 3924881 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 3751758 | 0.77 | 3944903 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 1077773 | 0.39 | 1086949 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4801643 | 1.49 | 4942952 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 4529879 | 1.39 | 4623931 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 2607663 | 0.37 | 2757011 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#
Date Acquired: Oct 31 2013 08:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.04 | ppb | 117.16 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 9.82 | 900.00 | |
| 11 B | 45 | 2 | 0.58 | 0.58 | ppb | 34.81 | 900.00 | |
| 23 Na | 45 | 1 | 0.90 | 0.90 | ppb | 23.79 | 90000.00 | |
| 23 Na | 45 | 2 | 3.64 | 3.64 | ppb | 9.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.52 | 0.52 | ppb | 9.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 31.17 | 90000.00 | |
| 27 Al | 45 | 1 | 0.44 | 0.44 | ppb | 12.53 | 90000.00 | |
| 27 Al | 45 | 2 | 1.11 | 1.11 | ppb | 24.08 | 90000.00 | |
| 39 K | 45 | 1 | -0.14 | -0.14 | ppb | 423.27 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.03 | -7.03 | ppb | 3.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 765.30 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.27 | ppb | 4.72 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 10.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 27.34 | 900.00 | |
| 56 Fe | 45 | 2 | 1.53 | 1.53 | ppb | 27.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 31.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 4.55 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 5.07 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 12.67 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 109.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.28 | 0.28 | ppb | 28.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 25.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 11.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.65 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 52.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 12.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 26.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 64.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2420687 | 0.68 | 2521858 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 3266402 | 0.70 | 3362635 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 379335 | 0.64 | 367626 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 697824 | 1.02 | 714806 | 97.6 | 70 | - | 130 |
| 72 | Ge | 2 | 147504 | 0.14 | 144802 | 101.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3806144 | 0.87 | 3924881 | 97.0 | 70 | - | 130 |
| 115 | In | 1 | 3834855 | 0.61 | 3944903 | 97.2 | 70 | - | 130 |
| 115 | In | 2 | 1115105 | 1.75 | 1086949 | 102.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4835631 | 0.73 | 4942952 | 97.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4561039 | 0.65 | 4623931 | 98.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2725817 | 0.09 | 2757011 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#
Date Acquired: Oct 31 2013 08:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-S3
Misc Info:
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 490.80 | 24.54 | ppb | 0.87 | 900.00 | |
| 9 Be | 45 | 2 | 502.00 | 25.10 | ppb | 0.93 | 900.00 | |
| 11 B | 6 | 1 | 30.90 | 1.55 | ppb | 1.75 | 900.00 | |
| 11 B | 45 | 2 | 37.02 | 1.85 | ppb | 15.74 | 900.00 | |
| 23 Na | 45 | 1 | 90960.00 | 4548.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 93020.00 | 4651.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 28120.00 | 1406.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 28000.00 | 1400.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 2230.00 | 111.50 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 2234.00 | 111.70 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 29180.00 | 1459.00 | ppb | 0.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 44420.00 | 2221.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 497.40 | 24.87 | ppb | 0.83 | 900.00 | |
| 51 V | 45 | 2 | 498.20 | 24.91 | ppb | 0.18 | 900.00 | |
| 52 Cr | 45 | 2 | 496.40 | 24.82 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 1674.40 | 83.72 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 12600.00 | 630.00 | ppb | 0.40 | 90000.00 | |
| 59 Co | 45 | 2 | 509.20 | 25.46 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 482.60 | 24.13 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 496.20 | 24.81 | ppb | 0.77 | 900.00 | |
| 66 Zn | 72 | 2 | 570.40 | 28.52 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 656.20 | 32.81 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 536.80 | 26.84 | ppb | 1.50 | 900.00 | |
| 88 Sr | 103 | 1 | 623.20 | 31.16 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 2.56 | 0.13 | ppb | 2.84 | 900.00 | |
| 107 Ag | 115 | 1 | 210.40 | 10.52 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 504.60 | 25.23 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.01 | ppb | 68.74 | 900.00 | |
| 121 Sb | 115 | 1 | 533.80 | 26.69 | ppb | 1.23 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 1.78 | 900.00 | |
| 205 Tl | 209 | 1 | 519.60 | 25.98 | ppb | 0.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1019.80 | 50.99 | ppb | 0.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2424479 | 1.42 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3298326 | 0.49 | 3362635 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 382043 | 0.57 | 367626 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689195 | 0.91 | 714806 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 147750 | 0.82 | 144802 | 102.0 | 70 | - | 130 |
| 103 Rh | 1 | 3787890 | 1.39 | 3924881 | 96.5 | 70 | - | 130 |
| 115 In | 1 | 3851812 | 0.26 | 3944903 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 1115208 | 0.41 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4876906 | 0.28 | 4942952 | 98.7 | 70 | - | 130 |
| 175 Lu | 1 | 4618038 | 0.50 | 4623931 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2671246 | 0.68 | 2757011 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D#
Date Acquired: Oct 31 2013 08:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-S4
Misc Info:
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.60 | 24.63 | ppb | 1.11 | 900.00 | |
| 9 Be | 45 | 2 | 488.60 | 24.43 | ppb | 2.28 | 900.00 | |
| 11 B | 6 | 1 | 29.26 | 1.46 | ppb | 4.05 | 900.00 | |
| 11 B | 45 | 2 | 38.54 | 1.93 | ppb | 18.49 | 900.00 | |
| 23 Na | 45 | 1 | 91160.00 | 4558.00 | ppb | 0.17 | 90000.00 | |
| 23 Na | 45 | 2 | 92940.00 | 4647.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 28360.00 | 1418.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 27820.00 | 1391.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 2242.00 | 112.10 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2206.00 | 110.30 | ppb | 0.86 | 90000.00 | |
| 39 K | 45 | 1 | 29400.00 | 1470.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 44740.00 | 2237.00 | ppb | 1.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 499.60 | 24.98 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 495.80 | 24.79 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 493.80 | 24.69 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1665.00 | 83.25 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 12364.00 | 618.20 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 508.60 | 25.43 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 484.60 | 24.23 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 495.60 | 24.78 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 556.80 | 27.84 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 650.60 | 32.53 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 542.20 | 27.11 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 628.00 | 31.40 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 2.42 | 0.12 | ppb | 7.61 | 900.00 | |
| 107 Ag | 115 | 1 | 211.60 | 10.58 | ppb | 2.26 | 900.00 | |
| 111 Cd | 115 | 2 | 501.60 | 25.08 | ppb | 0.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 10127.00 | 900.00 | |
| 121 Sb | 115 | 1 | 535.00 | 26.75 | ppb | 2.72 | 900.00 | |
| 137 Ba | 159 | 1 | 2062.00 | 103.10 | ppb | 2.51 | 900.00 | |
| 205 Tl | 209 | 1 | 528.00 | 26.40 | ppb | 0.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1034.00 | 51.70 | ppb | 0.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2423190 | 0.61 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3280099 | 0.48 | 3362635 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 381634 | 0.58 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 691492 | 0.96 | 714806 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 147888 | 0.49 | 144802 | 102.1 | 70 | - | 130 |
| 103 Rh | 1 | 3780020 | 0.17 | 3924881 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 3863122 | 1.63 | 3944903 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1120902 | 0.68 | 1086949 | 103.1 | 70 | - | 130 |
| 159 Tb | 1 | 4810356 | 1.58 | 4942952 | 97.3 | 70 | - | 130 |
| 175 Lu | 1 | 4566859 | 1.14 | 4623931 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 2660361 | 0.12 | 2757011 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#
Date Acquired: Oct 31 2013 08:47 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 26.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.16 | ppb | 8.22 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 13.75 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 23.43 | 900.00 | |
| 23 Na | 45 | 1 | 2.77 | 2.77 | ppb | 4.42 | 90000.00 | |
| 23 Na | 45 | 2 | 4.91 | 4.91 | ppb | 1.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.09 | 1.09 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.11 | 1.11 | ppb | 2.52 | 90000.00 | |
| 27 Al | 45 | 1 | 0.46 | 0.46 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 2 | 0.45 | 0.45 | ppb | 17.22 | 90000.00 | |
| 39 K | 45 | 1 | 0.73 | 0.73 | ppb | 100.32 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.48 | -3.48 | ppb | 16.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 83.36 | 900.00 | |
| 51 V | 45 | 2 | -0.24 | -0.24 | ppb | 4.71 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 24.98 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 3.10 | 900.00 | |
| 56 Fe | 45 | 2 | 0.81 | 0.81 | ppb | 12.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 10.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 17.85 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 10.89 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 8.21 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 835.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.52 | 0.52 | ppb | 12.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 13.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 41.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.59 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 25.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 12.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 7.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 18.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 14.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2427414 | 1.26 | 2521858 | 96.3 | 70 - 130 | |
| 45 Sc | 1 | 3272124 | 0.77 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 378858 | 0.15 | 367626 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 699778 | 1.54 | 714806 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 146661 | 0.14 | 144802 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 3812423 | 0.97 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3825615 | 0.19 | 3944903 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1129073 | 1.03 | 1086949 | 103.9 | 70 | - | 130 |
| 159 Tb | 1 | 4858534 | 0.46 | 4942952 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4591256 | 0.38 | 4623931 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2716826 | 0.24 | 2757011 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#
Date Acquired: Oct 31 2013 08:54 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 4.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.71 | 0.71 | ppb | 6.88 | 900.00 | |
| 11 B | 6 | 1 | 5.08 | 5.08 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 5.29 | 5.29 | ppb | 9.53 | 900.00 | |
| 23 Na | 45 | 1 | 268.50 | 268.50 | ppb | 1.08 | 90000.00 | |
| 23 Na | 45 | 2 | 298.30 | 298.30 | ppb | 0.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 268.90 | 268.90 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.80 | 279.80 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 28.72 | 28.72 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 2 | 26.91 | 26.91 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 264.70 | 264.70 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 276.10 | 276.10 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 0.76 | 0.76 | ppb | 0.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 1.17 | 900.00 | |
| 55 Mn | 45 | 2 | 1.10 | 1.10 | ppb | 1.96 | 900.00 | |
| 56 Fe | 45 | 2 | 29.30 | 29.30 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.89 | ppb | 2.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.08 | 2.08 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 6.28 | 900.00 | |
| 78 Se | 72 | 2 | 1.08 | 1.08 | ppb | 4.83 | 900.00 | |
| 88 Sr | 103 | 1 | 5.43 | 5.43 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.07 | 1.07 | ppb | 1.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 2.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.55 | 0.55 | ppb | 4.11 | 900.00 | |
| 120 Sn | 115 | 1 | 5.22 | 5.22 | ppb | 0.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.55 | 0.55 | ppb | 0.84 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 1.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.55 | 0.55 | ppb | 1.11 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2411318 | 1.48 | 2521858 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 3252378 | 0.81 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 378832 | 0.26 | 367626 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 694286 | 1.08 | 714806 | 97.1 | 70 - | 130 |
| 72 | Ge | 2 | 146814 | 0.48 | 144802 | 101.4 | 70 - | 130 |
| 103 | Rh | 1 | 3834016 | 0.70 | 3924881 | 97.7 | 70 - | 130 |
| 115 | In | 1 | 3842115 | 0.57 | 3944903 | 97.4 | 70 - | 130 |
| 115 | In | 2 | 1134360 | 0.53 | 1086949 | 104.4 | 70 - | 130 |
| 159 | Tb | 1 | 4831859 | 0.67 | 4942952 | 97.8 | 70 - | 130 |
| 175 | Lu | 1 | 4549982 | 0.45 | 4623931 | 98.4 | 70 - | 130 |
| 209 | Bi | 1 | 2729063 | 0.57 | 2757011 | 99.0 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#
Date Acquired: Oct 31 2013 09:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.41 | 48.41 | ppb | 0.77 | 900.00 | |
| 9 Be | 45 | 2 | 49.09 | 49.09 | ppb | 1.46 | 900.00 | |
| 11 B | 6 | 1 | 49.45 | 49.45 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 49.11 | 49.11 | ppb | 3.89 | 900.00 | |
| 23 Na | 45 | 1 | 5063.00 | 5063.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 5170.00 | 5170.00 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 5032.00 | 5032.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 4843.00 | 4843.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 5012.00 | 5012.00 | ppb | 0.76 | 90000.00 | |
| 27 Al | 45 | 2 | 4666.00 | 4666.00 | ppb | 0.21 | 90000.00 | |
| 39 K | 45 | 1 | 5054.00 | 5054.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 5063.00 | 5063.00 | ppb | 0.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.86 | 48.86 | ppb | 0.74 | 900.00 | |
| 51 V | 45 | 2 | 47.87 | 47.87 | ppb | 1.08 | 900.00 | |
| 52 Cr | 45 | 2 | 47.97 | 47.97 | ppb | 1.40 | 900.00 | |
| 55 Mn | 45 | 2 | 48.16 | 48.16 | ppb | 1.37 | 900.00 | |
| 56 Fe | 45 | 2 | 5057.00 | 5057.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 47.88 | 47.88 | ppb | 0.77 | 900.00 | |
| 60 Ni | 45 | 2 | 46.43 | 46.43 | ppb | 0.35 | 900.00 | |
| 63 Cu | 72 | 2 | 46.60 | 46.60 | ppb | 0.91 | 900.00 | |
| 66 Zn | 72 | 2 | 48.22 | 48.22 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 48.60 | 48.60 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 50.38 | 50.38 | ppb | 0.92 | 900.00 | |
| 88 Sr | 103 | 1 | 51.94 | 51.94 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 51.61 | 51.61 | ppb | 0.40 | 900.00 | |
| 107 Ag | 115 | 1 | 48.18 | 48.18 | ppb | 0.16 | 900.00 | |
| 111 Cd | 115 | 2 | 48.24 | 48.24 | ppb | 1.25 | 900.00 | |
| 120 Sn | 115 | 1 | 51.77 | 51.77 | ppb | 0.72 | 900.00 | |
| 121 Sb | 115 | 1 | 51.59 | 51.59 | ppb | 0.50 | 900.00 | |
| 137 Ba | 159 | 1 | 48.05 | 48.05 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 48.16 | 48.16 | ppb | 1.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.54 | 50.54 | ppb | 1.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2386733 | 1.02 | 2521858 | 94.6 | 70 - 130 | |
| 45 Sc | 1 | 3272139 | 0.46 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 374904 | 0.41 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 682267 | 0.22 | 714806 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 144512 | 0.73 | 144802 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3687174 | 0.33 | 3924881 | 93.9 | 70 | - | 130 |
| 115 In | 1 | 3753895 | 0.18 | 3944903 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 1089920 | 0.95 | 1086949 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 4819884 | 0.79 | 4942952 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4540882 | 0.85 | 4623931 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2609363 | 0.38 | 2757011 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#
Date Acquired: Oct 31 2013 09:08 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.09 | ppb | 170.14 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 5.94 | 900.00 | |
| 11 B | 45 | 2 | 0.51 | 0.51 | ppb | 35.68 | 900.00 | |
| 23 Na | 45 | 1 | 0.98 | 0.98 | ppb | 26.40 | 90000.00 | |
| 23 Na | 45 | 2 | 2.86 | 2.86 | ppb | 13.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.24 | 0.24 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.55 | 0.55 | ppb | 33.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.28 | 0.28 | ppb | 6.85 | 90000.00 | |
| 27 Al | 45 | 2 | 0.59 | 0.59 | ppb | 27.71 | 90000.00 | |
| 39 K | 45 | 1 | -0.50 | -0.50 | ppb | 294.63 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.21 | -7.21 | ppb | 8.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 17.52 | 900.00 | |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 3.30 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 34.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 37.54 | 900.00 | |
| 56 Fe | 45 | 2 | 0.72 | 0.72 | ppb | 22.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 50.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 48.96 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 8.13 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 18.06 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 107.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.38 | ppb | 50.32 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 99.74 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 4.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.41 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 63.23 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 20.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 14.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 135.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 13.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2436986 | 0.87 | 2521858 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 3280404 | 0.96 | 3362635 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 380839 | 0.22 | 367626 | 103.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 699479 | 0.74 | 714806 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 147299 | 0.40 | 144802 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 3811312 | 0.39 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3886244 | 0.55 | 3944903 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1115423 | 1.15 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4859260 | 0.48 | 4942952 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4593795 | 0.42 | 4623931 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2711251 | 0.78 | 2757011 | 98.3 | 70 | - | 130 |

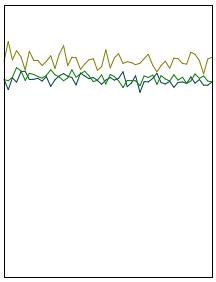
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

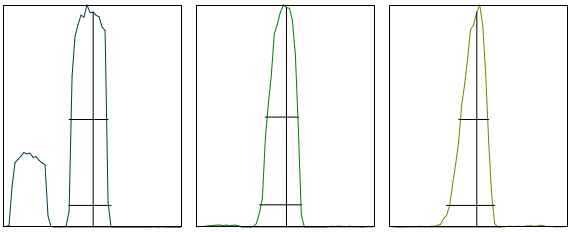
# Tune Report

Tune File : nogas.u
Comment : 103113



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3603.0 | 3628.3 | 2.32 | 43.30 |
| 89 | 10,000 | 7192.0 | 7345.2 | 2.11 | 46.80 |
| 205 | 5,000 | 4051.0 | 3990.0 | 3.07 | 46.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.146%
Doubly Charged: 70/140 10.724%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,573 | 7,426 | 3,966 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.65 | 0.55 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 111 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 0 V | Axis Offset | : | -0.06 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 662.6 | 4.88 | |
| QP Focus: | -8 V | 59 | 1406.8 | 3.44 | |
| Cell Exit: | -34 V | 89 | 1546.8 | 3.51 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Oct 31, 2013 09:39:04
Printed : Oct 31, 2013 09:39:54

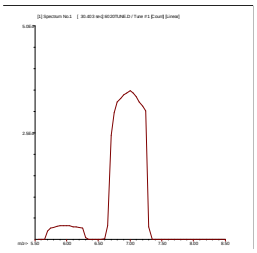
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Oct 31 2013 09:49 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

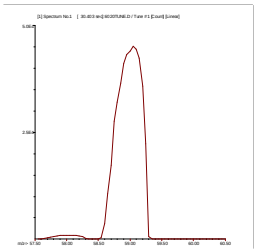
**QC Tune Summary:**
**Pass**

**RSD%**

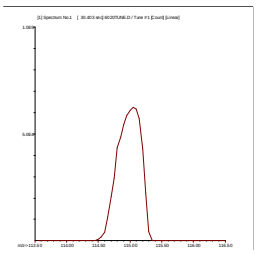
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.87 | 5.00 | 0 |
| 59 Co | 1.48 | 5.00 | |
| 115 In | 1.03 | 5.00 | |
| 205 Tl | 2.86 | 5.00 | |



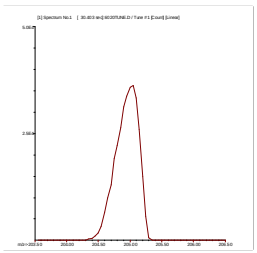
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

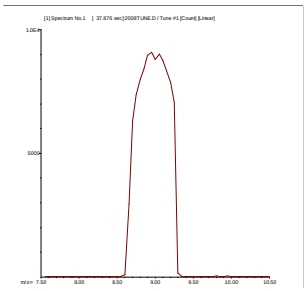
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13J31j00.B\2008TUNE.D
**Date Acquired:** Oct 31 2013 09:55 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

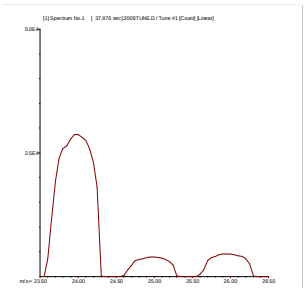


**RSD (%)**

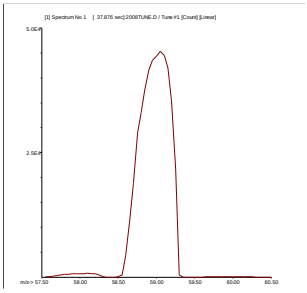
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 50584 | 50323 | 50320 | 50548 | 50497 | 51230 | **1.03** | 5.00 | |
| 24 Mg | 159033 | 159088 | 159429 | 159259 | 158330 | 159059 | **0.65** | 5.00 | |
| 59 Co | 226953 | 226499 | 225840 | 225449 | 227454 | 229525 | **0.81** | 5.00 | |
| 115 In | 295171 | 294589 | 293462 | 294231 | 296442 | 297129 | **0.73** | 5.00 | |
| 208 Pb | 117967 | 115934 | 116788 | 118441 | 118674 | 119997 | **1.40** | 5.00 | |



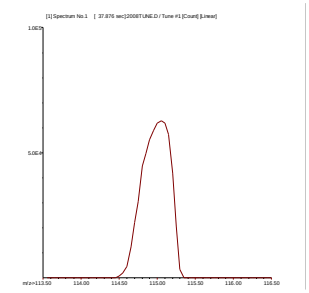
**9 Be**
**Mass Calib.**
Actual: 9.00
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.60
Required:1.00
Flag:



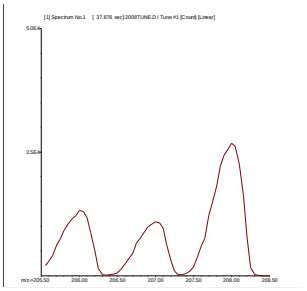
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Oct 31, 2013 11:38 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

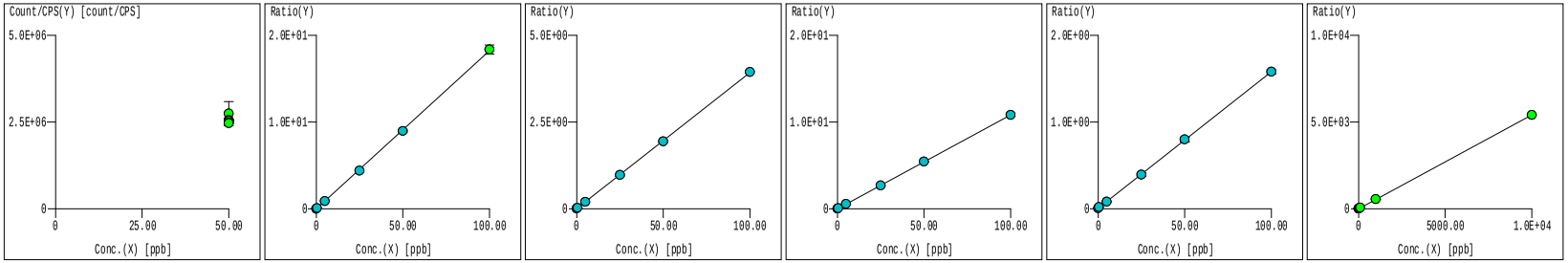
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13j31k00.b\002calb.d\002calb.d# | STDA | Oct 31 2013 10:45 am |
| 2 | c:\icpchem\1\data\13j31k00.b\003cals.d\003cals.d# | STDB | Oct 31 2013 10:52 am |
| 3 | c:\icpchem\1\data\13j31k00.b\004cals.d\004cals.d# | STDC | Oct 31 2013 10:59 am |
| 4 | c:\icpchem\1\data\13j31k00.b\005cals.d\005cals.d# | STDD | Oct 31 2013 11:06 am |
| 5 | c:\icpchem\1\data\13j31k00.b\006cals.d\006cals.d# | STDE | Oct 31 2013 11:13 am |
| 6 | c:\icpchem\1\data\13j31k00.b\007cals.d\007cals.d# | STDF | Oct 31 2013 11:20 am |
| 7 | c:\icpchem\1\data\13j31k00.b\008cals.d\008cals.d# | STDG | Oct 31 2013 11:27 am |
| 8 | c:\icpchem\1\data\13j31k00.b\009cals.d\009cals.d# | STDH | Oct 31 2013 11:35 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

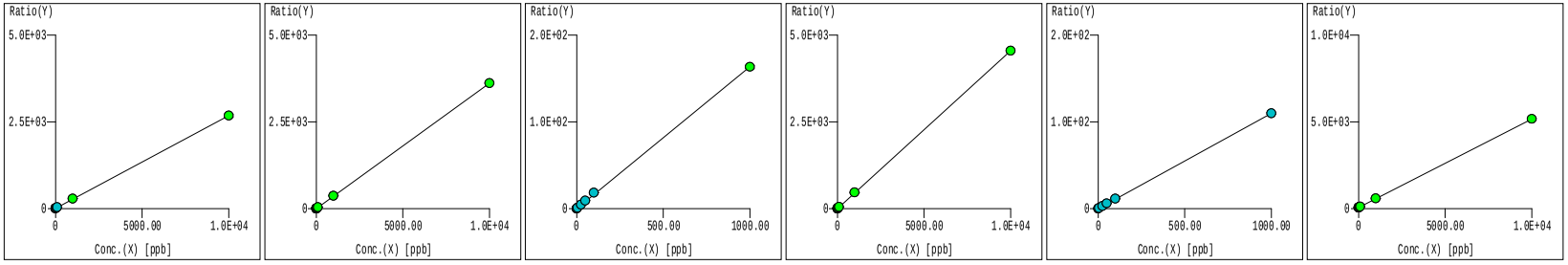
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 2.684E-03 ppb | 1.253E-01 ppb | 3.258E-02 ppb | 5.335E-01 ppb | 5.060E-01 ppb |
| < BEC > | --- ppb | 1.075E-02 ppb | 1.618E-01 ppb | 1.252E-01 ppb | 3.737E-01 ppb | 13.66 ppb |



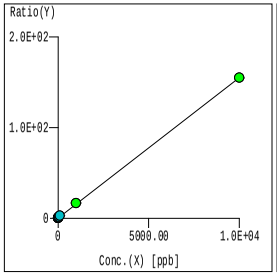

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.135E-01 ppb | 3.784E-02 ppb | 6.078E-02 ppb | 5.874E-02 ppb | 1.052E-02 ppb | 1.115 ppb |
| < BEC > | 28.63 ppb | 3.566E-01 ppb | 3.861E-01 ppb | 6.099E-01 ppb | 5.668E-01 ppb | 119.1 ppb |

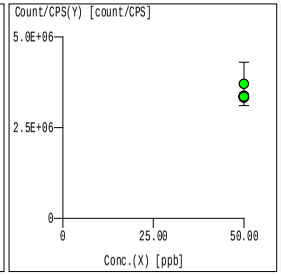


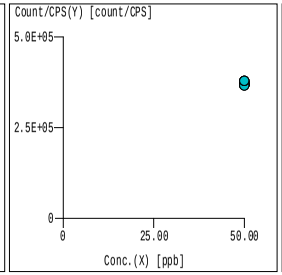
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

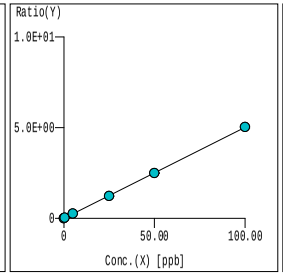
=== Graph Summary ===
Page: 2/4

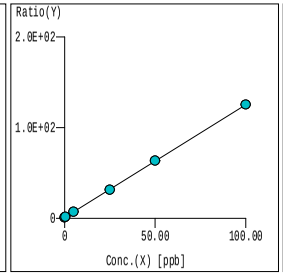
| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 1.441 ppb | --- ppb | --- ppb | 8.592E-03 ppb | 2.663E-02 ppb | 2.359E-02 ppb |
| < BEC > | 27.81 ppb | --- ppb | --- ppb | 6.621E-02 ppb | 7.379E-01 ppb | 1.910E-01 ppb |

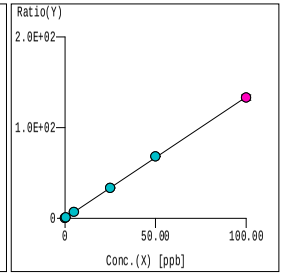


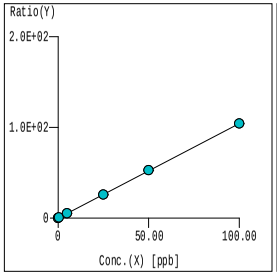



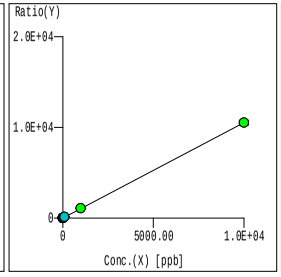



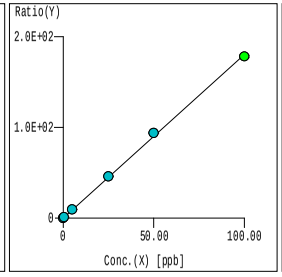



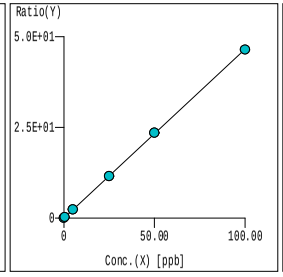



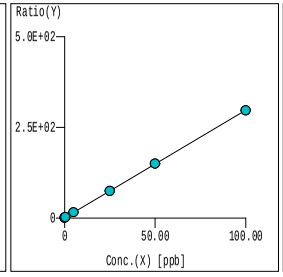

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9997 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.650E-02 ppb | 1.605E-01 ppb | 2.345E-03 ppb | 2.316E-02 ppb | 4.967E-02 ppb | 5.742E-02 ppb |
| < BEC > | 8.069E-02 ppb | 3.506 ppb | 5.833E-03 ppb | 6.875E-02 ppb | 3.392E-01 ppb | 2.784E-01 ppb |

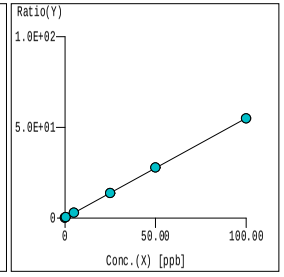


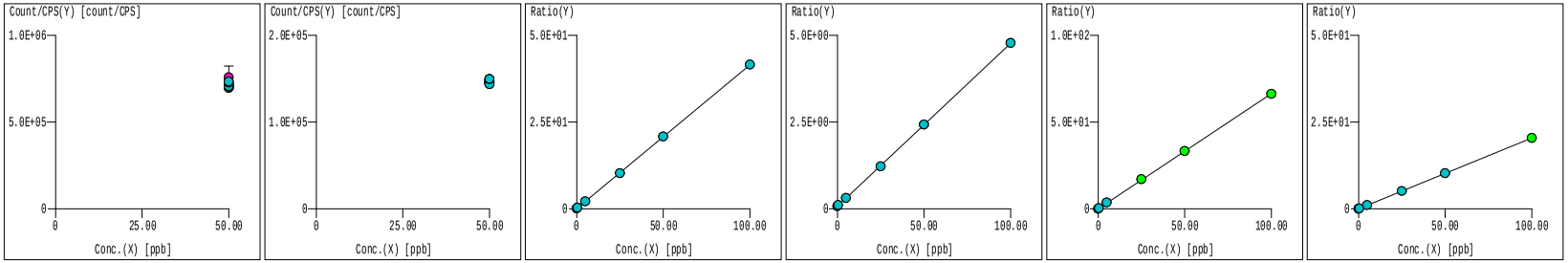



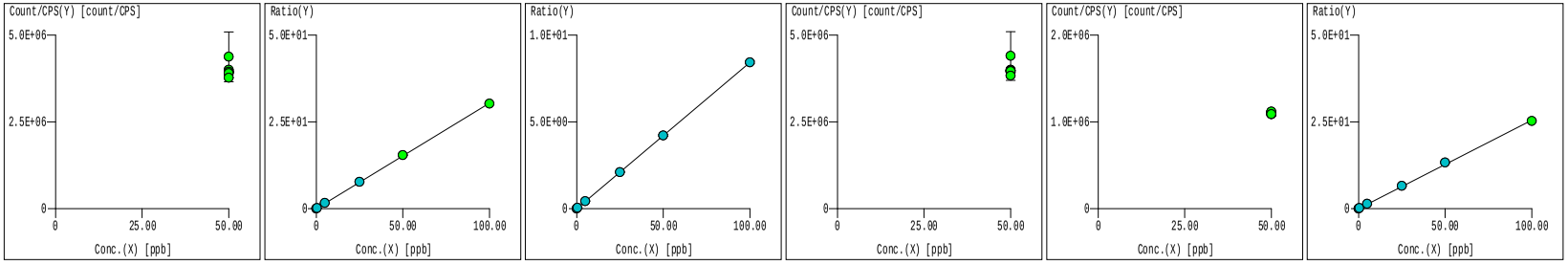
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 4.086E-02 ppb | 2.098E-01 ppb | 3.378E-03 ppb | 3.640E-03 ppb |
| < BEC > | --- ppb | --- ppb | 2.026E-01 ppb | 1.557 ppb | 1.401E-02 ppb | 7.829E-03 ppb |



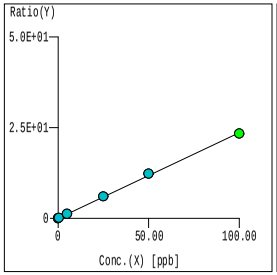

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9997 |
| < DL > | --- ppb | 3.048E-03 ppb | 1.089E-02 ppb | --- ppb | --- ppb | 4.821E-03 ppb |
| < BEC > | --- ppb | 5.984E-03 ppb | 1.638E-02 ppb | --- ppb | --- ppb | 1.538E-02 ppb |

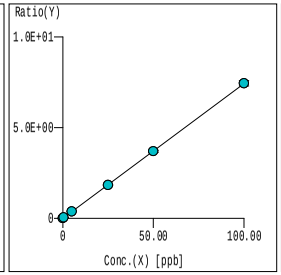


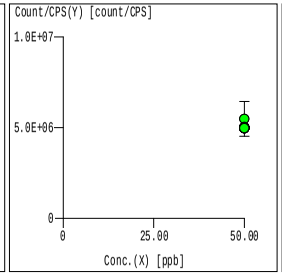
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

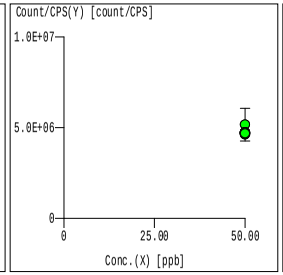
=== Graph Summary ===
Page: 4/4

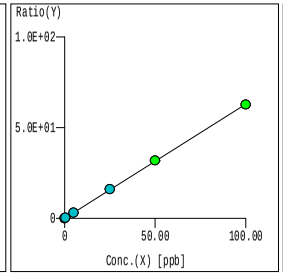
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 0.9996 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9998 |
| < DL > | 2.319E-03 ppb | 1.497E-02 ppb | --- ppb | --- ppb | 1.149E-03 ppb | --- ppb |
| < BEC > | 1.622E-02 ppb | 8.724E-02 ppb | --- ppb | --- ppb | 1.796E-02 ppb | --- ppb |

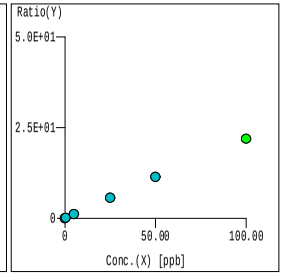




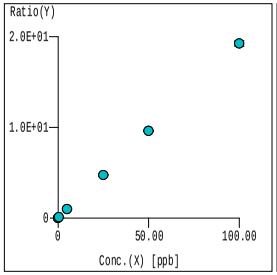


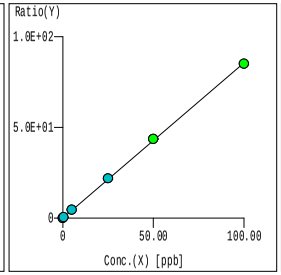


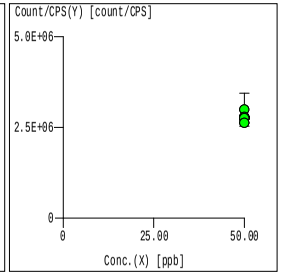





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 0.9999 | 0.0000 |
| < DL > | --- ppb | 5.918E-03 ppb | --- ppb |
| < BEC > | --- ppb | 5.297E-02 ppb | --- ppb |







Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 12:11:35 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0024 | .0010 | -.0003 | -.0003 | .0016 | .0080 | -.0002 | .0024 | .0034 |
| Stddev | .0000 | .0002 | .0002 | .0000 | .0001 | .0000 | .0000 | .0002 | .0000 |
| %RSD | 1.626 | 24.67 | 52.70 | 5.924 | 5.002 | .4371 | 19.30 | 7.807 | .7893 |
| #1 | -.0024 | .0008 | -.0004 | -.0003 | .0017 | .0079 | -.0002 | .0023 | .0034 |
| #2 | -.0023 | .0011 | -.0002 | -.0002 | .0016 | .0080 | -.0002 | .0025 | .0034 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0010 | .0000 | .0180 | .0004 | .0003 | -.0001 | .0004 | .0000 | .0008 |
| Stddev | .0002 | .000 | .0000 | .0000 | .0003 | .0001 | .0002 | .000 | .0001 |
| %RSD | 20.80 | 23.42 | .1161 | 2.238 | 96.71 | 144.5 | 67.78 | 633.0 | 12.13 |
| #1 | -.0011 | .0000 | .0180 | .0004 | .0006 | .0000 | .0002 | .0001 | .0008 |
| #2 | -.0009 | .0000 | .0180 | .0004 | .0001 | -.0001 | .0005 | -.0002 | .0009 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0017 | -.0007 | -.0007 | -.0003 | .0038 | .0013 | .0011 | .0353 | .0001 |
| Stddev | .0002 | .0002 | .0000 | .0000 | .0001 | .0002 | .0007 | .0016 | .0001 |
| %RSD | 13.94 | 21.78 | 6.380 | 3.235 | 1.407 | 16.34 | 58.22 | 4.635 | 140.7 |
| #1 | -.0019 | -.0006 | -.0007 | -.0002 | .0038 | .0014 | .0016 | .0341 | .0001 |
| #2 | -.0015 | -.0008 | -.0006 | -.0003 | .0037 | .0011 | .0007 | .0364 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0074 | .0000 | -.0032 | -.0001 | .0002 | -.0003 | .0342 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0001 | .0001 | .0003 |
| %RSD | .6725 | 290.5 | 4.035 | 30.51 | 41.27 | 23.49 | .7452 |
| #1 | .0074 | .0001 | -.0031 | -.0001 | .0002 | -.0003 | .0340 |
| #2 | .0075 | .0000 | -.0033 | -.0001 | .0003 | -.0004 | .0344 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 12:11:35 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1240.8 | 37476. | 17838. |
| Stddev | 11.6 | 124. | 27. |
| %RSD | .93138 | .33102 | .15111 |
| #1 | 1249.0 | 37564. | 17857. |
| #2 | 1232.6 | 37389. | 17818. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/31/2013 12:16:31 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1990 | .5622 | 2.723 | 19.57 | 14.80 | 10.79 | 9.013 | .5067 | 3.106 | 4.448 |
| Stddev | .0008 | .0012 | .000 | .10 | .04 | .00 | .010 | .0002 | .005 | .012 |
| %RSD | .3960 | .2047 | .0063 | .5039 | .2926 | .0321 | .1133 | .0475 | .1554 | .2633 |
| #1 | .1985 | .5614 | 2.723 | 19.50 | 14.83 | 10.79 | 9.005 | .5069 | 3.102 | 4.439 |
| #2 | .1996 | .5630 | 2.723 | 19.64 | 14.77 | 10.79 | 9.020 | .5066 | 3.109 | 4.456 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.290 | 6.287 | 2.594 | 1.823 | .8411 | 1.172 | 6.682 |
| Stddev | .015 | .003 | .001 | .001 | .0003 | .003 | .018 |
| %RSD | .1794 | .0502 | .0353 | .0537 | .0324 | .2353 | .2700 |
| #1 | 8.279 | 6.285 | 2.594 | 1.822 | .8413 | 1.171 | 6.669 |
| #2 | 8.300 | 6.289 | 2.595 | 1.824 | .8409 | 1.174 | 6.695 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1222.1 | 36620. | 17604. |
| Stddev | 4.5 | 81. | 20. |
| %RSD | .36866 | .22117 | .11201 |
| #1 | 1218.9 | 36677. | 17590. |
| #2 | 1225.3 | 36562. | 17617. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/31/2013 12:21:28 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.458 | 1.698 | 1.445 | .7412 | .1604 | 2.736 |
| Stddev | .004 | .005 | .003 | .0007 | .0013 | .003 |
| %RSD | .2437 | .2914 | .2102 | .0886 | .8172 | .1236 |
| #1 | 1.456 | 1.694 | 1.443 | .7407 | .1595 | 2.733 |
| #2 | 1.461 | 1.701 | 1.447 | .7416 | .1613 | 2.738 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17743. |
| Stddev | 5. |
| %RSD | .02934 |
| #1 | 17747. |
| #2 | 17739. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/31/2013 12:26:25 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3491 | .5312 | .0755 | .6864 | 2.537 | 1.502 | 36.66 | 1.292 | 1.096 | .0685 |
| Stddev | .0001 | .0014 | .0002 | .0035 | .003 | .001 | .20 | .003 | .002 | .0000 |
| %RSD | .0161 | .2631 | .2056 | .5093 | .1245 | .0465 | .5471 | .2223 | .1636 | .0531 |
| #1 | .3491 | .5302 | .0753 | .6888 | 2.535 | 1.502 | 36.52 | 1.290 | 1.094 | .0685 |
| #2 | .3491 | .5322 | .0756 | .6839 | 2.540 | 1.503 | 36.80 | 1.294 | 1.097 | .0684 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.865 |
| Stddev | .011 |
| %RSD | .3876 |
| #1 | 2.857 |
| #2 | 2.873 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1228.4 | 36797. | 17803. |
| Stddev | 3.9 | 131. | 50. |
| %RSD | .31437 | .35706 | .27997 |
| #1 | 1231.1 | 36704. | 17767. |
| #2 | 1225.6 | 36890. | 17838. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/31/2013 12:31:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4967 | 15.42 | 2.962 | 2.907 | 2.920 | 2.949 | 2.972 | 17.35 | 2.895 | 2.883 |
| Stddev | .0002 | .02 | .013 | .003 | .014 | .059 | .004 | .06 | .011 | .014 |
| %RSD | .0390 | .1281 | .4297 | .1125 | .4844 | 2.015 | .1222 | .3352 | .3616 | .5009 |
| #1 | .4965 | 15.43 | 2.953 | 2.904 | 2.910 | 2.991 | 2.970 | 17.30 | 2.887 | 2.873 |
| #2 | .4968 | 15.40 | 2.971 | 2.909 | 2.930 | 2.907 | 2.975 | 17.39 | 2.902 | 2.893 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.073 | 2.927 | 17.56 | 15.25 | 17.60 | 3.003 | 2.777 | 14.83 | 2.775 | 2.825 |
| Stddev | .001 | .002 | .00 | .06 | .01 | .008 | .017 | .01 | .013 | .011 |
| %RSD | .0271 | .0686 | .0260 | .3619 | .0454 | .2593 | .6079 | .0501 | .4813 | .3721 |
| #1 | 3.074 | 2.925 | 17.57 | 15.21 | 17.60 | 3.008 | 2.765 | 14.84 | 2.766 | 2.817 |
| #2 | 3.073 | 2.928 | 17.56 | 15.29 | 17.61 | 2.997 | 2.789 | 14.83 | 2.785 | 2.832 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.996 | 2.936 | 2.897 | 2.866 | 2.894 | 2.940 | 2.999 | 2.957 | 2.949 | 2.871 |
| Stddev | .001 | .018 | .009 | .021 | .024 | .020 | .018 | .027 | .005 | .020 |
| %RSD | .0176 | .6292 | .3255 | .7281 | .8197 | .6652 | .5829 | .9242 | .1692 | .7108 |
| #1 | 2.995 | 2.949 | 2.890 | 2.851 | 2.877 | 2.926 | 2.987 | 2.976 | 2.953 | 2.857 |
| #2 | 2.996 | 2.923 | 2.903 | 2.880 | 2.911 | 2.953 | 3.012 | 2.938 | 2.946 | 2.886 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.920 | 2.822 | 2.820 | 2.978 |
| Stddev | .002 | .001 | .015 | .002 |
| %RSD | .0519 | .0189 | .5185 | .0699 |
| #1 | 2.919 | 2.822 | 2.810 | 2.979 |
| #2 | 2.921 | 2.821 | 2.831 | 2.976 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.3 | 36200. | 17793. |
| Stddev | 4.9 | 136. | 14. |
| %RSD | .39423 | .37473 | .08106 |
| #1 | 1240.8 | 36104. | 17783. |
| #2 | 1233.9 | 36295. | 17804. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 10/31/2013 12:45:11 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0015 | .0006 | .0020 | .0015 | .0001 | .0001 | .0022 | .0001 | .0002 |
| Stddev | .0003 | .0000 | .0021 | .0005 | .0002 | .0000 | .0000 | .0022 | .0000 | .0002 |
| %RSD | 77.89 | 2.678 | 355.4 | 27.01 | 10.21 | 16.66 | 20.57 | 98.82 | 28.54 | 106.5 |
| #1 | -.0007 | .0015 | .0021 | .0016 | .0016 | .0001 | .0001 | .0007 | .0001 | .0000 |
| #2 | -.0002 | .0014 | -.0009 | .0023 | .0014 | .0001 | .0001 | .0037 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0006 | .0019 | -.0005 | .0125 | .0002 | .0009 | .0071 | .0001 | -.0004 |
| Stddev | .0006 | .0002 | .0001 | .0121 | .0153 | .0001 | .0001 | .0028 | .0002 | .0011 |
| %RSD | 127.9 | 29.80 | 4.119 | 2349. | 122.3 | 34.69 | 10.30 | 39.48 | 247.4 | 245.7 |
| #1 | .0000 | .0007 | .0018 | -.0091 | .0234 | .0002 | .0010 | .0091 | -.0001 | -.0012 |
| #2 | -.0009 | .0005 | .0019 | .0080 | .0017 | .0001 | .0009 | .0051 | .0003 | .0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0041 | .0027 | .0001 | .0009 | -.0014 | .0005 | .0001 | .0005 | .0009 |
| Stddev | .0016 | .0024 | .0016 | .0001 | .0009 | .0004 | .0004 | .0000 | .0004 | .0006 |
| %RSD | 240.9 | 59.15 | 60.86 | 113.1 | 99.62 | 26.89 | 68.55 | 20.86 | 74.81 | 63.86 |
| #1 | -.0005 | .0058 | .0039 | .0000 | .0003 | -.0017 | .0008 | .0001 | .0008 | .0013 |
| #2 | .0018 | .0024 | .0015 | .0002 | .0015 | -.0011 | .0003 | .0001 | .0002 | .0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0009 | .0012 | -.0007 |
| Stddev | .0004 | .0023 | .0002 | .0001 |
| %RSD | 1271. | 268.8 | 12.54 | 15.14 |
| #1 | .0003 | -.0008 | .0011 | -.0006 |
| #2 | -.0002 | .0025 | .0013 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.3 | 36760. | 17692. |
| Stddev | .6 | 102. | 67. |
| %RSD | .05099 | .27855 | .37816 |
| #1 | 1236.8 | 36833. | 17644. |
| #2 | 1235.9 | 36688. | 17739. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 12:52:57 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.693 | 1.896 | -.0054 | 1.908 | 1.900 | 1.962 | 9.676 | 1.944 | 1.973 |
| Stddev | .0007 | .057 | .006 | .0011 | .002 | .008 | .006 | .028 | .002 | .000 |
| %RSD | .2949 | .5884 | .3037 | 20.60 | .0803 | .4355 | .2957 | .2861 | .1242 | .0035 |
| #1 | .2464 | 9.733 | 1.892 | -.0046 | 1.909 | 1.906 | 1.966 | 9.696 | 1.946 | 1.973 |
| #2 | .2474 | 9.652 | 1.901 | -.0062 | 1.907 | 1.894 | 1.958 | 9.657 | 1.942 | 1.973 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.988 | 1.938 | 9.704 | 9.741 | 9.542 | 1.973 | 1.891 | 9.737 | 1.873 | 1.890 |
| Stddev | .007 | .005 | .048 | .038 | .078 | .003 | .001 | .047 | .003 | .005 |
| %RSD | .3691 | .2426 | .4926 | .3942 | .8161 | .1580 | .0613 | .4860 | .1357 | .2866 |
| #1 | 1.993 | 1.934 | 9.738 | 9.768 | 9.597 | 1.975 | 1.890 | 9.770 | 1.871 | 1.886 |
| #2 | 1.982 | 1.941 | 9.670 | 9.714 | 9.487 | 1.970 | 1.892 | 9.704 | 1.875 | 1.893 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0117 | -.0043 | 1.898 | 1.892 | -.0089 | 1.914 | 1.943 | 1.949 | 1.897 |
| Stddev | .0002 | .0007 | .0017 | .002 | .001 | .0010 | .002 | .014 | .003 | .001 |
| %RSD | 8.247 | 5.599 | 39.24 | .1019 | .0615 | 11.56 | .0988 | .7376 | .1711 | .0587 |
| #1 | .0028 | .0122 | -.0055 | 1.897 | 1.891 | -.0096 | 1.915 | 1.933 | 1.951 | 1.898 |
| #2 | .0025 | .0113 | -.0031 | 1.899 | 1.893 | -.0082 | 1.913 | 1.953 | 1.946 | 1.896 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.948 | -.0028 | 1.876 | .0067 |
| Stddev | .001 | .0007 | .005 | .0018 |
| %RSD | .0742 | 23.82 | .2833 | 26.58 |
| #1 | 1.949 | -.0032 | 1.872 | .0079 |
| #2 | 1.947 | -.0023 | 1.880 | .0054 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1244.8 | 35998. | 17691. |
| Stddev | 2.9 | 99. | 55. |
| %RSD | .23278 | .27392 | .31316 |
| #1 | 1242.7 | 35928. | 17652. |
| #2 | 1246.8 | 36067. | 17730. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 12:58:41 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | .0001 | .0005 | .0024 | .0002 | .0002 | .0008 | .0001 | .0002 |
| Stddev | .0002 | .0012 | .0011 | .0003 | .0004 | .0000 | .0000 | .0012 | .0000 | .0002 |
| %RSD | 80.37 | 56.13 | 1882. | 59.20 | 17.61 | 17.07 | 6.458 | 148.4 | 28.49 | 72.71 |
| #1 | -.0001 | -.0013 | -.0007 | .0003 | .0027 | .0002 | .0002 | .0016 | .0001 | .0001 |
| #2 | -.0005 | -.0030 | .0008 | .0007 | .0021 | .0002 | .0002 | .0000 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | .0023 | .0039 | -.0057 | .0002 | .0020 | .0062 | .0004 | .0004 |
| Stddev | .0001 | .0001 | .0000 | .0088 | .0074 | .0001 | .0003 | .0061 | .0000 | .0005 |
| %RSD | 32.55 | 9.877 | .9390 | 227.0 | 128.3 | 52.86 | 15.75 | 98.40 | .2770 | 105.8 |
| #1 | .0005 | .0007 | .0023 | .0101 | -.0005 | .0002 | .0023 | .0106 | .0004 | .0001 |
| #2 | .0003 | .0006 | .0023 | -.0024 | -.0109 | .0001 | .0018 | .0019 | .0004 | .0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0031 | .0009 | -.0004 | .0005 | -.0010 | .0010 | .0002 | .0001 | .0018 |
| Stddev | .0011 | .0037 | .0007 | .0007 | .0007 | .0004 | .0002 | .0000 | .0006 | .0014 |
| %RSD | 426.9 | 119.4 | 78.96 | 189.6 | 130.1 | 42.65 | 23.90 | 7.704 | 777.6 | 80.17 |
| #1 | -.0010 | .0057 | .0004 | .0001 | .0000 | -.0007 | .0012 | .0002 | -.0004 | .0028 |
| #2 | .0005 | .0005 | .0014 | -.0009 | .0010 | -.0013 | .0008 | .0002 | .0005 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0047 | .0011 | -.0011 |
| Stddev | .0000 | .0023 | .0003 | .0003 |
| %RSD | 2767. | 47.70 | 31.46 | 31.90 |
| #1 | .0000 | -.0063 | .0013 | -.0013 |
| #2 | .0000 | -.0031 | .0008 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.8 | 36679. | 17581. |
| Stddev | .9 | 59. | 101. |
| %RSD | .07184 | .16102 | .57516 |
| #1 | 1227.5 | 36720. | 17510. |
| #2 | 1226.2 | 36637. | 17653. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 13:03:37 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .1959 | F.0053 | .0008 | .1019 | .0504 | .0042 | 4.948 | .0042 |
| Stddev | .0003 | .0009 | .0005 | .0003 | .0001 | .0001 | .0000 | .021 | .0000 |
| %RSD | 5.792 | .4767 | 10.25 | 35.01 | .1128 | .2096 | .9884 | .4249 | .5868 |
| #1 | .0048 | .1953 | .0057 | .0010 | .1020 | .0503 | .0043 | 4.933 | .0042 |
| #2 | .0044 | .1966 | .0049 | .0006 | .1019 | .0505 | .0042 | 4.963 | .0042 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0520 | .0108 | .0253 | .1003 | 4.994 | 4.887 | .0159 | .1008 | 4.929 |
| Stddev | .0000 | .0007 | .0000 | .0007 | .021 | .015 | .0001 | .0004 | .012 |
| %RSD | .0365 | 6.258 | .0445 | .6624 | .4289 | .3107 | .6313 | .4252 | .2339 |
| #1 | .0520 | .0113 | .0253 | .1008 | 5.009 | 4.876 | .0160 | .1011 | 4.937 |
| #2 | .0520 | .0104 | .0253 | .0999 | 4.979 | 4.898 | .0158 | .1005 | 4.921 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0398 | .0052 | -.0012 | .0040 | -.0010 | .0060 | .0098 | .0065 | .0979 |
| Stddev | .0000 | .0008 | .0006 | .0011 | .0006 | .0006 | .0004 | .0004 | .0003 |
| %RSD | .0015 | 15.79 | 44.77 | 27.82 | 63.55 | 9.724 | 4.198 | 6.640 | .3453 |
| #1 | .0398 | .0047 | -.0016 | .0032 | -.0005 | .0056 | .0101 | .0062 | .0981 |
| #2 | .0398 | .0058 | -.0008 | .0048 | -.0014 | .0064 | .0095 | .0068 | .0977 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0103 | .0511 | .0055 | .0102 | -.0075 | .0204 | .0001 |
| Stddev | .0001 | .0009 | .0012 | .0006 | .0064 | .0001 | .0007 |
| %RSD | .7621 | 1.740 | 21.23 | 6.311 | 85.68 | .4989 | 1069. |
| #1 | .0102 | .0505 | .0063 | .0107 | -.0120 | .0204 | .0006 |
| #2 | .0103 | .0517 | .0046 | .0098 | -.0029 | .0203 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.0 | 36446. | 17660. |
| Stddev | .2 | 180. | 98. |
| %RSD | .01549 | .49321 | .55419 |
| #1 | 1234.9 | 36319. | 17729. |
| #2 | 1235.1 | 36574. | 17591. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/31/2013 13:13:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 515.2 | -.0003 | .0072 | .0005 | -.0002 | .0000 | 441.2 | .0000 | .0009 |
| Stddev | .0005 | 7.3 | .0051 | .0011 | .0003 | .0002 | .0001 | 1.4 | .0001 | .0003 |
| %RSD | 107.3 | 1.413 | 1893. | 15.31 | 59.32 | 124.3 | 130.7 | .3093 | 415.3 | 29.82 |
| #1 | -.0001 | 510.1 | -.0039 | .0080 | .0007 | .0000 | .0001 | 440.2 | .0001 | .0011 |
| #2 | -.0008 | 520.4 | .0034 | .0065 | .0003 | -.0003 | .0000 | 442.1 | -.0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0010 | 174.4 | .0497 | 502.9 | .0004 | -.0011 | .0361 | .0001 | .0001 |
| Stddev | .0007 | .0000 | .7 | .0090 | 1.9 | .0002 | .0002 | .0014 | .0000 | .0017 |
| %RSD | 1146. | .7338 | .3928 | 18.14 | .3792 | 56.65 | 16.16 | 3.856 | 36.94 | 1216. |
| #1 | .0005 | .0010 | 173.9 | .0434 | 501.5 | .0002 | -.0010 | .0351 | .0001 | -.0011 |
| #2 | -.0004 | .0010 | 174.9 | .0561 | 504.2 | .0005 | -.0012 | .0371 | .0001 | .0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0141 | -.0188 | .0868 | -.0025 | -.0008 | .0318 | .0006 | -.0079 | .0058 | -.0047 |
| Stddev | .0014 | .0049 | .0005 | .0001 | .0022 | .0014 | .0003 | .0001 | .0004 | .0016 |
| %RSD | 10.16 | 25.84 | .6261 | 2.611 | 277.9 | 4.273 | 47.15 | .9765 | 6.755 | 34.82 |
| #1 | -.0152 | -.0223 | .0864 | -.0025 | -.0023 | .0308 | .0004 | -.0079 | .0061 | -.0059 |
| #2 | -.0131 | -.0154 | .0871 | -.0024 | .0007 | .0327 | .0009 | -.0080 | .0055 | -.0036 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0104 | -.0198 | -.0012 | .0095 |
| Stddev | .0002 | .0094 | .0005 | .0001 |
| %RSD | 1.587 | 47.46 | 40.38 | .8959 |
| #1 | .0106 | -.0264 | -.0015 | .0096 |
| #2 | .0103 | -.0131 | -.0008 | .0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1159.8 | 32844. | 17497. |
| Stddev | .7 | 83. | 29. |
| %RSD | .06163 | .25240 | .16718 |
| #1 | 1160.3 | 32785. | 17518. |
| #2 | 1159.2 | 32903. | 17476. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/31/2013 13:18:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.074 | 514.3 | 1.998 | .5111 | .9288 | .4801 | .4599 | 444.2 | .9975 | .4483 |
| Stddev | .002 | 3.0 | .006 | .0004 | .0000 | .0004 | .0000 | .0 | .0005 | .0012 |
| %RSD | .1942 | .5917 | .2865 | .0828 | .0028 | .0755 | .0109 | .0026 | .0493 | .2736 |
| #1 | 1.076 | 512.2 | 2.002 | .5108 | .9288 | .4799 | .4598 | 444.2 | .9972 | .4492 |
| #2 | 1.073 | 516.5 | 1.994 | .5114 | .9288 | .4804 | .4599 | 444.2 | .9979 | .4474 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5261 | .5502 | 174.9 | .0621 | 503.1 | .5154 | .9020 | .0298 | .8089 | .8423 |
| Stddev | .0016 | .0008 | .2 | .0071 | .9 | .0018 | .0008 | .0015 | .0014 | .0009 |
| %RSD | .3111 | .1516 | .1168 | 11.39 | .1769 | .3480 | .0901 | 4.920 | .1719 | .1051 |
| #1 | .5272 | .5496 | 174.8 | .0672 | 502.5 | .5166 | .9026 | .0309 | .8099 | .8429 |
| #2 | .5249 | .5508 | 175.0 | .0571 | 503.7 | .5141 | .9014 | .0288 | .8079 | .8417 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5532 | .4969 | .5482 | 1.913 | 1.878 | 1.989 | .9040 | .9426 | .5350 | 1.708 |
| Stddev | .0030 | .0062 | .0000 | .005 | .003 | .000 | .0034 | .0012 | .0010 | .001 |
| %RSD | .5348 | 1.247 | .0083 | .2431 | .1685 | .0119 | .3789 | .1230 | .1871 | .0789 |
| #1 | .5511 | .4925 | .5482 | 1.910 | 1.880 | 1.989 | .9065 | .9418 | .5343 | 1.707 |
| #2 | .5553 | .5012 | .5482 | 1.916 | 1.875 | 1.989 | .9016 | .9434 | .5357 | 1.709 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5338 | 1.944 | .8422 | .4213 |
| Stddev | .0006 | .005 | .0019 | .0046 |
| %RSD | .1148 | .2792 | .2314 | 1.088 |
| #1 | .5342 | 1.948 | .8436 | .4181 |
| #2 | .5334 | 1.940 | .8408 | .4246 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1150.0 | 32602. | 17499. |
| Stddev | 2.2 | 68. | 2. |
| %RSD | .18869 | .20720 | .01129 |
| #1 | 1148.5 | 32554. | 17497. |
| #2 | 1151.5 | 32650. | 17500. |

Zoom In Zoom Out

Sample Name: MP21920-B1 Acquired: 10/31/2013 13:23:01 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1990 | 2.099 | .5077 | -.0004 | .0029 | 1.935 | .5006 | 23.85 | .5089 | .4936 |
| Stddev | .0020 | .000 | .0009 | .0003 | .0000 | .008 | .0006 | .00 | .0007 | .0000 |
| %RSD | .9943 | .0161 | .1685 | 87.17 | 1.580 | .4177 | .1158 | .0186 | .1444 | .0085 |
| #1 | .1976 | 2.098 | .5071 | -.0006 | .0029 | 1.940 | .5010 | 23.85 | .5094 | .4936 |
| #2 | .2004 | 2.099 | .5083 | -.0001 | .0030 | 1.929 | .5002 | 23.85 | .5083 | .4936 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5336 | .4930 | 1.983 | 24.70 | 24.64 | .5052 | .0017 | 24.77 | .4609 | .9492 |
| Stddev | .0029 | .0028 | .003 | .04 | .01 | .0026 | .0005 | .09 | .0002 | .0040 |
| %RSD | .5402 | .5739 | .1315 | .1622 | .0261 | .5141 | 26.83 | .3623 | .0527 | .4236 |
| #1 | .5316 | .4910 | 1.981 | 24.73 | 24.64 | .5034 | .0020 | 24.83 | .4610 | .9521 |
| #2 | .5357 | .4950 | 1.985 | 24.67 | 24.65 | .5070 | .0014 | 24.70 | .4607 | .9464 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0067 | .0010 | .4871 | .4811 | .0208 | -.0016 | .4862 | .4922 | .4845 |
| Stddev | .0012 | .0060 | .0011 | .0027 | .0016 | .0009 | .0002 | .0017 | .0011 | .0004 |
| %RSD | 90.18 | 88.66 | 112.6 | .5602 | .3404 | 4.323 | 13.42 | .3550 | .2330 | .0782 |
| #1 | .0005 | .0110 | .0002 | .4890 | .4823 | .0214 | -.0014 | .4874 | .4914 | .4848 |
| #2 | .0021 | .0025 | .0018 | .4851 | .4800 | .0202 | -.0017 | .4850 | .4930 | .4843 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5111 | .0088 | .4918 | .0396 |
| Stddev | .0032 | .0017 | .0020 | .0038 |
| %RSD | .6209 | 18.95 | .4047 | 9.544 |
| #1 | .5088 | .0076 | .4933 | .0423 |
| #2 | .5133 | .0100 | .4904 | .0369 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.1 | 35410. | 17494. |
| Stddev | 2.1 | 115. | 56. |
| %RSD | .17186 | .32359 | .31826 |
| #1 | 1211.6 | 35491. | 17533. |
| #2 | 1214.5 | 35329. | 17455. |



Zoom In Zoom Out

Sample Name: MP21920-MB1 Acquired: 10/31/2013 13:27:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0057 | -.0016 | .0006 | .0010 | .0001 | .0000 | .0057 | .0000 | -.0003 |
| Stddev | .0002 | .0022 | .0007 | .0004 | .0002 | .0001 | .0000 | .0004 | .0000 | .0000 |
| %RSD | 44.16 | 39.08 | 45.97 | 55.71 | 20.92 | 39.04 | 37.63 | 6.881 | 89.88 | .0885 |
| #1 | -.0005 | .0042 | -.0022 | .0009 | .0012 | .0001 | .0000 | .0054 | .0001 | -.0003 |
| #2 | -.0003 | .0073 | -.0011 | .0004 | .0009 | .0002 | .0000 | .0060 | .0000 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0007 | .0201 | .0116 | .0063 | .0003 | .0005 | .0113 | -.0004 | -.0009 |
| Stddev | .0001 | .0000 | .0010 | .0089 | .0022 | .0001 | .0000 | .0059 | .0001 | .0012 |
| %RSD | 14.57 | 1.464 | 4.981 | 76.58 | 35.27 | 28.62 | 1.748 | 52.18 | 14.02 | 137.0 |
| #1 | .0008 | .0007 | .0208 | .0053 | .0047 | .0004 | .0005 | .0071 | -.0004 | -.0017 |
| #2 | .0007 | .0007 | .0194 | .0179 | .0079 | .0002 | .0005 | .0155 | -.0003 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0062 | .0012 | .0013 | .0021 | .0205 | .0004 | .0001 | .0005 | -.0007 |
| Stddev | .0012 | .0002 | .0017 | .0001 | .0016 | .0003 | .0005 | .0000 | .0004 | .0006 |
| %RSD | 3391. | 3.175 | 141.7 | 10.62 | 77.78 | 1.343 | 117.6 | 12.34 | 73.36 | 92.97 |
| #1 | -.0008 | .0063 | .0000 | .0012 | .0010 | .0207 | .0001 | .0001 | .0003 | -.0011 |
| #2 | .0009 | .0060 | .0024 | .0014 | .0033 | .0203 | .0008 | .0001 | .0008 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0052 | .0010 | .0004 |
| Stddev | .0000 | .0047 | .0001 | .0003 |
| %RSD | 7.450 | 89.00 | 7.269 | 65.81 |
| #1 | -.0002 | .0085 | .0010 | .0006 |
| #2 | -.0003 | .0019 | .0011 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1225.8 | 35741. | 17651. |
| Stddev | 4.4 | 25. | 5. |
| %RSD | .35969 | .06972 | .02738 |
| #1 | 1222.7 | 35723. | 17648. |
| #2 | 1229.0 | 35759. | 17655. |



Zoom In Zoom Out

Sample Name: MP21920-S1 Acquired: 10/31/2013 13:32:44 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2035 | 2.084 | .7451 | -.0117 | .2834 | 2.010 | .5067 | 82.83 | .5135 | .5092 |
| Stddev | .0007 | .010 | .0011 | .0007 | .0011 | .005 | .0012 | .00 | .0000 | .0008 |
| %RSD | .3682 | .4842 | .1433 | 6.010 | .3956 | .2288 | .2443 | .0003 | .0018 | .1554 |
| #1 | .2029 | 2.077 | .7459 | -.0112 | .2842 | 2.007 | .5058 | 82.83 | .5135 | .5098 |
| #2 | .2040 | 2.091 | .7444 | -.0122 | .2826 | 2.013 | .5076 | 82.83 | .5135 | .5087 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5460 | .5114 | 43.16 | 33.95 | 34.34 | 3.806 | .0013 | 52.81 | .4629 | .9476 |
| Stddev | .0033 | .0003 | .00 | .02 | .02 | .008 | .0002 | .09 | .0027 | .0000 |
| %RSD | .5987 | .0500 | .0078 | .0469 | .0568 | .2137 | 16.16 | .1652 | .5761 | .0031 |
| #1 | .5437 | .5116 | 43.16 | 33.96 | 34.36 | 3.800 | .0011 | 52.74 | .4610 | .9476 |
| #2 | .5483 | .5113 | 43.17 | 33.94 | 34.33 | 3.811 | .0014 | 52.87 | .4648 | .9475 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | .0228 | .9953 | .4936 | .4888 | 7.402 | -.0017 | .9767 | .4972 | .4797 |
| Stddev | .0018 | .0105 | .0018 | .0003 | .0001 | .002 | .0006 | .0025 | .0018 | .0009 |
| %RSD | 74.19 | 46.18 | .1768 | .0669 | .0159 | .0318 | 33.70 | .2529 | .3635 | .1843 |
| #1 | .0037 | .0153 | .9966 | .4933 | .4888 | 7.400 | -.0013 | .9750 | .4959 | .4791 |
| #2 | .0012 | .0302 | .9941 | .4938 | .4889 | 7.404 | -.0021 | .9785 | .4985 | .4803 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5223 | .0061 | .4947 | -.0337 |
| Stddev | .0006 | .0025 | .0002 | .0003 |
| %RSD | .1112 | 40.22 | .0396 | .8079 |
| #1 | .5227 | .0044 | .4945 | -.0335 |
| #2 | .5219 | .0079 | .4948 | -.0339 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1194.2 | 35264. | 17548. |
| Stddev | 1.4 | 117. | 12. |
| %RSD | .11736 | .33317 | .07084 |
| #1 | 1193.2 | 35348. | 17539. |
| #2 | 1195.2 | 35181. | 17556. |



Zoom In Zoom Out

Sample Name: MP21920-S2 Acquired: 10/31/2013 13:37:29 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2019 | 2.107 | .7352 | -.0126 | .2801 | 1.988 | .5012 | 81.72 | .5111 | .5042 |
| Stddev | .0011 | .010 | .0003 | .0011 | .0003 | .001 | .0003 | .03 | .0009 | .0001 |
| %RSD | .5279 | .4945 | .0438 | 8.948 | .1169 | .0339 | .0674 | .0389 | .1768 | .0281 |
| #1 | .2011 | 2.114 | .7350 | -.0134 | .2803 | 1.988 | .5009 | 81.70 | .5104 | .5041 |
| #2 | .2026 | 2.099 | .7354 | -.0118 | .2798 | 1.989 | .5014 | 81.75 | .5117 | .5043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5392 | .5017 | 42.62 | 33.57 | 34.00 | 3.787 | .0010 | 52.33 | .4586 | .9427 |
| Stddev | .0016 | .0011 | .04 | .04 | .01 | .000 | .0002 | .01 | .0015 | .0041 |
| %RSD | .3052 | .2235 | .0927 | .1272 | .0408 | .0080 | 19.76 | .0152 | .3222 | .4370 |
| #1 | .5404 | .5009 | 42.59 | 33.54 | 33.99 | 3.788 | .0012 | 52.34 | .4596 | .9456 |
| #2 | .5381 | .5024 | 42.64 | 33.60 | 34.01 | 3.787 | .0009 | 52.33 | .4575 | .9398 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0279 | .9870 | .4889 | .4830 | 7.287 | -.0017 | .9642 | .4917 | .4770 |
| Stddev | .0007 | .0027 | .0030 | .0018 | .0004 | .005 | .0002 | .0011 | .0009 | .0015 |
| %RSD | 31.25 | 9.646 | .3026 | .3642 | .0913 | .0739 | 9.418 | .1156 | .1740 | .3043 |
| #1 | .0028 | .0260 | .9849 | .4902 | .4833 | 7.283 | -.0016 | .9650 | .4911 | .4781 |
| #2 | .0018 | .0298 | .9891 | .4877 | .4827 | 7.291 | -.0018 | .9634 | .4923 | .4760 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5177 | -.0003 | .4906 | -.0367 |
| Stddev | .0021 | .0011 | .0006 | .0003 |
| %RSD | .4072 | 376.0 | .1220 | .9029 |
| #1 | .5162 | .0005 | .4911 | -.0369 |
| #2 | .5191 | -.0011 | .4902 | -.0365 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1200.7 | 35141. | 17511. |
| Stddev | .6 | 87. | 51. |
| %RSD | .04984 | .24640 | .29261 |
| #1 | 1200.3 | 35202. | 17475. |
| #2 | 1201.2 | 35080. | 17547. |

Zoom In Zoom Out

Sample Name: MC25568-11F Acquired: 10/31/2013 13:42:15 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0335 | .2284 | -.0091 | .2810 | .0435 | .0000 | 58.32 | .0003 | .0135 |
| Stddev | .0002 | .0043 | .0011 | .0010 | .0011 | .0002 | .0000 | .14 | .0001 | .0005 |
| %RSD | 36.13 | 12.78 | .4646 | 10.78 | .3951 | .4607 | 130.2 | .2323 | 34.53 | 4.056 |
| #1 | -.0007 | -.0305 | .2292 | -.0084 | .2818 | .0434 | .0000 | 58.41 | .0004 | .0139 |
| #2 | -.0004 | -.0365 | .2277 | -.0098 | .2803 | .0436 | .0001 | 58.22 | .0002 | .0131 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0000 | 41.28 | 8.824 | 9.300 | 3.282 | .0011 | 27.37 | .0026 | -.0018 |
| Stddev | .0002 | .0002 | .05 | .013 | .034 | .000 | .0000 | .01 | .0003 | .0000 |
| %RSD | 74.88 | 462.6 | .1181 | .1463 | .3654 | .0077 | 3.932 | .0470 | 11.66 | 2.751 |
| #1 | -.0004 | .0002 | 41.31 | 8.815 | 9.324 | 3.281 | .0011 | 27.37 | .0028 | -.0018 |
| #2 | -.0001 | -.0001 | 41.24 | 8.833 | 9.276 | 3.282 | .0011 | 27.38 | .0024 | -.0018 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0176 | .9958 | .0013 | .0015 | 7.337 | .0000 | .4801 | .0006 | .0000 |
| Stddev | .0017 | .0041 | .0084 | .0001 | .0002 | .017 | .0003 | .0004 | .0000 | .0008 |
| %RSD | 73.82 | 23.23 | .8442 | 10.91 | 14.46 | .2294 | 1280. | .0857 | 1.972 | 14250. |
| #1 | .0034 | .0205 | 1.002 | .0014 | .0017 | 7.349 | .0002 | .4798 | .0005 | .0006 |
| #2 | .0011 | .0147 | .9899 | .0012 | .0014 | 7.325 | -.0002 | .4804 | .0006 | -.0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0016 | -.0040 | .0085 | -.0398 |
| Stddev | .0002 | .0086 | .0001 | .0005 |
| %RSD | 14.59 | 217.2 | 1.107 | 1.168 |
| #1 | .0015 | -.0101 | .0084 | -.0401 |
| #2 | .0018 | .0021 | .0085 | -.0395 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1203.4 | 35598. | 17676. |
| Stddev | .8 | 91. | 94. |
| %RSD | .06743 | .25471 | .53277 |
| #1 | 1202.8 | 35662. | 17610. |
| #2 | 1203.9 | 35534. | 17743. |



Zoom In Zoom Out

Sample Name: MP21920-SD1 Acquired: 10/31/2013 13:47:07 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0366 | .2330 | -.0051 | .2924 | .0445 | .0002 | 59.67 | -.0001 | .0133 |
| Stddev | .0008 | .0187 | .0028 | .0022 | .0012 | .0007 | .0000 | .06 | .0003 | .0004 |
| %RSD | 30.89 | 51.26 | 1.189 | 43.46 | .4007 | 1.596 | 16.22 | .0992 | 396.8 | 2.856 |
| #1 | -.0019 | -.0498 | .2349 | -.0035 | .2932 | .0450 | .0002 | 59.71 | .0001 | .0130 |
| #2 | -.0030 | -.0233 | .2310 | -.0066 | .2916 | .0440 | .0002 | 59.62 | -.0002 | .0136 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .0002 | 42.97 | 8.977 | 9.586 | 3.374 | .0006 | 27.76 | .0023 | -.0038 |
| Stddev | .0021 | .0002 | .15 | .039 | .082 | .007 | .0011 | .05 | .0001 | .0040 |
| %RSD | 47.06 | 128.1 | .3414 | .4380 | .8502 | .2152 | 168.4 | .1843 | 2.423 | 106.0 |
| #1 | .0030 | .0000 | 42.87 | 9.005 | 9.528 | 3.379 | .0014 | 27.79 | .0023 | -.0010 |
| #2 | .0061 | .0003 | 43.08 | 8.949 | 9.643 | 3.369 | -.0001 | 27.72 | .0022 | -.0067 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0224 | 1.027 | .0039 | .0002 | 7.393 | .0013 | .4898 | .0019 | .0033 |
| Stddev | .0097 | .0063 | .003 | .0060 | .0016 | .012 | .0007 | .0005 | .0012 | .0086 |
| %RSD | 491.6 | 27.89 | .2527 | 156.3 | 828.2 | .1571 | 53.68 | .0956 | 63.60 | 257.4 |
| #1 | -.0088 | .0180 | 1.029 | .0081 | .0013 | 7.401 | .0008 | .4902 | .0027 | .0094 |
| #2 | .0049 | .0269 | 1.025 | -.0004 | -.0009 | 7.385 | .0018 | .4895 | .0010 | -.0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0033 | -.0416 | .0145 | -.0386 |
| Stddev | .0005 | .0063 | .0005 | .0003 |
| %RSD | 14.90 | 15.25 | 3.501 | .8720 |
| #1 | .0030 | -.0371 | .0142 | -.0389 |
| #2 | .0037 | -.0461 | .0149 | -.0384 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.8 | 35920. | 17470. |
| Stddev | 1.4 | 8. | 33. |
| %RSD | .11420 | .02207 | .19072 |
| #1 | 1232.8 | 35915. | 17494. |
| #2 | 1234.8 | 35926. | 17447. |



Zoom In Zoom Out

Sample Name: MP21920-S3 Acquired: 10/31/2013 13:52:01 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2004 | 2.073 | .6278 | -.0064 | .0292 | 1.944 | .5054 | 40.63 | .5102 | .4963 |
| Stddev | .0008 | .000 | .0007 | .0021 | .0002 | .001 | .0001 | .22 | .0000 | .0002 |
| %RSD | .4205 | .0184 | .1084 | 33.36 | .5701 | .0355 | .0272 | .5484 | .0091 | .0339 |
| #1 | .2010 | 2.073 | .6283 | -.0049 | .0291 | 1.944 | .5053 | 40.48 | .5103 | .4962 |
| #2 | .1998 | 2.072 | .6273 | -.0079 | .0294 | 1.943 | .5055 | 40.79 | .5102 | .4964 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5459 | .5021 | 11.49 | 27.73 | 26.35 | 1.751 | .0020 | 86.08 | .4588 | .9449 |
| Stddev | .0024 | .0037 | .04 | .03 | .12 | .003 | .0001 | .16 | .0003 | .0022 |
| %RSD | .4421 | .7273 | .3815 | .1033 | .4405 | .1805 | 4.558 | .1821 | .0571 | .2314 |
| #1 | .5476 | .4995 | 11.45 | 27.71 | 26.26 | 1.753 | .0019 | 86.19 | .4586 | .9464 |
| #2 | .5442 | .5047 | 11.52 | 27.75 | 26.43 | 1.748 | .0020 | 85.97 | .4589 | .9433 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0140 | 1.239 | .4874 | .4858 | 5.024 | -.0018 | .5940 | .4944 | .4772 |
| Stddev | .0003 | .0036 | .002 | .0002 | .0012 | .006 | .0003 | .0012 | .0007 | .0012 |
| %RSD | 38.31 | 25.75 | .1748 | .0320 | .2537 | .1174 | 18.98 | .1948 | .1315 | .2491 |
| #1 | -.0010 | .0115 | 1.237 | .4873 | .4867 | 5.020 | -.0015 | .5948 | .4948 | .4780 |
| #2 | -.0006 | .0166 | 1.240 | .4875 | .4850 | 5.028 | -.0020 | .5932 | .4939 | .4764 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5211 | -.0041 | .5132 | -.0264 |
| Stddev | .0010 | .0006 | .0009 | .0011 |
| %RSD | .1942 | 13.71 | .1818 | 4.257 |
| #1 | .5218 | -.0037 | .5138 | -.0256 |
| #2 | .5203 | -.0045 | .5125 | -.0272 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.7 | 35476. | 17546. |
| Stddev | 1.5 | 118. | 112. |
| %RSD | .12317 | .33233 | .64022 |
| #1 | 1209.7 | 35393. | 17625. |
| #2 | 1207.6 | 35560. | 17466. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 13:56:46 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2509 | 9.701 | 1.887 | -.0063 | 1.913 | 1.909 | 2.003 | 9.675 | 1.945 | 1.965 |
| Stddev | .0012 | .015 | .009 | .0007 | .000 | .005 | .001 | .015 | .002 | .003 |
| %RSD | .4976 | .1579 | .4816 | 10.80 | .0114 | .2724 | .0583 | .1592 | .0937 | .1574 |
| #1 | .2518 | 9.690 | 1.894 | -.0059 | 1.913 | 1.905 | 2.002 | 9.685 | 1.944 | 1.967 |
| #2 | .2500 | 9.711 | 1.881 | -.0068 | 1.913 | 1.913 | 2.004 | 9.664 | 1.946 | 1.962 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.088 | 1.988 | 9.581 | 9.855 | 9.689 | 2.040 | 1.877 | 9.708 | 1.832 | 1.869 |
| Stddev | .003 | .009 | .009 | .019 | .090 | .003 | .000 | .012 | .001 | .002 |
| %RSD | .1247 | .4423 | .0963 | .1887 | .9305 | .1571 | .0007 | .1275 | .0502 | .1232 |
| #1 | 2.086 | 1.982 | 9.574 | 9.842 | 9.625 | 2.042 | 1.877 | 9.700 | 1.832 | 1.867 |
| #2 | 2.090 | 1.994 | 9.588 | 9.868 | 9.752 | 2.037 | 1.877 | 9.717 | 1.831 | 1.870 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0038 | .0048 | -.0032 | 1.877 | 1.881 | -.0101 | 1.932 | 2.010 | 1.964 | 1.902 |
| Stddev | .0016 | .0043 | .0003 | .000 | .002 | .0005 | .005 | .009 | .001 | .002 |
| %RSD | 41.22 | 88.20 | 10.81 | .0176 | .1107 | 5.231 | .2701 | .4648 | .0704 | .1286 |
| #1 | .0027 | .0018 | -.0030 | 1.877 | 1.882 | -.0097 | 1.936 | 2.016 | 1.963 | 1.901 |
| #2 | .0050 | .0078 | -.0035 | 1.877 | 1.879 | -.0105 | 1.928 | 2.003 | 1.965 | 1.904 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.999 | -.0058 | 1.864 | -.0029 |
| Stddev | .000 | .0044 | .001 | .0005 |
| %RSD | .0222 | 76.98 | .0683 | 18.25 |
| #1 | 2.000 | -.0026 | 1.865 | -.0025 |
| #2 | 1.999 | -.0089 | 1.863 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.1 | 35420. | 17681. |
| Stddev | .1 | 19. | 55. |
| %RSD | .00654 | .05491 | .30860 |
| #1 | 1247.1 | 35434. | 17642. |
| #2 | 1247.0 | 35406. | 17720. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 14:01:35 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0000 | -.0003 | .0008 | .0023 | .0002 | .0001 | .0021 | .0001 |
| Stddev | .0007 | .0034 | .0014 | .0005 | .0001 | .0001 | .0000 | .0003 | .0000 |
| %RSD | 153.0 | 8076. | 395.6 | 56.43 | 4.705 | 75.07 | 29.82 | 12.45 | 33.37 |
| #1 | .0000 | .0025 | .0006 | .0011 | .0023 | .0002 | .0001 | .0023 | .0001 |
| #2 | -.0010 | -.0024 | -.0013 | .0005 | .0024 | .0001 | .0002 | .0019 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0000 | -.0001 | .0022 | .0265 | .0230 | .0002 | .0028 | .0128 |
| Stddev | .0001 | .000 | .0003 | .0030 | .0082 | .0082 | .0001 | .0004 | .0018 |
| %RSD | 26.95 | 447.0 | 503.8 | 138.3 | 30.80 | 35.70 | 26.25 | 15.69 | 14.03 |
| #1 | .0002 | .0001 | -.0003 | .0000 | .0208 | .0288 | .0002 | .0031 | .0115 |
| #2 | .0003 | -.0001 | .0002 | .0043 | .0323 | .0172 | .0003 | .0025 | .0140 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0004 | -.0005 | .0035 | .0017 | -.0002 | .0002 | -.0027 | .0009 |
| Stddev | .0001 | .0004 | .0016 | .0001 | .0001 | .0002 | .0010 | .0003 | .0004 |
| %RSD | 70.53 | 95.43 | 320.0 | 3.736 | 7.823 | 80.56 | 442.8 | 10.23 | 45.60 |
| #1 | .0001 | -.0006 | .0006 | .0036 | .0018 | -.0001 | .0009 | -.0029 | .0006 |
| #2 | .0002 | -.0001 | -.0016 | .0034 | .0016 | -.0003 | -.0005 | -.0025 | .0011 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0011 | F.0021 | .0006 | -.0054 | .0011 | -.0002 |
| Stddev | .0000 | .0003 | .0010 | .0006 | .0010 | .0001 | .0001 |
| %RSD | 9.514 | 26.83 | 50.42 | 105.1 | 17.47 | 8.547 | 55.84 |
| #1 | .0002 | .0013 | .0028 | .0010 | -.0048 | .0010 | -.0002 |
| #2 | .0002 | .0009 | .0013 | .0002 | -.0061 | .0012 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.4 | 36099. | 17487. |
| Stddev | 2.5 | 106. | 37. |
| %RSD | .19795 | .29381 | .20903 |
| #1 | 1247.2 | 36174. | 17462. |
| #2 | 1243.7 | 36024. | 17513. |



Zoom In Zoom Out

Sample Name: MP21920-S4 Acquired: 10/31/2013 14:06:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2008 | 2.081 | .6213 | -.0051 | .0298 | 1.991 | .5059 | 40.86 | .5104 | .4958 |
| Stddev | .0001 | .004 | .0002 | .0013 | .0001 | .004 | .0005 | .19 | .0016 | .0023 |
| %RSD | .0280 | .2128 | .0331 | 25.40 | .2177 | .2165 | .1020 | .4698 | .3200 | .4566 |
| #1 | .2009 | 2.084 | .6214 | -.0061 | .0298 | 1.994 | .5055 | 40.72 | .5116 | .4974 |
| #2 | .2008 | 2.078 | .6211 | -.0042 | .0297 | 1.988 | .5063 | 40.99 | .5093 | .4942 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5430 | .5036 | 11.47 | 28.26 | 26.61 | 1.717 | .0026 | 86.73 | .4583 | .9451 |
| Stddev | .0003 | .0005 | .05 | .03 | .18 | .002 | .0000 | .28 | .0015 | .0049 |
| %RSD | .0553 | .0906 | .4425 | .1108 | .6905 | .1251 | 1.387 | .3201 | .3204 | .5192 |
| #1 | .5428 | .5040 | 11.44 | 28.28 | 26.48 | 1.718 | .0026 | 86.93 | .4593 | .9486 |
| #2 | .5432 | .5033 | 11.51 | 28.24 | 26.74 | 1.715 | .0025 | 86.53 | .4573 | .9416 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0064 | 1.223 | .4865 | .4847 | 4.973 | -.0015 | .6004 | .4945 | .4772 |
| Stddev | .0022 | .0036 | .007 | .0055 | .0039 | .024 | .0000 | .0010 | .0007 | .0028 |
| %RSD | 215.3 | 56.02 | .5431 | 1.132 | .7976 | .4859 | .2159 | .1596 | .1458 | .5783 |
| #1 | .0026 | .0039 | 1.228 | .4904 | .4874 | 4.990 | -.0015 | .6010 | .4940 | .4792 |
| #2 | -.0005 | .0089 | 1.219 | .4826 | .4820 | 4.956 | -.0015 | .5997 | .4950 | .4753 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5194 | -.0036 | .5096 | -.0284 |
| Stddev | .0012 | .0018 | .0013 | .0003 |
| %RSD | .2358 | 48.95 | .2491 | .9758 |
| #1 | .5186 | -.0049 | .5105 | -.0286 |
| #2 | .5203 | -.0024 | .5087 | -.0282 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1201.9 | 35394. | 17466. |
| Stddev | 7.1 | 2. | 130. |
| %RSD | .59286 | .00653 | .74701 |
| #1 | 1196.9 | 35395. | 17558. |
| #2 | 1206.9 | 35392. | 17374. |



Zoom In Zoom Out

Sample Name: MC25594-1F Acquired: 10/31/2013 14:11:18 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0029 | .1085 | -.0025 | .0285 | .0168 | .0000 | 16.50 | .0002 | .0017 |
| Stddev | .0003 | .0054 | .0001 | .0019 | .0000 | .0001 | .000 | .05 | .0003 | .0000 |
| %RSD | 289.2 | 187.0 | .0889 | 76.05 | .1299 | .4024 | 125.0 | .2959 | 172.3 | 2.449 |
| #1 | .0001 | .0009 | .1084 | -.0039 | .0285 | .0168 | .0000 | 16.54 | .0000 | .0017 |
| #2 | -.0004 | -.0067 | .1086 | -.0012 | .0285 | .0169 | .0000 | 16.47 | .0004 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0005 | 9.581 | 3.035 | 1.662 | 1.227 | .0018 | 61.39 | .0007 | -.0006 |
| Stddev | .0005 | .0007 | .024 | .022 | .004 | .006 | .0003 | .13 | .0004 | .0008 |
| %RSD | 128.1 | 139.5 | .2531 | .7166 | .2705 | .4769 | 15.04 | .2041 | 52.88 | 124.0 |
| #1 | .0008 | .0011 | 9.598 | 3.019 | 1.658 | 1.223 | .0017 | 61.48 | .0005 | -.0012 |
| #2 | .0000 | .0000 | 9.564 | 3.050 | 1.665 | 1.231 | .0020 | 61.31 | .0010 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0103 | 1.236 | .0017 | .0015 | 4.948 | .0007 | .1069 | .0005 | -.0011 |
| Stddev | .0027 | .0048 | .001 | .0001 | .0008 | .002 | .0005 | .0000 | .0004 | .0006 |
| %RSD | 107.4 | 46.80 | .0483 | 3.896 | 49.61 | .0441 | 70.84 | .0156 | 81.36 | 54.63 |
| #1 | .0006 | .0138 | 1.236 | .0017 | .0010 | 4.946 | .0011 | .1069 | .0002 | -.0015 |
| #2 | .0045 | .0069 | 1.237 | .0016 | .0021 | 4.949 | .0004 | .1069 | .0008 | -.0007 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0031 | .0236 | -.0276 |
| Stddev | .0004 | .0012 | .0000 | .0006 |
| %RSD | 53.18 | 37.79 | .1058 | 2.325 |
| #1 | .0005 | -.0039 | .0236 | -.0280 |
| #2 | .0011 | -.0023 | .0236 | -.0271 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.5 | 35526. | 17490. |
| Stddev | .0 | 42. | 69. |
| %RSD | .00061 | .11769 | .39176 |
| #1 | 1208.5 | 35556. | 17441. |
| #2 | 1208.5 | 35497. | 17538. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 14:16:12 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0797 | .0547 | -.0295 | .1864 | .0107 | .0001 | 104.9 | .0000 | .0017 |
| Stddev | .0007 | .0004 | .0000 | .0009 | .0006 | .0000 | .0000 | .1 | .0001 | .0001 |
| %RSD | 485.1 | .4501 | .0266 | 3.043 | .3072 | .2130 | 65.68 | .0802 | 242.7 | 5.514 |
| #1 | .0004 | -.0800 | .0546 | -.0302 | .1868 | .0107 | .0000 | 104.8 | .0001 | .0016 |
| #2 | -.0007 | -.0795 | .0547 | -.0289 | .1860 | .0107 | .0001 | 104.9 | .0000 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0008 | .6101 | 4.833 | 13.49 | 9.213 | .0017 | 27.03 | .0132 | -.0021 |
| Stddev | .0011 | .0002 | .0071 | .037 | .08 | .012 | .0001 | .04 | .0001 | .0001 |
| %RSD | 197.9 | 25.70 | 1.158 | .7746 | .5564 | .1312 | 6.561 | .1637 | .9332 | 5.722 |
| #1 | .0002 | .0009 | .6051 | 4.807 | 13.44 | 9.221 | .0017 | 27.00 | .0133 | -.0022 |
| #2 | -.0014 | .0006 | .6151 | 4.860 | 13.54 | 9.204 | .0018 | 27.06 | .0131 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0050 | .0513 | 2.084 | .0013 | .0054 | 9.540 | -.0004 | .5730 | .0009 | -.0014 |
| Stddev | .0012 | .0021 | .011 | .0001 | .0003 | .009 | .0002 | .0010 | .0002 | .0003 |
| %RSD | 24.31 | 4.040 | .5178 | 10.52 | 4.896 | .0953 | 43.40 | .1701 | 26.60 | 21.61 |
| #1 | -.0059 | .0527 | 2.091 | .0012 | .0052 | 9.534 | -.0005 | .5723 | .0007 | -.0012 |
| #2 | -.0041 | .0498 | 2.076 | .0014 | .0056 | 9.546 | -.0003 | .5736 | .0011 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | -.0118 | .0124 | -.0521 |
| Stddev | .0003 | .0068 | .0001 | .0005 |
| %RSD | 19.12 | 57.61 | .6390 | .8964 |
| #1 | -.0020 | -.0070 | .0124 | -.0517 |
| #2 | -.0015 | -.0166 | .0125 | -.0524 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1192.0 | 35361. | 17477. |
| Stddev | 1.0 | 19. | 33. |
| %RSD | .08056 | .05481 | .18910 |
| #1 | 1192.7 | 35348. | 17501. |
| #2 | 1191.3 | 35375. | 17454. |

Zoom In Zoom Out

Sample Name: MC25568-8F Acquired: 10/31/2013 14:21:10 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0079 | .0598 | -.0007 | .0569 | .0213 | .0000 | 16.94 | .0000 | .0060 |
| Stddev | .0000 | .0002 | .0045 | .0001 | .0002 | .0000 | .000 | .01 | .0001 | .0000 |
| %RSD | 1.487 | 2.170 | 7.454 | 9.757 | .3722 | .1116 | 6.786 | .0607 | 1197. | .3799 |
| #1 | -.0002 | .0080 | .0566 | -.0006 | .0571 | .0213 | .0000 | 16.95 | .0001 | .0060 |
| #2 | -.0002 | .0078 | .0629 | -.0007 | .0568 | .0213 | .0000 | 16.94 | -.0001 | .0060 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | 9.461 | 3.025 | 1.875 | .4475 | .0003 | 3.512 | .0002 | -.0015 |
| Stddev | .0007 | .0006 | .011 | .024 | .022 | .0025 | .0000 | .005 | .0002 | .0013 |
| %RSD | 344.0 | 340.3 | .1188 | .8055 | 1.159 | .5556 | 7.896 | .1404 | 101.2 | 85.71 |
| #1 | .0007 | -.0003 | 9.469 | 3.007 | 1.891 | .4457 | .0003 | 3.508 | .0001 | -.0006 |
| #2 | -.0003 | .0006 | 9.453 | 3.042 | 1.860 | .4492 | .0004 | 3.515 | .0004 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0033 | 2.500 | .0002 | .0031 | 3.365 | -.0008 | .0963 | .0005 | -.0006 |
| Stddev | .0011 | .0032 | .003 | .0001 | .0007 | .004 | .0002 | .0001 | .0003 | .0011 |
| %RSD | 79.31 | 97.44 | .1083 | 47.97 | 22.60 | .1059 | 20.66 | .1397 | 64.45 | 195.9 |
| #1 | .0022 | .0055 | 2.502 | .0003 | .0036 | 3.362 | -.0007 | .0962 | .0008 | -.0013 |
| #2 | .0006 | .0010 | 2.498 | .0001 | .0026 | 3.367 | -.0009 | .0964 | .0003 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0016 | -.0007 | .0061 | -.0189 |
| Stddev | .0003 | .0015 | .0001 | .0002 |
| %RSD | 17.24 | 204.3 | 2.371 | 1.249 |
| #1 | .0018 | .0003 | .0060 | -.0191 |
| #2 | .0014 | -.0018 | .0062 | -.0187 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.7 | 35584. | 17326. |
| Stddev | 1.8 | 119. | 20. |
| %RSD | .14876 | .33432 | .11467 |
| #1 | 1209.4 | 35668. | 17312. |
| #2 | 1212.0 | 35499. | 17340. |



Zoom In Zoom Out

Sample Name: MC25568-9F Acquired: 10/31/2013 14:26:03 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0015 | .0114 | -.0004 | .0149 | .0085 | .0000 | 9.232 | .0001 | .0030 |
| Stddev | .0000 | .0050 | .0003 | .0004 | .0003 | .0002 | .000 | .015 | .0000 | .0000 |
| %RSD | 1.094 | 335.0 | 2.231 | 114.0 | 1.815 | 2.191 | 2.320 | .1574 | 25.60 | .1476 |
| #1 | -.0005 | -.0050 | .0116 | -.0001 | .0151 | .0083 | .0000 | 9.222 | .0001 | .0030 |
| #2 | -.0005 | .0020 | .0112 | -.0007 | .0147 | .0086 | .0000 | 9.242 | .0001 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | 4.560 | 1.661 | 1.391 | .5336 | .0004 | 2.675 | -.0001 | -.0017 |
| Stddev | .0003 | .0000 | .026 | .009 | .003 | .0008 | .0001 | .005 | .0001 | .0016 |
| %RSD | 1023. | 13.24 | .5753 | .5358 | .1828 | .1534 | 18.53 | .1929 | 150.7 | 92.94 |
| #1 | -.0002 | .0003 | 4.542 | 1.654 | 1.393 | .5342 | .0004 | 2.671 | -.0001 | -.0006 |
| #2 | .0003 | .0002 | 4.579 | 1.667 | 1.389 | .5331 | .0005 | 2.678 | .0000 | -.0028 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0121 | 1.870 | .0012 | .0017 | 3.921 | .0008 | .0634 | -.0002 | -.0021 |
| Stddev | .0015 | .0081 | .001 | .0002 | .0005 | .001 | .0011 | .0002 | .0004 | .0011 |
| %RSD | 217.5 | 66.99 | .0410 | 18.83 | 27.53 | .0138 | 130.1 | .3813 | 273.5 | 53.11 |
| #1 | -.0004 | .0178 | 1.869 | .0013 | .0014 | 3.921 | .0016 | .0632 | -.0005 | -.0013 |
| #2 | .0017 | .0064 | 1.870 | .0010 | .0021 | 3.921 | .0001 | .0636 | .0001 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | -.0041 | .0124 | -.0214 |
| Stddev | .0001 | .0017 | .0003 | .0002 |
| %RSD | 10.15 | 40.87 | 2.382 | .7843 |
| #1 | .0008 | -.0029 | .0126 | -.0213 |
| #2 | .0010 | -.0053 | .0122 | -.0215 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.6 | 35338. | 17430. |
| Stddev | 1.7 | 176. | 24. |
| %RSD | .13517 | .49902 | .13752 |
| #1 | 1220.4 | 35213. | 17447. |
| #2 | 1222.7 | 35462. | 17413. |



Zoom In Zoom Out

Sample Name: MC25568-10F Acquired: 10/31/2013 14:30:56 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0564 | .1994 | -.0180 | .2400 | .0521 | -.0001 | 86.84 | .0003 | .0093 |
| Stddev | .0002 | .0011 | .0021 | .0012 | .0002 | .0004 | .0000 | .10 | .0001 | .0001 |
| %RSD | 42.15 | 1.871 | 1.067 | 6.803 | .1008 | .6785 | 43.67 | .1185 | 16.62 | 1.357 |
| #1 | -.0006 | -.0557 | .1979 | -.0188 | .2402 | .0518 | -.0001 | 86.77 | .0004 | .0094 |
| #2 | -.0003 | -.0572 | .2009 | -.0171 | .2399 | .0523 | .0000 | 86.92 | .0003 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0006 | 16.35 | 7.224 | 12.79 | 5.839 | .0016 | 30.55 | .0072 | -.0019 |
| Stddev | .0010 | .0003 | .03 | .017 | .04 | .005 | .0000 | .01 | .0004 | .0012 |
| %RSD | 150.9 | 55.39 | .1637 | .2292 | .2838 | .0810 | 2.455 | .0443 | 5.375 | 64.95 |
| #1 | .0000 | .0004 | 16.33 | 7.212 | 12.76 | 5.842 | .0016 | 30.54 | .0069 | -.0027 |
| #2 | -.0014 | .0009 | 16.37 | 7.236 | 12.81 | 5.835 | .0016 | 30.56 | .0075 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0402 | 1.772 | .0008 | .0041 | 9.038 | .0001 | .7864 | .0001 | -.0024 |
| Stddev | .0008 | .0060 | .004 | .0005 | .0007 | .004 | .0005 | .0010 | .0001 | .0002 |
| %RSD | 53.02 | 14.93 | .2050 | 59.99 | 17.19 | .0438 | 570.0 | .1241 | 86.44 | 9.427 |
| #1 | -.0009 | .0445 | 1.775 | .0011 | .0046 | 9.035 | -.0003 | .7871 | .0002 | -.0026 |
| #2 | -.0020 | .0360 | 1.770 | .0004 | .0036 | 9.041 | .0004 | .7857 | .0000 | -.0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0048 | .0048 | -.0490 |
| Stddev | .0000 | .0001 | .0000 | .0001 |
| %RSD | 3.523 | 1.506 | .0799 | .2519 |
| #1 | .0006 | -.0048 | .0048 | -.0491 |
| #2 | .0006 | -.0049 | .0048 | -.0489 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1194.2 | 35096. | 17496. |
| Stddev | 1.2 | 62. | 23. |
| %RSD | .10050 | .17627 | .13097 |
| #1 | 1195.1 | 35053. | 17480. |
| #2 | 1193.4 | 35140. | 17512. |



Zoom In Zoom Out

Sample Name: MC25568-12F Acquired: 10/31/2013 14:35:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0183 | .0247 | .0009 | .0203 | .0595 | .0000 | 39.30 | -.0001 | -.0004 |
| Stddev | .0003 | .0054 | .0007 | .0002 | .0001 | .0001 | .0001 | .10 | .0002 | .0001 |
| %RSD | 121.6 | 29.48 | 2.928 | 22.07 | .4564 | .2104 | 440.2 | .2636 | 318.0 | 34.35 |
| #1 | .0000 | .0145 | .0252 | .0008 | .0204 | .0594 | .0000 | 39.23 | .0001 | -.0003 |
| #2 | -.0004 | .0221 | .0242 | .0011 | .0202 | .0596 | .0001 | 39.37 | -.0002 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | .5552 | 4.174 | 3.917 | .1536 | .0016 | 9.832 | -.0001 | -.0021 |
| Stddev | .0003 | .0002 | .0002 | .024 | .016 | .0009 | .0001 | .014 | .0002 | .0009 |
| %RSD | 210.2 | 39.51 | .0397 | .5737 | .4116 | .6071 | 5.950 | .1431 | 340.8 | 41.66 |
| #1 | .0003 | .0008 | .5554 | 4.157 | 3.928 | .1543 | .0015 | 9.822 | -.0002 | -.0027 |
| #2 | -.0001 | .0004 | .5551 | 4.191 | 3.905 | .1530 | .0016 | 9.842 | .0001 | -.0015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0017 | 2.223 | .0009 | .0020 | 3.154 | .0003 | .2802 | .0009 | -.0015 |
| Stddev | .0023 | .0062 | .001 | .0003 | .0001 | .006 | .0005 | .0007 | .0004 | .0004 |
| %RSD | 20440. | 367.4 | .0441 | 36.04 | 6.952 | .1956 | 177.9 | .2580 | 42.25 | 27.09 |
| #1 | -.0016 | .0061 | 2.222 | .0011 | .0019 | 3.158 | -.0001 | .2797 | .0012 | -.0018 |
| #2 | .0017 | -.0027 | 2.223 | .0007 | .0021 | 3.149 | .0006 | .2807 | .0006 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0035 | .0060 | -.0173 |
| Stddev | .0009 | .0024 | .0002 | .0000 |
| %RSD | 301.9 | 68.00 | 2.743 | .1514 |
| #1 | -.0003 | -.0052 | .0059 | -.0173 |
| #2 | .0009 | -.0018 | .0062 | -.0173 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.9 | 35388. | 17263. |
| Stddev | 1.3 | 160. | 18. |
| %RSD | .10545 | .45195 | .10165 |
| #1 | 1211.0 | 35275. | 17276. |
| #2 | 1212.8 | 35501. | 17251. |

Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 14:40:42 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0230 | .8414 | -.0110 | .1024 | .0193 | .0000 | 97.94 | .0012 | .0055 |
| Stddev | .0003 | .0023 | .0008 | .0009 | .0008 | .0000 | .000 | .39 | .0001 | .0001 |
| %RSD | 187.5 | 10.06 | .0991 | 8.596 | .7334 | .2581 | 37.04 | .3986 | 10.46 | 2.693 |
| #1 | -.0003 | -.0247 | .8420 | -.0103 | .1019 | .0193 | -.0001 | 98.21 | .0012 | .0056 |
| #2 | .0000 | -.0214 | .8409 | -.0116 | .1030 | .0193 | .0000 | 97.66 | .0011 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | 16.20 | 3.584 | 12.97 | 2.937 | .0050 | 33.64 | .0040 | -.0019 |
| Stddev | .0004 | .0003 | .08 | .043 | .11 | .004 | .0000 | .22 | .0003 | .0001 |
| %RSD | 80.92 | 170.7 | .4829 | 1.200 | .8161 | .1420 | .5159 | .6397 | 6.561 | 6.690 |
| #1 | .0002 | .0004 | 16.25 | 3.553 | 12.90 | 2.934 | .0050 | 33.79 | .0038 | -.0018 |
| #2 | .0008 | .0000 | 16.14 | 3.614 | 13.05 | 2.940 | .0050 | 33.49 | .0042 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0151 | .3723 | .0020 | .0035 | 16.39 | -.0006 | .4575 | .0007 | -.0015 |
| Stddev | .0012 | .0098 | .0005 | .0009 | .0007 | .01 | .0006 | .0025 | .0004 | .0009 |
| %RSD | 42.21 | 64.58 | .1303 | 44.52 | 19.98 | .0320 | 106.9 | .5379 | 54.20 | 62.43 |
| #1 | -.0037 | .0220 | .3726 | .0026 | .0030 | 16.40 | -.0010 | .4593 | .0004 | -.0021 |
| #2 | -.0020 | .0082 | .3719 | .0014 | .0040 | 16.39 | -.0001 | .4558 | .0009 | -.0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0075 | .0048 | -.0896 |
| Stddev | .0003 | .0055 | .0006 | .0003 |
| %RSD | 56.42 | 73.65 | 11.86 | .3124 |
| #1 | .0003 | -.0114 | .0052 | -.0894 |
| #2 | .0006 | -.0036 | .0044 | -.0898 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1199.8 | 34799. | 17263. |
| Stddev | 2.4 | 59. | 62. |
| %RSD | .20060 | .17045 | .35891 |
| #1 | 1198.1 | 34757. | 17219. |
| #2 | 1201.5 | 34841. | 17307. |



Zoom In Zoom Out

Sample Name: MC25568-14F Acquired: 10/31/2013 14:45:36 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0194 | -.0002 | .0009 | .0014 | .0000 | .0000 | .0148 | .0001 | -.0002 |
| Stddev | .0000 | .0026 | .0007 | .0006 | .0004 | .0001 | .000 | .0010 | .0001 | .0000 |
| %RSD | 1.113 | 13.44 | 332.7 | 65.68 | 26.18 | 222.1 | 1851. | 6.870 | 104.9 | 3.110 |
| #1 | -.0006 | .0175 | .0003 | .0013 | .0012 | .0000 | .0000 | .0140 | .0002 | -.0002 |
| #2 | -.0006 | .0212 | -.0007 | .0005 | .0017 | .0001 | .0000 | .0155 | .0000 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0003 | .0062 | .0245 | -.0192 | .0003 | -.0001 | .0148 | -.0002 | -.0010 |
| Stddev | .0000 | .0005 | .0009 | .0370 | .0021 | .0000 | .0001 | .0027 | .0004 | .0003 |
| %RSD | .3339 | 155.6 | 14.55 | 151.0 | 11.12 | 5.886 | 135.4 | 18.41 | 212.7 | 31.23 |
| #1 | .0009 | -.0007 | .0056 | .0506 | -.0207 | .0003 | -.0001 | .0167 | -.0004 | -.0008 |
| #2 | .0009 | .0000 | .0068 | -.0017 | -.0177 | .0003 | .0000 | .0128 | .0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0007 | .0008 | .0008 | .0031 | .0137 | .0005 | .0001 | -.0003 | -.0011 |
| Stddev | .0002 | .0066 | .0005 | .0009 | .0007 | .0004 | .0006 | .0000 | .0006 | .0005 |
| %RSD | 39.05 | 999.1 | 59.97 | 122.1 | 22.31 | 2.898 | 111.0 | 17.55 | 217.0 | 43.09 |
| #1 | .0004 | .0040 | .0005 | .0001 | .0026 | .0140 | .0001 | .0001 | .0002 | -.0014 |
| #2 | .0007 | -.0053 | .0012 | .0014 | .0036 | .0135 | .0009 | .0001 | -.0007 | -.0007 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0006 | .0059 | .0000 |
| Stddev | .0002 | .0003 | .0001 | .000 |
| %RSD | 22840. | 48.73 | 2.118 | 69.85 |
| #1 | .0002 | -.0004 | .0058 | .0000 |
| #2 | -.0002 | -.0008 | .0060 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.9 | 35209. | 17304. |
| Stddev | 2.3 | 55. | 69. |
| %RSD | .18963 | .15578 | .39628 |
| #1 | 1220.3 | 35248. | 17256. |
| #2 | 1223.5 | 35170. | 17353. |



Zoom In Zoom Out

Sample Name: MC25568-15F Acquired: 10/31/2013 14:50:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0476 | .0322 | -.0005 | .0284 | .0146 | .0000 | 24.70 | -.0001 | .0004 |
| Stddev | .0001 | .0109 | .0020 | .0003 | .0003 | .0000 | .000 | .01 | .0000 | .0001 |
| %RSD | 38.50 | 22.86 | 6.085 | 61.16 | 1.121 | .0476 | 15.67 | .0262 | 50.77 | 12.20 |
| #1 | -.0003 | .0553 | .0308 | -.0003 | .0281 | .0146 | .0000 | 24.70 | -.0001 | .0004 |
| #2 | -.0005 | .0399 | .0336 | -.0007 | .0286 | .0146 | .0000 | 24.70 | .0000 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0005 | 8.888 | 2.551 | 2.516 | .4394 | .0002 | 6.282 | .0000 | -.0023 |
| Stddev | .0004 | .0002 | .000 | .037 | .011 | .0015 | .0000 | .034 | .000 | .0000 |
| %RSD | 36.50 | 33.18 | .0025 | 1.456 | .4460 | .3527 | 21.50 | .5436 | 702.5 | 1.245 |
| #1 | .0013 | -.0006 | 8.888 | 2.577 | 2.508 | .4405 | .0002 | 6.306 | -.0001 | -.0023 |
| #2 | .0008 | -.0003 | 8.888 | 2.524 | 2.524 | .4383 | .0002 | 6.257 | .0001 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0036 | .7309 | .0013 | .0027 | 2.613 | .0000 | .1468 | .0003 | -.0020 |
| Stddev | .0004 | .0018 | .0053 | .0009 | .0014 | .000 | .001 | .0004 | .0001 | .0005 |
| %RSD | 41.10 | 49.74 | .7236 | 74.10 | 54.34 | .0041 | 3800. | .2639 | 38.35 | 26.62 |
| #1 | -.0014 | .0023 | .7346 | .0019 | .0037 | 2.613 | .0003 | .1471 | .0004 | -.0024 |
| #2 | -.0008 | .0048 | .7272 | .0006 | .0016 | 2.613 | -.0003 | .1465 | .0002 | -.0016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0012 | .0060 | -.0131 |
| Stddev | .0004 | .0033 | .0001 | .0003 |
| %RSD | 49.92 | 267.1 | 2.304 | 2.261 |
| #1 | .0011 | .0011 | .0061 | -.0129 |
| #2 | .0005 | -.0036 | .0059 | -.0133 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.1 | 35050. | 17345. |
| Stddev | 1.8 | 60. | 34. |
| %RSD | .15036 | .17189 | .19564 |
| #1 | 1215.8 | 35007. | 17369. |
| #2 | 1218.4 | 35093. | 17321. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 14:55:27 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2537 | 9.594 | 1.838 | -.0062 | 1.894 | 1.864 | 2.027 | 9.509 | 1.925 |
| Stddev | .0005 | .037 | .001 | .0003 | .003 | .004 | .006 | .005 | .004 |
| %RSD | .2123 | .3909 | .0393 | 4.709 | .1298 | .2304 | .3061 | .0528 | .1914 |
| #1 | .2540 | 9.620 | 1.838 | -.0064 | 1.896 | 1.867 | 2.031 | 9.506 | 1.928 |
| #2 | .2533 | 9.567 | 1.839 | -.0060 | 1.893 | 1.861 | 2.022 | 9.513 | 1.923 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.924 | 2.182 | 2.018 | 9.334 | 9.685 | 9.801 | 2.108 | 1.835 | 9.511 |
| Stddev | .003 | .001 | .001 | .006 | .015 | .015 | .003 | .001 | .016 |
| %RSD | .1560 | .0284 | .0381 | .0640 | .1578 | .1491 | .1584 | .0282 | .1637 |
| #1 | 1.926 | 2.182 | 2.019 | 9.338 | 9.696 | 9.811 | 2.111 | 1.835 | 9.522 |
| #2 | 1.922 | 2.181 | 2.018 | 9.329 | 9.675 | 9.791 | 2.106 | 1.836 | 9.500 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.764 | 1.824 | .0035 | -.0026 | -.0041 | 1.830 | 1.819 | -.0151 | 1.919 |
| Stddev | .003 | .003 | .0019 | .0075 | .0021 | .008 | .003 | .0002 | .003 |
| %RSD | .1436 | .1586 | 53.71 | 289.2 | 52.88 | .4571 | .1353 | 1.206 | .1783 |
| #1 | 1.765 | 1.826 | .0021 | -.0079 | -.0056 | 1.836 | 1.821 | -.0149 | 1.921 |
| #2 | 1.762 | 1.822 | .0048 | .0027 | -.0025 | 1.824 | 1.817 | -.0152 | 1.916 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.981 | 1.954 | 1.872 | 2.011 | -.0041 | 1.828 | -.0037 |
| Stddev | .005 | .002 | .004 | .000 | .0027 | .004 | .0000 |
| %RSD | .2646 | .1092 | .1975 | .0199 | 66.33 | .2049 | .8464 |
| #1 | 1.985 | 1.952 | 1.875 | 2.011 | -.0060 | 1.830 | -.0036 |
| #2 | 1.978 | 1.955 | 1.869 | 2.012 | -.0022 | 1.825 | -.0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.0 | 34561. | 17334. |
| Stddev | 1.2 | 68. | 18. |
| %RSD | .09245 | .19683 | .10628 |
| #1 | 1257.2 | 34609. | 17347. |
| #2 | 1258.8 | 34513. | 17321. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 15:00:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0018 | .0001 | .0012 | .0019 | .0001 | .0001 | .0002 | .0001 | .0001 |
| Stddev | .0000 | .0045 | .0009 | .0007 | .0002 | .0000 | .0001 | .0005 | .0000 | .0000 |
| %RSD | 4.089 | 245.6 | 1434. | 59.97 | 9.469 | 47.31 | 135.1 | 240.8 | 24.00 | 40.40 |
| #1 | -.0007 | -.0014 | -.0006 | .0007 | .0020 | .0000 | .0000 | -.0001 | .0001 | .0001 |
| #2 | -.0007 | .0051 | .0007 | .0018 | .0017 | .0001 | .0001 | .0005 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0012 | .0035 | .0132 | .0168 | .0002 | .0024 | .0082 | .0002 | -.0008 |
| Stddev | .0010 | .0001 | .0004 | .0122 | .0110 | .0001 | .0006 | .0037 | .0000 | .0000 |
| %RSD | 161.1 | 6.318 | 12.94 | 92.50 | 65.65 | 53.47 | 24.70 | 45.27 | 6.832 | 3.349 |
| #1 | .0013 | -.0011 | .0038 | .0046 | .0246 | .0001 | .0028 | .0056 | .0002 | -.0008 |
| #2 | -.0001 | -.0012 | .0031 | .0218 | .0090 | .0003 | .0020 | .0109 | .0002 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0052 | -.0001 | .0009 | -.0010 | -.0045 | .0005 | .0001 | .0005 | .0019 |
| Stddev | .0010 | .0017 | .0004 | .0006 | .0005 | .0004 | .0002 | .0000 | .0001 | .0007 |
| %RSD | 459.2 | 33.30 | 480.4 | 71.87 | 46.68 | 9.815 | 33.68 | 18.72 | 30.19 | 37.57 |
| #1 | -.0009 | .0064 | .0002 | .0013 | -.0007 | -.0042 | .0006 | .0002 | .0005 | .0024 |
| #2 | .0005 | .0040 | -.0004 | .0004 | -.0013 | -.0048 | .0004 | .0001 | .0004 | .0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0058 | .0010 | .0015 |
| Stddev | .0003 | .0031 | .0000 | .0002 |
| %RSD | 111.0 | 53.62 | 2.132 | 12.48 |
| #1 | .0001 | -.0036 | .0010 | .0013 |
| #2 | .0005 | -.0080 | .0010 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.3 | 35149. | 17095. |
| Stddev | 1.2 | 80. | 63. |
| %RSD | .09730 | .22700 | .36727 |
| #1 | 1246.2 | 35093. | 17050. |
| #2 | 1244.5 | 35206. | 17139. |



Zoom In Zoom Out

Sample Name: MC25568-16F Acquired: 10/31/2013 15:16:40 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0909 | .1054 | -.0309 | .2279 | .0278 | .0000 | 80.98 | .0001 | .0135 |
| Stddev | .0007 | .0027 | .0003 | .0007 | .0005 | .0001 | .000 | .07 | .0000 | .0001 |
| %RSD | 131.0 | 3.012 | .3148 | 2.359 | .2160 | .2338 | 8.729 | .0851 | 22.19 | .7238 |
| #1 | .0000 | -.0889 | .1057 | -.0314 | .2283 | .0277 | .0000 | 80.94 | .0001 | .0136 |
| #2 | -.0010 | -.0928 | .1052 | -.0303 | .2276 | .0278 | .0000 | 81.03 | .0002 | .0134 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0001 | 18.43 | 5.249 | 11.54 | 10.09 | .0013 | 33.44 | .0062 | -.0021 |
| Stddev | .0004 | .0001 | .02 | .097 | .01 | .04 | .0002 | .07 | .0004 | .0004 |
| %RSD | 30.92 | 79.54 | .1353 | 1.847 | .1012 | .3716 | 15.17 | .2136 | 6.413 | 17.94 |
| #1 | -.0011 | .0001 | 18.45 | 5.180 | 11.54 | 10.12 | .0011 | 33.39 | .0059 | -.0024 |
| #2 | -.0017 | .0000 | 18.41 | 5.317 | 11.53 | 10.07 | .0014 | 33.49 | .0065 | -.0018 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0572 | .9383 | .0017 | .0043 | 7.927 | -.0003 | .8376 | .0006 | -.0018 |
| Stddev | .0024 | .0067 | .0054 | .0009 | .0015 | .014 | .0003 | .0009 | .0002 | .0001 |
| %RSD | 95.87 | 11.69 | .5802 | 54.82 | 35.53 | .1705 | 100.3 | .1016 | 30.44 | 4.464 |
| #1 | -.0043 | .0619 | .9344 | .0024 | .0054 | 7.917 | -.0001 | .8370 | .0008 | -.0018 |
| #2 | -.0008 | .0524 | .9421 | .0011 | .0032 | 7.937 | -.0006 | .8382 | .0005 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0024 | .0063 | -.0426 |
| Stddev | .0007 | .0010 | .0000 | .0009 |
| %RSD | 220.4 | 41.26 | .1285 | 1.999 |
| #1 | .0008 | -.0030 | .0063 | -.0420 |
| #2 | -.0002 | -.0017 | .0063 | -.0432 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.9 | 34666. | 17273. |
| Stddev | 1.3 | 159. | 1. |
| %RSD | .10763 | .45921 | .00332 |
| #1 | 1208.8 | 34554. | 17273. |
| #2 | 1207.0 | 34779. | 17272. |



Zoom In Zoom Out

Sample Name: MC25594-2F Acquired: 10/31/2013 15:21:39 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0135 | .0316 | -.0050 | .0214 | .0159 | .0000 | 21.28 | .0000 | .0087 |
| Stddev | .0003 | .0041 | .0013 | .0004 | .0002 | .0001 | .000 | .05 | .0001 | .0001 |
| %RSD | 82.68 | 30.25 | 3.974 | 7.693 | .9225 | .5580 | 35.08 | .2325 | 989.4 | 1.459 |
| #1 | -.0006 | -.0106 | .0325 | -.0053 | .0213 | .0160 | .0000 | 21.31 | .0001 | .0086 |
| #2 | -.0001 | -.0164 | .0307 | -.0047 | .0216 | .0159 | .0000 | 21.24 | .0000 | .0088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0000 | 8.382 | 3.260 | 3.670 | 1.630 | .0000 | 2.973 | .0055 | -.0014 |
| Stddev | .0000 | .0004 | .027 | .033 | .007 | .003 | .000 | .029 | .0002 | .0004 |
| %RSD | 2.192 | 20650. | .3192 | 1.018 | .1982 | .1525 | 598.0 | .9606 | 3.296 | 27.29 |
| #1 | -.0012 | .0003 | 8.363 | 3.237 | 3.675 | 1.632 | .0001 | 2.993 | .0056 | -.0011 |
| #2 | -.0012 | -.0003 | 8.400 | 3.284 | 3.665 | 1.629 | -.0002 | 2.953 | .0054 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0067 | 5.308 | .0007 | .0000 | 6.339 | .0004 | .1343 | .0006 | -.0011 |
| Stddev | .0027 | .0015 | .010 | .0010 | .0013 | .011 | .0002 | .0002 | .0000 | .0005 |
| %RSD | 381.9 | 22.41 | .1947 | 145.5 | 10700. | .1725 | 57.75 | .1779 | 6.286 | 52.32 |
| #1 | .0026 | .0077 | 5.315 | .0014 | .0010 | 6.331 | .0002 | .1345 | .0006 | -.0007 |
| #2 | -.0012 | .0056 | 5.301 | .0000 | -.0009 | 6.346 | .0006 | .1341 | .0005 | -.0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0035 | .0090 | -.0340 |
| Stddev | .0001 | .0004 | .0002 | .0002 |
| %RSD | 8.640 | 11.59 | 2.720 | .6473 |
| #1 | .0009 | -.0038 | .0092 | -.0339 |
| #2 | .0011 | -.0032 | .0089 | -.0342 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1232.9 | 34889. | 17319. |
| Stddev | .1 | 89. | 54. |
| %RSD | .00709 | .25424 | .31182 |
| #1 | 1233.0 | 34826. | 17281. |
| #2 | 1232.9 | 34952. | 17357. |



Zoom In Zoom Out

Sample Name: MC25594-3F Acquired: 10/31/2013 15:26:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0050 | .1420 | .0007 | .0637 | .0155 | .0000 | 15.79 | .0000 | .0050 |
| Stddev | .0003 | .0004 | .0002 | .0001 | .0005 | .0001 | .000 | .11 | .0000 | .0002 |
| %RSD | 86.87 | 7.951 | .1746 | 12.84 | .7933 | .9262 | 195.4 | .7000 | 113.2 | 4.391 |
| #1 | -.0001 | .0053 | .1418 | .0007 | .0641 | .0154 | -.0001 | 15.87 | .0001 | .0049 |
| #2 | -.0006 | .0048 | .1422 | .0006 | .0633 | .0157 | .0000 | 15.72 | .0000 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0002 | 14.72 | 5.293 | 1.772 | .5746 | .0011 | 5.083 | .0038 | -.0003 |
| Stddev | .0009 | .0002 | .04 | .012 | .019 | .0008 | .0003 | .018 | .0002 | .0005 |
| %RSD | 103.1 | 141.4 | .2612 | .2259 | 1.051 | .1423 | 24.21 | .3528 | 6.498 | 211.5 |
| #1 | -.0015 | -.0003 | 14.75 | 5.284 | 1.785 | .5752 | .0009 | 5.071 | .0036 | .0001 |
| #2 | -.0002 | .0000 | 14.70 | 5.301 | 1.758 | .5741 | .0013 | 5.096 | .0040 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0076 | 1.306 | .0003 | .0012 | 4.159 | .0002 | .1367 | .0001 | -.0017 |
| Stddev | .0014 | .0004 | .001 | .0000 | .0004 | .004 | .0008 | .0000 | .0000 | .0008 |
| %RSD | 70.50 | 5.153 | .0737 | 3.676 | 36.03 | .1049 | 411.6 | .0122 | 70.19 | 47.78 |
| #1 | .0010 | .0078 | 1.305 | .0003 | .0015 | 4.156 | -.0004 | .1367 | .0001 | -.0023 |
| #2 | .0029 | .0073 | 1.307 | .0003 | .0009 | 4.162 | .0008 | .1367 | .0000 | -.0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0077 | .0221 | -.0226 |
| Stddev | .0000 | .0010 | .0000 | .0001 |
| %RSD | .1218 | 13.54 | .0974 | .4121 |
| #1 | .0010 | -.0085 | .0221 | -.0226 |
| #2 | .0010 | -.0070 | .0221 | -.0225 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.7 | 35287. | 17433. |
| Stddev | 2.3 | 17. | 83. |
| %RSD | .18863 | .04755 | .47781 |
| #1 | 1229.4 | 35299. | 17374. |
| #2 | 1226.1 | 35276. | 17492. |

Zoom In Zoom Out

Sample Name: MC25594-4F Acquired: 10/31/2013 15:31:26 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0070 | 2.952 | -.0018 | .1158 | .0305 | .0000 | 36.49 | .0035 | .0092 |
| Stddev | .0001 | .0011 | .016 | .0003 | .0007 | .0001 | .000 | .14 | .0001 | .0001 |
| %RSD | 8.760 | 15.82 | .5492 | 16.59 | .5642 | .4736 | 49.26 | .3705 | 4.037 | 1.243 |
| #1 | -.0006 | -.0063 | 2.940 | -.0016 | .1153 | .0304 | .0000 | 36.40 | .0034 | .0091 |
| #2 | -.0005 | -.0078 | 2.963 | -.0020 | .1162 | .0306 | .0000 | 36.59 | .0036 | .0093 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0006 | 28.06 | 6.589 | 5.608 | .9114 | .0085 | 15.07 | .0151 | -.0012 |
| Stddev | .0009 | .0003 | .07 | .018 | .010 | .0003 | .0001 | .00 | .0001 | .0004 |
| %RSD | 173.7 | 61.32 | .2508 | .2696 | .1833 | .0361 | 1.365 | .0011 | .8510 | 31.18 |
| #1 | -.0012 | .0003 | 28.01 | 6.576 | 5.615 | .9117 | .0084 | 15.07 | .0152 | -.0015 |
| #2 | .0001 | .0008 | 28.11 | 6.602 | 5.601 | .9112 | .0085 | 15.07 | .0150 | -.0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0054 | 1.550 | .0016 | .0023 | 9.995 | .0000 | .3759 | .0003 | -.0022 |
| Stddev | .0003 | .0028 | .001 | .0006 | .0006 | .057 | .000 | .0003 | .0003 | .0007 |
| %RSD | 13.07 | 52.15 | .0403 | 35.67 | 24.61 | .5735 | 418.5 | .0912 | 115.4 | 30.77 |
| #1 | .0020 | .0074 | 1.551 | .0012 | .0027 | 9.954 | .0001 | .3762 | .0001 | -.0027 |
| #2 | .0024 | .0034 | 1.550 | .0020 | .0019 | 10.04 | -.0002 | .3757 | .0005 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0023 | .0082 | .0146 | -.0538 |
| Stddev | .0002 | .0022 | .0004 | .0001 |
| %RSD | 9.654 | 27.35 | 2.433 | .2307 |
| #1 | .0024 | .0066 | .0144 | -.0537 |
| #2 | .0021 | .0098 | .0149 | -.0539 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.3 | 34754. | 17196. |
| Stddev | 3.8 | 20. | 77. |
| %RSD | .31421 | .05655 | .44630 |
| #1 | 1226.0 | 34740. | 17250. |
| #2 | 1220.6 | 34768. | 17141. |



Zoom In Zoom Out

Sample Name: MC25594-5F Acquired: 10/31/2013 15:36:19 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0003 | .0006 | .0001 | .0020 | .0001 | .0000 | .0184 | .0000 | -.0003 |
| Stddev | .0002 | .0000 | .0006 | .0006 | .0002 | .0001 | .000 | .0016 | .000 | .0002 |
| %RSD | 80.22 | 2.358 | 95.94 | 739.9 | 11.08 | 155.3 | 5676. | 8.578 | 52.50 | 56.91 |
| #1 | -.0004 | .0003 | .0010 | -.0003 | .0019 | .0001 | .0000 | .0173 | .0000 | -.0004 |
| #2 | -.0001 | .0003 | .0002 | .0005 | .0022 | .0000 | .0000 | .0195 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0006 | .0041 | .0167 | .0046 | .0002 | .0002 | .0152 | -.0002 | -.0006 |
| Stddev | .0013 | .0004 | .0010 | .0133 | .0033 | .0000 | .0001 | .0027 | .0003 | .0012 |
| %RSD | 1408. | 71.71 | 23.68 | 79.59 | 70.69 | 22.94 | 35.66 | 17.75 | 181.3 | 204.5 |
| #1 | .0010 | -.0003 | .0034 | .0073 | .0069 | .0002 | .0003 | .0133 | .0000 | -.0015 |
| #2 | -.0008 | -.0009 | .0048 | .0261 | .0023 | .0002 | .0002 | .0171 | -.0004 | .0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0127 | .0015 | .0006 | .0006 | .0164 | .0005 | .0001 | -.0001 | -.0020 |
| Stddev | .0008 | .0003 | .0002 | .0000 | .0014 | .0004 | .0001 | .0000 | .0004 | .0003 |
| %RSD | 59.50 | 2.584 | 14.60 | .2544 | 223.3 | 2.344 | 15.25 | 4.848 | 525.4 | 16.96 |
| #1 | .0020 | .0124 | .0017 | .0006 | .0016 | .0167 | .0004 | .0001 | -.0004 | -.0018 |
| #2 | .0008 | .0129 | .0014 | .0006 | -.0004 | .0161 | .0005 | .0001 | .0002 | -.0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0007 | .0052 | .0000 |
| Stddev | .0003 | .0017 | .0003 | .0005 |
| %RSD | 1612. | 238.2 | 4.905 | 960.9 |
| #1 | .0002 | -.0020 | .0050 | .0004 |
| #2 | -.0002 | .0005 | .0054 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1219.6 | 35169. | 17307. |
| Stddev | 3.1 | 79. | 49. |
| %RSD | .25723 | .22489 | .28154 |
| #1 | 1217.4 | 35113. | 17273. |
| #2 | 1221.8 | 35225. | 17341. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 15:41:18 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .2042 | .0040 | .0006 | .1012 | .0504 | .0044 | 4.974 | .0042 | .0515 |
| Stddev | .0001 | .0060 | .0007 | .0002 | .0003 | .0001 | .0000 | .015 | .0001 | .0002 |
| %RSD | 2.527 | 2.939 | 16.84 | 27.45 | .2542 | .2432 | .2520 | .3030 | 3.084 | .2999 |
| #1 | .0047 | .2084 | .0035 | .0008 | .1011 | .0503 | .0044 | 4.985 | .0043 | .0513 |
| #2 | .0046 | .1999 | .0045 | .0005 | .1014 | .0505 | .0044 | 4.964 | .0041 | .0516 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0118 | .0251 | .1010 | 5.005 | 5.027 | .0167 | .0983 | 4.893 | .0383 | .0047 |
| Stddev | .0006 | .0000 | .0008 | .027 | .034 | .0002 | .0005 | .006 | .0001 | .0001 |
| %RSD | 4.827 | .0495 | .7559 | .5479 | .6765 | 1.007 | .5402 | .1160 | .3358 | 2.669 |
| #1 | .0114 | .0251 | .1004 | 5.025 | 5.051 | .0166 | .0979 | 4.889 | .0382 | .0046 |
| #2 | .0122 | .0250 | .1015 | 4.986 | 5.003 | .0168 | .0986 | 4.897 | .0384 | .0048 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0033 | -.0004 | .0064 | .0110 | .0044 | .0986 | .0106 | .0509 | .0055 |
| Stddev | .0015 | .0055 | .0005 | .0007 | .0003 | .0002 | .0002 | .0000 | .0010 | .0002 |
| %RSD | 1530. | 163.8 | 125.6 | 11.52 | 2.948 | 4.471 | .2299 | .2674 | 2.020 | 3.453 |
| #1 | .0010 | -.0005 | .0000 | .0069 | .0113 | .0043 | .0987 | .0106 | .0502 | .0056 |
| #2 | -.0012 | .0072 | -.0007 | .0058 | .0108 | .0046 | .0984 | .0106 | .0517 | .0054 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0105 | -.0009 | .0203 | .0005 |
| Stddev | .0002 | .0009 | .0001 | .0009 |
| %RSD | 1.741 | 102.1 | .6684 | 169.0 |
| #1 | .0107 | -.0015 | .0202 | -.0001 |
| #2 | .0104 | -.0002 | .0204 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1246.3 | 35600. | 17332. |
| Stddev | 7.7 | 137. | 36. |
| %RSD | .61972 | .38494 | .20664 |
| #1 | 1251.8 | 35697. | 17306. |
| #2 | 1240.9 | 35503. | 17357. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 15:46:12 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2525 | 9.698 | 1.876 | -.0077 | 1.916 | 1.906 | 2.043 | 9.727 | 1.941 | 1.957 |
| Stddev | .0018 | .046 | .006 | .0008 | .001 | .005 | .003 | .006 | .003 | .002 |
| %RSD | .7001 | .4703 | .2989 | 9.851 | .0302 | .2620 | .1644 | .0663 | .1447 | .1095 |
| #1 | .2512 | 9.731 | 1.880 | -.0082 | 1.917 | 1.910 | 2.046 | 9.732 | 1.943 | 1.958 |
| #2 | .2537 | 9.666 | 1.872 | -.0071 | 1.916 | 1.903 | 2.041 | 9.723 | 1.939 | 1.955 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.165 | 2.016 | 9.525 | 9.815 | 9.894 | 2.092 | 1.868 | 9.685 | 1.806 | 1.853 |
| Stddev | .003 | .003 | .017 | .026 | .001 | .008 | .001 | .013 | .003 | .002 |
| %RSD | .1393 | .1347 | .1749 | .2650 | .0107 | .3956 | .0333 | .1320 | .1365 | .0849 |
| #1 | 2.163 | 2.015 | 9.537 | 9.797 | 9.894 | 2.086 | 1.869 | 9.694 | 1.807 | 1.854 |
| #2 | 2.167 | 2.018 | 9.513 | 9.833 | 9.893 | 2.098 | 1.868 | 9.676 | 1.804 | 1.852 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0047 | -.0042 | 1.863 | 1.863 | -.0128 | 1.938 | 2.010 | 1.970 | 1.899 |
| Stddev | .0001 | .0047 | .0001 | .001 | .005 | .0004 | .006 | .006 | .004 | .004 |
| %RSD | 2.156 | 98.51 | 1.247 | .0448 | .2709 | 3.287 | .3111 | .2870 | .1798 | .2191 |
| #1 | .0032 | .0014 | -.0041 | 1.864 | 1.866 | -.0125 | 1.942 | 2.014 | 1.968 | 1.902 |
| #2 | .0031 | .0081 | -.0042 | 1.863 | 1.859 | -.0131 | 1.934 | 2.006 | 1.973 | 1.896 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.021 | -.0057 | 1.856 | -.0061 |
| Stddev | .002 | .0065 | .004 | .0001 |
| %RSD | .0895 | 113.6 | .2274 | 2.218 |
| #1 | 2.020 | -.0011 | 1.859 | -.0062 |
| #2 | 2.023 | -.0104 | 1.853 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.3 | 34906. | 17405. |
| Stddev | .7 | 13. | 8. |
| %RSD | .05715 | .03705 | .04437 |
| #1 | 1244.8 | 34897. | 17410. |
| #2 | 1245.9 | 34915. | 17400. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/31/2013 15:50:56 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0005 | .0015 | .0011 | .0026 | .0003 | .0002 | .0020 | .0003 |
| Stddev | .0003 | .0019 | .0012 | .0009 | .0004 | .0000 | .0000 | .0012 | .0001 |
| %RSD | 243.2 | 339.9 | 77.41 | 79.98 | 14.83 | 7.186 | 10.43 | 57.96 | 21.91 |
| #1 | .0001 | -.0019 | .0007 | .0017 | .0028 | .0003 | .0002 | .0028 | .0003 |
| #2 | -.0004 | .0008 | .0024 | .0005 | .0023 | .0004 | .0003 | .0012 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0011 | .0000 | .0045 | .0066 | .0002 | .0005 | .0030 | .0050 |
| Stddev | .0001 | .0004 | .001 | .0003 | .0013 | .0087 | .0000 | .0006 | .0008 |
| %RSD | 21.35 | 33.85 | 4126. | 5.640 | 19.49 | 5681. | 1.173 | 19.71 | 16.85 |
| #1 | .0006 | .0014 | -.0004 | .0047 | .0057 | .0063 | .0005 | .0034 | .0056 |
| #2 | .0004 | .0008 | .0004 | .0043 | .0076 | -.0060 | .0005 | .0025 | .0044 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0008 | .0002 | .0014 | .0001 | .0005 | .0000 | -.0027 | .0004 |
| Stddev | .0002 | .0010 | .0000 | .0056 | .0001 | .0002 | .0001 | .0005 | .0002 |
| %RSD | 46.46 | 116.6 | 14.88 | 396.7 | 173.5 | 38.04 | 402.4 | 18.29 | 52.06 |
| #1 | .0002 | .0015 | .0002 | -.0025 | .0000 | .0004 | .0000 | -.0030 | .0005 |
| #2 | .0005 | .0001 | .0002 | .0053 | .0002 | .0007 | .0001 | -.0023 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | F.0021 | .0005 | -.0050 | .0014 | .0005 |
| Stddev | .0000 | .0000 | .0003 | .0000 | .0046 | .0003 | .0004 |
| %RSD | 6.846 | 3.281 | 12.25 | 6.272 | 91.47 | 20.39 | 87.58 |
| #1 | .0003 | .0007 | .0023 | .0005 | -.0018 | .0012 | .0002 |
| #2 | .0004 | .0007 | .0020 | .0006 | -.0083 | .0016 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.2 | 35773. | 17350. |
| Stddev | 2.1 | 150. | 8. |
| %RSD | .16636 | .41940 | .04342 |
| #1 | 1238.7 | 35879. | 17344. |
| #2 | 1235.8 | 35667. | 17355. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000001 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000000 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000568 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | | Fe | 0.000030 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000055 | 0.000000 | No |
| | | | | Mn | 0.000111 | 0.000000 | No |
| | | | | Mo | -0.001080 | 0.000000 | No |
| | | | | Co | 0.000023 | 0.000000 | No |
| | | | | Cu | -0.000002 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000058 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Ni | 0.000029 | 0.000000 | No |
| | | | | Si | 0.000132 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000342 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.006177 | 0.000000 | No |
| | | | | Ni | -0.000225 | 0.000000 | No |
| | | | | Mn | -0.008486 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | S 182.034 {485} | ☒ | None | | | | |
| | Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000028 | 0.000000 | No |
| | | | | Cr | 0.003719 | 0.000000 | No |
| | | | | Mo | -0.001502 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000192 | 0.000000 | No |
| | | | | V | -0.001150 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | | | | Ti | -0.000072 | 0.000000 | No |
| | | | | Cu | 0.000040 | 0.000000 | No |
| | | | | Sn | -0.009353 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 7 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | -0.000212 | 0.000000 | No |
| | | | | Mn | 0.000070 | 0.000000 | No |
| | | | | Mo | 0.000004 | 0.000000 | No |
| | | | | Ca | -0.000010 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | | | | Co | -0.001109 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | | Ti | 0.012159 | 0.000000 | No |
| | | | | Mo | 0.022364 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | | Cr | 0.000398 | 0.000000 | No |
| | | | | V | -0.025265 | 0.000000 | No |
| | | | | Co | 0.002209 | 0.000000 | No |
| | | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 17:53:47 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0026 | .0008 | -.0003 | -.0001 | .0017 | .0078 | -.0002 | .0024 | .0031 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0001 | .0001 | .0001 | .0001 | .0003 |
| %RSD | 5.551 | 6.733 | 53.78 | 23.54 | 6.724 | 1.298 | 41.61 | 2.958 | 9.240 |
| #1 | -.0025 | .0008 | -.0004 | -.0001 | .0016 | .0078 | -.0002 | .0023 | .0033 |
| #2 | -.0027 | .0009 | -.0002 | -.0002 | .0018 | .0079 | -.0001 | .0024 | .0029 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0012 | .0001 | .0174 | .0004 | .0002 | -.0001 | .0004 | -.0001 | .0010 |
| Stddev | .0001 | .0000 | .0003 | .0000 | .0008 | .0001 | .0001 | .0002 | .0012 |
| %RSD | 10.03 | 85.98 | 1.765 | 4.609 | 419.4 | 75.62 | 22.83 | 153.6 | 112.4 |
| #1 | -.0011 | .0001 | .0176 | .0005 | .0008 | -.0001 | .0004 | -.0003 | .0002 |
| #2 | -.0013 | .0000 | .0171 | .0004 | -.0004 | -.0002 | .0003 | .0000 | .0018 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0016 | -.0008 | -.0007 | -.0003 | .0033 | .0013 | .0010 | .0329 | .0001 |
| Stddev | .0003 | .0007 | .0003 | .0001 | .0002 | .0002 | .0001 | .0002 | .0000 |
| %RSD | 16.52 | 85.26 | 43.34 | 46.25 | 5.870 | 18.33 | 8.100 | .6019 | 28.43 |
| #1 | -.0018 | -.0003 | -.0005 | -.0002 | .0031 | .0014 | .0010 | .0327 | .0001 |
| #2 | -.0014 | -.0013 | -.0010 | -.0004 | .0034 | .0011 | .0009 | .0330 | .0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0078 | .0002 | -.0034 | -.0002 | .0001 | -.0002 | .0336 |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0001 | .0005 | .0001 |
| %RSD | .8860 | 90.75 | 3.670 | 4.306 | 114.5 | 187.4 | .2531 |
| #1 | .0079 | .0001 | -.0035 | -.0002 | .0001 | .0001 | .0337 |
| #2 | .0078 | .0003 | -.0034 | -.0002 | .0000 | -.0006 | .0336 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 17:53:47 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1224.1 | 35420. | 17349. |
| Stddev | 1.4 | 96. | 138. |
| %RSD | .11759 | .27083 | .79294 |
| #1 | 1225.1 | 35352. | 17252. |
| #2 | 1223.1 | 35488. | 17447. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/31/2013 17:58:45 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2051 | .5469 | 2.733 | 18.83 | 15.35 | 10.72 | 8.801 | .5570 | 3.255 | 4.790 |
| Stddev | .0002 | .0030 | .007 | .14 | .06 | .02 | .027 | .0007 | .000 | .002 |
| %RSD | .1099 | .5571 | .2513 | .7378 | .3752 | .1728 | .3059 | .1276 | .0028 | .0333 |
| #1 | .2050 | .5491 | 2.738 | 18.73 | 15.31 | 10.73 | 8.820 | .5575 | 3.255 | 4.791 |
| #2 | .2053 | .5448 | 2.728 | 18.93 | 15.39 | 10.70 | 8.782 | .5565 | 3.256 | 4.788 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.099 | 5.909 | 2.512 | 1.767 | .8103 | 1.166 | 6.453 |
| Stddev | .017 | .023 | .009 | .006 | .0047 | .001 | .027 |
| %RSD | .2135 | .3939 | .3697 | .3270 | .5752 | .0942 | .4147 |
| #1 | 8.111 | 5.926 | 2.519 | 1.771 | .8136 | 1.167 | 6.472 |
| #2 | 8.087 | 5.893 | 2.505 | 1.763 | .8070 | 1.166 | 6.434 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1212.9 | 34908. | 17328. |
| Stddev | 2.6 | 44. | 56. |
| %RSD | .21262 | .12642 | .32355 |
| #1 | 1211.1 | 34877. | 17367. |
| #2 | 1214.7 | 34939. | 17288. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/31/2013 18:03:43 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.445 | 1.631 | 1.364 | .7318 | .1617 | 2.682 |
| Stddev | .002 | .003 | .001 | .0019 | .0001 | .003 |
| %RSD | .1029 | .1536 | .0434 | .2608 | .0436 | .0969 |
| #1 | 1.446 | 1.633 | 1.365 | .7332 | .1617 | 2.684 |
| #2 | 1.444 | 1.629 | 1.364 | .7305 | .1618 | 2.681 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17270. |
| Stddev | 25. |
| %RSD | .14488 |
| #1 | 17253. |
| #2 | 17288. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/31/2013 18:08:39 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3455 | .5202 | .0740 | .6852 | 2.346 | 1.505 | 37.46 | 1.277 | 1.122 | .0717 |
| Stddev | .0008 | .0013 | .0000 | .0004 | .002 | .002 | .34 | .002 | .001 | .0001 |
| %RSD | .2338 | .2478 | .0243 | .0596 | .0936 | .1459 | .9196 | .1316 | .0912 | .0996 |
| #1 | .3450 | .5193 | .0739 | .6855 | 2.345 | 1.504 | 37.22 | 1.276 | 1.121 | .0717 |
| #2 | .3461 | .5211 | .0740 | .6849 | 2.348 | 1.507 | 37.70 | 1.278 | 1.123 | .0718 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.897 |
| Stddev | .004 |
| %RSD | .1285 |
| #1 | 2.894 |
| #2 | 2.899 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1239.7 | 34624. | 17159. |
| Stddev | .3 | 59. | 262. |
| %RSD | .02644 | .17017 | 1.5244 |
| #1 | 1239.4 | 34582. | 17344. |
| #2 | 1239.9 | 34666. | 16974. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/31/2013 18:13:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4987 | 15.44 | 2.929 | 3.025 | 2.892 | 2.968 | 3.018 | 17.52 | 2.882 | 2.853 |
| Stddev | .0024 | .02 | .002 | .012 | .004 | .004 | .004 | .04 | .001 | .001 |
| %RSD | .4872 | .1020 | .0614 | .3973 | .1276 | .1342 | .1197 | .2180 | .0158 | .0354 |
| #1 | .4970 | 15.43 | 2.927 | 3.017 | 2.895 | 2.971 | 3.016 | 17.50 | 2.881 | 2.852 |
| #2 | .5004 | 15.45 | 2.930 | 3.034 | 2.889 | 2.965 | 3.021 | 17.55 | 2.882 | 2.853 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.189 | 2.972 | 17.64 | 15.37 | 17.79 | 3.068 | 2.737 | 14.87 | 2.714 | 2.781 |
| Stddev | .005 | .004 | .02 | .04 | .03 | .006 | .003 | .04 | .002 | .000 |
| %RSD | .1491 | .1460 | .1224 | .2870 | .1734 | .1999 | .0977 | .2600 | .0560 | .0140 |
| #1 | 3.185 | 2.975 | 17.62 | 15.34 | 17.77 | 3.064 | 2.735 | 14.84 | 2.715 | 2.782 |
| #2 | 3.192 | 2.969 | 17.66 | 15.40 | 17.81 | 3.073 | 2.739 | 14.89 | 2.713 | 2.781 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.016 | 2.985 | 2.908 | 2.805 | 2.847 | 2.950 | 3.012 | 2.934 | 2.993 | 2.840 |
| Stddev | .003 | .003 | .004 | .007 | .005 | .000 | .001 | .002 | .001 | .001 |
| %RSD | .1043 | .0946 | .1275 | .2667 | .1625 | .0064 | .0155 | .0586 | .0187 | .0218 |
| #1 | 3.013 | 2.983 | 2.905 | 2.800 | 2.850 | 2.950 | 3.013 | 2.933 | 2.993 | 2.839 |
| #2 | 3.018 | 2.987 | 2.911 | 2.811 | 2.844 | 2.950 | 3.012 | 2.936 | 2.994 | 2.840 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.967 | 2.878 | 2.803 | 3.014 |
| Stddev | .006 | .019 | .003 | .001 |
| %RSD | .2056 | .6623 | .0978 | .0269 |
| #1 | 2.963 | 2.891 | 2.801 | 3.013 |
| #2 | 2.971 | 2.864 | 2.805 | 3.014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1243.9 | 33829. | 17121. |
| Stddev | 1.2 | 120. | 8. |
| %RSD | .09299 | .35352 | .04458 |
| #1 | 1243.1 | 33913. | 17116. |
| #2 | 1244.7 | 33744. | 17126. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 10/31/2013 18:19:50 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0053 | -.0008 | .0014 | .0021 | .0002 | .0001 | -.0015 | .0002 |
| Stddev | .000 | .0015 | .0002 | .0007 | .0002 | .0000 | .0000 | .0010 | .0000 |
| %RSD | 10190. | 27.44 | 30.46 | 51.51 | 8.917 | 26.70 | 53.49 | 67.43 | 3.393 |
| #1 | -.0002 | .0063 | -.0009 | .0009 | .0023 | .0002 | .0000 | -.0008 | .0002 |
| #2 | .0002 | .0043 | -.0006 | .0019 | .0020 | .0001 | .0001 | -.0022 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | -.0008 | .0011 | .0210 | .0190 | .0002 | .0029 | .0066 |
| Stddev | .0002 | .0004 | .0005 | .0007 | .0080 | .0199 | .0000 | .0005 | .0056 |
| %RSD | 69.97 | 339.8 | 63.01 | 62.21 | 38.18 | 104.9 | 5.153 | 16.14 | 84.27 |
| #1 | .0001 | .0002 | -.0012 | .0016 | .0153 | .0049 | .0002 | .0032 | .0027 |
| #2 | .0004 | -.0004 | -.0005 | .0006 | .0266 | .0330 | .0002 | .0026 | .0105 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | .0022 | .0060 | .0041 | .0006 | .0017 | -.0005 | .0002 |
| Stddev | .0001 | .0007 | .0005 | .0005 | .0004 | .0013 | .0021 | .0002 | .0001 |
| %RSD | 41.88 | 107.2 | 22.62 | 8.355 | 8.920 | 210.0 | 121.4 | 42.04 | 33.09 |
| #1 | .0002 | .0002 | .0025 | .0057 | .0039 | .0015 | .0002 | -.0006 | .0002 |
| #2 | .0001 | .0011 | .0018 | .0064 | .0044 | -.0003 | .0032 | -.0003 | .0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | F.0021 | .0005 | .0160 | .0008 | .0039 |
| Stddev | .0000 | .0002 | .0002 | .0002 | .0032 | .0001 | .0002 |
| %RSD | 14.26 | 46.66 | 8.444 | 35.71 | 20.24 | 10.71 | 4.543 |
| #1 | .0002 | .0006 | .0023 | .0004 | .0137 | .0007 | .0038 |
| #2 | .0001 | .0003 | .0020 | .0006 | .0183 | .0008 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.0 | 34483. | 16924. |
| Stddev | .6 | 17. | 19. |
| %RSD | .04473 | .04925 | .11102 |
| #1 | 1246.6 | 34471. | 16911. |
| #2 | 1247.4 | 34495. | 16938. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 18:32:29 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2462 | 9.625 | 1.861 | -.0066 | 1.884 | 1.914 | 1.996 | 9.746 | 1.925 | 1.943 |
| Stddev | .0008 | .030 | .001 | .0004 | .002 | .007 | .007 | .011 | .003 | .001 |
| %RSD | .3251 | .3075 | .0539 | 5.856 | .1157 | .3524 | .3375 | .1074 | .1366 | .0347 |
| #1 | .2457 | 9.646 | 1.860 | -.0068 | 1.883 | 1.919 | 2.001 | 9.753 | 1.923 | 1.943 |
| #2 | .2468 | 9.604 | 1.862 | -.0063 | 1.886 | 1.909 | 1.991 | 9.738 | 1.927 | 1.944 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.077 | 1.956 | 9.658 | 9.761 | 9.702 | 2.024 | 1.852 | 9.600 | 1.821 | 1.850 |
| Stddev | .012 | .001 | .010 | .039 | .034 | .003 | .004 | .019 | .002 | .002 |
| %RSD | .5853 | .0442 | .1055 | .3949 | .3473 | .1652 | .2089 | .2007 | .1209 | .1306 |
| #1 | 2.068 | 1.956 | 9.665 | 9.788 | 9.679 | 2.022 | 1.849 | 9.614 | 1.819 | 1.848 |
| #2 | 2.085 | 1.955 | 9.650 | 9.734 | 9.726 | 2.026 | 1.855 | 9.587 | 1.823 | 1.852 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | .0130 | -.0012 | 1.846 | 1.861 | -.0093 | 1.915 | 1.956 | 1.968 | 1.859 |
| Stddev | .0023 | .0073 | .0018 | .008 | .002 | .0001 | .004 | .008 | .001 | .001 |
| %RSD | 50.35 | 56.41 | 154.6 | .4139 | .0901 | 1.119 | .2080 | .4239 | .0648 | .0717 |
| #1 | .0029 | .0078 | -.0024 | 1.841 | 1.860 | -.0093 | 1.912 | 1.962 | 1.967 | 1.858 |
| #2 | .0061 | .0181 | .0001 | 1.852 | 1.862 | -.0092 | 1.918 | 1.951 | 1.969 | 1.860 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.981 | .0112 | 1.863 | .0105 |
| Stddev | .005 | .0028 | .004 | .0013 |
| %RSD | .2587 | 24.79 | .1859 | 12.38 |
| #1 | 1.977 | .0132 | 1.861 | .0114 |
| #2 | 1.985 | .0092 | 1.866 | .0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.2 | 33926. | 17140. |
| Stddev | .2 | 170. | 5. |
| %RSD | .01797 | .50237 | .03097 |
| #1 | 1262.4 | 34047. | 17136. |
| #2 | 1262.0 | 33806. | 17144. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 18:37:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0013 | -.0007 | .0001 | .0019 | .0003 | .0001 | -.0008 | .0002 |
| Stddev | .0001 | .0031 | .0014 | .0008 | .0009 | .0001 | .0000 | .0003 | .0001 |
| %RSD | 51.84 | 239.3 | 196.7 | 541.0 | 49.01 | 43.99 | 31.38 | 38.03 | 79.09 |
| #1 | -.0002 | .0009 | .0003 | .0007 | .0025 | .0002 | .0001 | -.0010 | .0003 |
| #2 | -.0001 | -.0035 | -.0016 | -.0004 | .0012 | .0003 | .0001 | -.0006 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | -.0009 | .0008 | .0170 | .0347 | .0002 | .0029 | .0047 |
| Stddev | .0001 | .0001 | .0002 | .0030 | .0180 | .0050 | .0001 | .0003 | .0032 |
| %RSD | 24.76 | 105.9 | 21.44 | 360.1 | 105.8 | 14.47 | 43.92 | 11.47 | 68.42 |
| #1 | .0002 | .0000 | -.0010 | -.0013 | .0297 | .0383 | .0001 | .0031 | .0070 |
| #2 | .0003 | -.0002 | -.0007 | .0030 | .0043 | .0312 | .0003 | .0026 | .0024 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .0016 | .0023 | .0021 | .0002 | .0009 | -.0007 | .0001 |
| Stddev | .0000 | .0001 | .0023 | .0041 | .0006 | .0003 | .0001 | .0005 | .0008 |
| %RSD | 5.886 | 15.61 | 146.5 | 176.6 | 26.93 | 179.9 | 13.10 | 73.81 | 898.7 |
| #1 | .0004 | .0004 | -.0001 | .0052 | .0025 | .0000 | .0010 | -.0004 | -.0005 |
| #2 | .0005 | .0003 | .0032 | -.0006 | .0017 | .0004 | .0008 | -.0011 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | F.0035 | .0005 | .0073 | .0010 | .0030 |
| Stddev | .0000 | .0004 | .0013 | .0006 | .0063 | .0002 | .0002 |
| %RSD | 1.859 | 90.38 | 38.05 | 107.9 | 85.78 | 20.17 | 6.089 |
| #1 | .0002 | .0006 | .0045 | .0009 | .0029 | .0008 | .0031 |
| #2 | .0002 | .0001 | .0026 | .0001 | .0117 | .0011 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.1 | 34517. | 16904. |
| Stddev | 2.0 | 108. | 192. |
| %RSD | .15623 | .31398 | 1.1384 |
| #1 | 1256.7 | 34593. | 17041. |
| #2 | 1259.5 | 34440. | 16768. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 18:47:40 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .1966 | F.0057 | .0004 | .0991 | .0505 | .0043 | 5.025 | .0042 |
| Stddev | .0006 | .0008 | .0002 | .0001 | .0000 | .0002 | .0001 | .022 | .0001 |
| %RSD | 12.38 | .4273 | 4.349 | 23.41 | .0173 | .3190 | 1.451 | .4359 | 1.716 |
| #1 | .0056 | .1972 | .0059 | .0003 | .0991 | .0504 | .0043 | 5.009 | .0042 |
| #2 | .0047 | .1960 | .0055 | .0005 | .0991 | .0507 | .0044 | 5.040 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0511 | .0107 | .0240 | .1005 | 4.988 | 4.954 | .0160 | .0978 | 4.873 |
| Stddev | .0002 | .0002 | .0000 | .0011 | .031 | .029 | .0001 | .0001 | .017 |
| %RSD | .3948 | 1.553 | .1880 | 1.099 | .6244 | .5907 | .5115 | .1392 | .3422 |
| #1 | .0510 | .0108 | .0240 | .0998 | 4.966 | 4.974 | .0161 | .0979 | 4.885 |
| #2 | .0513 | .0106 | .0240 | .1013 | 5.010 | 4.933 | .0160 | .0977 | 4.861 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0385 | .0043 | -.0009 | .0019 | .0004 | .0062 | .0111 | .0044 | .0983 |
| Stddev | .0001 | .0007 | .0010 | .0038 | .0002 | .0006 | .0005 | .0003 | .0002 |
| %RSD | .1786 | 16.22 | 107.4 | 195.0 | 58.35 | 9.458 | 4.157 | 5.703 | .1825 |
| #1 | .0385 | .0038 | -.0002 | .0046 | .0002 | .0066 | .0115 | .0046 | .0981 |
| #2 | .0384 | .0048 | -.0016 | -.0007 | .0006 | .0058 | .0108 | .0042 | .0984 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0509 | F.0068 | .0109 | .0046 | .0203 | .0031 |
| Stddev | .0000 | .0002 | .0004 | .0002 | .0009 | .0001 | .0001 |
| %RSD | .2058 | .4384 | 5.156 | 2.284 | 19.97 | .2820 | 2.610 |
| #1 | .0102 | .0511 | .0070 | .0111 | .0053 | .0203 | .0031 |
| #2 | .0102 | .0507 | .0065 | .0107 | .0040 | .0204 | .0032 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.7 | 34255. | 16902. |
| Stddev | 2.1 | 30. | 66. |
| %RSD | .16678 | .08736 | .38797 |
| #1 | 1262.3 | 34234. | 16949. |
| #2 | 1265.2 | 34276. | 16856. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/31/2013 18:59:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 517.2 | -.0008 | .0114 | .0015 | -.0002 | .0001 | 455.7 | -.0001 | .0011 |
| Stddev | .0005 | 12.0 | .0002 | .0017 | .0001 | .0002 | .0000 | 2.9 | .0002 | .0003 |
| %RSD | 410.2 | 2.316 | 20.34 | 14.64 | 3.641 | 116.5 | 16.60 | .6273 | 368.1 | 31.28 |
| #1 | -.0002 | 525.7 | -.0009 | .0102 | .0015 | -.0003 | .0001 | 457.7 | .0001 | .0013 |
| #2 | .0005 | 508.7 | -.0006 | .0126 | .0015 | .0000 | .0000 | 453.7 | -.0002 | .0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0001 | 175.5 | .0724 | 515.9 | .0004 | -.0010 | .0240 | .0009 | -.0003 |
| Stddev | .0006 | .0005 | .7 | .0135 | 2.5 | .0001 | .0001 | .0092 | .0002 | .0014 |
| %RSD | 702.5 | 699.0 | .3761 | 18.60 | .4837 | 14.51 | 10.77 | 38.42 | 22.72 | 403.1 |
| #1 | -.0004 | .0003 | 176.0 | .0819 | 517.6 | .0004 | -.0009 | .0175 | .0007 | .0006 |
| #2 | .0005 | -.0005 | 175.1 | .0629 | 514.1 | .0004 | -.0011 | .0305 | .0010 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0114 | .0917 | .0000 | .0002 | .0314 | .0013 | -.0083 | .0059 | -.0022 |
| Stddev | .0009 | .0068 | .0033 | .000 | .0028 | .0008 | .0014 | .0000 | .0001 | .0003 |
| %RSD | 16.82 | 59.24 | 3.549 | 700.1 | 1413. | 2.667 | 101.3 | .1637 | 2.219 | 14.87 |
| #1 | -.0048 | -.0067 | .0940 | -.0002 | -.0018 | .0319 | .0004 | -.0083 | .0060 | -.0019 |
| #2 | -.0060 | -.0162 | .0894 | .0002 | .0022 | .0308 | .0023 | -.0083 | .0058 | -.0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0119 | -.0078 | -.0008 | .0139 |
| Stddev | .0004 | .0026 | .0003 | .0000 |
| %RSD | 3.531 | 32.82 | 37.00 | .2049 |
| #1 | .0116 | -.0060 | -.0006 | .0139 |
| #2 | .0122 | -.0096 | -.0010 | .0139 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1180.6 | 30676. | 16631. |
| Stddev | 2.3 | 31. | 70. |
| %RSD | .19495 | .10136 | .42061 |
| #1 | 1179.0 | 30654. | 16581. |
| #2 | 1182.2 | 30698. | 16680. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/31/2013 19:04:22 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.078 | 517.5 | 1.966 | .5244 | .9183 | .4810 | .4705 | 456.9 | .9869 |
| Stddev | .004 | 3.2 | .003 | .0002 | .0013 | .0003 | .0013 | .3 | .0016 |
| %RSD | .4003 | .6219 | .1609 | .0402 | .1448 | .0579 | .2837 | .0621 | .1608 |
| #1 | 1.081 | 515.2 | 1.964 | .5245 | .9174 | .4812 | .4696 | 456.7 | .9858 |
| #2 | 1.075 | 519.8 | 1.969 | .5242 | .9193 | .4808 | .4715 | 457.1 | .9880 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4431 | .5501 | .5536 | 175.6 | .0503 | 518.0 | .5320 | .8854 | .0201 |
| Stddev | .0004 | .0007 | .0030 | .3 | .0125 | .5 | .0015 | .0018 | .0015 |
| %RSD | .1003 | .1294 | .5344 | .1871 | 24.76 | .0992 | .2884 | .2086 | 7.549 |
| #1 | .4428 | .5496 | .5556 | 175.4 | .0415 | 517.6 | .5331 | .8841 | .0190 |
| #2 | .4434 | .5506 | .5515 | 175.8 | .0591 | 518.3 | .5309 | .8868 | .0212 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F.7906 | .8339 | .5475 | .4961 | .5543 | 1.859 | 1.848 | 1.977 | .9171 |
| Stddev | .0012 | .0015 | .0029 | .0122 | .0061 | .002 | .005 | .002 | .0003 |
| %RSD | .1495 | .1777 | .5288 | 2.465 | 1.097 | .1143 | .2696 | .1087 | .0334 |
| #1 | .7898 | .8329 | .5495 | .5048 | .5500 | 1.858 | 1.845 | 1.975 | .9173 |
| #2 | .7914 | .8350 | .5454 | .4875 | .5586 | 1.861 | 1.852 | 1.979 | .9169 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .9415 | .5416 | 1.686 | .5440 | 1.992 | .8486 | .4271 |
| Stddev | .0001 | .0025 | .000 | .0008 | .014 | .0028 | .0020 |
| %RSD | .0119 | .4705 | .0215 | .1421 | .7159 | .3336 | .4792 |
| #1 | .9416 | .5434 | 1.686 | .5446 | 2.002 | .8466 | .4256 |
| #2 | .9414 | .5398 | 1.686 | .5435 | 1.982 | .8506 | .4285 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1181.1 | 30670. | 16578. |
| Stddev | 2.1 | 101. | 43. |
| %RSD | .17840 | .32951 | .26093 |
| #1 | 1182.6 | 30598. | 16609. |
| #2 | 1179.6 | 30741. | 16548. |

Zoom In Zoom Out

Sample Name: MP21920-B1 Acquired: 10/31/2013 19:09:13 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2005 | 2.185 | .5232 | -.0008 | .0059 | 1.960 | .5304 | 25.59 | .5203 | .5013 |
| Stddev | .0002 | .005 | .0078 | .0029 | .0015 | .003 | .0004 | .03 | .0001 | .0001 |
| %RSD | .0825 | .2395 | 1.487 | 383.2 | 24.90 | .1705 | .0794 | .1083 | .0174 | .0254 |
| #1 | .2006 | 2.188 | .5287 | .0013 | .0069 | 1.958 | .5307 | 25.61 | .5203 | .5012 |
| #2 | .2004 | 2.181 | .5177 | -.0028 | .0049 | 1.963 | .5301 | 25.57 | .5204 | .5014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5659 | .4995 | 2.077 | 25.67 | 25.93 | .5402 | .0081 | 24.66 | .4655 | .9664 |
| Stddev | .0021 | .0025 | .023 | .27 | .06 | .0028 | .0016 | .01 | .0001 | .0061 |
| %RSD | .3672 | .5001 | 1.114 | 1.059 | .2441 | .5233 | 19.89 | .0374 | .0309 | .6286 |
| #1 | .5673 | .5013 | 2.093 | 25.48 | 25.98 | .5382 | .0092 | 24.66 | .4656 | .9621 |
| #2 | .5644 | .4978 | 2.060 | 25.86 | 25.89 | .5422 | .0069 | 24.67 | .4654 | .9707 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0492 | .0104 | .4832 | .4868 | .0114 | -.0016 | .4951 | .5038 | .4934 |
| Stddev | .0055 | .0386 | .0043 | .0032 | .0020 | .0013 | .0008 | .0010 | .0048 | .0006 |
| %RSD | 577.6 | 78.45 | 40.99 | .6566 | .4148 | 11.40 | 49.94 | .2012 | .9522 | .1316 |
| #1 | .0030 | .0764 | .0134 | .4810 | .4854 | .0123 | -.0022 | .4944 | .5004 | .4938 |
| #2 | -.0049 | .0219 | .0074 | .4854 | .4882 | .0105 | -.0011 | .4958 | .5071 | .4929 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5272 | .0939 | .5144 | .1349 |
| Stddev | .0029 | .0573 | .0008 | .0037 |
| %RSD | .5476 | 60.98 | .1573 | 2.755 |
| #1 | .5252 | .0534 | .5150 | .1375 |
| #2 | .5293 | .1344 | .5138 | .1323 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1272.1 | 34117. | 16921. |
| Stddev | 1.4 | 140. | 59. |
| %RSD | .11220 | .41080 | .35158 |
| #1 | 1273.1 | 34216. | 16878. |
| #2 | 1271.1 | 34017. | 16963. |



Zoom In Zoom Out

Sample Name: MP21920-S1 Acquired: 10/31/2013 19:14:03 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2062 | 2.101 | .7636 | -.0134 | .2900 | 2.026 | .5389 | 85.42 | .5254 | .5211 |
| Stddev | .0006 | .014 | .0028 | .0019 | .0005 | .004 | .0033 | .11 | .0012 | .0008 |
| %RSD | .2782 | .6641 | .3716 | 14.09 | .1730 | .2110 | .6166 | .1287 | .2247 | .1576 |
| #1 | .2066 | 2.091 | .7616 | -.0121 | .2904 | 2.023 | .5365 | 85.50 | .5262 | .5217 |
| #2 | .2058 | 2.111 | .7656 | -.0148 | .2897 | 2.029 | .5412 | 85.34 | .5245 | .5205 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5732 | .5089 | 45.19 | 34.82 | 35.83 | 4.019 | .0030 | 52.38 | .4705 | .9674 |
| Stddev | .0038 | .0007 | .09 | .29 | .24 | .018 | .0004 | .05 | .0000 | .0001 |
| %RSD | .6603 | .1423 | .1954 | .8242 | .6571 | .4366 | 14.57 | .0902 | .0028 | .0130 |
| #1 | .5759 | .5094 | 45.13 | 34.62 | 35.66 | 4.031 | .0033 | 52.35 | .4705 | .9673 |
| #2 | .5705 | .5084 | 45.25 | 35.03 | 35.99 | 4.006 | .0027 | 52.42 | .4705 | .9674 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0174 | .0326 | 1.026 | .4881 | .4942 | 7.460 | -.0021 | .9879 | .5053 | .5029 |
| Stddev | .0088 | .0268 | .000 | .0047 | .0004 | .014 | .0038 | .0049 | .0070 | .0002 |
| %RSD | 50.70 | 82.43 | .0116 | .9637 | .0782 | .1917 | 183.7 | .4955 | 1.387 | .0483 |
| #1 | .0236 | .0136 | 1.026 | .4848 | .4945 | 7.470 | -.0048 | .9844 | .5102 | .5031 |
| #2 | .0111 | .0515 | 1.026 | .4915 | .4939 | 7.450 | .0006 | .9913 | .5003 | .5028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5405 | .0426 | .5251 | .0165 |
| Stddev | .0029 | .0360 | .0014 | .0010 |
| %RSD | .5392 | 84.61 | .2722 | 5.766 |
| #1 | .5425 | .0681 | .5261 | .0172 |
| #2 | .5384 | .0171 | .5241 | .0159 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1259.3 | 33868. | 16975. |
| Stddev | .5 | 167. | 28. |
| %RSD | .04049 | .49377 | .16357 |
| #1 | 1258.9 | 33750. | 16995. |
| #2 | 1259.6 | 33987. | 16956. |



Zoom In Zoom Out

Sample Name: MP21920-S2 Acquired: 10/31/2013 19:18:52 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2057 | 2.143 | .7551 | -.0159 | .2871 | 2.047 | .5371 | 86.08 | .5263 | .5210 |
| Stddev | .0020 | .013 | .0054 | .0071 | .0002 | .011 | .0025 | .00 | .0026 | .0004 |
| %RSD | .9500 | .5822 | .7187 | 44.90 | .0835 | .5465 | .4627 | .0020 | .4879 | .0768 |
| #1 | .2044 | 2.152 | .7589 | -.0209 | .2873 | 2.039 | .5353 | 86.08 | .5281 | .5212 |
| #2 | .2071 | 2.134 | .7513 | -.0108 | .2870 | 2.055 | .5388 | 86.08 | .5245 | .5207 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5778 | .5062 | 45.20 | 35.06 | 36.06 | 3.997 | .0021 | 52.49 | .4681 | .9782 |
| Stddev | .0003 | .0033 | .03 | .21 | .01 | .009 | .0014 | .13 | .0040 | .0025 |
| %RSD | .0448 | .6481 | .0562 | .5920 | .0198 | .2223 | 65.95 | .2470 | .8639 | .2509 |
| #1 | .5776 | .5039 | 45.22 | 34.91 | 36.07 | 3.991 | .0030 | 52.40 | .4710 | .9799 |
| #2 | .5780 | .5085 | 45.18 | 35.20 | 36.06 | 4.003 | .0011 | 52.58 | .4653 | .9764 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0108 | .0751 | 1.037 | .4940 | .4965 | 7.432 | -.0037 | .9893 | .5082 | .4989 |
| Stddev | .0021 | .0033 | .021 | .0059 | .0080 | .015 | .0002 | .0049 | .0012 | .0040 |
| %RSD | 19.10 | 4.418 | 2.055 | 1.197 | 1.608 | .1985 | 4.708 | .4915 | .2444 | .8023 |
| #1 | .0123 | .0728 | 1.052 | .4982 | .4909 | 7.443 | -.0039 | .9858 | .5090 | .5017 |
| #2 | .0093 | .0775 | 1.022 | .4898 | .5022 | 7.422 | -.0036 | .9927 | .5073 | .4961 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5378 | .0666 | .5395 | -.0012 |
| Stddev | .0023 | .0151 | .0042 | .0011 |
| %RSD | .4342 | 22.74 | .7867 | 89.21 |
| #1 | .5361 | .0773 | .5425 | -.0020 |
| #2 | .5394 | .0559 | .5365 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.5 | 33877. | 16853. |
| Stddev | 5.4 | 112. | 56. |
| %RSD | .43118 | .33186 | .33062 |
| #1 | 1254.7 | 33956. | 16813. |
| #2 | 1262.4 | 33797. | 16892. |



Zoom In Zoom Out

Sample Name: MC25568-11F Acquired: 10/31/2013 19:23:42 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0377 | .2296 | -.0140 | .2858 | .0451 | -.0003 | 60.89 | -.0003 | .0136 |
| Stddev | .0003 | .0234 | .0001 | .0030 | .0001 | .0004 | .0000 | .26 | .0002 | .0008 |
| %RSD | 16.95 | 62.04 | .0651 | 21.57 | .0419 | .8961 | 14.50 | .4237 | 92.21 | 5.540 |
| #1 | .0015 | .0543 | .2297 | -.0162 | .2858 | .0454 | -.0003 | 61.07 | -.0004 | .0130 |
| #2 | .0019 | .0212 | .2295 | -.0119 | .2857 | .0448 | -.0003 | 60.71 | -.0001 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0054 | 43.24 | 9.024 | 9.762 | 3.457 | .0016 | 27.47 | .0038 | .0007 |
| Stddev | .0054 | .0017 | .20 | .017 | .149 | .000 | .0008 | .05 | .0014 | .0027 |
| %RSD | 127.6 | 32.51 | .4617 | .1899 | 1.531 | .0024 | 49.01 | .1667 | 36.41 | 358.8 |
| #1 | -.0004 | -.0066 | 43.38 | 9.037 | 9.657 | 3.457 | .0022 | 27.51 | .0029 | .0026 |
| #2 | -.0080 | -.0041 | 43.10 | 9.012 | 9.868 | 3.457 | .0011 | 27.44 | .0048 | -.0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0168 | .0459 | 1.027 | .0009 | .0150 | 7.377 | -.0006 | .4909 | -.0018 | .0054 |
| Stddev | .0021 | .0352 | .003 | .0040 | .0031 | .007 | .0015 | .0015 | .0019 | .0019 |
| %RSD | 12.35 | 76.61 | .2995 | 459.9 | 20.56 | .1020 | 250.4 | .3089 | 102.5 | 35.99 |
| #1 | .0182 | .0210 | 1.029 | -.0020 | .0128 | 7.382 | .0004 | .4920 | -.0031 | .0067 |
| #2 | .0153 | .0708 | 1.025 | .0037 | .0172 | 7.372 | -.0016 | .4898 | -.0005 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0064 | .0395 | .0151 | -.0168 |
| Stddev | .0018 | .0076 | .0007 | .0013 |
| %RSD | 27.65 | 19.39 | 4.758 | 7.482 |
| #1 | .0076 | .0340 | .0157 | -.0159 |
| #2 | .0051 | .0449 | .0146 | -.0177 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.8 | 33891. | 16771. |
| Stddev | 1.5 | 99. | 47. |
| %RSD | .12056 | .29248 | .27937 |
| #1 | 1264.7 | 33821. | 16738. |
| #2 | 1266.9 | 33961. | 16804. |

Zoom In Zoom Out

Sample Name: MP21920-SD1 Acquired: 10/31/2013 19:28:36 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0058 | -.0253 | .2508 | -.0146 | .2953 | .0486 | -.0012 | 63.93 | -.0025 | .0160 |
| Stddev | .0124 | .0265 | .0167 | .0212 | .0006 | .0013 | .0007 | .13 | .0004 | .0012 |
| %RSD | 214.5 | 104.8 | 6.663 | 145.3 | .2055 | 2.687 | 54.70 | .2055 | 16.32 | 7.546 |
| #1 | .0030 | -.0440 | .2626 | -.0296 | .2957 | .0477 | -.0017 | 64.02 | -.0028 | .0169 |
| #2 | -.0146 | -.0065 | .2390 | .0004 | .2948 | .0495 | -.0007 | 63.84 | -.0023 | .0152 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0232 | -.0272 | 44.97 | 9.863 | 10.63 | 3.578 | .0012 | 28.46 | .0023 | -.0344 |
| Stddev | .0044 | .0065 | .16 | .818 | .01 | .000 | .0015 | .14 | .0021 | .0092 |
| %RSD | 19.20 | 23.74 | .3656 | 8.292 | .1241 | .0116 | 131.6 | .4776 | 94.62 | 26.67 |
| #1 | -.0263 | -.0226 | 45.09 | 9.285 | 10.64 | 3.578 | .0022 | 28.36 | .0038 | -.0279 |
| #2 | -.0200 | -.0317 | 44.86 | 10.44 | 10.62 | 3.579 | .0001 | 28.55 | .0008 | -.0409 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0070 | -.0024 | 1.083 | .0005 | .0055 | 7.483 | .0046 | .5094 | .0032 | .0500 |
| Stddev | .1001 | .0459 | .032 | .0087 | .0050 | .001 | .0053 | .0044 | .0040 | .0063 |
| %RSD | 1424. | 1935. | 2.927 | 1867. | 90.62 | .0107 | 115.6 | .8616 | 127.8 | 12.67 |
| #1 | -.0778 | .0301 | 1.061 | .0066 | .0020 | 7.484 | .0008 | .5063 | .0060 | .0544 |
| #2 | .0637 | -.0348 | 1.106 | -.0057 | .0090 | 7.483 | .0083 | .5125 | .0003 | .0455 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0097 | .1182 | .0944 | .0553 |
| Stddev | .0082 | .0389 | .0001 | .0114 |
| %RSD | 84.05 | 32.92 | .0865 | 20.58 |
| #1 | .0039 | .0907 | .0943 | .0473 |
| #2 | .0155 | .1457 | .0944 | .0634 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.0 | 34197. | 16647. |
| Stddev | 1.7 | 49. | 142. |
| %RSD | .13509 | .14413 | .85006 |
| #1 | 1271.2 | 34232. | 16547. |
| #2 | 1268.8 | 34162. | 16747. |



Zoom In Zoom Out

Sample Name: MP21920-S3 Acquired: 10/31/2013 19:33:30 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2048 | 2.107 | .6316 | -.0095 | .0312 | 2.012 | .5400 | 43.03 | .5248 | .5084 |
| Stddev | .0022 | .028 | .0073 | .0031 | .0032 | .005 | .0007 | .09 | .0012 | .0016 |
| %RSD | 1.097 | 1.311 | 1.160 | 32.80 | 10.19 | .2534 | .1211 | .2195 | .2329 | .3142 |
| #1 | .2032 | 2.126 | .6367 | -.0073 | .0289 | 2.016 | .5396 | 43.10 | .5239 | .5073 |
| #2 | .2063 | 2.087 | .6264 | -.0117 | .0334 | 2.009 | .5405 | 42.96 | .5256 | .5096 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5901 | .5054 | 12.23 | 29.19 | 28.20 | 1.846 | .0026 | 86.75 | .4679 | .9690 |
| Stddev | .0012 | .0008 | .12 | .11 | .10 | .002 | .0006 | .01 | .0022 | .0018 |
| %RSD | .1979 | .1583 | .9539 | .3726 | .3441 | .1307 | 21.87 | .0126 | .4612 | .1825 |
| #1 | .5909 | .5060 | 12.15 | 29.11 | 28.13 | 1.848 | .0029 | 86.74 | .4695 | .9703 |
| #2 | .5892 | .5048 | 12.31 | 29.27 | 28.27 | 1.844 | .0022 | 86.76 | .4664 | .9678 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0206 | 1.292 | .4846 | .4927 | 5.134 | -.0012 | .6124 | .5061 | .5009 |
| Stddev | .0031 | .0223 | .001 | .0033 | .0048 | .003 | .0009 | .0014 | .0075 | .0008 |
| %RSD | 112.2 | 108.1 | .0482 | .6810 | .9841 | .0614 | 81.23 | .2259 | 1.476 | .1678 |
| #1 | -.0050 | .0048 | 1.292 | .4822 | .4893 | 5.131 | -.0005 | .6134 | .5114 | .5015 |
| #2 | -.0006 | .0363 | 1.291 | .4869 | .4962 | 5.136 | -.0018 | .6114 | .5008 | .5003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5375 | .0181 | .5401 | .0022 |
| Stddev | .0017 | .0138 | .0002 | .0017 |
| %RSD | .3237 | 75.98 | .0438 | 79.64 |
| #1 | .5362 | .0084 | .5403 | .0009 |
| #2 | .5387 | .0279 | .5399 | .0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1266.4 | 33915. | 16799. |
| Stddev | 2.6 | 64. | 54. |
| %RSD | .20260 | .18749 | .32042 |
| #1 | 1268.2 | 33960. | 16837. |
| #2 | 1264.5 | 33870. | 16760. |



Zoom In Zoom Out

Sample Name: MP21920-S4 Acquired: 10/31/2013 19:38:18 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2087 | 2.142 | .6386 | -.0023 | .0293 | 2.042 | .5421 | 43.36 | .5251 | .5094 |
| Stddev | .0003 | .034 | .0062 | .0031 | .0006 | .016 | .0014 | .13 | .0017 | .0007 |
| %RSD | .1258 | 1.574 | .9641 | 133.8 | 1.999 | .8005 | .2594 | .3027 | .3236 | .1426 |
| #1 | .2089 | 2.166 | .6429 | -.0045 | .0297 | 2.054 | .5431 | 43.45 | .5263 | .5099 |
| #2 | .2085 | 2.118 | .6342 | -.0001 | .0288 | 2.031 | .5411 | 43.26 | .5239 | .5088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5867 | .5098 | 12.24 | 29.54 | 28.34 | 1.834 | .0013 | 87.02 | .4669 | .9710 |
| Stddev | .0008 | .0001 | .03 | .06 | .37 | .004 | .0008 | .50 | .0006 | .0030 |
| %RSD | .1359 | .0113 | .2654 | .2103 | 1.292 | .2096 | 62.93 | .5793 | .1233 | .3131 |
| #1 | .5862 | .5097 | 12.27 | 29.59 | 28.60 | 1.831 | .0007 | 87.37 | .4673 | .9732 |
| #2 | .5873 | .5098 | 12.22 | 29.50 | 28.08 | 1.837 | .0019 | 86.66 | .4665 | .9689 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0066 | .0580 | 1.261 | .4807 | .4938 | 5.069 | -.0010 | .6178 | .5106 | .4981 |
| Stddev | .0108 | .0075 | .002 | .0046 | .0024 | .003 | .0042 | .0040 | .0042 | .0005 |
| %RSD | 162.8 | 12.91 | .1257 | .9650 | .4877 | .0566 | 422.1 | .6408 | .8242 | .1047 |
| #1 | .0143 | .0527 | 1.262 | .4839 | .4955 | 5.071 | .0020 | .6206 | .5136 | .4985 |
| #2 | -.0010 | .0633 | 1.260 | .4774 | .4921 | 5.067 | -.0039 | .6150 | .5077 | .4977 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5400 | .0083 | .5418 | .0007 |
| Stddev | .0034 | .0603 | .0003 | .0004 |
| %RSD | .6387 | 726.1 | .0582 | 53.50 |
| #1 | .5376 | -.0343 | .5415 | .0004 |
| #2 | .5425 | .0509 | .5420 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.2 | 33936. | 16763. |
| Stddev | .4 | 91. | 4. |
| %RSD | .03346 | .26728 | .02158 |
| #1 | 1269.9 | 34000. | 16761. |
| #2 | 1270.5 | 33872. | 16766. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 19:43:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2497 | 9.573 | 1.850 | -.0072 | 1.876 | 1.902 | 2.034 | 9.831 | 1.914 |
| Stddev | .0025 | .038 | .001 | .0000 | .002 | .004 | .011 | .092 | .001 |
| %RSD | 1.011 | .3925 | .0344 | .2928 | .0850 | .2313 | .5420 | .9366 | .0708 |
| #1 | .2479 | 9.600 | 1.851 | -.0071 | 1.875 | 1.905 | 2.042 | 9.896 | 1.913 |
| #2 | .2514 | 9.546 | 1.850 | -.0072 | 1.877 | 1.899 | 2.026 | 9.766 | 1.915 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.929 | 2.186 | 1.984 | 9.579 | 9.750 | 9.935 | 2.099 | 1.831 | 9.499 |
| Stddev | .000 | .011 | .009 | .065 | .020 | .091 | .015 | .002 | .009 |
| %RSD | .0106 | .5071 | .4320 | .6788 | .2006 | .9130 | .6886 | .1332 | .0940 |
| #1 | 1.929 | 2.179 | 1.978 | 9.625 | 9.764 | 10.000 | 2.089 | 1.829 | 9.505 |
| #2 | 1.929 | 2.194 | 1.990 | 9.533 | 9.736 | 9.871 | 2.109 | 1.832 | 9.492 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.782 | 1.824 | .0051 | .0112 | -.0029 | 1.812 | 1.834 | -.0141 | 1.925 |
| Stddev | .001 | .001 | .0006 | .0033 | .0011 | .002 | .005 | .0002 | .002 |
| %RSD | .0262 | .0422 | 11.34 | 29.03 | 38.56 | .1056 | .2483 | 1.641 | .1268 |
| #1 | 1.782 | 1.825 | .0047 | .0135 | -.0021 | 1.810 | 1.831 | -.0140 | 1.926 |
| #2 | 1.783 | 1.824 | .0055 | .0089 | -.0036 | 1.813 | 1.837 | -.0143 | 1.923 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.971 | 1.981 | 1.851 | 2.021 | .0054 | 1.857 | .0105 |
| Stddev | .004 | .004 | .002 | .009 | .0060 | .003 | .0010 |
| %RSD | .2245 | .2004 | .1006 | .4225 | 111.8 | .1416 | 9.623 |
| #1 | 1.974 | 1.978 | 1.850 | 2.015 | .0097 | 1.855 | .0112 |
| #2 | 1.967 | 1.984 | 1.853 | 2.027 | .0011 | 1.859 | .0098 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1280.3 | 33092. | 16847. |
| Stddev | 1.6 | 210. | 143. |
| %RSD | .12607 | .63338 | .84872 |
| #1 | 1279.2 | 33241. | 16746. |
| #2 | 1281.5 | 32944. | 16948. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 19:47:51 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0036 | .0009 | .0008 | .0013 | .0003 | .0000 | .0171 | .0002 |
| Stddev | .0004 | .0022 | .0008 | .0004 | .0005 | .0000 | .0000 | .0024 | .0000 |
| %RSD | 517.4 | 61.99 | 90.13 | 51.49 | 38.61 | 1.699 | 54.86 | 13.94 | 17.67 |
| #1 | -.0002 | .0020 | .0003 | .0005 | .0017 | .0003 | .0000 | .0154 | .0002 |
| #2 | .0004 | .0051 | .0015 | .0011 | .0010 | .0003 | .0001 | .0188 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0001 | -.0012 | .0038 | .0193 | -.0017 | .0003 | .0024 | .0080 |
| Stddev | .0000 | .0000 | .0000 | .0000 | .0046 | .0033 | .0001 | .0004 | .0025 |
| %RSD | 173.6 | 34.90 | 1.447 | .5374 | 23.99 | 195.0 | 33.60 | 16.43 | 31.28 |
| #1 | .0000 | .0001 | -.0012 | .0037 | .0160 | -.0040 | .0002 | .0026 | .0062 |
| #2 | .0000 | .0001 | -.0012 | .0038 | .0226 | .0006 | .0003 | .0021 | .0098 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0009 | .0015 | .0023 | .0048 | .0005 | .0008 | -.0030 | -.0002 |
| Stddev | .0000 | .0006 | .0009 | .0048 | .0005 | .0008 | .0006 | .0002 | .0002 |
| %RSD | 34.71 | 64.25 | 57.26 | 209.8 | 10.88 | 153.9 | 70.96 | 5.246 | 108.8 |
| #1 | .0002 | -.0005 | .0021 | .0057 | .0045 | .0000 | .0012 | -.0029 | -.0003 |
| #2 | .0001 | -.0013 | .0009 | -.0011 | .0052 | .0011 | .0004 | -.0031 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | F.0032 | .0005 | .0032 | F.0037 | .0045 |
| Stddev | .0000 | .0002 | .0007 | .0001 | .0031 | .0002 | .0004 |
| %RSD | 14.17 | 55.29 | 20.78 | 11.14 | 97.95 | 4.926 | 8.959 |
| #1 | .0002 | .0006 | .0037 | .0005 | .0054 | .0036 | .0042 |
| #2 | .0002 | .0003 | .0028 | .0006 | .0010 | .0039 | .0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.7 | 33941. | 16626. |
| Stddev | 1.5 | 21. | 53. |
| %RSD | .11871 | .06313 | .31715 |
| #1 | 1269.8 | 33956. | 16589. |
| #2 | 1267.6 | 33926. | 16663. |



Zoom In Zoom Out

Sample Name: MC25594-1F Acquired: 10/31/2013 19:52:48 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0058 | .1071 | -.0033 | .0310 | .0175 | .0000 | 18.30 | -.0006 | .0018 |
| Stddev | .0015 | .0142 | .0088 | .0041 | .0003 | .0002 | .000 | .14 | .0014 | .0001 |
| %RSD | 143.5 | 243.5 | 8.219 | 121.6 | 1.124 | 1.212 | 447.0 | .7506 | 223.6 | 6.272 |
| #1 | -.0022 | -.0159 | .1134 | -.0062 | .0313 | .0174 | .0001 | 18.20 | -.0016 | .0017 |
| #2 | .0000 | .0042 | .1009 | -.0005 | .0308 | .0177 | -.0002 | 18.39 | .0004 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0059 | 10.17 | 3.247 | 1.929 | 1.299 | .0052 | 61.85 | .0015 | -.0027 |
| Stddev | .0018 | .0022 | .02 | .072 | .008 | .001 | .0004 | .29 | .0010 | .0033 |
| %RSD | 77.67 | 36.70 | .2319 | 2.204 | .4131 | .0585 | 8.282 | .4759 | 67.90 | 124.4 |
| #1 | -.0011 | -.0043 | 10.18 | 3.298 | 1.923 | 1.300 | .0055 | 61.64 | .0008 | -.0050 |
| #2 | -.0036 | -.0074 | 10.15 | 3.197 | 1.934 | 1.299 | .0049 | 62.06 | .0022 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0067 | .0171 | 1.278 | .0042 | .0065 | 5.087 | -.0012 | .1117 | -.0037 | .0070 |
| Stddev | .0084 | .0365 | .010 | .0042 | .0014 | .002 | .0002 | .0005 | .0049 | .0037 |
| %RSD | 125.2 | 213.3 | .7878 | 98.62 | 21.01 | .0326 | 19.88 | .4104 | 132.2 | 52.46 |
| #1 | .0008 | -.0087 | 1.271 | .0013 | .0056 | 5.086 | -.0010 | .1113 | -.0002 | .0044 |
| #2 | .0126 | .0430 | 1.285 | .0071 | .0075 | 5.088 | -.0013 | .1120 | -.0072 | .0096 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0019 | .0286 | .0981 | -.0073 |
| Stddev | .0018 | .0315 | .0005 | .0010 |
| %RSD | 95.82 | 110.2 | .4909 | 13.67 |
| #1 | .0006 | .0063 | .0985 | -.0080 |
| #2 | .0031 | .0509 | .0978 | -.0066 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.4 | 33889. | 16718. |
| Stddev | 2.2 | 75. | 17. |
| %RSD | .17597 | .22063 | .10079 |
| #1 | 1270.0 | 33942. | 16706. |
| #2 | 1266.9 | 33836. | 16730. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 19:57:42 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0883 | .0568 | -.0268 | .1837 | .0109 | -.0001 | 108.3 | -.0004 | .0014 |
| Stddev | .0009 | .0181 | .0004 | .0055 | .0007 | .0002 | .0000 | .5 | .0002 | .0000 |
| %RSD | 1126. | 20.49 | .7443 | 20.64 | .3726 | 2.199 | 8.489 | .4772 | 48.50 | 2.477 |
| #1 | -.0007 | -.1011 | .0565 | -.0229 | .1833 | .0110 | -.0001 | 108.7 | -.0002 | .0014 |
| #2 | .0006 | -.0755 | .0571 | -.0308 | .1842 | .0107 | -.0001 | 107.9 | -.0005 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0032 | .6274 | 4.889 | 13.89 | 9.809 | .0026 | 26.66 | .0128 | -.0049 |
| Stddev | .0007 | .0014 | .0063 | .075 | .02 | .003 | .0002 | .06 | .0003 | .0029 |
| %RSD | 50.63 | 42.83 | 1.009 | 1.543 | .1359 | .0336 | 8.369 | .2378 | 2.350 | 59.06 |
| #1 | -.0018 | -.0042 | .6319 | 4.942 | 13.91 | 9.807 | .0025 | 26.62 | .0130 | -.0029 |
| #2 | -.0009 | -.0022 | .6230 | 4.835 | 13.88 | 9.812 | .0028 | 26.71 | .0126 | -.0070 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0076 | .0742 | 2.059 | .0035 | .0074 | 9.436 | -.0008 | .5764 | .0001 | .0054 |
| Stddev | .0018 | .0061 | .002 | .0023 | .0022 | .028 | .0014 | .0012 | .0018 | .0013 |
| %RSD | 23.10 | 8.253 | .0822 | 65.45 | 29.85 | .2977 | 183.6 | .2142 | 1770. | 24.10 |
| #1 | -.0064 | .0785 | 2.058 | .0019 | .0059 | 9.416 | .0002 | .5756 | -.0012 | .0045 |
| #2 | -.0089 | .0698 | 2.061 | .0052 | .0090 | 9.456 | -.0018 | .5773 | .0014 | .0064 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0191 | .0237 | -.0388 |
| Stddev | .0005 | .0229 | .0004 | .0005 |
| %RSD | 51.99 | 120.2 | 1.772 | 1.306 |
| #1 | .0006 | -.0352 | .0234 | -.0392 |
| #2 | .0013 | -.0029 | .0240 | -.0385 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.9 | 33566. | 16720. |
| Stddev | 3.5 | 14. | 32. |
| %RSD | .27640 | .04161 | .19241 |
| #1 | 1267.3 | 33576. | 16697. |
| #2 | 1262.4 | 33556. | 16743. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 20:02:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | -.0602 | .0502 | -.0477 | .1924 | .0116 | -.0001 | 112.3 | -.0013 | .0012 |
| Stddev | .0080 | .0757 | .0092 | .0024 | .0014 | .0011 | .0003 | .2 | .0005 | .0008 |
| %RSD | 157.8 | 125.7 | 18.29 | 4.981 | .7476 | 9.562 | 231.6 | .1510 | 33.72 | 67.14 |
| #1 | .0006 | -.1137 | .0567 | -.0461 | .1914 | .0124 | .0001 | 112.4 | -.0017 | .0017 |
| #2 | -.0107 | -.0067 | .0437 | -.0494 | .1934 | .0108 | -.0003 | 112.2 | -.0010 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | -.0153 | .6266 | 5.384 | 14.49 | 10.25 | .0024 | 27.92 | .0131 | -.0069 |
| Stddev | .0058 | .0002 | .0093 | .138 | .03 | .04 | .0014 | .03 | .0007 | .0069 |
| %RSD | 57.00 | 1.398 | 1.482 | 2.556 | .2401 | .3609 | 59.73 | .1084 | 5.464 | 100.6 |
| #1 | -.0061 | -.0154 | .6331 | 5.287 | 14.51 | 10.28 | .0034 | 27.90 | .0126 | -.0118 |
| #2 | -.0144 | -.0151 | .6200 | 5.482 | 14.46 | 10.23 | .0014 | 27.95 | .0137 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0161 | .1211 | 2.170 | .0091 | .0069 | 9.754 | -.0049 | .6106 | -.0001 | .0153 |
| Stddev | .0017 | .0164 | .002 | .0056 | .0132 | .037 | .0053 | .0008 | .0002 | .0016 |
| %RSD | 10.31 | 13.52 | .0998 | 61.53 | 191.4 | .3784 | 107.0 | .1322 | 194.7 | 10.14 |
| #1 | .0173 | .1096 | 2.169 | .0051 | -.0024 | 9.780 | -.0012 | .6112 | -.0003 | .0164 |
| #2 | .0150 | .1327 | 2.172 | .0131 | .0163 | 9.728 | -.0087 | .6101 | .0000 | .0142 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0035 | .0220 | .0241 | -.0104 |
| Stddev | .0029 | .0796 | .0013 | .0077 |
| %RSD | 82.04 | 362.0 | 5.440 | 74.21 |
| #1 | .0055 | .0782 | .0232 | -.0049 |
| #2 | .0015 | -.0343 | .0251 | -.0158 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.9 | 33701. | 16731. |
| Stddev | 4.9 | 93. | 16. |
| %RSD | .38217 | .27738 | .09511 |
| #1 | 1267.5 | 33635. | 16743. |
| #2 | 1274.3 | 33767. | 16720. |

Zoom In Zoom Out

Sample Name: MC25568-10F Acquired: 10/31/2013 20:07:32 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0395 | .1972 | -.0216 | .2410 | .0541 | -.0005 | 90.87 | -.0009 | .0088 |
| Stddev | .0001 | .0162 | .0052 | .0065 | .0013 | .0004 | .0002 | .04 | .0000 | .0015 |
| %RSD | 5.395 | 40.95 | 2.645 | 30.15 | .5218 | .7938 | 32.34 | .0415 | 3.318 | 17.07 |
| #1 | -.0013 | -.0281 | .1935 | -.0170 | .2419 | .0538 | -.0004 | 90.89 | -.0009 | .0078 |
| #2 | -.0012 | -.0510 | .2009 | -.0262 | .2401 | .0544 | -.0006 | 90.84 | -.0009 | .0099 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | -.0070 | 17.49 | 7.412 | 13.56 | 6.156 | .0015 | 30.58 | .0068 | -.0072 |
| Stddev | .0039 | .0019 | .21 | .153 | .01 | .001 | .0002 | .09 | .0001 | .0023 |
| %RSD | 61.52 | 26.49 | 1.202 | 2.057 | .0640 | .0186 | 16.45 | .2904 | .7805 | 32.72 |
| #1 | -.0036 | -.0057 | 17.34 | 7.305 | 13.55 | 6.157 | .0017 | 30.52 | .0068 | -.0055 |
| #2 | -.0091 | -.0084 | 17.64 | 7.520 | 13.56 | 6.156 | .0013 | 30.65 | .0068 | -.0088 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | .0513 | 1.802 | .0045 | .0041 | 9.062 | -.0012 | .8017 | .0024 | .0072 |
| Stddev | .0034 | .0187 | .000 | .0004 | .0027 | .001 | .0008 | .0023 | .0009 | .0031 |
| %RSD | 122.3 | 36.46 | .0041 | 8.420 | 66.28 | .0057 | 71.42 | .2831 | 39.24 | 43.59 |
| #1 | .0052 | .0646 | 1.802 | .0048 | .0060 | 9.062 | -.0006 | .8001 | .0017 | .0050 |
| #2 | .0004 | .0381 | 1.801 | .0042 | .0022 | 9.062 | -.0018 | .8034 | .0031 | .0094 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0052 | -.0124 | .0097 | -.0262 |
| Stddev | .0008 | .0150 | .0002 | .0002 |
| %RSD | 15.80 | 120.8 | 2.485 | .7991 |
| #1 | .0046 | -.0018 | .0099 | -.0261 |
| #2 | .0057 | -.0230 | .0095 | -.0264 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.4 | 33501. | 16713. |
| Stddev | .6 | 145. | 21. |
| %RSD | .04972 | .43148 | .12654 |
| #1 | 1268.0 | 33399. | 16698. |
| #2 | 1268.8 | 33604. | 16728. |



Zoom In Zoom Out

Sample Name: MC25568-12F Acquired: 10/31/2013 20:12:27 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0035 | .0257 | -.0035 | .0198 | .0628 | -.0003 | 41.92 | -.0006 | -.0004 |
| Stddev | .0010 | .0074 | .0015 | .0030 | .0004 | .0006 | .0001 | .22 | .0001 | .0002 |
| %RSD | 75.12 | 212.3 | 5.944 | 84.42 | 2.214 | .9251 | 43.91 | .5274 | 8.868 | 49.89 |
| #1 | -.0021 | -.0017 | .0246 | -.0014 | .0195 | .0624 | -.0004 | 41.76 | -.0006 | -.0006 |
| #2 | -.0007 | .0087 | .0268 | -.0056 | .0201 | .0632 | -.0002 | 42.07 | -.0006 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0070 | .5807 | 4.456 | 4.289 | .1606 | .0017 | 10.20 | -.0010 | -.0041 |
| Stddev | .0003 | .0011 | .0133 | .021 | .121 | .0003 | .0001 | .13 | .0002 | .0056 |
| %RSD | 22.62 | 15.75 | 2.291 | .4635 | 2.816 | .1871 | 3.700 | 1.225 | 18.06 | 136.1 |
| #1 | .0013 | -.0062 | .5713 | 4.470 | 4.204 | .1604 | .0016 | 10.12 | -.0009 | -.0002 |
| #2 | .0010 | -.0078 | .5901 | 4.441 | 4.375 | .1608 | .0017 | 10.29 | -.0011 | -.0080 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0177 | 2.269 | .0016 | .0053 | 3.199 | .0007 | .2968 | .0003 | .0068 |
| Stddev | .0076 | .0014 | .001 | .0003 | .0001 | .005 | .0014 | .0019 | .0039 | .0019 |
| %RSD | 97.09 | 7.872 | .0428 | 19.06 | 1.770 | .1697 | 202.3 | .6533 | 1522. | 28.61 |
| #1 | .0132 | .0186 | 2.270 | .0014 | .0052 | 3.203 | .0017 | .2954 | -.0025 | .0054 |
| #2 | .0025 | .0167 | 2.268 | .0018 | .0053 | 3.195 | -.0003 | .2982 | .0030 | .0081 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0028 | .0230 | .0049 | .0029 |
| Stddev | .0006 | .0073 | .0011 | .0022 |
| %RSD | 22.71 | 31.62 | 22.77 | 74.82 |
| #1 | .0023 | .0179 | .0041 | .0014 |
| #2 | .0032 | .0282 | .0057 | .0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1273.2 | 33739. | 16305. |
| Stddev | 1.7 | . | 37. |
| %RSD | .13684 | .00110 | .22986 |
| #1 | 1272.0 | 33739. | 16332. |
| #2 | 1274.5 | 33739. | 16279. |



Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 20:17:22 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0032 | .8645 | -.0059 | .1039 | .0204 | -.0001 | 102.6 | -.0010 | .0053 |
| Stddev | .0044 | .0036 | .0005 | .0006 | .0004 | .0010 | .0001 | .8 | .0001 | .0007 |
| %RSD | 486.8 | 114.3 | .0589 | 9.647 | .3406 | 5.007 | 82.13 | .7409 | 7.920 | 12.38 |
| #1 | .0040 | -.0006 | .8649 | -.0063 | .1037 | .0197 | .0000 | 102.0 | -.0011 | .0057 |
| #2 | -.0022 | -.0058 | .8642 | -.0055 | .1042 | .0211 | -.0001 | 103.1 | -.0009 | .0048 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0075 | 17.36 | 3.771 | 13.55 | 3.126 | .0053 | 33.66 | .0025 | -.0092 |
| Stddev | .0039 | .0003 | .32 | .189 | .35 | .003 | .0003 | .18 | .0013 | .0001 |
| %RSD | 207.1 | 3.787 | 1.815 | 5.016 | 2.562 | .1041 | 4.920 | .5294 | 52.75 | 1.074 |
| #1 | -.0046 | -.0073 | 17.13 | 3.638 | 13.30 | 3.128 | .0055 | 33.53 | .0034 | -.0092 |
| #2 | .0009 | -.0077 | 17.58 | 3.905 | 13.79 | 3.124 | .0051 | 33.78 | .0016 | -.0091 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0634 | .3873 | .0032 | .0074 | 16.61 | -.0048 | .4696 | -.0010 | .0024 |
| Stddev | .0017 | .0030 | .0002 | .0057 | .0004 | .03 | .0015 | .0025 | .0011 | .0023 |
| %RSD | 801.2 | 4.797 | .0489 | 177.6 | 4.716 | .1884 | 31.50 | .5225 | 116.0 | 94.99 |
| #1 | .0010 | .0612 | .3874 | .0072 | .0077 | 16.63 | -.0037 | .4678 | -.0018 | .0040 |
| #2 | -.0014 | .0655 | .3872 | -.0008 | .0072 | 16.58 | -.0058 | .4713 | -.0002 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0032 | .0121 | .0068 | -.0669 |
| Stddev | .0008 | .0169 | .0016 | .0006 |
| %RSD | 23.79 | 139.6 | 23.56 | .8610 |
| #1 | .0026 | .0240 | .0056 | -.0673 |
| #2 | .0037 | .0002 | .0079 | -.0665 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.3 | 33498. | 16768. |
| Stddev | 2.2 | 139. | 80. |
| %RSD | .16936 | .41421 | .47859 |
| #1 | 1272.8 | 33400. | 16825. |
| #2 | 1269.8 | 33596. | 16711. |



Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 20:22:16 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | -.0300 | .8739 | -.0233 | .1100 | .0211 | -.0004 | 105.6 | -.0024 | .0035 |
| Stddev | .0057 | .0061 | .0172 | .0068 | .0057 | .0012 | .0001 | .6 | .0006 | .0007 |
| %RSD | 236.6 | 20.24 | 1.967 | 29.20 | 5.141 | 5.849 | 26.65 | .5389 | 27.37 | 19.85 |
| #1 | .0064 | -.0257 | .8860 | -.0185 | .1060 | .0220 | -.0004 | 105.2 | -.0028 | .0030 |
| #2 | -.0016 | -.0342 | .8617 | -.0281 | .1140 | .0202 | -.0005 | 106.0 | -.0019 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | -.0162 | 17.64 | 3.804 | 14.03 | 3.178 | .0058 | 34.07 | .0028 | -.0060 |
| Stddev | .0066 | .0114 | .24 | .079 | .02 | .014 | .0012 | .04 | .0014 | .0035 |
| %RSD | 129.4 | 70.12 | 1.349 | 2.079 | .1653 | .4542 | 19.89 | .1314 | 50.82 | 59.09 |
| #1 | -.0004 | -.0082 | 17.48 | 3.748 | 14.05 | 3.168 | .0067 | 34.04 | .0039 | -.0035 |
| #2 | -.0098 | -.0243 | 17.81 | 3.859 | 14.02 | 3.188 | .0050 | 34.11 | .0018 | -.0085 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0443 | .3984 | .0049 | -.0004 | 16.71 | .0030 | .4876 | .0084 | .0161 |
| Stddev | .0226 | .0433 | .0061 | .0077 | .0050 | .04 | .0002 | .0014 | .0035 | .0033 |
| %RSD | 463.0 | 97.72 | 1.527 | 154.8 | 1350. | .2264 | 7.683 | .2918 | 42.07 | 20.24 |
| #1 | .0209 | .0749 | .4027 | -.0005 | -.0039 | 16.69 | .0029 | .4866 | .0059 | .0138 |
| #2 | -.0111 | .0137 | .3941 | .0104 | .0032 | 16.74 | .0032 | .4886 | .0108 | .0184 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0131 | .0283 | .0087 | -.0423 |
| Stddev | .0043 | .0482 | .0013 | .0024 |
| %RSD | 32.53 | 170.2 | 15.35 | 5.773 |
| #1 | .0101 | .0624 | .0097 | -.0440 |
| #2 | .0162 | -.0058 | .0078 | -.0406 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1276.8 | 33269. | 16525. |
| Stddev | 7.2 | 190. | 140. |
| %RSD | .56506 | .57128 | .84564 |
| #1 | 1281.9 | 33403. | 16624. |
| #2 | 1271.7 | 33134. | 16427. |

Zoom In Zoom Out

Sample Name: MC25568-15F Acquired: 10/31/2013 20:27:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0418 | .0302 | -.0050 | .0289 | .0152 | .0000 | 26.27 | -.0003 | .0000 |
| Stddev | .0001 | .0015 | .0025 | .0008 | .0006 | .0002 | .000 | .13 | .0003 | .0005 |
| %RSD | 12.62 | 3.658 | 8.441 | 16.97 | 2.225 | 1.416 | 60380. | .5115 | 111.9 | 6500. |
| #1 | .0007 | .0407 | .0284 | -.0044 | .0284 | .0153 | .0001 | 26.17 | -.0001 | -.0003 |
| #2 | .0006 | .0428 | .0320 | -.0056 | .0294 | .0150 | -.0001 | 26.36 | -.0005 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | -.0032 | 9.369 | 2.674 | 2.582 | .4655 | .0000 | 6.428 | -.0002 | -.0022 |
| Stddev | .0021 | .0001 | .010 | .043 | .070 | .0026 | .0002 | .011 | .0009 | .0009 |
| %RSD | 167.2 | 4.269 | .1022 | 1.628 | 2.717 | .5617 | 559.0 | .1659 | 398.1 | 42.44 |
| #1 | -.0002 | -.0031 | 9.362 | 2.705 | 2.632 | .4674 | -.0001 | 6.436 | .0004 | -.0016 |
| #2 | .0028 | -.0033 | 9.376 | 2.644 | 2.532 | .4637 | .0002 | 6.421 | -.0009 | -.0029 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0091 | .7463 | .0019 | .0005 | 2.685 | -.0003 | .1514 | .0003 | .0011 |
| Stddev | .0003 | .0262 | .0045 | .0007 | .0002 | .003 | .0015 | .0008 | .0010 | .0017 |
| %RSD | 9.194 | 288.7 | .6036 | 35.37 | 38.06 | .1207 | 547.4 | .5054 | 299.2 | 148.9 |
| #1 | .0040 | .0276 | .7431 | .0014 | .0006 | 2.682 | -.0013 | .1508 | -.0004 | -.0001 |
| #2 | .0035 | -.0095 | .7495 | .0024 | .0003 | 2.687 | .0008 | .1519 | .0010 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0039 | .0164 | .0088 | -.0013 |
| Stddev | .0006 | .0243 | .0001 | .0009 |
| %RSD | 15.23 | 147.9 | 1.185 | 70.23 |
| #1 | .0035 | .0336 | .0087 | -.0007 |
| #2 | .0043 | -.0007 | .0089 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.5 | 33373. | 16604. |
| Stddev | .1 | 39. | 21. |
| %RSD | .00745 | .11586 | .12651 |
| #1 | 1264.4 | 33345. | 16619. |
| #2 | 1264.5 | 33400. | 16589. |



Zoom In Zoom Out

Sample Name: MC25568-16F Acquired: 10/31/2013 20:32:05 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0843 | .1144 | -.0348 | .2293 | .0287 | -.0004 | 83.69 | .0000 | .0135 |
| Stddev | .0016 | .0231 | .0025 | .0086 | .0007 | .0001 | .0000 | .49 | .0002 | .0003 |
| %RSD | 867.0 | 27.35 | 2.157 | 24.66 | .3014 | .3040 | 11.28 | .5878 | 766.2 | 2.395 |
| #1 | .0013 | -.0680 | .1161 | -.0408 | .2298 | .0287 | -.0004 | 83.34 | .0002 | .0137 |
| #2 | -.0009 | -.1006 | .1126 | -.0287 | .2288 | .0286 | -.0005 | 84.04 | -.0001 | .0133 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0096 | 19.54 | 5.457 | 12.14 | 10.88 | .0009 | 33.44 | .0055 | -.0044 |
| Stddev | .0003 | .0015 | .01 | .073 | .21 | .04 | .0006 | .04 | .0008 | .0134 |
| %RSD | 8.027 | 15.50 | .0703 | 1.347 | 1.768 | .3852 | 68.50 | .1317 | 14.25 | 307.3 |
| #1 | -.0040 | -.0086 | 19.53 | 5.509 | 11.99 | 10.91 | .0005 | 33.47 | .0049 | .0051 |
| #2 | -.0045 | -.0107 | 19.55 | 5.405 | 12.29 | 10.85 | .0013 | 33.40 | .0061 | -.0139 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0041 | .0817 | .9673 | .0032 | .0087 | 8.010 | -.0023 | .8462 | .0000 | .0071 |
| Stddev | .0082 | .0203 | .0102 | .0021 | .0054 | .056 | .0042 | .0004 | .0018 | .0007 |
| %RSD | 201.2 | 24.90 | 1.050 | 66.50 | 62.45 | .6992 | 181.7 | .0482 | 7471. | 9.513 |
| #1 | -.0017 | .0961 | .9745 | .0017 | .0125 | 8.050 | .0007 | .8460 | -.0012 | .0066 |
| #2 | .0099 | .0673 | .9602 | .0047 | .0049 | 7.971 | -.0052 | .8465 | .0013 | .0076 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0050 | .0173 | .0155 | -.0209 |
| Stddev | .0017 | .0198 | .0001 | .0002 |
| %RSD | 33.84 | 114.7 | .6336 | .8396 |
| #1 | .0062 | .0313 | .0155 | -.0210 |
| #2 | .0038 | .0033 | .0154 | -.0208 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 33265. | 16647. |
| Stddev | 5.3 | 6. | 171. |
| %RSD | .41470 | .01704 | 1.0267 |
| #1 | 1268.2 | 33261. | 16768. |
| #2 | 1275.6 | 33269. | 16526. |



Zoom In Zoom Out

Sample Name: MC25594-2F Acquired: 10/31/2013 20:36:59 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0124 | .0391 | -.0069 | .0211 | .0169 | -.0002 | 22.21 | -.0007 | .0087 |
| Stddev | .0001 | .0019 | .0044 | .0009 | .0004 | .0002 | .0001 | .09 | .0003 | .0003 |
| %RSD | 179.7 | 15.44 | 11.22 | 12.66 | 2.023 | 1.420 | 46.82 | .3956 | 46.19 | 3.033 |
| #1 | .0000 | -.0138 | .0360 | -.0075 | .0214 | .0171 | -.0002 | 22.27 | -.0005 | .0085 |
| #2 | .0002 | -.0111 | .0422 | -.0063 | .0208 | .0167 | -.0001 | 22.15 | -.0010 | .0089 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0032 | 8.783 | 3.372 | 3.920 | 1.681 | -.0001 | 2.994 | .0052 | -.0010 |
| Stddev | .0044 | .0012 | .006 | .099 | .002 | .006 | .0006 | .012 | .0003 | .0008 |
| %RSD | 157.6 | 38.55 | .0638 | 2.933 | .0608 | .3778 | 867.6 | .4035 | 4.952 | 77.03 |
| #1 | .0003 | -.0023 | 8.779 | 3.442 | 3.918 | 1.686 | .0004 | 2.986 | .0050 | -.0016 |
| #2 | -.0059 | -.0041 | 8.787 | 3.302 | 3.921 | 1.677 | -.0005 | 3.003 | .0054 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0188 | 5.361 | .0027 | .0018 | 6.440 | -.0002 | .1385 | .0002 | .0014 |
| Stddev | .0070 | .0133 | .009 | .0017 | .0020 | .017 | .0003 | .0005 | .0020 | .0009 |
| %RSD | 725.9 | 70.57 | .1778 | 61.01 | 113.6 | .2618 | 203.5 | .3895 | 884.5 | 63.16 |
| #1 | -.0040 | .0094 | 5.368 | .0039 | .0004 | 6.452 | .0001 | .1381 | .0017 | .0021 |
| #2 | .0060 | .0282 | 5.355 | .0016 | .0032 | 6.428 | -.0004 | .1389 | -.0012 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0151 | .0147 | -.0211 |
| Stddev | .0019 | .0048 | .0001 | .0057 |
| %RSD | 329.3 | 31.96 | .9534 | 27.11 |
| #1 | .0019 | .0117 | .0148 | -.0171 |
| #2 | -.0008 | .0185 | .0146 | -.0252 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 33188. | 16605. |
| Stddev | 3.7 | 259. | 155. |
| %RSD | .28860 | .78135 | .93269 |
| #1 | 1269.3 | 33004. | 16496. |
| #2 | 1274.5 | 33371. | 16715. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 20:41:54 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2524 | 9.519 | 1.840 | -.0064 | 1.881 | 1.896 | 2.057 | 9.802 | 1.914 |
| Stddev | .0004 | .020 | .003 | .0005 | .004 | .002 | .005 | .062 | .002 |
| %RSD | .1663 | .2132 | .1845 | 7.705 | .2254 | .0849 | .2465 | .6322 | .1145 |
| #1 | .2522 | 9.504 | 1.843 | -.0061 | 1.878 | 1.894 | 2.053 | 9.758 | 1.912 |
| #2 | .2527 | 9.533 | 1.838 | -.0068 | 1.884 | 1.897 | 2.060 | 9.846 | 1.915 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.922 | F2.248 | 2.010 | 9.467 | 9.759 | 9.999 | 2.135 | 1.823 | 9.436 |
| Stddev | .002 | .001 | .002 | .027 | .031 | .001 | .005 | .005 | .010 |
| %RSD | .0788 | .0474 | .0825 | .2891 | .3133 | .0091 | .2259 | .2940 | .1072 |
| #1 | 1.921 | 2.249 | 2.009 | 9.447 | 9.737 | 10.00 | 2.132 | 1.819 | 9.429 |
| #2 | 1.923 | 2.247 | 2.012 | 9.486 | 9.780 | 9.999 | 2.139 | 1.827 | 9.444 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.755 | 1.818 | .0049 | .0046 | -.0015 | 1.802 | 1.820 | -.0165 | 1.937 |
| Stddev | .003 | .000 | .0006 | .0025 | .0002 | .006 | .005 | .0011 | .002 |
| %RSD | .1868 | .0225 | 12.01 | 54.97 | 15.76 | .3278 | .2570 | 6.667 | .1184 |
| #1 | 1.752 | 1.817 | .0045 | .0064 | -.0013 | 1.798 | 1.817 | -.0173 | 1.935 |
| #2 | 1.757 | 1.818 | .0054 | .0028 | -.0016 | 1.806 | 1.823 | -.0157 | 1.939 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.971 | 1.974 | 1.859 | 2.038 | .0051 | 1.857 | .0000 |
| Stddev | .016 | .001 | .004 | .003 | .0006 | .005 | .001 |
| %RSD | .7892 | .0617 | .2198 | .1500 | 11.93 | .2832 | 4397. |
| #1 | 1.982 | 1.975 | 1.856 | 2.040 | .0047 | 1.853 | .0007 |
| #2 | 1.960 | 1.974 | 1.862 | 2.036 | .0056 | 1.860 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.6 | 32923. | 16664. |
| Stddev | 2.2 | . | 57. |
| %RSD | .16878 | .00134 | .34295 |
| #1 | 1283.1 | 32923. | 16705. |
| #2 | 1280.0 | 32922. | 16624. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 20:46:40 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0036 | -.0005 | .0003 | .0016 | .0002 | .0000 | -.0015 | .0001 |
| Stddev | .0001 | .0003 | .0001 | .0009 | .0000 | .0001 | .0000 | .0028 | .0001 |
| %RSD | 34.91 | 9.189 | 19.72 | 344.6 | .8478 | 46.34 | 5.501 | 189.8 | 100.9 |
| #1 | .0002 | .0034 | -.0005 | -.0004 | .0016 | .0001 | .0000 | -.0034 | .0002 |
| #2 | .0003 | .0039 | -.0004 | .0009 | .0016 | .0002 | .0000 | .0005 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | -.0017 | .0014 | .0109 | .0154 | .0002 | .0024 | -.0008 |
| Stddev | .0002 | .0004 | .0005 | .0002 | .0085 | .0175 | .0000 | .0004 | .0008 |
| %RSD | 107.7 | 302.2 | 31.04 | 16.81 | 78.18 | 113.4 | 2.150 | 14.93 | 99.22 |
| #1 | .0001 | .0001 | -.0013 | .0015 | .0049 | .0031 | .0002 | .0026 | -.0002 |
| #2 | .0004 | -.0004 | -.0021 | .0012 | .0169 | .0278 | .0002 | .0021 | -.0014 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | .0014 | .0032 | .0019 | .0003 | .0007 | -.0033 | .0005 |
| Stddev | .0001 | .0000 | .0002 | .0004 | .0010 | .0008 | .0003 | .0001 | .0004 |
| %RSD | 47.14 | .7060 | 11.25 | 11.57 | 53.56 | 287.9 | 47.21 | 3.886 | 74.44 |
| #1 | .0002 | .0004 | .0015 | .0035 | .0026 | .0009 | .0010 | -.0033 | .0002 |
| #2 | .0001 | .0004 | .0013 | .0029 | .0012 | -.0003 | .0005 | -.0034 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | F.0033 | .0005 | .0005 | .0007 | .0053 |
| Stddev | .0000 | .0001 | .0002 | .0007 | .0015 | .0000 | .0001 |
| %RSD | 8.845 | 118.7 | 5.273 | 144.3 | 324.9 | 6.830 | 1.966 |
| #1 | .0001 | -.0002 | .0032 | .0000 | .0016 | .0007 | .0053 |
| #2 | .0002 | .0000 | .0034 | .0009 | -.0006 | .0006 | .0052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1276.9 | 33397. | 16515. |
| Stddev | 1.3 | 107. | 106. |
| %RSD | .10409 | .32032 | .64375 |
| #1 | 1275.9 | 33321. | 16590. |
| #2 | 1277.8 | 33473. | 16439. |



Zoom In Zoom Out

Sample Name: MC25594-4F Acquired: 10/31/2013 20:51:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0030 | 2.928 | -.0022 | .1154 | .0318 | -.0001 | 37.51 | -.0031 | .0086 |
| Stddev | .0016 | .0004 | .018 | .0022 | .0001 | .0003 | .0001 | .04 | .0003 | .0002 |
| %RSD | 2592. | 14.78 | .6308 | 98.07 | .0919 | .9975 | 90.10 | .1028 | 11.09 | 2.848 |
| #1 | -.0012 | -.0033 | 2.915 | -.0007 | .1153 | .0315 | -.0001 | 37.49 | -.0029 | .0084 |
| #2 | .0010 | -.0027 | 2.941 | -.0038 | .1154 | .0320 | -.0002 | 37.54 | -.0033 | .0088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0045 | 28.77 | 6.732 | 5.847 | .9423 | .0098 | 15.02 | .0148 | -.0011 |
| Stddev | .0005 | .0004 | .06 | .064 | .079 | .0004 | .0003 | .02 | .0009 | .0003 |
| %RSD | 27.23 | 8.194 | .1981 | .9474 | 1.355 | .0454 | 3.156 | .1092 | 6.393 | 23.06 |
| #1 | .0015 | -.0042 | 28.73 | 6.687 | 5.791 | .9420 | .0101 | 15.01 | .0155 | -.0009 |
| #2 | .0022 | -.0048 | 28.81 | 6.778 | 5.903 | .9426 | .0096 | 15.03 | .0141 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .0130 | 1.572 | .0022 | .0057 | 10.01 | -.0017 | .3786 | .0013 | .0029 |
| Stddev | .0047 | .0282 | .007 | .0006 | .0025 | .01 | .0016 | .0009 | .0016 | .0008 |
| %RSD | 101.6 | 216.8 | .4606 | 25.98 | 43.43 | .1220 | 95.44 | .2433 | 121.2 | 27.95 |
| #1 | .0013 | .0329 | 1.578 | .0026 | .0040 | 10.02 | -.0028 | .3779 | .0002 | .0035 |
| #2 | .0080 | -.0069 | 1.567 | .0018 | .0075 | 10.00 | -.0005 | .3792 | .0025 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0045 | .0242 | .0319 | -.0380 |
| Stddev | .0016 | .0012 | .0005 | .0013 |
| %RSD | 35.91 | 4.991 | 1.692 | 3.483 |
| #1 | .0034 | .0251 | .0323 | -.0389 |
| #2 | .0057 | .0234 | .0315 | -.0370 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.4 | 33042. | 16504. |
| Stddev | .4 | 32. | 56. |
| %RSD | .03493 | .09703 | .34233 |
| #1 | 1263.1 | 33064. | 16464. |
| #2 | 1263.7 | 33019. | 16544. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 20:56:32 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .1994 | .0047 | -.0005 | .0982 | .0498 | .0044 | 4.991 | .0040 |
| Stddev | .0001 | .0018 | .0011 | .0003 | .0002 | .0002 | .0000 | .021 | .0002 |
| %RSD | 1.799 | .9018 | 23.38 | 65.29 | .2068 | .4866 | .8611 | .4201 | 4.528 |
| #1 | .0050 | .1982 | .0054 | -.0003 | .0984 | .0497 | .0044 | 5.006 | .0039 |
| #2 | .0049 | .2007 | .0039 | -.0007 | .0981 | .0500 | .0044 | 4.977 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0501 | .0111 | .0241 | .0990 | 4.987 | 5.044 | .0172 | .0956 | 4.793 |
| Stddev | .0002 | .0000 | .0000 | .0013 | .001 | .060 | .0002 | .0002 | .019 |
| %RSD | .4694 | .0278 | .0184 | 1.306 | .0139 | 1.188 | 1.386 | .1904 | .3871 |
| #1 | .0503 | .0111 | .0241 | .0999 | 4.986 | 5.087 | .0173 | .0957 | 4.780 |
| #2 | .0499 | .0111 | .0241 | .0981 | 4.987 | 5.002 | .0170 | .0955 | 4.806 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0369 | .0041 | .0012 | .0005 | -.0002 | .0060 | .0097 | .0036 | .0980 |
| Stddev | .0001 | .0002 | .0012 | .0057 | .0010 | .0004 | .0010 | .0002 | .0000 |
| %RSD | .2084 | 5.296 | 95.84 | 1195. | 469.6 | 7.199 | 10.47 | 4.509 | .0345 |
| #1 | .0368 | .0042 | .0004 | -.0036 | -.0009 | .0063 | .0104 | .0038 | .0979 |
| #2 | .0370 | .0039 | .0020 | .0045 | .0005 | .0057 | .0090 | .0035 | .0980 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0104 | .0512 | F.0065 | .0112 | -.0003 | .0199 | .0054 |
| Stddev | .0000 | .0003 | .0012 | .0001 | .0021 | .0001 | .0012 |
| %RSD | .3692 | .6447 | 18.09 | .6221 | 698.6 | .4403 | 22.09 |
| #1 | .0104 | .0514 | .0074 | .0111 | .0012 | .0198 | .0062 |
| #2 | .0105 | .0510 | .0057 | .0112 | -.0018 | .0200 | .0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.0 | 33059. | 16613. |
| Stddev | 5.1 | 96. | 121. |
| %RSD | .39505 | .29189 | .72657 |
| #1 | 1277.4 | 32990. | 16527. |
| #2 | 1284.6 | 33127. | 16698. |



Zoom In Zoom Out

Sample Name: CRIB Acquired: 10/31/2013 21:01:27 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .2003 | .0091 | -.0006 | .0981 | .5049 | .0044 | 5.017 | .0040 | .0501 |
| Stddev | .0000 | .0062 | .0011 | .0017 | .0002 | .0010 | .0000 | .027 | .0001 | .0001 |
| %RSD | .3468 | 3.075 | 12.09 | 263.8 | .2049 | .1966 | .2517 | .5299 | 3.421 | .2254 |
| #1 | .0051 | .1959 | .0083 | -.0018 | .0983 | .5042 | .0044 | 4.998 | .0041 | .0502 |
| #2 | .0051 | .2046 | .0098 | .0005 | .0980 | .5056 | .0044 | 5.035 | .0039 | .0501 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0117 | .0239 | .0992 | 5.006 | 5.103 | .0170 | .0956 | 4.798 | .0370 | .0096 |
| Stddev | .0004 | .0001 | .0018 | .025 | .049 | .0001 | .0003 | .026 | .0002 | .0005 |
| %RSD | 3.478 | .4137 | 1.859 | .5084 | .9581 | .3543 | .2809 | .5343 | .4954 | 5.605 |
| #1 | .0120 | .0238 | .0979 | 4.988 | 5.068 | .0169 | .0954 | 4.780 | .0371 | .0100 |
| #2 | .0114 | .0240 | .1005 | 5.024 | 5.137 | .0170 | .0958 | 4.817 | .0369 | .0092 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0111 | -.0001 | .0076 | .0243 | -.0037 | .0983 | .0104 | .0503 | .0056 |
| Stddev | .0023 | .0093 | .0013 | .0006 | .0007 | .0002 | .0000 | .0000 | .0001 | .0005 |
| %RSD | 374.9 | 84.08 | 1311. | 8.311 | 3.074 | 5.281 | .0175 | .2055 | .1805 | 9.158 |
| #1 | .0023 | .0177 | -.0010 | .0080 | .0238 | -.0036 | .0983 | .0104 | .0502 | .0060 |
| #2 | -.0010 | .0045 | .0008 | .0071 | .0248 | -.0039 | .0983 | .0104 | .0503 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0113 | .0106 | .1056 | .0052 |
| Stddev | .0005 | .0031 | .0005 | .0003 |
| %RSD | 4.812 | 29.60 | .4548 | 5.217 |
| #1 | .0109 | .0084 | .1060 | .0053 |
| #2 | .0117 | .0128 | .1053 | .0050 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1277.4 | 32924. | 16407. |
| Stddev | 3.3 | 20. | 27. |
| %RSD | .26187 | .05992 | .16461 |
| #1 | 1275.0 | 32938. | 16388. |
| #2 | 1279.7 | 32910. | 16426. |

Zoom In Zoom Out

Sample Name: MP21935-B1 Acquired: 10/31/2013 21:06:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2074 | 2.078 | .5478 | -.0014 | .0080 | 1.985 | .5239 | .0105 | .5319 |
| Stddev | .0016 | .002 | .0037 | .0000 | .0001 | .001 | .0003 | .0010 | .0031 |
| %RSD | .7667 | .0717 | .6673 | 3.148 | .6566 | .0272 | .0551 | 9.597 | .5878 |
| #1 | .2063 | 2.076 | .5452 | -.0014 | .0080 | 1.985 | .5237 | .0112 | .5297 |
| #2 | .2085 | 2.079 | .5504 | -.0015 | .0079 | 1.984 | .5241 | .0097 | .5342 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4760 | .5877 | .5207 | 1.966 | .2626 | .0220 | .5335 | .0000 | F1307. |
| Stddev | .0021 | .0027 | .0003 | .015 | .0097 | .0034 | .0032 | .000 | 7. |
| %RSD | .4342 | .4623 | .0512 | .7786 | 3.712 | 15.55 | .6036 | 251.1 | .5083 |
| #1 | .4745 | .5857 | .5205 | 1.955 | .2695 | .0244 | .5313 | -.0001 | 1302. |
| #2 | .4774 | .5896 | .5209 | 1.977 | .2557 | .0196 | .5358 | .0000 | 1311. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4308 | .8799 | .0030 | .0086 | .0487 | .4799 | .5530 | .0240 | .0027 |
| Stddev | .0007 | .0032 | .0024 | .0066 | .0044 | .0012 | .0005 | .0006 | .0008 |
| %RSD | .1565 | .3583 | 78.79 | 76.80 | 8.952 | .2511 | .0878 | 2.348 | 29.27 |
| #1 | .4303 | .8777 | .0013 | .0133 | .0456 | .4791 | .5527 | .0244 | .0033 |
| #2 | .4313 | .8821 | .0047 | .0039 | .0518 | .4808 | .5534 | .0236 | .0021 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5071 | .5032 | .4178 | .5321 | .0071 | .4958 | .0035 |
| Stddev | .0006 | .0059 | .0014 | .0051 | .0077 | .0021 | .0005 |
| %RSD | .1159 | 1.172 | .3344 | .9618 | 107.4 | .4173 | 15.21 |
| #1 | .5075 | .4990 | .4168 | .5285 | .0017 | .4944 | .0032 |
| #2 | .5066 | .5073 | .4188 | .5358 | .0126 | .4973 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1189.3 | 33415. | 16483. |
| Stddev | 4.4 | 213. | 50. |
| %RSD | .36866 | .63730 | .30589 |
| #1 | 1192.4 | 33566. | 16519. |
| #2 | 1186.2 | 33265. | 16448. |



Zoom In Zoom Out

Sample Name: MP21935-MB1 Acquired: 10/31/2013 21:11:14 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0000 | -.0010 | -.0008 | .0005 | .0001 | .0000 | .0013 | .0000 | -.0002 |
| Stddev | .0006 | .001 | .0005 | .0007 | .0000 | .0000 | .000 | .0002 | .000 | .0003 |
| %RSD | 163.9 | 2950. | 54.31 | 91.36 | 3.515 | 8.699 | 11.42 | 14.44 | 13.62 | 156.8 |
| #1 | .0001 | -.0007 | -.0014 | -.0003 | .0005 | .0001 | .0000 | .0014 | .0000 | .0000 |
| #2 | -.0008 | .0006 | -.0006 | -.0013 | .0005 | .0001 | .0000 | .0012 | .0000 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0015 | .0007 | .0326 | .0035 | .0013 | .0002 | .1321 | -.0001 | -.0008 |
| Stddev | .0003 | .0000 | .0007 | .0002 | .0023 | .0000 | .0000 | .0038 | .0004 | .0009 |
| %RSD | 126.8 | .6960 | 97.93 | .6716 | 65.80 | 2.343 | 7.936 | 2.904 | 292.6 | 110.0 |
| #1 | .0000 | -.0015 | .0012 | .0324 | .0018 | .0013 | .0002 | .1348 | -.0004 | -.0014 |
| #2 | .0004 | -.0015 | .0002 | .0327 | .0051 | .0014 | .0002 | .1293 | .0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0086 | .0026 | .0020 | .0018 | .0183 | -.0002 | .0001 | -.0002 | .0002 |
| Stddev | .0000 | .0100 | .0004 | .0007 | .0020 | .0002 | .0003 | .0000 | .0005 | .0000 |
| %RSD | 12.31 | 115.1 | 16.69 | 34.67 | 112.3 | .9653 | 128.0 | 23.31 | 210.8 | 12.66 |
| #1 | -.0002 | .0157 | .0023 | .0015 | .0032 | .0181 | -.0005 | .0001 | -.0006 | .0002 |
| #2 | -.0002 | .0016 | .0029 | .0025 | .0004 | .0184 | .0000 | .0001 | .0001 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0009 | -.0002 | .0048 |
| Stddev | .0000 | .0010 | .0002 | .0008 |
| %RSD | 4.996 | 107.2 | 93.64 | 16.40 |
| #1 | .0005 | -.0002 | -.0001 | .0042 |
| #2 | .0005 | -.0017 | -.0004 | .0053 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1253.3 | 33025. | 16565. |
| Stddev | 2.4 | 96. | 1. |
| %RSD | .19437 | .29112 | .00716 |
| #1 | 1251.6 | 33093. | 16566. |
| #2 | 1255.1 | 32957. | 16564. |



Zoom In Zoom Out

Sample Name: MP21935-S1 Acquired: 10/31/2013 21:16:12 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2149 | 3.051 | .5582 | -.0042 | .0266 | 2.366 | .5181 | F796.9 | .5479 |
| Stddev | .0006 | .008 | .0046 | .0006 | .0000 | .004 | .0025 | 6.9 | .0002 |
| %RSD | .2711 | .2704 | .8267 | 14.25 | .1230 | .1726 | .4739 | .8640 | .0318 |
| #1 | .2144 | 3.045 | .5615 | -.0046 | .0266 | 2.363 | .5163 | 792.1 | .5480 |
| #2 | .2153 | 3.057 | .5550 | -.0037 | .0266 | 2.368 | .5198 | 801.8 | .5478 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4641 | .8309 | .7867 | 1.917 | 32.11 | .1901 | .5272 | .3503 | F1357. |
| Stddev | .0019 | .0020 | .0005 | .010 | .05 | .0070 | .0010 | .0009 | 27. |
| %RSD | .4119 | .2409 | .0674 | .5421 | .1575 | 3.678 | .1875 | .2634 | 1.993 |
| #1 | .4628 | .8295 | .7863 | 1.910 | 32.07 | .1950 | .5265 | .3497 | 1338. |
| #2 | .4655 | .8323 | .7871 | 1.924 | 32.14 | .1851 | .5279 | .3510 | 1376. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4242 | 1.124 | -.0300 | -.0026 | F43.14 | .5316 | .5780 | 6.690 | .0011 |
| Stddev | .0003 | .002 | .0003 | .0118 | .09 | .0005 | .0010 | .003 | .0008 |
| %RSD | .0788 | .1882 | .9599 | 451.0 | .2035 | .1003 | .1704 | .0415 | 70.70 |
| #1 | .4239 | 1.123 | -.0302 | .0057 | 43.20 | .5320 | .5773 | 6.688 | .0017 |
| #2 | .4244 | 1.126 | -.0298 | -.0109 | 43.08 | .5312 | .5787 | 6.692 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.793 | .5043 | .4089 | .5430 | .0344 | .4662 | -.0289 |
| Stddev | .001 | .0063 | .0008 | .0065 | .0104 | .0008 | .0002 |
| %RSD | .0807 | 1.250 | .1928 | 1.192 | 30.15 | .1617 | .7017 |
| #1 | 1.792 | .4998 | .4084 | .5384 | .0418 | .4667 | -.0291 |
| #2 | 1.794 | .5087 | .4095 | .5476 | .0271 | .4656 | -.0288 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1115.5 | 32375. | 15802. |
| Stddev | .6 | 11. | 132. |
| %RSD | .05602 | .03255 | .83699 |
| #1 | 1115.9 | 32383. | 15896. |
| #2 | 1115.0 | 32368. | 15709. |



Zoom In Zoom Out

Sample Name: MP21935-S2 Acquired: 10/31/2013 21:21:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2169 | 3.054 | .5628 | -.0037 | .0260 | 2.383 | .5210 | F789.3 | .5483 |
| Stddev | .0010 | .023 | .0020 | .0027 | .0006 | .001 | .0027 | 4.6 | .0006 |
| %RSD | .4761 | .7454 | .3527 | 71.59 | 2.405 | .0255 | .5137 | .5880 | .1117 |
| #1 | .2161 | 3.070 | .5642 | -.0056 | .0265 | 2.383 | .5191 | 786.0 | .5479 |
| #2 | .2176 | 3.038 | .5614 | -.0019 | .0256 | 2.383 | .5229 | 792.5 | .5488 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4653 | .8318 | .7911 | 1.916 | 31.86 | .1731 | .5299 | .3481 | F1333. |
| Stddev | .0002 | .0032 | .0001 | .011 | .00 | .0014 | .0014 | .0005 | 10. |
| %RSD | .0501 | .3836 | .0142 | .5869 | .0007 | .7923 | .2562 | .1548 | .7379 |
| #1 | .4651 | .8295 | .7912 | 1.908 | 31.86 | .1721 | .5289 | .3485 | 1326. |
| #2 | .4654 | .8341 | .7911 | 1.924 | 31.87 | .1741 | .5308 | .3478 | 1340. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4288 | 1.127 | -.0319 | .0110 | F42.51 | .5333 | .5827 | 6.618 | .0012 |
| Stddev | .0006 | .003 | .0008 | .0010 | .00 | .0005 | .0010 | .003 | .0001 |
| %RSD | .1512 | .2187 | 2.484 | 8.961 | .0106 | .0844 | .1754 | .0513 | 6.437 |
| #1 | .4292 | 1.125 | -.0325 | .0103 | 42.51 | .5330 | .5820 | 6.616 | .0013 |
| #2 | .4283 | 1.128 | -.0313 | .0117 | 42.51 | .5337 | .5834 | 6.621 | .0012 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.789 | .5106 | .4126 | .5498 | .0301 | .4683 | -.0288 |
| Stddev | .001 | .0008 | .0004 | .0002 | .0042 | .0003 | .0002 |
| %RSD | .0651 | .1588 | .0934 | .0355 | 14.12 | .0672 | .5892 |
| #1 | 1.788 | .5100 | .4129 | .5497 | .0271 | .4681 | -.0289 |
| #2 | 1.790 | .5111 | .4123 | .5500 | .0331 | .4685 | -.0287 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1118.4 | 32357. | 15814. |
| Stddev | .7 | 112. | 133. |
| %RSD | .06599 | .34568 | .84386 |
| #1 | 1119.0 | 32436. | 15909. |
| #2 | 1117.9 | 32278. | 15720. |

Zoom In Zoom Out

Sample Name: MC25697-1 Acquired: 10/31/2013 21:26:06 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .9276 | .0016 | -.0029 | .0137 | .2967 | -.0001 | F809.4 |
| Stddev | .0002 | .0075 | .0003 | .0005 | .0003 | .0017 | .0000 | 3.0 |
| %RSD | 3067. | .8088 | 17.53 | 18.64 | 2.452 | .5782 | 29.23 | .3678 |
| #1 | .0002 | .9223 | .0014 | -.0033 | .0139 | .2980 | .0000 | 807.3 |
| #2 | -.0002 | .9329 | .0018 | -.0025 | .0135 | .2955 | -.0001 | 811.5 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0012 | .2579 | .2488 | .0081 | 33.46 | .1623 | .0001 |
| Stddev | .0001 | .0003 | .0019 | .0022 | .0031 | .16 | .0029 | .0000 |
| %RSD | 41.26 | 26.42 | .7548 | .8855 | 38.74 | .4836 | 1.756 | 32.09 |
| #1 | -.0002 | -.0010 | .2565 | .2472 | .0103 | 33.57 | .1643 | .0001 |
| #2 | -.0003 | -.0014 | .2593 | .2504 | .0059 | 33.34 | .1603 | .0001 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .3599 | F1349. | .0088 | .7742 | -.0346 | -.0002 | F44.01 | .0334 |
| Stddev | .0004 | 13. | .0001 | .0021 | .0008 | .0026 | .09 | .0009 |
| %RSD | .1004 | .9961 | 1.442 | .2678 | 2.395 | 1135. | .2057 | 2.578 |
| #1 | .3597 | 1358. | .0088 | .7757 | -.0352 | -.0020 | 44.08 | .0328 |
| #2 | .3602 | 1339. | .0087 | .7728 | -.0341 | .0016 | 43.95 | .0340 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0151 | 6.633 | .0030 | 1.310 | .0048 | F-.0165 | .0140 | .0289 |
| Stddev | .0016 | .003 | .0004 | .005 | .0002 | .0001 | .0004 | .0014 |
| %RSD | 10.82 | .0507 | 13.07 | .4213 | 4.986 | .4049 | 2.648 | 4.834 |
| #1 | .0139 | 6.636 | .0028 | 1.314 | .0047 | -.0165 | .0138 | .0299 |
| #2 | .0162 | 6.631 | .0033 | 1.306 | .0050 | -.0164 | .0143 | .0280 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | -.0054 | -.0283 |
| Stddev | .0006 | .0005 |
| %RSD | 10.54 | 1.598 |
| #1 | -.0058 | -.0286 |
| #2 | -.0050 | -.0280 |



Zoom In Zoom Out

Sample Name: MC25697-1 Acquired: 10/31/2013 21:26:06 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.6 | 32487. | 15843. |
| Stddev | .8 | 50. | 56. |
| %RSD | .07470 | .15347 | .35634 |
| #1 | 1104.1 | 32452. | 15883. |
| #2 | 1105.2 | 32522. | 15803. |



Zoom In Zoom Out

Sample Name: MP21935-SD1 Acquired: 10/31/2013 21:31:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .9789 | .0072 | -.0053 | .0152 | .3098 | -.0005 | 866.9 | .0000 | -.0027 |
| Stddev | .0029 | .0570 | .0006 | .0004 | .0007 | .0017 | .0003 | .4 | .0009 | .0006 |
| %RSD | 221.8 | 5.821 | 8.078 | 8.137 | 4.860 | .5353 | 64.25 | .0460 | 3957. | 23.60 |
| #1 | -.0008 | .9386 | .0068 | -.0050 | .0147 | .3110 | -.0007 | 866.6 | .0007 | -.0023 |
| #2 | .0034 | 1.019 | .0076 | -.0056 | .0157 | .3086 | -.0003 | 867.1 | -.0006 | -.0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2746 | .2378 | .0148 | 33.68 | .1467 | .0009 | .3693 | 1401. | .0078 | .8365 |
| Stddev | .0032 | .0040 | .0081 | .27 | .0491 | .0000 | .0033 | 11. | .0001 | .0159 |
| %RSD | 1.157 | 1.666 | 54.58 | .8134 | 33.50 | 2.560 | .8884 | .7796 | 1.289 | 1.902 |
| #1 | .2769 | .2350 | .0091 | 33.87 | .1814 | .0009 | .3716 | 1409. | .0078 | .8478 |
| #2 | .2724 | .2406 | .0205 | 33.48 | .1119 | .0009 | .3669 | 1393. | .0079 | .8252 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0342 | .0202 | 44.50 | .0378 | .0222 | 6.590 | .0021 | 1.330 | .0057 | -.0063 |
| Stddev | .0119 | .0383 | .24 | .0005 | .0025 | .018 | .0012 | .000 | .0061 | .0075 |
| %RSD | 34.89 | 189.5 | .5487 | 1.208 | 11.32 | .2655 | 59.32 | .0304 | 107.1 | 118.7 |
| #1 | -.0258 | -.0069 | 44.67 | .0375 | .0205 | 6.602 | .0012 | 1.330 | .0099 | -.0010 |
| #2 | -.0427 | .0473 | 44.32 | .0381 | .0240 | 6.578 | .0030 | 1.330 | .0014 | -.0116 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0161 | .0360 | -.0035 | -.0070 |
| Stddev | .0016 | .0264 | .0000 | .0005 |
| %RSD | 9.745 | 73.19 | .5347 | 6.541 |
| #1 | .0172 | .0547 | -.0035 | -.0067 |
| #2 | .0150 | .0174 | -.0036 | -.0073 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1218.3 | 33249. | 16438. |
| Stddev | 6.6 | 31. | 43. |
| %RSD | .54094 | .09470 | .26428 |
| #1 | 1213.7 | 33227. | 16407. |
| #2 | 1223.0 | 33271. | 16469. |



Zoom In Zoom Out

Sample Name: MP21935-LB1 Acquired: 10/31/2013 21:36:17 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0060 | .0006 | .0003 | .0063 | .0017 | -.0001 | .0138 |
| Stddev | .0003 | .0009 | .0006 | .0007 | .0001 | .0001 | .0000 | .0033 |
| %RSD | 79.78 | 15.81 | 102.9 | 267.1 | 1.087 | 5.638 | 46.49 | 23.69 |
| #1 | .0005 | .0067 | .0002 | -.0002 | .0062 | .0018 | -.0001 | .0161 |
| #2 | .0001 | .0053 | .0010 | .0007 | .0063 | .0016 | -.0001 | .0115 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | .0005 | -.0013 | .0070 | .3049 | .0239 | .0004 |
| Stddev | .0001 | .0002 | .0005 | .0001 | .0002 | .0041 | .0187 | .0000 |
| %RSD | 43.38 | 171.9 | 100.3 | 11.62 | 2.219 | 1.349 | 78.32 | .8130 |
| #1 | .0002 | -.0002 | .0009 | -.0012 | .0069 | .3078 | .0371 | .0004 |
| #2 | .0001 | .0000 | .0001 | -.0014 | .0071 | .3020 | .0107 | .0004 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | F1280. | .0025 | -.0008 | -.0009 | .0064 | .0529 | .0004 |
| Stddev | .0001 | 7. | .0001 | .0000 | .0019 | .0070 | .0006 | .0004 |
| %RSD | 38.45 | .5317 | 2.076 | 1.717 | 214.9 | 110.4 | 1.130 | 96.50 |
| #1 | .0003 | 1285. | .0025 | -.0008 | .0005 | .0113 | .0525 | .0007 |
| #2 | .0002 | 1276. | .0024 | -.0008 | -.0022 | .0014 | .0534 | .0001 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | .0271 | .0048 | .0018 | .0001 | F-.0163 | .0003 | -.0037 |
| Stddev | .0020 | .0001 | .0000 | .0000 | .0002 | .0010 | .0002 | .0008 |
| %RSD | 28.40 | .4128 | .7138 | 2.144 | 309.8 | 6.336 | 48.33 | 20.79 |
| #1 | .0055 | .0270 | .0047 | .0017 | .0002 | -.0156 | .0002 | -.0031 |
| #2 | .0083 | .0271 | .0048 | .0018 | -.0001 | -.0171 | .0004 | -.0042 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | -.0041 | .0022 |
| Stddev | .0001 | .0002 |
| %RSD | 1.570 | 10.22 |
| #1 | -.0041 | .0021 |
| #2 | -.0040 | .0024 |

Zoom In Zoom Out

Sample Name: MP21935-LB1 Acquired: 10/31/2013 21:36:17 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1169.1 | 33927. | 16263. |
| Stddev | 6.0 | 232. | 125. |
| %RSD | .51740 | .68484 | .76869 |
| #1 | 1164.8 | 33763. | 16351. |
| #2 | 1173.4 | 34092. | 16174. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 21:41:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.608 | 1.841 | -.0075 | 1.876 | 1.915 | 2.067 | 9.837 | 1.906 |
| Stddev | .0030 | .042 | .002 | .0004 | .000 | .002 | .017 | .084 | .000 |
| %RSD | 1.180 | .4401 | .1042 | 4.941 | .0153 | .1167 | .8010 | .8501 | .0139 |
| #1 | .2504 | 9.638 | 1.842 | -.0078 | 1.876 | 1.917 | 2.079 | 9.897 | 1.906 |
| #2 | .2547 | 9.578 | 1.840 | -.0073 | 1.876 | 1.914 | 2.056 | 9.778 | 1.906 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.923 | F2.238 | 2.005 | 9.545 | 9.826 | 9.996 | 2.124 | 1.827 | 9.555 |
| Stddev | .004 | .008 | .023 | .066 | .021 | .042 | .021 | .005 | .015 |
| %RSD | .2147 | .3757 | 1.160 | .6874 | .2089 | .4220 | .9689 | .2968 | .1555 |
| #1 | 1.920 | 2.232 | 1.989 | 9.592 | 9.841 | 10.03 | 2.109 | 1.823 | 9.565 |
| #2 | 1.926 | 2.244 | 2.021 | 9.499 | 9.812 | 9.966 | 2.138 | 1.831 | 9.544 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.761 | 1.818 | .0040 | .0149 | .0004 | 1.803 | 1.831 | -.0157 | 1.938 |
| Stddev | .000 | .003 | .0007 | .0014 | .0002 | .002 | .002 | .0016 | .001 |
| %RSD | .0048 | .1568 | 17.24 | 9.484 | 46.20 | .0811 | .1229 | 10.03 | .0580 |
| #1 | 1.761 | 1.816 | .0035 | .0159 | .0003 | 1.802 | 1.830 | -.0146 | 1.938 |
| #2 | 1.761 | 1.820 | .0045 | .0139 | .0006 | 1.804 | 1.833 | -.0168 | 1.939 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 2.001 | 1.982 | 1.865 | 2.040 | .0056 | 1.860 | -.0018 |
| Stddev | .005 | .017 | .004 | .015 | .0015 | .000 | .0000 |
| %RSD | .2722 | .8660 | .2142 | .7331 | 25.71 | .0182 | 1.635 |
| #1 | 2.005 | 1.970 | 1.862 | 2.029 | .0067 | 1.860 | -.0019 |
| #2 | 1.997 | 1.994 | 1.867 | 2.051 | .0046 | 1.861 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1284.2 | 33086. | 16811. |
| Stddev | .4 | 284. | 195. |
| %RSD | .02933 | .85838 | 1.1583 |
| #1 | 1284.5 | 33287. | 16673. |
| #2 | 1284.0 | 32885. | 16949. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 21:46:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0058 | .0004 | -.0010 | .0014 | .0002 | .0000 | -.0001 | .0001 |
| Stddev | .0004 | .0002 | .0003 | .0006 | .0003 | .0001 | .0000 | .0023 | .0002 |
| %RSD | 116.2 | 3.226 | 64.58 | 57.79 | 21.38 | 65.49 | 166.4 | 2730. | 179.7 |
| #1 | .0007 | .0059 | .0006 | -.0014 | .0017 | .0002 | .0001 | .0015 | .0000 |
| #2 | .0001 | .0057 | .0002 | -.0006 | .0012 | .0001 | .0000 | -.0017 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | -.0013 | .0006 | .0248 | .0245 | .0002 | .0026 | .1259 |
| Stddev | .0000 | .0013 | .0001 | .0024 | .0093 | .0101 | .0000 | .0005 | .0108 |
| %RSD | 31.74 | 840.1 | 5.758 | 397.7 | 37.60 | 41.10 | 20.00 | 20.81 | 8.617 |
| #1 | .0002 | .0011 | -.0012 | .0023 | .0182 | .0317 | .0003 | .0030 | .1336 |
| #2 | .0001 | -.0008 | -.0013 | -.0011 | .0314 | .0174 | .0002 | .0022 | .1182 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0000 | -.0009 | .0091 | .0042 | .0005 | -.0003 | -.0027 | .0000 |
| Stddev | .0002 | .0003 | .0017 | .0094 | .0004 | .0000 | .0005 | .0000 | .000 |
| %RSD | 132.6 | 1246. | 194.9 | 103.2 | 9.285 | 2.769 | 164.9 | 1.480 | 63.01 |
| #1 | .0003 | -.0002 | -.0020 | .0025 | .0045 | .0005 | -.0006 | -.0028 | .0000 |
| #2 | .0000 | .0003 | .0003 | .0158 | .0039 | .0005 | .0000 | -.0027 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0001 | F.0027 | .0005 | -.0011 | .0010 | .0038 |
| Stddev | .0000 | .0010 | .0001 | .0000 | .0076 | .0000 | .0005 |
| %RSD | 2.931 | 1207. | 5.270 | 2.974 | 707.5 | 2.899 | 12.08 |
| #1 | .0001 | .0008 | .0028 | .0005 | -.0064 | .0010 | .0035 |
| #2 | .0001 | -.0006 | .0026 | .0005 | .0043 | .0011 | .0042 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1267.7 | 33828. | 16681. |
| Stddev | .9 | 49. | 74. |
| %RSD | .07438 | .14411 | .44122 |
| #1 | 1267.0 | 33863. | 16629. |
| #2 | 1268.4 | 33794. | 16733. |



**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000004 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000012 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000007 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | -0.000000 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000568 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | | Fe | 0.000030 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000051 | 0.000000 | No |
| | | | | Mn | 0.000111 | 0.000000 | No |
| | | | | Mo | -0.001080 | 0.000000 | No |
| | | | | Co | 0.000023 | 0.000000 | No |
| | | | | Cu | -0.000002 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000058 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Ni | 0.000029 | 0.000000 | No |
| | | | | Si | 0.000132 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000342 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.006177 | 0.000000 | No |
| | | | | Ni | -0.000225 | 0.000000 | No |
| | | | | Mn | -0.008486 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | S 182.034 {485} | ☒ | None | | | | |
| | Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000028 | 0.000000 | No |
| | | | | Cr | 0.003719 | 0.000000 | No |
| | | | | Mo | -0.001502 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000192 | 0.000000 | No |
| | | | | V | -0.001150 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | | | | Ti | -0.000072 | 0.000000 | No |
| | | | | Cu | 0.000040 | 0.000000 | No |
| | | | | Sn | -0.009353 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 7 | Al | 0.000002 | 0.000000 | No |
| | | | | Fe | -0.000233 | 0.000000 | No |
| | | | | Mn | 0.000070 | 0.000000 | No |
| | | | | Mo | 0.000004 | 0.000000 | No |
| | | | | Ca | -0.000007 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | | | | Co | -0.001109 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | | Ti | 0.012159 | 0.000000 | No |
| | | | | Mo | 0.022364 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | | Cr | 0.000398 | 0.000000 | No |
| | | | | V | -0.025265 | 0.000000 | No |
| | | | | Co | 0.002209 | 0.000000 | No |
| | | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

ACCUTEST

| Date: | 10/28/13 |
|---|---|
| Time | 9:40 |

| | |
|---|---|
| Name: | EDOUARDA |
| MP Batch ID: | MP21908 |
| QC Sample ID: | MC25522-6F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37805-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95.5 | Factor | -1 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21908-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21908-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S2 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-10F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25522-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-5F | 50 | 50 | | | | 3 | 5 | | |
| 9 | MC25522-6F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-9F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-5F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-6F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 10/29/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 10/28/13 |
|---|---|
| Time | 9:40 |

| | |
|---|---|
| Name: | EDOUARDA |
| MP Batch ID: | MP21908 |
| QC Sample ID: | MC25522-6F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37805-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95.5 | Factor | -1 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21908-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21908-B1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MP21908-S2 | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-10F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-11F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25522-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-13F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-5F | 50 | 50 | | | | 3 | 5 | | |
| 9 | MC25522-6F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25522-9F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-4F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-5F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-6F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 10/29/13

**(Format edits must be done by dept. Manager)**

Prep QC: MP21920

ACCUTEST

| Date: | 10/29/13 |
|---|---|
| Time | 14:15 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP21920 |
| QC Sample ID: | MC25568-11F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37922-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21920-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21920-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21920-S1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-SD1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S2 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S3 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 7 | MP21920-S4 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 3 | MC25568-10F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25568-11F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25568-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-15F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-9F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25594-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25594-5F | 50 | 50 | | | | 3 | 5 | | |
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Protected Worksheet MMP003-02 QC Review PulY Date: 11/01/13

(Format edits must be done by dept. Manager)

7.6.3

7

Prep QC: MP21920

ACCUTEST

| Date: | 10/29/13 |
|---|---|
| Time | 14:15 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP21920 |
| QC Sample ID: | MC25568-11F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37922-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21920-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21920-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21920-S1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-SD1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S2 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S3 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 7 | MP21920-S4 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 3 | MC25568-10F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25568-11F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25568-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-15F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-9F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25594-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25594-5F | 50 | 50 | | | | 3 | 5 | | |
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Protected Worksheet MMP003-02 QC Review PulY Date: 11/01/13

(Format edits must be done by dept. Manager)

7.6.4

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44849 | 5.0 | 1.1 | mg/l | 250 | 255 | 102.0 | 80-120% |
| Alkalinity, Total as CaCO3 | GN44888 | 5.0 | 1.1 | mg/l | 250 | 262 | 104.8 | 80-120% |
| Alkalinity, Total as CaCO3 | GN44897 | 5.0 | 1.1 | mg/l | 250 | 261 | 104.4 | 80-120% |
| Chloride | GN44893 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | 0.10 | 0.028 | mg/l | 2 | 2.03 | 101.5 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16784/GN44844 | 0.10 | 0.0 | mg/l | 2 | 2.00 | 100.0 | 90-110% |
| Nitrogen, Nitrite | GP16762/GN44805 | 0.010 | 0.0 | mg/l | .02 | 0.020 | 100.0 | 80-120% |

Associated Samples:
Batch GN44849: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
Batch GN44888: MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44893: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44897: MC25568-10
Batch GP16762: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16783: MC25568-10, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16784: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44849 | MC25568-11 | mg/l | 313 | 313 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 71.2 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN44897 | MC25568-10 | mg/l | 348 | 350 | 0.6 | 0-20% |
| Chloride | GN44893 | MC25568-11 | mg/l | 20.7 | 20.7 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | MC25522-11 | mg/l | 0.087 | 0.093 | 6.7 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16784/GN44844 | MC25568-11 | mg/l | 0.18 | 0.18 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16762/GN44805 | MC25568-11 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN44849: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
Batch GN44888: MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44893: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44897: MC25568-10
Batch GP16762: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16783: MC25568-10, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16784: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44849 | MC25568-11 | mg/l | 313 | 250 | 568 | 102.0 | 75-125% |
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 250 | 341 | 107.9 | 75-125% |
| Alkalinity, Total as CaCO3 | GN44897 | MC25568-10 | mg/l | 348 | 250 | 606 | 103.2 | 75-125% |
| Chloride | GN44893 | MC25568-11 | mg/l | 20.7 | 10 | 31.2 | 105.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16783/GN44844 | MC25522-11 | mg/l | 0.087 | 2 | 2.1 | 100.7 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16784/GN44844 | MC25568-11 | mg/l | 0.18 | 2 | 2.0 | 91.0 | 90-110% |
| Nitrogen, Nitrite | GP16762/GN44805 | MC25568-11 | mg/l | 0.0017 U | .02 | 0.021 | 105.0 | 75-125% |

Associated Samples:
Batch GN44849: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
Batch GN44888: MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44893: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GN44897: MC25568-10
Batch GP16762: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16783: MC25568-10, MC25568-12, MC25568-13, MC25568-15, MC25568-16
Batch GP16784: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-11
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:38 | GN44844-STD1 | 1 | | STDA5.0 |
| 13:39 | GN44844-STD2 | 1 | | STDB2.0 |
| 13:40 | GN44844-STD3 | 1 | | STDC1.0 |
| 13:41 | GN44844-STD4 | 1 | | STDD0.80 |
| 13:43 | GN44844-STD5 | 1 | | STDE0.50 |
| 13:44 | GN44844-STD6 | 1 | | STDF0.30 |
| 13:45 | GN44844-STD7 | 1 | | STDG0.10 |
| 13:46 | GN44844-STD8 | 1 | | STDH0.0 |
| 13:49 | GN44844-ICV1 | 1 | | |
| 13:50 | GN44844-ICB1 | 1 | | |
| 13:51 | GN44844-CCV1 | 1 | | |
| 13:52 | GN44844-CCB1 | 1 | | |
| 13:54 | ZZZZZZ | 1 | | Column efficiency. |
| 13:55 | GP16782-MB1 | 1 | | |
| 13:56 | GP16782-B1 | 1 | | |
| 13:57 | GP16782-S1 | 1 | | |
| 13:59 | GP16782-D1 | 1 | | |
| 14:00 | MC25522-6 | 1 | | (sample used for QC only; not part of login MC25568) |
| 14:01 | ZZZZZZ | 1 | | |
| 14:02 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:05 | ZZZZZZ | 1 | | |
| 14:06 | GN44844-CCV2 | 1 | | |
| 14:07 | GN44844-CCB2 | 1 | | |
| 14:09 | ZZZZZZ | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |
| 14:12 | ZZZZZZ | 1 | | |
| 14:13 | ZZZZZZ | 1 | | |
| 14:15 | GN44844-CCV3 | 1 | | |
| 14:16 | GN44844-CCB3 | 1 | | |
| 14:17 | GN44844-ICV2 | 1 | | |
| 14:18 | GN44844-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:20 | GN44844-CCV4 | 1 | | |
| 14:21 | GN44844-CCB4 | 1 | | Raw data typo, CCV changed to CCB. |
| 14:22 | ZZZZZZ | 1 | | Column efficiency. |
| 14:23 | GP16783-MB1 | 1 | | |
| 14:25 | GP16783-B1 | 1 | | |
| 14:26 | GP16783-S1 | 1 | | |
| 14:27 | GP16783-D1 | 1 | | |
| 14:28 | MC25522-11 | 1 | | (sample used for QC only; not part of login MC25568) |
| 14:30 | ZZZZZZ | 1 | | |
| 14:31 | ZZZZZZ | 1 | | |
| 14:32 | MC25568-10 | 1 | | |
| 14:33 | MC25568-12 | 1 | | |
| 14:35 | GN44844-CCV5 | 1 | | |
| 14:36 | GN44844-CCB5 | 1 | | |
| 14:37 | MC25568-13 | 1 | | |
| 14:38 | MC25568-15 | 1 | | |
| 14:40 | MC25568-16 | 1 | | |
| 14:41 | GN44844-CCV6 | 1 | | |
| 14:42 | GN44844-CCB6 | 1 | | |
| 14:43 | GN44844-ICV3 | 1 | | |
| 14:44 | GN44844-ICB3 | 1 | | |
| 14:46 | GN44844-CCV7 | 1 | | |
| 14:47 | GN44844-CCB7 | 1 | | |
| 14:48 | ZZZZZZ | 1 | | Column efficiency. |
| 14:49 | GP16784-MB1 | 1 | | |
| 14:51 | GP16784-B1 | 1 | | |
| 14:52 | GP16784-S1 | 1 | | |
| 14:53 | GP16784-D1 | 1 | | |
| 14:54 | MC25568-11 | 1 | | |
| 14:56 | MC25568-1 | 1 | | |
| 14:57 | MC25568-2 | 1 | | |
| 14:58 | MC25568-3 | 1 | | |
| 14:59 | MC25568-4 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:01 | GN44844-CCV8 | 1 | | |
| 15:02 | GN44844-CCB8 | 1 | | |
| 15:03 | MC25568-5 | 1 | | |
| 15:04 | MC25568-6 | 1 | | |
| 15:06 | MC25568-7 | 1 | | |
| 15:07 | MC25568-8 | 1 | | |
| 15:08 | MC25568-9 | 1 | | |
| 15:09 | GN44844-CCV9 | 1 | | |
| 15:11 | GN44844-CCB9 | 1 | | |
| 15:12 | GN44844-ICV4 | 1 | | |
| 15:13 | GN44844-ICB4 | 1 | | |
| 15:14 | GN44844-CCV10 | 1 | | |
| 15:16 | GN44844-CCB10 | 1 | | |
| 15:17 | ZZZZZZ | 1 | | Column efficiency. |
| 15:18 | GP16785-MB1 | 1 | | |
| 15:19 | GP16785-B1 | 1 | | |
| 15:20 | GP16785-S1 | 1 | | |
| 15:22 | GP16785-D1 | 1 | | |
| 15:23 | MC25594-1 | 1 | | (sample used for QC only; not part of login MC25568) |
| 15:24 | ZZZZZZ | 1 | | |
| 15:25 | ZZZZZZ | 1 | | |
| 15:27 | ZZZZZZ | 1 | | |
| 15:28 | GN44844-CCV11 | 1 | | |
| 15:29 | GN44844-CCB11 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25568
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Run ID: GN44844 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN44844-ICV1 | Nitrogen, Nitrate + Nitrite | 2.9 | 0.10 | 0.027 | 3 | 96.7 | 90-110 |
| GN44844-ICB1 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV1 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN44844-CCV2 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB2 | Nitrogen, Nitrate + Nitrite | 0.031 | 0.10 | 0.027 | | | |
| GN44844-CCV3 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB3 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-ICV2 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB2 | Nitrogen, Nitrate + Nitrite | 0.030 | 0.10 | 0.027 | | | |
| GN44844-CCV4 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB4 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-CCV5 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV6 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB6 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV7 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB7 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV8 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV9 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-ICV4 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN44844-ICB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV10 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN44844-CCB10 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV11 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB11 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ Units: mg/l as N
SM 21TH 4500 NO2 B M (Solids) ○ mg/kg as I

Analyst: MEHDIA
GN Batch ID: GN44805
GP Batch ID: GP16762
Date: 10/23/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 10/23/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.035 | 0.068 | 0.165 | 0.335 | 0.673 | 1.345 | | | | |
| Actual Value: | 0.000 | 0.010 | 0.020 | 0.049 | 0.100 | 0.200 | 0.400 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-31655-NO2 | Reagent | |
| CCV | GNSTD-31656-NO2-5 | Reagent | |
| ICV | GNSTD-31657-NO2-2 | Reagent | |
| Reagent | RGT-37839-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 1.00000
Slope = 0.29737
Intercept = 0.00009

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC25568-11 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | | |
| MS Sample ID: | MC25568-11 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.021 | % Rec: | 105% | |
| MB Prep Date: | 10/23/13 | | | RL: | 0.01 | <RL ?: | Y | | | |
| SB Prep Date: | 10/23/13 | Res: | 0.020 | Spike Amt: | 0.02 | % Rec: | 100% | | | |
| SB Prep Date: | 10/23/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% | |
| CCV (1) Res: | 0.2008 | Known: | 0.20 | % Rec: | 100% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: 100% |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:20 | CCV | N/A | | 50 | 50 | 1 | 0.675 | 0.000 | 0.201 | 0.2008 | 0.010 |
| 17:35 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:35 | ICV | N/A | | 50 | 50 | 1 | 0.340 | 0.000 | 0.101 | 0.1012 | 0.010 |
| 17:35 | GP16762-MB1 | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:35 | GP16762-B1 | N/A | | 50 | 50 | 1 | 0.067 | 0.000 | 0.020 | 0.0200 | 0.010 |
| 17:35 | GP16762-S1 | 7 | 1 | 50 | 50 | 1 | 0.069 | 0.000 | 0.021 | 0.0206 | 0.010 |
| 17:35 | GP16762-D1 | 7 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.002 | 0.0016 | 0.010 |
| 17:35 | MC25568-11 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 17:35 | MC25568-1 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 17:35 | MC25568-2 | 6 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:35 | MC25568-3 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 17:35 | MC25568-4 | 6 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.002 | 0.0025 | 0.010 |
| 17:35 | CCV | N/A | | 50 | 50 | 1 | 0.673 | 0.000 | 0.200 | 0.2002 | 0.010 |
| 17:40 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:40 | MC25568-5 | 6 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.002 | 0.0016 | 0.010 |
| 17:40 | MC25568-6 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.002 | 0.0019 | 0.010 |
| 17:40 | MC25568-7 | 7 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.001 | 0.0010 | 0.010 |
| 17:40 | MC25568-8 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0013 | 0.010 |
| 17:40 | MC25568-9 | 6 | 1 | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | 0.0004 | 0.010 |
| 17:40 | MC25568-10 | 6 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:40 | MC25568-12 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |
| 17:40 | MC25568-13 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.002 | 0.0022 | 0.010 |
| 17:40 | MC25568-15 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.002 | 0.0019 | 0.010 |
| 17:40 | MC25568-16 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.001 | 0.0007 | 0.010 |
| 17:40 | CCV | N/A | | 50 | 50 | 1 | 0.681 | 0.000 | 0.203 | 0.2026 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | 0.0001 | 0.010 |

10/23/13

Analyst: Date: 10-23-13 QC Reviewer: 10.23.13 Date:

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 10/28/13 | **Analysis Batch ID** | GN44844 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16782,GP16783,GP16784,GP16785 |
| **File ID** | 102813W2.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 31704-NO3 | **Color Reagent** | RGT- | 38151-NO3 |
| **ICV** | GNSTD- | 31705-NO3-2 | **Buffer** | RGT- | 37722-NO3 |
| **CCV** | GNSTD- | 31704-NO3-4 | | | |
| **Column EFF STD** | GNSTD- | 31706-NO3-2 | | | |
| **Ammonium Hydroxide** | VENDOR- | 12241 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16782-S1 | 4 | 8.0 | MC25522-9 | 2 | 8.4 | MC25568-15 | 2 | 8.4 | MC25568-6 | 2 | 8.7 |
| GP16782-D1 | 2 | 8.0 | MC25522-10 | 2 | 8.2 | MC25568-16 | 2 | 8.2 | MC25568-7 | 2 | 8.3 |
| MC25522-6 | 2 | 8.0 | GP16783-S1 | 2 | 8.5 | GP16784-S1 | 2 | 8.1 | MC25568-8 | 2 | 8.6 |
| MC25522-1 | 2 | 8.1 | GP16783-D1 | 2 | 8.5 | GP16784-D1 | 4 | 8.1 | MC25568-9 | 2 | 8.4 |
| MC25522-2 | 2 | 8.6 | MC25522-11 | 2 | 8.5 | MC25568-11 | 4 | 8.1 | GP16785-S1 | 4 | 8.0 |
| MC25522-3 | 2 | 8.4 | MC25522-13 | 2 | 8.6 | MC25568-1 | 4 | 8.6 | GP16785-D1 | 4 | 8.0 |
| MC25522-4 | 2 | 8.6 | MC25522-14 | 2 | 8.4 | MC25568-2 | 2 | 8.2 | MC25594-1 | 4 | 8.0 |
| MC25522-5 | 2 | 8.7 | MC25568-10 | 2 | 8.6 | MC25568-3 | 2 | 8.2 | MC25594-2 | 2 | 8.5 |
| MC25522-7 | 2 | 8.1 | MC25568-12 | 2 | 8.5 | MC25568-4 | 2 | 8.4 | MC25594-3 | 2 | 8.6 |
| MC25522-8 | 2 | 8.5 | MC25568-13 | 2 | 8.0 | MC25568-5 | 2 | 8.2 | MC25594-4 | 2 | 8.4 |

**COMMENTS**

**QC Review** **Date:** 10/29/13

Author: chemistry

Date : 10/28/2013

Original Run Filename: OM_10-28-2013_01-37-15PM.OMN Created: 10/28/2013 1:37:15 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_10-28-2013_01-37-15PM.OMN Last Modified: 10/28/2013 3:31:00 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 2.89 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0281 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0266 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16782-MB1 | 1 | 0.0228 | |
| GP16782-B1 | 1 | 2.04 | |
| GP16782-S1 | 1 | 2.23 | |
| GP16782-D1 | 1 | 0.174 | |
| MC25522-6 | 1 | 0.183 | |
| MC25522-1 | 1 | 0.402 | |
| MC25522-2 | 1 | 0.365 | |
| MC25522-3 | 1 | 0.313 | |
| MC25522-4 | 1 | 0.0378 | |
| CCV | 1 | 2.03 | |
| CCB | 1 | 0.0306 | |
| MC25522-5 | 1 | 0.0362 | |
| MC25522-7 | 1 | 0.0345 | |
| MC25522-8 | 1 | 0.343 | |
| MC25522-9 | 1 | 0.455 | |
| MC25522-10 | 1 | 0.0417 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0277 | |
| ICV | 1 | 3.11 | |
| ICB | 1 | 0.0302 | |
| CCV | 1 | 2.04 | |
| ~~CCV~~ CCB | 1 | 0.0294 | Typo CW 10-28-13 |
| COLEFFCONF | 1 | 2.20 | |
| GP16783-MB1 | 1 | 0.0284 | |
| GP16783-B1 | 1 | 2.03 | |
| GP16783-S1 | 1 | 2.10 | |
| GP16783-D1 | 1 | 0.0925 | |
| MC25522-11 | 1 | 0.0865 | |
| MC25522-13 | 1 | 0.555 | |
| MC25522-14 | 1 | 0.163 | |
| MC25568-10 | 1 | 0.218 | |
| MC25568-12 | 1 | 0.0319 | |
| CCV | 1 | 2.02 | |
| CCB | 1 | 0.0228 | |
| MC25568-13 | 1 | 0.275 | |
| MC25568-15 | 1 | 0.252 | |
| MC25568-16 | 1 | 0.273 | |
| CCV | 1 | 2.01 | |
| CCB | 1 | 0.0292 | |
| ICV | 1 | 3.05 | |
| ICB | 1 | 0.0246 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0281 | |
| COLEFFCONF | 1 | 2.24 | |
| GP16784-MB1 | 1 | 0.0233 | |
| GP16784-B1 | 1 | 2.00 | |

10/29/13

Author: chemistry

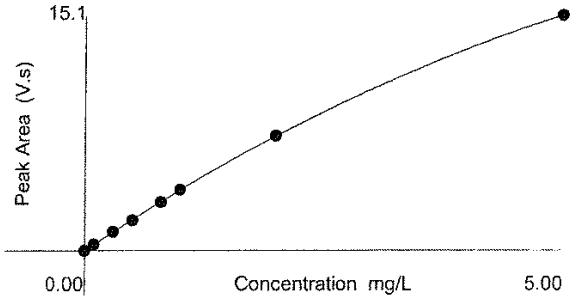
Date : 10/28/2013

| | | | |
|---|---|---|---|
| GP16784-S1 | 1 | 1.98 | |
| GP16784-D1 | 1 | 0.179 | |
| MC25568-11 | 1 | 0.181 | |
| MC25568-1 | 1 | 0.263 | |
| MC25568-2 | 1 | 0.0330 | |
| MC25568-3 | 1 | 0.0326 | |
| MC25568-4 | 1 | 0.256 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0233 | |
| MC25568-5 | 1 | 0.106 | |
| MC25568-6 | 1 | 0.0233 | |
| MC25568-7 | 1 | 0.0209 | |
| MC25568-8 | 1 | 0.201 | |
| MC25568-9 | 1 | 0.0474 | |
| CCV | 1 | 1.98 | |
| CCB | 1 | 0.0228 | |
| ICV | 1 | 2.98 | |
| ICB | 1 | 0.0210 | |
| CCV | 1 | 1.94 | |
| CCB | 1 | 0.0228 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16785-MB1 | 1 | 0.0240 | |
| GP16785-B1 | 1 | 1.99 | |
| GP16785-S1 | 1 | 2.15 | |
| GP16785-D1 | 1 | 0.158 | |
| MC25594-1 | 1 | 0.160 | |
| MC25594-2 | 1 | 0.399 | |
| MC25594-3 | 1 | 0.298 | |
| MC25594-4 | 1 | 0.294 | |
| CCV | 1 | 1.95 | |
| CCB | 1 | 0.0226 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.1 | 1.20 | 0.0 | 0.0 | 4.99 | 10/28/2013 | 1:38:12 PM |
| 2 | 2.00 | 1 | 7.39 | 0.654 | 0.0 | -0.3 | 2.04 | 10/28/2013 | 1:39:27 PM |
| 3 | 1.00 | 1 | 3.92 | 0.357 | 0.0 | -0.7 | 0.991 | 10/28/2013 | 1:40:42 PM |
| 4 | 0.800 | 1 | 3.12 | 0.284 | 0.0 | 1.0 | 0.774 | 10/28/2013 | 1:41:58 PM |
| 5 | 0.500 | 1 | 1.94 | 0.178 | 0.0 | 2.8 | 0.473 | 10/28/2013 | 1:43:13 PM |
| 6 | 0.300 | 1 | 1.20 | 0.111 | 0.0 | -0.4 | 0.296 | 10/28/2013 | 1:44:28 PM |
| 7 | 0.100 | 1 | 0.406 | 0.0374 | 0.0 | -5.3 | 0.114 | 10/28/2013 | 1:45:44 PM |
| 8 | 0.00 | 1 | -6.84e-3 | -9.59e-4 | | | 0.0226 | 10/28/2013 | 1:46:59 PM |

Figure : 1 (NO3)




Area = - 0.224 * Conc^2 + 4.15 * Conc - 0.0271
Conc = 7.36e-3 * Area^2 + 0.218 * Area + 0.0240
Correlation Coefficient (r) = 0.99998

Weighting : None

10/29/13

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44849** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 10/28/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25568-11 Original: 313 MS: 568 Spk Amt: 250 % Rec: 102%

Dup Sample ID: MC25568-11 Original: 313 Duplicate: 313 % RPD: 0%

MB Date: 10/28/2013 Result: <5 RL: 5 < RL?: y

Spike blank: 255 Spike Amt: 250 % Rec: 102

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 51.5 % REC: 103.0

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44849-MB1 | 100 | 4.78 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44849-B1 | 100 | 8.69 | 0.1 | 23.4 | 23.3 | | | 255.1 | 255.135 | 5 |
| 1 | GN44849-S1 | 100 | 8.42 | 23.4 | 75.3 | 51.9 | | | 568.3 | 568.305 | 5 |
| 1 | GN44849-D1 | 100 | 6.27 | 25.3 | 53.9 | 28.6 | | | 313.2 | 313.17 | 5 |
| 1 | MC25568-11 | 100 | 6.25 | 3.9 | 32.5 | 28.6 | | | 313.2 | 313.17 | 5 |
| 1 | MC25568-1 | 100 | 6.45 | 32.5 | 63.0 | 30.5 | | | 334.0 | 333.975 | 5 |
| 1 | MC25568-2 | 100 | 5.79 | 13.0 | 14.7 | 1.7 | 0.3 | 2.0 | 15.3 | 15.33 | 5 |
| 1 | MC25568-3 | 100 | 5.81 | 15.0 | 16.7 | 1.7 | 0.3 | 2.0 | 15.3 | 15.33 | 5 |
| 1 | MC25568-4 | 100 | 6.28 | 17.0 | 24.4 | 7.4 | | | 81.0 | 81.03 | 5 |
| 1 | MC25568-5 | 100 | 6.03 | 24.4 | 26.5 | 2.1 | | | 23.0 | 22.995 | 5 |
| 1 | MC25568-6 | 100 | 6.62 | 26.5 | 61.9 | 35.4 | | | 387.6 | 387.63 | 5 |
| 1 | MC25568-7 | 100 | 6.64 | 11.9 | 47.4 | 35.5 | | | 388.7 | 388.725 | 5 |
| 1 | MC25568-8 | 100 | 6.21 | 0.0 | 5.8 | 5.8 | | | 63.5 | 63.51 | 5 |
| 1 | MC25568-9 | 100 | 6.18 | 5.8 | 9.5 | 3.7 | | | 40.5 | 40.515 | 5 |
| | ICV | 100 | 8.52 | 9.5 | 14.2 | 4.7 | | | 51.5 | 51.465 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 10/28/2013 5:00:38 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44888** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 10/30/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25594-1 Original: 71.2 MS: 341 Spk Amt: 250 % Rec: 108%

Dup Sample ID: MC25594-1 Original: 71.2 Duplicate: 71.2 % RPD: 0%

MB Date: 10/30/2013 Result: <5 RL: 5 < RL?: y

Spike blank: 262 Spike Amt: 250 % Rec: 104.8

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 52.6 % REC: 105.2

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44888-MB1 | 100 | 4.92 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44888-B1 | 100 | 8.89 | 0.1 | 24.0 | 23.9 | | | 261.7 | 261.705 | 5 |
| 1 | GN44888-S1 | 100 | 7.71 | 24.0 | 55.1 | 31.1 | | | 340.5 | 340.545 | 5 |
| 1 | GN44888-D1 | 100 | 6.15 | 5.1 | 11.6 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-1 | 100 | 6.17 | 11.6 | 18.1 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-2 | 100 | 6.09 | 18.1 | 24.0 | 5.9 | | | 64.6 | 64.605 | 5 |
| 1 | MC25594-3 | 100 | 5.91 | 24.0 | 28.7 | 4.7 | | | 51.5 | 51.465 | 5 |
| 1 | MC25522-11 | 100 | 5.91 | 28.7 | 30.2 | 1.5 | 0.3 | 1.8 | 13.1 | 13.14 | 5 |
| 1 | MC25522-13 | 100 | 5.85 | 30.5 | 38.8 | 8.3 | | | 90.9 | 90.885 | 5 |
| 1 | MC25522-14 | 100 | 5.81 | 38.8 | 48.0 | 9.2 | | | 100.7 | 100.74 | 5 |
| 1 | MC25568-12 | 100 | 6.85 | 0.0 | 12.5 | 12.5 | | | 136.9 | 136.875 | 5 |
| 1 | MC25568-13 | 100 | 6.65 | 12.5 | 45.7 | 33.2 | | | 363.5 | 363.54 | 5 |
| 1 | MC25568-15 | 100 | 6.14 | 0.0 | 5.8 | 5.8 | | | 63.5 | 63.51 | 5 |
| 1 | MC25568-16 | 100 | 6.24 | 5.8 | 37.0 | 31.2 | | | 341.6 | 341.64 | 5 |
| | ICV | 100 | 8.62 | 37.0 | 41.8 | 4.8 | | | 52.6 | 52.56 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 10/31/2013 11:02:43 AM

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN44893** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 10/31/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN44893-MB1 | Date: | 10/31/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN44893-B1 | Date: | 10/31/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC25568-11 | Smpl Res:: | 20.7 | Dup Res: | 20.7 | % RPD: | 0% | | | | |
| MS ID: | MC25568-11 | Smpl Res: | 20.7 | MS Res: | 31.2 | Spike: | 10 | % Rec: | 105% | | |
| External: | GNSTD-31299-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.075 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44893-MB1 | 2.48 | 50.0 | 1 | 0.0 | 0.0750 | 0.0750 | 0.000 | 0.0 | 0 | 1 |
| | GN44893-B1 | 2.53 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.025 | 10.3 | 10.25 | 1 |
| 1 | GN44893-S1 | 2.5 | 50.0 | 1 | 0.0 | 3.2000 | 3.2000 | 3.125 | 31.2 | 31.24 | 1 |
| 1 | GN44893-D1 | 2.5 | 50.0 | 1 | 0.0 | 2.1500 | 2.1500 | 2.075 | 20.7 | 20.74 | 1 |
| 1 | MC25568-11 | 2.53 | 50.0 | 1 | 0.0 | 2.1500 | 2.1500 | 2.075 | 20.7 | 20.74 | 1 |
| 1 | MC25568-1 | 2.52 | 50.0 | 1 | 0.0 | 2.1500 | 2.1500 | 2.075 | 20.7 | 20.74 | 1 |
| 1 | MC25568-2 | 2.51 | 50.0 | 1 | 0.0 | 2.6500 | 2.6500 | 2.575 | 25.7 | 25.74 | 1 |
| 1 | MC25568-3 | 2.49 | 50.0 | 1 | 0.0 | 2.6500 | 2.6500 | 2.575 | 25.7 | 25.74 | 1 |
| 1 | MC25568-4 | 2.47 | 50.0 | 1 | 0.0 | 0.5000 | 0.5000 | 0.425 | 4.3 | 4.25 | 1 |
| 1 | MC25568-5 | 2.51 | 50.0 | 1 | 0.0 | 0.3500 | 0.3500 | 0.275 | 2.8 | 2.75 | 1 |
| 1 | MC25568-6 | 2.5 | 50.0 | 1 | 0.0 | 2.1000 | 2.1000 | 2.025 | 20.2 | 20.24 | 1 |
| 1 | MC25568-7 | 2.54 | 50.0 | 1 | 0.0 | 2.0500 | 2.0500 | 1.975 | 19.7 | 19.74 | 1 |
| 1 | MC25568-8 | 2.51 | 50.0 | 1 | 0.0 | 0.5000 | 0.5000 | 0.425 | 4.3 | 4.25 | 1 |
| 1 | MC25568-9 | 2.48 | 50.0 | 1 | 0.0 | 0.3500 | 0.3500 | 0.275 | 2.8 | 2.75 | 1 |
| 1 | MC25568-10 | 2.5 | 50.0 | 1 | 0.0 | 3.3000 | 3.3000 | 3.225 | 32.2 | 32.24 | 1 |
| 1 | MC25568-12 | 2.52 | 50.0 | 1 | 0.0 | 1.2000 | 1.2000 | 1.125 | 11.3 | 11.25 | 1 |
| 1 | MC25568-13 | 2.55 | 50.0 | 1 | 0.0 | 2.9500 | 2.9500 | 2.875 | 28.7 | 28.74 | 1 |
| 1 | MC25568-15 | 2.53 | 50.0 | 1 | 0.0 | 2.3500 | 2.3500 | 2.275 | 22.7 | 22.74 | 1 |
| 1 | MC25568-16 | 2.55 | 50.0 | 1 | 0.0 | 3.3000 | 3.3000 | 3.225 | 32.2 | 32.24 | 1 |
| | ICV | 2.55 | 50.0 | 1 | 0.0 | 0.5750 | 0.5750 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13659 | #4 | | |
| #2 | Acidic Indicator | RGT-38203-CHL | #5 | | |
| #3 | Spike | GNSTD-30654-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-14074, Result 2.03.

**Approved By:** mehdia **Date:** 10/31/2013 11:11:48 AM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44897** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 10/31/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25568-10 Original: 348 MS: 606 Spk Amt: 250 % Rec: 103%

Dup Sample ID: MC25568-10 Original: 348 Duplicate: 350 % RPD: 1%

MB Date: 10/31/2013 Result: <5.0 RL: 5.0 < RL?: Y

Spike blank: 261 Spike Amt: 250 % Rec: 104.4

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110% Known 50.0 Res: 53.7 % REC: 107.4

Sulfuric Normality: 0.0219 pH Meter ID: 520A

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44897-MB1 | 100 | 5.37 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44897-B1 | 100 | 8.92 | 0.1 | 23.9 | 23.8 | | | 260.6 | 260.61 | 5 |
| 1 | GN44897-S1 | 100 | 7.06 | 0.0 | 55.3 | 55.3 | | | 605.5 | 605.535 | 5 |
| 1 | GN44897-D1 | 100 | 6.58 | 5.3 | 37.3 | 32.0 | | | 350.4 | 350.4 | 5 |
| 1 | MC25568-10 | 100 | 6.58 | 37.3 | 69.1 | 31.8 | | | 348.2 | 348.21 | 5 |
| 1 | MC25594-4 | 100 | 6.46 | 19.1 | 34.2 | 15.1 | | | 165.3 | 165.345 | 5 |
| 1 | MC25728-5 | 100 | 6.35 | 34.2 | 42.3 | 8.1 | | | 88.7 | 88.695 | 5 |
| 1 | MC25728-6 | 100 | 6.42 | 42.3 | 85.0 | 42.7 | | | 467.6 | 467.565 | 5 |
| 1 | MC25728-7 | 100 | 6.19 | 35.0 | 62.2 | 27.2 | | | 297.8 | 297.84 | 5 |
| 1 | MC25728-8 | 100 | 6.20 | 12.2 | 39.5 | 27.3 | | | 298.9 | 298.935 | 5 |
| 1 | MC25728-9 | 100 | 6.36 | 39.5 | 65.3 | 25.8 | | | 282.5 | 282.51 | 5 |
| 1 | MC25755-1 | 100 | 6.97 | 15.3 | 44.1 | 28.8 | | | 315.4 | 315.36 | 5 |
| 1 | MC25755-2 | 100 | 7.01 | 44.1 | 65.4 | 21.3 | | | 233.2 | 233.235 | 5 |
| 1 | MC25755-3 | 100 | 6.76 | 15.4 | 39.3 | 23.9 | | | 261.7 | 261.705 | 5 |
| | ICV | 100 | 8.59 | 39.3 | 44.2 | 4.9 | | | 53.7 | 53.655 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|---|
| #1 | | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | | |
| #3 | | | | | |
| #4 | | | | | |
| #5 | | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 11/1/2013 8:34:43 PM

New England ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

| | |
|---|---|
| Accutest Job #: | MC25568 |
| Accutest Quote #: | Page 1 of 2 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | Subcontract Laboratory Information | Analytical Information |
|---|---|---|
| Name: Accutest New England | Name: Accutest - New Jersey | |
| Address: 50 D'Angelo Drive | Address: 2235 Route 130 | |
| City: Marlborough State: MA Zip: 01752 | City: Dayton State: NJ Zip: 08810 | |
| Send Report to: Any questions contact: Frank D'Agostino | Contact: Sample Management | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | Phone: (732) 329-0200 | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation HCL | NaOH | HNO3 | H2So4 | None | SO4 by 300 | MS/MSD | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC25568 -1 | 10/23/13 | 9:20 AM | | GW | 1 | | | | | X | X | | | | | | B6 MA |
| MC25568 -2 | 10/23/13 | 9:15 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -3 | 10/23/13 | 00:00 | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -4 | 10/23/13 | 9:52 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -5 | 10/23/13 | 10:20 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -6 | 10/23/13 | 10:25 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -7 | 10/23/13 | 00:00 | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -8 | 10/23/13 | 10:49 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -9 | 10/23/13 | 11:10 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC25568 -10 | 10/23/13 | 12:12 PM | | GW | 1 | | | | | X | X | | | | | | |

**Data Deliverable Information**

- [x] STD
- [ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [x] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

**Comments / Remarks**

STD - Due 11/6/13

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 10/23/13 | Received By: 1 Fed Ex | Date & Time: 1 | Seal #: 10/23/13 ND Headspace: Yes ☐ No ☐ NA ☐ |
| Relinquished by: 2 Fed Ex | 10/24/13 1000 | Received By: 2 | Date & Time: 2 10/24/13 1000 | Preserved where applicable: ☐ |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 6.0 On Ice ☑ |

Intact IP

Fed Ex TRK#
5743 4540 2415

3A

10.1 10

**MC25568: Chain of Custody**
**Page 1 of 3**
**Accutest New Jersey**

# CHAIN OF CUSTODY

ACCUTEST
495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

| | |
|---|---|
| Accutest Job #: | MC25568 |
| Accutest Quote #: | Page 2 of 2 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | | | Subcontract Laboratory Information | | | Analytical Information | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name: Accutest New England | | | Name: Accutest - New Jersey | | | | | | | | | |
| Address: 50 D'Angelo Drive | | | Address: 2235 Route 130 | | | | | | | | | |
| City: Marlborough | State: MA | Zip: 01752 | City: Dayton | State: NJ | Zip: 08810 | | | | | | | |
| Send Report to: | | | Contact: | | | | | | | | | |
| Any questions contact: Frank D'Agostino | | | Sample Management | | | | | | | | | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | | | Phone: (732) 329-0200 | | | | | | | | | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation HCL | NaOH | HNO3 | H2So4 | None | SO4 by 300 | MS/MSD | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC25568 -11, -11D, -11S | 10/23/13 | 11:45 AM | | GW | 1 | | | | | X | X | X | | | | |
| MC25568 -12 | 10/23/13 | 12:30 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25568 -13 | 10/23/13 | 12:41 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25568 -15 | 10/23/13 | 1:40 PM | | GW | 1 | | | | | X | X | | | | | |
| MC25568 -16 | 10/23/13 | 1:45 PM | | GW | 1 | | | | | X | X | | | | | |

Data Deliverable Information

- [x] STD
- [ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [x] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks: STD - Due 11/6/13

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: 1 | 10/23/13 | Received By: 1 FedEx | Date & Time: 1 | Seal #: 10/23/13 NP | Headspace: Yes ☐ No ☐ NA ☐ |
| Relinquished by: 2 Fed Ex | 10/24/13 1000 | Received By: 2 Sierra | Date & Time: 2 10/24/13 1000 | Preserved where applicable: ☐ | |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 6.0 IP | On Ice ☑ |

Intact

3A

Fed Ex Trk #
5743 4540 2415

10.1 10

**MC25568: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25568 **Client:** **Project:**

**Date / Time Received:** 10/24/2013 **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Initial/Adjusted):** #1: (6/6); 0

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com



**MC25568: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC25568

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-1 Collected: 23-OCT-13 09:20 By: DCCS SHM-93-22B-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-1 | EPA 300/SW846 9056A | 05-NOV-13 01:27 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-2 Collected: 23-OCT-13 09:15 By: DCCS SHP-99-31A-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-2 | EPA 300/SW846 9056A | 05-NOV-13 01:51 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-3 Collected: 23-OCT-13 00:00 By: DCCS DUP01-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-3 | EPA 300/SW846 9056A | 05-NOV-13 02:15 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-4 Collected: 23-OCT-13 09:52 By: DCCS SHM-05-41B-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-4 | EPA 300/SW846 9056A | 05-NOV-13 02:39 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-5 Collected: 23-OCT-13 10:20 By: DCCS SHM-05-42A-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-5 | EPA 300/SW846 9056A | 05-NOV-13 03:03 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-6 Collected: 23-OCT-13 10:25 By: DCCS SHL-22-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-6 | EPA 300/SW846 9056A | 05-NOV-13 03:27 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-7 Collected: 23-OCT-13 00:00 By: DCCS DUP02-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-7 | EPA 300/SW846 9056A | 05-NOV-13 03:50 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-8 Collected: 23-OCT-13 10:49 By: DCCS SHP-99-31B-102313 | | | | Received: 23-OCT-13 | By: AS | |
| MC25568-8 | EPA 300/SW846 9056A | 05-NOV-13 04:14 | NP | 04-NOV-13 | NP | SO4 |

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC25568

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25568-9 | Collected: 23-OCT-13 11:10 By: DCCS SHM-05-41A-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-9 | EPA 300/SW846 9056A | 05-NOV-13 04:38 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-10 | Collected: 23-OCT-13 12:12 By: DCCS SHP-99-31C-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-10 | EPA 300/SW846 9056A | 05-NOV-13 05:50 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-11 | Collected: 23-OCT-13 11:45 By: DCCS SHM-05-42B-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-11 | EPA 300/SW846 9056A | 04-NOV-13 23:51 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-12 | Collected: 23-OCT-13 12:30 By: DCCS SHM-93-22C-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-12 | EPA 300/SW846 9056A | 05-NOV-13 06:14 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-13 | Collected: 23-OCT-13 12:41 By: DCCS SHM-05-41C-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-13 | EPA 300/SW846 9056A | 05-NOV-13 06:38 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-15 | Collected: 23-OCT-13 13:40 By: DCCS SHL-9-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-15 | EPA 300/SW846 9056A | 05-NOV-13 07:02 | NP | 04-NOV-13 | NP | SO4 |
| MC25568-16 | Collected: 23-OCT-13 13:45 By: DCCS SHM-99-32X-102313 | | | Received: 23-OCT-13 | By: AS | |
| MC25568-16 | EPA 300/SW846 9056A | 05-NOV-13 07:26 | NP | 04-NOV-13 | NP | SO4 |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-1.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-1.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-1.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-1.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-2.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-2.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-2.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-2.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-3.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-3.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-3.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-3.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-4.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-4.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-4.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-4.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-5.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-5.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-5.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-5.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-6.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-6.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-6.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-6.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-7.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-7.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-7.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-7.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-8.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-8.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-8.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-8.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-9.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-9.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-9.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-9.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25568
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/23/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25568-10.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-10.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-10.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-10.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-11.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-11.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-11.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-11.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-12.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-12.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-12.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-12.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-13.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-13.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-13.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-13.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-15.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-15.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-15.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-15.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |
| MC25568-16.1 | Secured Storage | Ana Maria Moreta | 11/04/13 09:20 | Retrieve from Storage |
| MC25568-16.1 | Ana Maria Moreta | Secured Staging Area | 11/04/13 09:20 | Return to Storage |
| MC25568-16.1 | Secured Staging Area | Nirali Patel | 11/04/13 09:37 | Retrieve from Storage |
| MC25568-16.1 | Nirali Patel | Secured Storage | 11/04/13 16:57 | Return to Storage |

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75722/GN94394 | 10 | 0.0 | mg/l | 80 | 80.6 | 100.8 | 90-110% |

Associated Samples:
Batch GP75722: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | GP75722/GN94394 | MC25568-11 | mg/l | 3.3 | 3.4 | 3.0 | 0-20% |

Associated Samples:
Batch GP75722: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75722/GN94394 | MC25568-11 | mg/l | 3.3 | 80 | 84.1 | 101.0 | 80-120% |
| Sulfate | GP75722/GN94394 | MC25568-1 | mg/l | 4.4 | 80 | 83.9 | 99.4 | 80-120% |

Associated Samples:
Batch GP75722: MC25568-1, MC25568-2, MC25568-3, MC25568-4, MC25568-5, MC25568-6, MC25568-7, MC25568-8, MC25568-9, MC25568-10, MC25568-11, MC25568-12, MC25568-13, MC25568-15, MC25568-16
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110401.TXT  Date Analyzed: 11/04/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94394
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:43 | GN94394-STD1 | 1 | | Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. |
| 13:31 | GN94394-STD2 | 1 | | STDB |
| 13:55 | GN94394-STD3 | 1 | | STDC |
| 14:43 | GN94394-STD4 | 1 | | STDD |
| 15:31 | GN94394-STD5 | 1 | | STDE |
| 15:55 | GN94394-STD6 | 1 | | STDF |
| 16:19 | GN94394-STD7 | 1 | | STDG |
| 09:29 | GN94394-ICV1 | 1 | | |
| 09:53 | GN94394-CCV1 | 1 | | |
| 10:17 | GN94394-CCB1 | 1 | | |
| 10:41 | GP75680-MB2 | 1 | | |
| 10:41 | GP75720-MB1 | 1 | | Sample shown for QC tracking purposes only. |
| 11:05 | GP75680-B2 | 1 | | |
| 11:05 | GP75720-B1 | 1 | | Sample shown for QC tracking purposes only. |
| 11:29 | ZZZZZZ | 3 | | |
| 11:53 | ZZZZZZ | 1 | | |
| 12:17 | GP75720-S1 | 1 | | |
| 12:41 | GP75720-D1 | 1 | | |
| 13:05 | JB51032-1 | 1 | | (sample used for QC only; not part of login MC25568) |
| 13:29 | GP75720-S2 | 1 | | |
| 13:53 | JB51032-2 | 1 | | (sample used for QC only; not part of login MC25568) |
| 14:17 | ZZZZZZ | 1 | | |
| 14:40 | GN94394-CCV2 | 1 | | |
| 15:04 | GN94394-CCB2 | 1 | | |
| 15:28 | ZZZZZZ | 1 | | |
| 15:52 | ZZZZZZ | 1 | | |
| 16:17 | ZZZZZZ | 1 | | |
| 16:41 | ZZZZZZ | 1 | | |
| 17:04 | ZZZZZZ | 1 | | |
| 17:28 | ZZZZZZ | 1 | | |
| 17:52 | ZZZZZZ | 1 | | |
| 18:16 | ZZZZZZ | 1 | | |
| 18:40 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110401.TXT  Date Analyzed: 11/04/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94394
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:04 | ZZZZZZ | 1 | | |
| 19:28 | GN94394-CCV3 | 1 | | |
| 19:52 | GN94394-CCB3 | 1 | | |
| 20:16 | ZZZZZZ | 1 | | |
| 20:40 | ZZZZZZ | 1 | | |
| 21:04 | ZZZZZZ | 1 | | |
| 21:28 | ZZZZZZ | 1 | | |
| 21:52 | ZZZZZZ | 1 | | |
| 22:16 | GP75722-MB1 | 1 | | |
| 22:39 | GP75722-B1 | 1 | | |
| 23:03 | GP75722-S1 | 1 | | |
| 23:27 | GP75722-D1 | 1 | | |
| 23:51 | MC25568-11 | 1 | | |
| 00:15 | GN94394-CCV4 | 1 | | |
| 00:39 | GN94394-CCB4 | 1 | | |
| 01:03 | GP75722-S2 | 1 | | |
| 01:27 | MC25568-1 | 1 | | |
| 01:51 | MC25568-2 | 1 | | |
| 02:15 | MC25568-3 | 1 | | |
| 02:39 | MC25568-4 | 1 | | |
| 03:03 | MC25568-5 | 1 | | |
| 03:27 | MC25568-6 | 1 | | |
| 03:50 | MC25568-7 | 1 | | |
| 04:14 | MC25568-8 | 1 | | |
| 04:38 | MC25568-9 | 1 | | |
| 05:02 | GN94394-CCV5 | 1 | | |
| 05:26 | GN94394-CCB5 | 1 | | |
| 05:50 | MC25568-10 | 1 | | |
| 06:14 | MC25568-12 | 1 | | |
| 06:38 | MC25568-13 | 1 | | |
| 07:02 | MC25568-15 | 1 | | |
| 07:26 | MC25568-16 | 1 | | |
| 07:50 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110401.TXT  Date Analyzed: 11/04/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94394
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 08:14 | ZZZZZZ | 1 | | |
| 08:38 | ZZZZZZ | 1 | | |
| 09:02 | ZZZZZZ | 1 | | |
| 09:25 | ZZZZZZ | 1 | | |
| 09:49 | GN94394-CCV6 | 1 | | |
| 10:13 | GN94394-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25568
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110401.TXT  Date Analyzed: 11/04/13  Methods: EPA 300/SW846 9056A
Run ID: GN94394  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN94394-ICV1 | Sulfate | 110 | 10 | 0.094 | 110.12 | 99.9 | 90-110 |
| GN94394-CCV1 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN94394-CCB1 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94394-CCV2 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94394-CCB2 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94394-CCV3 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94394-CCB3 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94394-CCV4 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94394-CCB4 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94394-CCV5 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94394-CCB5 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94394-CCV6 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN94394-CCB6 | Sulfate | 0.094 U | 10 | 0.094 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

(Accutest New Jersey)

Sequence: 213110401 GN94394 Page 3 of 4
Operator: Chemistry Printed: 11/4/2013 3:54:42 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2 Created: 11/4/2013 9:05:41 AM by Chemistry
#Samples: 72 Last Update: 11/4/2013 11:53:22 AM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 43 | MC25568-11MS | Unknown | 36 | 20.0 | 1.0000 | Single | | |
| 44 | MC25568-11DUP | Unknown | 37 | 20.0 | 1.0000 | Single | | |
| 45 | MC25568-11 | Unknown | 38 | 20.0 | 1.0000 | Single | | |
| 46 | CCV | Unknown | 39 | 20.0 | 1.0000 | Single | | |
| 47 | CCB | Unknown | 40 | 20.0 | 1.0000 | Single | | |
| 48 | MC25568-1MS | Unknown | 41 | 20.0 | 1.0000 | Single | | |
| 49 | MC25568-1 | Unknown | 42 | 20.0 | 1.0000 | Single | | |
| 50 | MC25568-2 | Unknown | 43 | 20.0 | 1.0000 | Single | | |
| 51 | MC25568-3 | Unknown | 44 | 20.0 | 1.0000 | Single | | |
| 52 | MC25568-4 | Unknown | 45 | 20.0 | 1.0000 | Single | | |
| 53 | MC25568-5 | Unknown | 46 | 20.0 | 1.0000 | Single | | |
| 54 | MC25568-6 | Unknown | 47 | 20.0 | 1.0000 | Single | | |
| 55 | MC25568-7 | Unknown | 48 | 20.0 | 1.0000 | Single | | |
| 56 | MC25568-8 | Unknown | 49 | 20.0 | 1.0000 | Single | | |
| 57 | MC25568-9 | Unknown | 50 | 20.0 | 1.0000 | Single | | |
| 58 | CCV | Unknown | 1 | 20.0 | 1.0000 | Single | | |
| 59 | CCB | Unknown | 2 | 20.0 | 1.0000 | Single | | |
| 60 | MC25568-10 | Unknown | 3 | 20.0 | 1.0000 | Single | | |
| 61 | MC25568-12 | Unknown | 4 | 20.0 | 1.0000 | Single | | |
| 62 | MC25568-13 | Unknown | 5 | 20.0 | 1.0000 | Single | | |
| 63 | MC25568-15 | Unknown | 6 | 20.0 | 1.0000 | Single | | |
| 64 | MC25568-16 | Unknown | 7 | 20.0 | 1.0000 | Single | | |
| 65 | JB51146-7 | Unknown | 8 | 20.0 | 1.0000 | Single | | |
| 66 | JB51761-1 | Unknown | 9 | 20.0 | 1.0000 | Single | | |
| 67 | JB51761-3 | Unknown | 10 | 20.0 | 1.0000 | Single | | |
| 68 | JB51761-4 | Unknown | 11 | 20.0 | 1.0000 | Single | | |
| 69 | JB51761-5 | Unknown | 12 | 20.0 | 1.0000 | Single | | |
| 70 | CCV | Unknown | 13 | 20.0 | 1.0000 | Single | | |
| 71 | CCB | Unknown | 14 | 20.0 | 1.0000 | Single | | |
| 72 | STDBY | Unknown | 15 | 20.0 | 1.0000 | Single | | |

3975722
504 AQ
1

12.1 12

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 213110401 GN94394 Page 1 of 4
Operator: Chemistry Printed: 11/4/2013 3:54:38 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2 Created: 11/4/2013 9:05:41 AM by Chemistry
#Samples: 72 Last Update: 11/4/2013 11:53:22 AM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | BLANKCONF | Unknown | 1 | 20.0 | 1.0000 | Finished | 11/4/2013 9:06:23 AM | |
| 2 | STDA | Standard | 3 | 20.0 | 1.0000 | Finished | 10/31/2013 12:43:44 PM | |
| 3 | STDB | Standard | 4 | 20.0 | 1.0000 | Finished | 10/31/2013 1:31:36 PM | |
| 4 | STDC | Standard | 5 | 20.0 | 1.0000 | Finished | 10/31/2013 1:55:33 PM | |
| 5 | STDD | Standard | 7 | 20.0 | 1.0000 | Finished | 10/31/2013 2:43:23 PM | |
| 6 | STDE | Standard | 9 | 20.0 | 1.0000 | Finished | 10/31/2013 3:31:15 PM | |
| 7 | STDF | Standard | 10 | 20.0 | 1.0000 | Finished | 10/31/2013 3:55:10 PM | |
| 8 | STDG | Standard | 11 | 20.0 | 1.0000 | Finished | 10/31/2013 4:19:06 PM | |
| 9 | ICV | Unknown | 2 | 20.0 | 1.0000 | Finished | 11/4/2013 9:29:52 AM | |
| 10 | CCV | Unknown | 3 | 20.0 | 1.0000 | Finished | 11/4/2013 9:53:48 AM | |
| 11 | CCB | Unknown | 4 | 20.0 | 1.0000 | Finished | 11/4/2013 10:17:43 AM | |
| 12 | MB | Unknown | 5 | 20.0 | 1.0000 | Finished | 11/4/2013 10:41:39 AM | |
| 13 | BSP | Unknown | 6 | 20.0 | 1.0000 | Finished | 11/4/2013 11:05:34 AM | |
| 14 | JB50942-3 | Unknown | 7 | 20.0 | 3.0000 | Finished | 11/4/2013 11:29:30 AM | |
| 15 | JB51030-6 | Unknown | 8 | 20.0 | 1.0000 | Finished | 11/4/2013 11:53:26 AM | |
| 16 | JB51032-1MS | Unknown | 9 | 20.0 | 1.0000 | Finished | 11/4/2013 12:17:22 PM | |
| 17 | JB51032-1DUP | Unknown | 10 | 20.0 | 1.0000 | Finished | 11/4/2013 12:41:17 PM | |
| 18 | JB51032-1 | Unknown | 11 | 20.0 | 1.0000 | Finished | 11/4/2013 1:05:13 PM | |
| 19 | JB51032-2MS | Unknown | 12 | 20.0 | 1.0000 | Finished | 11/4/2013 1:29:10 PM | |
| 20 | JB51032-2 | Unknown | 13 | 20.0 | 1.0000 | Finished | 11/4/2013 1:53:06 PM | |
| 21 | JB51032-3 | Unknown | 14 | 20.0 | 1.0000 | Finished | 11/4/2013 2:17:02 PM | |
| 22 | CCV | Unknown | 15 | 20.0 | 1.0000 | Finished | 11/4/2013 2:40:57 PM | |
| 23 | CCB | Unknown | 16 | 20.0 | 1.0000 | Finished | 11/4/2013 3:04:53 PM | |
| 24 | JB51032-4 | Unknown | 17 | 20.0 | 1.0000 | Finished | 11/4/2013 3:28:50 PM | |
| ▶ | JB51032-5 | Unknown | 18 | 20.0 | 1.0000 | Running | 11/4/2013 3:52:59 PM | |
| 26 | JB51032-6 | Unknown | 19 | 20.0 | 1.0000 | Single | | |
| 27 | JB51032-7 | Unknown | 20 | 20.0 | 1.0000 | Single | | |
| 28 | JB51032-8 | Unknown | 21 | 20.0 | 1.0000 | Single | | |
| 29 | JB51032-9 | Unknown | 22 | 20.0 | 1.0000 | Single | | |
| 30 | JB51032-10 | Unknown | 23 | 20.0 | 1.0000 | Single | | |
| 31 | JB51135-2 | Unknown | 24 | 20.0 | 1.0000 | Single | | |
| 32 | JB51135-3FB | Unknown | 25 | 20.0 | 1.0000 | Single | | |
| 33 | JB51146-1 | Unknown | 26 | 20.0 | 1.0000 | Single | | |
| 34 | CCV | Unknown | 27 | 20.0 | 1.0000 | Single | | |
| 35 | CCB | Unknown | 28 | 20.0 | 1.0000 | Single | | |
| 36 | JB51146-2 | Unknown | 29 | 20.0 | 1.0000 | Single | | |
| 37 | JB51146-3 | Unknown | 30 | 20.0 | 1.0000 | Single | | |
| 38 | JB51146-4 | Unknown | 31 | 20.0 | 1.0000 | Single | | |
| 39 | JB51146-5 | Unknown | 32 | 20.0 | 1.0000 | Single | | |
| 40 | JB51146-6 | Unknown | 33 | 20.0 | 1.0000 | Single | | |
| 41 | MB | Unknown | 34 | 20.0 | 1.0000 | Single | | |
| 42 | BSP | Unknown | 35 | 20.0 | 1.0000 | Single | | |

GP75680 HLSO4 AQ (2)

GP75720 SO4 AQ (1)

Bottle #5

12.1 12

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ACCUTEST.

Analyst NP Product ICZ Autopipette # 3

Date 11/4/2013 Batch ID GN94394 Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| BSP | ✓ | ✓ mL | 50 mL | 0.50 ml GN13-218-63 |
| JB51032-1MS | ✓ | ✓ mL | mL | |
| JB51032-2MS | ✓ | ✓ mL | mL | |
| MC25568-11MS | ✓ | ✓ mL | mL | |
| TMC25568-1MS | ✓ | ✓ mL | mL | |
| JB50942-3 | 1:3 | 10 mL | 30 mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |

Diluent = DI H2O

QC Reviewer: _____ Date: _____

Form: GN165-01
Rev. Date: 2/25/03

ACCUTEST

# Reagent Information Log - IONC - Water /Soil

**GN Batch ID#:** GN94394

Curve Ran on : 10/31/13

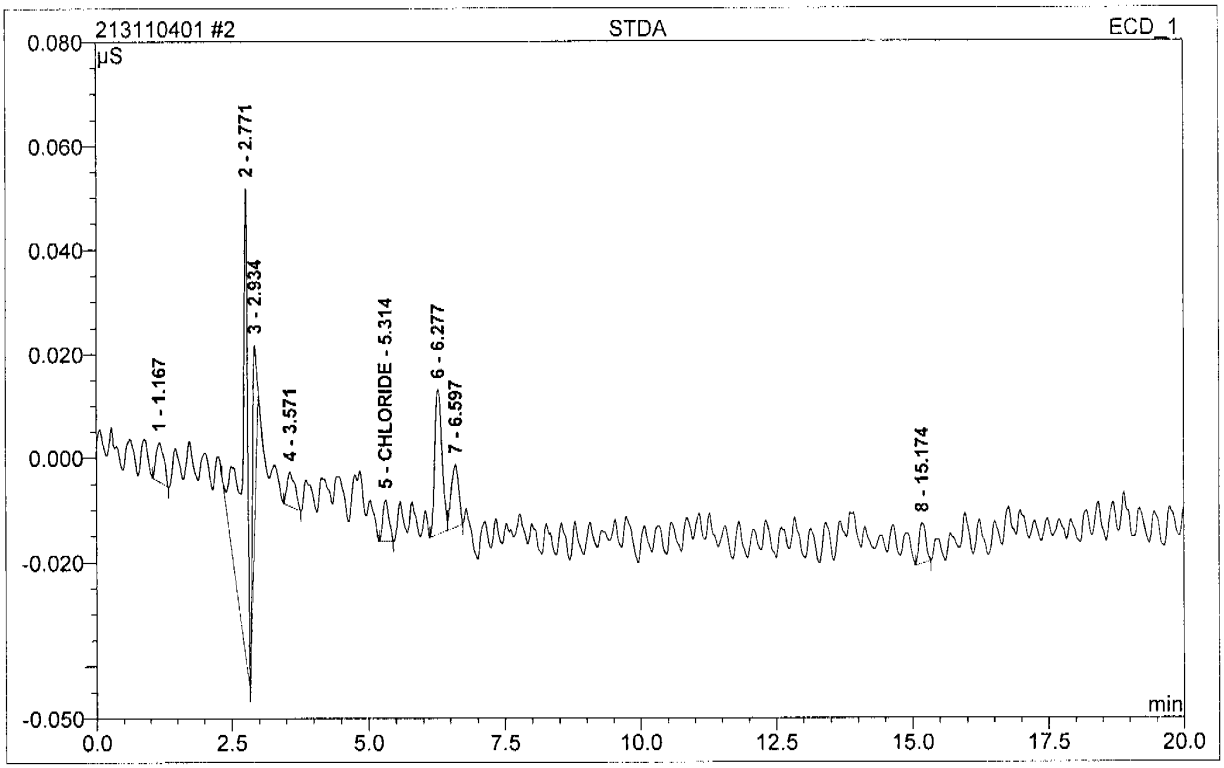
| Reagent | Reagent # or Manufacturer/Lot | Exp. Date |
|---|---|---|
| Standard Intermediate (for Calibration Curve) | GN12-212-205 | 11/4/2013 |
| Standard Intermediate (for Calibration Curve) | GN12-212-207 | 11/4/2013 |
| ICV | GN13-231-35 | 11/28/2013 |
| Eluent | 130552201016 | 05/2015 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-208 | 11/11/2013 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-210 | 11/11/2013 |
| CCV | GN13-220-95 | 11/11/2013 |
| Spiking Solution Intermediate | GN13-218-60 | 11/28/2013 |
| Spiking Solution Intermediate | GN13-218-61 | 11/28/2013 |
| Spiking Solution | GN13-218-63 | 11/11/2013 |
| Filter lot numbers | LAB SALES # 130821006 | NA |

**Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error**

Form : GN087A-76
Rev. Date: 4/7/09

## 2 STDA

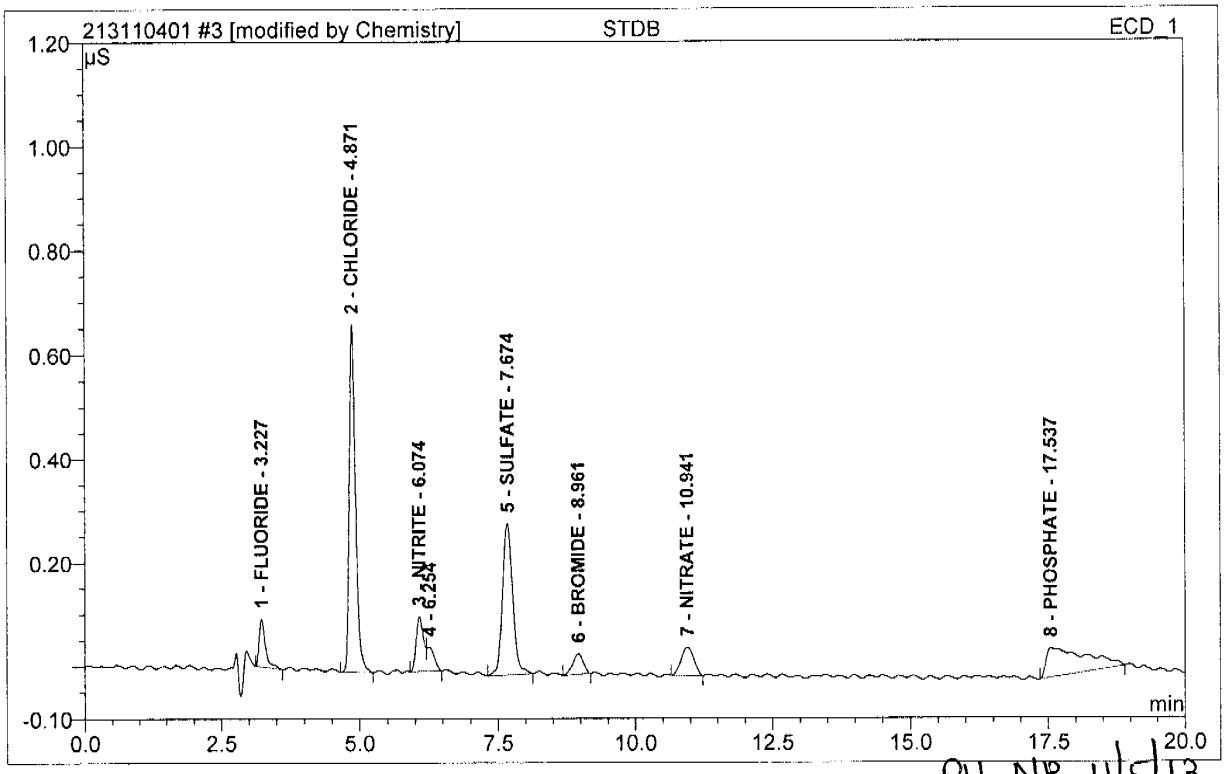
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDA** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 12:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.17 | n.a. | 0.008 | 0.001 | 4.53 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.091 | 0.012 | 42.91 | n.a. | BMB |
| 3 | 2.93 | n.a. | 0.034 | 0.003 | 10.94 | n.a. | BMB |
| 4 | 3.57 | n.a. | 0.006 | 0.001 | 3.86 | n.a. | BMB |
| 5 | 5.31 | CHLORIDE | 0.008 | 0.001 | 3.57 | 0.006 | BMB |
| 6 | 6.28 | n.a. | 0.028 | 0.004 | 15.60 | n.a. | BM |
| 7 | 6.60 | n.a. | 0.012 | 0.002 | 6.71 | n.a. | MB |
| 8 | 15.17 | n.a. | 0.008 | 0.001 | 3.89 | n.a. | BMB |
| 9 | 20.27 | n.a. | 0.017 | 0.002 | 7.99 | n.a. | BMB |
| **Total:** | | | 0.212 | 0.028 | 100.00 | 0.006 | |

# 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

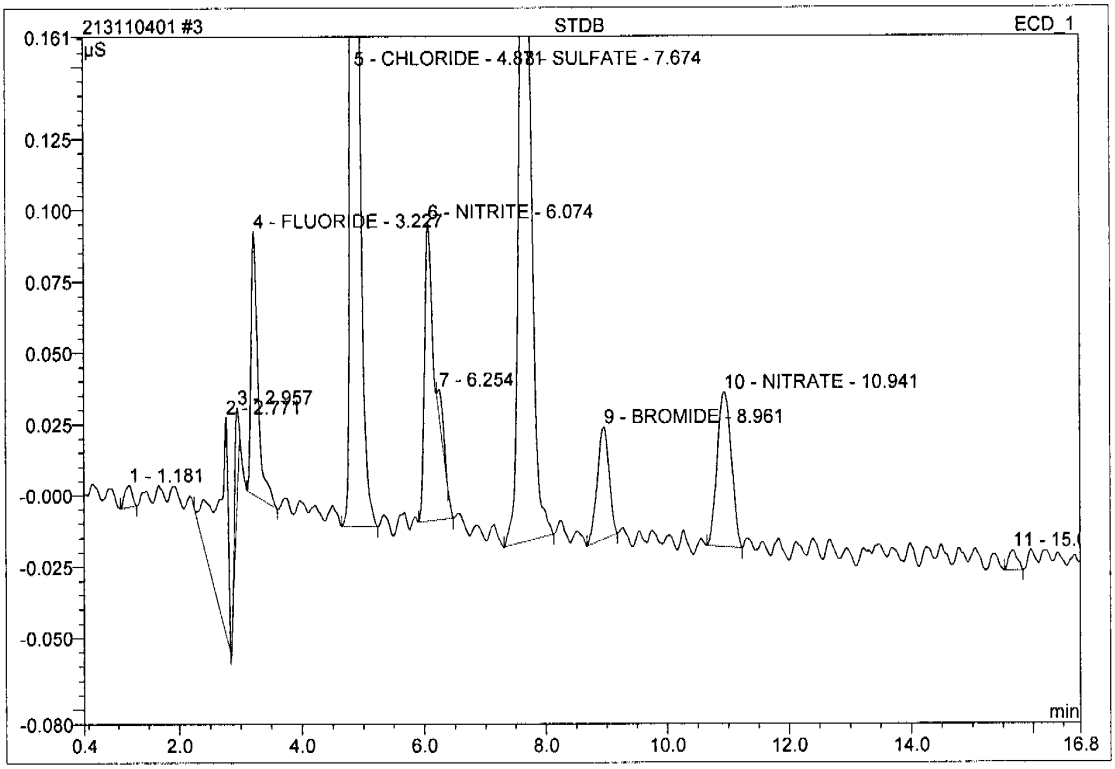



PII NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.092 | 0.012 | 4.70 | 0.041 | BMB |
| 2 | 4.87 | CHLORIDE | 0.669 | 0.088 | 34.53 | 0.492 | BMB |
| 3 | 6.07 | NITRITE | 0.105 | 0.016 | 6.44 | 0.039 | BM * |
| 4 | 6.25 | n.a. | 0.046 | 0.007 | 2.69 | n.a. | MB* |
| 5 | 7.67 | SULFATE | 0.292 | 0.063 | 24.69 | 0.479 | BMB |
| 6 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.48 | 0.115 | BMB |
| 7 | 10.94 | NITRATE | 0.054 | 0.015 | 5.75 | 0.034 | BMB |
| 8 | 17.54 | PHOSPHATE | 0.056 | 0.045 | 17.72 | 0.279 | BMB* |
| **Total:** | | | 1.352 | 0.255 | 100.00 | 1.479 | |

# 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.18 | n.a. | 0.008 | 0.001 | 0.44 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.076 | 0.016 | 6.36 | n.a. | BMB |
| 3 | 2.96 | n.a. | 0.033 | 0.003 | 1.13 | n.a. | BMB |
| 4 | 3.23 | FLUORIDE | 0.092 | 0.012 | 4.81 | 0.041 | BMB |
| 5 | 4.87 | CHLORIDE | 0.669 | 0.088 | 35.29 | 0.492 | BMB |
| 6 | 6.07 | NITRITE | 0.105 | 0.022 | 8.81 | 0.052 | BMB |
| 7 | 6.25 | n.a. | 0.009 | 0.001 | 0.52 | n.a. | Rd |
| 8 | 7.67 | SULFATE | 0.292 | 0.063 | 25.24 | 0.479 | BMB |
| 9 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.56 | 0.115 | BMB |
| 10 | 10.94 | NITRATE | 0.054 | 0.015 | 5.88 | 0.034 | BMB |
| 11 | 15.67 | n.a. | 0.007 | 0.001 | 0.45 | n.a. | BMB |

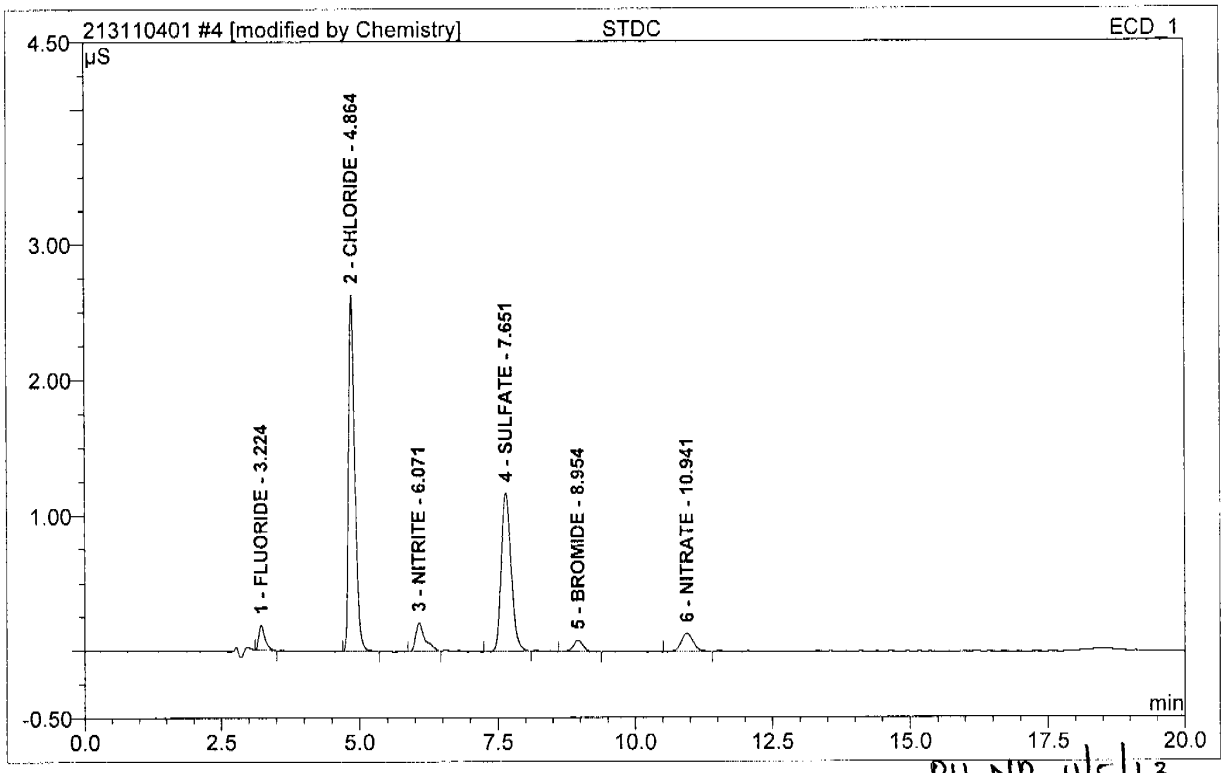
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.54 | PHOSPHATE | 0.049 | 0.019 | 7.52 | 0.116 | BMB |
| **Total:** | | | 1.432 | 0.249 | 100.00 | 1.328 | |

# 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PII NP 11/5/13

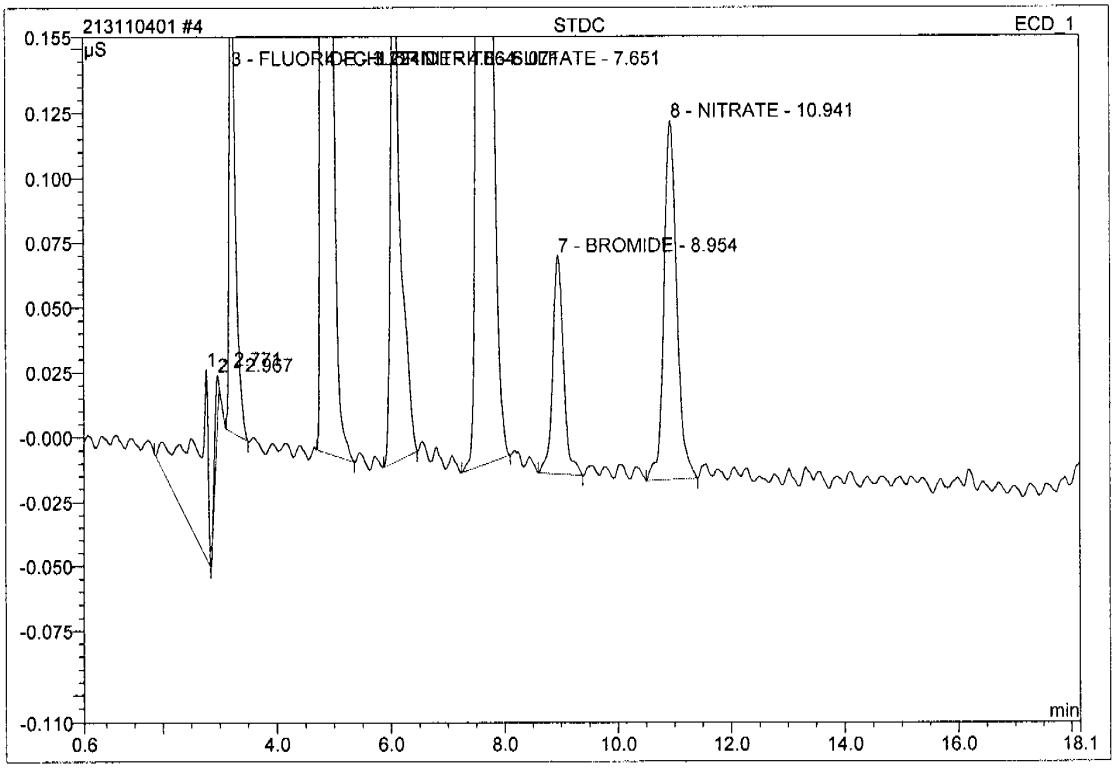
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.33 | 0.081 | BMB |
| 2 | 4.86 | CHLORIDE | 2.632 | 0.342 | 48.40 | 1.916 | BMB |
| 3 | 6.07 | NITRITE | 0.215 | 0.041 | 5.82 | 0.097 | BMB |
| 4 | 7.65 | SULFATE | 1.178 | 0.245 | 34.69 | 1.868 | BMB |
| 5 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.63 | 0.242 | BMB |
| 6 | 10.94 | NITRATE | 0.138 | 0.036 | 5.14 | 0.084 | BMB |
| **Total:** | | | 4.436 | 0.707 | 100.00 | 4.289 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110401



# 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



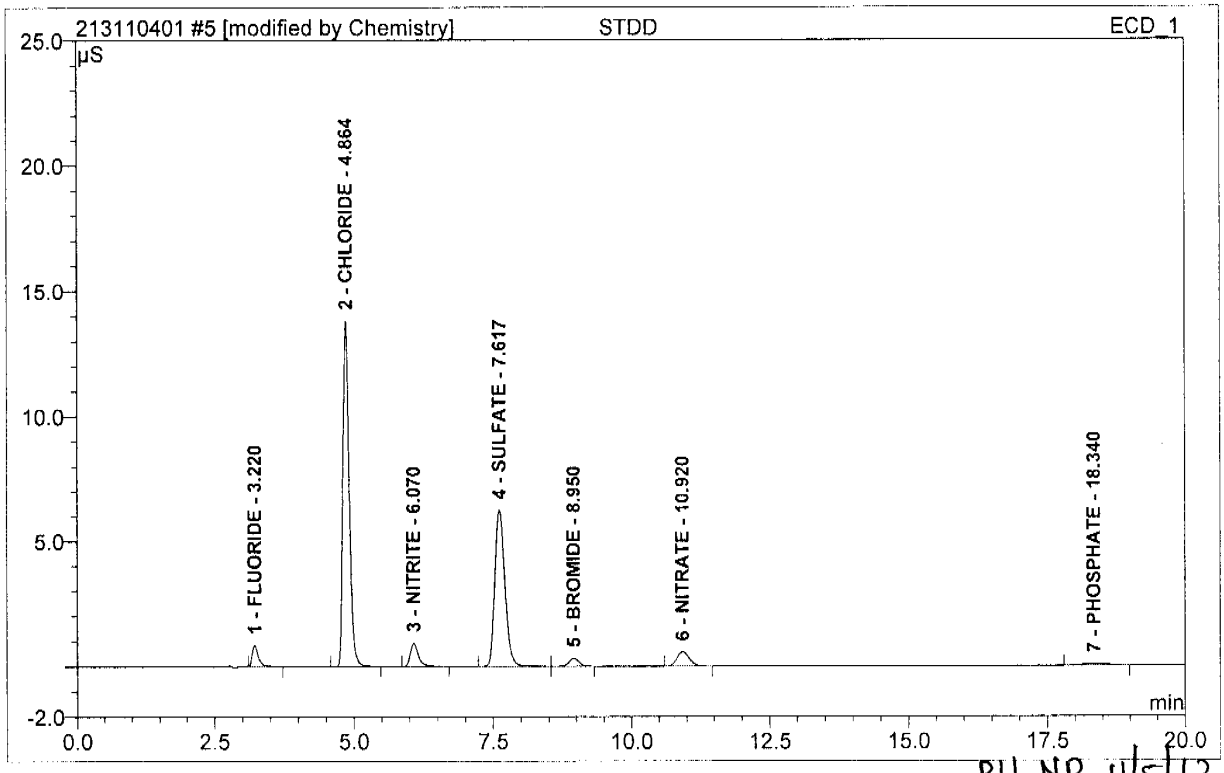

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.073 | 0.024 | 3.23 | n.a. | BMB |
| 2 | 2.97 | n.a. | 0.021 | 0.002 | 0.27 | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.22 | 0.081 | BMB |
| 4 | 4.86 | CHLORIDE | 2.632 | 0.342 | 46.70 | 1.916 | BMB |
| 5 | 6.07 | NITRITE | 0.215 | 0.041 | 5.61 | 0.097 | BMB |
| 6 | 7.65 | SULFATE | 1.178 | 0.245 | 33.47 | 1.868 | BMB |
| 7 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.54 | 0.242 | BMB |
| 8 | 10.94 | NITRATE | 0.138 | 0.036 | 4.96 | 0.084 | BMB |
| **Total:** | | | 4.530 | 0.733 | 100.00 | 4.289 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

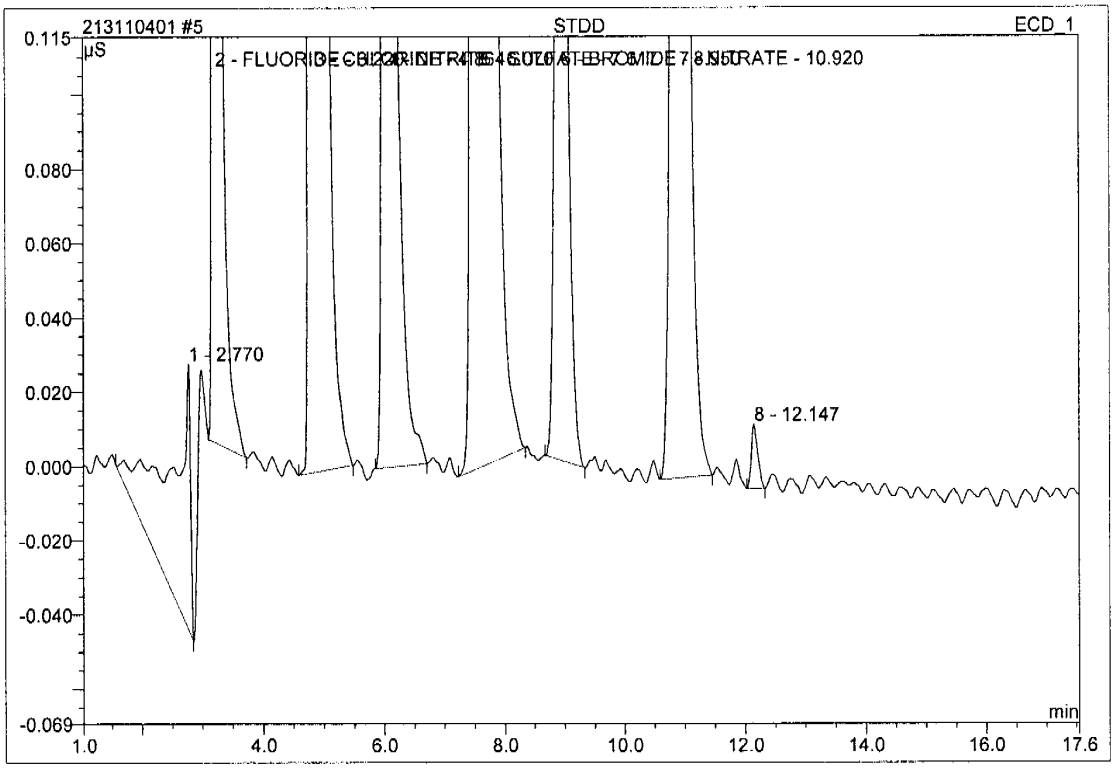



PIL NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.90 | 0.362 | BMB |
| 2 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.44 | 10.102 | BMB |
| 3 | 6.07 | NITRITE | 0.940 | 0.158 | 4.32 | 0.370 | BMB |
| 4 | 7.62 | SULFATE | 6.264 | 1.318 | 36.11 | 10.037 | BM * |
| 5 | 8.95 | BROMIDE | 0.324 | 0.068 | 1.87 | 0.889 | MB* |
| 6 | 10.92 | NITRATE | 0.583 | 0.152 | 4.16 | 0.352 | BMB |
| 7 | 18.34 | PHOSPHATE | 0.081 | 0.044 | 1.20 | 0.271 | BMB |
| **Total:** | | | 22.856 | 3.650 | 100.00 | 22.384 | |

# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



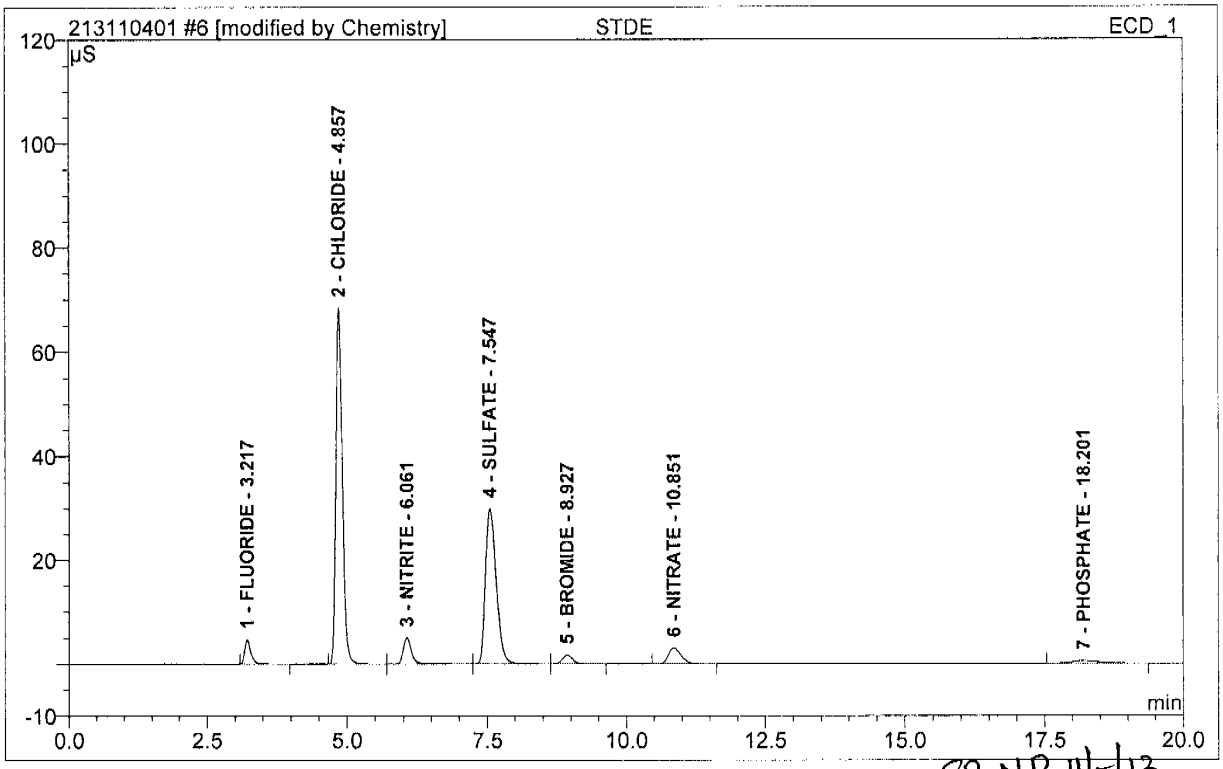

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.071 | 0.029 | 0.79 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.88 | 0.362 | BMB |
| 3 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.11 | 10.102 | BMB |
| 4 | 6.07 | NITRITE | 0.940 | 0.158 | 4.29 | 0.370 | BMB |
| 5 | 7.62 | SULFATE | 6.261 | 1.313 | 35.75 | 10.002 | BMB |
| 6 | 8.95 | BROMIDE | 0.321 | 0.066 | 1.81 | 0.865 | BMB |
| 7 | 10.92 | NITRATE | 0.583 | 0.152 | 4.13 | 0.352 | BMB |
| 8 | 12.15 | n.a. | 0.017 | 0.002 | 0.06 | n.a. | BMB |
| 9 | 18.34 | PHOSPHATE | 0.081 | 0.044 | 1.19 | 0.271 | BMB |
| **Total:** | | | 22.940 | 3.674 | 100.00 | 22.325 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

# 6 STDE

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

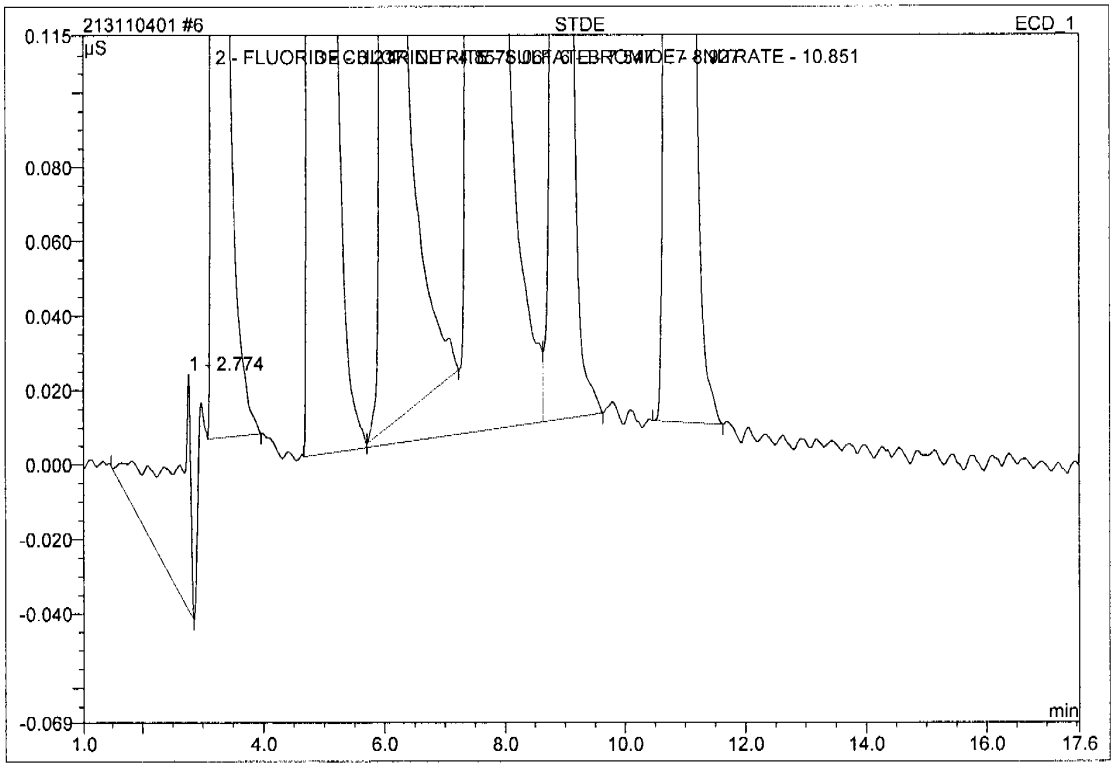



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB |
| 2 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.47 | 50.890 | BM |
| 3 | 6.06 | NITRITE | 5.063 | 0.877 | 4.68 | 2.062 | M * |
| 4 | 7.55 | SULFATE | 30.013 | 6.714 | 35.80 | 51.125 | M * |
| 5 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 6 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 7 | 18.20 | PHOSPHATE | 0.525 | 0.303 | 1.62 | 1.876 | BMB |
| **Total:** | | | 113.566 | 18.755 | 100.00 | 114.663 | |

# 6 STDE

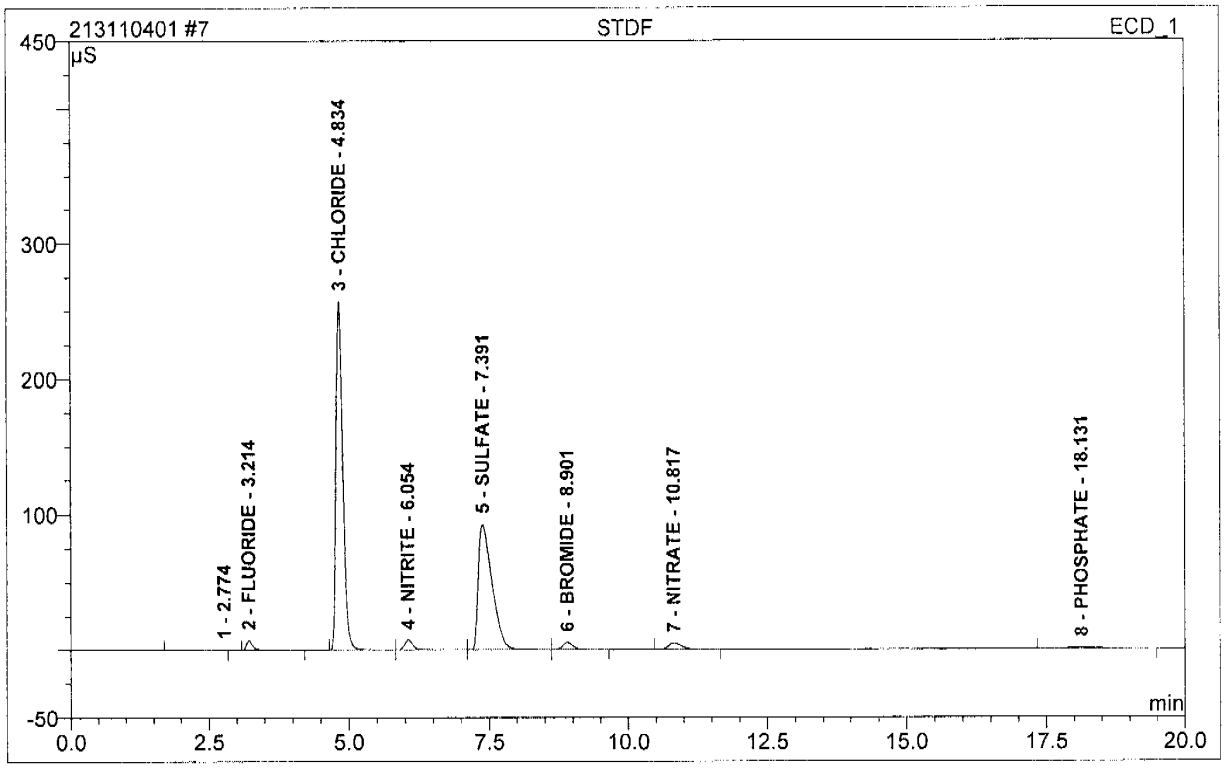
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.064 | 0.027 | 0.15 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB |
| 3 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.40 | 50.890 | BM |
| 4 | 6.06 | NITRITE | 5.058 | 0.863 | 4.60 | 2.032 | Ru |
| 5 | 7.55 | SULFATE | 30.013 | 6.728 | 35.82 | 51.230 | M |
| 6 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 7 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 8 | 18.20 | PHOSPHATE | 0.525 | 0.303 | 1.61 | 1.876 | BMB |
| **Total:** | | | 113.625 | 18.782 | 100.00 | 114.739 | |

# 7 STDF

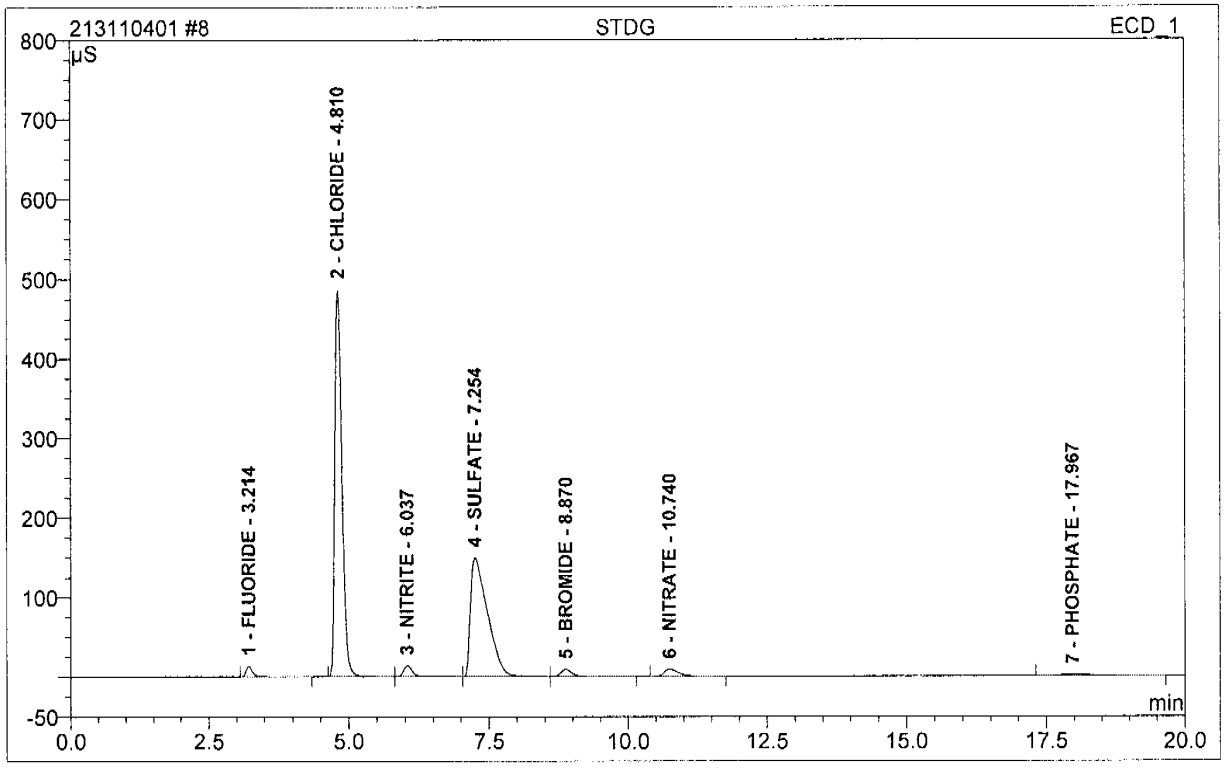
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDF** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



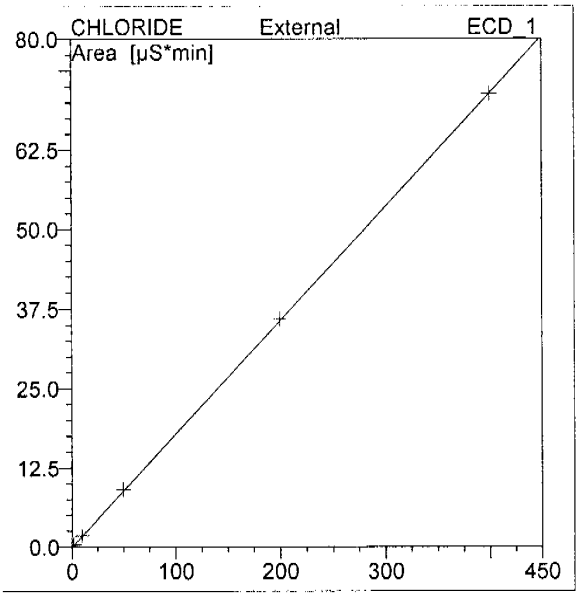

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.051 | 0.019 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.921 | 0.875 | 1.30 | 2.991 | BMB |
| 3 | 4.83 | CHLORIDE | 257.257 | 35.968 | 53.36 | 201.358 | BM |
| 4 | 6.05 | NITRITE | 7.308 | 1.270 | 1.88 | 2.984 | M |
| 5 | 7.39 | SULFATE | 92.481 | 26.388 | 39.15 | 200.943 | M |
| 6 | 8.90 | BROMIDE | 5.209 | 1.127 | 1.67 | 14.678 | MB |
| 7 | 10.82 | NITRATE | 4.748 | 1.287 | 1.91 | 2.989 | BMB |
| 8 | 18.13 | PHOSPHATE | 0.797 | 0.471 | 0.70 | 2.914 | BMB |
| **Total:** | | | 374.773 | 67.404 | 100.00 | 428.856 | |

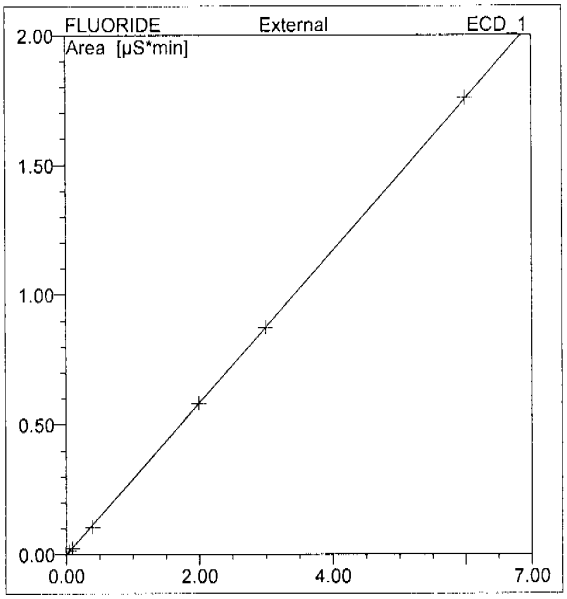
# 8 STDG

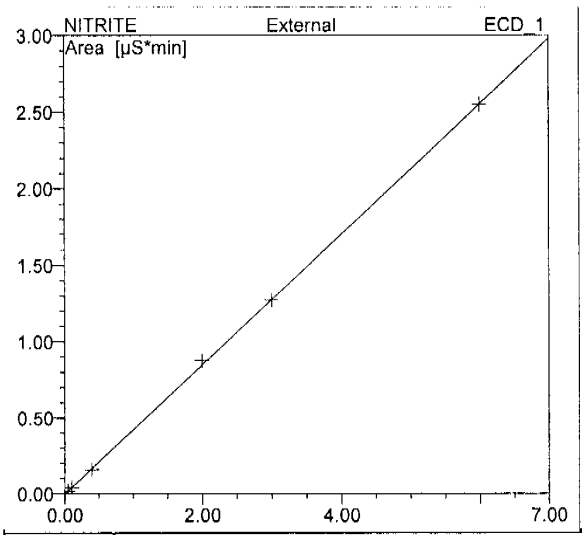
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDG** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 16:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

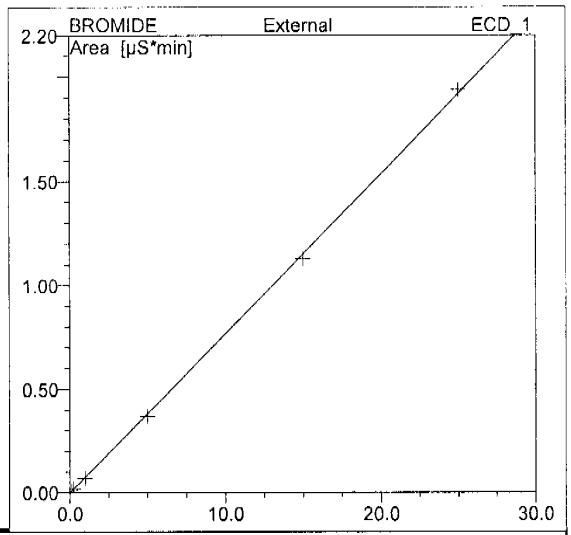



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 13.394 | 1.758 | 1.32 | 6.011 | BMB |
| 2 | 4.81 | CHLORIDE | 486.510 | 71.310 | 53.38 | 399.208 | BM |
| 3 | 6.04 | NITRITE | 13.872 | 2.548 | 1.91 | 5.989 | M |
| 4 | 7.25 | SULFATE | 149.803 | 52.448 | 39.26 | 399.388 | M |
| 5 | 8.87 | BROMIDE | 8.715 | 1.937 | 1.45 | 25.234 | MB |
| 6 | 10.74 | NITRATE | 9.087 | 2.603 | 1.95 | 6.043 | BMB |
| 7 | 17.97 | PHOSPHATE | 1.587 | 0.984 | 0.74 | 6.091 | BMB |
| **Total:** | | | 682.969 | 133.587 | 100.00 | 847.963 | |



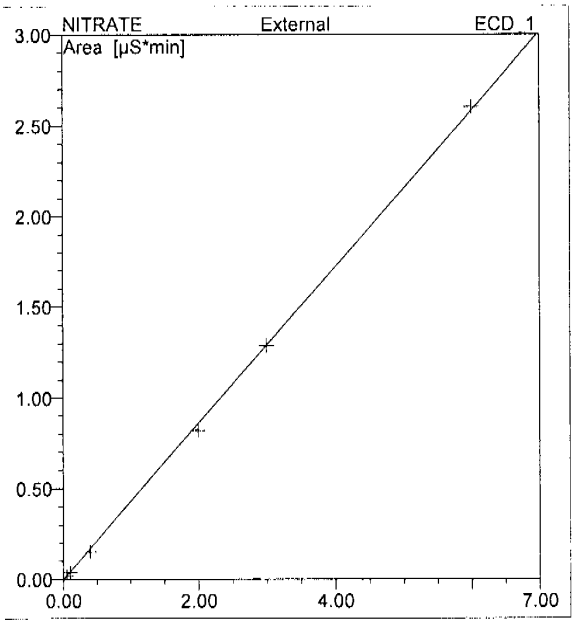



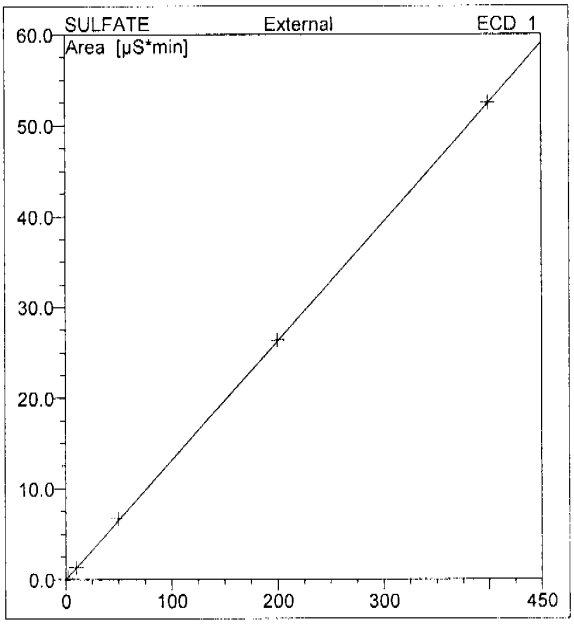



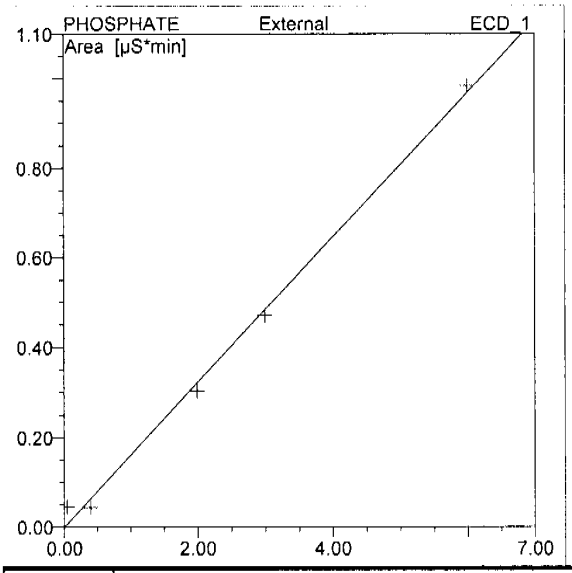

| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 5 | 99.7834 | 0.0000 | 0.1616 | 0.0000 |
| Average: | | | | | 99.9630 | 0.0000 | 0.2424 | 0.0000 |



Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)



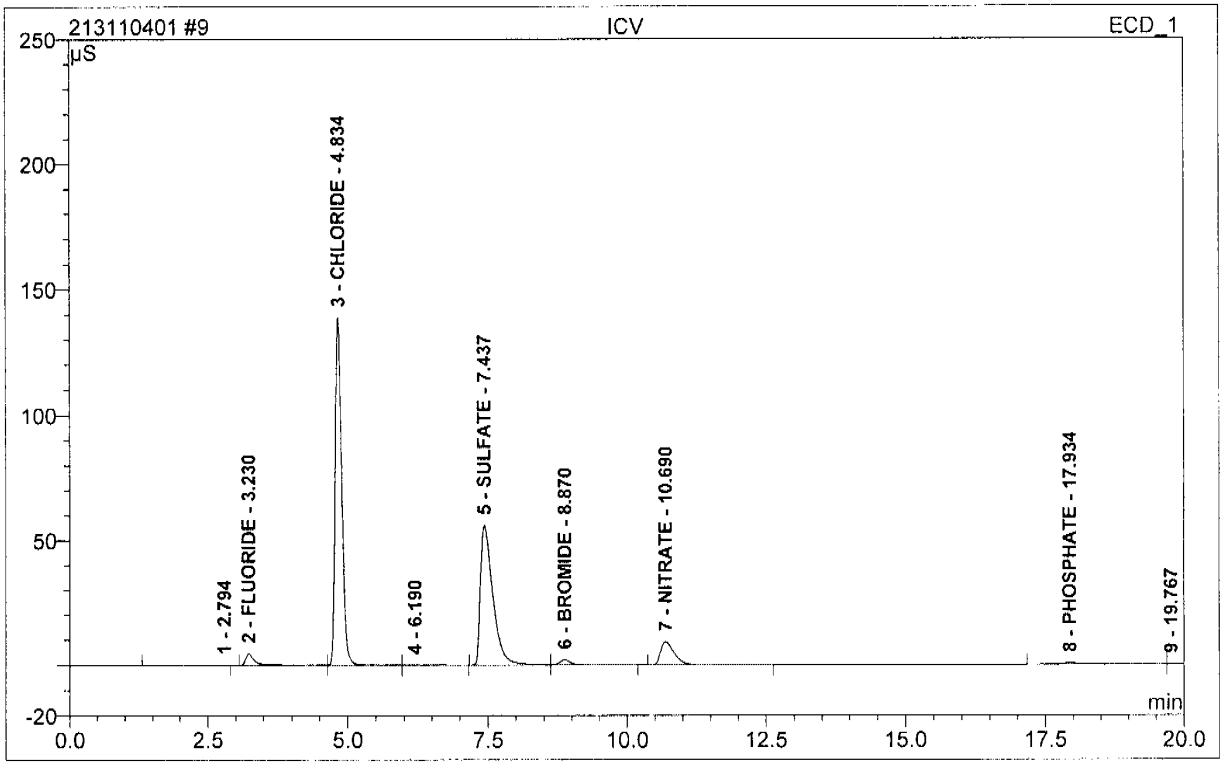




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 5 | 99.7834 | 0.0000 | 0.1616 | 0.0000 |
| Average: | | | | | 99.9630 | 0.0000 | 0.2424 | 0.0000 |

# 9 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 9:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



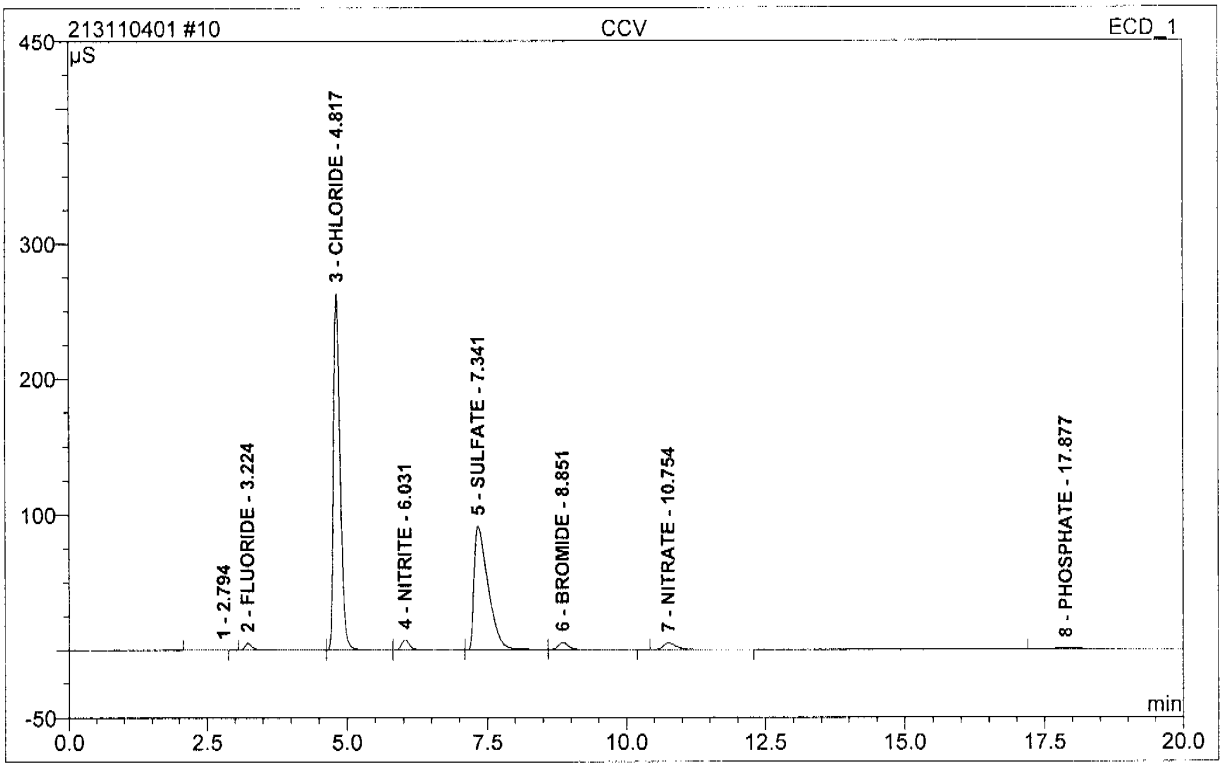

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.052 | 0.015 | 0.04 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 4.533 | 0.905 | 2.41 | 3.096 | BM |
| 3 | 4.83 | CHLORIDE | 138.736 | 18.767 | 49.95 | 105.064 | M |
| 4 | 6.19 | n.a. | 0.068 | 0.028 | 0.08 | n.a. | MB |
| 5 | 7.44 | SULFATE | 55.923 | 14.395 | 38.31 | 109.619 | BM |
| 6 | 8.87 | BROMIDE | 2.017 | 0.486 | 1.29 | 6.333 | MB |
| 7 | 10.69 | NITRATE | 9.139 | 2.596 | 6.91 | 6.028 | BMB |
| 8 | 17.93 | PHOSPHATE | 0.518 | 0.368 | 0.98 | 2.278 | BM |
| 9 | 19.77 | n.a. | 0.022 | 0.013 | 0.04 | n.a. | MB |
| **Total:** | | | 211.008 | 37.575 | 100.00 | 232.419 | |

102.936 ✓ 102.07
110.12 ✓ 99.55

12.1 12

# 10 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 9:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



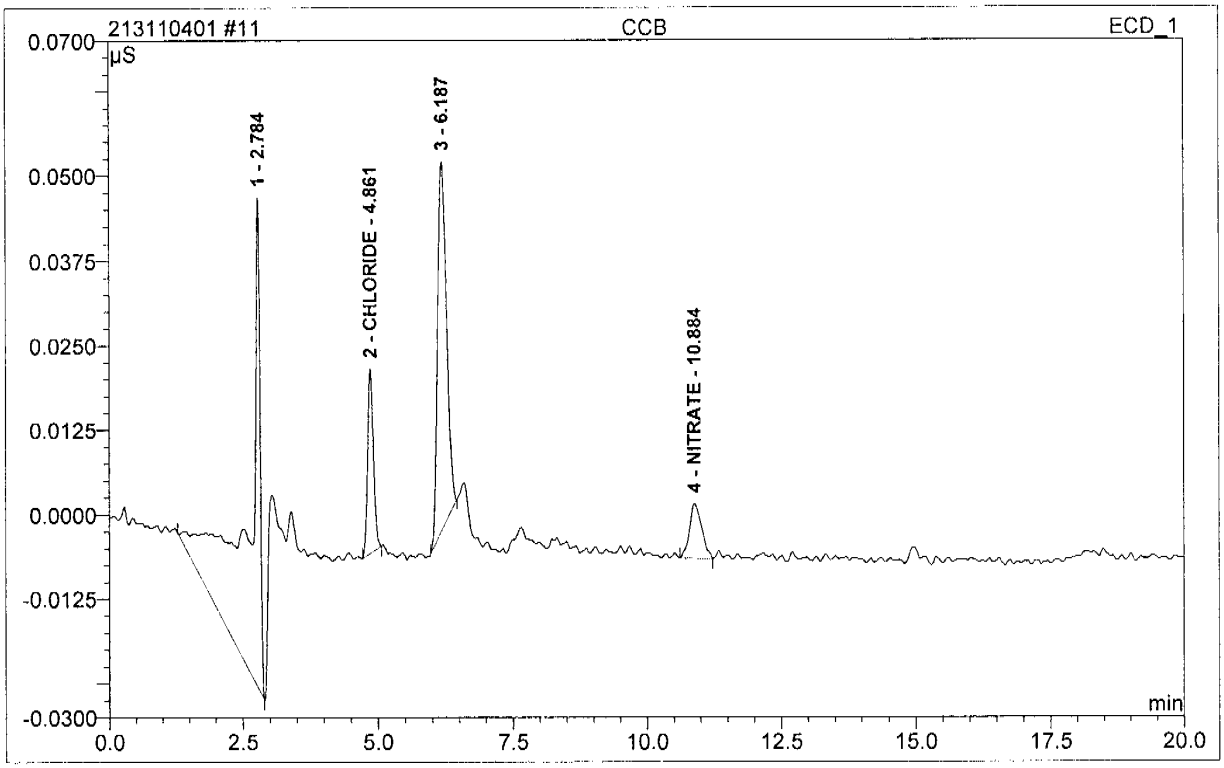

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.057 | 0.009 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 5.171 | 0.855 | 1.26 | 2.925 | BM |
| 3 | 4.82 | CHLORIDE | 263.423 | 36.126 | 53.34 | 202.240 | M |
| 4 | 6.03 | NITRITE | 7.641 | 1.303 | 1.92 | 3.062 | M |
| 5 | 7.34 | SULFATE | 91.431 | 26.529 | 39.17 | 202.016 | M |
| 6 | 8.85 | BROMIDE | 5.472 | 1.211 | 1.79 | 15.773 | MB |
| 7 | 10.75 | NITRATE | 4.896 | 1.321 | 1.95 | 3.068 | BMB |
| 8 | 17.88 | PHOSPHATE | 0.551 | 0.375 | 0.55 | 2.320 | BMB |
| **Total:** | | | 378.640 | 67.728 | 100.00 | 431.403 | |

101.12

101.01

# 11 CCB

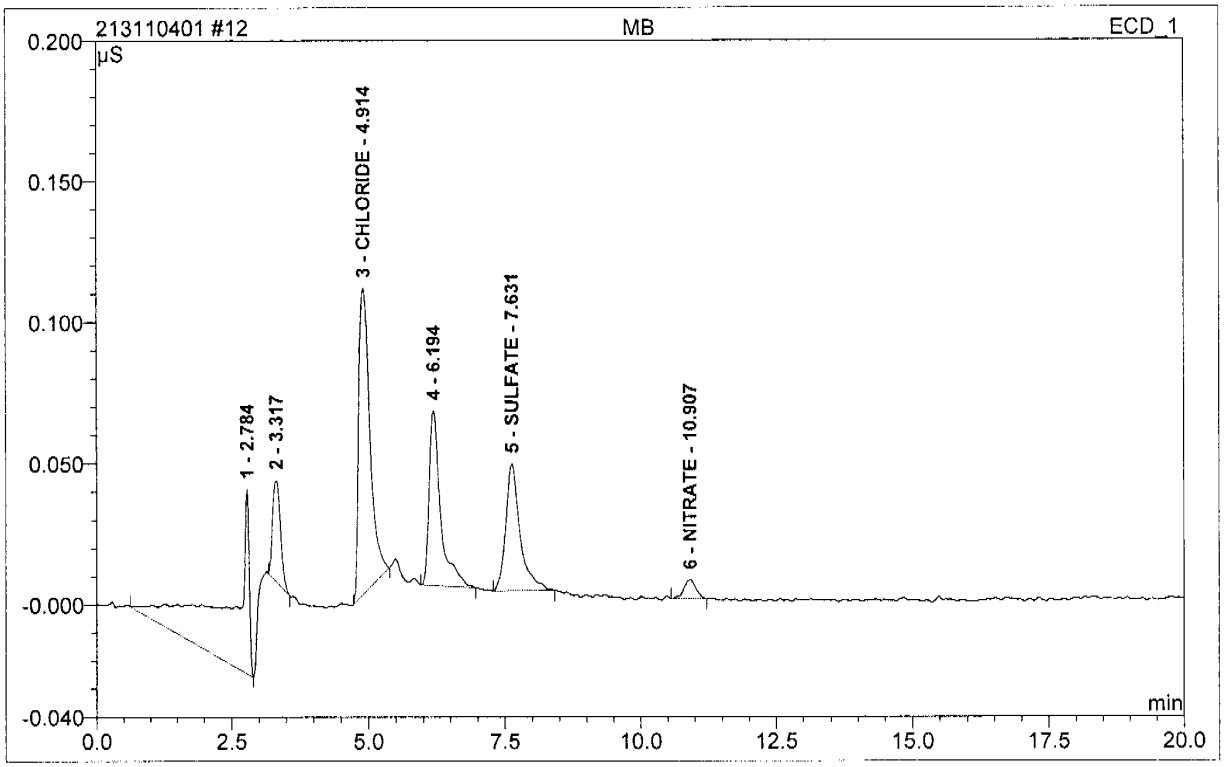
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 10:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.072 | 0.021 | 56.87 | n.a. | BMB |
| 2 | 4.86 | CHLORIDE | 0.027 | 0.003 | 9.01 | 0.019 | BMB |
| 3 | 6.19 | n.a. | 0.054 | 0.011 | 28.42 | n.a. | BMB |
| 4 | 10.88 | NITRATE | 0.008 | 0.002 | 5.70 | 0.005 | BMB |
| **Total:** | | | 0.162 | 0.037 | 100.00 | 0.024 | |

## 12 MB

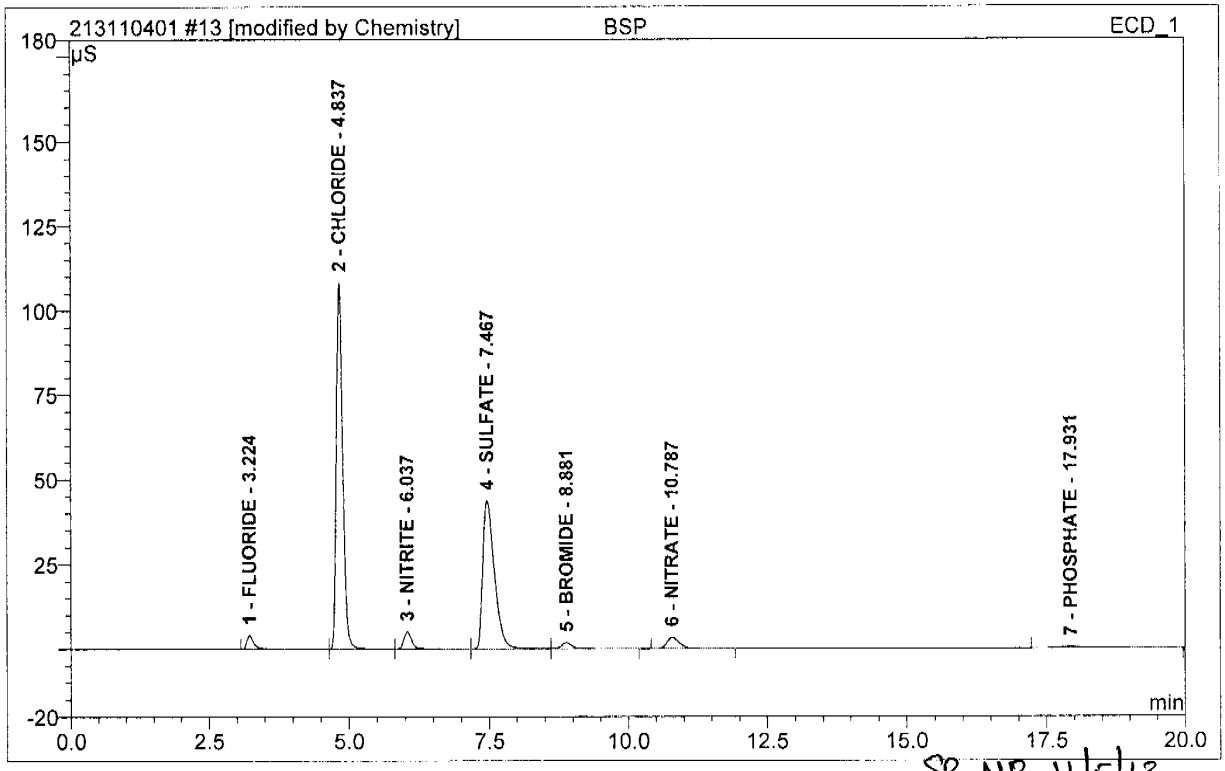
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 10:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.065 | 0.030 | 32.58 | n.a. | BMB |
| 2 | 3.32 | n.a. | 0.036 | 0.006 | 6.46 | n.a. | BMB |
| 3 | 4.91 | CHLORIDE | 0.108 | 0.026 | 27.67 | 0.144 | BMB |
| 4 | 6.19 | n.a. | 0.062 | 0.015 | 16.56 | n.a. | BMB |
| 5 | 7.63 | SULFATE | 0.045 | 0.014 | 14.87 | 0.106 | BMB |
| 6 | 10.91 | NITRATE | 0.007 | 0.002 | 1.86 | 0.004 | BMB |
| **Total:** | | | 0.323 | 0.093 | 100.00 | 0.254 | |

# 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 11:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

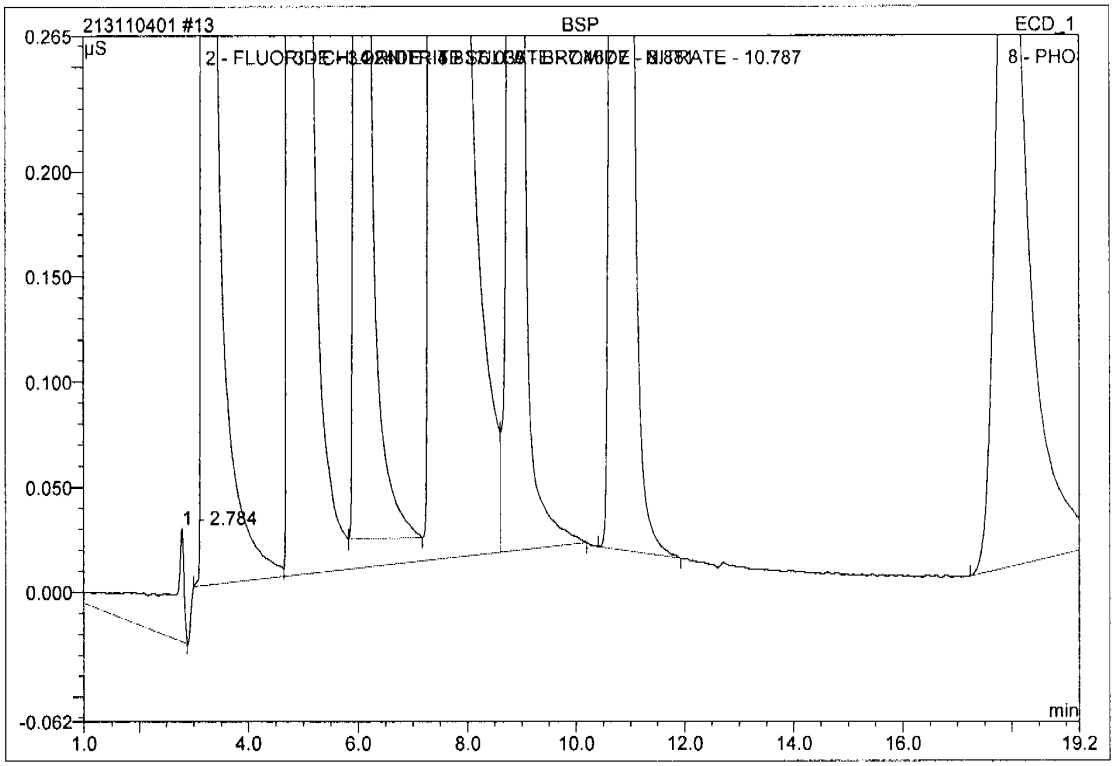



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.063 | 0.604 | 2.17 | | 2.064 ✓ | BMb* | 99.76 |
| 2 | 4.84 | CHLORIDE | 108.310 | 14.255 | 51.34 | 80 | 79.804 ✓ | bM * | |
| 3 | 6.04 | NITRITE | 5.102 | 0.847 | 3.05 | | 1.990 | M * | |
| 4 | 7.47 | SULFATE | 43.657 | 10.533 | 37.94 | 80 | 80.210 ✓ | M * | 100.26 |
| 5 | 8.88 | BROMIDE | 1.831 | 0.401 | 1.44 | | 5.225 | MB* | |
| 6 | 10.79 | NITRATE | 3.285 | 0.868 | 3.13 | | 2.015 | BMB | |
| 7 | 17.93 | PHOSPHATE | 0.391 | 0.256 | 0.92 | | 1.587 | BMB | |
| **Total:** | | | 166.640 | 27.764 | 100.00 | | 172.897 | | |

# 13 BSP

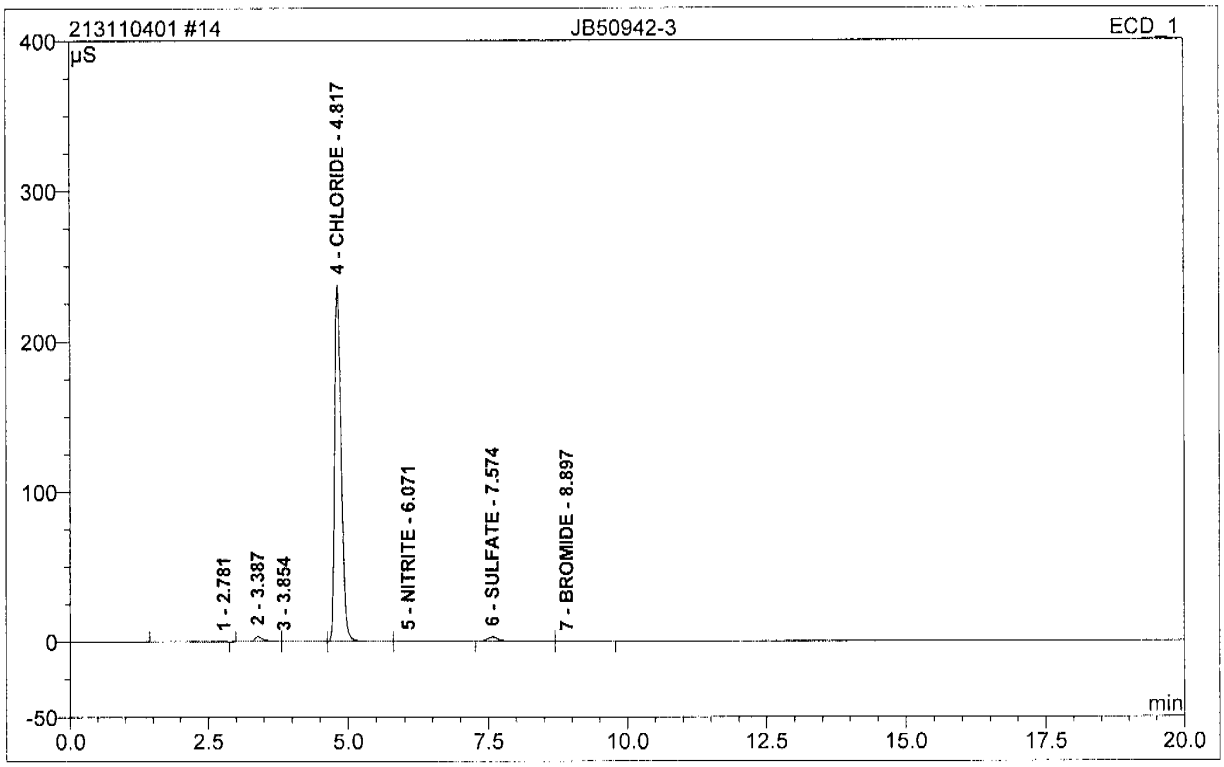
| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 11:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.054 | 0.029 | 0.10 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.066 | 0.609 | 2.19 | 2.081 | BM |
| 3 | 4.84 | CHLORIDE | 108.314 | 14.259 | 51.28 | 79.824 | M |
| 4 | 6.04 | NITRITE | 5.090 | 0.832 | 2.99 | 1.956 | Ru |
| 5 | 7.47 | SULFATE | 43.659 | 10.553 | 37.95 | 80.358 | M |
| 6 | 8.88 | BROMIDE | 1.831 | 0.402 | 1.45 | 5.235 | MB |
| 7 | 10.79 | NITRATE | 3.285 | 0.868 | 3.12 | 2.015 | BMB |
| 8 | 17.93 | PHOSPHATE | 0.391 | 0.256 | 0.92 | 1.587 | BMB |
| **Total:** | | | 166.691 | 27.808 | 100.00 | 173.057 | |

## 14 JB50942-3

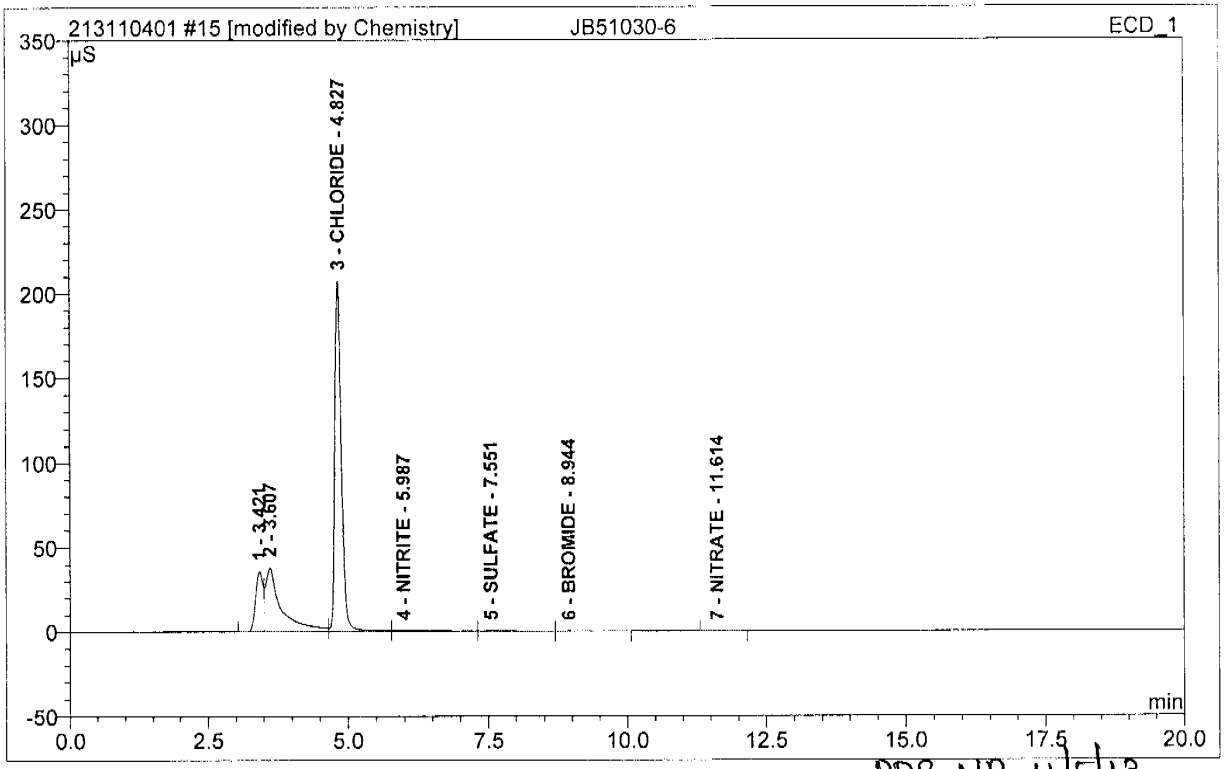
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB50942-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **3.0000** |
| *Recording Time:* | **11/4/2013 11:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.052 | 0.018 | 0.05 | n.a. | BMB |
| 2 | 3.39 | n.a. | 3.414 | 0.646 | 1.91 | n.a. | BM |
| 3 | 3.85 | n.a. | 0.146 | 0.036 | 0.11 | n.a. | M |
| 4 | 4.82 | CHLORIDE | 237.709 | 32.009 | 94.85 | 537.579 | M |
| 5 | 6.07 | NITRITE | 0.421 | 0.270 | 0.80 | 1.902 | Ru |
| 6 | 7.57 | SULFATE | 2.985 | 0.756 | 2.24 | 17.277 | M |
| 7 | 8.90 | BROMIDE | 0.034 | 0.012 | 0.04 | 0.481 | MB |
| **Total:** | | | 244.760 | 33.746 | 100.00 | 557.239 | |

## 15 JB51030-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 11:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

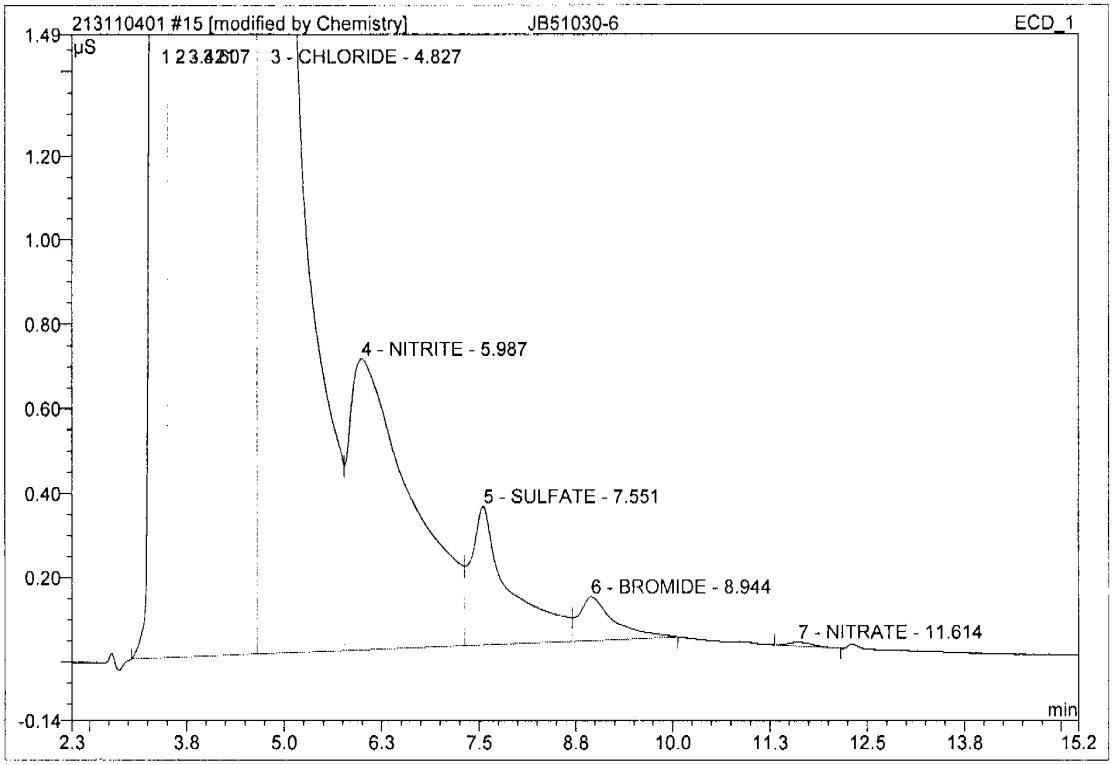



PDB NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.42 | n.a. | 35.803 | 5.632 | 11.97 | n.a. | BM * |
| 2 | 3.61 | n.a. | 38.092 | 12.394 | 26.35 | n.a. | M * |
| 3 | 4.83 | CHLORIDE | 207.492 | 28.120 | 59.78 | 157.424 | M * |
| 4 | 5.99 | NITRITE | 0.689 | 0.641 | 1.36 | 1.507 | M * |
| 5 | 7.55 | SULFATE | 0.329 | 0.194 | 0.41 | 1.480 | M * |
| 6 | 8.94 | BROMIDE | 0.104 | 0.055 | 0.12 | 0.721 | MB* |
| 7 | 11.61 | NITRATE | 0.010 | 0.004 | 0.01 | 0.008 | BMB |
| **Total:** | | | 282.521 | 47.041 | 100.00 | 161.139 | |

## 15 JB51030-6

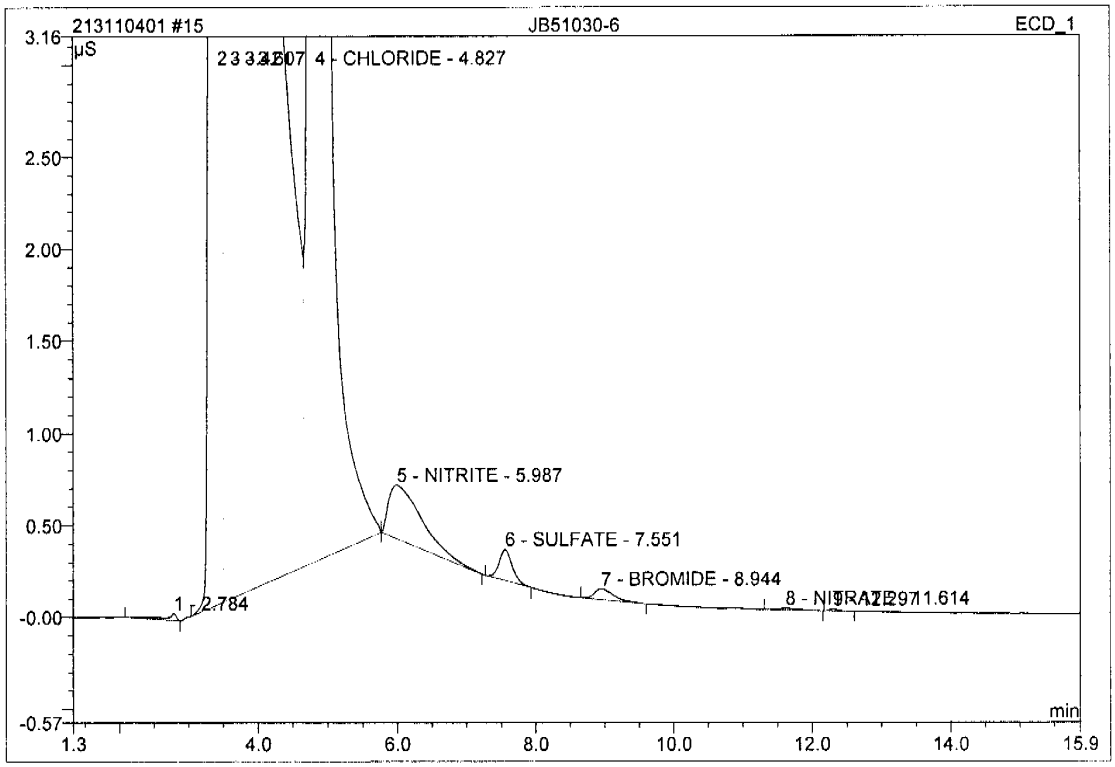
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 11:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.42 | n.a. | 35.803 | 5.632 | 11.97 | n.a. | BM * |
| 2 | 3.61 | n.a. | 38.092 | 12.394 | 26.35 | n.a. | M * |
| 3 | 4.83 | CHLORIDE | 207.492 | 28.120 | 59.78 | 157.424 | M * |
| 4 | 5.99 | NITRITE | 0.689 | 0.641 | 1.36 | 1.507 | M * |
| 5 | 7.55 | SULFATE | 0.329 | 0.194 | 0.41 | 1.480 | M * |
| 6 | 8.94 | BROMIDE | 0.104 | 0.055 | 0.12 | 0.721 | MB* |
| 7 | 11.61 | NITRATE | 0.010 | 0.004 | 0.01 | 0.008 | BMB |
| **Total:** | | | 282.521 | 47.041 | 100.00 | 161.139 | |

## 15 JB51030-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51030-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 11:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



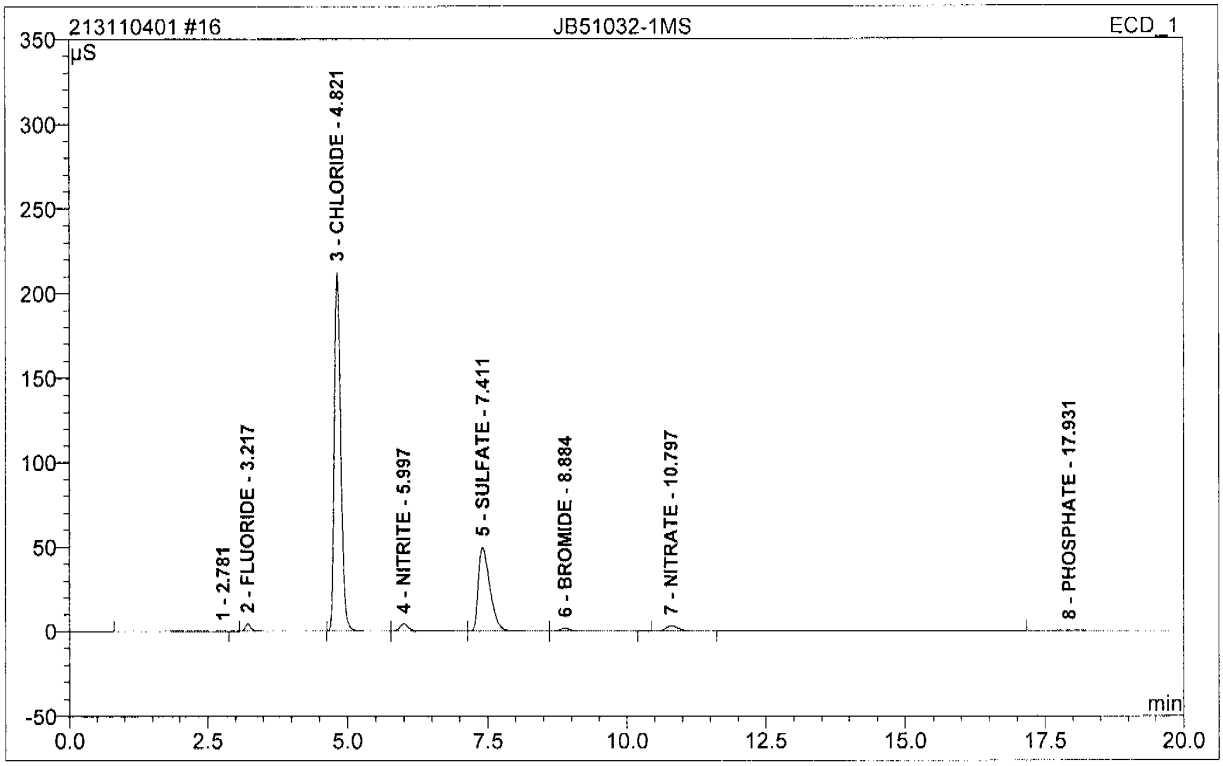

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.007 | 0.02 | n.a. | BMB |
| 2 | 3.42 | n.a. | 35.743 | 5.615 | 12.27 | n.a. | BM |
| 3 | 3.61 | n.a. | 38.002 | 12.202 | 26.65 | n.a. | M |
| 4 | 4.83 | CHLORIDE | 207.206 | 27.732 | 60.58 | 155.253 | Mb |
| 5 | 5.99 | NITRITE | 0.287 | 0.162 | 0.35 | 0.381 | bMB |
| 6 | 7.55 | SULFATE | 0.168 | 0.038 | 0.08 | 0.287 | BMB |
| 7 | 8.94 | BROMIDE | 0.059 | 0.019 | 0.04 | 0.248 | BMB |
| 8 | 11.61 | NITRATE | 0.010 | 0.004 | 0.01 | 0.008 | BMB |
| 9 | 12.30 | n.a. | 0.011 | 0.002 | 0.00 | n.a. | BMB |
| **Total:** | | | 281.524 | 45.780 | 100.00 | 156.177 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

# 16 JB51032-1MS

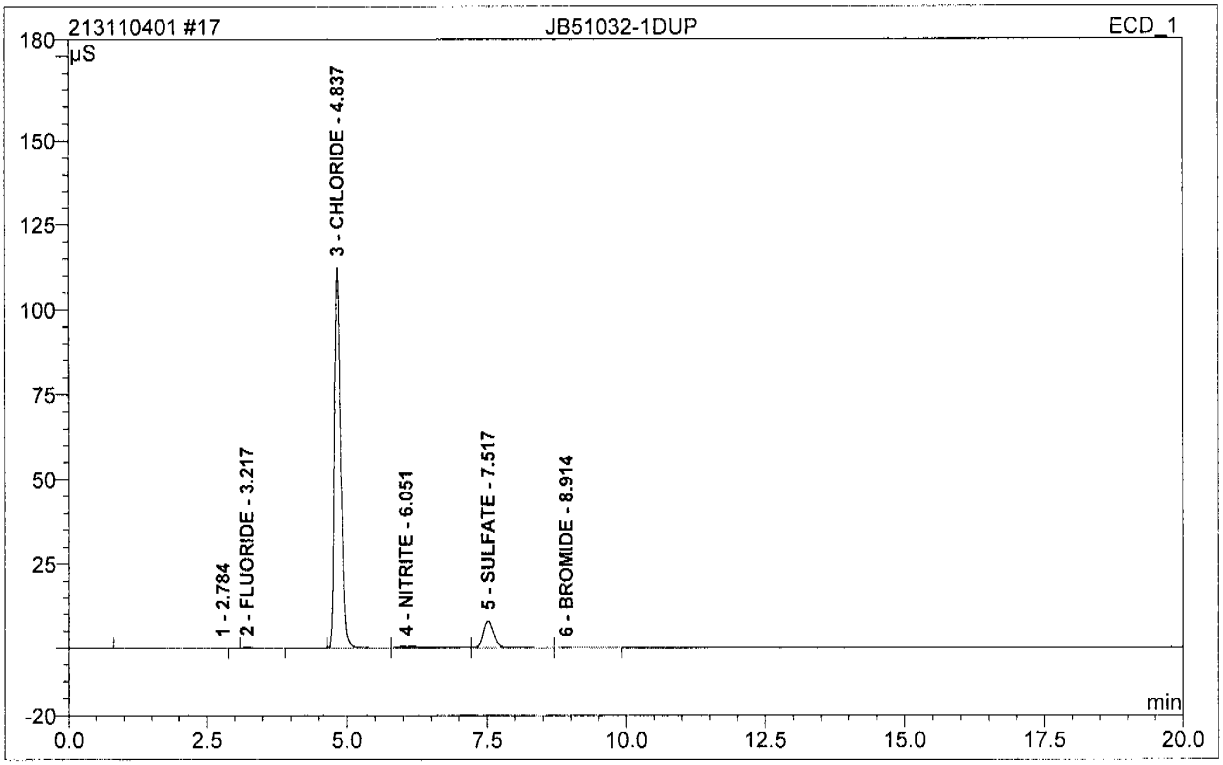
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 12:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.045 | 0.023 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.433 | 0.597 | 1.38 | 2.042 | BMB |
| 3 | 4.82 | CHLORIDE | 212.484 | 28.281 | 65.16 | 158.325 | BM |
| 4 | 6.00 | NITRITE | 4.385 | 1.036 | 2.39 | 2.436 | M |
| 5 | 7.41 | SULFATE | 49.780 | 12.031 | 27.72 | 91.618 | M |
| 6 | 8.88 | BROMIDE | 1.806 | 0.395 | 0.91 | 5.139 | MB |
| 7 | 10.80 | NITRATE | 3.240 | 0.844 | 1.94 | 1.960 | BMB |
| 8 | 17.93 | PHOSPHATE | 0.207 | 0.192 | 0.44 | 1.187 | BMB |
| **Total:** | | | 276.382 | 43.400 | 100.00 | 262.708 | |

## 17 JB51032-1DUP

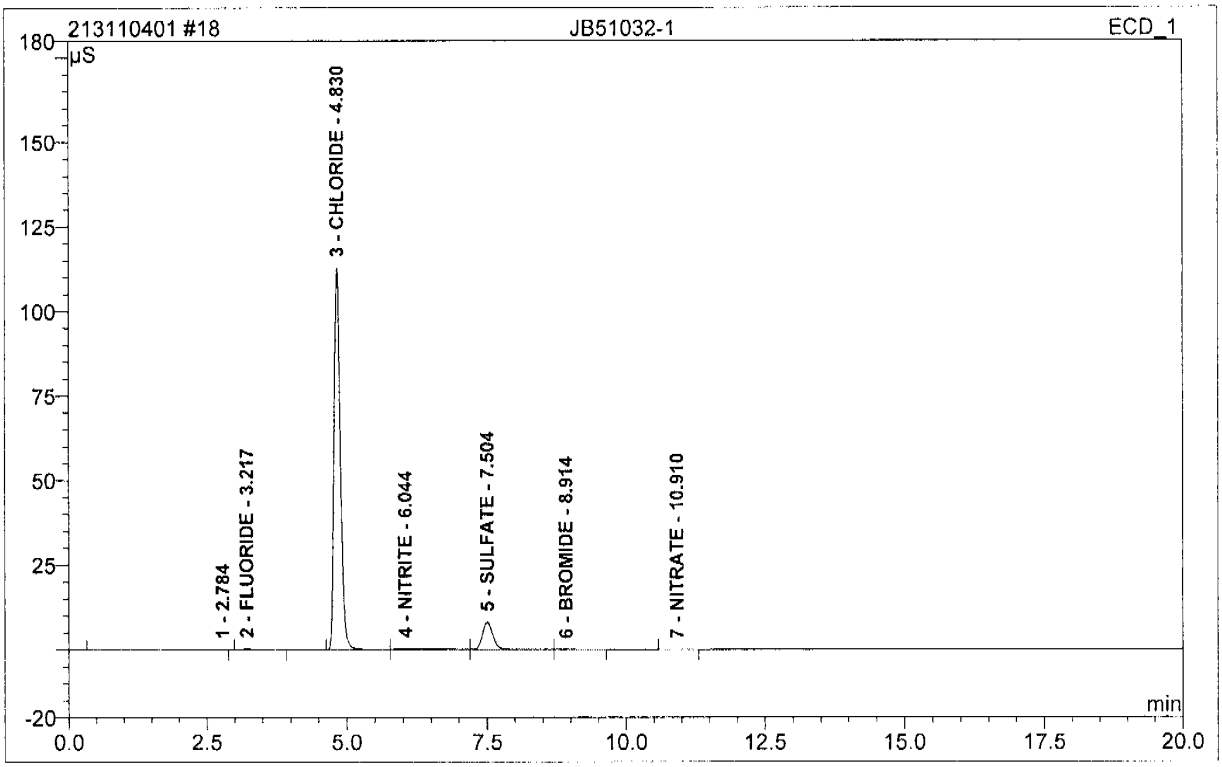
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 12:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.052 | 0.028 | 0.17 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.295 | 0.039 | 0.23 | 0.133 | BMB |
| 3 | 4.84 | CHLORIDE | 112.440 | 14.640 | 87.04 | 81.960 | BM |
| 4 | 6.05 | NITRITE | 0.447 | 0.330 | 1.96 | 0.775 | M |
| 5 | 7.52 | SULFATE | 7.990 | 1.765 | 10.50 | 13.444 | M |
| 6 | 8.91 | BROMIDE | 0.050 | 0.018 | 0.11 | 0.239 | MB |
| **Total:** | | | 121.275 | 16.821 | 100.00 | 96.551 | |

## 18 JB51032-1

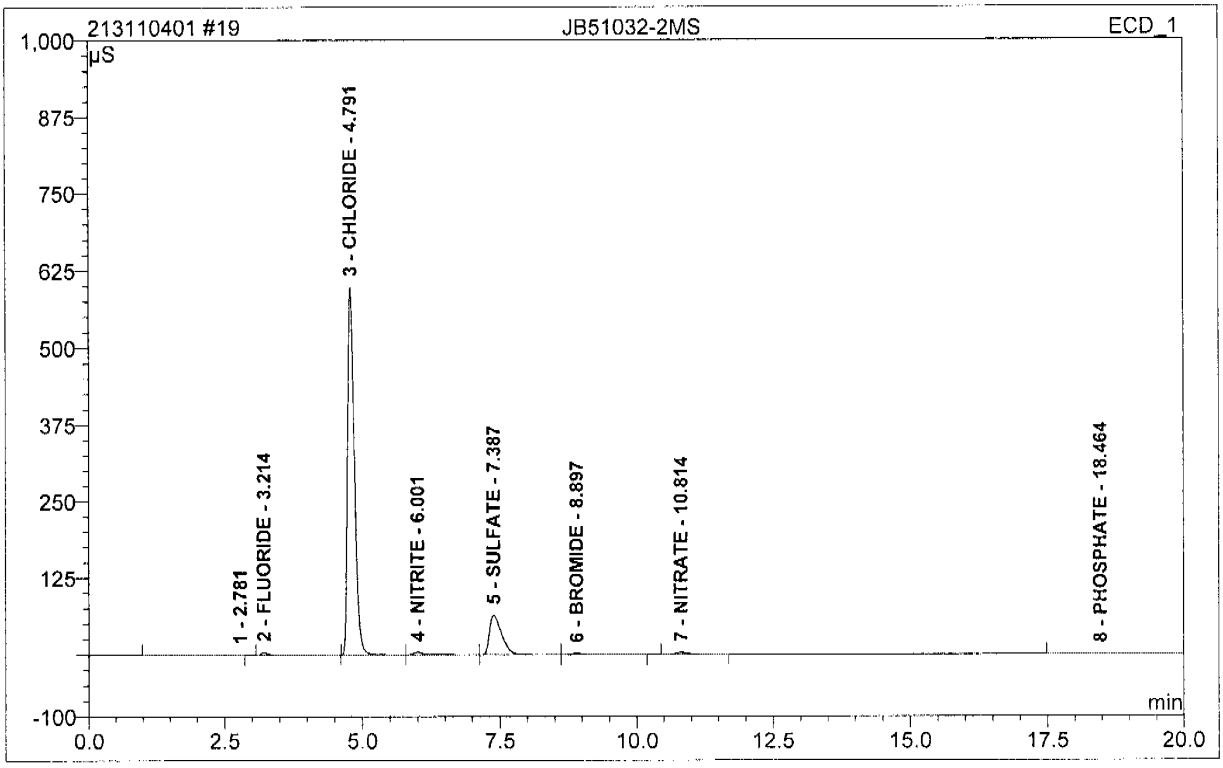
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 13:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.050 | 0.035 | 0.21 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.325 | 0.049 | 0.29 | 0.169 | BMB |
| 3 | 4.83 | CHLORIDE | 112.876 | 14.714 | 86.95 | 82.374 | BM |
| 4 | 6.04 | NITRITE | 0.449 | 0.331 | 1.96 | 0.779 | M |
| 5 | 7.50 | SULFATE | 8.029 | 1.774 | 10.49 | 13.511 | M |
| 6 | 8.91 | BROMIDE | 0.046 | 0.015 | 0.09 | 0.192 | MB |
| 7 | 10.91 | NITRATE | 0.013 | 0.003 | 0.02 | 0.007 | BMB |
| **Total:** | | | 121.787 | 16.922 | 100.00 | 97.031 | |

## 19 JB51032-2MS

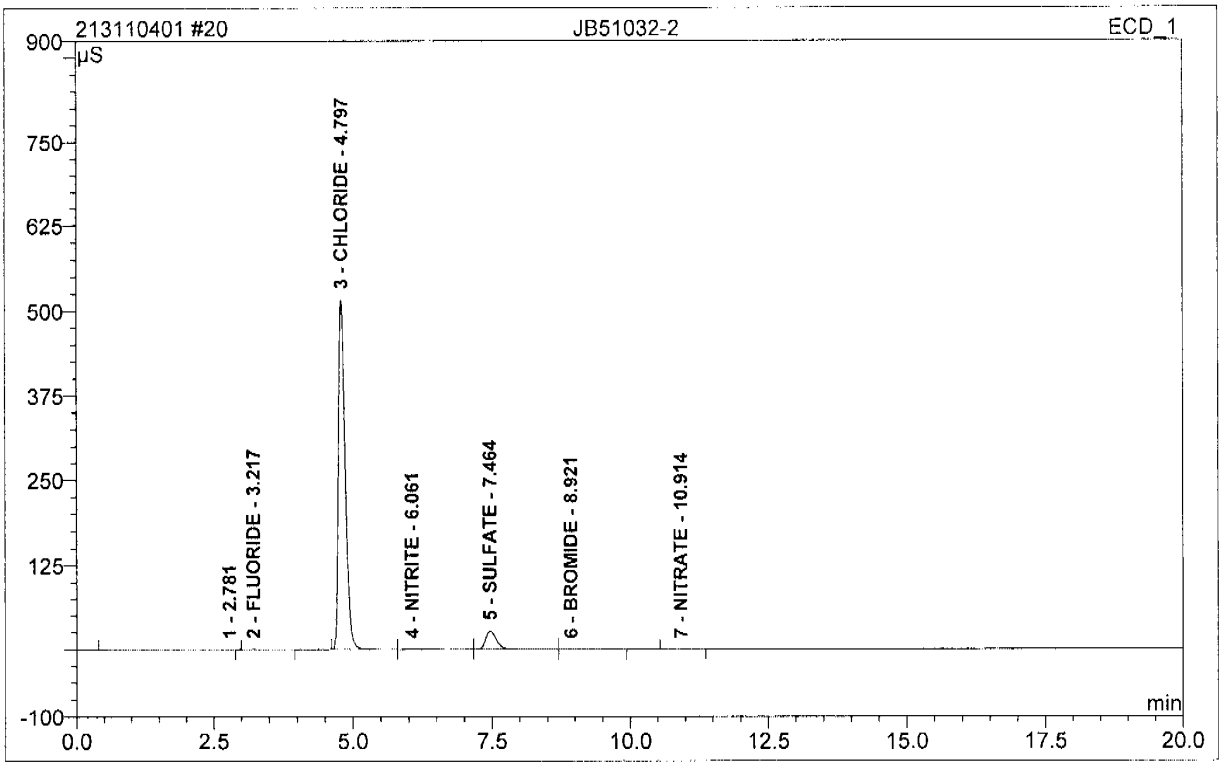
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-2MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 13:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.040 | 0.025 | 0.02 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 4.085 | 0.579 | 0.55 | 1.981 | BMB |
| 3 | 4.79 | CHLORIDE | 598.181 | 85.604 | 81.62 | 479.233 | BM |
| 4 | 6.00 | NITRITE | 4.448 | 1.036 | 0.99 | 2.435 | M |
| 5 | 7.39 | SULFATE | 63.750 | 16.217 | 15.46 | 123.490 | M |
| 6 | 8.90 | BROMIDE | 1.837 | 0.403 | 0.38 | 5.252 | MB |
| 7 | 10.81 | NITRATE | 3.346 | 0.875 | 0.83 | 2.032 | BMB |
| 8 | 18.46 | PHOSPHATE | 0.086 | 0.139 | 0.13 | 0.863 | BMB |
| **Total:** | | | 675.774 | 104.879 | 100.00 | 615.285 | |

## 20 JB51032-2

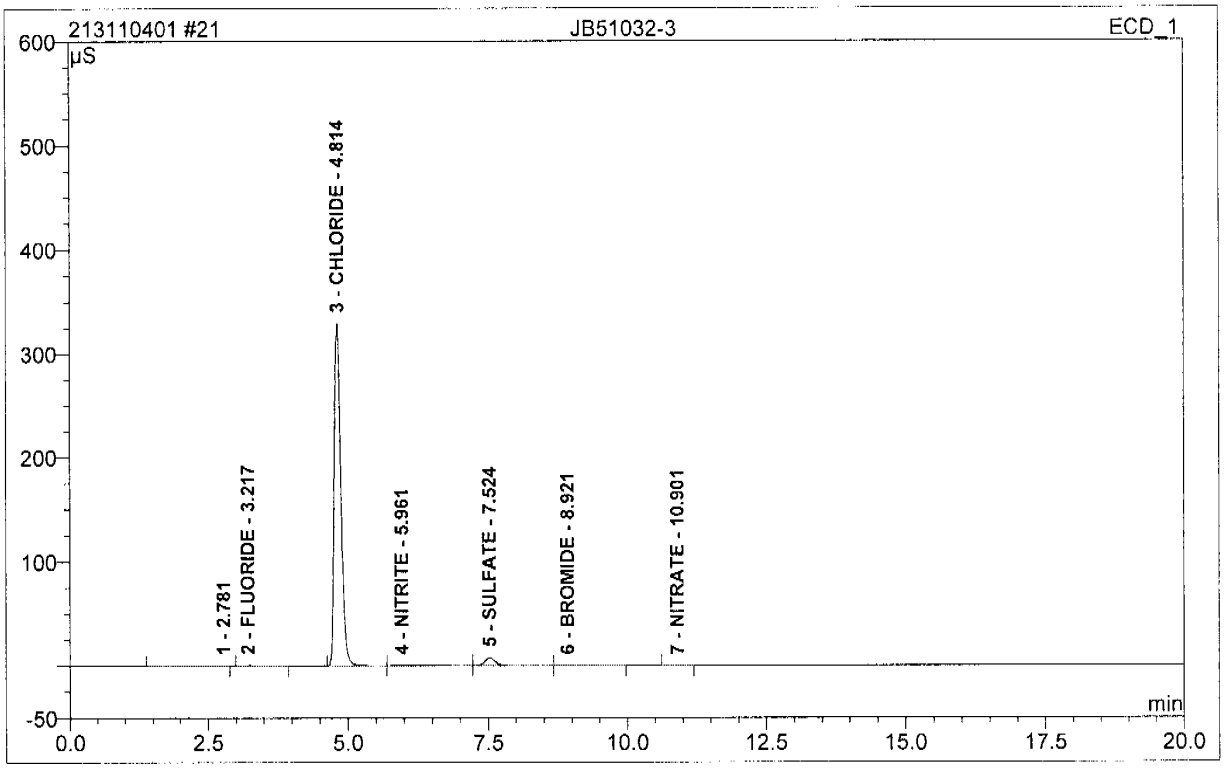
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 13:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.048 | 0.042 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.266 | 0.044 | 0.05 | 0.150 | BMB |
| 3 | 4.80 | CHLORIDE | 516.414 | 73.384 | 91.82 | 410.822 | BM |
| 4 | 6.06 | NITRITE | 0.440 | 0.326 | 0.41 | 0.766 | M |
| 5 | 7.46 | SULFATE | 26.901 | 6.073 | 7.60 | 46.245 ✓ | M |
| 6 | 8.92 | BROMIDE | 0.080 | 0.028 | 0.04 | 0.371 | MB |
| 7 | 10.91 | NITRATE | 0.112 | 0.029 | 0.04 | 0.066 | BMB |
| **Total:** | | | 544.261 | 79.925 | 100.00 | 458.421 | |

## 21 JB51032-3

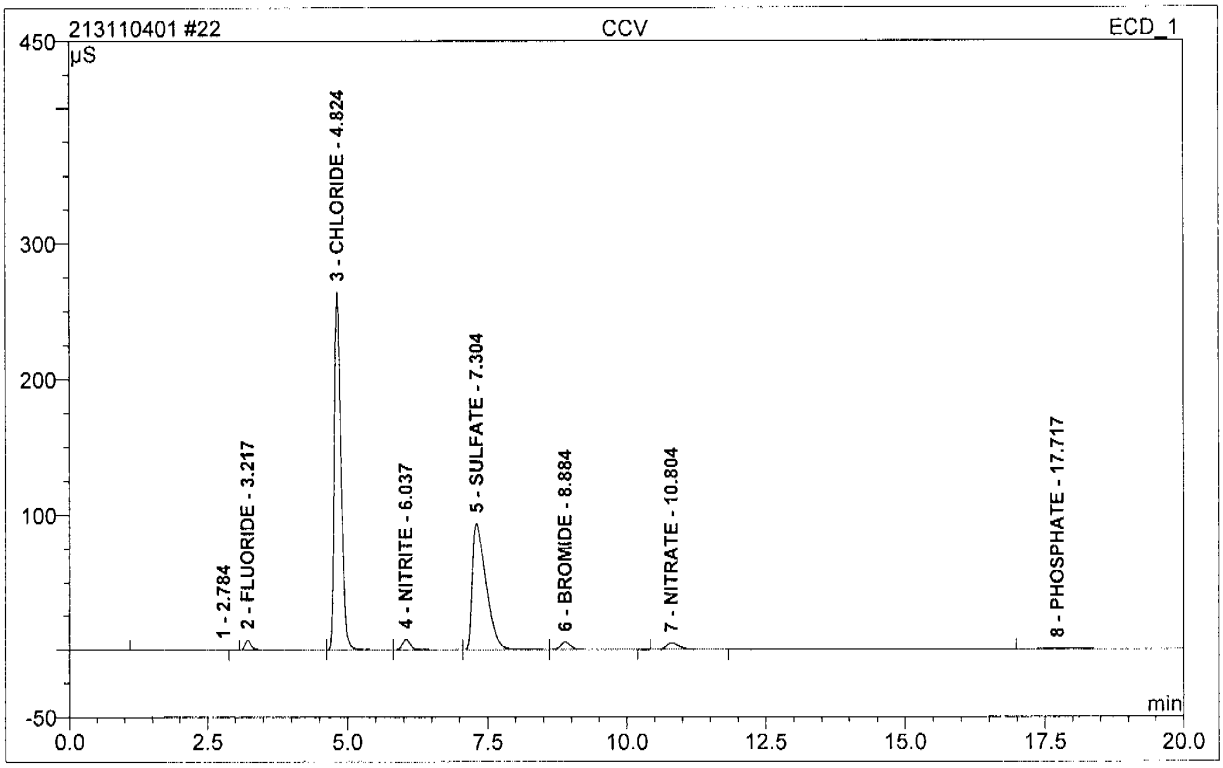
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 14:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.046 | 0.023 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.463 | 0.069 | 0.15 | 0.236 | BMB |
| 3 | 4.81 | CHLORIDE | 329.777 | 45.045 | 95.17 | 252.172 | BM |
| 4 | 5.96 | NITRITE | 0.534 | 0.465 | 0.98 | 1.094 | M |
| 5 | 7.52 | SULFATE | 7.546 | 1.682 | 3.55 | 12.810 | M |
| 6 | 8.92 | BROMIDE | 0.148 | 0.045 | 0.09 | 0.580 | MB |
| 7 | 10.90 | NITRATE | 0.007 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 338.520 | 47.331 | 100.00 | 266.897 | |

## 22 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 14:40** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.032 | 0.020 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.194 | 0.912 | 1.34 | 3.119 | BM |
| 3 | 4.82 | CHLORIDE | 264.150 | 36.236 | 53.23 | 202.857 | M |
| 4 | 6.04 | NITRITE | 7.778 | 1.314 | 1.93 | 3.089 | M |
| 5 | 7.30 | SULFATE | 93.684 | 26.671 | 39.18 | 203.100 | M |
| 6 | 8.88 | BROMIDE | 5.443 | 1.183 | 1.74 | 15.409 | MB |
| 7 | 10.80 | NITRATE | 4.885 | 1.324 | 1.94 | 3.073 | BMB |
| 8 | 17.72 | PHOSPHATE | 0.625 | 0.419 | 0.61 | 2.591 | BMB |
| **Total:** | | | 383.792 | 68.079 | 100.00 | 433.239 | |

101.43

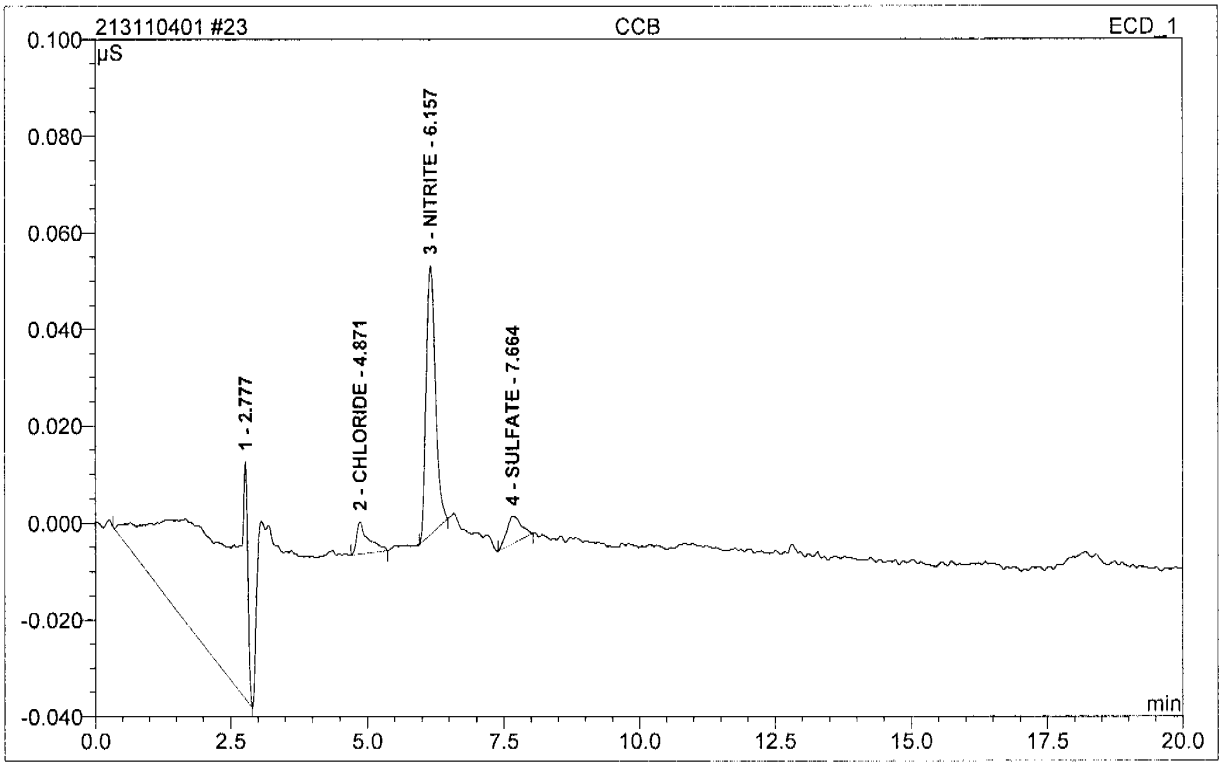
101.55

12.1

12

## 23 CCB

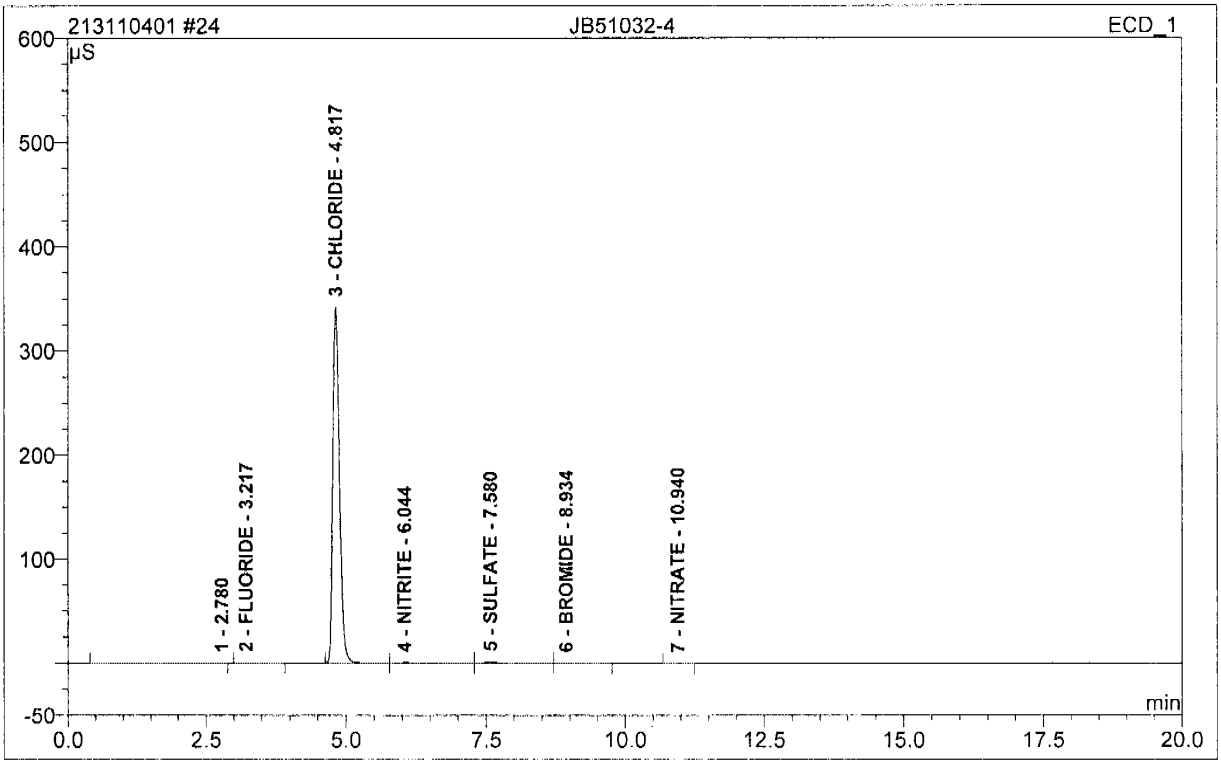
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 15:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.049 | 0.045 | 75.78 | n.a. | BMB |
| 2 | 4.87 | CHLORIDE | 0.007 | 0.002 | 2.78 | 0.009 | BMB |
| 3 | 6.16 | NITRITE | 0.056 | 0.011 | 18.50 | 0.026 | BMB |
| 4 | 7.66 | SULFATE | 0.006 | 0.002 | 2.94 | 0.013 | BMB |
| **Total:** | | | 0.117 | 0.059 | 100.00 | 0.048 | |

## 24 JB51032-4

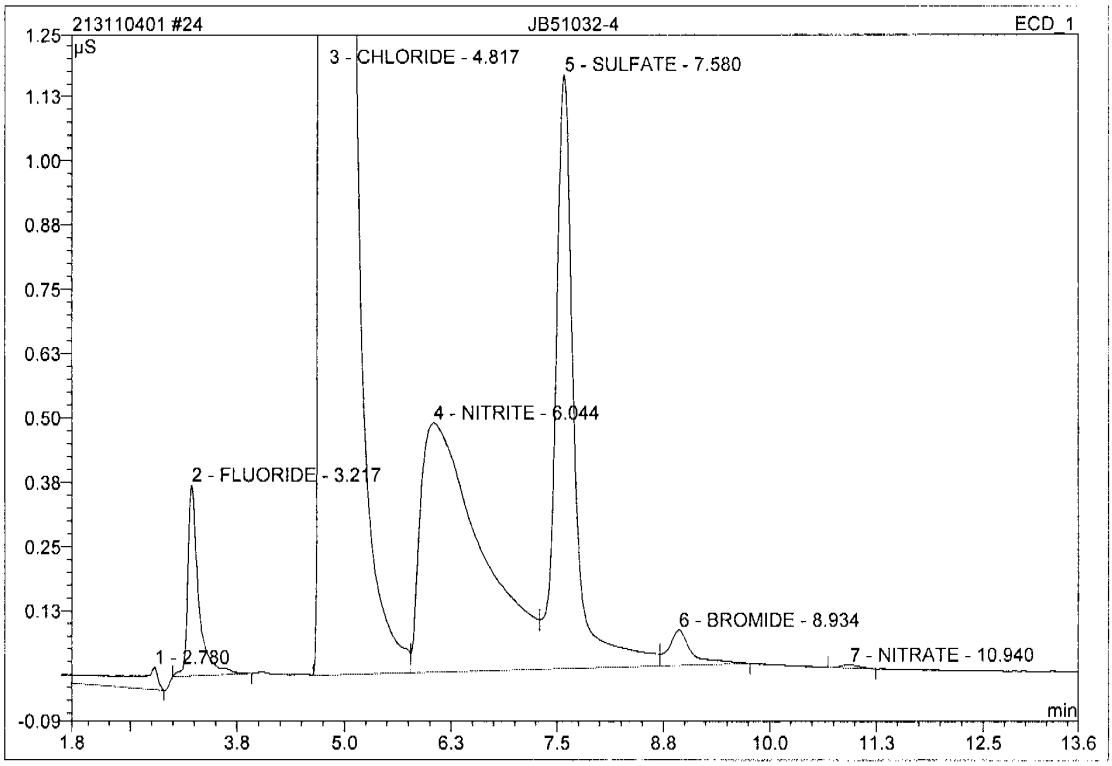
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 15:28** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.043 | 0.034 | 0.07 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.373 | 0.055 | 0.11 | 0.188 | BMB |
| 3 | 4.82 | CHLORIDE | 342.063 | 47.073 | 98.31 | 263.528 | BM |
| 4 | 6.04 | NITRITE | 0.485 | 0.398 | 0.83 | 0.935 | M |
| 5 | 7.58 | SULFATE | 1.156 | 0.299 | 0.62 | 2.275 | M |
| 6 | 8.93 | BROMIDE | 0.069 | 0.022 | 0.05 | 0.283 | MB |
| 7 | 10.94 | NITRATE | 0.006 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 344.196 | 47.882 | 100.00 | 267.211 | |

## 24 JB51032-4

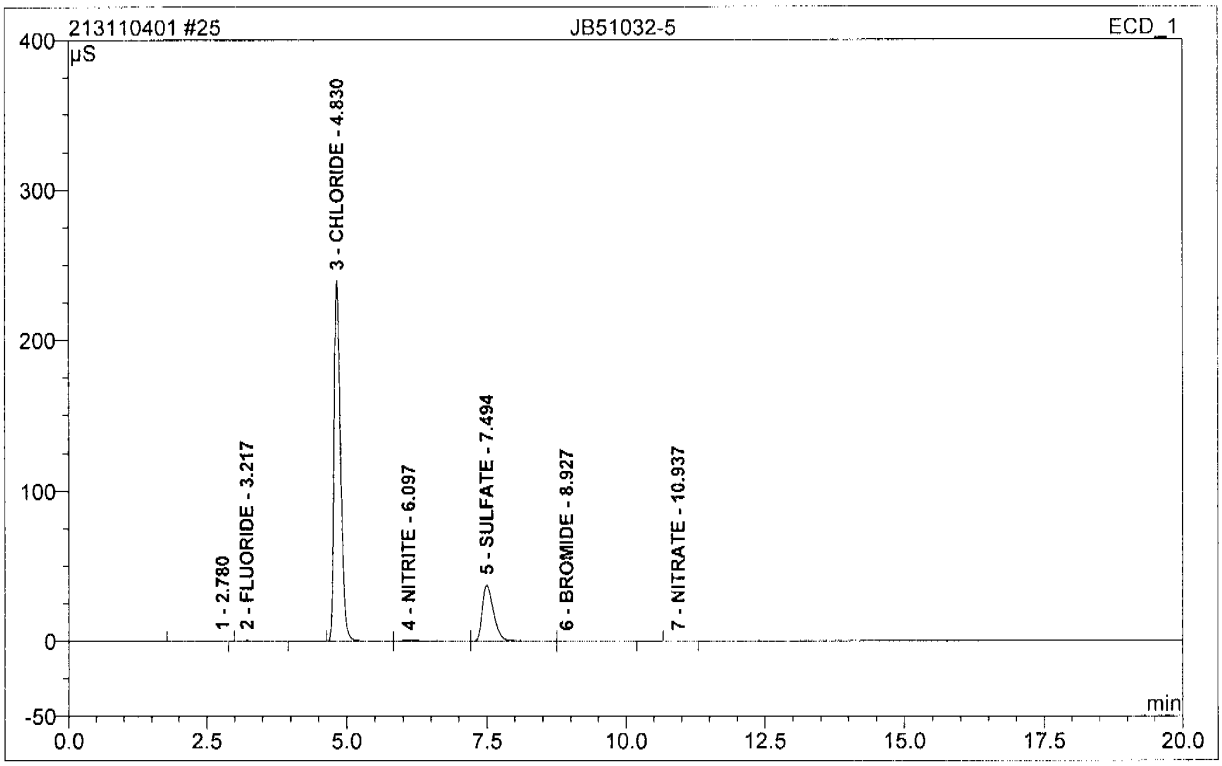
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 15:28** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.043 | 0.034 | 0.07 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.373 | 0.055 | 0.11 | 0.188 | BMB |
| 3 | 4.82 | CHLORIDE | 342.063 | 47.073 | 98.31 | 263.528 | BM |
| 4 | 6.04 | NITRITE | 0.485 | 0.398 | 0.83 | 0.935 | M |
| 5 | 7.58 | SULFATE | 1.156 | 0.299 | 0.62 | 2.275 | M |
| 6 | 8.93 | BROMIDE | 0.069 | 0.022 | 0.05 | 0.283 | MB |
| 7 | 10.94 | NITRATE | 0.006 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 344.196 | 47.882 | 100.00 | 267.211 | |

## 25 JB51032-5

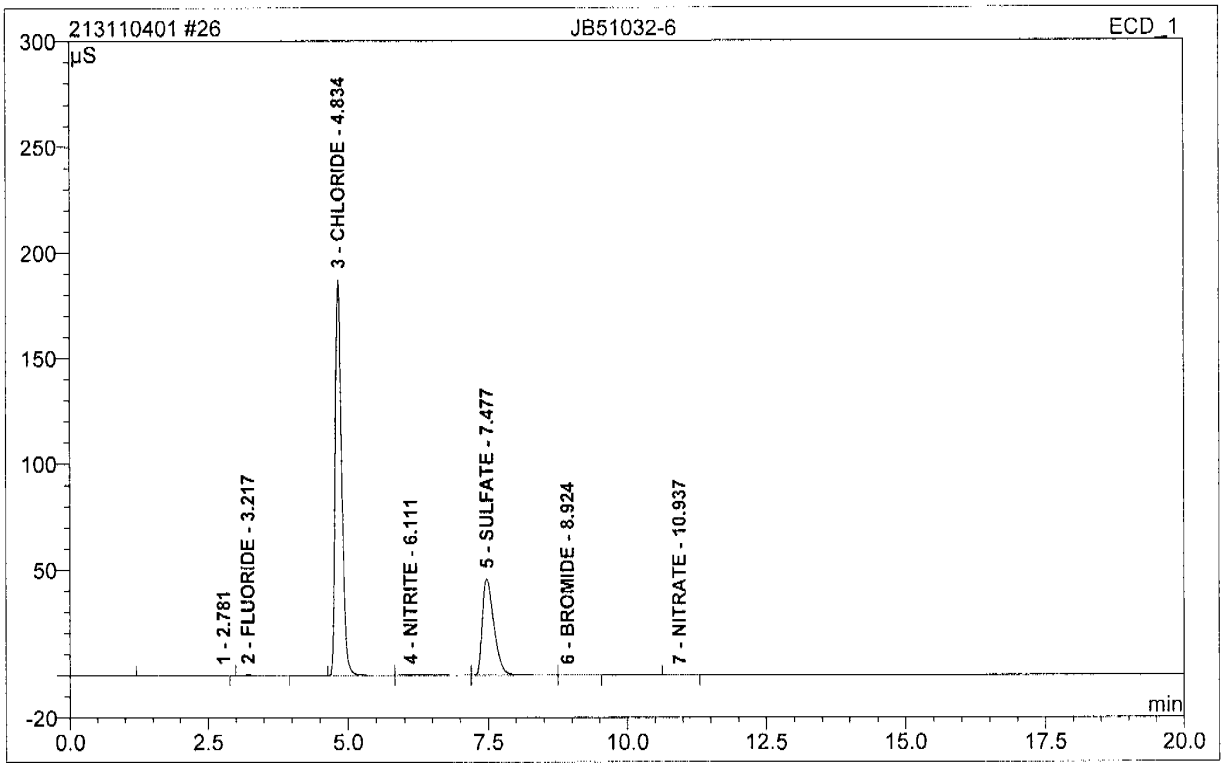
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 15:52** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.013 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.395 | 0.057 | 0.14 | 0.196 | BMB |
| 3 | 4.83 | CHLORIDE | 239.447 | 32.249 | 78.01 | 180.540 | BM |
| 4 | 6.10 | NITRITE | 0.428 | 0.304 | 0.74 | 0.715 | M |
| 5 | 7.49 | SULFATE | 37.212 | 8.686 | 21.01 | 66.146 | M |
| 6 | 8.93 | BROMIDE | 0.056 | 0.027 | 0.07 | 0.350 | MB |
| 7 | 10.94 | NITRATE | 0.009 | 0.002 | 0.01 | 0.005 | BMB |
| **Total:** | | | 277.583 | 41.339 | 100.00 | 247.953 | |

## 26 JB51032-6

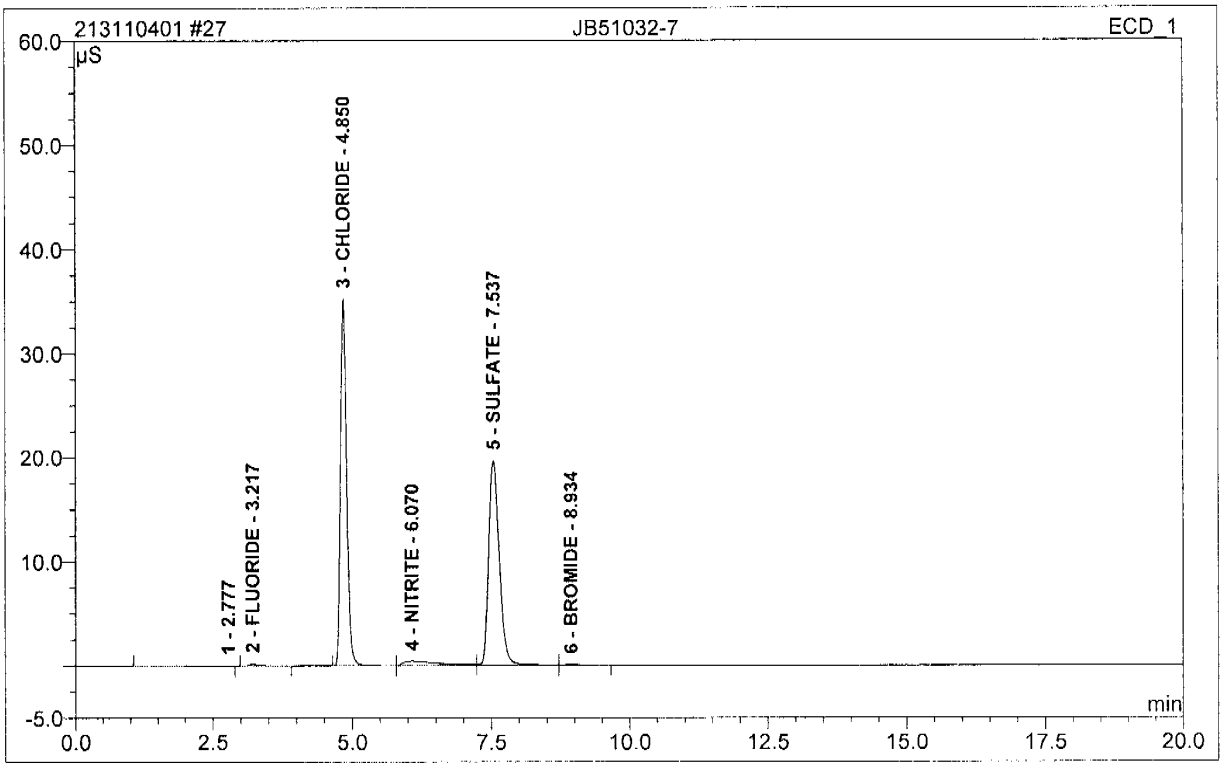
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 16:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.019 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.401 | 0.060 | 0.17 | 0.206 | BMB |
| 3 | 4.83 | CHLORIDE | 187.320 | 24.885 | 68.72 | 139.314 | BM |
| 4 | 6.11 | NITRITE | 0.409 | 0.276 | 0.76 | 0.650 | M |
| 5 | 7.48 | SULFATE | 45.568 | 10.952 | 30.25 | 83.400 | M |
| 6 | 8.92 | BROMIDE | 0.046 | 0.015 | 0.04 | 0.189 | MB |
| 7 | 10.94 | NITRATE | 0.015 | 0.004 | 0.01 | 0.009 | BMB |
| **Total:** | | | 233.794 | 36.211 | 100.00 | 223.768 | |

## 27 JB51032-7

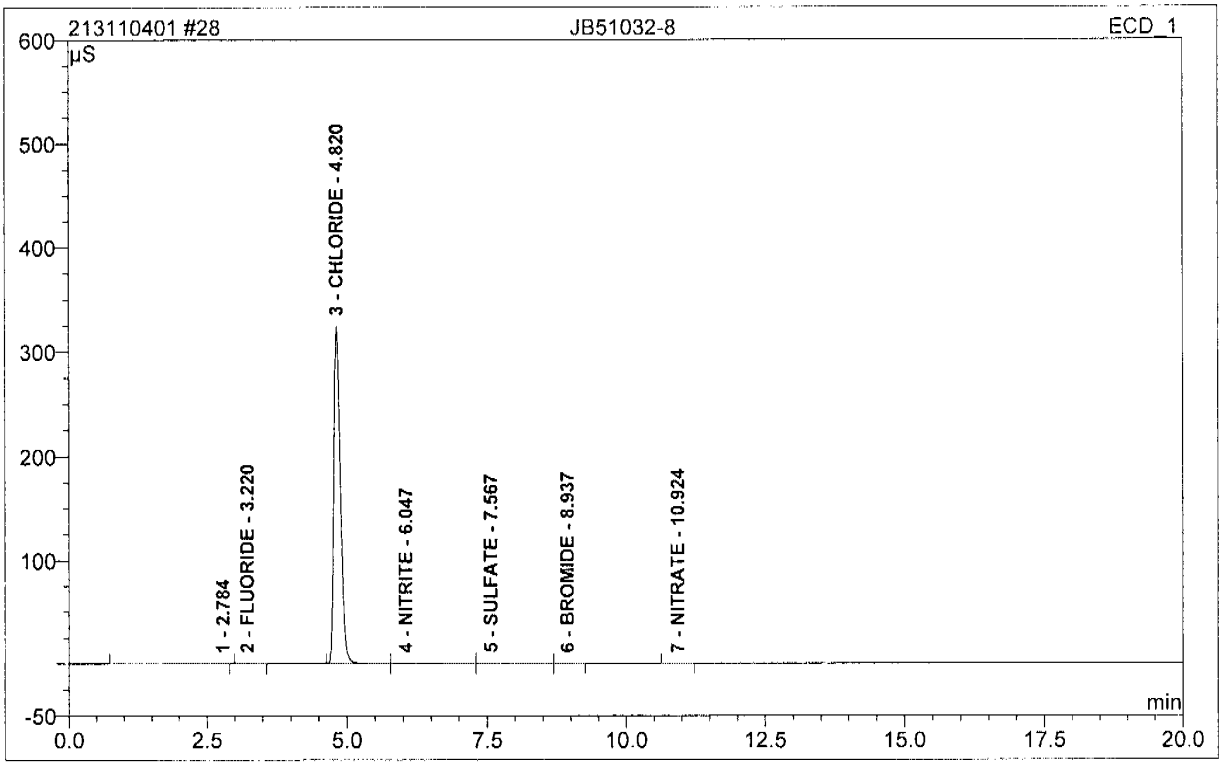
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **20** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 16:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.022 | 0.23 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.187 | 0.031 | 0.33 | 0.105 | BMB |
| 3 | 4.85 | CHLORIDE | 35.246 | 4.493 | 48.41 | 25.152 | BM |
| 4 | 6.07 | NITRITE | 0.439 | 0.330 | 3.55 | 0.775 | M |
| 5 | 7.54 | SULFATE | 19.620 | 4.378 | 47.18 | 33.337 | M |
| 6 | 8.93 | BROMIDE | 0.094 | 0.027 | 0.29 | 0.356 | MB |
| **Total:** | | | 55.620 | 9.280 | 100.00 | 59.724 | |

## 28 JB51032-8

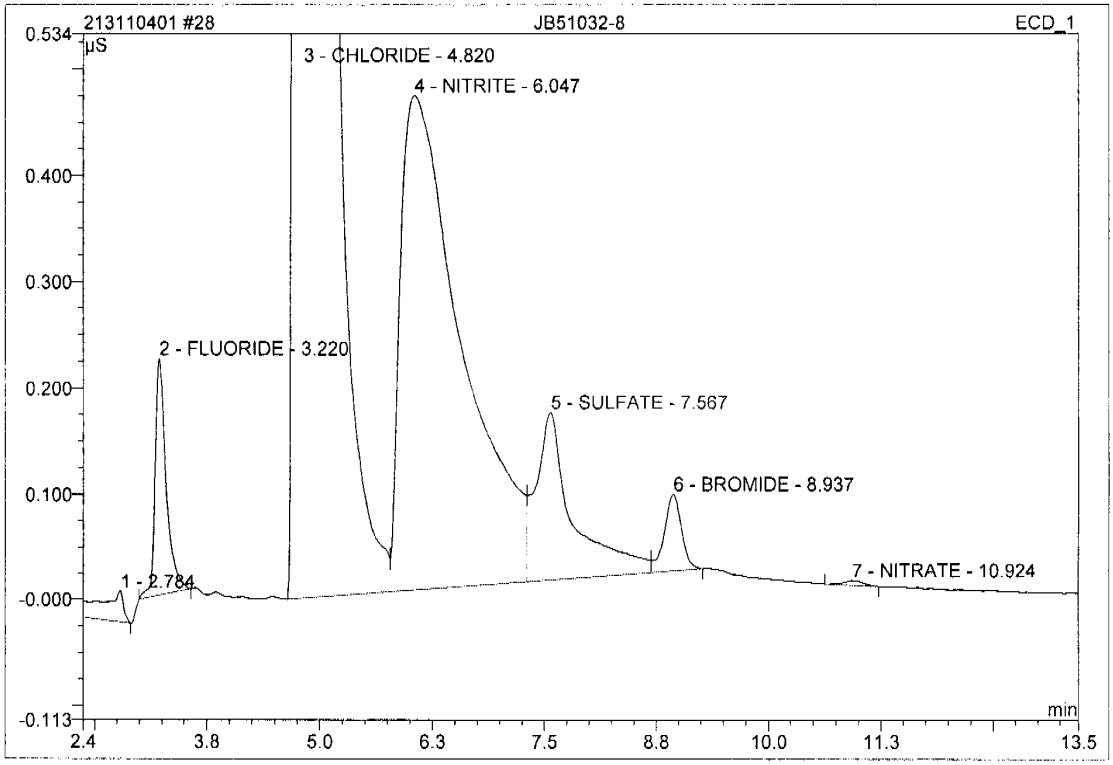
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 17:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.029 | 0.022 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.224 | 0.032 | 0.07 | 0.110 | BMB |
| 3 | 4.82 | CHLORIDE | 324.565 | 44.457 | 98.85 | 248.881 | BM |
| 4 | 6.05 | NITRITE | 0.466 | 0.370 | 0.82 | 0.869 | M |
| 5 | 7.57 | SULFATE | 0.158 | 0.077 | 0.17 | 0.583 | M |
| 6 | 8.94 | BROMIDE | 0.072 | 0.016 | 0.04 | 0.213 | MB |
| 7 | 10.92 | NITRATE | 0.005 | 0.001 | 0.00 | 0.003 | BMB |
| **Total:** | | | 325.520 | 44.975 | 100.00 | 250.658 | |

# 28 JB51032-8

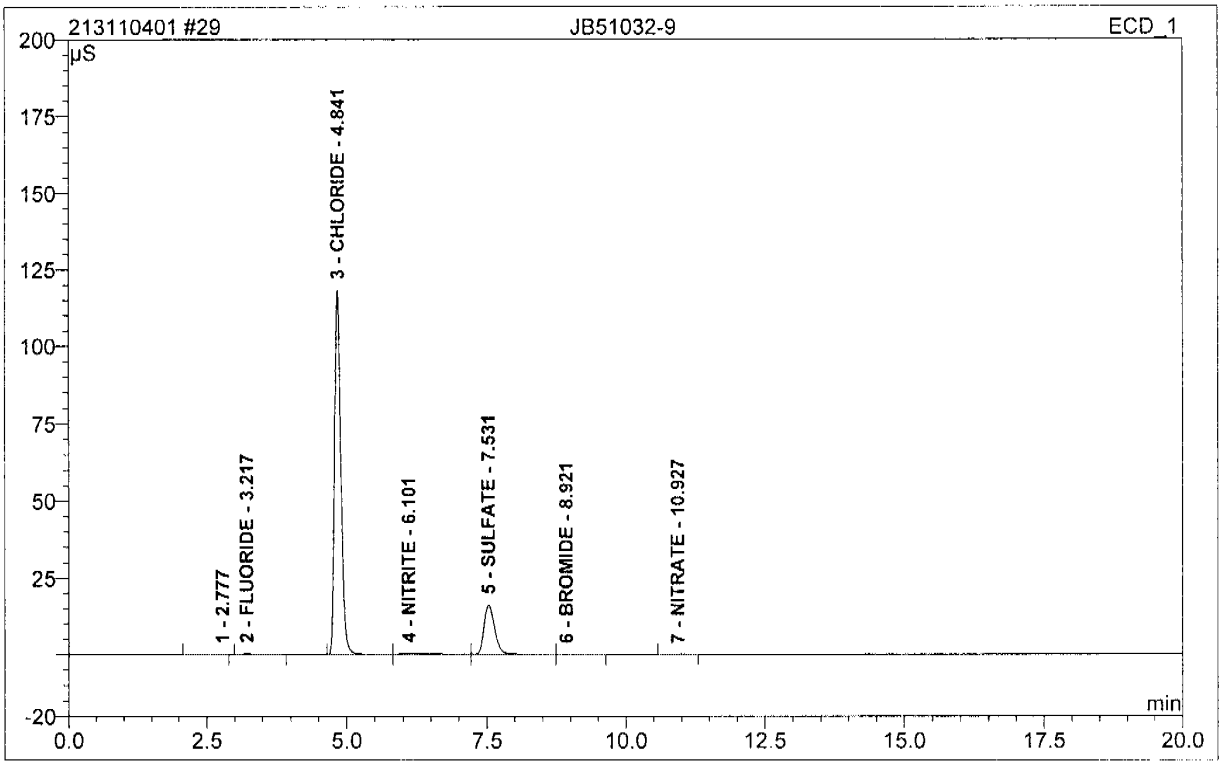
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 17:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.029 | 0.022 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.224 | 0.032 | 0.07 | 0.110 | BMB |
| 3 | 4.82 | CHLORIDE | 324.565 | 44.457 | 98.85 | 248.881 | BM |
| 4 | 6.05 | NITRITE | 0.466 | 0.370 | 0.82 | 0.869 | M |
| 5 | 7.57 | SULFATE | 0.158 | 0.077 | 0.17 | 0.583 | M |
| 6 | 8.94 | BROMIDE | 0.072 | 0.016 | 0.04 | 0.213 | MB |
| 7 | 10.92 | NITRATE | 0.005 | 0.001 | 0.00 | 0.003 | BMB |
| **Total:** | | | 325.520 | 44.975 | 100.00 | 250.658 | |

## 29 JB51032-9

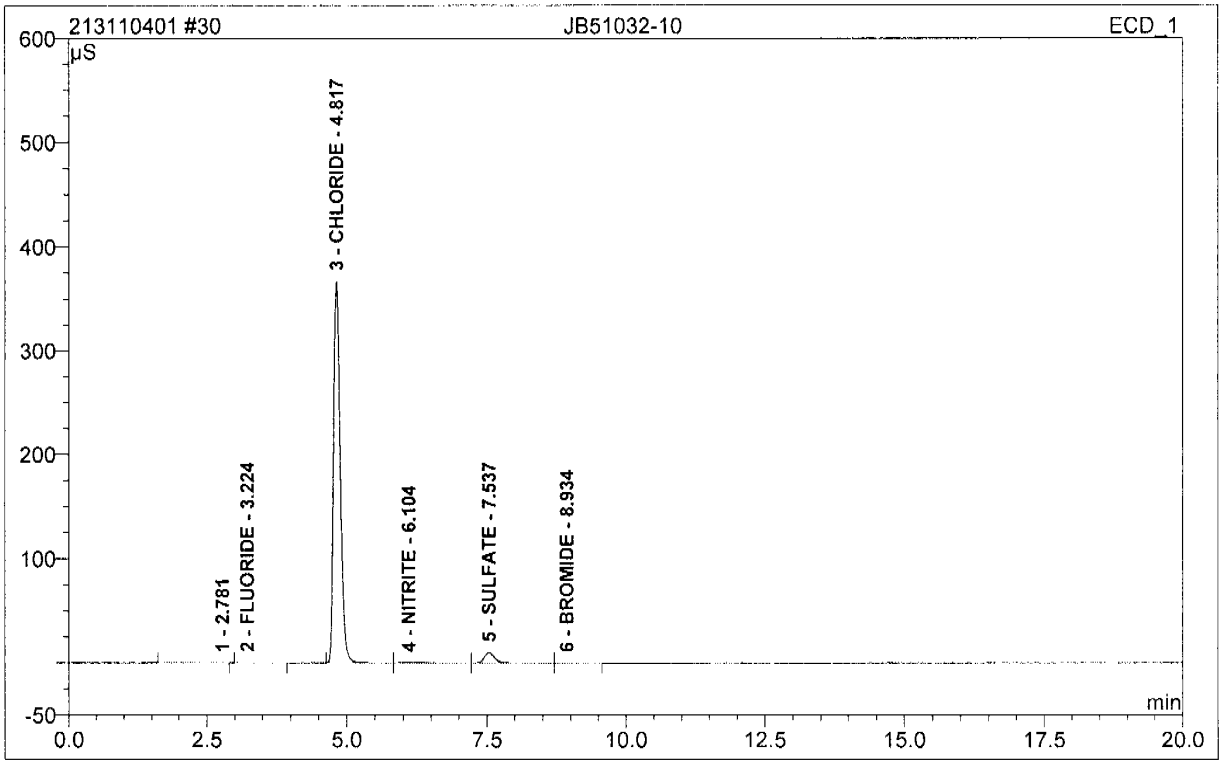
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 17:28** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.029 | 0.008 | 0.04 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.281 | 0.044 | 0.23 | 0.152 | BMB |
| 3 | 4.84 | CHLORIDE | 118.417 | 15.502 | 79.68 | 86.783 | BM |
| 4 | 6.10 | NITRITE | 0.409 | 0.281 | 1.45 | 0.662 | M |
| 5 | 7.53 | SULFATE | 16.174 | 3.587 | 18.44 | 27.314 | M |
| 6 | 8.92 | BROMIDE | 0.033 | 0.012 | 0.06 | 0.160 | MB |
| 7 | 10.93 | NITRATE | 0.079 | 0.020 | 0.10 | 0.046 | BMB |
| **Total:** | | | 135.421 | 19.455 | 100.00 | 115.117 | |

## 30 JB51032-10

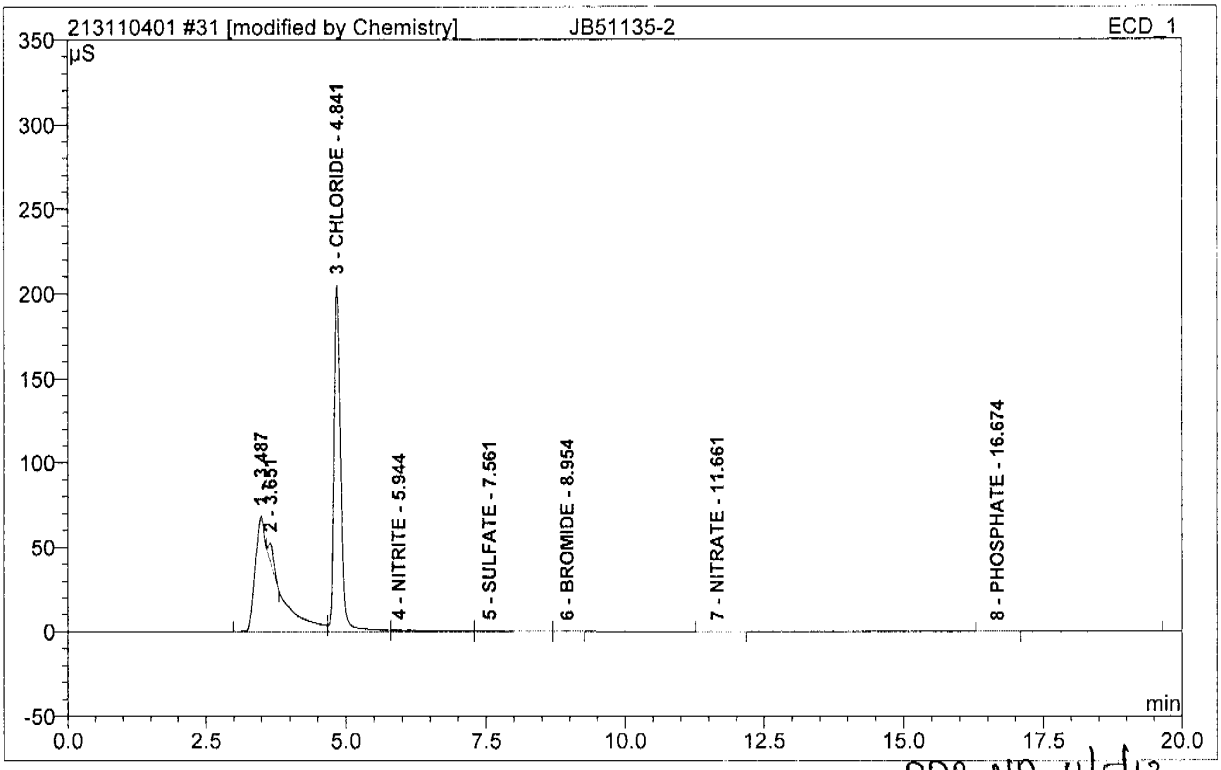
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51032-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 17:52** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.029 | 0.012 | 0.02 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.145 | 0.027 | 0.05 | 0.091 | BMB |
| 3 | 4.82 | CHLORIDE | 366.817 | 50.829 | 95.28 | 284.552 | BM |
| 4 | 6.10 | NITRITE | 0.409 | 0.289 | 0.54 | 0.679 | M |
| 5 | 7.54 | SULFATE | 9.833 | 2.170 | 4.07 | 16.526 | M |
| 6 | 8.93 | BROMIDE | 0.072 | 0.020 | 0.04 | 0.258 | MB |
| **Total:** | | | 377.304 | 53.346 | 100.00 | 302.107 | |

# 31 JB51135-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51135-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 18:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

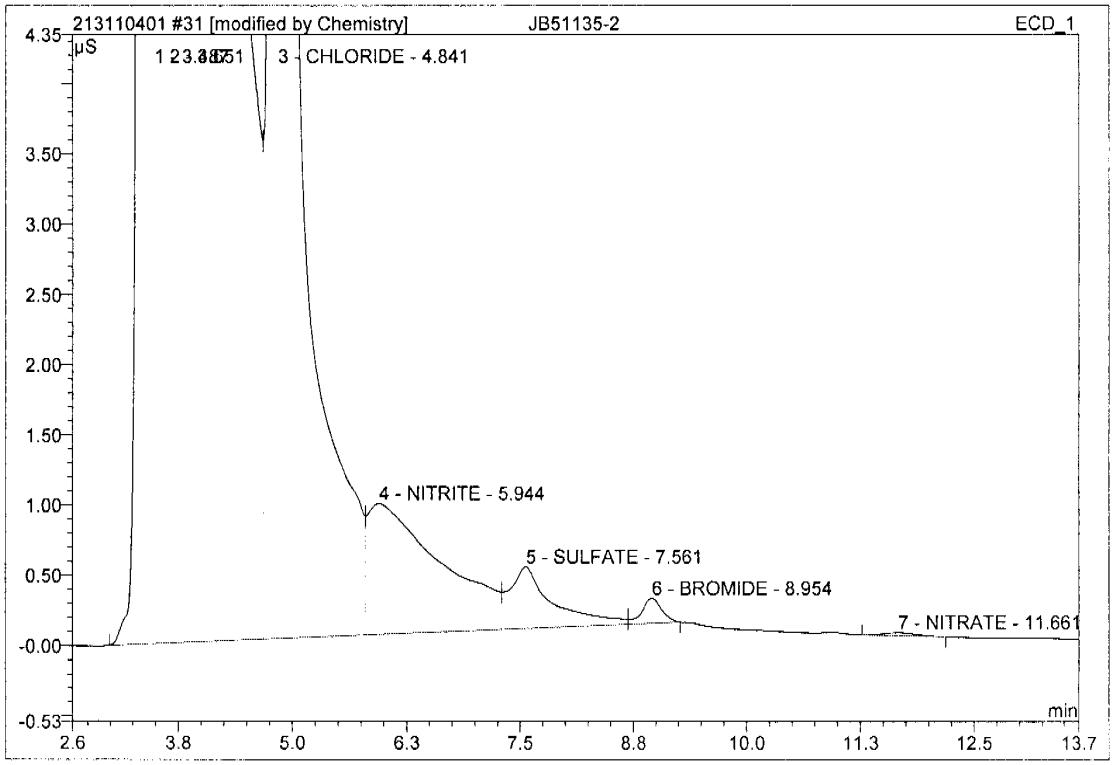



PDB NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 68.414 | 30.337 | 49.70 | n.a. | BM * |
| 2 | 3.65 | n.a. | 9.764 | 1.172 | 1.92 | n.a. | Rd |
| 3 | 4.84 | CHLORIDE | 204.832 | 28.360 | 46.46 | 158.768 | M * |
| 4 | 5.94 | NITRITE | 0.930 | 0.862 | 1.41 | 2.026 | M * |
| 5 | 7.56 | SULFATE | 0.440 | 0.246 | 0.40 | 1.870 ✓ | M * |
| 6 | 8.95 | BROMIDE | 0.178 | 0.046 | 0.07 | 0.593 | MB* |
| 7 | 11.66 | NITRATE | 0.021 | 0.008 | 0.01 | 0.019 | BMB |
| 8 | 16.67 | PHOSPHATE | 0.006 | 0.003 | 0.00 | 0.016 | BMB |
| 9 | 20.23 | n.a. | 0.009 | 0.005 | 0.01 | n.a. | BMB |
| **Total:** | | | 284.594 | 61.038 | 100.00 | 163.291 | |

## 31 JB51135-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51135-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 18:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



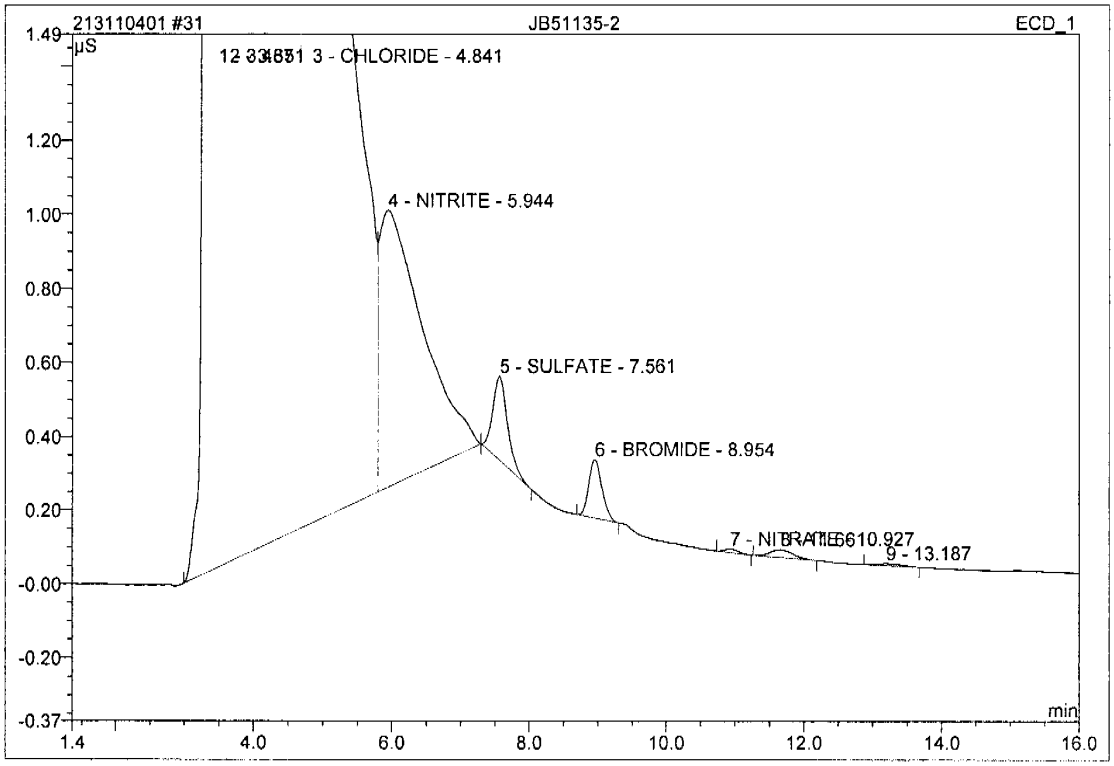

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 68.414 | 30.337 | 49.70 | n.a. | BM * |
| 2 | 3.65 | n.a. | 9.764 | 1.172 | 1.92 | n.a. | Rd |
| 3 | 4.84 | CHLORIDE | 204.832 | 28.360 | 46.46 | 158.768 | M * |
| 4 | 5.94 | NITRITE | 0.930 | 0.862 | 1.41 | 2.026 | M * |
| 5 | 7.56 | SULFATE | 0.440 | 0.246 | 0.40 | 1.870 | M * |
| 6 | 8.95 | BROMIDE | 0.178 | 0.046 | 0.07 | 0.593 | MB* |
| 7 | 11.66 | NITRATE | 0.021 | 0.008 | 0.01 | 0.019 | BMB |
| 8 | 16.67 | PHOSPHATE | 0.006 | 0.003 | 0.00 | 0.016 | BMB |
| 9 | 20.23 | n.a. | 0.009 | 0.005 | 0.01 | n.a. | BMB |
| **Total:** | | | 284.594 | 61.038 | 100.00 | 163.291 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 31 JB51135-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51135-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 18:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.49 | n.a. | 68.384 | 30.249 | 50.19 | n.a. | BM |
| 2 | 3.65 | n.a. | 9.764 | 1.172 | 1.94 | n.a. | Rd |
| 3 | 4.84 | CHLORIDE | 204.718 | 28.206 | 46.80 | 157.903 | M |
| 4 | 5.94 | NITRITE | 0.749 | 0.535 | 0.89 | 1.258 | Mb |
| 5 | 7.56 | SULFATE | 0.225 | 0.056 | 0.09 | 0.429 | bMB |
| 6 | 8.95 | BROMIDE | 0.159 | 0.035 | 0.06 | 0.462 | BMB |
| 7 | 10.93 | NITRATE | 0.009 | 0.002 | 0.00 | 0.005 | BMB |
| 8 | 11.66 | n.a. | 0.021 | 0.008 | 0.01 | n.a. | BMB |
| 9 | 13.19 | n.a. | 0.006 | 0.003 | 0.00 | n.a. | BMB |
| 10 | 16.67 | PHOSPHATE | 0.006 | 0.003 | 0.00 | 0.016 | BMB |
| 11 | 20.23 | n.a. | 0.009 | 0.005 | 0.01 | n.a. | BMB |

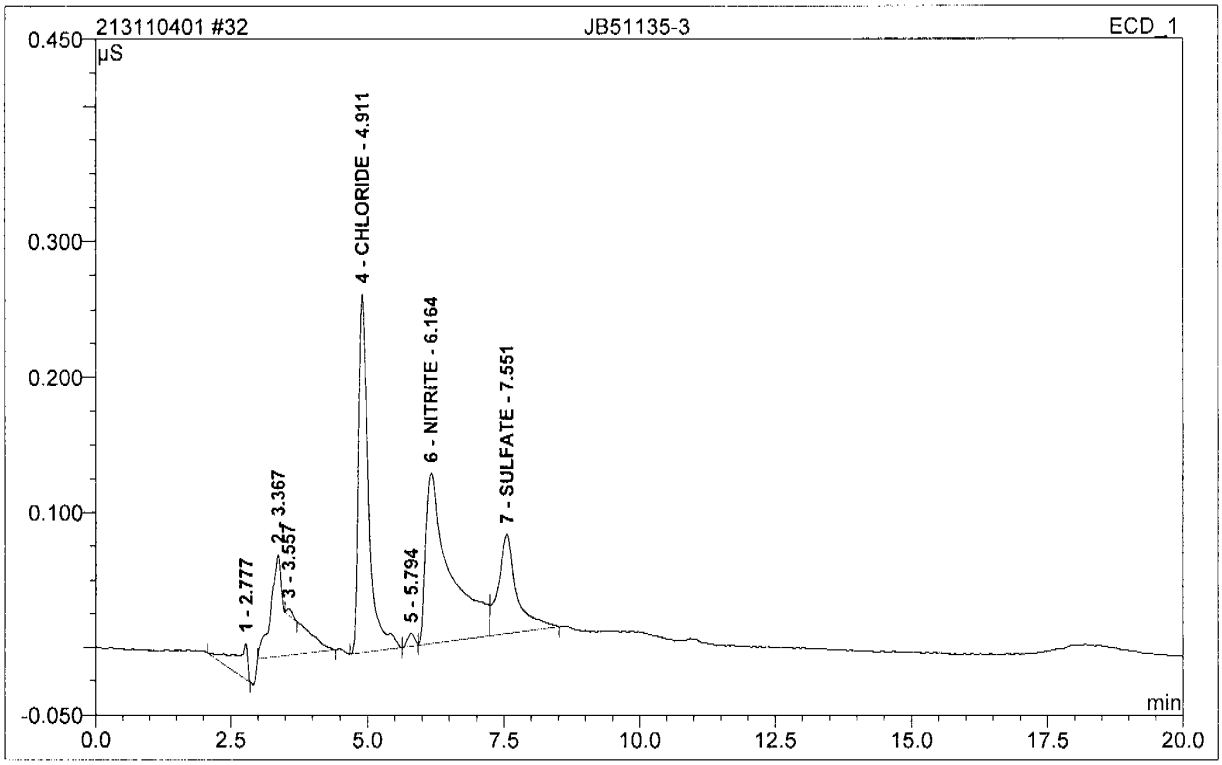
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

| | | | | | |
|---|---|---|---|---|---|
| **Total:** | | 284.050 | 60.275 | 100.00 | 160.072 |

## 32 JB51135-3

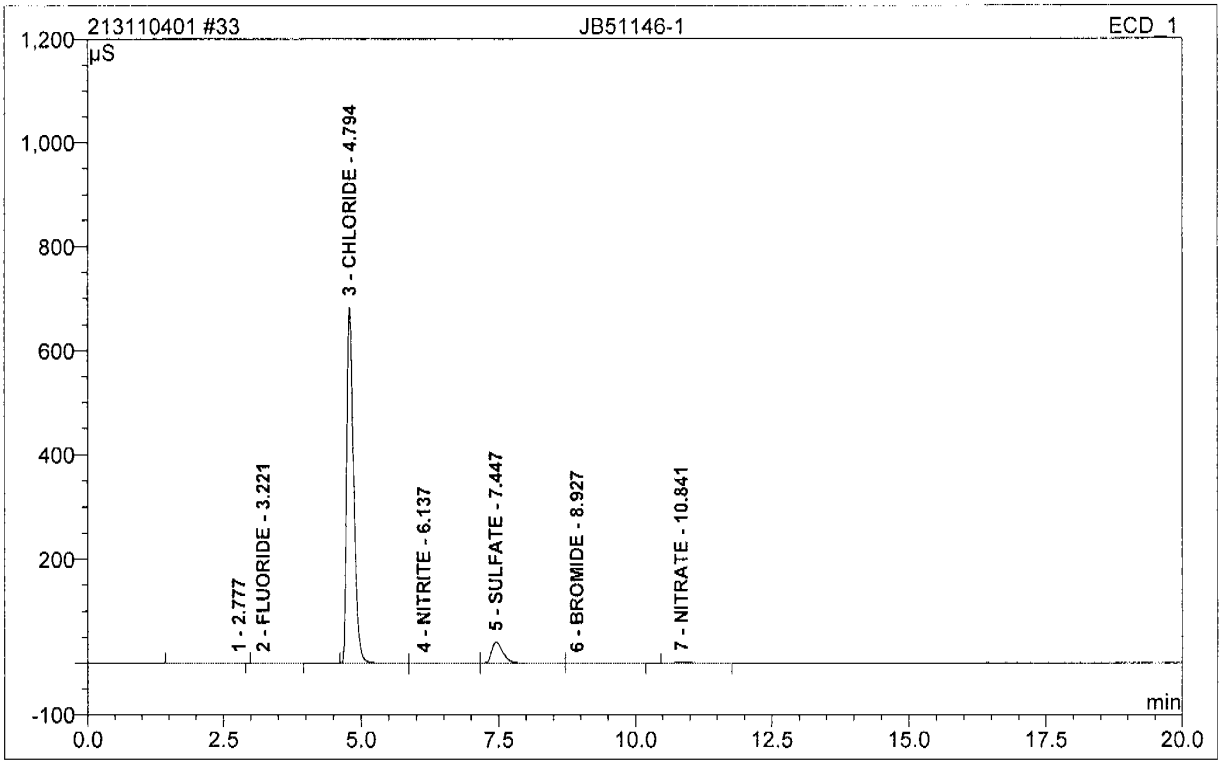
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51135-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 18:40** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.027 | 0.007 | 3.71 | n.a. | BMB |
| 2 | 3.37 | n.a. | 0.075 | 0.032 | 16.43 | n.a. | BMB |
| 3 | 3.56 | n.a. | 0.004 | 0.001 | 0.31 | n.a. | Rd |
| 4 | 4.91 | CHLORIDE | 0.265 | 0.056 | 29.07 | 0.314 | BMB |
| 5 | 5.79 | n.a. | 0.009 | 0.001 | 0.74 | n.a. | BM |
| 6 | 6.16 | NITRITE | 0.127 | 0.067 | 34.58 | 0.157 | M |
| 7 | 7.55 | SULFATE | 0.074 | 0.029 | 15.16 | 0.223 | MB |
| **Total:** | | | 0.581 | 0.193 | 100.00 | 0.694 | |

## 33 JB51146-1

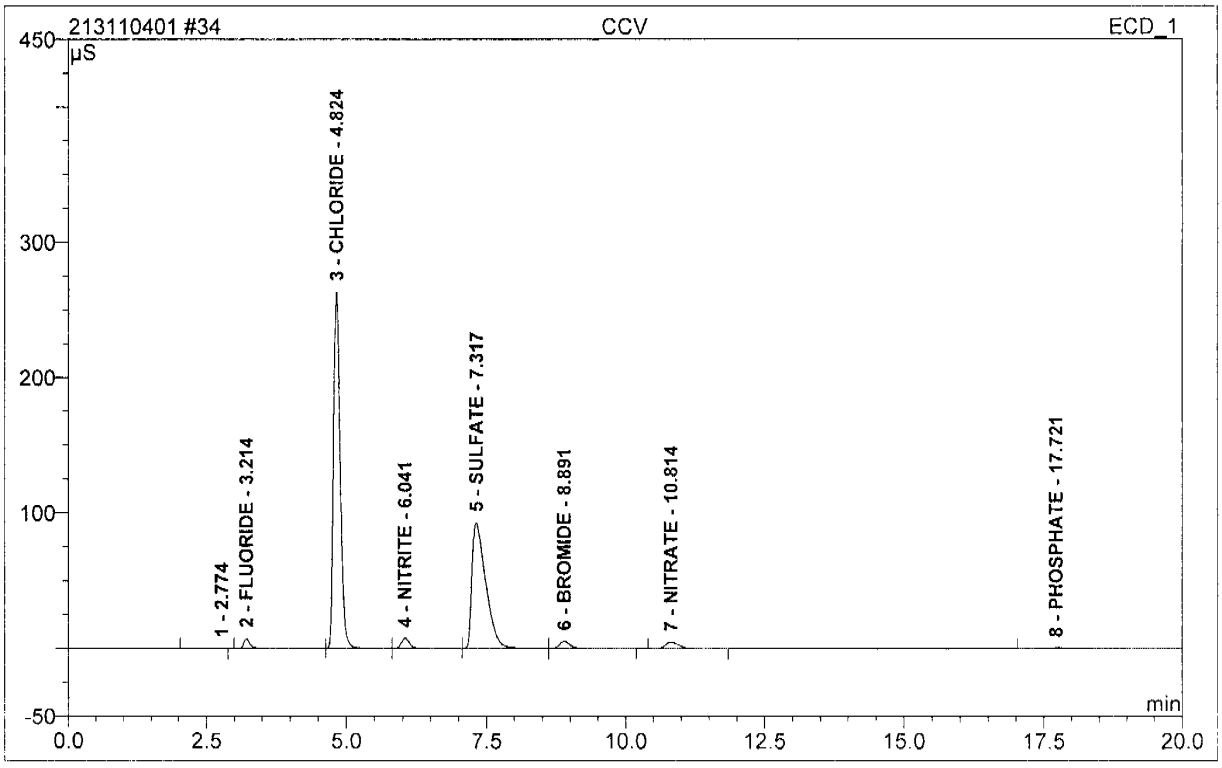
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 19:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.023 | 0.012 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.199 | 0.043 | 0.04 | 0.147 | BMB |
| 3 | 4.79 | CHLORIDE | 684.461 | 99.954 | 90.14 | 559.567 | BM |
| 4 | 6.14 | NITRITE | 0.368 | 0.246 | 0.22 | 0.579 | M |
| 5 | 7.45 | SULFATE | 40.780 | 9.786 | 8.83 | 74.522 | M |
| 6 | 8.93 | BROMIDE | 0.142 | 0.050 | 0.04 | 0.646 | MB |
| 7 | 10.84 | NITRATE | 3.029 | 0.792 | 0.71 | 1.838 | BMB |
| **Total:** | | | 729.003 | 110.884 | 100.00 | 637.300 | |

# 34 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 19:28** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.016 | 0.005 | 0.01 | n.a. | | BMB |
| 2 | 3.21 | FLUORIDE | 7.281 | 0.916 | 1.34 | 3.131 | ✓ | BM |
| 3 | 4.82 | CHLORIDE | 263.396 | 36.315 | 53.26 | 203.298 | | M |
| 4 | 6.04 | NITRITE | 7.759 | 1.307 | 1.92 | 3.073 | | M |
| 5 | 7.32 | SULFATE | 93.117 | 26.716 | 39.18 | 203.437 | ✓ | M |
| 6 | 8.89 | BROMIDE | 5.452 | 1.191 | 1.75 | 15.515 | | MB |
| 7 | 10.81 | NITRATE | 4.851 | 1.326 | 1.95 | 3.079 | | BMB |
| 8 | 17.72 | PHOSPHATE | 0.586 | 0.404 | 0.59 | 2.498 | | BMB |
| **Total:** | | | 382.459 | 68.179 | 100.00 | 434.030 | | |

200 200

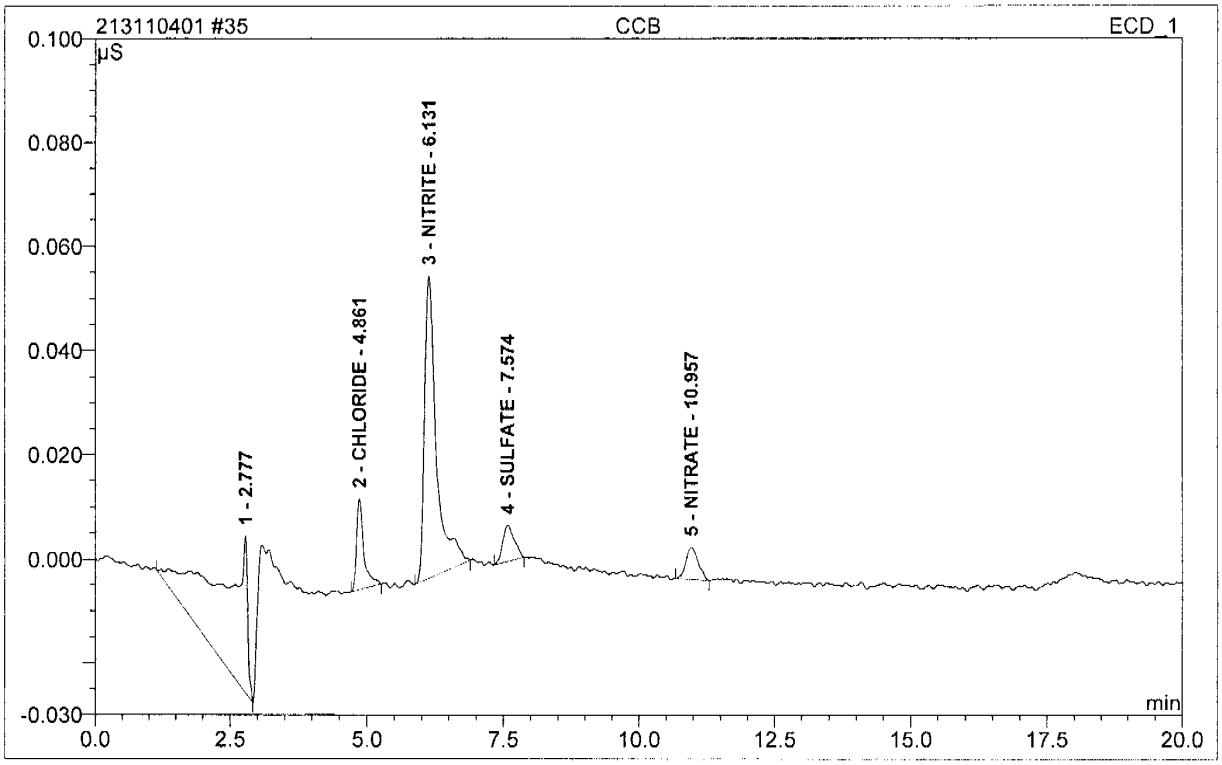
101.65

101.72

12.1 12

## 35 CCB

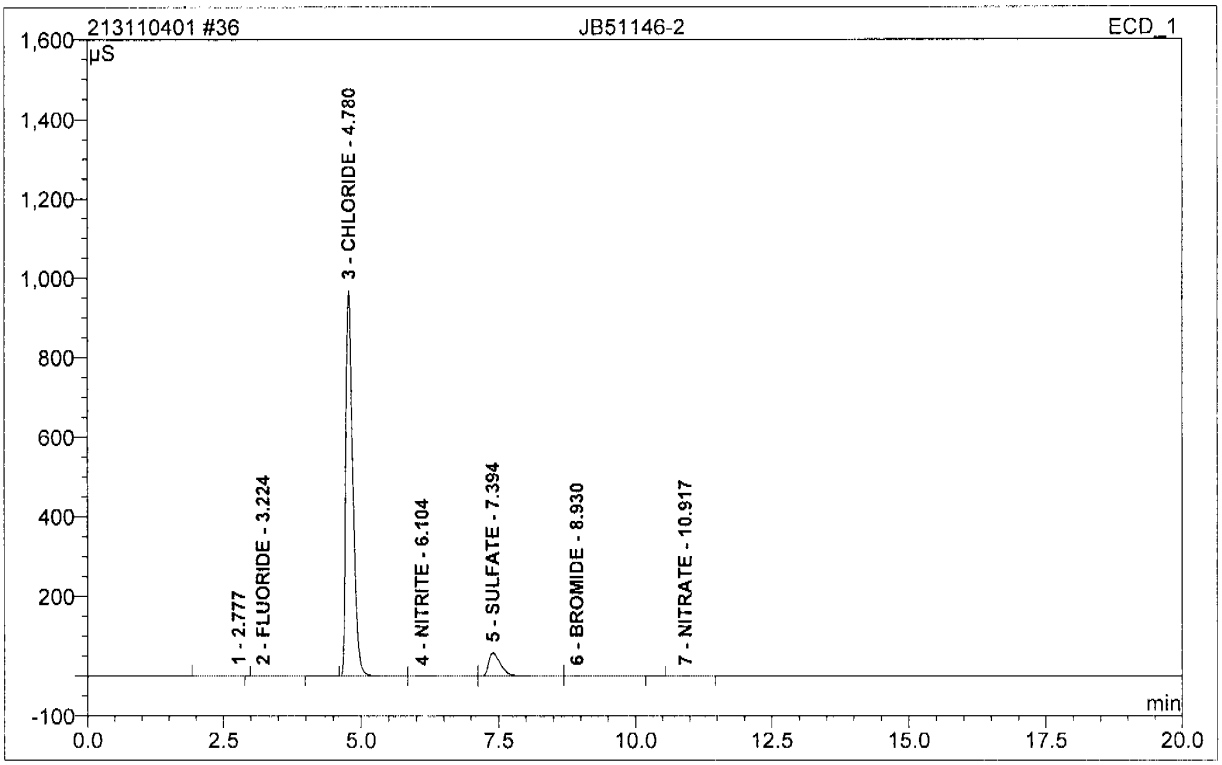
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 19:52** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.018 | 46.99 | n.a. | BMB |
| 2 | 4.86 | CHLORIDE | 0.017 | 0.003 | 6.84 | 0.015 | BMB |
| 3 | 6.13 | NITRITE | 0.058 | 0.015 | 37.66 | 0.035 | BMB |
| 4 | 7.57 | SULFATE | 0.007 | 0.002 | 4.34 | 0.013 | BMB |
| 5 | 10.96 | NITRATE | 0.006 | 0.002 | 4.17 | 0.004 | BMB |
| **Total:** | | | 0.119 | 0.039 | 100.00 | 0.067 | |

## 36 JB51146-2

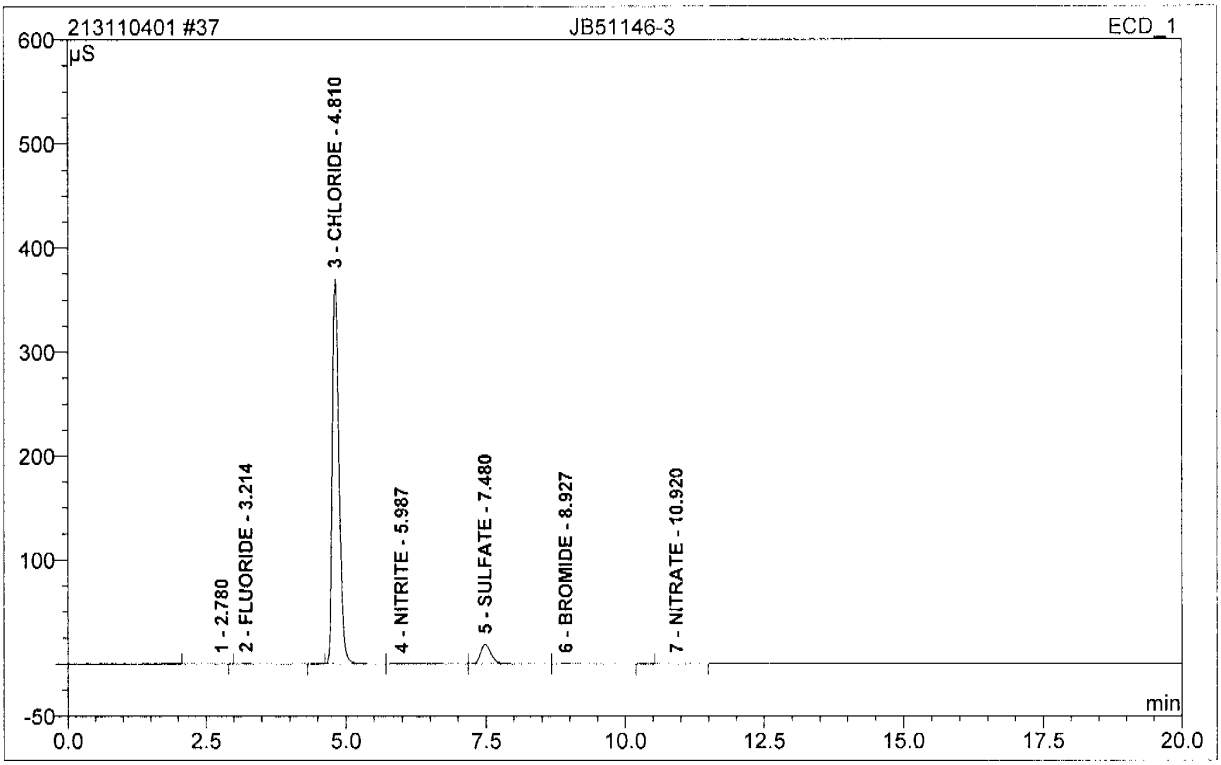
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 20:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.019 | 0.006 | 0.00 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.120 | 0.025 | 0.02 | 0.085 | BMB |
| 3 | 4.78 | CHLORIDE | 970.122 | 142.623 | 90.39 | 798.440 | BM |
| 4 | 6.10 | NITRITE | 0.397 | 0.281 | 0.18 | 0.660 | M |
| 5 | 7.39 | SULFATE | 58.019 | 14.685 | 9.31 | 111.824 | M |
| 6 | 8.93 | BROMIDE | 0.296 | 0.087 | 0.05 | 1.128 | MB |
| 7 | 10.92 | NITRATE | 0.326 | 0.083 | 0.05 | 0.193 | BMB |
| **Total:** | | | 1029.299 | 157.790 | 100.00 | 912.330 | |

## 37 JB51146-3

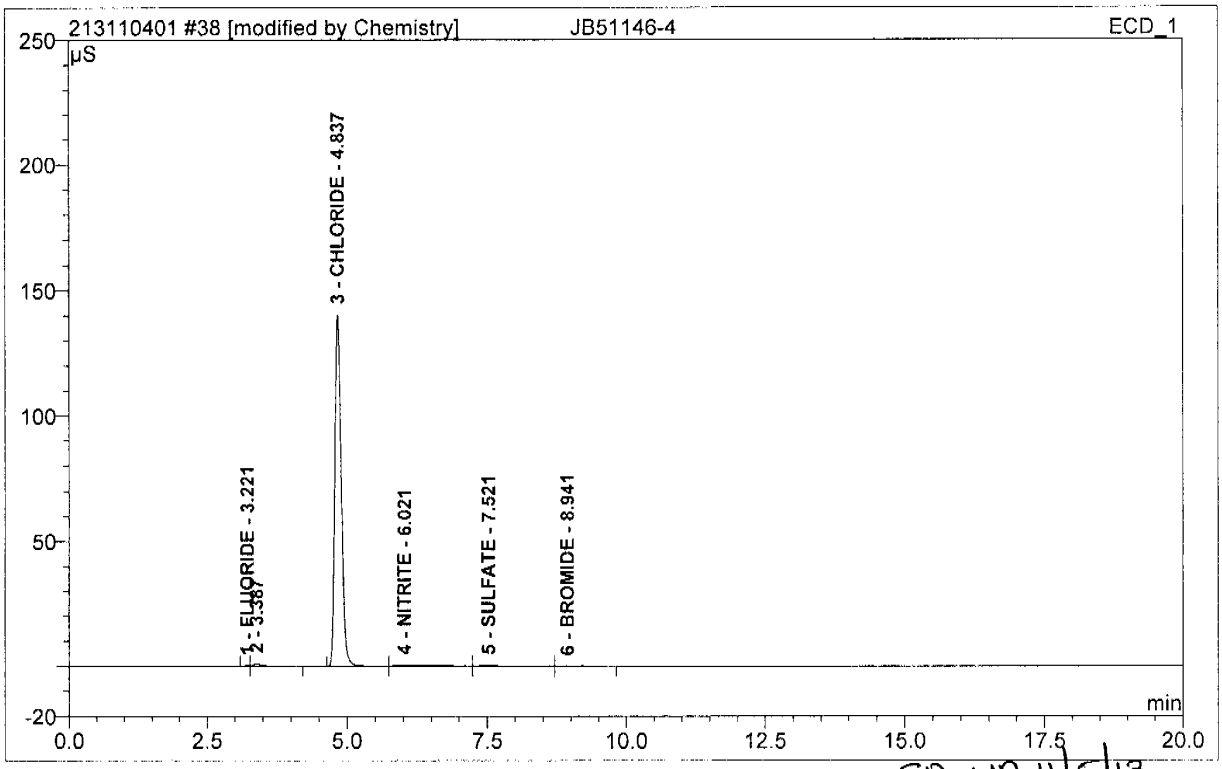
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 20:40** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.025 | 0.007 | 0.01 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.656 | 0.096 | 0.17 | 0.329 | BMB |
| 3 | 4.81 | CHLORIDE | 369.860 | 51.367 | 91.47 | 287.566 | BM |
| 4 | 5.99 | NITRITE | 0.500 | 0.412 | 0.73 | 0.968 | M |
| 5 | 7.48 | SULFATE | 18.520 | 4.165 | 7.42 | 31.716 | M |
| 6 | 8.93 | BROMIDE | 0.265 | 0.073 | 0.13 | 0.950 | MB |
| 7 | 10.92 | NITRATE | 0.154 | 0.039 | 0.07 | 0.092 | BMB |
| **Total:** | | | 389.980 | 56.160 | 100.00 | 321.621 | |

## 38 JB51146-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 21:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

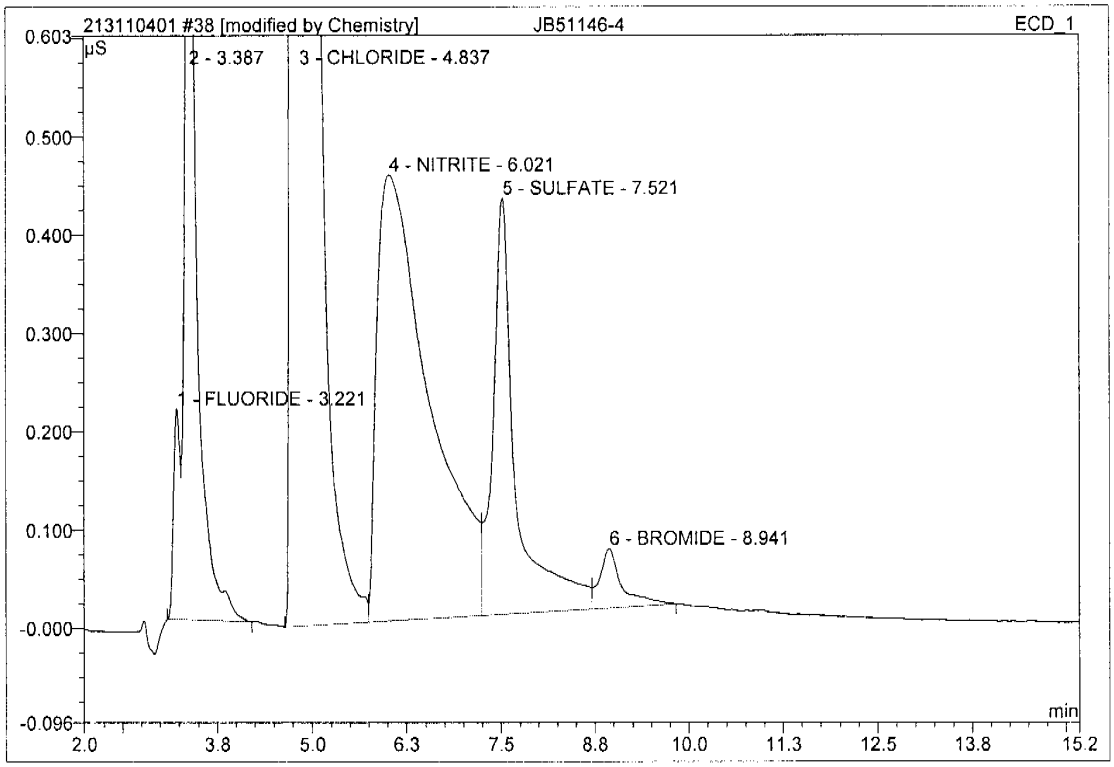



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.214 | 0.021 | 0.11 | 0.072 | BM * |
| 2 | 3.39 | n.a. | 1.005 | 0.170 | 0.88 | n.a. | MB* |
| 3 | 4.84 | CHLORIDE | 140.321 | 18.515 | 96.16 | 103.652 | BM |
| 4 | 6.02 | NITRITE | 0.454 | 0.366 | 1.90 | 0.859 | M |
| 5 | 7.52 | SULFATE | 0.424 | 0.150 | 0.78 | 1.145 ✓ | M * |
| 6 | 8.94 | BROMIDE | 0.061 | 0.021 | 0.11 | 0.275 | MB* |
| 7 | 20.66 | n.a. | 0.027 | 0.012 | 0.06 | n.a. | BMB |
| **Total:** | | | 142.506 | 19.255 | 100.00 | 106.003 | |

## 38 JB51146-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 21:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.214 | 0.021 | 0.11 | 0.072 | BM * |
| 2 | 3.39 | n.a. | 1.005 | 0.170 | 0.88 | n.a. | MB* |
| 3 | 4.84 | CHLORIDE | 140.321 | 18.515 | 96.16 | 103.652 | BM |
| 4 | 6.02 | NITRITE | 0.454 | 0.366 | 1.90 | 0.859 | M |
| 5 | 7.52 | SULFATE | 0.424 | 0.150 | 0.78 | 1.145 | M * |
| 6 | 8.94 | BROMIDE | 0.061 | 0.021 | 0.11 | 0.275 | MB* |
| 7 | 20.66 | n.a. | 0.027 | 0.012 | 0.06 | n.a. | BMB |
| **Total:** | | | 142.506 | 19.255 | 100.00 | 106.003 | |

DEFAULT/Integration

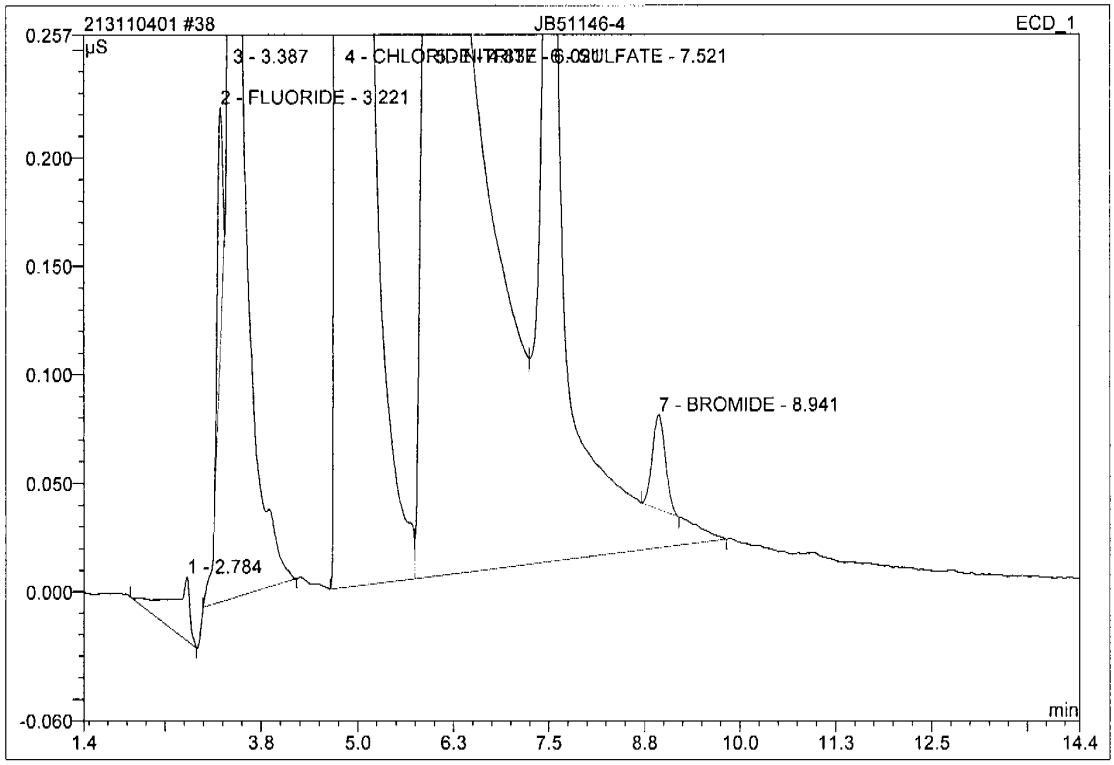
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110401


11/5/2013 9:02 AM

## 38 JB51146-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 21:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



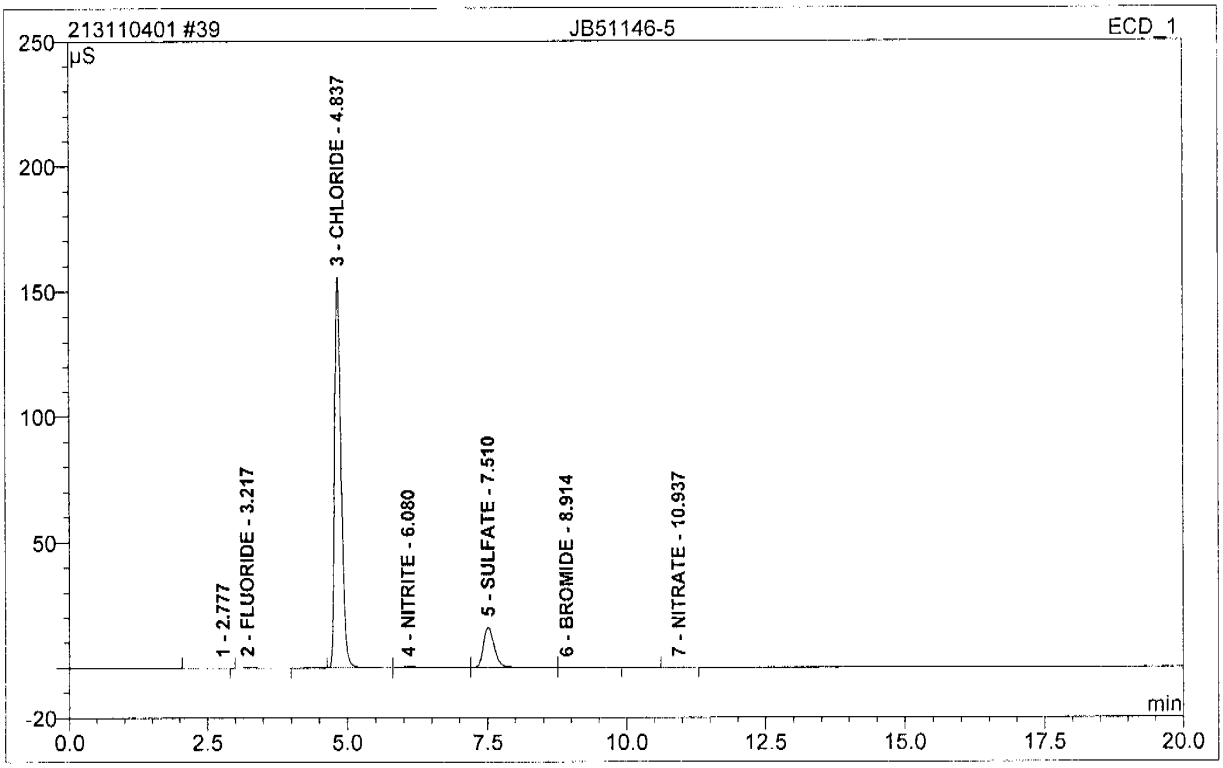

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.008 | 0.04 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.116 | 0.009 | 0.05 | 0.030 | Ru |
| 3 | 3.39 | n.a. | 1.017 | 0.191 | 0.99 | n.a. | BMB |
| 4 | 4.84 | CHLORIDE | 140.321 | 18.515 | 96.07 | 103.652 | BM |
| 5 | 6.02 | NITRITE | 0.454 | 0.366 | 1.90 | 0.859 | M |
| 6 | 7.52 | SULFATE | 0.424 | 0.163 | 0.84 | 1.240 | MB |
| 7 | 8.94 | BROMIDE | 0.043 | 0.009 | 0.04 | 0.112 | Rd |
| 8 | 20.66 | n.a. | 0.027 | 0.012 | 0.06 | n.a. | BMB |
| **Total:** | | | 142.431 | 19.273 | 100.00 | 105.894 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 39 JB51146-5

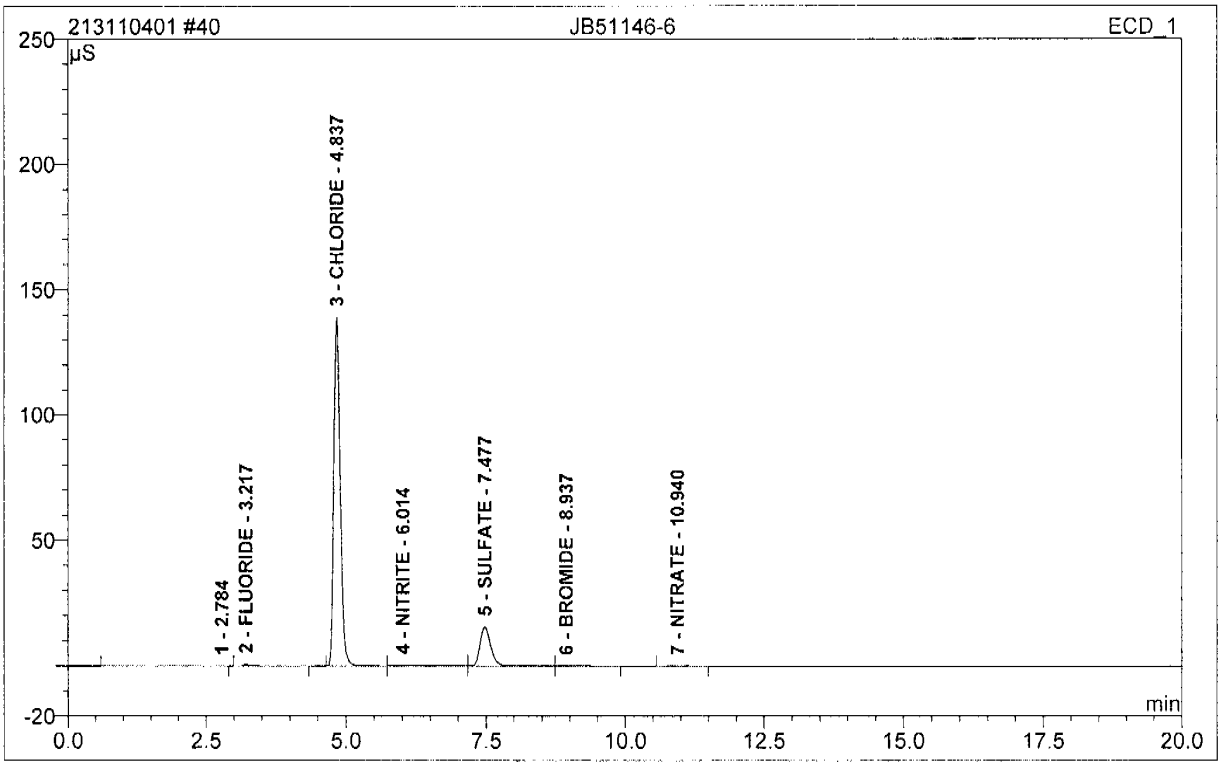
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **32** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 21:28** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.009 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.261 | 0.043 | 0.17 | 0.146 | BMB |
| 3 | 4.84 | CHLORIDE | 155.676 | 20.692 | 83.68 | 115.839 | BM |
| 4 | 6.08 | NITRITE | 0.408 | 0.288 | 1.16 | 0.676 | M |
| 5 | 7.51 | SULFATE | 16.042 | 3.669 | 14.84 | 27.939 | M |
| 6 | 8.91 | BROMIDE | 0.040 | 0.018 | 0.07 | 0.232 | MB |
| 7 | 10.94 | NITRATE | 0.041 | 0.010 | 0.04 | 0.024 | BMB |
| **Total:** | | | 172.498 | 24.728 | 100.00 | 144.856 | |

# 40 JB51146-6

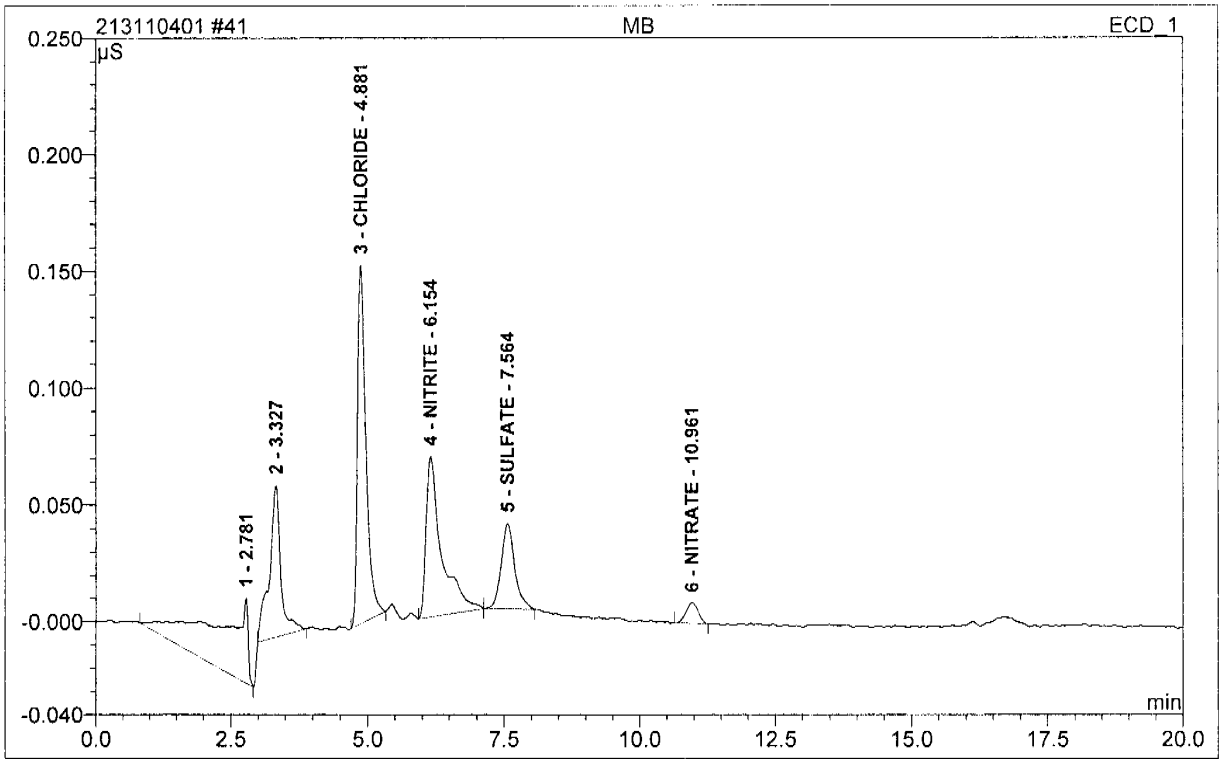
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **33** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 21:52** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.033 | 0.031 | 0.14 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.569 | 0.082 | 0.37 | 0.282 | BMB |
| 3 | 4.84 | CHLORIDE | 138.978 | 18.313 | 82.17 | 102.519 | BM |
| 4 | 6.01 | NITRITE | 0.466 | 0.360 | 1.61 | 0.846 | M |
| 5 | 7.48 | SULFATE | 15.438 | 3.449 | 15.48 | 26.266 | M |
| 6 | 8.94 | BROMIDE | 0.059 | 0.023 | 0.10 | 0.299 | MB |
| 7 | 10.94 | NITRATE | 0.110 | 0.028 | 0.13 | 0.065 | BMB |
| **Total:** | | | 155.654 | 22.286 | 100.00 | 130.277 | |

## 41 MB

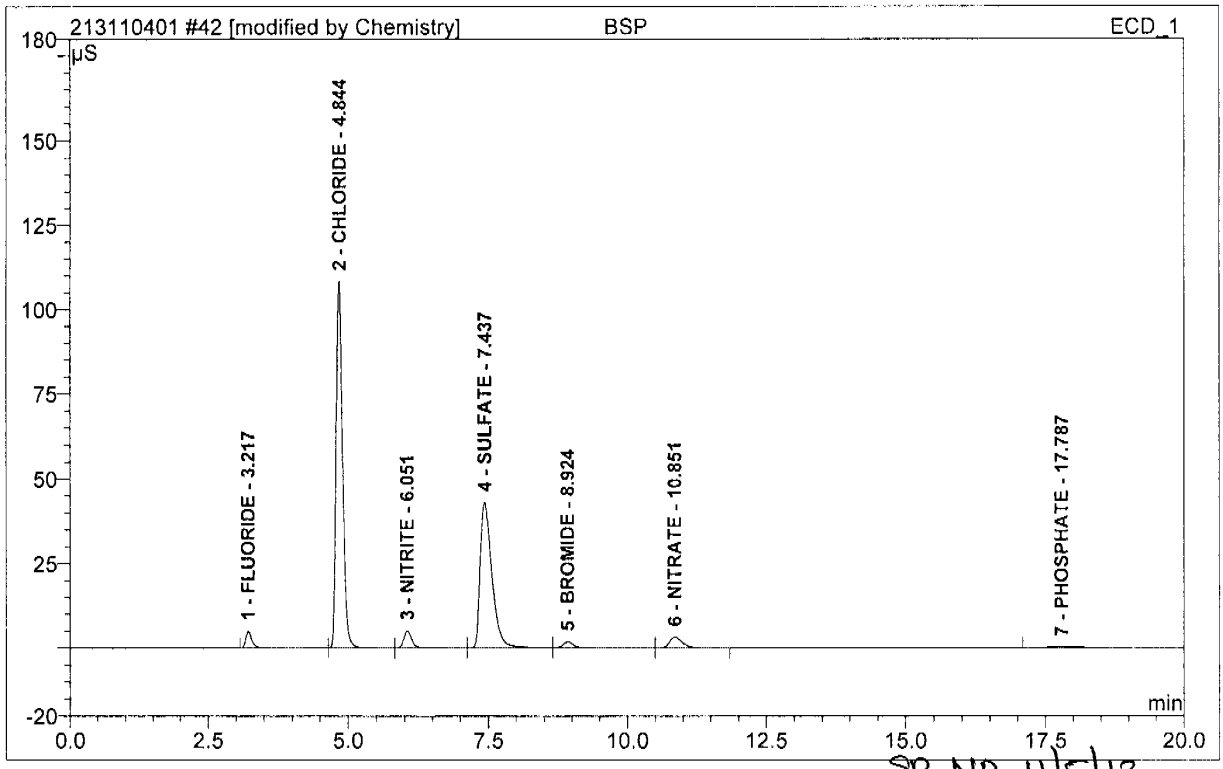
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **34** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 22:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.036 | 0.027 | 25.01 | n.a. | BMB |
| 2 | 3.33 | n.a. | 0.065 | 0.016 | 15.05 | n.a. | BMB |
| 3 | 4.88 | CHLORIDE | 0.154 | 0.027 | 25.90 | 0.154 | BMB |
| 4 | 6.15 | NITRITE | 0.069 | 0.023 | 21.81 | 0.054 | BMB |
| 5 | 7.56 | SULFATE | 0.037 | 0.011 | 10.05 | 0.081 | bMB |
| 6 | 10.96 | NITRATE | 0.009 | 0.002 | 2.18 | 0.005 | BMB |
| **Total:** | | | 0.370 | 0.106 | 100.00 | 0.295 | |

# 42 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 22:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.957 | 0.631 | 2.25 | 2.157 | BMb* |
| 2 | 4.84 | CHLORIDE | 108.335 | 14.410 | 51.44 | 80.669 | bM * |
| 3 | 6.05 | NITRITE | 5.096 | 0.853 | 3.04 | 2.004 | M * |
| 4 | 7.44 | SULFATE | 43.156 | 10.591 | 37.81 | 80.647 | M * |
| 5 | 8.92 | BROMIDE | 1.838 | 0.419 | 1.50 | 5.460 | Mb* |
| 6 | 10.85 | NITRATE | 3.233 | 0.872 | 3.11 | 2.024 | bMB* |
| 7 | 17.79 | PHOSPHATE | 0.317 | 0.239 | 0.85 | 1.478 | BMB |
| **Total:** | | | 166.930 | 28.014 | 100.00 | 174.440 | |

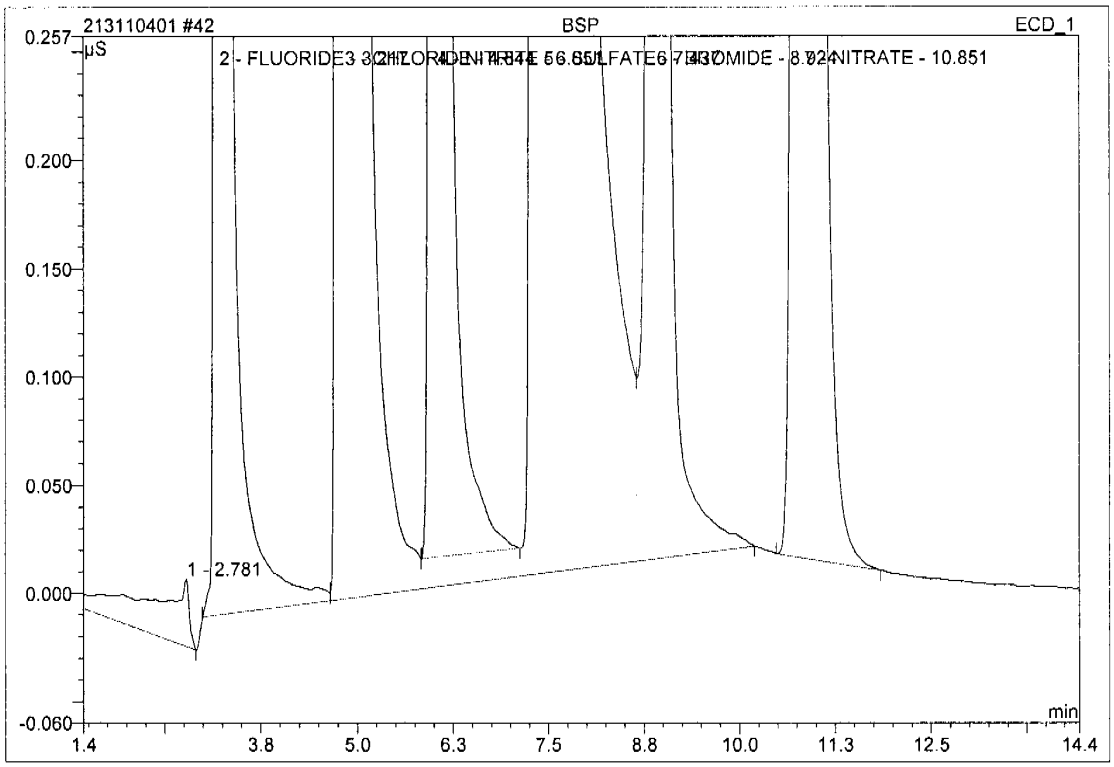
80

100.81

12.1 12

# 42 BSP

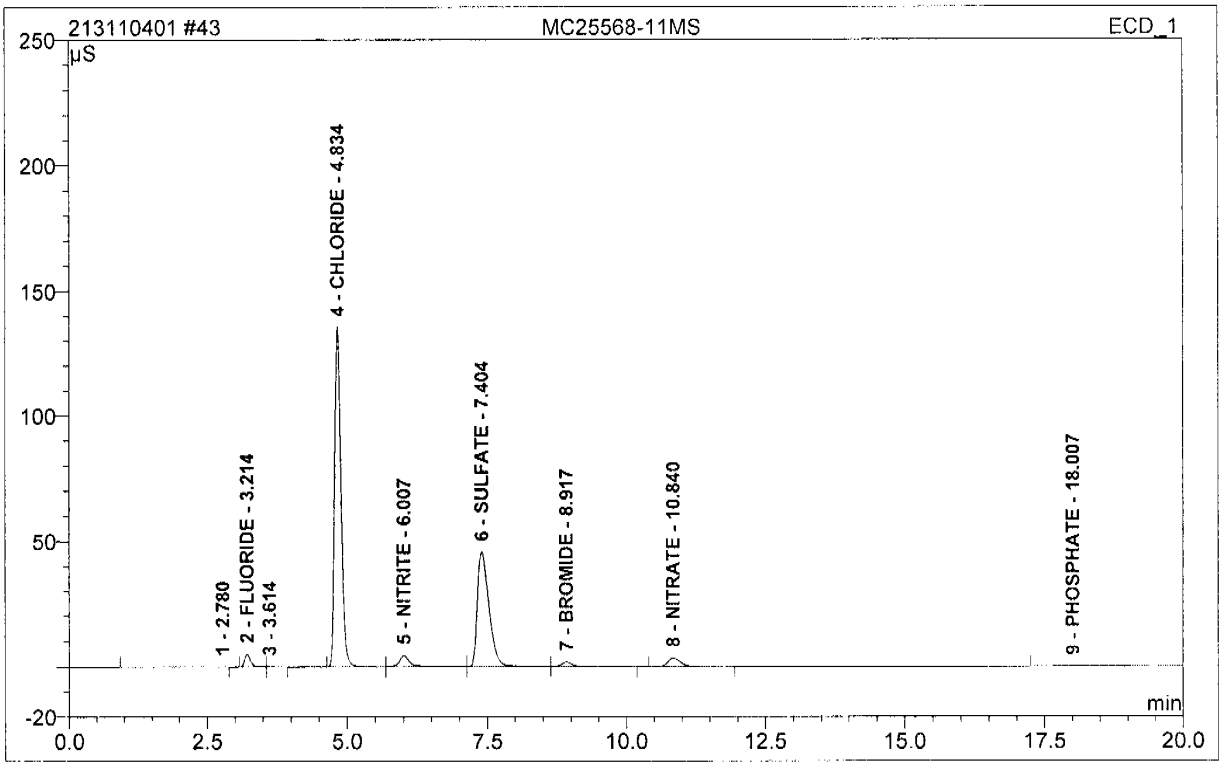
| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 22:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.031 | 0.021 | 0.08 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.969 | 0.644 | 2.30 | 2.202 | BM |
| 3 | 4.84 | CHLORIDE | 108.338 | 14.413 | 51.39 | 80.687 | M |
| 4 | 6.05 | NITRITE | 5.083 | 0.836 | 2.98 | 1.965 | Ru |
| 5 | 7.44 | SULFATE | 43.155 | 10.607 | 37.82 | 80.769 | M |
| 6 | 8.92 | BROMIDE | 1.835 | 0.414 | 1.47 | 5.386 | MB |
| 7 | 10.85 | NITRATE | 3.233 | 0.872 | 3.11 | 2.025 | BMB |
| 8 | 17.79 | PHOSPHATE | 0.317 | 0.239 | 0.85 | 1.478 | BMB |
| **Total:** | | | 166.961 | 28.045 | 100.00 | 174.512 | |

# 43 MC25568-11MS

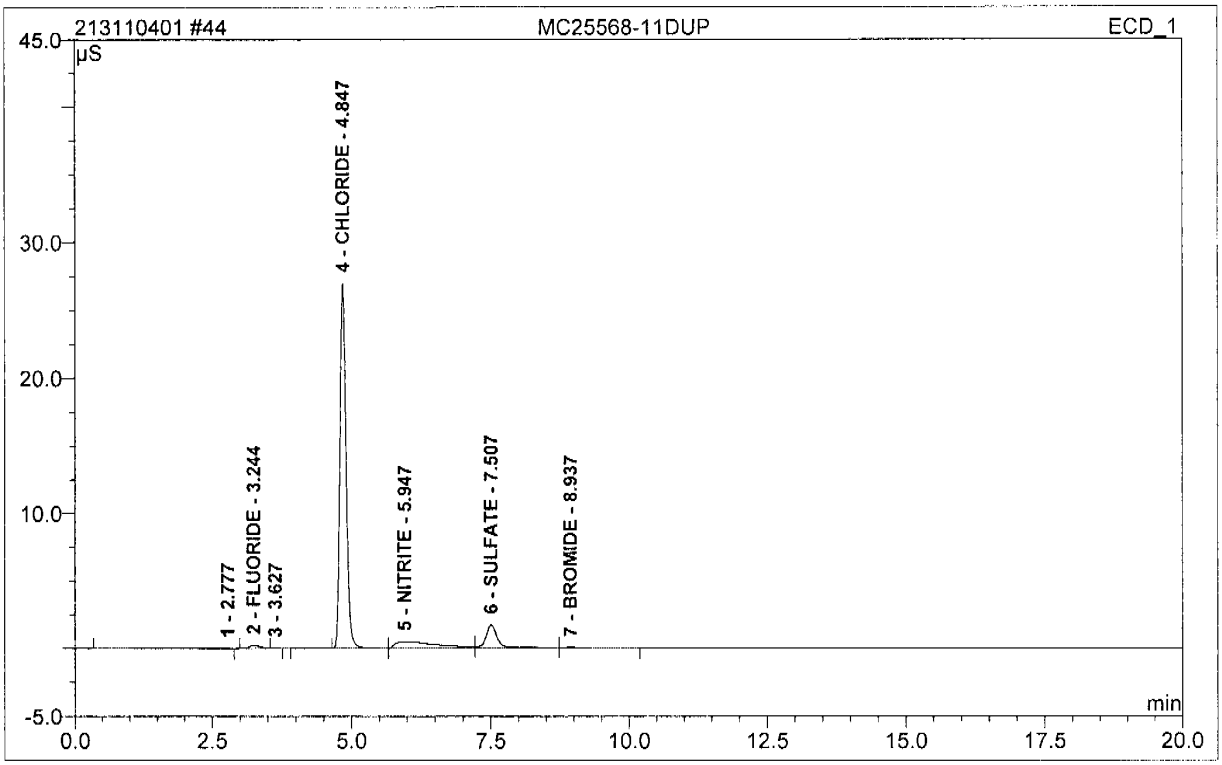
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-11MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 23:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.021 | 0.06 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 5.001 | 0.607 | 1.90 | 2.076 | BM |
| 3 | 3.61 | n.a. | 0.056 | 0.008 | 0.03 | n.a. | MB |
| 4 | 4.83 | CHLORIDE | 135.655 | 17.858 | 55.81 | 99.972 | BM |
| 5 | 6.01 | NITRITE | 4.471 | 1.117 | 3.49 | 2.625 | M |
| 6 | 7.40 | SULFATE | 45.871 | 11.039 | 34.50 | 84.064 | M |
| 7 | 8.92 | BROMIDE | 1.852 | 0.411 | 1.28 | 5.353 | MB |
| 8 | 10.84 | NITRATE | 3.295 | 0.867 | 2.71 | 2.012 | BMB |
| 9 | 18.01 | PHOSPHATE | 0.065 | 0.067 | 0.21 | 0.418 | BMB |
| **Total:** | | | 196.296 | 31.995 | 100.00 | 196.520 | |

## 44 MC25568-11DUP

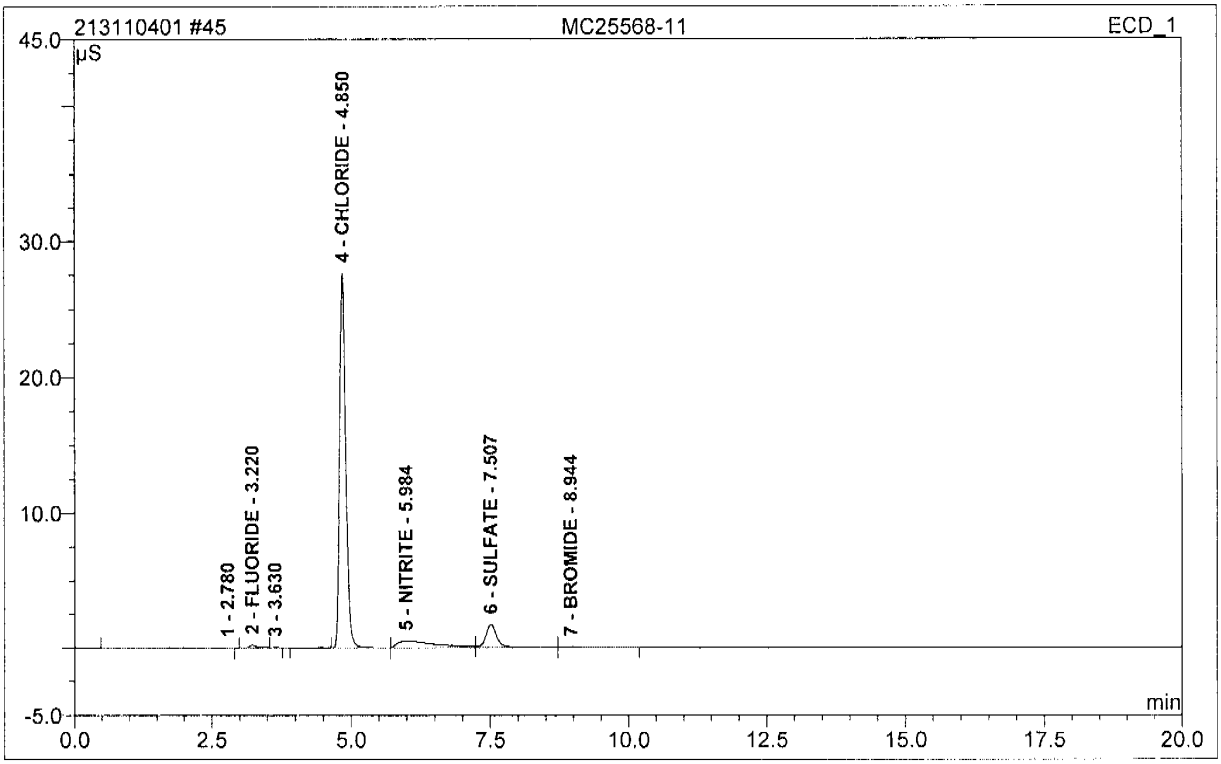
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-11DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 23:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.036 | 0.80 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.242 | 0.056 | 1.25 | 0.190 | BMB |
| 3 | 3.63 | n.a. | 0.026 | 0.002 | 0.06 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 27.015 | 3.456 | 77.38 | 19.347 | BM |
| 5 | 5.95 | NITRITE | 0.506 | 0.443 | 9.91 | 1.040 | M |
| 6 | 7.51 | SULFATE | 1.734 | 0.444 | 9.95 | 3.383 | M |
| 7 | 8.94 | BROMIDE | 0.060 | 0.029 | 0.66 | 0.383 | MB |
| **Total:** | | | 29.618 | 4.466 | 100.00 | 24.343 | |

## 45 MC25568-11

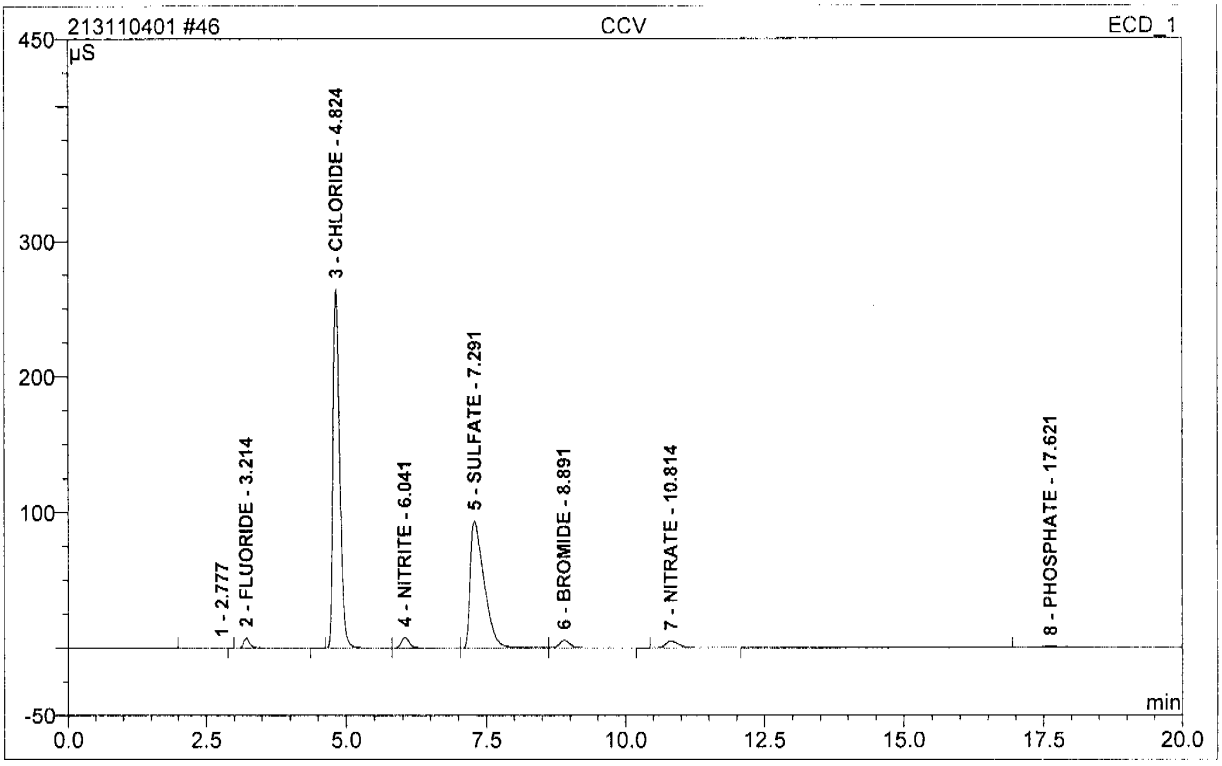
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-11** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/4/2013 23:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.033 | 0.74 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.204 | 0.037 | 0.83 | 0.126 | BMB |
| 3 | 3.63 | n.a. | 0.026 | 0.003 | 0.06 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 27.656 | 3.530 | 79.04 | 19.762 | BMB |
| 5 | 5.98 | NITRITE | 0.492 | 0.410 | 9.19 | 0.965 | BM |
| 6 | 7.51 | SULFATE | 1.730 | 0.427 | 9.56 | 3.250 | M |
| 7 | 8.94 | BROMIDE | 0.058 | 0.027 | 0.60 | 0.346 | MB |
| **Total:** | | | 30.201 | 4.466 | 100.00 | 24.449 | |

# 46 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **39** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 0:15** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



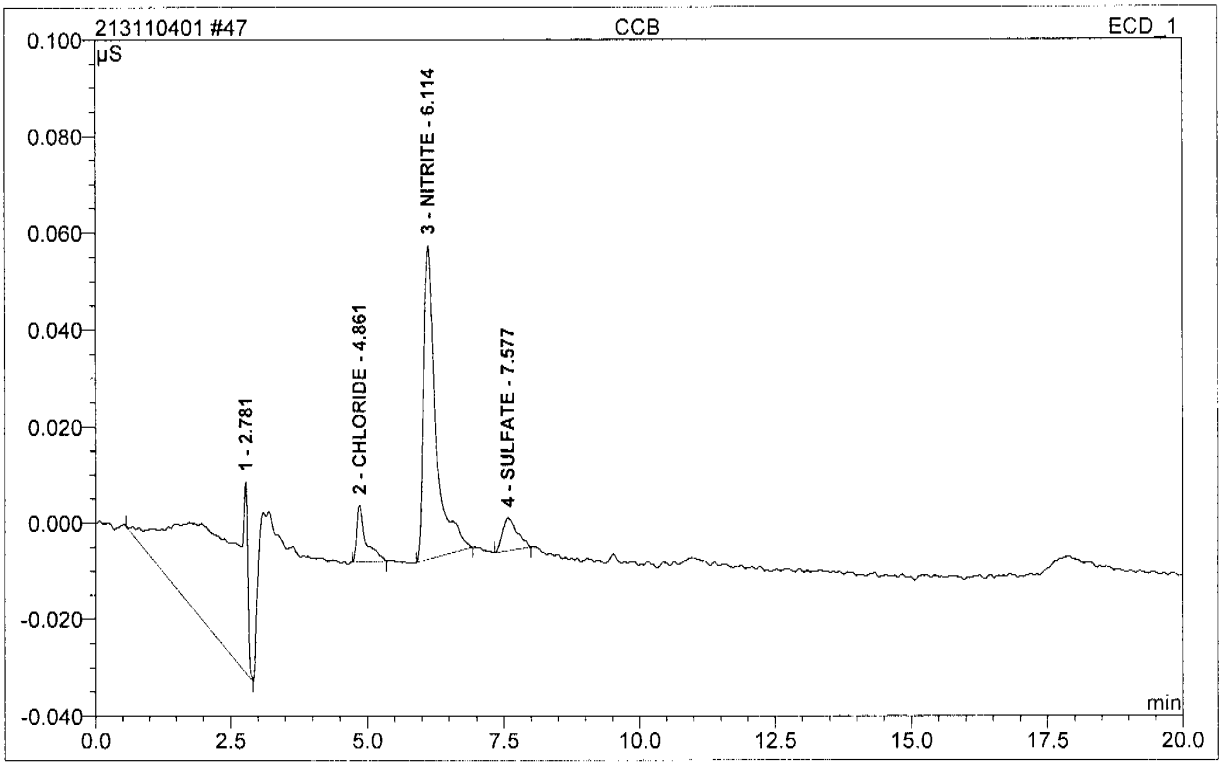

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.023 | 0.007 | 0.01 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 7.365 | 0.920 | 1.34 | 3.147 | BMB |
| 3 | 4.82 | CHLORIDE | 264.584 | 36.480 | 53.26 | 204.225 | BM |
| 4 | 6.04 | NITRITE | 7.773 | 1.316 | 1.92 | 3.093 | M |
| 5 | 7.29 | SULFATE | 93.613 | 26.820 | 39.16 | 204.230 | M |
| 6 | 8.89 | BROMIDE | 5.483 | 1.199 | 1.75 | 15.617 | MB |
| 7 | 10.81 | NITRATE | 4.864 | 1.332 | 1.94 | 3.093 | BMB |
| 8 | 17.62 | PHOSPHATE | 0.595 | 0.420 | 0.61 | 2.598 | BMB |
| **Total:** | | | 384.299 | 68.494 | 100.00 | 436.002 | |

200 200 102.11 102.12

12.1 12

## 47 CCB

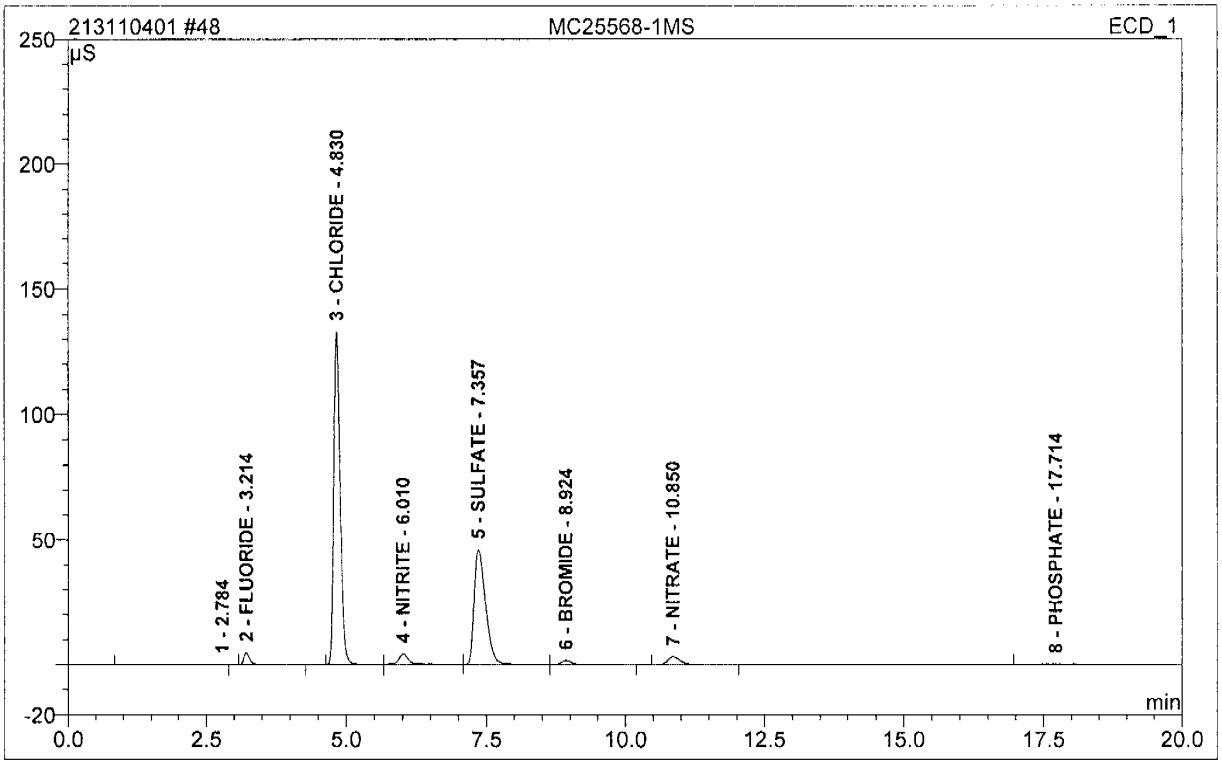
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **40** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 0:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.040 | 0.034 | 60.97 | n.a. | BMB |
| 2 | 4.86 | CHLORIDE | 0.012 | 0.002 | 4.12 | 0.013 | BMB |
| 3 | 6.11 | NITRITE | 0.065 | 0.017 | 31.08 | 0.040 | BMB |
| 4 | 7.58 | SULFATE | 0.007 | 0.002 | 3.83 | 0.016 | BMB |
| **Total:** | | | 0.123 | 0.055 | 100.00 | 0.069 | |

# 48 MC25568-1MS

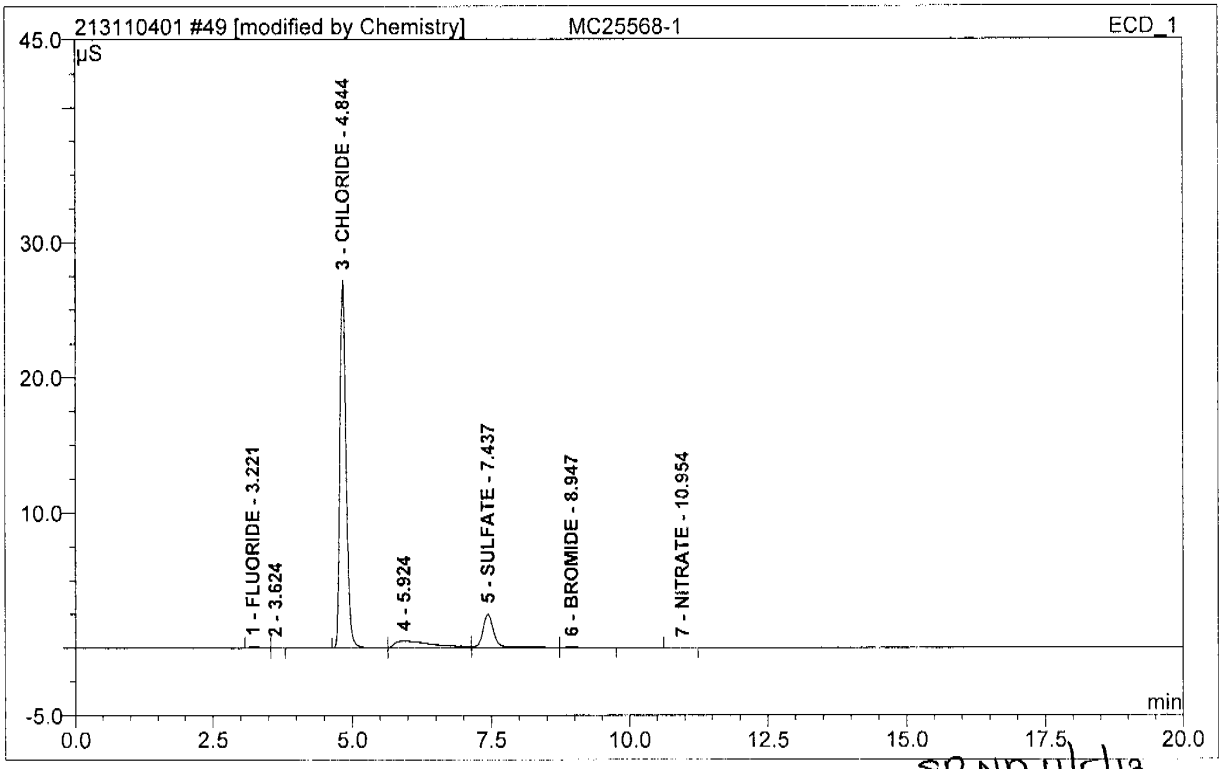
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **41** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 1:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.029 | 0.021 | 0.07 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 4.838 | 0.598 | 1.88 | 2.046 | BMB |
| 3 | 4.83 | CHLORIDE | 133.136 | 17.501 | 55.15 | 97.977 | BM |
| 4 | 6.01 | NITRITE | 4.455 | 1.110 | 3.50 | 2.609 | M |
| 5 | 7.36 | SULFATE | 46.100 | 11.021 | 34.73 | 83.921 | M |
| 6 | 8.92 | BROMIDE | 1.810 | 0.398 | 1.26 | 5.190 | MB |
| 7 | 10.85 | NITRATE | 3.250 | 0.857 | 2.70 | 1.990 | BMB |
| 8 | 17.71 | PHOSPHATE | 0.253 | 0.227 | 0.71 | 1.403 | BMB |
| **Total:** | | | 193.871 | 31.733 | 100.00 | 195.135 | |

## 49 MC25568-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 1:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/5/13

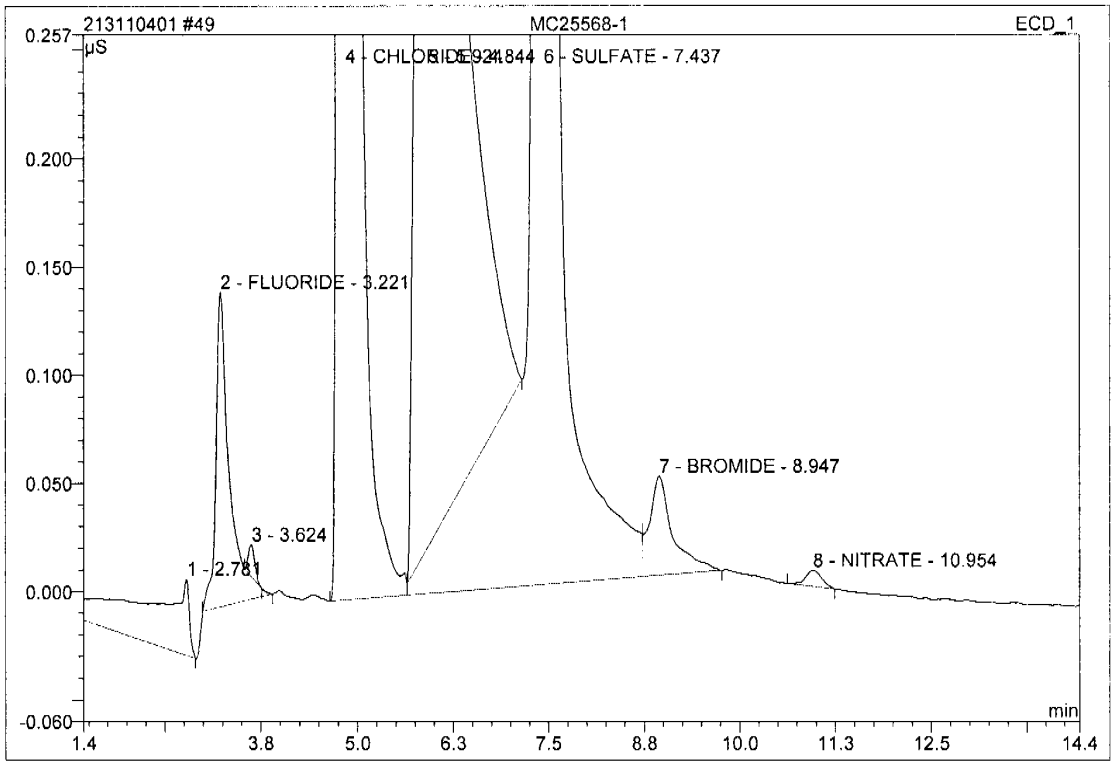
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.134 | 0.023 | 0.50 | 0.077 | BM * |
| 2 | 3.62 | n.a. | 0.020 | 0.002 | 0.05 | n.a. | MB* |
| 3 | 4.84 | CHLORIDE | 27.178 | 3.481 | 76.92 | 19.489 | BM |
| 4 | 5.92 | n.a. | 0.512 | 0.418 | 9.24 | n.a. | M * |
| 5 | 7.44 | SULFATE | 2.473 | 0.583 | 12.89 | 4.442 ✓ | M * |
| 6 | 8.95 | BROMIDE | 0.046 | 0.016 | 0.36 | 0.213 | MB |
| 7 | 10.95 | NITRATE | 0.007 | 0.002 | 0.04 | 0.004 | BMB |
| **Total:** | | | 30.371 | 4.526 | 100.00 | 24.225 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110401


11/5/2013 9:02 AM

## 49 MC25568-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 1:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



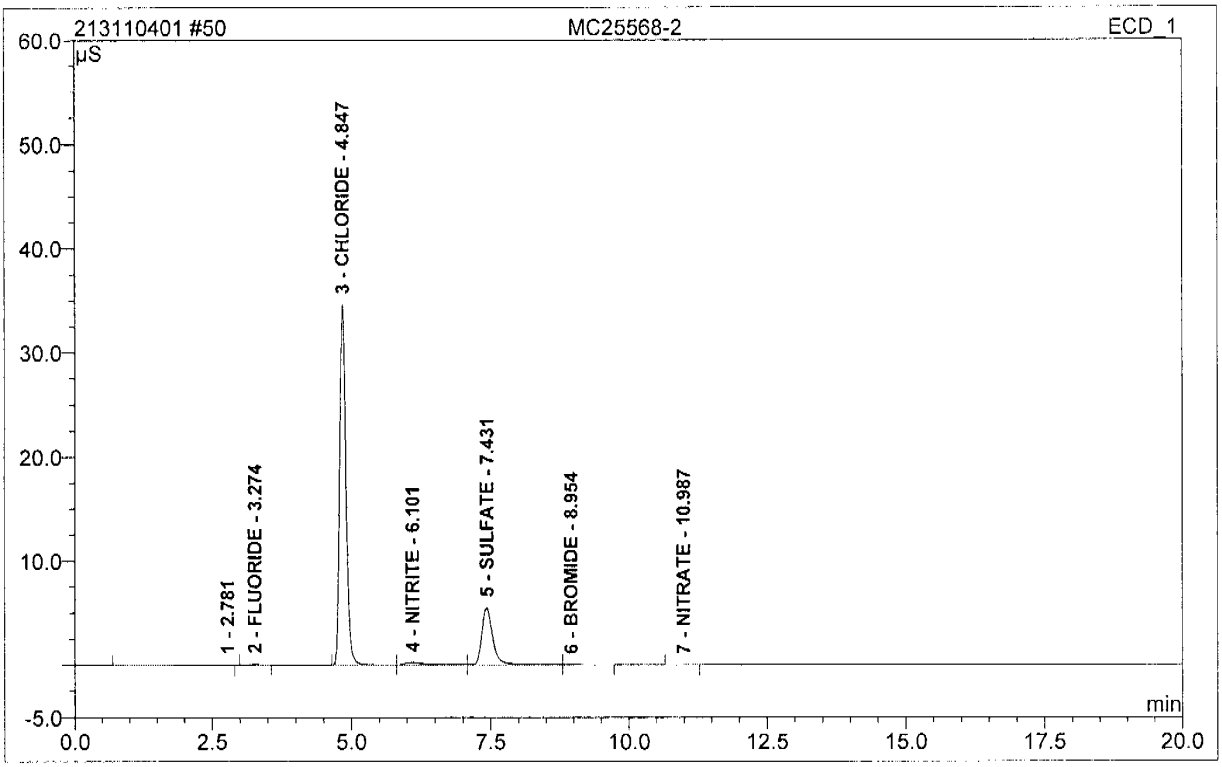

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.030 | 0.65 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.146 | 0.030 | 0.66 | 0.103 | BMB |
| 3 | 3.62 | n.a. | 0.015 | 0.001 | 0.03 | n.a. | Rd |
| 4 | 4.84 | CHLORIDE | 27.178 | 3.481 | 76.31 | 19.489 | BM |
| 5 | 5.92 | n.a. | 0.490 | 0.342 | 7.50 | n.a. | Ru |
| 6 | 7.44 | SULFATE | 2.473 | 0.659 | 14.45 | 5.018 | M |
| 7 | 8.95 | BROMIDE | 0.046 | 0.016 | 0.36 | 0.213 | MB |
| 8 | 10.95 | NITRATE | 0.007 | 0.002 | 0.04 | 0.004 | BMB |
| **Total:** | | | 30.390 | 4.562 | 100.00 | 24.827 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 50 MC25568-2

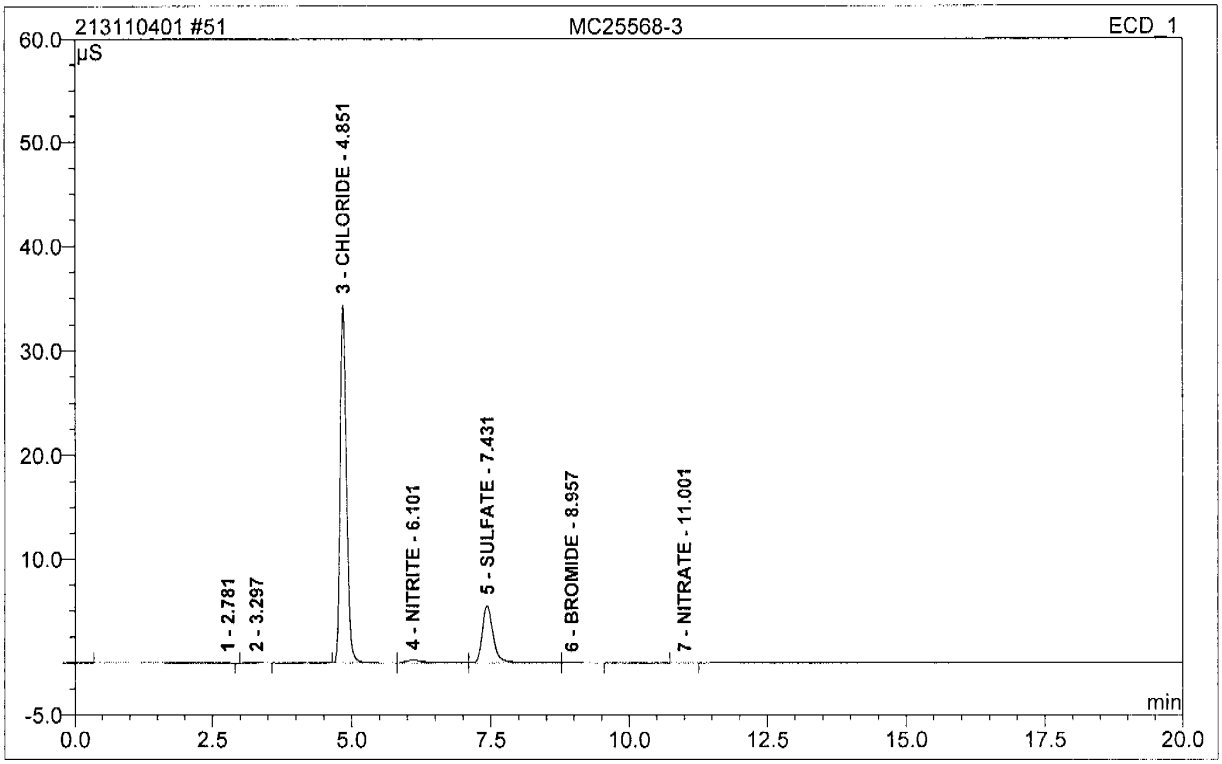
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **43** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 1:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.030 | 0.50 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.064 | 0.014 | 0.24 | 0.049 | BMB |
| 3 | 4.85 | CHLORIDE | 34.615 | 4.526 | 75.72 | 25.339 | BM |
| 4 | 6.10 | NITRITE | 0.255 | 0.122 | 2.05 | 0.288 | M |
| 5 | 7.43 | SULFATE | 5.481 | 1.273 | 21.30 | 9.694 | M |
| 6 | 8.95 | BROMIDE | 0.024 | 0.010 | 0.16 | 0.125 | MB |
| 7 | 10.99 | NITRATE | 0.010 | 0.002 | 0.04 | 0.006 | BMB |
| **Total:** | | | 40.487 | 5.978 | 100.00 | 35.500 | |

## 51 MC25568-3

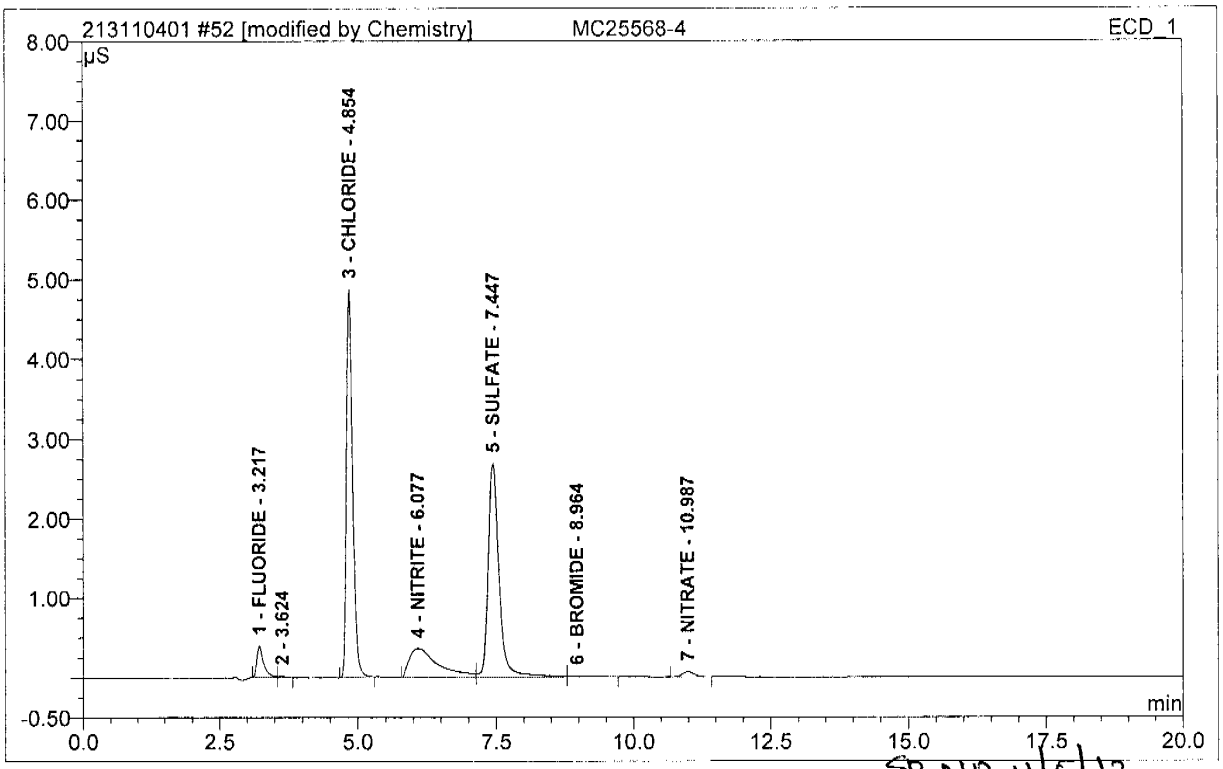
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **44** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 2:15** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.034 | 0.57 | n.a. | BMB |
| 2 | 3.30 | n.a. | 0.058 | 0.014 | 0.24 | n.a. | BMB |
| 3 | 4.85 | CHLORIDE | 34.433 | 4.504 | 75.66 | 25.214 | BM |
| 4 | 6.10 | NITRITE | 0.262 | 0.124 | 2.08 | 0.291 | M |
| 5 | 7.43 | SULFATE | 5.502 | 1.267 | 21.29 | 9.651 ✓ | M |
| 6 | 8.96 | BROMIDE | 0.022 | 0.008 | 0.13 | 0.100 | MB |
| 7 | 11.00 | NITRATE | 0.009 | 0.002 | 0.03 | 0.005 | BMB |
| **Total:** | | | 40.323 | 5.953 | 100.00 | 35.261 | |

## 52 MC25568-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 2:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

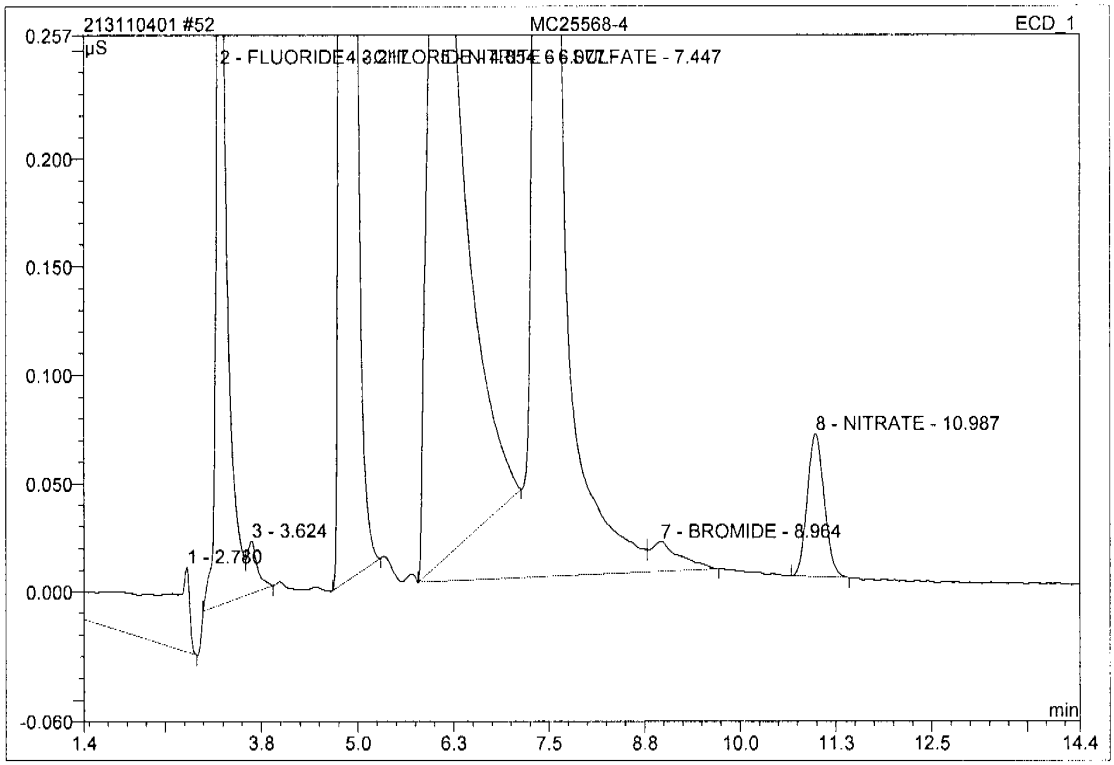



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.389 | 0.054 | 3.48 | 0.184 | BM * |
| 2 | 3.62 | n.a. | 0.017 | 0.002 | 0.14 | n.a. | MB* |
| 3 | 4.85 | CHLORIDE | 4.871 | 0.630 | 40.89 | 3.529 | BMB |
| 4 | 6.08 | NITRITE | 0.360 | 0.218 | 14.16 | 0.513 | BM * |
| 5 | 7.45 | SULFATE | 2.686 | 0.614 | 39.84 | 4.678 ✓ | M * |
| 6 | 8.96 | BROMIDE | 0.014 | 0.006 | 0.40 | 0.079 | MB |
| 7 | 10.99 | NITRATE | 0.066 | 0.017 | 1.10 | 0.039 | BMB |
| **Total:** | | | 8.404 | 1.542 | 100.00 | 9.023 | |

# 52 MC25568-4

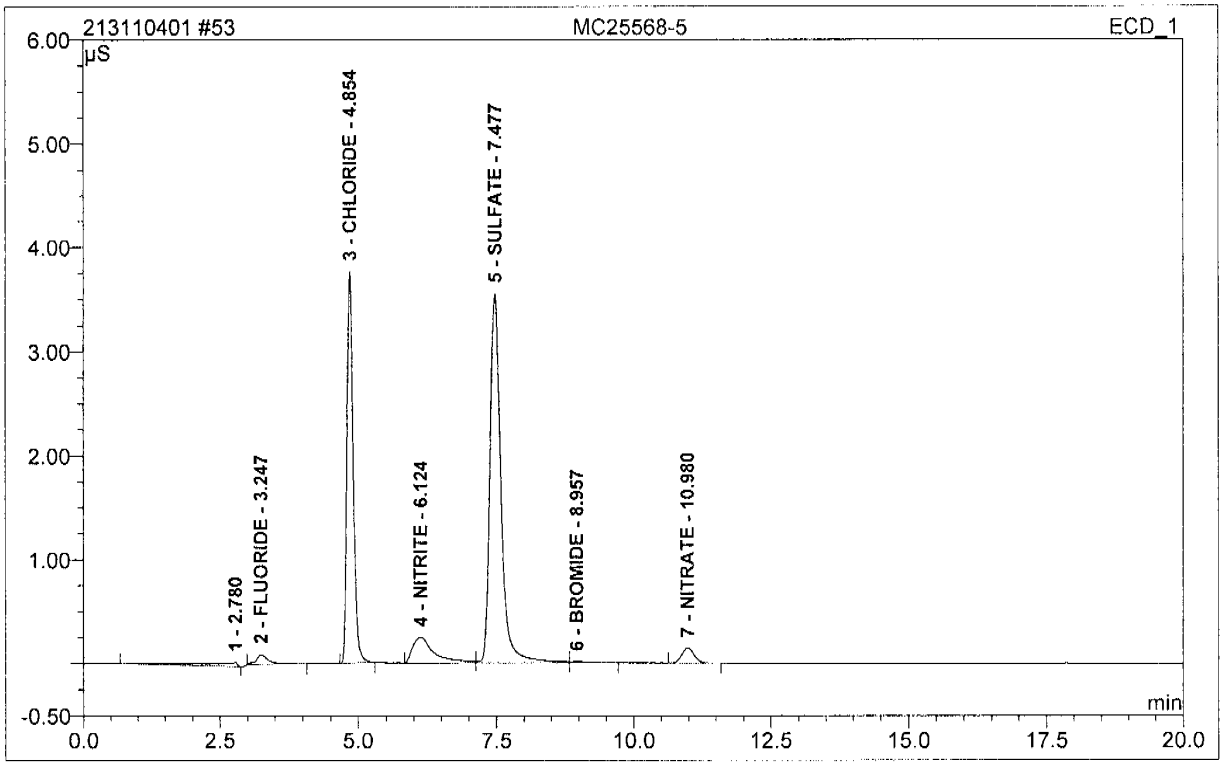
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 2:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.039 | 0.035 | 2.22 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.405 | 0.061 | 3.85 | 0.209 | BM |
| 3 | 3.62 | n.a. | 0.024 | 0.004 | 0.24 | n.a. | MB |
| 4 | 4.85 | CHLORIDE | 4.871 | 0.630 | 39.74 | 3.529 | BMB |
| 5 | 6.08 | NITRITE | 0.351 | 0.191 | 12.02 | 0.448 | Ru |
| 6 | 7.45 | SULFATE | 2.686 | 0.642 | 40.48 | 4.890 | BM |
| 7 | 8.96 | BROMIDE | 0.014 | 0.006 | 0.38 | 0.079 | MB |
| 8 | 10.99 | NITRATE | 0.066 | 0.017 | 1.07 | 0.039 | BMB |
| **Total:** | | | 8.457 | 1.586 | 100.00 | 9.195 | |

## 53 MC25568-5

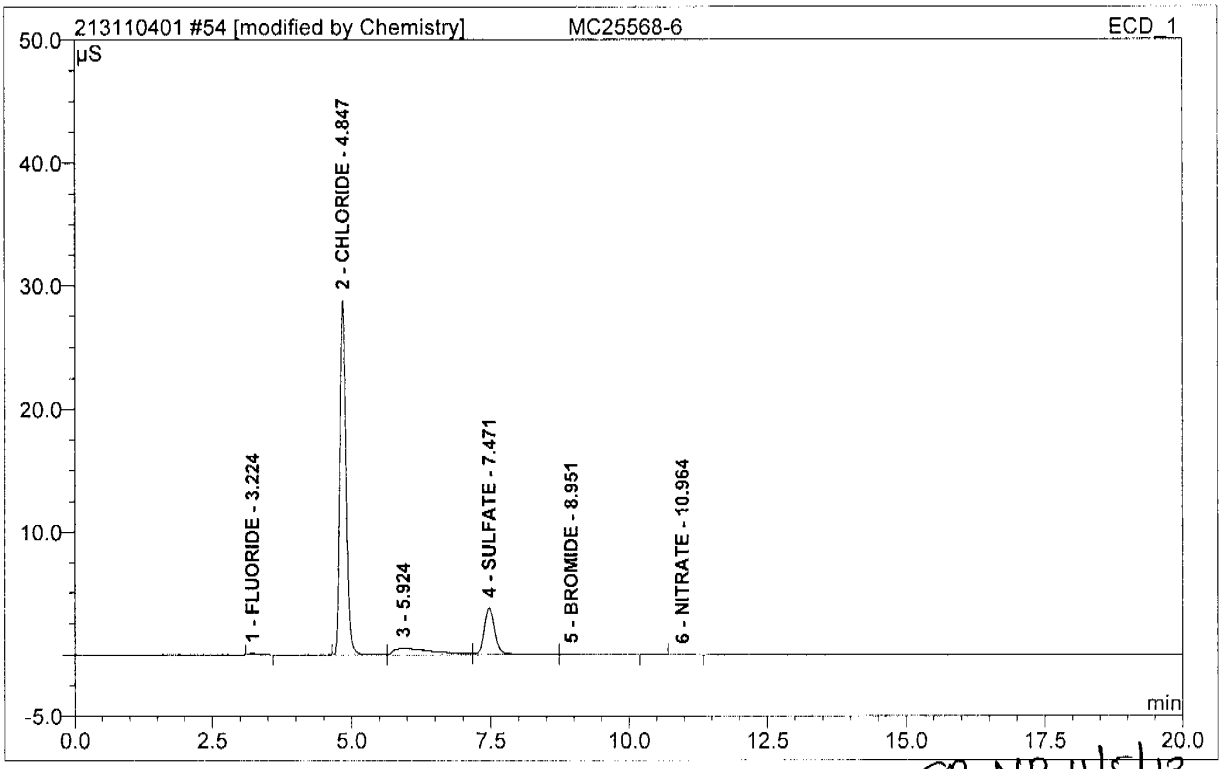
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 3:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.041 | 0.031 | 2.02 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.095 | 0.025 | 1.60 | 0.084 | BMB |
| 3 | 4.85 | CHLORIDE | 3.763 | 0.492 | 32.15 | 2.757 | BMB |
| 4 | 6.12 | NITRITE | 0.250 | 0.113 | 7.39 | 0.266 | BM |
| 5 | 7.48 | SULFATE | 3.549 | 0.827 | 54.00 | 6.297 | M |
| 6 | 8.96 | BROMIDE | 0.012 | 0.005 | 0.31 | 0.061 | MB |
| 7 | 10.98 | NITRATE | 0.149 | 0.039 | 2.53 | 0.090 | BMB |
| **Total:** | | | 7.857 | 1.531 | 100.00 | 9.555 | |

## 54 MC25568-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 3:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

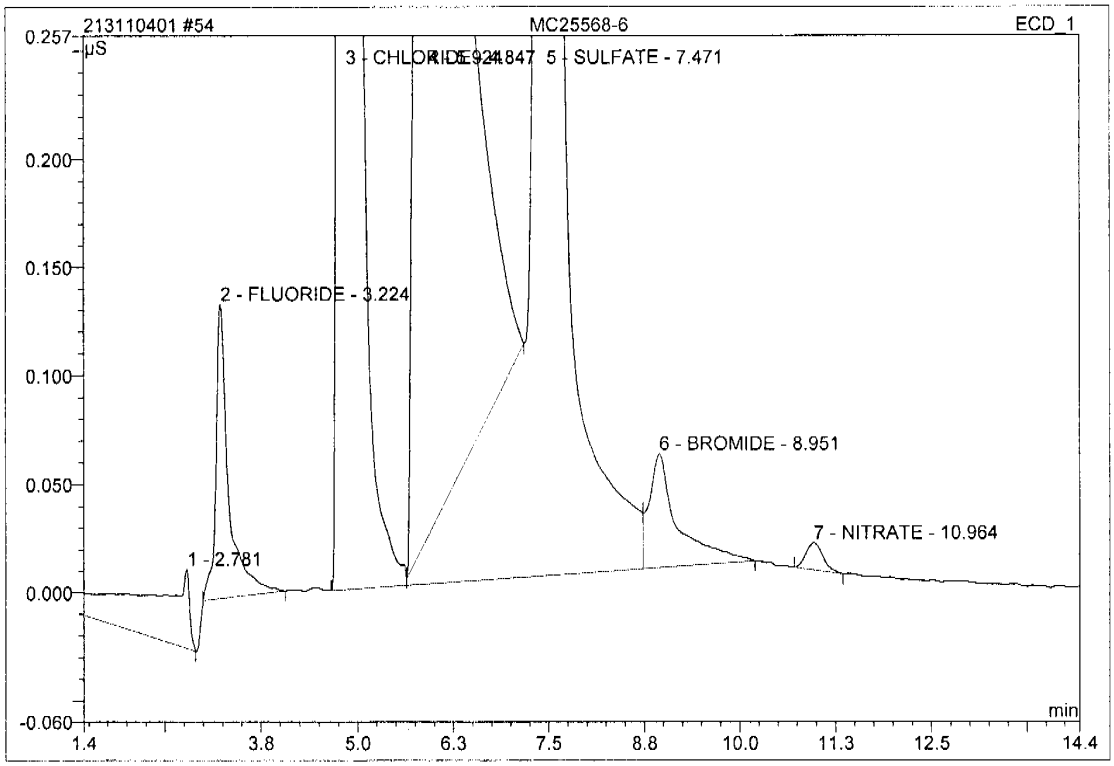



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.122 | 0.018 | 0.35 | 0.060 | BMB* |
| 2 | 4.85 | CHLORIDE | 28.797 | 3.689 | 73.00 | 20.653 | BM |
| 3 | 5.92 | n.a. | 0.528 | 0.454 | 8.98 | n.a. | M * |
| 4 | 7.47 | SULFATE | 3.754 | 0.867 | 17.15 | 6.601 ✓ | M * |
| 5 | 8.95 | BROMIDE | 0.053 | 0.023 | 0.46 | 0.301 | MB |
| 6 | 10.96 | NITRATE | 0.013 | 0.003 | 0.06 | 0.007 | BMB |
| **Total:** | | | 33.266 | 5.054 | 100.00 | 27.622 | |

## 54 MC25568-6

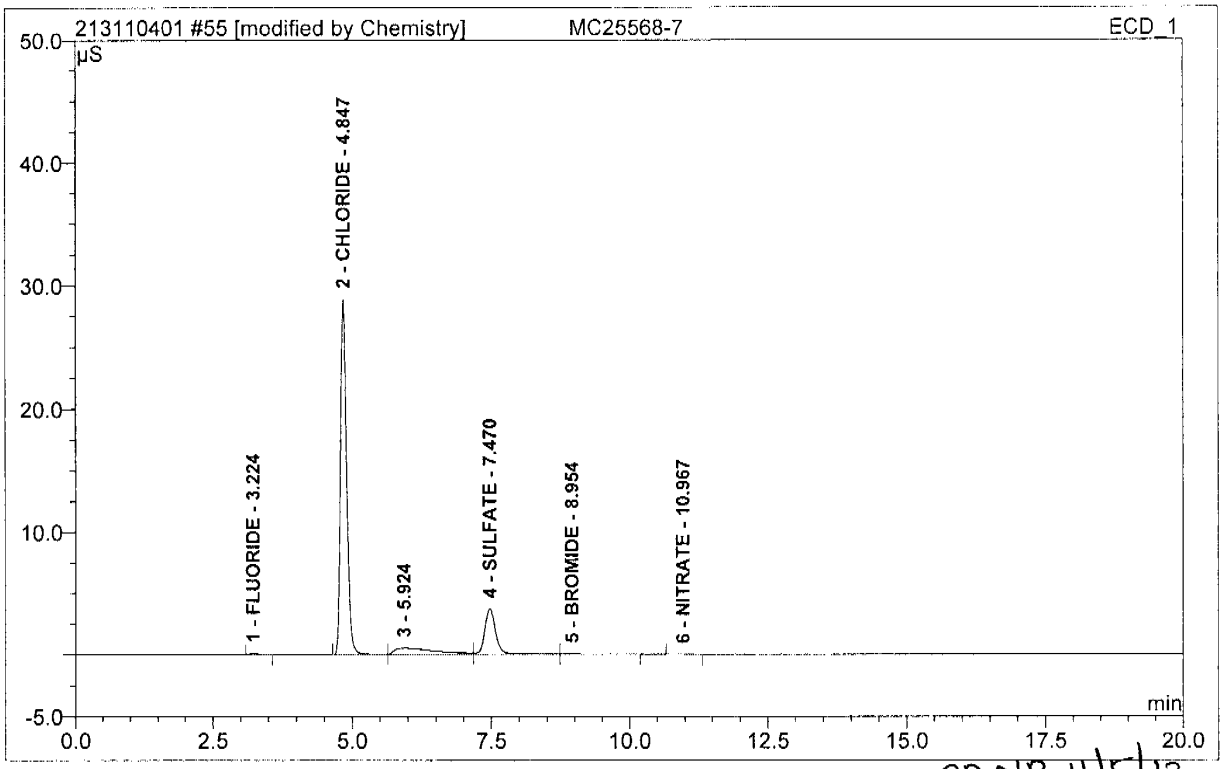
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 3:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.029 | 0.58 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.136 | 0.026 | 0.52 | 0.090 | BMB |
| 3 | 4.85 | CHLORIDE | 28.797 | 3.689 | 72.45 | 20.653 | BM |
| 4 | 5.92 | n.a. | 0.506 | 0.369 | 7.24 | n.a. | Ru |
| 5 | 7.47 | SULFATE | 3.754 | 0.952 | 18.70 | 7.251 | M |
| 6 | 8.95 | BROMIDE | 0.053 | 0.023 | 0.45 | 0.301 | MB |
| 7 | 10.96 | NITRATE | 0.013 | 0.003 | 0.06 | 0.007 | BMB |
| **Total:** | | | 33.294 | 5.092 | 100.00 | 28.302 | |

## 55 MC25568-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 3:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

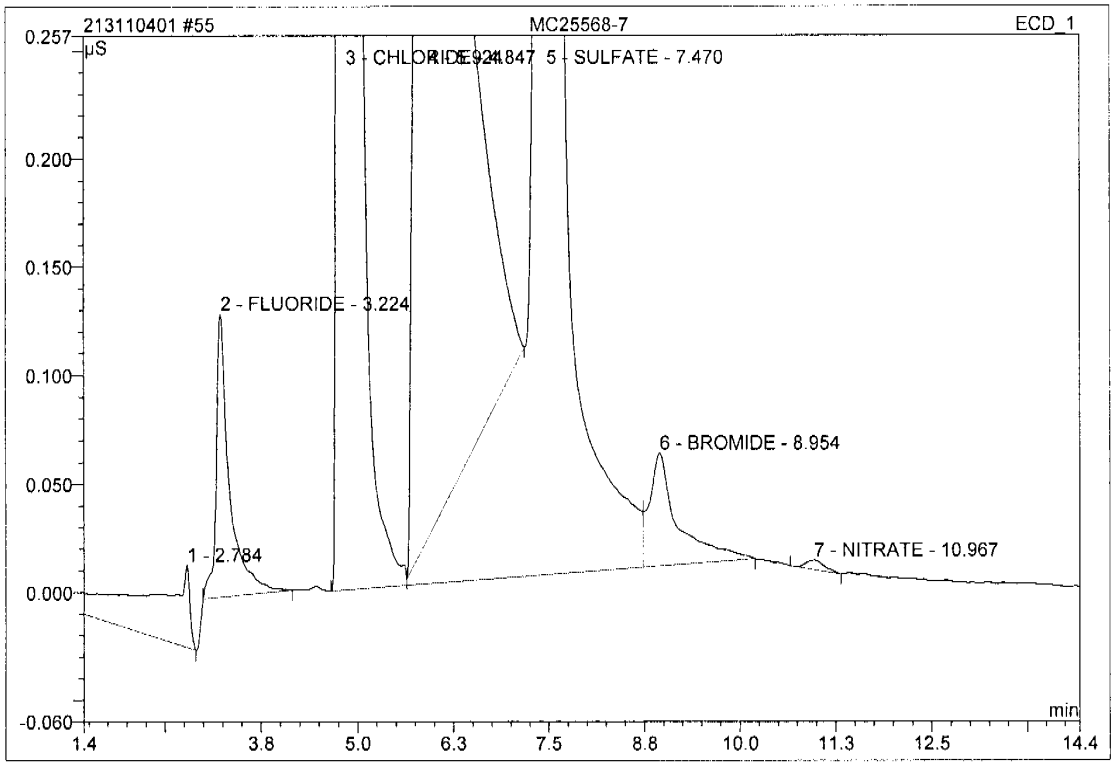



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.119 | 0.018 | 0.36 | 0.062 | BMB* |
| 2 | 4.85 | CHLORIDE | 28.901 | 3.698 | 73.18 | 20.704 | BM |
| 3 | 5.92 | n.a. | 0.525 | 0.450 | 8.90 | n.a. | M * |
| 4 | 7.47 | SULFATE | 3.731 | 0.863 | 17.08 | 6.573 ✓ | M * |
| 5 | 8.95 | BROMIDE | 0.052 | 0.023 | 0.45 | 0.297 | MB |
| 6 | 10.97 | NITRATE | 0.004 | 0.001 | 0.02 | 0.003 | BMB |
| **Total:** | | | 33.332 | 5.054 | 100.00 | 27.639 | |

## 55 MC25568-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 3:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



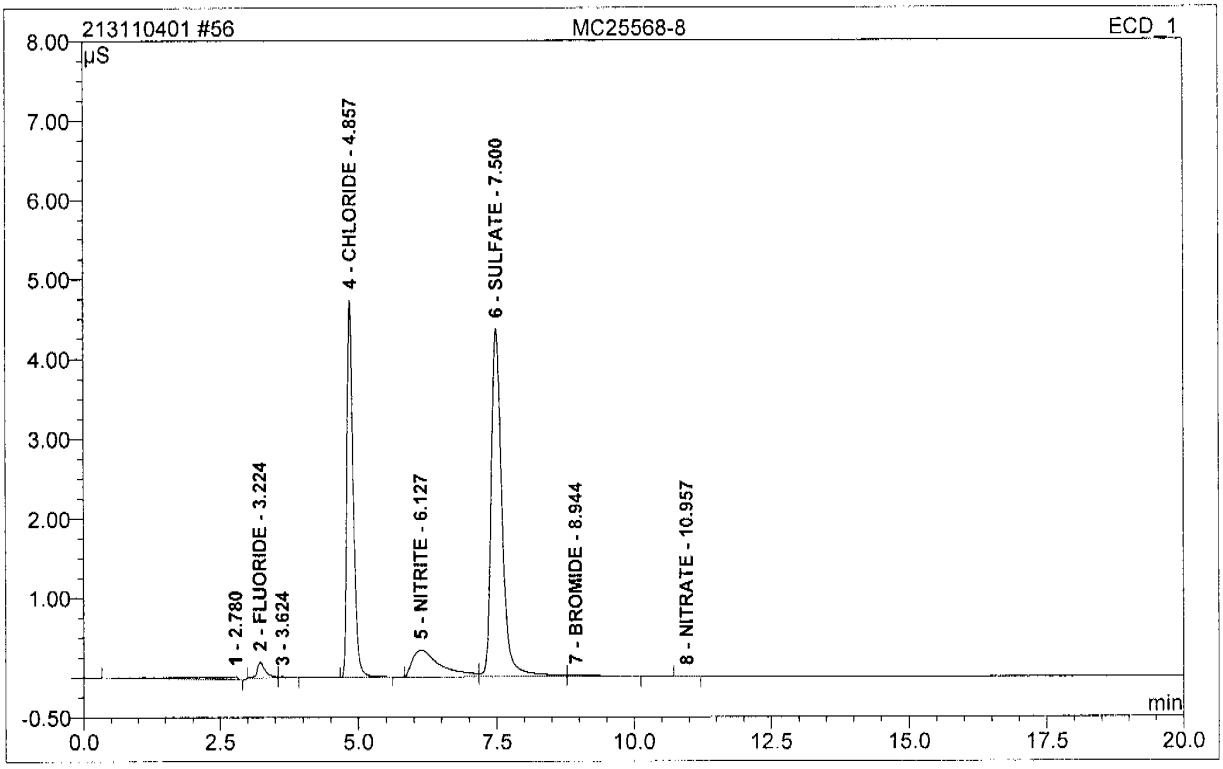

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.038 | 0.029 | 0.56 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.131 | 0.026 | 0.52 | 0.090 | BMB |
| 3 | 4.85 | CHLORIDE | 28.901 | 3.698 | 72.65 | 20.704 | BM |
| 4 | 5.92 | n.a. | 0.503 | 0.366 | 7.20 | n.a. | Ru |
| 5 | 7.47 | SULFATE | 3.731 | 0.947 | 18.60 | 7.210 | M |
| 6 | 8.95 | BROMIDE | 0.052 | 0.023 | 0.45 | 0.297 | MB |
| 7 | 10.97 | NITRATE | 0.004 | 0.001 | 0.02 | 0.003 | BMB |
| **Total:** | | | 33.360 | 5.091 | 100.00 | 28.304 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 56 MC25568-8

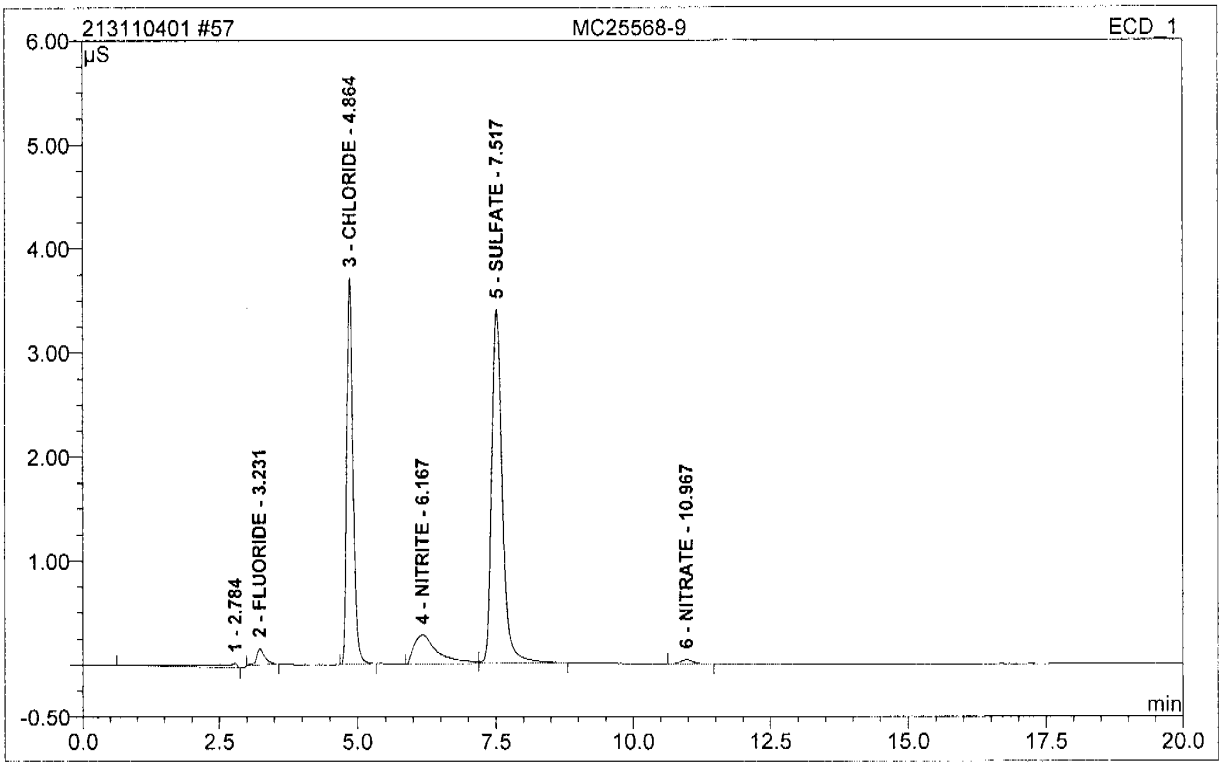
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 4:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.044 | 0.038 | 2.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.203 | 0.035 | 1.82 | 0.119 | BM |
| 3 | 3.62 | n.a. | 0.015 | 0.002 | 0.13 | n.a. | MB |
| 4 | 4.86 | CHLORIDE | 4.744 | 0.625 | 32.76 | 3.499 | BMB |
| 5 | 6.13 | NITRITE | 0.335 | 0.200 | 10.47 | 0.469 | BM |
| 6 | 7.50 | SULFATE | 4.368 | 0.996 | 52.18 | 7.581 | M |
| 7 | 8.94 | BROMIDE | 0.021 | 0.011 | 0.57 | 0.142 | MB |
| 8 | 10.96 | NITRATE | 0.005 | 0.001 | 0.06 | 0.003 | BMB |
| **Total:** | | | 9.735 | 1.908 | 100.00 | 11.813 | |

## 57 MC25568-9

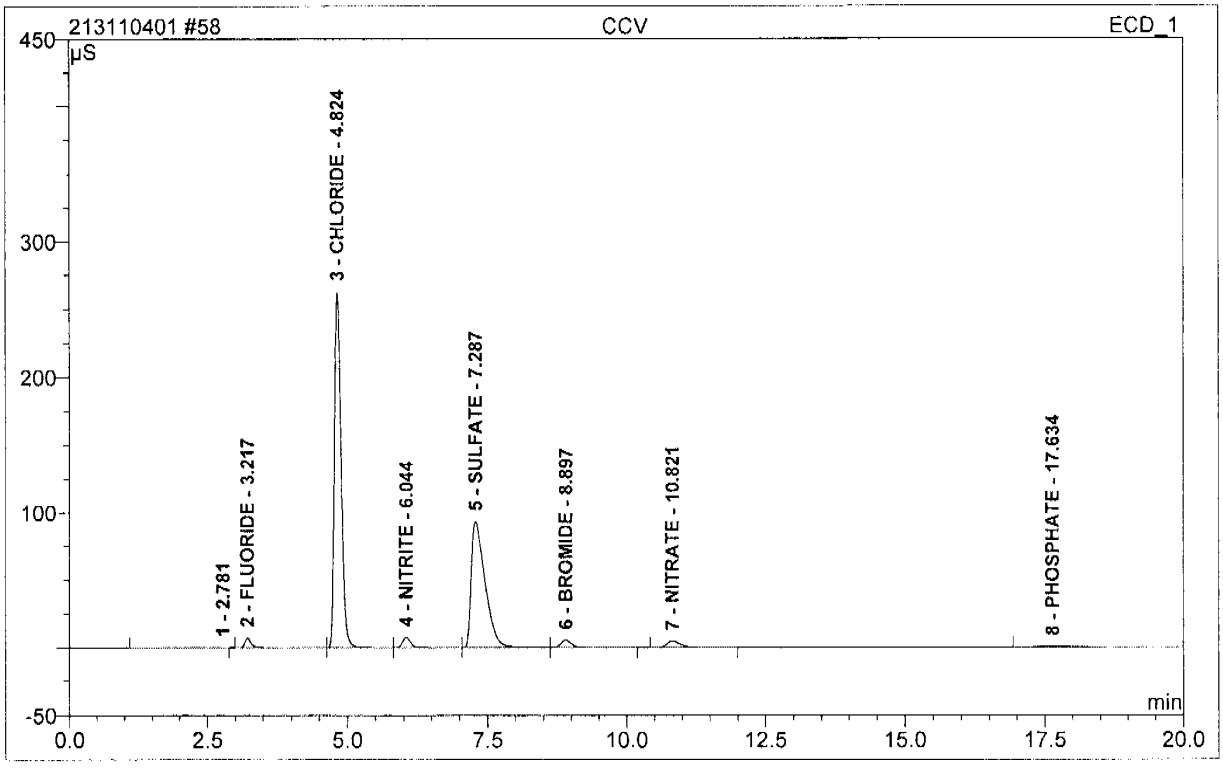
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 4:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.046 | 0.036 | 2.45 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.160 | 0.028 | 1.91 | 0.096 | BMB |
| 3 | 4.86 | CHLORIDE | 3.716 | 0.487 | 33.22 | 2.725 | BMB |
| 4 | 6.17 | NITRITE | 0.280 | 0.140 | 9.58 | 0.330 | BM |
| 5 | 7.52 | SULFATE | 3.402 | 0.763 | 52.08 | 5.811 | MB |
| 6 | 10.97 | NITRATE | 0.042 | 0.011 | 0.76 | 0.026 | BMB |
| **Total:** | | | 7.648 | 1.465 | 100.00 | 8.987 | |

# 58 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 5:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



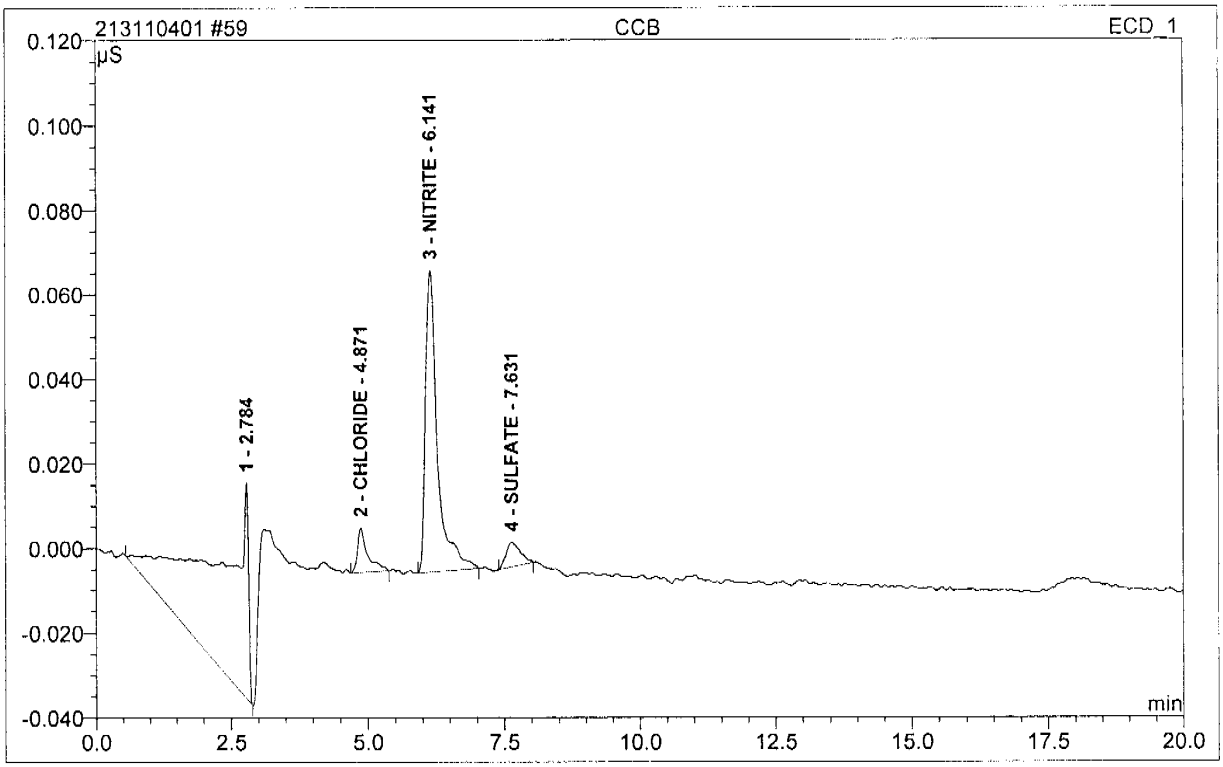

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.034 | 0.022 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.194 | 0.923 | 1.35 | 3.158 | BM |
| 3 | 4.82 | CHLORIDE | 262.763 | 36.455 | 53.26 | 204.084 | M |
| 4 | 6.04 | NITRITE | 7.709 | 1.309 | 1.91 | 3.077 | M |
| 5 | 7.29 | SULFATE | 93.367 | 26.792 | 39.14 | 204.021 | M |
| 6 | 8.90 | BROMIDE | 5.469 | 1.204 | 1.76 | 15.685 | MB |
| 7 | 10.82 | NITRATE | 4.840 | 1.330 | 1.94 | 3.088 | BMB |
| 8 | 17.63 | PHOSPHATE | 0.617 | 0.418 | 0.61 | 2.587 | BMB |
| **Total:** | | | 381.992 | 68.453 | 100.00 | 435.699 | |

102.04

102.01

# 59 CCB

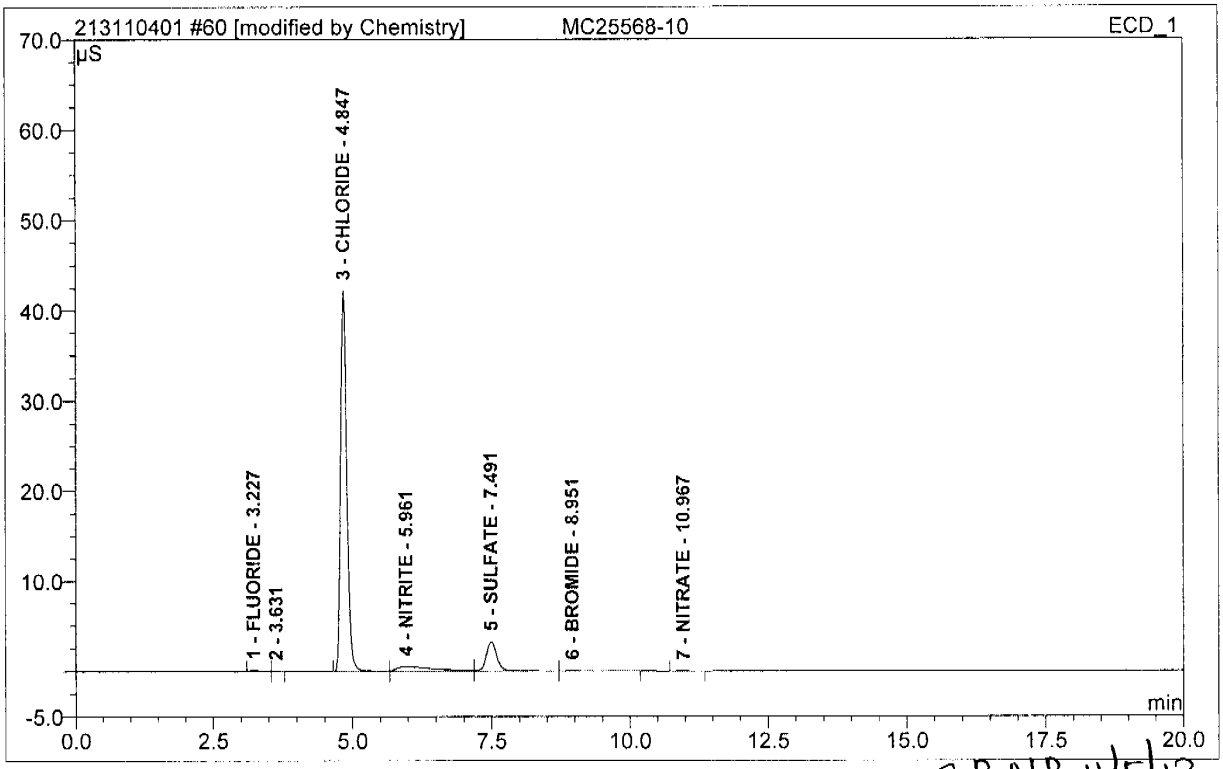
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 5:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.051 | 0.038 | 63.14 | n.a. | BMB |
| 2 | 4.87 | CHLORIDE | 0.011 | 0.002 | 3.72 | 0.013 | BMB |
| 3 | 6.14 | NITRITE | 0.071 | 0.018 | 30.20 | 0.043 | BMB |
| 4 | 7.63 | SULFATE | 0.006 | 0.002 | 2.94 | 0.014 | BMB |
| **Total:** | | | 0.139 | 0.060 | 100.00 | 0.069 | |

## 60 MC25568-10

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 5:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/5/13

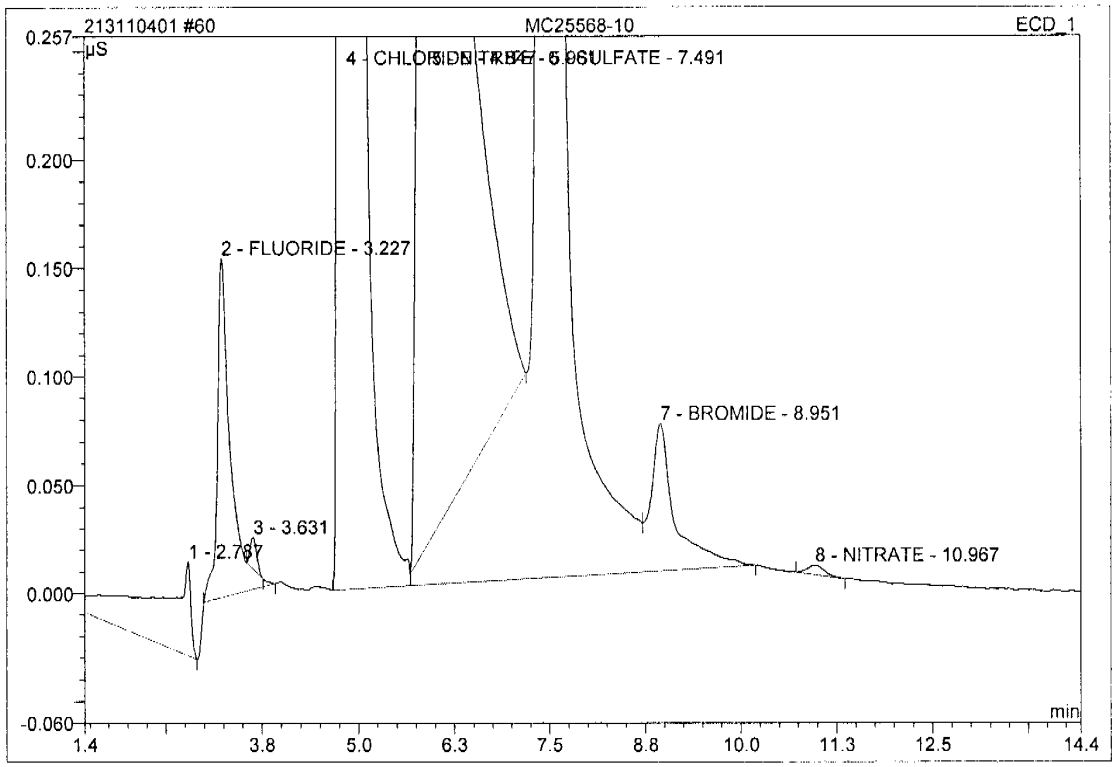
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.144 | 0.023 | 0.35 | 0.080 | BM * |
| 2 | 3.63 | n.a. | 0.019 | 0.002 | 0.03 | n.a. | MB* |
| 3 | 4.85 | CHLORIDE | 42.208 | 5.436 | 81.72 | 30.430 | BM |
| 4 | 5.96 | NITRITE | 0.501 | 0.420 | 6.31 | 0.987 | M * |
| 5 | 7.49 | SULFATE | 3.220 | 0.744 | 11.18 | 5.663 | M * |
| 6 | 8.95 | BROMIDE | 0.068 | 0.025 | 0.38 | 0.331 | MB |
| 7 | 10.97 | NITRATE | 0.004 | 0.001 | 0.02 | 0.003 | BMB |
| **Total:** | | | 46.163 | 6.651 | 100.00 | 37.494 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110401


11/5/2013 9:04 AM

## 60 MC25568-10

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 5:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



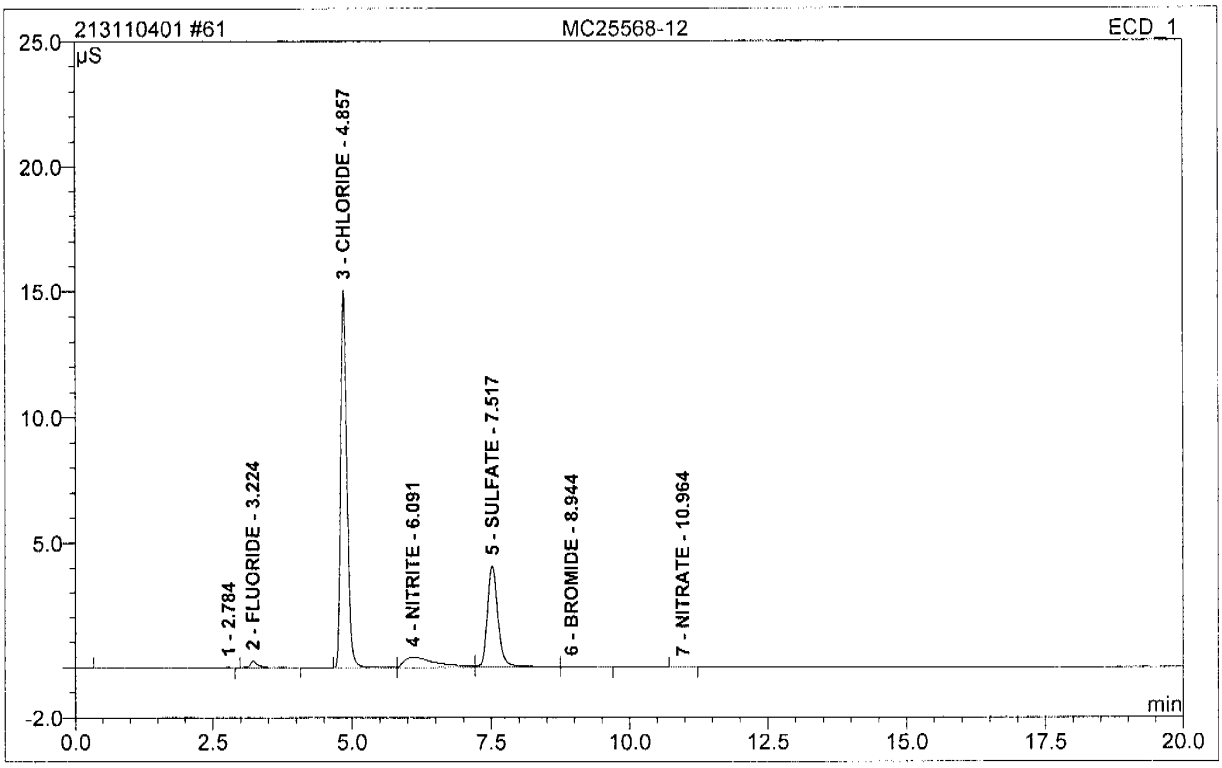

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.028 | 0.41 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.156 | 0.031 | 0.47 | 0.107 | BMB |
| 3 | 3.63 | n.a. | 0.014 | 0.001 | 0.02 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 42.208 | 5.436 | 81.30 | 30.430 | BM |
| 5 | 5.96 | NITRITE | 0.478 | 0.343 | 5.14 | 0.807 | Ru |
| 6 | 7.49 | SULFATE | 3.220 | 0.820 | 12.27 | 6.245 | M |
| 7 | 8.95 | BROMIDE | 0.068 | 0.025 | 0.38 | 0.331 | MB |
| 8 | 10.97 | NITRATE | 0.004 | 0.001 | 0.02 | 0.003 | BMB |
| **Total:** | | | 46.193 | 6.686 | 100.00 | 37.923 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 61 MC25568-12

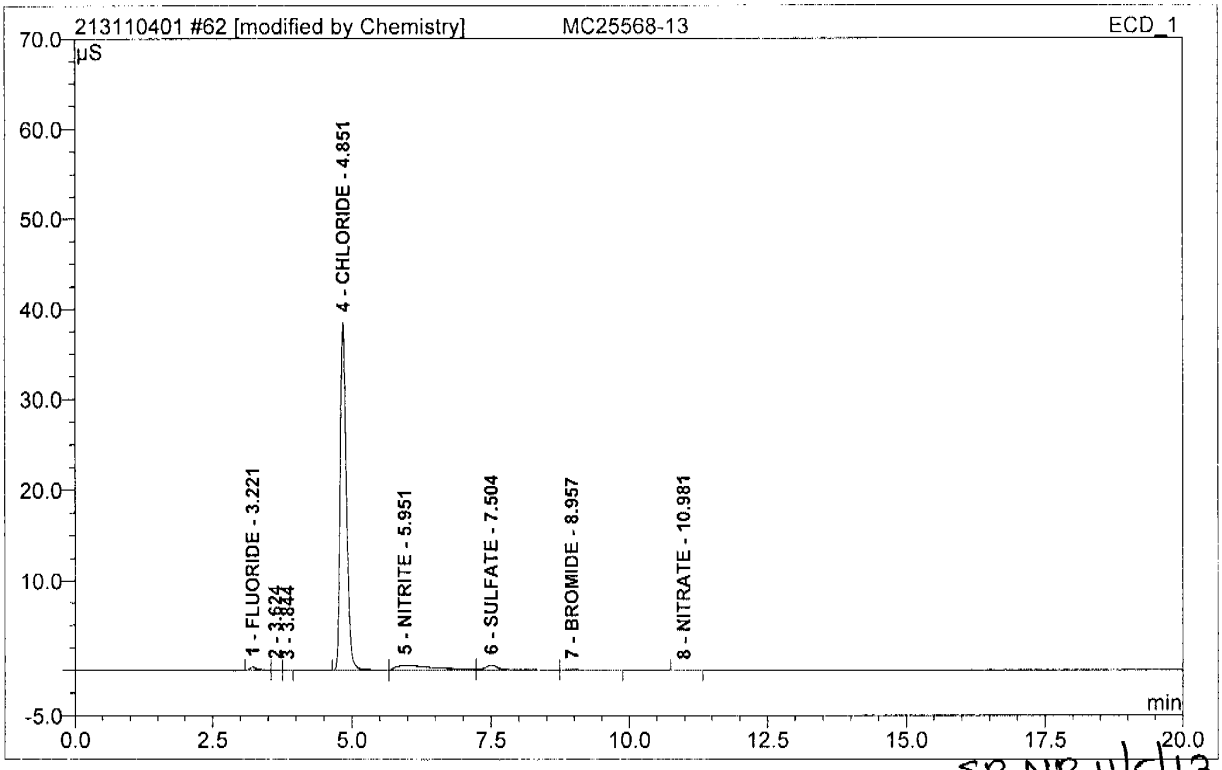
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-12** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 6:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.048 | 0.038 | 1.17 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.269 | 0.046 | 1.44 | 0.159 | BMB |
| 3 | 4.86 | CHLORIDE | 15.048 | 1.953 | 60.40 | 10.935 | BM |
| 4 | 6.09 | NITRITE | 0.396 | 0.271 | 8.38 | 0.637 | M |
| 5 | 7.52 | SULFATE | 4.061 | 0.915 | 28.28 | 6.965 | M |
| 6 | 8.94 | BROMIDE | 0.026 | 0.009 | 0.28 | 0.118 | MB |
| 7 | 10.96 | NITRATE | 0.006 | 0.002 | 0.05 | 0.004 | BMB |
| **Total:** | | | 19.854 | 3.234 | 100.00 | 18.818 | |

## 62 MC25568-13

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 6:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

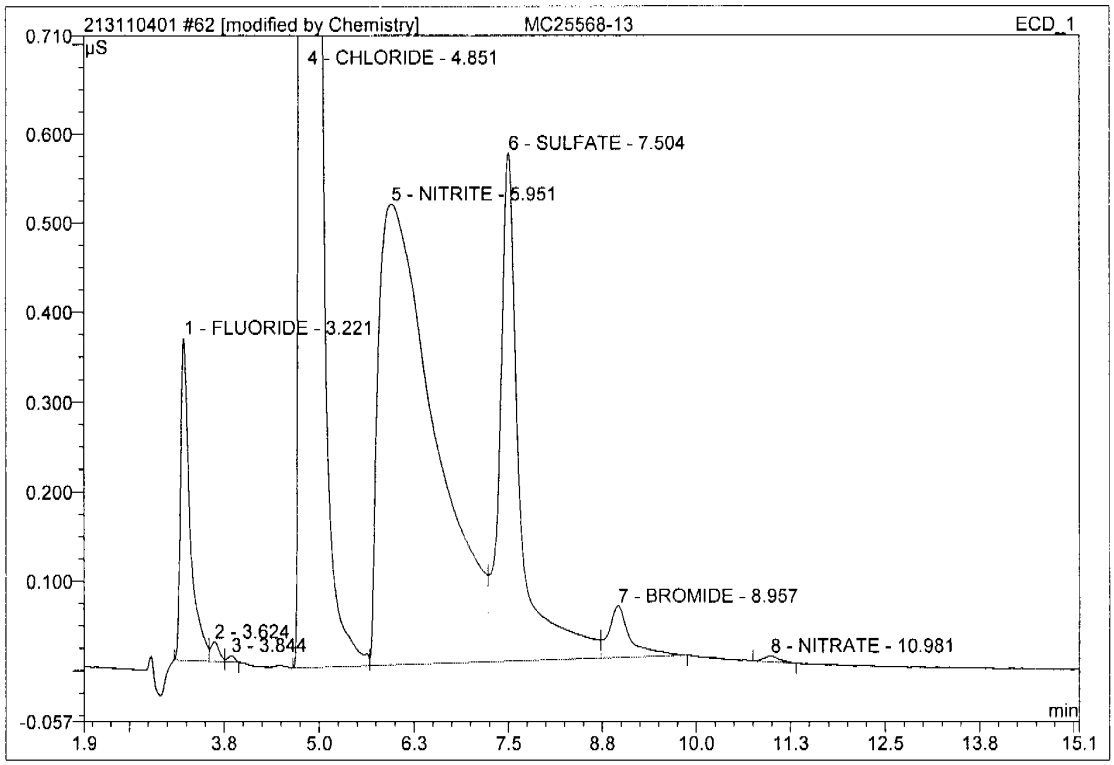



SP NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.360 | 0.052 | 0.92 | 0.179 | BM * |
| 2 | 3.62 | n.a. | 0.022 | 0.003 | 0.05 | n.a. | M * |
| 3 | 3.84 | n.a. | 0.007 | 0.001 | 0.01 | n.a. | MB* |
| 4 | 4.85 | CHLORIDE | 38.535 | 4.970 | 87.72 | 27.825 | BM |
| 5 | 5.95 | NITRITE | 0.515 | 0.441 | 7.78 | 1.036 | M |
| 6 | 7.50 | SULFATE | 0.568 | 0.178 | 3.14 | 1.357 ✓ | M * |
| 7 | 8.96 | BROMIDE | 0.058 | 0.019 | 0.34 | 0.251 | MB* |
| 8 | 10.98 | NITRATE | 0.007 | 0.002 | 0.03 | 0.004 | BMB |
| **Total:** | | | 40.071 | 5.666 | 100.00 | 30.651 | |

## 62 MC25568-13

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 6:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



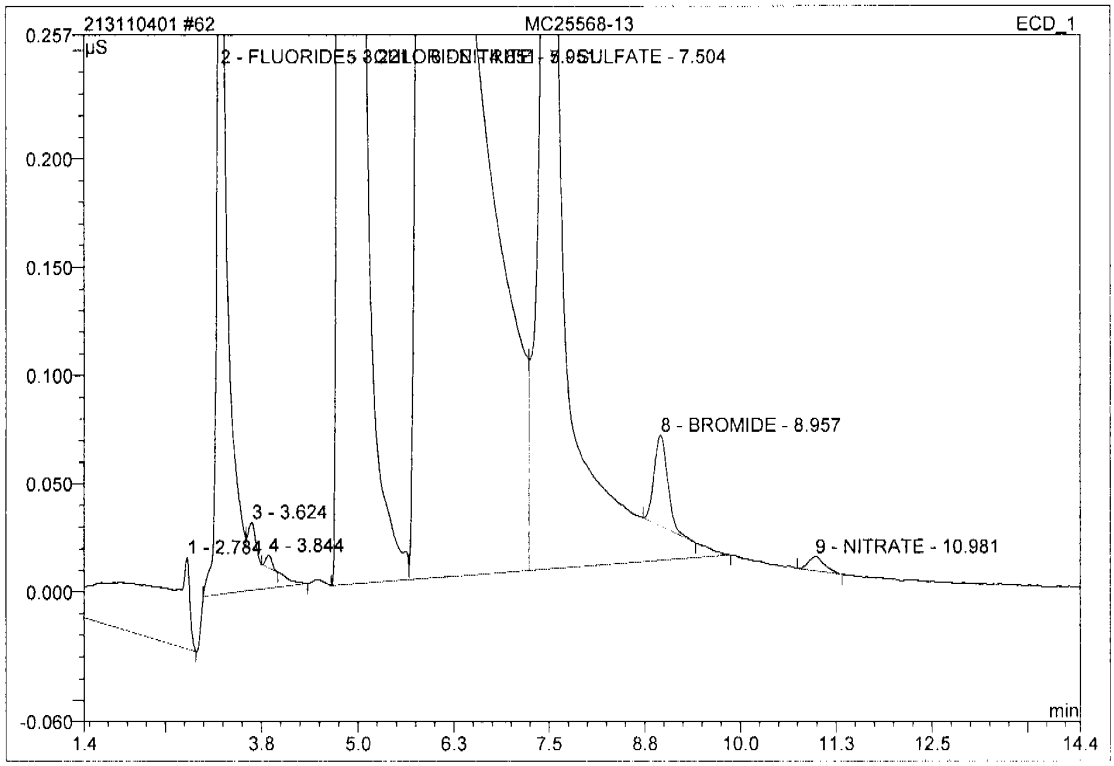

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.360 | 0.052 | 0.92 | 0.179 | BM * |
| 2 | 3.62 | n.a. | 0.022 | 0.003 | 0.05 | n.a. | M * |
| 3 | 3.84 | n.a. | 0.007 | 0.001 | 0.01 | n.a. | MB* |
| 4 | 4.85 | CHLORIDE | 38.535 | 4.970 | 87.72 | 27.825 | BM |
| 5 | 5.95 | NITRITE | 0.515 | 0.441 | 7.78 | 1.036 | M |
| 6 | 7.50 | SULFATE | 0.568 | 0.178 | 3.14 | 1.357 | M * |
| 7 | 8.96 | BROMIDE | 0.058 | 0.019 | 0.34 | 0.251 | MB* |
| 8 | 10.98 | NITRATE | 0.007 | 0.002 | 0.03 | 0.004 | BMB |
| **Total:** | | | 40.071 | 5.666 | 100.00 | 30.651 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 62 MC25568-13

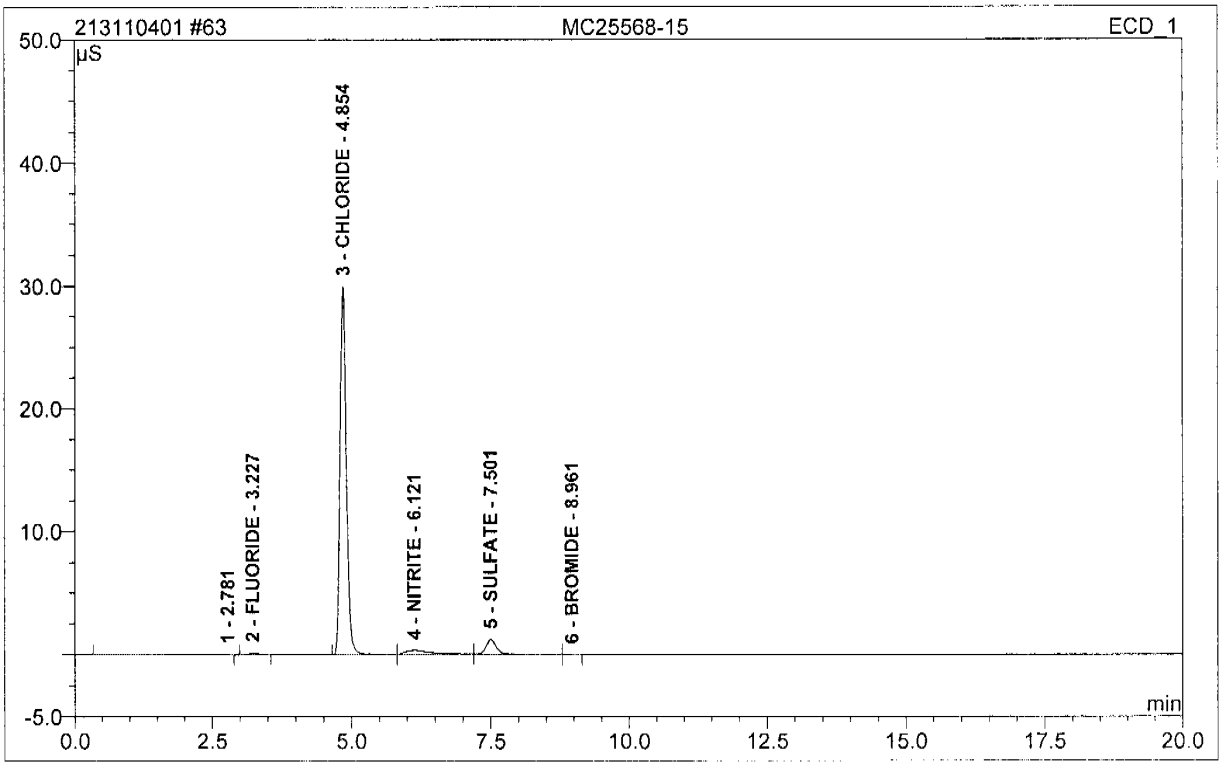
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 6:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.043 | 0.039 | 0.69 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.372 | 0.059 | 1.03 | 0.200 | BM |
| 3 | 3.62 | n.a. | 0.031 | 0.008 | 0.13 | n.a. | MB |
| 4 | 3.84 | n.a. | 0.006 | 0.001 | 0.01 | n.a. | Rd |
| 5 | 4.85 | CHLORIDE | 38.535 | 4.970 | 86.95 | 27.825 | BM |
| 6 | 5.95 | NITRITE | 0.515 | 0.441 | 7.71 | 1.036 | M |
| 7 | 7.50 | SULFATE | 0.568 | 0.189 | 3.30 | 1.438 | MB |
| 8 | 8.96 | BROMIDE | 0.042 | 0.009 | 0.15 | 0.112 | Rd |
| 9 | 10.98 | NITRATE | 0.007 | 0.002 | 0.03 | 0.004 | BMB |
| **Total:** | | | 40.119 | 5.716 | 100.00 | 30.615 | |

## 63 MC25568-15

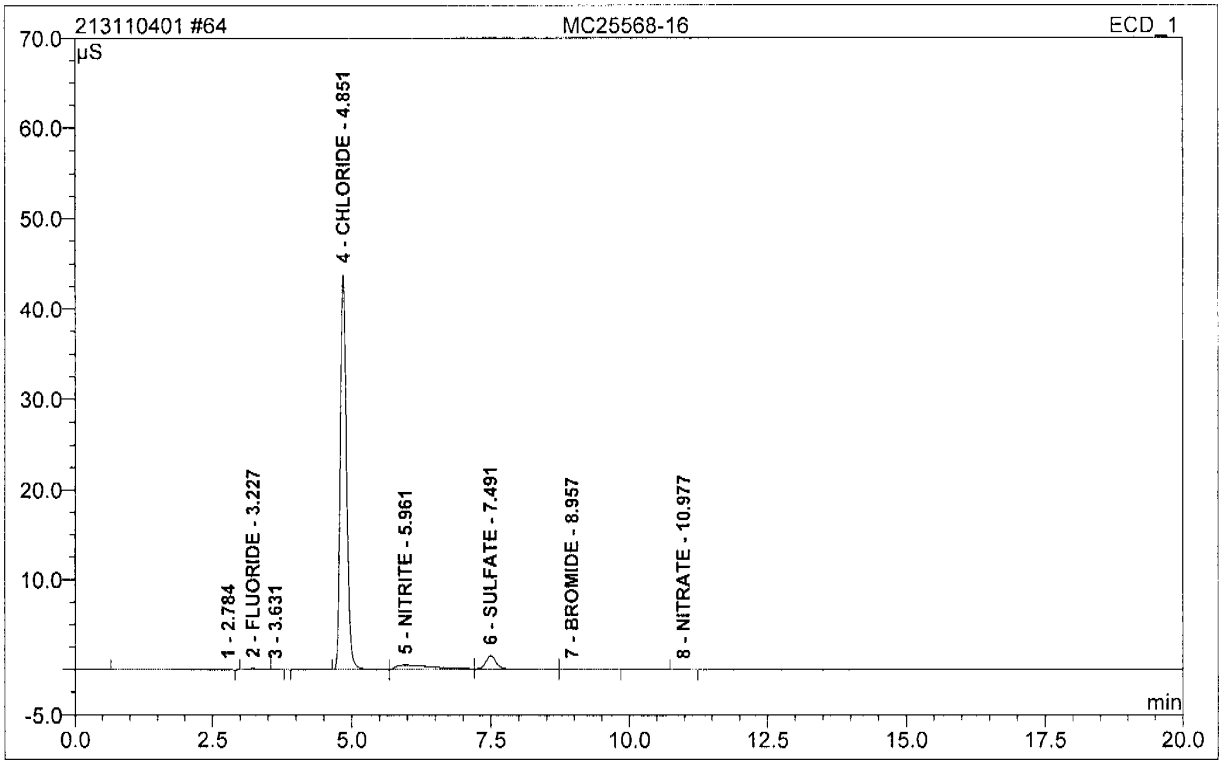
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-15** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 7:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.048 | 0.040 | 0.89 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.124 | 0.023 | 0.52 | 0.079 | BMB |
| 3 | 4.85 | CHLORIDE | 29.960 | 3.921 | 87.66 | 21.949 | BM |
| 4 | 6.12 | NITRITE | 0.346 | 0.207 | 4.64 | 0.488 | M |
| 5 | 7.50 | SULFATE | 1.205 | 0.280 | 6.25 | 2.129 | M |
| 6 | 8.96 | BROMIDE | 0.008 | 0.002 | 0.04 | 0.021 | MB |
| **Total:** | | | 31.690 | 4.472 | 100.00 | 24.666 | |

## 64 MC25568-16

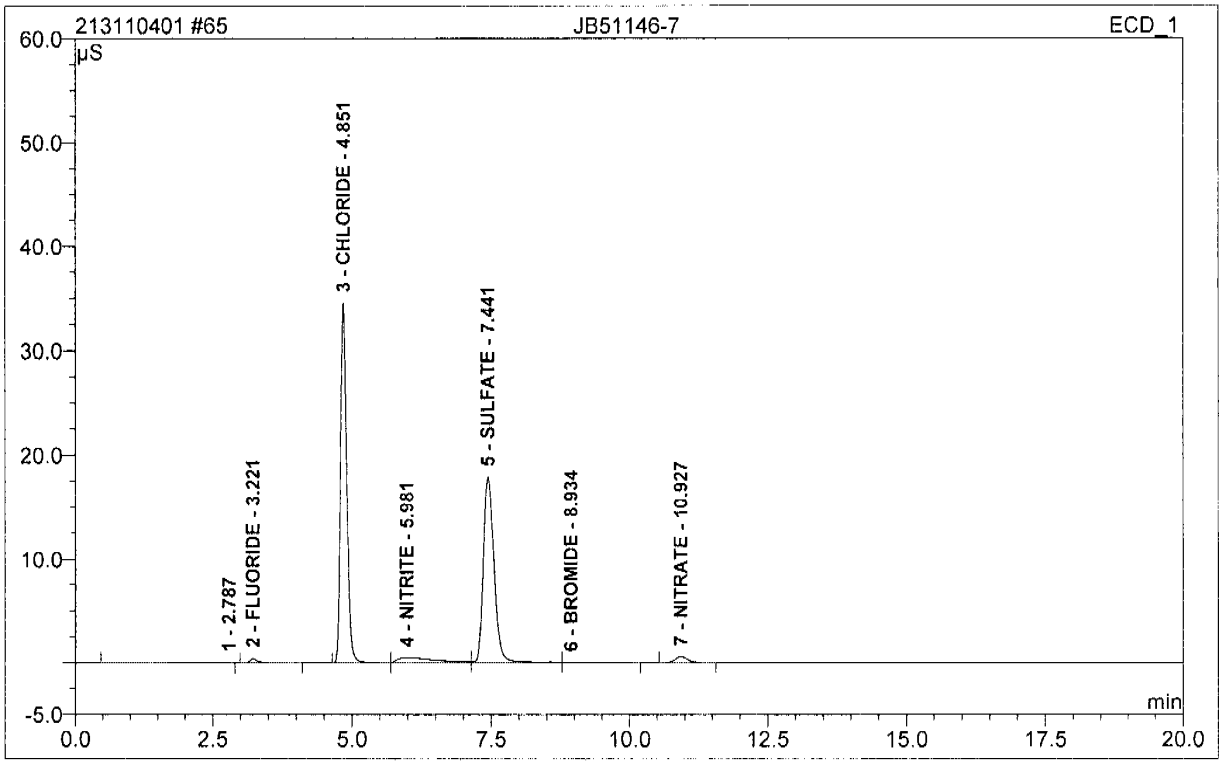
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25568-16** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 7:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.044 | 0.036 | 0.55 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.128 | 0.029 | 0.44 | 0.098 | BMB |
| 3 | 3.63 | n.a. | 0.014 | 0.001 | 0.02 | n.a. | Rd |
| 4 | 4.85 | CHLORIDE | 43.888 | 5.668 | 86.41 | 31.732 | BM |
| 5 | 5.96 | NITRITE | 0.506 | 0.419 | 6.39 | 0.985 | M |
| 6 | 7.49 | SULFATE | 1.566 | 0.387 | 5.90 | 2.946 | M |
| 7 | 8.96 | BROMIDE | 0.058 | 0.019 | 0.29 | 0.246 | MB |
| 8 | 10.98 | NITRATE | 0.005 | 0.001 | 0.02 | 0.003 | BMB |
| **Total:** | | | 46.209 | 6.560 | 100.00 | 36.009 | |

## 65 JB51146-7

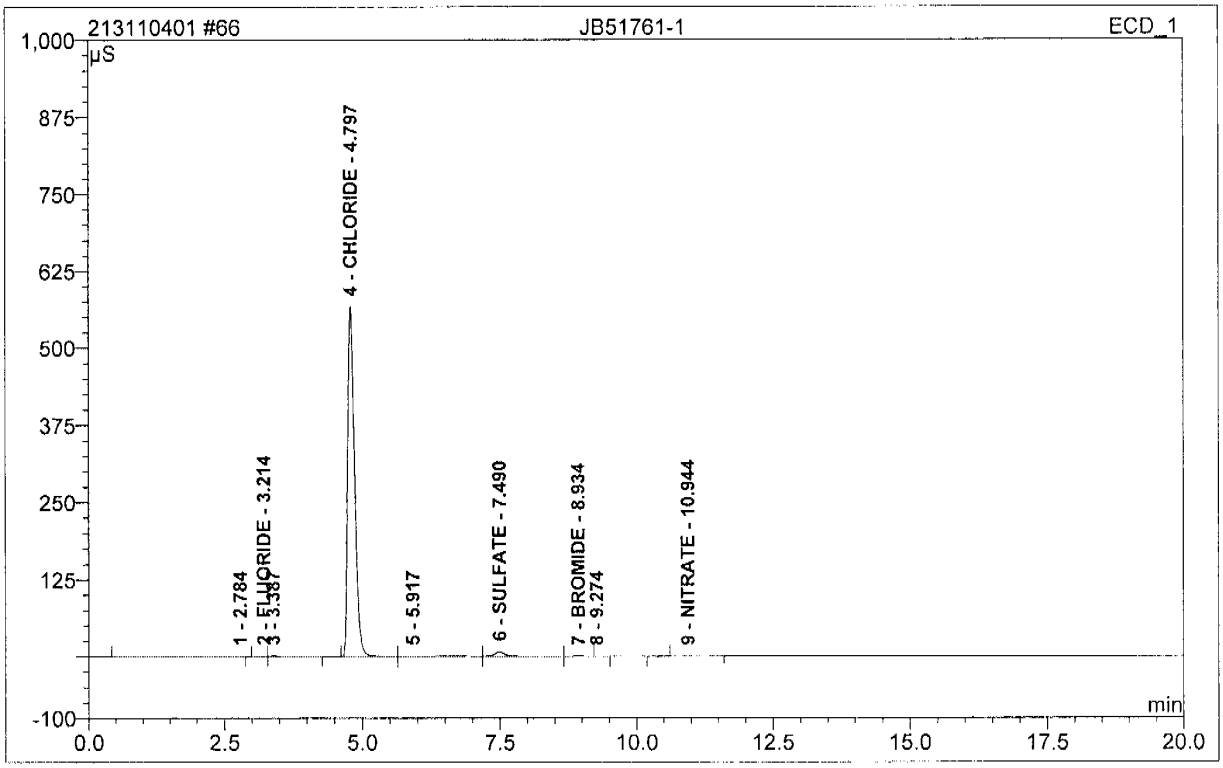
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51146-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 7:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.034 | 0.37 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.418 | 0.065 | 0.72 | 0.223 | BMB |
| 3 | 4.85 | CHLORIDE | 34.530 | 4.451 | 48.87 | 24.920 | BM |
| 4 | 5.98 | NITRITE | 0.483 | 0.382 | 4.20 | 0.899 | M |
| 5 | 7.44 | SULFATE | 17.896 | 4.007 | 43.99 | 30.511 | M |
| 6 | 8.93 | BROMIDE | 0.030 | 0.017 | 0.19 | 0.224 | MB |
| 7 | 10.93 | NITRATE | 0.589 | 0.151 | 1.66 | 0.351 | BMB |
| **Total:** | | | 53.991 | 9.108 | 100.00 | 57.128 | |

## 66 JB51761-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 8:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



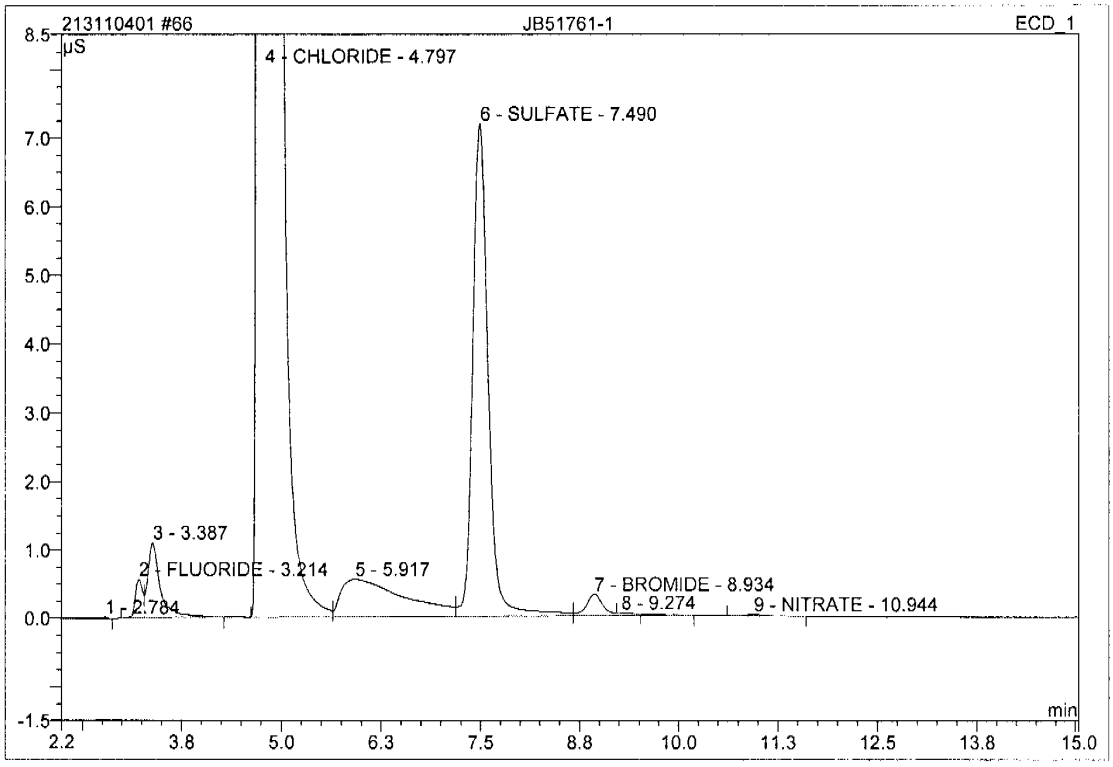

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.026 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.563 | 0.060 | 0.07 | 0.205 | BM |
| 3 | 3.39 | n.a. | 1.104 | 0.200 | 0.24 | n.a. | MB |
| 4 | 4.80 | CHLORIDE | 567.184 | 81.956 | 97.01 | 458.810 | BM |
| 5 | 5.92 | n.a. | 0.557 | 0.507 | 0.60 | n.a. | M |
| 6 | 7.49 | SULFATE | 7.181 | 1.631 | 1.93 | 12.420 | M |
| 7 | 8.93 | BROMIDE | 0.320 | 0.093 | 0.11 | 1.206 | MB |
| 8 | 9.27 | n.a. | 0.004 | 0.001 | 0.00 | n.a. | Rd |
| 9 | 10.94 | NITRATE | 0.019 | 0.005 | 0.01 | 0.012 | BMB |
| **Total:** | | | 576.961 | 84.479 | 100.00 | 472.653 | |

anions/Integration

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Version 6.80 SR9a Build 2680 (163077)

# 66 JB51761-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 8:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



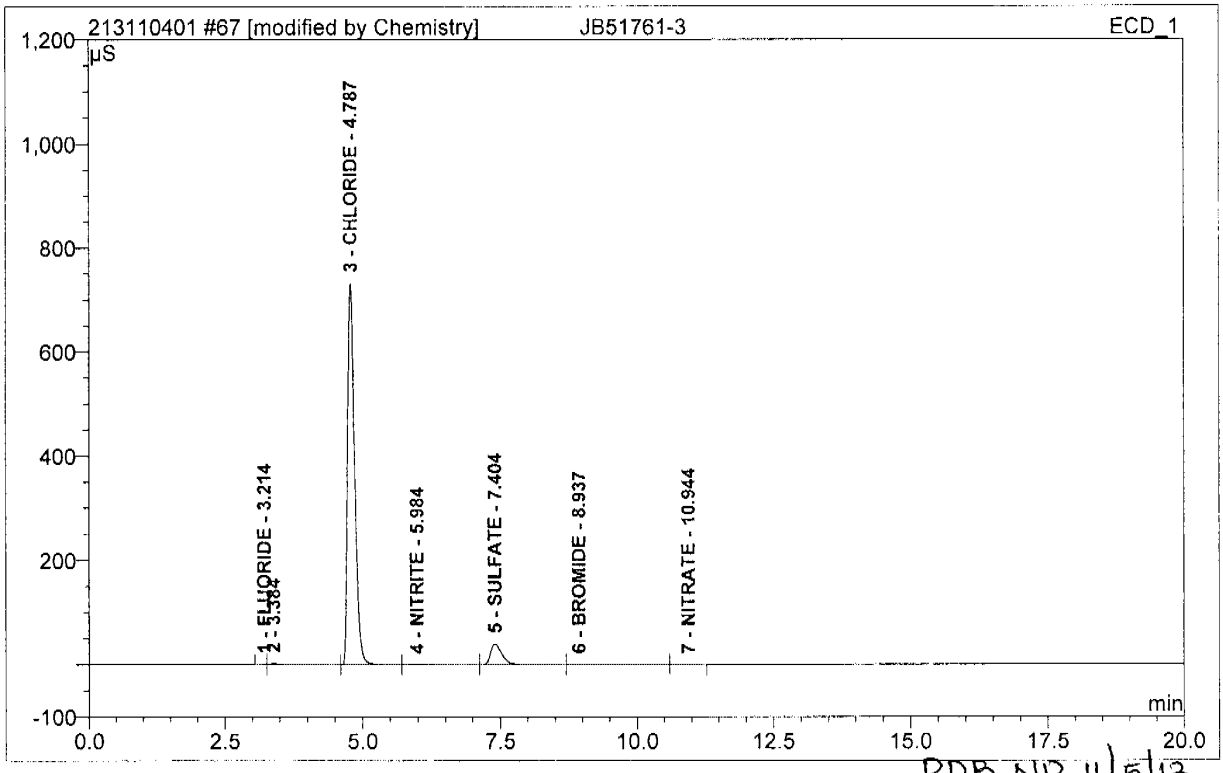

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.030 | 0.026 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.563 | 0.060 | 0.07 | 0.205 | BM |
| 3 | 3.39 | n.a. | 1.104 | 0.200 | 0.24 | n.a. | MB |
| 4 | 4.80 | CHLORIDE | 567.184 | 81.956 | 97.01 | 458.810 | BM |
| 5 | 5.92 | n.a. | 0.557 | 0.507 | 0.60 | n.a. | M |
| 6 | 7.49 | SULFATE | 7.181 | 1.631 | 1.93 | 12.420 | M |
| 7 | 8.93 | BROMIDE | 0.320 | 0.093 | 0.11 | 1.206 | MB |
| 8 | 9.27 | n.a. | 0.004 | 0.001 | 0.00 | n.a. | Rd |
| 9 | 10.94 | NITRATE | 0.019 | 0.005 | 0.01 | 0.012 | BMB |
| **Total:** | | | 576.961 | 84.479 | 100.00 | 472.653 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 67 JB51761-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 8:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

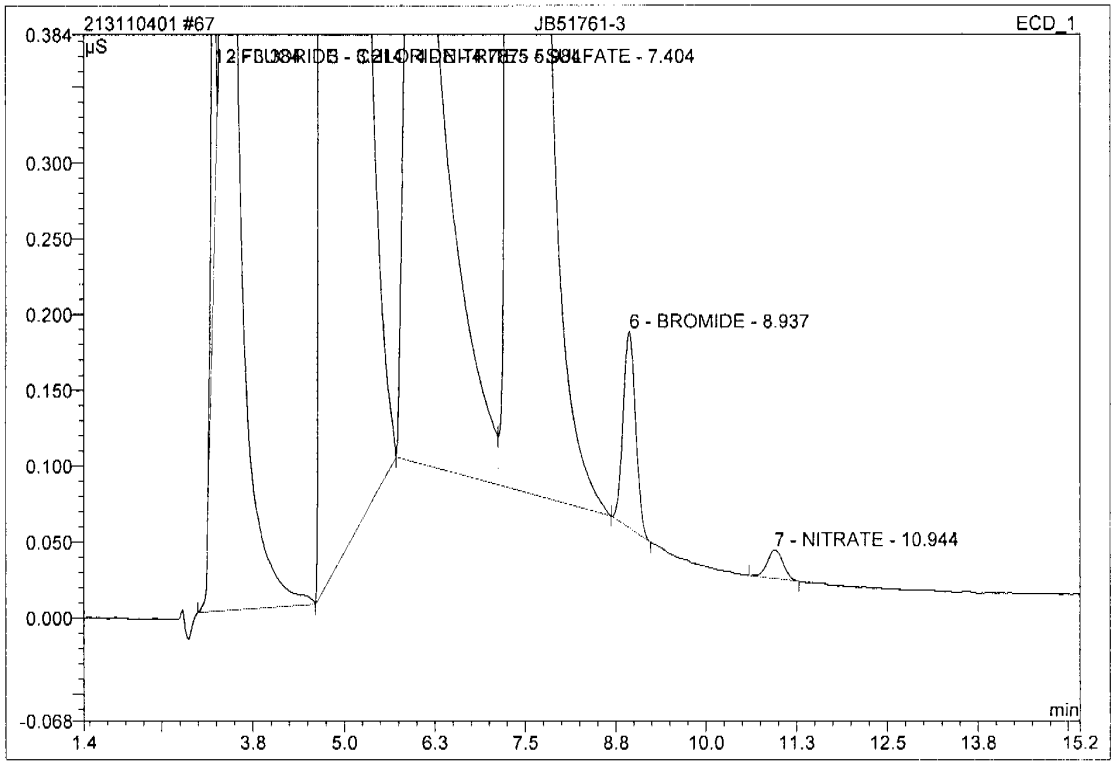



PDB NP 11/5/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.457 | 0.044 | 0.04 | 0.151 | BM * |
| 2 | 3.38 | n.a. | 2.182 | 0.394 | 0.33 | n.a. | Mb* |
| 3 | 4.79 | CHLORIDE | 731.745 | 108.049 | 91.38 | 604.886 | bM * |
| 4 | 5.98 | NITRITE | 0.499 | 0.397 | 0.34 | 0.934 | M * |
| 5 | 7.40 | SULFATE | 39.409 | 9.289 | 7.86 | 70.736 ✓ | M * |
| 6 | 8.94 | BROMIDE | 0.166 | 0.059 | 0.05 | 0.767 | Mb* |
| 7 | 10.94 | NITRATE | 0.019 | 0.005 | 0.00 | 0.011 | bMB* |
| **Total:** | | | 774.477 | 118.238 | 100.00 | 677.485 | |

## 67 JB51761-3

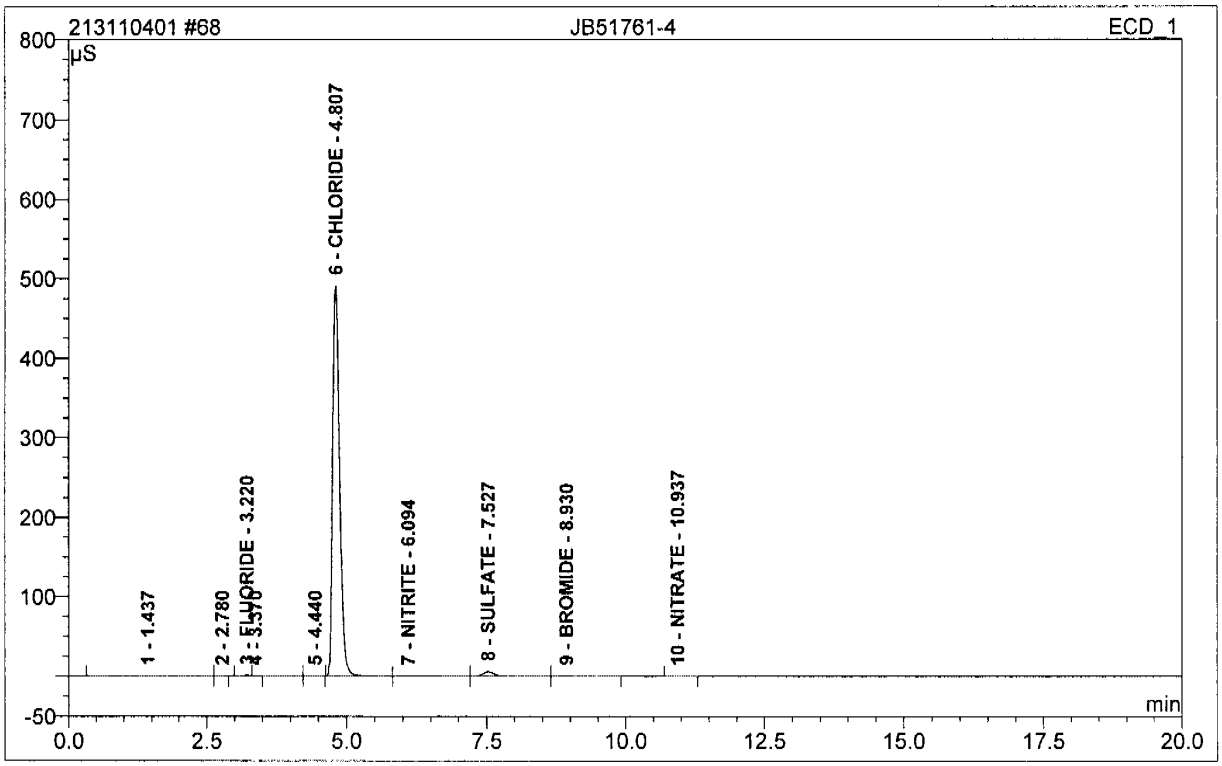
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 8:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.239 | 0.018 | 0.02 | 0.062 | Ru |
| 2 | 3.38 | n.a. | 2.184 | 0.423 | 0.36 | n.a. | BMB |
| 3 | 4.79 | CHLORIDE | 731.731 | 107.998 | 91.56 | 604.596 | bMb |
| 4 | 5.98 | NITRITE | 0.410 | 0.282 | 0.24 | 0.663 | bM |
| 5 | 7.40 | SULFATE | 39.343 | 9.198 | 7.80 | 70.039 | MB |
| 6 | 8.94 | BROMIDE | 0.129 | 0.026 | 0.02 | 0.337 | BMB |
| 7 | 10.94 | NITRATE | 0.019 | 0.005 | 0.00 | 0.011 | BMB |
| **Total:** | | | 774.055 | 117.949 | 100.00 | 675.708 | |

## 68 JB51761-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 9:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



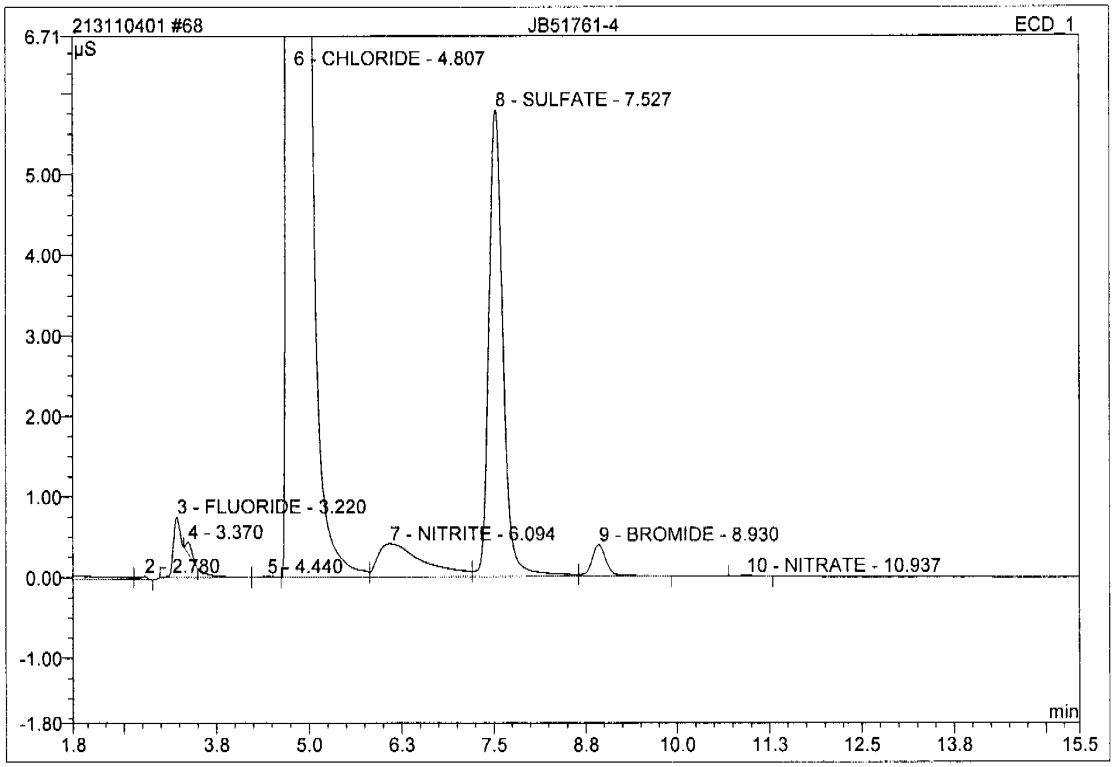

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.44 | n.a. | 0.039 | 0.058 | 0.08 | n.a. | BM |
| 2 | 2.78 | n.a. | 0.041 | 0.006 | 0.01 | n.a. | MB |
| 3 | 3.22 | FLUORIDE | 0.750 | 0.151 | 0.21 | 0.516 | BM |
| 4 | 3.37 | n.a. | 0.139 | 0.014 | 0.02 | n.a. | Rd |
| 5 | 4.44 | n.a. | 0.009 | 0.002 | 0.00 | n.a. | MB |
| 6 | 4.81 | CHLORIDE | 491.004 | 70.717 | 97.38 | 395.889 | BM |
| 7 | 6.09 | NITRITE | 0.407 | 0.288 | 0.40 | 0.678 | M |
| 8 | 7.53 | SULFATE | 5.785 | 1.296 | 1.78 | 9.865 | M |
| 9 | 8.93 | BROMIDE | 0.391 | 0.090 | 0.12 | 1.169 | MB |
| 10 | 10.94 | NITRATE | 0.011 | 0.003 | 0.00 | 0.006 | BMB |
| **Total:** | | | 498.574 | 72.623 | 100.00 | 408.123 | |

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

## 68 JB51761-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 9:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



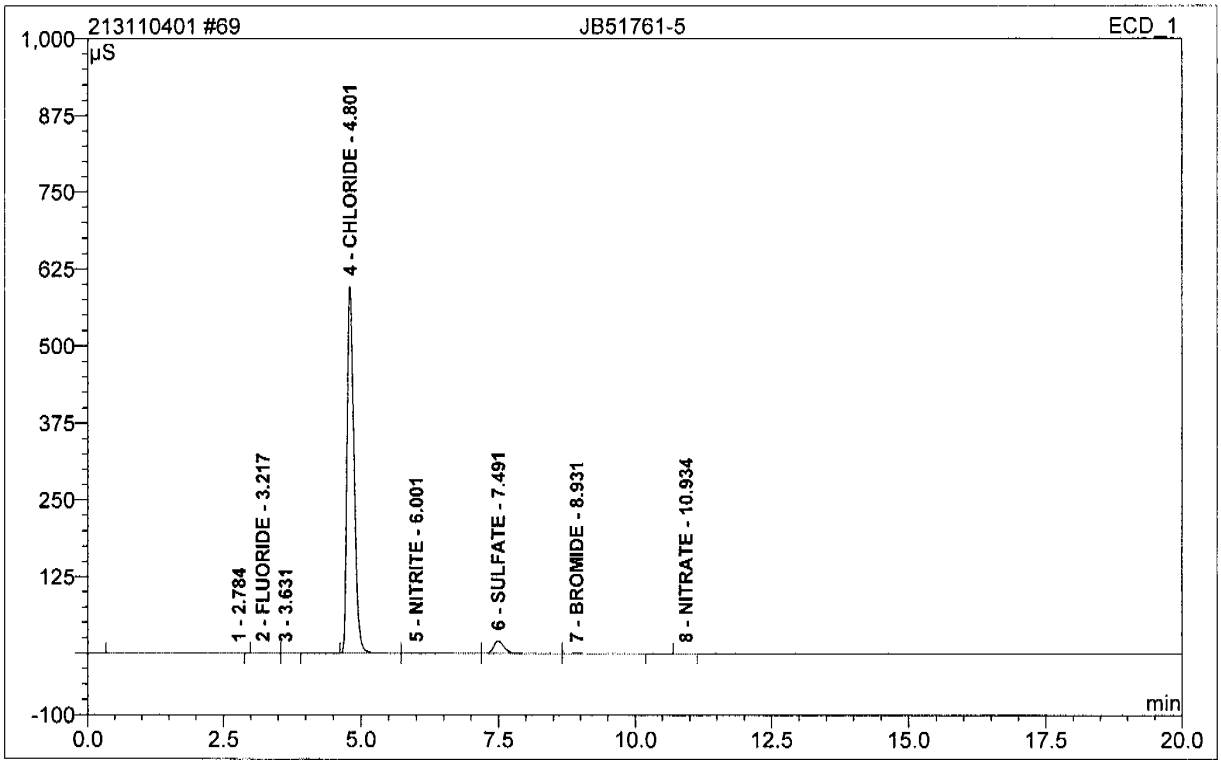

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.44 | n.a. | 0.039 | 0.058 | 0.08 | n.a. | BM |
| 2 | 2.78 | n.a. | 0.041 | 0.006 | 0.01 | n.a. | MB |
| 3 | 3.22 | FLUORIDE | 0.750 | 0.151 | 0.21 | 0.516 | BM |
| 4 | 3.37 | n.a. | 0.139 | 0.014 | 0.02 | n.a. | Rd |
| 5 | 4.44 | n.a. | 0.009 | 0.002 | 0.00 | n.a. | MB |
| 6 | 4.81 | CHLORIDE | 491.004 | 70.717 | 97.38 | 395.889 | BM |
| 7 | 6.09 | NITRITE | 0.407 | 0.288 | 0.40 | 0.678 | M |
| 8 | 7.53 | SULFATE | 5.785 | 1.296 | 1.78 | 9.865 | M |
| 9 | 8.93 | BROMIDE | 0.391 | 0.090 | 0.12 | 1.169 | MB |
| 10 | 10.94 | NITRATE | 0.011 | 0.003 | 0.00 | 0.006 | BMB |
| **Total:** | | | 498.574 | 72.623 | 100.00 | 408.123 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 69 JB51761-5

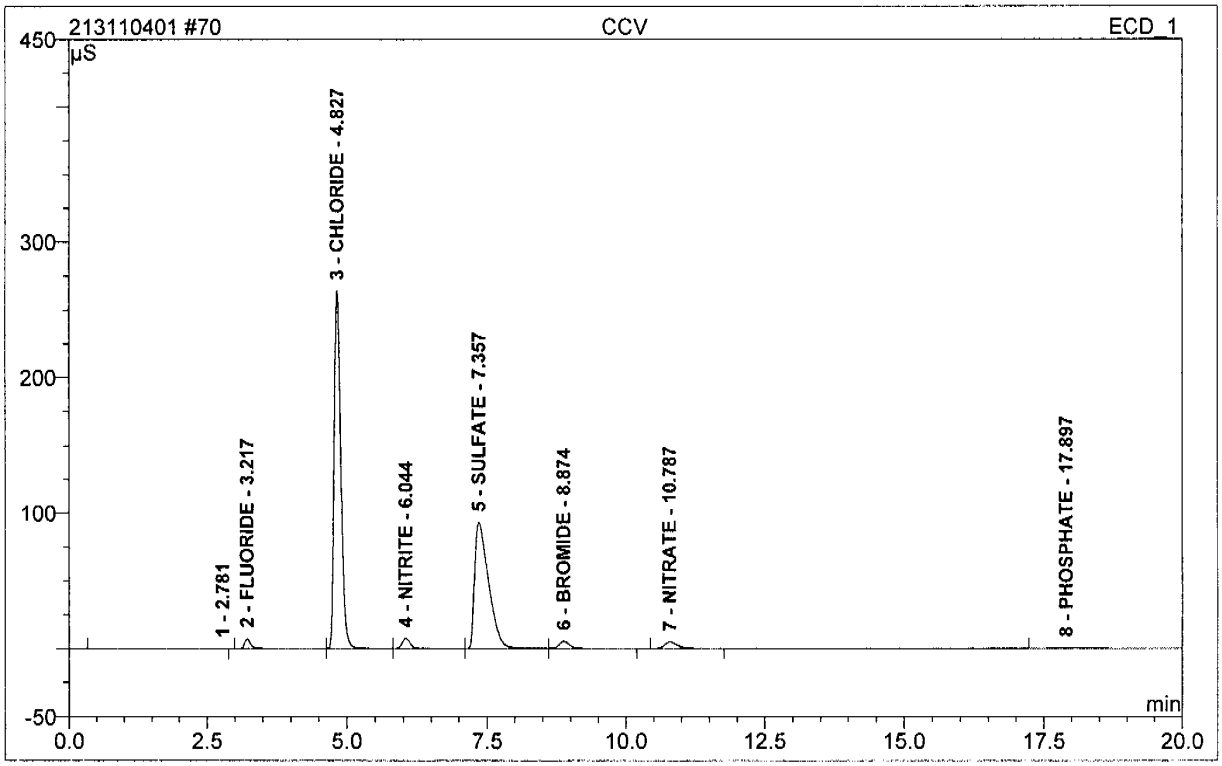
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51761-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 9:25** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.036 | 0.033 | 0.04 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.509 | 0.071 | 0.08 | 0.244 | BM |
| 3 | 3.63 | n.a. | 0.031 | 0.005 | 0.01 | n.a. | MB |
| 4 | 4.80 | CHLORIDE | 597.261 | 86.762 | 94.51 | 485.715 | BM |
| 5 | 6.00 | NITRITE | 0.495 | 0.414 | 0.45 | 0.973 | M |
| 6 | 7.49 | SULFATE | 19.755 | 4.434 | 4.83 | 33.766 | M |
| 7 | 8.93 | BROMIDE | 0.317 | 0.085 | 0.09 | 1.104 | MB |
| 8 | 10.93 | NITRATE | 0.005 | 0.001 | 0.00 | 0.003 | BMB |
| **Total:** | | | 618.409 | 91.805 | 100.00 | 521.806 | |

# 70 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 9:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.039 | 0.036 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 7.220 | 0.920 | 1.34 | 3.147 | BM |
| 3 | 4.83 | CHLORIDE | 264.117 | 36.453 | 53.21 | 204.070 | M |
| 4 | 6.04 | NITRITE | 7.721 | 1.321 | 1.93 | 3.104 | M |
| 5 | 7.36 | SULFATE | 92.922 | 26.828 | 39.16 | 204.290 | M |
| 6 | 8.87 | BROMIDE | 5.483 | 1.191 | 1.74 | 15.512 | MB |
| 7 | 10.79 | NITRATE | 4.899 | 1.330 | 1.94 | 3.088 | BMB |
| 8 | 17.90 | PHOSPHATE | 0.568 | 0.425 | 0.62 | 2.629 | BMB |
| **Total:** | | | 382.969 | 68.503 | 100.00 | 435.839 | |

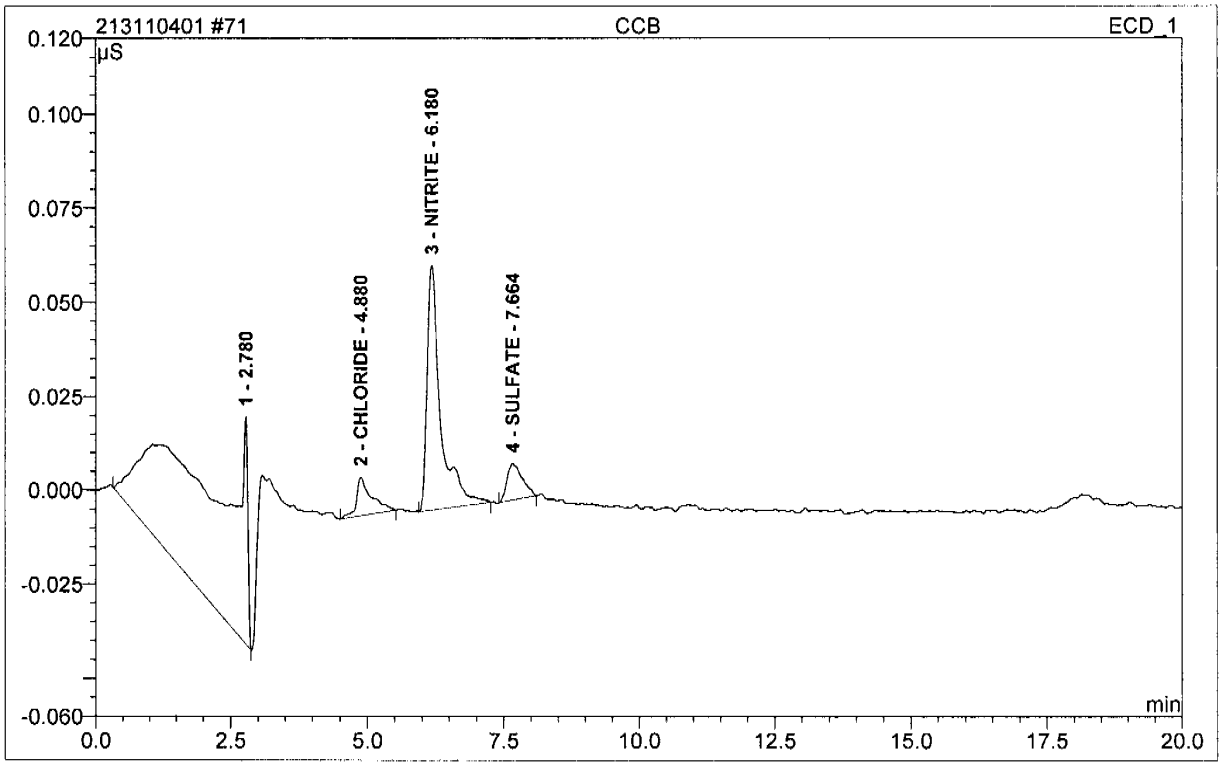
200 ✓ 200 ✓

102.04

102.15

## 71 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 10:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.060 | 0.062 | 70.98 | n.a. | BMB |
| 2 | 4.88 | CHLORIDE | 0.010 | 0.003 | 3.73 | 0.018 | BMB |
| 3 | 6.18 | NITRITE | 0.065 | 0.019 | 21.71 | 0.044 | BMB |
| 4 | 7.66 | SULFATE | 0.010 | 0.003 | 3.59 | 0.024 | BMB |
| **Total:** | | | 0.146 | 0.087 | 100.00 | 0.086 | |

New England ACCUTEST LABORATORIES

11/08/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02E.08

Accutest Job Number: MC25594

Sampling Date: 10/24/13

Report to:

Sovereign Consulting
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Foxborough, MA 02035
spassafaro@sovcon.com; jchaffee@sovcon.com;
Denise.King@amec.com
ATTN: Jonathan Chaffee

Total number of pages in report: **434**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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# Sample Summary

Sovereign Consulting

**Job No:** MC25594

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC25594-1 | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Ground Water | SHM-05-39B-102413 |
| MC25594-1D | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Water Dup/MSD | SHM-05-39B-102413 |
| MC25594-1F | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Groundwater Filtered | SHM-05-39B-102413 |
| MC25594-1FD | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Water Dup/MSD | SHM-05-39B-102413 |
| MC25594-1FS | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Water Matrix Spike | SHM-05-39B-102413 |
| MC25594-1S | 10/24/13 | 09:05 | DCVC | 10/24/13 | AQ | Water Matrix Spike | SHM-05-39B-102413 |
| MC25594-2 | 10/24/13 | 09:50 | DCVC | 10/24/13 | AQ | Ground Water | SHL-19-102413 |
| MC25594-2F | 10/24/13 | 09:50 | DCVC | 10/24/13 | AQ | Groundwater Filtered | SHL-19-102413 |
| MC25594-3 | 10/24/13 | 10:40 | DCVC | 10/24/13 | AQ | Ground Water | SHM-05-39A-102413 |
| MC25594-3F | 10/24/13 | 10:40 | DCVC | 10/24/13 | AQ | Groundwater Filtered | SHM-05-39A-102413 |
| MC25594-4 | 10/24/13 | 11:50 | DCVC | 10/24/13 | AQ | Ground Water | SHM-05-40X-102413 |
| MC25594-4F | 10/24/13 | 11:50 | DCVC | 10/24/13 | AQ | Groundwater Filtered | SHM-05-40X-102413 |
| MC25594-5F | 10/24/13 | 12:00 | DCVC | 10/24/13 | AQ | Equip Blank Filtered | RB-102413 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

| | | | |
|---|---|---|---|
| **Client:** | Sovereign Consulting | **Job No** | MC25594 |
| **Site:** | Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/7/2013 5:55:22 PM |

5 Sample(s) were collected on 10/24/2013 and were received at Accutest on 10/24/2013 properly preserved, at 0.5 Deg. C and intact. These Samples received an Accutest job number of MC25594. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix** AQ **Batch ID:** MP21920

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11FSDL, MC25594-1FMS, MC25594-1FMSD were used as the QC samples for metals.

## Metals By Method SW846 6020A

**Matrix** AQ **Batch ID:** MP21920A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-11FSDL, MC25594-1FMS, MC25594-1FMSD were used as the QC samples for metals.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix** AQ **Batch ID:** N:GP75753

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

## Wet Chemistry By Method EPA 353.2

| Matrix | AQ | Batch ID: | GP16785 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

| Matrix | AQ | Batch ID: | R33913 |
|---|---|---|---|

- MC25594-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

| Matrix | AQ | Batch ID: | R33929 |
|---|---|---|---|

- MC25594-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

| Matrix | AQ | Batch ID: | R33930 |
|---|---|---|---|

- MC25594-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

| Matrix | AQ | Batch ID: | R33944 |
|---|---|---|---|

- MC25594-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

| Matrix | AQ | Batch ID: | GP16769 |
|---|---|---|---|

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM21 2320B

| Matrix | AQ | Batch ID: | GN44888 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

| Matrix | AQ | Batch ID: | GN44897 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25568-10DUP, MC25568-10MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500CL C

| Matrix | AQ | Batch ID: | GN44894 |
|---|---|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Chloride.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC25594).

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Accutest Labs of New England, Inc. | **Job No** | MC25594 |
| **Site:** | SCMAW: Shepley's Hill (SHL), Devens, MA | **Report Date** | 11/7/2013 2:10:20 PM |

On 10/25/2013, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 4 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC25594 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** GP75753

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC25594-1DUP, MC25594-1MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# Summary of Hits



**Job Number:** MC25594
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25594-1** | **SHM-05-39B-102413** | | | | | |
| Alkalinity, Total as CaCO3 | | 71.2 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 88.7 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.16 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.16 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 3.8 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25594-1F** | **SHM-05-39B-102413** | | | | | |
| Arsenic | | 113 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 16500 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 9580 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1660 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1230 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3040 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 61900 | 25000 | 1000 | ug/l | SW846 6010C |
| **MC25594-2** | **SHL-19-102413** | | | | | |
| Alkalinity, Total as CaCO3 | | 64.6 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 2.8 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.40 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.40 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 16.6 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25594-2F** | **SHL-19-102413** | | | | | |
| Arsenic | | 33.6 | 4.0 | 2.0 | ug/l | SW846 6020A |
| Calcium | | 22200 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 8380 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 3670 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 1630 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 3260 J | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 2970 J | 5000 | 200 | ug/l | SW846 6010C |
| **MC25594-3** | **SHM-05-39A-102413** | | | | | |
| Alkalinity, Total as CaCO3 | | 51.5 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 19.2 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.30 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.30 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 4.0 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |

# Summary of Hits

**Job Number:** MC25594
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 10/24/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC25594-3F** | **SHM-05-39A-102413** | | | | | |
| Arsenic | | 146 | 10 | 5.0 | ug/l | SW846 6020A |
| Calcium | | 15800 | 5000 | 150 | ug/l | SW846 6010C |
| Iron | | 14700 | 100 | 30 | ug/l | SW846 6010C |
| Magnesium | | 1770 J | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 575 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 5290 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 5080 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25594-4** | **SHM-05-40X-102413** | | | | | |
| Alkalinity, Total as CaCO3 | | 165 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 13.3 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.28 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.29 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.0053 J | 0.010 | 0.0051 | mg/l | SM 21 4500 NO2 B |
| Sulfate [b] | | 4.8 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC25594-4F** | **SHM-05-40X-102413** | | | | | |
| Arsenic | | 3100 | 100 | 50 | ug/l | SW846 6020A |
| Calcium | | 37500 | 15000 | 450 | ug/l | SW846 6010C |
| Iron | | 28800 | 300 | 90 | ug/l | SW846 6010C |
| Magnesium | | 5610 | 5000 | 200 | ug/l | SW846 6010C |
| Manganese | | 911 | 15 | 2.5 | ug/l | SW846 6010C |
| Potassium | | 6590 | 5000 | 500 | ug/l | SW846 6010C |
| Sodium | | 15100 | 5000 | 200 | ug/l | SW846 6010C |
| **MC25594-5F** | **RB-102413** | | | | | |

No hits reported in this sample.

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-05-39B-102413
**Lab Sample ID:** MC25594-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 71.2 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 88.7 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.16 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:23 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.16 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:23 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/24/13 16:49 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 3.8 J | 10 | 0.50 | mg/l | 1 | 11/05/13 16:22 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-39B-102413
**Lab Sample ID:** MC25594-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 113 | 10 | 5.0 | ug/l | 5 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 16500 | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 9580 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 1660 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 1230 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 3040 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 61900 | 25000 | 1000 | ug/l | 5 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-19-102413
**Lab Sample ID:** MC25594-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 64.6 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 2.8 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.40 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:24 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.40 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:24 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/24/13 16:49 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 16.6 | 10 | 0.50 | mg/l | 1 | 11/05/13 16:46 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-19-102413
**Lab Sample ID:** MC25594-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 33.6 | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 22200 | 15000 | 450 | ug/l | 3 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 8380 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 3670 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 1630 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 3260 J | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 2970 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-39A-102413
**Lab Sample ID:** MC25594-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 51.5 | 5.0 | 3.0 | mg/l | 1 | 10/30/13 | BF | SM21 2320B |
| Chloride | 19.2 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.30 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:25 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.30 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:25 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 10/24/13 16:49 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 4.0 J | 10 | 0.50 | mg/l | 1 | 11/05/13 17:10 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-39A-102413
**Lab Sample ID:** MC25594-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 146 | 10 | 5.0 | ug/l | 5 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 15800 | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 14700 | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 1770 J | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 575 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 5290 | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 5080 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Prep QC Batch: MP21920
(4) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-40X-102413
**Lab Sample ID:** MC25594-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 165 | 5.0 | 3.0 | mg/l | 1 | 10/31/13 | MC | SM21 2320B |
| Chloride | 13.3 | 1.0 | 0.60 | mg/l | 1 | 10/31/13 | MC | SM21 4500CL C |
| Nitrogen, Nitrate [a] | 0.28 | 0.11 | 0.059 | mg/l | 1 | 10/28/13 15:27 | CF | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.29 | 0.10 | 0.054 | mg/l | 1 | 10/28/13 15:27 | CF | EPA 353.2 |
| Nitrogen, Nitrite | 0.0053 J | 0.010 | 0.0051 | mg/l | 1 | 10/24/13 16:49 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 4.8 J | 10 | 0.50 | mg/l | 1 | 11/05/13 17:34 | ANJ | EPA 300/SW846 9056A |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-05-40X-102413
**Lab Sample ID:** MC25594-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3100 | 100 | 50 | ug/l | 50 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [5] |
| Calcium | 37500 | 15000 | 450 | ug/l | 3 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Iron | 28800 | 300 | 90 | ug/l | 3 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [3] | SW846 3010A [4] |
| Magnesium | 5610 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 911 | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 6590 | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 15100 | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Instrument QC Batch: MA16324
(4) Prep QC Batch: MP21920
(5) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-102413
**Lab Sample ID:** MC25594-5F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 10/24/13
**Date Received:** 10/24/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.0 U | 4.0 | 2.0 | ug/l | 2 | 10/29/13 | 10/31/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 150 U | 5000 | 150 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Iron | 30 U | 100 | 30 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Magnesium | 200 U | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Manganese | 2.5 U | 15 | 2.5 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Potassium | 500 U | 5000 | 500 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |
| Sodium | 200 U | 5000 | 200 | ug/l | 1 | 10/29/13 | 10/31/13 | EAL | SW846 6010C [2] | SW846 3010A [3] |

(1) Instrument QC Batch: MA16321
(2) Instrument QC Batch: MA16323
(3) Prep QC Batch: MP21920
(4) Prep QC Batch: MP21920A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC25594

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Jonathan Chaffee E-mail: jchaffee@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02E.08
Client Purchase Order # State: Zip:
Project Manager: Jonathan Chaffee

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHM-05-39B-102413 | | 10-24-13 | 0905 | DC | GW | 9 | | | X | X | X | | | | X | X | X | X | X | X | |
| -2F | SHL-19-102413 | | 10-24-13 | 0950 | VR | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -3F | SHM-05-39A-102413 | | 10-24-13 | 1040 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -4F | SHM-05-40X-102413 | | 10-24-13 | 1150 | DC | GW | 3 | | | X | X | X | | | | X | X | X | X | X | X | |
| -5F | RB-102413 | | 10-24-13 | 1200 | DC | RB | 1 | | | X | | | | | | X | X | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | 10B, 5E |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other, See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals samples were field filtered.
6010C Metals List = Ca, Fe, Mg, Mn, K, Na
Extra Volume for SHM-05-39B-102413 Use for MS/MSD
SDG # 003: Closed SEDD Deliverable Required

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 10-24-13 1345 | | | 10/24/13 1949 | |
| 2 | | | | | | |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 4 | | | | | | |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | [ ] Intact [ ] Not Intact | Preserved where applicable [ ] On Ice [ ] Cooler Temp. 0.5 |

**MC25594: Chain of Custody**
**Page 1 of 2**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25594 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 10/24/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS **No. Coolers:** 1 **Airbill #'s:**

| Cooler Security | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| Cooler Temperature | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | Infared gun | | |
| 3. Cooler media: | Ice (bag) | | |

| Quality Control Preservation | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| Sample Integrity - Documentation | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| Sample Integrity - Condition | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| Sample Integrity - Instructions | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC25594: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25594

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25594-1 Collected: 24-OCT-13 09:05 By: DCVC Received: 24-OCT-13 By: AF SHM-05-39B-102413 | | | | | | |
| MC25594-1 | SM 21 4500 NO2 B | 24-OCT-13 16:49 | CF | 24-OCT-13 | CF | NO2 |
| MC25594-1 | EPA 353.2 | 28-OCT-13 15:23 | CF | | | NO3O |
| MC25594-1 | EPA 353.2 | 28-OCT-13 15:23 | CF | 28-OCT-13 | CF | NO32 |
| MC25594-1 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25594-1 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25594-1 | EPA 300/SW846 9056A | 05-NOV-13 16:22 | ANJ | 05-NOV-13 | | SO4 |
| MC25594-2 Collected: 24-OCT-13 09:50 By: DCVC Received: 24-OCT-13 By: AF SHL-19-102413 | | | | | | |
| MC25594-2 | SM 21 4500 NO2 B | 24-OCT-13 16:49 | CF | 24-OCT-13 | CF | NO2 |
| MC25594-2 | EPA 353.2 | 28-OCT-13 15:24 | CF | | | NO3O |
| MC25594-2 | EPA 353.2 | 28-OCT-13 15:24 | CF | 28-OCT-13 | CF | NO32 |
| MC25594-2 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25594-2 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25594-2 | EPA 300/SW846 9056A | 05-NOV-13 16:46 | ANJ | 05-NOV-13 | | SO4 |
| MC25594-3 Collected: 24-OCT-13 10:40 By: DCVC Received: 24-OCT-13 By: AF SHM-05-39A-102413 | | | | | | |
| MC25594-3 | SM 21 4500 NO2 B | 24-OCT-13 16:49 | CF | 24-OCT-13 | CF | NO2 |
| MC25594-3 | EPA 353.2 | 28-OCT-13 15:25 | CF | | | NO3O |
| MC25594-3 | EPA 353.2 | 28-OCT-13 15:25 | CF | 28-OCT-13 | CF | NO32 |
| MC25594-3 | SM21 2320B | 30-OCT-13 | BF | | | ALK |
| MC25594-3 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25594-3 | EPA 300/SW846 9056A | 05-NOV-13 17:10 | ANJ | 05-NOV-13 | | SO4 |
| MC25594-4 Collected: 24-OCT-13 11:50 By: DCVC Received: 24-OCT-13 By: AF SHM-05-40X-102413 | | | | | | |
| MC25594-4 | SM 21 4500 NO2 B | 24-OCT-13 16:49 | CF | 24-OCT-13 | CF | NO2 |
| MC25594-4 | EPA 353.2 | 28-OCT-13 15:27 | CF | | | NO3O |
| MC25594-4 | EPA 353.2 | 28-OCT-13 15:27 | CF | 28-OCT-13 | CF | NO32 |
| MC25594-4 | SM21 2320B | 31-OCT-13 | MC | | | ALK |
| MC25594-4 | SM21 4500CL C | 31-OCT-13 | MC | | | CHL |
| MC25594-4 | EPA 300/SW846 9056A | 05-NOV-13 17:34 | ANJ | 05-NOV-13 | | SO4 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC25594

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25594-1F | Collected: 24-OCT-13 09:05 By: DCVC Received: 24-OCT-13 By: AF | | | | | |
| | SHM-05-39B-102413 | | | | | |
| MC25594-1F | SW846 6010C | 31-OCT-13 14:11 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN |
| MC25594-1F | SW846 6020A | 31-OCT-13 18:04 | SA | 29-OCT-13 | SA | ASMS |
| MC25594-1F | SW846 6010C | 31-OCT-13 19:52 | EAL | 29-OCT-13 | SA | NA |
| MC25594-2F | Collected: 24-OCT-13 09:50 By: DCVC Received: 24-OCT-13 By: AF | | | | | |
| | SHL-19-102413 | | | | | |
| MC25594-2F | SW846 6010C | 31-OCT-13 15:21 | EAL | 29-OCT-13 | SA | FE,K,MG,MN,NA |
| MC25594-2F | SW846 6020A | 31-OCT-13 19:29 | SA | 29-OCT-13 | SA | ASMS |
| MC25594-2F | SW846 6010C | 31-OCT-13 20:36 | EAL | 29-OCT-13 | SA | CA |
| MC25594-3F | Collected: 24-OCT-13 10:40 By: DCVC Received: 24-OCT-13 By: AF | | | | | |
| | SHM-05-39A-102413 | | | | | |
| MC25594-3F | SW846 6010C | 31-OCT-13 15:26 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN,NA |
| MC25594-3F | SW846 6020A | 31-OCT-13 19:36 | SA | 29-OCT-13 | SA | ASMS |
| MC25594-4F | Collected: 24-OCT-13 11:50 By: DCVC Received: 24-OCT-13 By: AF | | | | | |
| | SHM-05-40X-102413 | | | | | |
| MC25594-4F | SW846 6010C | 31-OCT-13 15:31 | EAL | 29-OCT-13 | SA | K,MG,MN,NA |
| MC25594-4F | SW846 6020A | 31-OCT-13 19:43 | SA | 29-OCT-13 | SA | ASMS |
| MC25594-4F | SW846 6010C | 31-OCT-13 20:51 | EAL | 29-OCT-13 | SA | CA,FE |
| MC25594-5F | Collected: 24-OCT-13 12:00 By: DCVC Received: 24-OCT-13 By: AF | | | | | |
| | RB-102413 | | | | | |
| MC25594-5F | SW846 6010C | 31-OCT-13 15:36 | EAL | 29-OCT-13 | SA | CA,FE,K,MG,MN,NA |
| MC25594-5F | SW846 6020A | 31-OCT-13 19:50 | SA | 29-OCT-13 | SA | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC25594
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/24/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25594-1.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/24/13 15:46 | Retrieve from Storage |
| MC25594-1.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/24/13 16:36 | Return to Storage |
| MC25594-1.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25594-1.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25594-1.2 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25594-1.2 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25594-1.4 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25594-1.4 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25594-1F.7 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25594-1F.7 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25594-2.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/24/13 15:46 | Retrieve from Storage |
| MC25594-2.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/24/13 16:36 | Return to Storage |
| MC25594-2.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25594-2.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25594-2.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25594-2.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25594-2.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25594-2.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25594-2F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25594-2F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25594-3.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/24/13 15:46 | Retrieve from Storage |
| MC25594-3.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/24/13 16:36 | Return to Storage |
| MC25594-3.1 | Walk In Ref #9 | Bijan Firowznin | 10/30/13 15:52 | Retrieve from Storage |
| MC25594-3.1 | Bijan Firowznin | Walk In Ref #9 | 10/30/13 17:01 | Return to Storage |
| MC25594-3.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25594-3.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |
| MC25594-3.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25594-3.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25594-3F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25594-3F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25594-4.1 | Walk In Ref #9 | Mehdi Abdolrahim | 10/24/13 15:46 | Retrieve from Storage |
| MC25594-4.1 | Mehdi Abdolrahim | Walk In Ref #9 | 10/24/13 16:36 | Return to Storage |
| MC25594-4.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 07:14 | Retrieve from Storage |
| MC25594-4.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 09:48 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC25594
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 10/24/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25594-4.1 | Walk In Ref #9 | Miranda Cardullo | 10/31/13 09:58 | Retrieve from Storage |
| MC25594-4.1 | Miranda Cardullo | Walk In Ref #9 | 10/31/13 13:03 | Return to Storage |
| MC25594-4.2 | Walk In Ref #9 | Crystall Woodruff | 10/28/13 09:23 | Retrieve from Storage |
| MC25594-4.2 | Crystall Woodruff | Walk In Ref #9 | 10/28/13 16:08 | Return to Storage |
| MC25594-4F.3 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25594-4F.3 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |
| MC25594-5F.1 | Walk In Ref #5 | Sarah Ayaz | 10/29/13 13:22 | Retrieve from Storage |
| MC25594-5F.1 | Sarah Ayaz | Walk In Ref #5 | 10/29/13 15:28 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

# QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 1 | | STDA |
| 10:52 | MA16321-STD2 | 1 | | STDB |
| 10:59 | MA16321-STD3 | 1 | | STDC |
| 11:06 | MA16321-STD4 | 1 | | STDD |
| 11:13 | MA16321-STD5 | 1 | | STDE |
| 11:20 | MA16321-STD6 | 1 | | STDF |
| 11:27 | MA16321-STD7 | 1 | | STDG |
| 11:35 | MA16321-STD8 | 1 | | STDH |
| 11:42 | MA16321-ICV1 | 1 | | |
| 11:49 | MA16321-ICB1 | 1 | | |
| 11:58 | MA16321-CCV1 | 1 | | |
| 12:09 | MA16321-CCB1 | 1 | | |
| 12:17 | MA16321-CRI1 | 1 | | |
| 12:26 | MA16321-ICSA1 | 1 | | |
| 12:33 | MA16321-ICSAB1 | 1 | | |
| 12:45 | MA16321-ICSA2 | 2 | | |
| 12:52 | MA16321-ICSAB2 | 2 | | |
| 13:01 | ZZZZZZ | 1 | | RINSECONF |
| 13:08 | MP21908A-MB1 | 2 | | |
| 13:15 | MC25522-6F | 2 | | (sample used for QC only; not part of login MC25594) |
| 13:22 | MP21908A-SD1 | 10 | | |
| 13:31 | ZZZZZZ | 20 | | |
| 13:38 | MA16321-CCV2 | 1 | | |
| 13:50 | MA16321-CCB2 | 1 | | |
| 13:58 | ZZZZZZ | 20 | | |
| 14:05 | ZZZZZZ | 100 | | |
| 14:13 | ZZZZZZ | 100 | | |
| 14:20 | ZZZZZZ | 2 | | |
| 14:27 | ZZZZZZ | 2 | | |
| 14:34 | ZZZZZZ | 20 | | |
| 14:41 | ZZZZZZ | 2 | | |
| 14:48 | ZZZZZZ | 2 | | |
| 14:55 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:02 | ZZZZZZ | 2 | | |
| 15:09 | MA16321-CCV3 | 1 | | |
| 15:17 | MA16321-CCB3 | 1 | | |
| 15:25 | ZZZZZZ | 2 | | |
| 15:32 | ZZZZZZ | 100 | | |
| 15:39 | ZZZZZZ | 50 | | |
| 15:46 | ZZZZZZ | 2 | | |
| 15:53 | ZZZZZZ | 2 | | |
| 16:01 | ZZZZZZ | 20 | | |
| 16:08 | ZZZZZZ | 2 | | |
| 16:15 | ZZZZZZ | 2 | | DNR: HIGH RSD, SEE RERUN. |
| 16:22 | MP21908A-B1 | 20 | | |
| 16:29 | MP21908A-S1 | 20 | | |
| 16:36 | MA16321-CCV4 | 1 | | |
| 16:43 | MA16321-CCB4 | 1 | | |
| 16:56 | MP21908A-S2 | 20 | | |
| 17:03 | ZZZZZZ | 2 | | |
| 17:10 | ZZZZZZ | 1 | | RINSECONF |
| 17:17 | MA16321-CRI2 | 1 | | |
| 17:26 | MA16321-CCV5 | 1 | | |
| 17:34 | MA16321-CCB5 | 1 | | |
| 17:42 | MP21920A-MB1 | 2 | | |
| 17:49 | MC25568-11F | 5 | | (sample used for QC only; not part of login MC25594) |
| 17:57 | MP21920A-SD1 | 25 | | |
| 18:04 | MC25594-1F | 5 | | |
| 18:11 | ZZZZZZ | 2 | | |
| 18:18 | ZZZZZZ | 2 | | |
| 18:25 | ZZZZZZ | 2 | | |
| 18:32 | ZZZZZZ | 5 | | |
| 18:39 | ZZZZZZ | 2 | | |
| 18:46 | ZZZZZZ | 20 | | |
| 18:53 | MA16321-CCV6 | 1 | | |
| 19:00 | MA16321-CCB6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:07 | ZZZZZZ | 2 | | |
| 19:15 | ZZZZZZ | 2 | | |
| 19:22 | ZZZZZZ | 2 | | |
| 19:29 | MC25594-2F | 2 | | |
| 19:36 | MC25594-3F | 5 | | |
| 19:43 | MC25594-4F | 50 | | |
| 19:50 | MC25594-5F | 2 | | |
| 19:57 | MP21920A-B1 | 20 | | |
| 20:04 | MP21920A-S1 | 20 | | |
| 20:11 | MP21920A-S2 | 20 | | |
| 20:18 | MA16321-CCV7 | 1 | | |
| 20:26 | MA16321-CCB7 | 1 | | |
| 20:33 | MP21920A-S3 | 20 | | |
| 20:40 | MP21920A-S4 | 20 | | |
| ----------> | Last reportable sample/prep for job MC25594 | | | |
| 20:47 | ZZZZZZ | 1 | | RINSECONF |
| 20:54 | MA16321-CRI3 | 1 | | |
| 21:01 | MA16321-CCV8 | 1 | | |
| 21:08 | MA16321-CCB8 | 1 | | |
| ----------> | Last reportable CCB for job MC25594 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 10:45 | MA16321-STD1 | 2521858 R | 3362635 R | 367626 R | 714806 R | 144802 R | 3924881 R | 3944903 R | 1086949 R |
| 10:52 | MA16321-STD2 | 2743673 | 3707282 | 368477 | 757217 | 146230 | 4375582 | 4402088 | 1104538 |
| 10:59 | MA16321-STD3 | 2553325 | 3330758 | 373983 | 709484 | 147533 | 3945762 | 3968207 | 1106060 |
| 11:06 | MA16321-STD4 | 2534878 | 3360063 | 372320 | 696369 | 145570 | 3932761 | 4004576 | 1101115 |
| 11:13 | MA16321-STD5 | 2554999 | 3379753 | 367079 | 702499 | 144684 | 4000867 | 3983582 | 1111090 |
| 11:20 | MA16321-STD6 | 2536726 | 3330294 | 365763 | 706225 | 143583 | 3941595 | 3961243 | 1102240 |
| 11:27 | MA16321-STD7 | 2487333 | 3356362 | 378445 | 727258 | 149444 | 3902106 | 3961190 | 1118718 |
| 11:35 | MA16321-STD8 | 2464318 | 3348449 | 378949 | 732296 | 149667 | 3772556 | 3831564 | 1088822 |
| 11:42 | MA16321-ICV1 | 2486272 | 3367462 | 371203 | 708654 | 146540 | 3818770 | 3860230 | 1098177 |
| 11:49 | MA16321-ICB1 | 2545401 | 3384524 | 381055 | 724776 | 149806 | 3972545 | 4015489 | 1135391 |
| 11:58 | MA16321-CCV1 | 2483817 | 3388281 | 375804 | 708720 | 147585 | 3877887 | 3930373 | 1110154 |
| 12:09 | MA16321-CCB1 | 2564763 | 3385504 | 381602 | 728382 | 150502 | 3990804 | 4003275 | 1146737 |
| 12:17 | MA16321-CRI1 | 2589735 | 3355864 | 379685 | 724065 | 149892 | 4024897 | 4035904 | 1142700 |
| 12:26 | MA16321-ICSA1 | 2349052 | 3218230 | 359882 | 746203 | 144679 | 3415071 | 3583008 | 1086266 |
| 12:33 | MA16321-ICSAB1 | 2352990 | 3230003 | 349042 | 735288 | 141498 | 3406074 | 3587248 | 1060516 |
| 12:45 | MA16321-ICSA2 | 2398945 | 3294112 | 358411 | 737194 | 143481 | 3541786 | 3729426 | 1084651 |
| 12:52 | MA16321-ICSAB2 | 2382373 | 3285512 | 355689 | 731001 | 142087 | 3527709 | 3730995 | 1078845 |
| 13:01 | ZZZZZZ | 2498751 | 3390213 | 368852 | 731633 | 146898 | 4019365 | 4083532 | 1127201 |
| 13:08 | MP21908A-MB1 | 2465116 | 3348074 | 361019 | 725503 | 143062 | 3898227 | 3928722 | 1097807 |
| 13:15 | MC25522-6F | 2415341 | 3413094 | 362118 | 735766 | 143334 | 3825786 | 3953835 | 1101544 |
| 13:22 | MP21908A-SD1 | 2482879 | 3420382 | 371770 | 744329 | 148139 | 4005313 | 4059712 | 1131536 |
| 13:31 | ZZZZZZ | 2432574 | 3444577 | 373863 | 745003 | 150308 | 3949980 | 4047208 | 1140631 |
| 13:38 | MA16321-CCV2 | 2418800 | 3405698 | 362801 | 709550 | 142307 | 3832982 | 3915975 | 1082519 |
| 13:50 | MA16321-CCB2 | 2468104 | 3376968 | 367817 | 729967 | 145309 | 3959574 | 4017152 | 1109429 |
| 13:58 | ZZZZZZ | 2484931 | 3409920 | 370330 | 738401 | 147731 | 3919761 | 4024920 | 1121517 |
| 14:05 | ZZZZZZ | 2474419 | 3486729 | 378227 | 749077 | 150211 | 3991628 | 4094209 | 1160104 |
| 14:13 | ZZZZZZ | 2523998 | 3452086 | 377687 | 747496 | 150545 | 4031355 | 4105530 | 1163876 |
| 14:20 | ZZZZZZ | 2403807 | 3336610 | 365523 | 727585 | 143553 | 3729589 | 3861663 | 1069868 |
| 14:27 | ZZZZZZ | 2355535 | 3349674 | 361647 | 713146 | 140922 | 3633444 | 3781227 | 1078109 |
| 14:34 | ZZZZZZ | 2477207 | 3506022 | 384949 | 763559 | 153216 | 4016380 | 4131860 | 1154965 |
| 14:41 | ZZZZZZ | 2370648 | 3383276 | 358759 | 723952 | 141646 | 3565724 | 3680381 | 1115611 |
| 14:48 | ZZZZZZ | 2391083 | 3384915 | 366067 | 724167 | 142952 | 3799471 | 3876364 | 1065427 |
| 14:55 | ZZZZZZ | 2356853 | 3365435 | 363427 | 720731 | 141916 | 3723669 | 3862927 | 1075134 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:02 | ZZZZZZ | 2405623 | 3293872 | 362970 | 707997 | 141664 | 3776067 | 3863542 | 1105273 |
| 15:09 | MA16321-CCV3 | 2355568 | 3343886 | 368331 | 702617 | 142355 | 3777490 | 3852513 | 1078330 |
| 15:17 | MA16321-CCB3 | 2461488 | 3366281 | 375513 | 725613 | 147156 | 3933484 | 3971547 | 1120946 |
| 15:25 | ZZZZZZ | 2400415 | 3339006 | 362639 | 716412 | 142934 | 3697648 | 3842065 | 1069425 |
| 15:32 | ZZZZZZ | 2533460 | 3466656 | 392672 | 752123 | 154361 | 4028650 | 4107597 | 1180841 |
| 15:39 | ZZZZZZ | 2501781 | 3437949 | 386528 | 742481 | 152966 | 3979599 | 4049938 | 1172919 |
| 15:46 | ZZZZZZ | 2426493 | 3299466 | 359630 | 710615 | 142235 | 3711335 | 3881979 | 1079301 |
| 15:53 | ZZZZZZ | 2407456 | 3313845 | 361197 | 715075 | 142660 | 3733833 | 3889800 | 1091288 |
| 16:01 | ZZZZZZ | 2539074 | 3405034 | 385041 | 740882 | 152196 | 4047377 | 4116485 | 1171381 |
| 16:08 | ZZZZZZ | 2447659 | 3349160 | 365409 | 723055 | 143968 | 3795541 | 3923511 | 1119770 |
| 16:15 | ZZZZZZ | 2404974 | 3355829 | 353833 | 701148 | 137521 | 3647764 | 3783791 | 1036755 |
| 16:22 | MP21908A-B1 | 2594586 | 3514292 | 391610 | 734604 | 153102 | 4045897 | 4120646 | 1192046 |
| 16:29 | MP21908A-S1 | 2554381 | 3414793 | 383031 | 718167 | 150324 | 3966473 | 4059601 | 1164374 |
| 16:36 | MA16321-CCV4 | 2505687 | 3346716 | 373959 | 702838 | 146328 | 3828027 | 3918217 | 1136772 |
| 16:43 | MA16321-CCB4 | 2520286 | 3332724 | 381367 | 725015 | 150180 | 3959119 | 4019905 | 1166757 |
| 16:56 | MP21908A-S2 | 2543275 | 3388882 | 383035 | 719038 | 150028 | 3953784 | 4066495 | 1170993 |
| 17:03 | ZZZZZZ | 2432777 | 3270318 | 365135 | 687027 | 141539 | 3562540 | 3735694 | 1076183 |
| 17:10 | ZZZZZZ | 2630669 | 3441144 | 388808 | 734247 | 151773 | 4005175 | 4109803 | 1165121 |
| 17:17 | MA16321-CRI2 | 2607879 | 3382703 | 384186 | 726579 | 150878 | 4007589 | 4067180 | 1173517 |
| 17:26 | MA16321-CCV5 | 2520073 | 3380257 | 374433 | 704830 | 146620 | 3852278 | 3955072 | 1143264 |
| 17:34 | MA16321-CCB5 | 2543389 | 3376320 | 386363 | 725310 | 151733 | 3964871 | 4039159 | 1178109 |
| 17:42 | MP21920A-MB1 | 2557954 | 3301748 | 375109 | 703236 | 145995 | 3831595 | 3880392 | 1135116 |
| 17:49 | MC25568-11F | 2467173 | 3346258 | 378594 | 725889 | 149255 | 3812888 | 3964992 | 1140492 |
| 17:57 | MP21920A-SD1 | 2540478 | 3380506 | 392758 | 735567 | 154287 | 3949231 | 4048882 | 1185310 |
| 18:04 | MC25594-1F | 2425870 | 3301202 | 374990 | 711151 | 146945 | 3746901 | 3829898 | 1126421 |
| 18:11 | ZZZZZZ | 2393236 | 3251240 | 365640 | 681463 | 140431 | 3534495 | 3687807 | 1086014 |
| 18:18 | ZZZZZZ | 2439751 | 3308196 | 374620 | 710168 | 145395 | 3701459 | 3825284 | 1099093 |
| 18:25 | ZZZZZZ | 2431657 | 3280646 | 370526 | 704508 | 144389 | 3697536 | 3776330 | 1099104 |
| 18:32 | ZZZZZZ | 2386237 | 3287569 | 377638 | 705861 | 146664 | 3661206 | 3813220 | 1089126 |
| 18:39 | ZZZZZZ | 2390348 | 3230818 | 366766 | 688267 | 141827 | 3598570 | 3734786 | 1082924 |
| 18:46 | ZZZZZZ | 2464839 | 3321694 | 387518 | 723390 | 150220 | 3855452 | 3932511 | 1139140 |
| 18:53 | MA16321-CCV6 | 2604731 | 3409006 | 378912 | 708359 | 145331 | 3906498 | 3948637 | 1119285 |
| 19:00 | MA16321-CCB6 | 2454010 | 3284581 | 381598 | 708067 | 148664 | 3848541 | 3900894 | 1111328 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 19:07 | ZZZZZZ | 2430671 | 3254802 | 369033 | 691733 | 142337 | 3727777 | 3786325 | 1079114 |
| 19:15 | ZZZZZZ | 2394131 | 3252742 | 365914 | 692235 | 142645 | 3636337 | 3765264 | 1074089 |
| 19:22 | ZZZZZZ | 2350794 | 3262281 | 364723 | 690398 | 140335 | 3508631 | 3656175 | 1095806 |
| 19:29 | MC25594-2F | 2388533 | 3320874 | 370447 | 707766 | 143793 | 3657185 | 3778377 | 1111959 |
| 19:36 | MC25594-3F | 2535560 | 3430015 | 378355 | 742335 | 148126 | 3930664 | 4043075 | 1123005 |
| 19:43 | MC25594-4F | 2515179 | 3366128 | 392661 | 722192 | 152353 | 3932651 | 3983725 | 1150425 |
| 19:50 | MC25594-5F | 2420650 | 3205740 | 366339 | 686085 | 142313 | 3724415 | 3771725 | 1082927 |
| 19:57 | MP21920A-B1 | 2587423 | 3447020 | 379972 | 722488 | 146878 | 4029634 | 4112988 | 1221724 |
| 20:04 | MP21920A-S1 | 2422842 | 3360915 | 383147 | 692847 | 147745 | 3749048 | 3875038 | 1118264 |
| 20:11 | MP21920A-S2 | 2556057 | 3393762 | 380479 | 721056 | 148430 | 3733200 | 3650287 | 1117442 |
| 20:18 | MA16321-CCV7 | 2359303 | 3262756 | 371696 | 677116 | 143591 | 3673670 | 3751758 | 1077773 |
| 20:26 | MA16321-CCB7 | 2420687 | 3266401 | 379335 | 697824 | 147504 | 3806144 | 3834855 | 1115105 |
| 20:33 | MP21920A-S3 | 2424479 | 3298326 | 382043 | 689195 | 147750 | 3787890 | 3851812 | 1115208 |
| 20:40 | MP21920A-S4 | 2423189 | 3280099 | 381634 | 691492 | 147888 | 3780020 | 3863122 | 1120902 |
| 20:47 | ZZZZZZ | 2427414 | 3272124 | 378858 | 699778 | 146661 | 3812422 | 3825615 | 1129073 |
| 20:54 | MA16321-CRI3 | 2411318 | 3252378 | 378832 | 694286 | 146814 | 3834016 | 3842115 | 1134360 |
| 21:01 | MA16321-CCV8 | 2386733 | 3272139 | 374904 | 682267 | 144512 | 3687174 | 3753894 | 1089920 |
| 21:08 | MA16321-CCB8 | 2436986 | 3280404 | 380839 | 699479 | 147299 | 3811312 | 3886244 | 1115423 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF Date Analyzed: 10/31/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 10:45 | MA16321-STD1 | 4942952 R | 2757011 R |
| 10:52 | MA16321-STD2 | 5482200 | 2991521 |
| 10:59 | MA16321-STD3 | 4976040 | 2776037 |
| 11:06 | MA16321-STD4 | 4990311 | 2747095 |
| 11:13 | MA16321-STD5 | 5031697 | 2769470 |
| 11:20 | MA16321-STD6 | 4997242 | 2784998 |
| 11:27 | MA16321-STD7 | 4963982 | 2754453 |
| 11:35 | MA16321-STD8 | 4972797 | 2623461 |
| 11:42 | MA16321-ICV1 | 4968707 | 2677828 |
| 11:49 | MA16321-ICB1 | 5024319 | 2810982 |
| 11:58 | MA16321-CCV1 | 5017845 | 2692495 |
| 12:09 | MA16321-CCB1 | 5044715 | 2812956 |
| 12:17 | MA16321-CRI1 | 5014331 | 2836056 |
| 12:26 | MA16321-ICSA1 | 4753297 | 2390792 |
| 12:33 | MA16321-ICSAB1 | 4753898 | 2416343 |
| 12:45 | MA16321-ICSA2 | 4942712 | 2594849 |
| 12:52 | MA16321-ICSAB2 | 4895207 | 2569894 |
| 13:01 | ZZZZZZ | 5172897 | 2928841 |
| 13:08 | MP21908A-MB1 | 5124053 | 2868404 |
| 13:15 | MC25522-6F | 5110872 | 2831445 |
| 13:22 | MP21908A-SD1 | 5133324 | 2985354 |
| 13:31 | ZZZZZZ | 5152170 | 2920341 |
| 13:38 | MA16321-CCV2 | 5052165 | 2771873 |
| 13:50 | MA16321-CCB2 | 5099116 | 2889785 |
| 13:58 | ZZZZZZ | 5109909 | 2908477 |
| 14:05 | ZZZZZZ | 5240197 | 2893590 |
| 14:13 | ZZZZZZ | 5195666 | 2904942 |
| 14:20 | ZZZZZZ | 4984549 | 2703411 |
| 14:27 | ZZZZZZ | 4952195 | 2631621 |
| 14:34 | ZZZZZZ | 5240608 | 2900428 |
| 14:41 | ZZZZZZ | 4906655 | 2611028 |
| 14:48 | ZZZZZZ | 5037342 | 2757519 |
| 14:55 | ZZZZZZ | 4996899 | 2794592 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:02 | ZZZZZZ | 4962226 | 2757693 |
| 15:09 | MA16321-CCV3 | 4982829 | 2687347 |
| 15:17 | MA16321-CCB3 | 5031228 | 2833268 |
| 15:25 | ZZZZZZ | 4991003 | 2703978 |
| 15:32 | ZZZZZZ | 5158826 | 2909399 |
| 15:39 | ZZZZZZ | 5112365 | 2882069 |
| 15:46 | ZZZZZZ | 5011846 | 2749141 |
| 15:53 | ZZZZZZ | 5054069 | 2764012 |
| 16:01 | ZZZZZZ | 5155539 | 2945286 |
| 16:08 | ZZZZZZ | 5052522 | 2814640 |
| 16:15 | ZZZZZZ | 5038264 | 2677984 |
| 16:22 | MP21908A-B1 | 5232839 | 2875876 |
| 16:29 | MP21908A-S1 | 5120349 | 2822232 |
| 16:36 | MA16321-CCV4 | 5069557 | 2769146 |
| 16:43 | MA16321-CCB4 | 5122623 | 2890418 |
| 16:56 | MP21908A-S2 | 5128641 | 2831388 |
| 17:03 | ZZZZZZ | 4973796 | 2654849 |
| 17:10 | ZZZZZZ | 5207454 | 2875063 |
| 17:17 | MA16321-CRI2 | 5156548 | 2879634 |
| 17:26 | MA16321-CCV5 | 5110338 | 2751597 |
| 17:34 | MA16321-CCB5 | 5137591 | 2886554 |
| 17:42 | MP21920A-MB1 | 5042557 | 2810853 |
| 17:49 | MC25568-11F | 5097124 | 2770792 |
| 17:57 | MP21920A-SD1 | 5138788 | 2893458 |
| 18:04 | MC25594-1F | 4954569 | 2761642 |
| 18:11 | ZZZZZZ | 4837143 | 2580617 |
| 18:18 | ZZZZZZ | 4978287 | 2703460 |
| 18:25 | ZZZZZZ | 4887589 | 2692928 |
| 18:32 | ZZZZZZ | 4875999 | 2695605 |
| 18:39 | ZZZZZZ | 4827997 | 2637491 |
| 18:46 | ZZZZZZ | 4942656 | 2792201 |
| 18:53 | MA16321-CCV6 | 5139457 | 2758528 |
| 19:00 | MA16321-CCB6 | 4898727 | 2754653 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16321
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 19:07 | ZZZZZZ | 4850365 | 2694749 |
| 19:15 | ZZZZZZ | 4843089 | 2647634 |
| 19:22 | ZZZZZZ | 4738366 | 2553633 |
| 19:29 | MC25594-2F | 4852854 | 2655784 |
| 19:36 | MC25594-3F | 5068779 | 2796741 |
| 19:43 | MC25594-4F | 4949048 | 2773051 |
| 19:50 | MC25594-5F | 4826825 | 2681949 |
| 19:57 | MP21920A-B1 | 5138109 | 2857981 |
| 20:04 | MP21920A-S1 | 4836936 | 2697229 |
| 20:11 | MP21920A-S2 | 5054130 | 2779128 |
| 20:18 | MA16321-CCV7 | 4801643 | 2607663 |
| 20:26 | MA16321-CCB7 | 4835631 | 2725816 |
| 20:33 | MP21920A-S3 | 4876906 | 2671246 |
| 20:40 | MP21920A-S4 | 4810356 | 2660361 |
| 20:47 | ZZZZZZ | 4858534 | 2716826 |
| 20:54 | MA16321-CRI3 | 4831859 | 2729062 |
| 21:01 | MA16321-CCV8 | 4819884 | 2609363 |
| 21:08 | MA16321-CCB8 | 4859260 | 2711250 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 11:49 ICB1 | | 12:09 CCB1 | | 13:50 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.025 | <2.0 | 0.016 | <2.0 | 0.055 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 15:17 CCB3 | | 16:43 CCB4 | | 17:34 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | -0.0094 | <2.0 | -0.022 | <2.0 | -0.0052 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16321  Units: ug/l

| Time: / Sample ID: | | | | 19:00 CCB6 | | 20:26 CCB7 | | 21:08 CCB8 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.0051 | <2.0 | -0.015 | <2.0 | -0.017 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 11:42 | | | 11:58 | | | 13:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 59.5 | 99.2 | 50 | 49.7 | 99.4 | 50 | 49.5 | 99.0 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 15:09 | | | 16:36 | | | 17:26 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.4 | 98.8 | 50 | 49.0 | 98.0 | 50 | 49.2 | 98.4 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | 18:53 | | | 20:18 | | | 21:01 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 49.5 | 99.0 | 50 | 48.4 | 96.8 | 50 | 48.6 | 97.2 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:17 | | 17:17 | | 20:54 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | | | |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.55 | 110.0 | 0.50 | 100.0 | 0.50 | 100.0 |
| Barium | 1.0 | 1.0 | | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | | | | | | |
| Magnesium | 250 | 250 | | | | | | |
| Manganese | 1.0 | 1.0 | | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | | | | | | |
| Silver | 0.50 | 0.50 | | | | | | |
| Sodium | 250 | 250 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA103113W1L.AGF  Date Analyzed: 10/31/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16321  Units: ug/l

| Time: | | | 12:26 | | 12:33 | | 12:45 | | 12:52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 98300 | 98.3 | 97100 | 97.1 | | | | |
| Antimony | | | 0.31 | | 0.31 | | | | | |
| Arsenic | | 20 | 0.24 | | 20.1 | 100.5 | | | | |
| Barium | | | 0.27 | | 0.27 | | | | | |
| Beryllium | | | 0.0090 | | 0.0029 | | | | | |
| Boron | | | 0.23 | | 0.20 | | | | | |
| Cadmium | | 20 | 1.1 | | 19.5 | 97.5 | | | | |
| Calcium | 100000 | 100000 | 96200 | 96.2 | 96500 | 96.5 | | | | |
| Chromium | | 20 | 1.1 | | 20.8 | 104.0 | | | | |
| Cobalt | | 20 | 0.048 | | 19.8 | 99.0 | | | | |
| Copper | | 20 | 0.55 | | 18.7 | 93.5 | | | | |
| Iron | 100000 | 100000 | 96500 | 96.5 | 98200 | 98.2 | | | | |
| Lead | | | 0.15 | | 0.15 | | | | | |
| Magnesium | 100000 | 100000 | 97000 | 97.0 | 96700 | 96.7 | | | | |
| Manganese | | 20 | 0.25 | | 19.7 | 98.5 | | | | |
| Molybdenum | 2000 | 2000 | 2010 | 100.5 | 2010 | 100.5 | | | | |
| Nickel | | 20 | 0.70 | | 19.4 | 97.0 | | | | |
| Potassium | 100000 | 100000 | 97800 | 97.8 | 96600 | 96.6 | | | | |
| Selenium | | | 0.40 | | 0.23 | | | | | |
| Silver | | 20 | 0.065 | | 21.0 | 105.0 | | | | |
| Sodium | 100000 | 100000 | | | | | 98900 | 98.9 | 99100 | 99.1 |
| Strontium | | | 5.2* | | 5.2* | | | | | |
| Thallium | | | 0.043 | | 0.026 | | | | | |
| Tin | | | 0.12 | | 0.10 | | | | | |
| Titanium | 2000 | 2000 | 1920 | 96.0 | 1920 | 96.0 | | | | |
| Vanadium | | | -0.11 | | -0.11 | | | | | |
| Zinc | | 20 | 1.8 | | 19.8 | 99.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP Date Analyzed: 10/31/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:11 | MA16323-STD1 | 1 | | STD1 |
| 12:16 | MA16323-STD2 | 1 | | STD2 |
| 12:21 | MA16323-STD3 | 1 | | STD3 |
| 12:26 | MA16323-STD4 | 1 | | STD4 |
| 12:31 | MA16323-ICV1 | 1 | | |
| 12:45 | MA16323-ICB1 | 1 | | |
| 12:52 | MA16323-CCV1 | 1 | | |
| 12:58 | MA16323-CCB1 | 1 | | |
| 13:03 | MA16323-CRI1 | 1 | | |
| 13:13 | MA16323-ICSA1 | 1 | | |
| 13:18 | MA16323-ICSAB1 | 1 | | |
| 13:23 | MP21920-B1 | 1 | | |
| 13:27 | MP21920-MB1 | 1 | | |
| 13:32 | MP21920-S1 | 1 | | |
| 13:37 | MP21920-S2 | 1 | | |
| 13:42 | MC25568-11F | 1 | | (sample used for QC only; not part of login MC25594) |
| 13:47 | MP21920-SD1 | 5 | | |
| 13:52 | MP21920-S3 | 1 | | |
| 13:56 | MA16323-CCV2 | 1 | | |
| 14:01 | MA16323-CCB2 | 1 | | |
| 14:06 | MP21920-S4 | 1 | | |
| 14:11 | MC25594-1F | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:21 | ZZZZZZ | 1 | | |
| 14:26 | ZZZZZZ | 1 | | |
| 14:30 | ZZZZZZ | 1 | | |
| 14:35 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:55 | MA16323-CCV3 | 1 | | |
| 15:00 | MA16323-CCB3 | 1 | | |
| 15:16 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:21 | MC25594-2F | 1 | | |
| 15:26 | MC25594-3F | 1 | | |
| 15:31 | MC25594-4F | 1 | | |
| 15:36 | MC25594-5F | 1 | | |
| ----------> | Last reportable sample/prep for job MC25594 | | | |
| 15:41 | MA16323-CRI2 | 1 | | |
| 15:46 | MA16323-CCV4 | 1 | | |
| 15:50 | MA16323-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC25594 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP Date Analyzed: 10/31/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 12:11 | MA16323-STD1 | 1241 R | 37476 R | 17838 R |
| 12:16 | MA16323-STD2 | 1222 | 36620 | 17604 |
| 12:21 | MA16323-STD3 | | | 17743 |
| 12:26 | MA16323-STD4 | 1228 | 36797 | 17803 |
| 12:31 | MA16323-ICV1 | 1237 | 36200 | 17793 |
| 12:45 | MA16323-ICB1 | 1236 | 36760 | 17692 |
| 12:52 | MA16323-CCV1 | 1245 | 35998 | 17691 |
| 12:58 | MA16323-CCB1 | 1227 | 36679 | 17581 |
| 13:03 | MA16323-CRI1 | 1235 | 36446 | 17660 |
| 13:13 | MA16323-ICSA1 | 1160 | 32844 | 17497 |
| 13:18 | MA16323-ICSAB1 | 1150 | 32602 | 17499 |
| 13:23 | MP21920-B1 | 1213 | 35410 | 17494 |
| 13:27 | MP21920-MB1 | 1226 | 35741 | 17651 |
| 13:32 | MP21920-S1 | 1194 | 35264 | 17548 |
| 13:37 | MP21920-S2 | 1201 | 35141 | 17511 |
| 13:42 | MC25568-11F | 1203 | 35598 | 17676 |
| 13:47 | MP21920-SD1 | 1234 | 35920 | 17470 |
| 13:52 | MP21920-S3 | 1209 | 35476 | 17546 |
| 13:56 | MA16323-CCV2 | 1247 | 35420 | 17681 |
| 14:01 | MA16323-CCB2 | 1245 | 36099 | 17487 |
| 14:06 | MP21920-S4 | 1202 | 35394 | 17466 |
| 14:11 | MC25594-1F | 1209 | 35526 | 17490 |
| 14:16 | ZZZZZZ | 1192 | 35361 | 17477 |
| 14:21 | ZZZZZZ | 1211 | 35584 | 17326 |
| 14:26 | ZZZZZZ | 1222 | 35338 | 17430 |
| 14:30 | ZZZZZZ | 1194 | 35096 | 17496 |
| 14:35 | ZZZZZZ | 1212 | 35388 | 17263 |
| 14:40 | ZZZZZZ | 1200 | 34799 | 17263 |
| 14:45 | ZZZZZZ | 1222 | 35209 | 17304 |
| 14:50 | ZZZZZZ | 1217 | 35050 | 17345 |
| 14:55 | MA16323-CCV3 | 1258 | 34561 | 17334 |
| 15:00 | MA16323-CCB3 | 1245 | 35149 | 17095 |
| 15:16 | ZZZZZZ | 1208 | 34666 | 17273 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16323
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 15:21 | MC25594-2F | 1233 | 34889 | 17319 |
| 15:26 | MC25594-3F | 1228 | 35287 | 17433 |
| 15:31 | MC25594-4F | 1223 | 34754 | 17196 |
| 15:36 | MC25594-5F | 1220 | 35169 | 17307 |
| 15:41 | MA16323-CRI2 | 1246 | 35600 | 17332 |
| 15:46 | MA16323-CCV4 | 1245 | 34906 | 17405 |
| 15:50 | MA16323-CCB4 | 1237 | 35773 | 17350 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: | | | | 12:45 ICB1 | | 12:58 CCB1 | | 14:01 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 2.2 | <5000 | 0.80 | <5000 | 2.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.9 | <100 | 2.3 | <100 | 2.2 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 12.5 | <5000 | -5.7 | <5000 | 23.0 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.20 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | -0.50 | <5000 | 3.9 | <5000 | 26.5 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 7.1 | <5000 | 6.2 | <5000 | 12.8 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: | | | | 15:00 CCB3 | | 15:50 CCB4 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | 0.20 | <5000 | 2.0 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 3.5 | <100 | 4.5 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 16.8 | <5000 | 0.20 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.50 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 13.2 | <5000 | 6.6 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | 8.2 | <5000 | 5.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16323  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | 12:31 | | | 12:52 | | | 13:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17400 | 96.7 | 10000 | 9680 | 96.8 | 10000 | 9680 | 96.8 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17600 | 97.8 | 10000 | 9700 | 97.0 | 10000 | 9580 | 95.8 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 17600 | 97.8 | 10000 | 9540 | 95.4 | 10000 | 9690 | 96.9 |
| Manganese | 3000 | 3000 | 100.0 | 2000 | 1970 | 98.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15300 | 102.0 | 10000 | 9740 | 97.4 | 10000 | 9860 | 98.6 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 14800 | 98.7 | 10000 | 9740 | 97.4 | 10000 | 9710 | 97.1 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | 14:55 | | | 15:46 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9510 | 95.1 | 10000 | 9730 | 97.3 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9330 | 93.3 | 10000 | 9530 | 95.3 |
| Lead | | | | | | |
| Magnesium | 10000 | 9800 | 98.0 | 10000 | 9890 | 98.9 |
| Manganese | 2000 | 2110 | 105.5 | 2000 | 2090 | 104.5 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9690 | 96.9 | 10000 | 9820 | 98.2 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9510 | 95.1 | 10000 | 9690 | 96.9 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16323  Units: ug/l

| Time: | | | 13:03 | | 15:41 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4950 | 99.0 | 4970 | 99.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 100 | 100.0 | 101 | 101.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4890 | 97.8 | 5030 | 100.6 |
| Manganese | 15 | 15 | 15.9 | 106.0 | 16.7 | 111.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 5010 | 100.2 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4930 | 98.6 | 4890 | 97.8 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16323  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16323  Units: ug/l

| Time: | | | 13:13 | | 13:18 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 515000 | 103.0 | 514000 | 102.8 |
| Antimony | | 2000 | -2.5 | | 1910 | 95.5 |
| Arsenic | | 2000 | -0.30 | | 2000 | 100.0 |
| Barium | | 500 | -0.20 | | 480 | 96.0 |
| Beryllium | | 500 | 0.0 | | 460 | 92.0 |
| Boron | | 1000 | 0.50 | | 929 | 92.9 |
| Cadmium | | 1000 | 0.0 | | 998 | 99.8 |
| Calcium | 500000 | 500000 | 441000 | 88.2 | 444000 | 88.8 |
| Chromium | | 500 | 0.10 | | 526 | 105.2 |
| Cobalt | | 500 | 0.90 | | 448 | 89.6 |
| Copper | | 500 | 1.0 | | 550 | 110.0 |
| Gold | | 500 | 7.2 | | 511 | 102.2 |
| Iron | 200000 | 200000 | 174000 | 87.0 | 175000 | 87.5 |
| Lead | | 1000 | 0.10 | | 842 | 84.2 |
| Magnesium | 500000 | 500000 | 503000 | 100.6 | 503000 | 100.6 |
| Manganese | | 500 | 0.40 | | 515 | 103.0 |
| Molybdenum | | 1000 | -1.1 | | 902 | 90.2 |
| Nickel | | 1000 | 0.10 | | 809 | 80.9 |
| Palladium | | 500 | -14 | | 553 | 110.6 |
| Platinum | | 500 | -19 | | 497 | 99.4 |
| Potassium | | | 49.7 | | 62.1 | |
| Selenium | | 2000 | -0.80 | | 1880 | 94.0 |
| Silicon | | 2000 | 31.8 | | 1990 | 99.5 |
| Silver | | 1000 | -0.40 | | 1070 | 107.0 |
| Sodium | | | 36.1 | | 29.8 | |
| Sulfur | | 500 | 86.8* | | 548 | 109.6 |
| Strontium | | 1000 | -7.9* | | 943 | 94.3 |
| Thallium | | 2000 | -4.7* | | 1710 | 85.5 |
| Tin | | 1000 | 0.60 | | 904 | 90.4 |
| Titanium | | 500 | 5.8* | | 535 | 107.0 |
| Tungsten | | 2000 | -20 | | 1940 | 97.0 |
| Vanadium | | 500 | 10.4* | | 534 | 106.8 |
| Zinc | | 1000 | -1.2 | | 842 | 84.2 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M2L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16323  Units: ug/l

| Time: / Sample ID: / Metal | | | | |
|---|---|---|---|---|
| Zirconium | 500 | 9.5* | 421 | 84.2 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:53 | MA16324-STD1 | 1 | | STD1 |
| 17:58 | MA16324-STD2 | 1 | | STD2 |
| 18:03 | MA16324-STD3 | 1 | | STD3 |
| 18:08 | MA16324-STD4 | 1 | | STD4 |
| 18:13 | MA16324-ICV1 | 1 | | |
| 18:19 | MA16324-ICB1 | 1 | | |
| 18:32 | MA16324-CCV1 | 1 | | |
| 18:37 | MA16324-CCB1 | 1 | | |
| 18:47 | MA16324-CRI1 | 1 | | |
| 18:59 | MA16324-ICSA1 | 1 | | |
| 19:04 | MA16324-ICSAB1 | 1 | | |
| 19:09 | MP21920-B1 | 5 | | |
| 19:14 | MP21920-S1 | 5 | | |
| 19:18 | MP21920-S2 | 5 | | |
| 19:23 | MC25568-11F | 5 | | (sample used for QC only; not part of login MC25594) |
| 19:28 | MP21920-SD1 | 25 | | |
| 19:33 | MP21920-S3 | 5 | | |
| 19:38 | MP21920-S4 | 5 | | |
| 19:43 | MA16324-CCV2 | 1 | | |
| 19:47 | MA16324-CCB2 | 1 | | |
| 19:52 | MC25594-1F | 5 | | |
| 19:57 | ZZZZZZ | 3 | | |
| 20:02 | ZZZZZZ | 10 | | |
| 20:07 | ZZZZZZ | 5 | | |
| 20:12 | ZZZZZZ | 5 | | |
| 20:17 | ZZZZZZ | 5 | | |
| 20:22 | ZZZZZZ | 10 | | |
| 20:27 | ZZZZZZ | 3 | | |
| 20:32 | ZZZZZZ | 5 | | |
| 20:36 | MC25594-2F | 3 | | |
| 20:41 | MA16324-CCV3 | 1 | | |
| 20:46 | MA16324-CCB3 | 1 | | |
| 20:51 | MC25594-4F | 3 | | |

----------> Last reportable sample/prep for job MC25594

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,K,Na

| | Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|---|
| | 20:56 | MA16324-CRI2 | 1 | | |
| | 21:01 | MA16324-CRIB1 | 1 | | |
| | 21:06 | MP21935-B1 | 1 | | |
| | 21:11 | MP21935-MB1 | 1 | | |
| | 21:16 | MP21935-S1 | 1 | | |
| | 21:21 | MP21935-S2 | 1 | | |
| | 21:26 | MC25697-1 | 1 | | (sample used for QC only; not part of login MC25594) |
| | 21:31 | MP21935-SD1 | 5 | | |
| | 21:36 | MP21935-LB1 | 1 | | |
| | 21:41 | MA16324-CCV4 | 1 | | |
| | 21:46 | MA16324-CCB4 | 1 | | |
| ----------> | | Last reportable CCB for job MC25594 | | | |
| | 21:51 | ZZZZZZ | 1 | | |
| | 21:56 | ZZZZZZ | 1 | | |
| | 22:01 | MA16324-CRIB2 | 1 | | |
| | 22:06 | MA16324-CCV5 | 1 | | |
| | 22:10 | MA16324-CCB5 | 1 | | |
| | 22:15 | MA16324-CRIA1 | 1 | | |
| | 22:20 | ZZZZZZ | 10 | | |
| | 22:25 | ZZZZZZ | 100 | | |
| | 22:30 | ZZZZZZ | 1 | | RINSECONF |
| | 22:35 | MA16324-CRIA2 | 1 | | |
| | 22:40 | MA16324-CCV6 | 1 | | |
| | 22:45 | MA16324-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP Date Analyzed: 10/31/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16324
Parameters: Ca,Fe,Mg,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:53 | MA16324-STD1 | 1224 R | 35420 R | 17349 R |
| 17:58 | MA16324-STD2 | 1213 | 34908 | 17328 |
| 18:03 | MA16324-STD3 | | | 17270 |
| 18:08 | MA16324-STD4 | 1240 | 34624 | 17159 |
| 18:13 | MA16324-ICV1 | 1244 | 33829 | 17121 |
| 18:19 | MA16324-ICB1 | 1247 | 34483 | 16924 |
| 18:32 | MA16324-CCV1 | 1262 | 33926 | 17140 |
| 18:37 | MA16324-CCB1 | 1258 | 34517 | 16904 |
| 18:47 | MA16324-CRI1 | 1264 | 34255 | 16902 |
| 18:59 | MA16324-ICSA1 | 1181 | 30676 | 16631 |
| 19:04 | MA16324-ICSAB1 | 1181 | 30670 | 16578 |
| 19:09 | MP21920-B1 | 1272 | 34117 | 16921 |
| 19:14 | MP21920-S1 | 1259 | 33868 | 16975 |
| 19:18 | MP21920-S2 | 1259 | 33877 | 16853 |
| 19:23 | MC25568-11F | 1266 | 33891 | 16771 |
| 19:28 | MP21920-SD1 | 1270 | 34197 | 16647 |
| 19:33 | MP21920-S3 | 1266 | 33915 | 16799 |
| 19:38 | MP21920-S4 | 1270 | 33936 | 16763 |
| 19:43 | MA16324-CCV2 | 1280 | 33092 | 16847 |
| 19:47 | MA16324-CCB2 | 1269 | 33941 | 16626 |
| 19:52 | MC25594-1F | 1268 | 33889 | 16718 |
| 19:57 | ZZZZZZ | 1265 | 33566 | 16720 |
| 20:02 | ZZZZZZ | 1271 | 33701 | 16731 |
| 20:07 | ZZZZZZ | 1268 | 33501 | 16713 |
| 20:12 | ZZZZZZ | 1273 | 33739 | 16305 |
| 20:17 | ZZZZZZ | 1271 | 33498 | 16768 |
| 20:22 | ZZZZZZ | 1277 | 33269 | 16525 |
| 20:27 | ZZZZZZ | 1265 | 33373 | 16604 |
| 20:32 | ZZZZZZ | 1272 | 33265 | 16647 |
| 20:36 | MC25594-2F | 1272 | 33188 | 16605 |
| 20:41 | MA16324-CCV3 | 1282 | 32923 | 16664 |
| 20:46 | MA16324-CCB3 | 1277 | 33397 | 16515 |
| 20:51 | MC25594-4F | 1263 | 33042 | 16504 |

INTERNAL STANDARD SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16324
Parameters: Ca,Fe,Mg,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 20:56 | MA16324-CRI2 | 1281 | 33059 | 16613 |
| 21:01 | MA16324-CRIB1 | 1277 | 32924 | 16407 |
| 21:06 | MP21935-B1 | 1189 | 33415 | 16483 |
| 21:11 | MP21935-MB1 | 1253 | 33025 | 16565 |
| 21:16 | MP21935-S1 | 1116 | 32375 | 15802 |
| 21:21 | MP21935-S2 | 1118 | 32357 | 15814 |
| 21:26 | MC25697-1 | 1105 | 32487 | 15843 |
| 21:31 | MP21935-SD1 | 1218 | 33249 | 16438 |
| 21:36 | MP21935-LB1 | 1169 | 33927 | 16263 |
| 21:41 | MA16324-CCV4 | 1284 | 33086 | 16811 |
| 21:46 | MA16324-CCB4 | 1268 | 33828 | 16681 |
| 21:51 | ZZZZZZ | 1105 | 32421 | 15767 |
| 21:56 | ZZZZZZ | 1103 | 32874 | 15912 |
| 22:01 | MA16324-CRIB2 | 1273 | 33554 | 16513 |
| 22:06 | MA16324-CCV5 | 1277 | 33221 | 16750 |
| 22:10 | MA16324-CCB5 | 1266 | 34054 | 16728 |
| 22:15 | MA16324-CRIA1 | 1265 | 33552 | 16603 |
| 22:20 | ZZZZZZ | 1286 | 33508 | 16892 |
| 22:25 | ZZZZZZ | 1275 | 33559 | 16708 |
| 22:30 | ZZZZZZ | 1261 | 33586 | 16580 |
| 22:35 | MA16324-CRIA2 | 1263 | 33317 | 16480 |
| 22:40 | MA16324-CCV6 | 1273 | 32785 | 16624 |
| 22:45 | MA16324-CCB6 | 1261 | 33400 | 16504 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: | | | | 18:19 ICB1 | | 18:37 CCB1 | | 19:47 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -1.5 | <5000 | -0.80 | <5000 | 17.1 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.1 | <100 | 0.80 | <100 | 3.8 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 19.0 | <5000 | 34.7 | <5000 | -1.7 | <5000 |
| Manganese | 15 | .17 | 2.5 | | | | | | |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 21.0 | <5000 | 17.0 | <5000 | 19.3 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 6.6 | <5000 | 4.7 | <5000 | 8.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 20:46 CCB3 raw | final | 21:46 CCB4 raw | final |
|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | |
| Barium | 50 | .19 | 2.5 | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | |
| Boron | 100 | .81 | 5.0 | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | |
| Calcium | 5000 | 8.5 | 150 | -1.5 | <5000 | -0.10 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | |
| Copper | 25 | .86 | 8.0 | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | |
| Iron | 100 | 4.4 | 30 | 1.4 | <100 | 0.60 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | |
| Magnesium | 5000 | 43 | 200 | 15.4 | <5000 | 24.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | | | | |
| Molybdenum | 100 | .4 | 2.5 | | | | |
| Nickel | 40 | .45 | 1.5 | | | | |
| Palladium | 50 | 2 | 30 | | | | |
| Platinum | 50 | 8.7 | 30 | | | | |
| Potassium | 5000 | 24 | 500 | 10.9 | <5000 | 24.8 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | |
| Silicon | 100 | 2.1 | 50 | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | |
| Sodium | 5000 | 42 | 200 | -0.80 | <5000 | 126 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | |
| Strontium | 10 | .1 | 0.90 | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | |
| Titanium | 50 | .48 | 5.0 | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | |
| Zinc | 20 | .91 | 1.5 | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16324  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 18:13 | | | 18:32 | | | 19:43 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17500 | 97.2 | 10000 | 9750 | 97.5 | 10000 | 9830 | 98.3 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17600 | 97.8 | 10000 | 9660 | 96.6 | 10000 | 9580 | 95.8 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 17800 | 98.9 | 10000 | 9700 | 97.0 | 10000 | 9940 | 99.4 |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15400 | 102.7 | 10000 | 9760 | 97.6 | 10000 | 9750 | 97.5 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 14900 | 99.3 | 10000 | 9600 | 96.0 | 10000 | 9500 | 95.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 20:41 | | | 21:41 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 10000 | 9800 | 98.0 | 10000 | 9840 | 98.4 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 10000 | 9470 | 94.7 | 10000 | 9550 | 95.5 |
| Lead | anr | | | | | |
| Magnesium | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 10000 | 9760 | 97.6 | 10000 | 9830 | 98.3 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 10000 | 9440 | 94.4 | 10000 | 9560 | 95.6 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16324  Units: ug/l

| Time: | | | 18:47 | | 20:56 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | anr | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 5030 | 100.6 | 4990 | 99.8 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 101 | 101.0 | 99.0 | 99.0 |
| Lead | 5.0 | 10 | anr | | | |
| Magnesium | 5000 | 5000 | 4950 | 99.0 | 5040 | 100.8 |
| Manganese | 15 | 15 | anr | | | |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 4990 | 99.8 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4870 | 97.4 | 4790 | 95.8 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16324  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 70 to 130 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | 21:01 | |
|---|---|---|---|
| Sample ID: | CRIB | CRIB1 | |
| Metal | True | Results | % Rec |
| Aluminum | 200 | | |
| Antimony | 6.0 | | |
| Arsenic | 10 | | |
| Barium | 500 | | |
| Beryllium | 4.0 | | |
| Boron | 100 | | |
| Cadmium | 4.0 | | |
| Calcium | 5000 | 5020 | 100.4 |
| Chromium | 10 | | |
| Cobalt | 50 | | |
| Copper | 25 | | |
| Gold | 50 | | |
| Iron | 100 | 99.2 | 99.2 |
| Lead | 10 | | |
| Magnesium | 5000 | 5100 | 102.0 |
| Manganese | 15 | | |
| Molybdenum | 100 | | |
| Nickel | 40 | | |
| Palladium | 50 | | |
| Platinum | 50 | | |
| Potassium | 5000 | 5010 | 100.2 |
| Selenium | 25 | | |
| Silicon | 100 | | |
| Silver | 5.0 | | |
| Sodium | 5000 | 4800 | 96.0 |
| Sulfur | 50 | | |
| Strontium | 10 | | |
| Thallium | 5.0 | | |
| Tin | 100 | | |
| Titanium | 50 | | |
| Tungsten | 100 | | |
| Vanadium | 10 | | |
| Zinc | 100 | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 70 to 130 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |
| Zirconium | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16324  Units: ug/l

| Time: | | | 18:59 | | 19:04 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 517000 | 103.4 | 518000 | 103.6 |
| Antimony | | 2000 | 0.0 | | 1860 | 93.0 |
| Arsenic | | 2000 | -0.80 | | 1970 | 98.5 |
| Barium | | 500 | -0.20 | | 481 | 96.2 |
| Beryllium | | 500 | 0.10 | | 471 | 94.2 |
| Boron | | 1000 | 1.5 | | 918 | 91.8 |
| Cadmium | | 1000 | -0.10 | | 987 | 98.7 |
| Calcium | 500000 | 500000 | 456000 | 91.2 | 457000 | 91.4 |
| Chromium | | 500 | 0.10 | | 550 | 110.0 |
| Cobalt | | 500 | 1.1 | | 443 | 88.6 |
| Copper | | 500 | -0.10 | | 554 | 110.8 |
| Gold | | 500 | 11.4* | | 524 | 104.8 |
| Iron | 200000 | 200000 | 176000 | 88.0 | 176000 | 88.0 |
| Lead | | 1000 | -0.30 | | 834 | 83.4 |
| Magnesium | 500000 | 500000 | 516000 | 103.2 | 518000 | 103.6 |
| Manganese | | 500 | 0.40 | | 532 | 106.4 |
| Molybdenum | | 1000 | -1.0 | | 885 | 88.5 |
| Nickel | | 1000 | 0.90 | | 791 | 79.1* |
| Palladium | | 500 | -5.4 | | 548 | 109.6 |
| Platinum | | 500 | -11 | | 496 | 99.2 |
| Potassium | | | 72.4 | | 50.3 | |
| Selenium | | 2000 | 0.20 | | 1850 | 92.5 |
| Silicon | | 2000 | 31.4 | | 1980 | 99.0 |
| Silver | | 1000 | 0.10 | | 1080 | 108.0 |
| Sodium | | | 24.0 | | 20.1 | |
| Sulfur | | 500 | 91.7* | | 554 | 110.8 |
| Strontium | | 1000 | -8.3* | | 942 | 94.2 |
| Thallium | | 2000 | -2.2* | | 1690 | 84.5 |
| Tin | | 1000 | 1.3 | | 917 | 91.7 |
| Titanium | | 500 | 5.9* | | 542 | 108.4 |
| Tungsten | | 2000 | -7.8 | | 1990 | 99.5 |
| Vanadium | | 500 | 11.9* | | 544 | 108.8 |
| Zinc | | 1000 | -0.80 | | 849 | 84.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB103113M3L.ICP  Date Analyzed: 10/31/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16324  Units: ug/l

| Time: / Sample ID: / Metal | | | | | |
|---|---|---|---|---|---|
| Zirconium | 500 | 13.9* | | 427 | 85.4 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 5.7 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 20.1 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | 6.3 | <5000 |
| Manganese | 15 | .17 | .81 | 0.30 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | 11.6 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 11.3 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP21920: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25594-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 16500 | 43000 | 25000 | 106.0 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 9580 | 11500 | 2000 | 96.0 | 75-125 |
| Lead | | | | | |
| Magnesium | 1660 | 28200 | 25000 | 106.2 | 75-125 |
| Manganese | 1230 | 1750 | 500 | 104.0 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 3040 | 29200 | 25000 | 104.6 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 61900 | 86800 | 25000 | 99.6 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25594-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 16500 | 43400 | 25000 | 107.6 | 0.9 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 9580 | 11500 | 2000 | 96.0 | 0.0 | 20 |
| Lead | | | | | | |
| Magnesium | 1660 | 28300 | 25000 | 106.6 | 0.4 | 20 |
| Manganese | 1230 | 1720 | 500 | 98.0 | 1.7 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 3040 | 29500 | 25000 | 105.8 | 1.0 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 61900 | 87000 | 25000 | 100.4 | 0.2 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 25600 | 25000 | 102.4 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 1980 | 2000 | 99.0 | 80-120 |
| Lead | | | | |
| Magnesium | 25900 | 25000 | 103.6 | 80-120 |
| Manganese | 505 | 500 | 101.0 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25700 | 25000 | 102.8 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 24700 | 25000 | 98.8 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP21920: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 60900 | 63900 | 5.0 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 43200 | 45000 | 4.0 | 0-10 |
| Lead | | | | |
| Magnesium | 9300 | 9590 | 3.1 | 0-10 |
| Manganese | 3280 | 3370 | 2.8 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 8820 | 8980 | 1.7 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 27500 | 28500 | 3.6 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP21920: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.40 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP21920A: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25594-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 113 | 656 | 500 | 108.6 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP21920A: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25594-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 113 | 651 | 500 | 107.6 | 0.8 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP21920A: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 570 | 500 | 114.0 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21920A: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP21920A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/29/13

| Metal | MC25568-11F Original | SDL 5:25 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 232 | 237 | 2.4 | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP21920A: MC25594-1F, MC25594-2F, MC25594-3F, MC25594-4F, MC25594-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\001CAL
Date Acquired: Oct 31 2013 10:38 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2526977.00 | A | 8185.00 | 0.32 |
| 7 | (Li) | | P | | |
| 9 | Be | 120.00 | P | 14.53 | 12.11 |
| 9 | Be | 93.34 | P | 10.00 | 10.71 |
| 11 | B | 701.15 | P | 15.40 | 2.20 |
| 11 | B | 100.00 | P | 13.33 | 13.33 |
| 23 | Na | 501156.00 | P | 11300.00 | 2.25 |
| 23 | Na | 56214.45 | P | 163.30 | 0.29 |
| 24 | Mg | 8110.20 | P | 87.22 | 1.08 |
| 24 | Mg | 426.69 | P | 75.13 | 17.61 |
| 27 | Al | 18257.42 | P | 561.70 | 3.08 |
| 27 | Al | 494.47 | P | 66.70 | 13.49 |
| 39 | K | 4083702.00 | A | 14920.00 | 0.37 |
| 44 | Ca | 28760.68 | P | 132.50 | 0.46 |
| 45 | Sc | 3313873.00 | A | 20240.00 | 0.61 |
| 45 | Sc | 366239.31 | P | 924.90 | 0.25 |
| 47 | Ti | 226.68 | P | 48.08 | 21.21 |
| 51 | V | 6405.85 | P | 194.60 | 3.04 |
| 52 | Cr | 1979.71 | P | 81.78 | 4.13 |
| 55 | Mn | 612.47 | P | 17.71 | 2.89 |
| 56 | Fe | 26197.55 | P | 360.80 | 1.38 |
| 59 | Co | 102.22 | P | 16.88 | 16.51 |
| 60 | Ni | 281.78 | P | 28.61 | 10.15 |
| 63 | Cu | 3200.82 | P | 123.90 | 3.87 |
| 66 | Zn | 463.79 | P | 9.67 | 2.08 |
| 72 | Ge | 719670.31 | P | 9252.00 | 1.29 |
| 72 | Ge | 145000.80 | P | 911.60 | 0.63 |
| 75 | As | 254.67 | P | 8.51 | 3.34 |
| 78 | Se | 241.56 | P | 8.04 | 3.33 |
| 88 | Sr | 706.71 | P | 17.64 | 2.50 |
| 98 | Mo | 132.23 | P | 11.71 | 8.86 |
| 103 | Rh | 3927675.00 | A | 88150.00 | 2.24 |
| 107 | Ag | 184.45 | P | 37.91 | 20.55 |

C:\ICPCHEM\1\DATA\13J31k00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 77.78 | P | 17.10 | 21.99 |
| 115 | In | 3980065.00 | A | 22630.00 | 0.57 |
| 115 | In | 1082158.00 | A | 8614.00 | 0.80 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 348.91 | P | 52.12 | 14.94 |
| 121 | Sb | 470.02 | P | 26.46 | 5.63 |
| 137 | Ba | 643.37 | P | 20.82 | 3.24 |
| 159 | Tb | 4950937.00 | A | 12540.00 | 0.25 |
| 175 | Lu | 4612562.00 | A | 22190.00 | 0.48 |
| 205 | Tl | 647.82 | P | 55.21 | 8.52 |
| 206 | (Pb) | 282.24 | P | 25.02 | 8.86 |
| 207 | (Pb) | 240.01 | P | 14.53 | 6.05 |
| 208 | Pb | 2698.06 | P | 103.10 | 3.82 |
| 209 | Bi | 2755955.00 | A | 23340.00 | 0.85 |

C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\002CAL
Date Acquired: Oct 31 2013 10:45 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2521858.00 | A | 17270.00 | 0.68 |
| 7 | (Li) | | P | | |
| 9 | Be | 98.89 | P | 8.39 | 8.48 |
| 9 | Be | 46.67 | P | 12.02 | 25.76 |
| 11 | B | 683.37 | P | 60.83 | 8.90 |
| 11 | B | 43.33 | P | 20.82 | 48.05 |
| 23 | Na | 496308.41 | P | 6820.00 | 1.37 |
| 23 | Na | 56242.39 | P | 163.60 | 0.29 |
| 24 | Mg | 8674.88 | P | 339.80 | 3.92 |
| 24 | Mg | 464.47 | P | 25.46 | 5.48 |
| 27 | Al | 18675.53 | P | 665.90 | 3.57 |
| 27 | Al | 457.80 | P | 3.85 | 0.84 |
| 39 | K | 4093980.00 | A | 19160.00 | 0.47 |
| 44 | Ca | 28943.20 | P | 459.10 | 1.59 |
| 45 | Sc | 3362635.00 | A | 13600.00 | 0.40 |
| 45 | Sc | 367626.41 | P | 1586.00 | 0.43 |
| 47 | Ti | 223.34 | P | 8.82 | 3.95 |
| 51 | V | 6756.23 | P | 60.73 | 0.90 |
| 52 | Cr | 1873.47 | P | 74.10 | 3.96 |
| 55 | Mn | 618.69 | P | 42.67 | 6.90 |
| 56 | Fe | 27119.24 | P | 504.90 | 1.86 |
| 59 | Co | 77.33 | P | 10.41 | 13.46 |
| 60 | Ni | 235.12 | P | 26.81 | 11.40 |
| 63 | Cu | 2911.87 | P | 137.00 | 4.70 |
| 66 | Zn | 442.68 | P | 30.62 | 6.92 |
| 72 | Ge | 714805.50 | P | 5302.00 | 0.74 |
| 72 | Ge | 144801.50 | P | 255.50 | 0.18 |
| 75 | As | 243.11 | P | 16.23 | 6.68 |
| 78 | Se | 212.00 | P | 9.17 | 4.32 |
| 88 | Sr | 730.04 | P | 55.68 | 7.63 |
| 98 | Mo | 125.56 | P | 20.09 | 16.00 |
| 103 | Rh | 3924881.00 | A | 20780.00 | 0.53 |
| 107 | Ag | 143.34 | P | 23.33 | 16.28 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 30.00 | P | 6.67 | 22.22 |
| 115 | In | 3944903.00 | A | 35950.00 | 0.91 |
| 115 | In | 1086949.00 | A | 10020.00 | 0.92 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 310.01 | P | 34.80 | 11.23 |
| 121 | Sb | 302.24 | P | 17.11 | 5.66 |
| 137 | Ba | 640.04 | P | 36.06 | 5.63 |
| 159 | Tb | 4942952.00 | A | 16220.00 | 0.33 |
| 175 | Lu | 4623930.00 | A | 24240.00 | 0.52 |
| 205 | Tl | 623.37 | P | 13.33 | 2.14 |
| 206 | (Pb) | 260.01 | P | 36.06 | 13.87 |
| 207 | (Pb) | 171.12 | P | 25.24 | 14.75 |
| 208 | Pb | 2500.26 | P | 94.54 | 3.78 |
| 209 | Bi | 2757011.00 | A | 4441.00 | 0.16 |

C:\ICPCHEM\1\DATA\13J31k00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\003CALS.D\003CALS.D#
Date Acquired: Oct 31 2013 10:52 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | A | 348400.00 | 12.70 |
| 7 | (Li) | | P | | |
| 9 | Be | 4456.33 | P | 297.70 | 6.68 |
| 9 | Be | 205.56 | P | 39.77 | 19.35 |
| 11 | B | 3472.72 | P | 131.90 | 3.80 |
| 11 | B | 133.34 | P | 6.67 | 5.00 |
| 23 | Na | 533030.13 | P | 7025.00 | 1.32 |
| 23 | Na | 57848.01 | P | 452.40 | 0.78 |
| 24 | Mg | 23492.75 | P | 143.30 | 0.61 |
| 24 | Mg | 1156.75 | P | 40.42 | 3.49 |
| 27 | Al | 39564.34 | P | 191.80 | 0.48 |
| 27 | Al | 993.40 | P | 60.83 | 6.12 |
| 39 | K | 4079743.00 | A | 26340.00 | 0.65 |
| 44 | Ca | 29534.48 | P | 431.90 | 1.46 |
| 45 | Sc | 3707282.00 | A | 599700.00 | 16.18 |
| 45 | Sc | 368476.91 | P | 1487.00 | 0.40 |
| 47 | Ti | 1931.29 | P | 57.96 | 3.00 |
| 51 | V | 11704.11 | P | 87.08 | 0.74 |
| 52 | Cr | 6929.64 | P | 105.40 | 1.52 |
| 55 | Mn | 4595.41 | P | 78.14 | 1.70 |
| 56 | Fe | 31942.03 | P | 396.30 | 1.24 |
| 59 | Co | 7124.85 | P | 101.40 | 1.42 |
| 60 | Ni | 2011.27 | P | 48.34 | 2.40 |
| 63 | Cu | 7489.04 | P | 98.47 | 1.31 |
| 66 | Zn | 1377.85 | P | 14.63 | 1.06 |
| 72 | Ge | 757217.00 | M | 65800.00 | 8.69 |
| 72 | Ge | 146230.09 | P | 672.20 | 0.46 |
| 75 | As | 872.25 | P | 16.02 | 1.84 |
| 78 | Se | 308.89 | P | 9.65 | 3.12 |
| 88 | Sr | 28904.18 | P | 843.00 | 2.92 |
| 98 | Mo | 8418.23 | P | 375.90 | 4.47 |
| 103 | Rh | 4375582.00 | A | 718200.00 | 16.41 |
| 107 | Ag | 13178.49 | P | 448.40 | 3.40 |

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| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 1047.85 | P | 30.25 | 2.89 |
| 115 | In | 4402088.00 | A | 702000.00 | 15.95 |
| 115 | In | 1104538.00 | A | 14630.00 | 1.32 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 10983.34 | P | 275.60 | 2.51 |
| 121 | Sb | 10344.02 | P | 307.50 | 2.97 |
| 137 | Ba | 4565.32 | P | 42.48 | 0.93 |
| 159 | Tb | 5482200.00 | A | 958100.00 | 17.48 |
| 175 | Lu | 5170287.00 | A | 898800.00 | 17.38 |
| 205 | Tl | 15857.36 | P | 416.20 | 2.62 |
| 206 | (Pb) | 6716.31 | P | 360.70 | 5.37 |
| 207 | (Pb) | 5673.57 | P | 122.80 | 2.16 |
| 208 | Pb | 27755.59 | P | 763.70 | 2.75 |
| 209 | Bi | 2991521.00 | A | 455600.00 | 15.23 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2743673.00 | 12.70 | 2521858.30 | 108.8 | 70 - 130 | |
| 45 | Sc | 3707282.00 | 16.18 | 3362635.00 | 110.2 | 70 - 130 | |
| 45 | Sc | 368476.97 | 0.40 | 367626.47 | 100.2 | 70 - 130 | |
| 72 | Ge | 757217.00 | 8.69 | 714805.50 | 105.9 | 70 - 130 | |
| 72 | Ge | 146230.14 | 0.46 | 144801.52 | 101.0 | 70 - 130 | |
| 103 | Rh | 4375581.50 | 16.41 | 3924880.80 | 111.5 | 70 - 130 | |
| 115 | In | 4402088.00 | 15.95 | 3944903.30 | 111.6 | 70 - 130 | |
| 115 | In | 1104538.10 | 1.32 | 1086949.30 | 101.6 | 70 - 130 | |
| 159 | Tb | 5482200.00 | 17.48 | 4942952.00 | 110.9 | 70 - 130 | |
| 175 | Lu | 5170287.50 | 17.38 | 4623930.50 | 111.8 | 70 - 130 | |
| 209 | Bi | 2991521.30 | 15.23 | 2757011.00 | 108.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#
Date Acquired: Oct 31 2013 10:59 am
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2553325.00 | A | 8311.00 | 0.33 |
| 7 | (Li) | | P | | |
| 9 | Be | 45712.10 | P | 593.40 | 1.30 |
| 9 | Be | 1495.67 | P | 61.95 | 4.14 |
| 11 | B | 28437.50 | P | 260.80 | 0.92 |
| 11 | B | 604.48 | P | 41.41 | 6.85 |
| 23 | Na | 695685.31 | P | 8057.00 | 1.16 |
| 23 | Na | 67480.80 | P | 386.00 | 0.57 |
| 24 | Mg | 146674.59 | P | 2042.00 | 1.39 |
| 24 | Mg | 7290.81 | P | 50.91 | 0.70 |
| 27 | Al | 193900.50 | P | 1380.00 | 0.71 |
| 27 | Al | 4933.38 | P | 171.50 | 3.48 |
| 39 | K | 4246089.00 | A | 17290.00 | 0.41 |
| 44 | Ca | 36620.73 | P | 1209.00 | 3.30 |
| 45 | Sc | 3330758.00 | A | 35960.00 | 1.08 |
| 45 | Sc | 373982.69 | P | 1581.00 | 0.42 |
| 47 | Ti | 17177.85 | P | 472.30 | 2.75 |
| 51 | V | 54019.60 | P | 464.10 | 0.86 |
| 52 | Cr | 52432.46 | P | 376.80 | 0.72 |
| 55 | Mn | 39866.83 | P | 295.30 | 0.74 |
| 56 | Fe | 74586.55 | P | 225.80 | 0.30 |
| 59 | Co | 70004.74 | P | 568.90 | 0.81 |
| 60 | Ni | 17951.10 | P | 78.96 | 0.44 |
| 63 | Cu | 46981.36 | P | 193.30 | 0.41 |
| 66 | Zn | 8530.42 | P | 103.00 | 1.21 |
| 72 | Ge | 709484.13 | P | 5389.00 | 0.76 |
| 72 | Ge | 147533.20 | P | 349.00 | 0.24 |
| 75 | As | 6295.12 | P | 181.30 | 2.88 |
| 78 | Se | 918.70 | P | 40.07 | 4.36 |
| 88 | Sr | 285361.19 | P | 2416.00 | 0.85 |
| 98 | Mo | 82377.52 | P | 1387.00 | 1.68 |
| 103 | Rh | 3945762.00 | A | 5246.00 | 0.13 |
| 107 | Ag | 127337.00 | P | 1500.00 | 1.18 |

C:\ICPCHEM\1\DATA\13J31k00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 9524.51 | P | 114.70 | 1.20 |
| 115 | In | 3968207.00 | A | 27320.00 | 0.69 |
| 115 | In | 1106060.00 | A | 8043.00 | 0.73 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 107685.80 | P | 1649.00 | 1.53 |
| 121 | Sb | 99506.15 | P | 1475.00 | 1.48 |
| 137 | Ba | 37691.06 | P | 487.90 | 1.29 |
| 159 | Tb | 4976040.00 | A | 40080.00 | 0.81 |
| 175 | Lu | 4663351.00 | A | 50120.00 | 1.07 |
| 205 | Tl | 169389.30 | P | 1383.00 | 0.82 |
| 206 | (Pb) | 64819.20 | P | 1011.00 | 1.56 |
| 207 | (Pb) | 54568.32 | P | 501.90 | 0.92 |
| 208 | Pb | 253451.09 | P | 2201.00 | 0.87 |
| 209 | Bi | 2776037.00 | A | 2838.00 | 0.10 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2553324.80 | 0.33 | 2521858.30 | 101.2 | 70 - 130 | |
| 45 Sc | 3330758.50 | 1.08 | 3362635.00 | 99.1 | 70 - 130 | |
| 45 Sc | 373982.66 | 0.42 | 367626.47 | 101.7 | 70 - 130 | |
| 72 Ge | 709484.13 | 0.76 | 714805.50 | 99.3 | 70 - 130 | |
| 72 Ge | 147533.23 | 0.24 | 144801.52 | 101.9 | 70 - 130 | |
| 103 Rh | 3945762.00 | 0.13 | 3924880.80 | 100.5 | 70 - 130 | |
| 115 In | 3968207.50 | 0.69 | 3944903.30 | 100.6 | 70 - 130 | |
| 115 In | 1106060.40 | 0.73 | 1086949.30 | 101.8 | 70 - 130 | |
| 159 Tb | 4976040.50 | 0.81 | 4942952.00 | 100.7 | 70 - 130 | |
| 175 Lu | 4663351.00 | 1.07 | 4623930.50 | 100.9 | 70 - 130 | |
| 209 Bi | 2776037.30 | 0.10 | 2757011.00 | 100.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#
Date Acquired: Oct 31 2013 11:06 am
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2534878.00 | A | 5189.00 | 0.20 |
| 7 | (Li) | | P | | |
| 9 | Be | 222660.59 | P | 3442.00 | 1.55 |
| 9 | Be | 7247.45 | P | 210.50 | 2.90 |
| 11 | B | 136266.91 | P | 1240.00 | 0.91 |
| 11 | B | 2930.38 | P | 135.50 | 4.62 |
| 23 | Na | 1468576.00 | A | 20040.00 | 1.36 |
| 23 | Na | 114306.40 | P | 386.50 | 0.34 |
| 24 | Mg | 682444.81 | P | 9319.00 | 1.37 |
| 24 | Mg | 33651.22 | P | 167.50 | 0.50 |
| 27 | Al | 866361.63 | P | 9346.00 | 1.08 |
| 27 | Al | 21686.78 | P | 381.90 | 1.76 |
| 39 | K | 4990979.00 | A | 10910.00 | 0.22 |
| 44 | Ca | 70583.38 | P | 1030.00 | 1.46 |
| 45 | Sc | 3360063.00 | A | 27480.00 | 0.82 |
| 45 | Sc | 372320.00 | P | 706.80 | 0.19 |
| 47 | Ti | 82465.80 | P | 251.40 | 0.30 |
| 51 | V | 234524.80 | P | 707.70 | 0.30 |
| 52 | Cr | 249053.09 | P | 724.90 | 0.29 |
| 55 | Mn | 191983.09 | P | 340.50 | 0.18 |
| 56 | Fe | 254029.70 | P | 1345.00 | 0.53 |
| 59 | Co | 342445.50 | P | 1982.00 | 0.58 |
| 60 | Ni | 86221.73 | P | 234.30 | 0.27 |
| 63 | Cu | 217255.70 | P | 1051.00 | 0.48 |
| 66 | Zn | 39905.25 | P | 141.20 | 0.35 |
| 72 | Ge | 696368.88 | P | 6754.00 | 0.97 |
| 72 | Ge | 145570.41 | P | 710.80 | 0.49 |
| 75 | As | 29852.18 | P | 148.00 | 0.50 |
| 78 | Se | 3561.77 | P | 67.66 | 1.90 |
| 88 | Sr | 1335333.00 | A | 12620.00 | 0.95 |
| 98 | Mo | 401803.19 | P | 4209.00 | 1.05 |
| 103 | Rh | 3932761.00 | A | 24980.00 | 0.64 |
| 107 | Ag | 618134.88 | P | 11950.00 | 1.93 |

C:\ICPCHEM\1\DATA\13J31k00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 46343.66 | P | 815.40 | 1.76 |
| 115 | In | 4004576.00 | A | 39360.00 | 0.98 |
| 115 | In | 1101115.00 | A | 5484.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 523694.50 | P | 9711.00 | 1.85 |
| 121 | Sb | 482500.81 | P | 8606.00 | 1.78 |
| 137 | Ba | 182800.30 | P | 1531.00 | 0.84 |
| 159 | Tb | 4990311.00 | A | 39910.00 | 0.80 |
| 175 | Lu | 4742163.00 | A | 32980.00 | 0.70 |
| 205 | Tl | 881688.31 | P | 7184.00 | 0.81 |
| 206 | (Pb) | 308862.41 | P | 517.30 | 0.17 |
| 207 | (Pb) | 260390.70 | P | 963.10 | 0.37 |
| 208 | Pb | 1201585.00 | P | 3603.00 | 0.30 |
| 209 | Bi | 2747095.00 | A | 33090.00 | 1.20 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2534878.30 | 0.20 | 2521858.30 | 100.5 | 70 - 130 | |
| 45 | Sc | 3360062.80 | 0.82 | 3362635.00 | 99.9 | 70 - 130 | |
| 45 | Sc | 372319.97 | 0.19 | 367626.47 | 101.3 | 70 - 130 | |
| 72 | Ge | 696368.88 | 0.97 | 714805.50 | 97.4 | 70 - 130 | |
| 72 | Ge | 145570.42 | 0.49 | 144801.52 | 100.5 | 70 - 130 | |
| 103 | Rh | 3932760.80 | 0.64 | 3924880.80 | 100.2 | 70 - 130 | |
| 115 | In | 4004575.80 | 0.98 | 3944903.30 | 101.5 | 70 - 130 | |
| 115 | In | 1101115.00 | 0.50 | 1086949.30 | 101.3 | 70 - 130 | |
| 159 | Tb | 4990311.00 | 0.80 | 4942952.00 | 101.0 | 70 - 130 | |
| 175 | Lu | 4742163.00 | 0.70 | 4623930.50 | 102.6 | 70 - 130 | |
| 209 | Bi | 2747095.30 | 1.20 | 2757011.00 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#
Date Acquired: Oct 31 2013 11:13 am
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2554999.00 | A | 11570.00 | 0.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 458173.00 | P | 5052.00 | 1.10 |
| 9 | Be | 14280.16 | P | 225.00 | 1.58 |
| 11 | B | 278049.19 | P | 394.00 | 0.14 |
| 11 | B | 5869.05 | P | 200.70 | 3.42 |
| 23 | Na | 2420442.00 | A | 15590.00 | 0.64 |
| 23 | Na | 171436.91 | P | 1073.00 | 0.63 |
| 24 | Mg | 1361045.00 | A | 7844.00 | 0.58 |
| 24 | Mg | 67698.79 | P | 567.70 | 0.84 |
| 27 | Al | 1758436.00 | A | 10330.00 | 0.59 |
| 27 | Al | 44564.05 | P | 1041.00 | 2.34 |
| 39 | K | 5923329.00 | A | 4698.00 | 0.08 |
| 44 | Ca | 111747.80 | P | 1047.00 | 0.94 |
| 45 | Sc | 3379753.00 | A | 6041.00 | 0.18 |
| 45 | Sc | 367079.00 | P | 799.50 | 0.22 |
| 47 | Ti | 168526.80 | P | 1211.00 | 0.72 |
| 51 | V | 466183.81 | P | 721.40 | 0.15 |
| 52 | Cr | 500861.41 | P | 1386.00 | 0.28 |
| 55 | Mn | 386867.91 | P | 215.70 | 0.06 |
| 56 | Fe | 486001.19 | P | 1427.00 | 0.29 |
| 59 | Co | 689386.19 | P | 2026.00 | 0.29 |
| 60 | Ni | 172552.09 | P | 315.70 | 0.18 |
| 63 | Cu | 434420.00 | P | 2179.00 | 0.50 |
| 66 | Zn | 80606.68 | P | 326.70 | 0.41 |
| 72 | Ge | 702498.81 | P | 6436.00 | 0.92 |
| 72 | Ge | 144683.70 | P | 999.40 | 0.69 |
| 75 | As | 60327.10 | P | 243.90 | 0.40 |
| 78 | Se | 7028.12 | P | 66.11 | 0.94 |
| 88 | Sr | 2663174.00 | A | 32620.00 | 1.22 |
| 98 | Mo | 820507.31 | P | 11230.00 | 1.37 |
| 103 | Rh | 4000867.00 | A | 9947.00 | 0.25 |
| 107 | Ag | 1227686.00 | A | 5599.00 | 0.46 |

C:\ICPCHEM\1\DATA\13J31k00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 93618.49 | P | 955.70 | 1.02 |
| 115 | In | 3983582.00 | A | 17780.00 | 0.45 |
| 115 | In | 1111090.00 | A | 4386.00 | 0.39 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1058400.00 | P | 8101.00 | 0.77 |
| 121 | Sb | 980593.50 | P | 8668.00 | 0.88 |
| 137 | Ba | 371980.19 | P | 2984.00 | 0.80 |
| 159 | Tb | 5031697.00 | A | 45770.00 | 0.91 |
| 175 | Lu | 4737849.00 | A | 6463.00 | 0.14 |
| 205 | Tl | 1765993.00 | A | 24190.00 | 1.37 |
| 206 | (Pb) | 631151.63 | P | 9215.00 | 1.46 |
| 207 | (Pb) | 532716.63 | P | 5420.00 | 1.02 |
| 208 | Pb | 2414942.00 | A | 28440.00 | 1.18 |
| 209 | Bi | 2769470.00 | A | 23600.00 | 0.85 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2554998.80 | 0.45 | 2521858.30 | 101.3 | 70 - 130 | |
| 45 Sc | 3379752.80 | 0.18 | 3362635.00 | 100.5 | 70 - 130 | |
| 45 Sc | 367079.03 | 0.22 | 367626.47 | 99.9 | 70 - 130 | |
| 72 Ge | 702498.81 | 0.92 | 714805.50 | 98.3 | 70 - 130 | |
| 72 Ge | 144683.70 | 0.69 | 144801.52 | 99.9 | 70 - 130 | |
| 103 Rh | 4000867.50 | 0.25 | 3924880.80 | 101.9 | 70 - 130 | |
| 115 In | 3983582.00 | 0.45 | 3944903.30 | 101.0 | 70 - 130 | |
| 115 In | 1111089.90 | 0.39 | 1086949.30 | 102.2 | 70 - 130 | |
| 159 Tb | 5031697.00 | 0.91 | 4942952.00 | 101.8 | 70 - 130 | |
| 175 Lu | 4737848.50 | 0.14 | 4623930.50 | 102.5 | 70 - 130 | |
| 209 Bi | 2769469.80 | 0.85 | 2757011.00 | 100.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#
Date Acquired: Oct 31 2013 11:20 am
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2536726.00 | A | 39000.00 | 1.54 |
| 7 | (Li) | | P | | |
| 9 | Be | 931693.81 | A | 12860.00 | 1.38 |
| 9 | Be | 28857.00 | P | 308.50 | 1.07 |
| 11 | B | 549230.31 | P | 2858.00 | 0.52 |
| 11 | B | 11555.74 | P | 236.60 | 2.05 |
| 23 | Na | 4311364.00 | A | 32320.00 | 0.75 |
| 23 | Na | 284823.81 | P | 939.80 | 0.33 |
| 24 | Mg | 2646307.00 | A | 17150.00 | 0.65 |
| 24 | Mg | 133938.50 | P | 557.90 | 0.42 |
| 27 | Al | 3318237.00 | A | 14060.00 | 0.42 |
| 27 | Al | 84601.57 | P | 850.60 | 1.01 |
| 39 | K | 7727199.00 | A | 42080.00 | 0.54 |
| 44 | Ca | 193099.70 | P | 1455.00 | 0.75 |
| 45 | Sc | 3330294.00 | A | 15130.00 | 0.45 |
| 45 | Sc | 365762.91 | P | 2061.00 | 0.56 |
| 47 | Ti | 335417.31 | P | 3450.00 | 1.03 |
| 51 | V | 917515.69 | P | 5324.00 | 0.58 |
| 52 | Cr | 973556.38 | M | 24080.00 | 2.47 |
| 55 | Mn | 762431.38 | P | 4046.00 | 0.53 |
| 56 | Fe | 924542.38 | P | 9154.00 | 0.99 |
| 59 | Co | 1303678.00 | A | 8292.00 | 0.64 |
| 60 | Ni | 339766.69 | P | 2463.00 | 0.72 |
| 63 | Cu | 853054.81 | P | 5681.00 | 0.67 |
| 66 | Zn | 157874.80 | P | 1078.00 | 0.68 |
| 72 | Ge | 706224.81 | P | 10130.00 | 1.43 |
| 72 | Ge | 143582.50 | P | 817.20 | 0.57 |
| 75 | As | 119295.20 | P | 827.00 | 0.69 |
| 78 | Se | 13725.61 | P | 86.36 | 0.63 |
| 88 | Sr | 5223529.00 | A | 65620.00 | 1.26 |
| 98 | Mo | 1608264.00 | A | 9337.00 | 0.58 |
| 103 | Rh | 3941595.00 | A | 16160.00 | 0.41 |
| 107 | Ag | 2396045.00 | A | 5518.00 | 0.23 |

C:\ICPCHEM\1\DATA\13J31k00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 185812.30 | P | 784.50 | 0.42 |
| 115 | In | 3961243.00 | A | 24130.00 | 0.61 |
| 115 | In | 1102240.00 | A | 6341.00 | 0.58 |
| 118 | (In) | | A | | |
| 118 | (In) | | P | | |
| 120 | Sn | 2000071.00 | A | 8538.00 | 0.43 |
| 121 | Sb | 1848809.00 | A | 20180.00 | 1.09 |
| 137 | Ba | 744011.31 | P | 8116.00 | 1.09 |
| 159 | Tb | 4997242.00 | A | 46950.00 | 0.94 |
| 175 | Lu | 4725955.00 | A | 46920.00 | 0.99 |
| 205 | Tl | 3492071.00 | A | 5762.00 | 0.17 |
| 206 | (Pb) | 1220915.00 | A | 20140.00 | 1.65 |
| 207 | (Pb) | 1071976.00 | P | 12970.00 | 1.21 |
| 208 | Pb | 4742554.00 | A | 36410.00 | 0.77 |
| 209 | Bi | 2784998.00 | A | 28090.00 | 1.01 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2536726.50 | 1.54 | 2521858.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 3330294.50 | 0.45 | 3362635.00 | 99.0 | 70 - 130 | |
| 45 | Sc | 365762.88 | 0.56 | 367626.47 | 99.5 | 70 - 130 | |
| 72 | Ge | 706224.81 | 1.43 | 714805.50 | 98.8 | 70 - 130 | |
| 72 | Ge | 143582.52 | 0.57 | 144801.52 | 99.2 | 70 - 130 | |
| 103 | Rh | 3941595.00 | 0.41 | 3924880.80 | 100.4 | 70 - 130 | |
| 115 | In | 3961243.30 | 0.61 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1102240.00 | 0.58 | 1086949.30 | 101.4 | 70 - 130 | |
| 159 | Tb | 4997241.50 | 0.94 | 4942952.00 | 101.1 | 70 - 130 | |
| 175 | Lu | 4725954.50 | 0.99 | 4623930.50 | 102.2 | 70 - 130 | |
| 209 | Bi | 2784998.00 | 1.01 | 2757011.00 | 101.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#
Date Acquired: Oct 31 2013 11:27 am
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2487333.00 | A | 26170.00 | 1.05 |
| 7 | (Li) | | P | | |
| 9 | Be | 363.35 | P | 23.33 | 6.42 |
| 9 | Be | 164.45 | P | 45.99 | 27.97 |
| 11 | B | 4451.89 | P | 48.58 | 1.09 |
| 11 | B | 264.45 | P | 30.97 | 11.71 |
| 23 | Na | 37259048.00 | A | 324300.00 | 0.87 |
| 23 | Na | 2188867.00 | A | 11840.00 | 0.54 |
| 24 | Mg | 24938700.00 | A | 215400.00 | 0.86 |
| 24 | Mg | 1237019.00 | A | 13810.00 | 1.12 |
| 27 | Al | 31161050.00 | A | 289100.00 | 0.93 |
| 27 | Al | 831312.31 | P | 8787.00 | 1.06 |
| 39 | K | 39269200.00 | A | 452700.00 | 1.15 |
| 44 | Ca | 1128635.00 | A | 2982.00 | 0.26 |
| 45 | Sc | 3356362.00 | A | 22390.00 | 0.67 |
| 45 | Sc | 378445.41 | P | 1052.00 | 0.28 |
| 47 | Ti | 374.46 | P | 41.14 | 10.99 |
| 51 | V | 5724.25 | P | 248.80 | 4.35 |
| 52 | Cr | 2383.33 | P | 43.51 | 1.83 |
| 55 | Mn | 1121.83 | P | 30.12 | 2.68 |
| 56 | Fe | 8171571.00 | A | 46890.00 | 0.57 |
| 59 | Co | 774.25 | P | 41.43 | 5.35 |
| 60 | Ni | 475.12 | P | 25.52 | 5.37 |
| 63 | Cu | 3560.02 | P | 71.73 | 2.01 |
| 66 | Zn | 623.80 | P | 60.83 | 9.75 |
| 72 | Ge | 727258.38 | P | 6318.00 | 0.87 |
| 72 | Ge | 149444.09 | P | 466.40 | 0.31 |
| 75 | As | 368.23 | P | 10.21 | 2.77 |
| 78 | Se | 337.12 | P | 26.85 | 7.96 |
| 88 | Sr | 3843.96 | P | 122.20 | 3.18 |
| 98 | Mo | 1916.86 | P | 66.93 | 3.49 |
| 103 | Rh | 3902106.00 | A | 45530.00 | 1.17 |
| 107 | Ag | 818.94 | P | 58.35 | 7.13 |

C:\ICPCHEM\1\DATA\13J31k00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 203.34 | P | 37.57 | 18.48 |
| 115 | In | 3961190.00 | A | 29500.00 | 0.74 |
| 115 | In | 1118718.00 | A | 5538.00 | 0.50 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1749.06 | P | 92.65 | 5.30 |
| 121 | Sb | 2078.00 | P | 37.91 | 1.82 |
| 137 | Ba | 967.84 | P | 81.95 | 8.47 |
| 159 | Tb | 4963982.00 | A | 5580.00 | 0.11 |
| 175 | Lu | 4708879.00 | A | 36680.00 | 0.78 |
| 205 | Tl | 5834.75 | P | 175.10 | 3.00 |
| 206 | (Pb) | 618.93 | P | 27.15 | 4.39 |
| 207 | (Pb) | 493.36 | P | 36.06 | 7.31 |
| 208 | Pb | 4003.81 | P | 55.08 | 1.38 |
| 209 | Bi | 2754453.00 | A | 19680.00 | 0.71 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2487332.80 | 1.05 | 2521858.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 3356361.80 | 0.67 | 3362635.00 | 99.8 | 70 - 130 | |
| 45 | Sc | 378445.47 | 0.28 | 367626.47 | 102.9 | 70 - 130 | |
| 72 | Ge | 727258.38 | 0.87 | 714805.50 | 101.7 | 70 - 130 | |
| 72 | Ge | 149444.05 | 0.31 | 144801.52 | 103.2 | 70 - 130 | |
| 103 | Rh | 3902105.80 | 1.17 | 3924880.80 | 99.4 | 70 - 130 | |
| 115 | In | 3961190.00 | 0.74 | 3944903.30 | 100.4 | 70 - 130 | |
| 115 | In | 1118718.00 | 0.50 | 1086949.30 | 102.9 | 70 - 130 | |
| 159 | Tb | 4963982.00 | 0.11 | 4942952.00 | 100.4 | 70 - 130 | |
| 175 | Lu | 4708878.50 | 0.78 | 4623930.50 | 101.8 | 70 - 130 | |
| 209 | Bi | 2754452.80 | 0.71 | 2757011.00 | 99.9 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#
Date Acquired: Oct 31 2013 11:35 am
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Nov 01 2013 08:50 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2464318.00 | A | 7530.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 290.02 | P | 225.00 | 77.58 |
| 9 | Be | 82.22 | P | 1.93 | 2.34 |
| 11 | B | 2095.76 | P | 146.90 | 7.01 |
| 11 | B | 126.67 | P | 21.86 | 17.26 |
| 23 | Na | 362118690.00 | A | 2552000.00 | 0.70 |
| 23 | Na | 20296390.00 | A | 271700.00 | 1.34 |
| 24 | Mg | 242174800.00 | A | 1367000.00 | 0.56 |
| 24 | Mg | 11605370.00 | A | 113800.00 | 0.98 |
| 27 | Al | 304862300.00 | A | 1997000.00 | 0.66 |
| 27 | Al | 7437361.00 | A | 44410.00 | 0.60 |
| 39 | K | 346324000.00 | A | 2590000.00 | 0.75 |
| 44 | Ca | 10384030.00 | A | 59790.00 | 0.58 |
| 45 | Sc | 3348449.00 | A | 10160.00 | 0.30 |
| 45 | Sc | 378948.91 | P | 3362.00 | 0.89 |
| 47 | Ti | 408.91 | P | 206.00 | 50.38 |
| 51 | V | 5451.25 | P | 119.80 | 2.20 |
| 52 | Cr | 3749.39 | P | 64.03 | 1.71 |
| 55 | Mn | 3311.96 | P | 51.26 | 1.55 |
| 56 | Fe | 79734328.00 | A | 1292000.00 | 1.62 |
| 59 | Co | 2786.07 | P | 82.66 | 2.97 |
| 60 | Ni | 976.93 | P | 17.35 | 1.78 |
| 63 | Cu | 3904.11 | P | 37.01 | 0.95 |
| 66 | Zn | 8183.12 | P | 69.40 | 0.85 |
| 72 | Ge | 732295.69 | P | 5927.00 | 0.81 |
| 72 | Ge | 149667.41 | P | 2474.00 | 1.65 |
| 75 | As | 276.23 | P | 7.78 | 2.82 |
| 78 | Se | 260.45 | P | 31.74 | 12.19 |
| 88 | Sr | 23682.73 | P | 363.10 | 1.53 |
| 98 | Mo | 934.51 | P | 208.00 | 22.26 |
| 103 | Rh | 3772556.00 | A | 11130.00 | 0.30 |
| 107 | Ag | 1088.97 | P | 298.40 | 27.40 |

C:\ICPCHEM\1\DATA\13J31k00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 161.12 | P | 19.53 | 12.12 |
| 115 | In | 3831564.00 | A | 6845.00 | 0.18 |
| 115 | In | 1088822.00 | A | 22910.00 | 2.10 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1105.64 | P | 272.80 | 24.67 |
| 121 | Sb | 1206.76 | P | 126.00 | 10.44 |
| 137 | Ba | 1476.80 | P | 121.00 | 8.19 |
| 159 | Tb | 4972797.00 | A | 17990.00 | 0.36 |
| 175 | Lu | 4680171.00 | A | 17030.00 | 0.36 |
| 205 | Tl | 2286.94 | P | 259.90 | 11.37 |
| 206 | (Pb) | 922.29 | P | 183.10 | 19.85 |
| 207 | (Pb) | 794.50 | P | 223.00 | 28.07 |
| 208 | Pb | 5107.36 | P | 981.90 | 19.23 |
| 209 | Bi | 2623461.00 | A | 9222.00 | 0.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2464317.80 | 0.31 | 2521858.30 | 97.7 | 70 - 130 | |
| 45 | Sc | 3348449.00 | 0.30 | 3362635.00 | 99.6 | 70 - 130 | |
| 45 | Sc | 378948.88 | 0.89 | 367626.47 | 103.1 | 70 - 130 | |
| 72 | Ge | 732295.69 | 0.81 | 714805.50 | 102.4 | 70 - 130 | |
| 72 | Ge | 149667.39 | 1.65 | 144801.52 | 103.4 | 70 - 130 | |
| 103 | Rh | 3772556.30 | 0.30 | 3924880.80 | 96.1 | 70 - 130 | |
| 115 | In | 3831563.80 | 0.18 | 3944903.30 | 97.1 | 70 - 130 | |
| 115 | In | 1088821.90 | 2.10 | 1086949.30 | 100.2 | 70 - 130 | |
| 159 | Tb | 4972797.00 | 0.36 | 4942952.00 | 100.6 | 70 - 130 | |
| 175 | Lu | 4680171.00 | 0.36 | 4623930.50 | 101.2 | 70 - 130 | |
| 209 | Bi | 2623461.00 | 0.35 | 2757011.00 | 95.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 31 2013 11:42 am
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 60.45 | 60.45 | ppb | 0.14 | 900.00 | |
| 9 Be | 45 | 2 | 59.57 | 59.57 | ppb | 1.03 | 900.00 | |
| 11 B | 6 | 1 | 59.71 | 59.71 | ppb | 0.86 | 900.00 | |
| 11 B | 45 | 2 | 56.70 | 56.70 | ppb | 2.13 | 900.00 | |
| 23 Na | 45 | 1 | 5611.00 | 5611.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5835.00 | 5835.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 5730.00 | 5730.00 | ppb | 0.42 | 90000.00 | |
| 24 Mg | 45 | 2 | 5471.00 | 5471.00 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 5914.00 | 5914.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 5456.00 | 5456.00 | ppb | 0.79 | 90000.00 | |
| 39 K | 45 | 1 | 5641.00 | 5641.00 | ppb | 0.33 | 90000.00 | |
| 44 Ca | 45 | 1 | 5595.00 | 5595.00 | ppb | 0.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.41 | 60.41 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 60.85 | 60.85 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 59.64 | 59.64 | ppb | 0.62 | 900.00 | |
| 55 Mn | 45 | 2 | 59.79 | 59.79 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 5796.00 | 5796.00 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 60.48 | 60.48 | ppb | 0.91 | 900.00 | |
| 60 Ni | 45 | 2 | 58.51 | 58.51 | ppb | 0.87 | 900.00 | |
| 63 Cu | 72 | 2 | 57.50 | 57.50 | ppb | 1.05 | 900.00 | |
| 66 Zn | 72 | 2 | 61.31 | 61.31 | ppb | 0.63 | 900.00 | |
| 75 As | 72 | 2 | 59.46 | 59.46 | ppb | 0.93 | 900.00 | |
| 78 Se | 72 | 2 | 59.28 | 59.28 | ppb | 2.62 | 900.00 | |
| 88 Sr | 103 | 1 | 61.89 | 61.89 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 64.52 | 64.52 | ppb | 0.15 | 900.00 | |
| 107 Ag | 115 | 1 | 61.30 | 61.30 | ppb | 0.97 | 900.00 | |
| 111 Cd | 115 | 2 | 59.51 | 59.51 | ppb | 1.06 | 900.00 | |
| 120 Sn | 115 | 1 | 60.75 | 60.75 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 60.14 | 60.14 | ppb | 0.90 | 900.00 | |
| 137 Ba | 159 | 1 | 60.20 | 60.20 | ppb | 0.86 | 900.00 | |
| 205 Tl | 209 | 1 | 58.85 | 58.85 | ppb | 0.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 60.90 | 60.90 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2486272 | 0.84 | 2521858 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 3367463 | 0.57 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 371203 | 0.52 | 367626 | 101.0 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 708654 | 0.82 | 714806 | 99.1 | 70 | - | 130 |
| 72 | Ge | 2 | 146540 | 0.82 | 144802 | 101.2 | 70 | - | 130 |
| 103 | Rh | 1 | 3818770 | 0.36 | 3924881 | 97.3 | 70 | - | 130 |
| 115 | In | 1 | 3860230 | 0.28 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1098177 | 2.18 | 1086949 | 101.0 | 70 | - | 130 |
| 159 | Tb | 1 | 4968707 | 0.86 | 4942952 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 4673059 | 0.37 | 4623931 | 101.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2677828 | 0.46 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#
Date Acquired: Oct 31 2013 11:49 am
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 11.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 89.95 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 9.85 | 900.00 | |
| 11 B | 45 | 2 | 0.41 | 0.41 | ppb | 27.96 | 900.00 | |
| 23 Na | 45 | 1 | 1.13 | 1.13 | ppb | 4.93 | 90000.00 | |
| 23 Na | 45 | 2 | 3.40 | 3.40 | ppb | 33.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.65 | 0.65 | ppb | 21.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 3.01 | 3.01 | ppb | 35.24 | 90000.00 | |
| 27 Al | 45 | 1 | 0.75 | 0.75 | ppb | 8.86 | 90000.00 | |
| 27 Al | 45 | 2 | 3.00 | 3.00 | ppb | 31.51 | 90000.00 | |
| 39 K | 45 | 1 | -0.53 | -0.53 | ppb | 136.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.80 | 0.80 | ppb | 64.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 6.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.05 | 0.05 | ppb | 121.91 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 23.64 | 900.00 | |
| 56 Fe | 45 | 2 | 3.66 | 3.66 | ppb | 35.55 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 31.60 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 18.17 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 142.97 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.57 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 19.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 56.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 32.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 8.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 17.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 7.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 17.83 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 72.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 3.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 32.06 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2545401 | 0.75 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3384524 | 0.33 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381055 | 0.51 | 367626 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724776 | 0.30 | 714806 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 149806 | 0.48 | 144802 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 3972545 | 0.16 | 3924881 | 101.2 | 70 | - | 130 |
| 115 In | 1 | 4015489 | 0.44 | 3944903 | 101.8 | 70 | - | 130 |
| 115 In | 2 | 1135391 | 0.48 | 1086949 | 104.5 | 70 | - | 130 |
| 159 Tb | 1 | 5024319 | 0.65 | 4942952 | 101.6 | 70 | - | 130 |
| 175 Lu | 1 | 4721330 | 0.64 | 4623931 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 2810982 | 0.86 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#
Date Acquired: Oct 31 2013 11:58 am
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.30 | 50.30 | ppb | 0.28 | 900.00 | |
| 9 Be | 45 | 2 | 49.74 | 49.74 | ppb | 3.60 | 900.00 | |
| 11 B | 6 | 1 | 51.06 | 51.06 | ppb | 0.73 | 900.00 | |
| 11 B | 45 | 2 | 49.28 | 49.28 | ppb | 3.55 | 900.00 | |
| 23 Na | 45 | 1 | 5101.00 | 5101.00 | ppb | 0.15 | 90000.00 | |
| 23 Na | 45 | 2 | 5229.00 | 5229.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 5104.00 | 5104.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 5060.00 | 5060.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4676.00 | 4676.00 | ppb | 1.35 | 90000.00 | |
| 39 K | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 5116.00 | 5116.00 | ppb | 0.83 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.69 | 49.69 | ppb | 0.45 | 900.00 | |
| 51 V | 45 | 2 | 49.03 | 49.03 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 48.81 | 48.81 | ppb | 1.92 | 900.00 | |
| 55 Mn | 45 | 2 | 48.75 | 48.75 | ppb | 3.40 | 900.00 | |
| 56 Fe | 45 | 2 | 5147.00 | 5147.00 | ppb | 3.53 | 90000.00 | |
| 59 Co | 45 | 2 | 49.77 | 49.77 | ppb | 3.23 | 900.00 | |
| 60 Ni | 45 | 2 | 48.16 | 48.16 | ppb | 1.61 | 900.00 | |
| 63 Cu | 72 | 2 | 47.34 | 47.34 | ppb | 2.18 | 900.00 | |
| 66 Zn | 72 | 2 | 48.58 | 48.58 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 49.65 | 49.65 | ppb | 1.23 | 900.00 | |
| 78 Se | 72 | 2 | 48.64 | 48.64 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 51.54 | 51.54 | ppb | 0.87 | 900.00 | |
| 98 Mo | 103 | 1 | 52.50 | 52.50 | ppb | 1.16 | 900.00 | |
| 107 Ag | 115 | 1 | 49.05 | 49.05 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 48.72 | 48.72 | ppb | 1.85 | 900.00 | |
| 120 Sn | 115 | 1 | 52.57 | 52.57 | ppb | 0.80 | 900.00 | |
| 121 Sb | 115 | 1 | 53.07 | 53.07 | ppb | 0.57 | 900.00 | |
| 137 Ba | 159 | 1 | 49.55 | 49.55 | ppb | 1.46 | 900.00 | |
| 205 Tl | 209 | 1 | 48.77 | 48.77 | ppb | 0.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.22 | 50.22 | ppb | 0.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2483818 | 1.63 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3388282 | 0.95 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 375804 | 1.31 | 367626 | 102.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708720 | 0.60 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 147585 | 1.31 | 144802 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3877887 | 0.41 | 3924881 | 98.8 | 70 | - | 130 |
| 115 In | 1 | 3930373 | 0.60 | 3944903 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1110154 | 0.80 | 1086949 | 102.1 | 70 | - | 130 |
| 159 Tb | 1 | 5017846 | 0.83 | 4942952 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 4706974 | 0.68 | 4623931 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 2692495 | 0.58 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#
Date Acquired: Oct 31 2013 12:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 33.14 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.07 | ppb | 35.29 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 7.29 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 10.15 | 900.00 | |
| 23 Na | 45 | 1 | 1.02 | 1.02 | ppb | 6.43 | 90000.00 | |
| 23 Na | 45 | 2 | 2.99 | 2.99 | ppb | 13.90 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 26.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.74 | 2.74 | ppb | 17.13 | 90000.00 | |
| 27 Al | 45 | 1 | 0.79 | 0.79 | ppb | 25.55 | 90000.00 | |
| 27 Al | 45 | 2 | 2.51 | 2.51 | ppb | 16.86 | 90000.00 | |
| 39 K | 45 | 1 | 0.59 | 0.59 | ppb | 53.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.37 | 0.37 | ppb | 133.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 31.74 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 10.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 32.87 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 26.81 | 900.00 | |
| 56 Fe | 45 | 2 | 2.97 | 2.97 | ppb | 18.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.47 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 28.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.03 | -0.03 | ppb | 17.92 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 129.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.20 | ppb | 47.60 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 25.26 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.03 | ppb | 6.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 17.75 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 5.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 16.84 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.84 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 49.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 2.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 23.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2564763 | 0.65 | 2521858 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 3385504 | 0.08 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 381602 | 0.41 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 728382 | 0.79 | 714806 | 101.9 | 70 | - | 130 |
| 72 Ge | 2 | 150502 | 0.79 | 144802 | 103.9 | 70 | - | 130 |
| 103 Rh | 1 | 3990804 | 0.66 | 3924881 | 101.7 | 70 | - | 130 |
| 115 In | 1 | 4003275 | 0.71 | 3944903 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 1146737 | 0.28 | 1086949 | 105.5 | 70 | - | 130 |
| 159 Tb | 1 | 5044716 | 0.40 | 4942952 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 4768985 | 0.29 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2812956 | 0.34 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#
Date Acquired: Oct 31 2013 12:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 0.83 | 900.00 | |
| 9 Be | 45 | 2 | 0.68 | 0.68 | ppb | 10.90 | 900.00 | |
| 11 B | 6 | 1 | 5.15 | 5.15 | ppb | 1.70 | 900.00 | |
| 11 B | 45 | 2 | 5.73 | 5.73 | ppb | 16.15 | 900.00 | |
| 23 Na | 45 | 1 | 269.70 | 269.70 | ppb | 2.93 | 90000.00 | |
| 23 Na | 45 | 2 | 301.50 | 301.50 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 277.50 | 277.50 | ppb | 3.09 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.10 | 285.10 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 29.60 | 29.60 | ppb | 1.30 | 90000.00 | |
| 27 Al | 45 | 2 | 27.44 | 27.44 | ppb | 0.25 | 90000.00 | |
| 39 K | 45 | 1 | 271.00 | 271.00 | ppb | 2.21 | 90000.00 | |
| 44 Ca | 45 | 1 | 286.90 | 286.90 | ppb | 0.58 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.06 | 1.06 | ppb | 1.86 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 2.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1.00 | 1.00 | ppb | 1.29 | 900.00 | |
| 55 Mn | 45 | 2 | 1.04 | 1.04 | ppb | 2.15 | 900.00 | |
| 56 Fe | 45 | 2 | 30.27 | 30.27 | ppb | 0.81 | 90000.00 | |
| 59 Co | 45 | 2 | 0.54 | 0.54 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 2.46 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 1.00 | ppb | 0.81 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 1.51 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 5.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.79 | 0.79 | ppb | 25.84 | 900.00 | |
| 88 Sr | 103 | 1 | 5.44 | 5.44 | ppb | 2.24 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 4.17 | 900.00 | |
| 107 Ag | 115 | 1 | 0.55 | 0.55 | ppb | 2.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.54 | 0.54 | ppb | 6.48 | 900.00 | |
| 120 Sn | 115 | 1 | 5.24 | 5.24 | ppb | 2.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 2.29 | 900.00 | |
| 137 Ba | 159 | 1 | 1.08 | 1.08 | ppb | 2.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 0.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.57 | 0.57 | ppb | 1.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2589735 | 1.01 | 2521858 | 102.7 | 70 - 130 | |
| 45 Sc | 1 | 3355864 | 1.98 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 379685 | 0.18 | 367626 | 103.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724065 | 1.81 | 714806 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 149892 | 0.36 | 144802 | 103.5 | 70 | - | 130 |
| 103 Rh | 1 | 4024897 | 0.54 | 3924881 | 102.5 | 70 | - | 130 |
| 115 In | 1 | 4035904 | 1.45 | 3944903 | 102.3 | 70 | - | 130 |
| 115 In | 2 | 1142700 | 0.18 | 1086949 | 105.1 | 70 | - | 130 |
| 159 Tb | 1 | 5014331 | 1.26 | 4942952 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4771893 | 2.00 | 4623931 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 2836056 | 1.18 | 2757011 | 102.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#
Date Acquired: Oct 31 2013 12:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 42.66 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.14 | ppb | 82.13 | 900.00 | |
| 11 B | 6 | 1 | 0.23 | 0.23 | ppb | 2.39 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 14.12 | 900.00 | |
| 23 Na | 45 | 1 | 97480.00 | 97480.00 | ppb | 0.39 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 98970.00 | 98970.00 | ppb | 0.83 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96950.00 | 96950.00 | ppb | 1.26 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 91660.00 | 91660.00 | ppb | 0.49 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 98320.00 | 98320.00 | ppb | 1.30 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88420.00 | 88420.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 97780.00 | 97780.00 | ppb | 1.66 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96150.00 | 96150.00 | ppb | 1.21 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1921.00 | 1921.00 | ppb | 1.53 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 19.58 | 900.00 | |
| 52 Cr | 45 | 2 | 1.06 | 1.06 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.25 | ppb | 4.62 | 900.00 | |
| 56 Fe | 45 | 2 | 96500.00 | 96500.00 | ppb | 0.48 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.70 | 0.70 | ppb | 2.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.55 | 0.55 | ppb | 21.47 | 900.00 | |
| 66 Zn | 72 | 2 | 1.84 | 1.84 | ppb | 2.56 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 7.57 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.40 | ppb | 31.68 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 5.23 | ppb | 0.86 | 900.00 | |
| 98 Mo | 103 | 1 | 2005.00 | 2005.00 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 8.29 | 900.00 | |
| 111 Cd | 115 | 2 | 1.15 | 1.15 | ppb | 3.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.12 | ppb | 2.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 3.34 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 7.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2349052 | 0.38 | 2521858 | 93.1 | 70 - 130 | |
| 45 Sc | 1 | 3218230 | 1.07 | 3362635 | 95.7 | 70 - 130 | |
| 45 Sc | 2 | 359881 | 0.45 | 367626 | 97.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 746203 | 1.30 | 714806 | 104.4 | 70 | - | 130 |
| 72 Ge | 2 | 144679 | 0.76 | 144802 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 3415071 | 0.45 | 3924881 | 87.0 | 70 | - | 130 |
| 115 In | 1 | 3583008 | 0.44 | 3944903 | 90.8 | 70 | - | 130 |
| 115 In | 2 | 1086267 | 0.59 | 1086949 | 99.9 | 70 | - | 130 |
| 159 Tb | 1 | 4753298 | 0.72 | 4942952 | 96.2 | 70 | - | 130 |
| 175 Lu | 1 | 4541982 | 0.96 | 4623931 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2390792 | 0.63 | 2757011 | 86.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#
Date Acquired: Oct 31 2013 12:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 58.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 270.25 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 2.95 | 900.00 | |
| 11 B | 45 | 2 | 0.33 | 0.33 | ppb | 69.55 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 100200.00 | 100200.00 | ppb | 0.72 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 96730.00 | 96730.00 | ppb | 0.14 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 93470.00 | 93470.00 | ppb | 0.23 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 97140.00 | 97140.00 | ppb | 1.19 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88750.00 | 88750.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 96590.00 | 96590.00 | ppb | 0.55 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 96510.00 | 96510.00 | ppb | 0.09 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1917.00 | 1917.00 | ppb | 0.69 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.11 | -0.11 | ppb | 0.89 | 900.00 | |
| 52 Cr | 45 | 2 | 20.78 | 20.78 | ppb | 0.14 | 900.00 | |
| 55 Mn | 45 | 2 | 19.72 | 19.72 | ppb | 0.11 | 900.00 | |
| 56 Fe | 45 | 2 | 98200.00 | 98200.00 | ppb | 0.37 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 19.78 | 19.78 | ppb | 0.11 | 900.00 | |
| 60 Ni | 45 | 2 | 19.44 | 19.44 | ppb | 0.71 | 900.00 | |
| 63 Cu | 72 | 2 | 18.69 | 18.69 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 19.82 | 19.82 | ppb | 0.65 | 900.00 | |
| 75 As | 72 | 2 | 20.05 | 20.05 | ppb | 0.04 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.23 | ppb | 2.89 | 900.00 | |
| 88 Sr | 103 | 1 | 5.22 | 5.22 | ppb | 1.32 | 900.00 | |
| 98 Mo | 103 | 1 | 2013.00 | 2013.00 | ppb | 0.76 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.01 | 21.01 | ppb | 1.13 | 900.00 | |
| 111 Cd | 115 | 2 | 19.54 | 19.54 | ppb | 1.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 5.76 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.31 | ppb | 2.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.27 | ppb | 3.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 11.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.15 | ppb | 0.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2352990 | 1.02 | 2521858 | 93.3 | 70 - 130 | |
| 45 Sc | 1 | 3230003 | 0.66 | 3362635 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 349042 | 0.49 | 367626 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31k00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735288 | 0.66 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 141497 | 0.36 | 144802 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3406075 | 0.61 | 3924881 | 86.8 | 70 | - | 130 |
| 115 | In | 1 | 3587248 | 1.33 | 3944903 | 90.9 | 70 | - | 130 |
| 115 | In | 2 | 1060516 | 0.46 | 1086949 | 97.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4753899 | 0.90 | 4942952 | 96.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4545631 | 0.84 | 4623931 | 98.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2416343 | 1.44 | 2757011 | 87.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

10 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D# |
| Date Acquired: | Oct 31 2013 12:45 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICSA |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 261.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.06 | ppb | 197.81 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.13 | ppb | 16.79 | 900.00 | |
| 11 B | 45 | 2 | 0.55 | 0.28 | ppb | 39.26 | 900.00 | |
| 23 Na | 45 | 1 | 98860.00 | 49430.00 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 100020.00 | 50010.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 98680.00 | 49340.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 92720.00 | 46360.00 | ppb | 0.29 | 90000.00 | |
| 27 Al | 45 | 1 | 98820.00 | 49410.00 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 2 | 87660.00 | 43830.00 | ppb | 0.56 | 90000.00 | |
| 39 K | 45 | 1 | 98880.00 | 49440.00 | ppb | 0.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 96800.00 | 48400.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1961.40 | 980.70 | ppb | 0.63 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.31 | -0.15 | ppb | 2.80 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 0.52 | ppb | 1.70 | 900.00 | |
| 55 Mn | 45 | 2 | 0.25 | 0.13 | ppb | 2.48 | 900.00 | |
| 56 Fe | 45 | 2 | 98500.00 | 49250.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.05 | 0.02 | ppb | 9.81 | 900.00 | |
| 60 Ni | 45 | 2 | 0.77 | 0.39 | ppb | 3.23 | 900.00 | |
| 63 Cu | 72 | 2 | 0.77 | 0.39 | ppb | 5.85 | 900.00 | |
| 66 Zn | 72 | 2 | 2.50 | 1.25 | ppb | 2.06 | 900.00 | |
| 75 As | 72 | 2 | 0.11 | 0.06 | ppb | 15.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.08 | 0.04 | ppb | 281.16 | 900.00 | |
| 88 Sr | 103 | 1 | 5.28 | 2.64 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 2012.00 | 1006.00 | ppb | 0.22 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.03 | ppb | 8.91 | 900.00 | |
| 111 Cd | 115 | 2 | 1.16 | 0.58 | ppb | 9.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 2.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.34 | 0.17 | ppb | 1.87 | 900.00 | |
| 137 Ba | 159 | 1 | 0.27 | 0.14 | ppb | 5.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 12.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.08 | ppb | 3.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2398945 | 0.29 | 2521858 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 3294112 | 0.15 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 358411 | 0.46 | 367626 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\001SMPL.D\001SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 737194 | 0.75 | 714806 | 103.1 | 70 | - | 130 |
| 72 Ge | 2 | 143481 | 0.23 | 144802 | 99.1 | 70 | - | 130 |
| 103 Rh | 1 | 3541786 | 0.44 | 3924881 | 90.2 | 70 | - | 130 |
| 115 In | 1 | 3729426 | 0.29 | 3944903 | 94.5 | 70 | - | 130 |
| 115 In | 2 | 1084651 | 5.52 | 1086949 | 99.8 | 70 | - | 130 |
| 159 Tb | 1 | 4942713 | 0.41 | 4942952 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 4796502 | 0.99 | 4623931 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 2594849 | 0.22 | 2757011 | 94.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

**Sample QC Report**

| | |
|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#** |
| **Date Acquired:** | **Oct 31 2013 12:52 pm** |
| **Acq. Method:** | **EPA6020A.M** |
| **Operator:** | **METALS** |
| **Sample Name:** | **ICSAB** |
| **Misc Info:** | |
| **Vial Number:** | **2109** |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020A.M** |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020A.C** |
| **Last Cal. Update:** | **Nov 01 2013 08:50 am** |
| **Sample Type:** | **Sample** |
| **Dilution Factor:** | **2.00** |
| **Autodil Factor:** | **Undiluted** |
| **Final Dil Factor:** | **2.00** |

**Data Results:**
**Analytes: Fail**
**ISTD: Pass**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2065.00 | 900.00 | |
| 9 Be | 45 | 2 | -0.08 | -0.04 | ppb | 75.85 | 900.00 | |
| 11 B | 6 | 1 | 0.25 | 0.12 | ppb | 17.32 | 900.00 | |
| 11 B | 45 | 2 | 0.50 | 0.25 | ppb | 83.71 | 900.00 | |
| 23 Na | 45 | 1 | 99060.00 | 49530.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 101180.00 | 50590.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 98740.00 | 49370.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 93400.00 | 46700.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 98460.00 | 49230.00 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 2 | 88040.00 | 44020.00 | ppb | 0.42 | 90000.00 | |
| 39 K | 45 | 1 | 99100.00 | 49550.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 97140.00 | 48570.00 | ppb | 0.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 1957.80 | 978.90 | ppb | 0.17 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.28 | -0.14 | ppb | 2.65 | 900.00 | |
| 52 Cr | 45 | 2 | 21.16 | 10.58 | ppb | 0.24 | 900.00 | |
| 55 Mn | 45 | 2 | 19.95 | 9.98 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 99480.00 | 49740.00 | ppb | 0.55 | 90000.00 | |
| 59 Co | 45 | 2 | 20.24 | 10.12 | ppb | 0.04 | 900.00 | |
| 60 Ni | 45 | 2 | 19.97 | 9.98 | ppb | 0.25 | 900.00 | |
| 63 Cu | 72 | 2 | 19.28 | 9.64 | ppb | 0.23 | 900.00 | |
| 66 Zn | 72 | 2 | 21.62 | 10.81 | ppb | 1.86 | 900.00 | |
| 75 As | 72 | 2 | 20.16 | 10.08 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 110.10 | 900.00 | |
| 88 Sr | 103 | 1 | 5.23 | 2.61 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1996.20 | 998.10 | ppb | 0.38 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 21.00 | 10.50 | ppb | 0.85 | 900.00 | |
| 111 Cd | 115 | 2 | 20.58 | 10.29 | ppb | 4.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 7.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.32 | 0.16 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.13 | ppb | 11.70 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 14.40 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.16 | 0.08 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2382373 | 0.25 | 2521858 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 3285512 | 0.55 | 3362635 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 355689 | 0.54 | 367626 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\002SMPL.D\002SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731001 | 1.08 | 714806 | 102.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142086 | 0.77 | 144802 | 98.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3527709 | 0.47 | 3924881 | 89.9 | 70 | - | 130 |
| 115 | In | 1 | 3730995 | 0.73 | 3944903 | 94.6 | 70 | - | 130 |
| 115 | In | 2 | 1078845 | 4.93 | 1086949 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4895208 | 0.99 | 4942952 | 99.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4692431 | 0.22 | 4623931 | 101.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2569894 | 0.37 | 2757011 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#
Date Acquired: Oct 31 2013 01:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 52.61 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 528.82 | 900.00 | |
| 11 B | 6 | 1 | 0.02 | 0.02 | ppb | 36.44 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 69.01 | 900.00 | |
| 23 Na | 45 | 1 | 27.72 | 27.72 | ppb | 1.95 | 90000.00 | |
| 23 Na | 45 | 2 | 45.36 | 45.36 | ppb | 17.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 16.87 | 16.87 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 27.79 | 27.79 | ppb | 21.34 | 90000.00 | |
| 27 Al | 45 | 1 | 16.50 | 16.50 | ppb | 1.86 | 90000.00 | |
| 27 Al | 45 | 2 | 24.32 | 24.32 | ppb | 19.63 | 90000.00 | |
| 39 K | 45 | 1 | 20.95 | 20.95 | ppb | 1.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.21 | 13.21 | ppb | 6.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.36 | 0.36 | ppb | 3.47 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 2.39 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 60.80 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 266.31 | 900.00 | |
| 56 Fe | 45 | 2 | 28.73 | 28.73 | ppb | 20.24 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 55.13 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 89.05 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 84.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 6.97 | 900.00 | |
| 75 As | 72 | 2 | -0.04 | -0.04 | ppb | 21.72 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 1980.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 73.12 | 900.00 | |
| 98 Mo | 103 | 1 | 0.68 | 0.68 | ppb | 1.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 11.38 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.02 | ppb | 6.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 63.69 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 57.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 5007.40 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 32.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2498751 | 0.42 | 2521858 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 3390213 | 0.34 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 368852 | 0.41 | 367626 | 100.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\003SMPL.D\003SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 731633 | 0.94 | 714806 | 102.4 | 70 | - | 130 |
| 72 | Ge | 2 | 146898 | 0.41 | 144802 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4019365 | 1.06 | 3924881 | 102.4 | 70 | - | 130 |
| 115 | In | 1 | 4083533 | 0.98 | 3944903 | 103.5 | 70 | - | 130 |
| 115 | In | 2 | 1127201 | 1.02 | 1086949 | 103.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5172897 | 0.84 | 4942952 | 104.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4940078 | 0.88 | 4623931 | 106.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2928841 | 0.35 | 2757011 | 106.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 01:08 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21908A-MB1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2111 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 133.88 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.04 | ppb | 125.45 | 900.00 | |
| 11 B | 6 | 1 | 0.76 | 0.38 | ppb | 6.64 | 900.00 | |
| 11 B | 45 | 2 | 1.21 | 0.60 | ppb | 45.45 | 900.00 | |
| 23 Na | 45 | 1 | 43.22 | 21.61 | ppb | 2.45 | 90000.00 | |
| 23 Na | 45 | 2 | 50.66 | 25.33 | ppb | 1.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.68 | 0.84 | ppb | 3.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.70 | 0.85 | ppb | 9.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4.23 | 2.12 | ppb | 3.19 | 90000.00 | |
| 27 Al | 45 | 2 | 3.94 | 1.97 | ppb | 10.64 | 90000.00 | |
| 39 K | 45 | 1 | 36.82 | 18.41 | ppb | 8.85 | 90000.00 | |
| 44 Ca | 45 | 1 | 15.16 | 7.58 | ppb | 13.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.27 | 0.14 | ppb | 15.59 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.23 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.13 | ppb | 1.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.26 | 0.13 | ppb | 12.85 | 900.00 | |
| 56 Fe | 45 | 2 | 10.36 | 5.18 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 50.21 | 900.00 | |
| 60 Ni | 45 | 2 | 0.06 | 0.03 | ppb | 40.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.26 | ppb | 6.81 | 900.00 | |
| 66 Zn | 72 | 2 | 0.46 | 0.23 | ppb | 7.29 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.27 | ppb | 11.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.07 | ppb | 37.92 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 8.44 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 10.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 17.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.02 | ppb | 9.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 10.02 | 900.00 | |
| 137 Ba | 159 | 1 | 0.11 | 0.05 | ppb | 8.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 14.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 19.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2465116 | 0.84 | 2521858 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 3348074 | 1.03 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361019 | 0.19 | 367626 | 98.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\004SMPL.D\004SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 725503 | 0.88 | 714806 | 101.5 | 70 | - | 130 |
| 72 Ge | 2 | 143062 | 0.38 | 144802 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 3898227 | 0.34 | 3924881 | 99.3 | 70 | - | 130 |
| 115 In | 1 | 3928722 | 0.27 | 3944903 | 99.6 | 70 | - | 130 |
| 115 In | 2 | 1097808 | 1.71 | 1086949 | 101.0 | 70 | - | 130 |
| 159 Tb | 1 | 5124053 | 0.26 | 4942952 | 103.7 | 70 | - | 130 |
| 175 Lu | 1 | 4893381 | 0.57 | 4623931 | 105.8 | 70 | - | 130 |
| 209 Bi | 1 | 2868404 | 1.31 | 2757011 | 104.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#
Date Acquired: Oct 31 2013 01:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-6F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 77.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 99.06 | 900.00 | |
| 11 B | 6 | 1 | 6.13 | 3.07 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 6.75 | 3.38 | ppb | 11.41 | 900.00 | |
| 23 Na | 45 | 1 | 6282.00 | 3141.00 | ppb | 2.09 | 90000.00 | |
| 23 Na | 45 | 2 | 6654.00 | 3327.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 1 | 1224.00 | 612.00 | ppb | 1.45 | 90000.00 | |
| 24 Mg | 45 | 2 | 1309.80 | 654.90 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 2.79 | 1.40 | ppb | 5.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2.46 | 1.23 | ppb | 7.29 | 90000.00 | |
| 39 K | 45 | 1 | 1337.00 | 668.50 | ppb | 0.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6980.00 | 3490.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.36 | 0.68 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 4.10 | 2.05 | ppb | 5.44 | 900.00 | |
| 52 Cr | 45 | 2 | 1.52 | 0.76 | ppb | 2.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1.81 | 0.91 | ppb | 1.00 | 900.00 | |
| 56 Fe | 45 | 2 | 9.54 | 4.77 | ppb | 2.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 14.52 | 900.00 | |
| 60 Ni | 45 | 2 | 0.44 | 0.22 | ppb | 4.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.51 | 0.25 | ppb | 9.93 | 900.00 | |
| 66 Zn | 72 | 2 | 5.40 | 2.70 | ppb | 1.78 | 900.00 | |
| 75 As | 72 | 2 | 1.08 | 0.54 | ppb | 8.66 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.23 | ppb | 32.76 | 900.00 | |
| 88 Sr | 103 | 1 | 47.90 | 23.95 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 0.39 | 0.19 | ppb | 0.75 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 28.16 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.02 | ppb | 39.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 5.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 3.55 | 900.00 | |
| 137 Ba | 159 | 1 | 4.59 | 2.30 | ppb | 1.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 4.06 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 18.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2415341 | 0.97 | 2521858 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 3413094 | 0.95 | 3362635 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 362118 | 0.47 | 367626 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\005SMPL.D\005SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735766 | 0.77 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 143334 | 0.30 | 144802 | 99.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3825786 | 0.88 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3953835 | 0.86 | 3944903 | 100.2 | 70 | - | 130 |
| 115 | In | 2 | 1101544 | 0.69 | 1086949 | 101.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5110872 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4875635 | 0.70 | 4623931 | 105.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2831445 | 0.41 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D# |
| Date Acquired: | Oct 31 2013 01:22 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-SD1 |
| Misc Info: | |
| Vial Number: | 2201 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2942.30 | 900.00 | |
| 9 Be | 45 | 2 | -0.06 | -0.01 | ppb | 1665.40 | 900.00 | |
| 11 B | 6 | 1 | 5.46 | 0.55 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 7.46 | 0.75 | ppb | 19.13 | 900.00 | |
| 23 Na | 45 | 1 | 6452.00 | 645.20 | ppb | 2.32 | 90000.00 | |
| 23 Na | 45 | 2 | 6916.00 | 691.60 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1283.00 | 128.30 | ppb | 1.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1314.00 | 131.40 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 6.59 | 0.66 | ppb | 5.33 | 90000.00 | |
| 27 Al | 45 | 2 | 6.75 | 0.68 | ppb | 15.34 | 90000.00 | |
| 39 K | 45 | 1 | 1340.00 | 134.00 | ppb | 1.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 7652.00 | 765.20 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.78 | 0.18 | ppb | 2.50 | 900.00 | |
| 51 V | 45 | 2 | 2.38 | 0.24 | ppb | 2.86 | 900.00 | |
| 52 Cr | 45 | 2 | 1.18 | 0.12 | ppb | 3.37 | 900.00 | |
| 55 Mn | 45 | 2 | 2.29 | 0.23 | ppb | 1.86 | 900.00 | |
| 56 Fe | 45 | 2 | 16.90 | 1.69 | ppb | 9.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.00 | ppb | 88.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.38 | 0.04 | ppb | 26.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.24 | 0.12 | ppb | 15.52 | 900.00 | |
| 66 Zn | 72 | 2 | 5.57 | 0.56 | ppb | 4.36 | 900.00 | |
| 75 As | 72 | 2 | 0.58 | 0.06 | ppb | 10.70 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.02 | ppb | 600.21 | 900.00 | |
| 88 Sr | 103 | 1 | 50.31 | 5.03 | ppb | 0.34 | 900.00 | |
| 98 Mo | 103 | 1 | 0.57 | 0.06 | ppb | 2.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 54.59 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.01 | ppb | 137.85 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 99.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.12 | 0.01 | ppb | 14.39 | 900.00 | |
| 137 Ba | 159 | 1 | 4.63 | 0.46 | ppb | 2.16 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 295.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.01 | ppb | 22.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2482879 | 1.35 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3420383 | 1.12 | 3362635 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 371770 | 0.29 | 367626 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\006SMPL.D\006SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 744329 | 1.20 | 714806 | 104.1 | 70 | - | 130 |
| 72 | Ge | 2 | 148139 | 0.17 | 144802 | 102.3 | 70 | - | 130 |
| 103 | Rh | 1 | 4005313 | 0.67 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4059712 | 1.11 | 3944903 | 102.9 | 70 | - | 130 |
| 115 | In | 2 | 1131537 | 0.04 | 1086949 | 104.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5133324 | 1.38 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4929720 | 1.92 | 4623931 | 106.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2985354 | 0.34 | 2757011 | 108.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D# |
| Date Acquired: | Oct 31 2013 01:31 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-1F |
| Misc Info: | |
| Vial Number: | 2202 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 275.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.93 | 0.05 | ppb | 38.10 | 900.00 | |
| 11 B | 6 | 1 | 70.30 | 3.52 | ppb | 0.97 | 900.00 | |
| 11 B | 45 | 2 | 74.42 | 3.72 | ppb | 6.07 | 900.00 | |
| 23 Na | 45 | 1 | 23180.00 | 1159.00 | ppb | 0.46 | 90000.00 | |
| 23 Na | 45 | 2 | 24520.00 | 1226.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 2750.00 | 137.50 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 2852.00 | 142.60 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 7.55 | 0.38 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 7.90 | 0.40 | ppb | 9.49 | 90000.00 | |
| 39 K | 45 | 1 | 8598.00 | 429.90 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 23960.00 | 1198.00 | ppb | 0.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.07 | 0.10 | ppb | 10.03 | 900.00 | |
| 51 V | 45 | 2 | -6.81 | -0.34 | ppb | 1.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.56 | -0.03 | ppb | 4.46 | 900.00 | |
| 55 Mn | 45 | 2 | 1612.00 | 80.60 | ppb | 0.40 | 900.00 | |
| 56 Fe | 45 | 2 | 41000.00 | 2050.00 | ppb | 1.03 | 90000.00 | |
| 59 Co | 45 | 2 | 5.48 | 0.27 | ppb | 2.19 | 900.00 | |
| 60 Ni | 45 | 2 | 5.12 | 0.26 | ppb | 5.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1.84 | 0.09 | ppb | 9.26 | 900.00 | |
| 66 Zn | 72 | 2 | 7.60 | 0.38 | ppb | 6.50 | 900.00 | |
| 75 As | 72 | 2 | 631.80 | 31.59 | ppb | 0.25 | 900.00 | |
| 78 Se | 72 | 2 | 4.20 | 0.21 | ppb | 69.03 | 900.00 | |
| 88 Sr | 103 | 1 | 304.20 | 15.21 | ppb | 1.58 | 900.00 | |
| 98 Mo | 103 | 1 | 1.95 | 0.10 | ppb | 7.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 51.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.33 | 0.02 | ppb | 23.05 | 900.00 | |
| 120 Sn | 115 | 1 | 7.91 | 0.40 | ppb | 3.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.99 | 0.05 | ppb | 9.21 | 900.00 | |
| 137 Ba | 159 | 1 | 92.20 | 4.61 | ppb | 1.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 390.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.29 | 0.01 | ppb | 24.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432574 | 1.33 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3444577 | 0.24 | 3362635 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 373863 | 0.20 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\007SMPL.D\007SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 745003 | 0.63 | 714806 | 104.2 | 70 | - | 130 |
| 72 | Ge | 2 | 150308 | 0.24 | 144802 | 103.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3949980 | 0.99 | 3924881 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 4047208 | 0.43 | 3944903 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1140631 | 1.14 | 1086949 | 104.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5152171 | 1.44 | 4942952 | 104.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4901614 | 0.15 | 4623931 | 106.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2920341 | 0.26 | 2757011 | 105.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#
Date Acquired: Oct 31 2013 01:38 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.46 | 48.46 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 51.27 | 51.27 | ppb | 0.35 | 900.00 | |
| 11 B | 6 | 1 | 50.61 | 50.61 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 48.23 | 48.23 | ppb | 3.03 | 900.00 | |
| 23 Na | 45 | 1 | 5137.00 | 5137.00 | ppb | 1.40 | 90000.00 | |
| 23 Na | 45 | 2 | 5303.00 | 5303.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 5068.00 | 5068.00 | ppb | 1.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 4899.00 | 4899.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 5017.00 | 5017.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4552.00 | 4552.00 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 5098.00 | 5098.00 | ppb | 1.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 5129.00 | 5129.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.79 | 49.79 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 50.18 | 50.18 | ppb | 0.27 | 900.00 | |
| 52 Cr | 45 | 2 | 50.33 | 50.33 | ppb | 0.19 | 900.00 | |
| 55 Mn | 45 | 2 | 48.68 | 48.68 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 5230.00 | 5230.00 | ppb | 1.00 | 90000.00 | |
| 59 Co | 45 | 2 | 50.76 | 50.76 | ppb | 1.01 | 900.00 | |
| 60 Ni | 45 | 2 | 49.84 | 49.84 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 49.56 | 49.56 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 50.08 | 50.08 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 0.00 | 900.00 | |
| 78 Se | 72 | 2 | 48.87 | 48.87 | ppb | 1.95 | 900.00 | |
| 88 Sr | 103 | 1 | 52.17 | 52.17 | ppb | 0.72 | 900.00 | |
| 98 Mo | 103 | 1 | 52.36 | 52.36 | ppb | 1.01 | 900.00 | |
| 107 Ag | 115 | 1 | 48.97 | 48.97 | ppb | 0.90 | 900.00 | |
| 111 Cd | 115 | 2 | 50.26 | 50.26 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 52.44 | 52.44 | ppb | 0.75 | 900.00 | |
| 121 Sb | 115 | 1 | 52.78 | 52.78 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 48.75 | 48.75 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.75 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.26 | 50.26 | ppb | 0.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2418800 | 0.99 | 2521858 | 95.9 | 70 - 130 | |
| 45 Sc | 1 | 3405698 | 1.31 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 362801 | 0.36 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\008SMPL.D\008SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 709550 | 0.69 | 714806 | 99.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142307 | 0.85 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3832982 | 0.67 | 3924881 | 97.7 | 70 | - | 130 |
| 115 | In | 1 | 3915975 | 0.42 | 3944903 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1082519 | 0.84 | 1086949 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5052165 | 0.77 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4840523 | 0.75 | 4623931 | 104.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2771873 | 0.28 | 2757011 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#
Date Acquired: Oct 31 2013 01:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.03 | ppb | 37.43 | 900.00 | |
| 9 Be | 45 | 2 | 0.34 | 0.34 | ppb | 62.79 | 900.00 | |
| 11 B | 6 | 1 | 0.17 | 0.17 | ppb | 13.38 | 900.00 | |
| 11 B | 45 | 2 | 1.01 | 1.01 | ppb | 42.45 | 900.00 | |
| 23 Na | 45 | 1 | 2.26 | 2.26 | ppb | 7.43 | 90000.00 | |
| 23 Na | 45 | 2 | 7.64 | 7.64 | ppb | 10.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.70 | 0.70 | ppb | 19.33 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.48 | 2.48 | ppb | 17.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.46 | 0.46 | ppb | 27.35 | 90000.00 | |
| 27 Al | 45 | 2 | 1.89 | 1.89 | ppb | 19.92 | 90000.00 | |
| 39 K | 45 | 1 | 2.69 | 2.69 | ppb | 25.03 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.21 | -3.21 | ppb | 14.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 31.82 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 8.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 89.60 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 25.71 | 900.00 | |
| 56 Fe | 45 | 2 | 2.48 | 2.48 | ppb | 23.05 | 90000.00 | |
| 59 Co | 45 | 2 | 0.03 | 0.03 | ppb | 12.14 | 900.00 | |
| 60 Ni | 45 | 2 | 0.05 | 0.05 | ppb | 12.08 | 900.00 | |
| 63 Cu | 72 | 2 | 0.05 | 0.05 | ppb | 12.05 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 41.34 | 900.00 | |
| 75 As | 72 | 2 | 0.05 | 0.05 | ppb | 66.47 | 900.00 | |
| 78 Se | 72 | 2 | 0.70 | 0.70 | ppb | 42.80 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 29.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 7.29 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 14.26 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.08 | ppb | 30.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 42.48 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 42.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.09 | ppb | 3.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 18.88 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2468104 | 0.95 | 2521858 | 97.9 | 70 - 130 | |
| 45 Sc | 1 | 3376968 | 0.28 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 367817 | 0.24 | 367626 | 100.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\009SMPL.D\009SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 729967 | 1.14 | 714806 | 102.1 | 70 | - | 130 |
| 72 | Ge | 2 | 145309 | 0.23 | 144802 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3959574 | 0.74 | 3924881 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 4017152 | 0.14 | 3944903 | 101.8 | 70 | - | 130 |
| 115 | In | 2 | 1109430 | 0.73 | 1086949 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5099116 | 0.01 | 4942952 | 103.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4854603 | 0.31 | 4623931 | 105.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2889785 | 1.09 | 2757011 | 104.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#
Date Acquired: Oct 31 2013 01:58 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-2F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.18 | 0.01 | ppb | 87.17 | 900.00 | |
| 9 Be | 45 | 2 | -0.17 | -0.01 | ppb | 281.52 | 900.00 | |
| 11 B | 6 | 1 | 72.66 | 3.63 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 79.02 | 3.95 | ppb | 11.01 | 900.00 | |
| 23 Na | 45 | 1 | 23560.00 | 1178.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 24720.00 | 1236.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 2772.00 | 138.60 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 2844.00 | 142.20 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 9.99 | 0.50 | ppb | 14.60 | 90000.00 | |
| 27 Al | 45 | 2 | 11.22 | 0.56 | ppb | 11.75 | 90000.00 | |
| 39 K | 45 | 1 | 8678.00 | 433.90 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 24280.00 | 1214.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.17 | 0.11 | ppb | 8.83 | 900.00 | |
| 51 V | 45 | 2 | -7.69 | -0.38 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | -0.67 | -0.03 | ppb | 2.31 | 900.00 | |
| 55 Mn | 45 | 2 | 1619.00 | 80.95 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 41740.00 | 2087.00 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 5.56 | 0.28 | ppb | 2.49 | 900.00 | |
| 60 Ni | 45 | 2 | 5.56 | 0.28 | ppb | 3.50 | 900.00 | |
| 63 Cu | 72 | 2 | -0.09 | 0.00 | ppb | 243.37 | 900.00 | |
| 66 Zn | 72 | 2 | 5.74 | 0.29 | ppb | 0.85 | 900.00 | |
| 75 As | 72 | 2 | 641.00 | 32.05 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.36 | -0.02 | ppb | 438.55 | 900.00 | |
| 88 Sr | 103 | 1 | 306.00 | 15.30 | ppb | 1.33 | 900.00 | |
| 98 Mo | 103 | 1 | 1.67 | 0.08 | ppb | 8.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.15 | 0.01 | ppb | 18.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.31 | 0.02 | ppb | 84.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.00 | ppb | 38.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.01 | ppb | 22.55 | 900.00 | |
| 137 Ba | 159 | 1 | 92.12 | 4.61 | ppb | 2.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.68 | 0.03 | ppb | 1.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.30 | 0.02 | ppb | 23.17 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2484931 | 0.69 | 2521858 | 98.5 | 70 - 130 | |
| 45 Sc | 1 | 3409920 | 0.44 | 3362635 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 370330 | 0.55 | 367626 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 738401 | 0.89 | 714806 | 103.3 | 70 | - | 130 |
| 72 | Ge | 2 | 147731 | 0.65 | 144802 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3919761 | 0.20 | 3924881 | 99.9 | 70 | - | 130 |
| 115 | In | 1 | 4024920 | 0.57 | 3944903 | 102.0 | 70 | - | 130 |
| 115 | In | 2 | 1121517 | 1.45 | 1086949 | 103.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5109909 | 0.74 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4889984 | 0.56 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2908478 | 0.45 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#
Date Acquired: Oct 31 2013 02:05 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-3F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.45 | 0.00 | ppb | 49.00 | 900.00 | |
| 9 Be | 45 | 2 | 14.13 | 0.14 | ppb | 40.57 | 900.00 | |
| 11 B | 6 | 1 | 152.30 | 1.52 | ppb | 5.35 | 900.00 | |
| 11 B | 45 | 2 | 200.60 | 2.01 | ppb | 23.92 | 900.00 | |
| 23 Na | 45 | 1 | 25020.00 | 250.20 | ppb | 1.73 | 90000.00 | |
| 23 Na | 45 | 2 | 28390.00 | 283.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12700.00 | 127.00 | ppb | 2.04 | 90000.00 | |
| 24 Mg | 45 | 2 | 13050.00 | 130.50 | ppb | 0.33 | 90000.00 | |
| 27 Al | 45 | 1 | 7.50 | 0.07 | ppb | 25.76 | 90000.00 | |
| 27 Al | 45 | 2 | 25.30 | 0.25 | ppb | 28.74 | 90000.00 | |
| 39 K | 45 | 1 | 7823.00 | 78.23 | ppb | 3.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 83710.00 | 837.10 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.16 | 0.03 | ppb | 13.71 | 900.00 | |
| 51 V | 45 | 2 | -55.28 | -0.55 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | -5.31 | -0.05 | ppb | 3.54 | 900.00 | |
| 55 Mn | 45 | 2 | 9723.00 | 97.23 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 27320.00 | 273.20 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 16.13 | 0.16 | ppb | 0.89 | 900.00 | |
| 60 Ni | 45 | 2 | 11.10 | 0.11 | ppb | 6.65 | 900.00 | |
| 63 Cu | 72 | 2 | -3.04 | -0.03 | ppb | 36.54 | 900.00 | |
| 66 Zn | 72 | 2 | 17.60 | 0.18 | ppb | 6.77 | 900.00 | |
| 75 As | 72 | 2 | 1659.00 | 16.59 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 28.18 | 0.28 | ppb | 41.31 | 900.00 | |
| 88 Sr | 103 | 1 | 832.30 | 8.32 | ppb | 1.96 | 900.00 | |
| 98 Mo | 103 | 1 | 4.57 | 0.05 | ppb | 7.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.32 | 0.00 | ppb | 59.16 | 900.00 | |
| 111 Cd | 115 | 2 | 2.97 | 0.03 | ppb | 37.49 | 900.00 | |
| 120 Sn | 115 | 1 | -0.39 | 0.00 | ppb | 5.59 | 900.00 | |
| 121 Sb | 115 | 1 | -0.49 | 0.00 | ppb | 28.60 | 900.00 | |
| 137 Ba | 159 | 1 | 42.85 | 0.43 | ppb | 4.55 | 900.00 | |
| 205 Tl | 209 | 1 | 3.19 | 0.03 | ppb | 6.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.75 | 0.02 | ppb | 23.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2474419 | 2.00 | 2521858 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 3486729 | 1.51 | 3362635 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 378227 | 0.47 | 367626 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 749077 | 1.66 | 714806 | 104.8 | 70 | - | 130 |
| 72 | Ge | 2 | 150211 | 0.61 | 144802 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3991628 | 1.07 | 3924881 | 101.7 | 70 | - | 130 |
| 115 | In | 1 | 4094209 | 2.36 | 3944903 | 103.8 | 70 | - | 130 |
| 115 | In | 2 | 1160105 | 1.22 | 1086949 | 106.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5240197 | 1.84 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 5000904 | 2.03 | 4623931 | 108.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2893590 | 1.28 | 2757011 | 105.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#
Date Acquired: Oct 31 2013 02:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-4F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.81 | 0.01 | ppb | 13.69 | 900.00 | |
| 9 Be | 45 | 2 | 12.31 | 0.12 | ppb | 45.48 | 900.00 | |
| 11 B | 6 | 1 | 76.64 | 0.77 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 115.80 | 1.16 | ppb | 8.73 | 900.00 | |
| 23 Na | 45 | 1 | 18100.00 | 181.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 20690.00 | 206.90 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 12360.00 | 123.60 | ppb | 0.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 12780.00 | 127.80 | ppb | 0.93 | 90000.00 | |
| 27 Al | 45 | 1 | 5.17 | 0.05 | ppb | 40.68 | 90000.00 | |
| 27 Al | 45 | 2 | 23.81 | 0.24 | ppb | 14.62 | 90000.00 | |
| 39 K | 45 | 1 | 3816.00 | 38.16 | ppb | 1.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 92130.00 | 921.30 | ppb | 0.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 5.80 | 0.06 | ppb | 18.18 | 900.00 | |
| 51 V | 45 | 2 | -55.91 | -0.56 | ppb | 0.36 | 900.00 | |
| 52 Cr | 45 | 2 | -4.79 | -0.05 | ppb | 4.12 | 900.00 | |
| 55 Mn | 45 | 2 | 8148.00 | 81.48 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 8863.00 | 88.63 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 4.97 | 0.05 | ppb | 6.39 | 900.00 | |
| 60 Ni | 45 | 2 | 8.98 | 0.09 | ppb | 4.78 | 900.00 | |
| 63 Cu | 72 | 2 | -3.14 | -0.03 | ppb | 38.21 | 900.00 | |
| 66 Zn | 72 | 2 | 201.90 | 2.02 | ppb | 2.67 | 900.00 | |
| 75 As | 72 | 2 | 2495.00 | 24.95 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | 35.71 | 0.36 | ppb | 41.47 | 900.00 | |
| 88 Sr | 103 | 1 | 471.40 | 4.71 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 5.49 | 0.05 | ppb | 8.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 37.25 | 900.00 | |
| 111 Cd | 115 | 2 | 4.13 | 0.04 | ppb | 28.45 | 900.00 | |
| 120 Sn | 115 | 1 | -0.23 | 0.00 | ppb | 24.76 | 900.00 | |
| 121 Sb | 115 | 1 | -0.52 | -0.01 | ppb | 11.63 | 900.00 | |
| 137 Ba | 159 | 1 | 66.90 | 0.67 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 1.48 | 0.01 | ppb | 8.21 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.78 | 0.02 | ppb | 28.30 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2523998 | 1.27 | 2521858 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 3452086 | 0.41 | 3362635 | 102.7 | 70 - 130 | |
| 45 Sc | 2 | 377687 | 0.37 | 367626 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 747496 | 0.28 | 714806 | 104.6 | 70 | - | 130 |
| 72 Ge | 2 | 150545 | 0.63 | 144802 | 104.0 | 70 | - | 130 |
| 103 Rh | 1 | 4031355 | 1.16 | 3924881 | 102.7 | 70 | - | 130 |
| 115 In | 1 | 4105530 | 1.28 | 3944903 | 104.1 | 70 | - | 130 |
| 115 In | 2 | 1163876 | 1.19 | 1086949 | 107.1 | 70 | - | 130 |
| 159 Tb | 1 | 5195666 | 1.41 | 4942952 | 105.1 | 70 | - | 130 |
| 175 Lu | 1 | 4946174 | 0.72 | 4623931 | 107.0 | 70 | - | 130 |
| 209 Bi | 1 | 2904942 | 0.75 | 2757011 | 105.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#
Date Acquired: Oct 31 2013 02:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-5F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 23.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.92 | 0.46 | ppb | 59.58 | 900.00 | |
| 11 B | 6 | 1 | 13.83 | 6.92 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 15.58 | 7.79 | ppb | 8.23 | 900.00 | |
| 23 Na | 45 | 1 | 39960.00 | 19980.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 41240.00 | 20620.00 | ppb | 0.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 2338.00 | 1169.00 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 2304.00 | 1152.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 1 | 9.60 | 4.80 | ppb | 1.76 | 90000.00 | |
| 27 Al | 45 | 2 | 9.12 | 4.56 | ppb | 4.31 | 90000.00 | |
| 39 K | 45 | 1 | 1395.80 | 697.90 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 11548.00 | 5774.00 | ppb | 0.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.69 | 0.35 | ppb | 2.13 | 900.00 | |
| 51 V | 45 | 2 | 2.87 | 1.43 | ppb | 2.68 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 6.45 | 900.00 | |
| 55 Mn | 45 | 2 | 28.36 | 14.18 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 52.66 | 26.33 | ppb | 0.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.26 | 0.13 | ppb | 3.25 | 900.00 | |
| 60 Ni | 45 | 2 | 0.53 | 0.26 | ppb | 4.52 | 900.00 | |
| 63 Cu | 72 | 2 | 1.37 | 0.68 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 7.49 | 3.75 | ppb | 0.80 | 900.00 | |
| 75 As | 72 | 2 | 1.26 | 0.63 | ppb | 6.01 | 900.00 | |
| 78 Se | 72 | 2 | 2.07 | 1.04 | ppb | 67.41 | 900.00 | |
| 88 Sr | 103 | 1 | 79.76 | 39.88 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 18.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 47.54 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 4.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.16 | ppb | 3.22 | 900.00 | |
| 137 Ba | 159 | 1 | 17.92 | 8.96 | ppb | 1.59 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 7.79 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.06 | ppb | 10.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2403807 | 0.34 | 2521858 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 3336611 | 0.31 | 3362635 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 365523 | 0.22 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 727585 | 0.39 | 714806 | 101.8 | 70 | - | 130 |
| 72 Ge | 2 | 143553 | 0.16 | 144802 | 99.1 | 70 | - | 130 |
| 103 Rh | 1 | 3729590 | 0.49 | 3924881 | 95.0 | 70 | - | 130 |
| 115 In | 1 | 3861663 | 0.54 | 3944903 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1069868 | 0.61 | 1086949 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 4984549 | 0.74 | 4942952 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 4771347 | 0.72 | 4623931 | 103.2 | 70 | - | 130 |
| 209 Bi | 1 | 2703412 | 0.22 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#
Date Acquired: Oct 31 2013 02:27 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-7F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.02 | ppb | 24.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.25 | ppb | 28.18 | 900.00 | |
| 11 B | 6 | 1 | 299.00 | 149.50 | ppb | 2.50 | 900.00 | |
| 11 B | 45 | 2 | 276.80 | 138.40 | ppb | 1.77 | 900.00 | |
| 23 Na | 45 | 1 | 31960.00 | 15980.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 33400.00 | 16700.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 9960.00 | 4980.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 9640.00 | 4820.00 | ppb | 1.37 | 90000.00 | |
| 27 Al | 45 | 1 | 3.67 | 1.84 | ppb | 2.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4.01 | 2.00 | ppb | 10.31 | 90000.00 | |
| 39 K | 45 | 1 | 17260.00 | 8630.00 | ppb | 0.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 63600.00 | 31800.00 | ppb | 0.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.51 | 0.76 | ppb | 3.96 | 900.00 | |
| 51 V | 45 | 2 | 2.01 | 1.01 | ppb | 1.45 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 3.14 | 900.00 | |
| 55 Mn | 45 | 2 | 10510.00 | 5255.00 | ppb | 1.35 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 631.80 | 315.90 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 5.62 | 2.81 | ppb | 1.56 | 900.00 | |
| 60 Ni | 45 | 2 | 5.16 | 2.58 | ppb | 0.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 2.44 | 900.00 | |
| 66 Zn | 72 | 2 | 6.66 | 3.33 | ppb | 2.30 | 900.00 | |
| 75 As | 72 | 2 | 5.52 | 2.76 | ppb | 3.43 | 900.00 | |
| 78 Se | 72 | 2 | 1.57 | 0.79 | ppb | 19.97 | 900.00 | |
| 88 Sr | 103 | 1 | 1242.40 | 621.20 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.43 | 0.22 | ppb | 4.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 27.29 | 900.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.05 | ppb | 44.93 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 9.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 4.55 | 900.00 | |
| 137 Ba | 159 | 1 | 48.38 | 24.19 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 9.11 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 4.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355536 | 0.42 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3349674 | 0.35 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 361647 | 0.78 | 367626 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 713146 | 0.12 | 714806 | 99.8 | 70 | - | 130 |
| 72 Ge | 2 | 140922 | 0.41 | 144802 | 97.3 | 70 | - | 130 |
| 103 Rh | 1 | 3633444 | 0.50 | 3924881 | 92.6 | 70 | - | 130 |
| 115 In | 1 | 3781227 | 0.40 | 3944903 | 95.9 | 70 | - | 130 |
| 115 In | 2 | 1078109 | 6.28 | 1086949 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4952196 | 0.43 | 4942952 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4766946 | 0.43 | 4623931 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 2631621 | 0.47 | 2757011 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#
Date Acquired: Oct 31 2013 02:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-8F
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.01 | ppb | 48.88 | 900.00 | |
| 9 Be | 45 | 2 | 3.46 | 0.17 | ppb | 24.87 | 900.00 | |
| 11 B | 6 | 1 | 93.52 | 4.68 | ppb | 1.28 | 900.00 | |
| 11 B | 45 | 2 | 96.64 | 4.83 | ppb | 13.98 | 900.00 | |
| 23 Na | 45 | 1 | 28580.00 | 1429.00 | ppb | 1.75 | 90000.00 | |
| 23 Na | 45 | 2 | 29680.00 | 1484.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 6408.00 | 320.40 | ppb | 1.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 6702.00 | 335.10 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 1 | 6.44 | 0.32 | ppb | 5.42 | 90000.00 | |
| 27 Al | 45 | 2 | 8.93 | 0.45 | ppb | 12.07 | 90000.00 | |
| 39 K | 45 | 1 | 8842.00 | 442.10 | ppb | 1.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 47800.00 | 2390.00 | ppb | 1.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.08 | 0.15 | ppb | 10.07 | 900.00 | |
| 51 V | 45 | 2 | -8.18 | -0.41 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 9.94 | 900.00 | |
| 55 Mn | 45 | 2 | 3560.00 | 178.00 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 28940.00 | 1447.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 7.21 | 0.36 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 10.81 | 0.54 | ppb | 2.13 | 900.00 | |
| 63 Cu | 72 | 2 | -0.49 | -0.02 | ppb | 43.59 | 900.00 | |
| 66 Zn | 72 | 2 | 7.52 | 0.38 | ppb | 3.63 | 900.00 | |
| 75 As | 72 | 2 | 751.80 | 37.59 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 7.73 | 0.39 | ppb | 22.65 | 900.00 | |
| 88 Sr | 103 | 1 | 518.60 | 25.93 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 2.47 | 0.12 | ppb | 8.39 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.00 | ppb | 11.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.73 | 0.04 | ppb | 12.34 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.01 | ppb | 13.62 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.00 | ppb | 49.06 | 900.00 | |
| 137 Ba | 159 | 1 | 133.52 | 6.68 | ppb | 2.64 | 900.00 | |
| 205 Tl | 209 | 1 | 0.12 | 0.01 | ppb | 16.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.39 | 0.02 | ppb | 11.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2477208 | 0.32 | 2521858 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 3506022 | 0.94 | 3362635 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 384949 | 0.47 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 763559 | 1.35 | 714806 | 106.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153216 | 0.69 | 144802 | 105.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4016380 | 0.53 | 3924881 | 102.3 | 70 | - | 130 |
| 115 | In | 1 | 4131860 | 0.84 | 3944903 | 104.7 | 70 | - | 130 |
| 115 | In | 2 | 1154965 | 0.13 | 1086949 | 106.3 | 70 | - | 130 |
| 159 | Tb | 1 | 5240608 | 0.86 | 4942952 | 106.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4934201 | 0.31 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2900428 | 0.65 | 2757011 | 105.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#
Date Acquired: Oct 31 2013 02:41 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-9F
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 50.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.02 | 0.51 | ppb | 21.73 | 900.00 | |
| 11 B | 6 | 1 | 373.80 | 186.90 | ppb | 1.05 | 900.00 | |
| 11 B | 45 | 2 | 343.60 | 171.80 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 15202.00 | 7601.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 16088.00 | 8044.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 14272.00 | 7136.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 14038.00 | 7019.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 8.96 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 2 | 17.30 | 8.65 | ppb | 1.98 | 90000.00 | |
| 39 K | 45 | 1 | 15258.00 | 7629.00 | ppb | 0.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 151560.00 | 75780.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.03 | 1.52 | ppb | 4.01 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 1.48 | 900.00 | |
| 52 Cr | 45 | 2 | 1.26 | 0.63 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 420.20 | 210.10 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 71440.00 | 35720.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 1.20 | 0.60 | ppb | 2.56 | 900.00 | |
| 60 Ni | 45 | 2 | 1.96 | 0.98 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 0.70 | 0.35 | ppb | 3.27 | 900.00 | |
| 66 Zn | 72 | 2 | 7.37 | 3.69 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 21.20 | 10.60 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | 2.59 | 1.30 | ppb | 16.47 | 900.00 | |
| 88 Sr | 103 | 1 | 1133.40 | 566.70 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 2.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.94 | 900.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.10 | ppb | 2.72 | 900.00 | |
| 120 Sn | 115 | 1 | 0.35 | 0.18 | ppb | 4.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.14 | ppb | 4.92 | 900.00 | |
| 137 Ba | 159 | 1 | 397.00 | 198.50 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 53.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 14.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2370648 | 0.64 | 2521858 | 94.0 | 70 - 130 | |
| 45 Sc | 1 | 3383276 | 0.30 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 358759 | 0.39 | 367626 | 97.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 723952 | 0.34 | 714806 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 141646 | 0.15 | 144802 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 3565724 | 0.51 | 3924881 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3680381 | 0.93 | 3944903 | 93.3 | 70 | - | 130 |
| 115 In | 2 | 1115612 | 0.41 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4906655 | 0.52 | 4942952 | 99.3 | 70 | - | 130 |
| 175 Lu | 1 | 4729753 | 0.19 | 4623931 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 2611028 | 0.92 | 2757011 | 94.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D# |
| Date Acquired: | Oct 31 2013 02:48 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-10F |
| Misc Info: | |
| Vial Number: | 2212 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.03 | ppb | 7.28 | 900.00 | |
| 9 Be | 45 | 2 | 1.20 | 0.60 | ppb | 3.43 | 900.00 | |
| 11 B | 6 | 1 | 15.82 | 7.91 | ppb | 0.27 | 900.00 | |
| 11 B | 45 | 2 | 18.40 | 9.20 | ppb | 11.08 | 900.00 | |
| 23 Na | 45 | 1 | 3780.00 | 1890.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3978.00 | 1989.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 1737.80 | 868.90 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 1742.40 | 871.20 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 230.60 | 115.30 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 223.00 | 111.50 | ppb | 1.01 | 90000.00 | |
| 39 K | 45 | 1 | 1829.60 | 914.80 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 11792.00 | 5896.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.90 | 1.95 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 2.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.67 | 0.33 | ppb | 2.15 | 900.00 | |
| 55 Mn | 45 | 2 | 400.40 | 200.20 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 2454.00 | 1227.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 1.98 | 900.00 | |
| 60 Ni | 45 | 2 | 0.86 | 0.43 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 6.72 | 900.00 | |
| 66 Zn | 72 | 2 | 7.46 | 3.73 | ppb | 0.75 | 900.00 | |
| 75 As | 72 | 2 | 15.11 | 7.55 | ppb | 0.51 | 900.00 | |
| 78 Se | 72 | 2 | 2.21 | 1.10 | ppb | 7.32 | 900.00 | |
| 88 Sr | 103 | 1 | 80.54 | 40.27 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.23 | 0.12 | ppb | 7.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 7.02 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 12.29 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.31 | 0.15 | ppb | 0.99 | 900.00 | |
| 137 Ba | 159 | 1 | 7.21 | 3.60 | ppb | 2.11 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 15.69 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.19 | 0.10 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2391083 | 0.55 | 2521858 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 3384915 | 0.28 | 3362635 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 366067 | 0.46 | 367626 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 724167 | 1.01 | 714806 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 142951 | 0.35 | 144802 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 3799471 | 0.52 | 3924881 | 96.8 | 70 | - | 130 |
| 115 In | 1 | 3876364 | 0.77 | 3944903 | 98.3 | 70 | - | 130 |
| 115 In | 2 | 1065427 | 0.99 | 1086949 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 5037342 | 0.22 | 4942952 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 4791372 | 0.34 | 4623931 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 2757520 | 0.33 | 2757011 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#
Date Acquired: Oct 31 2013 02:55 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-11F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 27.15 | 900.00 | |
| 9 Be | 45 | 2 | 0.31 | 0.16 | ppb | 56.42 | 900.00 | |
| 11 B | 6 | 1 | 14.46 | 7.23 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 14.43 | 7.22 | ppb | 0.91 | 900.00 | |
| 23 Na | 45 | 1 | 7710.00 | 3855.00 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 7992.00 | 3996.00 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 1304.80 | 652.40 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 2 | 1384.40 | 692.20 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 5.33 | 2.66 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 5.50 | 2.75 | ppb | 8.21 | 90000.00 | |
| 39 K | 45 | 1 | 790.60 | 395.30 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 8434.00 | 4217.00 | ppb | 0.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.26 | 0.63 | ppb | 4.71 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.14 | ppb | 1.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 3.76 | 900.00 | |
| 55 Mn | 45 | 2 | 0.73 | 0.37 | ppb | 1.68 | 900.00 | |
| 56 Fe | 45 | 2 | 6.40 | 3.20 | ppb | 0.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 2.71 | 900.00 | |
| 60 Ni | 45 | 2 | 0.25 | 0.12 | ppb | 4.88 | 900.00 | |
| 63 Cu | 72 | 2 | 0.45 | 0.23 | ppb | 1.78 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.20 | ppb | 1.17 | 900.00 | |
| 75 As | 72 | 2 | 0.66 | 0.33 | ppb | 6.71 | 900.00 | |
| 78 Se | 72 | 2 | 0.84 | 0.42 | ppb | 29.20 | 900.00 | |
| 88 Sr | 103 | 1 | 65.38 | 32.69 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.06 | ppb | 6.95 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 11.56 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 33.32 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 2.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.33 | 0.16 | ppb | 2.11 | 900.00 | |
| 137 Ba | 159 | 1 | 6.70 | 3.35 | ppb | 2.81 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 16.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 3.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2356853 | 1.01 | 2521858 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 3365435 | 0.83 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 363427 | 0.56 | 367626 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 720731 | 0.63 | 714806 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 141916 | 0.42 | 144802 | 98.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3723669 | 0.97 | 3924881 | 94.9 | 70 | - | 130 |
| 115 | In | 1 | 3862927 | 0.94 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1075134 | 0.48 | 1086949 | 98.9 | 70 | - | 130 |
| 159 | Tb | 1 | 4996899 | 1.04 | 4942952 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4742802 | 0.54 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2794592 | 0.52 | 2757011 | 101.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#
Date Acquired: Oct 31 2013 03:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-12F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 104.83 | 900.00 | |
| 9 Be | 45 | 2 | -0.12 | -0.06 | ppb | 48.60 | 900.00 | |
| 11 B | 6 | 1 | 1.61 | 0.81 | ppb | 5.05 | 900.00 | |
| 11 B | 45 | 2 | 1.66 | 0.83 | ppb | 32.97 | 900.00 | |
| 23 Na | 45 | 1 | 19.76 | 9.88 | ppb | 3.15 | 90000.00 | |
| 23 Na | 45 | 2 | 26.18 | 13.09 | ppb | 3.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.79 | 0.90 | ppb | 3.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.65 | 0.83 | ppb | 9.16 | 90000.00 | |
| 27 Al | 45 | 1 | 2.58 | 1.29 | ppb | 20.51 | 90000.00 | |
| 27 Al | 45 | 2 | 2.01 | 1.00 | ppb | 4.18 | 90000.00 | |
| 39 K | 45 | 1 | 33.00 | 16.50 | ppb | 6.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 16.98 | 8.49 | ppb | 7.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.28 | 0.14 | ppb | 17.83 | 900.00 | |
| 51 V | 45 | 2 | 1.89 | 0.95 | ppb | 3.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 4.21 | 900.00 | |
| 55 Mn | 45 | 2 | 0.14 | 0.07 | ppb | 10.62 | 900.00 | |
| 56 Fe | 45 | 2 | 5.46 | 2.73 | ppb | 0.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 94.09 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.02 | ppb | 70.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.12 | ppb | 1.93 | 900.00 | |
| 66 Zn | 72 | 2 | 4.77 | 2.39 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 0.40 | 0.20 | ppb | 7.83 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 756.03 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 11.70 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.01 | ppb | 4.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 98.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 0.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.21 | 0.11 | ppb | 1.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.14 | 0.07 | ppb | 10.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 251.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 9.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2405624 | 0.69 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3293872 | 0.68 | 3362635 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 362970 | 0.12 | 367626 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 707997 | 0.96 | 714806 | 99.0 | 70 | - | 130 |
| 72 | Ge | 2 | 141664 | 0.38 | 144802 | 97.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3776067 | 0.58 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3863543 | 0.41 | 3944903 | 97.9 | 70 | - | 130 |
| 115 | In | 2 | 1105273 | 4.54 | 1086949 | 101.7 | 70 | - | 130 |
| 159 | Tb | 1 | 4962227 | 0.11 | 4942952 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4745784 | 0.88 | 4623931 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 2757693 | 0.68 | 2757011 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D# |
| Date Acquired: | Oct 31 2013 03:09 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2303 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.91 | 48.91 | ppb | 1.05 | 900.00 | |
| 9 Be | 45 | 2 | 49.21 | 49.21 | ppb | 2.30 | 900.00 | |
| 11 B | 6 | 1 | 50.43 | 50.43 | ppb | 0.52 | 900.00 | |
| 11 B | 45 | 2 | 47.66 | 47.66 | ppb | 1.40 | 900.00 | |
| 23 Na | 45 | 1 | 5051.00 | 5051.00 | ppb | 0.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5182.00 | 5182.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 5059.00 | 5059.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 4822.00 | 4822.00 | ppb | 0.27 | 90000.00 | |
| 27 Al | 45 | 1 | 5003.00 | 5003.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 4543.00 | 4543.00 | ppb | 0.49 | 90000.00 | |
| 39 K | 45 | 1 | 5074.00 | 5074.00 | ppb | 0.50 | 90000.00 | |
| 44 Ca | 45 | 1 | 5093.00 | 5093.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.59 | 49.59 | ppb | 0.71 | 900.00 | |
| 51 V | 45 | 2 | 49.43 | 49.43 | ppb | 0.81 | 900.00 | |
| 52 Cr | 45 | 2 | 49.53 | 49.53 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 48.36 | 48.36 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 5110.00 | 5110.00 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 48.92 | 48.92 | ppb | 0.37 | 900.00 | |
| 60 Ni | 45 | 2 | 47.75 | 47.75 | ppb | 0.31 | 900.00 | |
| 63 Cu | 72 | 2 | 48.88 | 48.88 | ppb | 0.28 | 900.00 | |
| 66 Zn | 72 | 2 | 49.97 | 49.97 | ppb | 0.89 | 900.00 | |
| 75 As | 72 | 2 | 49.44 | 49.44 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 49.72 | 49.72 | ppb | 1.15 | 900.00 | |
| 88 Sr | 103 | 1 | 52.10 | 52.10 | ppb | 0.02 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.10 | 900.00 | |
| 107 Ag | 115 | 1 | 48.66 | 48.66 | ppb | 0.26 | 900.00 | |
| 111 Cd | 115 | 2 | 49.95 | 49.95 | ppb | 1.59 | 900.00 | |
| 120 Sn | 115 | 1 | 52.21 | 52.21 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 52.48 | 52.48 | ppb | 1.31 | 900.00 | |
| 137 Ba | 159 | 1 | 48.56 | 48.56 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 48.53 | 48.53 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.70 | 49.70 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2355568 | 0.45 | 2521858 | 93.4 | 70 - 130 | |
| 45 Sc | 1 | 3343887 | 0.33 | 3362635 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 368331 | 0.71 | 367626 | 100.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702617 | 1.00 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 142355 | 0.08 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3777490 | 0.19 | 3924881 | 96.2 | 70 | - | 130 |
| 115 | In | 1 | 3852513 | 0.48 | 3944903 | 97.7 | 70 | - | 130 |
| 115 | In | 2 | 1078330 | 1.00 | 1086949 | 99.2 | 70 | - | 130 |
| 159 | Tb | 1 | 4982829 | 1.37 | 4942952 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4751014 | 0.25 | 4623931 | 102.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2687347 | 1.02 | 2757011 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#
Date Acquired: Oct 31 2013 03:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 6.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.11 | 0.11 | ppb | 41.49 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 2.41 | 900.00 | |
| 11 B | 45 | 2 | 0.68 | 0.68 | ppb | 20.85 | 900.00 | |
| 23 Na | 45 | 1 | 0.21 | 0.21 | ppb | 61.62 | 90000.00 | |
| 23 Na | 45 | 2 | 3.71 | 3.71 | ppb | 19.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.46 | ppb | 6.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.57 | 1.57 | ppb | 33.23 | 90000.00 | |
| 27 Al | 45 | 1 | 0.27 | 0.27 | ppb | 12.92 | 90000.00 | |
| 27 Al | 45 | 2 | 1.27 | 1.27 | ppb | 30.94 | 90000.00 | |
| 39 K | 45 | 1 | 2.84 | 2.84 | ppb | 17.59 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.67 | -5.67 | ppb | 1.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 90.10 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 7.55 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 174.26 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 41.32 | 900.00 | |
| 56 Fe | 45 | 2 | 1.87 | 1.87 | ppb | 21.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 27.10 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 19.87 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 25.39 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 11.64 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 88.68 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.15 | ppb | 54.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 66.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 12.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.30 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 39.10 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 7.14 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 4.80 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 52.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.21 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2461488 | 0.25 | 2521858 | 97.6 | 70 - 130 | |
| 45 Sc | 1 | 3366281 | 0.38 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 375513 | 0.57 | 367626 | 102.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725613 | 1.06 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 147156 | 0.41 | 144802 | 101.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3933484 | 0.30 | 3924881 | 100.2 | 70 | - | 130 |
| 115 | In | 1 | 3971547 | 0.68 | 3944903 | 100.7 | 70 | - | 130 |
| 115 | In | 2 | 1120946 | 0.50 | 1086949 | 103.1 | 70 | - | 130 |
| 159 | Tb | 1 | 5031228 | 1.12 | 4942952 | 101.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4779265 | 0.99 | 4623931 | 103.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2833268 | 0.76 | 2757011 | 102.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D# |
| Date Acquired: | Oct 31 2013 03:25 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25522-13F |
| Misc Info: | |
| Vial Number: | 2305 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.02 | ppb | 22.09 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.23 | ppb | 40.56 | 900.00 | |
| 11 B | 6 | 1 | 19.33 | 9.67 | ppb | 2.03 | 900.00 | |
| 11 B | 45 | 2 | 20.48 | 10.24 | ppb | 5.38 | 900.00 | |
| 23 Na | 45 | 1 | 12510.00 | 6255.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 13036.00 | 6518.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 3400.00 | 1700.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 3394.00 | 1697.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 12.52 | 6.26 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 12.06 | 6.03 | ppb | 7.72 | 90000.00 | |
| 39 K | 45 | 1 | 6552.00 | 3276.00 | ppb | 0.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 27280.00 | 13640.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.55 | ppb | 2.09 | 900.00 | |
| 51 V | 45 | 2 | 1.81 | 0.91 | ppb | 2.32 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 2.54 | 900.00 | |
| 55 Mn | 45 | 2 | 405.20 | 202.60 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 6730.00 | 3365.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 8.03 | 4.02 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 4.27 | 2.14 | ppb | 1.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 4.36 | 900.00 | |
| 66 Zn | 72 | 2 | 6.70 | 3.35 | ppb | 0.55 | 900.00 | |
| 75 As | 72 | 2 | 34.90 | 17.45 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 0.76 | 0.38 | ppb | 75.02 | 900.00 | |
| 88 Sr | 103 | 1 | 114.34 | 57.17 | ppb | 1.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.09 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 25.32 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 80.33 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 4.24 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 0.56 | 900.00 | |
| 137 Ba | 159 | 1 | 48.94 | 24.47 | ppb | 1.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 6.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.15 | 0.08 | ppb | 6.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2400415 | 0.67 | 2521858 | 95.2 | 70 - 130 | |
| 45 Sc | 1 | 3339006 | 0.50 | 3362635 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 362639 | 0.43 | 367626 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 716412 | 1.02 | 714806 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 142934 | 0.38 | 144802 | 98.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3697648 | 1.01 | 3924881 | 94.2 | 70 | - | 130 |
| 115 | In | 1 | 3842065 | 0.26 | 3944903 | 97.4 | 70 | - | 130 |
| 115 | In | 2 | 1069425 | 0.55 | 1086949 | 98.4 | 70 | - | 130 |
| 159 | Tb | 1 | 4991004 | 0.79 | 4942952 | 101.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4769215 | 0.49 | 4623931 | 103.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2703978 | 0.60 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#
Date Acquired: Oct 31 2013 03:32 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25522-14F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.99 | 0.01 | ppb | 36.46 | 900.00 | |
| 9 Be | 45 | 2 | 31.42 | 0.31 | ppb | 0.70 | 900.00 | |
| 11 B | 6 | 1 | 14.22 | 0.14 | ppb | 8.54 | 900.00 | |
| 11 B | 45 | 2 | 91.14 | 0.91 | ppb | 20.34 | 900.00 | |
| 23 Na | 45 | 1 | 3046.00 | 30.46 | ppb | 0.80 | 90000.00 | |
| 23 Na | 45 | 2 | 3664.00 | 36.64 | ppb | 2.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 1194.00 | 11.94 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 1185.00 | 11.85 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 1 | 17.93 | 0.18 | ppb | 12.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.93 | 0.28 | ppb | 18.05 | 90000.00 | |
| 39 K | 45 | 1 | 508.20 | 5.08 | ppb | 10.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 11980.00 | 119.80 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 4.72 | 0.05 | ppb | 37.44 | 900.00 | |
| 51 V | 45 | 2 | -53.36 | -0.53 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | -5.13 | -0.05 | ppb | 3.00 | 900.00 | |
| 55 Mn | 45 | 2 | 6282.00 | 62.82 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 44900.00 | 449.00 | ppb | 0.95 | 90000.00 | |
| 59 Co | 45 | 2 | 7.57 | 0.08 | ppb | 2.21 | 900.00 | |
| 60 Ni | 45 | 2 | 8.71 | 0.09 | ppb | 11.94 | 900.00 | |
| 63 Cu | 72 | 2 | -6.94 | -0.07 | ppb | 12.42 | 900.00 | |
| 66 Zn | 72 | 2 | 6.08 | 0.06 | ppb | 21.58 | 900.00 | |
| 75 As | 72 | 2 | 2761.00 | 27.61 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 67.37 | 0.67 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 69.74 | 0.70 | ppb | 1.83 | 900.00 | |
| 98 Mo | 103 | 1 | 1.19 | 0.01 | ppb | 8.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.47 | 0.00 | ppb | 41.28 | 900.00 | |
| 111 Cd | 115 | 2 | 5.96 | 0.06 | ppb | 38.55 | 900.00 | |
| 120 Sn | 115 | 1 | -0.15 | 0.00 | ppb | 102.00 | 900.00 | |
| 121 Sb | 115 | 1 | -0.35 | 0.00 | ppb | 49.70 | 900.00 | |
| 137 Ba | 159 | 1 | 16.24 | 0.16 | ppb | 6.19 | 900.00 | |
| 205 Tl | 209 | 1 | 3.41 | 0.03 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1.88 | 0.02 | ppb | 2.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2533461 | 0.73 | 2521858 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 3466656 | 0.47 | 3362635 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 392672 | 0.46 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 752123 | 1.26 | 714806 | 105.2 | 70 | - | 130 |
| 72 | Ge | 2 | 154361 | 0.41 | 144802 | 106.6 | 70 | - | 130 |
| 103 | Rh | 1 | 4028650 | 0.14 | 3924881 | 102.6 | 70 | - | 130 |
| 115 | In | 1 | 4107597 | 0.58 | 3944903 | 104.1 | 70 | - | 130 |
| 115 | In | 2 | 1180841 | 0.32 | 1086949 | 108.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5158826 | 0.27 | 4942952 | 104.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4903888 | 0.39 | 4623931 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2909399 | 1.17 | 2757011 | 105.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D# |
| Date Acquired: | Oct 31 2013 03:39 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25568-1F |
| Misc Info: | |
| Vial Number: | 2307 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.44 | 0.01 | ppb | 21.21 | 900.00 | |
| 9 Be | 45 | 2 | 18.67 | 0.37 | ppb | 50.04 | 900.00 | |
| 11 B | 6 | 1 | 198.05 | 3.96 | ppb | 1.94 | 900.00 | |
| 11 B | 45 | 2 | 242.75 | 4.86 | ppb | 4.74 | 900.00 | |
| 23 Na | 45 | 1 | 28895.00 | 577.90 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 30525.00 | 610.50 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 12370.00 | 247.40 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 2 | 12885.00 | 257.70 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 1 | 9.37 | 0.19 | ppb | 18.91 | 90000.00 | |
| 27 Al | 45 | 2 | 16.54 | 0.33 | ppb | 13.35 | 90000.00 | |
| 39 K | 45 | 1 | 8375.00 | 167.50 | ppb | 1.08 | 90000.00 | |
| 44 Ca | 45 | 1 | 81500.00 | 1630.00 | ppb | 1.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.50 | 0.07 | ppb | 26.63 | 900.00 | |
| 51 V | 45 | 2 | -25.73 | -0.51 | ppb | 0.65 | 900.00 | |
| 52 Cr | 45 | 2 | -2.24 | -0.04 | ppb | 17.37 | 900.00 | |
| 55 Mn | 45 | 2 | 8620.00 | 172.40 | ppb | 1.58 | 900.00 | |
| 56 Fe | 45 | 2 | 32705.00 | 654.10 | ppb | 0.51 | 90000.00 | |
| 59 Co | 45 | 2 | 16.36 | 0.33 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 7.53 | 0.15 | ppb | 6.59 | 900.00 | |
| 63 Cu | 72 | 2 | -2.88 | -0.06 | ppb | 12.22 | 900.00 | |
| 66 Zn | 72 | 2 | 23.42 | 0.47 | ppb | 2.59 | 900.00 | |
| 75 As | 72 | 2 | 1154.00 | 23.08 | ppb | 0.05 | 900.00 | |
| 78 Se | 72 | 2 | 37.16 | 0.74 | ppb | 9.09 | 900.00 | |
| 88 Sr | 103 | 1 | 966.50 | 19.33 | ppb | 0.38 | 900.00 | |
| 98 Mo | 103 | 1 | 2.05 | 0.04 | ppb | 10.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.19 | 0.00 | ppb | 43.84 | 900.00 | |
| 111 Cd | 115 | 2 | 2.78 | 0.06 | ppb | 38.76 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 366.90 | 900.00 | |
| 121 Sb | 115 | 1 | -0.06 | 0.00 | ppb | 82.37 | 900.00 | |
| 137 Ba | 159 | 1 | 40.39 | 0.81 | ppb | 3.01 | 900.00 | |
| 205 Tl | 209 | 1 | 0.77 | 0.02 | ppb | 10.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.80 | 0.02 | ppb | 27.26 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2501781 | 0.43 | 2521858 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 3437949 | 0.65 | 3362635 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 386528 | 0.23 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 742481 | 0.90 | 714806 | 103.9 | 70 | - | 130 |
| 72 | Ge | 2 | 152966 | 0.25 | 144802 | 105.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3979599 | 0.40 | 3924881 | 101.4 | 70 | - | 130 |
| 115 | In | 1 | 4049938 | 0.33 | 3944903 | 102.7 | 70 | - | 130 |
| 115 | In | 2 | 1172919 | 0.74 | 1086949 | 107.9 | 70 | - | 130 |
| 159 | Tb | 1 | 5112366 | 0.96 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4880484 | 0.27 | 4623931 | 105.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2882069 | 0.71 | 2757011 | 104.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#
Date Acquired: Oct 31 2013 03:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-2F
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.06 | 0.03 | ppb | 127.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.84 | 0.42 | ppb | 29.45 | 900.00 | |
| 11 B | 6 | 1 | 9.91 | 4.96 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 11.20 | 5.60 | ppb | 5.90 | 900.00 | |
| 23 Na | 45 | 1 | 12544.00 | 6272.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 12944.00 | 6472.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 1017.00 | 508.50 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 1074.00 | 537.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 58.60 | 29.30 | ppb | 2.41 | 90000.00 | |
| 27 Al | 45 | 2 | 54.34 | 27.17 | ppb | 1.32 | 90000.00 | |
| 39 K | 45 | 1 | 486.60 | 243.30 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 10856.00 | 5428.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.01 | 0.50 | ppb | 17.63 | 900.00 | |
| 51 V | 45 | 2 | 2.26 | 1.13 | ppb | 2.46 | 900.00 | |
| 52 Cr | 45 | 2 | 0.53 | 0.27 | ppb | 1.95 | 900.00 | |
| 55 Mn | 45 | 2 | 290.80 | 145.40 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 4928.00 | 2464.00 | ppb | 18.66 | 90000.00 | |
| 59 Co | 45 | 2 | 2.52 | 1.26 | ppb | 1.51 | 900.00 | |
| 60 Ni | 45 | 2 | 1.11 | 0.55 | ppb | 2.84 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 8.75 | 900.00 | |
| 66 Zn | 72 | 2 | 6.73 | 3.37 | ppb | 1.70 | 900.00 | |
| 75 As | 72 | 2 | 14.17 | 7.08 | ppb | 0.62 | 900.00 | |
| 78 Se | 72 | 2 | 1.70 | 0.85 | ppb | 9.93 | 900.00 | |
| 88 Sr | 103 | 1 | 67.84 | 33.92 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.09 | 0.04 | ppb | 38.43 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 104.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.19 | 0.09 | ppb | 20.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 40.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.12 | ppb | 16.95 | 900.00 | |
| 137 Ba | 159 | 1 | 8.85 | 4.43 | ppb | 1.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.02 | ppb | 29.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 24.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2426493 | 1.72 | 2521858 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3299466 | 0.38 | 3362635 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 359630 | 0.06 | 367626 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 710615 | 0.97 | 714806 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 142235 | 0.26 | 144802 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 3711335 | 0.68 | 3924881 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 3881980 | 0.63 | 3944903 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1079301 | 0.90 | 1086949 | 99.3 | 70 | - | 130 |
| 159 Tb | 1 | 5011846 | 0.86 | 4942952 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 4796839 | 0.94 | 4623931 | 103.7 | 70 | - | 130 |
| 209 Bi | 1 | 2749142 | 0.91 | 2757011 | 99.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#
Date Acquired: Oct 31 2013 03:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-3F
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.08 | 0.04 | ppb | 60.96 | 900.00 | |
| 9 Be | 45 | 2 | 0.91 | 0.45 | ppb | 31.85 | 900.00 | |
| 11 B | 6 | 1 | 9.62 | 4.81 | ppb | 1.99 | 900.00 | |
| 11 B | 45 | 2 | 11.46 | 5.73 | ppb | 0.95 | 900.00 | |
| 23 Na | 45 | 1 | 12512.00 | 6256.00 | ppb | 0.63 | 90000.00 | |
| 23 Na | 45 | 2 | 12858.00 | 6429.00 | ppb | 0.73 | 90000.00 | |
| 24 Mg | 45 | 1 | 1012.40 | 506.20 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 1067.20 | 533.60 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 1 | 58.84 | 29.42 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 54.40 | 27.20 | ppb | 1.95 | 90000.00 | |
| 39 K | 45 | 1 | 480.60 | 240.30 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 10884.00 | 5442.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 11.01 | 900.00 | |
| 51 V | 45 | 2 | 2.34 | 1.17 | ppb | 1.11 | 900.00 | |
| 52 Cr | 45 | 2 | 0.54 | 0.27 | ppb | 3.79 | 900.00 | |
| 55 Mn | 45 | 2 | 291.00 | 145.50 | ppb | 1.32 | 900.00 | |
| 56 Fe | 45 | 2 | 4438.00 | 2219.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 2.53 | 1.27 | ppb | 1.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 0.51 | ppb | 2.10 | 900.00 | |
| 63 Cu | 72 | 2 | 0.16 | 0.08 | ppb | 15.96 | 900.00 | |
| 66 Zn | 72 | 2 | 6.39 | 3.19 | ppb | 1.32 | 900.00 | |
| 75 As | 72 | 2 | 14.63 | 7.32 | ppb | 1.21 | 900.00 | |
| 78 Se | 72 | 2 | 1.93 | 0.96 | ppb | 13.30 | 900.00 | |
| 88 Sr | 103 | 1 | 67.62 | 33.81 | ppb | 0.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.08 | 0.04 | ppb | 14.44 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 61.95 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.12 | ppb | 13.98 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 21.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.12 | ppb | 10.98 | 900.00 | |
| 137 Ba | 159 | 1 | 8.54 | 4.27 | ppb | 2.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 17.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.14 | 0.07 | ppb | 20.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2407456 | 1.06 | 2521858 | 95.5 | 70 - 130 | |
| 45 Sc | 1 | 3313845 | 0.49 | 3362635 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 361197 | 0.74 | 367626 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 715075 | 0.83 | 714806 | 100.0 | 70 | - | 130 |
| 72 | Ge | 2 | 142660 | 0.75 | 144802 | 98.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3733833 | 0.13 | 3924881 | 95.1 | 70 | - | 130 |
| 115 | In | 1 | 3889800 | 0.70 | 3944903 | 98.6 | 70 | - | 130 |
| 115 | In | 2 | 1091288 | 0.51 | 1086949 | 100.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5054070 | 1.10 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4815279 | 0.41 | 4623931 | 104.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2764012 | 0.52 | 2757011 | 100.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#
Date Acquired: Oct 31 2013 04:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-4F
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.00 | ppb | 52.15 | 900.00 | |
| 9 Be | 45 | 2 | 5.81 | 0.29 | ppb | 18.99 | 900.00 | |
| 11 B | 6 | 1 | 56.82 | 2.84 | ppb | 2.74 | 900.00 | |
| 11 B | 45 | 2 | 67.26 | 3.36 | ppb | 19.87 | 900.00 | |
| 23 Na | 45 | 1 | 4168.00 | 208.40 | ppb | 2.72 | 90000.00 | |
| 23 Na | 45 | 2 | 4718.00 | 235.90 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 2688.00 | 134.40 | ppb | 1.86 | 90000.00 | |
| 24 Mg | 45 | 2 | 2760.00 | 138.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 1 | 11.27 | 0.56 | ppb | 14.64 | 90000.00 | |
| 27 Al | 45 | 2 | 16.14 | 0.81 | ppb | 34.18 | 90000.00 | |
| 39 K | 45 | 1 | 8100.00 | 405.00 | ppb | 1.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 14734.00 | 736.70 | ppb | 0.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.88 | 0.09 | ppb | 15.38 | 900.00 | |
| 51 V | 45 | 2 | -7.51 | -0.38 | ppb | 0.54 | 900.00 | |
| 52 Cr | 45 | 2 | -0.60 | -0.03 | ppb | 26.65 | 900.00 | |
| 55 Mn | 45 | 2 | 595.80 | 29.79 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 22780.00 | 1139.00 | ppb | 0.17 | 90000.00 | |
| 59 Co | 45 | 2 | 10.11 | 0.51 | ppb | 1.95 | 900.00 | |
| 60 Ni | 45 | 2 | 3.54 | 0.18 | ppb | 5.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.77 | -0.04 | ppb | 31.96 | 900.00 | |
| 66 Zn | 72 | 2 | 9.99 | 0.50 | ppb | 0.86 | 900.00 | |
| 75 As | 72 | 2 | 716.40 | 35.82 | ppb | 1.33 | 900.00 | |
| 78 Se | 72 | 2 | 13.48 | 0.67 | ppb | 9.89 | 900.00 | |
| 88 Sr | 103 | 1 | 166.74 | 8.34 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 4.37 | 0.22 | ppb | 7.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.05 | 0.00 | ppb | 30.49 | 900.00 | |
| 111 Cd | 115 | 2 | 1.06 | 0.05 | ppb | 16.96 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 146.58 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.01 | ppb | 53.63 | 900.00 | |
| 137 Ba | 159 | 1 | 23.22 | 1.16 | ppb | 2.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.00 | ppb | 13.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.45 | 0.02 | ppb | 7.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2539074 | 0.37 | 2521858 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 3405034 | 0.33 | 3362635 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 385041 | 0.30 | 367626 | 104.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 740882 | 2.27 | 714806 | 103.6 | 70 | - | 130 |
| 72 Ge | 2 | 152196 | 0.37 | 144802 | 105.1 | 70 | - | 130 |
| 103 Rh | 1 | 4047377 | 1.31 | 3924881 | 103.1 | 70 | - | 130 |
| 115 In | 1 | 4116485 | 0.76 | 3944903 | 104.3 | 70 | - | 130 |
| 115 In | 2 | 1171381 | 0.12 | 1086949 | 107.8 | 70 | - | 130 |
| 159 Tb | 1 | 5155539 | 1.55 | 4942952 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4923227 | 0.29 | 4623931 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 2945286 | 1.26 | 2757011 | 106.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#
Date Acquired: Oct 31 2013 04:08 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-5F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 28.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.12 | 0.06 | ppb | 72.46 | 900.00 | |
| 11 B | 6 | 1 | 14.08 | 7.04 | ppb | 2.06 | 900.00 | |
| 11 B | 45 | 2 | 14.53 | 7.27 | ppb | 10.18 | 900.00 | |
| 23 Na | 45 | 1 | 2496.00 | 1248.00 | ppb | 1.39 | 90000.00 | |
| 23 Na | 45 | 2 | 2654.00 | 1327.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 1011.20 | 505.60 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 1073.60 | 536.80 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 3.96 | 1.98 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 2 | 3.88 | 1.94 | ppb | 1.84 | 90000.00 | |
| 39 K | 45 | 1 | 1945.00 | 972.50 | ppb | 1.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 6750.00 | 3375.00 | ppb | 1.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.86 | 0.43 | ppb | 2.67 | 900.00 | |
| 51 V | 45 | 2 | 2.68 | 1.34 | ppb | 4.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.40 | 0.20 | ppb | 7.29 | 900.00 | |
| 55 Mn | 45 | 2 | 65.04 | 32.52 | ppb | 0.76 | 900.00 | |
| 56 Fe | 45 | 2 | 130.86 | 65.43 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.65 | 0.32 | ppb | 3.62 | 900.00 | |
| 60 Ni | 45 | 2 | 0.62 | 0.31 | ppb | 4.93 | 900.00 | |
| 63 Cu | 72 | 2 | 1.28 | 0.64 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 6.22 | 3.11 | ppb | 1.61 | 900.00 | |
| 75 As | 72 | 2 | 0.85 | 0.42 | ppb | 6.38 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.20 | ppb | 147.16 | 900.00 | |
| 88 Sr | 103 | 1 | 54.36 | 27.18 | ppb | 0.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.06 | 0.03 | ppb | 6.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 10.82 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 22.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 11.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.24 | 0.12 | ppb | 6.01 | 900.00 | |
| 137 Ba | 159 | 1 | 8.90 | 4.45 | ppb | 2.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 9.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 10.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2447659 | 0.70 | 2521858 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 3349160 | 1.42 | 3362635 | 99.6 | 70 - 130 | |
| 45 Sc | 2 | 365409 | 0.62 | 367626 | 99.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 723055 | 1.12 | 714806 | 101.2 | 70 | - | 130 |
| 72 Ge | 2 | 143968 | 0.69 | 144802 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 3795541 | 0.39 | 3924881 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 3923511 | 0.36 | 3944903 | 99.5 | 70 | - | 130 |
| 115 In | 2 | 1119770 | 0.36 | 1086949 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 5052522 | 0.34 | 4942952 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 4838536 | 1.45 | 4623931 | 104.6 | 70 | - | 130 |
| 209 Bi | 1 | 2814640 | 0.72 | 2757011 | 102.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#
Date Acquired: Oct 31 2013 04:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.10 | 0.05 | ppb | 7.44 | 900.00 | |
| 9 Be | 45 | 2 | 0.28 | 0.14 | ppb | 44.61 | 900.00 | |
| 11 B | 6 | 1 | 205.20 | 102.60 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 205.40 | 102.70 | ppb | 11.40 | 900.00 | |
| 23 Na | 45 | 1 | 27720.00 | 13860.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 29720.00 | 14860.00 | ppb | 11.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 13722.00 | 6861.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 13894.00 | 6947.00 | ppb | 11.95 | 90000.00 | |
| 27 Al | 45 | 1 | 3.78 | 1.89 | ppb | 5.61 | 90000.00 | |
| 27 Al | 45 | 2 | 3.54 | 1.77 | ppb | 19.45 | 90000.00 | |
| 39 K | 45 | 1 | 4782.00 | 2391.00 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 107680.00 | 53840.00 | ppb | 0.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.85 | 0.92 | ppb | 7.06 | 900.00 | |
| 51 V | 45 | 2 | 1.73 | 0.87 | ppb | 19.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 30.72 | 900.00 | |
| 55 Mn | 45 | 2 | 8388.00 | 4194.00 | ppb | 11.50 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 672.00 | 336.00 | ppb | 11.89 | 90000.00 | |
| 59 Co | 45 | 2 | 2.57 | 1.29 | ppb | 12.08 | 900.00 | |
| 60 Ni | 45 | 2 | 15.94 | 7.97 | ppb | 11.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.18 | ppb | 23.31 | 900.00 | |
| 66 Zn | 72 | 2 | 14.03 | 7.02 | ppb | 10.52 | 900.00 | |
| 75 As | 72 | 2 | 55.08 | 27.54 | ppb | 8.68 | 900.00 | |
| 78 Se | 72 | 2 | 1.03 | 0.52 | ppb | 80.17 | 900.00 | |
| 88 Sr | 103 | 1 | 595.00 | 297.50 | ppb | 0.90 | 900.00 | |
| 98 Mo | 103 | 1 | 1.79 | 0.89 | ppb | 1.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 16.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.06 | ppb | 37.39 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 8.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 2.70 | 900.00 | |
| 137 Ba | 159 | 1 | 10.67 | 5.33 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 12.85 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 15.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2404974 | 0.87 | 2521858 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 3355829 | 0.95 | 3362635 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 353833 | 11.23 | 367626 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 701148 | 1.03 | 714806 | 98.1 | 70 | - | 130 |
| 72 | Ge | 2 | 137521 | 8.21 | 144802 | 95.0 | 70 | - | 130 |
| 103 | Rh | 1 | 3647764 | 0.80 | 3924881 | 92.9 | 70 | - | 130 |
| 115 | In | 1 | 3783791 | 0.37 | 3944903 | 95.9 | 70 | - | 130 |
| 115 | In | 2 | 1036755 | 12.08 | 1086949 | 95.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5038264 | 0.63 | 4942952 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4869682 | 0.50 | 4623931 | 105.3 | 70 | - | 130 |
| 209 | Bi | 1 | 2677984 | 0.87 | 2757011 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#
Date Acquired: Oct 31 2013 04:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-B1
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 516.40 | 25.82 | ppb | 0.78 | 900.00 | |
| 9 Be | 45 | 2 | 532.80 | 26.64 | ppb | 2.35 | 900.00 | |
| 11 B | 6 | 1 | 10.80 | 0.54 | ppb | 2.20 | 900.00 | |
| 11 B | 45 | 2 | 20.64 | 1.03 | ppb | 14.28 | 900.00 | |
| 23 Na | 45 | 1 | 27620.00 | 1381.00 | ppb | 0.83 | 90000.00 | |
| 23 Na | 45 | 2 | 28820.00 | 1441.00 | ppb | 0.31 | 90000.00 | |
| 24 Mg | 45 | 1 | 27680.00 | 1384.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 27200.00 | 1360.00 | ppb | 0.84 | 90000.00 | |
| 27 Al | 45 | 1 | 2348.00 | 117.40 | ppb | 1.20 | 90000.00 | |
| 27 Al | 45 | 2 | 2302.00 | 115.10 | ppb | 0.98 | 90000.00 | |
| 39 K | 45 | 1 | 27460.00 | 1373.00 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 28040.00 | 1402.00 | ppb | 0.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 523.60 | 26.18 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 534.40 | 26.72 | ppb | 0.52 | 900.00 | |
| 52 Cr | 45 | 2 | 536.80 | 26.84 | ppb | 0.91 | 900.00 | |
| 55 Mn | 45 | 2 | 557.60 | 27.88 | ppb | 1.02 | 900.00 | |
| 56 Fe | 45 | 2 | 2316.00 | 115.80 | ppb | 1.81 | 90000.00 | |
| 59 Co | 45 | 2 | 552.80 | 27.64 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 526.00 | 26.30 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 533.60 | 26.68 | ppb | 0.36 | 900.00 | |
| 66 Zn | 72 | 2 | 571.20 | 28.56 | ppb | 0.22 | 900.00 | |
| 75 As | 72 | 2 | 574.60 | 28.73 | ppb | 0.37 | 900.00 | |
| 78 Se | 72 | 2 | 574.00 | 28.70 | ppb | 0.86 | 900.00 | |
| 88 Sr | 103 | 1 | 544.60 | 27.23 | ppb | 2.08 | 900.00 | |
| 98 Mo | 103 | 1 | 0.56 | 0.03 | ppb | 8.84 | 900.00 | |
| 107 Ag | 115 | 1 | 220.60 | 11.03 | ppb | 2.04 | 900.00 | |
| 111 Cd | 115 | 2 | 534.20 | 26.71 | ppb | 1.02 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 33.45 | 900.00 | |
| 121 Sb | 115 | 1 | 573.60 | 28.68 | ppb | 1.69 | 900.00 | |
| 137 Ba | 159 | 1 | 2122.00 | 106.10 | ppb | 0.68 | 900.00 | |
| 205 Tl | 209 | 1 | 546.80 | 27.34 | ppb | 0.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1073.40 | 53.67 | ppb | 0.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2594586 | 0.13 | 2521858 | 102.9 | 70 - 130 | |
| 45 Sc | 1 | 3514292 | 0.43 | 3362635 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 391610 | 0.37 | 367626 | 106.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734604 | 0.95 | 714806 | 102.8 | 70 | - | 130 |
| 72 | Ge | 2 | 153101 | 0.51 | 144802 | 105.7 | 70 | - | 130 |
| 103 | Rh | 1 | 4045898 | 1.07 | 3924881 | 103.1 | 70 | - | 130 |
| 115 | In | 1 | 4120646 | 0.98 | 3944903 | 104.5 | 70 | - | 130 |
| 115 | In | 2 | 1192046 | 1.57 | 1086949 | 109.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5232840 | 0.99 | 4942952 | 105.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4946101 | 0.38 | 4623931 | 107.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2875877 | 0.20 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D# |
| Date Acquired: | Oct 31 2013 04:29 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21908A-S1 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 508.20 | 25.41 | ppb | 0.27 | 900.00 | |
| 9 Be | 45 | 2 | 520.00 | 26.00 | ppb | 1.75 | 900.00 | |
| 11 B | 6 | 1 | 9.41 | 0.47 | ppb | 3.42 | 900.00 | |
| 11 B | 45 | 2 | 11.68 | 0.58 | ppb | 9.10 | 900.00 | |
| 23 Na | 45 | 1 | 34400.00 | 1720.00 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 35200.00 | 1760.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 1 | 28960.00 | 1448.00 | ppb | 0.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 28400.00 | 1420.00 | ppb | 0.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2308.00 | 115.40 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 2264.00 | 113.20 | ppb | 0.16 | 90000.00 | |
| 39 K | 45 | 1 | 28820.00 | 1441.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 35080.00 | 1754.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 513.80 | 25.69 | ppb | 0.18 | 900.00 | |
| 51 V | 45 | 2 | 524.60 | 26.23 | ppb | 0.49 | 900.00 | |
| 52 Cr | 45 | 2 | 525.00 | 26.25 | ppb | 0.05 | 900.00 | |
| 55 Mn | 45 | 2 | 521.00 | 26.05 | ppb | 0.57 | 900.00 | |
| 56 Fe | 45 | 2 | 2444.00 | 122.20 | ppb | 0.37 | 90000.00 | |
| 59 Co | 45 | 2 | 539.60 | 26.98 | ppb | 0.19 | 900.00 | |
| 60 Ni | 45 | 2 | 514.20 | 25.71 | ppb | 0.66 | 900.00 | |
| 63 Cu | 72 | 2 | 522.40 | 26.12 | ppb | 0.48 | 900.00 | |
| 66 Zn | 72 | 2 | 563.80 | 28.19 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 564.40 | 28.22 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 557.40 | 27.87 | ppb | 1.43 | 900.00 | |
| 88 Sr | 103 | 1 | 581.60 | 29.08 | ppb | 1.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.03 | ppb | 21.62 | 900.00 | |
| 107 Ag | 115 | 1 | 218.00 | 10.90 | ppb | 2.00 | 900.00 | |
| 111 Cd | 115 | 2 | 531.60 | 26.58 | ppb | 0.53 | 900.00 | |
| 120 Sn | 115 | 1 | -0.07 | 0.00 | ppb | 14.98 | 900.00 | |
| 121 Sb | 115 | 1 | 559.80 | 27.99 | ppb | 1.42 | 900.00 | |
| 137 Ba | 159 | 1 | 2082.00 | 104.10 | ppb | 0.87 | 900.00 | |
| 205 Tl | 209 | 1 | 544.60 | 27.23 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1063.40 | 53.17 | ppb | 1.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2554381 | 0.41 | 2521858 | 101.3 | 70 - 130 | |
| 45 Sc | 1 | 3414793 | 0.27 | 3362635 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 383031 | 0.45 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 718167 | 0.28 | 714806 | 100.5 | 70 | - | 130 |
| 72 Ge | 2 | 150324 | 0.30 | 144802 | 103.8 | 70 | - | 130 |
| 103 Rh | 1 | 3966473 | 0.28 | 3924881 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 4059601 | 1.09 | 3944903 | 102.9 | 70 | - | 130 |
| 115 In | 2 | 1164375 | 0.85 | 1086949 | 107.1 | 70 | - | 130 |
| 159 Tb | 1 | 5120350 | 0.53 | 4942952 | 103.6 | 70 | - | 130 |
| 175 Lu | 1 | 4899137 | 0.28 | 4623931 | 106.0 | 70 | - | 130 |
| 209 Bi | 1 | 2822232 | 1.36 | 2757011 | 102.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 04:36 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2403 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.18 | 48.18 | ppb | 0.17 | 900.00 | |
| 9 Be | 45 | 2 | 50.49 | 50.49 | ppb | 0.74 | 900.00 | |
| 11 B | 6 | 1 | 49.74 | 49.74 | ppb | 0.38 | 900.00 | |
| 11 B | 45 | 2 | 48.03 | 48.03 | ppb | 1.60 | 900.00 | |
| 23 Na | 45 | 1 | 5140.00 | 5140.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 5246.00 | 5246.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 5132.00 | 5132.00 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 2 | 4839.00 | 4839.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 5090.00 | 5090.00 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 2 | 4637.00 | 4637.00 | ppb | 1.75 | 90000.00 | |
| 39 K | 45 | 1 | 5135.00 | 5135.00 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 5131.00 | 5131.00 | ppb | 0.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.60 | 49.60 | ppb | 1.41 | 900.00 | |
| 51 V | 45 | 2 | 49.48 | 49.48 | ppb | 0.96 | 900.00 | |
| 52 Cr | 45 | 2 | 49.61 | 49.61 | ppb | 1.69 | 900.00 | |
| 55 Mn | 45 | 2 | 49.01 | 49.01 | ppb | 2.23 | 900.00 | |
| 56 Fe | 45 | 2 | 5145.00 | 5145.00 | ppb | 1.42 | 90000.00 | |
| 59 Co | 45 | 2 | 49.08 | 49.08 | ppb | 1.76 | 900.00 | |
| 60 Ni | 45 | 2 | 47.90 | 47.90 | ppb | 0.84 | 900.00 | |
| 63 Cu | 72 | 2 | 47.93 | 47.93 | ppb | 1.14 | 900.00 | |
| 66 Zn | 72 | 2 | 49.52 | 49.52 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 48.98 | 48.98 | ppb | 0.72 | 900.00 | |
| 78 Se | 72 | 2 | 49.29 | 49.29 | ppb | 1.40 | 900.00 | |
| 88 Sr | 103 | 1 | 52.53 | 52.53 | ppb | 0.54 | 900.00 | |
| 98 Mo | 103 | 1 | 52.09 | 52.09 | ppb | 0.56 | 900.00 | |
| 107 Ag | 115 | 1 | 48.37 | 48.37 | ppb | 0.55 | 900.00 | |
| 111 Cd | 115 | 2 | 49.51 | 49.51 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 52.45 | 52.45 | ppb | 0.43 | 900.00 | |
| 121 Sb | 115 | 1 | 52.69 | 52.69 | ppb | 0.62 | 900.00 | |
| 137 Ba | 159 | 1 | 48.97 | 48.97 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 0.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.17 | 50.17 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2505687 | 0.67 | 2521858 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 3346716 | 0.58 | 3362635 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 373959 | 0.86 | 367626 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 702838 | 1.12 | 714806 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 146328 | 0.67 | 144802 | 101.1 | 70 | - | 130 |
| 103 | Rh | 1 | 3828027 | 0.43 | 3924881 | 97.5 | 70 | - | 130 |
| 115 | In | 1 | 3918218 | 0.41 | 3944903 | 99.3 | 70 | - | 130 |
| 115 | In | 2 | 1136772 | 0.66 | 1086949 | 104.6 | 70 | - | 130 |
| 159 | Tb | 1 | 5069558 | 0.16 | 4942952 | 102.6 | 70 | - | 130 |
| 175 | Lu | 1 | 4895602 | 0.32 | 4623931 | 105.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2769147 | 0.51 | 2757011 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#
Date Acquired: Oct 31 2013 04:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.77 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.06 | ppb | 207.03 | 900.00 | |
| 11 B | 6 | 1 | 0.31 | 0.31 | ppb | 4.75 | 900.00 | |
| 11 B | 45 | 2 | 0.38 | 0.38 | ppb | 47.70 | 900.00 | |
| 23 Na | 45 | 1 | 0.32 | 0.32 | ppb | 70.24 | 90000.00 | |
| 23 Na | 45 | 2 | 1.97 | 1.97 | ppb | 17.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.42 | 0.42 | ppb | 5.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.93 | 0.93 | ppb | 12.55 | 90000.00 | |
| 27 Al | 45 | 1 | 0.21 | 0.21 | ppb | 8.18 | 90000.00 | |
| 27 Al | 45 | 2 | 0.63 | 0.63 | ppb | 25.51 | 90000.00 | |
| 39 K | 45 | 1 | 2.93 | 2.93 | ppb | 20.76 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.71 | -6.71 | ppb | 3.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 177.72 | 900.00 | |
| 51 V | 45 | 2 | -0.19 | -0.19 | ppb | 4.21 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 24.57 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 24.46 | 900.00 | |
| 56 Fe | 45 | 2 | 0.97 | 0.97 | ppb | 15.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 20.69 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 21.55 | 900.00 | |
| 63 Cu | 72 | 2 | -0.04 | -0.04 | ppb | 3.68 | 900.00 | |
| 66 Zn | 72 | 2 | 0.78 | 0.78 | ppb | 4.73 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 56.61 | 900.00 | |
| 78 Se | 72 | 2 | 0.26 | 0.26 | ppb | 31.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 79.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 21.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 66.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 10.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 10.28 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 27.25 | 900.00 | |
| 205 Tl | 209 | 1 | 0.26 | 0.26 | ppb | 5.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 13.35 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520286 | 1.16 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3332724 | 0.52 | 3362635 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 381367 | 0.27 | 367626 | 103.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725015 | 1.15 | 714806 | 101.4 | 70 - | 130 |
| 72 | Ge | 2 | 150180 | 0.39 | 144802 | 103.7 | 70 - | 130 |
| 103 | Rh | 1 | 3959119 | 0.30 | 3924881 | 100.9 | 70 - | 130 |
| 115 | In | 1 | 4019905 | 0.47 | 3944903 | 101.9 | 70 - | 130 |
| 115 | In | 2 | 1166758 | 1.31 | 1086949 | 107.3 | 70 - | 130 |
| 159 | Tb | 1 | 5122623 | 0.54 | 4942952 | 103.6 | 70 - | 130 |
| 175 | Lu | 1 | 4883718 | 0.28 | 4623931 | 105.6 | 70 - | 130 |
| 209 | Bi | 1 | 2890418 | 0.28 | 2757011 | 104.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#
Date Acquired: Oct 31 2013 04:56 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21908A-S2
Misc Info:
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 504.00 | 25.20 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 540.20 | 27.01 | ppb | 1.94 | 900.00 | |
| 11 B | 6 | 1 | 8.33 | 0.42 | ppb | 5.72 | 900.00 | |
| 11 B | 45 | 2 | 16.84 | 0.84 | ppb | 30.31 | 900.00 | |
| 23 Na | 45 | 1 | 33820.00 | 1691.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 34820.00 | 1741.00 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 28520.00 | 1426.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 28200.00 | 1410.00 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 2314.00 | 115.70 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 2 | 2256.00 | 112.80 | ppb | 0.39 | 90000.00 | |
| 39 K | 45 | 1 | 28380.00 | 1419.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 34520.00 | 1726.00 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 509.00 | 25.45 | ppb | 1.35 | 900.00 | |
| 51 V | 45 | 2 | 518.40 | 25.92 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 522.20 | 26.11 | ppb | 0.66 | 900.00 | |
| 55 Mn | 45 | 2 | 512.40 | 25.62 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 2406.00 | 120.30 | ppb | 2.88 | 90000.00 | |
| 59 Co | 45 | 2 | 534.80 | 26.74 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 507.40 | 25.37 | ppb | 0.58 | 900.00 | |
| 63 Cu | 72 | 2 | 520.20 | 26.01 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 562.60 | 28.13 | ppb | 1.22 | 900.00 | |
| 75 As | 72 | 2 | 560.00 | 28.00 | ppb | 1.13 | 900.00 | |
| 78 Se | 72 | 2 | 574.20 | 28.71 | ppb | 1.18 | 900.00 | |
| 88 Sr | 103 | 1 | 577.60 | 28.88 | ppb | 0.80 | 900.00 | |
| 98 Mo | 103 | 1 | 0.84 | 0.04 | ppb | 6.34 | 900.00 | |
| 107 Ag | 115 | 1 | 215.40 | 10.77 | ppb | 0.34 | 900.00 | |
| 111 Cd | 115 | 2 | 522.60 | 26.13 | ppb | 0.61 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.01 | ppb | 39.82 | 900.00 | |
| 121 Sb | 115 | 1 | 554.60 | 27.73 | ppb | 0.16 | 900.00 | |
| 137 Ba | 159 | 1 | 2078.00 | 103.90 | ppb | 0.80 | 900.00 | |
| 205 Tl | 209 | 1 | 535.80 | 26.79 | ppb | 0.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1058.20 | 52.91 | ppb | 0.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543276 | 1.47 | 2521858 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 3388882 | 0.89 | 3362635 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 383035 | 0.35 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 719038 | 1.69 | 714806 | 100.6 | 70 | - | 130 |
| 72 | Ge | 2 | 150028 | 0.78 | 144802 | 103.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3953785 | 0.74 | 3924881 | 100.7 | 70 | - | 130 |
| 115 | In | 1 | 4066495 | 1.01 | 3944903 | 103.1 | 70 | - | 130 |
| 115 | In | 2 | 1170993 | 0.22 | 1086949 | 107.7 | 70 | - | 130 |
| 159 | Tb | 1 | 5128641 | 0.50 | 4942952 | 103.8 | 70 | - | 130 |
| 175 | Lu | 1 | 4904070 | 1.19 | 4623931 | 106.1 | 70 | - | 130 |
| 209 | Bi | 1 | 2831389 | 0.75 | 2757011 | 102.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#
Date Acquired: Oct 31 2013 05:03 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-6F
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 7.57 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.32 | ppb | 10.34 | 900.00 | |
| 11 B | 6 | 1 | 202.60 | 101.30 | ppb | 1.10 | 900.00 | |
| 11 B | 45 | 2 | 196.92 | 98.46 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 28060.00 | 14030.00 | ppb | 1.14 | 90000.00 | |
| 23 Na | 45 | 2 | 28720.00 | 14360.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 13930.00 | 6965.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 13324.00 | 6662.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 3.84 | 1.92 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 2 | 3.80 | 1.90 | ppb | 1.66 | 90000.00 | |
| 39 K | 45 | 1 | 4842.00 | 2421.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 108960.00 | 54480.00 | ppb | 1.10 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.97 | 0.99 | ppb | 2.82 | 900.00 | |
| 51 V | 45 | 2 | 1.62 | 0.81 | ppb | 1.01 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 2.93 | 900.00 | |
| 55 Mn | 45 | 2 | 8046.00 | 4023.00 | ppb | 0.23 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 644.00 | 322.00 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 2.47 | 1.23 | ppb | 1.27 | 900.00 | |
| 60 Ni | 45 | 2 | 15.32 | 7.66 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.16 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 13.48 | 6.74 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 53.12 | 26.56 | ppb | 0.59 | 900.00 | |
| 78 Se | 72 | 2 | 1.21 | 0.61 | ppb | 3.26 | 900.00 | |
| 88 Sr | 103 | 1 | 603.40 | 301.70 | ppb | 1.01 | 900.00 | |
| 98 Mo | 103 | 1 | 1.78 | 0.89 | ppb | 1.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 23.04 | 900.00 | |
| 111 Cd | 115 | 2 | 0.15 | 0.07 | ppb | 18.00 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 15.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.13 | ppb | 2.52 | 900.00 | |
| 137 Ba | 159 | 1 | 10.75 | 5.38 | ppb | 0.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.42 | 0.21 | ppb | 1.78 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.05 | ppb | 7.45 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2432777 | 0.86 | 2521858 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 3270318 | 1.01 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 365135 | 0.61 | 367626 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 687027 | 0.24 | 714806 | 96.1 | 70 | - | 130 |
| 72 Ge | 2 | 141539 | 0.21 | 144802 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 3562540 | 1.01 | 3924881 | 90.8 | 70 | - | 130 |
| 115 In | 1 | 3735694 | 0.46 | 3944903 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 1076183 | 0.76 | 1086949 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 4973796 | 0.38 | 4942952 | 100.6 | 70 | - | 130 |
| 175 Lu | 1 | 4732692 | 0.36 | 4623931 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 2654849 | 1.26 | 2757011 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 05:10 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | RINSECONF | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2407 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 19.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.18 | ppb | 30.31 | 900.00 | |
| 11 B | 6 | 1 | 0.47 | 0.47 | ppb | 5.64 | 900.00 | |
| 11 B | 45 | 2 | 0.95 | 0.95 | ppb | 17.86 | 900.00 | |
| 23 Na | 45 | 1 | 3.94 | 3.94 | ppb | 10.55 | 90000.00 | |
| 23 Na | 45 | 2 | 10.45 | 10.45 | ppb | 11.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.17 | 2.17 | ppb | 14.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 4.47 | 4.47 | ppb | 7.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.53 | 0.53 | ppb | 13.07 | 90000.00 | |
| 27 Al | 45 | 2 | 0.58 | 0.58 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 4.70 | 4.70 | ppb | 5.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 4.93 | 4.93 | ppb | 46.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 46.24 | 900.00 | |
| 51 V | 45 | 2 | -0.16 | -0.16 | ppb | 4.75 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 7.08 | 900.00 | |
| 55 Mn | 45 | 2 | 2.27 | 2.27 | ppb | 14.06 | 900.00 | |
| 56 Fe | 45 | 2 | 1.24 | 1.24 | ppb | 5.77 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 11.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 36.54 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 10.43 | 900.00 | |
| 66 Zn | 72 | 2 | -0.08 | -0.08 | ppb | 7.75 | 900.00 | |
| 75 As | 72 | 2 | 0.04 | 0.04 | ppb | 18.02 | 900.00 | |
| 78 Se | 72 | 2 | 0.42 | 0.42 | ppb | 14.83 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.07 | ppb | 18.54 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 17.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.44 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.05 | ppb | 34.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 24.20 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 5.93 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 18.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 3.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 1.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2630669 | 1.00 | 2521858 | 104.3 | 70 - 130 | |
| 45 Sc | 1 | 3441144 | 0.30 | 3362635 | 102.3 | 70 - 130 | |
| 45 Sc | 2 | 388808 | 0.34 | 367626 | 105.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 734247 | 1.04 | 714806 | 102.7 | 70 | - | 130 |
| 72 | Ge | 2 | 151773 | 0.37 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 4005175 | 0.24 | 3924881 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 4109803 | 0.94 | 3944903 | 104.2 | 70 | - | 130 |
| 115 | In | 2 | 1165121 | 1.01 | 1086949 | 107.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5207454 | 0.84 | 4942952 | 105.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4918373 | 0.45 | 4623931 | 106.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2875063 | 0.15 | 2757011 | 104.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#
Date Acquired: Oct 31 2013 05:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 3.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.63 | 0.63 | ppb | 20.76 | 900.00 | |
| 11 B | 6 | 1 | 5.16 | 5.16 | ppb | 2.30 | 900.00 | |
| 11 B | 45 | 2 | 5.42 | 5.42 | ppb | 7.19 | 900.00 | |
| 23 Na | 45 | 1 | 270.40 | 270.40 | ppb | 2.04 | 90000.00 | |
| 23 Na | 45 | 2 | 303.90 | 303.90 | ppb | 0.56 | 90000.00 | |
| 24 Mg | 45 | 1 | 272.10 | 272.10 | ppb | 1.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 285.70 | 285.70 | ppb | 0.83 | 90000.00 | |
| 27 Al | 45 | 1 | 28.86 | 28.86 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 27.42 | 27.42 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 271.40 | 271.40 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 280.90 | 280.90 | ppb | 1.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 7.54 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 1.27 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 2.83 | 900.00 | |
| 55 Mn | 45 | 2 | 1.44 | 1.44 | ppb | 5.65 | 900.00 | |
| 56 Fe | 45 | 2 | 29.89 | 29.89 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 1.03 | 1.03 | ppb | 3.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.95 | 0.95 | ppb | 2.42 | 900.00 | |
| 66 Zn | 72 | 2 | 2.05 | 2.05 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 4.98 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.71 | ppb | 52.82 | 900.00 | |
| 88 Sr | 103 | 1 | 5.48 | 5.48 | ppb | 2.66 | 900.00 | |
| 98 Mo | 103 | 1 | 1.08 | 1.08 | ppb | 2.85 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 3.48 | 900.00 | |
| 111 Cd | 115 | 2 | 0.52 | 0.52 | ppb | 3.92 | 900.00 | |
| 120 Sn | 115 | 1 | 5.23 | 5.23 | ppb | 1.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.57 | 0.57 | ppb | 0.96 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 2.13 | 900.00 | |
| 205 Tl | 209 | 1 | 0.51 | 0.51 | ppb | 1.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.58 | 0.58 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2607879 | 0.95 | 2521858 | 103.4 | 70 - 130 | |
| 45 Sc | 1 | 3382703 | 1.29 | 3362635 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 384186 | 0.43 | 367626 | 104.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 726579 | 1.37 | 714806 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 150878 | 0.33 | 144802 | 104.2 | 70 | - | 130 |
| 103 Rh | 1 | 4007590 | 1.55 | 3924881 | 102.1 | 70 | - | 130 |
| 115 In | 1 | 4067180 | 0.95 | 3944903 | 103.1 | 70 | - | 130 |
| 115 In | 2 | 1173517 | 1.87 | 1086949 | 108.0 | 70 | - | 130 |
| 159 Tb | 1 | 5156548 | 1.48 | 4942952 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 4924327 | 1.35 | 4623931 | 106.5 | 70 | - | 130 |
| 209 Bi | 1 | 2879634 | 1.26 | 2757011 | 104.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#
Date Acquired: Oct 31 2013 05:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.04 | 48.04 | ppb | 1.09 | 900.00 | |
| 9 Be | 45 | 2 | 50.41 | 50.41 | ppb | 0.22 | 900.00 | |
| 11 B | 6 | 1 | 49.78 | 49.78 | ppb | 0.67 | 900.00 | |
| 11 B | 45 | 2 | 49.09 | 49.09 | ppb | 2.61 | 900.00 | |
| 23 Na | 45 | 1 | 5111.00 | 5111.00 | ppb | 1.22 | 90000.00 | |
| 23 Na | 45 | 2 | 5228.00 | 5228.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 5122.00 | 5122.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4876.00 | 4876.00 | ppb | 0.54 | 90000.00 | |
| 27 Al | 45 | 1 | 5055.00 | 5055.00 | ppb | 1.44 | 90000.00 | |
| 27 Al | 45 | 2 | 4646.00 | 4646.00 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 5052.00 | 5052.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 5076.00 | 5076.00 | ppb | 1.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.05 | 49.05 | ppb | 0.78 | 900.00 | |
| 51 V | 45 | 2 | 48.96 | 48.96 | ppb | 0.41 | 900.00 | |
| 52 Cr | 45 | 2 | 49.21 | 49.21 | ppb | 0.29 | 900.00 | |
| 55 Mn | 45 | 2 | 49.10 | 49.10 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 5123.00 | 5123.00 | ppb | 0.32 | 90000.00 | |
| 59 Co | 45 | 2 | 49.21 | 49.21 | ppb | 1.43 | 900.00 | |
| 60 Ni | 45 | 2 | 48.01 | 48.01 | ppb | 1.40 | 900.00 | |
| 63 Cu | 72 | 2 | 47.46 | 47.46 | ppb | 0.15 | 900.00 | |
| 66 Zn | 72 | 2 | 49.12 | 49.12 | ppb | 0.23 | 900.00 | |
| 75 As | 72 | 2 | 49.16 | 49.16 | ppb | 0.71 | 900.00 | |
| 78 Se | 72 | 2 | 50.23 | 50.23 | ppb | 0.74 | 900.00 | |
| 88 Sr | 103 | 1 | 51.96 | 51.96 | ppb | 0.46 | 900.00 | |
| 98 Mo | 103 | 1 | 51.98 | 51.98 | ppb | 0.68 | 900.00 | |
| 107 Ag | 115 | 1 | 48.32 | 48.32 | ppb | 0.57 | 900.00 | |
| 111 Cd | 115 | 2 | 49.13 | 49.13 | ppb | 0.94 | 900.00 | |
| 120 Sn | 115 | 1 | 52.22 | 52.22 | ppb | 1.44 | 900.00 | |
| 121 Sb | 115 | 1 | 52.44 | 52.44 | ppb | 1.27 | 900.00 | |
| 137 Ba | 159 | 1 | 49.03 | 49.03 | ppb | 1.47 | 900.00 | |
| 205 Tl | 209 | 1 | 49.04 | 49.04 | ppb | 1.16 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.11 | 50.11 | ppb | 0.65 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2520073 | 0.32 | 2521858 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 3380257 | 0.55 | 3362635 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 374433 | 0.10 | 367626 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 704830 | 0.82 | 714806 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 146620 | 0.23 | 144802 | 101.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3852278 | 0.30 | 3924881 | 98.2 | 70 | - | 130 |
| 115 | In | 1 | 3955072 | 1.06 | 3944903 | 100.3 | 70 | - | 130 |
| 115 | In | 2 | 1143264 | 1.08 | 1086949 | 105.2 | 70 | - | 130 |
| 159 | Tb | 1 | 5110338 | 0.89 | 4942952 | 103.4 | 70 | - | 130 |
| 175 | Lu | 1 | 4931863 | 0.57 | 4623931 | 106.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2751597 | 0.42 | 2757011 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#
Date Acquired: Oct 31 2013 05:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 34.65 | 900.00 | |
| 9 Be | 45 | 2 | 0.15 | 0.15 | ppb | 18.17 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 3.32 | 900.00 | |
| 11 B | 45 | 2 | 0.71 | 0.71 | ppb | 34.87 | 900.00 | |
| 23 Na | 45 | 1 | 0.99 | 0.99 | ppb | 23.28 | 90000.00 | |
| 23 Na | 45 | 2 | 3.16 | 3.16 | ppb | 8.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.52 | 0.52 | ppb | 15.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.28 | 1.28 | ppb | 20.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.52 | 0.52 | ppb | 17.61 | 90000.00 | |
| 27 Al | 45 | 2 | 1.09 | 1.09 | ppb | 20.21 | 90000.00 | |
| 39 K | 45 | 1 | 2.21 | 2.21 | ppb | 32.52 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.95 | -5.95 | ppb | 7.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 17.31 | 900.00 | |
| 51 V | 45 | 2 | -0.17 | -0.17 | ppb | 3.61 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 26.56 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 17.27 | 900.00 | |
| 56 Fe | 45 | 2 | 1.37 | 1.37 | ppb | 13.15 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 15.91 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 8.73 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | -0.08 | ppb | 5.73 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 8.73 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 153.51 | 900.00 | |
| 78 Se | 72 | 2 | 0.25 | 0.25 | ppb | 44.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 20.14 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 3.76 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 10.52 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 10.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 21.35 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 13.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 56.77 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.22 | ppb | 2.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.03 | ppb | 17.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2543389 | 0.08 | 2521858 | 100.9 | 70 - 130 | |
| 45 Sc | 1 | 3376321 | 0.97 | 3362635 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 386363 | 0.22 | 367626 | 105.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 725310 | 0.43 | 714806 | 101.5 | 70 | - | 130 |
| 72 | Ge | 2 | 151732 | 0.35 | 144802 | 104.8 | 70 | - | 130 |
| 103 | Rh | 1 | 3964871 | 0.69 | 3924881 | 101.0 | 70 | - | 130 |
| 115 | In | 1 | 4039159 | 0.56 | 3944903 | 102.4 | 70 | - | 130 |
| 115 | In | 2 | 1178109 | 0.58 | 1086949 | 108.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5137591 | 0.57 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4888911 | 0.07 | 4623931 | 105.7 | 70 | - | 130 |
| 209 | Bi | 1 | 2886554 | 0.12 | 2757011 | 104.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#
Date Acquired: Oct 31 2013 05:42 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-MB1
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 89.18 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 130.69 | 900.00 | |
| 11 B | 6 | 1 | 0.66 | 0.33 | ppb | 3.67 | 900.00 | |
| 11 B | 45 | 2 | 1.60 | 0.80 | ppb | 22.74 | 900.00 | |
| 23 Na | 45 | 1 | 12.10 | 6.05 | ppb | 7.14 | 90000.00 | |
| 23 Na | 45 | 2 | 15.05 | 7.53 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.10 | 0.55 | ppb | 6.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.18 | 0.59 | ppb | 8.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.54 | 1.77 | ppb | 4.60 | 90000.00 | |
| 27 Al | 45 | 2 | 3.47 | 1.74 | ppb | 5.43 | 90000.00 | |
| 39 K | 45 | 1 | 19.18 | 9.59 | ppb | 19.59 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.71 | 0.36 | ppb | 164.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.22 | 0.11 | ppb | 9.24 | 900.00 | |
| 51 V | 45 | 2 | 1.61 | 0.80 | ppb | 1.57 | 900.00 | |
| 52 Cr | 45 | 2 | 0.24 | 0.12 | ppb | 2.88 | 900.00 | |
| 55 Mn | 45 | 2 | 0.49 | 0.25 | ppb | 3.56 | 900.00 | |
| 56 Fe | 45 | 2 | 26.16 | 13.08 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 19.84 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 3.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.05 | ppb | 19.91 | 900.00 | |
| 66 Zn | 72 | 2 | 1.34 | 0.67 | ppb | 2.83 | 900.00 | |
| 75 As | 72 | 2 | 0.40 | 0.20 | ppb | 8.76 | 900.00 | |
| 78 Se | 72 | 2 | 0.51 | 0.25 | ppb | 12.52 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 10.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.04 | ppb | 10.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.08 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.03 | ppb | 46.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 16.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 4.38 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.05 | ppb | 5.35 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.07 | ppb | 4.00 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 11.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2557954 | 1.41 | 2521858 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 3301748 | 1.13 | 3362635 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 375109 | 0.09 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 703236 | 0.10 | 714806 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 145995 | 0.15 | 144802 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 3831595 | 2.72 | 3924881 | 97.6 | 70 | - | 130 |
| 115 In | 1 | 3880392 | 1.58 | 3944903 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1135116 | 1.83 | 1086949 | 104.4 | 70 | - | 130 |
| 159 Tb | 1 | 5042558 | 1.48 | 4942952 | 102.0 | 70 | - | 130 |
| 175 Lu | 1 | 4804868 | 1.67 | 4623931 | 103.9 | 70 | - | 130 |
| 209 Bi | 1 | 2810853 | 1.68 | 2757011 | 102.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#
Date Acquired: Oct 31 2013 05:49 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-11F
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 209.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.01 | ppb | 544.47 | 900.00 | |
| 11 B | 6 | 1 | 294.60 | 58.92 | ppb | 1.07 | 900.00 | |
| 11 B | 45 | 2 | 280.05 | 56.01 | ppb | 1.31 | 900.00 | |
| 23 Na | 45 | 1 | 28515.00 | 5703.00 | ppb | 1.46 | 90000.00 | |
| 23 Na | 45 | 2 | 28455.00 | 5691.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 9740.00 | 1948.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 9390.00 | 1878.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 8.61 | 1.72 | ppb | 2.80 | 90000.00 | |
| 27 Al | 45 | 2 | 8.52 | 1.70 | ppb | 6.75 | 90000.00 | |
| 39 K | 45 | 1 | 8930.00 | 1786.00 | ppb | 0.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 60650.00 | 12130.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.30 | ppb | 3.97 | 900.00 | |
| 51 V | 45 | 2 | -0.65 | -0.13 | ppb | 4.93 | 900.00 | |
| 52 Cr | 45 | 2 | 0.09 | 0.02 | ppb | 47.83 | 900.00 | |
| 55 Mn | 45 | 2 | 2855.00 | 571.00 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 43940.00 | 8788.00 | ppb | 0.23 | 90000.00 | |
| 59 Co | 45 | 2 | 14.65 | 2.93 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 3.17 | 0.63 | ppb | 0.91 | 900.00 | |
| 63 Cu | 72 | 2 | -0.26 | -0.05 | ppb | 22.23 | 900.00 | |
| 66 Zn | 72 | 2 | 10.14 | 2.03 | ppb | 1.87 | 900.00 | |
| 75 As | 72 | 2 | 231.50 | 46.30 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.37 | 0.07 | ppb | 243.26 | 900.00 | |
| 88 Sr | 103 | 1 | 492.05 | 98.41 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.44 | 0.29 | ppb | 0.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 19.01 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 189.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.02 | ppb | 5.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.04 | ppb | 11.07 | 900.00 | |
| 137 Ba | 159 | 1 | 44.27 | 8.85 | ppb | 0.82 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.04 | ppb | 3.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.17 | 0.03 | ppb | 13.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2467173 | 0.48 | 2521858 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 3346259 | 0.60 | 3362635 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 378594 | 0.34 | 367626 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 725889 | 0.28 | 714806 | 101.6 | 70 | - | 130 |
| 72 Ge | 2 | 149255 | 0.31 | 144802 | 103.1 | 70 | - | 130 |
| 103 Rh | 1 | 3812888 | 0.39 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3964993 | 0.34 | 3944903 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1140492 | 0.57 | 1086949 | 104.9 | 70 | - | 130 |
| 159 Tb | 1 | 5097125 | 0.25 | 4942952 | 103.1 | 70 | - | 130 |
| 175 Lu | 1 | 4930493 | 0.55 | 4623931 | 106.6 | 70 | - | 130 |
| 209 Bi | 1 | 2770792 | 0.24 | 2757011 | 100.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D# |
| Date Acquired: | Oct 31 2013 05:57 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21920A-SD1 |
| Misc Info: | |
| Vial Number: | 2501 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 575.42 | 900.00 | |
| 9 Be | 45 | 2 | 1.10 | 0.04 | ppb | 109.39 | 900.00 | |
| 11 B | 6 | 1 | 286.50 | 11.46 | ppb | 1.15 | 900.00 | |
| 11 B | 45 | 2 | 275.75 | 11.03 | ppb | 9.88 | 900.00 | |
| 23 Na | 45 | 1 | 28925.00 | 1157.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 29700.00 | 1188.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 9980.00 | 399.20 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 10320.00 | 412.80 | ppb | 0.10 | 90000.00 | |
| 27 Al | 45 | 1 | 12.83 | 0.51 | ppb | 1.73 | 90000.00 | |
| 27 Al | 45 | 2 | 13.00 | 0.52 | ppb | 18.86 | 90000.00 | |
| 39 K | 45 | 1 | 8997.50 | 359.90 | ppb | 0.64 | 90000.00 | |
| 44 Ca | 45 | 1 | 62775.00 | 2511.00 | ppb | 0.64 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.87 | 0.07 | ppb | 9.82 | 900.00 | |
| 51 V | 45 | 2 | -12.67 | -0.51 | ppb | 1.65 | 900.00 | |
| 52 Cr | 45 | 2 | -1.46 | -0.06 | ppb | 8.82 | 900.00 | |
| 55 Mn | 45 | 2 | 2982.50 | 119.30 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 44325.00 | 1773.00 | ppb | 0.61 | 90000.00 | |
| 59 Co | 45 | 2 | 14.75 | 0.59 | ppb | 0.46 | 900.00 | |
| 60 Ni | 45 | 2 | 3.29 | 0.13 | ppb | 9.21 | 900.00 | |
| 63 Cu | 72 | 2 | -2.74 | -0.11 | ppb | 4.02 | 900.00 | |
| 66 Zn | 72 | 2 | 9.64 | 0.39 | ppb | 5.61 | 900.00 | |
| 75 As | 72 | 2 | 237.03 | 9.48 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 6.15 | 0.25 | ppb | 32.22 | 900.00 | |
| 88 Sr | 103 | 1 | 497.50 | 19.90 | ppb | 0.89 | 900.00 | |
| 98 Mo | 103 | 1 | 1.37 | 0.05 | ppb | 5.45 | 900.00 | |
| 107 Ag | 115 | 1 | 0.04 | 0.00 | ppb | 22.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.47 | 0.02 | ppb | 69.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 619.44 | 900.00 | |
| 121 Sb | 115 | 1 | -0.11 | 0.00 | ppb | 41.29 | 900.00 | |
| 137 Ba | 159 | 1 | 44.23 | 1.77 | ppb | 0.34 | 900.00 | |
| 205 Tl | 209 | 1 | 0.50 | 0.02 | ppb | 29.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.02 | ppb | 13.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2540479 | 0.71 | 2521858 | 100.7 | 70 - 130 | |
| 45 Sc | 1 | 3380506 | 0.72 | 3362635 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 392757 | 0.48 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 735567 | 0.76 | 714806 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 154287 | 0.34 | 144802 | 106.6 | 70 | - | 130 |
| 103 | Rh | 1 | 3949231 | 0.61 | 3924881 | 100.6 | 70 | - | 130 |
| 115 | In | 1 | 4048882 | 0.97 | 3944903 | 102.6 | 70 | - | 130 |
| 115 | In | 2 | 1185310 | 0.42 | 1086949 | 109.0 | 70 | - | 130 |
| 159 | Tb | 1 | 5138789 | 0.51 | 4942952 | 104.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4892064 | 0.84 | 4623931 | 105.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2893458 | 1.10 | 2757011 | 104.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#
Date Acquired: Oct 31 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-1F
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 108.39 | 900.00 | |
| 9 Be | 45 | 2 | 0.19 | 0.04 | ppb | 94.58 | 900.00 | |
| 11 B | 6 | 1 | 29.32 | 5.86 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 26.73 | 5.35 | ppb | 5.07 | 900.00 | |
| 23 Na | 45 | 1 | 63200.00 | 12640.00 | ppb | 0.61 | 90000.00 | |
| 23 Na | 45 | 2 | 64550.00 | 12910.00 | ppb | 0.97 | 90000.00 | |
| 24 Mg | 45 | 1 | 1754.50 | 350.90 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 1836.00 | 367.20 | ppb | 0.25 | 90000.00 | |
| 27 Al | 45 | 1 | 7.49 | 1.50 | ppb | 7.71 | 90000.00 | |
| 27 Al | 45 | 2 | 6.64 | 1.33 | ppb | 6.02 | 90000.00 | |
| 39 K | 45 | 1 | 3048.50 | 609.70 | ppb | 0.80 | 90000.00 | |
| 44 Ca | 45 | 1 | 17475.00 | 3495.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.10 | 0.22 | ppb | 7.89 | 900.00 | |
| 51 V | 45 | 2 | -0.37 | -0.07 | ppb | 2.08 | 900.00 | |
| 52 Cr | 45 | 2 | 0.04 | 0.01 | ppb | 37.60 | 900.00 | |
| 55 Mn | 45 | 2 | 1089.50 | 217.90 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 10065.00 | 2013.00 | ppb | 0.94 | 90000.00 | |
| 59 Co | 45 | 2 | 2.33 | 0.47 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 1.37 | 0.27 | ppb | 7.91 | 900.00 | |
| 63 Cu | 72 | 2 | -0.30 | -0.06 | ppb | 12.08 | 900.00 | |
| 66 Zn | 72 | 2 | 25.40 | 5.08 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 112.95 | 22.59 | ppb | 0.64 | 900.00 | |
| 78 Se | 72 | 2 | 0.94 | 0.19 | ppb | 86.56 | 900.00 | |
| 88 Sr | 103 | 1 | 112.00 | 22.40 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.41 | ppb | 4.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 30.08 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.02 | ppb | 42.25 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.01 | ppb | 11.29 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.03 | ppb | 9.87 | 900.00 | |
| 137 Ba | 159 | 1 | 17.19 | 3.44 | ppb | 1.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.01 | ppb | 8.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.11 | 0.02 | ppb | 4.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2425871 | 1.43 | 2521858 | 96.2 | 70 - 130 | |
| 45 Sc | 1 | 3301202 | 0.05 | 3362635 | 98.2 | 70 - 130 | |
| 45 Sc | 2 | 374990 | 0.24 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 711151 | 0.11 | 714806 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 146945 | 0.28 | 144802 | 101.5 | 70 | - | 130 |
| 103 Rh | 1 | 3746901 | 0.28 | 3924881 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 3829898 | 0.56 | 3944903 | 97.1 | 70 | - | 130 |
| 115 In | 2 | 1126421 | 0.53 | 1086949 | 103.6 | 70 | - | 130 |
| 159 Tb | 1 | 4954569 | 0.77 | 4942952 | 100.2 | 70 | - | 130 |
| 175 Lu | 1 | 4744171 | 0.74 | 4623931 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 2761642 | 1.00 | 2757011 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#
Date Acquired: Oct 31 2013 06:11 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-7F
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.08 | 0.04 | ppb | 14.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.05 | ppb | 49.28 | 900.00 | |
| 11 B | 6 | 1 | 193.22 | 96.61 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 188.04 | 94.02 | ppb | 3.42 | 900.00 | |
| 23 Na | 45 | 1 | 26940.00 | 13470.00 | ppb | 0.70 | 90000.00 | |
| 23 Na | 45 | 2 | 28020.00 | 14010.00 | ppb | 0.25 | 90000.00 | |
| 24 Mg | 45 | 1 | 13398.00 | 6699.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 12944.00 | 6472.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 1 | 3.07 | 1.53 | ppb | 2.02 | 90000.00 | |
| 27 Al | 45 | 2 | 3.03 | 1.52 | ppb | 3.59 | 90000.00 | |
| 39 K | 45 | 1 | 4658.00 | 2329.00 | ppb | 0.66 | 90000.00 | |
| 44 Ca | 45 | 1 | 104540.00 | 52270.00 | ppb | 0.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.73 | 0.86 | ppb | 1.36 | 900.00 | |
| 51 V | 45 | 2 | 1.30 | 0.65 | ppb | 4.22 | 900.00 | |
| 52 Cr | 45 | 2 | 0.43 | 0.21 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 7804.00 | 3902.00 | ppb | 0.35 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 648.00 | 324.00 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 2.43 | 1.21 | ppb | 1.72 | 900.00 | |
| 60 Ni | 45 | 2 | 14.70 | 7.35 | ppb | 0.66 | 900.00 | |
| 63 Cu | 72 | 2 | 0.48 | 0.24 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 13.06 | 6.53 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 54.32 | 27.16 | ppb | 0.77 | 900.00 | |
| 78 Se | 72 | 2 | 0.23 | 0.11 | ppb | 75.95 | 900.00 | |
| 88 Sr | 103 | 1 | 584.40 | 292.20 | ppb | 0.35 | 900.00 | |
| 98 Mo | 103 | 1 | 1.75 | 0.87 | ppb | 1.69 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 18.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 34.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 0.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.19 | 0.09 | ppb | 4.08 | 900.00 | |
| 137 Ba | 159 | 1 | 10.67 | 5.34 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 18.55 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 20.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2393236 | 1.43 | 2521858 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 3251240 | 0.68 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 365640 | 0.07 | 367626 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 681463 | 0.49 | 714806 | 95.3 | 70 - | 130 |
| 72 | Ge | 2 | 140431 | 0.65 | 144802 | 97.0 | 70 - | 130 |
| 103 | Rh | 1 | 3534495 | 0.54 | 3924881 | 90.1 | 70 - | 130 |
| 115 | In | 1 | 3687808 | 0.26 | 3944903 | 93.5 | 70 - | 130 |
| 115 | In | 2 | 1086014 | 5.52 | 1086949 | 99.9 | 70 - | 130 |
| 159 | Tb | 1 | 4837143 | 0.37 | 4942952 | 97.9 | 70 - | 130 |
| 175 | Lu | 1 | 4600206 | 0.17 | 4623931 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 2580617 | 0.80 | 2757011 | 93.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#
Date Acquired: Oct 31 2013 06:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-8F
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 69.68 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 235.52 | 900.00 | |
| 11 B | 6 | 1 | 60.90 | 30.45 | ppb | 1.70 | 900.00 | |
| 11 B | 45 | 2 | 58.96 | 29.48 | ppb | 2.11 | 900.00 | |
| 23 Na | 45 | 1 | 3578.00 | 1789.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 3684.00 | 1842.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 1928.80 | 964.40 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 1910.00 | 955.00 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 14.13 | 7.07 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 2 | 13.10 | 6.55 | ppb | 1.53 | 90000.00 | |
| 39 K | 45 | 1 | 3002.00 | 1501.00 | ppb | 1.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 17388.00 | 8694.00 | ppb | 0.72 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.43 | ppb | 5.09 | 900.00 | |
| 51 V | 45 | 2 | 1.43 | 0.72 | ppb | 3.17 | 900.00 | |
| 52 Cr | 45 | 2 | 0.55 | 0.28 | ppb | 2.19 | 900.00 | |
| 55 Mn | 45 | 2 | 399.00 | 199.50 | ppb | 0.93 | 900.00 | |
| 56 Fe | 45 | 2 | 9878.00 | 4939.00 | ppb | 0.49 | 90000.00 | |
| 59 Co | 45 | 2 | 6.39 | 3.20 | ppb | 0.18 | 900.00 | |
| 60 Ni | 45 | 2 | 0.98 | 0.49 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.21 | 0.11 | ppb | 3.85 | 900.00 | |
| 66 Zn | 72 | 2 | 6.33 | 3.16 | ppb | 1.58 | 900.00 | |
| 75 As | 72 | 2 | 61.56 | 30.78 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 226.74 | 900.00 | |
| 88 Sr | 103 | 1 | 98.96 | 49.48 | ppb | 0.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 5.18 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 698.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 29.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 14.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.17 | 0.08 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 20.98 | 10.49 | ppb | 1.24 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 25.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 17.65 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2439752 | 1.19 | 2521858 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 3308197 | 0.31 | 3362635 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 374620 | 0.20 | 367626 | 101.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 710168 | 0.58 | 714806 | 99.4 | 70 | - | 130 |
| 72 | Ge | 2 | 145395 | 0.13 | 144802 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 3701459 | 0.47 | 3924881 | 94.3 | 70 | - | 130 |
| 115 | In | 1 | 3825284 | 0.41 | 3944903 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 1099093 | 0.45 | 1086949 | 101.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4978287 | 0.63 | 4942952 | 100.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4690650 | 0.51 | 4623931 | 101.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2703460 | 0.81 | 2757011 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#
Date Acquired: Oct 31 2013 06:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-9F
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 190.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.14 | 0.07 | ppb | 90.31 | 900.00 | |
| 11 B | 6 | 1 | 15.89 | 7.94 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 15.99 | 7.99 | ppb | 6.78 | 900.00 | |
| 23 Na | 45 | 1 | 2738.00 | 1369.00 | ppb | 1.05 | 90000.00 | |
| 23 Na | 45 | 2 | 2802.00 | 1401.00 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 1454.00 | 727.00 | ppb | 1.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 1526.20 | 763.10 | ppb | 0.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4.79 | 2.40 | ppb | 0.44 | 90000.00 | |
| 27 Al | 45 | 2 | 4.56 | 2.28 | ppb | 7.13 | 90000.00 | |
| 39 K | 45 | 1 | 1666.00 | 833.00 | ppb | 0.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 9600.00 | 4800.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.85 | 0.43 | ppb | 3.48 | 900.00 | |
| 51 V | 45 | 2 | 1.15 | 0.58 | ppb | 4.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 5.11 | 900.00 | |
| 55 Mn | 45 | 2 | 468.20 | 234.10 | ppb | 0.30 | 900.00 | |
| 56 Fe | 45 | 2 | 4756.00 | 2378.00 | ppb | 0.48 | 90000.00 | |
| 59 Co | 45 | 2 | 3.51 | 1.76 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 0.64 | 0.32 | ppb | 3.09 | 900.00 | |
| 63 Cu | 72 | 2 | 0.10 | 0.05 | ppb | 3.18 | 900.00 | |
| 66 Zn | 72 | 2 | 12.45 | 6.23 | ppb | 1.06 | 900.00 | |
| 75 As | 72 | 2 | 12.50 | 6.25 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 0.71 | 0.35 | ppb | 32.85 | 900.00 | |
| 88 Sr | 103 | 1 | 64.26 | 32.13 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 0.46 | 0.23 | ppb | 1.20 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 81.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 30.02 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 9.11 | 900.00 | |
| 121 Sb | 115 | 1 | 0.18 | 0.09 | ppb | 2.10 | 900.00 | |
| 137 Ba | 159 | 1 | 8.56 | 4.28 | ppb | 2.42 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 10.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 13.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2431657 | 0.36 | 2521858 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3280646 | 0.79 | 3362635 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 370526 | 0.25 | 367626 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 704508 | 0.29 | 714806 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 144389 | 0.47 | 144802 | 99.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3697536 | 0.34 | 3924881 | 94.2 | 70 | - | 130 |
| 115 | In | 1 | 3776330 | 0.30 | 3944903 | 95.7 | 70 | - | 130 |
| 115 | In | 2 | 1099104 | 0.62 | 1086949 | 101.1 | 70 | - | 130 |
| 159 | Tb | 1 | 4887590 | 0.68 | 4942952 | 98.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4661082 | 0.54 | 4623931 | 100.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2692928 | 0.62 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#
Date Acquired: Oct 31 2013 06:32 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-10F
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Fail
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 173.49 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.10 | ppb | 74.44 | 900.00 | |
| 11 B | 6 | 1 | 250.65 | 50.13 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 234.70 | 46.94 | ppb | 1.25 | 900.00 | |
| 23 Na | 45 | 1 | 31470.00 | 6294.00 | ppb | 0.91 | 90000.00 | |
| 23 Na | 45 | 2 | 31860.00 | 6372.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 13200.00 | 2640.00 | ppb | 0.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 12640.00 | 2528.00 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 1 | 4.20 | 0.84 | ppb | 3.42 | 90000.00 | |
| 27 Al | 45 | 2 | 4.22 | 0.84 | ppb | 4.64 | 90000.00 | |
| 39 K | 45 | 1 | 7220.00 | 1444.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 89700.00 | 17940.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.68 | 0.34 | ppb | 6.81 | 900.00 | |
| 51 V | 45 | 2 | -0.60 | -0.12 | ppb | 9.21 | 900.00 | |
| 52 Cr | 45 | 2 | 0.06 | 0.01 | ppb | 66.34 | 900.00 | |
| 55 Mn | 45 | 2 | 4961.00 | 992.20 | ppb | 0.60 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 17430.00 | 3486.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 10.12 | 2.02 | ppb | 0.10 | 900.00 | |
| 60 Ni | 45 | 2 | 8.07 | 1.61 | ppb | 0.34 | 900.00 | |
| 63 Cu | 72 | 2 | -0.28 | -0.06 | ppb | 13.49 | 900.00 | |
| 66 Zn | 72 | 2 | 6.04 | 1.21 | ppb | 4.43 | 900.00 | |
| 75 As | 72 | 2 | 204.55 | 40.91 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | 1.79 | 0.36 | ppb | 13.93 | 900.00 | |
| 88 Sr | 103 | 1 | 805.00 | 161.00 | ppb | 0.18 | 900.00 | |
| 98 Mo | 103 | 1 | 1.80 | 0.36 | ppb | 6.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 76.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.12 | 0.02 | ppb | 22.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.01 | ppb | 21.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.23 | 0.05 | ppb | 6.21 | 900.00 | |
| 137 Ba | 159 | 1 | 53.25 | 10.65 | ppb | 1.55 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 55.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.01 | ppb | 28.67 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2386237 | 1.19 | 2521858 | 94.6 | 70 - 130 | |
| 45 Sc | 1 | 3287569 | 0.54 | 3362635 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 377638 | 0.23 | 367626 | 102.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 705861 | 0.91 | 714806 | 98.7 | 70 | - | 130 |
| 72 Ge | 2 | 146664 | 0.28 | 144802 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 3661206 | 0.80 | 3924881 | 93.3 | 70 | - | 130 |
| 115 In | 1 | 3813220 | 0.86 | 3944903 | 96.7 | 70 | - | 130 |
| 115 In | 2 | 1089126 | 1.62 | 1086949 | 100.2 | 70 | - | 130 |
| 159 Tb | 1 | 4875999 | 0.86 | 4942952 | 98.6 | 70 | - | 130 |
| 175 Lu | 1 | 4650735 | 0.14 | 4623931 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 2695605 | 1.37 | 2757011 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#
Date Acquired: Oct 31 2013 06:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-12F
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 25.25 | 900.00 | |
| 9 Be | 45 | 2 | 0.18 | 0.09 | ppb | 87.12 | 900.00 | |
| 11 B | 6 | 1 | 20.86 | 10.43 | ppb | 2.08 | 900.00 | |
| 11 B | 45 | 2 | 22.04 | 11.02 | ppb | 3.58 | 900.00 | |
| 23 Na | 45 | 1 | 10056.00 | 5028.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 10382.00 | 5191.00 | ppb | 0.45 | 90000.00 | |
| 24 Mg | 45 | 1 | 4020.00 | 2010.00 | ppb | 0.81 | 90000.00 | |
| 24 Mg | 45 | 2 | 3932.00 | 1966.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 1 | 26.06 | 13.03 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 2 | 24.10 | 12.05 | ppb | 0.98 | 90000.00 | |
| 39 K | 45 | 1 | 4172.00 | 2086.00 | ppb | 0.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 40140.00 | 20070.00 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 0.52 | ppb | 4.30 | 900.00 | |
| 51 V | 45 | 2 | 1.33 | 0.66 | ppb | 2.79 | 900.00 | |
| 52 Cr | 45 | 2 | 0.73 | 0.37 | ppb | 1.66 | 900.00 | |
| 55 Mn | 45 | 2 | 141.66 | 70.83 | ppb | 0.44 | 900.00 | |
| 56 Fe | 45 | 2 | 596.00 | 298.00 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 0.28 | 0.14 | ppb | 4.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.46 | 0.23 | ppb | 7.99 | 900.00 | |
| 63 Cu | 72 | 2 | 0.26 | 0.13 | ppb | 6.48 | 900.00 | |
| 66 Zn | 72 | 2 | 6.35 | 3.18 | ppb | 0.76 | 900.00 | |
| 75 As | 72 | 2 | 25.14 | 12.57 | ppb | 0.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.86 | 0.43 | ppb | 9.09 | 900.00 | |
| 88 Sr | 103 | 1 | 281.00 | 140.50 | ppb | 0.48 | 900.00 | |
| 98 Mo | 103 | 1 | 1.34 | 0.67 | ppb | 0.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 8.86 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.03 | ppb | 34.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.27 | 0.14 | ppb | 3.67 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 6.89 | 900.00 | |
| 137 Ba | 159 | 1 | 59.72 | 29.86 | ppb | 1.43 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 418.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 30.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2390348 | 0.41 | 2521858 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 3230818 | 0.53 | 3362635 | 96.1 | 70 - 130 | |
| 45 Sc | 2 | 366766 | 0.35 | 367626 | 99.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 688267 | 0.80 | 714806 | 96.3 | 70 | - | 130 |
| 72 | Ge | 2 | 141827 | 0.40 | 144802 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 3598570 | 0.42 | 3924881 | 91.7 | 70 | - | 130 |
| 115 | In | 1 | 3734786 | 0.61 | 3944903 | 94.7 | 70 | - | 130 |
| 115 | In | 2 | 1082924 | 0.78 | 1086949 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4827997 | 0.82 | 4942952 | 97.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4595581 | 0.23 | 4623931 | 99.4 | 70 | - | 130 |
| 209 | Bi | 1 | 2637491 | 0.26 | 2757011 | 95.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#
Date Acquired: Oct 31 2013 06:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-13F
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 2353.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.42 | 0.02 | ppb | 31.22 | 900.00 | |
| 11 B | 6 | 1 | 105.70 | 5.29 | ppb | 2.36 | 900.00 | |
| 11 B | 45 | 2 | 99.74 | 4.99 | ppb | 10.46 | 900.00 | |
| 23 Na | 45 | 1 | 35560.00 | 1778.00 | ppb | 0.62 | 90000.00 | |
| 23 Na | 45 | 2 | 36220.00 | 1811.00 | ppb | 0.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 13734.00 | 686.70 | ppb | 0.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 14224.00 | 711.20 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 5.65 | 0.28 | ppb | 12.35 | 90000.00 | |
| 27 Al | 45 | 2 | 7.01 | 0.35 | ppb | 8.92 | 90000.00 | |
| 39 K | 45 | 1 | 3724.00 | 186.20 | ppb | 0.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 104400.00 | 5220.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.26 | 0.16 | ppb | 15.83 | 900.00 | |
| 51 V | 45 | 2 | -9.42 | -0.47 | ppb | 0.99 | 900.00 | |
| 52 Cr | 45 | 2 | -1.02 | -0.05 | ppb | 2.07 | 900.00 | |
| 55 Mn | 45 | 2 | 2630.00 | 131.50 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 17566.00 | 878.30 | ppb | 0.41 | 90000.00 | |
| 59 Co | 45 | 2 | 6.66 | 0.33 | ppb | 1.38 | 900.00 | |
| 60 Ni | 45 | 2 | 5.39 | 0.27 | ppb | 9.22 | 900.00 | |
| 63 Cu | 72 | 2 | -2.23 | -0.11 | ppb | 7.15 | 900.00 | |
| 66 Zn | 72 | 2 | 5.12 | 0.26 | ppb | 2.40 | 900.00 | |
| 75 As | 72 | 2 | 889.40 | 44.47 | ppb | 0.56 | 900.00 | |
| 78 Se | 72 | 2 | 5.07 | 0.25 | ppb | 55.39 | 900.00 | |
| 88 Sr | 103 | 1 | 476.00 | 23.80 | ppb | 0.28 | 900.00 | |
| 98 Mo | 103 | 1 | 5.81 | 0.29 | ppb | 1.35 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 141.84 | 900.00 | |
| 111 Cd | 115 | 2 | 0.40 | 0.02 | ppb | 36.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 929.25 | 900.00 | |
| 121 Sb | 115 | 1 | -0.06 | 0.00 | ppb | 58.85 | 900.00 | |
| 137 Ba | 159 | 1 | 20.56 | 1.03 | ppb | 1.67 | 900.00 | |
| 205 Tl | 209 | 1 | -0.02 | 0.00 | ppb | 102.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.00 | ppb | 114.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2464839 | 0.30 | 2521858 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 3321694 | 0.42 | 3362635 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 387518 | 0.15 | 367626 | 105.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 723390 | 1.02 | 714806 | 101.2 | 70 | - | 130 |
| 72 | Ge | 2 | 150220 | 0.47 | 144802 | 103.7 | 70 | - | 130 |
| 103 | Rh | 1 | 3855452 | 0.35 | 3924881 | 98.2 | 70 | - | 130 |
| 115 | In | 1 | 3932511 | 0.66 | 3944903 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 1139140 | 1.00 | 1086949 | 104.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4942656 | 0.33 | 4942952 | 100.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4678978 | 0.29 | 4623931 | 101.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2792201 | 0.61 | 2757011 | 101.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#
Date Acquired: Oct 31 2013 06:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 46.63 | 46.63 | ppb | 1.02 | 900.00 | |
| 9 Be | 45 | 2 | 51.24 | 51.24 | ppb | 1.03 | 900.00 | |
| 11 B | 6 | 1 | 52.39 | 52.39 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 50.88 | 50.88 | ppb | 5.51 | 900.00 | |
| 23 Na | 45 | 1 | 5200.00 | 5200.00 | ppb | 3.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5185.00 | 5185.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 5080.00 | 5080.00 | ppb | 2.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 4809.00 | 4809.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 5035.00 | 5035.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 2 | 4576.00 | 4576.00 | ppb | 1.38 | 90000.00 | |
| 39 K | 45 | 1 | 5039.00 | 5039.00 | ppb | 0.91 | 90000.00 | |
| 44 Ca | 45 | 1 | 5131.00 | 5131.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.17 | 49.17 | ppb | 1.94 | 900.00 | |
| 51 V | 45 | 2 | 48.65 | 48.65 | ppb | 0.78 | 900.00 | |
| 52 Cr | 45 | 2 | 47.56 | 47.56 | ppb | 1.16 | 900.00 | |
| 55 Mn | 45 | 2 | 47.47 | 47.47 | ppb | 0.60 | 900.00 | |
| 56 Fe | 45 | 2 | 5126.00 | 5126.00 | ppb | 1.79 | 90000.00 | |
| 59 Co | 45 | 2 | 49.57 | 49.57 | ppb | 1.64 | 900.00 | |
| 60 Ni | 45 | 2 | 47.45 | 47.45 | ppb | 1.00 | 900.00 | |
| 63 Cu | 72 | 2 | 46.29 | 46.29 | ppb | 2.23 | 900.00 | |
| 66 Zn | 72 | 2 | 49.63 | 49.63 | ppb | 1.13 | 900.00 | |
| 75 As | 72 | 2 | 49.52 | 49.52 | ppb | 1.43 | 900.00 | |
| 78 Se | 72 | 2 | 50.81 | 50.81 | ppb | 0.57 | 900.00 | |
| 88 Sr | 103 | 1 | 52.13 | 52.13 | ppb | 4.82 | 900.00 | |
| 98 Mo | 103 | 1 | 51.45 | 51.45 | ppb | 1.57 | 900.00 | |
| 107 Ag | 115 | 1 | 49.72 | 49.72 | ppb | 1.70 | 900.00 | |
| 111 Cd | 115 | 2 | 48.14 | 48.14 | ppb | 3.21 | 900.00 | |
| 120 Sn | 115 | 1 | 52.25 | 52.25 | ppb | 1.95 | 900.00 | |
| 121 Sb | 115 | 1 | 50.87 | 50.87 | ppb | 1.41 | 900.00 | |
| 137 Ba | 159 | 1 | 48.80 | 48.80 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 47.87 | 47.87 | ppb | 2.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.13 | 50.13 | ppb | 3.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2604731 | 1.31 | 2521858 | 103.3 | 70 - 130 | |
| 45 Sc | 1 | 3409006 | 0.97 | 3362635 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 378912 | 0.33 | 367626 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708359 | 0.53 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 145331 | 1.08 | 144802 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 3906498 | 2.52 | 3924881 | 99.5 | 70 | - | 130 |
| 115 In | 1 | 3948638 | 1.10 | 3944903 | 100.1 | 70 | - | 130 |
| 115 In | 2 | 1119286 | 1.94 | 1086949 | 103.0 | 70 | - | 130 |
| 159 Tb | 1 | 5139458 | 1.77 | 4942952 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 4839839 | 0.23 | 4623931 | 104.7 | 70 | - | 130 |
| 209 Bi | 1 | 2758528 | 0.79 | 2757011 | 100.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D#
Date Acquired: Oct 31 2013 07:00 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 73.04 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.16 | ppb | 31.84 | 900.00 | |
| 11 B | 6 | 1 | 0.30 | 0.30 | ppb | 10.32 | 900.00 | |
| 11 B | 45 | 2 | 0.91 | 0.91 | ppb | 4.63 | 900.00 | |
| 23 Na | 45 | 1 | 0.68 | 0.68 | ppb | 25.49 | 90000.00 | |
| 23 Na | 45 | 2 | 5.41 | 5.41 | ppb | 8.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.49 | 0.49 | ppb | 58.56 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.67 | 2.67 | ppb | 17.76 | 90000.00 | |
| 27 Al | 45 | 1 | 0.40 | 0.40 | ppb | 76.73 | 90000.00 | |
| 27 Al | 45 | 2 | 2.23 | 2.23 | ppb | 18.30 | 90000.00 | |
| 39 K | 45 | 1 | 2.06 | 2.06 | ppb | 16.75 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.42 | -5.42 | ppb | 9.98 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 141.41 | 900.00 | |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 5.53 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 34.00 | 900.00 | |
| 55 Mn | 45 | 2 | 0.05 | 0.05 | ppb | 25.51 | 900.00 | |
| 56 Fe | 45 | 2 | 2.86 | 2.86 | ppb | 13.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.02 | ppb | 19.88 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 38.70 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 5.98 | 900.00 | |
| 66 Zn | 72 | 2 | -0.05 | -0.05 | ppb | 18.79 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 235.65 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 39.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 80.11 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 5.07 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 19.97 | 900.00 | |
| 111 Cd | 115 | 2 | 0.06 | 0.06 | ppb | 26.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 20.25 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 11.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 53.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 1.41 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 38.76 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2454010 | 0.65 | 2521858 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 3284581 | 0.81 | 3362635 | 97.7 | 70 - 130 | |
| 45 Sc | 2 | 381598 | 0.29 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 708067 | 0.87 | 714806 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 148664 | 0.52 | 144802 | 102.7 | 70 | - | 130 |
| 103 Rh | 1 | 3848541 | 1.03 | 3924881 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 3900894 | 0.15 | 3944903 | 98.9 | 70 | - | 130 |
| 115 In | 2 | 1111328 | 0.88 | 1086949 | 102.2 | 70 | - | 130 |
| 159 Tb | 1 | 4898727 | 0.29 | 4942952 | 99.1 | 70 | - | 130 |
| 175 Lu | 1 | 4618663 | 0.69 | 4623931 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2754654 | 0.05 | 2757011 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D# |
| Date Acquired: | Oct 31 2013 07:07 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25568-14F |
| Misc Info: | |
| Vial Number: | 2511 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 418.97 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | -0.02 | ppb | 125.00 | 900.00 | |
| 11 B | 6 | 1 | 1.49 | 0.75 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 1.49 | 0.75 | ppb | 25.65 | 900.00 | |
| 23 Na | 45 | 1 | 13.84 | 6.92 | ppb | 6.55 | 90000.00 | |
| 23 Na | 45 | 2 | 17.51 | 8.75 | ppb | 4.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.45 | 0.72 | ppb | 4.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 0.66 | ppb | 7.37 | 90000.00 | |
| 27 Al | 45 | 1 | 2.80 | 1.40 | ppb | 3.69 | 90000.00 | |
| 27 Al | 45 | 2 | 2.88 | 1.44 | ppb | 3.60 | 90000.00 | |
| 39 K | 45 | 1 | 15.50 | 7.75 | ppb | 14.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 19.02 | 9.51 | ppb | 7.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.24 | 0.12 | ppb | 14.85 | 900.00 | |
| 51 V | 45 | 2 | 1.36 | 0.68 | ppb | 4.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.29 | 0.14 | ppb | 8.09 | 900.00 | |
| 55 Mn | 45 | 2 | 0.23 | 0.12 | ppb | 4.75 | 900.00 | |
| 56 Fe | 45 | 2 | 8.11 | 4.05 | ppb | 1.37 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 42.26 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.04 | ppb | 10.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 1600.70 | 900.00 | |
| 66 Zn | 72 | 2 | 6.24 | 3.12 | ppb | 1.59 | 900.00 | |
| 75 As | 72 | 2 | 0.33 | 0.16 | ppb | 4.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.07 | ppb | 101.47 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.03 | ppb | 7.89 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.08 | ppb | 3.71 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 31.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 66.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 6.98 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 7.59 | 900.00 | |
| 137 Ba | 159 | 1 | 0.12 | 0.06 | ppb | 9.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.15 | 0.07 | ppb | 2.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 7.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2430672 | 0.77 | 2521858 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 3254802 | 0.87 | 3362635 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 369033 | 0.54 | 367626 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 691733 | 0.83 | 714806 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 142337 | 0.51 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3727777 | 0.49 | 3924881 | 95.0 | 70 | - | 130 |
| 115 | In | 1 | 3786325 | 0.56 | 3944903 | 96.0 | 70 | - | 130 |
| 115 | In | 2 | 1079115 | 1.40 | 1086949 | 99.3 | 70 | - | 130 |
| 159 | Tb | 1 | 4850366 | 0.59 | 4942952 | 98.1 | 70 | - | 130 |
| 175 | Lu | 1 | 4626130 | 1.37 | 4623931 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 2694749 | 0.85 | 2757011 | 97.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#
Date Acquired: Oct 31 2013 07:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-15F
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 7.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.40 | 0.20 | ppb | 35.18 | 900.00 | |
| 11 B | 6 | 1 | 30.16 | 15.08 | ppb | 1.16 | 900.00 | |
| 11 B | 45 | 2 | 31.28 | 15.64 | ppb | 0.66 | 900.00 | |
| 23 Na | 45 | 1 | 6452.00 | 3226.00 | ppb | 1.17 | 90000.00 | |
| 23 Na | 45 | 2 | 6674.00 | 3337.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 2576.00 | 1288.00 | ppb | 0.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 2524.00 | 1262.00 | ppb | 0.81 | 90000.00 | |
| 27 Al | 45 | 1 | 56.08 | 28.04 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 2 | 52.20 | 26.10 | ppb | 1.22 | 90000.00 | |
| 39 K | 45 | 1 | 2574.00 | 1287.00 | ppb | 0.12 | 90000.00 | |
| 44 Ca | 45 | 1 | 25780.00 | 12890.00 | ppb | 0.73 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.00 | 0.50 | ppb | 2.51 | 900.00 | |
| 51 V | 45 | 2 | 1.42 | 0.71 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 0.60 | 0.30 | ppb | 5.88 | 900.00 | |
| 55 Mn | 45 | 2 | 377.20 | 188.60 | ppb | 0.48 | 900.00 | |
| 56 Fe | 45 | 2 | 9426.00 | 4713.00 | ppb | 0.50 | 90000.00 | |
| 59 Co | 45 | 2 | 0.89 | 0.45 | ppb | 1.17 | 900.00 | |
| 60 Ni | 45 | 2 | 0.55 | 0.27 | ppb | 4.52 | 900.00 | |
| 63 Cu | 72 | 2 | 0.19 | 0.10 | ppb | 3.94 | 900.00 | |
| 66 Zn | 72 | 2 | 6.60 | 3.30 | ppb | 0.80 | 900.00 | |
| 75 As | 72 | 2 | 33.06 | 16.53 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | 1.04 | 0.52 | ppb | 30.71 | 900.00 | |
| 88 Sr | 103 | 1 | 149.20 | 74.60 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.07 | ppb | 5.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 40.76 | 900.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.05 | ppb | 8.63 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 14.74 | 7.37 | ppb | 2.24 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 9.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2394131 | 0.65 | 2521858 | 94.9 | 70 - 130 | |
| 45 Sc | 1 | 3252743 | 0.22 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 365914 | 0.28 | 367626 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 692235 | 1.01 | 714806 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 142645 | 0.30 | 144802 | 98.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3636337 | 0.24 | 3924881 | 92.6 | 70 | - | 130 |
| 115 | In | 1 | 3765265 | 0.92 | 3944903 | 95.4 | 70 | - | 130 |
| 115 | In | 2 | 1074089 | 0.44 | 1086949 | 98.8 | 70 | - | 130 |
| 159 | Tb | 1 | 4843090 | 0.95 | 4942952 | 98.0 | 70 | - | 130 |
| 175 | Lu | 1 | 4601464 | 0.91 | 4623931 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 2647634 | 0.45 | 2757011 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#
Date Acquired: Oct 31 2013 07:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25568-16F
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 133.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.17 | 0.09 | ppb | 120.33 | 900.00 | |
| 11 B | 6 | 1 | 246.00 | 123.00 | ppb | 0.38 | 900.00 | |
| 11 B | 45 | 2 | 232.80 | 116.40 | ppb | 1.05 | 900.00 | |
| 23 Na | 45 | 1 | 33860.00 | 16930.00 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 34760.00 | 17380.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 11506.00 | 5753.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 11024.00 | 5512.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.01 | 1.50 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 2 | 3.03 | 1.52 | ppb | 14.23 | 90000.00 | |
| 39 K | 45 | 1 | 5172.00 | 2586.00 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 82260.00 | 41130.00 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.57 | 0.79 | ppb | 4.10 | 900.00 | |
| 51 V | 45 | 2 | 1.00 | 0.50 | ppb | 1.72 | 900.00 | |
| 52 Cr | 45 | 2 | 0.28 | 0.14 | ppb | 6.20 | 900.00 | |
| 55 Mn | 45 | 2 | 8484.00 | 4242.00 | ppb | 0.11 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 19646.00 | 9823.00 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 14.57 | 7.29 | ppb | 0.99 | 900.00 | |
| 60 Ni | 45 | 2 | 7.19 | 3.60 | ppb | 0.60 | 900.00 | |
| 63 Cu | 72 | 2 | 0.42 | 0.21 | ppb | 4.21 | 900.00 | |
| 66 Zn | 72 | 2 | 7.19 | 3.60 | ppb | 1.36 | 900.00 | |
| 75 As | 72 | 2 | 106.58 | 53.29 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 0.65 | 0.32 | ppb | 46.20 | 900.00 | |
| 88 Sr | 103 | 1 | 854.80 | 427.40 | ppb | 0.55 | 900.00 | |
| 98 Mo | 103 | 1 | 1.64 | 0.82 | ppb | 0.08 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 103.46 | 900.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.04 | ppb | 46.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.22 | 0.11 | ppb | 7.15 | 900.00 | |
| 137 Ba | 159 | 1 | 28.22 | 14.11 | ppb | 0.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 6.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 30.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2350794 | 0.78 | 2521858 | 93.2 | 70 - 130 | |
| 45 Sc | 1 | 3262281 | 0.41 | 3362635 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 364723 | 0.18 | 367626 | 99.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 690398 | 1.21 | 714806 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 140335 | 0.18 | 144802 | 96.9 | 70 | - | 130 |
| 103 Rh | 1 | 3508631 | 0.45 | 3924881 | 89.4 | 70 | - | 130 |
| 115 In | 1 | 3656175 | 0.72 | 3944903 | 92.7 | 70 | - | 130 |
| 115 In | 2 | 1095807 | 5.36 | 1086949 | 100.8 | 70 | - | 130 |
| 159 Tb | 1 | 4738367 | 0.62 | 4942952 | 95.9 | 70 | - | 130 |
| 175 Lu | 1 | 4525254 | 0.87 | 4623931 | 97.9 | 70 | - | 130 |
| 209 Bi | 1 | 2553633 | 1.62 | 2757011 | 92.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 07:29 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC25594-2F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 3102 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 9.81 | 900.00 | |
| 9 Be | 45 | 2 | 0.53 | 0.26 | ppb | 26.44 | 900.00 | |
| 11 B | 6 | 1 | 23.70 | 11.85 | ppb | 0.53 | 900.00 | |
| 11 B | 45 | 2 | 24.18 | 12.09 | ppb | 1.86 | 900.00 | |
| 23 Na | 45 | 1 | 3028.00 | 1514.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 3176.00 | 1588.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 1 | 3670.00 | 1835.00 | ppb | 1.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 3674.00 | 1837.00 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 1 | 3.03 | 1.51 | ppb | 1.80 | 90000.00 | |
| 27 Al | 45 | 2 | 3.13 | 1.57 | ppb | 10.22 | 90000.00 | |
| 39 K | 45 | 1 | 3278.00 | 1639.00 | ppb | 0.65 | 90000.00 | |
| 44 Ca | 45 | 1 | 22060.00 | 11030.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.34 | 0.67 | ppb | 3.91 | 900.00 | |
| 51 V | 45 | 2 | 1.01 | 0.50 | ppb | 1.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.30 | 0.15 | ppb | 5.40 | 900.00 | |
| 55 Mn | 45 | 2 | 1349.00 | 674.50 | ppb | 1.11 | 900.00 | |
| 56 Fe | 45 | 2 | 8948.00 | 4474.00 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 9.67 | 4.84 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 6.26 | 3.13 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 0.22 | 0.11 | ppb | 6.21 | 900.00 | |
| 66 Zn | 72 | 2 | 9.43 | 4.71 | ppb | 1.08 | 900.00 | |
| 75 As | 72 | 2 | 33.64 | 16.82 | ppb | 1.01 | 900.00 | |
| 78 Se | 72 | 2 | 1.42 | 0.71 | ppb | 13.35 | 900.00 | |
| 88 Sr | 103 | 1 | 136.66 | 68.33 | ppb | 1.33 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.05 | ppb | 10.67 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 15.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.18 | 0.09 | ppb | 18.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 7.56 | 900.00 | |
| 121 Sb | 115 | 1 | 0.25 | 0.13 | ppb | 4.46 | 900.00 | |
| 137 Ba | 159 | 1 | 16.67 | 8.34 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 0.10 | 0.05 | ppb | 1.50 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.03 | ppb | 14.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2388533 | 0.23 | 2521858 | 94.7 | 70 - 130 | |
| 45 Sc | 1 | 3320874 | 1.04 | 3362635 | 98.8 | 70 - 130 | |
| 45 Sc | 2 | 370447 | 0.27 | 367626 | 100.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 707766 | 0.92 | 714806 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 143793 | 0.30 | 144802 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 3657185 | 0.97 | 3924881 | 93.2 | 70 | - | 130 |
| 115 In | 1 | 3778377 | 0.85 | 3944903 | 95.8 | 70 | - | 130 |
| 115 In | 2 | 1111959 | 4.88 | 1086949 | 102.3 | 70 | - | 130 |
| 159 Tb | 1 | 4852854 | 0.90 | 4942952 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 4598889 | 0.41 | 4623931 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 2655784 | 0.96 | 2757011 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D#
Date Acquired: Oct 31 2013 07:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-3F
Misc Info:
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.07 | 0.01 | ppb | 20.75 | 900.00 | |
| 9 Be | 45 | 2 | 3.26 | 0.65 | ppb | 18.35 | 900.00 | |
| 11 B | 6 | 1 | 70.65 | 14.13 | ppb | 1.82 | 900.00 | |
| 11 B | 45 | 2 | 76.70 | 15.34 | ppb | 3.02 | 900.00 | |
| 23 Na | 45 | 1 | 5290.00 | 1058.00 | ppb | 1.12 | 90000.00 | |
| 23 Na | 45 | 2 | 5605.00 | 1121.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 1843.50 | 368.70 | ppb | 0.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 1961.50 | 392.30 | ppb | 1.41 | 90000.00 | |
| 27 Al | 45 | 1 | 10.70 | 2.14 | ppb | 2.23 | 90000.00 | |
| 27 Al | 45 | 2 | 11.33 | 2.27 | ppb | 2.56 | 90000.00 | |
| 39 K | 45 | 1 | 5300.00 | 1060.00 | ppb | 2.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 16595.00 | 3319.00 | ppb | 1.21 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.27 | 0.25 | ppb | 6.78 | 900.00 | |
| 51 V | 45 | 2 | -0.99 | -0.20 | ppb | 1.50 | 900.00 | |
| 52 Cr | 45 | 2 | 0.11 | 0.02 | ppb | 38.50 | 900.00 | |
| 55 Mn | 45 | 2 | 540.00 | 108.00 | ppb | 0.98 | 900.00 | |
| 56 Fe | 45 | 2 | 15615.00 | 3123.00 | ppb | 0.45 | 90000.00 | |
| 59 Co | 45 | 2 | 5.59 | 1.12 | ppb | 0.28 | 900.00 | |
| 60 Ni | 45 | 2 | 4.76 | 0.95 | ppb | 0.26 | 900.00 | |
| 63 Cu | 72 | 2 | -0.22 | -0.04 | ppb | 39.49 | 900.00 | |
| 66 Zn | 72 | 2 | 23.42 | 4.68 | ppb | 1.24 | 900.00 | |
| 75 As | 72 | 2 | 146.45 | 29.29 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 7.52 | 1.50 | ppb | 23.34 | 900.00 | |
| 88 Sr | 103 | 1 | 140.90 | 28.18 | ppb | 1.02 | 900.00 | |
| 98 Mo | 103 | 1 | 1.21 | 0.24 | ppb | 4.34 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.01 | ppb | 2.42 | 900.00 | |
| 111 Cd | 115 | 2 | 0.55 | 0.11 | ppb | 16.92 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.02 | ppb | 2.99 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.03 | ppb | 11.54 | 900.00 | |
| 137 Ba | 159 | 1 | 16.11 | 3.22 | ppb | 1.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.01 | ppb | 11.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.02 | ppb | 17.00 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2535560 | 2.11 | 2521858 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 3430015 | 1.72 | 3362635 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 378355 | 1.19 | 367626 | 102.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 742335 | 1.35 | 714806 | 103.9 | 70 - | 130 |
| 72 | Ge | 2 | 148126 | 0.71 | 144802 | 102.3 | 70 - | 130 |
| 103 | Rh | 1 | 3930664 | 1.00 | 3924881 | 100.1 | 70 - | 130 |
| 115 | In | 1 | 4043075 | 0.51 | 3944903 | 102.5 | 70 - | 130 |
| 115 | In | 2 | 1123005 | 1.11 | 1086949 | 103.3 | 70 - | 130 |
| 159 | Tb | 1 | 5068779 | 1.77 | 4942952 | 102.5 | 70 - | 130 |
| 175 | Lu | 1 | 4816005 | 1.35 | 4623931 | 104.2 | 70 - | 130 |
| 209 | Bi | 1 | 2796741 | 1.16 | 2757011 | 101.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D#
Date Acquired: Oct 31 2013 07:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-4F
Misc Info:
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 254.30 | 900.00 | |
| 9 Be | 45 | 2 | 5.07 | 0.10 | ppb | 58.52 | 900.00 | |
| 11 B | 6 | 1 | 115.95 | 2.32 | ppb | 1.66 | 900.00 | |
| 11 B | 45 | 2 | 137.65 | 2.75 | ppb | 14.93 | 900.00 | |
| 23 Na | 45 | 1 | 16120.00 | 322.40 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 17895.00 | 357.90 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 6000.00 | 120.00 | ppb | 0.46 | 90000.00 | |
| 24 Mg | 45 | 2 | 6125.00 | 122.50 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 1 | 5.67 | 0.11 | ppb | 31.67 | 90000.00 | |
| 27 Al | 45 | 2 | 12.69 | 0.25 | ppb | 26.95 | 90000.00 | |
| 39 K | 45 | 1 | 6690.00 | 133.80 | ppb | 0.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 41885.00 | 837.70 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.30 | 0.05 | ppb | 10.11 | 900.00 | |
| 51 V | 45 | 2 | -28.02 | -0.56 | ppb | 0.78 | 900.00 | |
| 52 Cr | 45 | 2 | -2.86 | -0.06 | ppb | 16.94 | 900.00 | |
| 55 Mn | 45 | 2 | 851.50 | 17.03 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 30480.00 | 609.60 | ppb | 0.40 | 90000.00 | |
| 59 Co | 45 | 2 | 10.33 | 0.21 | ppb | 2.55 | 900.00 | |
| 60 Ni | 45 | 2 | 16.26 | 0.33 | ppb | 1.71 | 900.00 | |
| 63 Cu | 72 | 2 | -7.39 | -0.15 | ppb | 5.23 | 900.00 | |
| 66 Zn | 72 | 2 | 15.13 | 0.30 | ppb | 6.39 | 900.00 | |
| 75 As | 72 | 2 | 3098.50 | 61.97 | ppb | 0.27 | 900.00 | |
| 78 Se | 72 | 2 | 18.69 | 0.37 | ppb | 50.13 | 900.00 | |
| 88 Sr | 103 | 1 | 408.45 | 8.17 | ppb | 1.29 | 900.00 | |
| 98 Mo | 103 | 1 | 8.67 | 0.17 | ppb | 1.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.09 | 0.00 | ppb | 45.02 | 900.00 | |
| 111 Cd | 115 | 2 | 1.99 | 0.04 | ppb | 16.88 | 900.00 | |
| 120 Sn | 115 | 1 | -0.13 | 0.00 | ppb | 73.38 | 900.00 | |
| 121 Sb | 115 | 1 | -0.25 | -0.01 | ppb | 27.03 | 900.00 | |
| 137 Ba | 159 | 1 | 32.24 | 0.64 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.01 | ppb | 8.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.07 | 0.00 | ppb | 97.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2515179 | 0.87 | 2521858 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 3366129 | 0.86 | 3362635 | 100.1 | 70 - 130 | |
| 45 Sc | 2 | 392661 | 0.13 | 367626 | 106.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 722192 | 1.36 | 714806 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 152353 | 0.20 | 144802 | 105.2 | 70 | - | 130 |
| 103 Rh | 1 | 3932651 | 0.72 | 3924881 | 100.2 | 70 | - | 130 |
| 115 In | 1 | 3983725 | 0.56 | 3944903 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1150425 | 0.88 | 1086949 | 105.8 | 70 | - | 130 |
| 159 Tb | 1 | 4949049 | 0.90 | 4942952 | 100.1 | 70 | - | 130 |
| 175 Lu | 1 | 4672385 | 0.94 | 4623931 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 2773051 | 1.08 | 2757011 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#
Date Acquired: Oct 31 2013 07:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25594-5F
Misc Info:
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.03 | 0.01 | ppb | 35.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.78 | 0.39 | ppb | 25.51 | 900.00 | |
| 11 B | 6 | 1 | 1.63 | 0.82 | ppb | 5.90 | 900.00 | |
| 11 B | 45 | 2 | 3.41 | 1.71 | ppb | 8.15 | 900.00 | |
| 23 Na | 45 | 1 | 15.18 | 7.59 | ppb | 3.82 | 90000.00 | |
| 23 Na | 45 | 2 | 19.24 | 9.62 | ppb | 1.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.85 | 0.93 | ppb | 2.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.05 | 1.03 | ppb | 9.24 | 90000.00 | |
| 27 Al | 45 | 1 | 3.44 | 1.72 | ppb | 1.97 | 90000.00 | |
| 27 Al | 45 | 2 | 3.49 | 1.75 | ppb | 5.34 | 90000.00 | |
| 39 K | 45 | 1 | 16.56 | 8.28 | ppb | 10.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 18.93 | 9.46 | ppb | 4.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.31 | 0.15 | ppb | 2.90 | 900.00 | |
| 51 V | 45 | 2 | 1.14 | 0.57 | ppb | 1.41 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 2.87 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.14 | ppb | 5.32 | 900.00 | |
| 56 Fe | 45 | 2 | 6.28 | 3.14 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.02 | 0.01 | ppb | 8.32 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.05 | ppb | 12.14 | 900.00 | |
| 63 Cu | 72 | 2 | -0.05 | -0.02 | ppb | 19.76 | 900.00 | |
| 66 Zn | 72 | 2 | 7.08 | 3.54 | ppb | 1.16 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.25 | ppb | 15.43 | 900.00 | |
| 78 Se | 72 | 2 | 1.77 | 0.89 | ppb | 16.24 | 900.00 | |
| 88 Sr | 103 | 1 | 0.05 | 0.02 | ppb | 7.06 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.06 | ppb | 14.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 38.18 | 900.00 | |
| 111 Cd | 115 | 2 | 0.14 | 0.07 | ppb | 15.91 | 900.00 | |
| 120 Sn | 115 | 1 | 0.73 | 0.36 | ppb | 2.60 | 900.00 | |
| 121 Sb | 115 | 1 | 0.16 | 0.08 | ppb | 7.35 | 900.00 | |
| 137 Ba | 159 | 1 | 0.13 | 0.07 | ppb | 24.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 17.10 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 18.99 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2420651 | 0.90 | 2521858 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 3205740 | 0.15 | 3362635 | 95.3 | 70 - 130 | |
| 45 Sc | 2 | 366339 | 0.37 | 367626 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 686085 | 0.51 | 714806 | 96.0 | 70 | - | 130 |
| 72 | Ge | 2 | 142313 | 0.76 | 144802 | 98.3 | 70 | - | 130 |
| 103 | Rh | 1 | 3724415 | 0.22 | 3924881 | 94.9 | 70 | - | 130 |
| 115 | In | 1 | 3771725 | 0.28 | 3944903 | 95.6 | 70 | - | 130 |
| 115 | In | 2 | 1082927 | 0.40 | 1086949 | 99.6 | 70 | - | 130 |
| 159 | Tb | 1 | 4826826 | 0.30 | 4942952 | 97.7 | 70 | - | 130 |
| 175 | Lu | 1 | 4542641 | 0.61 | 4623931 | 98.2 | 70 | - | 130 |
| 209 | Bi | 1 | 2681949 | 0.50 | 2757011 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D#
Date Acquired: Oct 31 2013 07:57 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-B1
Misc Info:
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 484.40 | 24.22 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 484.00 | 24.20 | ppb | 4.96 | 900.00 | |
| 11 B | 6 | 1 | 2.15 | 0.11 | ppb | 9.61 | 900.00 | |
| 11 B | 45 | 2 | 7.95 | 0.40 | ppb | 33.70 | 900.00 | |
| 23 Na | 45 | 1 | 26440.00 | 1322.00 | ppb | 1.91 | 90000.00 | |
| 23 Na | 45 | 2 | 29240.00 | 1462.00 | ppb | 5.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 26520.00 | 1326.00 | ppb | 1.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 28200.00 | 1410.00 | ppb | 7.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2238.00 | 111.90 | ppb | 2.18 | 90000.00 | |
| 27 Al | 45 | 2 | 2404.00 | 120.20 | ppb | 6.66 | 90000.00 | |
| 39 K | 45 | 1 | 26060.00 | 1303.00 | ppb | 1.81 | 90000.00 | |
| 44 Ca | 45 | 1 | 26620.00 | 1331.00 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.00 | 24.35 | ppb | 1.47 | 900.00 | |
| 51 V | 45 | 2 | 529.40 | 26.47 | ppb | 5.20 | 900.00 | |
| 52 Cr | 45 | 2 | 521.40 | 26.07 | ppb | 4.43 | 900.00 | |
| 55 Mn | 45 | 2 | 482.60 | 24.13 | ppb | 2.00 | 900.00 | |
| 56 Fe | 45 | 2 | 2254.00 | 112.70 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 549.80 | 27.49 | ppb | 6.01 | 900.00 | |
| 60 Ni | 45 | 2 | 512.00 | 25.60 | ppb | 4.74 | 900.00 | |
| 63 Cu | 72 | 2 | 489.20 | 24.46 | ppb | 1.41 | 900.00 | |
| 66 Zn | 72 | 2 | 584.60 | 29.23 | ppb | 4.99 | 900.00 | |
| 75 As | 72 | 2 | 570.40 | 28.52 | ppb | 4.20 | 900.00 | |
| 78 Se | 72 | 2 | 599.60 | 29.98 | ppb | 1.11 | 900.00 | |
| 88 Sr | 103 | 1 | 511.60 | 25.58 | ppb | 1.00 | 900.00 | |
| 98 Mo | 103 | 1 | 0.48 | 0.02 | ppb | 13.44 | 900.00 | |
| 107 Ag | 115 | 1 | 209.00 | 10.45 | ppb | 0.48 | 900.00 | |
| 111 Cd | 115 | 2 | 520.80 | 26.04 | ppb | 4.16 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 78.10 | 900.00 | |
| 121 Sb | 115 | 1 | 518.40 | 25.92 | ppb | 0.64 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 1.16 | 900.00 | |
| 205 Tl | 209 | 1 | 510.20 | 25.51 | ppb | 2.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1011.60 | 50.58 | ppb | 1.37 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2587423 | 1.08 | 2521858 | 102.6 | 70 - 130 | |
| 45 Sc | 1 | 3447020 | 1.66 | 3362635 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 379972 | 2.27 | 367626 | 103.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 722488 | 0.51 | 714806 | 101.1 | 70 | - | 130 |
| 72 | Ge | 2 | 146878 | 2.63 | 144802 | 101.4 | 70 | - | 130 |
| 103 | Rh | 1 | 4029634 | 0.86 | 3924881 | 102.7 | 70 | - | 130 |
| 115 | In | 1 | 4112988 | 0.84 | 3944903 | 104.3 | 70 | - | 130 |
| 115 | In | 2 | 1221724 | 2.47 | 1086949 | 112.4 | 70 | - | 130 |
| 159 | Tb | 1 | 5138109 | 0.74 | 4942952 | 103.9 | 70 | - | 130 |
| 175 | Lu | 1 | 4847306 | 0.80 | 4623931 | 104.8 | 70 | - | 130 |
| 209 | Bi | 1 | 2857981 | 1.51 | 2757011 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D# | | |
| **Date Acquired:** | Oct 31 2013 08:04 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP21920A-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 3107 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Nov 01 2013 08:50 am | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 20.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 20.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 501.40 | 25.07 | ppb | 3.20 | 900.00 | |
| 9 Be | 45 | 2 | 509.60 | 25.48 | ppb | 2.25 | 900.00 | |
| 11 B | 6 | 1 | 300.60 | 15.03 | ppb | 0.85 | 900.00 | |
| 11 B | 45 | 2 | 295.20 | 14.76 | ppb | 8.69 | 900.00 | |
| 23 Na | 45 | 1 | 55360.00 | 2768.00 | ppb | 1.62 | 90000.00 | |
| 23 Na | 45 | 2 | 56740.00 | 2837.00 | ppb | 1.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 36300.00 | 1815.00 | ppb | 2.22 | 90000.00 | |
| 24 Mg | 45 | 2 | 35860.00 | 1793.00 | ppb | 0.94 | 90000.00 | |
| 27 Al | 45 | 1 | 2228.00 | 111.40 | ppb | 1.39 | 90000.00 | |
| 27 Al | 45 | 2 | 2230.00 | 111.50 | ppb | 1.80 | 90000.00 | |
| 39 K | 45 | 1 | 35340.00 | 1767.00 | ppb | 1.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 88880.00 | 4444.00 | ppb | 0.85 | 90000.00 | |
| 47 Ti | 45 | 1 | 499.80 | 24.99 | ppb | 2.91 | 900.00 | |
| 51 V | 45 | 2 | 501.40 | 25.07 | ppb | 1.46 | 900.00 | |
| 52 Cr | 45 | 2 | 503.20 | 25.16 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 3532.00 | 176.60 | ppb | 1.51 | 900.00 | |
| 56 Fe | 45 | 2 | 47680.00 | 2384.00 | ppb | 1.04 | 90000.00 | |
| 59 Co | 45 | 2 | 528.20 | 26.41 | ppb | 0.84 | 900.00 | |
| 60 Ni | 45 | 2 | 486.00 | 24.30 | ppb | 1.37 | 900.00 | |
| 63 Cu | 72 | 2 | 501.80 | 25.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 555.40 | 27.77 | ppb | 2.46 | 900.00 | |
| 75 As | 72 | 2 | 791.40 | 39.57 | ppb | 1.09 | 900.00 | |
| 78 Se | 72 | 2 | 579.40 | 28.97 | ppb | 2.89 | 900.00 | |
| 88 Sr | 103 | 1 | 1014.60 | 50.73 | ppb | 2.62 | 900.00 | |
| 98 Mo | 103 | 1 | 1.90 | 0.10 | ppb | 5.74 | 900.00 | |
| 107 Ag | 115 | 1 | 212.60 | 10.63 | ppb | 3.92 | 900.00 | |
| 111 Cd | 115 | 2 | 517.00 | 25.85 | ppb | 1.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.21 | 0.01 | ppb | 23.76 | 900.00 | |
| 121 Sb | 115 | 1 | 538.80 | 26.94 | ppb | 7.82 | 900.00 | |
| 137 Ba | 159 | 1 | 2084.00 | 104.20 | ppb | 2.52 | 900.00 | |
| 205 Tl | 209 | 1 | 520.80 | 26.04 | ppb | 2.51 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.80 | 51.99 | ppb | 2.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2422842 | 2.59 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3360915 | 3.24 | 3362635 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 383147 | 0.27 | 367626 | 104.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 692847 | 3.29 | 714806 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 147745 | 0.74 | 144802 | 102.0 | 70 - | 130 |
| 103 | Rh | 1 | 3749048 | 2.50 | 3924881 | 95.5 | 70 - | 130 |
| 115 | In | 1 | 3875038 | 4.00 | 3944903 | 98.2 | 70 - | 130 |
| 115 | In | 2 | 1118264 | 0.54 | 1086949 | 102.9 | 70 - | 130 |
| 159 | Tb | 1 | 4836936 | 5.22 | 4942952 | 97.9 | 70 - | 130 |
| 175 | Lu | 1 | 4563127 | 2.19 | 4623931 | 98.7 | 70 - | 130 |
| 209 | Bi | 1 | 2697229 | 1.64 | 2757011 | 97.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D#
Date Acquired: Oct 31 2013 08:11 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-S2
Misc Info:
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 494.20 | 24.71 | ppb | 6.97 | 900.00 | |
| 9 Be | 45 | 2 | 509.40 | 25.47 | ppb | 2.01 | 900.00 | |
| 11 B | 6 | 1 | 283.60 | 14.18 | ppb | 12.04 | 900.00 | |
| 11 B | 45 | 2 | 303.40 | 15.17 | ppb | 5.21 | 900.00 | |
| 23 Na | 45 | 1 | 51140.00 | 2557.00 | ppb | 5.74 | 90000.00 | |
| 23 Na | 45 | 2 | 57180.00 | 2859.00 | ppb | 1.81 | 90000.00 | |
| 24 Mg | 45 | 1 | 33440.00 | 1672.00 | ppb | 6.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 36260.00 | 1813.00 | ppb | 1.21 | 90000.00 | |
| 27 Al | 45 | 1 | 2088.00 | 104.40 | ppb | 5.68 | 90000.00 | |
| 27 Al | 45 | 2 | 2270.00 | 113.50 | ppb | 1.04 | 90000.00 | |
| 39 K | 45 | 1 | 33600.00 | 1680.00 | ppb | 3.71 | 90000.00 | |
| 44 Ca | 45 | 1 | 87640.00 | 4382.00 | ppb | 1.95 | 90000.00 | |
| 47 Ti | 45 | 1 | 505.20 | 25.26 | ppb | 4.34 | 900.00 | |
| 51 V | 45 | 2 | 510.60 | 25.53 | ppb | 3.09 | 900.00 | |
| 52 Cr | 45 | 2 | 504.40 | 25.22 | ppb | 0.65 | 900.00 | |
| 55 Mn | 45 | 2 | 3504.00 | 175.20 | ppb | 0.35 | 900.00 | |
| 56 Fe | 45 | 2 | 47300.00 | 2365.00 | ppb | 0.87 | 90000.00 | |
| 59 Co | 45 | 2 | 524.60 | 26.23 | ppb | 0.41 | 900.00 | |
| 60 Ni | 45 | 2 | 494.80 | 24.74 | ppb | 2.01 | 900.00 | |
| 63 Cu | 72 | 2 | 506.20 | 25.31 | ppb | 1.09 | 900.00 | |
| 66 Zn | 72 | 2 | 564.00 | 28.20 | ppb | 1.14 | 900.00 | |
| 75 As | 72 | 2 | 784.00 | 39.20 | ppb | 1.27 | 900.00 | |
| 78 Se | 72 | 2 | 571.20 | 28.56 | ppb | 1.09 | 900.00 | |
| 88 Sr | 103 | 1 | 1091.60 | 54.58 | ppb | 4.18 | 900.00 | |
| 98 Mo | 103 | 1 | 2.03 | 0.10 | ppb | 7.11 | 900.00 | |
| 107 Ag | 115 | 1 | 215.40 | 10.77 | ppb | 2.07 | 900.00 | |
| 111 Cd | 115 | 2 | 517.40 | 25.87 | ppb | 2.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.20 | 0.01 | ppb | 34.22 | 900.00 | |
| 121 Sb | 115 | 1 | 595.40 | 29.77 | ppb | 8.92 | 900.00 | |
| 137 Ba | 159 | 1 | 2120.00 | 106.00 | ppb | 5.12 | 900.00 | |
| 205 Tl | 209 | 1 | 491.40 | 24.57 | ppb | 7.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 985.20 | 49.26 | ppb | 4.08 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2556058 | 7.01 | 2521858 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 3393762 | 2.48 | 3362635 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 380479 | 0.51 | 367626 | 103.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 721056 | 5.40 | 714806 | 100.9 | 70 | - | 130 |
| 72 | Ge | 2 | 148429 | 1.41 | 144802 | 102.5 | 70 | - | 130 |
| 103 | Rh | 1 | 3733200 | 2.71 | 3924881 | 95.1 | 70 | - | 130 |
| 115 | In | 1 | 3650288 | 3.65 | 3944903 | 92.5 | 70 | - | 130 |
| 115 | In | 2 | 1117442 | 2.74 | 1086949 | 102.8 | 70 | - | 130 |
| 159 | Tb | 1 | 5054131 | 2.34 | 4942952 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 4618929 | 3.36 | 4623931 | 99.9 | 70 | - | 130 |
| 209 | Bi | 1 | 2779128 | 3.88 | 2757011 | 100.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#
Date Acquired: Oct 31 2013 08:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.43 | 48.43 | ppb | 1.22 | 900.00 | |
| 9 Be | 45 | 2 | 48.96 | 48.96 | ppb | 0.87 | 900.00 | |
| 11 B | 6 | 1 | 49.52 | 49.52 | ppb | 0.11 | 900.00 | |
| 11 B | 45 | 2 | 47.85 | 47.85 | ppb | 2.54 | 900.00 | |
| 23 Na | 45 | 1 | 5010.00 | 5010.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 5170.00 | 5170.00 | ppb | 1.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 5020.00 | 5020.00 | ppb | 1.14 | 90000.00 | |
| 24 Mg | 45 | 2 | 4834.00 | 4834.00 | ppb | 1.23 | 90000.00 | |
| 27 Al | 45 | 1 | 4977.00 | 4977.00 | ppb | 0.37 | 90000.00 | |
| 27 Al | 45 | 2 | 4665.00 | 4665.00 | ppb | 0.34 | 90000.00 | |
| 39 K | 45 | 1 | 5016.00 | 5016.00 | ppb | 0.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 5033.00 | 5033.00 | ppb | 1.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.72 | 48.72 | ppb | 1.89 | 900.00 | |
| 51 V | 45 | 2 | 47.99 | 47.99 | ppb | 0.43 | 900.00 | |
| 52 Cr | 45 | 2 | 48.08 | 48.08 | ppb | 0.28 | 900.00 | |
| 55 Mn | 45 | 2 | 48.05 | 48.05 | ppb | 0.77 | 900.00 | |
| 56 Fe | 45 | 2 | 5070.00 | 5070.00 | ppb | 0.80 | 90000.00 | |
| 59 Co | 45 | 2 | 48.09 | 48.09 | ppb | 0.92 | 900.00 | |
| 60 Ni | 45 | 2 | 46.56 | 46.56 | ppb | 0.98 | 900.00 | |
| 63 Cu | 72 | 2 | 46.81 | 46.81 | ppb | 0.64 | 900.00 | |
| 66 Zn | 72 | 2 | 48.36 | 48.36 | ppb | 0.97 | 900.00 | |
| 75 As | 72 | 2 | 48.41 | 48.41 | ppb | 0.60 | 900.00 | |
| 78 Se | 72 | 2 | 50.21 | 50.21 | ppb | 1.71 | 900.00 | |
| 88 Sr | 103 | 1 | 52.08 | 52.08 | ppb | 1.57 | 900.00 | |
| 98 Mo | 103 | 1 | 51.80 | 51.80 | ppb | 0.31 | 900.00 | |
| 107 Ag | 115 | 1 | 47.93 | 47.93 | ppb | 0.99 | 900.00 | |
| 111 Cd | 115 | 2 | 48.11 | 48.11 | ppb | 0.34 | 900.00 | |
| 120 Sn | 115 | 1 | 51.52 | 51.52 | ppb | 1.54 | 900.00 | |
| 121 Sb | 115 | 1 | 51.71 | 51.71 | ppb | 1.33 | 900.00 | |
| 137 Ba | 159 | 1 | 48.25 | 48.25 | ppb | 1.60 | 900.00 | |
| 205 Tl | 209 | 1 | 48.64 | 48.64 | ppb | 1.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.15 | 50.15 | ppb | 2.14 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2359303 | 1.22 | 2521858 | 93.6 | 70 - 130 | |
| 45 Sc | 1 | 3262756 | 1.22 | 3362635 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 371696 | 0.33 | 367626 | 101.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 677116 | 0.52 | 714806 | 94.7 | 70 | - | 130 |
| 72 Ge | 2 | 143591 | 0.53 | 144802 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 3673670 | 0.82 | 3924881 | 93.6 | 70 | - | 130 |
| 115 In | 1 | 3751758 | 0.77 | 3944903 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 1077773 | 0.39 | 1086949 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 4801643 | 1.49 | 4942952 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 4529879 | 1.39 | 4623931 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 2607663 | 0.37 | 2757011 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#
Date Acquired: Oct 31 2013 08:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.27 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.04 | ppb | 117.16 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 9.82 | 900.00 | |
| 11 B | 45 | 2 | 0.58 | 0.58 | ppb | 34.81 | 900.00 | |
| 23 Na | 45 | 1 | 0.90 | 0.90 | ppb | 23.79 | 90000.00 | |
| 23 Na | 45 | 2 | 3.64 | 3.64 | ppb | 9.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.52 | 0.52 | ppb | 9.69 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.32 | 1.32 | ppb | 31.17 | 90000.00 | |
| 27 Al | 45 | 1 | 0.44 | 0.44 | ppb | 12.53 | 90000.00 | |
| 27 Al | 45 | 2 | 1.11 | 1.11 | ppb | 24.08 | 90000.00 | |
| 39 K | 45 | 1 | -0.14 | -0.14 | ppb | 423.27 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.03 | -7.03 | ppb | 3.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 765.30 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.27 | ppb | 4.72 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 10.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 27.34 | 900.00 | |
| 56 Fe | 45 | 2 | 1.53 | 1.53 | ppb | 27.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 31.30 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 4.55 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 5.07 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 12.67 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 109.40 | 900.00 | |
| 78 Se | 72 | 2 | 0.28 | 0.28 | ppb | 28.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 25.64 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 11.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 16.65 | 900.00 | |
| 111 Cd | 115 | 2 | 0.04 | 0.04 | ppb | 52.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 12.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 26.42 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 64.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 28.49 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2420687 | 0.68 | 2521858 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 3266402 | 0.70 | 3362635 | 97.1 | 70 - 130 | |
| 45 Sc | 2 | 379335 | 0.64 | 367626 | 103.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\063SMPL.D\063SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 697824 | 1.02 | 714806 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 147504 | 0.14 | 144802 | 101.9 | 70 | - | 130 |
| 103 Rh | 1 | 3806144 | 0.87 | 3924881 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 3834855 | 0.61 | 3944903 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1115105 | 1.75 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4835631 | 0.73 | 4942952 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 4561039 | 0.65 | 4623931 | 98.6 | 70 | - | 130 |
| 209 Bi | 1 | 2725817 | 0.09 | 2757011 | 98.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#
Date Acquired: Oct 31 2013 08:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP21920A-S3
Misc Info:
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 490.80 | 24.54 | ppb | 0.87 | 900.00 | |
| 9 Be | 45 | 2 | 502.00 | 25.10 | ppb | 0.93 | 900.00 | |
| 11 B | 6 | 1 | 30.90 | 1.55 | ppb | 1.75 | 900.00 | |
| 11 B | 45 | 2 | 37.02 | 1.85 | ppb | 15.74 | 900.00 | |
| 23 Na | 45 | 1 | 90960.00 | 4548.00 | ppb | 0.58 | 90000.00 | |
| 23 Na | 45 | 2 | 93020.00 | 4651.00 | ppb | 0.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 28120.00 | 1406.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 28000.00 | 1400.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 1 | 2230.00 | 111.50 | ppb | 0.95 | 90000.00 | |
| 27 Al | 45 | 2 | 2234.00 | 111.70 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 29180.00 | 1459.00 | ppb | 0.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 44420.00 | 2221.00 | ppb | 0.87 | 90000.00 | |
| 47 Ti | 45 | 1 | 497.40 | 24.87 | ppb | 0.83 | 900.00 | |
| 51 V | 45 | 2 | 498.20 | 24.91 | ppb | 0.18 | 900.00 | |
| 52 Cr | 45 | 2 | 496.40 | 24.82 | ppb | 0.31 | 900.00 | |
| 55 Mn | 45 | 2 | 1674.40 | 83.72 | ppb | 0.25 | 900.00 | |
| 56 Fe | 45 | 2 | 12600.00 | 630.00 | ppb | 0.40 | 90000.00 | |
| 59 Co | 45 | 2 | 509.20 | 25.46 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 482.60 | 24.13 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 496.20 | 24.81 | ppb | 0.77 | 900.00 | |
| 66 Zn | 72 | 2 | 570.40 | 28.52 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 656.20 | 32.81 | ppb | 0.29 | 900.00 | |
| 78 Se | 72 | 2 | 536.80 | 26.84 | ppb | 1.50 | 900.00 | |
| 88 Sr | 103 | 1 | 623.20 | 31.16 | ppb | 1.25 | 900.00 | |
| 98 Mo | 103 | 1 | 2.56 | 0.13 | ppb | 2.84 | 900.00 | |
| 107 Ag | 115 | 1 | 210.40 | 10.52 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 504.60 | 25.23 | ppb | 0.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.01 | ppb | 68.74 | 900.00 | |
| 121 Sb | 115 | 1 | 533.80 | 26.69 | ppb | 1.23 | 900.00 | |
| 137 Ba | 159 | 1 | 2014.00 | 100.70 | ppb | 1.78 | 900.00 | |
| 205 Tl | 209 | 1 | 519.60 | 25.98 | ppb | 0.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1019.80 | 50.99 | ppb | 0.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2424479 | 1.42 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3298326 | 0.49 | 3362635 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 382043 | 0.57 | 367626 | 103.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\064SMPL.D\064SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 689195 | 0.91 | 714806 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 147750 | 0.82 | 144802 | 102.0 | 70 | - | 130 |
| 103 Rh | 1 | 3787890 | 1.39 | 3924881 | 96.5 | 70 | - | 130 |
| 115 In | 1 | 3851812 | 0.26 | 3944903 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 1115208 | 0.41 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4876906 | 0.28 | 4942952 | 98.7 | 70 | - | 130 |
| 175 Lu | 1 | 4618038 | 0.50 | 4623931 | 99.9 | 70 | - | 130 |
| 209 Bi | 1 | 2671246 | 0.68 | 2757011 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D# |
| Date Acquired: | Oct 31 2013 08:40 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP21920A-S4 |
| Misc Info: | |
| Vial Number: | 3112 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Nov 01 2013 08:50 am |
| Sample Type: | Sample |
| Dilution Factor: | 20.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 20.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.60 | 24.63 | ppb | 1.11 | 900.00 | |
| 9 Be | 45 | 2 | 488.60 | 24.43 | ppb | 2.28 | 900.00 | |
| 11 B | 6 | 1 | 29.26 | 1.46 | ppb | 4.05 | 900.00 | |
| 11 B | 45 | 2 | 38.54 | 1.93 | ppb | 18.49 | 900.00 | |
| 23 Na | 45 | 1 | 91160.00 | 4558.00 | ppb | 0.17 | 90000.00 | |
| 23 Na | 45 | 2 | 92940.00 | 4647.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 28360.00 | 1418.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 2 | 27820.00 | 1391.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 2242.00 | 112.10 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 2 | 2206.00 | 110.30 | ppb | 0.86 | 90000.00 | |
| 39 K | 45 | 1 | 29400.00 | 1470.00 | ppb | 1.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 44740.00 | 2237.00 | ppb | 1.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 499.60 | 24.98 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 495.80 | 24.79 | ppb | 0.34 | 900.00 | |
| 52 Cr | 45 | 2 | 493.80 | 24.69 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 1665.00 | 83.25 | ppb | 0.72 | 900.00 | |
| 56 Fe | 45 | 2 | 12364.00 | 618.20 | ppb | 0.36 | 90000.00 | |
| 59 Co | 45 | 2 | 508.60 | 25.43 | ppb | 0.35 | 900.00 | |
| 60 Ni | 45 | 2 | 484.60 | 24.23 | ppb | 0.70 | 900.00 | |
| 63 Cu | 72 | 2 | 495.60 | 24.78 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 556.80 | 27.84 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 650.60 | 32.53 | ppb | 0.19 | 900.00 | |
| 78 Se | 72 | 2 | 542.20 | 27.11 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 628.00 | 31.40 | ppb | 0.16 | 900.00 | |
| 98 Mo | 103 | 1 | 2.42 | 0.12 | ppb | 7.61 | 900.00 | |
| 107 Ag | 115 | 1 | 211.60 | 10.58 | ppb | 2.26 | 900.00 | |
| 111 Cd | 115 | 2 | 501.60 | 25.08 | ppb | 0.20 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 10127.00 | 900.00 | |
| 121 Sb | 115 | 1 | 535.00 | 26.75 | ppb | 2.72 | 900.00 | |
| 137 Ba | 159 | 1 | 2062.00 | 103.10 | ppb | 2.51 | 900.00 | |
| 205 Tl | 209 | 1 | 528.00 | 26.40 | ppb | 0.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1034.00 | 51.70 | ppb | 0.36 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2423190 | 0.61 | 2521858 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 3280099 | 0.48 | 3362635 | 97.5 | 70 - 130 | |
| 45 Sc | 2 | 381634 | 0.58 | 367626 | 103.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\065SMPL.D\065SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 691492 | 0.96 | 714806 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 147888 | 0.49 | 144802 | 102.1 | 70 | - | 130 |
| 103 Rh | 1 | 3780020 | 0.17 | 3924881 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 3863122 | 1.63 | 3944903 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1120902 | 0.68 | 1086949 | 103.1 | 70 | - | 130 |
| 159 Tb | 1 | 4810356 | 1.58 | 4942952 | 97.3 | 70 | - | 130 |
| 175 Lu | 1 | 4566859 | 1.14 | 4623931 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 2660361 | 0.12 | 2757011 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#
Date Acquired: Oct 31 2013 08:47 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 26.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.16 | ppb | 8.22 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 13.75 | 900.00 | |
| 11 B | 45 | 2 | 0.57 | 0.57 | ppb | 23.43 | 900.00 | |
| 23 Na | 45 | 1 | 2.77 | 2.77 | ppb | 4.42 | 90000.00 | |
| 23 Na | 45 | 2 | 4.91 | 4.91 | ppb | 1.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.09 | 1.09 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.11 | 1.11 | ppb | 2.52 | 90000.00 | |
| 27 Al | 45 | 1 | 0.46 | 0.46 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 2 | 0.45 | 0.45 | ppb | 17.22 | 90000.00 | |
| 39 K | 45 | 1 | 0.73 | 0.73 | ppb | 100.32 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.48 | -3.48 | ppb | 16.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 83.36 | 900.00 | |
| 51 V | 45 | 2 | -0.24 | -0.24 | ppb | 4.71 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 24.98 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 3.10 | 900.00 | |
| 56 Fe | 45 | 2 | 0.81 | 0.81 | ppb | 12.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 10.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 17.85 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 10.89 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 8.21 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 835.43 | 900.00 | |
| 78 Se | 72 | 2 | 0.52 | 0.52 | ppb | 12.75 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.03 | ppb | 13.46 | 900.00 | |
| 98 Mo | 103 | 1 | 0.01 | 0.01 | ppb | 41.87 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.59 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 25.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 12.21 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 7.62 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 18.50 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 2.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 14.00 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2427414 | 1.26 | 2521858 | 96.3 | 70 - 130 | |
| 45 Sc | 1 | 3272124 | 0.77 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 378858 | 0.15 | 367626 | 103.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 699778 | 1.54 | 714806 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 146661 | 0.14 | 144802 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 3812423 | 0.97 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3825615 | 0.19 | 3944903 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 1129073 | 1.03 | 1086949 | 103.9 | 70 | - | 130 |
| 159 Tb | 1 | 4858534 | 0.46 | 4942952 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4591256 | 0.38 | 4623931 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2716826 | 0.24 | 2757011 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#
Date Acquired: Oct 31 2013 08:54 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

### QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 4.26 | 900.00 | |
| 9 Be | 45 | 2 | 0.71 | 0.71 | ppb | 6.88 | 900.00 | |
| 11 B | 6 | 1 | 5.08 | 5.08 | ppb | 1.73 | 900.00 | |
| 11 B | 45 | 2 | 5.29 | 5.29 | ppb | 9.53 | 900.00 | |
| 23 Na | 45 | 1 | 268.50 | 268.50 | ppb | 1.08 | 90000.00 | |
| 23 Na | 45 | 2 | 298.30 | 298.30 | ppb | 0.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 268.90 | 268.90 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 279.80 | 279.80 | ppb | 0.51 | 90000.00 | |
| 27 Al | 45 | 1 | 28.72 | 28.72 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 2 | 26.91 | 26.91 | ppb | 0.87 | 90000.00 | |
| 39 K | 45 | 1 | 264.70 | 264.70 | ppb | 1.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 276.10 | 276.10 | ppb | 0.20 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 0.76 | 0.76 | ppb | 0.64 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 1.17 | 900.00 | |
| 55 Mn | 45 | 2 | 1.10 | 1.10 | ppb | 1.96 | 900.00 | |
| 56 Fe | 45 | 2 | 29.30 | 29.30 | ppb | 0.69 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 0.33 | 900.00 | |
| 60 Ni | 45 | 2 | 1.00 | 1.00 | ppb | 1.01 | 900.00 | |
| 63 Cu | 72 | 2 | 0.89 | 0.89 | ppb | 2.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.08 | 2.08 | ppb | 1.20 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 6.28 | 900.00 | |
| 78 Se | 72 | 2 | 1.08 | 1.08 | ppb | 4.83 | 900.00 | |
| 88 Sr | 103 | 1 | 5.43 | 5.43 | ppb | 1.31 | 900.00 | |
| 98 Mo | 103 | 1 | 1.07 | 1.07 | ppb | 1.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.54 | 0.54 | ppb | 2.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.55 | 0.55 | ppb | 4.11 | 900.00 | |
| 120 Sn | 115 | 1 | 5.22 | 5.22 | ppb | 0.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.55 | 0.55 | ppb | 0.84 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 1.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.52 | 0.52 | ppb | 1.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.55 | 0.55 | ppb | 1.11 | 900.00 | |

### ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2411318 | 1.48 | 2521858 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 3252378 | 0.81 | 3362635 | 96.7 | 70 - 130 | |
| 45 Sc | 2 | 378832 | 0.26 | 367626 | 103.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\067SMPL.D\067SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 694286 | 1.08 | 714806 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 146814 | 0.48 | 144802 | 101.4 | 70 | - | 130 |
| 103 Rh | 1 | 3834016 | 0.70 | 3924881 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 3842115 | 0.57 | 3944903 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 1134360 | 0.53 | 1086949 | 104.4 | 70 | - | 130 |
| 159 Tb | 1 | 4831859 | 0.67 | 4942952 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 4549982 | 0.45 | 4623931 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 2729063 | 0.57 | 2757011 | 99.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#
Date Acquired: Oct 31 2013 09:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.41 | 48.41 | ppb | 0.77 | 900.00 | |
| 9 Be | 45 | 2 | 49.09 | 49.09 | ppb | 1.46 | 900.00 | |
| 11 B | 6 | 1 | 49.45 | 49.45 | ppb | 1.02 | 900.00 | |
| 11 B | 45 | 2 | 49.11 | 49.11 | ppb | 3.89 | 900.00 | |
| 23 Na | 45 | 1 | 5063.00 | 5063.00 | ppb | 0.56 | 90000.00 | |
| 23 Na | 45 | 2 | 5170.00 | 5170.00 | ppb | 1.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 5032.00 | 5032.00 | ppb | 0.90 | 90000.00 | |
| 24 Mg | 45 | 2 | 4843.00 | 4843.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 1 | 5012.00 | 5012.00 | ppb | 0.76 | 90000.00 | |
| 27 Al | 45 | 2 | 4666.00 | 4666.00 | ppb | 0.21 | 90000.00 | |
| 39 K | 45 | 1 | 5054.00 | 5054.00 | ppb | 0.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 5063.00 | 5063.00 | ppb | 0.16 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.86 | 48.86 | ppb | 0.74 | 900.00 | |
| 51 V | 45 | 2 | 47.87 | 47.87 | ppb | 1.08 | 900.00 | |
| 52 Cr | 45 | 2 | 47.97 | 47.97 | ppb | 1.40 | 900.00 | |
| 55 Mn | 45 | 2 | 48.16 | 48.16 | ppb | 1.37 | 900.00 | |
| 56 Fe | 45 | 2 | 5057.00 | 5057.00 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 47.88 | 47.88 | ppb | 0.77 | 900.00 | |
| 60 Ni | 45 | 2 | 46.43 | 46.43 | ppb | 0.35 | 900.00 | |
| 63 Cu | 72 | 2 | 46.60 | 46.60 | ppb | 0.91 | 900.00 | |
| 66 Zn | 72 | 2 | 48.22 | 48.22 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 48.60 | 48.60 | ppb | 1.12 | 900.00 | |
| 78 Se | 72 | 2 | 50.38 | 50.38 | ppb | 0.92 | 900.00 | |
| 88 Sr | 103 | 1 | 51.94 | 51.94 | ppb | 0.39 | 900.00 | |
| 98 Mo | 103 | 1 | 51.61 | 51.61 | ppb | 0.40 | 900.00 | |
| 107 Ag | 115 | 1 | 48.18 | 48.18 | ppb | 0.16 | 900.00 | |
| 111 Cd | 115 | 2 | 48.24 | 48.24 | ppb | 1.25 | 900.00 | |
| 120 Sn | 115 | 1 | 51.77 | 51.77 | ppb | 0.72 | 900.00 | |
| 121 Sb | 115 | 1 | 51.59 | 51.59 | ppb | 0.50 | 900.00 | |
| 137 Ba | 159 | 1 | 48.05 | 48.05 | ppb | 1.08 | 900.00 | |
| 205 Tl | 209 | 1 | 48.16 | 48.16 | ppb | 1.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.54 | 50.54 | ppb | 1.76 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2386733 | 1.02 | 2521858 | 94.6 | 70 - 130 | |
| 45 Sc | 1 | 3272139 | 0.46 | 3362635 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 374904 | 0.41 | 367626 | 102.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\068SMPL.D\068SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 682267 | 0.22 | 714806 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 144512 | 0.73 | 144802 | 99.8 | 70 | - | 130 |
| 103 Rh | 1 | 3687174 | 0.33 | 3924881 | 93.9 | 70 | - | 130 |
| 115 In | 1 | 3753895 | 0.18 | 3944903 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 1089920 | 0.95 | 1086949 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 4819884 | 0.79 | 4942952 | 97.5 | 70 | - | 130 |
| 175 Lu | 1 | 4540882 | 0.85 | 4623931 | 98.2 | 70 | - | 130 |
| 209 Bi | 1 | 2609363 | 0.38 | 2757011 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#
Date Acquired: Oct 31 2013 09:08 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Nov 01 2013 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 29.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.09 | ppb | 170.14 | 900.00 | |
| 11 B | 6 | 1 | 0.28 | 0.28 | ppb | 5.94 | 900.00 | |
| 11 B | 45 | 2 | 0.51 | 0.51 | ppb | 35.68 | 900.00 | |
| 23 Na | 45 | 1 | 0.98 | 0.98 | ppb | 26.40 | 90000.00 | |
| 23 Na | 45 | 2 | 2.86 | 2.86 | ppb | 13.70 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.24 | 0.24 | ppb | 1.91 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.55 | 0.55 | ppb | 33.44 | 90000.00 | |
| 27 Al | 45 | 1 | 0.28 | 0.28 | ppb | 6.85 | 90000.00 | |
| 27 Al | 45 | 2 | 0.59 | 0.59 | ppb | 27.71 | 90000.00 | |
| 39 K | 45 | 1 | -0.50 | -0.50 | ppb | 294.63 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.21 | -7.21 | ppb | 8.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 17.52 | 900.00 | |
| 51 V | 45 | 2 | -0.23 | -0.23 | ppb | 3.30 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 34.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 37.54 | 900.00 | |
| 56 Fe | 45 | 2 | 0.72 | 0.72 | ppb | 22.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 50.27 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 48.96 | 900.00 | |
| 63 Cu | 72 | 2 | -0.10 | -0.10 | ppb | 8.13 | 900.00 | |
| 66 Zn | 72 | 2 | -0.09 | -0.09 | ppb | 18.06 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 107.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.38 | ppb | 50.32 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 99.74 | 900.00 | |
| 98 Mo | 103 | 1 | 0.05 | 0.05 | ppb | 4.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 36.41 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.03 | ppb | 63.23 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 20.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 14.14 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 135.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.29 | 0.29 | ppb | 3.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 13.32 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2436986 | 0.87 | 2521858 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 3280404 | 0.96 | 3362635 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 380839 | 0.22 | 367626 | 103.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13J31m00.B\069SMPL.D\069SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 699479 | 0.74 | 714806 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 147299 | 0.40 | 144802 | 101.7 | 70 | - | 130 |
| 103 Rh | 1 | 3811312 | 0.39 | 3924881 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 3886244 | 0.55 | 3944903 | 98.5 | 70 | - | 130 |
| 115 In | 2 | 1115423 | 1.15 | 1086949 | 102.6 | 70 | - | 130 |
| 159 Tb | 1 | 4859260 | 0.48 | 4942952 | 98.3 | 70 | - | 130 |
| 175 Lu | 1 | 4593795 | 0.42 | 4623931 | 99.3 | 70 | - | 130 |
| 209 Bi | 1 | 2711251 | 0.78 | 2757011 | 98.3 | 70 | - | 130 |

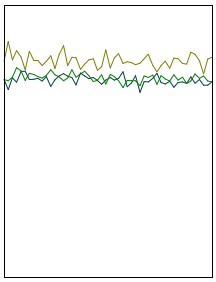
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13J31k00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

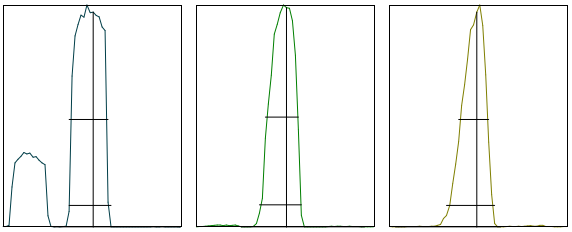
# Tune Report

Tune File : nogas.u
Comment : 103113



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 3603.0 | 3628.3 | 2.32 | 43.30 |
| 89 | 10,000 | 7192.0 | 7345.2 | 2.11 | 46.80 |
| 205 | 5,000 | 4051.0 | 3990.0 | 3.07 | 46.70 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.146%
Doubly Charged: 70/140 10.724%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 3,573 | 7,426 | 3,966 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.65 | 0.55 | 0.50 |
| W-10%: | 0.700 | 0.700 | 0.800 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 111 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 126 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9974 |
| Torch-H | : | 0.9 mm | Omega Lens-ce | : | 0 V | Axis Offset | : | -0.06 |
| Torch-V | : | 0.6 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1900 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1320 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 662.6 | 4.88 | |
| QP Focus: | -8 V | 59 | 1406.8 | 3.44 | |
| Cell Exit: | -34 V | 89 | 1546.8 | 3.51 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Oct 31, 2013 09:39:04
Printed : Oct 31, 2013 09:39:54

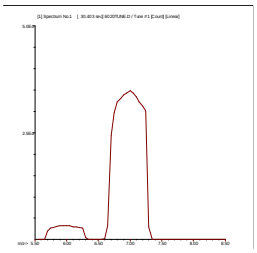
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Oct 31 2013 09:49 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

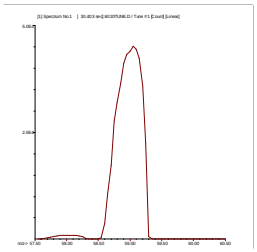
**QC Tune Summary:**
**Pass**

**RSD%**

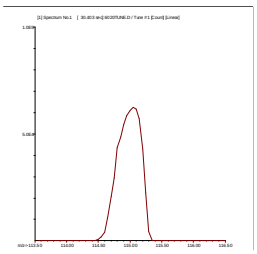
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.87 | 5.00 | 0 |
| 59 Co | 1.48 | 5.00 | |
| 115 In | 1.03 | 5.00 | |
| 205 Tl | 2.86 | 5.00 | |



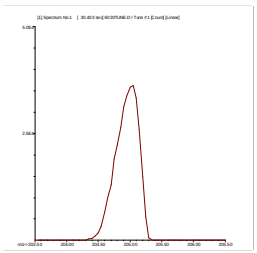
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.55
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:

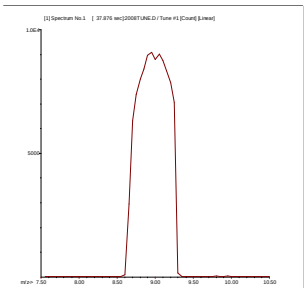
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13J31j00.B\2008TUNE.D
**Date Acquired:** Oct 31 2013 09:55 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

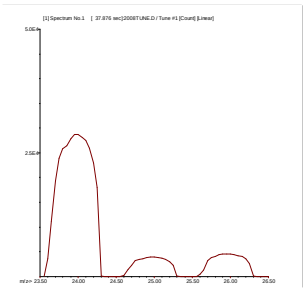


**RSD (%)**

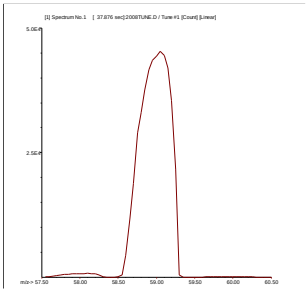
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 50584 | 50323 | 50320 | 50548 | 50497 | 51230 | **1.03** | 5.00 | |
| 24 Mg | 159033 | 159088 | 159429 | 159259 | 158330 | 159059 | **0.65** | 5.00 | |
| 59 Co | 226953 | 226499 | 225840 | 225449 | 227454 | 229525 | **0.81** | 5.00 | |
| 115 In | 295171 | 294589 | 293462 | 294231 | 296442 | 297129 | **0.73** | 5.00 | |
| 208 Pb | 117967 | 115934 | 116788 | 118441 | 118674 | 119997 | **1.40** | 5.00 | |



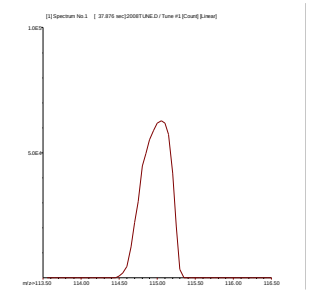
**9 Be**
**Mass Calib.**
Actual: 9.00
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.60
Required:1.00
Flag:



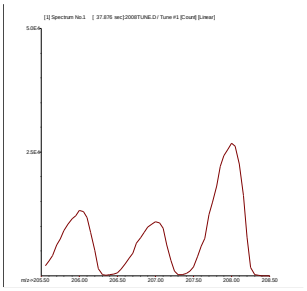
**24 Mg**
**Mass Calib.**
Actual: 24.00
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.05
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Oct 31, 2013 11:38 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

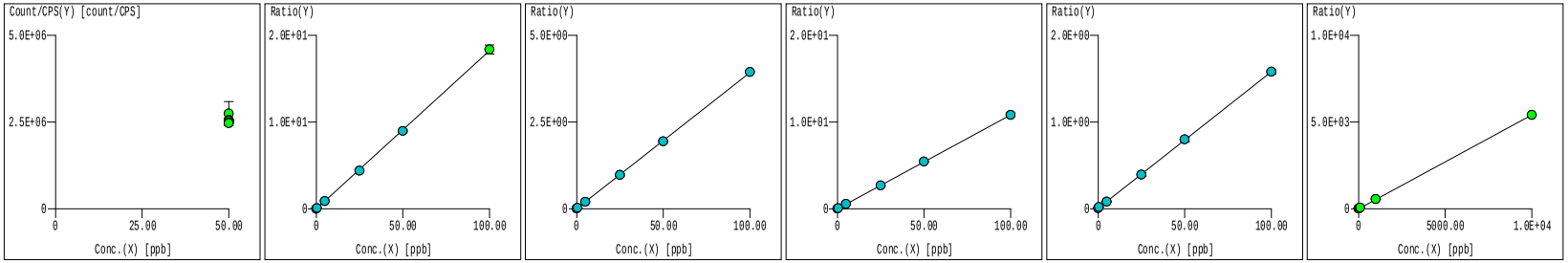
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13j31k00.b\002calb.d\002calb.d# | STDA | Oct 31 2013 10:45 am |
| 2 | c:\icpchem\1\data\13j31k00.b\003cals.d\003cals.d# | STDB | Oct 31 2013 10:52 am |
| 3 | c:\icpchem\1\data\13j31k00.b\004cals.d\004cals.d# | STDC | Oct 31 2013 10:59 am |
| 4 | c:\icpchem\1\data\13j31k00.b\005cals.d\005cals.d# | STDD | Oct 31 2013 11:06 am |
| 5 | c:\icpchem\1\data\13j31k00.b\006cals.d\006cals.d# | STDE | Oct 31 2013 11:13 am |
| 6 | c:\icpchem\1\data\13j31k00.b\007cals.d\007cals.d# | STDF | Oct 31 2013 11:20 am |
| 7 | c:\icpchem\1\data\13j31k00.b\008cals.d\008cals.d# | STDG | Oct 31 2013 11:27 am |
| 8 | c:\icpchem\1\data\13j31k00.b\009cals.d\009cals.d# | STDH | Oct 31 2013 11:35 am |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

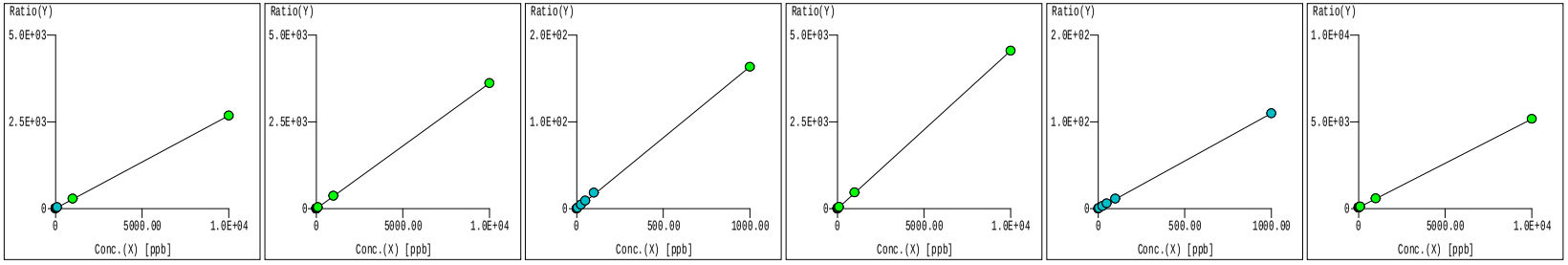
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 2.684E-03 ppb | 1.253E-01 ppb | 3.258E-02 ppb | 5.335E-01 ppb | 5.060E-01 ppb |
| < BEC > | --- ppb | 1.075E-02 ppb | 1.618E-01 ppb | 1.252E-01 ppb | 3.737E-01 ppb | 13.66 ppb |



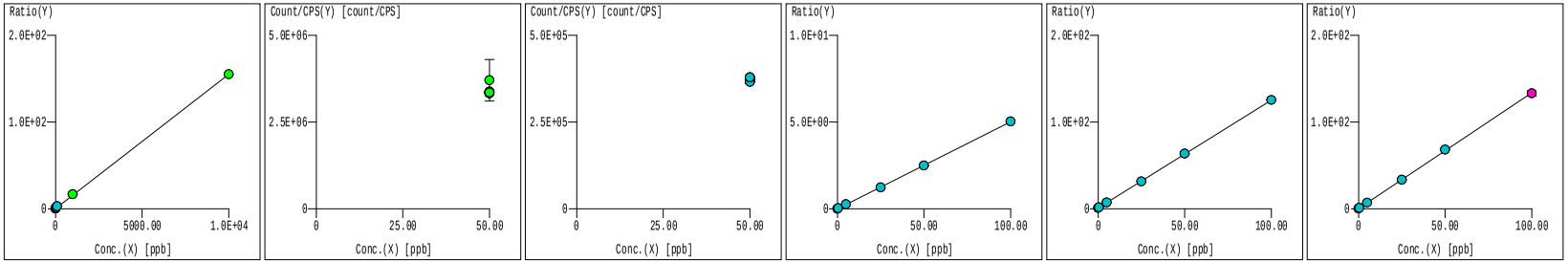

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9999 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.135E-01 ppb | 3.784E-02 ppb | 6.078E-02 ppb | 5.874E-02 ppb | 1.052E-02 ppb | 1.115 ppb |
| < BEC > | 28.63 ppb | 3.566E-01 ppb | 3.861E-01 ppb | 6.099E-01 ppb | 5.668E-01 ppb | 119.1 ppb |



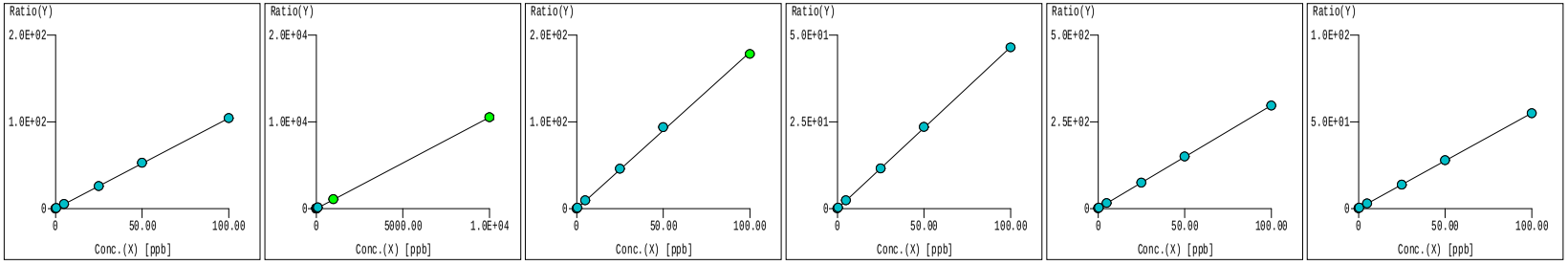
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 1.441 ppb | --- ppb | --- ppb | 8.592E-03 ppb | 2.663E-02 ppb | 2.359E-02 ppb |
| < BEC > | 27.81 ppb | --- ppb | --- ppb | 6.621E-02 ppb | 7.379E-01 ppb | 1.910E-01 ppb |



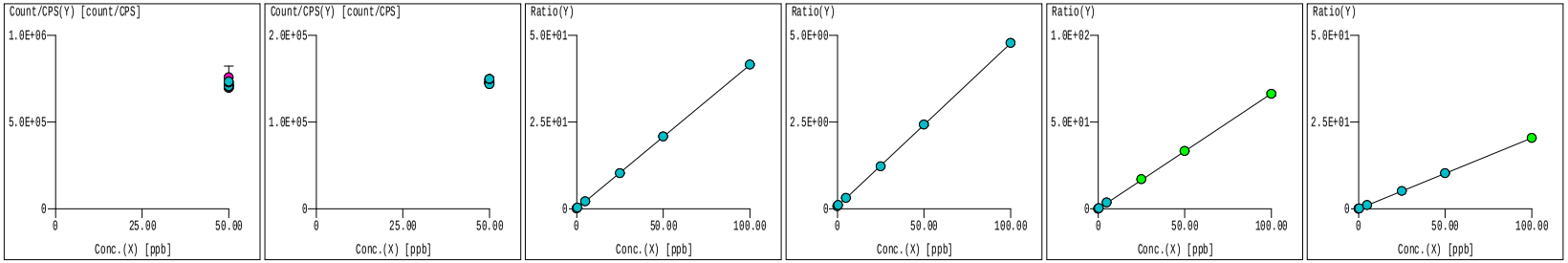

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.9997 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.650E-02 ppb | 1.605E-01 ppb | 2.345E-03 ppb | 2.316E-02 ppb | 4.967E-02 ppb | 5.742E-02 ppb |
| < BEC > | 8.069E-02 ppb | 3.506 ppb | 5.833E-03 ppb | 6.875E-02 ppb | 3.392E-01 ppb | 2.784E-01 ppb |



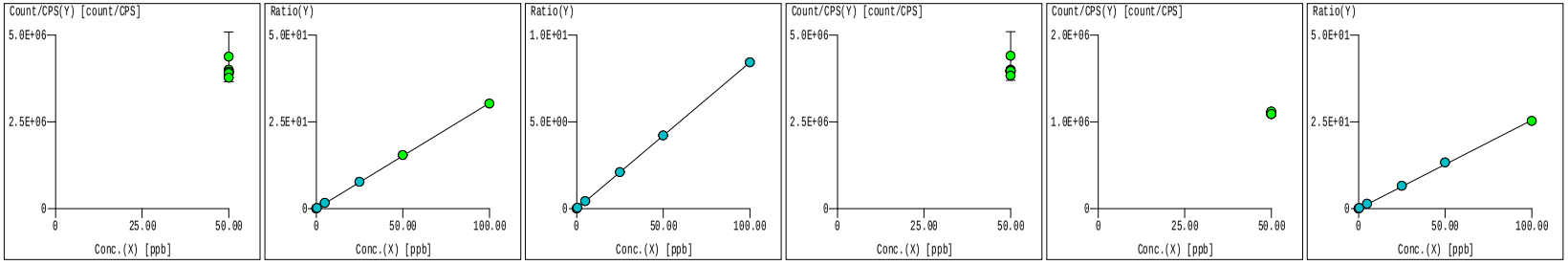
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 4.086E-02 ppb | 2.098E-01 ppb | 3.378E-03 ppb | 3.640E-03 ppb |
| < BEC > | --- ppb | --- ppb | 2.026E-01 ppb | 1.557 ppb | 1.401E-02 ppb | 7.829E-03 ppb |



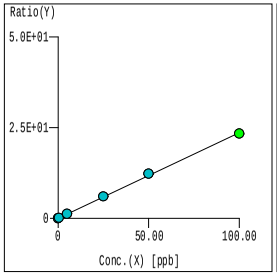

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9997 |
| < DL > | --- ppb | 3.048E-03 ppb | 1.089E-02 ppb | --- ppb | --- ppb | 4.821E-03 ppb |
| < BEC > | --- ppb | 5.984E-03 ppb | 1.638E-02 ppb | --- ppb | --- ppb | 1.538E-02 ppb |

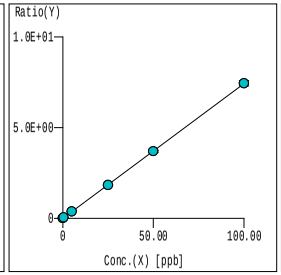


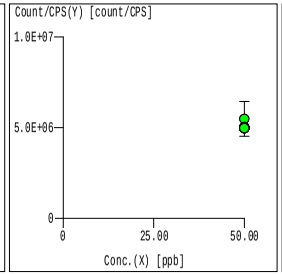
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

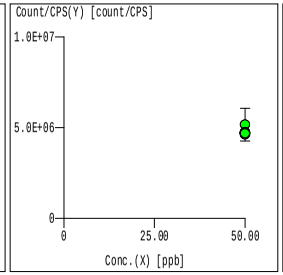
=== Graph Summary ===
Page: 4/4

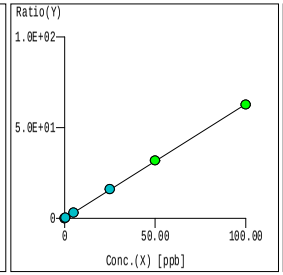
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 0.9996 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9998 |
| < DL > | 2.319E-03 ppb | 1.497E-02 ppb | --- ppb | --- ppb | 1.149E-03 ppb | --- ppb |
| < BEC > | 1.622E-02 ppb | 8.724E-02 ppb | --- ppb | --- ppb | 1.796E-02 ppb | --- ppb |

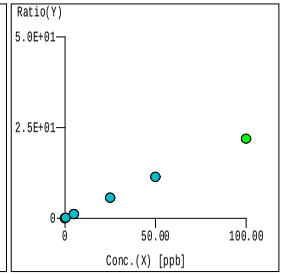




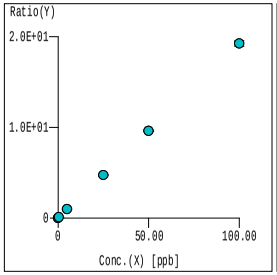


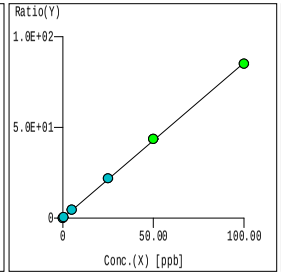


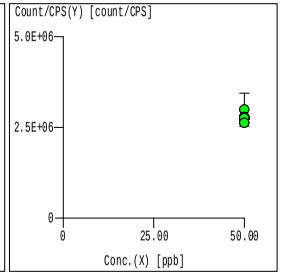





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 0.9999 | 0.0000 |
| < DL > | --- ppb | 5.918E-03 ppb | --- ppb |
| < BEC > | --- ppb | 5.297E-02 ppb | --- ppb |







Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 12:11:35 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0024 | .0010 | -.0003 | -.0003 | .0016 | .0080 | -.0002 | .0024 | .0034 |
| Stddev | .0000 | .0002 | .0002 | .0000 | .0001 | .0000 | .0000 | .0002 | .0000 |
| %RSD | 1.626 | 24.67 | 52.70 | 5.924 | 5.002 | .4371 | 19.30 | 7.807 | .7893 |
| #1 | -.0024 | .0008 | -.0004 | -.0003 | .0017 | .0079 | -.0002 | .0023 | .0034 |
| #2 | -.0023 | .0011 | -.0002 | -.0002 | .0016 | .0080 | -.0002 | .0025 | .0034 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0010 | .0000 | .0180 | .0004 | .0003 | -.0001 | .0004 | .0000 | .0008 |
| Stddev | .0002 | .000 | .0000 | .0000 | .0003 | .0001 | .0002 | .000 | .0001 |
| %RSD | 20.80 | 23.42 | .1161 | 2.238 | 96.71 | 144.5 | 67.78 | 633.0 | 12.13 |
| #1 | -.0011 | .0000 | .0180 | .0004 | .0006 | .0000 | .0002 | .0001 | .0008 |
| #2 | -.0009 | .0000 | .0180 | .0004 | .0001 | -.0001 | .0005 | -.0002 | .0009 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0017 | -.0007 | -.0007 | -.0003 | .0038 | .0013 | .0011 | .0353 | .0001 |
| Stddev | .0002 | .0002 | .0000 | .0000 | .0001 | .0002 | .0007 | .0016 | .0001 |
| %RSD | 13.94 | 21.78 | 6.380 | 3.235 | 1.407 | 16.34 | 58.22 | 4.635 | 140.7 |
| #1 | -.0019 | -.0006 | -.0007 | -.0002 | .0038 | .0014 | .0016 | .0341 | .0001 |
| #2 | -.0015 | -.0008 | -.0006 | -.0003 | .0037 | .0011 | .0007 | .0364 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0074 | .0000 | -.0032 | -.0001 | .0002 | -.0003 | .0342 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0001 | .0001 | .0003 |
| %RSD | .6725 | 290.5 | 4.035 | 30.51 | 41.27 | 23.49 | .7452 |
| #1 | .0074 | .0001 | -.0031 | -.0001 | .0002 | -.0003 | .0340 |
| #2 | .0075 | .0000 | -.0033 | -.0001 | .0003 | -.0004 | .0344 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 12:11:35 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1240.8 | 37476. | 17838. |
| Stddev | 11.6 | 124. | 27. |
| %RSD | .93138 | .33102 | .15111 |
| #1 | 1249.0 | 37564. | 17857. |
| #2 | 1232.6 | 37389. | 17818. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/31/2013 12:16:31 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1990 | .5622 | 2.723 | 19.57 | 14.80 | 10.79 | 9.013 | .5067 | 3.106 | 4.448 |
| Stddev | .0008 | .0012 | .000 | .10 | .04 | .00 | .010 | .0002 | .005 | .012 |
| %RSD | .3960 | .2047 | .0063 | .5039 | .2926 | .0321 | .1133 | .0475 | .1554 | .2633 |
| #1 | .1985 | .5614 | 2.723 | 19.50 | 14.83 | 10.79 | 9.005 | .5069 | 3.102 | 4.439 |
| #2 | .1996 | .5630 | 2.723 | 19.64 | 14.77 | 10.79 | 9.020 | .5066 | 3.109 | 4.456 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.290 | 6.287 | 2.594 | 1.823 | .8411 | 1.172 | 6.682 |
| Stddev | .015 | .003 | .001 | .001 | .0003 | .003 | .018 |
| %RSD | .1794 | .0502 | .0353 | .0537 | .0324 | .2353 | .2700 |
| #1 | 8.279 | 6.285 | 2.594 | 1.822 | .8413 | 1.171 | 6.669 |
| #2 | 8.300 | 6.289 | 2.595 | 1.824 | .8409 | 1.174 | 6.695 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1222.1 | 36620. | 17604. |
| Stddev | 4.5 | 81. | 20. |
| %RSD | .36866 | .22117 | .11201 |
| #1 | 1218.9 | 36677. | 17590. |
| #2 | 1225.3 | 36562. | 17617. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/31/2013 12:21:28 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.458 | 1.698 | 1.445 | .7412 | .1604 | 2.736 |
| Stddev | .004 | .005 | .003 | .0007 | .0013 | .003 |
| %RSD | .2437 | .2914 | .2102 | .0886 | .8172 | .1236 |
| #1 | 1.456 | 1.694 | 1.443 | .7407 | .1595 | 2.733 |
| #2 | 1.461 | 1.701 | 1.447 | .7416 | .1613 | 2.738 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17743. |
| Stddev | 5. |
| %RSD | .02934 |
| #1 | 17747. |
| #2 | 17739. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/31/2013 12:26:25 Type: Cal
Method: Accutest -SS2 with S(v121) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3491 | .5312 | .0755 | .6864 | 2.537 | 1.502 | 36.66 | 1.292 | 1.096 | .0685 |
| Stddev | .0001 | .0014 | .0002 | .0035 | .003 | .001 | .20 | .003 | .002 | .0000 |
| %RSD | .0161 | .2631 | .2056 | .5093 | .1245 | .0465 | .5471 | .2223 | .1636 | .0531 |
| #1 | .3491 | .5302 | .0753 | .6888 | 2.535 | 1.502 | 36.52 | 1.290 | 1.094 | .0685 |
| #2 | .3491 | .5322 | .0756 | .6839 | 2.540 | 1.503 | 36.80 | 1.294 | 1.097 | .0684 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.865 |
| Stddev | .011 |
| %RSD | .3876 |
| #1 | 2.857 |
| #2 | 2.873 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1228.4 | 36797. | 17803. |
| Stddev | 3.9 | 131. | 50. |
| %RSD | .31437 | .35706 | .27997 |
| #1 | 1231.1 | 36704. | 17767. |
| #2 | 1225.6 | 36890. | 17838. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/31/2013 12:31:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4967 | 15.42 | 2.962 | 2.907 | 2.920 | 2.949 | 2.972 | 17.35 | 2.895 | 2.883 |
| Stddev | .0002 | .02 | .013 | .003 | .014 | .059 | .004 | .06 | .011 | .014 |
| %RSD | .0390 | .1281 | .4297 | .1125 | .4844 | 2.015 | .1222 | .3352 | .3616 | .5009 |
| #1 | .4965 | 15.43 | 2.953 | 2.904 | 2.910 | 2.991 | 2.970 | 17.30 | 2.887 | 2.873 |
| #2 | .4968 | 15.40 | 2.971 | 2.909 | 2.930 | 2.907 | 2.975 | 17.39 | 2.902 | 2.893 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.073 | 2.927 | 17.56 | 15.25 | 17.60 | 3.003 | 2.777 | 14.83 | 2.775 | 2.825 |
| Stddev | .001 | .002 | .00 | .06 | .01 | .008 | .017 | .01 | .013 | .011 |
| %RSD | .0271 | .0686 | .0260 | .3619 | .0454 | .2593 | .6079 | .0501 | .4813 | .3721 |
| #1 | 3.074 | 2.925 | 17.57 | 15.21 | 17.60 | 3.008 | 2.765 | 14.84 | 2.766 | 2.817 |
| #2 | 3.073 | 2.928 | 17.56 | 15.29 | 17.61 | 2.997 | 2.789 | 14.83 | 2.785 | 2.832 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.996 | 2.936 | 2.897 | 2.866 | 2.894 | 2.940 | 2.999 | 2.957 | 2.949 | 2.871 |
| Stddev | .001 | .018 | .009 | .021 | .024 | .020 | .018 | .027 | .005 | .020 |
| %RSD | .0176 | .6292 | .3255 | .7281 | .8197 | .6652 | .5829 | .9242 | .1692 | .7108 |
| #1 | 2.995 | 2.949 | 2.890 | 2.851 | 2.877 | 2.926 | 2.987 | 2.976 | 2.953 | 2.857 |
| #2 | 2.996 | 2.923 | 2.903 | 2.880 | 2.911 | 2.953 | 3.012 | 2.938 | 2.946 | 2.886 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.920 | 2.822 | 2.820 | 2.978 |
| Stddev | .002 | .001 | .015 | .002 |
| %RSD | .0519 | .0189 | .5185 | .0699 |
| #1 | 2.919 | 2.822 | 2.810 | 2.979 |
| #2 | 2.921 | 2.821 | 2.831 | 2.976 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.3 | 36200. | 17793. |
| Stddev | 4.9 | 136. | 14. |
| %RSD | .39423 | .37473 | .08106 |
| #1 | 1240.8 | 36104. | 17783. |
| #2 | 1233.9 | 36295. | 17804. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 10/31/2013 12:45:11 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0015 | .0006 | .0020 | .0015 | .0001 | .0001 | .0022 | .0001 | .0002 |
| Stddev | .0003 | .0000 | .0021 | .0005 | .0002 | .0000 | .0000 | .0022 | .0000 | .0002 |
| %RSD | 77.89 | 2.678 | 355.4 | 27.01 | 10.21 | 16.66 | 20.57 | 98.82 | 28.54 | 106.5 |
| #1 | -.0007 | .0015 | .0021 | .0016 | .0016 | .0001 | .0001 | .0007 | .0001 | .0000 |
| #2 | -.0002 | .0014 | -.0009 | .0023 | .0014 | .0001 | .0001 | .0037 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0006 | .0019 | -.0005 | .0125 | .0002 | .0009 | .0071 | .0001 | -.0004 |
| Stddev | .0006 | .0002 | .0001 | .0121 | .0153 | .0001 | .0001 | .0028 | .0002 | .0011 |
| %RSD | 127.9 | 29.80 | 4.119 | 2349. | 122.3 | 34.69 | 10.30 | 39.48 | 247.4 | 245.7 |
| #1 | .0000 | .0007 | .0018 | -.0091 | .0234 | .0002 | .0010 | .0091 | -.0001 | -.0012 |
| #2 | -.0009 | .0005 | .0019 | .0080 | .0017 | .0001 | .0009 | .0051 | .0003 | .0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0041 | .0027 | .0001 | .0009 | -.0014 | .0005 | .0001 | .0005 | .0009 |
| Stddev | .0016 | .0024 | .0016 | .0001 | .0009 | .0004 | .0004 | .0000 | .0004 | .0006 |
| %RSD | 240.9 | 59.15 | 60.86 | 113.1 | 99.62 | 26.89 | 68.55 | 20.86 | 74.81 | 63.86 |
| #1 | -.0005 | .0058 | .0039 | .0000 | .0003 | -.0017 | .0008 | .0001 | .0008 | .0013 |
| #2 | .0018 | .0024 | .0015 | .0002 | .0015 | -.0011 | .0003 | .0001 | .0002 | .0005 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0009 | .0012 | -.0007 |
| Stddev | .0004 | .0023 | .0002 | .0001 |
| %RSD | 1271. | 268.8 | 12.54 | 15.14 |
| #1 | .0003 | -.0008 | .0011 | -.0006 |
| #2 | -.0002 | .0025 | .0013 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1236.3 | 36760. | 17692. |
| Stddev | .6 | 102. | 67. |
| %RSD | .05099 | .27855 | .37816 |
| #1 | 1236.8 | 36833. | 17644. |
| #2 | 1235.9 | 36688. | 17739. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 12:52:57 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.693 | 1.896 | -.0054 | 1.908 | 1.900 | 1.962 | 9.676 | 1.944 | 1.973 |
| Stddev | .0007 | .057 | .006 | .0011 | .002 | .008 | .006 | .028 | .002 | .000 |
| %RSD | .2949 | .5884 | .3037 | 20.60 | .0803 | .4355 | .2957 | .2861 | .1242 | .0035 |
| #1 | .2464 | 9.733 | 1.892 | -.0046 | 1.909 | 1.906 | 1.966 | 9.696 | 1.946 | 1.973 |
| #2 | .2474 | 9.652 | 1.901 | -.0062 | 1.907 | 1.894 | 1.958 | 9.657 | 1.942 | 1.973 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.988 | 1.938 | 9.704 | 9.741 | 9.542 | 1.973 | 1.891 | 9.737 | 1.873 | 1.890 |
| Stddev | .007 | .005 | .048 | .038 | .078 | .003 | .001 | .047 | .003 | .005 |
| %RSD | .3691 | .2426 | .4926 | .3942 | .8161 | .1580 | .0613 | .4860 | .1357 | .2866 |
| #1 | 1.993 | 1.934 | 9.738 | 9.768 | 9.597 | 1.975 | 1.890 | 9.770 | 1.871 | 1.886 |
| #2 | 1.982 | 1.941 | 9.670 | 9.714 | 9.487 | 1.970 | 1.892 | 9.704 | 1.875 | 1.893 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0117 | -.0043 | 1.898 | 1.892 | -.0089 | 1.914 | 1.943 | 1.949 | 1.897 |
| Stddev | .0002 | .0007 | .0017 | .002 | .001 | .0010 | .002 | .014 | .003 | .001 |
| %RSD | 8.247 | 5.599 | 39.24 | .1019 | .0615 | 11.56 | .0988 | .7376 | .1711 | .0587 |
| #1 | .0028 | .0122 | -.0055 | 1.897 | 1.891 | -.0096 | 1.915 | 1.933 | 1.951 | 1.898 |
| #2 | .0025 | .0113 | -.0031 | 1.899 | 1.893 | -.0082 | 1.913 | 1.953 | 1.946 | 1.896 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.948 | -.0028 | 1.876 | .0067 |
| Stddev | .001 | .0007 | .005 | .0018 |
| %RSD | .0742 | 23.82 | .2833 | 26.58 |
| #1 | 1.949 | -.0032 | 1.872 | .0079 |
| #2 | 1.947 | -.0023 | 1.880 | .0054 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1244.8 | 35998. | 17691. |
| Stddev | 2.9 | 99. | 55. |
| %RSD | .23278 | .27392 | .31316 |
| #1 | 1242.7 | 35928. | 17652. |
| #2 | 1246.8 | 36067. | 17730. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 12:58:41 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0021 | .0001 | .0005 | .0024 | .0002 | .0002 | .0008 | .0001 | .0002 |
| Stddev | .0002 | .0012 | .0011 | .0003 | .0004 | .0000 | .0000 | .0012 | .0000 | .0002 |
| %RSD | 80.37 | 56.13 | 1882. | 59.20 | 17.61 | 17.07 | 6.458 | 148.4 | 28.49 | 72.71 |
| #1 | -.0001 | -.0013 | -.0007 | .0003 | .0027 | .0002 | .0002 | .0016 | .0001 | .0001 |
| #2 | -.0005 | -.0030 | .0008 | .0007 | .0021 | .0002 | .0002 | .0000 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | .0023 | .0039 | -.0057 | .0002 | .0020 | .0062 | .0004 | .0004 |
| Stddev | .0001 | .0001 | .0000 | .0088 | .0074 | .0001 | .0003 | .0061 | .0000 | .0005 |
| %RSD | 32.55 | 9.877 | .9390 | 227.0 | 128.3 | 52.86 | 15.75 | 98.40 | .2770 | 105.8 |
| #1 | .0005 | .0007 | .0023 | .0101 | -.0005 | .0002 | .0023 | .0106 | .0004 | .0001 |
| #2 | .0003 | .0006 | .0023 | -.0024 | -.0109 | .0001 | .0018 | .0019 | .0004 | .0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0031 | .0009 | -.0004 | .0005 | -.0010 | .0010 | .0002 | .0001 | .0018 |
| Stddev | .0011 | .0037 | .0007 | .0007 | .0007 | .0004 | .0002 | .0000 | .0006 | .0014 |
| %RSD | 426.9 | 119.4 | 78.96 | 189.6 | 130.1 | 42.65 | 23.90 | 7.704 | 777.6 | 80.17 |
| #1 | -.0010 | .0057 | .0004 | .0001 | .0000 | -.0007 | .0012 | .0002 | -.0004 | .0028 |
| #2 | .0005 | .0005 | .0014 | -.0009 | .0010 | -.0013 | .0008 | .0002 | .0005 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0047 | .0011 | -.0011 |
| Stddev | .0000 | .0023 | .0003 | .0003 |
| %RSD | 2767. | 47.70 | 31.46 | 31.90 |
| #1 | .0000 | -.0063 | .0013 | -.0013 |
| #2 | .0000 | -.0031 | .0008 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1226.8 | 36679. | 17581. |
| Stddev | .9 | 59. | 101. |
| %RSD | .07184 | .16102 | .57516 |
| #1 | 1227.5 | 36720. | 17510. |
| #2 | 1226.2 | 36637. | 17653. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 13:03:37 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .1959 | F.0053 | .0008 | .1019 | .0504 | .0042 | 4.948 | .0042 |
| Stddev | .0003 | .0009 | .0005 | .0003 | .0001 | .0001 | .0000 | .021 | .0000 |
| %RSD | 5.792 | .4767 | 10.25 | 35.01 | .1128 | .2096 | .9884 | .4249 | .5868 |
| #1 | .0048 | .1953 | .0057 | .0010 | .1020 | .0503 | .0043 | 4.933 | .0042 |
| #2 | .0044 | .1966 | .0049 | .0006 | .1019 | .0505 | .0042 | 4.963 | .0042 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0520 | .0108 | .0253 | .1003 | 4.994 | 4.887 | .0159 | .1008 | 4.929 |
| Stddev | .0000 | .0007 | .0000 | .0007 | .021 | .015 | .0001 | .0004 | .012 |
| %RSD | .0365 | 6.258 | .0445 | .6624 | .4289 | .3107 | .6313 | .4252 | .2339 |
| #1 | .0520 | .0113 | .0253 | .1008 | 5.009 | 4.876 | .0160 | .1011 | 4.937 |
| #2 | .0520 | .0104 | .0253 | .0999 | 4.979 | 4.898 | .0158 | .1005 | 4.921 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0398 | .0052 | -.0012 | .0040 | -.0010 | .0060 | .0098 | .0065 | .0979 |
| Stddev | .0000 | .0008 | .0006 | .0011 | .0006 | .0006 | .0004 | .0004 | .0003 |
| %RSD | .0015 | 15.79 | 44.77 | 27.82 | 63.55 | 9.724 | 4.198 | 6.640 | .3453 |
| #1 | .0398 | .0047 | -.0016 | .0032 | -.0005 | .0056 | .0101 | .0062 | .0981 |
| #2 | .0398 | .0058 | -.0008 | .0048 | -.0014 | .0064 | .0095 | .0068 | .0977 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0103 | .0511 | .0055 | .0102 | -.0075 | .0204 | .0001 |
| Stddev | .0001 | .0009 | .0012 | .0006 | .0064 | .0001 | .0007 |
| %RSD | .7621 | 1.740 | 21.23 | 6.311 | 85.68 | .4989 | 1069. |
| #1 | .0102 | .0505 | .0063 | .0107 | -.0120 | .0204 | .0006 |
| #2 | .0103 | .0517 | .0046 | .0098 | -.0029 | .0203 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1235.0 | 36446. | 17660. |
| Stddev | .2 | 180. | 98. |
| %RSD | .01549 | .49321 | .55419 |
| #1 | 1234.9 | 36319. | 17729. |
| #2 | 1235.1 | 36574. | 17591. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/31/2013 13:13:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | 515.2 | -.0003 | .0072 | .0005 | -.0002 | .0000 | 441.2 | .0000 | .0009 |
| Stddev | .0005 | 7.3 | .0051 | .0011 | .0003 | .0002 | .0001 | 1.4 | .0001 | .0003 |
| %RSD | 107.3 | 1.413 | 1893. | 15.31 | 59.32 | 124.3 | 130.7 | .3093 | 415.3 | 29.82 |
| #1 | -.0001 | 510.1 | -.0039 | .0080 | .0007 | .0000 | .0001 | 440.2 | .0001 | .0011 |
| #2 | -.0008 | 520.4 | .0034 | .0065 | .0003 | -.0003 | .0000 | 442.1 | -.0001 | .0007 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0010 | 174.4 | .0497 | 502.9 | .0004 | -.0011 | .0361 | .0001 | .0001 |
| Stddev | .0007 | .0000 | .7 | .0090 | 1.9 | .0002 | .0002 | .0014 | .0000 | .0017 |
| %RSD | 1146. | .7338 | .3928 | 18.14 | .3792 | 56.65 | 16.16 | 3.856 | 36.94 | 1216. |
| #1 | .0005 | .0010 | 173.9 | .0434 | 501.5 | .0002 | -.0010 | .0351 | .0001 | -.0011 |
| #2 | -.0004 | .0010 | 174.9 | .0561 | 504.2 | .0005 | -.0012 | .0371 | .0001 | .0014 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0141 | -.0188 | .0868 | -.0025 | -.0008 | .0318 | .0006 | -.0079 | .0058 | -.0047 |
| Stddev | .0014 | .0049 | .0005 | .0001 | .0022 | .0014 | .0003 | .0001 | .0004 | .0016 |
| %RSD | 10.16 | 25.84 | .6261 | 2.611 | 277.9 | 4.273 | 47.15 | .9765 | 6.755 | 34.82 |
| #1 | -.0152 | -.0223 | .0864 | -.0025 | -.0023 | .0308 | .0004 | -.0079 | .0061 | -.0059 |
| #2 | -.0131 | -.0154 | .0871 | -.0024 | .0007 | .0327 | .0009 | -.0080 | .0055 | -.0036 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0104 | -.0198 | -.0012 | .0095 |
| Stddev | .0002 | .0094 | .0005 | .0001 |
| %RSD | 1.587 | 47.46 | 40.38 | .8959 |
| #1 | .0106 | -.0264 | -.0015 | .0096 |
| #2 | .0103 | -.0131 | -.0008 | .0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1159.8 | 32844. | 17497. |
| Stddev | .7 | 83. | 29. |
| %RSD | .06163 | .25240 | .16718 |
| #1 | 1160.3 | 32785. | 17518. |
| #2 | 1159.2 | 32903. | 17476. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/31/2013 13:18:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.074 | 514.3 | 1.998 | .5111 | .9288 | .4801 | .4599 | 444.2 | .9975 | .4483 |
| Stddev | .002 | 3.0 | .006 | .0004 | .0000 | .0004 | .0000 | .0 | .0005 | .0012 |
| %RSD | .1942 | .5917 | .2865 | .0828 | .0028 | .0755 | .0109 | .0026 | .0493 | .2736 |
| #1 | 1.076 | 512.2 | 2.002 | .5108 | .9288 | .4799 | .4598 | 444.2 | .9972 | .4492 |
| #2 | 1.073 | 516.5 | 1.994 | .5114 | .9288 | .4804 | .4599 | 444.2 | .9979 | .4474 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5261 | .5502 | 174.9 | .0621 | 503.1 | .5154 | .9020 | .0298 | .8089 | .8423 |
| Stddev | .0016 | .0008 | .2 | .0071 | .9 | .0018 | .0008 | .0015 | .0014 | .0009 |
| %RSD | .3111 | .1516 | .1168 | 11.39 | .1769 | .3480 | .0901 | 4.920 | .1719 | .1051 |
| #1 | .5272 | .5496 | 174.8 | .0672 | 502.5 | .5166 | .9026 | .0309 | .8099 | .8429 |
| #2 | .5249 | .5508 | 175.0 | .0571 | 503.7 | .5141 | .9014 | .0288 | .8079 | .8417 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5532 | .4969 | .5482 | 1.913 | 1.878 | 1.989 | .9040 | .9426 | .5350 | 1.708 |
| Stddev | .0030 | .0062 | .0000 | .005 | .003 | .000 | .0034 | .0012 | .0010 | .001 |
| %RSD | .5348 | 1.247 | .0083 | .2431 | .1685 | .0119 | .3789 | .1230 | .1871 | .0789 |
| #1 | .5511 | .4925 | .5482 | 1.910 | 1.880 | 1.989 | .9065 | .9418 | .5343 | 1.707 |
| #2 | .5553 | .5012 | .5482 | 1.916 | 1.875 | 1.989 | .9016 | .9434 | .5357 | 1.709 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5338 | 1.944 | .8422 | .4213 |
| Stddev | .0006 | .005 | .0019 | .0046 |
| %RSD | .1148 | .2792 | .2314 | 1.088 |
| #1 | .5342 | 1.948 | .8436 | .4181 |
| #2 | .5334 | 1.940 | .8408 | .4246 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1150.0 | 32602. | 17499. |
| Stddev | 2.2 | 68. | 2. |
| %RSD | .18869 | .20720 | .01129 |
| #1 | 1148.5 | 32554. | 17497. |
| #2 | 1151.5 | 32650. | 17500. |

Zoom In Zoom Out

Sample Name: MP21920-B1 Acquired: 10/31/2013 13:23:01 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1990 | 2.099 | .5077 | -.0004 | .0029 | 1.935 | .5006 | 23.85 | .5089 | .4936 |
| Stddev | .0020 | .000 | .0009 | .0003 | .0000 | .008 | .0006 | .00 | .0007 | .0000 |
| %RSD | .9943 | .0161 | .1685 | 87.17 | 1.580 | .4177 | .1158 | .0186 | .1444 | .0085 |
| #1 | .1976 | 2.098 | .5071 | -.0006 | .0029 | 1.940 | .5010 | 23.85 | .5094 | .4936 |
| #2 | .2004 | 2.099 | .5083 | -.0001 | .0030 | 1.929 | .5002 | 23.85 | .5083 | .4936 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5336 | .4930 | 1.983 | 24.70 | 24.64 | .5052 | .0017 | 24.77 | .4609 | .9492 |
| Stddev | .0029 | .0028 | .003 | .04 | .01 | .0026 | .0005 | .09 | .0002 | .0040 |
| %RSD | .5402 | .5739 | .1315 | .1622 | .0261 | .5141 | 26.83 | .3623 | .0527 | .4236 |
| #1 | .5316 | .4910 | 1.981 | 24.73 | 24.64 | .5034 | .0020 | 24.83 | .4610 | .9521 |
| #2 | .5357 | .4950 | 1.985 | 24.67 | 24.65 | .5070 | .0014 | 24.70 | .4607 | .9464 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0067 | .0010 | .4871 | .4811 | .0208 | -.0016 | .4862 | .4922 | .4845 |
| Stddev | .0012 | .0060 | .0011 | .0027 | .0016 | .0009 | .0002 | .0017 | .0011 | .0004 |
| %RSD | 90.18 | 88.66 | 112.6 | .5602 | .3404 | 4.323 | 13.42 | .3550 | .2330 | .0782 |
| #1 | .0005 | .0110 | .0002 | .4890 | .4823 | .0214 | -.0014 | .4874 | .4914 | .4848 |
| #2 | .0021 | .0025 | .0018 | .4851 | .4800 | .0202 | -.0017 | .4850 | .4930 | .4843 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5111 | .0088 | .4918 | .0396 |
| Stddev | .0032 | .0017 | .0020 | .0038 |
| %RSD | .6209 | 18.95 | .4047 | 9.544 |
| #1 | .5088 | .0076 | .4933 | .0423 |
| #2 | .5133 | .0100 | .4904 | .0369 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1213.1 | 35410. | 17494. |
| Stddev | 2.1 | 115. | 56. |
| %RSD | .17186 | .32359 | .31826 |
| #1 | 1211.6 | 35491. | 17533. |
| #2 | 1214.5 | 35329. | 17455. |



Zoom In Zoom Out

Sample Name: MP21920-MB1 Acquired: 10/31/2013 13:27:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0057 | -.0016 | .0006 | .0010 | .0001 | .0000 | .0057 | .0000 | -.0003 |
| Stddev | .0002 | .0022 | .0007 | .0004 | .0002 | .0001 | .0000 | .0004 | .0000 | .0000 |
| %RSD | 44.16 | 39.08 | 45.97 | 55.71 | 20.92 | 39.04 | 37.63 | 6.881 | 89.88 | .0885 |
| #1 | -.0005 | .0042 | -.0022 | .0009 | .0012 | .0001 | .0000 | .0054 | .0001 | -.0003 |
| #2 | -.0003 | .0073 | -.0011 | .0004 | .0009 | .0002 | .0000 | .0060 | .0000 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | .0007 | .0201 | .0116 | .0063 | .0003 | .0005 | .0113 | -.0004 | -.0009 |
| Stddev | .0001 | .0000 | .0010 | .0089 | .0022 | .0001 | .0000 | .0059 | .0001 | .0012 |
| %RSD | 14.57 | 1.464 | 4.981 | 76.58 | 35.27 | 28.62 | 1.748 | 52.18 | 14.02 | 137.0 |
| #1 | .0008 | .0007 | .0208 | .0053 | .0047 | .0004 | .0005 | .0071 | -.0004 | -.0017 |
| #2 | .0007 | .0007 | .0194 | .0179 | .0079 | .0002 | .0005 | .0155 | -.0003 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0062 | .0012 | .0013 | .0021 | .0205 | .0004 | .0001 | .0005 | -.0007 |
| Stddev | .0012 | .0002 | .0017 | .0001 | .0016 | .0003 | .0005 | .0000 | .0004 | .0006 |
| %RSD | 3391. | 3.175 | 141.7 | 10.62 | 77.78 | 1.343 | 117.6 | 12.34 | 73.36 | 92.97 |
| #1 | -.0008 | .0063 | .0000 | .0012 | .0010 | .0207 | .0001 | .0001 | .0003 | -.0011 |
| #2 | .0009 | .0060 | .0024 | .0014 | .0033 | .0203 | .0008 | .0001 | .0008 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0052 | .0010 | .0004 |
| Stddev | .0000 | .0047 | .0001 | .0003 |
| %RSD | 7.450 | 89.00 | 7.269 | 65.81 |
| #1 | -.0002 | .0085 | .0010 | .0006 |
| #2 | -.0003 | .0019 | .0011 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1225.8 | 35741. | 17651. |
| Stddev | 4.4 | 25. | 5. |
| %RSD | .35969 | .06972 | .02738 |
| #1 | 1222.7 | 35723. | 17648. |
| #2 | 1229.0 | 35759. | 17655. |



Zoom In Zoom Out

Sample Name: MP21920-S1 Acquired: 10/31/2013 13:32:44 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2035 | 2.084 | .7451 | -.0117 | .2834 | 2.010 | .5067 | 82.83 | .5135 | .5092 |
| Stddev | .0007 | .010 | .0011 | .0007 | .0011 | .005 | .0012 | .00 | .0000 | .0008 |
| %RSD | .3682 | .4842 | .1433 | 6.010 | .3956 | .2288 | .2443 | .0003 | .0018 | .1554 |
| #1 | .2029 | 2.077 | .7459 | -.0112 | .2842 | 2.007 | .5058 | 82.83 | .5135 | .5098 |
| #2 | .2040 | 2.091 | .7444 | -.0122 | .2826 | 2.013 | .5076 | 82.83 | .5135 | .5087 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5460 | .5114 | 43.16 | 33.95 | 34.34 | 3.806 | .0013 | 52.81 | .4629 | .9476 |
| Stddev | .0033 | .0003 | .00 | .02 | .02 | .008 | .0002 | .09 | .0027 | .0000 |
| %RSD | .5987 | .0500 | .0078 | .0469 | .0568 | .2137 | 16.16 | .1652 | .5761 | .0031 |
| #1 | .5437 | .5116 | 43.16 | 33.96 | 34.36 | 3.800 | .0011 | 52.74 | .4610 | .9476 |
| #2 | .5483 | .5113 | 43.17 | 33.94 | 34.33 | 3.811 | .0014 | 52.87 | .4648 | .9475 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | .0228 | .9953 | .4936 | .4888 | 7.402 | -.0017 | .9767 | .4972 | .4797 |
| Stddev | .0018 | .0105 | .0018 | .0003 | .0001 | .002 | .0006 | .0025 | .0018 | .0009 |
| %RSD | 74.19 | 46.18 | .1768 | .0669 | .0159 | .0318 | 33.70 | .2529 | .3635 | .1843 |
| #1 | .0037 | .0153 | .9966 | .4933 | .4888 | 7.400 | -.0013 | .9750 | .4959 | .4791 |
| #2 | .0012 | .0302 | .9941 | .4938 | .4889 | 7.404 | -.0021 | .9785 | .4985 | .4803 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5223 | .0061 | .4947 | -.0337 |
| Stddev | .0006 | .0025 | .0002 | .0003 |
| %RSD | .1112 | 40.22 | .0396 | .8079 |
| #1 | .5227 | .0044 | .4945 | -.0335 |
| #2 | .5219 | .0079 | .4948 | -.0339 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1194.2 | 35264. | 17548. |
| Stddev | 1.4 | 117. | 12. |
| %RSD | .11736 | .33317 | .07084 |
| #1 | 1193.2 | 35348. | 17539. |
| #2 | 1195.2 | 35181. | 17556. |



Zoom In Zoom Out

Sample Name: MP21920-S2 Acquired: 10/31/2013 13:37:29 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2019 | 2.107 | .7352 | -.0126 | .2801 | 1.988 | .5012 | 81.72 | .5111 | .5042 |
| Stddev | .0011 | .010 | .0003 | .0011 | .0003 | .001 | .0003 | .03 | .0009 | .0001 |
| %RSD | .5279 | .4945 | .0438 | 8.948 | .1169 | .0339 | .0674 | .0389 | .1768 | .0281 |
| #1 | .2011 | 2.114 | .7350 | -.0134 | .2803 | 1.988 | .5009 | 81.70 | .5104 | .5041 |
| #2 | .2026 | 2.099 | .7354 | -.0118 | .2798 | 1.989 | .5014 | 81.75 | .5117 | .5043 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5392 | .5017 | 42.62 | 33.57 | 34.00 | 3.787 | .0010 | 52.33 | .4586 | .9427 |
| Stddev | .0016 | .0011 | .04 | .04 | .01 | .000 | .0002 | .01 | .0015 | .0041 |
| %RSD | .3052 | .2235 | .0927 | .1272 | .0408 | .0080 | 19.76 | .0152 | .3222 | .4370 |
| #1 | .5404 | .5009 | 42.59 | 33.54 | 33.99 | 3.788 | .0012 | 52.34 | .4596 | .9456 |
| #2 | .5381 | .5024 | 42.64 | 33.60 | 34.01 | 3.787 | .0009 | 52.33 | .4575 | .9398 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0279 | .9870 | .4889 | .4830 | 7.287 | -.0017 | .9642 | .4917 | .4770 |
| Stddev | .0007 | .0027 | .0030 | .0018 | .0004 | .005 | .0002 | .0011 | .0009 | .0015 |
| %RSD | 31.25 | 9.646 | .3026 | .3642 | .0913 | .0739 | 9.418 | .1156 | .1740 | .3043 |
| #1 | .0028 | .0260 | .9849 | .4902 | .4833 | 7.283 | -.0016 | .9650 | .4911 | .4781 |
| #2 | .0018 | .0298 | .9891 | .4877 | .4827 | 7.291 | -.0018 | .9634 | .4923 | .4760 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5177 | -.0003 | .4906 | -.0367 |
| Stddev | .0021 | .0011 | .0006 | .0003 |
| %RSD | .4072 | 376.0 | .1220 | .9029 |
| #1 | .5162 | .0005 | .4911 | -.0369 |
| #2 | .5191 | -.0011 | .4902 | -.0365 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1200.7 | 35141. | 17511. |
| Stddev | .6 | 87. | 51. |
| %RSD | .04984 | .24640 | .29261 |
| #1 | 1200.3 | 35202. | 17475. |
| #2 | 1201.2 | 35080. | 17547. |

Zoom In Zoom Out

Sample Name: MC25568-11F Acquired: 10/31/2013 13:42:15 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0335 | .2284 | -.0091 | .2810 | .0435 | .0000 | 58.32 | .0003 | .0135 |
| Stddev | .0002 | .0043 | .0011 | .0010 | .0011 | .0002 | .0000 | .14 | .0001 | .0005 |
| %RSD | 36.13 | 12.78 | .4646 | 10.78 | .3951 | .4607 | 130.2 | .2323 | 34.53 | 4.056 |
| #1 | -.0007 | -.0305 | .2292 | -.0084 | .2818 | .0434 | .0000 | 58.41 | .0004 | .0139 |
| #2 | -.0004 | -.0365 | .2277 | -.0098 | .2803 | .0436 | .0001 | 58.22 | .0002 | .0131 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0000 | 41.28 | 8.824 | 9.300 | 3.282 | .0011 | 27.37 | .0026 | -.0018 |
| Stddev | .0002 | .0002 | .05 | .013 | .034 | .000 | .0000 | .01 | .0003 | .0000 |
| %RSD | 74.88 | 462.6 | .1181 | .1463 | .3654 | .0077 | 3.932 | .0470 | 11.66 | 2.751 |
| #1 | -.0004 | .0002 | 41.31 | 8.815 | 9.324 | 3.281 | .0011 | 27.37 | .0028 | -.0018 |
| #2 | -.0001 | -.0001 | 41.24 | 8.833 | 9.276 | 3.282 | .0011 | 27.38 | .0024 | -.0018 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0176 | .9958 | .0013 | .0015 | 7.337 | .0000 | .4801 | .0006 | .0000 |
| Stddev | .0017 | .0041 | .0084 | .0001 | .0002 | .017 | .0003 | .0004 | .0000 | .0008 |
| %RSD | 73.82 | 23.23 | .8442 | 10.91 | 14.46 | .2294 | 1280. | .0857 | 1.972 | 14250. |
| #1 | .0034 | .0205 | 1.002 | .0014 | .0017 | 7.349 | .0002 | .4798 | .0005 | .0006 |
| #2 | .0011 | .0147 | .9899 | .0012 | .0014 | 7.325 | -.0002 | .4804 | .0006 | -.0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0016 | -.0040 | .0085 | -.0398 |
| Stddev | .0002 | .0086 | .0001 | .0005 |
| %RSD | 14.59 | 217.2 | 1.107 | 1.168 |
| #1 | .0015 | -.0101 | .0084 | -.0401 |
| #2 | .0018 | .0021 | .0085 | -.0395 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1203.4 | 35598. | 17676. |
| Stddev | .8 | 91. | 94. |
| %RSD | .06743 | .25471 | .53277 |
| #1 | 1202.8 | 35662. | 17610. |
| #2 | 1203.9 | 35534. | 17743. |



Zoom In Zoom Out

Sample Name: MP21920-SD1 Acquired: 10/31/2013 13:47:07 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | -.0366 | .2330 | -.0051 | .2924 | .0445 | .0002 | 59.67 | -.0001 | .0133 |
| Stddev | .0008 | .0187 | .0028 | .0022 | .0012 | .0007 | .0000 | .06 | .0003 | .0004 |
| %RSD | 30.89 | 51.26 | 1.189 | 43.46 | .4007 | 1.596 | 16.22 | .0992 | 396.8 | 2.856 |
| #1 | -.0019 | -.0498 | .2349 | -.0035 | .2932 | .0450 | .0002 | 59.71 | .0001 | .0130 |
| #2 | -.0030 | -.0233 | .2310 | -.0066 | .2916 | .0440 | .0002 | 59.62 | -.0002 | .0136 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .0002 | 42.97 | 8.977 | 9.586 | 3.374 | .0006 | 27.76 | .0023 | -.0038 |
| Stddev | .0021 | .0002 | .15 | .039 | .082 | .007 | .0011 | .05 | .0001 | .0040 |
| %RSD | 47.06 | 128.1 | .3414 | .4380 | .8502 | .2152 | 168.4 | .1843 | 2.423 | 106.0 |
| #1 | .0030 | .0000 | 42.87 | 9.005 | 9.528 | 3.379 | .0014 | 27.79 | .0023 | -.0010 |
| #2 | .0061 | .0003 | 43.08 | 8.949 | 9.643 | 3.369 | -.0001 | 27.72 | .0022 | -.0067 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | .0224 | 1.027 | .0039 | .0002 | 7.393 | .0013 | .4898 | .0019 | .0033 |
| Stddev | .0097 | .0063 | .003 | .0060 | .0016 | .012 | .0007 | .0005 | .0012 | .0086 |
| %RSD | 491.6 | 27.89 | .2527 | 156.3 | 828.2 | .1571 | 53.68 | .0956 | 63.60 | 257.4 |
| #1 | -.0088 | .0180 | 1.029 | .0081 | .0013 | 7.401 | .0008 | .4902 | .0027 | .0094 |
| #2 | .0049 | .0269 | 1.025 | -.0004 | -.0009 | 7.385 | .0018 | .4895 | .0010 | -.0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0033 | -.0416 | .0145 | -.0386 |
| Stddev | .0005 | .0063 | .0005 | .0003 |
| %RSD | 14.90 | 15.25 | 3.501 | .8720 |
| #1 | .0030 | -.0371 | .0142 | -.0389 |
| #2 | .0037 | -.0461 | .0149 | -.0384 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1233.8 | 35920. | 17470. |
| Stddev | 1.4 | 8. | 33. |
| %RSD | .11420 | .02207 | .19072 |
| #1 | 1232.8 | 35915. | 17494. |
| #2 | 1234.8 | 35926. | 17447. |



Zoom In Zoom Out

Sample Name: MP21920-S3 Acquired: 10/31/2013 13:52:01 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2004 | 2.073 | .6278 | -.0064 | .0292 | 1.944 | .5054 | 40.63 | .5102 | .4963 |
| Stddev | .0008 | .000 | .0007 | .0021 | .0002 | .001 | .0001 | .22 | .0000 | .0002 |
| %RSD | .4205 | .0184 | .1084 | 33.36 | .5701 | .0355 | .0272 | .5484 | .0091 | .0339 |
| #1 | .2010 | 2.073 | .6283 | -.0049 | .0291 | 1.944 | .5053 | 40.48 | .5103 | .4962 |
| #2 | .1998 | 2.072 | .6273 | -.0079 | .0294 | 1.943 | .5055 | 40.79 | .5102 | .4964 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5459 | .5021 | 11.49 | 27.73 | 26.35 | 1.751 | .0020 | 86.08 | .4588 | .9449 |
| Stddev | .0024 | .0037 | .04 | .03 | .12 | .003 | .0001 | .16 | .0003 | .0022 |
| %RSD | .4421 | .7273 | .3815 | .1033 | .4405 | .1805 | 4.558 | .1821 | .0571 | .2314 |
| #1 | .5476 | .4995 | 11.45 | 27.71 | 26.26 | 1.753 | .0019 | 86.19 | .4586 | .9464 |
| #2 | .5442 | .5047 | 11.52 | 27.75 | 26.43 | 1.748 | .0020 | 85.97 | .4589 | .9433 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0140 | 1.239 | .4874 | .4858 | 5.024 | -.0018 | .5940 | .4944 | .4772 |
| Stddev | .0003 | .0036 | .002 | .0002 | .0012 | .006 | .0003 | .0012 | .0007 | .0012 |
| %RSD | 38.31 | 25.75 | .1748 | .0320 | .2537 | .1174 | 18.98 | .1948 | .1315 | .2491 |
| #1 | -.0010 | .0115 | 1.237 | .4873 | .4867 | 5.020 | -.0015 | .5948 | .4948 | .4780 |
| #2 | -.0006 | .0166 | 1.240 | .4875 | .4850 | 5.028 | -.0020 | .5932 | .4939 | .4764 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5211 | -.0041 | .5132 | -.0264 |
| Stddev | .0010 | .0006 | .0009 | .0011 |
| %RSD | .1942 | 13.71 | .1818 | 4.257 |
| #1 | .5218 | -.0037 | .5138 | -.0256 |
| #2 | .5203 | -.0045 | .5125 | -.0272 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.7 | 35476. | 17546. |
| Stddev | 1.5 | 118. | 112. |
| %RSD | .12317 | .33233 | .64022 |
| #1 | 1209.7 | 35393. | 17625. |
| #2 | 1207.6 | 35560. | 17466. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 13:56:46 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2509 | 9.701 | 1.887 | -.0063 | 1.913 | 1.909 | 2.003 | 9.675 | 1.945 | 1.965 |
| Stddev | .0012 | .015 | .009 | .0007 | .000 | .005 | .001 | .015 | .002 | .003 |
| %RSD | .4976 | .1579 | .4816 | 10.80 | .0114 | .2724 | .0583 | .1592 | .0937 | .1574 |
| #1 | .2518 | 9.690 | 1.894 | -.0059 | 1.913 | 1.905 | 2.002 | 9.685 | 1.944 | 1.967 |
| #2 | .2500 | 9.711 | 1.881 | -.0068 | 1.913 | 1.913 | 2.004 | 9.664 | 1.946 | 1.962 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.088 | 1.988 | 9.581 | 9.855 | 9.689 | 2.040 | 1.877 | 9.708 | 1.832 | 1.869 |
| Stddev | .003 | .009 | .009 | .019 | .090 | .003 | .000 | .012 | .001 | .002 |
| %RSD | .1247 | .4423 | .0963 | .1887 | .9305 | .1571 | .0007 | .1275 | .0502 | .1232 |
| #1 | 2.086 | 1.982 | 9.574 | 9.842 | 9.625 | 2.042 | 1.877 | 9.700 | 1.832 | 1.867 |
| #2 | 2.090 | 1.994 | 9.588 | 9.868 | 9.752 | 2.037 | 1.877 | 9.717 | 1.831 | 1.870 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0038 | .0048 | -.0032 | 1.877 | 1.881 | -.0101 | 1.932 | 2.010 | 1.964 | 1.902 |
| Stddev | .0016 | .0043 | .0003 | .000 | .002 | .0005 | .005 | .009 | .001 | .002 |
| %RSD | 41.22 | 88.20 | 10.81 | .0176 | .1107 | 5.231 | .2701 | .4648 | .0704 | .1286 |
| #1 | .0027 | .0018 | -.0030 | 1.877 | 1.882 | -.0097 | 1.936 | 2.016 | 1.963 | 1.901 |
| #2 | .0050 | .0078 | -.0035 | 1.877 | 1.879 | -.0105 | 1.928 | 2.003 | 1.965 | 1.904 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.999 | -.0058 | 1.864 | -.0029 |
| Stddev | .000 | .0044 | .001 | .0005 |
| %RSD | .0222 | 76.98 | .0683 | 18.25 |
| #1 | 2.000 | -.0026 | 1.865 | -.0025 |
| #2 | 1.999 | -.0089 | 1.863 | -.0033 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.1 | 35420. | 17681. |
| Stddev | .1 | 19. | 55. |
| %RSD | .00654 | .05491 | .30860 |
| #1 | 1247.1 | 35434. | 17642. |
| #2 | 1247.0 | 35406. | 17720. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 14:01:35 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0000 | -.0003 | .0008 | .0023 | .0002 | .0001 | .0021 | .0001 |
| Stddev | .0007 | .0034 | .0014 | .0005 | .0001 | .0001 | .0000 | .0003 | .0000 |
| %RSD | 153.0 | 8076. | 395.6 | 56.43 | 4.705 | 75.07 | 29.82 | 12.45 | 33.37 |
| #1 | .0000 | .0025 | .0006 | .0011 | .0023 | .0002 | .0001 | .0023 | .0001 |
| #2 | -.0010 | -.0024 | -.0013 | .0005 | .0024 | .0001 | .0002 | .0019 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0000 | -.0001 | .0022 | .0265 | .0230 | .0002 | .0028 | .0128 |
| Stddev | .0001 | .000 | .0003 | .0030 | .0082 | .0082 | .0001 | .0004 | .0018 |
| %RSD | 26.95 | 447.0 | 503.8 | 138.3 | 30.80 | 35.70 | 26.25 | 15.69 | 14.03 |
| #1 | .0002 | .0001 | -.0003 | .0000 | .0208 | .0288 | .0002 | .0031 | .0115 |
| #2 | .0003 | -.0001 | .0002 | .0043 | .0323 | .0172 | .0003 | .0025 | .0140 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0004 | -.0005 | .0035 | .0017 | -.0002 | .0002 | -.0027 | .0009 |
| Stddev | .0001 | .0004 | .0016 | .0001 | .0001 | .0002 | .0010 | .0003 | .0004 |
| %RSD | 70.53 | 95.43 | 320.0 | 3.736 | 7.823 | 80.56 | 442.8 | 10.23 | 45.60 |
| #1 | .0001 | -.0006 | .0006 | .0036 | .0018 | -.0001 | .0009 | -.0029 | .0006 |
| #2 | .0002 | -.0001 | -.0016 | .0034 | .0016 | -.0003 | -.0005 | -.0025 | .0011 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0011 | F.0021 | .0006 | -.0054 | .0011 | -.0002 |
| Stddev | .0000 | .0003 | .0010 | .0006 | .0010 | .0001 | .0001 |
| %RSD | 9.514 | 26.83 | 50.42 | 105.1 | 17.47 | 8.547 | 55.84 |
| #1 | .0002 | .0013 | .0028 | .0010 | -.0048 | .0010 | -.0002 |
| #2 | .0002 | .0009 | .0013 | .0002 | -.0061 | .0012 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.4 | 36099. | 17487. |
| Stddev | 2.5 | 106. | 37. |
| %RSD | .19795 | .29381 | .20903 |
| #1 | 1247.2 | 36174. | 17462. |
| #2 | 1243.7 | 36024. | 17513. |



Zoom In Zoom Out

Sample Name: MP21920-S4 Acquired: 10/31/2013 14:06:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2008 | 2.081 | .6213 | -.0051 | .0298 | 1.991 | .5059 | 40.86 | .5104 | .4958 |
| Stddev | .0001 | .004 | .0002 | .0013 | .0001 | .004 | .0005 | .19 | .0016 | .0023 |
| %RSD | .0280 | .2128 | .0331 | 25.40 | .2177 | .2165 | .1020 | .4698 | .3200 | .4566 |
| #1 | .2009 | 2.084 | .6214 | -.0061 | .0298 | 1.994 | .5055 | 40.72 | .5116 | .4974 |
| #2 | .2008 | 2.078 | .6211 | -.0042 | .0297 | 1.988 | .5063 | 40.99 | .5093 | .4942 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5430 | .5036 | 11.47 | 28.26 | 26.61 | 1.717 | .0026 | 86.73 | .4583 | .9451 |
| Stddev | .0003 | .0005 | .05 | .03 | .18 | .002 | .0000 | .28 | .0015 | .0049 |
| %RSD | .0553 | .0906 | .4425 | .1108 | .6905 | .1251 | 1.387 | .3201 | .3204 | .5192 |
| #1 | .5428 | .5040 | 11.44 | 28.28 | 26.48 | 1.718 | .0026 | 86.93 | .4593 | .9486 |
| #2 | .5432 | .5033 | 11.51 | 28.24 | 26.74 | 1.715 | .0025 | 86.53 | .4573 | .9416 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0064 | 1.223 | .4865 | .4847 | 4.973 | -.0015 | .6004 | .4945 | .4772 |
| Stddev | .0022 | .0036 | .007 | .0055 | .0039 | .024 | .0000 | .0010 | .0007 | .0028 |
| %RSD | 215.3 | 56.02 | .5431 | 1.132 | .7976 | .4859 | .2159 | .1596 | .1458 | .5783 |
| #1 | .0026 | .0039 | 1.228 | .4904 | .4874 | 4.990 | -.0015 | .6010 | .4940 | .4792 |
| #2 | -.0005 | .0089 | 1.219 | .4826 | .4820 | 4.956 | -.0015 | .5997 | .4950 | .4753 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5194 | -.0036 | .5096 | -.0284 |
| Stddev | .0012 | .0018 | .0013 | .0003 |
| %RSD | .2358 | 48.95 | .2491 | .9758 |
| #1 | .5186 | -.0049 | .5105 | -.0286 |
| #2 | .5203 | -.0024 | .5087 | -.0282 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1201.9 | 35394. | 17466. |
| Stddev | 7.1 | 2. | 130. |
| %RSD | .59286 | .00653 | .74701 |
| #1 | 1196.9 | 35395. | 17558. |
| #2 | 1206.9 | 35392. | 17374. |



Zoom In Zoom Out

Sample Name: MC25594-1F Acquired: 10/31/2013 14:11:18 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0029 | .1085 | -.0025 | .0285 | .0168 | .0000 | 16.50 | .0002 | .0017 |
| Stddev | .0003 | .0054 | .0001 | .0019 | .0000 | .0001 | .000 | .05 | .0003 | .0000 |
| %RSD | 289.2 | 187.0 | .0889 | 76.05 | .1299 | .4024 | 125.0 | .2959 | 172.3 | 2.449 |
| #1 | .0001 | .0009 | .1084 | -.0039 | .0285 | .0168 | .0000 | 16.54 | .0000 | .0017 |
| #2 | -.0004 | -.0067 | .1086 | -.0012 | .0285 | .0169 | .0000 | 16.47 | .0004 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0005 | 9.581 | 3.035 | 1.662 | 1.227 | .0018 | 61.39 | .0007 | -.0006 |
| Stddev | .0005 | .0007 | .024 | .022 | .004 | .006 | .0003 | .13 | .0004 | .0008 |
| %RSD | 128.1 | 139.5 | .2531 | .7166 | .2705 | .4769 | 15.04 | .2041 | 52.88 | 124.0 |
| #1 | .0008 | .0011 | 9.598 | 3.019 | 1.658 | 1.223 | .0017 | 61.48 | .0005 | -.0012 |
| #2 | .0000 | .0000 | 9.564 | 3.050 | 1.665 | 1.231 | .0020 | 61.31 | .0010 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0103 | 1.236 | .0017 | .0015 | 4.948 | .0007 | .1069 | .0005 | -.0011 |
| Stddev | .0027 | .0048 | .001 | .0001 | .0008 | .002 | .0005 | .0000 | .0004 | .0006 |
| %RSD | 107.4 | 46.80 | .0483 | 3.896 | 49.61 | .0441 | 70.84 | .0156 | 81.36 | 54.63 |
| #1 | .0006 | .0138 | 1.236 | .0017 | .0010 | 4.946 | .0011 | .1069 | .0002 | -.0015 |
| #2 | .0045 | .0069 | 1.237 | .0016 | .0021 | 4.949 | .0004 | .1069 | .0008 | -.0007 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0031 | .0236 | -.0276 |
| Stddev | .0004 | .0012 | .0000 | .0006 |
| %RSD | 53.18 | 37.79 | .1058 | 2.325 |
| #1 | .0005 | -.0039 | .0236 | -.0280 |
| #2 | .0011 | -.0023 | .0236 | -.0271 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1208.5 | 35526. | 17490. |
| Stddev | .0 | 42. | 69. |
| %RSD | .00061 | .11769 | .39176 |
| #1 | 1208.5 | 35556. | 17441. |
| #2 | 1208.5 | 35497. | 17538. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 14:16:12 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0797 | .0547 | -.0295 | .1864 | .0107 | .0001 | 104.9 | .0000 | .0017 |
| Stddev | .0007 | .0004 | .0000 | .0009 | .0006 | .0000 | .0000 | .1 | .0001 | .0001 |
| %RSD | 485.1 | .4501 | .0266 | 3.043 | .3072 | .2130 | 65.68 | .0802 | 242.7 | 5.514 |
| #1 | .0004 | -.0800 | .0546 | -.0302 | .1868 | .0107 | .0000 | 104.8 | .0001 | .0016 |
| #2 | -.0007 | -.0795 | .0547 | -.0289 | .1860 | .0107 | .0001 | 104.9 | .0000 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0008 | .6101 | 4.833 | 13.49 | 9.213 | .0017 | 27.03 | .0132 | -.0021 |
| Stddev | .0011 | .0002 | .0071 | .037 | .08 | .012 | .0001 | .04 | .0001 | .0001 |
| %RSD | 197.9 | 25.70 | 1.158 | .7746 | .5564 | .1312 | 6.561 | .1637 | .9332 | 5.722 |
| #1 | .0002 | .0009 | .6051 | 4.807 | 13.44 | 9.221 | .0017 | 27.00 | .0133 | -.0022 |
| #2 | -.0014 | .0006 | .6151 | 4.860 | 13.54 | 9.204 | .0018 | 27.06 | .0131 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0050 | .0513 | 2.084 | .0013 | .0054 | 9.540 | -.0004 | .5730 | .0009 | -.0014 |
| Stddev | .0012 | .0021 | .011 | .0001 | .0003 | .009 | .0002 | .0002 | .0002 | .0003 |
| %RSD | 24.31 | 4.040 | .5178 | 10.52 | 4.896 | .0953 | 43.40 | .1701 | 26.60 | 21.61 |
| #1 | -.0059 | .0527 | 2.091 | .0012 | .0052 | 9.534 | -.0005 | .5723 | .0007 | -.0012 |
| #2 | -.0041 | .0498 | 2.076 | .0014 | .0056 | 9.546 | -.0003 | .5736 | .0011 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0017 | -.0118 | .0124 | -.0521 |
| Stddev | .0003 | .0068 | .0001 | .0005 |
| %RSD | 19.12 | 57.61 | .6390 | .8964 |
| #1 | -.0020 | -.0070 | .0124 | -.0517 |
| #2 | -.0015 | -.0166 | .0125 | -.0524 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1192.0 | 35361. | 17477. |
| Stddev | 1.0 | 19. | 33. |
| %RSD | .08056 | .05481 | .18910 |
| #1 | 1192.7 | 35348. | 17501. |
| #2 | 1191.3 | 35375. | 17454. |

Zoom In Zoom Out

Sample Name: MC25568-8F Acquired: 10/31/2013 14:21:10 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0079 | .0598 | -.0007 | .0569 | .0213 | .0000 | 16.94 | .0000 | .0060 |
| Stddev | .0000 | .0002 | .0045 | .0001 | .0002 | .0000 | .000 | .01 | .0001 | .0000 |
| %RSD | 1.487 | 2.170 | 7.454 | 9.757 | .3722 | .1116 | 6.786 | .0607 | 1197. | .3799 |
| #1 | -.0002 | .0080 | .0566 | -.0006 | .0571 | .0213 | .0000 | 16.95 | .0001 | .0060 |
| #2 | -.0002 | .0078 | .0629 | -.0007 | .0568 | .0213 | .0000 | 16.94 | -.0001 | .0060 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0002 | 9.461 | 3.025 | 1.875 | .4475 | .0003 | 3.512 | .0002 | -.0015 |
| Stddev | .0007 | .0006 | .011 | .024 | .022 | .0025 | .0000 | .005 | .0002 | .0013 |
| %RSD | 344.0 | 340.3 | .1188 | .8055 | 1.159 | .5556 | 7.896 | .1404 | 101.2 | 85.71 |
| #1 | .0007 | -.0003 | 9.469 | 3.007 | 1.891 | .4457 | .0003 | 3.508 | .0001 | -.0006 |
| #2 | -.0003 | .0006 | 9.453 | 3.042 | 1.860 | .4492 | .0004 | 3.515 | .0004 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0033 | 2.500 | .0002 | .0031 | 3.365 | -.0008 | .0963 | .0005 | -.0006 |
| Stddev | .0011 | .0032 | .003 | .0001 | .0007 | .004 | .0002 | .0001 | .0003 | .0011 |
| %RSD | 79.31 | 97.44 | .1083 | 47.97 | 22.60 | .1059 | 20.66 | .1397 | 64.45 | 195.9 |
| #1 | .0022 | .0055 | 2.502 | .0003 | .0036 | 3.362 | -.0007 | .0962 | .0008 | -.0013 |
| #2 | .0006 | .0010 | 2.498 | .0001 | .0026 | 3.367 | -.0009 | .0964 | .0003 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0016 | -.0007 | .0061 | -.0189 |
| Stddev | .0003 | .0015 | .0001 | .0002 |
| %RSD | 17.24 | 204.3 | 2.371 | 1.249 |
| #1 | .0018 | .0003 | .0060 | -.0191 |
| #2 | .0014 | -.0018 | .0062 | -.0187 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1210.7 | 35584. | 17326. |
| Stddev | 1.8 | 119. | 20. |
| %RSD | .14876 | .33432 | .11467 |
| #1 | 1209.4 | 35668. | 17312. |
| #2 | 1212.0 | 35499. | 17340. |



Zoom In Zoom Out

Sample Name: MC25568-9F Acquired: 10/31/2013 14:26:03 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0015 | .0114 | -.0004 | .0149 | .0085 | .0000 | 9.232 | .0001 | .0030 |
| Stddev | .0000 | .0050 | .0003 | .0004 | .0003 | .0002 | .000 | .015 | .0000 | .0000 |
| %RSD | 1.094 | 335.0 | 2.231 | 114.0 | 1.815 | 2.191 | 2.320 | .1574 | 25.60 | .1476 |
| #1 | -.0005 | -.0050 | .0116 | -.0001 | .0151 | .0083 | .0000 | 9.222 | .0001 | .0030 |
| #2 | -.0005 | .0020 | .0112 | -.0007 | .0147 | .0086 | .0000 | 9.242 | .0001 | .0030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | 4.560 | 1.661 | 1.391 | .5336 | .0004 | 2.675 | -.0001 | -.0017 |
| Stddev | .0003 | .0000 | .026 | .009 | .003 | .0008 | .0001 | .005 | .0001 | .0016 |
| %RSD | 1023. | 13.24 | .5753 | .5358 | .1828 | .1534 | 18.53 | .1929 | 150.7 | 92.94 |
| #1 | -.0002 | .0003 | 4.542 | 1.654 | 1.393 | .5342 | .0004 | 2.671 | -.0001 | -.0006 |
| #2 | .0003 | .0002 | 4.579 | 1.667 | 1.389 | .5331 | .0005 | 2.678 | .0000 | -.0028 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0121 | 1.870 | .0012 | .0017 | 3.921 | .0008 | .0634 | -.0002 | -.0021 |
| Stddev | .0015 | .0081 | .001 | .0002 | .0005 | .001 | .0011 | .0002 | .0004 | .0011 |
| %RSD | 217.5 | 66.99 | .0410 | 18.83 | 27.53 | .0138 | 130.1 | .3813 | 273.5 | 53.11 |
| #1 | -.0004 | .0178 | 1.869 | .0013 | .0014 | 3.921 | .0016 | .0632 | -.0005 | -.0013 |
| #2 | .0017 | .0064 | 1.870 | .0010 | .0021 | 3.921 | .0001 | .0636 | .0001 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | -.0041 | .0124 | -.0214 |
| Stddev | .0001 | .0017 | .0003 | .0002 |
| %RSD | 10.15 | 40.87 | 2.382 | .7843 |
| #1 | .0008 | -.0029 | .0126 | -.0213 |
| #2 | .0010 | -.0053 | .0122 | -.0215 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.6 | 35338. | 17430. |
| Stddev | 1.7 | 176. | 24. |
| %RSD | .13517 | .49902 | .13752 |
| #1 | 1220.4 | 35213. | 17447. |
| #2 | 1222.7 | 35462. | 17413. |



Zoom In Zoom Out

Sample Name: MC25568-10F Acquired: 10/31/2013 14:30:56 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0564 | .1994 | -.0180 | .2400 | .0521 | -.0001 | 86.84 | .0003 | .0093 |
| Stddev | .0002 | .0011 | .0021 | .0012 | .0002 | .0004 | .0000 | .10 | .0001 | .0001 |
| %RSD | 42.15 | 1.871 | 1.067 | 6.803 | .1008 | .6785 | 43.67 | .1185 | 16.62 | 1.357 |
| #1 | -.0006 | -.0557 | .1979 | -.0188 | .2402 | .0518 | -.0001 | 86.77 | .0004 | .0094 |
| #2 | -.0003 | -.0572 | .2009 | -.0171 | .2399 | .0523 | .0000 | 86.92 | .0003 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0006 | 16.35 | 7.224 | 12.79 | 5.839 | .0016 | 30.55 | .0072 | -.0019 |
| Stddev | .0010 | .0003 | .03 | .017 | .04 | .005 | .0000 | .01 | .0004 | .0012 |
| %RSD | 150.9 | 55.39 | .1637 | .2292 | .2838 | .0810 | 2.455 | .0443 | 5.375 | 64.95 |
| #1 | .0000 | .0004 | 16.33 | 7.212 | 12.76 | 5.842 | .0016 | 30.54 | .0069 | -.0027 |
| #2 | -.0014 | .0009 | 16.37 | 7.236 | 12.81 | 5.835 | .0016 | 30.56 | .0075 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0402 | 1.772 | .0008 | .0041 | 9.038 | .0001 | .7864 | .0001 | -.0024 |
| Stddev | .0008 | .0060 | .004 | .0005 | .0007 | .004 | .0005 | .0010 | .0001 | .0002 |
| %RSD | 53.02 | 14.93 | .2050 | 59.99 | 17.19 | .0438 | 570.0 | .1241 | 86.44 | 9.427 |
| #1 | -.0009 | .0445 | 1.775 | .0011 | .0046 | 9.035 | -.0003 | .7871 | .0002 | -.0026 |
| #2 | -.0020 | .0360 | 1.770 | .0004 | .0036 | 9.041 | .0004 | .7857 | .0000 | -.0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0048 | .0048 | -.0490 |
| Stddev | .0000 | .0001 | .0000 | .0001 |
| %RSD | 3.523 | 1.506 | .0799 | .2519 |
| #1 | .0006 | -.0048 | .0048 | -.0491 |
| #2 | .0006 | -.0049 | .0048 | -.0489 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1194.2 | 35096. | 17496. |
| Stddev | 1.2 | 62. | 23. |
| %RSD | .10050 | .17627 | .13097 |
| #1 | 1195.1 | 35053. | 17480. |
| #2 | 1193.4 | 35140. | 17512. |



Zoom In Zoom Out

Sample Name: MC25568-12F Acquired: 10/31/2013 14:35:48 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0183 | .0247 | .0009 | .0203 | .0595 | .0000 | 39.30 | -.0001 | -.0004 |
| Stddev | .0003 | .0054 | .0007 | .0002 | .0001 | .0001 | .0001 | .10 | .0002 | .0001 |
| %RSD | 121.6 | 29.48 | 2.928 | 22.07 | .4564 | .2104 | 440.2 | .2636 | 318.0 | 34.35 |
| #1 | .0000 | .0145 | .0252 | .0008 | .0204 | .0594 | .0000 | 39.23 | .0001 | -.0003 |
| #2 | -.0004 | .0221 | .0242 | .0011 | .0202 | .0596 | .0001 | 39.37 | -.0002 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | .5552 | 4.174 | 3.917 | .1536 | .0016 | 9.832 | -.0001 | -.0021 |
| Stddev | .0003 | .0002 | .0002 | .024 | .016 | .0009 | .0001 | .014 | .0002 | .0009 |
| %RSD | 210.2 | 39.51 | .0397 | .5737 | .4116 | .6071 | 5.950 | .1431 | 340.8 | 41.66 |
| #1 | .0003 | .0008 | .5554 | 4.157 | 3.928 | .1543 | .0015 | 9.822 | -.0002 | -.0027 |
| #2 | -.0001 | .0004 | .5551 | 4.191 | 3.905 | .1530 | .0016 | 9.842 | .0001 | -.0015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0017 | 2.223 | .0009 | .0020 | 3.154 | .0003 | .2802 | .0009 | -.0015 |
| Stddev | .0023 | .0062 | .001 | .0003 | .0001 | .006 | .0005 | .0007 | .0004 | .0004 |
| %RSD | 20440. | 367.4 | .0441 | 36.04 | 6.952 | .1956 | 177.9 | .2580 | 42.25 | 27.09 |
| #1 | -.0016 | .0061 | 2.222 | .0011 | .0019 | 3.158 | -.0001 | .2797 | .0012 | -.0018 |
| #2 | .0017 | -.0027 | 2.223 | .0007 | .0021 | 3.149 | .0006 | .2807 | .0006 | -.0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0035 | .0060 | -.0173 |
| Stddev | .0009 | .0024 | .0002 | .0000 |
| %RSD | 301.9 | 68.00 | 2.743 | .1514 |
| #1 | -.0003 | -.0052 | .0059 | -.0173 |
| #2 | .0009 | -.0018 | .0062 | -.0173 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1211.9 | 35388. | 17263. |
| Stddev | 1.3 | 160. | 18. |
| %RSD | .10545 | .45195 | .10165 |
| #1 | 1211.0 | 35275. | 17276. |
| #2 | 1212.8 | 35501. | 17251. |

Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 14:40:42 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0230 | .8414 | -.0110 | .1024 | .0193 | .0000 | 97.94 | .0012 | .0055 |
| Stddev | .0003 | .0023 | .0008 | .0009 | .0008 | .0000 | .000 | .39 | .0001 | .0001 |
| %RSD | 187.5 | 10.06 | .0991 | 8.596 | .7334 | .2581 | 37.04 | .3986 | 10.46 | 2.693 |
| #1 | -.0003 | -.0247 | .8420 | -.0103 | .1019 | .0193 | -.0001 | 98.21 | .0012 | .0056 |
| #2 | .0000 | -.0214 | .8409 | -.0116 | .1030 | .0193 | .0000 | 97.66 | .0011 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0002 | 16.20 | 3.584 | 12.97 | 2.937 | .0050 | 33.64 | .0040 | -.0019 |
| Stddev | .0004 | .0003 | .08 | .043 | .11 | .004 | .0000 | .22 | .0003 | .0001 |
| %RSD | 80.92 | 170.7 | .4829 | 1.200 | .8161 | .1420 | .5159 | .6397 | 6.561 | 6.690 |
| #1 | .0002 | .0004 | 16.25 | 3.553 | 12.90 | 2.934 | .0050 | 33.79 | .0038 | -.0018 |
| #2 | .0008 | .0000 | 16.14 | 3.614 | 13.05 | 2.940 | .0050 | 33.49 | .0042 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0151 | .3723 | .0020 | .0035 | 16.39 | -.0006 | .4575 | .0007 | -.0015 |
| Stddev | .0012 | .0098 | .0005 | .0009 | .0007 | .01 | .0006 | .0025 | .0004 | .0009 |
| %RSD | 42.21 | 64.58 | .1303 | 44.52 | 19.98 | .0320 | 106.9 | .5379 | 54.20 | 62.43 |
| #1 | -.0037 | .0220 | .3726 | .0026 | .0030 | 16.40 | -.0010 | .4593 | .0004 | -.0021 |
| #2 | -.0020 | .0082 | .3719 | .0014 | .0040 | 16.39 | -.0001 | .4558 | .0009 | -.0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0075 | .0048 | -.0896 |
| Stddev | .0003 | .0055 | .0006 | .0003 |
| %RSD | 56.42 | 73.65 | 11.86 | .3124 |
| #1 | .0003 | -.0114 | .0052 | -.0894 |
| #2 | .0006 | -.0036 | .0044 | -.0898 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1199.8 | 34799. | 17263. |
| Stddev | 2.4 | 59. | 62. |
| %RSD | .20060 | .17045 | .35891 |
| #1 | 1198.1 | 34757. | 17219. |
| #2 | 1201.5 | 34841. | 17307. |



Zoom In Zoom Out

Sample Name: MC25568-14F Acquired: 10/31/2013 14:45:36 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0194 | -.0002 | .0009 | .0014 | .0000 | .0000 | .0148 | .0001 | -.0002 |
| Stddev | .0000 | .0026 | .0007 | .0006 | .0004 | .0001 | .000 | .0010 | .0001 | .0000 |
| %RSD | 1.113 | 13.44 | 332.7 | 65.68 | 26.18 | 222.1 | 1851. | 6.870 | 104.9 | 3.110 |
| #1 | -.0006 | .0175 | .0003 | .0013 | .0012 | .0000 | .0000 | .0140 | .0002 | -.0002 |
| #2 | -.0006 | .0212 | -.0007 | .0005 | .0017 | .0001 | .0000 | .0155 | .0000 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0003 | .0062 | .0245 | -.0192 | .0003 | -.0001 | .0148 | -.0002 | -.0010 |
| Stddev | .0000 | .0005 | .0009 | .0370 | .0021 | .0000 | .0001 | .0027 | .0004 | .0003 |
| %RSD | .3339 | 155.6 | 14.55 | 151.0 | 11.12 | 5.886 | 135.4 | 18.41 | 212.7 | 31.23 |
| #1 | .0009 | -.0007 | .0056 | .0506 | -.0207 | .0003 | -.0001 | .0167 | -.0004 | -.0008 |
| #2 | .0009 | .0000 | .0068 | -.0017 | -.0177 | .0003 | .0000 | .0128 | .0001 | -.0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0007 | .0008 | .0008 | .0031 | .0137 | .0005 | .0001 | -.0003 | -.0011 |
| Stddev | .0002 | .0066 | .0005 | .0009 | .0007 | .0004 | .0006 | .0000 | .0006 | .0005 |
| %RSD | 39.05 | 999.1 | 59.97 | 122.1 | 22.31 | 2.898 | 111.0 | 17.55 | 217.0 | 43.09 |
| #1 | .0004 | .0040 | .0005 | .0001 | .0026 | .0140 | .0001 | .0001 | .0002 | -.0014 |
| #2 | .0007 | -.0053 | .0012 | .0014 | .0036 | .0135 | .0009 | .0001 | -.0007 | -.0007 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0006 | .0059 | .0000 |
| Stddev | .0002 | .0003 | .0001 | .000 |
| %RSD | 22840. | 48.73 | 2.118 | 69.85 |
| #1 | .0002 | -.0004 | .0058 | .0000 |
| #2 | -.0002 | -.0008 | .0060 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1221.9 | 35209. | 17304. |
| Stddev | 2.3 | 55. | 69. |
| %RSD | .18963 | .15578 | .39628 |
| #1 | 1220.3 | 35248. | 17256. |
| #2 | 1223.5 | 35170. | 17353. |





Zoom In Zoom Out

Sample Name: MC25568-15F Acquired: 10/31/2013 14:50:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0476 | .0322 | -.0005 | .0284 | .0146 | .0000 | 24.70 | -.0001 | .0004 |
| Stddev | .0001 | .0109 | .0020 | .0003 | .0003 | .0000 | .000 | .01 | .0000 | .0001 |
| %RSD | 38.50 | 22.86 | 6.085 | 61.16 | 1.121 | .0476 | 15.67 | .0262 | 50.77 | 12.20 |
| #1 | -.0003 | .0553 | .0308 | -.0003 | .0281 | .0146 | .0000 | 24.70 | -.0001 | .0004 |
| #2 | -.0005 | .0399 | .0336 | -.0007 | .0286 | .0146 | .0000 | 24.70 | .0000 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0005 | 8.888 | 2.551 | 2.516 | .4394 | .0002 | 6.282 | .0000 | -.0023 |
| Stddev | .0004 | .0002 | .000 | .037 | .011 | .0015 | .0000 | .034 | .000 | .0000 |
| %RSD | 36.50 | 33.18 | .0025 | 1.456 | .4460 | .3527 | 21.50 | .5436 | 702.5 | 1.245 |
| #1 | .0013 | -.0006 | 8.888 | 2.577 | 2.508 | .4405 | .0002 | 6.306 | -.0001 | -.0023 |
| #2 | .0008 | -.0003 | 8.888 | 2.524 | 2.524 | .4383 | .0002 | 6.257 | .0001 | -.0023 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0036 | .7309 | .0013 | .0027 | 2.613 | .0000 | .1468 | .0003 | -.0020 |
| Stddev | .0004 | .0018 | .0053 | .0009 | .0014 | .000 | .001 | .0004 | .0001 | .0005 |
| %RSD | 41.10 | 49.74 | .7236 | 74.10 | 54.34 | .0041 | 3800. | .2639 | 38.35 | 26.62 |
| #1 | -.0014 | .0023 | .7346 | .0019 | .0037 | 2.613 | .0003 | .1471 | .0004 | -.0024 |
| #2 | -.0008 | .0048 | .7272 | .0006 | .0016 | 2.613 | -.0003 | .1465 | .0002 | -.0016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0012 | .0060 | -.0131 |
| Stddev | .0004 | .0033 | .0001 | .0003 |
| %RSD | 49.92 | 267.1 | 2.304 | 2.261 |
| #1 | .0011 | .0011 | .0061 | -.0129 |
| #2 | .0005 | -.0036 | .0059 | -.0133 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1217.1 | 35050. | 17345. |
| Stddev | 1.8 | 60. | 34. |
| %RSD | .15036 | .17189 | .19564 |
| #1 | 1215.8 | 35007. | 17369. |
| #2 | 1218.4 | 35093. | 17321. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 14:55:27 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2537 | 9.594 | 1.838 | -.0062 | 1.894 | 1.864 | 2.027 | 9.509 | 1.925 |
| Stddev | .0005 | .037 | .001 | .0003 | .003 | .004 | .006 | .005 | .004 |
| %RSD | .2123 | .3909 | .0393 | 4.709 | .1298 | .2304 | .3061 | .0528 | .1914 |
| #1 | .2540 | 9.620 | 1.838 | -.0064 | 1.896 | 1.867 | 2.031 | 9.506 | 1.928 |
| #2 | .2533 | 9.567 | 1.839 | -.0060 | 1.893 | 1.861 | 2.022 | 9.513 | 1.923 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.924 | 2.182 | 2.018 | 9.334 | 9.685 | 9.801 | 2.108 | 1.835 | 9.511 |
| Stddev | .003 | .001 | .001 | .006 | .015 | .015 | .003 | .001 | .016 |
| %RSD | .1560 | .0284 | .0381 | .0640 | .1578 | .1491 | .1584 | .0282 | .1637 |
| #1 | 1.926 | 2.182 | 2.019 | 9.338 | 9.696 | 9.811 | 2.111 | 1.835 | 9.522 |
| #2 | 1.922 | 2.181 | 2.018 | 9.329 | 9.675 | 9.791 | 2.106 | 1.836 | 9.500 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.764 | 1.824 | .0035 | -.0026 | -.0041 | 1.830 | 1.819 | -.0151 | 1.919 |
| Stddev | .003 | .003 | .0019 | .0075 | .0021 | .008 | .003 | .0002 | .003 |
| %RSD | .1436 | .1586 | 53.71 | 289.2 | 52.88 | .4571 | .1353 | 1.206 | .1783 |
| #1 | 1.765 | 1.826 | .0021 | -.0079 | -.0056 | 1.836 | 1.821 | -.0149 | 1.921 |
| #2 | 1.762 | 1.822 | .0048 | .0027 | -.0025 | 1.824 | 1.817 | -.0152 | 1.916 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.981 | 1.954 | 1.872 | 2.011 | -.0041 | 1.828 | -.0037 |
| Stddev | .005 | .002 | .004 | .000 | .0027 | .004 | .0000 |
| %RSD | .2646 | .1092 | .1975 | .0199 | 66.33 | .2049 | .8464 |
| #1 | 1.985 | 1.952 | 1.875 | 2.011 | -.0060 | 1.830 | -.0036 |
| #2 | 1.978 | 1.955 | 1.869 | 2.012 | -.0022 | 1.825 | -.0037 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.0 | 34561. | 17334. |
| Stddev | 1.2 | 68. | 18. |
| %RSD | .09245 | .19683 | .10628 |
| #1 | 1257.2 | 34609. | 17347. |
| #2 | 1258.8 | 34513. | 17321. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 15:00:09 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0018 | .0001 | .0012 | .0019 | .0001 | .0001 | .0002 | .0001 | .0001 |
| Stddev | .0000 | .0045 | .0009 | .0007 | .0002 | .0000 | .0001 | .0005 | .0000 | .0000 |
| %RSD | 4.089 | 245.6 | 1434. | 59.97 | 9.469 | 47.31 | 135.1 | 240.8 | 24.00 | 40.40 |
| #1 | -.0007 | -.0014 | -.0006 | .0007 | .0020 | .0000 | .0000 | -.0001 | .0001 | .0001 |
| #2 | -.0007 | .0051 | .0007 | .0018 | .0017 | .0001 | .0001 | .0005 | .0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0012 | .0035 | .0132 | .0168 | .0002 | .0024 | .0082 | .0002 | -.0008 |
| Stddev | .0010 | .0001 | .0004 | .0122 | .0110 | .0001 | .0006 | .0037 | .0000 | .0000 |
| %RSD | 161.1 | 6.318 | 12.94 | 92.50 | 65.65 | 53.47 | 24.70 | 45.27 | 6.832 | 3.349 |
| #1 | .0013 | -.0011 | .0038 | .0046 | .0246 | .0001 | .0028 | .0056 | .0002 | -.0008 |
| #2 | -.0001 | -.0012 | .0031 | .0218 | .0090 | .0003 | .0020 | .0109 | .0002 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0052 | -.0001 | .0009 | -.0010 | -.0045 | .0005 | .0001 | .0005 | .0019 |
| Stddev | .0010 | .0017 | .0004 | .0006 | .0005 | .0004 | .0002 | .0000 | .0001 | .0007 |
| %RSD | 459.2 | 33.30 | 480.4 | 71.87 | 46.68 | 9.815 | 33.68 | 18.72 | 30.19 | 37.57 |
| #1 | -.0009 | .0064 | .0002 | .0013 | -.0007 | -.0042 | .0006 | .0002 | .0005 | .0024 |
| #2 | .0005 | .0040 | -.0004 | .0004 | -.0013 | -.0048 | .0004 | .0001 | .0004 | .0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0058 | .0010 | .0015 |
| Stddev | .0003 | .0031 | .0000 | .0002 |
| %RSD | 111.0 | 53.62 | 2.132 | 12.48 |
| #1 | .0001 | -.0036 | .0010 | .0013 |
| #2 | .0005 | -.0080 | .0010 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.3 | 35149. | 17095. |
| Stddev | 1.2 | 80. | 63. |
| %RSD | .09730 | .22700 | .36727 |
| #1 | 1246.2 | 35093. | 17050. |
| #2 | 1244.5 | 35206. | 17139. |



Zoom In Zoom Out

Sample Name: MC25568-16F Acquired: 10/31/2013 15:16:40 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0909 | .1054 | -.0309 | .2279 | .0278 | .0000 | 80.98 | .0001 | .0135 |
| Stddev | .0007 | .0027 | .0003 | .0007 | .0005 | .0001 | .000 | .07 | .0000 | .0001 |
| %RSD | 131.0 | 3.012 | .3148 | 2.359 | .2160 | .2338 | 8.729 | .0851 | 22.19 | .7238 |
| #1 | .0000 | -.0889 | .1057 | -.0314 | .2283 | .0277 | .0000 | 80.94 | .0001 | .0136 |
| #2 | -.0010 | -.0928 | .1052 | -.0303 | .2276 | .0278 | .0000 | 81.03 | .0002 | .0134 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0001 | 18.43 | 5.249 | 11.54 | 10.09 | .0013 | 33.44 | .0062 | -.0021 |
| Stddev | .0004 | .0001 | .02 | .097 | .01 | .04 | .0002 | .07 | .0004 | .0004 |
| %RSD | 30.92 | 79.54 | .1353 | 1.847 | .1012 | .3716 | 15.17 | .2136 | 6.413 | 17.94 |
| #1 | -.0011 | .0001 | 18.45 | 5.180 | 11.54 | 10.12 | .0011 | 33.39 | .0059 | -.0024 |
| #2 | -.0017 | .0000 | 18.41 | 5.317 | 11.53 | 10.07 | .0014 | 33.49 | .0065 | -.0018 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0572 | .9383 | .0017 | .0043 | 7.927 | -.0003 | .8376 | .0006 | -.0018 |
| Stddev | .0024 | .0067 | .0054 | .0009 | .0015 | .014 | .0003 | .0009 | .0002 | .0001 |
| %RSD | 95.87 | 11.69 | .5802 | 54.82 | 35.53 | .1705 | 100.3 | .1016 | 30.44 | 4.464 |
| #1 | -.0043 | .0619 | .9344 | .0024 | .0054 | 7.917 | -.0001 | .8370 | .0008 | -.0018 |
| #2 | -.0008 | .0524 | .9421 | .0011 | .0032 | 7.937 | -.0006 | .8382 | .0005 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0024 | .0063 | -.0426 |
| Stddev | .0007 | .0010 | .0000 | .0009 |
| %RSD | 220.4 | 41.26 | .1285 | 1.999 |
| #1 | .0008 | -.0030 | .0063 | -.0420 |
| #2 | -.0002 | -.0017 | .0063 | -.0432 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1207.9 | 34666. | 17273. |
| Stddev | 1.3 | 159. | 1. |
| %RSD | .10763 | .45921 | .00332 |
| #1 | 1208.8 | 34554. | 17273. |
| #2 | 1207.0 | 34779. | 17272. |



Zoom In Zoom Out

Sample Name: MC25594-2F Acquired: 10/31/2013 15:21:39 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0135 | .0316 | -.0050 | .0214 | .0159 | .0000 | 21.28 | .0000 | .0087 |
| Stddev | .0003 | .0041 | .0013 | .0004 | .0002 | .0001 | .000 | .05 | .0001 | .0001 |
| %RSD | 82.68 | 30.25 | 3.974 | 7.693 | .9225 | .5580 | 35.08 | .2325 | 989.4 | 1.459 |
| #1 | -.0006 | -.0106 | .0325 | -.0053 | .0213 | .0160 | .0000 | 21.31 | .0001 | .0086 |
| #2 | -.0001 | -.0164 | .0307 | -.0047 | .0216 | .0159 | .0000 | 21.24 | .0000 | .0088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0000 | 8.382 | 3.260 | 3.670 | 1.630 | .0000 | 2.973 | .0055 | -.0014 |
| Stddev | .0000 | .0004 | .027 | .033 | .007 | .003 | .000 | .029 | .0002 | .0004 |
| %RSD | 2.192 | 20650. | .3192 | 1.018 | .1982 | .1525 | 598.0 | .9606 | 3.296 | 27.29 |
| #1 | -.0012 | .0003 | 8.363 | 3.237 | 3.675 | 1.632 | .0001 | 2.993 | .0056 | -.0011 |
| #2 | -.0012 | -.0003 | 8.400 | 3.284 | 3.665 | 1.629 | -.0002 | 2.953 | .0054 | -.0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0067 | 5.308 | .0007 | .0000 | 6.339 | .0004 | .1343 | .0006 | -.0011 |
| Stddev | .0027 | .0015 | .010 | .0010 | .0013 | .011 | .0002 | .0002 | .0000 | .0005 |
| %RSD | 381.9 | 22.41 | .1947 | 145.5 | 10700. | .1725 | 57.75 | .1779 | 6.286 | 52.32 |
| #1 | .0026 | .0077 | 5.315 | .0014 | .0010 | 6.331 | .0002 | .1345 | .0006 | -.0007 |
| #2 | -.0012 | .0056 | 5.301 | .0000 | -.0009 | 6.346 | .0006 | .1341 | .0005 | -.0014 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0035 | .0090 | -.0340 |
| Stddev | .0001 | .0004 | .0002 | .0002 |
| %RSD | 8.640 | 11.59 | 2.720 | .6473 |
| #1 | .0009 | -.0038 | .0092 | -.0339 |
| #2 | .0011 | -.0032 | .0089 | -.0342 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1232.9 | 34889. | 17319. |
| Stddev | .1 | 89. | 54. |
| %RSD | .00709 | .25424 | .31182 |
| #1 | 1233.0 | 34826. | 17281. |
| #2 | 1232.9 | 34952. | 17357. |



Zoom In Zoom Out

Sample Name: MC25594-3F Acquired: 10/31/2013 15:26:33 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0050 | .1420 | .0007 | .0637 | .0155 | .0000 | 15.79 | .0000 | .0050 |
| Stddev | .0003 | .0004 | .0002 | .0001 | .0005 | .0001 | .000 | .11 | .0000 | .0002 |
| %RSD | 86.87 | 7.951 | .1746 | 12.84 | .7933 | .9262 | 195.4 | .7000 | 113.2 | 4.391 |
| #1 | -.0001 | .0053 | .1418 | .0007 | .0641 | .0154 | -.0001 | 15.87 | .0001 | .0049 |
| #2 | -.0006 | .0048 | .1422 | .0006 | .0633 | .0157 | .0000 | 15.72 | .0000 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0002 | 14.72 | 5.293 | 1.772 | .5746 | .0011 | 5.083 | .0038 | -.0003 |
| Stddev | .0009 | .0002 | .04 | .012 | .019 | .0008 | .0003 | .018 | .0002 | .0005 |
| %RSD | 103.1 | 141.4 | .2612 | .2259 | 1.051 | .1423 | 24.21 | .3528 | 6.498 | 211.5 |
| #1 | -.0015 | -.0003 | 14.75 | 5.284 | 1.785 | .5752 | .0009 | 5.071 | .0036 | .0001 |
| #2 | -.0002 | .0000 | 14.70 | 5.301 | 1.758 | .5741 | .0013 | 5.096 | .0040 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | .0076 | 1.306 | .0003 | .0012 | 4.159 | .0002 | .1367 | .0001 | -.0017 |
| Stddev | .0014 | .0004 | .001 | .0000 | .0004 | .004 | .0008 | .0000 | .0000 | .0008 |
| %RSD | 70.50 | 5.153 | .0737 | 3.676 | 36.03 | .1049 | 411.6 | .0122 | 70.19 | 47.78 |
| #1 | .0010 | .0078 | 1.305 | .0003 | .0015 | 4.156 | -.0004 | .1367 | .0001 | -.0023 |
| #2 | .0029 | .0073 | 1.307 | .0003 | .0009 | 4.162 | .0008 | .1367 | .0000 | -.0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0077 | .0221 | -.0226 |
| Stddev | .0000 | .0010 | .0000 | .0001 |
| %RSD | .1218 | 13.54 | .0974 | .4121 |
| #1 | .0010 | -.0085 | .0221 | -.0226 |
| #2 | .0010 | -.0070 | .0221 | -.0225 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1227.7 | 35287. | 17433. |
| Stddev | 2.3 | 17. | 83. |
| %RSD | .18863 | .04755 | .47781 |
| #1 | 1229.4 | 35299. | 17374. |
| #2 | 1226.1 | 35276. | 17492. |

Zoom In Zoom Out

Sample Name: MC25594-4F Acquired: 10/31/2013 15:31:26 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0070 | 2.952 | -.0018 | .1158 | .0305 | .0000 | 36.49 | .0035 | .0092 |
| Stddev | .0001 | .0011 | .016 | .0003 | .0007 | .0001 | .000 | .14 | .0001 | .0001 |
| %RSD | 8.760 | 15.82 | .5492 | 16.59 | .5642 | .4736 | 49.26 | .3705 | 4.037 | 1.243 |
| #1 | -.0006 | -.0063 | 2.940 | -.0016 | .1153 | .0304 | .0000 | 36.40 | .0034 | .0091 |
| #2 | -.0005 | -.0078 | 2.963 | -.0020 | .1162 | .0306 | .0000 | 36.59 | .0036 | .0093 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0006 | 28.06 | 6.589 | 5.608 | .9114 | .0085 | 15.07 | .0151 | -.0012 |
| Stddev | .0009 | .0003 | .07 | .018 | .010 | .0003 | .0001 | .00 | .0001 | .0004 |
| %RSD | 173.7 | 61.32 | .2508 | .2696 | .1833 | .0361 | 1.365 | .0011 | .8510 | 31.18 |
| #1 | -.0012 | .0003 | 28.01 | 6.576 | 5.615 | .9117 | .0084 | 15.07 | .0152 | -.0015 |
| #2 | .0001 | .0008 | 28.11 | 6.602 | 5.601 | .9112 | .0085 | 15.07 | .0150 | -.0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0054 | 1.550 | .0016 | .0023 | 9.995 | .0000 | .3759 | .0003 | -.0022 |
| Stddev | .0003 | .0028 | .001 | .0006 | .0006 | .057 | .000 | .0003 | .0003 | .0007 |
| %RSD | 13.07 | 52.15 | .0403 | 35.67 | 24.61 | .5735 | 418.5 | .0912 | 115.4 | 30.77 |
| #1 | .0020 | .0074 | 1.551 | .0012 | .0027 | 9.954 | .0001 | .3762 | .0001 | -.0027 |
| #2 | .0024 | .0034 | 1.550 | .0020 | .0019 | 10.04 | -.0002 | .3757 | .0005 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0023 | .0082 | .0146 | -.0538 |
| Stddev | .0002 | .0022 | .0004 | .0001 |
| %RSD | 9.654 | 27.35 | 2.433 | .2307 |
| #1 | .0024 | .0066 | .0144 | -.0537 |
| #2 | .0021 | .0098 | .0149 | -.0539 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1223.3 | 34754. | 17196. |
| Stddev | 3.8 | 20. | 77. |
| %RSD | .31421 | .05655 | .44630 |
| #1 | 1226.0 | 34740. | 17250. |
| #2 | 1220.6 | 34768. | 17141. |



Zoom In Zoom Out

Sample Name: MC25594-5F Acquired: 10/31/2013 15:36:19 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0003 | .0006 | .0001 | .0020 | .0001 | .0000 | .0184 | .0000 | -.0003 |
| Stddev | .0002 | .0000 | .0006 | .0006 | .0002 | .0001 | .000 | .0016 | .000 | .0002 |
| %RSD | 80.22 | 2.358 | 95.94 | 739.9 | 11.08 | 155.3 | 5676. | 8.578 | 52.50 | 56.91 |
| #1 | -.0004 | .0003 | .0010 | -.0003 | .0019 | .0001 | .0000 | .0173 | .0000 | -.0004 |
| #2 | -.0001 | .0003 | .0002 | .0005 | .0022 | .0000 | .0000 | .0195 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0006 | .0041 | .0167 | .0046 | .0002 | .0002 | .0152 | -.0002 | -.0006 |
| Stddev | .0013 | .0004 | .0010 | .0133 | .0033 | .0000 | .0001 | .0027 | .0003 | .0012 |
| %RSD | 1408. | 71.71 | 23.68 | 79.59 | 70.69 | 22.94 | 35.66 | 17.75 | 181.3 | 204.5 |
| #1 | .0010 | -.0003 | .0034 | .0073 | .0069 | .0002 | .0003 | .0133 | .0000 | -.0015 |
| #2 | -.0008 | -.0009 | .0048 | .0261 | .0023 | .0002 | .0002 | .0171 | -.0004 | .0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0127 | .0015 | .0006 | .0006 | .0164 | .0005 | .0001 | -.0001 | -.0020 |
| Stddev | .0008 | .0003 | .0002 | .0000 | .0014 | .0004 | .0001 | .0000 | .0004 | .0003 |
| %RSD | 59.50 | 2.584 | 14.60 | .2544 | 223.3 | 2.344 | 15.25 | 4.848 | 525.4 | 16.96 |
| #1 | .0020 | .0124 | .0017 | .0006 | .0016 | .0167 | .0004 | .0001 | -.0004 | -.0018 |
| #2 | .0008 | .0129 | .0014 | .0006 | -.0004 | .0161 | .0005 | .0001 | .0002 | -.0022 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0007 | .0052 | .0000 |
| Stddev | .0003 | .0017 | .0003 | .0005 |
| %RSD | 1612. | 238.2 | 4.905 | 960.9 |
| #1 | .0002 | -.0020 | .0050 | .0004 |
| #2 | -.0002 | .0005 | .0054 | -.0003 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1219.6 | 35169. | 17307. |
| Stddev | 3.1 | 79. | 49. |
| %RSD | .25723 | .22489 | .28154 |
| #1 | 1217.4 | 35113. | 17273. |
| #2 | 1221.8 | 35225. | 17341. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 15:41:18 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0046 | .2042 | .0040 | .0006 | .1012 | .0504 | .0044 | 4.974 | .0042 | .0515 |
| Stddev | .0001 | .0060 | .0007 | .0002 | .0003 | .0001 | .0000 | .015 | .0001 | .0002 |
| %RSD | 2.527 | 2.939 | 16.84 | 27.45 | .2542 | .2432 | .2520 | .3030 | 3.084 | .2999 |
| #1 | .0047 | .2084 | .0035 | .0008 | .1011 | .0503 | .0044 | 4.985 | .0043 | .0513 |
| #2 | .0046 | .1999 | .0045 | .0005 | .1014 | .0505 | .0044 | 4.964 | .0041 | .0516 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0118 | .0251 | .1010 | 5.005 | 5.027 | .0167 | .0983 | 4.893 | .0383 | .0047 |
| Stddev | .0006 | .0000 | .0008 | .027 | .034 | .0002 | .0005 | .006 | .0001 | .0001 |
| %RSD | 4.827 | .0495 | .7559 | .5479 | .6765 | 1.007 | .5402 | .1160 | .3358 | 2.669 |
| #1 | .0114 | .0251 | .1004 | 5.025 | 5.051 | .0166 | .0979 | 4.889 | .0382 | .0046 |
| #2 | .0122 | .0250 | .1015 | 4.986 | 5.003 | .0168 | .0986 | 4.897 | .0384 | .0048 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0033 | -.0004 | .0064 | .0110 | .0044 | .0986 | .0106 | .0509 | .0055 |
| Stddev | .0015 | .0055 | .0005 | .0007 | .0003 | .0002 | .0002 | .0000 | .0010 | .0002 |
| %RSD | 1530. | 163.8 | 125.6 | 11.52 | 2.948 | 4.471 | .2299 | .2674 | 2.020 | 3.453 |
| #1 | .0010 | -.0005 | .0000 | .0069 | .0113 | .0043 | .0987 | .0106 | .0502 | .0056 |
| #2 | -.0012 | .0072 | -.0007 | .0058 | .0108 | .0046 | .0984 | .0106 | .0517 | .0054 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0105 | -.0009 | .0203 | .0005 |
| Stddev | .0002 | .0009 | .0001 | .0009 |
| %RSD | 1.741 | 102.1 | .6684 | 169.0 |
| #1 | .0107 | -.0015 | .0202 | -.0001 |
| #2 | .0104 | -.0002 | .0204 | .0012 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1246.3 | 35600. | 17332. |
| Stddev | 7.7 | 137. | 36. |
| %RSD | .61972 | .38494 | .20664 |
| #1 | 1251.8 | 35697. | 17306. |
| #2 | 1240.9 | 35503. | 17357. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 15:46:12 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2525 | 9.698 | 1.876 | -.0077 | 1.916 | 1.906 | 2.043 | 9.727 | 1.941 | 1.957 |
| Stddev | .0018 | .046 | .006 | .0008 | .001 | .005 | .003 | .006 | .003 | .002 |
| %RSD | .7001 | .4703 | .2989 | 9.851 | .0302 | .2620 | .1644 | .0663 | .1447 | .1095 |
| #1 | .2512 | 9.731 | 1.880 | -.0082 | 1.917 | 1.910 | 2.046 | 9.732 | 1.943 | 1.958 |
| #2 | .2537 | 9.666 | 1.872 | -.0071 | 1.916 | 1.903 | 2.041 | 9.723 | 1.939 | 1.955 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.165 | 2.016 | 9.525 | 9.815 | 9.894 | 2.092 | 1.868 | 9.685 | 1.806 | 1.853 |
| Stddev | .003 | .003 | .017 | .026 | .001 | .008 | .001 | .013 | .003 | .002 |
| %RSD | .1393 | .1347 | .1749 | .2650 | .0107 | .3956 | .0333 | .1320 | .1365 | .0849 |
| #1 | 2.163 | 2.015 | 9.537 | 9.797 | 9.894 | 2.086 | 1.869 | 9.694 | 1.807 | 1.854 |
| #2 | 2.167 | 2.018 | 9.513 | 9.833 | 9.893 | 2.098 | 1.868 | 9.676 | 1.804 | 1.852 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0032 | .0047 | -.0042 | 1.863 | 1.863 | -.0128 | 1.938 | 2.010 | 1.970 | 1.899 |
| Stddev | .0001 | .0047 | .0001 | .001 | .005 | .0004 | .006 | .006 | .004 | .004 |
| %RSD | 2.156 | 98.51 | 1.247 | .0448 | .2709 | 3.287 | .3111 | .2870 | .1798 | .2191 |
| #1 | .0032 | .0014 | -.0041 | 1.864 | 1.866 | -.0125 | 1.942 | 2.014 | 1.968 | 1.902 |
| #2 | .0031 | .0081 | -.0042 | 1.863 | 1.859 | -.0131 | 1.934 | 2.006 | 1.973 | 1.896 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.021 | -.0057 | 1.856 | -.0061 |
| Stddev | .002 | .0065 | .004 | .0001 |
| %RSD | .0895 | 113.6 | .2274 | 2.218 |
| #1 | 2.020 | -.0011 | 1.859 | -.0062 |
| #2 | 2.023 | -.0104 | 1.853 | -.0060 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1245.3 | 34906. | 17405. |
| Stddev | .7 | 13. | 8. |
| %RSD | .05715 | .03705 | .04437 |
| #1 | 1244.8 | 34897. | 17410. |
| #2 | 1245.9 | 34915. | 17400. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/31/2013 15:50:56 Type: Unk
Method: Accutest -SS2 with S(v121) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0005 | .0015 | .0011 | .0026 | .0003 | .0002 | .0020 | .0003 |
| Stddev | .0003 | .0019 | .0012 | .0009 | .0004 | .0000 | .0000 | .0012 | .0001 |
| %RSD | 243.2 | 339.9 | 77.41 | 79.98 | 14.83 | 7.186 | 10.43 | 57.96 | 21.91 |
| #1 | .0001 | -.0019 | .0007 | .0017 | .0028 | .0003 | .0002 | .0028 | .0003 |
| #2 | -.0004 | .0008 | .0024 | .0005 | .0023 | .0004 | .0003 | .0012 | .0004 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0011 | .0000 | .0045 | .0066 | .0002 | .0005 | .0030 | .0050 |
| Stddev | .0001 | .0004 | .001 | .0003 | .0013 | .0087 | .0000 | .0006 | .0008 |
| %RSD | 21.35 | 33.85 | 4126. | 5.640 | 19.49 | 5681. | 1.173 | 19.71 | 16.85 |
| #1 | .0006 | .0014 | -.0004 | .0047 | .0057 | .0063 | .0005 | .0034 | .0056 |
| #2 | .0004 | .0008 | .0004 | .0043 | .0076 | -.0060 | .0005 | .0025 | .0044 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0008 | .0002 | .0014 | .0001 | .0005 | .0000 | -.0027 | .0004 |
| Stddev | .0002 | .0010 | .0000 | .0056 | .0001 | .0002 | .0001 | .0005 | .0002 |
| %RSD | 46.46 | 116.6 | 14.88 | 396.7 | 173.5 | 38.04 | 402.4 | 18.29 | 52.06 |
| #1 | .0002 | .0015 | .0002 | -.0025 | .0000 | .0004 | .0000 | -.0030 | .0005 |
| #2 | .0005 | .0001 | .0002 | .0053 | .0002 | .0007 | .0001 | -.0023 | .0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | F.0021 | .0005 | -.0050 | .0014 | .0005 |
| Stddev | .0000 | .0000 | .0003 | .0000 | .0046 | .0003 | .0004 |
| %RSD | 6.846 | 3.281 | 12.25 | 6.272 | 91.47 | 20.39 | 87.58 |
| #1 | .0003 | .0007 | .0023 | .0005 | -.0018 | .0012 | .0002 |
| #2 | .0004 | .0007 | .0020 | .0006 | -.0083 | .0016 | .0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1237.2 | 35773. | 17350. |
| Stddev | 2.1 | 150. | 8. |
| %RSD | .16636 | .41940 | .04342 |
| #1 | 1238.7 | 35879. | 17344. |
| #2 | 1235.8 | 35667. | 17355. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000001 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000002 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000000 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000568 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | | Fe | 0.000030 | 0.000000 | No |
| | | | | Ca | 0.000000 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000055 | 0.000000 | No |
| | | | | Mn | 0.000111 | 0.000000 | No |
| | | | | Mo | -0.001080 | 0.000000 | No |
| | | | | Co | 0.000023 | 0.000000 | No |
| | | | | Cu | -0.000002 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000058 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Ni | 0.000029 | 0.000000 | No |
| | | | | Si | 0.000132 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000342 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.006177 | 0.000000 | No |
| | | | | Ni | -0.000225 | 0.000000 | No |
| | | | | Mn | -0.008486 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | S 182.034 {485} | ☒ | None | | | | |
| | Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | | Fe | 0.000028 | 0.000000 | No |
| | | | | Cr | 0.003719 | 0.000000 | No |
| | | | | Mo | -0.001502 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000192 | 0.000000 | No |
| | | | | V | -0.001150 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | | | | Ti | -0.000072 | 0.000000 | No |
| | | | | Cu | 0.000040 | 0.000000 | No |
| | | | | Sn | -0.009353 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 7 | Al | 0.000001 | 0.000000 | No |
| | | | | Fe | -0.000212 | 0.000000 | No |
| | | | | Mn | 0.000070 | 0.000000 | No |
| | | | | Mo | 0.000004 | 0.000000 | No |
| | | | | Ca | -0.000010 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | | | | Co | -0.001109 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | | Ti | 0.012159 | 0.000000 | No |
| | | | | Mo | 0.022364 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | | Cr | 0.000398 | 0.000000 | No |
| | | | | V | -0.025265 | 0.000000 | No |
| | | | | Co | 0.002209 | 0.000000 | No |
| | | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 17:53:47 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0026 | .0008 | -.0003 | -.0001 | .0017 | .0078 | -.0002 | .0024 | .0031 |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0001 | .0001 | .0001 | .0001 | .0003 |
| %RSD | 5.551 | 6.733 | 53.78 | 23.54 | 6.724 | 1.298 | 41.61 | 2.958 | 9.240 |
| #1 | -.0025 | .0008 | -.0004 | -.0001 | .0016 | .0078 | -.0002 | .0023 | .0033 |
| #2 | -.0027 | .0009 | -.0002 | -.0002 | .0018 | .0079 | -.0001 | .0024 | .0029 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0012 | .0001 | .0174 | .0004 | .0002 | -.0001 | .0004 | -.0001 | .0010 |
| Stddev | .0001 | .0000 | .0003 | .0000 | .0008 | .0001 | .0001 | .0002 | .0012 |
| %RSD | 10.03 | 85.98 | 1.765 | 4.609 | 419.4 | 75.62 | 22.83 | 153.6 | 112.4 |
| #1 | -.0011 | .0001 | .0176 | .0005 | .0008 | -.0001 | .0004 | -.0003 | .0002 |
| #2 | -.0013 | .0000 | .0171 | .0004 | -.0004 | -.0002 | .0003 | .0000 | .0018 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0016 | -.0008 | -.0007 | -.0003 | .0033 | .0013 | .0010 | .0329 | .0001 |
| Stddev | .0003 | .0007 | .0003 | .0001 | .0002 | .0002 | .0001 | .0002 | .0000 |
| %RSD | 16.52 | 85.26 | 43.34 | 46.25 | 5.870 | 18.33 | 8.100 | .6019 | 28.43 |
| #1 | -.0018 | -.0003 | -.0005 | -.0002 | .0031 | .0014 | .0010 | .0327 | .0001 |
| #2 | -.0014 | -.0013 | -.0010 | -.0004 | .0034 | .0011 | .0009 | .0330 | .0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0078 | .0002 | -.0034 | -.0002 | .0001 | -.0002 | .0336 |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0001 | .0005 | .0001 |
| %RSD | .8860 | 90.75 | 3.670 | 4.306 | 114.5 | 187.4 | .2531 |
| #1 | .0079 | .0001 | -.0035 | -.0002 | .0001 | .0001 | .0337 |
| #2 | .0078 | .0003 | -.0034 | -.0002 | .0000 | -.0006 | .0336 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 10/31/2013 17:53:47 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1224.1 | 35420. | 17349. |
| Stddev | 1.4 | 96. | 138. |
| %RSD | .11759 | .27083 | .79294 |
| #1 | 1225.1 | 35352. | 17252. |
| #2 | 1223.1 | 35488. | 17447. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 10/31/2013 17:58:45 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2051 | .5469 | 2.733 | 18.83 | 15.35 | 10.72 | 8.801 | .5570 | 3.255 | 4.790 |
| Stddev | .0002 | .0030 | .007 | .14 | .06 | .02 | .027 | .0007 | .000 | .002 |
| %RSD | .1099 | .5571 | .2513 | .7378 | .3752 | .1728 | .3059 | .1276 | .0028 | .0333 |
| #1 | .2050 | .5491 | 2.738 | 18.73 | 15.31 | 10.73 | 8.820 | .5575 | 3.255 | 4.791 |
| #2 | .2053 | .5448 | 2.728 | 18.93 | 15.39 | 10.70 | 8.782 | .5565 | 3.256 | 4.788 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.099 | 5.909 | 2.512 | 1.767 | .8103 | 1.166 | 6.453 |
| Stddev | .017 | .023 | .009 | .006 | .0047 | .001 | .027 |
| %RSD | .2135 | .3939 | .3697 | .3270 | .5752 | .0942 | .4147 |
| #1 | 8.111 | 5.926 | 2.519 | 1.771 | .8136 | 1.167 | 6.472 |
| #2 | 8.087 | 5.893 | 2.505 | 1.763 | .8070 | 1.166 | 6.434 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1212.9 | 34908. | 17328. |
| Stddev | 2.6 | 44. | 56. |
| %RSD | .21262 | .12642 | .32355 |
| #1 | 1211.1 | 34877. | 17367. |
| #2 | 1214.7 | 34939. | 17288. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 10/31/2013 18:03:43 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.445 | 1.631 | 1.364 | .7318 | .1617 | 2.682 |
| Stddev | .002 | .003 | .001 | .0019 | .0001 | .003 |
| %RSD | .1029 | .1536 | .0434 | .2608 | .0436 | .0969 |
| #1 | 1.446 | 1.633 | 1.365 | .7332 | .1617 | 2.684 |
| #2 | 1.444 | 1.629 | 1.364 | .7305 | .1618 | 2.681 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 17270. |
| Stddev | 25. |
| %RSD | .14488 |
| #1 | 17253. |
| #2 | 17288. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 10/31/2013 18:08:39 Type: Cal
Method: Accutest -SS2 with S(v122) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .3455 | .5202 | .0740 | .6852 | 2.346 | 1.505 | 37.46 | 1.277 | 1.122 | .0717 |
| Stddev | .0008 | .0013 | .0000 | .0004 | .002 | .002 | .34 | .002 | .001 | .0001 |
| %RSD | .2338 | .2478 | .0243 | .0596 | .0936 | .1459 | .9196 | .1316 | .0912 | .0996 |
| #1 | .3450 | .5193 | .0739 | .6855 | 2.345 | 1.504 | 37.22 | 1.276 | 1.121 | .0717 |
| #2 | .3461 | .5211 | .0740 | .6849 | 2.348 | 1.507 | 37.70 | 1.278 | 1.123 | .0718 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.897 |
| Stddev | .004 |
| %RSD | .1285 |
| #1 | 2.894 |
| #2 | 2.899 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1239.7 | 34624. | 17159. |
| Stddev | .3 | 59. | 262. |
| %RSD | .02644 | .17017 | 1.5244 |
| #1 | 1239.4 | 34582. | 17344. |
| #2 | 1239.9 | 34666. | 16974. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 10/31/2013 18:13:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4987 | 15.44 | 2.929 | 3.025 | 2.892 | 2.968 | 3.018 | 17.52 | 2.882 | 2.853 |
| Stddev | .0024 | .02 | .002 | .012 | .004 | .004 | .004 | .04 | .001 | .001 |
| %RSD | .4872 | .1020 | .0614 | .3973 | .1276 | .1342 | .1197 | .2180 | .0158 | .0354 |
| #1 | .4970 | 15.43 | 2.927 | 3.017 | 2.895 | 2.971 | 3.016 | 17.50 | 2.881 | 2.852 |
| #2 | .5004 | 15.45 | 2.930 | 3.034 | 2.889 | 2.965 | 3.021 | 17.55 | 2.882 | 2.853 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.189 | 2.972 | 17.64 | 15.37 | 17.79 | 3.068 | 2.737 | 14.87 | 2.714 | 2.781 |
| Stddev | .005 | .004 | .02 | .04 | .03 | .006 | .003 | .04 | .002 | .000 |
| %RSD | .1491 | .1460 | .1224 | .2870 | .1734 | .1999 | .0977 | .2600 | .0560 | .0140 |
| #1 | 3.185 | 2.975 | 17.62 | 15.34 | 17.77 | 3.064 | 2.735 | 14.84 | 2.715 | 2.782 |
| #2 | 3.192 | 2.969 | 17.66 | 15.40 | 17.81 | 3.073 | 2.739 | 14.89 | 2.713 | 2.781 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.016 | 2.985 | 2.908 | 2.805 | 2.847 | 2.950 | 3.012 | 2.934 | 2.993 | 2.840 |
| Stddev | .003 | .003 | .004 | .007 | .005 | .000 | .001 | .002 | .001 | .001 |
| %RSD | .1043 | .0946 | .1275 | .2667 | .1625 | .0064 | .0155 | .0586 | .0187 | .0218 |
| #1 | 3.013 | 2.983 | 2.905 | 2.800 | 2.850 | 2.950 | 3.013 | 2.933 | 2.993 | 2.839 |
| #2 | 3.018 | 2.987 | 2.911 | 2.811 | 2.844 | 2.950 | 3.012 | 2.936 | 2.994 | 2.840 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.967 | 2.878 | 2.803 | 3.014 |
| Stddev | .006 | .019 | .003 | .001 |
| %RSD | .2056 | .6623 | .0978 | .0269 |
| #1 | 2.963 | 2.891 | 2.801 | 3.013 |
| #2 | 2.971 | 2.864 | 2.805 | 3.014 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1243.9 | 33829. | 17121. |
| Stddev | 1.2 | 120. | 8. |
| %RSD | .09299 | .35352 | .04458 |
| #1 | 1243.1 | 33913. | 17116. |
| #2 | 1244.7 | 33744. | 17126. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 10/31/2013 18:19:50 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0053 | -.0008 | .0014 | .0021 | .0002 | .0001 | -.0015 | .0002 |
| Stddev | .000 | .0015 | .0002 | .0007 | .0002 | .0000 | .0000 | .0010 | .0000 |
| %RSD | 10190. | 27.44 | 30.46 | 51.51 | 8.917 | 26.70 | 53.49 | 67.43 | 3.393 |
| #1 | -.0002 | .0063 | -.0009 | .0009 | .0023 | .0002 | .0000 | -.0008 | .0002 |
| #2 | .0002 | .0043 | -.0006 | .0019 | .0020 | .0001 | .0001 | -.0022 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | -.0008 | .0011 | .0210 | .0190 | .0002 | .0029 | .0066 |
| Stddev | .0002 | .0004 | .0005 | .0007 | .0080 | .0199 | .0000 | .0005 | .0056 |
| %RSD | 69.97 | 339.8 | 63.01 | 62.21 | 38.18 | 104.9 | 5.153 | 16.14 | 84.27 |
| #1 | .0001 | .0002 | -.0012 | .0016 | .0153 | .0049 | .0002 | .0032 | .0027 |
| #2 | .0004 | -.0004 | -.0005 | .0006 | .0266 | .0330 | .0002 | .0026 | .0105 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0006 | .0022 | .0060 | .0041 | .0006 | .0017 | -.0005 | .0002 |
| Stddev | .0001 | .0007 | .0005 | .0005 | .0004 | .0013 | .0021 | .0002 | .0001 |
| %RSD | 41.88 | 107.2 | 22.62 | 8.355 | 8.920 | 210.0 | 121.4 | 42.04 | 33.09 |
| #1 | .0002 | .0002 | .0025 | .0057 | .0039 | .0015 | .0002 | -.0006 | .0002 |
| #2 | .0001 | .0011 | .0018 | .0064 | .0044 | -.0003 | .0032 | -.0003 | .0001 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | F.0021 | .0005 | .0160 | .0008 | .0039 |
| Stddev | .0000 | .0002 | .0002 | .0002 | .0032 | .0001 | .0002 |
| %RSD | 14.26 | 46.66 | 8.444 | 35.71 | 20.24 | 10.71 | 4.543 |
| #1 | .0002 | .0006 | .0023 | .0004 | .0137 | .0007 | .0038 |
| #2 | .0001 | .0003 | .0020 | .0006 | .0183 | .0008 | .0041 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1247.0 | 34483. | 16924. |
| Stddev | .6 | 17. | 19. |
| %RSD | .04473 | .04925 | .11102 |
| #1 | 1246.6 | 34471. | 16911. |
| #2 | 1247.4 | 34495. | 16938. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 18:32:29 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2462 | 9.625 | 1.861 | -.0066 | 1.884 | 1.914 | 1.996 | 9.746 | 1.925 | 1.943 |
| Stddev | .0008 | .030 | .001 | .0004 | .002 | .007 | .007 | .011 | .003 | .001 |
| %RSD | .3251 | .3075 | .0539 | 5.856 | .1157 | .3524 | .3375 | .1074 | .1366 | .0347 |
| #1 | .2457 | 9.646 | 1.860 | -.0068 | 1.883 | 1.919 | 2.001 | 9.753 | 1.923 | 1.943 |
| #2 | .2468 | 9.604 | 1.862 | -.0063 | 1.886 | 1.909 | 1.991 | 9.738 | 1.927 | 1.944 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.077 | 1.956 | 9.658 | 9.761 | 9.702 | 2.024 | 1.852 | 9.600 | 1.821 | 1.850 |
| Stddev | .012 | .001 | .010 | .039 | .034 | .003 | .004 | .019 | .002 | .002 |
| %RSD | .5853 | .0442 | .1055 | .3949 | .3473 | .1652 | .2089 | .2007 | .1209 | .1306 |
| #1 | 2.068 | 1.956 | 9.665 | 9.788 | 9.679 | 2.022 | 1.849 | 9.614 | 1.819 | 1.848 |
| #2 | 2.085 | 1.955 | 9.650 | 9.734 | 9.726 | 2.026 | 1.855 | 9.587 | 1.823 | 1.852 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | .0130 | -.0012 | 1.846 | 1.861 | -.0093 | 1.915 | 1.956 | 1.968 | 1.859 |
| Stddev | .0023 | .0073 | .0018 | .008 | .002 | .0001 | .004 | .008 | .001 | .001 |
| %RSD | 50.35 | 56.41 | 154.6 | .4139 | .0901 | 1.119 | .2080 | .4239 | .0648 | .0717 |
| #1 | .0029 | .0078 | -.0024 | 1.841 | 1.860 | -.0093 | 1.912 | 1.962 | 1.967 | 1.858 |
| #2 | .0061 | .0181 | .0001 | 1.852 | 1.862 | -.0092 | 1.918 | 1.951 | 1.969 | 1.860 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.981 | .0112 | 1.863 | .0105 |
| Stddev | .005 | .0028 | .004 | .0013 |
| %RSD | .2587 | 24.79 | .1859 | 12.38 |
| #1 | 1.977 | .0132 | 1.861 | .0114 |
| #2 | 1.985 | .0092 | 1.866 | .0095 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1262.2 | 33926. | 17140. |
| Stddev | .2 | 170. | 5. |
| %RSD | .01797 | .50237 | .03097 |
| #1 | 1262.4 | 34047. | 17136. |
| #2 | 1262.0 | 33806. | 17144. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 18:37:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0013 | -.0007 | .0001 | .0019 | .0003 | .0001 | -.0008 | .0002 |
| Stddev | .0001 | .0031 | .0014 | .0008 | .0009 | .0001 | .0000 | .0003 | .0001 |
| %RSD | 51.84 | 239.3 | 196.7 | 541.0 | 49.01 | 43.99 | 31.38 | 38.03 | 79.09 |
| #1 | -.0002 | .0009 | .0003 | .0007 | .0025 | .0002 | .0001 | -.0010 | .0003 |
| #2 | -.0001 | -.0035 | -.0016 | -.0004 | .0012 | .0003 | .0001 | -.0006 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | -.0009 | .0008 | .0170 | .0347 | .0002 | .0029 | .0047 |
| Stddev | .0001 | .0001 | .0002 | .0030 | .0180 | .0050 | .0001 | .0003 | .0032 |
| %RSD | 24.76 | 105.9 | 21.44 | 360.1 | 105.8 | 14.47 | 43.92 | 11.47 | 68.42 |
| #1 | .0002 | .0000 | -.0010 | -.0013 | .0297 | .0383 | .0001 | .0031 | .0070 |
| #2 | .0003 | -.0002 | -.0007 | .0030 | .0043 | .0312 | .0003 | .0026 | .0024 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0003 | .0016 | .0023 | .0021 | .0002 | .0009 | -.0007 | .0001 |
| Stddev | .0000 | .0001 | .0023 | .0041 | .0006 | .0003 | .0001 | .0005 | .0008 |
| %RSD | 5.886 | 15.61 | 146.5 | 176.6 | 26.93 | 179.9 | 13.10 | 73.81 | 898.7 |
| #1 | .0004 | .0004 | -.0001 | .0052 | .0025 | .0000 | .0010 | -.0004 | -.0005 |
| #2 | .0005 | .0003 | .0032 | -.0006 | .0017 | .0004 | .0008 | -.0011 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | F.0035 | .0005 | .0073 | .0010 | .0030 |
| Stddev | .0000 | .0004 | .0013 | .0006 | .0063 | .0002 | .0002 |
| %RSD | 1.859 | 90.38 | 38.05 | 107.9 | 85.78 | 20.17 | 6.089 |
| #1 | .0002 | .0006 | .0045 | .0009 | .0029 | .0008 | .0031 |
| #2 | .0002 | .0001 | .0026 | .0001 | .0117 | .0011 | .0029 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.1 | 34517. | 16904. |
| Stddev | 2.0 | 108. | 192. |
| %RSD | .15623 | .31398 | 1.1384 |
| #1 | 1256.7 | 34593. | 17041. |
| #2 | 1259.5 | 34440. | 16768. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 18:47:40 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .1966 | F.0057 | .0004 | .0991 | .0505 | .0043 | 5.025 | .0042 |
| Stddev | .0006 | .0008 | .0002 | .0001 | .0000 | .0002 | .0001 | .022 | .0001 |
| %RSD | 12.38 | .4273 | 4.349 | 23.41 | .0173 | .3190 | 1.451 | .4359 | 1.716 |
| #1 | .0056 | .1972 | .0059 | .0003 | .0991 | .0504 | .0043 | 5.009 | .0042 |
| #2 | .0047 | .1960 | .0055 | .0005 | .0991 | .0507 | .0044 | 5.040 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0511 | .0107 | .0240 | .1005 | 4.988 | 4.954 | .0160 | .0978 | 4.873 |
| Stddev | .0002 | .0002 | .0000 | .0011 | .031 | .029 | .0001 | .0001 | .017 |
| %RSD | .3948 | 1.553 | .1880 | 1.099 | .6244 | .5907 | .5115 | .1392 | .3422 |
| #1 | .0510 | .0108 | .0240 | .0998 | 4.966 | 4.974 | .0161 | .0979 | 4.885 |
| #2 | .0513 | .0106 | .0240 | .1013 | 5.010 | 4.933 | .0160 | .0977 | 4.861 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0385 | .0043 | -.0009 | .0019 | .0004 | .0062 | .0111 | .0044 | .0983 |
| Stddev | .0001 | .0007 | .0010 | .0038 | .0002 | .0006 | .0005 | .0003 | .0002 |
| %RSD | .1786 | 16.22 | 107.4 | 195.0 | 58.35 | 9.458 | 4.157 | 5.703 | .1825 |
| #1 | .0385 | .0038 | -.0002 | .0046 | .0002 | .0066 | .0115 | .0046 | .0981 |
| #2 | .0384 | .0048 | -.0016 | -.0007 | .0006 | .0058 | .0108 | .0042 | .0984 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0509 | F.0068 | .0109 | .0046 | .0203 | .0031 |
| Stddev | .0000 | .0002 | .0004 | .0002 | .0009 | .0001 | .0001 |
| %RSD | .2058 | .4384 | 5.156 | 2.284 | 19.97 | .2820 | 2.610 |
| #1 | .0102 | .0511 | .0070 | .0111 | .0053 | .0203 | .0031 |
| #2 | .0102 | .0507 | .0065 | .0107 | .0040 | .0204 | .0032 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.7 | 34255. | 16902. |
| Stddev | 2.1 | 30. | 66. |
| %RSD | .16678 | .08736 | .38797 |
| #1 | 1262.3 | 34234. | 16949. |
| #2 | 1265.2 | 34276. | 16856. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 10/31/2013 18:59:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | 517.2 | -.0008 | .0114 | .0015 | -.0002 | .0001 | 455.7 | -.0001 | .0011 |
| Stddev | .0005 | 12.0 | .0002 | .0017 | .0001 | .0002 | .0000 | 2.9 | .0002 | .0003 |
| %RSD | 410.2 | 2.316 | 20.34 | 14.64 | 3.641 | 116.5 | 16.60 | .6273 | 368.1 | 31.28 |
| #1 | -.0002 | 525.7 | -.0009 | .0102 | .0015 | -.0003 | .0001 | 457.7 | .0001 | .0013 |
| #2 | .0005 | 508.7 | -.0006 | .0126 | .0015 | .0000 | .0000 | 453.7 | -.0002 | .0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0001 | 175.5 | .0724 | 515.9 | .0004 | -.0010 | .0240 | .0009 | -.0003 |
| Stddev | .0006 | .0005 | .7 | .0135 | 2.5 | .0001 | .0001 | .0092 | .0002 | .0014 |
| %RSD | 702.5 | 699.0 | .3761 | 18.60 | .4837 | 14.51 | 10.77 | 38.42 | 22.72 | 403.1 |
| #1 | -.0004 | .0003 | 176.0 | .0819 | 517.6 | .0004 | -.0009 | .0175 | .0007 | .0006 |
| #2 | .0005 | -.0005 | 175.1 | .0629 | 514.1 | .0004 | -.0011 | .0305 | .0010 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | -.0114 | .0917 | .0000 | .0002 | .0314 | .0013 | -.0083 | .0059 | -.0022 |
| Stddev | .0009 | .0068 | .0033 | .000 | .0028 | .0008 | .0014 | .0000 | .0001 | .0003 |
| %RSD | 16.82 | 59.24 | 3.549 | 700.1 | 1413. | 2.667 | 101.3 | .1637 | 2.219 | 14.87 |
| #1 | -.0048 | -.0067 | .0940 | -.0002 | -.0018 | .0319 | .0004 | -.0083 | .0060 | -.0019 |
| #2 | -.0060 | -.0162 | .0894 | .0002 | .0022 | .0308 | .0023 | -.0083 | .0058 | -.0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0119 | -.0078 | -.0008 | .0139 |
| Stddev | .0004 | .0026 | .0003 | .0000 |
| %RSD | 3.531 | 32.82 | 37.00 | .2049 |
| #1 | .0116 | -.0060 | -.0006 | .0139 |
| #2 | .0122 | -.0096 | -.0010 | .0139 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1180.6 | 30676. | 16631. |
| Stddev | 2.3 | 31. | 70. |
| %RSD | .19495 | .10136 | .42061 |
| #1 | 1179.0 | 30654. | 16581. |
| #2 | 1182.2 | 30698. | 16680. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 10/31/2013 19:04:22 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.078 | 517.5 | 1.966 | .5244 | .9183 | .4810 | .4705 | 456.9 | .9869 |
| Stddev | .004 | 3.2 | .003 | .0002 | .0013 | .0003 | .0013 | .3 | .0016 |
| %RSD | .4003 | .6219 | .1609 | .0402 | .1448 | .0579 | .2837 | .0621 | .1608 |
| #1 | 1.081 | 515.2 | 1.964 | .5245 | .9174 | .4812 | .4696 | 456.7 | .9858 |
| #2 | 1.075 | 519.8 | 1.969 | .5242 | .9193 | .4808 | .4715 | 457.1 | .9880 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4431 | .5501 | .5536 | 175.6 | .0503 | 518.0 | .5320 | .8854 | .0201 |
| Stddev | .0004 | .0007 | .0030 | .3 | .0125 | .5 | .0015 | .0018 | .0015 |
| %RSD | .1003 | .1294 | .5344 | .1871 | 24.76 | .0992 | .2884 | .2086 | 7.549 |
| #1 | .4428 | .5496 | .5556 | 175.4 | .0415 | 517.6 | .5331 | .8841 | .0190 |
| #2 | .4434 | .5506 | .5515 | 175.8 | .0591 | 518.3 | .5309 | .8868 | .0212 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F.7906 | .8339 | .5475 | .4961 | .5543 | 1.859 | 1.848 | 1.977 | .9171 |
| Stddev | .0012 | .0015 | .0029 | .0122 | .0061 | .002 | .005 | .002 | .0003 |
| %RSD | .1495 | .1777 | .5288 | 2.465 | 1.097 | .1143 | .2696 | .1087 | .0334 |
| #1 | .7898 | .8329 | .5495 | .5048 | .5500 | 1.858 | 1.845 | 1.975 | .9173 |
| #2 | .7914 | .8350 | .5454 | .4875 | .5586 | 1.861 | 1.852 | 1.979 | .9169 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .9415 | .5416 | 1.686 | .5440 | 1.992 | .8486 | .4271 |
| Stddev | .0001 | .0025 | .000 | .0008 | .014 | .0028 | .0020 |
| %RSD | .0119 | .4705 | .0215 | .1421 | .7159 | .3336 | .4792 |
| #1 | .9416 | .5434 | 1.686 | .5446 | 2.002 | .8466 | .4256 |
| #2 | .9414 | .5398 | 1.686 | .5435 | 1.982 | .8506 | .4285 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1181.1 | 30670. | 16578. |
| Stddev | 2.1 | 101. | 43. |
| %RSD | .17840 | .32951 | .26093 |
| #1 | 1182.6 | 30598. | 16609. |
| #2 | 1179.6 | 30741. | 16548. |

Zoom In Zoom Out

Sample Name: MP21920-B1 Acquired: 10/31/2013 19:09:13 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2005 | 2.185 | .5232 | -.0008 | .0059 | 1.960 | .5304 | 25.59 | .5203 | .5013 |
| Stddev | .0002 | .005 | .0078 | .0029 | .0015 | .003 | .0004 | .03 | .0001 | .0001 |
| %RSD | .0825 | .2395 | 1.487 | 383.2 | 24.90 | .1705 | .0794 | .1083 | .0174 | .0254 |
| #1 | .2006 | 2.188 | .5287 | .0013 | .0069 | 1.958 | .5307 | 25.61 | .5203 | .5012 |
| #2 | .2004 | 2.181 | .5177 | -.0028 | .0049 | 1.963 | .5301 | 25.57 | .5204 | .5014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5659 | .4995 | 2.077 | 25.67 | 25.93 | .5402 | .0081 | 24.66 | .4655 | .9664 |
| Stddev | .0021 | .0025 | .023 | .27 | .06 | .0028 | .0016 | .01 | .0001 | .0061 |
| %RSD | .3672 | .5001 | 1.114 | 1.059 | .2441 | .5233 | 19.89 | .0374 | .0309 | .6286 |
| #1 | .5673 | .5013 | 2.093 | 25.48 | 25.98 | .5382 | .0092 | 24.66 | .4656 | .9621 |
| #2 | .5644 | .4978 | 2.060 | 25.86 | 25.89 | .5422 | .0069 | 24.67 | .4654 | .9707 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0492 | .0104 | .4832 | .4868 | .0114 | -.0016 | .4951 | .5038 | .4934 |
| Stddev | .0055 | .0386 | .0043 | .0032 | .0020 | .0013 | .0008 | .0010 | .0048 | .0006 |
| %RSD | 577.6 | 78.45 | 40.99 | .6566 | .4148 | 11.40 | 49.94 | .2012 | .9522 | .1316 |
| #1 | .0030 | .0764 | .0134 | .4810 | .4854 | .0123 | -.0022 | .4944 | .5004 | .4938 |
| #2 | -.0049 | .0219 | .0074 | .4854 | .4882 | .0105 | -.0011 | .4958 | .5071 | .4929 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5272 | .0939 | .5144 | .1349 |
| Stddev | .0029 | .0573 | .0008 | .0037 |
| %RSD | .5476 | 60.98 | .1573 | 2.755 |
| #1 | .5252 | .0534 | .5150 | .1375 |
| #2 | .5293 | .1344 | .5138 | .1323 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1272.1 | 34117. | 16921. |
| Stddev | 1.4 | 140. | 59. |
| %RSD | .11220 | .41080 | .35158 |
| #1 | 1273.1 | 34216. | 16878. |
| #2 | 1271.1 | 34017. | 16963. |



Zoom In Zoom Out

Sample Name: MP21920-S1 Acquired: 10/31/2013 19:14:03 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2062 | 2.101 | .7636 | -.0134 | .2900 | 2.026 | .5389 | 85.42 | .5254 | .5211 |
| Stddev | .0006 | .014 | .0028 | .0019 | .0005 | .004 | .0033 | .11 | .0012 | .0008 |
| %RSD | .2782 | .6641 | .3716 | 14.09 | .1730 | .2110 | .6166 | .1287 | .2247 | .1576 |
| #1 | .2066 | 2.091 | .7616 | -.0121 | .2904 | 2.023 | .5365 | 85.50 | .5262 | .5217 |
| #2 | .2058 | 2.111 | .7656 | -.0148 | .2897 | 2.029 | .5412 | 85.34 | .5245 | .5205 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5732 | .5089 | 45.19 | 34.82 | 35.83 | 4.019 | .0030 | 52.38 | .4705 | .9674 |
| Stddev | .0038 | .0007 | .09 | .29 | .24 | .018 | .0004 | .05 | .0000 | .0001 |
| %RSD | .6603 | .1423 | .1954 | .8242 | .6571 | .4366 | 14.57 | .0902 | .0028 | .0130 |
| #1 | .5759 | .5094 | 45.13 | 34.62 | 35.66 | 4.031 | .0033 | 52.35 | .4705 | .9673 |
| #2 | .5705 | .5084 | 45.25 | 35.03 | 35.99 | 4.006 | .0027 | 52.42 | .4705 | .9674 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0174 | .0326 | 1.026 | .4881 | .4942 | 7.460 | -.0021 | .9879 | .5053 | .5029 |
| Stddev | .0088 | .0268 | .000 | .0047 | .0004 | .014 | .0038 | .0049 | .0070 | .0002 |
| %RSD | 50.70 | 82.43 | .0116 | .9637 | .0782 | .1917 | 183.7 | .4955 | 1.387 | .0483 |
| #1 | .0236 | .0136 | 1.026 | .4848 | .4945 | 7.470 | -.0048 | .9844 | .5102 | .5031 |
| #2 | .0111 | .0515 | 1.026 | .4915 | .4939 | 7.450 | .0006 | .9913 | .5003 | .5028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5405 | .0426 | .5251 | .0165 |
| Stddev | .0029 | .0360 | .0014 | .0010 |
| %RSD | .5392 | 84.61 | .2722 | 5.766 |
| #1 | .5425 | .0681 | .5261 | .0172 |
| #2 | .5384 | .0171 | .5241 | .0159 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1259.3 | 33868. | 16975. |
| Stddev | .5 | 167. | 28. |
| %RSD | .04049 | .49377 | .16357 |
| #1 | 1258.9 | 33750. | 16995. |
| #2 | 1259.6 | 33987. | 16956. |



Zoom In Zoom Out

Sample Name: MP21920-S2 Acquired: 10/31/2013 19:18:52 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2057 | 2.143 | .7551 | -.0159 | .2871 | 2.047 | .5371 | 86.08 | .5263 | .5210 |
| Stddev | .0020 | .013 | .0054 | .0071 | .0002 | .011 | .0025 | .00 | .0026 | .0004 |
| %RSD | .9500 | .5822 | .7187 | 44.90 | .0835 | .5465 | .4627 | .0020 | .4879 | .0768 |
| #1 | .2044 | 2.152 | .7589 | -.0209 | .2873 | 2.039 | .5353 | 86.08 | .5281 | .5212 |
| #2 | .2071 | 2.134 | .7513 | -.0108 | .2870 | 2.055 | .5388 | 86.08 | .5245 | .5207 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5778 | .5062 | 45.20 | 35.06 | 36.06 | 3.997 | .0021 | 52.49 | .4681 | .9782 |
| Stddev | .0003 | .0033 | .03 | .21 | .01 | .009 | .0014 | .13 | .0040 | .0025 |
| %RSD | .0448 | .6481 | .0562 | .5920 | .0198 | .2223 | 65.95 | .2470 | .8639 | .2509 |
| #1 | .5776 | .5039 | 45.22 | 34.91 | 36.07 | 3.991 | .0030 | 52.40 | .4710 | .9799 |
| #2 | .5780 | .5085 | 45.18 | 35.20 | 36.06 | 4.003 | .0011 | 52.58 | .4653 | .9764 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0108 | .0751 | 1.037 | .4940 | .4965 | 7.432 | -.0037 | .9893 | .5082 | .4989 |
| Stddev | .0021 | .0033 | .021 | .0059 | .0080 | .015 | .0002 | .0049 | .0012 | .0040 |
| %RSD | 19.10 | 4.418 | 2.055 | 1.197 | 1.608 | .1985 | 4.708 | .4915 | .2444 | .8023 |
| #1 | .0123 | .0728 | 1.052 | .4982 | .4909 | 7.443 | -.0039 | .9858 | .5090 | .5017 |
| #2 | .0093 | .0775 | 1.022 | .4898 | .5022 | 7.422 | -.0036 | .9927 | .5073 | .4961 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5378 | .0666 | .5395 | -.0012 |
| Stddev | .0023 | .0151 | .0042 | .0011 |
| %RSD | .4342 | 22.74 | .7867 | 89.21 |
| #1 | .5361 | .0773 | .5425 | -.0020 |
| #2 | .5394 | .0559 | .5365 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1258.5 | 33877. | 16853. |
| Stddev | 5.4 | 112. | 56. |
| %RSD | .43118 | .33186 | .33062 |
| #1 | 1254.7 | 33956. | 16813. |
| #2 | 1262.4 | 33797. | 16892. |



Zoom In Zoom Out

Sample Name: MC25568-11F Acquired: 10/31/2013 19:23:42 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0017 | .0377 | .2296 | -.0140 | .2858 | .0451 | -.0003 | 60.89 | -.0003 | .0136 |
| Stddev | .0003 | .0234 | .0001 | .0030 | .0001 | .0004 | .0000 | .26 | .0002 | .0008 |
| %RSD | 16.95 | 62.04 | .0651 | 21.57 | .0419 | .8961 | 14.50 | .4237 | 92.21 | 5.540 |
| #1 | .0015 | .0543 | .2297 | -.0162 | .2858 | .0454 | -.0003 | 61.07 | -.0004 | .0130 |
| #2 | .0019 | .0212 | .2295 | -.0119 | .2857 | .0448 | -.0003 | 60.71 | -.0001 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0054 | 43.24 | 9.024 | 9.762 | 3.457 | .0016 | 27.47 | .0038 | .0007 |
| Stddev | .0054 | .0017 | .20 | .017 | .149 | .000 | .0008 | .05 | .0014 | .0027 |
| %RSD | 127.6 | 32.51 | .4617 | .1899 | 1.531 | .0024 | 49.01 | .1667 | 36.41 | 358.8 |
| #1 | -.0004 | -.0066 | 43.38 | 9.037 | 9.657 | 3.457 | .0022 | 27.51 | .0029 | .0026 |
| #2 | -.0080 | -.0041 | 43.10 | 9.012 | 9.868 | 3.457 | .0011 | 27.44 | .0048 | -.0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0168 | .0459 | 1.027 | .0009 | .0150 | 7.377 | -.0006 | .4909 | -.0018 | .0054 |
| Stddev | .0021 | .0352 | .003 | .0040 | .0031 | .007 | .0015 | .0015 | .0019 | .0019 |
| %RSD | 12.35 | 76.61 | .2995 | 459.9 | 20.56 | .1020 | 250.4 | .3089 | 102.5 | 35.99 |
| #1 | .0182 | .0210 | 1.029 | -.0020 | .0128 | 7.382 | .0004 | .4920 | -.0031 | .0067 |
| #2 | .0153 | .0708 | 1.025 | .0037 | .0172 | 7.372 | -.0016 | .4898 | -.0005 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0064 | .0395 | .0151 | -.0168 |
| Stddev | .0018 | .0076 | .0007 | .0013 |
| %RSD | 27.65 | 19.39 | 4.758 | 7.482 |
| #1 | .0076 | .0340 | .0157 | -.0159 |
| #2 | .0051 | .0449 | .0146 | -.0177 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1265.8 | 33891. | 16771. |
| Stddev | 1.5 | 99. | 47. |
| %RSD | .12056 | .29248 | .27937 |
| #1 | 1264.7 | 33821. | 16738. |
| #2 | 1266.9 | 33961. | 16804. |

Zoom In Zoom Out

Sample Name: MP21920-SD1 Acquired: 10/31/2013 19:28:36 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0058 | -.0253 | .2508 | -.0146 | .2953 | .0486 | -.0012 | 63.93 | -.0025 | .0160 |
| Stddev | .0124 | .0265 | .0167 | .0212 | .0006 | .0013 | .0007 | .13 | .0004 | .0012 |
| %RSD | 214.5 | 104.8 | 6.663 | 145.3 | .2055 | 2.687 | 54.70 | .2055 | 16.32 | 7.546 |
| #1 | .0030 | -.0440 | .2626 | -.0296 | .2957 | .0477 | -.0017 | 64.02 | -.0028 | .0169 |
| #2 | -.0146 | -.0065 | .2390 | .0004 | .2948 | .0495 | -.0007 | 63.84 | -.0023 | .0152 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0232 | -.0272 | 44.97 | 9.863 | 10.63 | 3.578 | .0012 | 28.46 | .0023 | -.0344 |
| Stddev | .0044 | .0065 | .16 | .818 | .01 | .000 | .0015 | .14 | .0021 | .0092 |
| %RSD | 19.20 | 23.74 | .3656 | 8.292 | .1241 | .0116 | 131.6 | .4776 | 94.62 | 26.67 |
| #1 | -.0263 | -.0226 | 45.09 | 9.285 | 10.64 | 3.578 | .0022 | 28.36 | .0038 | -.0279 |
| #2 | -.0200 | -.0317 | 44.86 | 10.44 | 10.62 | 3.579 | .0001 | 28.55 | .0008 | -.0409 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0070 | -.0024 | 1.083 | .0005 | .0055 | 7.483 | .0046 | .5094 | .0032 | .0500 |
| Stddev | .1001 | .0459 | .032 | .0087 | .0050 | .001 | .0053 | .0044 | .0040 | .0063 |
| %RSD | 1424. | 1935. | 2.927 | 1867. | 90.62 | .0107 | 115.6 | .8616 | 127.8 | 12.67 |
| #1 | -.0778 | .0301 | 1.061 | .0066 | .0020 | 7.484 | .0008 | .5063 | .0060 | .0544 |
| #2 | .0637 | -.0348 | 1.106 | -.0057 | .0090 | 7.483 | .0083 | .5125 | .0003 | .0455 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0097 | .1182 | .0944 | .0553 |
| Stddev | .0082 | .0389 | .0001 | .0114 |
| %RSD | 84.05 | 32.92 | .0865 | 20.58 |
| #1 | .0039 | .0907 | .0943 | .0473 |
| #2 | .0155 | .1457 | .0944 | .0634 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.0 | 34197. | 16647. |
| Stddev | 1.7 | 49. | 142. |
| %RSD | .13509 | .14413 | .85006 |
| #1 | 1271.2 | 34232. | 16547. |
| #2 | 1268.8 | 34162. | 16747. |



Zoom In Zoom Out

Sample Name: MP21920-S3 Acquired: 10/31/2013 19:33:30 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2048 | 2.107 | .6316 | -.0095 | .0312 | 2.012 | .5400 | 43.03 | .5248 | .5084 |
| Stddev | .0022 | .028 | .0073 | .0031 | .0032 | .005 | .0007 | .09 | .0012 | .0016 |
| %RSD | 1.097 | 1.311 | 1.160 | 32.80 | 10.19 | .2534 | .1211 | .2195 | .2329 | .3142 |
| #1 | .2032 | 2.126 | .6367 | -.0073 | .0289 | 2.016 | .5396 | 43.10 | .5239 | .5073 |
| #2 | .2063 | 2.087 | .6264 | -.0117 | .0334 | 2.009 | .5405 | 42.96 | .5256 | .5096 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5901 | .5054 | 12.23 | 29.19 | 28.20 | 1.846 | .0026 | 86.75 | .4679 | .9690 |
| Stddev | .0012 | .0008 | .12 | .11 | .10 | .002 | .0006 | .01 | .0022 | .0018 |
| %RSD | .1979 | .1583 | .9539 | .3726 | .3441 | .1307 | 21.87 | .0126 | .4612 | .1825 |
| #1 | .5909 | .5060 | 12.15 | 29.11 | 28.13 | 1.848 | .0029 | 86.74 | .4695 | .9703 |
| #2 | .5892 | .5048 | 12.31 | 29.27 | 28.27 | 1.844 | .0022 | 86.76 | .4664 | .9678 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | .0206 | 1.292 | .4846 | .4927 | 5.134 | -.0012 | .6124 | .5061 | .5009 |
| Stddev | .0031 | .0223 | .001 | .0033 | .0048 | .003 | .0009 | .0014 | .0075 | .0008 |
| %RSD | 112.2 | 108.1 | .0482 | .6810 | .9841 | .0614 | 81.23 | .2259 | 1.476 | .1678 |
| #1 | -.0050 | .0048 | 1.292 | .4822 | .4893 | 5.131 | -.0005 | .6134 | .5114 | .5015 |
| #2 | -.0006 | .0363 | 1.291 | .4869 | .4962 | 5.136 | -.0018 | .6114 | .5008 | .5003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5375 | .0181 | .5401 | .0022 |
| Stddev | .0017 | .0138 | .0002 | .0017 |
| %RSD | .3237 | 75.98 | .0438 | 79.64 |
| #1 | .5362 | .0084 | .5403 | .0009 |
| #2 | .5387 | .0279 | .5399 | .0034 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1266.4 | 33915. | 16799. |
| Stddev | 2.6 | 64. | 54. |
| %RSD | .20260 | .18749 | .32042 |
| #1 | 1268.2 | 33960. | 16837. |
| #2 | 1264.5 | 33870. | 16760. |



Zoom In Zoom Out

Sample Name: MP21920-S4 Acquired: 10/31/2013 19:38:18 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2087 | 2.142 | .6386 | -.0023 | .0293 | 2.042 | .5421 | 43.36 | .5251 | .5094 |
| Stddev | .0003 | .034 | .0062 | .0031 | .0006 | .016 | .0014 | .13 | .0017 | .0007 |
| %RSD | .1258 | 1.574 | .9641 | 133.8 | 1.999 | .8005 | .2594 | .3027 | .3236 | .1426 |
| #1 | .2089 | 2.166 | .6429 | -.0045 | .0297 | 2.054 | .5431 | 43.45 | .5263 | .5099 |
| #2 | .2085 | 2.118 | .6342 | -.0001 | .0288 | 2.031 | .5411 | 43.26 | .5239 | .5088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5867 | .5098 | 12.24 | 29.54 | 28.34 | 1.834 | .0013 | 87.02 | .4669 | .9710 |
| Stddev | .0008 | .0001 | .03 | .06 | .37 | .004 | .0008 | .50 | .0006 | .0030 |
| %RSD | .1359 | .0113 | .2654 | .2103 | 1.292 | .2096 | 62.93 | .5793 | .1233 | .3131 |
| #1 | .5862 | .5097 | 12.27 | 29.59 | 28.60 | 1.831 | .0007 | 87.37 | .4673 | .9732 |
| #2 | .5873 | .5098 | 12.22 | 29.50 | 28.08 | 1.837 | .0019 | 86.66 | .4665 | .9689 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0066 | .0580 | 1.261 | .4807 | .4938 | 5.069 | -.0010 | .6178 | .5106 | .4981 |
| Stddev | .0108 | .0075 | .002 | .0046 | .0024 | .003 | .0042 | .0040 | .0042 | .0005 |
| %RSD | 162.8 | 12.91 | .1257 | .9650 | .4877 | .0566 | 422.1 | .6408 | .8242 | .1047 |
| #1 | .0143 | .0527 | 1.262 | .4839 | .4955 | 5.071 | .0020 | .6206 | .5136 | .4985 |
| #2 | -.0010 | .0633 | 1.260 | .4774 | .4921 | 5.067 | -.0039 | .6150 | .5077 | .4977 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5400 | .0083 | .5418 | .0007 |
| Stddev | .0034 | .0603 | .0003 | .0004 |
| %RSD | .6387 | 726.1 | .0582 | 53.50 |
| #1 | .5376 | -.0343 | .5415 | .0004 |
| #2 | .5425 | .0509 | .5420 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.2 | 33936. | 16763. |
| Stddev | .4 | 91. | 4. |
| %RSD | .03346 | .26728 | .02158 |
| #1 | 1269.9 | 34000. | 16761. |
| #2 | 1270.5 | 33872. | 16766. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 19:43:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2497 | 9.573 | 1.850 | -.0072 | 1.876 | 1.902 | 2.034 | 9.831 | 1.914 |
| Stddev | .0025 | .038 | .001 | .0000 | .002 | .004 | .011 | .092 | .001 |
| %RSD | 1.011 | .3925 | .0344 | .2928 | .0850 | .2313 | .5420 | .9366 | .0708 |
| #1 | .2479 | 9.600 | 1.851 | -.0071 | 1.875 | 1.905 | 2.042 | 9.896 | 1.913 |
| #2 | .2514 | 9.546 | 1.850 | -.0072 | 1.877 | 1.899 | 2.026 | 9.766 | 1.915 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.929 | 2.186 | 1.984 | 9.579 | 9.750 | 9.935 | 2.099 | 1.831 | 9.499 |
| Stddev | .000 | .011 | .009 | .065 | .020 | .091 | .015 | .002 | .009 |
| %RSD | .0106 | .5071 | .4320 | .6788 | .2006 | .9130 | .6886 | .1332 | .0940 |
| #1 | 1.929 | 2.179 | 1.978 | 9.625 | 9.764 | 10.000 | 2.089 | 1.829 | 9.505 |
| #2 | 1.929 | 2.194 | 1.990 | 9.533 | 9.736 | 9.871 | 2.109 | 1.832 | 9.492 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.782 | 1.824 | .0051 | .0112 | -.0029 | 1.812 | 1.834 | -.0141 | 1.925 |
| Stddev | .001 | .001 | .0006 | .0033 | .0011 | .002 | .005 | .0002 | .002 |
| %RSD | .0262 | .0422 | 11.34 | 29.03 | 38.56 | .1056 | .2483 | 1.641 | .1268 |
| #1 | 1.782 | 1.825 | .0047 | .0135 | -.0021 | 1.810 | 1.831 | -.0140 | 1.926 |
| #2 | 1.783 | 1.824 | .0055 | .0089 | -.0036 | 1.813 | 1.837 | -.0143 | 1.923 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.971 | 1.981 | 1.851 | 2.021 | .0054 | 1.857 | .0105 |
| Stddev | .004 | .004 | .002 | .009 | .0060 | .003 | .0010 |
| %RSD | .2245 | .2004 | .1006 | .4225 | 111.8 | .1416 | 9.623 |
| #1 | 1.974 | 1.978 | 1.850 | 2.015 | .0097 | 1.855 | .0112 |
| #2 | 1.967 | 1.984 | 1.853 | 2.027 | .0011 | 1.859 | .0098 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1280.3 | 33092. | 16847. |
| Stddev | 1.6 | 210. | 143. |
| %RSD | .12607 | .63338 | .84872 |
| #1 | 1279.2 | 33241. | 16746. |
| #2 | 1281.5 | 32944. | 16948. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 19:47:51 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0036 | .0009 | .0008 | .0013 | .0003 | .0000 | .0171 | .0002 |
| Stddev | .0004 | .0022 | .0008 | .0004 | .0005 | .0000 | .0000 | .0024 | .0000 |
| %RSD | 517.4 | 61.99 | 90.13 | 51.49 | 38.61 | 1.699 | 54.86 | 13.94 | 17.67 |
| #1 | -.0002 | .0020 | .0003 | .0005 | .0017 | .0003 | .0000 | .0154 | .0002 |
| #2 | .0004 | .0051 | .0015 | .0011 | .0010 | .0003 | .0001 | .0188 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0001 | -.0012 | .0038 | .0193 | -.0017 | .0003 | .0024 | .0080 |
| Stddev | .0000 | .0000 | .0000 | .0000 | .0046 | .0033 | .0001 | .0004 | .0025 |
| %RSD | 173.6 | 34.90 | 1.447 | .5374 | 23.99 | 195.0 | 33.60 | 16.43 | 31.28 |
| #1 | .0000 | .0001 | -.0012 | .0037 | .0160 | -.0040 | .0002 | .0026 | .0062 |
| #2 | .0000 | .0001 | -.0012 | .0038 | .0226 | .0006 | .0003 | .0021 | .0098 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0009 | .0015 | .0023 | .0048 | .0005 | .0008 | -.0030 | -.0002 |
| Stddev | .0000 | .0006 | .0009 | .0048 | .0005 | .0008 | .0006 | .0002 | .0002 |
| %RSD | 34.71 | 64.25 | 57.26 | 209.8 | 10.88 | 153.9 | 70.96 | 5.246 | 108.8 |
| #1 | .0002 | -.0005 | .0021 | .0057 | .0045 | .0000 | .0012 | -.0029 | -.0003 |
| #2 | .0001 | -.0013 | .0009 | -.0011 | .0052 | .0011 | .0004 | -.0031 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | F.0032 | .0005 | .0032 | F.0037 | .0045 |
| Stddev | .0000 | .0002 | .0007 | .0001 | .0031 | .0002 | .0004 |
| %RSD | 14.17 | 55.29 | 20.78 | 11.14 | 97.95 | 4.926 | 8.959 |
| #1 | .0002 | .0006 | .0037 | .0005 | .0054 | .0036 | .0042 |
| #2 | .0002 | .0003 | .0028 | .0006 | .0010 | .0039 | .0048 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.7 | 33941. | 16626. |
| Stddev | 1.5 | 21. | 53. |
| %RSD | .11871 | .06313 | .31715 |
| #1 | 1269.8 | 33956. | 16589. |
| #2 | 1267.6 | 33926. | 16663. |



Zoom In Zoom Out

Sample Name: MC25594-1F Acquired: 10/31/2013 19:52:48 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | -.0058 | .1071 | -.0033 | .0310 | .0175 | .0000 | 18.30 | -.0006 | .0018 |
| Stddev | .0015 | .0142 | .0088 | .0041 | .0003 | .0002 | .000 | .14 | .0014 | .0001 |
| %RSD | 143.5 | 243.5 | 8.219 | 121.6 | 1.124 | 1.212 | 447.0 | .7506 | 223.6 | 6.272 |
| #1 | -.0022 | -.0159 | .1134 | -.0062 | .0313 | .0174 | .0001 | 18.20 | -.0016 | .0017 |
| #2 | .0000 | .0042 | .1009 | -.0005 | .0308 | .0177 | -.0002 | 18.39 | .0004 | .0019 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0023 | -.0059 | 10.17 | 3.247 | 1.929 | 1.299 | .0052 | 61.85 | .0015 | -.0027 |
| Stddev | .0018 | .0022 | .02 | .072 | .008 | .001 | .0004 | .29 | .0010 | .0033 |
| %RSD | 77.67 | 36.70 | .2319 | 2.204 | .4131 | .0585 | 8.282 | .4759 | 67.90 | 124.4 |
| #1 | -.0011 | -.0043 | 10.18 | 3.298 | 1.923 | 1.300 | .0055 | 61.64 | .0008 | -.0050 |
| #2 | -.0036 | -.0074 | 10.15 | 3.197 | 1.934 | 1.299 | .0049 | 62.06 | .0022 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0067 | .0171 | 1.278 | .0042 | .0065 | 5.087 | -.0012 | .1117 | -.0037 | .0070 |
| Stddev | .0084 | .0365 | .010 | .0042 | .0014 | .002 | .0002 | .0005 | .0049 | .0037 |
| %RSD | 125.2 | 213.3 | .7878 | 98.62 | 21.01 | .0326 | 19.88 | .4104 | 132.2 | 52.46 |
| #1 | .0008 | -.0087 | 1.271 | .0013 | .0056 | 5.086 | -.0010 | .1113 | -.0002 | .0044 |
| #2 | .0126 | .0430 | 1.285 | .0071 | .0075 | 5.088 | -.0013 | .1120 | -.0072 | .0096 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0019 | .0286 | .0981 | -.0073 |
| Stddev | .0018 | .0315 | .0005 | .0010 |
| %RSD | 95.82 | 110.2 | .4909 | 13.67 |
| #1 | .0006 | .0063 | .0985 | -.0080 |
| #2 | .0031 | .0509 | .0978 | -.0066 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.4 | 33889. | 16718. |
| Stddev | 2.2 | 75. | 17. |
| %RSD | .17597 | .22063 | .10079 |
| #1 | 1270.0 | 33942. | 16706. |
| #2 | 1266.9 | 33836. | 16730. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 19:57:42 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0883 | .0568 | -.0268 | .1837 | .0109 | -.0001 | 108.3 | -.0004 | .0014 |
| Stddev | .0009 | .0181 | .0004 | .0055 | .0007 | .0002 | .0000 | .5 | .0002 | .0000 |
| %RSD | 1126. | 20.49 | .7443 | 20.64 | .3726 | 2.199 | 8.489 | .4772 | 48.50 | 2.477 |
| #1 | -.0007 | -.1011 | .0565 | -.0229 | .1833 | .0110 | -.0001 | 108.7 | -.0002 | .0014 |
| #2 | .0006 | -.0755 | .0571 | -.0308 | .1842 | .0107 | -.0001 | 107.9 | -.0005 | .0014 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0032 | .6274 | 4.889 | 13.89 | 9.809 | .0026 | 26.66 | .0128 | -.0049 |
| Stddev | .0007 | .0014 | .0063 | .075 | .02 | .003 | .0002 | .06 | .0003 | .0029 |
| %RSD | 50.63 | 42.83 | 1.009 | 1.543 | .1359 | .0336 | 8.369 | .2378 | 2.350 | 59.06 |
| #1 | -.0018 | -.0042 | .6319 | 4.942 | 13.91 | 9.807 | .0025 | 26.62 | .0130 | -.0029 |
| #2 | -.0009 | -.0022 | .6230 | 4.835 | 13.88 | 9.812 | .0028 | 26.71 | .0126 | -.0070 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0076 | .0742 | 2.059 | .0035 | .0074 | 9.436 | -.0008 | .5764 | .0001 | .0054 |
| Stddev | .0018 | .0061 | .002 | .0023 | .0022 | .028 | .0014 | .0012 | .0018 | .0013 |
| %RSD | 23.10 | 8.253 | .0822 | 65.45 | 29.85 | .2977 | 183.6 | .2142 | 1770. | 24.10 |
| #1 | -.0064 | .0785 | 2.058 | .0019 | .0059 | 9.416 | .0002 | .5756 | -.0012 | .0045 |
| #2 | -.0089 | .0698 | 2.061 | .0052 | .0090 | 9.456 | -.0018 | .5773 | .0014 | .0064 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0191 | .0237 | -.0388 |
| Stddev | .0005 | .0229 | .0004 | .0005 |
| %RSD | 51.99 | 120.2 | 1.772 | 1.306 |
| #1 | .0006 | -.0352 | .0234 | -.0392 |
| #2 | .0013 | -.0029 | .0240 | -.0385 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.9 | 33566. | 16720. |
| Stddev | 3.5 | 14. | 32. |
| %RSD | .27640 | .04161 | .19241 |
| #1 | 1267.3 | 33576. | 16697. |
| #2 | 1262.4 | 33556. | 16743. |



Zoom In Zoom Out

Sample Name: MC25568-7F Acquired: 10/31/2013 20:02:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | -.0602 | .0502 | -.0477 | .1924 | .0116 | -.0001 | 112.3 | -.0013 | .0012 |
| Stddev | .0080 | .0757 | .0092 | .0024 | .0014 | .0011 | .0003 | .2 | .0005 | .0008 |
| %RSD | 157.8 | 125.7 | 18.29 | 4.981 | .7476 | 9.562 | 231.6 | .1510 | 33.72 | 67.14 |
| #1 | .0006 | -.1137 | .0567 | -.0461 | .1914 | .0124 | .0001 | 112.4 | -.0017 | .0017 |
| #2 | -.0107 | -.0067 | .0437 | -.0494 | .1934 | .0108 | -.0003 | 112.2 | -.0010 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0103 | -.0153 | .6266 | 5.384 | 14.49 | 10.25 | .0024 | 27.92 | .0131 | -.0069 |
| Stddev | .0058 | .0002 | .0093 | .138 | .03 | .04 | .0014 | .03 | .0007 | .0069 |
| %RSD | 57.00 | 1.398 | 1.482 | 2.556 | .2401 | .3609 | 59.73 | .1084 | 5.464 | 100.6 |
| #1 | -.0061 | -.0154 | .6331 | 5.287 | 14.51 | 10.28 | .0034 | 27.90 | .0126 | -.0118 |
| #2 | -.0144 | -.0151 | .6200 | 5.482 | 14.46 | 10.23 | .0014 | 27.95 | .0137 | -.0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0161 | .1211 | 2.170 | .0091 | .0069 | 9.754 | -.0049 | .6106 | -.0001 | .0153 |
| Stddev | .0017 | .0164 | .002 | .0056 | .0132 | .037 | .0053 | .0008 | .0002 | .0016 |
| %RSD | 10.31 | 13.52 | .0998 | 61.53 | 191.4 | .3784 | 107.0 | .1322 | 194.7 | 10.14 |
| #1 | .0173 | .1096 | 2.169 | .0051 | -.0024 | 9.780 | -.0012 | .6112 | -.0003 | .0164 |
| #2 | .0150 | .1327 | 2.172 | .0131 | .0163 | 9.728 | -.0087 | .6101 | .0000 | .0142 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0035 | .0220 | .0241 | -.0104 |
| Stddev | .0029 | .0796 | .0013 | .0077 |
| %RSD | 82.04 | 362.0 | 5.440 | 74.21 |
| #1 | .0055 | .0782 | .0232 | -.0049 |
| #2 | .0015 | -.0343 | .0251 | -.0158 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1270.9 | 33701. | 16731. |
| Stddev | 4.9 | 93. | 16. |
| %RSD | .38217 | .27738 | .09511 |
| #1 | 1267.5 | 33635. | 16743. |
| #2 | 1274.3 | 33767. | 16720. |

Zoom In Zoom Out

Sample Name: MC25568-10F Acquired: 10/31/2013 20:07:32 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | -.0395 | .1972 | -.0216 | .2410 | .0541 | -.0005 | 90.87 | -.0009 | .0088 |
| Stddev | .0001 | .0162 | .0052 | .0065 | .0013 | .0004 | .0002 | .04 | .0000 | .0015 |
| %RSD | 5.395 | 40.95 | 2.645 | 30.15 | .5218 | .7938 | 32.34 | .0415 | 3.318 | 17.07 |
| #1 | -.0013 | -.0281 | .1935 | -.0170 | .2419 | .0538 | -.0004 | 90.89 | -.0009 | .0078 |
| #2 | -.0012 | -.0510 | .2009 | -.0262 | .2401 | .0544 | -.0006 | 90.84 | -.0009 | .0099 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0063 | -.0070 | 17.49 | 7.412 | 13.56 | 6.156 | .0015 | 30.58 | .0068 | -.0072 |
| Stddev | .0039 | .0019 | .21 | .153 | .01 | .001 | .0002 | .09 | .0001 | .0023 |
| %RSD | 61.52 | 26.49 | 1.202 | 2.057 | .0640 | .0186 | 16.45 | .2904 | .7805 | 32.72 |
| #1 | -.0036 | -.0057 | 17.34 | 7.305 | 13.55 | 6.157 | .0017 | 30.52 | .0068 | -.0055 |
| #2 | -.0091 | -.0084 | 17.64 | 7.520 | 13.56 | 6.156 | .0013 | 30.65 | .0068 | -.0088 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0028 | .0513 | 1.802 | .0045 | .0041 | 9.062 | -.0012 | .8017 | .0024 | .0072 |
| Stddev | .0034 | .0187 | .000 | .0004 | .0027 | .001 | .0008 | .0023 | .0009 | .0031 |
| %RSD | 122.3 | 36.46 | .0041 | 8.420 | 66.28 | .0057 | 71.42 | .2831 | 39.24 | 43.59 |
| #1 | .0052 | .0646 | 1.802 | .0048 | .0060 | 9.062 | -.0006 | .8001 | .0017 | .0050 |
| #2 | .0004 | .0381 | 1.801 | .0042 | .0022 | 9.062 | -.0018 | .8034 | .0031 | .0094 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0052 | -.0124 | .0097 | -.0262 |
| Stddev | .0008 | .0150 | .0002 | .0002 |
| %RSD | 15.80 | 120.8 | 2.485 | .7991 |
| #1 | .0046 | -.0018 | .0099 | -.0261 |
| #2 | .0057 | -.0230 | .0095 | -.0264 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1268.4 | 33501. | 16713. |
| Stddev | .6 | 145. | 21. |
| %RSD | .04972 | .43148 | .12654 |
| #1 | 1268.0 | 33399. | 16698. |
| #2 | 1268.8 | 33604. | 16728. |



Zoom In Zoom Out

Sample Name: MC25568-12F Acquired: 10/31/2013 20:12:27 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0035 | .0257 | -.0035 | .0198 | .0628 | -.0003 | 41.92 | -.0006 | -.0004 |
| Stddev | .0010 | .0074 | .0015 | .0030 | .0004 | .0006 | .0001 | .22 | .0001 | .0002 |
| %RSD | 75.12 | 212.3 | 5.944 | 84.42 | 2.214 | .9251 | 43.91 | .5274 | 8.868 | 49.89 |
| #1 | -.0021 | -.0017 | .0246 | -.0014 | .0195 | .0624 | -.0004 | 41.76 | -.0006 | -.0006 |
| #2 | -.0007 | .0087 | .0268 | -.0056 | .0201 | .0632 | -.0002 | 42.07 | -.0006 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0070 | .5807 | 4.456 | 4.289 | .1606 | .0017 | 10.20 | -.0010 | -.0041 |
| Stddev | .0003 | .0011 | .0133 | .021 | .121 | .0003 | .0001 | .13 | .0002 | .0056 |
| %RSD | 22.62 | 15.75 | 2.291 | .4635 | 2.816 | .1871 | 3.700 | 1.225 | 18.06 | 136.1 |
| #1 | .0013 | -.0062 | .5713 | 4.470 | 4.204 | .1604 | .0016 | 10.12 | -.0009 | -.0002 |
| #2 | .0010 | -.0078 | .5901 | 4.441 | 4.375 | .1608 | .0017 | 10.29 | -.0011 | -.0080 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0078 | .0177 | 2.269 | .0016 | .0053 | 3.199 | .0007 | .2968 | .0003 | .0068 |
| Stddev | .0076 | .0014 | .001 | .0003 | .0001 | .005 | .0014 | .0019 | .0039 | .0019 |
| %RSD | 97.09 | 7.872 | .0428 | 19.06 | 1.770 | .1697 | 202.3 | .6533 | 1522. | 28.61 |
| #1 | .0132 | .0186 | 2.270 | .0014 | .0052 | 3.203 | .0017 | .2954 | -.0025 | .0054 |
| #2 | .0025 | .0167 | 2.268 | .0018 | .0053 | 3.195 | -.0003 | .2982 | .0030 | .0081 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0028 | .0230 | .0049 | .0029 |
| Stddev | .0006 | .0073 | .0011 | .0022 |
| %RSD | 22.71 | 31.62 | 22.77 | 74.82 |
| #1 | .0023 | .0179 | .0041 | .0014 |
| #2 | .0032 | .0282 | .0057 | .0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1273.2 | 33739. | 16305. |
| Stddev | 1.7 | . | 37. |
| %RSD | .13684 | .00110 | .22986 |
| #1 | 1272.0 | 33739. | 16332. |
| #2 | 1274.5 | 33739. | 16279. |



Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 20:17:22 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0032 | .8645 | -.0059 | .1039 | .0204 | -.0001 | 102.6 | -.0010 | .0053 |
| Stddev | .0044 | .0036 | .0005 | .0006 | .0004 | .0010 | .0001 | .8 | .0001 | .0007 |
| %RSD | 486.8 | 114.3 | .0589 | 9.647 | .3406 | 5.007 | 82.13 | .7409 | 7.920 | 12.38 |
| #1 | .0040 | -.0006 | .8649 | -.0063 | .1037 | .0197 | .0000 | 102.0 | -.0011 | .0057 |
| #2 | -.0022 | -.0058 | .8642 | -.0055 | .1042 | .0211 | -.0001 | 103.1 | -.0009 | .0048 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0019 | -.0075 | 17.36 | 3.771 | 13.55 | 3.126 | .0053 | 33.66 | .0025 | -.0092 |
| Stddev | .0039 | .0003 | .32 | .189 | .35 | .003 | .0003 | .18 | .0013 | .0001 |
| %RSD | 207.1 | 3.787 | 1.815 | 5.016 | 2.562 | .1041 | 4.920 | .5294 | 52.75 | 1.074 |
| #1 | -.0046 | -.0073 | 17.13 | 3.638 | 13.30 | 3.128 | .0055 | 33.53 | .0034 | -.0092 |
| #2 | .0009 | -.0077 | 17.58 | 3.905 | 13.79 | 3.124 | .0051 | 33.78 | .0016 | -.0091 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0634 | .3873 | .0032 | .0074 | 16.61 | -.0048 | .4696 | -.0010 | .0024 |
| Stddev | .0017 | .0030 | .0002 | .0057 | .0004 | .03 | .0015 | .0025 | .0011 | .0023 |
| %RSD | 801.2 | 4.797 | .0489 | 177.6 | 4.716 | .1884 | 31.50 | .5225 | 116.0 | 94.99 |
| #1 | .0010 | .0612 | .3874 | .0072 | .0077 | 16.63 | -.0037 | .4678 | -.0018 | .0040 |
| #2 | -.0014 | .0655 | .3872 | -.0008 | .0072 | 16.58 | -.0058 | .4713 | -.0002 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0032 | .0121 | .0068 | -.0669 |
| Stddev | .0008 | .0169 | .0016 | .0006 |
| %RSD | 23.79 | 139.6 | 23.56 | .8610 |
| #1 | .0026 | .0240 | .0056 | -.0673 |
| #2 | .0037 | .0002 | .0079 | -.0665 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.3 | 33498. | 16768. |
| Stddev | 2.2 | 139. | 80. |
| %RSD | .16936 | .41421 | .47859 |
| #1 | 1272.8 | 33400. | 16825. |
| #2 | 1269.8 | 33596. | 16711. |



Zoom In Zoom Out

Sample Name: MC25568-13F Acquired: 10/31/2013 20:22:16 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0024 | -.0300 | .8739 | -.0233 | .1100 | .0211 | -.0004 | 105.6 | -.0024 | .0035 |
| Stddev | .0057 | .0061 | .0172 | .0068 | .0057 | .0012 | .0001 | .6 | .0006 | .0007 |
| %RSD | 236.6 | 20.24 | 1.967 | 29.20 | 5.141 | 5.849 | 26.65 | .5389 | 27.37 | 19.85 |
| #1 | .0064 | -.0257 | .8860 | -.0185 | .1060 | .0220 | -.0004 | 105.2 | -.0028 | .0030 |
| #2 | -.0016 | -.0342 | .8617 | -.0281 | .1140 | .0202 | -.0005 | 106.0 | -.0019 | .0040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | -.0162 | 17.64 | 3.804 | 14.03 | 3.178 | .0058 | 34.07 | .0028 | -.0060 |
| Stddev | .0066 | .0114 | .24 | .079 | .02 | .014 | .0012 | .04 | .0014 | .0035 |
| %RSD | 129.4 | 70.12 | 1.349 | 2.079 | .1653 | .4542 | 19.89 | .1314 | 50.82 | 59.09 |
| #1 | -.0004 | -.0082 | 17.48 | 3.748 | 14.05 | 3.168 | .0067 | 34.04 | .0039 | -.0035 |
| #2 | -.0098 | -.0243 | 17.81 | 3.859 | 14.02 | 3.188 | .0050 | 34.11 | .0018 | -.0085 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0443 | .3984 | .0049 | -.0004 | 16.71 | .0030 | .4876 | .0084 | .0161 |
| Stddev | .0226 | .0433 | .0061 | .0077 | .0050 | .04 | .0002 | .0014 | .0035 | .0033 |
| %RSD | 463.0 | 97.72 | 1.527 | 154.8 | 1350. | .2264 | 7.683 | .2918 | 42.07 | 20.24 |
| #1 | .0209 | .0749 | .4027 | -.0005 | -.0039 | 16.69 | .0029 | .4866 | .0059 | .0138 |
| #2 | -.0111 | .0137 | .3941 | .0104 | .0032 | 16.74 | .0032 | .4886 | .0108 | .0184 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0131 | .0283 | .0087 | -.0423 |
| Stddev | .0043 | .0482 | .0013 | .0024 |
| %RSD | 32.53 | 170.2 | 15.35 | 5.773 |
| #1 | .0101 | .0624 | .0097 | -.0440 |
| #2 | .0162 | -.0058 | .0078 | -.0406 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1276.8 | 33269. | 16525. |
| Stddev | 7.2 | 190. | 140. |
| %RSD | .56506 | .57128 | .84564 |
| #1 | 1281.9 | 33403. | 16624. |
| #2 | 1271.7 | 33134. | 16427. |

Zoom In Zoom Out

Sample Name: MC25568-15F Acquired: 10/31/2013 20:27:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0418 | .0302 | -.0050 | .0289 | .0152 | .0000 | 26.27 | -.0003 | .0000 |
| Stddev | .0001 | .0015 | .0025 | .0008 | .0006 | .0002 | .000 | .13 | .0003 | .0005 |
| %RSD | 12.62 | 3.658 | 8.441 | 16.97 | 2.225 | 1.416 | 60380. | .5115 | 111.9 | 6500. |
| #1 | .0007 | .0407 | .0284 | -.0044 | .0284 | .0153 | .0001 | 26.17 | -.0001 | -.0003 |
| #2 | .0006 | .0428 | .0320 | -.0056 | .0294 | .0150 | -.0001 | 26.36 | -.0005 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | -.0032 | 9.369 | 2.674 | 2.582 | .4655 | .0000 | 6.428 | -.0002 | -.0022 |
| Stddev | .0021 | .0001 | .010 | .043 | .070 | .0026 | .0002 | .011 | .0009 | .0009 |
| %RSD | 167.2 | 4.269 | .1022 | 1.628 | 2.717 | .5617 | 559.0 | .1659 | 398.1 | 42.44 |
| #1 | -.0002 | -.0031 | 9.362 | 2.705 | 2.632 | .4674 | -.0001 | 6.436 | .0004 | -.0016 |
| #2 | .0028 | -.0033 | 9.376 | 2.644 | 2.532 | .4637 | .0002 | 6.421 | -.0009 | -.0029 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0037 | .0091 | .7463 | .0019 | .0005 | 2.685 | -.0003 | .1514 | .0003 | .0011 |
| Stddev | .0003 | .0262 | .0045 | .0007 | .0002 | .003 | .0015 | .0008 | .0010 | .0017 |
| %RSD | 9.194 | 288.7 | .6036 | 35.37 | 38.06 | .1207 | 547.4 | .5054 | 299.2 | 148.9 |
| #1 | .0040 | .0276 | .7431 | .0014 | .0006 | 2.682 | -.0013 | .1508 | -.0004 | -.0001 |
| #2 | .0035 | -.0095 | .7495 | .0024 | .0003 | 2.687 | .0008 | .1519 | .0010 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0039 | .0164 | .0088 | -.0013 |
| Stddev | .0006 | .0243 | .0001 | .0009 |
| %RSD | 15.23 | 147.9 | 1.185 | 70.23 |
| #1 | .0035 | .0336 | .0087 | -.0007 |
| #2 | .0043 | -.0007 | .0089 | -.0020 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1264.5 | 33373. | 16604. |
| Stddev | .1 | 39. | 21. |
| %RSD | .00745 | .11586 | .12651 |
| #1 | 1264.4 | 33345. | 16619. |
| #2 | 1264.5 | 33400. | 16589. |



Zoom In Zoom Out

Sample Name: MC25568-16F Acquired: 10/31/2013 20:32:05 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0843 | .1144 | -.0348 | .2293 | .0287 | -.0004 | 83.69 | .0000 | .0135 |
| Stddev | .0016 | .0231 | .0025 | .0086 | .0007 | .0001 | .0000 | .49 | .0002 | .0003 |
| %RSD | 867.0 | 27.35 | 2.157 | 24.66 | .3014 | .3040 | 11.28 | .5878 | 766.2 | 2.395 |
| #1 | .0013 | -.0680 | .1161 | -.0408 | .2298 | .0287 | -.0004 | 83.34 | .0002 | .0137 |
| #2 | -.0009 | -.1006 | .1126 | -.0287 | .2288 | .0286 | -.0005 | 84.04 | -.0001 | .0133 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | -.0096 | 19.54 | 5.457 | 12.14 | 10.88 | .0009 | 33.44 | .0055 | -.0044 |
| Stddev | .0003 | .0015 | .01 | .073 | .21 | .04 | .0006 | .04 | .0008 | .0134 |
| %RSD | 8.027 | 15.50 | .0703 | 1.347 | 1.768 | .3852 | 68.50 | .1317 | 14.25 | 307.3 |
| #1 | -.0040 | -.0086 | 19.53 | 5.509 | 11.99 | 10.91 | .0005 | 33.47 | .0049 | .0051 |
| #2 | -.0045 | -.0107 | 19.55 | 5.405 | 12.29 | 10.85 | .0013 | 33.40 | .0061 | -.0139 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0041 | .0817 | .9673 | .0032 | .0087 | 8.010 | -.0023 | .8462 | .0000 | .0071 |
| Stddev | .0082 | .0203 | .0102 | .0021 | .0054 | .056 | .0042 | .0004 | .0018 | .0007 |
| %RSD | 201.2 | 24.90 | 1.050 | 66.50 | 62.45 | .6992 | 181.7 | .0482 | 7471. | 9.513 |
| #1 | -.0017 | .0961 | .9745 | .0017 | .0125 | 8.050 | .0007 | .8460 | -.0012 | .0066 |
| #2 | .0099 | .0673 | .9602 | .0047 | .0049 | 7.971 | -.0052 | .8465 | .0013 | .0076 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0050 | .0173 | .0155 | -.0209 |
| Stddev | .0017 | .0198 | .0001 | .0002 |
| %RSD | 33.84 | 114.7 | .6336 | .8396 |
| #1 | .0062 | .0313 | .0155 | -.0210 |
| #2 | .0038 | .0033 | .0154 | -.0208 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 33265. | 16647. |
| Stddev | 5.3 | 6. | 171. |
| %RSD | .41470 | .01704 | 1.0267 |
| #1 | 1268.2 | 33261. | 16768. |
| #2 | 1275.6 | 33269. | 16526. |



Zoom In Zoom Out

Sample Name: MC25594-2F Acquired: 10/31/2013 20:36:59 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0124 | .0391 | -.0069 | .0211 | .0169 | -.0002 | 22.21 | -.0007 | .0087 |
| Stddev | .0001 | .0019 | .0044 | .0009 | .0004 | .0002 | .0001 | .09 | .0003 | .0003 |
| %RSD | 179.7 | 15.44 | 11.22 | 12.66 | 2.023 | 1.420 | 46.82 | .3956 | 46.19 | 3.033 |
| #1 | .0000 | -.0138 | .0360 | -.0075 | .0214 | .0171 | -.0002 | 22.27 | -.0005 | .0085 |
| #2 | .0002 | -.0111 | .0422 | -.0063 | .0208 | .0167 | -.0001 | 22.15 | -.0010 | .0089 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0028 | -.0032 | 8.783 | 3.372 | 3.920 | 1.681 | -.0001 | 2.994 | .0052 | -.0010 |
| Stddev | .0044 | .0012 | .006 | .099 | .002 | .006 | .0006 | .012 | .0003 | .0008 |
| %RSD | 157.6 | 38.55 | .0638 | 2.933 | .0608 | .3778 | 867.6 | .4035 | 4.952 | 77.03 |
| #1 | .0003 | -.0023 | 8.779 | 3.442 | 3.918 | 1.686 | .0004 | 2.986 | .0050 | -.0016 |
| #2 | -.0059 | -.0041 | 8.787 | 3.302 | 3.921 | 1.677 | -.0005 | 3.003 | .0054 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0188 | 5.361 | .0027 | .0018 | 6.440 | -.0002 | .1385 | .0002 | .0014 |
| Stddev | .0070 | .0133 | .009 | .0017 | .0020 | .017 | .0003 | .0005 | .0020 | .0009 |
| %RSD | 725.9 | 70.57 | .1778 | 61.01 | 113.6 | .2618 | 203.5 | .3895 | 884.5 | 63.16 |
| #1 | -.0040 | .0094 | 5.368 | .0039 | .0004 | 6.452 | .0001 | .1381 | .0017 | .0021 |
| #2 | .0060 | .0282 | 5.355 | .0016 | .0032 | 6.428 | -.0004 | .1389 | -.0012 | .0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0151 | .0147 | -.0211 |
| Stddev | .0019 | .0048 | .0001 | .0057 |
| %RSD | 329.3 | 31.96 | .9534 | 27.11 |
| #1 | .0019 | .0117 | .0148 | -.0171 |
| #2 | -.0008 | .0185 | .0146 | -.0252 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1271.9 | 33188. | 16605. |
| Stddev | 3.7 | 259. | 155. |
| %RSD | .28860 | .78135 | .93269 |
| #1 | 1269.3 | 33004. | 16496. |
| #2 | 1274.5 | 33371. | 16715. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 20:41:54 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2524 | 9.519 | 1.840 | -.0064 | 1.881 | 1.896 | 2.057 | 9.802 | 1.914 |
| Stddev | .0004 | .020 | .003 | .0005 | .004 | .002 | .005 | .062 | .002 |
| %RSD | .1663 | .2132 | .1845 | 7.705 | .2254 | .0849 | .2465 | .6322 | .1145 |
| #1 | .2522 | 9.504 | 1.843 | -.0061 | 1.878 | 1.894 | 2.053 | 9.758 | 1.912 |
| #2 | .2527 | 9.533 | 1.838 | -.0068 | 1.884 | 1.897 | 2.060 | 9.846 | 1.915 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.922 | F2.248 | 2.010 | 9.467 | 9.759 | 9.999 | 2.135 | 1.823 | 9.436 |
| Stddev | .002 | .001 | .002 | .027 | .031 | .001 | .005 | .005 | .010 |
| %RSD | .0788 | .0474 | .0825 | .2891 | .3133 | .0091 | .2259 | .2940 | .1072 |
| #1 | 1.921 | 2.249 | 2.009 | 9.447 | 9.737 | 10.00 | 2.132 | 1.819 | 9.429 |
| #2 | 1.923 | 2.247 | 2.012 | 9.486 | 9.780 | 9.999 | 2.139 | 1.827 | 9.444 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.755 | 1.818 | .0049 | .0046 | -.0015 | 1.802 | 1.820 | -.0165 | 1.937 |
| Stddev | .003 | .000 | .0006 | .0025 | .0002 | .006 | .005 | .0011 | .002 |
| %RSD | .1868 | .0225 | 12.01 | 54.97 | 15.76 | .3278 | .2570 | 6.667 | .1184 |
| #1 | 1.752 | 1.817 | .0045 | .0064 | -.0013 | 1.798 | 1.817 | -.0173 | 1.935 |
| #2 | 1.757 | 1.818 | .0054 | .0028 | -.0016 | 1.806 | 1.823 | -.0157 | 1.939 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.971 | 1.974 | 1.859 | 2.038 | .0051 | 1.857 | .0000 |
| Stddev | .016 | .001 | .004 | .003 | .0006 | .005 | .001 |
| %RSD | .7892 | .0617 | .2198 | .1500 | 11.93 | .2832 | 4397. |
| #1 | 1.982 | 1.975 | 1.856 | 2.040 | .0047 | 1.853 | .0007 |
| #2 | 1.960 | 1.974 | 1.862 | 2.036 | .0056 | 1.860 | -.0007 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.6 | 32923. | 16664. |
| Stddev | 2.2 | . | 57. |
| %RSD | .16878 | .00134 | .34295 |
| #1 | 1283.1 | 32923. | 16705. |
| #2 | 1280.0 | 32922. | 16624. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 20:46:40 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0036 | -.0005 | .0003 | .0016 | .0002 | .0000 | -.0015 | .0001 |
| Stddev | .0001 | .0003 | .0001 | .0009 | .0000 | .0001 | .0000 | .0028 | .0001 |
| %RSD | 34.91 | 9.189 | 19.72 | 344.6 | .8478 | 46.34 | 5.501 | 189.8 | 100.9 |
| #1 | .0002 | .0034 | -.0005 | -.0004 | .0016 | .0001 | .0000 | -.0034 | .0002 |
| #2 | .0003 | .0039 | -.0004 | .0009 | .0016 | .0002 | .0000 | .0005 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | -.0017 | .0014 | .0109 | .0154 | .0002 | .0024 | -.0008 |
| Stddev | .0002 | .0004 | .0005 | .0002 | .0085 | .0175 | .0000 | .0004 | .0008 |
| %RSD | 107.7 | 302.2 | 31.04 | 16.81 | 78.18 | 113.4 | 2.150 | 14.93 | 99.22 |
| #1 | .0001 | .0001 | -.0013 | .0015 | .0049 | .0031 | .0002 | .0026 | -.0002 |
| #2 | .0004 | -.0004 | -.0021 | .0012 | .0169 | .0278 | .0002 | .0021 | -.0014 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0004 | .0014 | .0032 | .0019 | .0003 | .0007 | -.0033 | .0005 |
| Stddev | .0001 | .0000 | .0002 | .0004 | .0010 | .0008 | .0003 | .0001 | .0004 |
| %RSD | 47.14 | .7060 | 11.25 | 11.57 | 53.56 | 287.9 | 47.21 | 3.886 | 74.44 |
| #1 | .0002 | .0004 | .0015 | .0035 | .0026 | .0009 | .0010 | -.0033 | .0002 |
| #2 | .0001 | .0004 | .0013 | .0029 | .0012 | -.0003 | .0005 | -.0034 | .0007 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | F.0033 | .0005 | .0005 | .0007 | .0053 |
| Stddev | .0000 | .0001 | .0002 | .0007 | .0015 | .0000 | .0001 |
| %RSD | 8.845 | 118.7 | 5.273 | 144.3 | 324.9 | 6.830 | 1.966 |
| #1 | .0001 | -.0002 | .0032 | .0000 | .0016 | .0007 | .0053 |
| #2 | .0002 | .0000 | .0034 | .0009 | -.0006 | .0006 | .0052 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1276.9 | 33397. | 16515. |
| Stddev | 1.3 | 107. | 106. |
| %RSD | .10409 | .32032 | .64375 |
| #1 | 1275.9 | 33321. | 16590. |
| #2 | 1277.8 | 33473. | 16439. |



Zoom In Zoom Out

Sample Name: MC25594-4F Acquired: 10/31/2013 20:51:37 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0030 | 2.928 | -.0022 | .1154 | .0318 | -.0001 | 37.51 | -.0031 | .0086 |
| Stddev | .0016 | .0004 | .018 | .0022 | .0001 | .0003 | .0001 | .04 | .0003 | .0002 |
| %RSD | 2592. | 14.78 | .6308 | 98.07 | .0919 | .9975 | 90.10 | .1028 | 11.09 | 2.848 |
| #1 | -.0012 | -.0033 | 2.915 | -.0007 | .1153 | .0315 | -.0001 | 37.49 | -.0029 | .0084 |
| #2 | .0010 | -.0027 | 2.941 | -.0038 | .1154 | .0320 | -.0002 | 37.54 | -.0033 | .0088 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | -.0045 | 28.77 | 6.732 | 5.847 | .9423 | .0098 | 15.02 | .0148 | -.0011 |
| Stddev | .0005 | .0004 | .06 | .064 | .079 | .0004 | .0003 | .02 | .0009 | .0003 |
| %RSD | 27.23 | 8.194 | .1981 | .9474 | 1.355 | .0454 | 3.156 | .1092 | 6.393 | 23.06 |
| #1 | .0015 | -.0042 | 28.73 | 6.687 | 5.791 | .9420 | .0101 | 15.01 | .0155 | -.0009 |
| #2 | .0022 | -.0048 | 28.81 | 6.778 | 5.903 | .9426 | .0096 | 15.03 | .0141 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .0130 | 1.572 | .0022 | .0057 | 10.01 | -.0017 | .3786 | .0013 | .0029 |
| Stddev | .0047 | .0282 | .007 | .0006 | .0025 | .01 | .0016 | .0009 | .0016 | .0008 |
| %RSD | 101.6 | 216.8 | .4606 | 25.98 | 43.43 | .1220 | 95.44 | .2433 | 121.2 | 27.95 |
| #1 | .0013 | .0329 | 1.578 | .0026 | .0040 | 10.02 | -.0028 | .3779 | .0002 | .0035 |
| #2 | .0080 | -.0069 | 1.567 | .0018 | .0075 | 10.00 | -.0005 | .3792 | .0025 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0045 | .0242 | .0319 | -.0380 |
| Stddev | .0016 | .0012 | .0005 | .0013 |
| %RSD | 35.91 | 4.991 | 1.692 | 3.483 |
| #1 | .0034 | .0251 | .0323 | -.0389 |
| #2 | .0057 | .0234 | .0315 | -.0370 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1263.4 | 33042. | 16504. |
| Stddev | .4 | 32. | 56. |
| %RSD | .03493 | .09703 | .34233 |
| #1 | 1263.1 | 33064. | 16464. |
| #2 | 1263.7 | 33019. | 16544. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 10/31/2013 20:56:32 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0050 | .1994 | .0047 | -.0005 | .0982 | .0498 | .0044 | 4.991 | .0040 |
| Stddev | .0001 | .0018 | .0011 | .0003 | .0002 | .0002 | .0000 | .021 | .0002 |
| %RSD | 1.799 | .9018 | 23.38 | 65.29 | .2068 | .4866 | .8611 | .4201 | 4.528 |
| #1 | .0050 | .1982 | .0054 | -.0003 | .0984 | .0497 | .0044 | 5.006 | .0039 |
| #2 | .0049 | .2007 | .0039 | -.0007 | .0981 | .0500 | .0044 | 4.977 | .0041 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0501 | .0111 | .0241 | .0990 | 4.987 | 5.044 | .0172 | .0956 | 4.793 |
| Stddev | .0002 | .0000 | .0000 | .0013 | .001 | .060 | .0002 | .0002 | .019 |
| %RSD | .4694 | .0278 | .0184 | 1.306 | .0139 | 1.188 | 1.386 | .1904 | .3871 |
| #1 | .0503 | .0111 | .0241 | .0999 | 4.986 | 5.087 | .0173 | .0957 | 4.780 |
| #2 | .0499 | .0111 | .0241 | .0981 | 4.987 | 5.002 | .0170 | .0955 | 4.806 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0369 | .0041 | .0012 | .0005 | -.0002 | .0060 | .0097 | .0036 | .0980 |
| Stddev | .0001 | .0002 | .0012 | .0057 | .0010 | .0004 | .0010 | .0002 | .0000 |
| %RSD | .2084 | 5.296 | 95.84 | 1195. | 469.6 | 7.199 | 10.47 | 4.509 | .0345 |
| #1 | .0368 | .0042 | .0004 | -.0036 | -.0009 | .0063 | .0104 | .0038 | .0979 |
| #2 | .0370 | .0039 | .0020 | .0045 | .0005 | .0057 | .0090 | .0035 | .0980 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0104 | .0512 | F.0065 | .0112 | -.0003 | .0199 | .0054 |
| Stddev | .0000 | .0003 | .0012 | .0001 | .0021 | .0001 | .0012 |
| %RSD | .3692 | .6447 | 18.09 | .6221 | 698.6 | .4403 | 22.09 |
| #1 | .0104 | .0514 | .0074 | .0111 | .0012 | .0198 | .0062 |
| #2 | .0105 | .0510 | .0057 | .0112 | -.0018 | .0200 | .0045 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1281.0 | 33059. | 16613. |
| Stddev | 5.1 | 96. | 121. |
| %RSD | .39505 | .29189 | .72657 |
| #1 | 1277.4 | 32990. | 16527. |
| #2 | 1284.6 | 33127. | 16698. |



Zoom In Zoom Out

Sample Name: CRIB Acquired: 10/31/2013 21:01:27 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .2003 | .0091 | -.0006 | .0981 | .5049 | .0044 | 5.017 | .0040 | .0501 |
| Stddev | .0000 | .0062 | .0011 | .0017 | .0002 | .0010 | .0000 | .027 | .0001 | .0001 |
| %RSD | .3468 | 3.075 | 12.09 | 263.8 | .2049 | .1966 | .2517 | .5299 | 3.421 | .2254 |
| #1 | .0051 | .1959 | .0083 | -.0018 | .0983 | .5042 | .0044 | 4.998 | .0041 | .0502 |
| #2 | .0051 | .2046 | .0098 | .0005 | .0980 | .5056 | .0044 | 5.035 | .0039 | .0501 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0117 | .0239 | .0992 | 5.006 | 5.103 | .0170 | .0956 | 4.798 | .0370 | .0096 |
| Stddev | .0004 | .0001 | .0018 | .025 | .049 | .0001 | .0003 | .026 | .0002 | .0005 |
| %RSD | 3.478 | .4137 | 1.859 | .5084 | .9581 | .3543 | .2809 | .5343 | .4954 | 5.605 |
| #1 | .0120 | .0238 | .0979 | 4.988 | 5.068 | .0169 | .0954 | 4.780 | .0371 | .0100 |
| #2 | .0114 | .0240 | .1005 | 5.024 | 5.137 | .0170 | .0958 | 4.817 | .0369 | .0092 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0111 | -.0001 | .0076 | .0243 | -.0037 | .0983 | .0104 | .0503 | .0056 |
| Stddev | .0023 | .0093 | .0013 | .0006 | .0007 | .0002 | .0000 | .0000 | .0001 | .0005 |
| %RSD | 374.9 | 84.08 | 1311. | 8.311 | 3.074 | 5.281 | .0175 | .2055 | .1805 | 9.158 |
| #1 | .0023 | .0177 | -.0010 | .0080 | .0238 | -.0036 | .0983 | .0104 | .0502 | .0060 |
| #2 | -.0010 | .0045 | .0008 | .0071 | .0248 | -.0039 | .0983 | .0104 | .0503 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0113 | .0106 | .1056 | .0052 |
| Stddev | .0005 | .0031 | .0005 | .0003 |
| %RSD | 4.812 | 29.60 | .4548 | 5.217 |
| #1 | .0109 | .0084 | .1060 | .0053 |
| #2 | .0117 | .0128 | .1053 | .0050 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1277.4 | 32924. | 16407. |
| Stddev | 3.3 | 20. | 27. |
| %RSD | .26187 | .05992 | .16461 |
| #1 | 1275.0 | 32938. | 16388. |
| #2 | 1279.7 | 32910. | 16426. |

Zoom In Zoom Out

Sample Name: MP21935-B1 Acquired: 10/31/2013 21:06:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2074 | 2.078 | .5478 | -.0014 | .0080 | 1.985 | .5239 | .0105 | .5319 |
| Stddev | .0016 | .002 | .0037 | .0000 | .0001 | .001 | .0003 | .0010 | .0031 |
| %RSD | .7667 | .0717 | .6673 | 3.148 | .6566 | .0272 | .0551 | 9.597 | .5878 |
| #1 | .2063 | 2.076 | .5452 | -.0014 | .0080 | 1.985 | .5237 | .0112 | .5297 |
| #2 | .2085 | 2.079 | .5504 | -.0015 | .0079 | 1.984 | .5241 | .0097 | .5342 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4760 | .5877 | .5207 | 1.966 | .2626 | .0220 | .5335 | .0000 | F1307. |
| Stddev | .0021 | .0027 | .0003 | .015 | .0097 | .0034 | .0032 | .000 | 7. |
| %RSD | .4342 | .4623 | .0512 | .7786 | 3.712 | 15.55 | .6036 | 251.1 | .5083 |
| #1 | .4745 | .5857 | .5205 | 1.955 | .2695 | .0244 | .5313 | -.0001 | 1302. |
| #2 | .4774 | .5896 | .5209 | 1.977 | .2557 | .0196 | .5358 | .0000 | 1311. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4308 | .8799 | .0030 | .0086 | .0487 | .4799 | .5530 | .0240 | .0027 |
| Stddev | .0007 | .0032 | .0024 | .0066 | .0044 | .0012 | .0005 | .0006 | .0008 |
| %RSD | .1565 | .3583 | 78.79 | 76.80 | 8.952 | .2511 | .0878 | 2.348 | 29.27 |
| #1 | .4303 | .8777 | .0013 | .0133 | .0456 | .4791 | .5527 | .0244 | .0033 |
| #2 | .4313 | .8821 | .0047 | .0039 | .0518 | .4808 | .5534 | .0236 | .0021 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .5071 | .5032 | .4178 | .5321 | .0071 | .4958 | .0035 |
| Stddev | .0006 | .0059 | .0014 | .0051 | .0077 | .0021 | .0005 |
| %RSD | .1159 | 1.172 | .3344 | .9618 | 107.4 | .4173 | 15.21 |
| #1 | .5075 | .4990 | .4168 | .5285 | .0017 | .4944 | .0032 |
| #2 | .5066 | .5073 | .4188 | .5358 | .0126 | .4973 | .0039 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1189.3 | 33415. | 16483. |
| Stddev | 4.4 | 213. | 50. |
| %RSD | .36866 | .63730 | .30589 |
| #1 | 1192.4 | 33566. | 16519. |
| #2 | 1186.2 | 33265. | 16448. |



Zoom In Zoom Out

Sample Name: MP21935-MB1 Acquired: 10/31/2013 21:11:14 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0000 | -.0010 | -.0008 | .0005 | .0001 | .0000 | .0013 | .0000 | -.0002 |
| Stddev | .0006 | .001 | .0005 | .0007 | .0000 | .0000 | .000 | .0002 | .000 | .0003 |
| %RSD | 163.9 | 2950. | 54.31 | 91.36 | 3.515 | 8.699 | 11.42 | 14.44 | 13.62 | 156.8 |
| #1 | .0001 | -.0007 | -.0014 | -.0003 | .0005 | .0001 | .0000 | .0014 | .0000 | .0000 |
| #2 | -.0008 | .0006 | -.0006 | -.0013 | .0005 | .0001 | .0000 | .0012 | .0000 | -.0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0015 | .0007 | .0326 | .0035 | .0013 | .0002 | .1321 | -.0001 | -.0008 |
| Stddev | .0003 | .0000 | .0007 | .0002 | .0023 | .0000 | .0000 | .0038 | .0004 | .0009 |
| %RSD | 126.8 | .6960 | 97.93 | .6716 | 65.80 | 2.343 | 7.936 | 2.904 | 292.6 | 110.0 |
| #1 | .0000 | -.0015 | .0012 | .0324 | .0018 | .0013 | .0002 | .1348 | -.0004 | -.0014 |
| #2 | .0004 | -.0015 | .0002 | .0327 | .0051 | .0014 | .0002 | .1293 | .0001 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0086 | .0026 | .0020 | .0018 | .0183 | -.0002 | .0001 | -.0002 | .0002 |
| Stddev | .0000 | .0100 | .0004 | .0007 | .0020 | .0002 | .0003 | .0000 | .0005 | .0000 |
| %RSD | 12.31 | 115.1 | 16.69 | 34.67 | 112.3 | .9653 | 128.0 | 23.31 | 210.8 | 12.66 |
| #1 | -.0002 | .0157 | .0023 | .0015 | .0032 | .0181 | -.0005 | .0001 | -.0006 | .0002 |
| #2 | -.0002 | .0016 | .0029 | .0025 | .0004 | .0184 | .0000 | .0001 | .0001 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0009 | -.0002 | .0048 |
| Stddev | .0000 | .0010 | .0002 | .0008 |
| %RSD | 4.996 | 107.2 | 93.64 | 16.40 |
| #1 | .0005 | -.0002 | -.0001 | .0042 |
| #2 | .0005 | -.0017 | -.0004 | .0053 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1253.3 | 33025. | 16565. |
| Stddev | 2.4 | 96. | 1. |
| %RSD | .19437 | .29112 | .00716 |
| #1 | 1251.6 | 33093. | 16566. |
| #2 | 1255.1 | 32957. | 16564. |



Zoom In Zoom Out

Sample Name: MP21935-S1 Acquired: 10/31/2013 21:16:12 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2149 | 3.051 | .5582 | -.0042 | .0266 | 2.366 | .5181 | F796.9 | .5479 |
| Stddev | .0006 | .008 | .0046 | .0006 | .0000 | .004 | .0025 | 6.9 | .0002 |
| %RSD | .2711 | .2704 | .8267 | 14.25 | .1230 | .1726 | .4739 | .8640 | .0318 |
| #1 | .2144 | 3.045 | .5615 | -.0046 | .0266 | 2.363 | .5163 | 792.1 | .5480 |
| #2 | .2153 | 3.057 | .5550 | -.0037 | .0266 | 2.368 | .5198 | 801.8 | .5478 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4641 | .8309 | .7867 | 1.917 | 32.11 | .1901 | .5272 | .3503 | F1357. |
| Stddev | .0019 | .0020 | .0005 | .010 | .05 | .0070 | .0010 | .0009 | 27. |
| %RSD | .4119 | .2409 | .0674 | .5421 | .1575 | 3.678 | .1875 | .2634 | 1.993 |
| #1 | .4628 | .8295 | .7863 | 1.910 | 32.07 | .1950 | .5265 | .3497 | 1338. |
| #2 | .4655 | .8323 | .7871 | 1.924 | 32.14 | .1851 | .5279 | .3510 | 1376. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4242 | 1.124 | -.0300 | -.0026 | F43.14 | .5316 | .5780 | 6.690 | .0011 |
| Stddev | .0003 | .002 | .0003 | .0118 | .09 | .0005 | .0010 | .003 | .0008 |
| %RSD | .0788 | .1882 | .9599 | 451.0 | .2035 | .1003 | .1704 | .0415 | 70.70 |
| #1 | .4239 | 1.123 | -.0302 | .0057 | 43.20 | .5320 | .5773 | 6.688 | .0017 |
| #2 | .4244 | 1.126 | -.0298 | -.0109 | 43.08 | .5312 | .5787 | 6.692 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.793 | .5043 | .4089 | .5430 | .0344 | .4662 | -.0289 |
| Stddev | .001 | .0063 | .0008 | .0065 | .0104 | .0008 | .0002 |
| %RSD | .0807 | 1.250 | .1928 | 1.192 | 30.15 | .1617 | .7017 |
| #1 | 1.792 | .4998 | .4084 | .5384 | .0418 | .4667 | -.0291 |
| #2 | 1.794 | .5087 | .4095 | .5476 | .0271 | .4656 | -.0288 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1115.5 | 32375. | 15802. |
| Stddev | .6 | 11. | 132. |
| %RSD | .05602 | .03255 | .83699 |
| #1 | 1115.9 | 32383. | 15896. |
| #2 | 1115.0 | 32368. | 15709. |



Zoom In Zoom Out

Sample Name: MP21935-S2 Acquired: 10/31/2013 21:21:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2169 | 3.054 | .5628 | -.0037 | .0260 | 2.383 | .5210 | F789.3 | .5483 |
| Stddev | .0010 | .023 | .0020 | .0027 | .0006 | .001 | .0027 | 4.6 | .0006 |
| %RSD | .4761 | .7454 | .3527 | 71.59 | 2.405 | .0255 | .5137 | .5880 | .1117 |
| #1 | .2161 | 3.070 | .5642 | -.0056 | .0265 | 2.383 | .5191 | 786.0 | .5479 |
| #2 | .2176 | 3.038 | .5614 | -.0019 | .0256 | 2.383 | .5229 | 792.5 | .5488 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4653 | .8318 | .7911 | 1.916 | 31.86 | .1731 | .5299 | .3481 | F1333. |
| Stddev | .0002 | .0032 | .0001 | .011 | .00 | .0014 | .0014 | .0005 | 10. |
| %RSD | .0501 | .3836 | .0142 | .5869 | .0007 | .7923 | .2562 | .1548 | .7379 |
| #1 | .4651 | .8295 | .7912 | 1.908 | 31.86 | .1721 | .5289 | .3485 | 1326. |
| #2 | .4654 | .8341 | .7911 | 1.924 | 31.87 | .1741 | .5308 | .3478 | 1340. |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4288 | 1.127 | -.0319 | .0110 | F42.51 | .5333 | .5827 | 6.618 | .0012 |
| Stddev | .0006 | .003 | .0008 | .0010 | .00 | .0005 | .0010 | .003 | .0001 |
| %RSD | .1512 | .2187 | 2.484 | 8.961 | .0106 | .0844 | .1754 | .0513 | 6.437 |
| #1 | .4292 | 1.125 | -.0325 | .0103 | 42.51 | .5330 | .5820 | 6.616 | .0013 |
| #2 | .4283 | 1.128 | -.0313 | .0117 | 42.51 | .5337 | .5834 | 6.621 | .0012 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.789 | .5106 | .4126 | .5498 | .0301 | .4683 | -.0288 |
| Stddev | .001 | .0008 | .0004 | .0002 | .0042 | .0003 | .0002 |
| %RSD | .0651 | .1588 | .0934 | .0355 | 14.12 | .0672 | .5892 |
| #1 | 1.788 | .5100 | .4129 | .5497 | .0271 | .4681 | -.0289 |
| #2 | 1.790 | .5111 | .4123 | .5500 | .0331 | .4685 | -.0287 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1118.4 | 32357. | 15814. |
| Stddev | .7 | 112. | 133. |
| %RSD | .06599 | .34568 | .84386 |
| #1 | 1119.0 | 32436. | 15909. |
| #2 | 1117.9 | 32278. | 15720. |

Zoom In Zoom Out

Sample Name: MC25697-1 Acquired: 10/31/2013 21:26:06 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .9276 | .0016 | -.0029 | .0137 | .2967 | -.0001 | F809.4 |
| Stddev | .0002 | .0075 | .0003 | .0005 | .0003 | .0017 | .0000 | 3.0 |
| %RSD | 3067. | .8088 | 17.53 | 18.64 | 2.452 | .5782 | 29.23 | .3678 |
| #1 | .0002 | .9223 | .0014 | -.0033 | .0139 | .2980 | .0000 | 807.3 |
| #2 | -.0002 | .9329 | .0018 | -.0025 | .0135 | .2955 | -.0001 | 811.5 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0012 | .2579 | .2488 | .0081 | 33.46 | .1623 | .0001 |
| Stddev | .0001 | .0003 | .0019 | .0022 | .0031 | .16 | .0029 | .0000 |
| %RSD | 41.26 | 26.42 | .7548 | .8855 | 38.74 | .4836 | 1.756 | 32.09 |
| #1 | -.0002 | -.0010 | .2565 | .2472 | .0103 | 33.57 | .1643 | .0001 |
| #2 | -.0003 | -.0014 | .2593 | .2504 | .0059 | 33.34 | .1603 | .0001 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .3599 | F1349. | .0088 | .7742 | -.0346 | -.0002 | F44.01 | .0334 |
| Stddev | .0004 | 13. | .0001 | .0021 | .0008 | .0026 | .09 | .0009 |
| %RSD | .1004 | .9961 | 1.442 | .2678 | 2.395 | 1135. | .2057 | 2.578 |
| #1 | .3597 | 1358. | .0088 | .7757 | -.0352 | -.0020 | 44.08 | .0328 |
| #2 | .3602 | 1339. | .0087 | .7728 | -.0341 | .0016 | 43.95 | .0340 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0151 | 6.633 | .0030 | 1.310 | .0048 | F-.0165 | .0140 | .0289 |
| Stddev | .0016 | .003 | .0004 | .005 | .0002 | .0001 | .0004 | .0014 |
| %RSD | 10.82 | .0507 | 13.07 | .4213 | 4.986 | .4049 | 2.648 | 4.834 |
| #1 | .0139 | 6.636 | .0028 | 1.314 | .0047 | -.0165 | .0138 | .0299 |
| #2 | .0162 | 6.631 | .0033 | 1.306 | .0050 | -.0164 | .0143 | .0280 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | -.0054 | -.0283 |
| Stddev | .0006 | .0005 |
| %RSD | 10.54 | 1.598 |
| #1 | -.0058 | -.0286 |
| #2 | -.0050 | -.0280 |



Zoom In Zoom Out

Sample Name: MC25697-1 Acquired: 10/31/2013 21:26:06 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.6 | 32487. | 15843. |
| Stddev | .8 | 50. | 56. |
| %RSD | .07470 | .15347 | .35634 |
| #1 | 1104.1 | 32452. | 15883. |
| #2 | 1105.2 | 32522. | 15803. |



Zoom In Zoom Out

Sample Name: MP21935-SD1 Acquired: 10/31/2013 21:31:11 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .9789 | .0072 | -.0053 | .0152 | .3098 | -.0005 | 866.9 | .0000 | -.0027 |
| Stddev | .0029 | .0570 | .0006 | .0004 | .0007 | .0017 | .0003 | .4 | .0009 | .0006 |
| %RSD | 221.8 | 5.821 | 8.078 | 8.137 | 4.860 | .5353 | 64.25 | .0460 | 3957. | 23.60 |
| #1 | -.0008 | .9386 | .0068 | -.0050 | .0147 | .3110 | -.0007 | 866.6 | .0007 | -.0023 |
| #2 | .0034 | 1.019 | .0076 | -.0056 | .0157 | .3086 | -.0003 | 867.1 | -.0006 | -.0032 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2746 | .2378 | .0148 | 33.68 | .1467 | .0009 | .3693 | 1401. | .0078 | .8365 |
| Stddev | .0032 | .0040 | .0081 | .27 | .0491 | .0000 | .0033 | 11. | .0001 | .0159 |
| %RSD | 1.157 | 1.666 | 54.58 | .8134 | 33.50 | 2.560 | .8884 | .7796 | 1.289 | 1.902 |
| #1 | .2769 | .2350 | .0091 | 33.87 | .1814 | .0009 | .3716 | 1409. | .0078 | .8478 |
| #2 | .2724 | .2406 | .0205 | 33.48 | .1119 | .0009 | .3669 | 1393. | .0079 | .8252 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0342 | .0202 | 44.50 | .0378 | .0222 | 6.590 | .0021 | 1.330 | .0057 | -.0063 |
| Stddev | .0119 | .0383 | .24 | .0005 | .0025 | .018 | .0012 | .000 | .0061 | .0075 |
| %RSD | 34.89 | 189.5 | .5487 | 1.208 | 11.32 | .2655 | 59.32 | .0304 | 107.1 | 118.7 |
| #1 | -.0258 | -.0069 | 44.67 | .0375 | .0205 | 6.602 | .0012 | 1.330 | .0099 | -.0010 |
| #2 | -.0427 | .0473 | 44.32 | .0381 | .0240 | 6.578 | .0030 | 1.330 | .0014 | -.0116 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0161 | .0360 | -.0035 | -.0070 |
| Stddev | .0016 | .0264 | .0000 | .0005 |
| %RSD | 9.745 | 73.19 | .5347 | 6.541 |
| #1 | .0172 | .0547 | -.0035 | -.0067 |
| #2 | .0150 | .0174 | -.0036 | -.0073 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1218.3 | 33249. | 16438. |
| Stddev | 6.6 | 31. | 43. |
| %RSD | .54094 | .09470 | .26428 |
| #1 | 1213.7 | 33227. | 16407. |
| #2 | 1223.0 | 33271. | 16469. |



Zoom In Zoom Out

Sample Name: MP21935-LB1 Acquired: 10/31/2013 21:36:17 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0060 | .0006 | .0003 | .0063 | .0017 | -.0001 | .0138 |
| Stddev | .0003 | .0009 | .0006 | .0007 | .0001 | .0001 | .0000 | .0033 |
| %RSD | 79.78 | 15.81 | 102.9 | 267.1 | 1.087 | 5.638 | 46.49 | 23.69 |
| #1 | .0005 | .0067 | .0002 | -.0002 | .0062 | .0018 | -.0001 | .0161 |
| #2 | .0001 | .0053 | .0010 | .0007 | .0063 | .0016 | -.0001 | .0115 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0001 | .0005 | -.0013 | .0070 | .3049 | .0239 | .0004 |
| Stddev | .0001 | .0002 | .0005 | .0001 | .0002 | .0041 | .0187 | .0000 |
| %RSD | 43.38 | 171.9 | 100.3 | 11.62 | 2.219 | 1.349 | 78.32 | .8130 |
| #1 | .0002 | -.0002 | .0009 | -.0012 | .0069 | .3078 | .0371 | .0004 |
| #2 | .0001 | .0000 | .0001 | -.0014 | .0071 | .3020 | .0107 | .0004 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | F1280. | .0025 | -.0008 | -.0009 | .0064 | .0529 | .0004 |
| Stddev | .0001 | 7. | .0001 | .0000 | .0019 | .0070 | .0006 | .0004 |
| %RSD | 38.45 | .5317 | 2.076 | 1.717 | 214.9 | 110.4 | 1.130 | 96.50 |
| #1 | .0003 | 1285. | .0025 | -.0008 | .0005 | .0113 | .0525 | .0007 |
| #2 | .0002 | 1276. | .0024 | -.0008 | -.0022 | .0014 | .0534 | .0001 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0069 | .0271 | .0048 | .0018 | .0001 | F-.0163 | .0003 | -.0037 |
| Stddev | .0020 | .0001 | .0000 | .0000 | .0002 | .0010 | .0002 | .0008 |
| %RSD | 28.40 | .4128 | .7138 | 2.144 | 309.8 | 6.336 | 48.33 | 20.79 |
| #1 | .0055 | .0270 | .0047 | .0017 | .0002 | -.0156 | .0002 | -.0031 |
| #2 | .0083 | .0271 | .0048 | .0018 | -.0001 | -.0171 | .0004 | -.0042 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | -.0041 | .0022 |
| Stddev | .0001 | .0002 |
| %RSD | 1.570 | 10.22 |
| #1 | -.0041 | .0021 |
| #2 | -.0040 | .0024 |

Zoom In Zoom Out

Sample Name: MP21935-LB1 Acquired: 10/31/2013 21:36:17 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1169.1 | 33927. | 16263. |
| Stddev | 6.0 | 232. | 125. |
| %RSD | .51740 | .68484 | .76869 |
| #1 | 1164.8 | 33763. | 16351. |
| #2 | 1173.4 | 34092. | 16174. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 10/31/2013 21:41:21 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2526 | 9.608 | 1.841 | -.0075 | 1.876 | 1.915 | 2.067 | 9.837 | 1.906 |
| Stddev | .0030 | .042 | .002 | .0004 | .000 | .002 | .017 | .084 | .000 |
| %RSD | 1.180 | .4401 | .1042 | 4.941 | .0153 | .1167 | .8010 | .8501 | .0139 |
| #1 | .2504 | 9.638 | 1.842 | -.0078 | 1.876 | 1.917 | 2.079 | 9.897 | 1.906 |
| #2 | .2547 | 9.578 | 1.840 | -.0073 | 1.876 | 1.914 | 2.056 | 9.778 | 1.906 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.923 | F2.238 | 2.005 | 9.545 | 9.826 | 9.996 | 2.124 | 1.827 | 9.555 |
| Stddev | .004 | .008 | .023 | .066 | .021 | .042 | .021 | .005 | .015 |
| %RSD | .2147 | .3757 | 1.160 | .6874 | .2089 | .4220 | .9689 | .2968 | .1555 |
| #1 | 1.920 | 2.232 | 1.989 | 9.592 | 9.841 | 10.03 | 2.109 | 1.823 | 9.565 |
| #2 | 1.926 | 2.244 | 2.021 | 9.499 | 9.812 | 9.966 | 2.138 | 1.831 | 9.544 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.761 | 1.818 | .0040 | .0149 | .0004 | 1.803 | 1.831 | -.0157 | 1.938 |
| Stddev | .000 | .003 | .0007 | .0014 | .0002 | .002 | .002 | .0016 | .001 |
| %RSD | .0048 | .1568 | 17.24 | 9.484 | 46.20 | .0811 | .1229 | 10.03 | .0580 |
| #1 | 1.761 | 1.816 | .0035 | .0159 | .0003 | 1.802 | 1.830 | -.0146 | 1.938 |
| #2 | 1.761 | 1.820 | .0045 | .0139 | .0006 | 1.804 | 1.833 | -.0168 | 1.939 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 2.001 | 1.982 | 1.865 | 2.040 | .0056 | 1.860 | -.0018 |
| Stddev | .005 | .017 | .004 | .015 | .0015 | .000 | .0000 |
| %RSD | .2722 | .8660 | .2142 | .7331 | 25.71 | .0182 | 1.635 |
| #1 | 2.005 | 1.970 | 1.862 | 2.029 | .0067 | 1.860 | -.0019 |
| #2 | 1.997 | 1.994 | 1.867 | 2.051 | .0046 | 1.861 | -.0018 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1284.2 | 33086. | 16811. |
| Stddev | .4 | 284. | 195. |
| %RSD | .02933 | .85838 | 1.1583 |
| #1 | 1284.5 | 33287. | 16673. |
| #2 | 1284.0 | 32885. | 16949. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 10/31/2013 21:46:08 Type: Unk
Method: Accutest -SS2 with S(v122) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0058 | .0004 | -.0010 | .0014 | .0002 | .0000 | -.0001 | .0001 |
| Stddev | .0004 | .0002 | .0003 | .0006 | .0003 | .0001 | .0000 | .0023 | .0002 |
| %RSD | 116.2 | 3.226 | 64.58 | 57.79 | 21.38 | 65.49 | 166.4 | 2730. | 179.7 |
| #1 | .0007 | .0059 | .0006 | -.0014 | .0017 | .0002 | .0001 | .0015 | .0000 |
| #2 | .0001 | .0057 | .0002 | -.0006 | .0012 | .0001 | .0000 | -.0017 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0002 | -.0013 | .0006 | .0248 | .0245 | .0002 | .0026 | .1259 |
| Stddev | .0000 | .0013 | .0001 | .0024 | .0093 | .0101 | .0000 | .0005 | .0108 |
| %RSD | 31.74 | 840.1 | 5.758 | 397.7 | 37.60 | 41.10 | 20.00 | 20.81 | 8.617 |
| #1 | .0002 | .0011 | -.0012 | .0023 | .0182 | .0317 | .0003 | .0030 | .1336 |
| #2 | .0001 | -.0008 | -.0013 | -.0011 | .0314 | .0174 | .0002 | .0022 | .1182 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0000 | -.0009 | .0091 | .0042 | .0005 | -.0003 | -.0027 | .0000 |
| Stddev | .0002 | .0003 | .0017 | .0094 | .0004 | .0000 | .0005 | .0000 | .000 |
| %RSD | 132.6 | 1246. | 194.9 | 103.2 | 9.285 | 2.769 | 164.9 | 1.480 | 63.01 |
| #1 | .0003 | -.0002 | -.0020 | .0025 | .0045 | .0005 | -.0006 | -.0028 | .0000 |
| #2 | .0000 | .0003 | .0003 | .0158 | .0039 | .0005 | .0000 | -.0027 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0001 | F.0027 | .0005 | -.0011 | .0010 | .0038 |
| Stddev | .0000 | .0010 | .0001 | .0000 | .0076 | .0000 | .0005 |
| %RSD | 2.931 | 1207. | 5.270 | 2.974 | 707.5 | 2.899 | 12.08 |
| #1 | .0001 | .0008 | .0028 | .0005 | -.0064 | .0010 | .0035 |
| #2 | .0001 | -.0006 | .0026 | .0005 | .0043 | .0011 | .0042 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1267.7 | 33828. | 16681. |
| Stddev | .9 | 49. | 74. |
| %RSD | .07438 | .14411 | .44122 |
| #1 | 1267.0 | 33863. | 16629. |
| #2 | 1268.4 | 33794. | 16733. |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | -0.000023 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000044 | 0.000000 | No |
| | | | Mo | -0.000196 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | -0.000014 | 0.000000 | No |
| | | | Al | -0.000004 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | 0.009121 | 0.000000 | No |
| | | | Mo | 0.038763 | 0.000000 | No |
| | | | Ca | 0.000085 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | -0.000019 | 0.000000 | No |
| | | | Al | 0.000012 | 0.000000 | No |
| | | | Mo | 0.000362 | 0.000000 | No |
| | | | Fe | -0.000007 | 0.000000 | No |
| | | | Mn | -0.000032 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cr | 0.000242 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.011376 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.022777 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000081 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000170 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000046 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001764 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | -0.000000 | 0.000000 | No |
| | | | Mn | 0.000599 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000036 | 0.000000 | No |
| | | | V | 0.000022 | 0.000000 | No |
| | | | Mo | 0.000337 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | -0.000205 | 0.000000 | No |
| | | | Fe | 0.000030 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000051 | 0.000000 | No |
| | | | Mn | 0.000111 | 0.000000 | No |
| | | | Mo | -0.001080 | 0.000000 | No |
| | | | Co | 0.000023 | 0.000000 | No |
| | | | Cu | -0.000002 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000058 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ni | 0.000029 | 0.000000 | No |
| | | | Si | 0.000132 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000028 | 0.000000 | No |
| | | | Cr | 0.003719 | 0.000000 | No |
| | | | Mo | -0.001502 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000192 | 0.000000 | No |
| | | | V | -0.001150 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | -0.000072 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | 0.000002 | 0.000000 | No |
| | | | Fe | -0.000233 | 0.000000 | No |
| | | | Mn | 0.000070 | 0.000000 | No |
| | | | Mo | 0.000004 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.001109 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.000652 | 0.000000 | No |
| | | | Cr | 0.000398 | 0.000000 | No |
| | | | V | -0.025265 | 0.000000 | No |
| | | | Co | 0.002209 | 0.000000 | No |
| | | | Al | -0.000008 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000001 | 0.000000 | No |
| | | | | Ti | -0.002323 | 0.000000 | No |
| | | | | Mo | -0.000044 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000508 | 0.000000 | No |
| | | | | Mo | -0.002216 | 0.000000 | No |
| | | | | Fe | -0.000038 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000671 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Prep QC: MP21920

ACCUTEST

| Date: | 10/29/13 |
|---|---|
| Time | 14:15 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP21920 |
| QC Sample ID: | MC25568-11F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37922-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21920-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21920-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21920-S1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-SD1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S2 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S3 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 7 | MP21920-S4 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 3 | MC25568-10F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25568-11F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25568-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-15F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-9F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25594-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25594-5F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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Protected Worksheet MMP003-02 QC Review PulY Date: 11/01/13

(Format edits must be done by dept. Manager)

7.4.1

7

ACCUTEST

| Date: | 10/29/13 |
|---|---|
| Time | 14:15 |

| | |
|---|---|
| Name: | SARAHA |
| MP Batch ID: | MP21920 |
| QC Sample ID: | MC25568-11F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-37922-METALS |
| Conc HNO3 | VENDOR-14081 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1306159 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38101-METALS |
| 0.5 | RGT-38102-METALS |
| 0.5 | RGT-38103-METALS |
| 0.5 | RGT-38104-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 6 | Therm ID | MP005 | Temp. C | 96 | Factor | -1.5 | Corrected Temp C | 94.5 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 3 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP21920-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP21920-B1 | 50 | 50 | | | | 3 | 5 | | |
| 7 | MP21920-S1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-SD1 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S2 | 50 | 50 | | | | 3 | 5 | | MC25568-11F |
| 7 | MP21920-S3 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 7 | MP21920-S4 | 50 | 50 | | | | 3 | 5 | | MC25594-1F |
| 3 | MC25568-10F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25568-11F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-12F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25568-14F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-15F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-16F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-7F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-8F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25568-9F | 50 | 50 | | | | 3 | 5 | | |
| 7 | MC25594-1F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-2F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-3F | 50 | 50 | | | | 3 | 5 | | |
| 3 | MC25594-4F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC25594-5F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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**Protected Worksheet** MMP003-02 QC Review PulY Date: 11/01/13

**(Format edits must be done by dept. Manager)**

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44888 | 5.0 | 1.1 | mg/l | 250 | 262 | 104.8 | 80-120% |
| Alkalinity, Total as CaCO3 | GN44897 | 5.0 | 1.1 | mg/l | 250 | 261 | 104.4 | 80-120% |
| Chloride | GN44894 | 1.0 | 0.0 | mg/l | 10 | 10.3 | 103.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16785/GN44844 | 0.10 | 0.0 | mg/l | 2 | 1.99 | 99.5 | 90-110% |
| Nitrogen, Nitrite | GP16769/GN44814 | 0.010 | 0.0 | mg/l | 0.020 | 0.019 | 95.0 | 80-120% |

Associated Samples:
Batch GN44888: MC25594-1, MC25594-2, MC25594-3
Batch GN44894: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GN44897: MC25594-4
Batch GP16769: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GP16785: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 71.2 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN44897 | MC25568-10 | mg/l | 348 | 350 | 0.6 | 0-20% |
| Chloride | GN44894 | MC25594-1 | mg/l | 88.7 | 88.7 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16785/GN44844 | MC25594-1 | mg/l | 0.16 | 0.16 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16769/GN44814 | MC25594-1 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN44888: MC25594-1, MC25594-2, MC25594-3
Batch GN44894: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GN44897: MC25594-4
Batch GP16769: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GP16785: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN44888 | MC25594-1 | mg/l | 71.2 | 250 | 341 | 107.9 | 75-125% |
| Alkalinity, Total as CaCO3 | GN44897 | MC25568-10 | mg/l | 348 | 250 | 606 | 103.2 | 75-125% |
| Chloride | GN44894 | MC25594-1 | mg/l | 88.7 | 10 | 98.7 | 100.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16785/GN44844 | MC25594-1 | mg/l | 0.16 | 2 | 2.2 | 102.0 | 90-110% |
| Nitrogen, Nitrite | GP16769/GN44814 | MC25594-1 | mg/l | 0.0017 U | 0.020 | 0.020 | 100.0 | 75-125% |

Associated Samples:
Batch GN44888: MC25594-1, MC25594-2, MC25594-3
Batch GN44894: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GN44897: MC25594-4
Batch GP16769: MC25594-1, MC25594-2, MC25594-3, MC25594-4
Batch GP16785: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:38 | GN44844-STD1 | 1 | | STDA5.0 |
| 13:39 | GN44844-STD2 | 1 | | STDB2.0 |
| 13:40 | GN44844-STD3 | 1 | | STDC1.0 |
| 13:41 | GN44844-STD4 | 1 | | STDD0.80 |
| 13:43 | GN44844-STD5 | 1 | | STDE0.50 |
| 13:44 | GN44844-STD6 | 1 | | STDF0.30 |
| 13:45 | GN44844-STD7 | 1 | | STDG0.10 |
| 13:46 | GN44844-STD8 | 1 | | STDH0.0 |
| 13:49 | GN44844-ICV1 | 1 | | |
| 13:50 | GN44844-ICB1 | 1 | | |
| 13:51 | GN44844-CCV1 | 1 | | |
| 13:52 | GN44844-CCB1 | 1 | | |
| 13:54 | ZZZZZZ | 1 | | Column efficiency. |
| 13:55 | GP16782-MB1 | 1 | | |
| 13:56 | GP16782-B1 | 1 | | |
| 13:57 | GP16782-S1 | 1 | | |
| 13:59 | GP16782-D1 | 1 | | |
| 14:00 | MC25522-6 | 1 | | (sample used for QC only; not part of login MC25594) |
| 14:01 | ZZZZZZ | 1 | | |
| 14:02 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:05 | ZZZZZZ | 1 | | |
| 14:06 | GN44844-CCV2 | 1 | | |
| 14:07 | GN44844-CCB2 | 1 | | |
| 14:09 | ZZZZZZ | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |
| 14:12 | ZZZZZZ | 1 | | |
| 14:13 | ZZZZZZ | 1 | | |
| 14:15 | GN44844-CCV3 | 1 | | |
| 14:16 | GN44844-CCB3 | 1 | | |
| 14:17 | GN44844-ICV2 | 1 | | |
| 14:18 | GN44844-ICB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:20 | GN44844-CCV4 | 1 | | |
| 14:21 | GN44844-CCB4 | 1 | | Raw data typo, CCV changed to CCB. |
| 14:22 | ZZZZZZ | 1 | | Column efficiency. |
| 14:23 | GP16783-MB1 | 1 | | |
| 14:25 | GP16783-B1 | 1 | | |
| 14:26 | GP16783-S1 | 1 | | |
| 14:27 | GP16783-D1 | 1 | | |
| 14:28 | MC25522-11 | 1 | | (sample used for QC only; not part of login MC25594) |
| 14:30 | ZZZZZZ | 1 | | |
| 14:31 | ZZZZZZ | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 1 | | |
| 14:35 | GN44844-CCV5 | 1 | | |
| 14:36 | GN44844-CCB5 | 1 | | |
| 14:37 | ZZZZZZ | 1 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:41 | GN44844-CCV6 | 1 | | |
| 14:42 | GN44844-CCB6 | 1 | | |
| 14:43 | GN44844-ICV3 | 1 | | |
| 14:44 | GN44844-ICB3 | 1 | | |
| 14:46 | GN44844-CCV7 | 1 | | |
| 14:47 | GN44844-CCB7 | 1 | | |
| 14:48 | ZZZZZZ | 1 | | Column efficiency. |
| 14:49 | GP16784-MB1 | 1 | | |
| 14:51 | GP16784-B1 | 1 | | |
| 14:52 | GP16784-S1 | 1 | | |
| 14:53 | GP16784-D1 | 1 | | |
| 14:54 | MC25568-11 | 1 | | (sample used for QC only; not part of login MC25594) |
| 14:56 | ZZZZZZ | 1 | | |
| 14:57 | ZZZZZZ | 1 | | |
| 14:58 | ZZZZZZ | 1 | | |
| 14:59 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Analyst: CF Run ID: GN44844
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:01 | GN44844-CCV8 | 1 | | |
| 15:02 | GN44844-CCB8 | 1 | | |
| 15:03 | ZZZZZZ | 1 | | |
| 15:04 | ZZZZZZ | 1 | | |
| 15:06 | ZZZZZZ | 1 | | |
| 15:07 | ZZZZZZ | 1 | | |
| 15:08 | ZZZZZZ | 1 | | |
| 15:09 | GN44844-CCV9 | 1 | | |
| 15:11 | GN44844-CCB9 | 1 | | |
| 15:12 | GN44844-ICV4 | 1 | | |
| 15:13 | GN44844-ICB4 | 1 | | |
| 15:14 | GN44844-CCV10 | 1 | | |
| 15:16 | GN44844-CCB10 | 1 | | |
| 15:17 | ZZZZZZ | 1 | | Column efficiency. |
| 15:18 | GP16785-MB1 | 1 | | |
| 15:19 | GP16785-B1 | 1 | | |
| 15:20 | GP16785-S1 | 1 | | |
| 15:22 | GP16785-D1 | 1 | | |
| 15:23 | MC25594-1 | 1 | | |
| 15:24 | MC25594-2 | 1 | | |
| 15:25 | MC25594-3 | 1 | | |
| 15:27 | MC25594-4 | 1 | | |
| 15:28 | GN44844-CCV11 | 1 | | |
| 15:29 | GN44844-CCB11 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25594
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 102813W2.NO3 Date Analyzed: 10/28/13 Methods: EPA 353.2
Run ID: GN44844 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN44844-ICV1 | Nitrogen, Nitrate + Nitrite | 2.9 | 0.10 | 0.027 | 3 | 96.7 | 90-110 |
| GN44844-ICB1 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV1 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN44844-CCV2 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB2 | Nitrogen, Nitrate + Nitrite | 0.031 | 0.10 | 0.027 | | | |
| GN44844-CCV3 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB3 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-ICV2 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB2 | Nitrogen, Nitrate + Nitrite | 0.030 | 0.10 | 0.027 | | | |
| GN44844-CCV4 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB4 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-CCV5 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV6 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB6 | Nitrogen, Nitrate + Nitrite | 0.029 | 0.10 | 0.027 | | | |
| GN44844-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN44844-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV7 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB7 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN44844-CCV8 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV9 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-ICV4 | Nitrogen, Nitrate + Nitrite | 3.0 | 0.10 | 0.027 | 3 | 100.0 | 90-110 |
| GN44844-ICB4 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV10 | Nitrogen, Nitrate + Nitrite | 1.9 | 0.10 | 0.027 | 2 | 95.0 | 90-110 |
| GN44844-CCB10 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN44844-CCV11 | Nitrogen, Nitrate + Nitrite | 2.0 | 0.10 | 0.027 | 2 | 100.0 | 90-110 |
| GN44844-CCB11 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ SM 21TH 4500 NO2 B M (Solids) ○ Units: mg/l as N mg/kg as I

Analyst: CRYSTALL
GN Batch ID: GN44814
GP Batch ID: GP16769
Date: 10/24/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 10/24/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.036 | 0.070 | 0.167 | 0.335 | 0.671 | 1.340 | | | | |
| Actual Value: | 0.000 | 0.010 | 0.021 | 0.050 | 0.100 | 0.200 | 0.400 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-31672-NO2 | Reagent | |
| CCV | GNSTD-31672-NO2-5 | Reagent | |
| ICV | GNSTD-31673-NO2-2 | Reagent | |
| Reagent | RGT-37839-NO2 | Reagent | |
| Reagent | RGT-37922-METALS | Reagent | |

Correlation Coeff. = 1.00000
Slope = 0.29879
Intercept = -0.00036

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC25594-1 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | |
| MS Sample ID: | MC25594-1 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.02 | % Rec: | 100% |
| MB Prep Date: | 10/24/13 | | | RL: | 0.01 | <RL ?: | Y | | |
| SB Prep Date: | 10/24/13 | Res: | 0.019 | Spike Amt: | 0.02 | % Rec: | 95% | | |
| SB Prep Date: | 10/24/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% |
| CCV (1) Res: | 0.2040 | Known: | 0.20 | % Rec: | 102% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | | Known: | 0.20 | % Rec: | |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: | |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16:28 | CCV | N/A | | 50 | 50 | 1 | 0.684 | 0.000 | 0.204 | 0.2040 | 0.010 |
| 16:49 | CCB | N/A | | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0002 | 0.010 |
| 16:49 | ICV | N/A | | 50 | 50 | 1 | 0.340 | 0.000 | 0.101 | 0.1012 | 0.010 |
| 16:49 | GP16769-MB1 | N/A | | 50 | 50 | 1 | -0.002 | 0.000 | 0.000 | -0.0004 | 0.010 |
| 16:49 | GP16769-B1 | N/A | | 50 | 50 | 1 | 0.065 | 0.000 | 0.019 | 0.0191 | 0.010 |
| 16:49 | GP16769-S1 | 7 | 1 | 50 | 50 | 1 | 0.069 | 0.000 | 0.020 | 0.0203 | 0.010 |
| 16:49 | GP16769-D1 | 7 | 1 | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0001 | 0.010 |
| 16:49 | MC25594-1 | 7 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | -0.0004 | 0.010 |
| 16:49 | MC25594-2 | 6 | 1 | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | -0.0004 | 0.010 |
| 16:49 | MC25594-3 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0008 | 0.010 |
| 16:49 | MC25594-4 | 7 | 1 | 50 | 50 | 1 | 0.019 | 0.000 | 0.005 | 0.0053 | 0.010 |
| 16:49 | MC25595-1 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0008 | 0.010 |
| 16:49 | CCV | N/A | | 50 | 50 | 1 | 0.667 | 0.000 | 0.199 | 0.1989 | 0.010 |
| 16:54 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | -0.0004 | 0.010 |
| 16:54 | MC25595-2 | 7 | 1 | 50 | 50 | 1 | 0.032 | 0.000 | 0.009 | 0.0092 | 0.010 |
| 16:54 | MC25595-3 | 6 | 1 | 50 | 50 | 1 | 0.020 | 0.000 | 0.006 | 0.0056 | 0.010 |
| 16:54 | MC25595-6 | 6.52 | 1 | 50 | 50 | 1 | 0.280 | 0.000 | 0.083 | 0.0833 | 0.010 |
| 16:54 | MC25596-1 | 6 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0011 | 0.010 |
| 16:54 | MC25596-3 | 7 | 1 | 50 | 50 | 1 | 1.025 | 0.000 | 0.306 | 0.3059 | 0.010 |
| 16:54 | MC25596-5 | 7 | 1 | 50 | 50 | 1 | 0.019 | 0.000 | 0.005 | 0.0053 | 0.010 |
| 16:54 | MC25596-6 | 7 | 1 | 50 | 50 | 1 | 0.062 | 0.000 | 0.018 | 0.0182 | 0.010 |
| 16:54 | CCV | N/A | | 50 | 50 | 1 | 0.672 | 0.000 | 0.200 | 0.2004 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | -0.001 | 0.000 | 0.000 | -0.0004 | 0.010 |

CCV 10-24-13

Analyst: [signature] Date: 10-24-13 QC Reviewer: [signature] Date:

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueou◉
SM 21TH 4500 NO2 B M (Solids○
Units: mg/l as N
mg/kg as I

Analyst: CRYSTALL
GN Batch ID: GN44814
GP Batch ID: GP16769
Date: 10/24/2013
Instrument ID: spectronic 543nm

10-24-13

Comments: MC25595-6, Initial pH was 12.17, adjusted with 1:1 HCL

Analyst: Crystal Woodly Date: 10-24-13 QC Reviewer: [signature] 10.25.13 Date: _____

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | CRYSTALL | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 10/28/13 | **Analysis Batch ID** | GN44844 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16782,GP16783,GP16784,GP16785 |
| **File ID** | 102813W2.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 31704-NO3 | **Color Reagent** | RGT- | 38151-NO3 |
| **ICV** | GNSTD- | 31705-NO3-2 | **Buffer** | RGT- | 37722-NO3 |
| **CCV** | GNSTD- | 31704-NO3-4 | | | |
| **Column EFF STD** | GNSTD- | 31706-NO3-2 | | | |
| **Ammonium Hydroxide** | VENDOR- | 12241 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16782-S1 | 4 | 8.0 | MC25522-9 | 2 | 8.4 | MC25568-15 | 2 | 8.4 | MC25568-6 | 2 | 8.7 |
| GP16782-D1 | 2 | 8.0 | MC25522-10 | 2 | 8.2 | MC25568-16 | 2 | 8.2 | MC25568-7 | 2 | 8.3 |
| MC25522-6 | 2 | 8.0 | GP16783-S1 | 2 | 8.5 | GP16784-S1 | 2 | 8.1 | MC25568-8 | 2 | 8.6 |
| MC25522-1 | 2 | 8.1 | GP16783-D1 | 2 | 8.5 | GP16784-D1 | 4 | 8.1 | MC25568-9 | 2 | 8.4 |
| MC25522-2 | 2 | 8.6 | MC25522-11 | 2 | 8.5 | MC25568-11 | 4 | 8.1 | GP16785-S1 | 4 | 8.0 |
| MC25522-3 | 2 | 8.4 | MC25522-13 | 2 | 8.6 | MC25568-1 | 4 | 8.6 | GP16785-D1 | 4 | 8.0 |
| MC25522-4 | 2 | 8.6 | MC25522-14 | 2 | 8.4 | MC25568-2 | 2 | 8.2 | MC25594-1 | 4 | 8.0 |
| MC25522-5 | 2 | 8.7 | MC25568-10 | 2 | 8.6 | MC25568-3 | 2 | 8.2 | MC25594-2 | 2 | 8.5 |
| MC25522-7 | 2 | 8.1 | MC25568-12 | 2 | 8.5 | MC25568-4 | 2 | 8.4 | MC25594-3 | 2 | 8.6 |
| MC25522-8 | 2 | 8.5 | MC25568-13 | 2 | 8.0 | MC25568-5 | 2 | 8.2 | MC25594-4 | 2 | 8.4 |

**COMMENTS**

**QC Review** **Date:** 10/29/13

Author: chemistry

Date : 10/28/2013

Original Run Filename: OM_10-28-2013_01-37-15PM.OMN Created: 10/28/2013 1:37:15 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_10-28-2013_01-37-15PM.OMN Last Modified: 10/28/2013 3:31:00 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| StdA5.0 | 1 | 5.00 | |
| StdB2.0 | 1 | 2.00 | |
| StdC1.0 | 1 | 1.00 | |
| StdD0.80 | 1 | 0.800 | |
| StdE0.50 | 1 | 0.500 | |
| StdF0.30 | 1 | 0.300 | |
| StdG0.10 | 1 | 0.100 | |
| StdH0.0 | 1 | 0.00 | |
| ICV | 1 | 2.89 | |
| Calibration: | | Table/Fig. : 1 | |
| ICB | 1 | 0.0281 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0266 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16782-MB1 | 1 | 0.0228 | |
| GP16782-B1 | 1 | 2.04 | |
| GP16782-S1 | 1 | 2.23 | |
| GP16782-D1 | 1 | 0.174 | |
| MC25522-6 | 1 | 0.183 | |
| MC25522-1 | 1 | 0.402 | |
| MC25522-2 | 1 | 0.365 | |
| MC25522-3 | 1 | 0.313 | |
| MC25522-4 | 1 | 0.0378 | |
| CCV | 1 | 2.03 | |
| CCB | 1 | 0.0306 | |
| MC25522-5 | 1 | 0.0362 | |
| MC25522-7 | 1 | 0.0345 | |
| MC25522-8 | 1 | 0.343 | |
| MC25522-9 | 1 | 0.455 | |
| MC25522-10 | 1 | 0.0417 | |
| CCV | 1 | 2.04 | |
| CCB | 1 | 0.0277 | |
| ICV | 1 | 3.11 | |
| ICB | 1 | 0.0302 | |
| CCV | 1 | 2.04 | |
| ~~CCV~~ CCB | 1 | 0.0294 | Typo CW 10-28-13 |
| COLEFFCONF | 1 | 2.20 | |
| GP16783-MB1 | 1 | 0.0284 | |
| GP16783-B1 | 1 | 2.03 | |
| GP16783-S1 | 1 | 2.10 | |
| GP16783-D1 | 1 | 0.0925 | |
| MC25522-11 | 1 | 0.0865 | |
| MC25522-13 | 1 | 0.555 | |
| MC25522-14 | 1 | 0.163 | |
| MC25568-10 | 1 | 0.218 | |
| MC25568-12 | 1 | 0.0319 | |
| CCV | 1 | 2.02 | |
| CCB | 1 | 0.0228 | |
| MC25568-13 | 1 | 0.275 | |
| MC25568-15 | 1 | 0.252 | |
| MC25568-16 | 1 | 0.273 | |
| CCV | 1 | 2.01 | |
| CCB | 1 | 0.0292 | |
| ICV | 1 | 3.05 | |
| ICB | 1 | 0.0246 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0281 | |
| COLEFFCONF | 1 | 2.24 | |
| GP16784-MB1 | 1 | 0.0233 | |
| GP16784-B1 | 1 | 2.00 | |

10/29/13

Author: chemistry

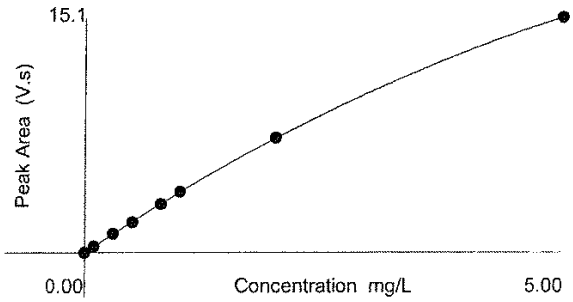
Date : 10/28/2013

| | | | |
|---|---|---|---|
| GP16784-S1 | 1 | 1.98 | |
| GP16784-D1 | 1 | 0.179 | |
| MC25568-11 | 1 | 0.181 | |
| MC25568-1 | 1 | 0.263 | |
| MC25568-2 | 1 | 0.0330 | |
| MC25568-3 | 1 | 0.0326 | |
| MC25568-4 | 1 | 0.256 | |
| CCV | 1 | 1.99 | |
| CCB | 1 | 0.0233 | |
| MC25568-5 | 1 | 0.106 | |
| MC25568-6 | 1 | 0.0233 | |
| MC25568-7 | 1 | 0.0209 | |
| MC25568-8 | 1 | 0.201 | |
| MC25568-9 | 1 | 0.0474 | |
| CCV | 1 | 1.98 | |
| CCB | 1 | 0.0228 | |
| ICV | 1 | 2.98 | |
| ICB | 1 | 0.0210 | |
| CCV | 1 | 1.94 | |
| CCB | 1 | 0.0228 | |
| COLEFFCONF | 1 | 2.19 | |
| GP16785-MB1 | 1 | 0.0240 | |
| GP16785-B1 | 1 | 1.99 | |
| GP16785-S1 | 1 | 2.15 | |
| GP16785-D1 | 1 | 0.158 | |
| MC25594-1 | 1 | 0.160 | |
| MC25594-2 | 1 | 0.399 | |
| MC25594-3 | 1 | 0.298 | |
| MC25594-4 | 1 | 0.294 | |
| CCV | 1 | 1.95 | |
| CCB | 1 | 0.0226 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 15.1 | 1.20 | 0.0 | 0.0 | 4.99 | 10/28/2013 | 1:38:12 PM |
| 2 | 2.00 | 1 | 7.39 | 0.654 | 0.0 | -0.3 | 2.04 | 10/28/2013 | 1:39:27 PM |
| 3 | 1.00 | 1 | 3.92 | 0.357 | 0.0 | -0.7 | 0.991 | 10/28/2013 | 1:40:42 PM |
| 4 | 0.800 | 1 | 3.12 | 0.284 | 0.0 | 1.0 | 0.774 | 10/28/2013 | 1:41:58 PM |
| 5 | 0.500 | 1 | 1.94 | 0.178 | 0.0 | 2.8 | 0.473 | 10/28/2013 | 1:43:13 PM |
| 6 | 0.300 | 1 | 1.20 | 0.111 | 0.0 | -0.4 | 0.296 | 10/28/2013 | 1:44:28 PM |
| 7 | 0.100 | 1 | 0.406 | 0.0374 | 0.0 | -5.3 | 0.114 | 10/28/2013 | 1:45:44 PM |
| 8 | 0.00 | 1 | -6.84e-3 | -9.59e-4 | | | 0.0226 | 10/28/2013 | 1:46:59 PM |

Figure : 1 (NO3)




Area = - 0.224 * Conc^2 + 4.15 * Conc - 0.0271
Conc = 7.36e-3 * Area^2 + 0.218 * Area + 0.0240
Correlation Coefficient (r) = 0.99998

Weighting : None

10/29/13

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44888** |
| **Analyst:** | BIJANF |
| **Analysis Date:** | 10/30/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25594-1 Original: 71.2 MS: 341 Spk Amt: 250 % Rec: 108%

Dup Sample ID: MC25594-1 Original: 71.2 Duplicate: 71.2 % RPD: 0%

MB Date: 10/30/2013 Result: <5 RL: 5 < RL?: y

Spike blank: 262 Spike Amt: 250 % Rec: 104.8

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110 Known 50.0 Res: 52.6 % REC: 105.2

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44888-MB1 | 100 | 4.92 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44888-B1 | 100 | 8.89 | 0.1 | 24.0 | 23.9 | | | 261.7 | 261.705 | 5 |
| 1 | GN44888-S1 | 100 | 7.71 | 24.0 | 55.1 | 31.1 | | | 340.5 | 340.545 | 5 |
| 1 | GN44888-D1 | 100 | 6.15 | 5.1 | 11.6 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-1 | 100 | 6.17 | 11.6 | 18.1 | 6.5 | | | 71.2 | 71.175 | 5 |
| 1 | MC25594-2 | 100 | 6.09 | 18.1 | 24.0 | 5.9 | | | 64.6 | 64.605 | 5 |
| 1 | MC25594-3 | 100 | 5.91 | 24.0 | 28.7 | 4.7 | | | 51.5 | 51.465 | 5 |
| 1 | MC25522-11 | 100 | 5.91 | 28.7 | 30.2 | 1.5 | 0.3 | 1.8 | 13.1 | 13.14 | 5 |
| 1 | MC25522-13 | 100 | 5.85 | 30.5 | 38.8 | 8.3 | | | 90.9 | 90.885 | 5 |
| 1 | MC25522-14 | 100 | 5.81 | 38.8 | 48.0 | 9.2 | | | 100.7 | 100.74 | 5 |
| 1 | MC25568-12 | 100 | 6.85 | 0.0 | 12.5 | 12.5 | | | 136.9 | 136.875 | 5 |
| 1 | MC25568-13 | 100 | 6.65 | 12.5 | 45.7 | 33.2 | | | 363.5 | 363.54 | 5 |
| 1 | MC25568-15 | 100 | 6.14 | 0.0 | 5.8 | 5.8 | | | 63.5 | 63.51 | 5 |
| 1 | MC25568-16 | 100 | 6.24 | 5.8 | 37.0 | 31.2 | | | 341.6 | 341.64 | 5 |
| | ICV | 100 | 8.62 | 37.0 | 41.8 | 4.8 | | | 52.6 | 52.56 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 10/31/2013 11:02:43 AM

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN44894** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 10/31/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN44894-MB1 | Date: | 10/31/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN44894-B1 | Date: | 10/31/2013 | Res: | 10.3 | Spike: | 10 | % Rec: | 103% | | |
| Duplicate ID: | MC25594-1 | Smpl Res:: | 88.7 | Dup Res: | 88.7 | % RPD: | 0% | | | | |
| MS ID: | MC25594-1 | Smpl Res: | 88.7 | MS Res: | 98.7 | Spike: | 10 | % Rec: | 100% | | |
| External: | GNSTD-31299-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.075 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44894-MB1 | 2.52 | 50.0 | 1 | 0.0 | 0.0750 | 0.0750 | 0.000 | 0.0 | 0 | 1 |
| | GN44894-B1 | 2.5 | 50.0 | 1 | 0.0 | 1.1000 | 1.1000 | 1.025 | 10.3 | 10.25 | 1 |
| 2 | GN44894-S1 | 2.44 | 50.0 | 1 | 0.0 | 9.9500 | 9.9500 | 9.875 | 98.7 | 98.72 | 1 |
| 2 | GN44894-D1 | 2.5 | 50.0 | 1 | 0.0 | 8.9500 | 8.9500 | 8.875 | 88.7 | 88.72 | 1 |
| 2 | MC25594-1 | 2.52 | 50.0 | 1 | 0.0 | 8.9500 | 8.9500 | 8.875 | 88.7 | 88.72 | 1 |
| 1 | MC25594-2 | 2.56 | 50.0 | 1 | 0.0 | 0.3500 | 0.3500 | 0.275 | 2.8 | 2.75 | 1 |
| 1 | MC25594-3 | 2.51 | 50.0 | 1 | 0.0 | 2.0000 | 2.0000 | 1.925 | 19.2 | 19.24 | 1 |
| 1 | MC25594-4 | 2.52 | 50.0 | 1 | 0.0 | 1.4000 | 1.4000 | 1.325 | 13.3 | 13.25 | 1 |
| 1 | MC25733-1 | 2.52 | 50.0 | 10 | 0.0 | 1.9000 | 1.9000 | 1.825 | 18.2 | 182.4 | 10 |
| 1 | MC25733-2 | 2.46 | 50.0 | 10 | 0.0 | 1.9000 | 1.9000 | 1.825 | 18.2 | 182.4 | 10 |
| 1 | MC25733-3 | 2.55 | 50.0 | 10 | 0.0 | 1.6000 | 1.6000 | 1.525 | 15.3 | 152.5 | 10 |
| 1 | MC25733-4 | 2.53 | 50.0 | 10 | 0.0 | 1.3000 | 1.3000 | 1.225 | 12.3 | 122.5 | 10 |
| 1 | MC25733-5 | 2.46 | 50.0 | 1 | 0.0 | 6.5000 | 6.5000 | 6.425 | 64.2 | 64.23 | 1 |
| 1 | MC25733-6 | 2.5 | 50.0 | 10 | 0.0 | 1.2500 | 1.2500 | 1.175 | 11.8 | 117.5 | 10 |
| 1 | MC25733-7 | 2.48 | 50.0 | 10 | 0.0 | 1.0500 | 1.0500 | 0.975 | 9.8 | 97.5 | 10 |
| 1 | MC25733-8 | 2.49 | 50.0 | 10 | 0.0 | 1.2500 | 1.2500 | 1.175 | 11.8 | 117.5 | 10 |
| 1 | MC25733-9 | 2.54 | 50.0 | 10 | 0.0 | 1.2500 | 1.2500 | 1.175 | 11.8 | 117.5 | 10 |
| 1 | MC25733-10 | 2.47 | 50.0 | 10 | 0.0 | 1.3000 | 1.3000 | 1.225 | 12.3 | 122.5 | 10 |
| | ICV | 2.53 | 50.0 | 1 | 0.0 | 0.5750 | 0.5750 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13659 | #4 | | |
| #2 | Acidic Indicator | RGT-38203-CHL | #5 | | |
| #3 | Spike | GNSTD-30654-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-14074, Result 2.03.

**Approved By:** mehdia **Date:** 10/31/2013 11:13:16 AM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN44897** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 10/31/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC25568-10 Original: 348 MS: 606 Spk Amt: 250 % Rec: 103%

Dup Sample ID: MC25568-10 Original: 348 Duplicate: 350 % RPD: 1%

MB Date: 10/31/2013 Result: <5.0 RL: 5.0 < RL?: Y

Spike blank: 261 Spike Amt: 250 % Rec: 104.4

External QC (ICV) GNSTD-30096-ALK-1 Cont. Limit: 90-110% Known 50.0 Res: 53.7 % REC: 107.4

Sulfuric Normality: 0.0219 pH Meter ID: 520A

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN44897-MB1 | 100 | 5.37 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN44897-B1 | 100 | 8.92 | 0.1 | 23.9 | 23.8 | | | 260.6 | 260.61 | 5 |
| 1 | GN44897-S1 | 100 | 7.06 | 0.0 | 55.3 | 55.3 | | | 605.5 | 605.535 | 5 |
| 1 | GN44897-D1 | 100 | 6.58 | 5.3 | 37.3 | 32.0 | | | 350.4 | 350.4 | 5 |
| 1 | MC25568-10 | 100 | 6.58 | 37.3 | 69.1 | 31.8 | | | 348.2 | 348.21 | 5 |
| 1 | MC25594-4 | 100 | 6.46 | 19.1 | 34.2 | 15.1 | | | 165.3 | 165.345 | 5 |
| 1 | MC25728-5 | 100 | 6.35 | 34.2 | 42.3 | 8.1 | | | 88.7 | 88.695 | 5 |
| 1 | MC25728-6 | 100 | 6.42 | 42.3 | 85.0 | 42.7 | | | 467.6 | 467.565 | 5 |
| 1 | MC25728-7 | 100 | 6.19 | 35.0 | 62.2 | 27.2 | | | 297.8 | 297.84 | 5 |
| 1 | MC25728-8 | 100 | 6.20 | 12.2 | 39.5 | 27.3 | | | 298.9 | 298.935 | 5 |
| 1 | MC25728-9 | 100 | 6.36 | 39.5 | 65.3 | 25.8 | | | 282.5 | 282.51 | 5 |
| 1 | MC25755-1 | 100 | 6.97 | 15.3 | 44.1 | 28.8 | | | 315.4 | 315.36 | 5 |
| 1 | MC25755-2 | 100 | 7.01 | 44.1 | 65.4 | 21.3 | | | 233.2 | 233.235 | 5 |
| 1 | MC25755-3 | 100 | 6.76 | 15.4 | 39.3 | 23.9 | | | 261.7 | 261.705 | 5 |
| | ICV | 100 | 8.59 | 39.3 | 44.2 | 4.9 | | | 53.7 | 53.655 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | $ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$ | $ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 11/1/2013 8:34:43 PM

New England ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg I, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

| | |
|---|---|
| Accutest Job #: | MC25594 |
| Accutest Quote #: | Page 1 of 1 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | Subcontract Laboratory Information | Analytical Information |
|---|---|---|
| Name: Accutest New England | Name: Accutest - New Jersey | |
| Address: 50 D'Angelo Drive | Address: 2235 Route 130 | |
| City: Marlborough State: MA Zip: 01752 | City: Dayton State: NJ Zip: 08810 | |
| Send Report to: | Contact: Sample Management | |
| Any questions contact: Frank D'Agostino | Phone: (732) 329-0200 | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation HCL | NaOH | HNO3 | H2SO4 | None | SO4 by 300 | MS/MSD | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC25594 -1,-1D,-1S | 10/24/13 | 9:05 AM | | GW | 1 | | | | | X | X | X | | | | |
| MC25594 -2 | 10/24/13 | 9:50 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25594 -3 | 10/24/13 | 10:40 AM | | GW | 1 | | | | | X | X | | | | | |
| MC25594 -4 | 10/24/13 | 11:50 AM | | GW | 1 | | | | | X | X | | | | | |

| | | |
|---|---|---|
| x STD | Data Deliverable Information | Comments / Remarks |
| Other _____ (Days) | Commercial "A" / PDF | STD - Due 11/7/13 |
| | Commercial "B" / Compact Disk Deliverable | |
| | Commercial "BN" / Electronic Delivery: | |
| | Reduced Tier 1 / State Forms | |
| 10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved. | X Full Tier 1 / Other (Specify) | |

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 10/24/13 | Received By: 1 | Date & Time: 1 | Seal #: 5743 4540 2507 Headspace: Yes / No / NA |
| Relinquished by: 2 Fed Ex | 10/25/13 0945 | Received By: 2 | Date & Time: 2 10/25/13 0945 | Preserved where applicable: |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 4.0 IP On Ice |

Fed Ex Trk # 5743 4540 2507

2B

B6 MA

10.1 10

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC25594 **Client:** **Project:**

**Date / Time Received:** 10/25/2013 **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Initial/Adjusted):** #1: (4/4); 0

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com



**MC25594: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC25594

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02E.08

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC25594-1 | Collected: 24-OCT-13 09:05 By: DCVC<br>SHM-05-39B-102413 | | | Received: 24-OCT-13 | By: TH | |
| MC25594-1 | EPA 300/SW846 9056A | 05-NOV-13 16:22 | NP | 05-NOV-13 | NP | SO4 |
| MC25594-2 | Collected: 24-OCT-13 09:50 By: DCVC<br>SHL-19-102413 | | | Received: 24-OCT-13 | By: TH | |
| MC25594-2 | EPA 300/SW846 9056A | 05-NOV-13 16:46 | NP | 05-NOV-13 | NP | SO4 |
| MC25594-3 | Collected: 24-OCT-13 10:40 By: DCVC<br>SHM-05-39A-102413 | | | Received: 24-OCT-13 | By: TH | |
| MC25594-3 | EPA 300/SW846 9056A | 05-NOV-13 17:10 | NP | 05-NOV-13 | NP | SO4 |
| MC25594-4 | Collected: 24-OCT-13 11:50 By: DCVC<br>SHM-05-40X-102413 | | | Received: 24-OCT-13 | By: TH | |
| MC25594-4 | EPA 300/SW846 9056A | 05-NOV-13 17:34 | NP | 05-NOV-13 | NP | SO4 |

# Accutest Internal Chain of Custody



**Job Number:** MC25594
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 10/24/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC25594-1.1 | Secured Storage | Bernadette Vassilatos | 11/05/13 10:56 | Retrieve from Storage |
| MC25594-1.1 | Bernadette Vassilatos | Secured Staging Area | 11/05/13 10:56 | Return to Storage |
| MC25594-1.1 | Secured Staging Area | Nirali Patel | 11/05/13 10:59 | Retrieve from Storage |
| MC25594-1.1 | Nirali Patel | Secured Storage | 11/05/13 15:59 | Return to Storage |
| MC25594-2.1 | Secured Storage | Bernadette Vassilatos | 11/05/13 10:56 | Retrieve from Storage |
| MC25594-2.1 | Bernadette Vassilatos | Secured Staging Area | 11/05/13 10:56 | Return to Storage |
| MC25594-2.1 | Secured Staging Area | Nirali Patel | 11/05/13 10:59 | Retrieve from Storage |
| MC25594-2.1 | Nirali Patel | Secured Storage | 11/05/13 15:59 | Return to Storage |
| MC25594-3.1 | Secured Storage | Bernadette Vassilatos | 11/05/13 10:56 | Retrieve from Storage |
| MC25594-3.1 | Bernadette Vassilatos | Secured Staging Area | 11/05/13 10:56 | Return to Storage |
| MC25594-3.1 | Secured Staging Area | Nirali Patel | 11/05/13 10:59 | Retrieve from Storage |
| MC25594-3.1 | Nirali Patel | Secured Storage | 11/05/13 15:59 | Return to Storage |
| MC25594-4.1 | Secured Storage | Bernadette Vassilatos | 11/05/13 10:56 | Retrieve from Storage |
| MC25594-4.1 | Bernadette Vassilatos | Secured Staging Area | 11/05/13 10:56 | Return to Storage |
| MC25594-4.1 | Secured Staging Area | Nirali Patel | 11/05/13 10:59 | Retrieve from Storage |
| MC25594-4.1 | Nirali Patel | Secured Storage | 11/05/13 15:59 | Return to Storage |

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75753/GN94476 | 10 | 0.12 | mg/l | 80 | 78.9 | 98.6 | 90-110% |

Associated Samples:
Batch GP75753: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | GP75753/GN94476 | MC25594-1 | mg/l | 3.8 | 3.7 | 2.7 | 0-20% |

Associated Samples:
Batch GP75753: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP75753/GN94476 | MC25594-1 | mg/l | 3.8 | 80 | 81.2 | 96.8 | 80-120% |

Associated Samples:
Batch GP75753: MC25594-1, MC25594-2, MC25594-3, MC25594-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110502.TXT  Date Analyzed: 11/05/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94476
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:43 | GN94476-STD1 | 1 | | Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. |
| 13:31 | GN94476-STD2 | 1 | | STDB |
| 13:55 | GN94476-STD3 | 1 | | STDC |
| 14:43 | GN94476-STD4 | 1 | | STDD |
| 15:31 | GN94476-STD5 | 1 | | STDE |
| 15:55 | GN94476-STD6 | 1 | | STDF |
| 16:19 | GN94476-STD7 | 1 | | STDG |
| 13:11 | GN94476-ICV1 | 1 | | |
| 13:34 | GN94476-ICB1 | 1 | | |
| 13:58 | GN94476-CCV1 | 1 | | |
| 14:22 | GN94476-CCB1 | 1 | | |
| 14:46 | GP75753-MB1 | 1 | | |
| 15:10 | GP75753-B1 | 1 | | |
| 15:34 | GP75753-S1 | 1 | | |
| 15:58 | GP75753-D1 | 1 | | |
| 16:22 | MC25594-1 | 1 | | |
| 16:46 | MC25594-2 | 1 | | |
| 17:10 | MC25594-3 | 1 | | |
| 17:34 | MC25594-4 | 1 | | |
| 17:58 | ZZZZZZ | 1 | | |
| 18:21 | ZZZZZZ | 1 | | |
| 18:45 | GN94476-CCV2 | 1 | | |
| 19:09 | GN94476-CCB2 | 1 | | |
| 19:33 | ZZZZZZ | 1 | | |
| 19:57 | ZZZZZZ | 1 | | |
| 20:21 | ZZZZZZ | 1 | | |
| 20:45 | ZZZZZZ | 1 | | |
| 21:09 | ZZZZZZ | 1 | | |
| 21:33 | ZZZZZZ | 1 | | |
| 21:57 | GP75753-S2 | 1 | | so4 over-range. rerun at 1:40 dilution. |
| 22:21 | GP75753-D2 | 1 | | so4 over-range. rerun at 1:30 dilution. |
| 22:45 | JB51218-1 | 1 | | (sample used for QC only; not part of login MC25594) |
| 23:09 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110502.TXT  Date Analyzed: 11/05/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN94476
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:33 | GN94476-CCV3 | 1 | | |
| 23:56 | GN94476-CCB3 | 1 | | |
| 00:20 | ZZZZZZ | 1 | | |
| 00:44 | ZZZZZZ | 1 | | |
| 01:08 | ZZZZZZ | 1 | | |
| 01:32 | ZZZZZZ | 1 | | |
| 01:56 | ZZZZZZ | 1 | | |
| 02:20 | ZZZZZZ | 1 | | |
| 02:44 | GP75754-MB1 | 1 | | |
| 03:08 | GP75754-B1 | 1 | | |
| 03:32 | GP75754-S1 | 1 | | |
| 03:56 | GP75754-D1 | 1 | | |
| 04:20 | GN94476-CCV4 | 1 | | |
| 04:44 | GN94476-CCB4 | 1 | | |
| 05:07 | JB51346-1 | 1 | | (sample used for QC only; not part of login MC25594) |
| 05:31 | ZZZZZZ | 1 | | |
| 05:55 | ZZZZZZ | 1 | | |
| 06:19 | ZZZZZZ | 1 | | |
| 06:43 | ZZZZZZ | 1 | | |
| 07:07 | ZZZZZZ | 1 | | |
| 07:31 | ZZZZZZ | 1 | | |
| 07:55 | ZZZZZZ | 1 | | |
| 08:19 | ZZZZZZ | 1 | | |
| 08:43 | ZZZZZZ | 1 | | |
| 09:07 | GN94476-CCV5 | 1 | | |
| 09:31 | GN94476-CCB5 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC25594
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213110502.TXT  Date Analyzed: 11/05/13  Methods: EPA 300/SW846 9056A
Run ID: GN94476  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN94476-ICV1 | Sulfate | 111 | 10 | 0.094 | 110.12 | 100.8 | 90-110 |
| GN94476-ICB1 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94476-CCV1 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN94476-CCB1 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94476-CCV2 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94476-CCB2 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94476-CCV3 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94476-CCB3 | Sulfate | 0.13 | 10 | 0.094 | | | |
| GN94476-CCV4 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94476-CCB4 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN94476-CCV5 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN94476-CCB5 | Sulfate | 0.094 U | 10 | 0.094 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

(Accutest New Jersey)

Sequence: 213110502 GN94476 Page 1 of 4
Operator: Chemistry Printed: 11/5/2013 3:25:47 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2 Created: 11/5/2013 1:08:57 PM by Chemistry
#Samples: 60 Last Update: 11/5/2013 2:53:32 PM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | STDA | Standard | 3 | 20.0 | 1.0000 | Finished | 10/31/2013 12:43:44 PM | |
| 2 | STDB | Standard | 4 | 20.0 | 1.0000 | Finished | 10/31/2013 1:31:36 PM | |
| 3 | STDC | Standard | 5 | 20.0 | 1.0000 | Finished | 10/31/2013 1:55:33 PM | |
| 4 | STDD | Standard | 7 | 20.0 | 1.0000 | Finished | 10/31/2013 2:43:23 PM | |
| 5 | STDE | Standard | 9 | 20.0 | 1.0000 | Finished | 10/31/2013 3:31:15 PM | |
| 6 | STDF | Standard | 10 | 20.0 | 1.0000 | Finished | 10/31/2013 3:55:10 PM | |
| 7 | STDG | Standard | 11 | 20.0 | 1.0000 | Finished | 10/31/2013 4:19:06 PM | |
| 8 | ICV | Unknown | 2 | 20.0 | 1.0000 | Finished | 11/5/2013 1:11:18 PM | |
| 9 | ICB | Unknown | 50 | 20.0 | 1.0000 | Finished | 11/5/2013 1:34:50 PM | |
| 10 | CCV | Unknown | 8 | 20.0 | 1.0000 | Finished | 11/5/2013 1:58:46 PM | |
| 11 | CCB | Unknown | 4 | 20.0 | 1.0000 | Finished | 11/5/2013 2:22:41 PM | |
| 12 | MB | Unknown | 5 | 20.0 | 1.0000 | Finished | 11/5/2013 2:46:37 PM | |
| | BSP | Unknown | 6 | 20.0 | 1.0000 | Running | 11/5/2013 3:10:55 PM | |
| 14 | MC25594-1MS | Unknown | 7 | 20.0 | 1.0000 | Single | | |
| 15 | MC25594-1DUP | Unknown | 8 | 20.0 | 1.0000 | Single | | |
| 16 | MC25594-1 | Unknown | 9 | 20.0 | 1.0000 | Single | | |
| 17 | MC25594-2 | Unknown | 10 | 20.0 | 1.0000 | Single | | |
| 18 | MC25594-3 | Unknown | 11 | 20.0 | 1.0000 | Single | | |
| 19 | MC25594-4 | Unknown | 12 | 20.0 | 1.0000 | Single | | |
| 20 | JB51798-1 | Unknown | 13 | 20.0 | 1.0000 | Single | | |
| 21 | JB51798-2 | Unknown | 14 | 20.0 | 1.0000 | Single | | |
| 22 | CCV | Unknown | 15 | 20.0 | 1.0000 | Single | | |
| 23 | CCB | Unknown | 16 | 20.0 | 1.0000 | Single | | |
| 24 | JB51798-4 | Unknown | 17 | 20.0 | 1.0000 | Single | | |
| 25 | JB51798-5 | Unknown | 18 | 20.0 | 1.0000 | Single | | |
| 26 | JB51798-6 | Unknown | 19 | 20.0 | 1.0000 | Single | | |
| 27 | JB51798-7 | Unknown | 20 | 20.0 | 1.0000 | Single | | |
| 28 | JB51798-8 | Unknown | 21 | 20.0 | 1.0000 | Single | | |
| 29 | JB51798-9 | Unknown | 22 | 20.0 | 1.0000 | Single | | |
| 30 | JB51218-1MS | Unknown | 23 | 20.0 | 1.0000 | Single | | |
| 31 | JB51218-1DUP | Unknown | 24 | 20.0 | 1.0000 | Single | | |
| 32 | JB51218-1 | Unknown | 25 | 20.0 | 1.0000 | Single | | |
| 33 | JB51218-2 | Unknown | 26 | 20.0 | 1.0000 | Single | | |
| 34 | CCV | Unknown | 27 | 20.0 | 1.0000 | Single | | |
| 35 | CCB | Unknown | 28 | 20.0 | 1.0000 | Single | | |
| 36 | JB51218-3 | Unknown | 29 | 20.0 | 1.0000 | Single | | |
| 37 | JB51218-4 | Unknown | 30 | 20.0 | 1.0000 | Single | | |
| 38 | JB51218-5 | Unknown | 31 | 20.0 | 1.0000 | Single | | |
| 39 | JB51299-1 | Unknown | 32 | 20.0 | 1.0000 | Single | | |
| 40 | JB51299-2 | Unknown | 33 | 20.0 | 1.0000 | Single | | |
| 41 | JB51299-3 | Unknown | 34 | 20.0 | 1.0000 | Single | | |
| 42 | MB | Unknown | 35 | 20.0 | 1.0000 | Single | | |

Bottle #5

3P75753 SO4 AQ (1)

12.1 12

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 213110502 GN94476 Page 3 of 4
Operator: Chemistry Printed: 11/5/2013 3:25:53 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\November
Timebase: ACCUTEST_SYS#2 Created: 11/5/2013 1:08:57 PM by Chemistry
#Samples: 60 Last Update: 11/5/2013 2:53:32 PM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 43 | BSP | Unknown | 36 | 20.0 | 1.0000 | Single | | |
| 44 | JB51346-1MS | Unknown | 37 | 20.0 | 1.0000 | Single | | |
| 45 | JB51346-1DUP | Unknown | 38 | 20.0 | 1.0000 | Single | | |
| 46 | CCV | Unknown | 39 | 20.0 | 1.0000 | Single | | |
| 47 | CCB | Unknown | 40 | 20.0 | 1.0000 | Single | | |
| 48 | JB51346-1 | Unknown | 41 | 20.0 | 1.0000 | Single | | |
| 49 | JB51346-2 | Unknown | 42 | 20.0 | 1.0000 | Single | | |
| 50 | JB51346-3FB | Unknown | 43 | 20.0 | 1.0000 | Single | | |
| 51 | JB51346-4 | Unknown | 44 | 20.0 | 1.0000 | Single | | |
| 52 | JB51346-5 | Unknown | 45 | 20.0 | 1.0000 | Single | | |
| 53 | JB51346-6 | Unknown | 46 | 20.0 | 1.0000 | Single | | |
| 54 | JB51346-7 | Unknown | 47 | 20.0 | 1.0000 | Single | | |
| 55 | JB51346-8 | Unknown | 48 | 20.0 | 1.0000 | Single | | |
| 56 | JB51346-9FB | Unknown | 49 | 20.0 | 1.0000 | Single | | |
| 57 | JB51193-1 | Unknown | 50 | 20.0 | 1.0000 | Single | | |
| 58 | CCV | Unknown | 1 | 20.0 | 1.0000 | Single | | |
| 59 | CCB | Unknown | 2 | 20.0 | 1.0000 | Single | | |
| 60 | STDBY | Unknown | 3 | 20.0 | 1.0000 | Single | | |

GP75754 CHL_SO4 AB (1)

12.1 12

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

ACCUTEST

Analyst NP Product 1C2 Autopipette # 3

Date 11/5/13 Batch ID GN94476 Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| BSP | ✓ | ✓ mL | 50 mL | 0.50mL GN13-218-63 |
| MC25594-1MS | ✓ | ✓ mL | mL | |
| JB51218-1MS | ✓ | ✓ mL | mL | |
| JB51346-1MS | ✓ | ✓ mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
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| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |

Diluent = DI H2O

QC Reviewer:_____ Date:_____

Form: GN165-01
Rev. Date: 2/25/03

ACCUTEST.

# Reagent Information Log - IONC - Water /Soil

## GN Batch ID#: GN94476

Curve Ran on : 10/31/13

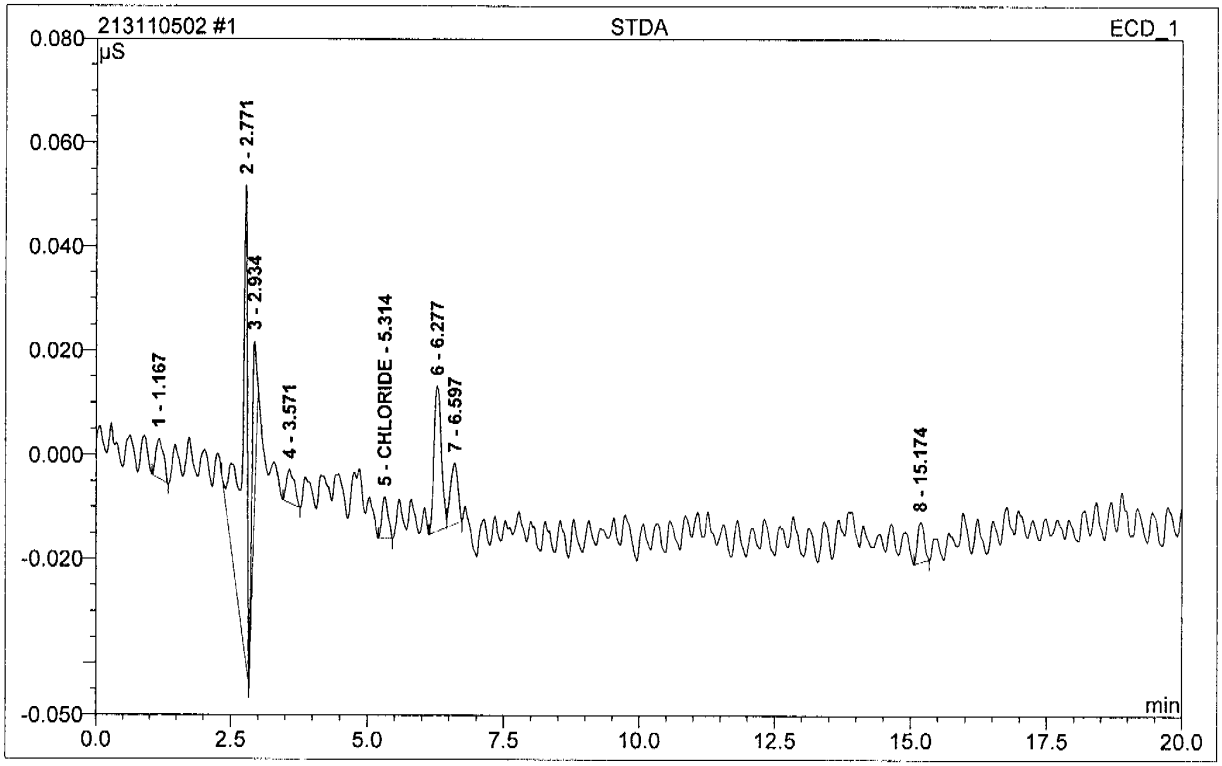
| Reagent | Reagent # or Manufacturer/Lot | Exp. Date |
|---|---|---|
| Standard Intermediate (for Calibration Curve) | GN12-212-205 | 11/4/2013 |
| Standard Intermediate (for Calibration Curve) | GN12-212-207 | 11/4/2013 |
| ICV | GN13-231-35 | 11/28/2013 |
| Eluent | 1307917290 16 | 7/2015 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-208 | 11/11/2013 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-210 | 11/11/2013 |
| CCV | GN13-220-95 | 11/11/2013 |
| Spiking Solution Intermediate | GN13-218-60 | 11/28/2013 |
| Spiking Solution Intermediate | GN13-218-61 | 11/28/2013 |
| Spiking Solution | GN13-218-63 | 11/11/2013 |
| Filter lot numbers | LAB SALES # 130821006 | NA |

**Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error**

Form : GN087A-76
Rev. Date: 4/7/09

# 1 STDA

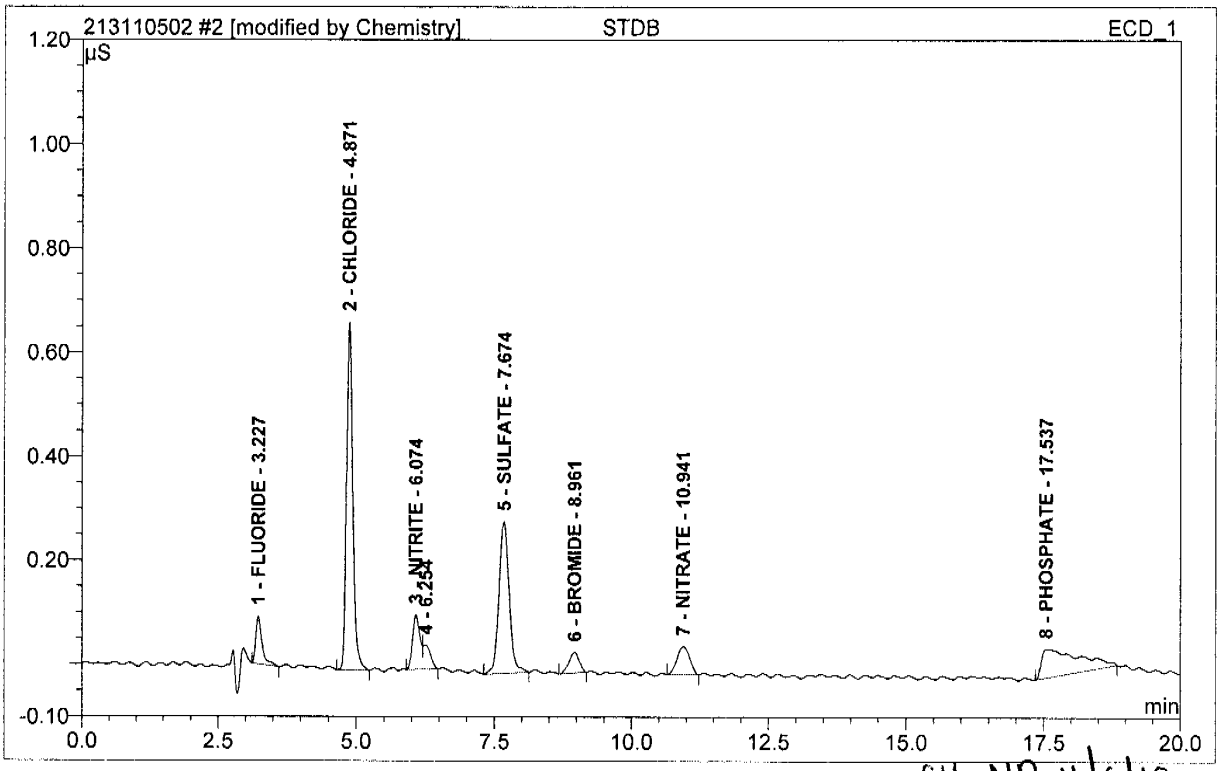
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDA** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 12:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.17 | n.a. | 0.008 | 0.001 | 4.53 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.091 | 0.012 | 42.91 | n.a. | BMB |
| 3 | 2.93 | n.a. | 0.034 | 0.003 | 10.94 | n.a. | BMB |
| 4 | 3.57 | n.a. | 0.006 | 0.001 | 3.86 | n.a. | BMB |
| 5 | 5.31 | CHLORIDE | 0.008 | 0.001 | 3.57 | 0.006 | BMB |
| 6 | 6.28 | n.a. | 0.028 | 0.004 | 15.60 | n.a. | BM |
| 7 | 6.60 | n.a. | 0.012 | 0.002 | 6.71 | n.a. | MB |
| 8 | 15.17 | n.a. | 0.008 | 0.001 | 3.89 | n.a. | BMB |
| 9 | 20.27 | n.a. | 0.017 | 0.002 | 7.99 | n.a. | BMB |
| **Total:** | | | 0.212 | 0.028 | 100.00 | 0.006 | |

## 2 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

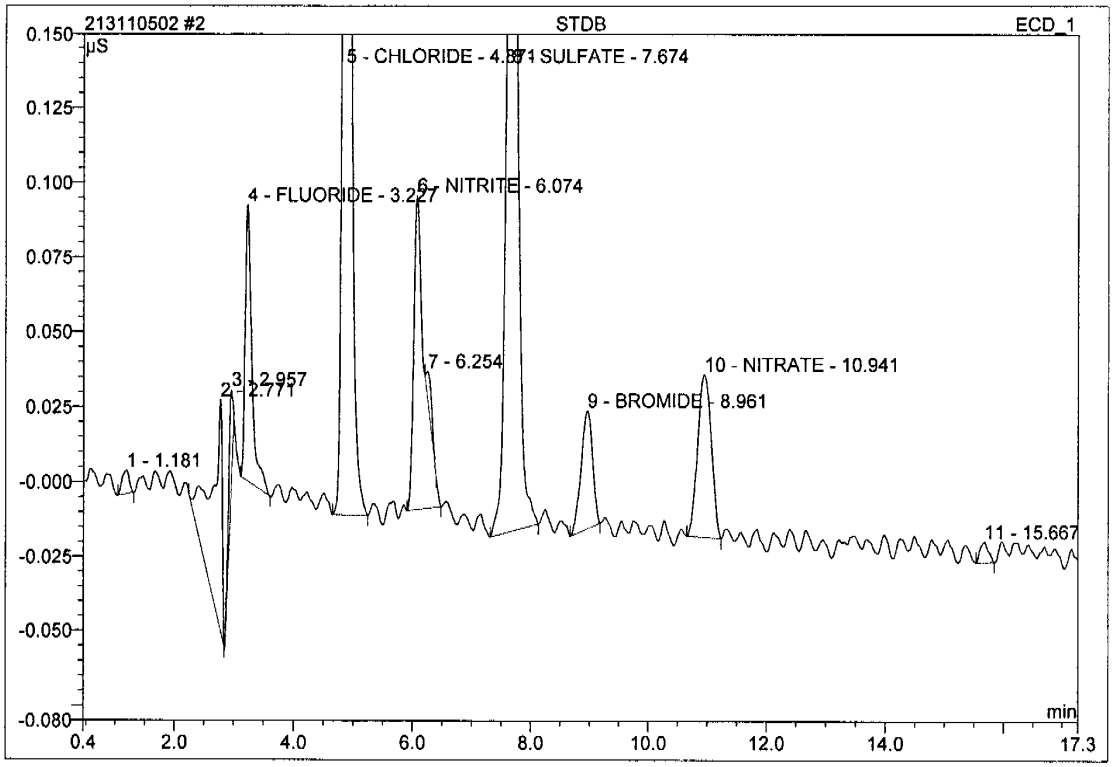



PH NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.092 | 0.012 | 4.75 | 0.041 | BMB |
| 2 | 4.87 | CHLORIDE | 0.669 | 0.088 | 34.86 | 0.492 | BMB |
| 3 | 6.07 | NITRITE | 0.105 | 0.016 | 6.50 | 0.039 | BM * |
| 4 | 6.25 | n.a. | 0.046 | 0.007 | 2.71 | n.a. | MB* |
| 5 | 7.67 | SULFATE | 0.292 | 0.063 | 24.93 | 0.479 | BMB |
| 6 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.52 | 0.115 | BMB |
| 7 | 10.94 | NITRATE | 0.054 | 0.015 | 5.81 | 0.034 | BMB |
| 8 | 17.54 | PHOSPHATE | 0.056 | 0.043 | 16.92 | 0.264 | BMB* |
| **Total:** | | | 1.352 | 0.252 | 100.00 | 1.463 | |

# 2 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.18 | n.a. | 0.008 | 0.001 | 0.44 | n.a. | BMB |
| 2 | 2.77 | n.a. | 0.076 | 0.016 | 6.36 | n.a. | BMB |
| 3 | 2.96 | n.a. | 0.033 | 0.003 | 1.13 | n.a. | BMB |
| 4 | 3.23 | FLUORIDE | 0.092 | 0.012 | 4.81 | 0.041 | BMB |
| 5 | 4.87 | CHLORIDE | 0.669 | 0.088 | 35.29 | 0.492 | BMB |
| 6 | 6.07 | NITRITE | 0.105 | 0.022 | 8.81 | 0.052 | BMB |
| 7 | 6.25 | n.a. | 0.009 | 0.001 | 0.52 | n.a. | Rd |
| 8 | 7.67 | SULFATE | 0.292 | 0.063 | 25.24 | 0.479 | BMB |
| 9 | 8.96 | BROMIDE | 0.039 | 0.009 | 3.56 | 0.115 | BMB |
| 10 | 10.94 | NITRATE | 0.054 | 0.015 | 5.88 | 0.034 | BMB |
| 11 | 15.67 | n.a. | 0.007 | 0.001 | 0.45 | n.a. | BMB |

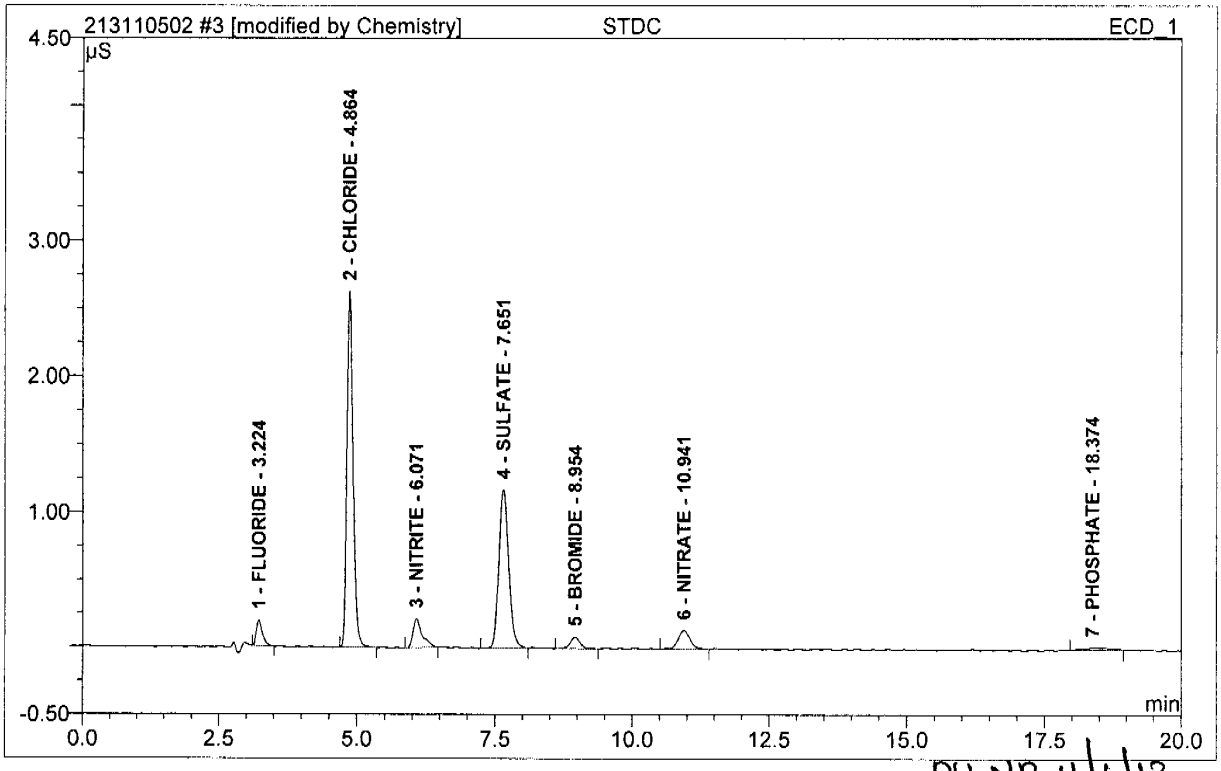
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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.54 | PHOSPHATE | 0.049 | 0.019 | 7.52 | 0.116 | BMB |
| **Total:** | | | 1.432 | 0.249 | 100.00 | 1.328 | |

# 3 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PII NP 11/6/13

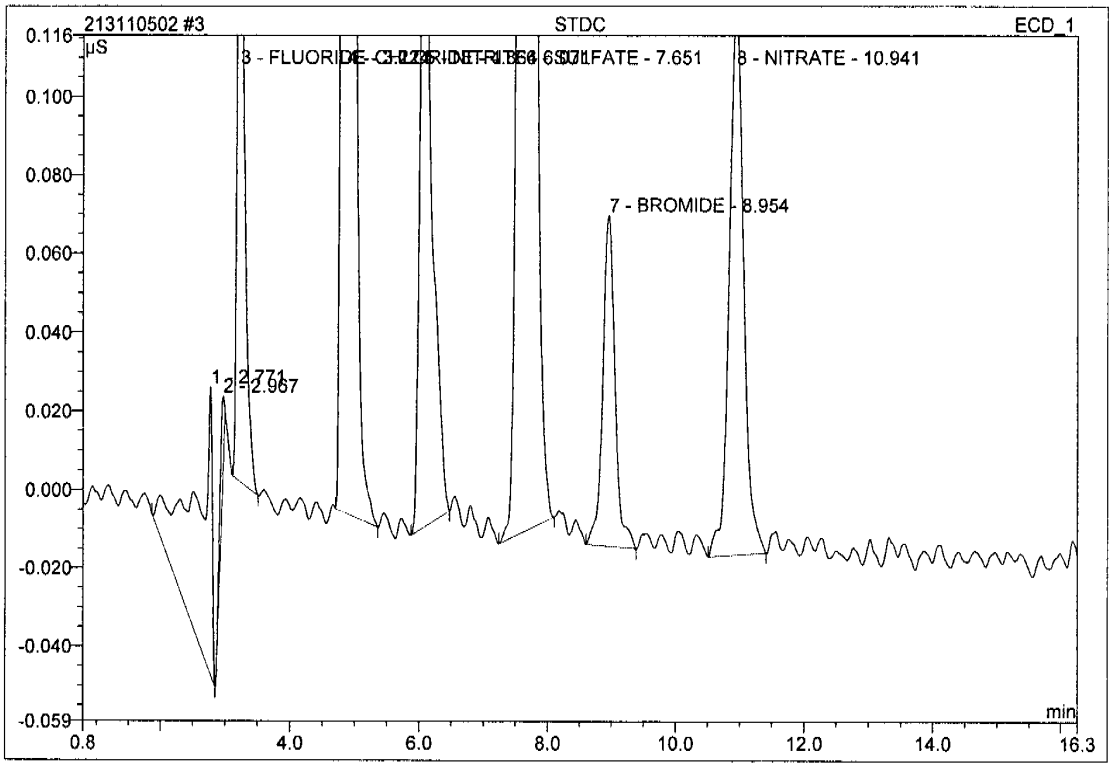
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.29 | 0.081 | BMB |
| 2 | 4.86 | CHLORIDE | 2.632 | 0.342 | 47.72 | 1.916 | BMB |
| 3 | 6.07 | NITRITE | 0.215 | 0.041 | 5.74 | 0.097 | BMB |
| 4 | 7.65 | SULFATE | 1.178 | 0.245 | 34.20 | 1.868 | BMB |
| 5 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.59 | 0.242 | BMB |
| 6 | 10.94 | NITRATE | 0.138 | 0.036 | 5.07 | 0.084 | BMB |
| 7 | 18.37 | PHOSPHATE | 0.019 | 0.010 | 1.39 | 0.062 | BMB* |
| **Total:** | | | 4.455 | 0.717 | 100.00 | 4.350 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502



# 3 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 13:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



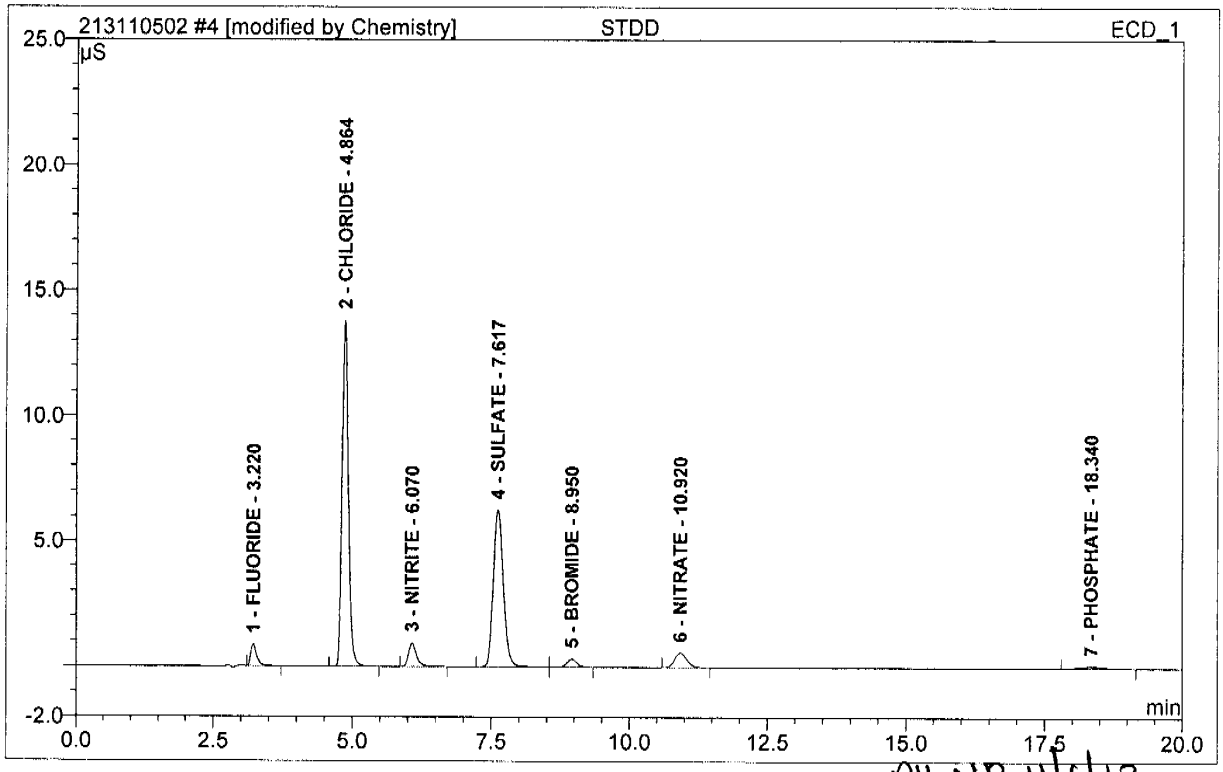

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.073 | 0.024 | 3.23 | n.a. | BMB |
| 2 | 2.97 | n.a. | 0.021 | 0.002 | 0.27 | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 0.190 | 0.024 | 3.22 | 0.081 | BMB |
| 4 | 4.86 | CHLORIDE | 2.632 | 0.342 | 46.70 | 1.916 | BMB |
| 5 | 6.07 | NITRITE | 0.215 | 0.041 | 5.61 | 0.097 | BMB |
| 6 | 7.65 | SULFATE | 1.178 | 0.245 | 33.47 | 1.868 | BMB |
| 7 | 8.95 | BROMIDE | 0.084 | 0.019 | 2.54 | 0.242 | BMB |
| 8 | 10.94 | NITRATE | 0.138 | 0.036 | 4.96 | 0.084 | BMB |
| **Total:** | | | 4.530 | 0.733 | 100.00 | 4.289 | |

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# 4 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




PII NP 11/6/13

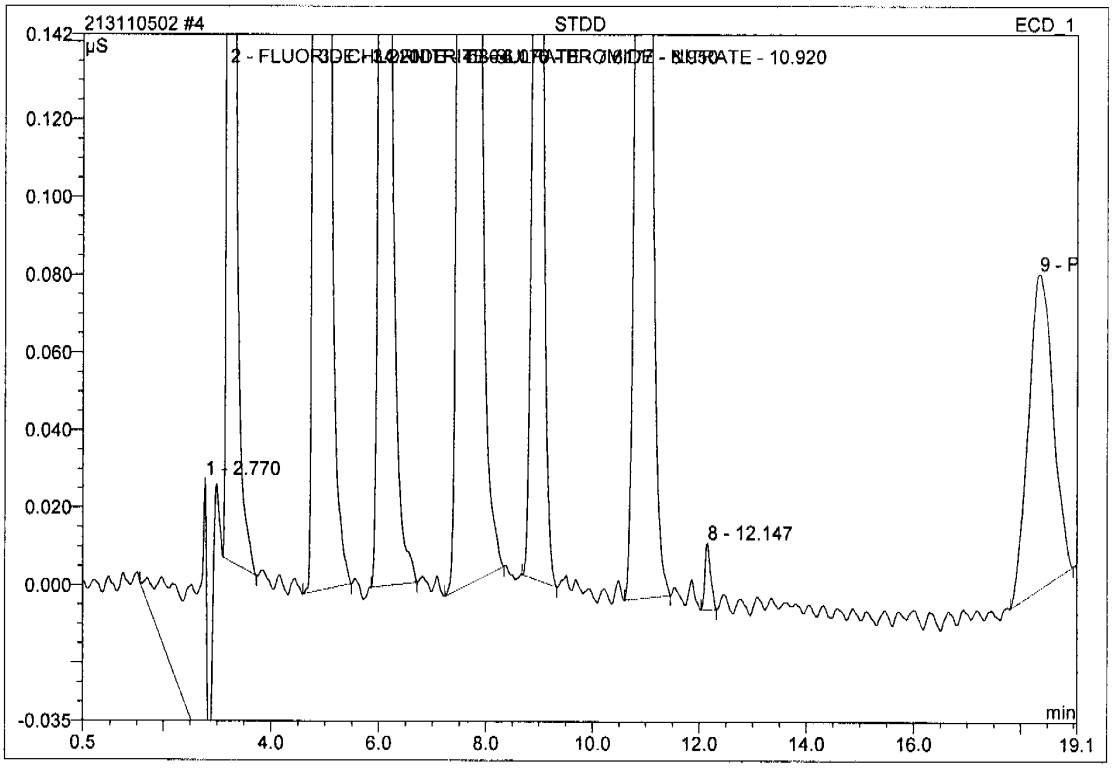
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.90 | 0.362 | BMB |
| 2 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.37 | 10.102 | BMB |
| 3 | 6.07 | NITRITE | 0.940 | 0.158 | 4.31 | 0.370 | BMB |
| 4 | 7.62 | SULFATE | 6.264 | 1.318 | 36.06 | 10.038 | BM * |
| 5 | 8.95 | BROMIDE | 0.324 | 0.068 | 1.87 | 0.889 | MB* |
| 6 | 10.92 | NITRATE | 0.583 | 0.152 | 4.15 | 0.352 | BMB |
| 7 | 18.34 | PHOSPHATE | 0.085 | 0.049 | 1.34 | 0.302 | BMB* |
| Total: | | | 22.859 | 3.655 | 100.00 | 22.416 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502



# 4 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 14:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



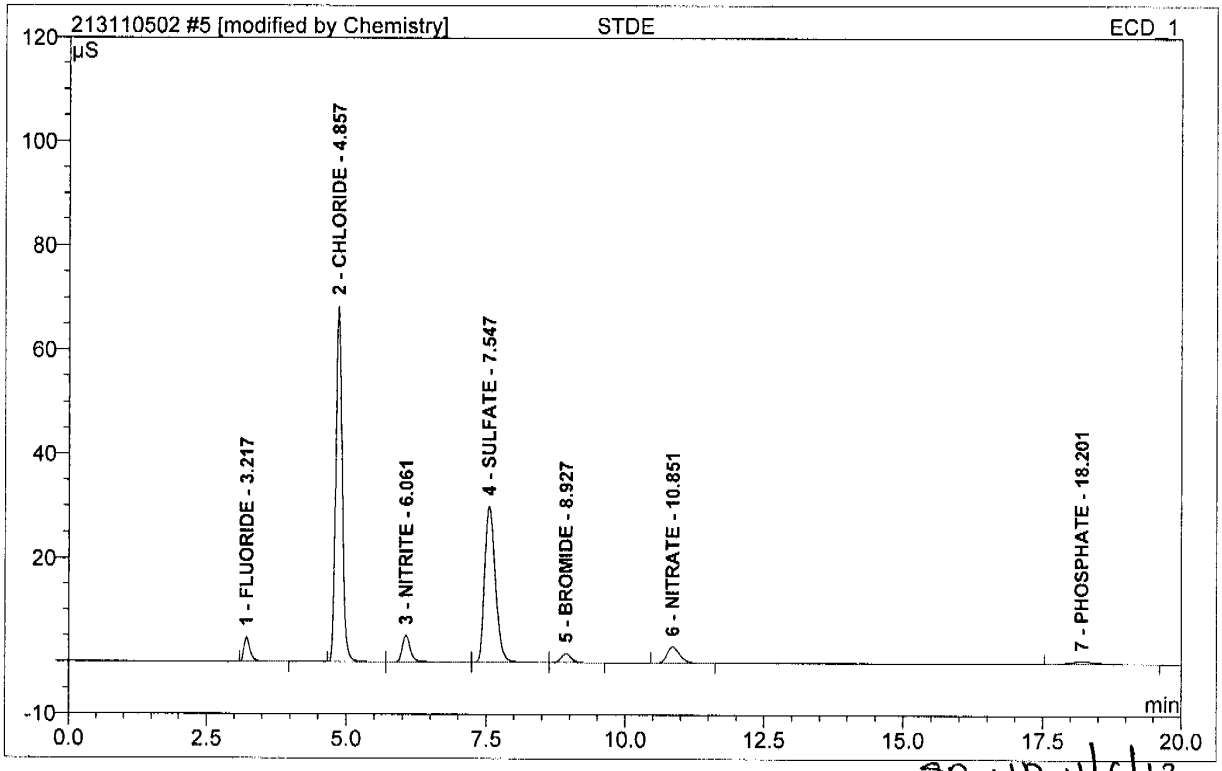

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.071 | 0.029 | 0.79 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.855 | 0.106 | 2.88 | 0.362 | BMB |
| 3 | 4.86 | CHLORIDE | 13.809 | 1.804 | 49.11 | 10.102 | BMB |
| 4 | 6.07 | NITRITE | 0.940 | 0.158 | 4.29 | 0.371 | BMB |
| 5 | 7.62 | SULFATE | 6.261 | 1.313 | 35.75 | 10.002 | BMB |
| 6 | 8.95 | BROMIDE | 0.321 | 0.066 | 1.81 | 0.865 | BMB |
| 7 | 10.92 | NITRATE | 0.583 | 0.152 | 4.13 | 0.352 | BMB |
| 8 | 12.15 | n.a. | 0.017 | 0.002 | 0.06 | n.a. | BMB |
| 9 | 18.34 | PHOSPHATE | 0.081 | 0.044 | 1.19 | 0.271 | BMB |
| **Total:** | | | 22.940 | 3.674 | 100.00 | 22.326 | |

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# 5 STDE

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

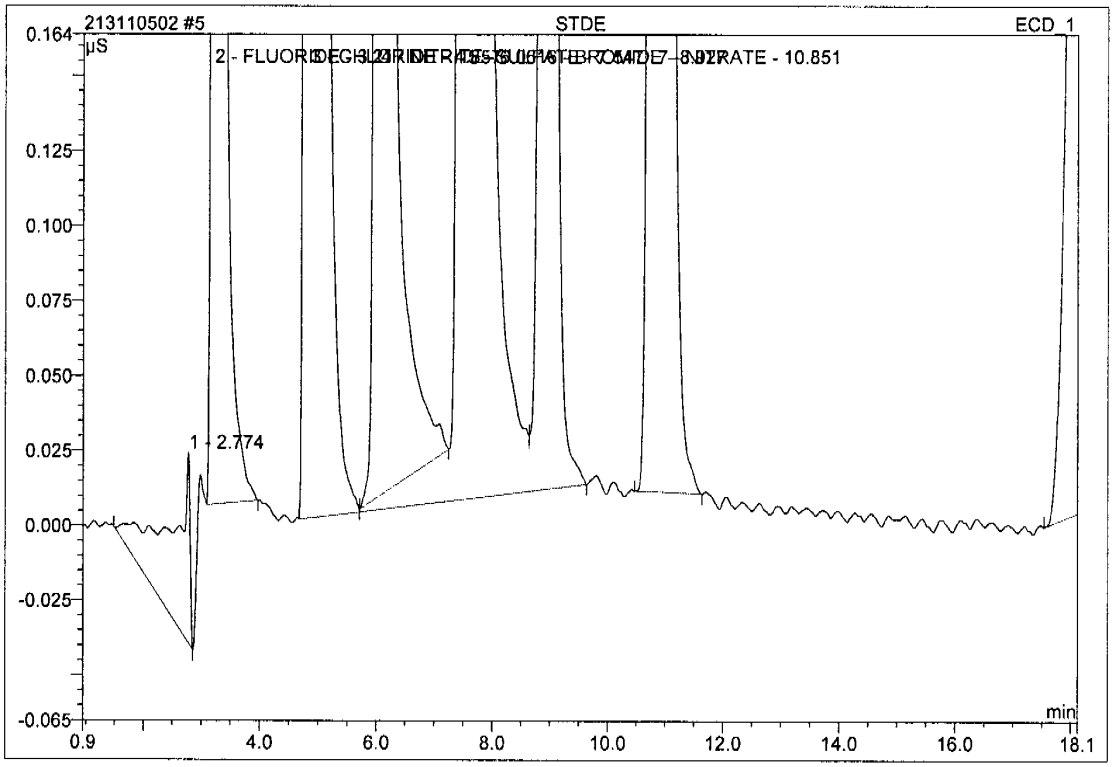
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB |
| 2 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.46 | 50.890 | BM |
| 3 | 6.06 | NITRITE | 5.063 | 0.877 | 4.68 | 2.062 | M * |
| 4 | 7.55 | SULFATE | 30.013 | 6.714 | 35.79 | 51.125 | M * |
| 5 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 6 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 7 | 18.20 | PHOSPHATE | 0.527 | 0.309 | 1.64 | 1.907 | BMB* |
| Total: | | | 113.568 | 18.760 | 100.00 | 114.694 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502


11/6/2013 9:25 AM

## 5 STDE

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



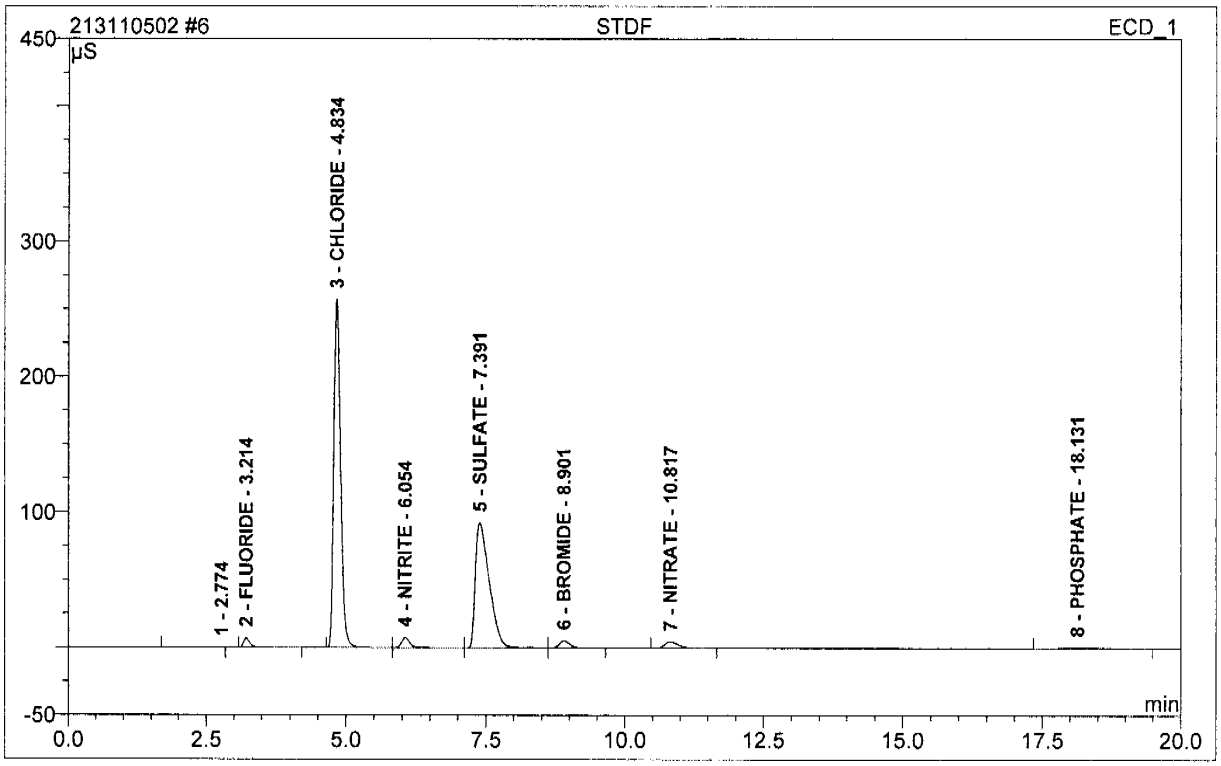

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.064 | 0.027 | 0.15 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.695 | 0.582 | 3.10 | 1.990 | BMB |
| 3 | 4.86 | CHLORIDE | 68.451 | 9.090 | 48.40 | 50.890 | BM |
| 4 | 6.06 | NITRITE | 5.058 | 0.863 | 4.60 | 2.032 | Ru |
| 5 | 7.55 | SULFATE | 30.013 | 6.728 | 35.82 | 51.230 | M |
| 6 | 8.93 | BROMIDE | 1.734 | 0.370 | 1.97 | 4.821 | MB |
| 7 | 10.85 | NITRATE | 3.084 | 0.818 | 4.36 | 1.899 | BMB |
| 8 | 18.20 | PHOSPHATE | 0.525 | 0.303 | 1.61 | 1.876 | BMB |
| **Total:** | | | 113.625 | 18.782 | 100.00 | 114.738 | |

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# 6 STDF

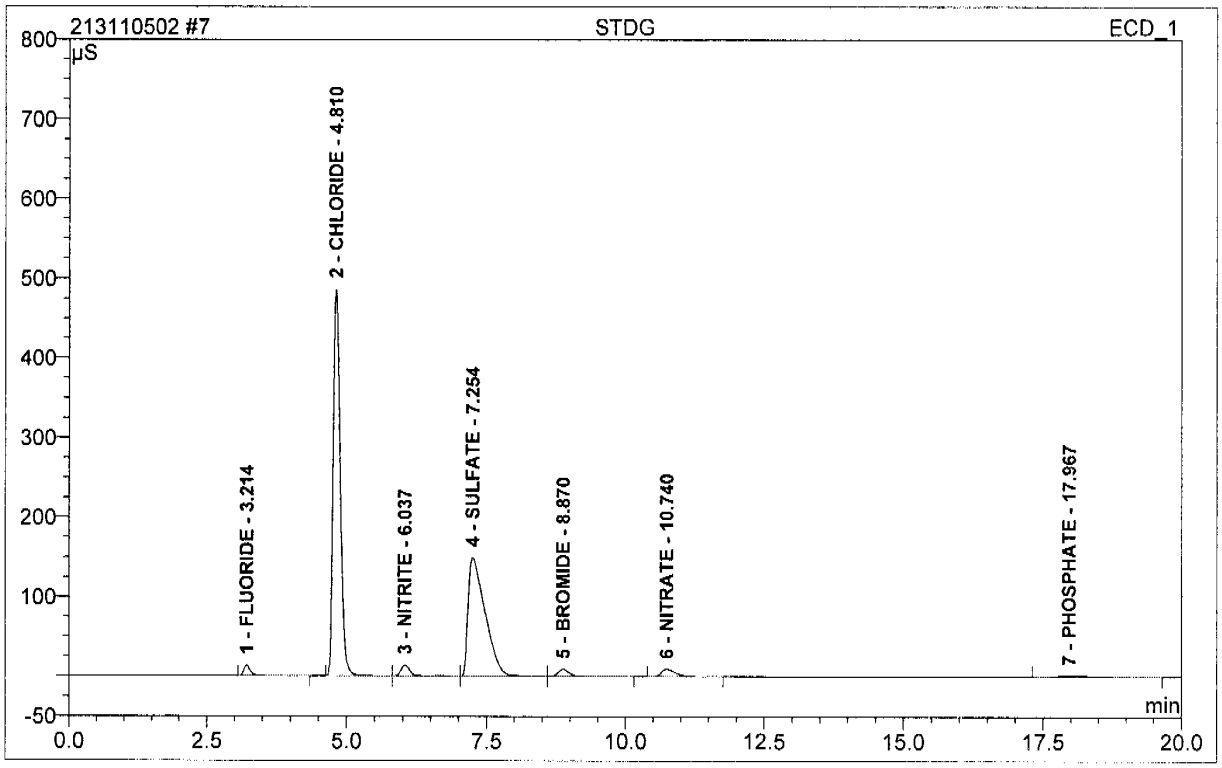
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDF** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 15:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



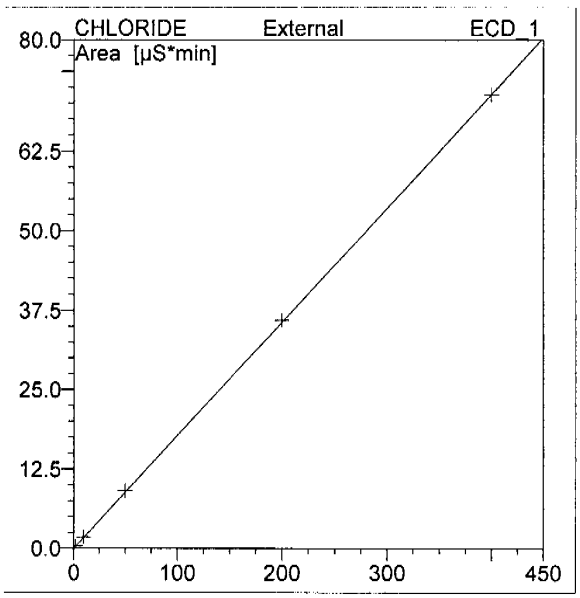

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.051 | 0.019 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.921 | 0.875 | 1.30 | 2.991 | BMB |
| 3 | 4.83 | CHLORIDE | 257.257 | 35.968 | 53.36 | 201.358 | BM |
| 4 | 6.05 | NITRITE | 7.308 | 1.270 | 1.88 | 2.984 | M |
| 5 | 7.39 | SULFATE | 92.481 | 26.388 | 39.15 | 200.943 | M |
| 6 | 8.90 | BROMIDE | 5.209 | 1.127 | 1.67 | 14.678 | MB |
| 7 | 10.82 | NITRATE | 4.748 | 1.287 | 1.91 | 2.989 | BMB |
| 8 | 18.13 | PHOSPHATE | 0.797 | 0.471 | 0.70 | 2.909 | BMB |
| **Total:** | | | 374.773 | 67.404 | 100.00 | 428.851 | |

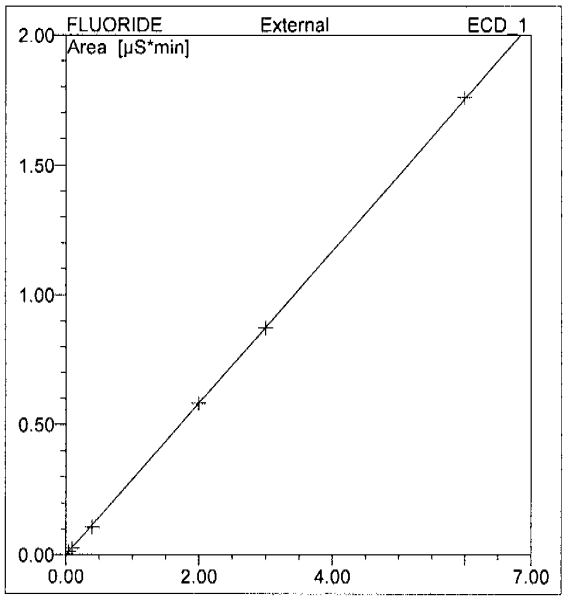
# 7 STDG

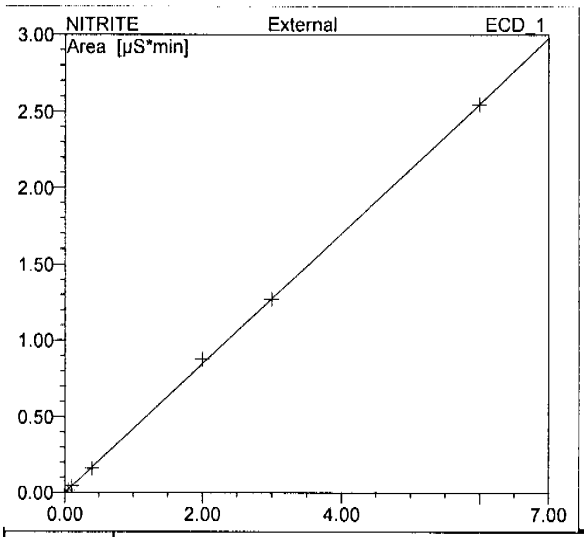
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDG** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **10/31/2013 16:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

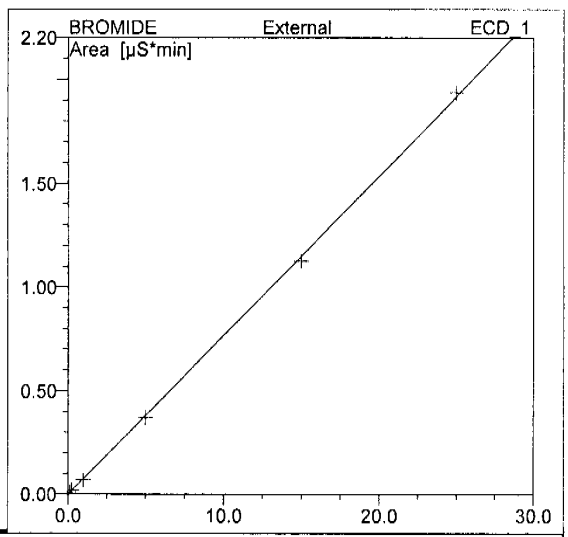



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 13.394 | 1.758 | 1.32 | 6.011 | BMB |
| 2 | 4.81 | CHLORIDE | 486.510 | 71.310 | 53.38 | 399.208 | BM |
| 3 | 6.04 | NITRITE | 13.872 | 2.548 | 1.91 | 5.989 | M |
| 4 | 7.25 | SULFATE | 149.803 | 52.448 | 39.26 | 399.388 | M |
| 5 | 8.87 | BROMIDE | 8.715 | 1.937 | 1.45 | 25.234 | MB |
| 6 | 10.74 | NITRATE | 9.087 | 2.603 | 1.95 | 6.043 | BMB |
| 7 | 17.97 | PHOSPHATE | 1.587 | 0.984 | 0.74 | 6.082 | BMB |
| **Total:** | | | 682.969 | 133.587 | 100.00 | 847.954 | |



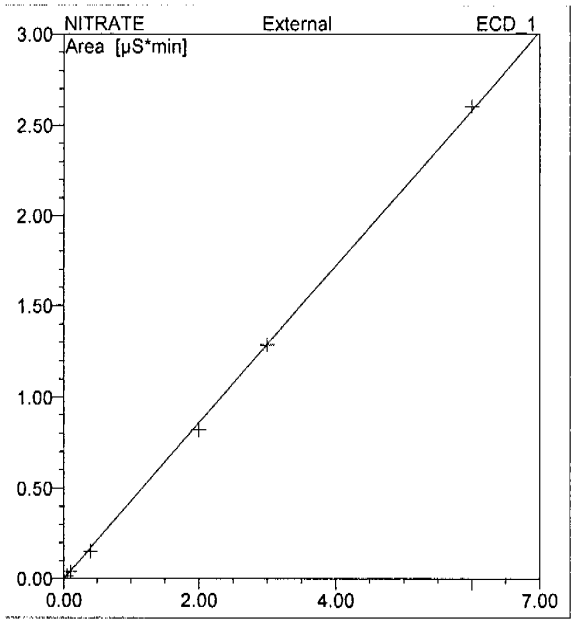



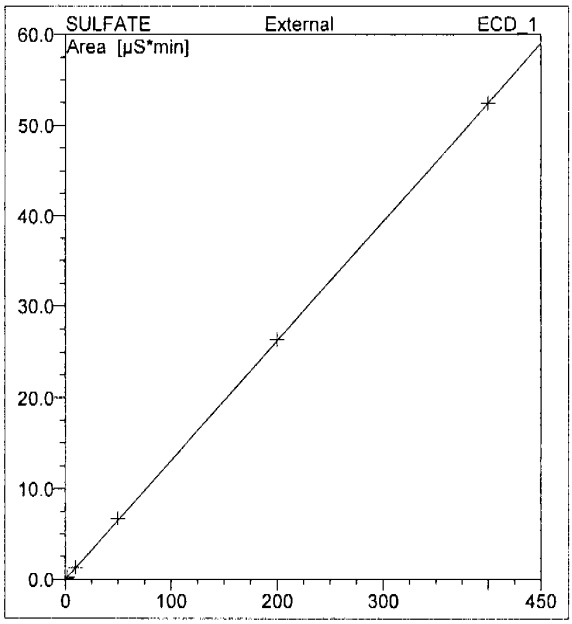



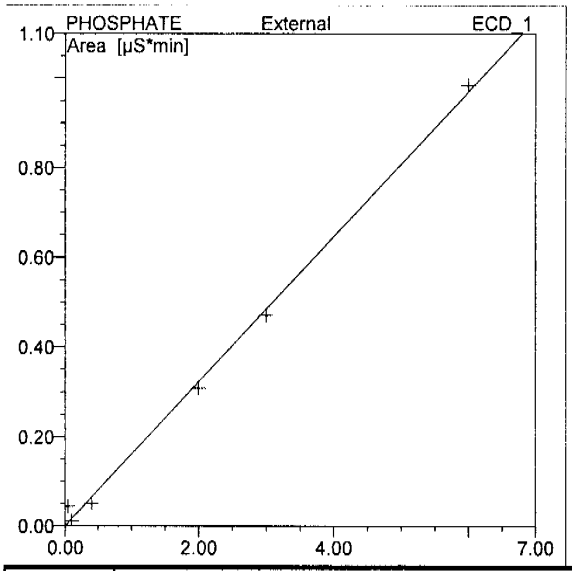

| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 6 | 99.8522 | 0.0000 | 0.1618 | 0.0000 |
| Average: | | | | | 99.9728 | 0.0000 | 0.2424 | 0.0000 |



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Version 6.80 SR9a Build 2680 (163077)



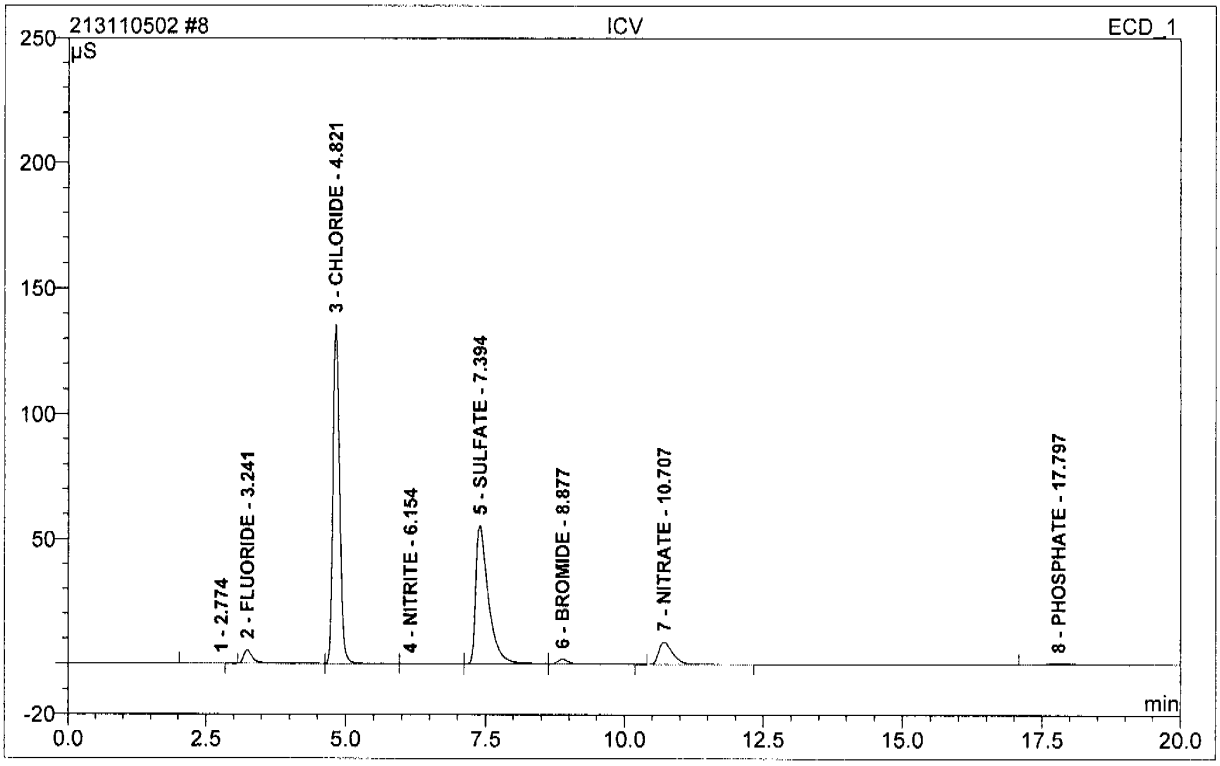




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9991 | 0.0000 | 0.2924 | 0.0000 |
| 2 | 4.81 | CHLORIDE | Lin | 7 | 99.9990 | 0.0000 | 0.1786 | 0.0000 |
| 3 | 6.04 | NITRITE | Lin | 6 | 99.9903 | 0.0000 | 0.4254 | 0.0000 |
| 4 | 7.25 | SULFATE | Lin | 6 | 99.9992 | 0.0000 | 0.1313 | 0.0000 |
| 5 | 8.87 | BROMIDE | Lin | 6 | 99.9848 | 0.0000 | 0.0768 | 0.0000 |
| 6 | 10.74 | NITRATE | Lin | 6 | 99.9851 | 0.0000 | 0.4307 | 0.0000 |
| 7 | 17.97 | PHOSPHATE | Lin | 6 | 99.8522 | 0.0000 | 0.1618 | 0.0000 |
| Average: | | | | | 99.9728 | 0.0000 | 0.2424 | 0.0000 |

# 8 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 13:11** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.043 | 0.006 | 0.02 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 5.464 | 1.059 | 2.80 | 3.620 | BM |
| 3 | 4.82 | CHLORIDE | 135.870 | 18.687 | 49.50 | 104.615 ✓ | M |
| 4 | 6.15 | NITRITE | 0.065 | 0.022 | 0.06 | 0.051 | MB |
| 5 | 7.39 | SULFATE | 55.483 | 14.550 | 38.54 | 110.798 ✓ | BM |
| 6 | 8.88 | BROMIDE | 1.942 | 0.461 | 1.22 | 6.001 | MB |
| 7 | 10.71 | NITRATE | 8.888 | 2.584 | 6.84 | 5.999 | BMB |
| 8 | 17.80 | PHOSPHATE | 0.488 | 0.387 | 1.02 | 2.389 | BMB |
| **Total:** | | | 208.242 | 37.754 | 100.00 | 233.472 | |

102936 110.12

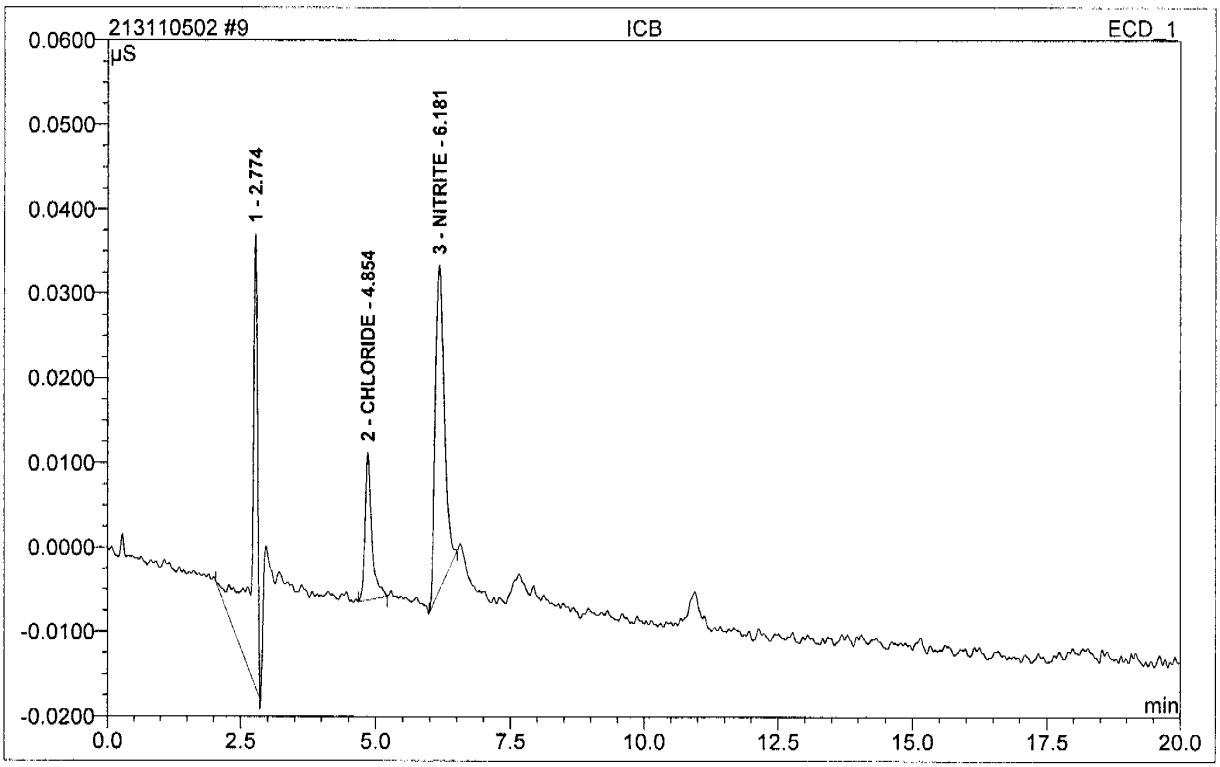
101.63

100.62

12.1 12

# 9 ICB

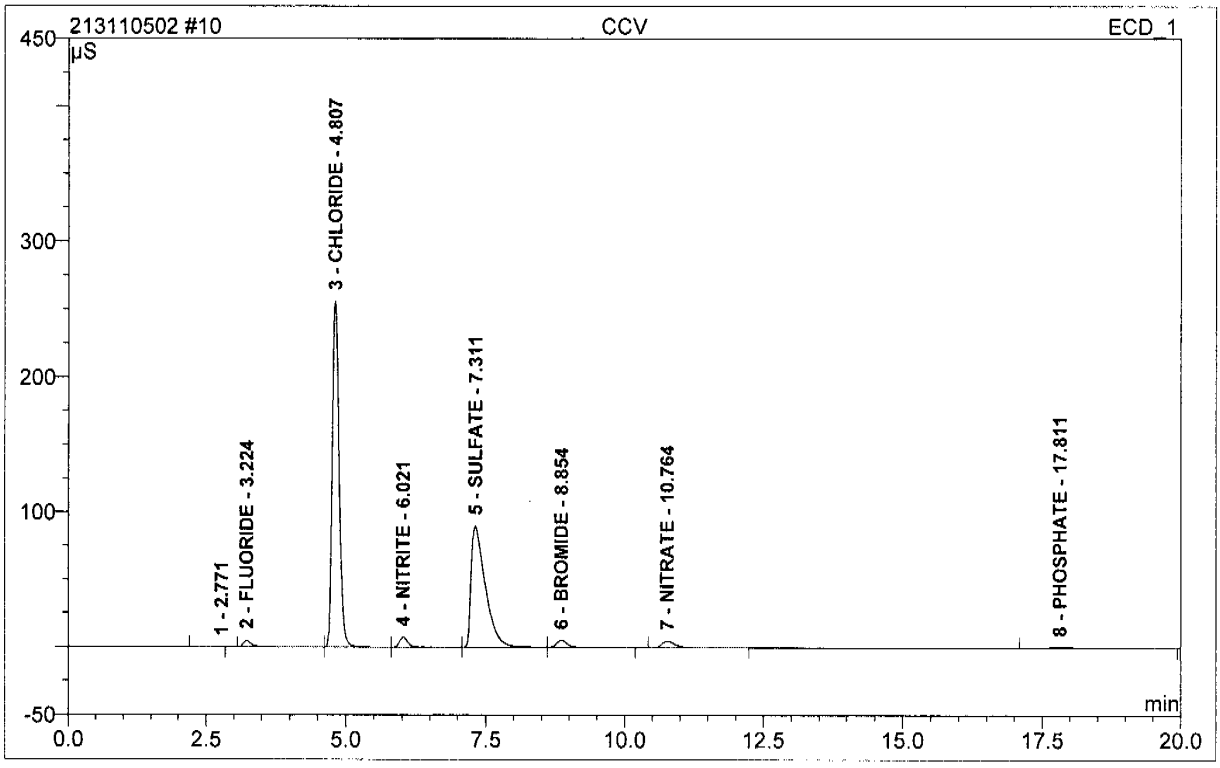
| | | | |
|---|---|---|---|
| *Sample Name:* | **ICB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 13:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.054 | 0.008 | 43.06 | n.a. | BMB |
| 2 | 4.85 | CHLORIDE | 0.017 | 0.003 | 14.29 | 0.014 ✓ | BMB |
| 3 | 6.18 | NITRITE | 0.039 | 0.008 | 42.65 | 0.018 | BMB |
| **Total:** | | | 0.110 | 0.018 | 100.00 | 0.032 | |

## 10 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 13:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.038 | 0.006 | 0.01 | | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.793 | 0.852 | 1.26 | | 2.912 | BM |
| 3 | 4.81 | CHLORIDE | 256.283 | 36.254 | 53.50 | 200 | 202.958 ✓ | M |
| 4 | 6.02 | NITRITE | 7.340 | 1.295 | 1.91 | | 3.044 ✓ | M |
| 5 | 7.31 | SULFATE | 90.045 | 26.503 | 39.11 | 200 | 201.816 ✓ | M |
| 6 | 8.85 | BROMIDE | 5.349 | 1.211 | 1.79 | | 15.774 | MB |
| 7 | 10.76 | NITRATE | 4.762 | 1.316 | 1.94 | | 3.056 | BMB |
| 8 | 17.81 | PHOSPHATE | 0.462 | 0.333 | 0.49 | | 2.057 | BMB |
| **Total:** | | | 369.072 | 67.768 | 100.00 | | 431.616 | |

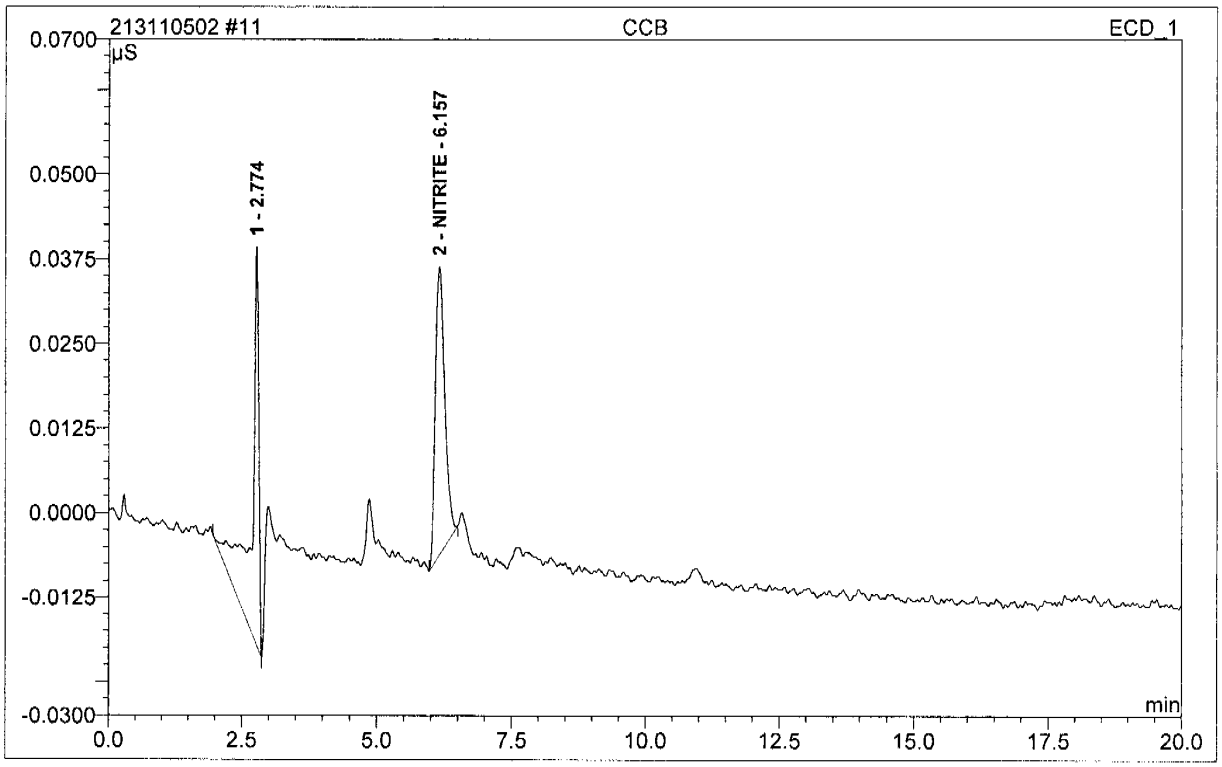
101.48

100.91

12.1 12

## 11 CCB

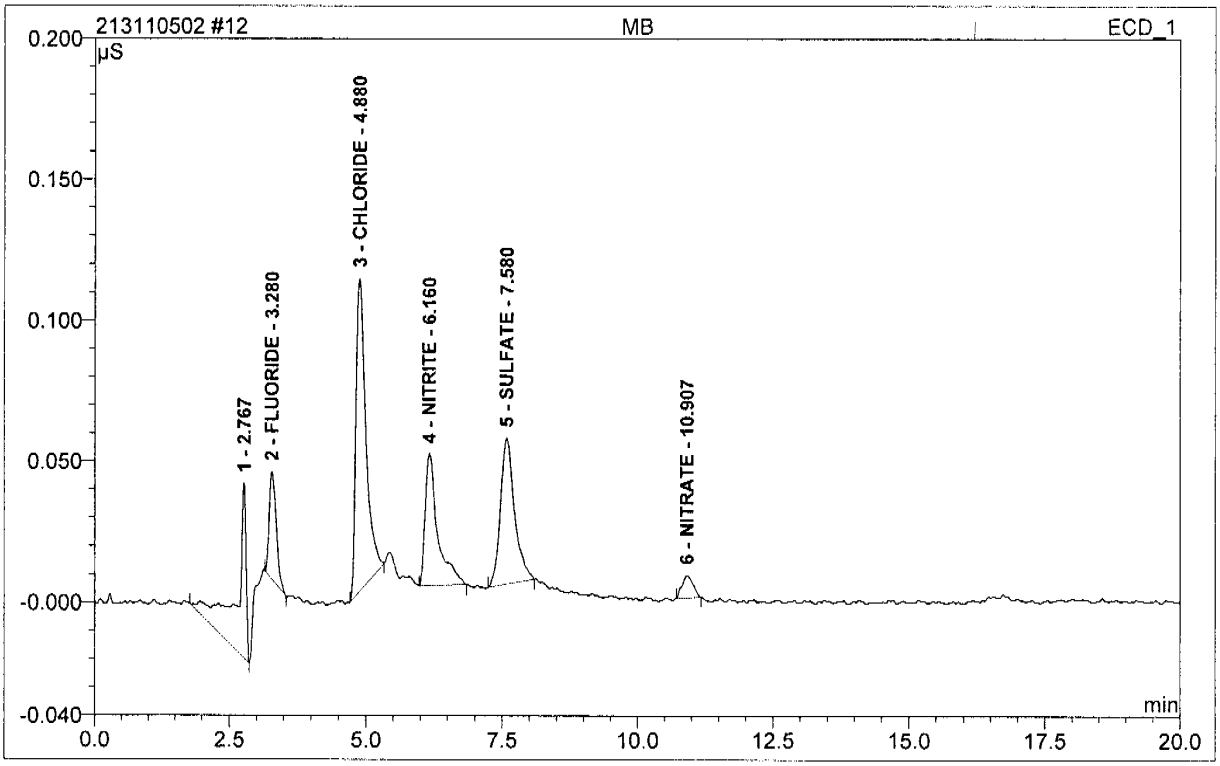
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 14:22** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.059 | 0.010 | 52.51 | n.a. | BMB |
| 2 | 6.16 | NITRITE | 0.043 | 0.009 | 47.49 | 0.020 | BMB |
| **Total:** | | | 0.101 | 0.018 | 100.00 | 0.020 | |

## 12 MB

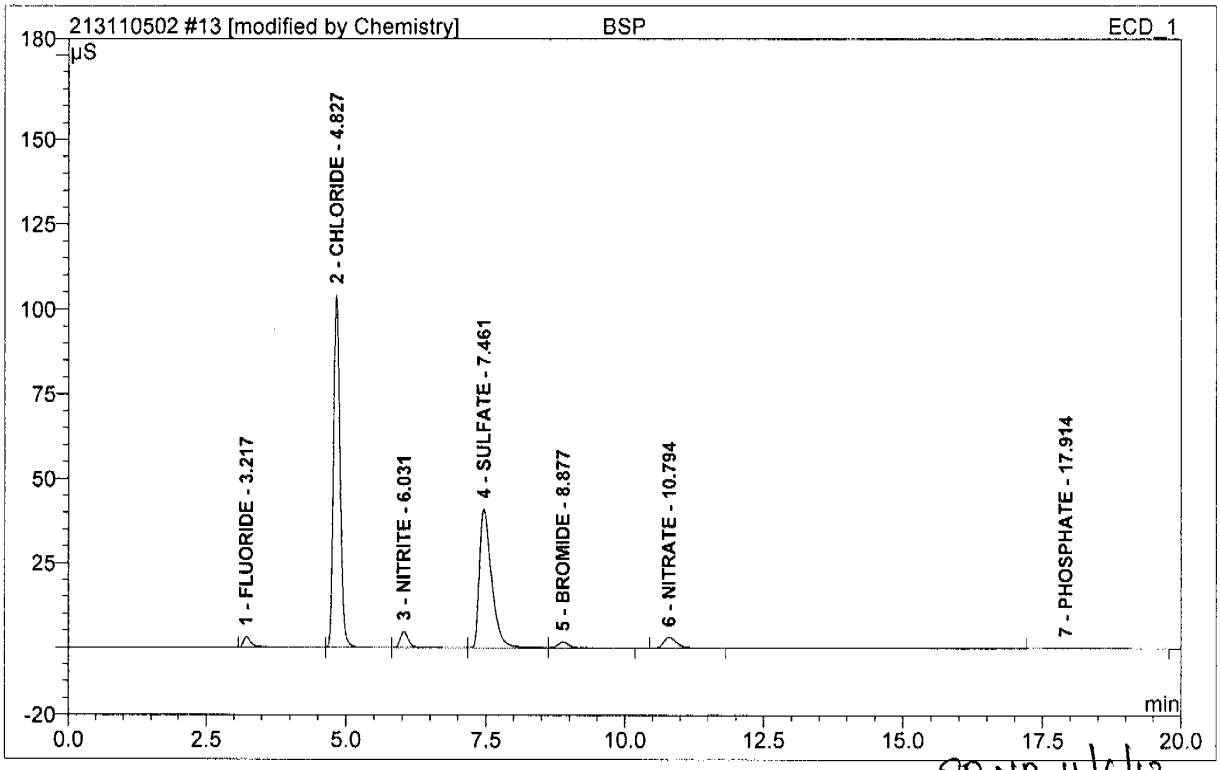
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 14:46** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.062 | 0.013 | 18.40 | n.a. | BMB |
| 2 | 3.28 | FLUORIDE | 0.038 | 0.006 | 7.86 | 0.019 | BMB |
| 3 | 4.88 | CHLORIDE | 0.111 | 0.023 | 32.25 | 0.131 ✓ | BMB |
| 4 | 6.16 | NITRITE | 0.047 | 0.013 | 17.37 | 0.030 | BMB |
| 5 | 7.58 | SULFATE | 0.052 | 0.016 | 21.50 | 0.118 ✓ | BMB |
| 6 | 10.91 | NITRATE | 0.008 | 0.002 | 2.63 | 0.004 | BMB |
| **Total:** | | | 0.318 | 0.072 | 100.00 | 0.302 | |

## 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SD NP 11/6/13

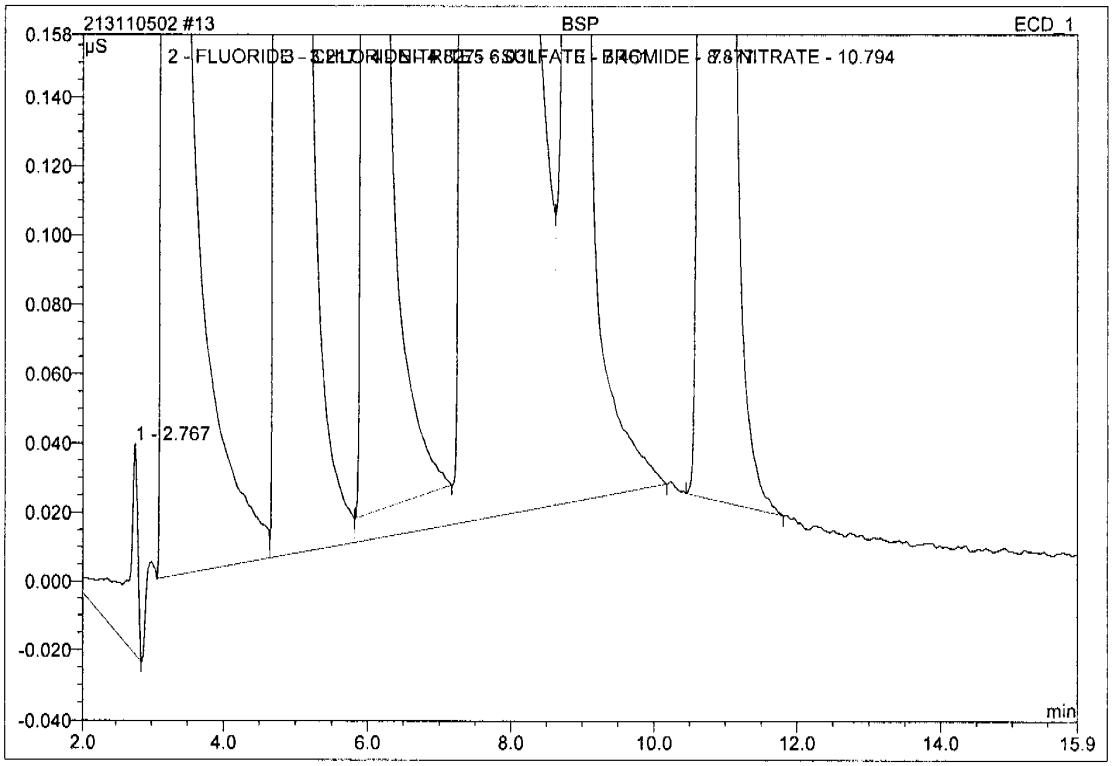
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 3.201 | 0.541 | 1.98 | 1.849 | BMb* |
| 2 | 4.83 | CHLORIDE | 104.233 | 14.143 | 51.73 | 79.176 | bM * |
| 3 | 6.03 | NITRITE | 4.831 | 0.827 | 3.03 | 1.945 | M * |
| 4 | 7.46 | SULFATE | 41.064 | 10.360 | 37.90 | 78.892 | M * |
| 5 | 8.88 | BROMIDE | 1.777 | 0.406 | 1.49 | 5.292 | MB* |
| 6 | 10.79 | NITRATE | 3.176 | 0.858 | 3.14 | 1.993 | BMB |
| 7 | 17.91 | PHOSPHATE | 0.286 | 0.202 | 0.74 | 1.251 | BMB |
| **Total:** | | | 158.568 | 27.338 | 100.00 | 170.399 | |

SD 98.62

12.1 12

# 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



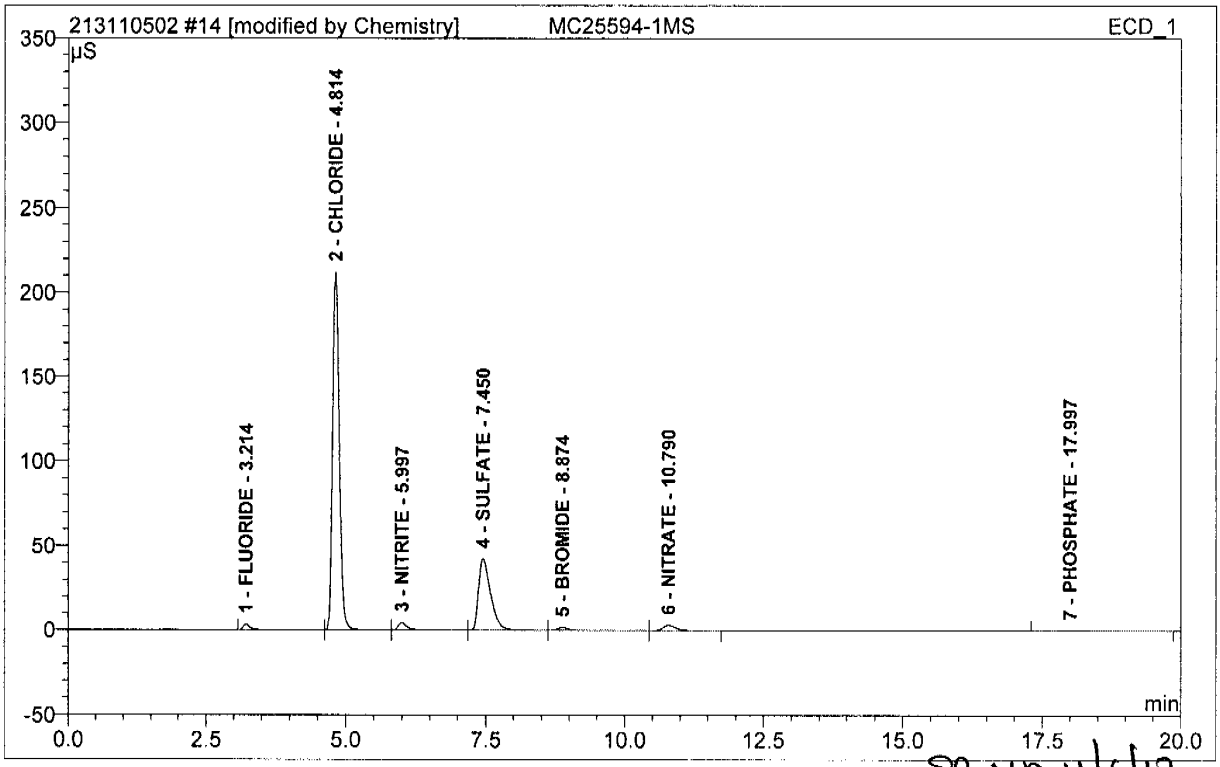

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.061 | 0.013 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.202 | 0.545 | 1.99 | 1.863 | BM |
| 3 | 4.83 | CHLORIDE | 104.238 | 14.149 | 51.69 | 79.207 | M |
| 4 | 6.03 | NITRITE | 4.827 | 0.820 | 2.99 | 1.927 | Ru |
| 5 | 7.46 | SULFATE | 41.067 | 10.376 | 37.91 | 79.010 | M |
| 6 | 8.88 | BROMIDE | 1.778 | 0.407 | 1.49 | 5.307 | MB |
| 7 | 10.79 | NITRATE | 3.176 | 0.858 | 3.14 | 1.993 | BMB |
| 8 | 17.91 | PHOSPHATE | 0.286 | 0.202 | 0.74 | 1.251 | BMB |
| **Total:** | | | 158.635 | 27.370 | 100.00 | 170.558 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502


11/6/2013 10:02 AM

## 14 MC25594-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 3.467 | 0.557 | 1.29 | 1.903 | BMb* |
| 2 | 4.81 | CHLORIDE | 212.114 | 29.434 | 68.37 | 164.781 | bM * |
| 3 | 6.00 | NITRITE | 4.457 | 0.945 | 2.20 | 2.223 | M * |
| 4 | 7.45 | SULFATE | 42.497 | 10.669 | 24.78 | 81.244 | M * |
| 5 | 8.87 | BROMIDE | 1.749 | 0.403 | 0.94 | 5.252 | Mb* |
| 6 | 10.79 | NITRATE | 3.161 | 0.838 | 1.95 | 1.945 | bMB* |
| 7 | 18.00 | PHOSPHATE | 0.271 | 0.202 | 0.47 | 1.251 | BMB |
| **Total:** | | | 267.718 | 43.049 | 100.00 | 258.599 | |



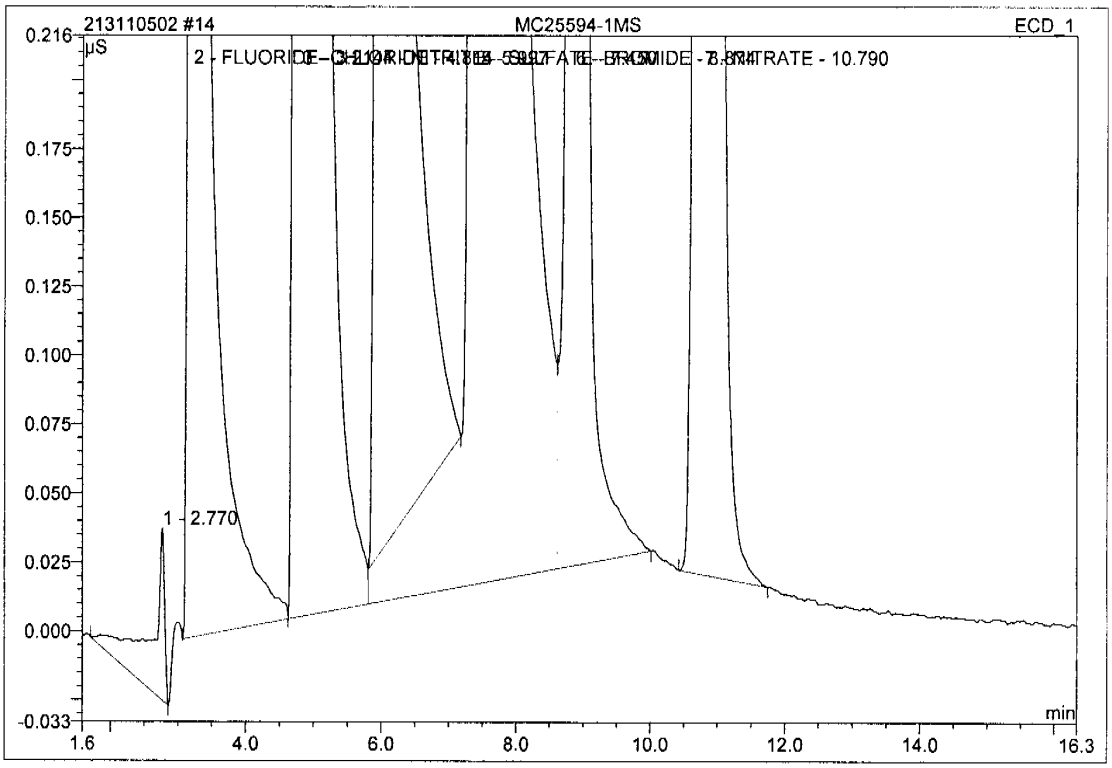
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502



# 14 MC25594-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



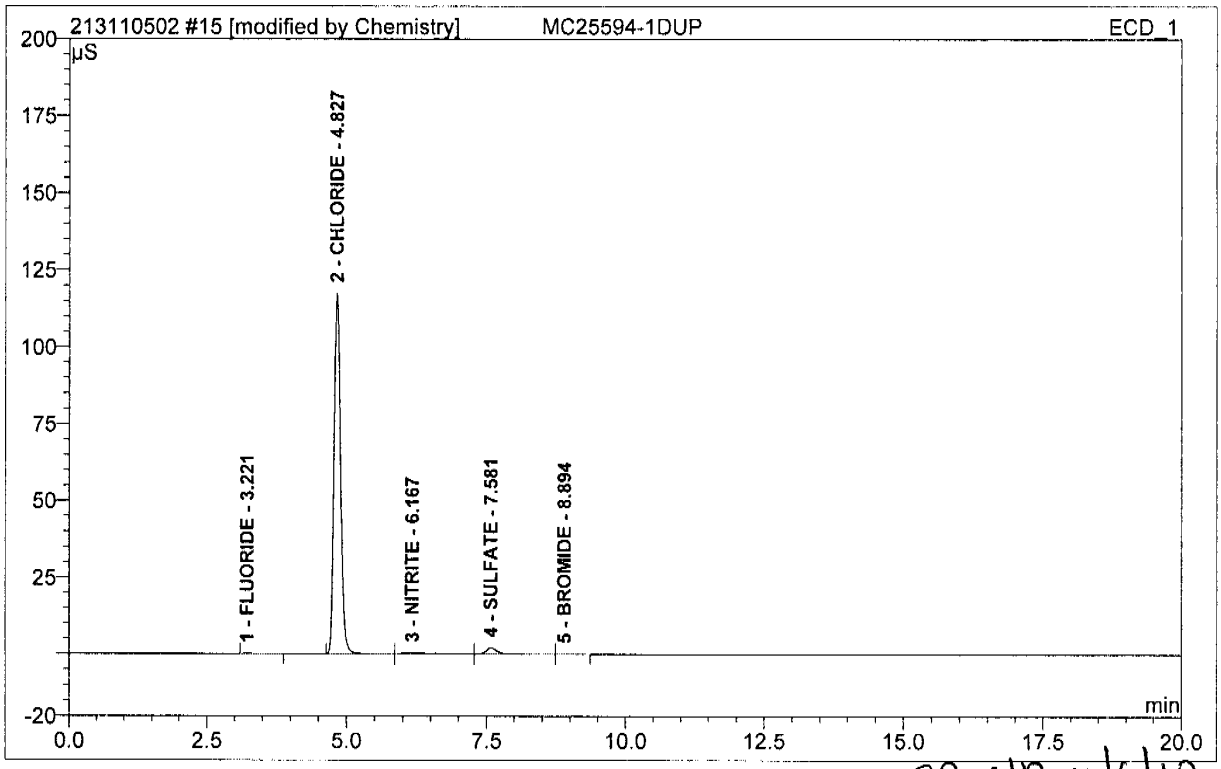

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.062 | 0.015 | 0.04 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 3.467 | 0.557 | 1.29 | 1.905 | BM |
| 3 | 4.81 | CHLORIDE | 212.114 | 29.434 | 68.38 | 164.779 | M |
| 4 | 6.00 | NITRITE | 4.437 | 0.896 | 2.08 | 2.107 | Ru |
| 5 | 7.45 | SULFATE | 42.494 | 10.708 | 24.88 | 81.544 | M |
| 6 | 8.87 | BROMIDE | 1.743 | 0.392 | 0.91 | 5.103 | MB |
| 7 | 10.79 | NITRATE | 3.162 | 0.838 | 1.95 | 1.945 | BMB |
| 8 | 18.00 | PHOSPHATE | 0.271 | 0.202 | 0.47 | 1.251 | BMB |
| **Total:** | | | 267.751 | 43.043 | 100.00 | 258.635 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 15 MC25594-1DUP

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

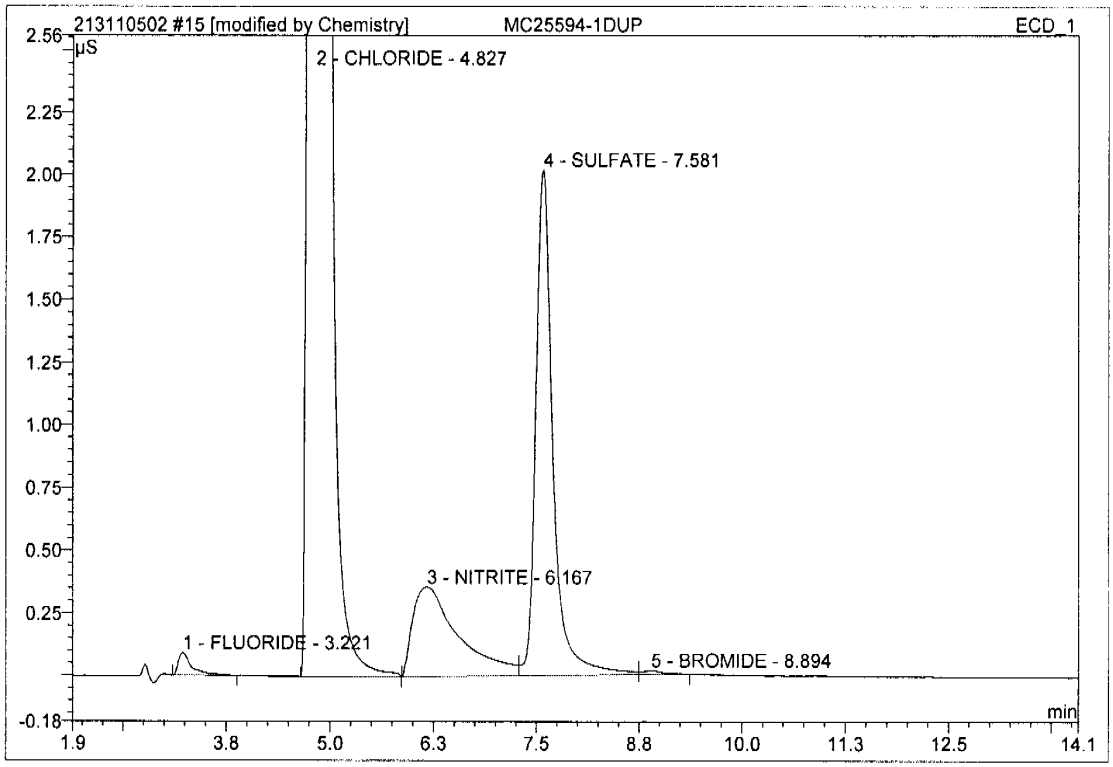
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.091 | 0.017 | 0.10 | 0.058 | BMB |
| 2 | 4.83 | CHLORIDE | 117.355 | 15.893 | 95.57 | 88.973 | BMB |
| 3 | 6.17 | NITRITE | 0.358 | 0.229 | 1.38 | 0.538 | BM * |
| 4 | 7.58 | SULFATE | 2.018 | 0.487 | 2.93 | 3.706 ✓ | M * |
| 5 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.03 | 0.058 | MB |
| **Total:** | | | 119.836 | 16.630 | 100.00 | 93.334 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502


11/6/2013 10:06 AM

# 15 MC25594-1DUP

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



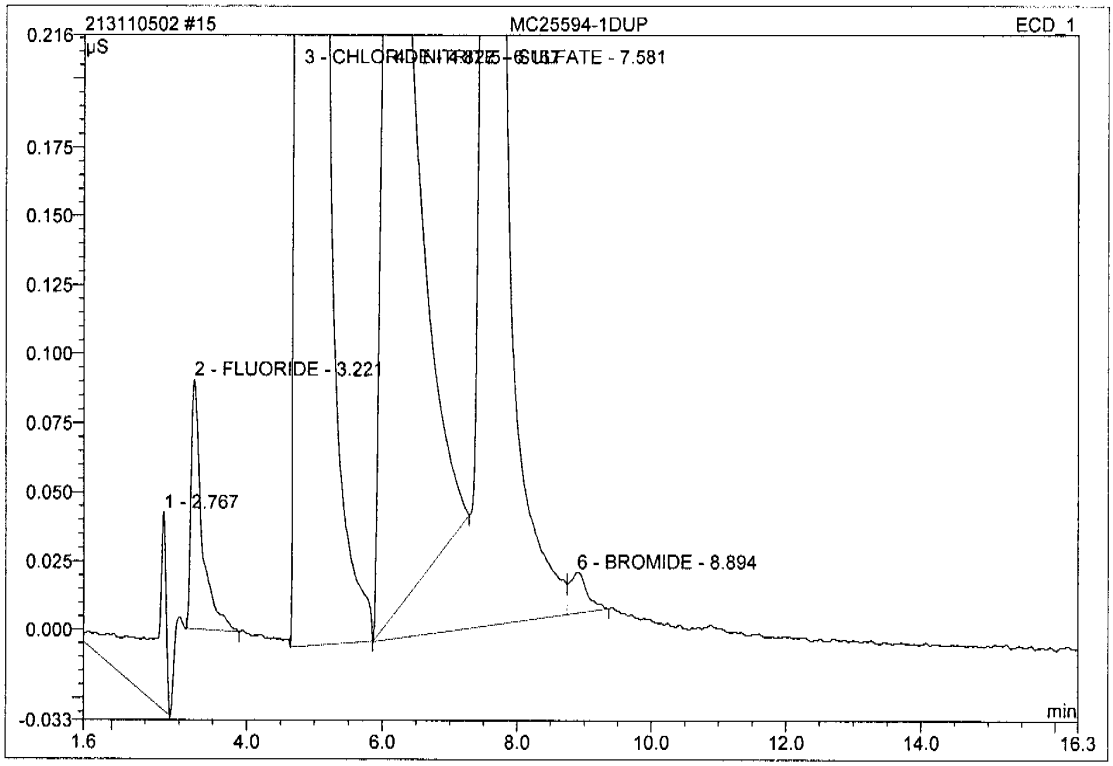

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.091 | 0.017 | 0.10 | 0.058 | BMB |
| 2 | 4.83 | CHLORIDE | 117.355 | 15.893 | 95.57 | 88.973 | BMB |
| 3 | 6.17 | NITRITE | 0.358 | 0.229 | 1.38 | 0.538 | BM * |
| 4 | 7.58 | SULFATE | 2.018 | 0.487 | 2.93 | 3.706 | M * |
| 5 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.03 | 0.058 | MB |
| **Total:** | | | 119.836 | 16.630 | 100.00 | 93.334 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 15 MC25594-1DUP

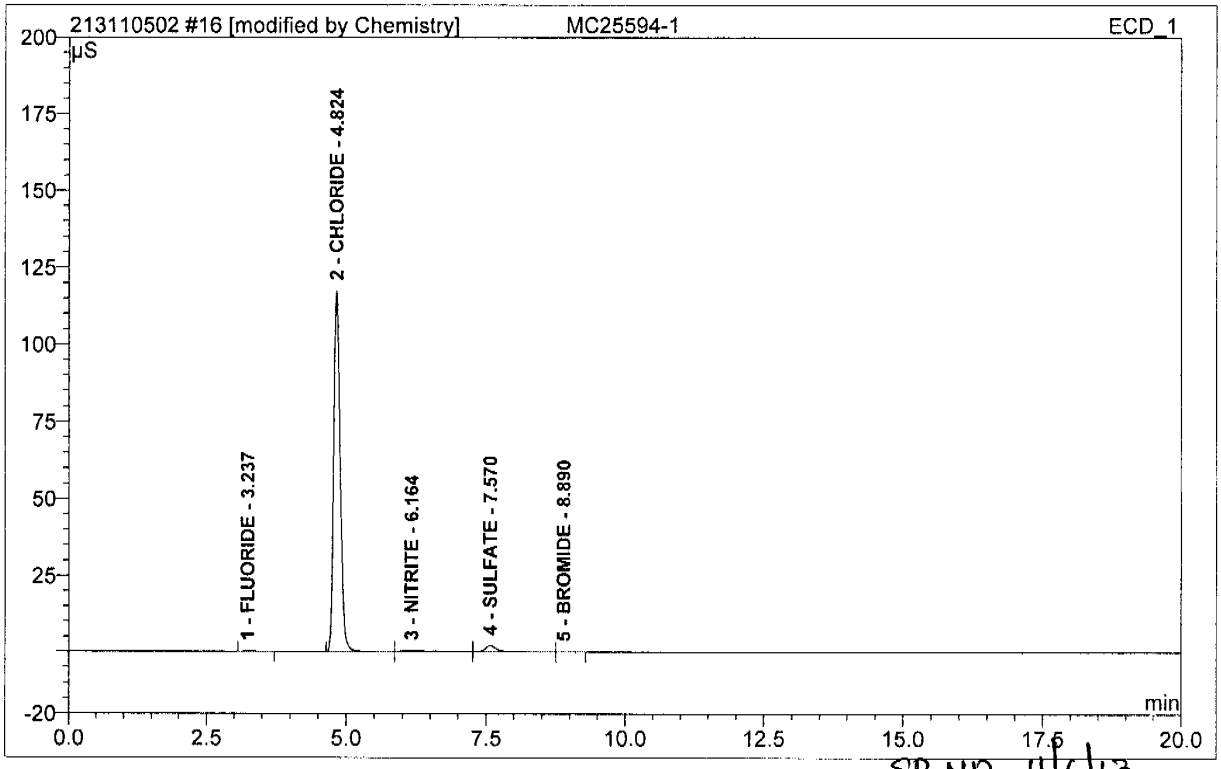
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 15:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.072 | 0.022 | 0.13 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.091 | 0.017 | 0.10 | 0.058 | BMB |
| 3 | 4.83 | CHLORIDE | 117.355 | 15.893 | 95.44 | 88.973 | BMB |
| 4 | 6.17 | NITRITE | 0.349 | 0.199 | 1.20 | 0.469 | Ru |
| 5 | 7.58 | SULFATE | 2.018 | 0.516 | 3.10 | 3.932 | BM |
| 6 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.03 | 0.058 | MB |
| **Total:** | | | 119.899 | 16.652 | 100.00 | 93.490 | |

## 16 MC25594-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 16:22** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

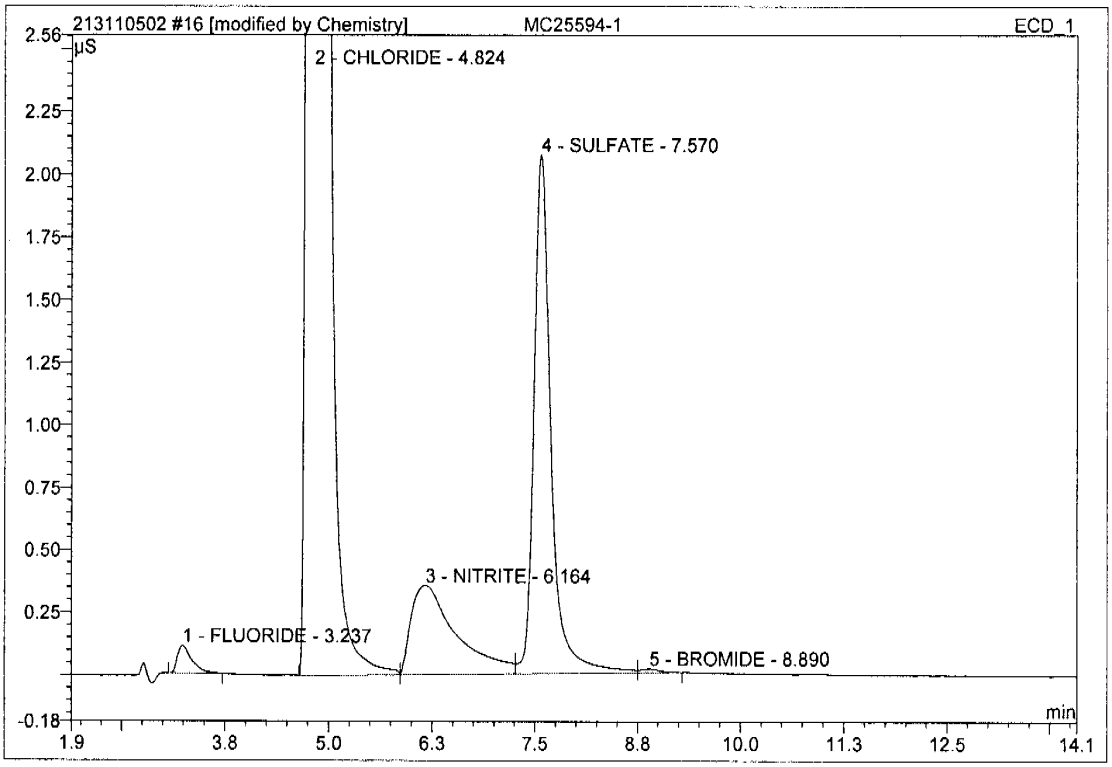



SP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.109 | 0.022 | 0.13 | 0.076 | BMB |
| 2 | 4.82 | CHLORIDE | 117.393 | 15.921 | 95.50 | 89.131 | BM |
| 3 | 6.16 | NITRITE | 0.355 | 0.225 | 1.35 | 0.528 | M * |
| 4 | 7.57 | SULFATE | 2.068 | 0.499 | 2.99 | 3.797 | M * |
| 5 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.02 | 0.051 | MB |
| **Total:** | | | 119.940 | 16.671 | 100.00 | 93.583 | |

# 16 MC25594-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 16:22** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



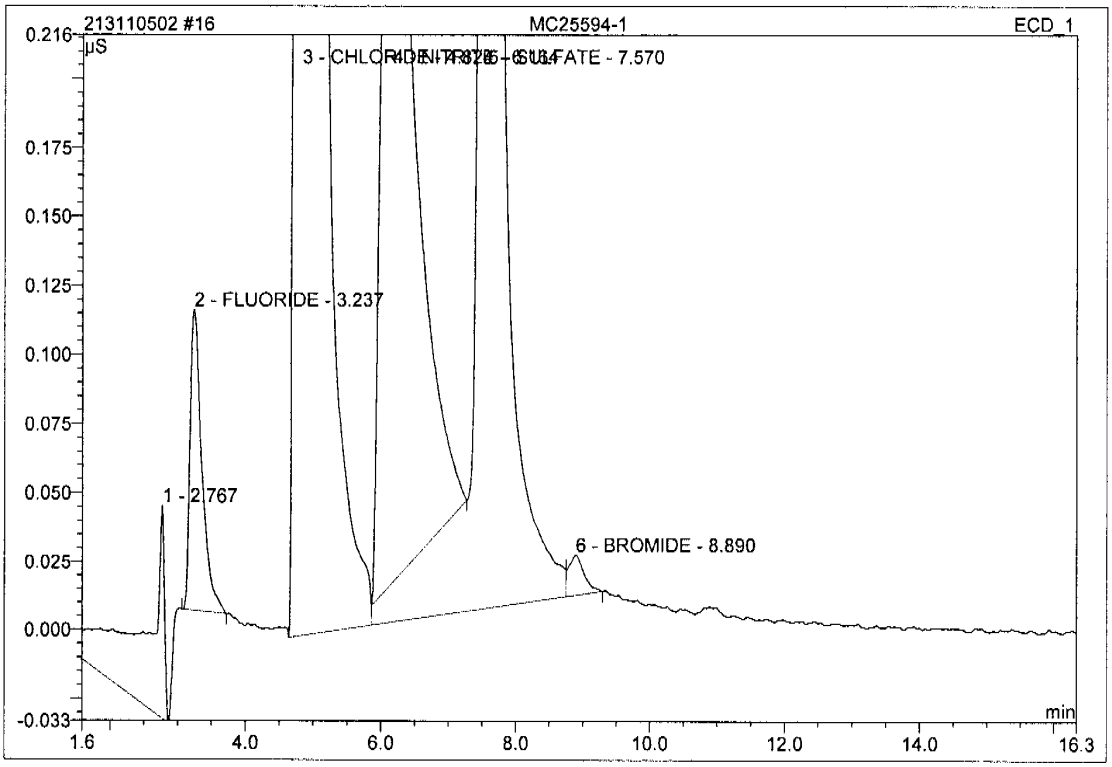

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.109 | 0.022 | 0.13 | 0.076 | BMB |
| 2 | 4.82 | CHLORIDE | 117.393 | 15.921 | 95.50 | 89.131 | BM |
| 3 | 6.16 | NITRITE | 0.355 | 0.225 | 1.35 | 0.528 | M * |
| 4 | 7.57 | SULFATE | 2.068 | 0.499 | 2.99 | 3.797 | M * |
| 5 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.02 | 0.051 | MB |
| **Total:** | | | 119.940 | 16.671 | 100.00 | 93.583 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502


11/6/2013 9:26 AM

## 16 MC25594-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 16:22** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



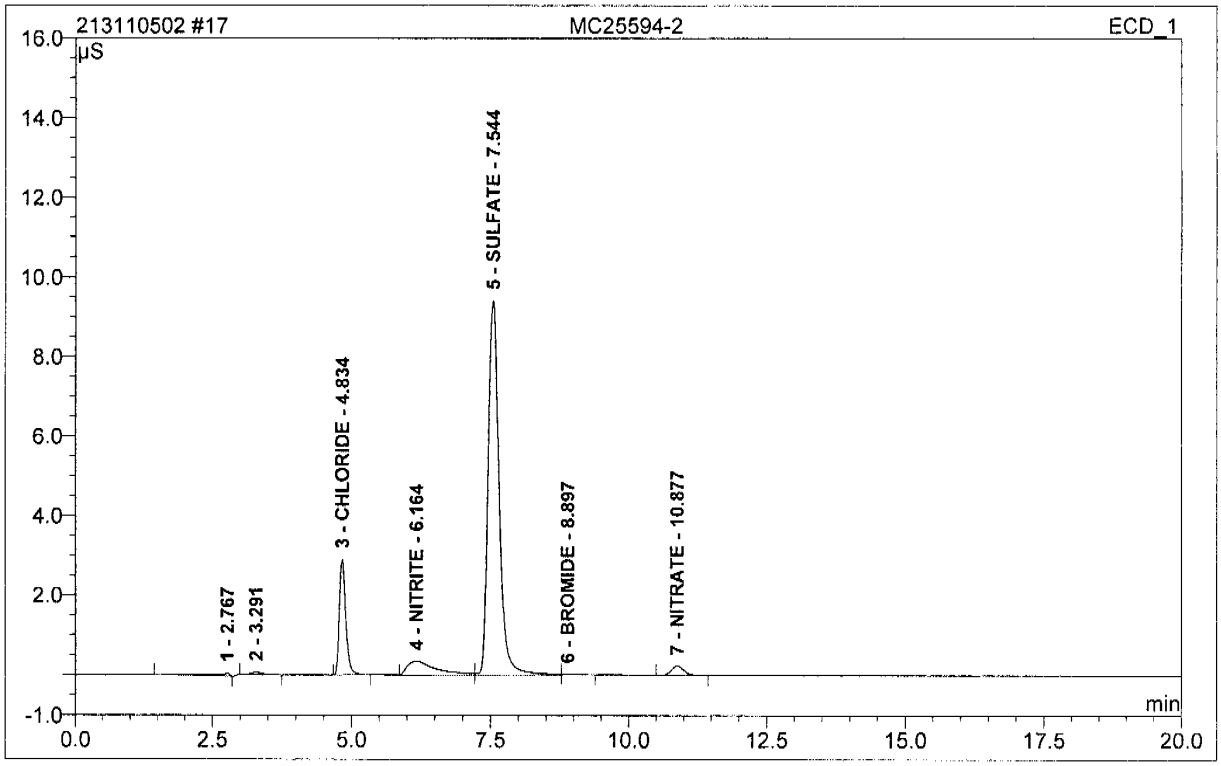

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.077 | 0.032 | 0.19 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.109 | 0.022 | 0.13 | 0.076 | BMB |
| 3 | 4.82 | CHLORIDE | 117.393 | 15.921 | 95.32 | 89.131 | BM |
| 4 | 6.16 | NITRITE | 0.340 | 0.191 | 1.14 | 0.449 | Ru |
| 5 | 7.57 | SULFATE | 2.068 | 0.532 | 3.19 | 4.053 | M |
| 6 | 8.89 | BROMIDE | 0.015 | 0.004 | 0.02 | 0.051 | MB |
| **Total:** | | | 120.003 | 16.703 | 100.00 | 93.760 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 17 MC25594-2

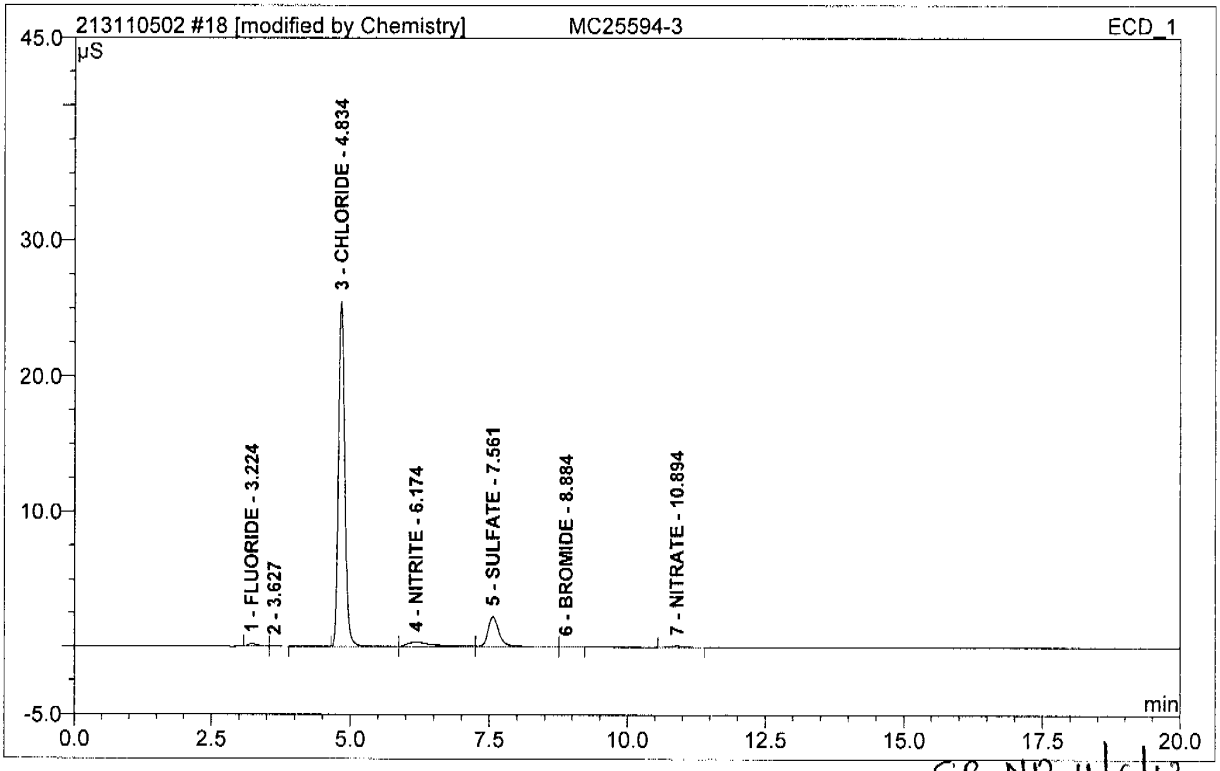
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 16:46** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.084 | 0.027 | 0.92 | n.a. | BMB |
| 2 | 3.29 | n.a. | 0.063 | 0.014 | 0.49 | n.a. | BMB |
| 3 | 4.83 | CHLORIDE | 2.908 | 0.384 | 13.30 | 2.149 | BMB |
| 4 | 6.16 | NITRITE | 0.350 | 0.212 | 7.34 | 0.498 | BM |
| 5 | 7.54 | SULFATE | 9.419 | 2.184 | 75.69 | 16.632 | M |
| 6 | 8.90 | BROMIDE | 0.017 | 0.005 | 0.19 | 0.070 | MB |
| 7 | 10.88 | NITRATE | 0.233 | 0.060 | 2.07 | 0.139 | BMB |
| **Total:** | | | 13.075 | 2.886 | 100.00 | 19.488 | |

## 18 MC25594-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 17:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

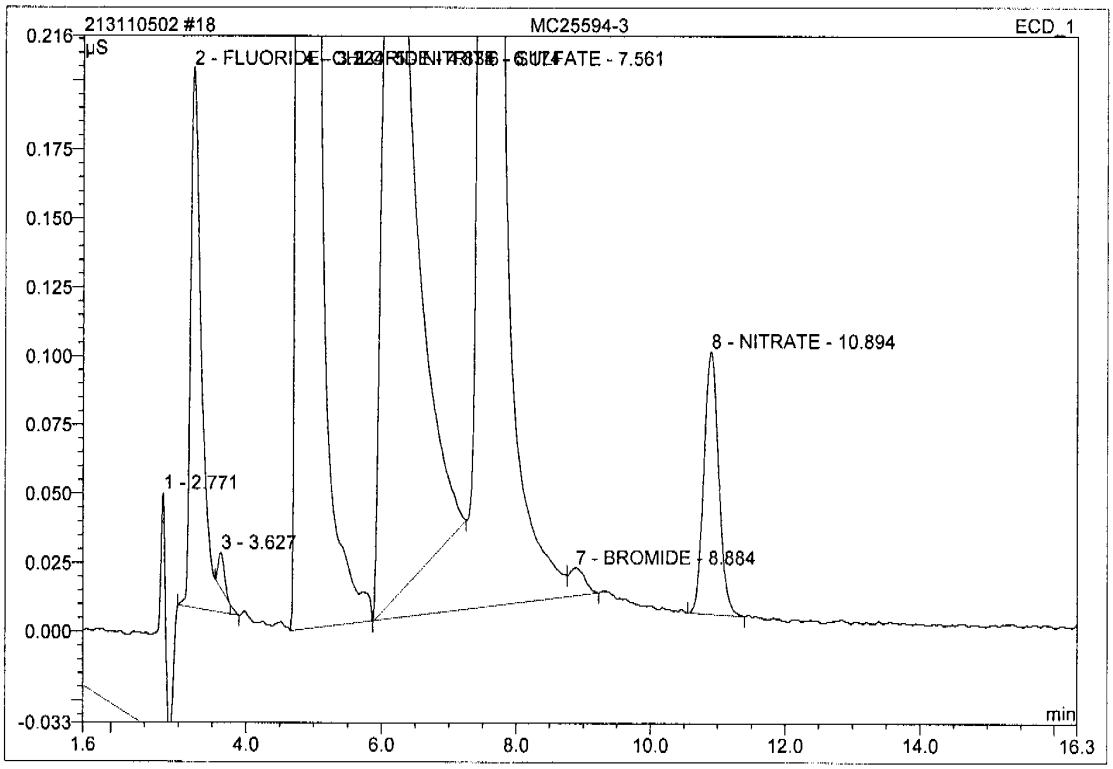
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.194 | 0.035 | 0.84 | 0.119 | BM * |
| 2 | 3.63 | n.a. | 0.021 | 0.003 | 0.07 | n.a. | MB* |
| 3 | 4.83 | CHLORIDE | 25.548 | 3.354 | 81.12 | 18.775 | BM |
| 4 | 6.17 | NITRITE | 0.328 | 0.191 | 4.61 | 0.448 | M * |
| 5 | 7.56 | SULFATE | 2.232 | 0.525 | 12.69 | 3.996 ✓ | M * |
| 6 | 8.88 | BROMIDE | 0.010 | 0.003 | 0.07 | 0.036 | MB |
| 7 | 10.89 | NITRATE | 0.095 | 0.024 | 0.59 | 0.057 | BMB |
| Total: | | | 28.429 | 4.134 | 100.00 | 23.430 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502



## 18 MC25594-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 17:10** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



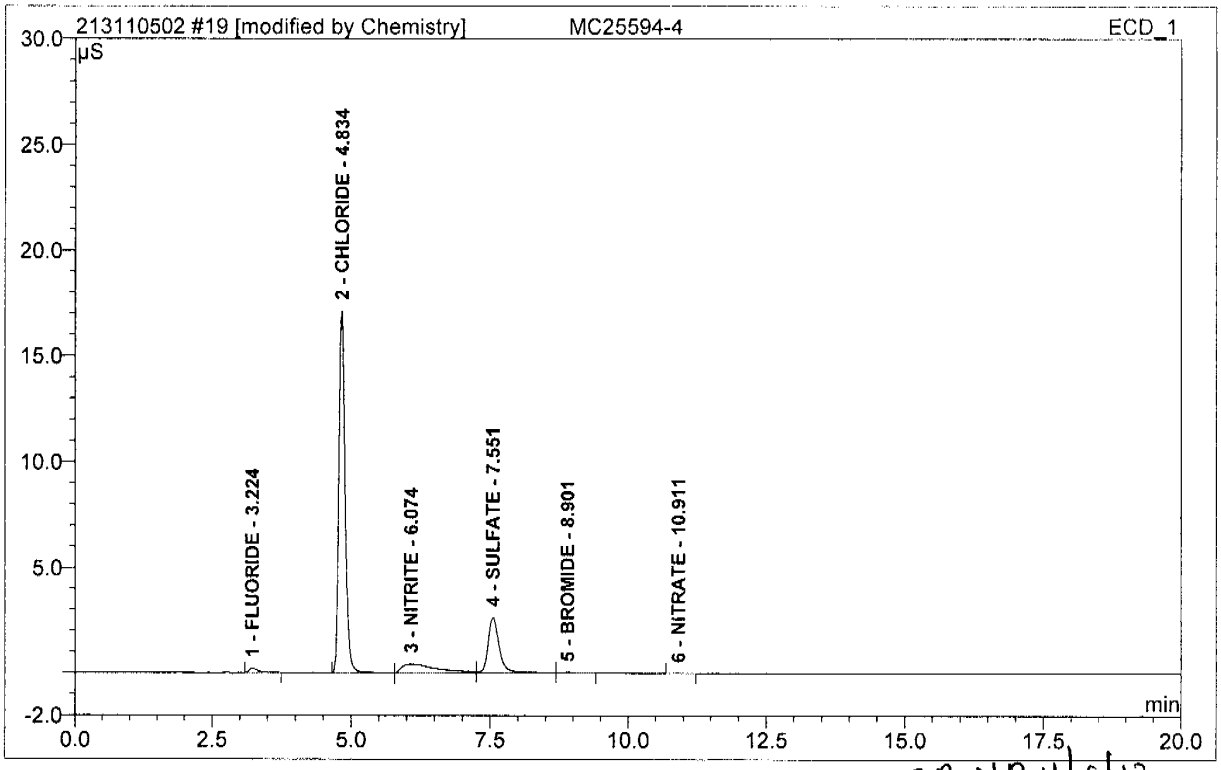

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.088 | 0.053 | 1.26 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.196 | 0.038 | 0.90 | 0.129 | BMB |
| 3 | 3.63 | n.a. | 0.013 | 0.001 | 0.03 | n.a. | Rd |
| 4 | 4.83 | CHLORIDE | 25.548 | 3.354 | 80.08 | 18.775 | BM |
| 5 | 6.17 | NITRITE | 0.322 | 0.169 | 4.03 | 0.396 | Ru |
| 6 | 7.56 | SULFATE | 2.232 | 0.547 | 13.05 | 4.163 | M |
| 7 | 8.88 | BROMIDE | 0.010 | 0.003 | 0.07 | 0.036 | MB |
| 8 | 10.89 | NITRATE | 0.095 | 0.024 | 0.58 | 0.057 | BMB |
| **Total:** | | | 28.505 | 4.188 | 100.00 | 23.556 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 19 MC25594-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 17:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

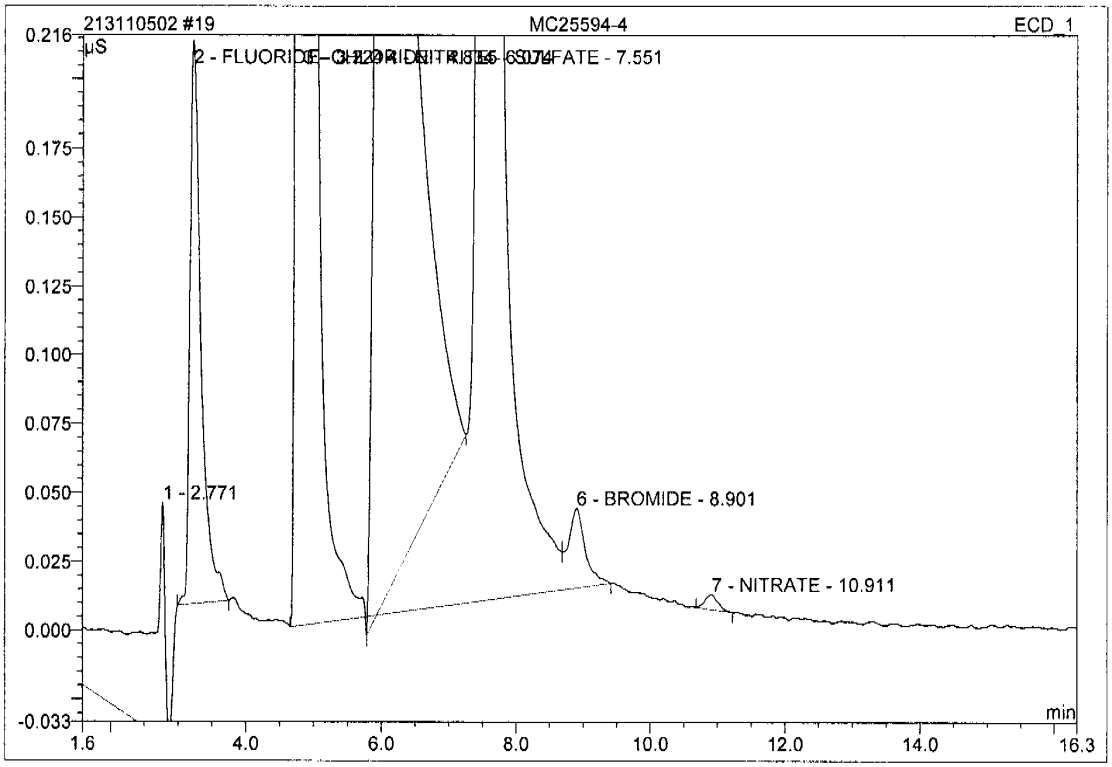



SP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.202 | 0.038 | 1.18 | 0.129 | BMB* |
| 2 | 4.83 | CHLORIDE | 17.132 | 2.231 | 69.27 | 12.488 | BMb* |
| 3 | 6.07 | NITRITE | 0.423 | 0.317 | 9.85 | 0.746 | bM * |
| 4 | 7.55 | SULFATE | 2.640 | 0.624 | 19.38 | 4.753 | M * |
| 5 | 8.90 | BROMIDE | 0.030 | 0.009 | 0.28 | 0.118 | MB* |
| 6 | 10.91 | NITRATE | 0.006 | 0.001 | 0.04 | 0.003 | BMB |
| **Total:** | | | 20.432 | 3.220 | 100.00 | 18.237 | |

## 19 MC25594-4

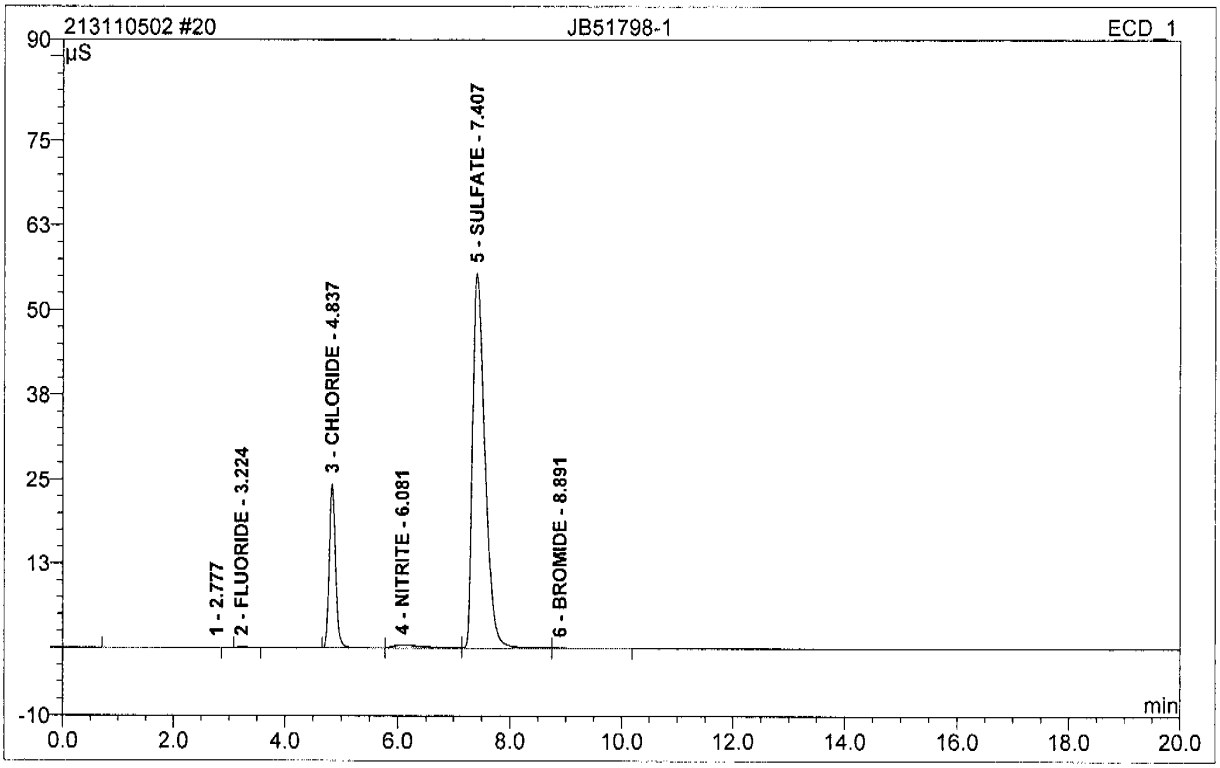
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC25594-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 17:34** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.085 | 0.052 | 1.60 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.204 | 0.039 | 1.20 | 0.134 | BMB |
| 3 | 4.83 | CHLORIDE | 17.131 | 2.227 | 68.36 | 12.467 | BM |
| 4 | 6.07 | NITRITE | 0.410 | 0.269 | 8.27 | 0.633 | Ru |
| 5 | 7.55 | SULFATE | 2.636 | 0.660 | 20.26 | 5.027 | M |
| 6 | 8.90 | BROMIDE | 0.029 | 0.009 | 0.26 | 0.112 | MB |
| 7 | 10.91 | NITRATE | 0.006 | 0.001 | 0.04 | 0.003 | BMB |
| **Total:** | | | 20.502 | 3.258 | 100.00 | 18.376 | |

## 20 JB51798-1

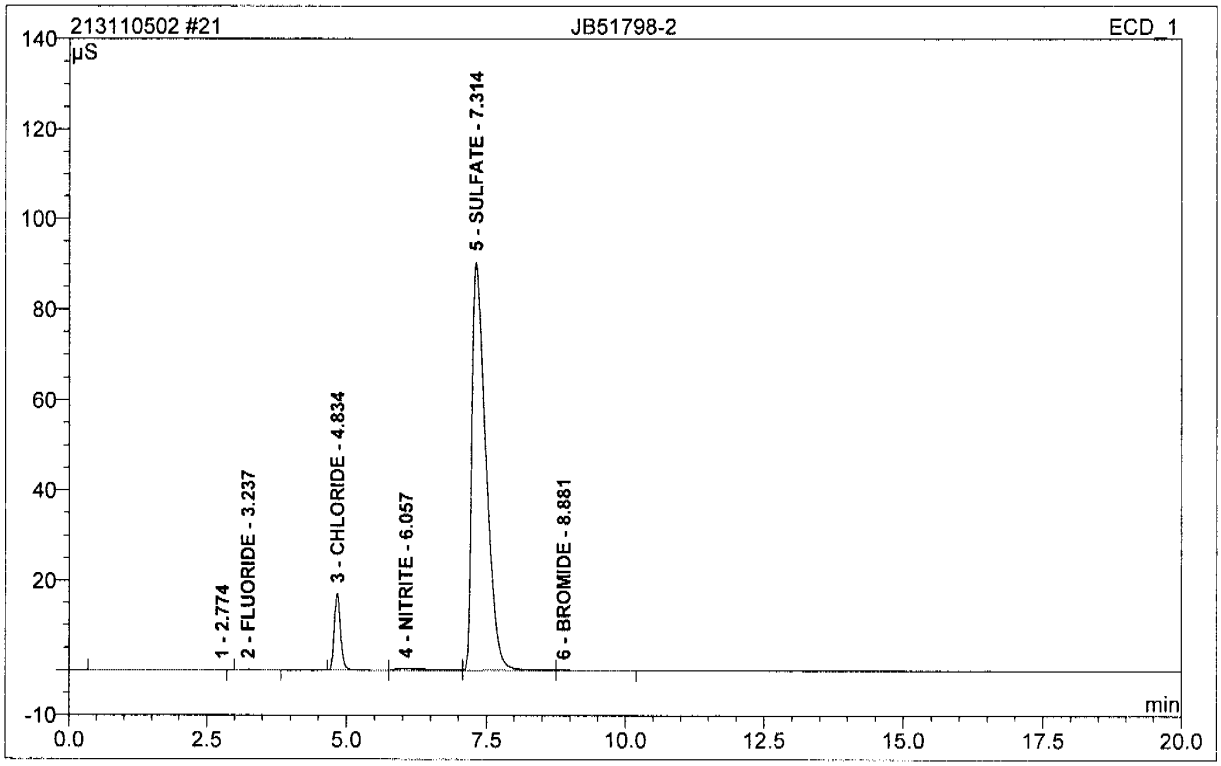
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 17:58** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.083 | 0.045 | 0.25 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.157 | 0.025 | 0.14 | 0.087 | BMB |
| 3 | 4.84 | CHLORIDE | 24.368 | 3.155 | 17.81 | 17.663 | BMB |
| 4 | 6.08 | NITRITE | 0.416 | 0.307 | 1.73 | 0.721 | BM |
| 5 | 7.41 | SULFATE | 55.432 | 14.147 | 79.85 | 107.730 | M |
| 6 | 8.89 | BROMIDE | 0.063 | 0.033 | 0.19 | 0.435 | MB |
| 7 | 20.69 | n.a. | 0.012 | 0.005 | 0.03 | n.a. | BMB |
| **Total:** | | | 80.531 | 17.718 | 100.00 | 126.636 | |

## 21 JB51798-2

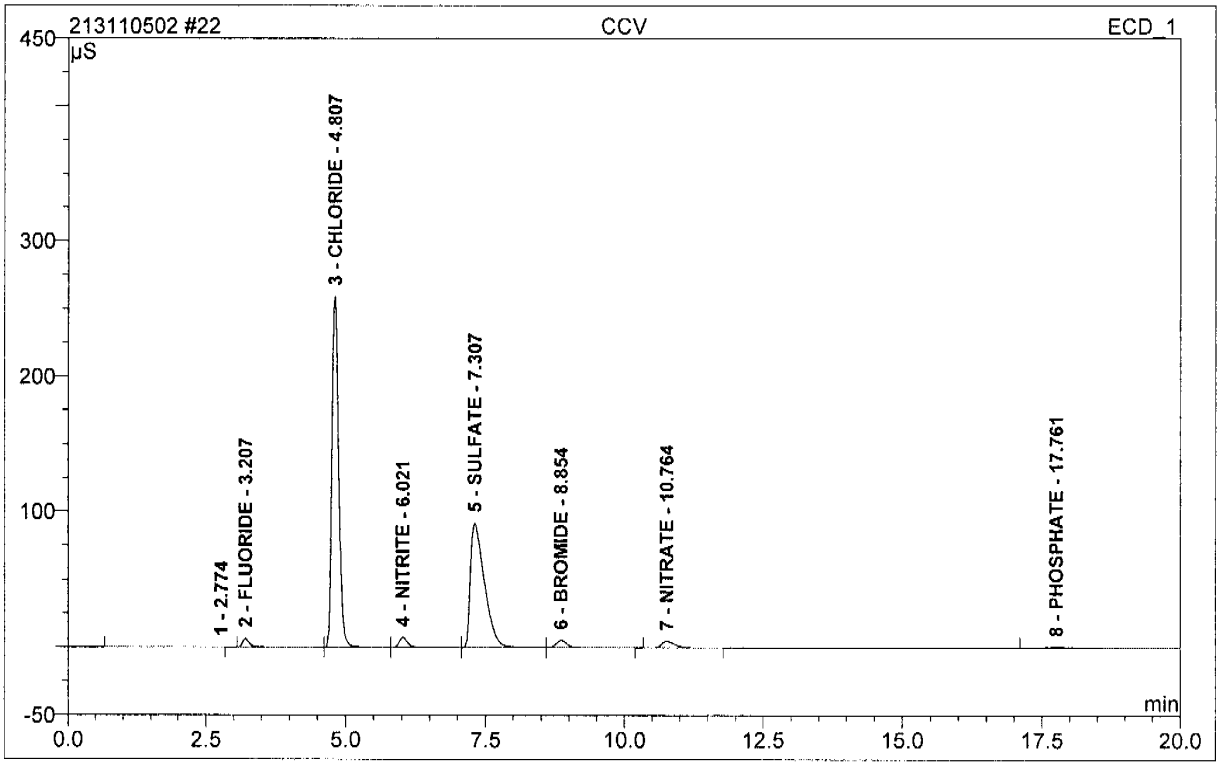
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 18:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.082 | 0.056 | 0.19 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.092 | 0.019 | 0.06 | 0.064 | BMB |
| 3 | 4.83 | CHLORIDE | 17.058 | 2.192 | 7.59 | 12.272 | BM |
| 4 | 6.06 | NITRITE | 0.425 | 0.319 | 1.10 | 0.749 | M |
| 5 | 7.31 | SULFATE | 90.515 | 26.266 | 90.91 | 200.015 | M |
| 6 | 8.88 | BROMIDE | 0.079 | 0.042 | 0.14 | 0.544 | MB |
| **Total:** | | | 108.251 | 28.893 | 100.00 | 213.643 | |

## 22 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 18:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.060 | 0.040 | 0.06 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.341 | 0.892 | 1.31 | 3.050 | BM |
| 3 | 4.81 | CHLORIDE | 258.930 | 36.109 | 53.21 | 202.145 | M |
| 4 | 6.02 | NITRITE | 7.517 | 1.303 | 1.92 | 3.063 | M |
| 5 | 7.31 | SULFATE | 91.466 | 26.600 | 39.20 | 202.554 | M |
| 6 | 8.85 | BROMIDE | 5.390 | 1.181 | 1.74 | 15.387 | MB |
| 7 | 10.76 | NITRATE | 4.825 | 1.315 | 1.94 | 3.052 | BMB |
| 8 | 17.76 | PHOSPHATE | 0.610 | 0.417 | 0.62 | 2.579 | BMB |
| **Total:** | | | 375.139 | 67.856 | 100.00 | 431.831 | |

200 200

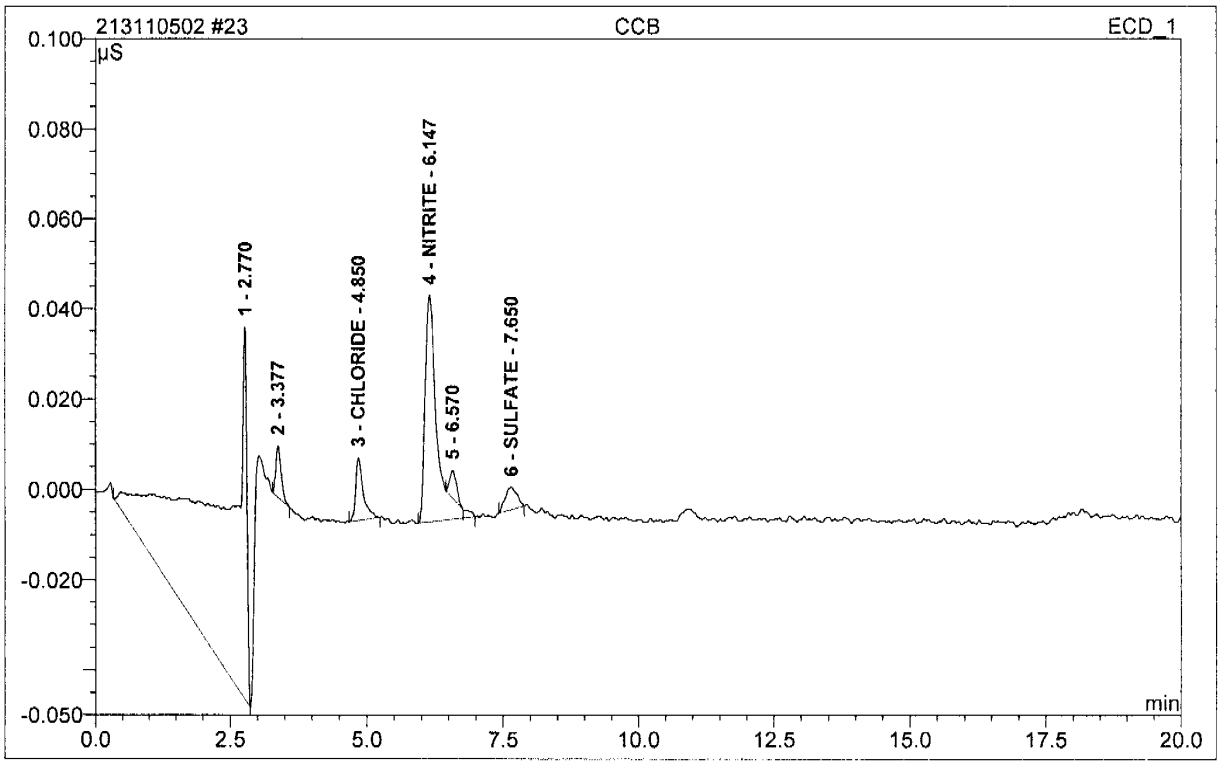
101.07

101.28

12.1 12

## 23 CCB

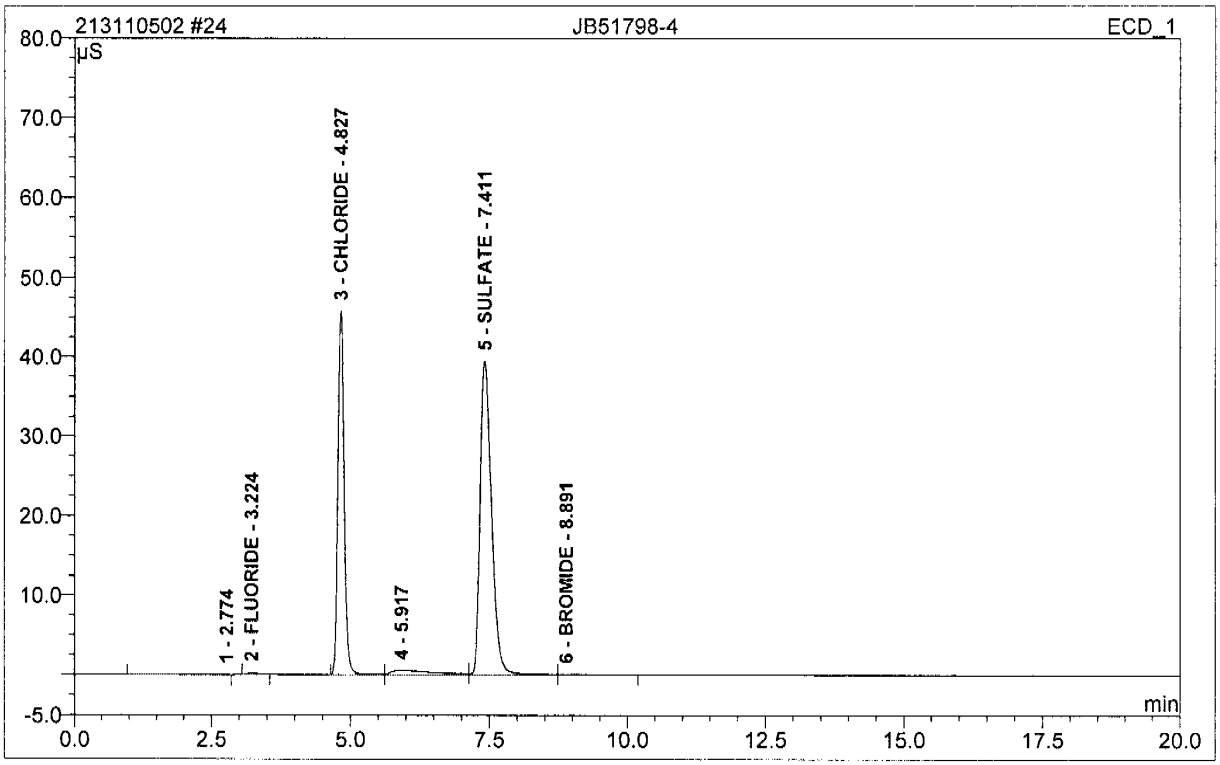
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 19:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.082 | 0.058 | 75.61 | n.a. | BMB |
| 2 | 3.38 | n.a. | 0.011 | 0.001 | 1.68 | n.a. | BMB |
| 3 | 4.85 | CHLORIDE | 0.014 | 0.002 | 2.90 | 0.012 | BMB |
| 4 | 6.15 | NITRITE | 0.050 | 0.013 | 16.98 | 0.031 | BMB |
| 5 | 6.57 | n.a. | 0.006 | 0.001 | 1.17 | n.a. | Rd |
| 6 | 7.65 | SULFATE | 0.005 | 0.001 | 1.66 | 0.010 | BMB |
| **Total:** | | | 0.169 | 0.077 | 100.00 | 0.053 | |

## 24 JB51798-4

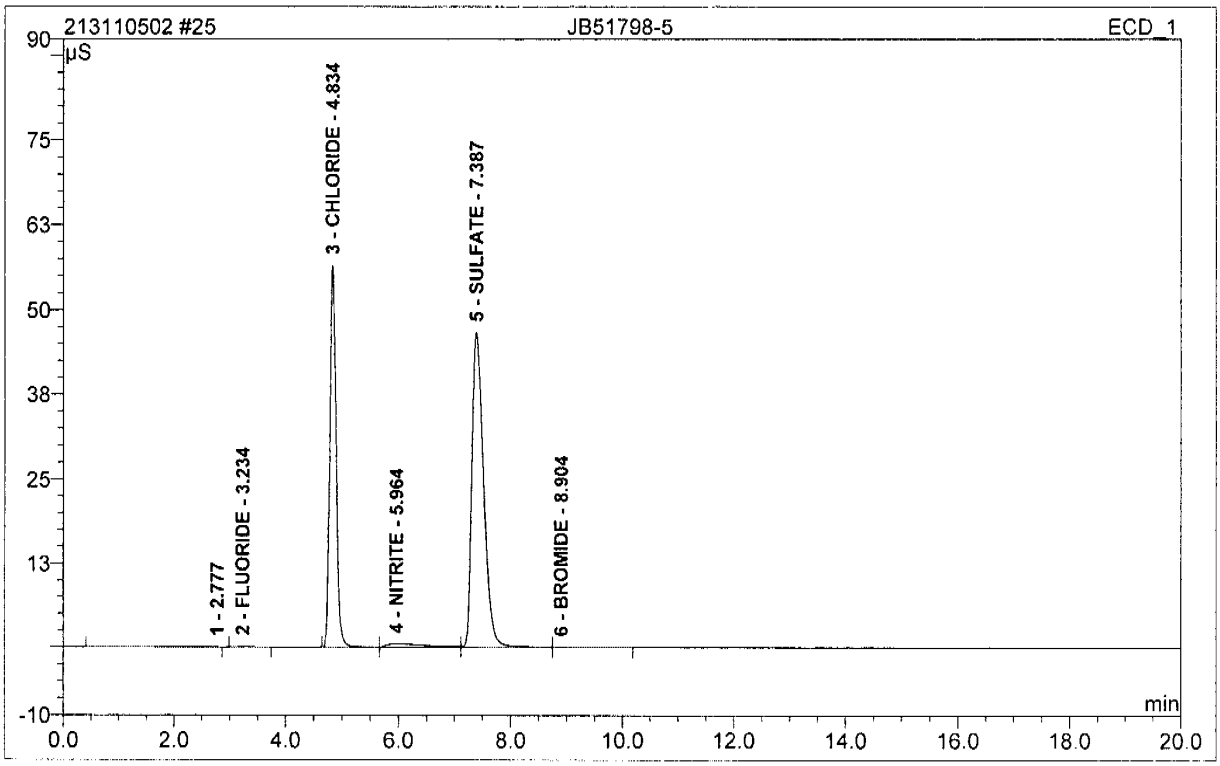
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 19:33** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.073 | 0.040 | 0.25 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.217 | 0.039 | 0.24 | 0.133 | BMB |
| 3 | 4.83 | CHLORIDE | 45.800 | 5.901 | 37.07 | 33.038 | BM |
| 4 | 5.92 | n.a. | 0.525 | 0.475 | 2.98 | n.a. | M |
| 5 | 7.41 | SULFATE | 39.437 | 9.431 | 59.24 | 71.813 | M |
| 6 | 8.89 | BROMIDE | 0.055 | 0.033 | 0.20 | 0.423 | MB |
| **Total:** | | | 86.108 | 15.918 | 100.00 | 105.408 | |

## 25 JB51798-5

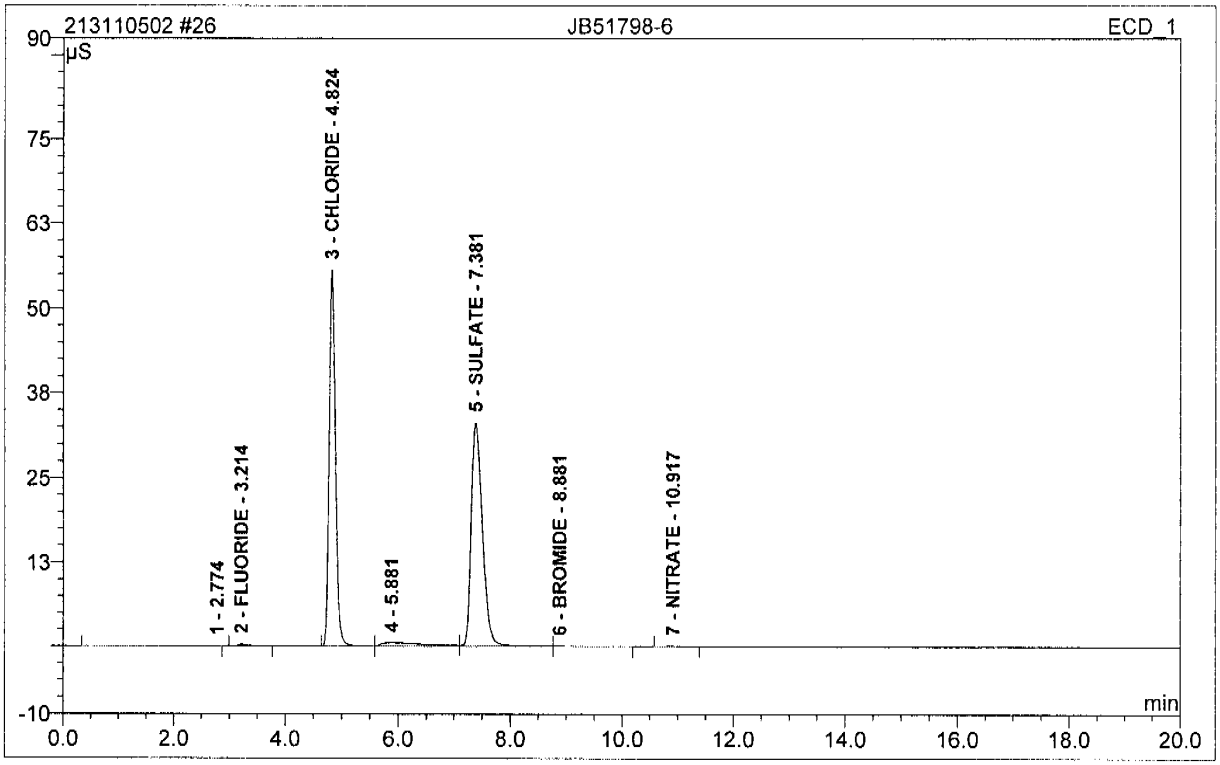
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 19:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.075 | 0.055 | 0.28 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.111 | 0.021 | 0.11 | 0.072 | BMB |
| 3 | 4.83 | CHLORIDE | 56.543 | 7.338 | 38.18 | 41.080 | BM |
| 4 | 5.96 | NITRITE | 0.490 | 0.413 | 2.15 | 0.970 | M |
| 5 | 7.39 | SULFATE | 46.700 | 11.359 | 59.10 | 86.497 | M |
| 6 | 8.90 | BROMIDE | 0.054 | 0.031 | 0.16 | 0.404 | MB |
| 7 | 20.54 | n.a. | 0.009 | 0.004 | 0.02 | n.a. | BMB |
| **Total:** | | | 103.982 | 19.221 | 100.00 | 129.024 | |

## 26 JB51798-6

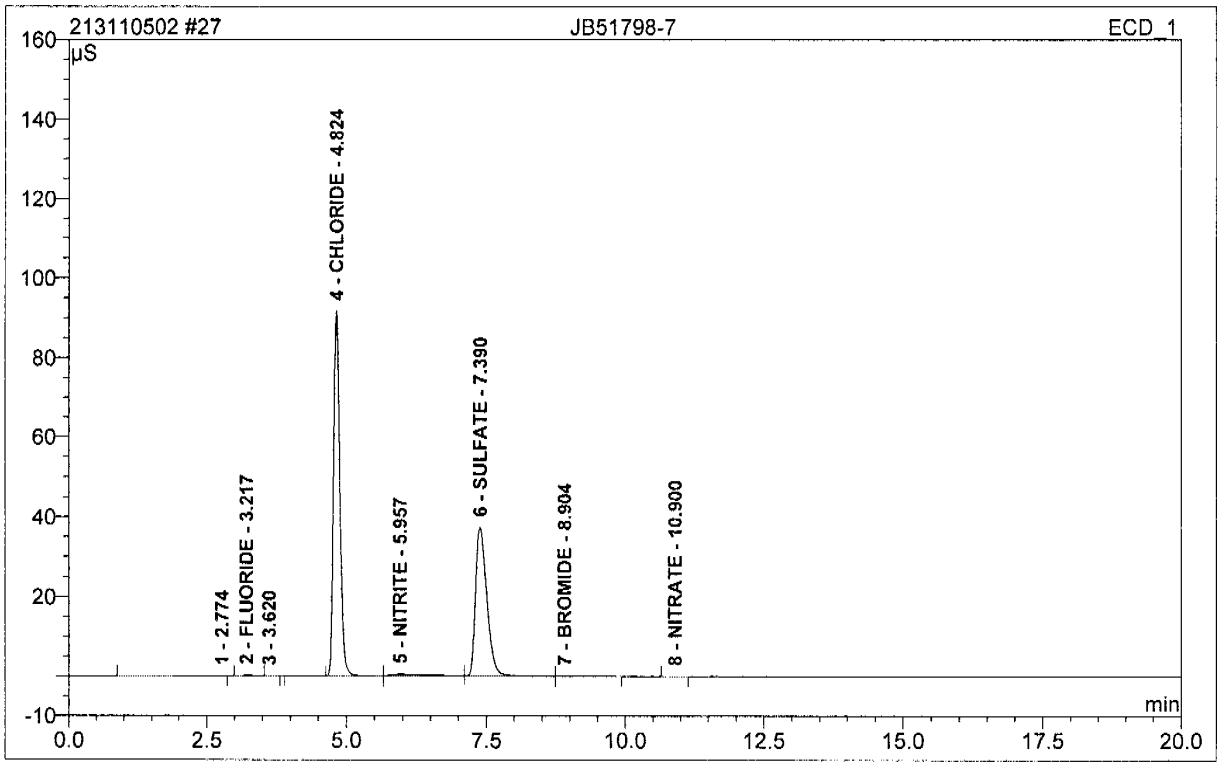
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 20:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.067 | 0.053 | 0.34 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.244 | 0.044 | 0.29 | 0.152 | BMB |
| 3 | 4.82 | CHLORIDE | 55.598 | 7.202 | 46.27 | 40.320 | BM |
| 4 | 5.88 | n.a. | 0.542 | 0.485 | 3.12 | n.a. | M |
| 5 | 7.38 | SULFATE | 33.109 | 7.728 | 49.65 | 58.852 | M |
| 6 | 8.88 | BROMIDE | 0.047 | 0.028 | 0.18 | 0.366 | MB |
| 7 | 10.92 | NITRATE | 0.087 | 0.022 | 0.14 | 0.052 | BMB |
| **Total:** | | | 89.695 | 15.565 | 100.00 | 99.743 | |

## 27 JB51798-7

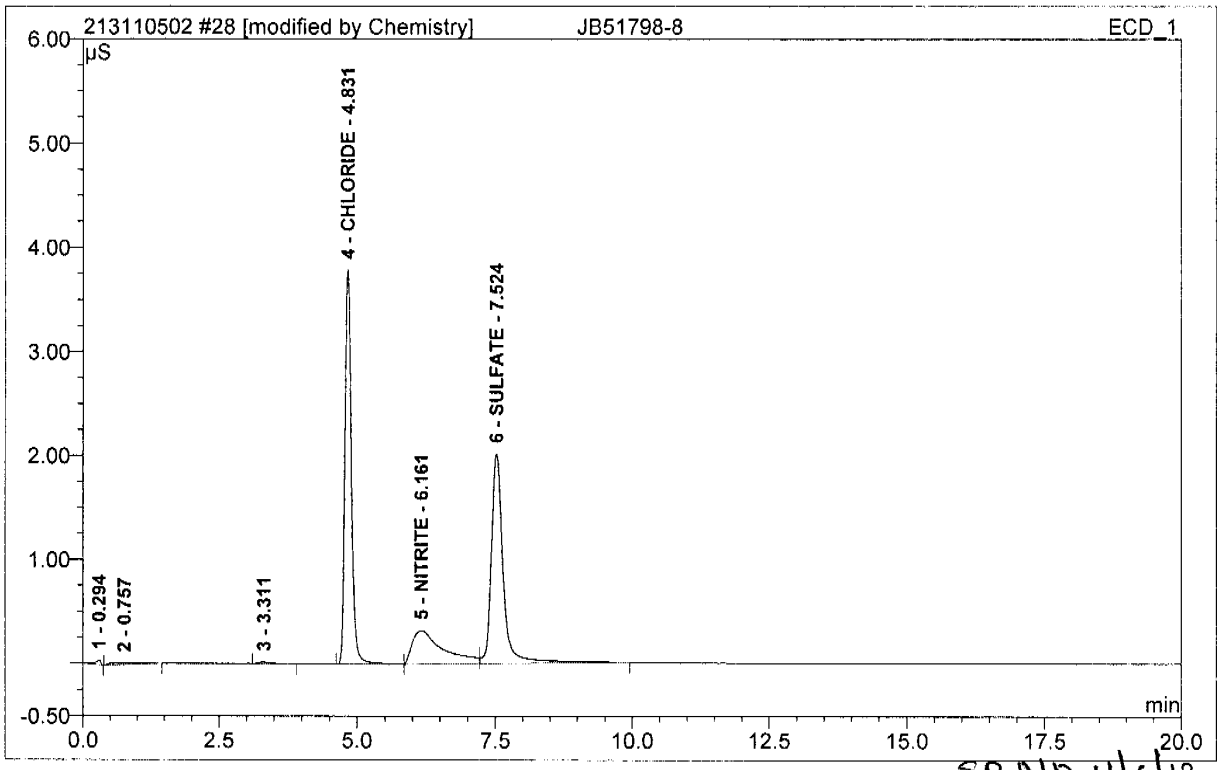
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **20** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 20:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.069 | 0.043 | 0.20 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.208 | 0.036 | 0.17 | 0.122 | BMB |
| 3 | 3.62 | n.a. | 0.020 | 0.002 | 0.01 | n.a. | Rd |
| 4 | 4.82 | CHLORIDE | 91.678 | 12.039 | 56.38 | 67.398 | BM |
| 5 | 5.96 | NITRITE | 0.483 | 0.400 | 1.87 | 0.940 | M |
| 6 | 7.39 | SULFATE | 37.372 | 8.807 | 41.24 | 67.067 | M |
| 7 | 8.90 | BROMIDE | 0.048 | 0.022 | 0.10 | 0.291 | MB |
| 8 | 10.90 | NITRATE | 0.004 | 0.001 | 0.00 | 0.002 | BMB |
| 9 | 20.49 | n.a. | 0.010 | 0.005 | 0.02 | n.a. | BMB |
| **Total:** | | | 129.893 | 21.355 | 100.00 | 135.821 | |

## 28 JB51798-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 21:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

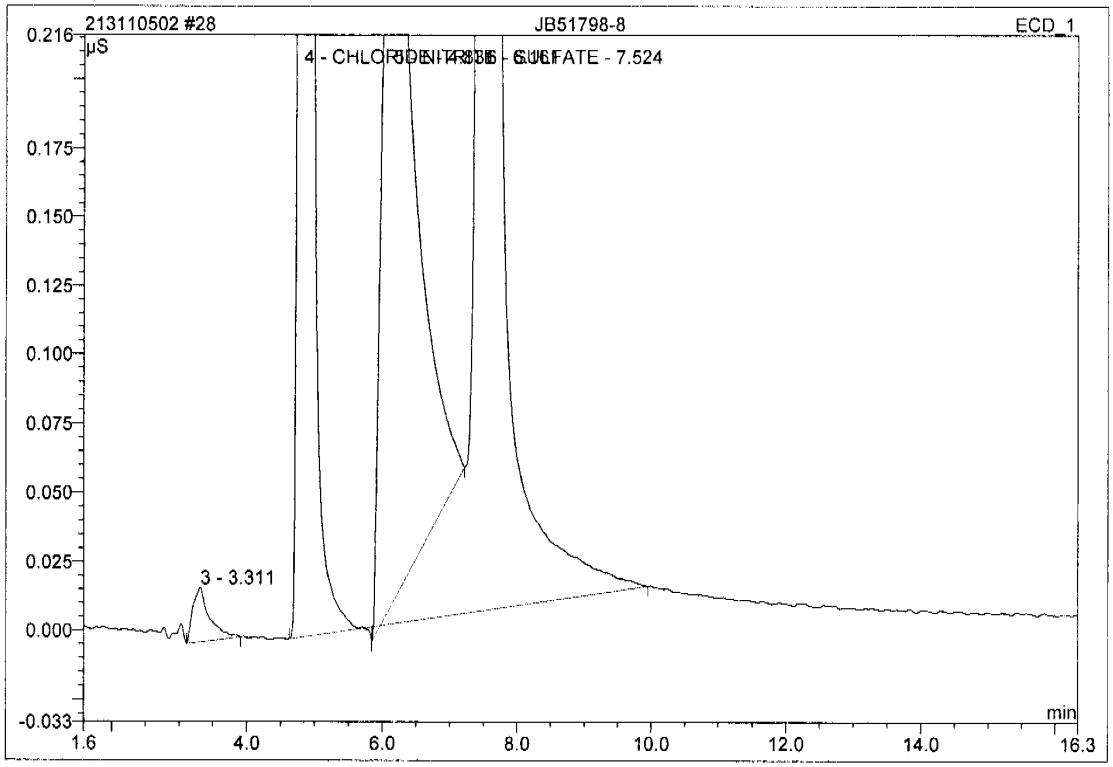
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.29 | n.a. | 0.046 | 0.005 | 0.44 | n.a. | BMB |
| 2 | 0.76 | n.a. | 0.016 | 0.011 | 0.86 | n.a. | BMB |
| 3 | 3.31 | n.a. | 0.020 | 0.006 | 0.45 | n.a. | BMB |
| 4 | 4.83 | CHLORIDE | 3.789 | 0.516 | 41.20 | 2.889 | BMb* |
| 5 | 6.16 | NITRITE | 0.322 | 0.208 | 16.58 | 0.488 | bM * |
| 6 | 7.52 | SULFATE | 2.017 | 0.507 | 40.48 | 3.861 ✓ | MB* |
| **Total:** | | | 6.210 | 1.253 | 100.00 | 7.238 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213110502


11/6/2013 9:27 AM

## 28 JB51798-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 21:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



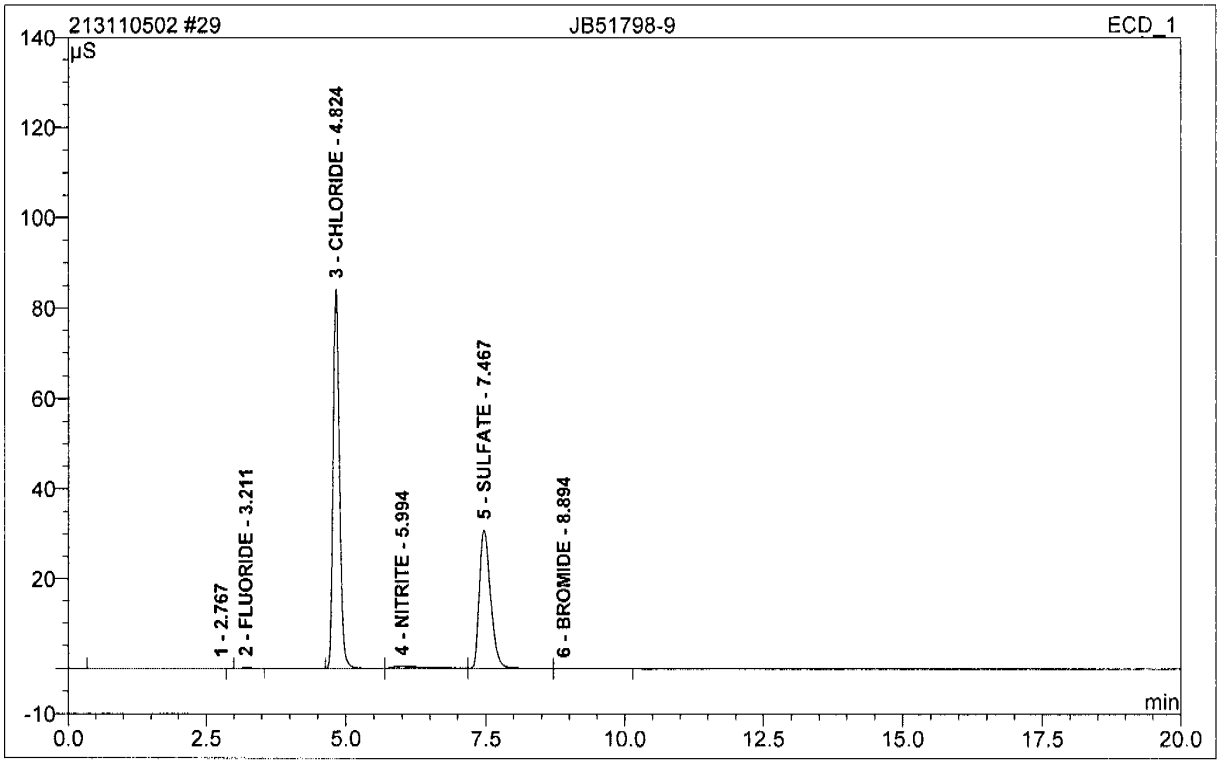

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.29 | n.a. | 0.046 | 0.005 | 0.44 | n.a. | BMB |
| 2 | 0.76 | n.a. | 0.016 | 0.011 | 0.87 | n.a. | BMB |
| 3 | 3.31 | n.a. | 0.020 | 0.006 | 0.45 | n.a. | BMB |
| 4 | 4.83 | CHLORIDE | 3.788 | 0.513 | 41.40 | 2.872 | BM |
| 5 | 6.16 | NITRITE | 0.309 | 0.169 | 13.64 | 0.397 | Ru |
| 6 | 7.52 | SULFATE | 2.014 | 0.535 | 43.20 | 4.076 | MB |
| **Total:** | | | 6.193 | 1.239 | 100.00 | 7.345 | |

DEFAULT/Integration

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## 29 JB51798-9

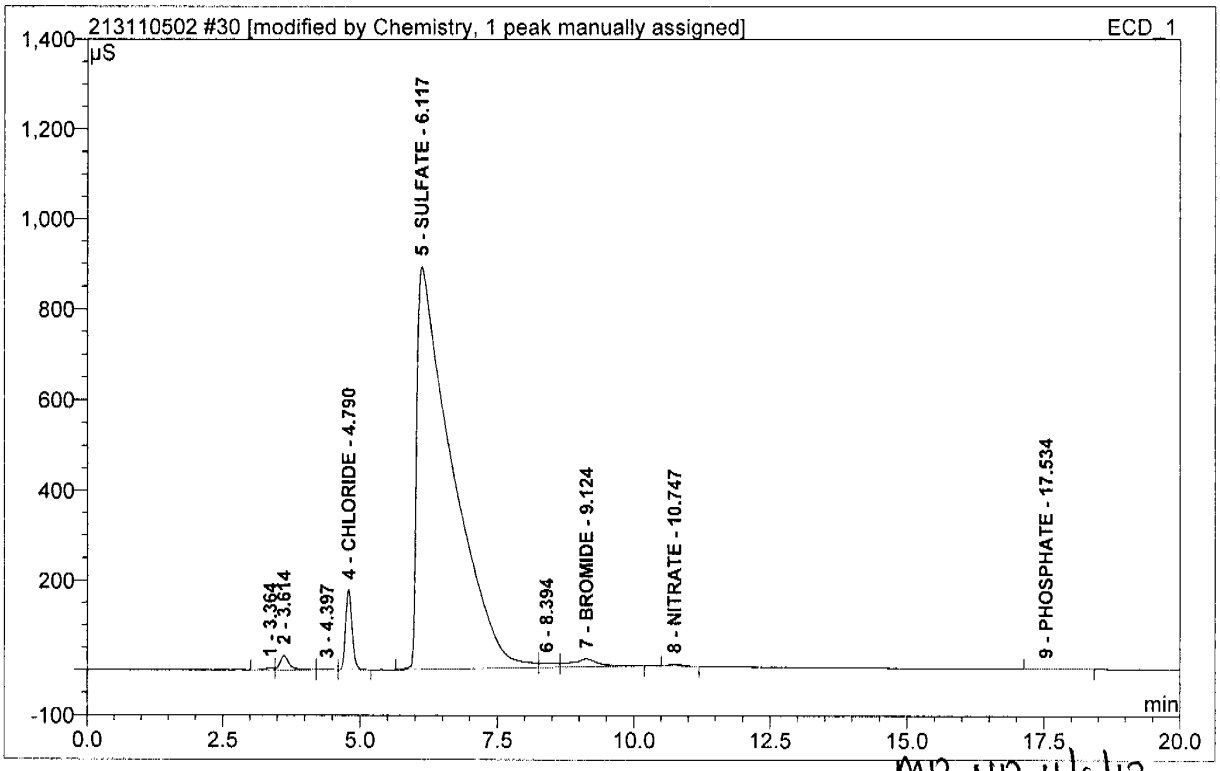
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51798-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 21:33** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.069 | 0.055 | 0.29 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.232 | 0.035 | 0.18 | 0.118 | BMB |
| 3 | 4.82 | CHLORIDE | 84.241 | 11.090 | 58.85 | 62.087 | BM |
| 4 | 5.99 | NITRITE | 0.476 | 0.400 | 2.12 | 0.940 | M |
| 5 | 7.47 | SULFATE | 30.858 | 7.233 | 38.38 | 55.082 | M |
| 6 | 8.89 | BROMIDE | 0.054 | 0.027 | 0.15 | 0.356 | MB |
| 7 | 20.68 | n.a. | 0.010 | 0.005 | 0.02 | n.a. | BMB |
| **Total:** | | | 115.940 | 18.845 | 100.00 | 118.583 | |

## 30 JB51218-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 21:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.36 | n.a. | 5.299 | 0.967 | 0.13 | n.a. | BM * |
| 2 | 3.61 | n.a. | 32.298 | 6.184 | 0.86 | n.a. | M * |
| 3 | 4.40 | n.a. | 1.594 | 0.331 | 0.05 | n.a. | M |
| 4 | 4.79 | CHLORIDE | 178.658 | 24.293 | 3.39 | 135.999 | MB* |
| 5 | 6.12 | SULFATE | 892.312 | 670.147 | 93.40 | 5103.112 | BM ^ |
| 6 | 8.39 | n.a. | 9.830 | 3.691 | 0.51 | n.a. | M |
| 7 | 9.12 | BROMIDE | 17.431 | 10.349 | 1.44 | 134.792 | MB |
| 8 | 10.75 | NITRATE | 5.114 | 1.355 | 0.19 | 3.146 | BMB* |
| 9 | 17.53 | PHOSPHATE | 0.321 | 0.206 | 0.03 | 1.274 | BMB* |
| **Total:** | | | 1142.857 | 717.522 | 100.00 | 5378.322 | |

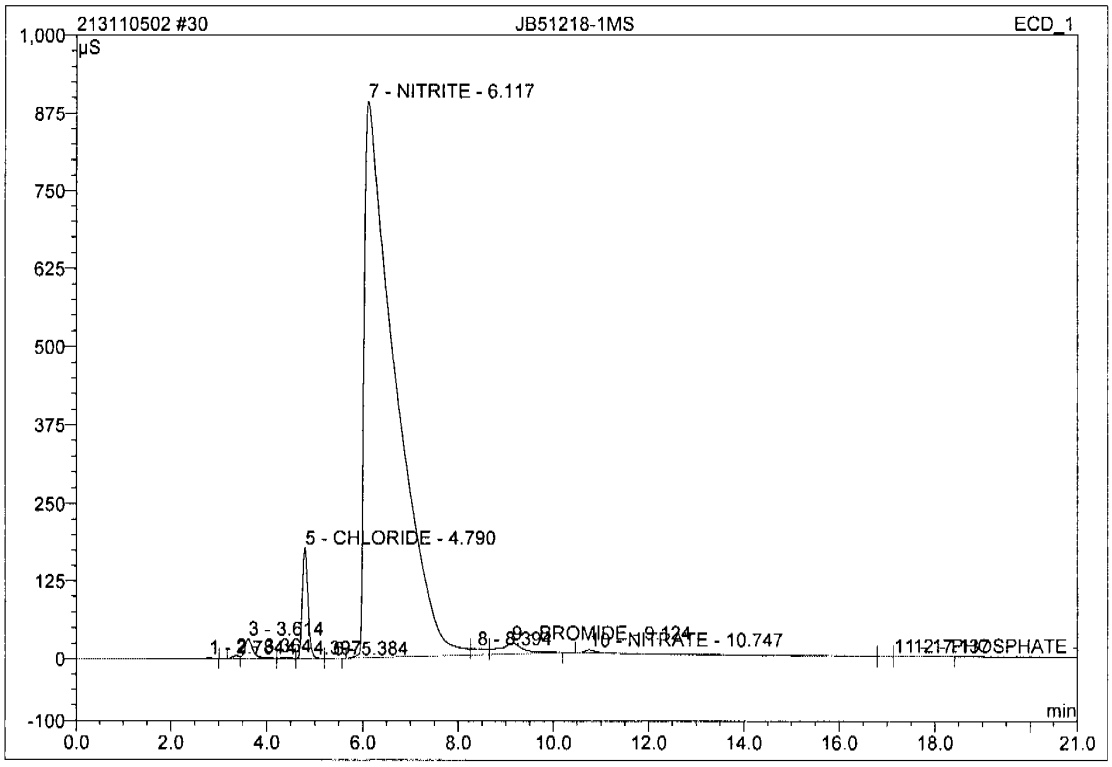
sod over-range. Rerun at 1:40 dilution.

anions/Integration

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Version 6.80 SR9a Build 2680 (163077)

# 30 JB51218-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 21:57** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 2.317 | 0.585 | 0.08 | n.a. | BMB |
| 2 | 3.36 | n.a. | 2.681 | 0.347 | 0.05 | n.a. | Ru |
| 3 | 3.61 | n.a. | 32.298 | 6.804 | 0.95 | n.a. | BM |
| 4 | 4.40 | n.a. | 1.594 | 0.331 | 0.05 | n.a. | M |
| 5 | 4.79 | CHLORIDE | 178.658 | 24.293 | 3.38 | 135.999 | MB |
| 6 | 5.38 | n.a. | 0.214 | 0.045 | 0.01 | n.a. | bMB |
| 7 | 6.12 | NITRITE | 892.312 | 670.147 | 93.22 | 1575.280 | BM |
| 8 | 8.39 | n.a. | 9.830 | 3.691 | 0.51 | n.a. | M |
| 9 | 9.12 | BROMIDE | 17.431 | 10.349 | 1.44 | 134.792 | MB |
| 10 | 10.75 | NITRATE | 5.085 | 2.073 | 0.29 | 4.813 | BM |
| 11 | 17.14 | n.a. | 0.000 | 0.033 | 0.00 | n.a. | Mb |

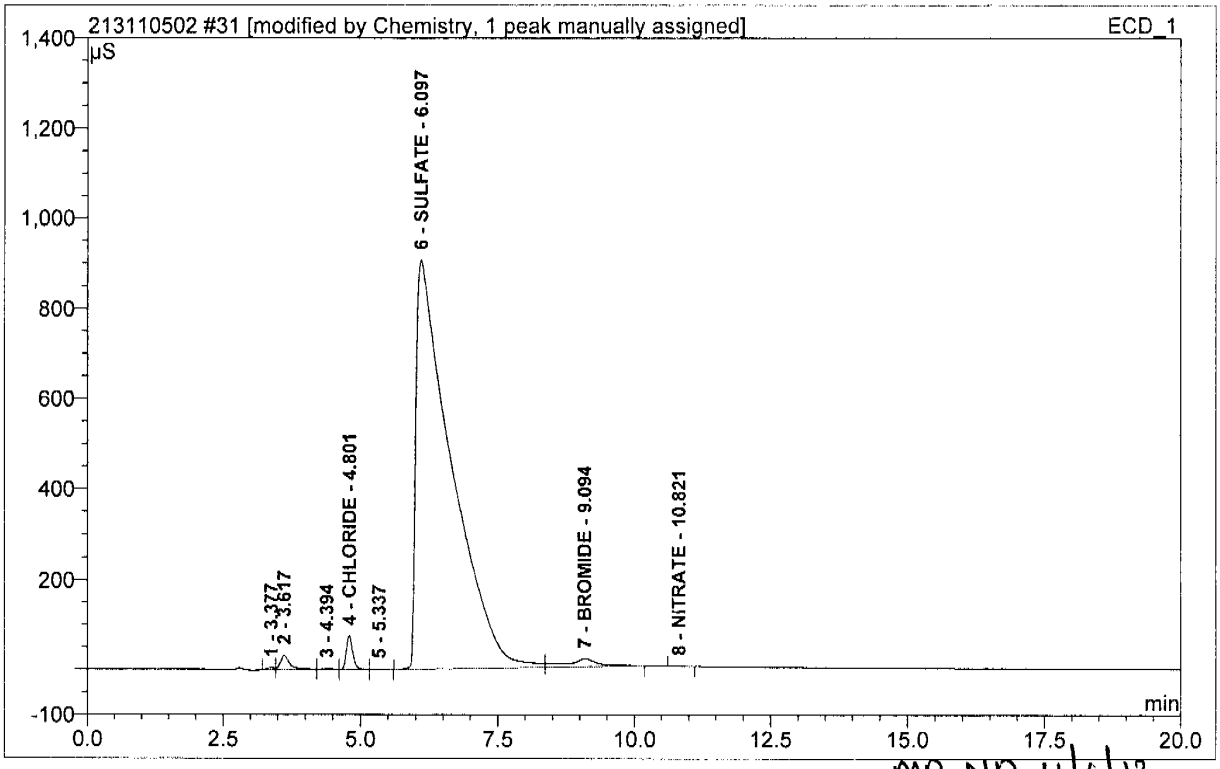
DEFAULT/Integration

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.53 | PHOSPHATE | 0.321 | 0.206 | 0.03 | 1.274 | bMB |
| **Total:** | | | 1142.741 | 718.904 | 100.00 | 1852.158 | |

## 31 JB51218-1DUP

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 22:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.38 | n.a. | 4.898 | 0.776 | 0.11 | n.a. | BM * |
| 2 | 3.62 | n.a. | 32.068 | 6.575 | 0.93 | n.a. | M * |
| 3 | 4.39 | n.a. | 2.292 | 0.635 | 0.09 | n.a. | M * |
| 4 | 4.80 | CHLORIDE | 76.203 | 10.537 | 1.48 | 58.987 | M * |
| 5 | 5.34 | n.a. | 1.065 | 0.350 | 0.05 | n.a. | MB* |
| 6 | 6.10 | SULFATE | 906.912 | 679.078 | 95.56 | 5171.124 | BM ^ |
| 7 | 9.09 | BROMIDE | 17.917 | 12.526 | 1.76 | 163.145 | MB* |
| 8 | 10.82 | NITRATE | 0.565 | 0.131 | 0.02 | 0.305 | BMB |
| **Total:** | | | 1041.920 | 710.608 | 100.00 | 5393.561 | |

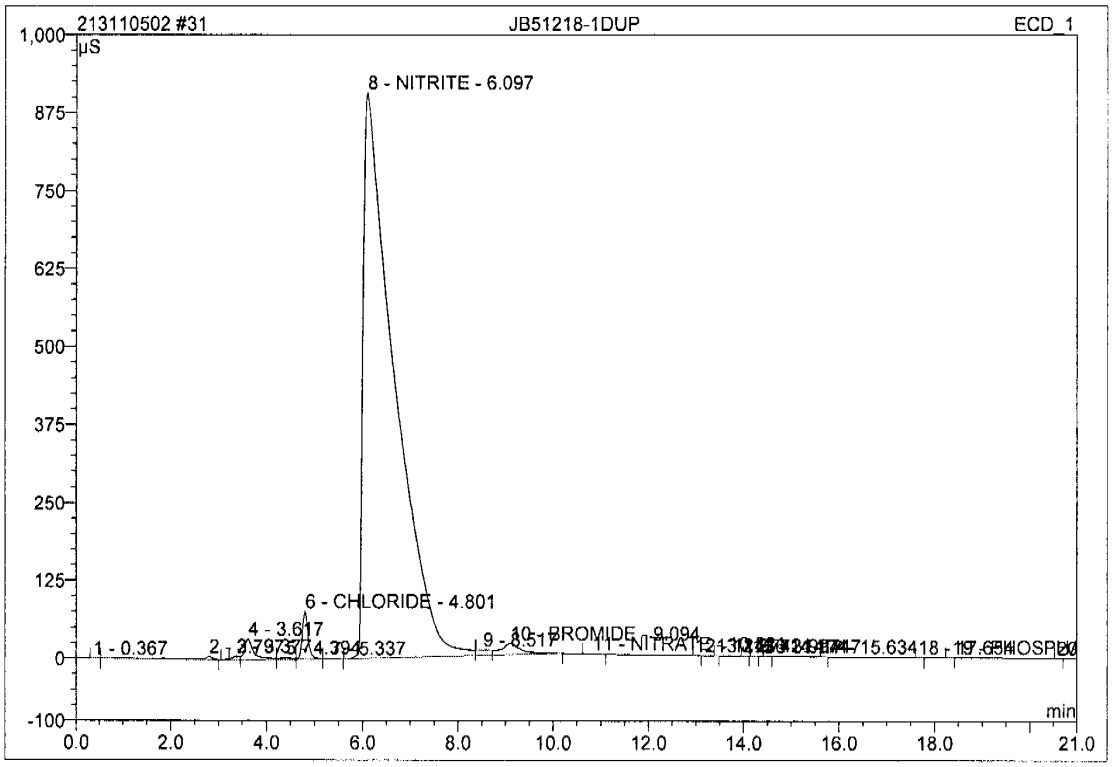
Soy over-range. Rerun at 1:30 dilution.



Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

## 31 JB51218-1DUP

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 22:21** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

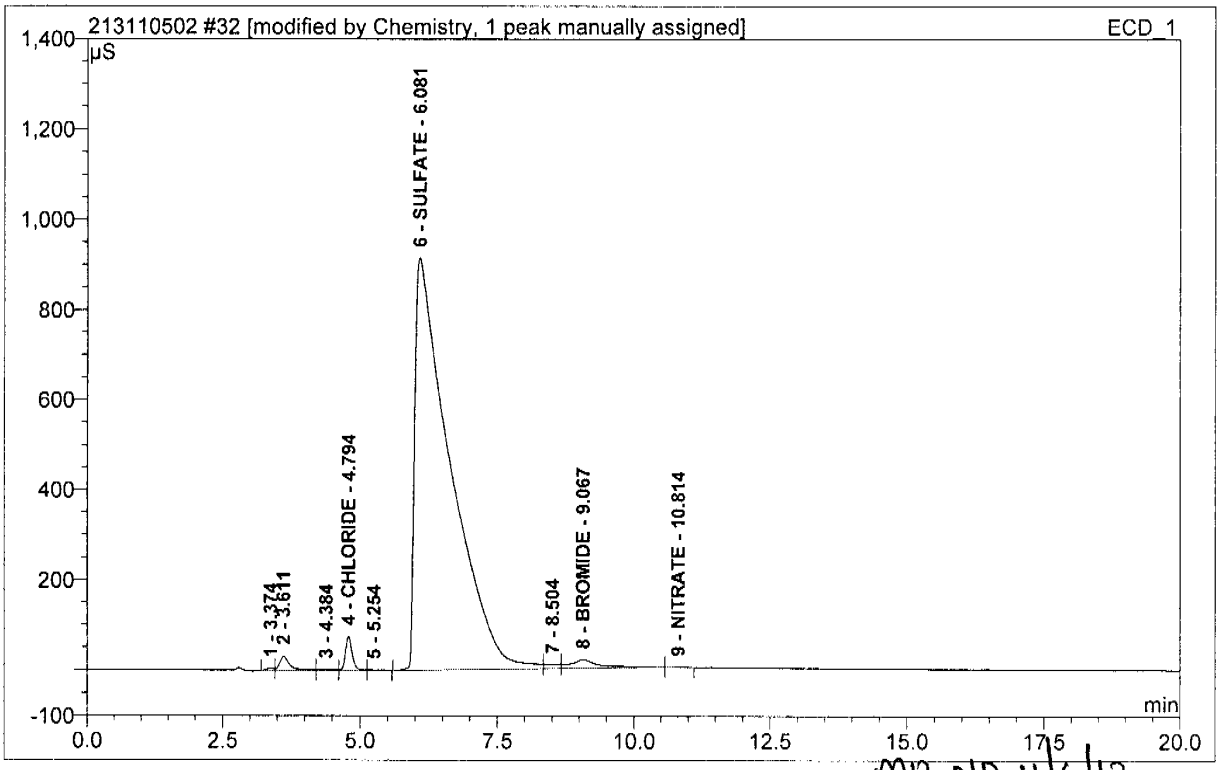



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.37 | n.a. | 0.036 | 0.004 | 0.00 | n.a. | BMB |
| 2 | 2.80 | n.a. | 4.923 | 2.317 | 0.32 | n.a. | BMB |
| 3 | 3.38 | n.a. | 2.445 | 0.318 | 0.04 | n.a. | Ru |
| 4 | 3.62 | n.a. | 33.046 | 8.031 | 1.12 | n.a. | BM |
| 5 | 4.39 | n.a. | 2.887 | 0.874 | 0.12 | n.a. | M |
| 6 | 4.80 | CHLORIDE | 76.598 | 10.728 | 1.50 | 60.059 | M |
| 7 | 5.34 | n.a. | 1.196 | 0.395 | 0.06 | n.a. | MB |
| 8 | 6.10 | NITRITE | 906.912 | 679.078 | 95.05 | 1596.275 | BM |
| 9 | 8.52 | n.a. | 0.515 | 0.094 | 0.01 | n.a. | Ru |
| 10 | 9.09 | BROMIDE | 17.917 | 12.432 | 1.74 | 161.926 | MB |
| 11 | 10.82 | NITRATE | 0.565 | 0.131 | 0.02 | 0.305 | BMB |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 12.98 | n.a. | 0.024 | 0.003 | 0.00 | n.a. | BMB |
| 13 | 13.42 | n.a. | 0.013 | 0.001 | 0.00 | n.a. | BMB |
| 14 | 14.00 | n.a. | 0.026 | 0.004 | 0.00 | n.a. | BMB |
| 15 | 14.17 | n.a. | 0.026 | 0.005 | 0.00 | n.a. | BMB |
| 16 | 14.45 | n.a. | 0.020 | 0.003 | 0.00 | n.a. | BMB |
| 17 | 15.63 | n.a. | 0.010 | 0.002 | 0.00 | n.a. | BMB |
| 18 | 17.65 | n.a. | 0.026 | 0.004 | 0.00 | n.a. | BMB |
| 19 | 18.36 | PHOSPHATE | 0.023 | 0.002 | 0.00 | 0.015 | BMB |
| 20 | 20.58 | n.a. | 0.019 | 0.002 | 0.00 | n.a. | BMB |
| **Total:** | | | 1047.228 | 714.430 | 100.00 | 1818.580 | |

## 32 JB51218-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 22:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.37 | n.a. | 5.023 | 0.801 | 0.11 | n.a. | BM * |
| 2 | 3.61 | n.a. | 32.195 | 6.822 | 0.95 | n.a. | M * |
| 3 | 4.38 | n.a. | 2.560 | 0.758 | 0.11 | n.a. | M * |
| 4 | 4.79 | CHLORIDE | 76.621 | 10.711 | 1.49 | 59.963 | M * |
| 5 | 5.25 | n.a. | 1.444 | 0.492 | 0.07 | n.a. | MB* |
| 6 | 6.08 | SULFATE | 915.368 | 683.584 | 95.21 | 5205.433 | BM *^ |
| 7 | 8.50 | n.a. | 9.828 | 3.108 | 0.43 | n.a. | M * |
| 8 | 9.07 | BROMIDE | 18.852 | 11.577 | 1.61 | 150.781 | Mb* |
| 9 | 10.81 | NITRATE | 0.613 | 0.146 | 0.02 | 0.338 | bMB* |
| **Total:** | | | 1062.505 | 717.998 | 100.00 | 5416.516 | |

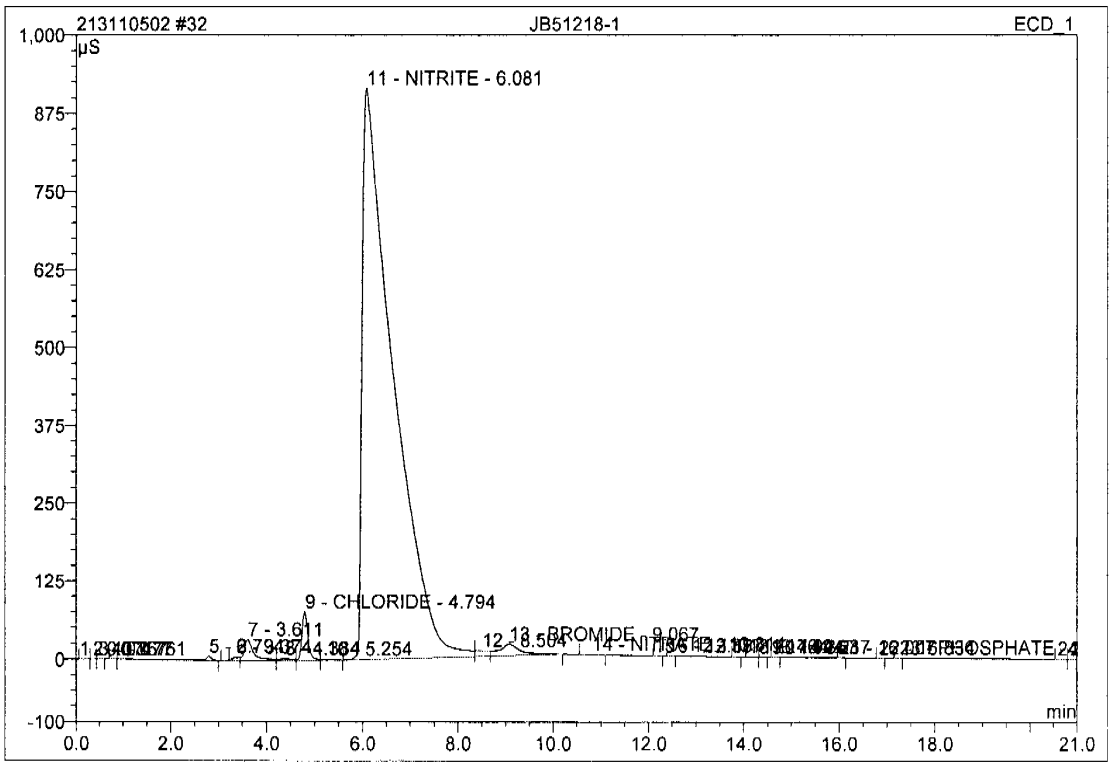
SO4 over-range. Rerun at 1:30 dilution.



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## 32 JB51218-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 22:45** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.07 | n.a. | 0.000 | 0.006 | 0.00 | n.a. | BMB |
| 2 | 0.37 | n.a. | 0.030 | 0.002 | 0.00 | n.a. | BMb |
| 3 | 0.48 | n.a. | 0.013 | 0.001 | 0.00 | n.a. | bMB |
| 4 | 0.76 | n.a. | 0.012 | 0.001 | 0.00 | n.a. | BMB |
| 5 | 2.79 | n.a. | 6.734 | 2.546 | 0.35 | n.a. | bMB |
| 6 | 3.37 | n.a. | 2.311 | 0.301 | 0.04 | n.a. | Ru |
| 7 | 3.61 | n.a. | 33.275 | 8.431 | 1.17 | n.a. | BM |
| 8 | 4.38 | n.a. | 3.218 | 1.023 | 0.14 | n.a. | M |
| 9 | 4.79 | CHLORIDE | 77.055 | 10.910 | 1.52 | 61.078 | M |
| 10 | 5.25 | n.a. | 1.626 | 0.548 | 0.08 | n.a. | MB |
| 11 | 6.08 | NITRITE | 915.235 | 682.536 | 94.92 | 1604.403 | BM |

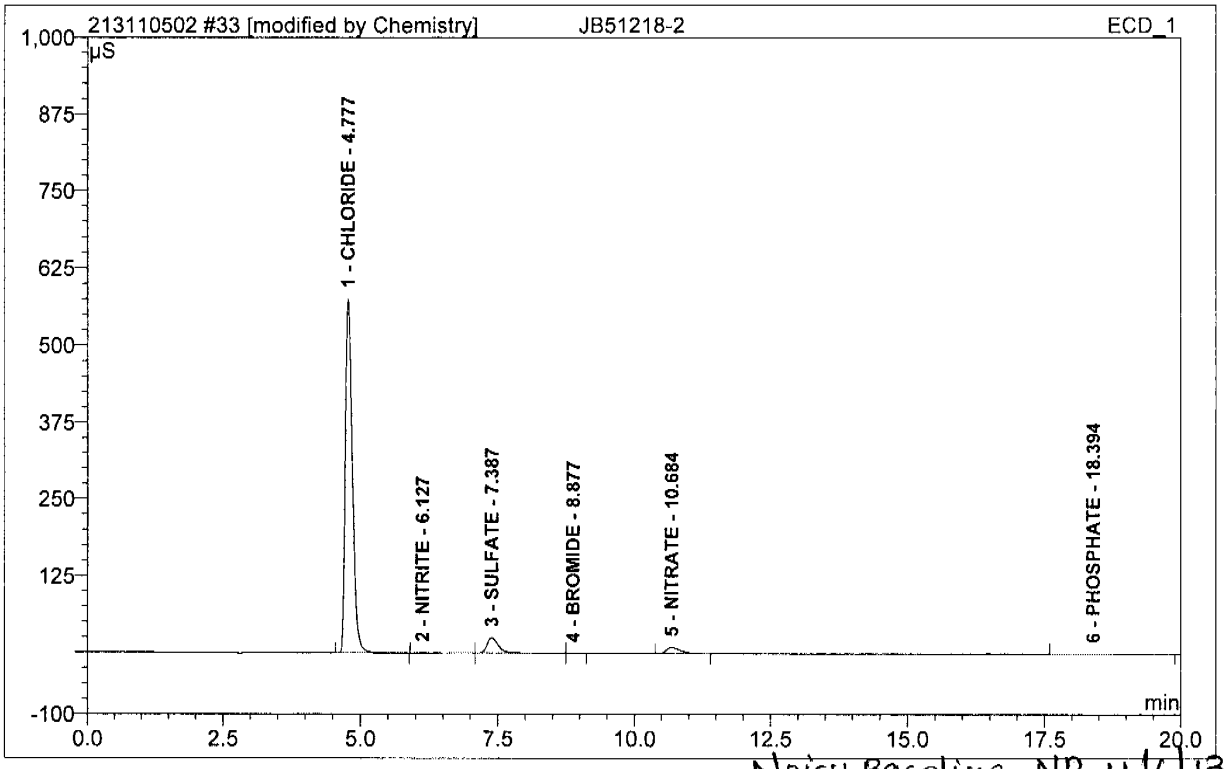
DEFAULT/Integration

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 8.50 | n.a. | 0.440 | 0.076 | 0.01 | n.a. | Ru |
| 13 | 9.07 | BROMIDE | 17.892 | 12.489 | 1.74 | 162.661 | MB |
| 14 | 10.81 | NITRATE | 0.618 | 0.148 | 0.02 | 0.344 | BMB |
| 15 | 12.12 | n.a. | 0.001 | 0.007 | 0.00 | n.a. | BMB |
| 16 | 12.40 | n.a. | 0.001 | 0.004 | 0.00 | n.a. | BMB |
| 17 | 13.76 | n.a. | 0.001 | 0.005 | 0.00 | n.a. | BMB |
| 18 | 14.09 | n.a. | 0.032 | 0.008 | 0.00 | n.a. | BMB |
| 19 | 14.37 | n.a. | 0.023 | 0.004 | 0.00 | n.a. | BMB |
| 20 | 14.64 | n.a. | 0.035 | 0.006 | 0.00 | n.a. | BMB |
| 21 | 16.01 | n.a. | 0.018 | 0.003 | 0.00 | n.a. | BMB |
| 22 | 16.83 | n.a. | 0.028 | 0.003 | 0.00 | n.a. | BMB |
| 23 | 17.27 | PHOSPHATE | 0.034 | 0.003 | 0.00 | 0.018 | BMB |
| 24 | 20.58 | n.a. | 0.019 | 0.005 | 0.00 | n.a. | BMB |
| 25 | 20.85 | n.a. | 0.018 | 0.003 | 0.00 | n.a. | BMB |
| **Total:** | | | 1058.668 | 719.071 | 100.00 | 1828.504 | |

## 33 JB51218-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 23:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

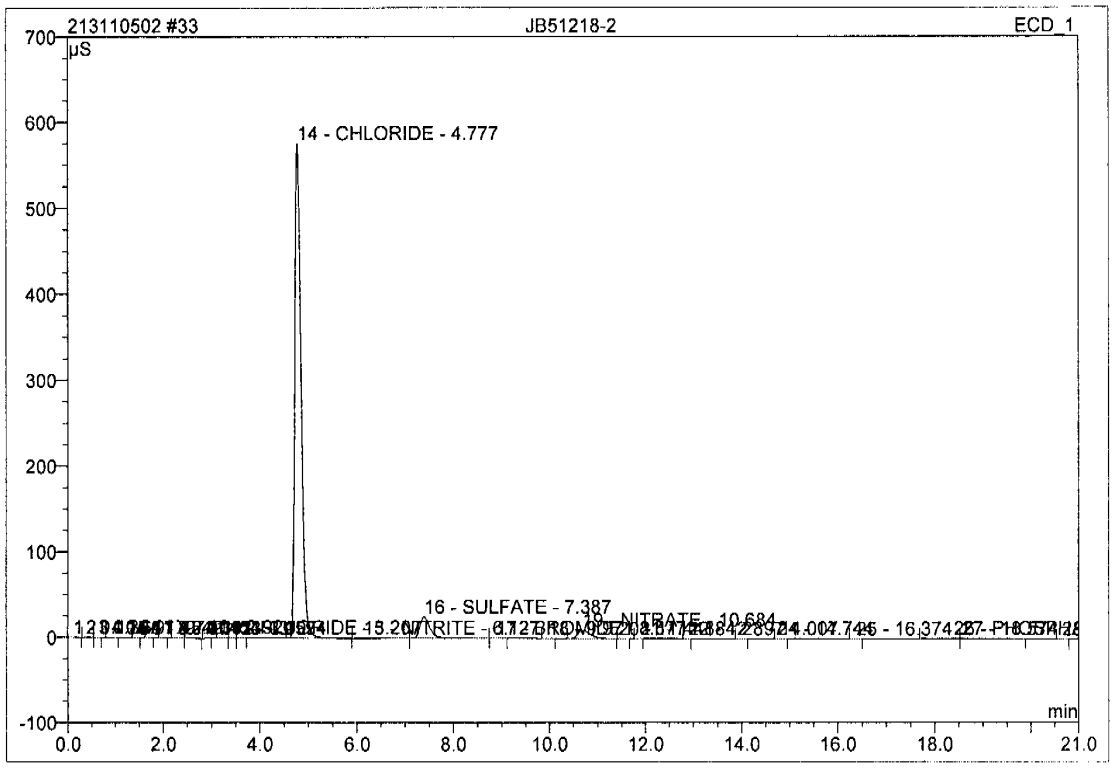



Noisy Baseline. NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 4.78 | CHLORIDE | 576.189 | 86.473 | 89.86 | 484.097 | BMB |
| 2 | 6.13 | NITRITE | 0.744 | 0.357 | 0.37 | 0.838 | BMb* |
| 3 | 7.39 | SULFATE | 24.844 | 6.073 | 6.31 | 46.246 | bM |
| 4 | 8.88 | BROMIDE | 0.113 | 0.023 | 0.02 | 0.301 | MB |
| 5 | 10.68 | NITRATE | 9.835 | 2.901 | 3.02 | 6.737 | BMB |
| 6 | 18.39 | PHOSPHATE | 0.318 | 0.400 | 0.42 | 2.470 | BMB* |
| **Total:** | | | 612.042 | 96.227 | 100.00 | 540.689 | |

## 33 JB51218-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 23:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.11 | n.a. | 0.080 | 0.020 | 0.02 | n.a. | BMB |
| 2 | 0.38 | n.a. | 0.103 | 0.014 | 0.01 | n.a. | BMb |
| 3 | 0.64 | n.a. | 0.022 | 0.002 | 0.00 | n.a. | bMB |
| 4 | 0.92 | n.a. | 0.032 | 0.005 | 0.01 | n.a. | BMB |
| 5 | 1.45 | n.a. | 0.025 | 0.002 | 0.00 | n.a. | BMB |
| 6 | 1.74 | n.a. | 0.028 | 0.003 | 0.00 | n.a. | BMB |
| 7 | 2.01 | n.a. | 0.020 | 0.002 | 0.00 | n.a. | BMB |
| 8 | 2.30 | n.a. | 0.027 | 0.005 | 0.00 | n.a. | BMB |
| 9 | 2.45 | n.a. | 0.014 | 0.194 | 0.20 | n.a. | BMB |
| 10 | 2.92 | n.a. | 0.910 | 0.103 | 0.11 | n.a. | BMB |
| 11 | 3.21 | FLUORIDE | 0.083 | 0.009 | 0.01 | 0.029 | BMB |

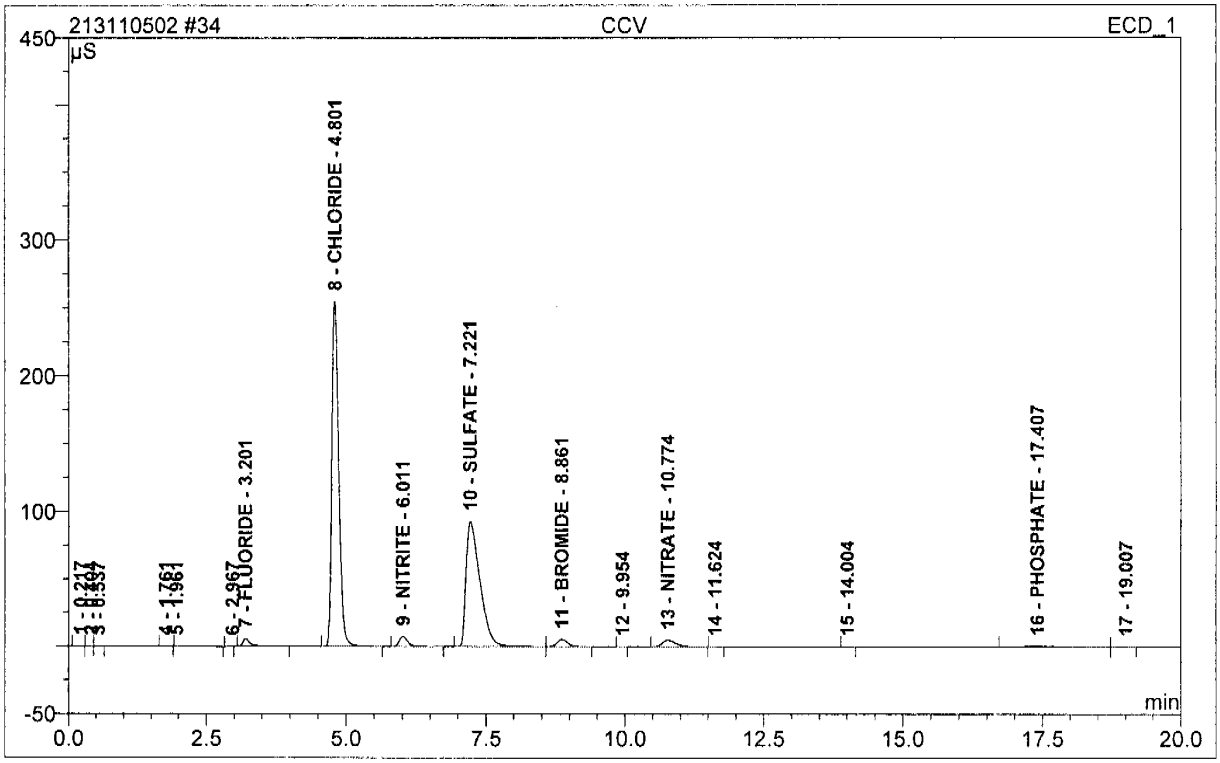
DEFAULT/Integration

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 3.40 | n.a. | 0.013 | 0.002 | 0.00 | n.a. | BMB |
| 13 | 3.59 | n.a. | 0.058 | 0.006 | 0.01 | n.a. | BMB |
| 14 | 4.78 | CHLORIDE | 576.189 | 86.473 | 89.51 | 484.097 | BMB |
| 15 | 6.13 | NITRITE | 0.744 | 0.357 | 0.37 | 0.838 | BMB |
| 16 | 7.39 | SULFATE | 24.844 | 6.073 | 6.29 | 46.246 | bM |
| 17 | 8.88 | BROMIDE | 0.113 | 0.023 | 0.02 | 0.301 | MB |
| 18 | 9.97 | n.a. | 0.029 | 0.004 | 0.00 | n.a. | BMB |
| 19 | 10.68 | NITRATE | 9.835 | 2.901 | 3.00 | 6.737 | BMB |
| 20 | 11.44 | n.a. | 0.006 | 0.004 | 0.00 | n.a. | BMB |
| 21 | 11.88 | n.a. | 0.026 | 0.002 | 0.00 | n.a. | BMB |
| 22 | 12.90 | n.a. | 0.013 | 0.001 | 0.00 | n.a. | BMB |
| 23 | 14.01 | n.a. | 0.027 | 0.004 | 0.00 | n.a. | BMB |
| 24 | 14.74 | n.a. | 0.017 | 0.005 | 0.00 | n.a. | BMB |
| 25 | 16.37 | n.a. | 0.024 | 0.004 | 0.00 | n.a. | BMB |
| 26 | 18.39 | PHOSPHATE | 0.309 | 0.155 | 0.16 | 0.955 | BM |
| 27 | 18.57 | n.a. | 0.306 | 0.230 | 0.24 | n.a. | MB |
| 28 | 20.65 | n.a. | 0.020 | 0.003 | 0.00 | n.a. | BMB |
| **Total:** | | | 613.917 | 96.604 | 100.00 | 539.203 | |

## 34 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 23:33** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.22 | n.a. | 0.039 | 0.005 | 0.01 | | n.a. | | BMB |
| 2 | 0.40 | n.a. | 0.026 | 0.003 | 0.00 | | n.a. | | BM |
| 3 | 0.54 | n.a. | 0.021 | 0.003 | 0.00 | | n.a. | | MB |
| 4 | 1.76 | n.a. | 0.015 | 0.002 | 0.00 | | n.a. | | BMB |
| 5 | 1.96 | n.a. | 0.031 | 0.199 | 0.29 | | n.a. | | BMB |
| 6 | 2.97 | n.a. | 0.125 | 0.020 | 0.03 | | n.a. | | BMB |
| 7 | 3.20 | FLUORIDE | 5.349 | 0.787 | 1.16 | | 2.691 | | BMB |
| 8 | 4.80 | CHLORIDE | 255.191 | 36.143 | 53.15 | 200 | 202.335 | ✓ | BMB |
| 9 | 6.01 | NITRITE | 7.316 | 1.266 | 1.86 | | 2.975 | | BMB |
| 10 | 7.22 | SULFATE | 92.927 | 26.653 | 39.20 | 200 | 202.959 | ✓ | BM |
| 11 | 8.86 | BROMIDE | 5.259 | 1.158 | 1.70 | | 15.085 | | MB |

101.17

101.48

anions/Integration

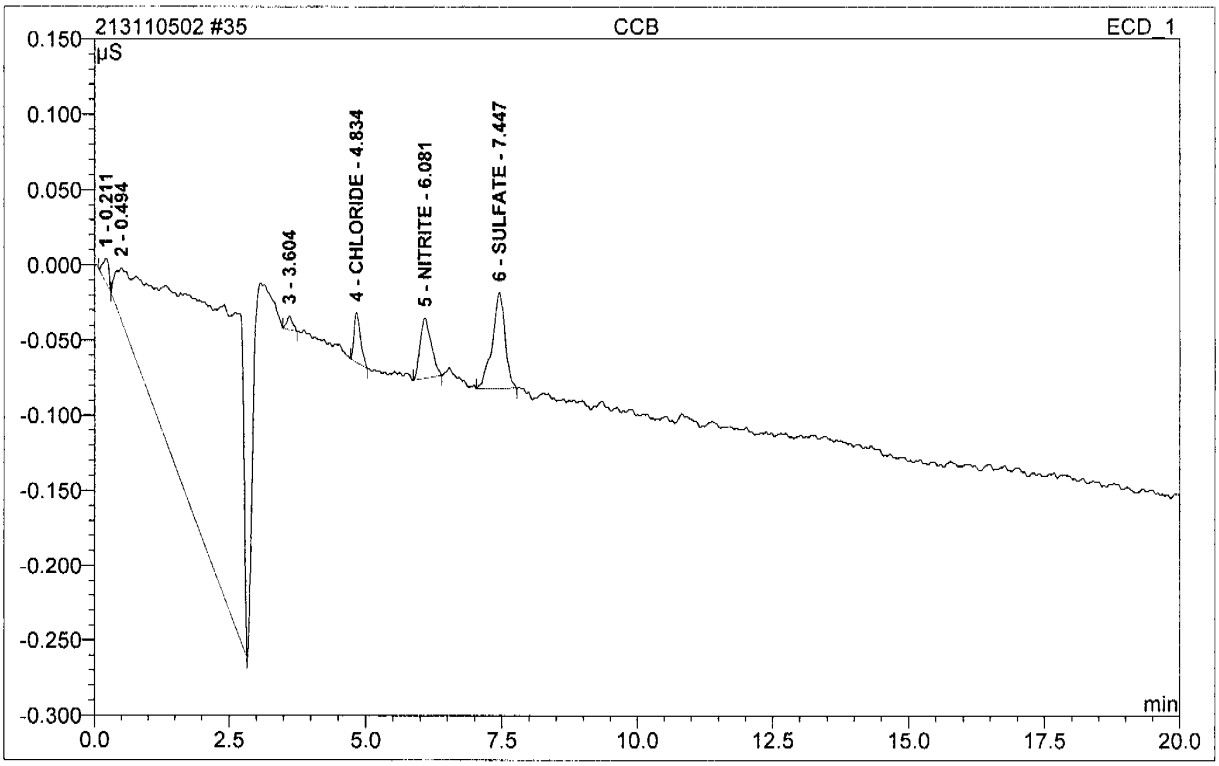
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12.1 12

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 9.95 | n.a. | 0.014 | 0.002 | 0.00 | n.a. | BMB |
| 13 | 10.77 | NITRATE | 4.788 | 1.340 | 1.97 | 3.112 | BMB |
| 14 | 11.62 | n.a. | 0.014 | 0.002 | 0.00 | n.a. | BMB |
| 15 | 14.00 | n.a. | 0.015 | 0.002 | 0.00 | n.a. | BMB |
| 16 | 17.41 | PHOSPHATE | 0.607 | 0.414 | 0.61 | 2.558 | BM |
| 17 | 19.01 | n.a. | 0.002 | 0.003 | 0.00 | n.a. | MB |
| **Total:** | | | 371.740 | 68.000 | 100.00 | 431.716 | |

## 35 CCB

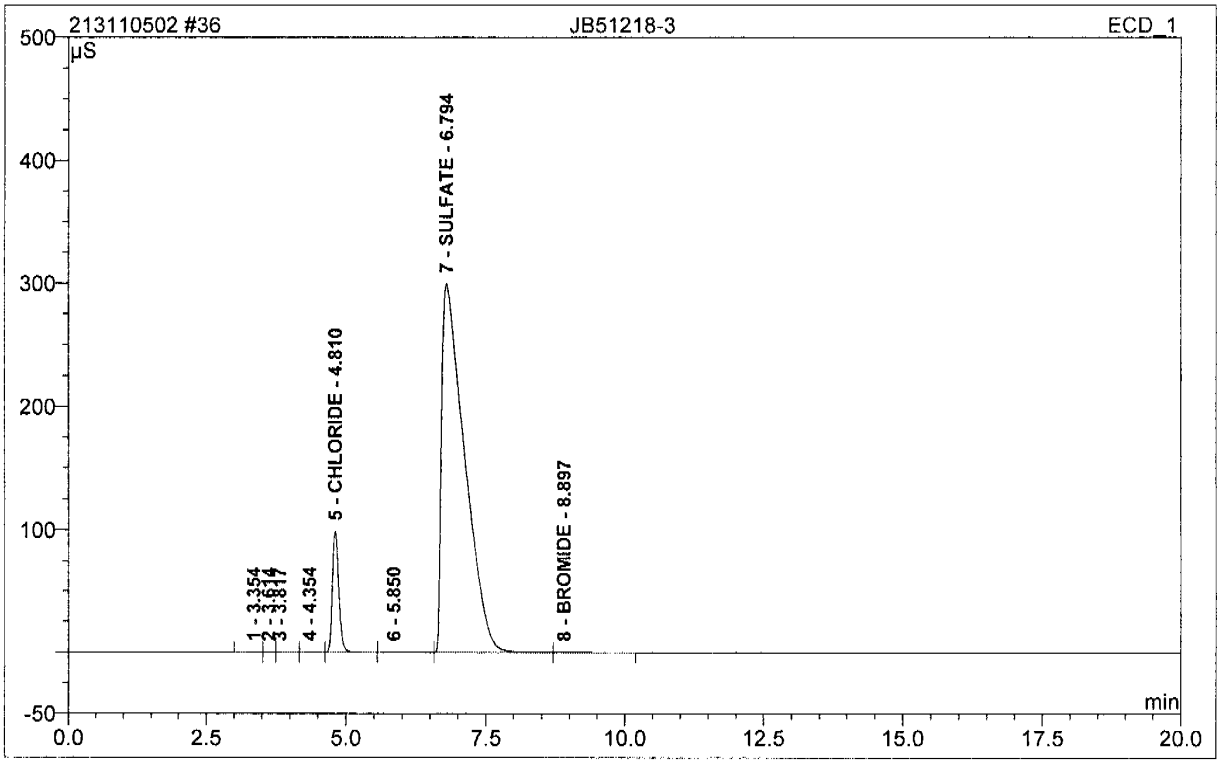
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/5/2013 23:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.21 | n.a. | 0.016 | 0.002 | 0.64 | n.a. | BMB |
| 2 | 0.49 | n.a. | 0.034 | 0.291 | 89.33 | n.a. | BMB |
| 3 | 3.60 | n.a. | 0.009 | 0.001 | 0.34 | n.a. | BMB |
| 4 | 4.83 | CHLORIDE | 0.033 | 0.004 | 1.38 | 0.025 | BMB |
| 5 | 6.08 | NITRITE | 0.040 | 0.010 | 2.93 | 0.022 | BMB |
| 6 | 7.45 | SULFATE | 0.064 | 0.018 | 5.39 | 0.134 | BMB |
| **Total:** | | | 0.197 | 0.326 | 100.00 | 0.181 | |

## 36 JB51218-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 0:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.35 | n.a. | 0.237 | 0.059 | 0.04 | n.a. | BM |
| 2 | 3.61 | n.a. | 0.205 | 0.033 | 0.02 | n.a. | M |
| 3 | 3.82 | n.a. | 0.110 | 0.020 | 0.01 | n.a. | MB |
| 4 | 4.35 | n.a. | 0.509 | 0.090 | 0.06 | n.a. | BM |
| 5 | 4.81 | CHLORIDE | 98.972 | 13.042 | 8.37 | 73.014 | MB |
| 6 | 5.85 | n.a. | 0.464 | 0.337 | 0.22 | n.a. | BM |
| 7 | 6.79 | SULFATE | 299.590 | 142.150 | 91.21 | 1082.460 | M |
| 8 | 8.90 | BROMIDE | 0.215 | 0.111 | 0.07 | 1.440 | MB |
| **Total:** | | | 400.301 | 155.842 | 100.00 | 1156.914 | |

Soy over-range. Rerun at 1:5 dilution.

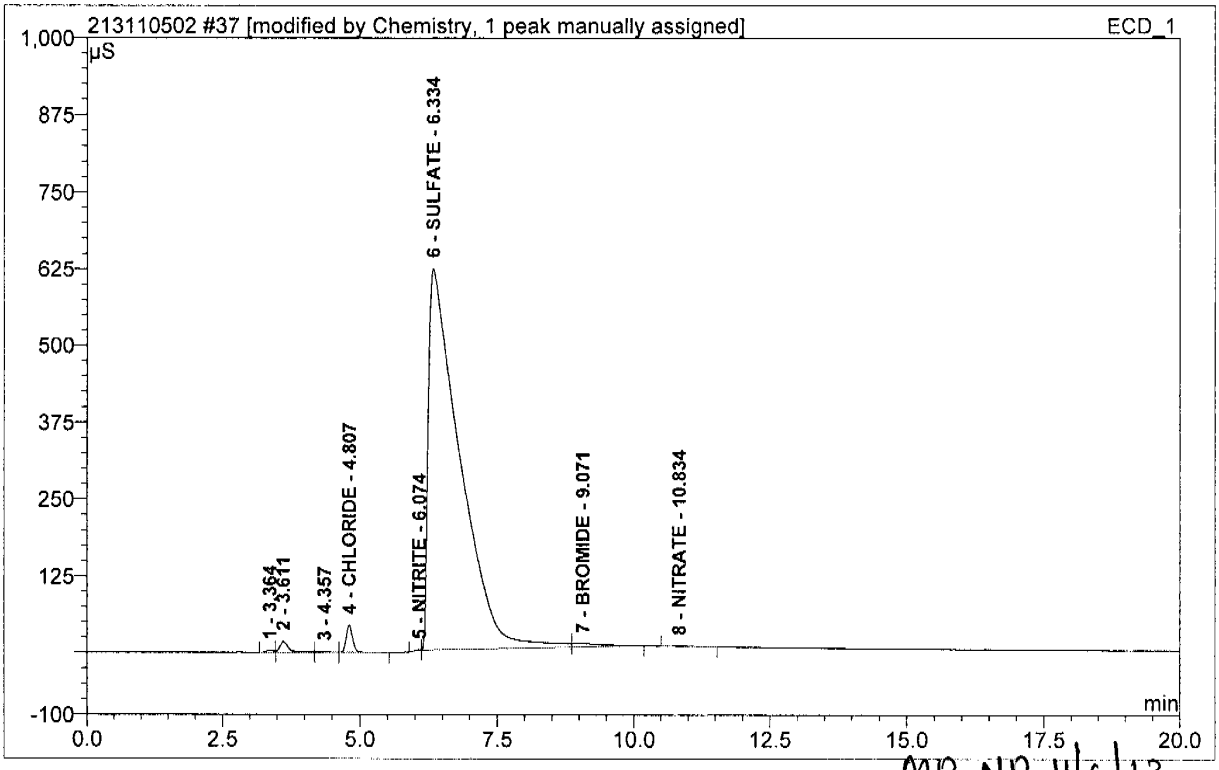
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12.1 12

## 37 JB51218-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 0:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.36 | n.a. | 3.838 | 0.611 | 0.14 | n.a. | BM * |
| 2 | 3.61 | n.a. | 18.233 | 3.250 | 0.76 | n.a. | M * |
| 3 | 4.36 | n.a. | 1.359 | 0.297 | 0.07 | n.a. | M * |
| 4 | 4.81 | CHLORIDE | 45.432 | 6.009 | 1.40 | 33.638 | MB* |
| 5 | 6.07 | NITRITE | 1.049 | 0.151 | 0.04 | 0.355 | BMb* |
| 6 | 6.33 | SULFATE | 621.424 | 413.416 | 96.61 | 3148.130 | bM ^ |
| 7 | 9.07 | BROMIDE | 5.671 | 3.784 | 0.88 | 49.288 | MB |
| 8 | 10.83 | NITRATE | 0.956 | 0.389 | 0.09 | 0.903 | BMB |
| **Total:** | | | 697.961 | 427.908 | 100.00 | 3232.314 | |

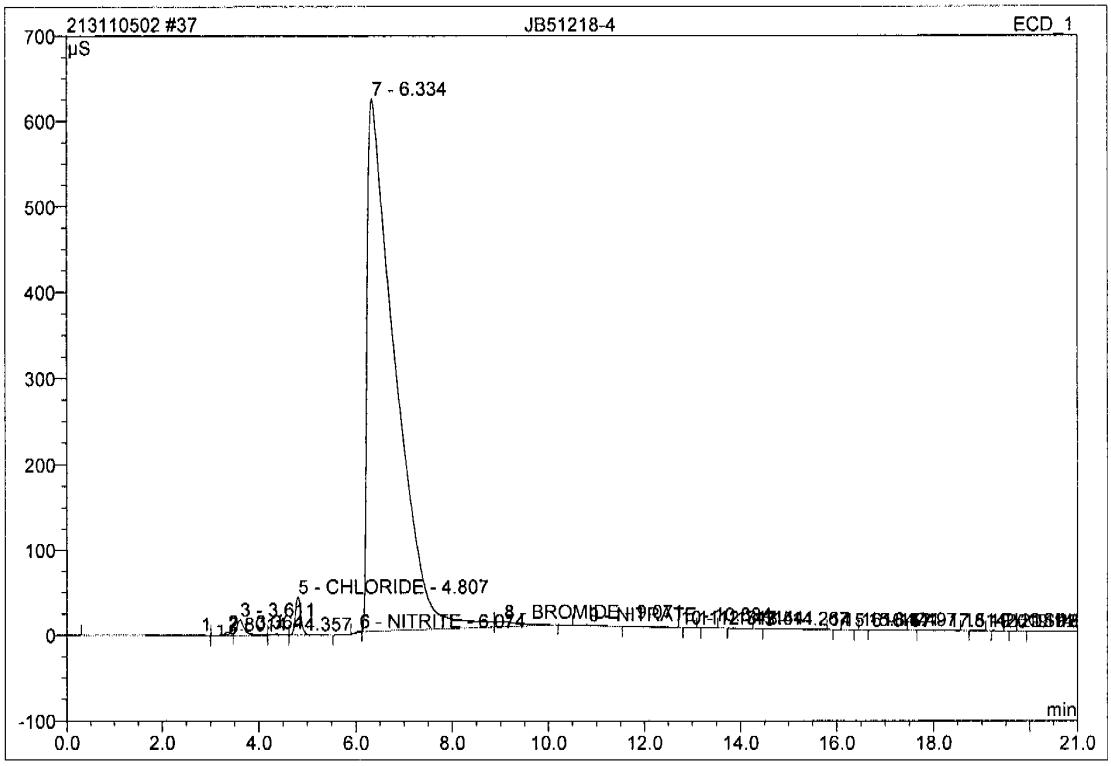
Soy over-range. Rerun at 1:20 dilution.



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Version 6.80 SR9a Build 2680 (163077)

## 37 JB51218-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 0:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

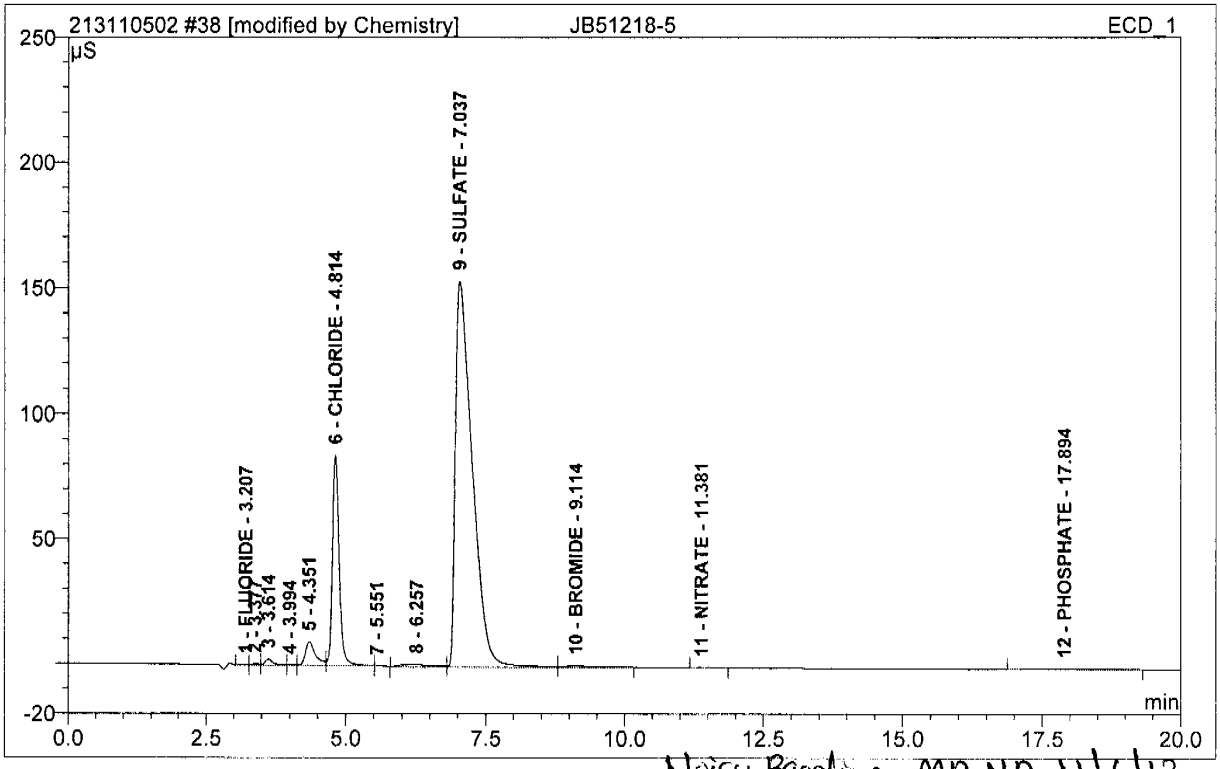



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 1.162 | 0.486 | 0.11 | n.a. | BMB |
| 2 | 3.36 | n.a. | 2.484 | 0.302 | 0.07 | n.a. | Ru |
| 3 | 3.61 | n.a. | 18.400 | 3.736 | 0.87 | n.a. | BM |
| 4 | 4.36 | n.a. | 1.461 | 0.340 | 0.08 | n.a. | M |
| 5 | 4.81 | CHLORIDE | 45.495 | 6.044 | 1.41 | 33.838 | MB |
| 6 | 6.07 | NITRITE | 1.049 | 0.151 | 0.04 | 0.355 | BMB |
| 7 | 6.33 | n.a. | 621.424 | 413.416 | 96.44 | n.a. | bM |
| 8 | 9.07 | BROMIDE | 5.671 | 3.784 | 0.88 | 49.288 | MB |
| 9 | 10.83 | NITRATE | 0.956 | 0.389 | 0.09 | 0.903 | BMB |
| 10 | 12.75 | n.a. | 0.019 | 0.001 | 0.00 | n.a. | BMB |
| 11 | 13.11 | n.a. | 0.018 | 0.001 | 0.00 | n.a. | BMB |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 13.54 | n.a. | 0.000 | 0.005 | 0.00 | n.a. | BMB |
| 13 | 14.27 | n.a. | 0.000 | 0.007 | 0.00 | n.a. | BMB |
| 14 | 15.85 | n.a. | 0.031 | 0.002 | 0.00 | n.a. | BMB |
| 15 | 16.14 | n.a. | 0.037 | 0.010 | 0.00 | n.a. | BMB |
| 16 | 16.50 | n.a. | 0.024 | 0.005 | 0.00 | n.a. | BMB |
| 17 | 17.51 | n.a. | 0.024 | 0.004 | 0.00 | n.a. | BMB |
| 18 | 18.62 | PHOSPHATE | 0.030 | 0.003 | 0.00 | 0.020 | BMB |
| 19 | 19.15 | n.a. | 0.028 | 0.001 | 0.00 | n.a. | BMB |
| 20 | 19.51 | n.a. | 0.027 | 0.001 | 0.00 | n.a. | BMB |
| 21 | 19.80 | n.a. | 0.036 | 0.005 | 0.00 | n.a. | BMB |
| **Total:** | | | 698.375 | 428.694 | 100.00 | 84.404 | |

## 38 JB51218-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 1:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




Noisy Baseline MP-NP 11/6/13

NP (4) 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.324 | 0.052 | 0.07 | 0.178 | BM * |
| 2 | 3.38 | n.a. | 0.634 | 0.101 | 0.14 | n.a. | M * |
| 3 | 3.61 | n.a. | 2.567 | 0.429 | 0.61 | n.a. | M * |
| 4 | 3.99 | n.a. | 0.247 | 0.040 | 0.06 | n.a. | M |
| 5 | 4.35 | n.a. | 9.503 | 1.949 | 2.78 | n.a. | M * |
| 6 | 4.81 | CHLORIDE | 84.623 | 11.663 | 16.65 | 65.293 | MB* |
| 7 | 5.55 | n.a. | 0.082 | 0.054 | 0.08 | n.a. | BMB |
| 8 | 6.26 | n.a. | 1.172 | 0.785 | 1.12 | n.a. | BM |
| 9 | 7.04 | SULFATE | 154.089 | 54.113 | 77.24 | 412.068 | M |
| 10 | 9.11 | BROMIDE | 0.794 | 0.396 | 0.57 | 5.162 | MB |
| 11 | 11.38 | NITRATE | 0.168 | 0.060 | 0.09 | 0.139 | BMB* |

Soy over-range. Rerun at 1:2 dilution.



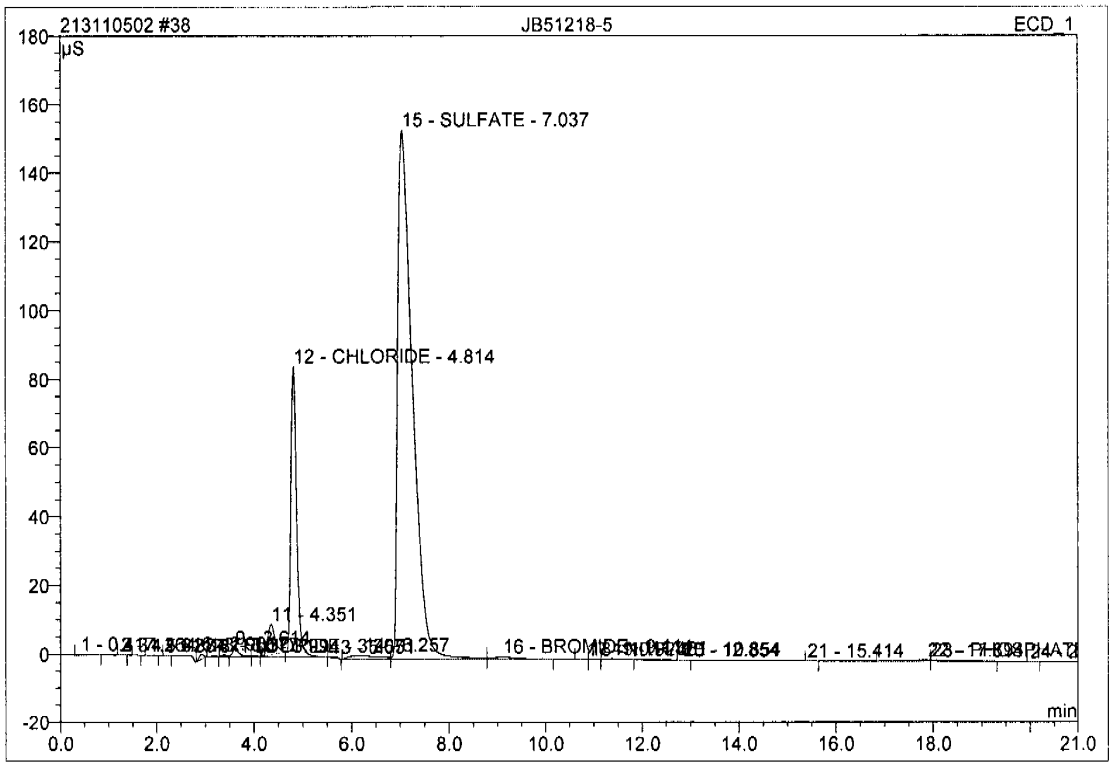
Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

12.1 12

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.89 | PHOSPHATE | 0.322 | 0.416 | 0.59 | 2.570 | BMB* |
| **Total:** | | | 254.524 | 70.060 | 100.00 | 485.410 | |

## 38 JB51218-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51218-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 1:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.42 | n.a. | 0.164 | 0.054 | 0.08 | n.a. | BMB |
| 2 | 1.26 | n.a. | 0.023 | 0.003 | 0.00 | n.a. | BMB |
| 3 | 1.61 | n.a. | 0.024 | 0.002 | 0.00 | n.a. | BMB |
| 4 | 1.88 | n.a. | 0.044 | 0.007 | 0.01 | n.a. | BMB |
| 5 | 2.18 | n.a. | 0.016 | 0.002 | 0.00 | n.a. | BMB |
| 6 | 2.93 | n.a. | 1.330 | 0.134 | 0.19 | n.a. | BMB |
| 7 | 3.21 | FLUORIDE | 0.167 | 0.024 | 0.03 | 0.082 | Ru |
| 8 | 3.38 | n.a. | 0.324 | 0.033 | 0.05 | n.a. | Ru |
| 9 | 3.61 | n.a. | 2.567 | 0.525 | 0.75 | n.a. | BM |
| 10 | 3.99 | n.a. | 0.247 | 0.040 | 0.06 | n.a. | M |
| 11 | 4.35 | n.a. | 8.846 | 1.554 | 2.21 | n.a. | Ru |

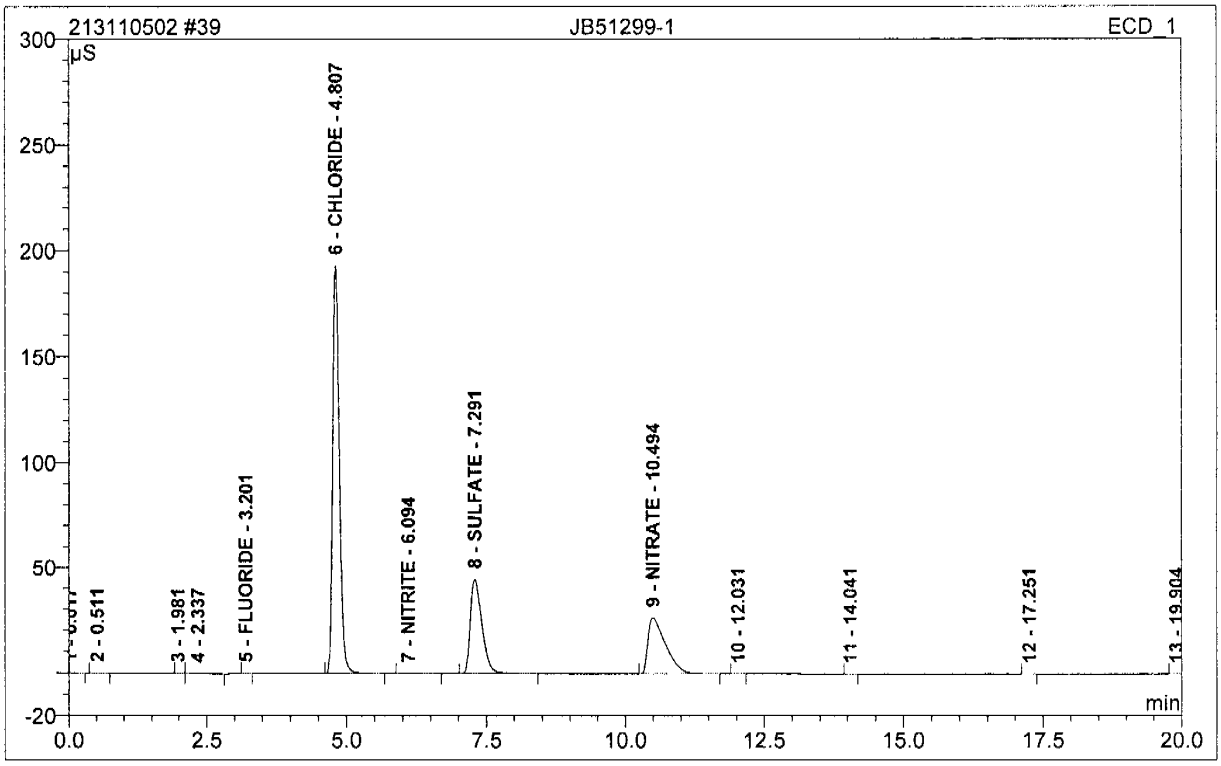
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 4.81 | CHLORIDE | 84.623 | 12.058 | 17.15 | 67.502 | MB |
| 13 | 5.55 | n.a. | 0.082 | 0.054 | 0.08 | n.a. | BMB |
| 14 | 6.26 | n.a. | 1.172 | 0.785 | 1.12 | n.a. | BM |
| 15 | 7.04 | SULFATE | 154.089 | 54.113 | 76.97 | 412.068 | M |
| 16 | 9.11 | BROMIDE | 0.794 | 0.396 | 0.56 | 5.162 | MB |
| 17 | 10.85 | NITRATE | 0.055 | 0.008 | 0.01 | 0.018 | BM |
| 18 | 10.92 | n.a. | 0.057 | 0.006 | 0.01 | n.a. | MB |
| 19 | 11.38 | n.a. | 0.172 | 0.062 | 0.09 | n.a. | BMB |
| 20 | 12.85 | n.a. | 0.027 | 0.005 | 0.01 | n.a. | BMB |
| 21 | 15.41 | n.a. | 0.010 | 0.004 | 0.01 | n.a. | BMB |
| 22 | 17.89 | n.a. | 0.331 | 0.201 | 0.29 | n.a. | BM |
| 23 | 17.97 | PHOSPHATE | 0.326 | 0.234 | 0.33 | 1.443 | MB |
| 24 | 20.00 | n.a. | 0.011 | 0.002 | 0.00 | n.a. | BMB |
| **Total:** | | | 255.500 | 70.307 | 100.00 | 486.275 | |

## 39 JB51299-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51299-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **32** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 1:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

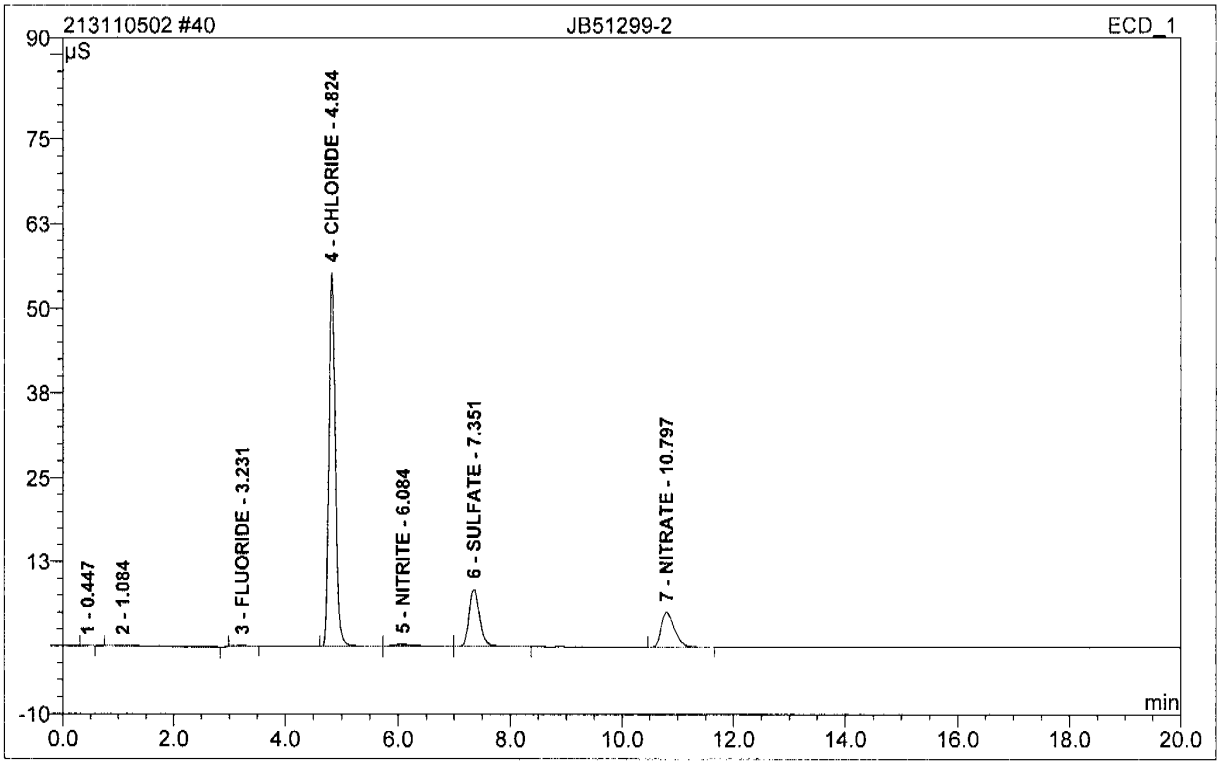



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.02 | n.a. | 0.000 | 0.007 | 0.01 | n.a. | BMB |
| 2 | 0.51 | n.a. | 0.040 | 0.008 | 0.02 | n.a. | BMB |
| 3 | 1.98 | n.a. | 0.012 | 0.001 | 0.00 | n.a. | BMb |
| 4 | 2.34 | n.a. | 0.187 | 0.171 | 0.36 | n.a. | bMB |
| 5 | 3.20 | FLUORIDE | 0.039 | 0.005 | 0.01 | 0.017 | BMB |
| 6 | 4.81 | CHLORIDE | 193.087 | 26.464 | 56.20 | 148.153 | BMB |
| 7 | 6.09 | NITRITE | 0.324 | 0.105 | 0.22 | 0.247 | BMB |
| 8 | 7.29 | SULFATE | 44.624 | 10.698 | 22.72 | 81.468 | BMB |
| 9 | 10.49 | NITRATE | 26.253 | 9.620 | 20.43 | 22.337 | BMB |
| 10 | 12.03 | n.a. | 0.015 | 0.002 | 0.00 | n.a. | BMB |
| 11 | 14.04 | n.a. | 0.009 | 0.001 | 0.00 | n.a. | BMB |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 17.25 | n.a. | 0.011 | 0.002 | 0.00 | n.a. | BMB |
| 13 | 19.90 | n.a. | 0.008 | 0.001 | 0.00 | n.a. | BMB |
| **Total:** | | | 264.609 | 47.086 | 100.00 | 252.221 | |

## 40 JB51299-2

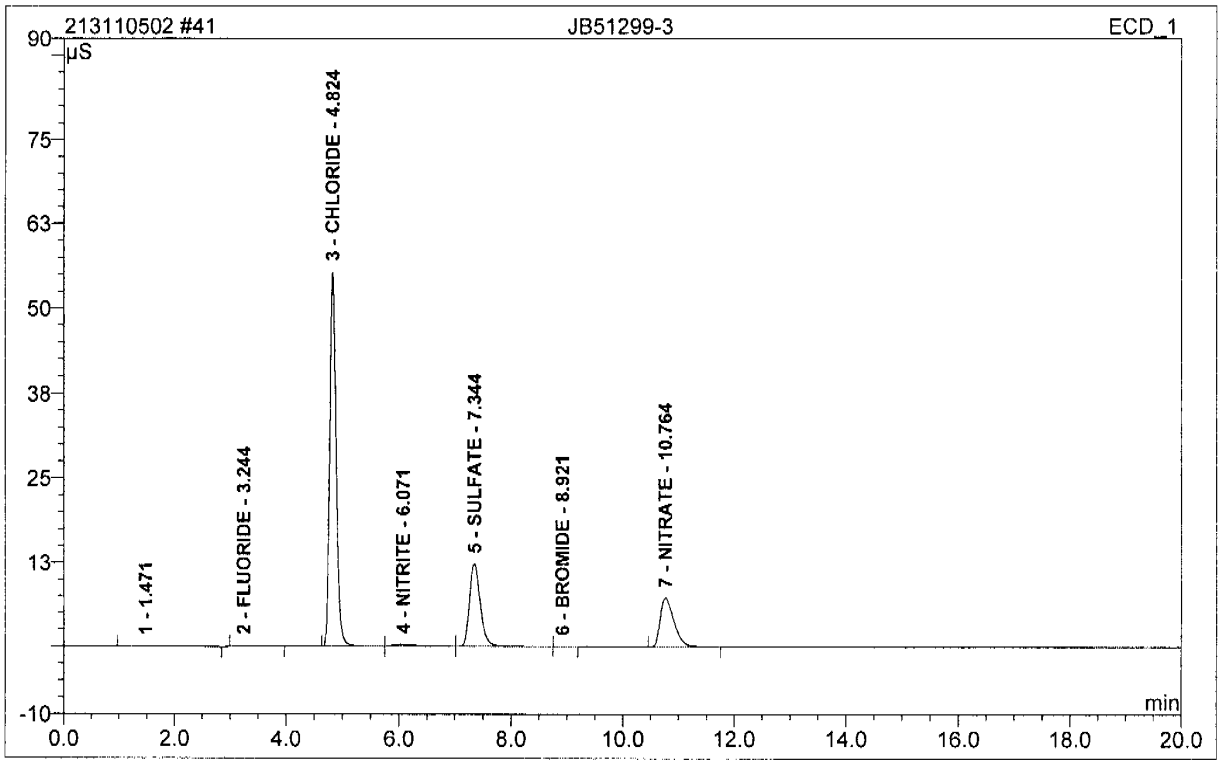
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51299-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **33** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 1:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.45 | n.a. | 0.013 | 0.002 | 0.02 | n.a. | BMB |
| 2 | 1.08 | n.a. | 0.041 | 0.232 | 2.10 | n.a. | BMB |
| 3 | 3.23 | FLUORIDE | 0.094 | 0.025 | 0.23 | 0.086 | BMB |
| 4 | 4.82 | CHLORIDE | 55.313 | 7.318 | 66.29 | 40.966 | BM |
| 5 | 6.08 | NITRITE | 0.335 | 0.171 | 1.55 | 0.401 | M |
| 6 | 7.35 | SULFATE | 8.476 | 1.875 | 16.99 | 14.279 | MB |
| 7 | 10.80 | NITRATE | 5.140 | 1.416 | 12.82 | 3.287 | BMB |
| **Total:** | | | 69.412 | 11.038 | 100.00 | 59.019 | |

## 41 JB51299-3

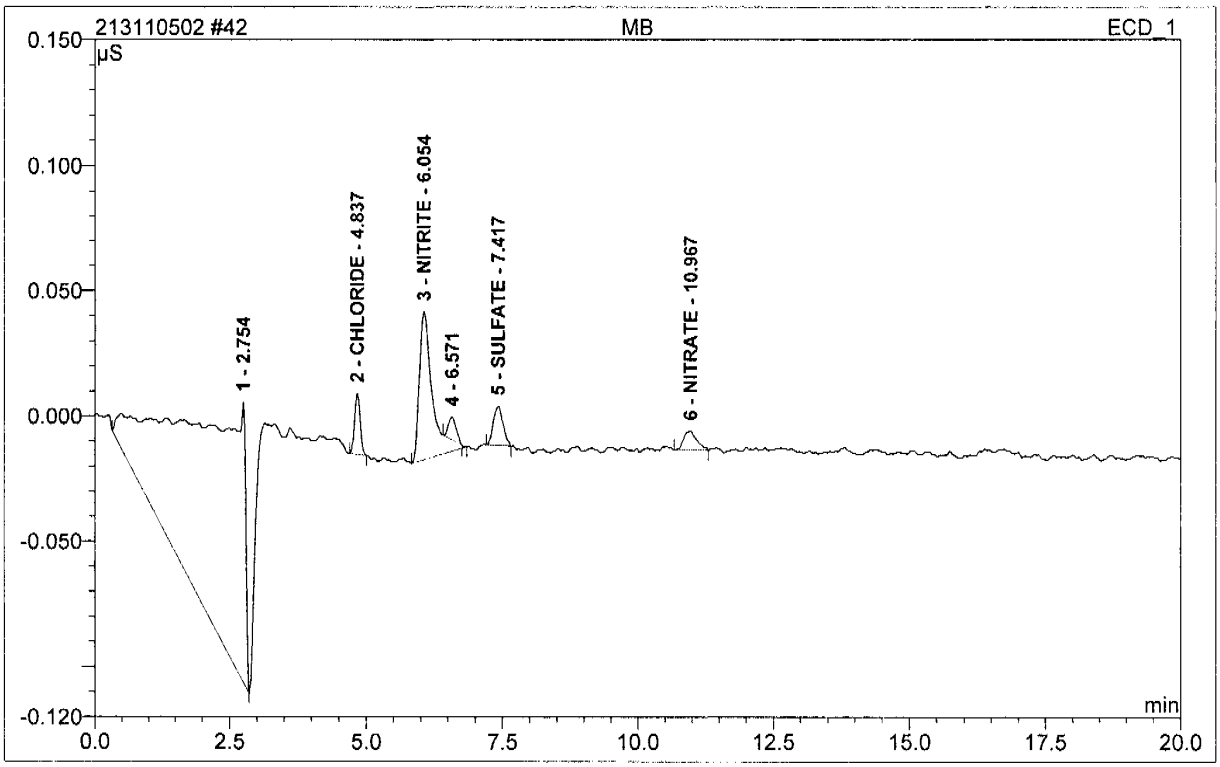
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51299-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **34** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 2:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.47 | n.a. | 0.041 | 0.122 | 0.97 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.088 | 0.030 | 0.24 | 0.104 | BMB |
| 3 | 4.82 | CHLORIDE | 55.428 | 7.337 | 58.71 | 41.076 | BM |
| 4 | 6.07 | NITRITE | 0.320 | 0.172 | 1.37 | 0.403 | M |
| 5 | 7.34 | SULFATE | 12.364 | 2.782 | 22.26 | 21.181 | M |
| 6 | 8.92 | BROMIDE | 0.017 | 0.004 | 0.03 | 0.055 | MB |
| 7 | 10.76 | NITRATE | 7.252 | 2.050 | 16.40 | 4.760 | BMB |
| **Total:** | | | 75.510 | 12.497 | 100.00 | 67.579 | |

## 42 MB

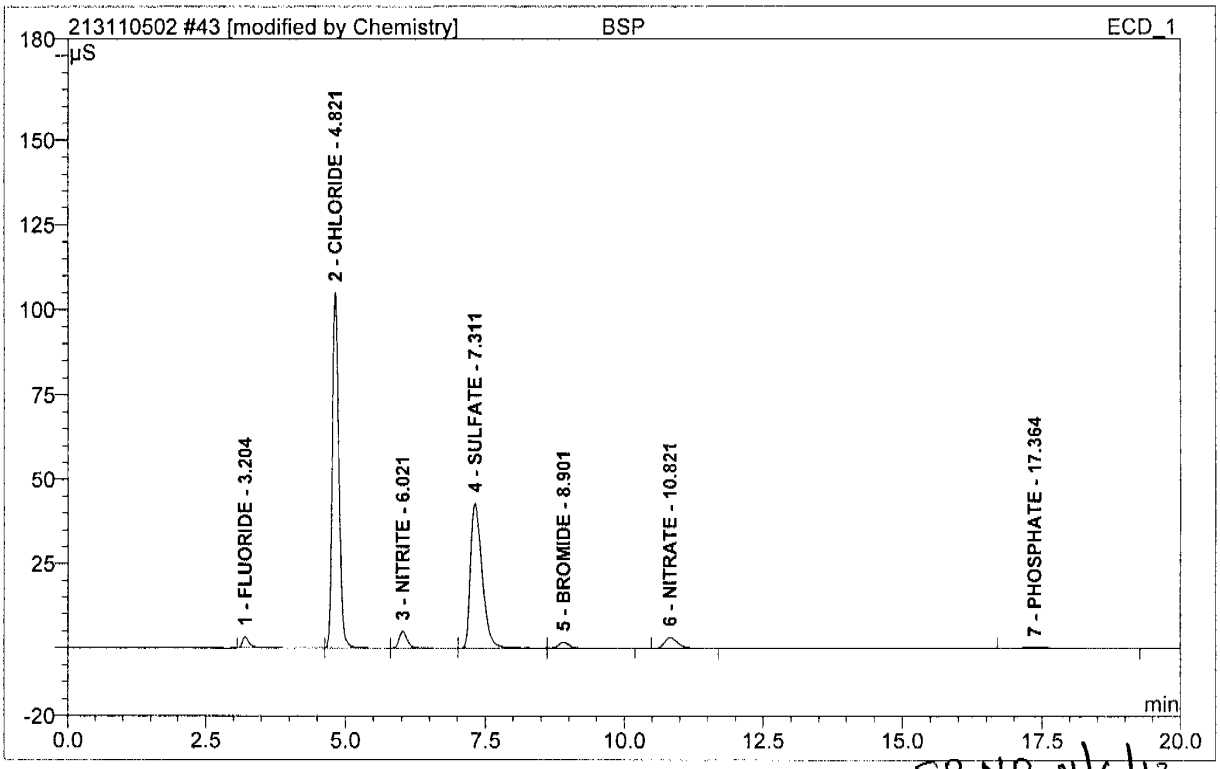
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 2:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.75 | n.a. | 0.112 | 0.135 | 83.85 | n.a. | BMB |
| 2 | 4.84 | CHLORIDE | 0.024 | 0.003 | 1.77 | 0.016 | BMB |
| 3 | 6.05 | NITRITE | 0.059 | 0.016 | 10.15 | 0.039 | BMB |
| 4 | 6.57 | n.a. | 0.009 | 0.002 | 0.93 | n.a. | Rd |
| 5 | 7.42 | SULFATE | 0.016 | 0.003 | 1.98 | 0.024 | BMB |
| 6 | 10.97 | NITRATE | 0.007 | 0.002 | 1.33 | 0.005 | BMB |
| **Total:** | | | 0.227 | 0.161 | 100.00 | 0.084 | |

## 43 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 3:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 11/6/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.20 | FLUORIDE | 3.269 | 0.498 | 1.82 | 1.704 | BMb* |
| 2 | 4.82 | CHLORIDE | 105.144 | 14.141 | 51.69 | 79.164 | bMb* |
| 3 | 6.02 | NITRITE | 4.898 | 0.825 | 3.02 | 1.940 | bM * |
| 4 | 7.31 | SULFATE | 43.048 | 10.406 | 38.04 | 79.243 | M * |
| 5 | 8.90 | BROMIDE | 1.769 | 0.391 | 1.43 | 5.096 | MB* |
| 6 | 10.82 | NITRATE | 3.199 | 0.863 | 3.15 | 2.003 | BMB |
| 7 | 17.36 | PHOSPHATE | 0.341 | 0.232 | 0.85 | 1.432 | BMB |
| **Total:** | | | 161.667 | 27.356 | 100.00 | 170.581 | |

80 80

98.96
99.05

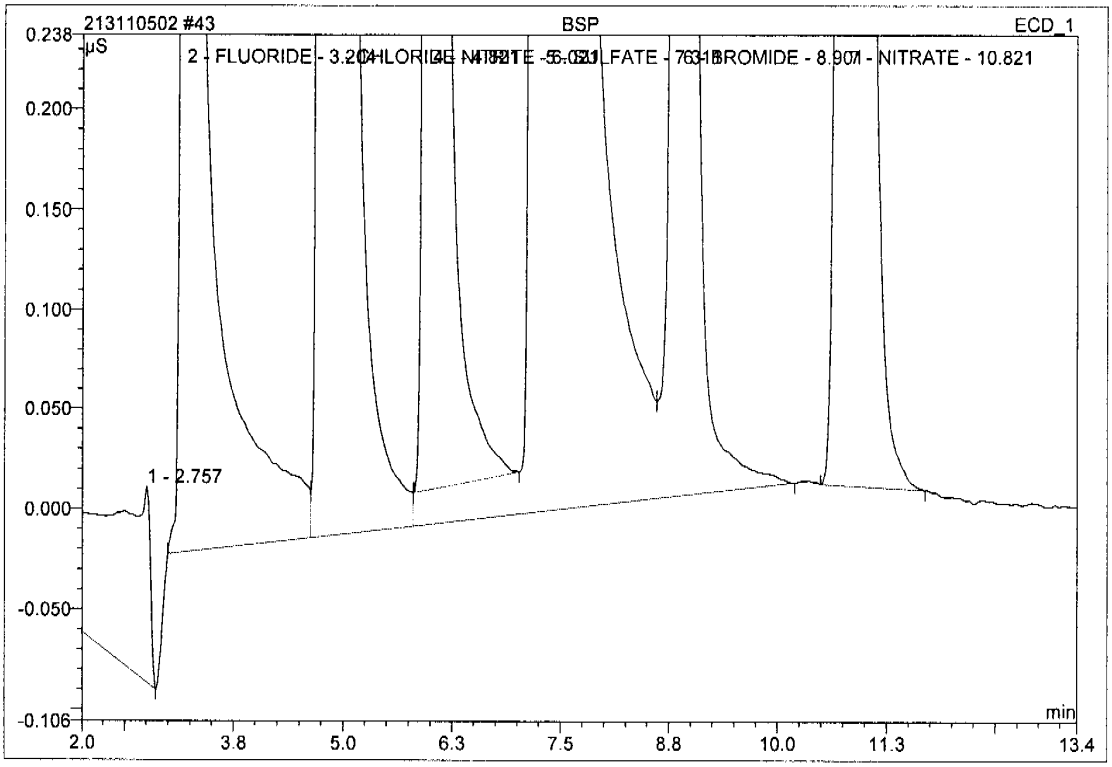
12.1 12



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# 43 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 3:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



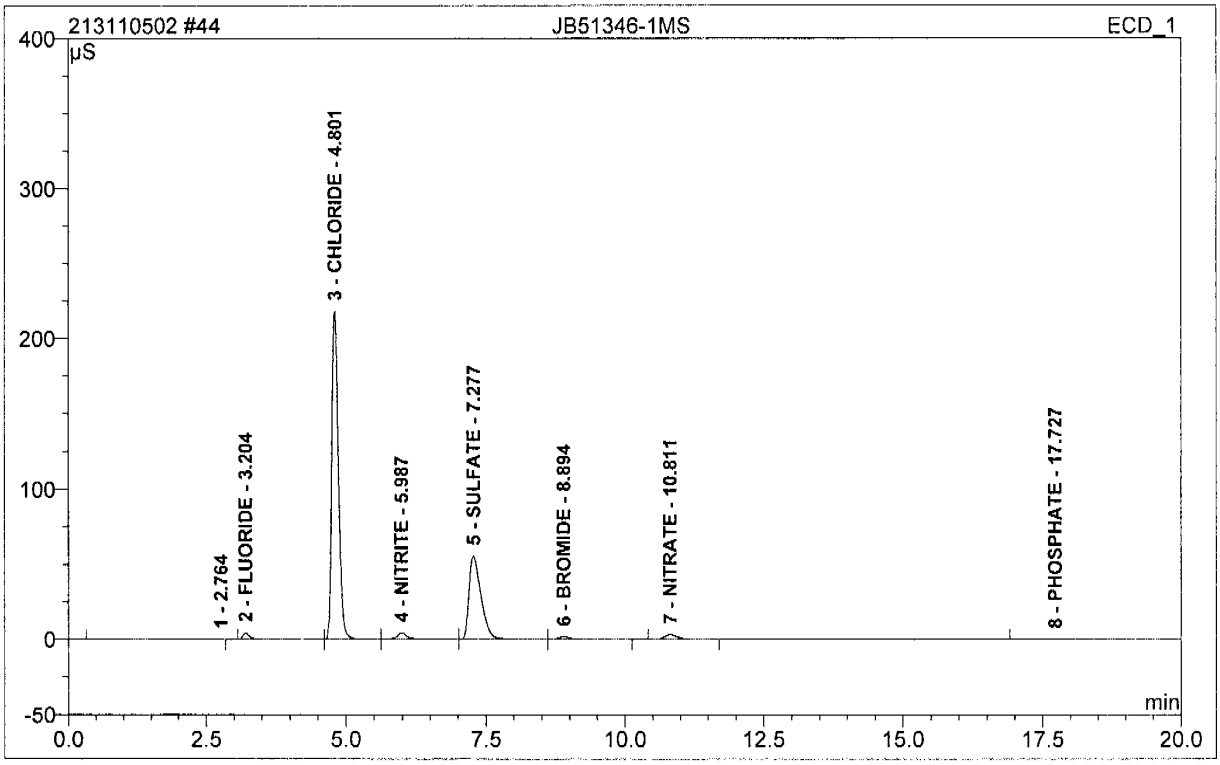

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.098 | 0.112 | 0.41 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 3.286 | 0.529 | 1.92 | 1.811 | BM |
| 3 | 4.82 | CHLORIDE | 105.166 | 14.164 | 51.39 | 79.294 | M |
| 4 | 6.02 | NITRITE | 4.896 | 0.820 | 2.97 | 1.927 | Ru |
| 5 | 7.31 | SULFATE | 43.059 | 10.444 | 37.89 | 79.526 | M |
| 6 | 8.90 | BROMIDE | 1.774 | 0.396 | 1.44 | 5.159 | MB |
| 7 | 10.82 | NITRATE | 3.199 | 0.863 | 3.13 | 2.003 | BMB |
| 8 | 17.36 | PHOSPHATE | 0.341 | 0.232 | 0.84 | 1.432 | BMB |
| **Total:** | | | 161.818 | 27.560 | 100.00 | 171.152 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
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## 44 JB51346-1MS

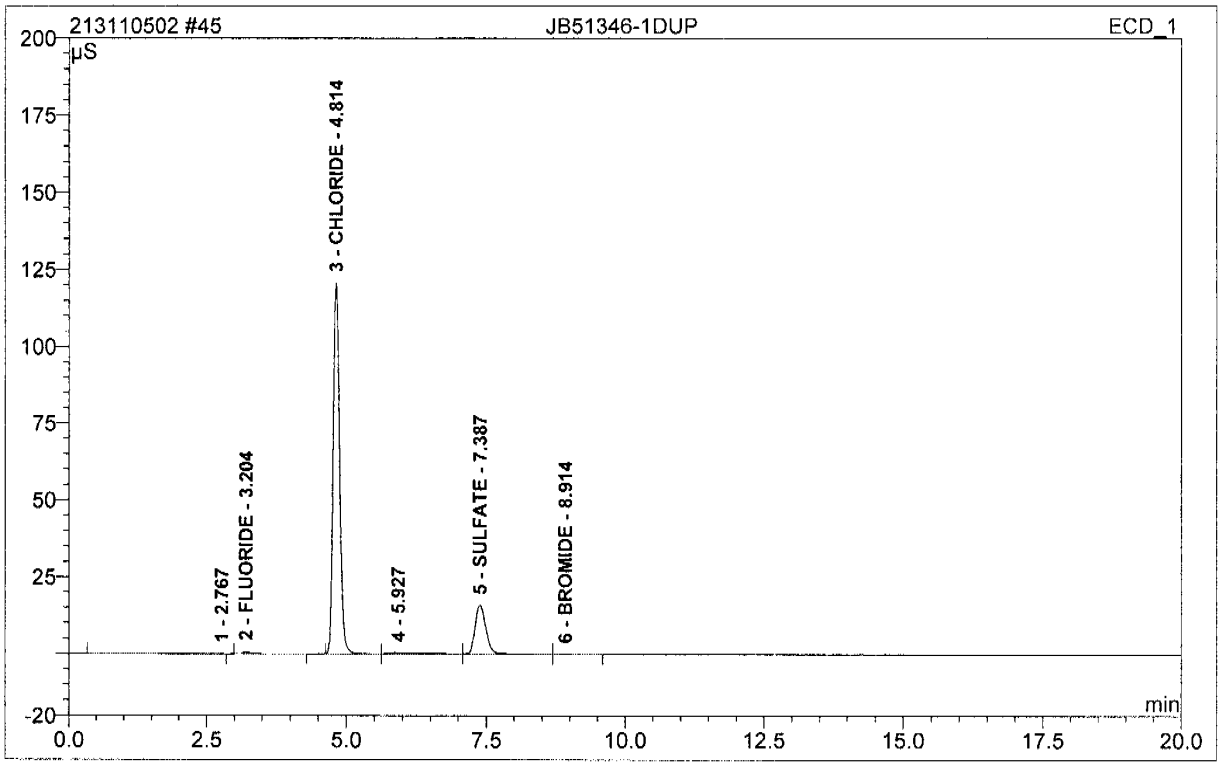
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 3:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.082 | 0.086 | 0.18 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 4.185 | 0.621 | 1.32 | 2.122 | BM |
| 3 | 4.80 | CHLORIDE | 218.157 | 29.794 | 63.39 | 166.797 ✓ | M |
| 4 | 5.99 | NITRITE | 4.371 | 1.088 | 2.31 | 2.557 | M |
| 5 | 7.28 | SULFATE | 55.649 | 13.929 | 29.63 | 106.070 ✓ | M |
| 6 | 8.89 | BROMIDE | 1.811 | 0.402 | 0.86 | 5.240 | MB |
| 7 | 10.81 | NITRATE | 3.234 | 0.859 | 1.83 | 1.995 | BMB |
| 8 | 17.73 | PHOSPHATE | 0.228 | 0.226 | 0.48 | 1.396 | BMB |
| **Total:** | | | 287.717 | 47.005 | 100.00 | 286.176 | |

## 45 JB51346-1DUP

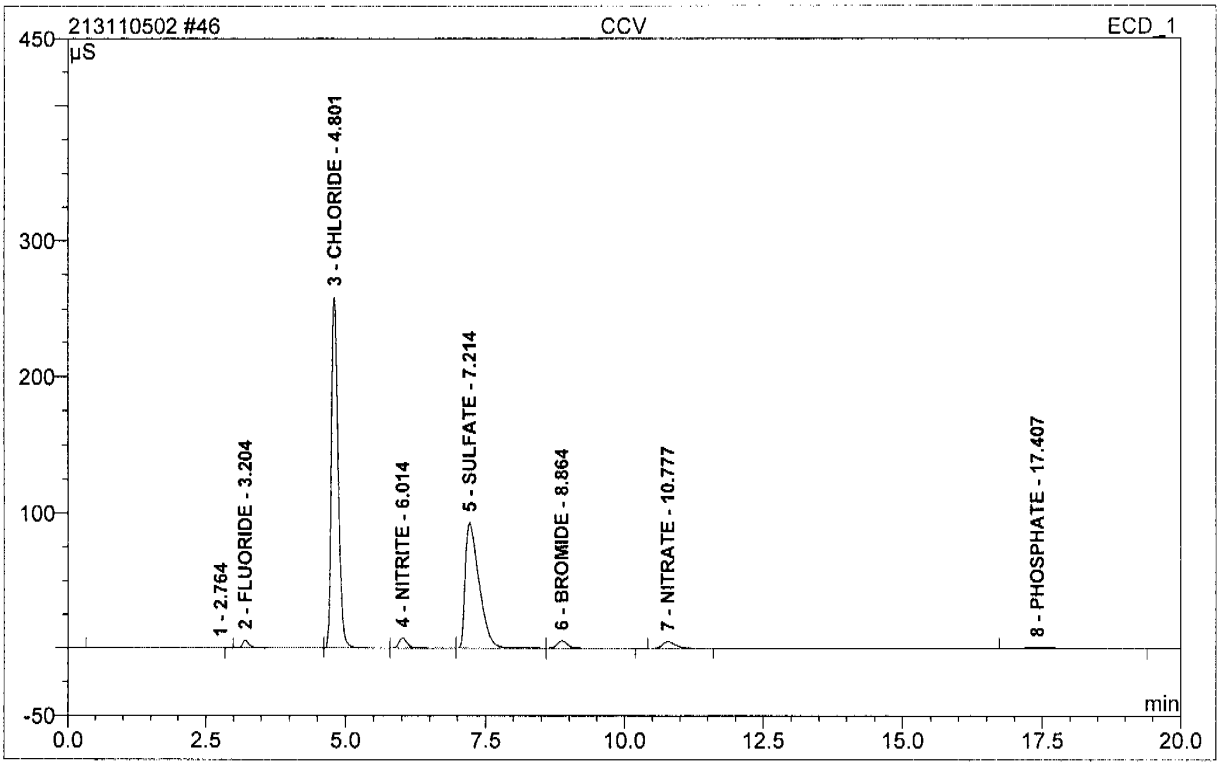
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 3:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.098 | 0.096 | 0.47 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.676 | 0.112 | 0.55 | 0.382 | BMB |
| 3 | 4.81 | CHLORIDE | 120.675 | 16.058 | 79.35 | 89.896 ✓ | BM |
| 4 | 5.93 | n.a. | 0.483 | 0.392 | 1.94 | n.a. | M |
| 5 | 7.39 | SULFATE | 15.787 | 3.559 | 17.59 | 27.105 ✓ | M |
| 6 | 8.91 | BROMIDE | 0.061 | 0.019 | 0.09 | 0.242 | MB |
| **Total:** | | | 137.780 | 20.236 | 100.00 | 117.625 | |

# 46 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **39** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 4:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.082 | 0.083 | 0.12 | | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 5.610 | 0.833 | 1.23 | | 2.850 | BM |
| 3 | 4.80 | CHLORIDE | 258.571 | 36.221 | 53.24 | 200 | 202.774 ✓ | M |
| 4 | 6.01 | NITRITE | 7.522 | 1.308 | 1.92 | | 3.074 | M |
| 5 | 7.21 | SULFATE | 92.969 | 26.670 | 39.20 | 200 | 203.093 ✓ | M |
| 6 | 8.86 | BROMIDE | 5.383 | 1.182 | 1.74 | | 15.390 | MB |
| 7 | 10.78 | NITRATE | 4.826 | 1.319 | 1.94 | | 3.063 | BMB |
| 8 | 17.41 | PHOSPHATE | 0.614 | 0.415 | 0.61 | | 2.567 | BMB |
| **Total:** | | | 375.575 | 68.031 | 100.00 | | 432.811 | |

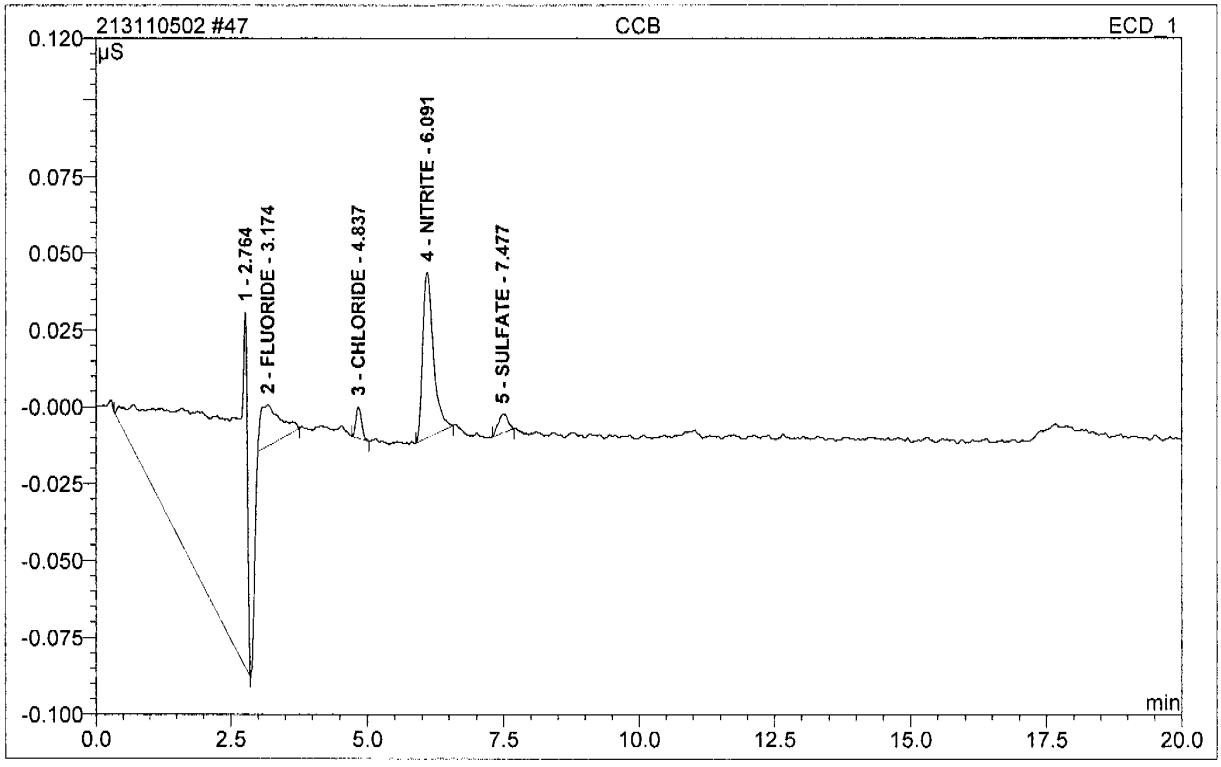
101.39

101.55

12.1 12

# 47 CCB

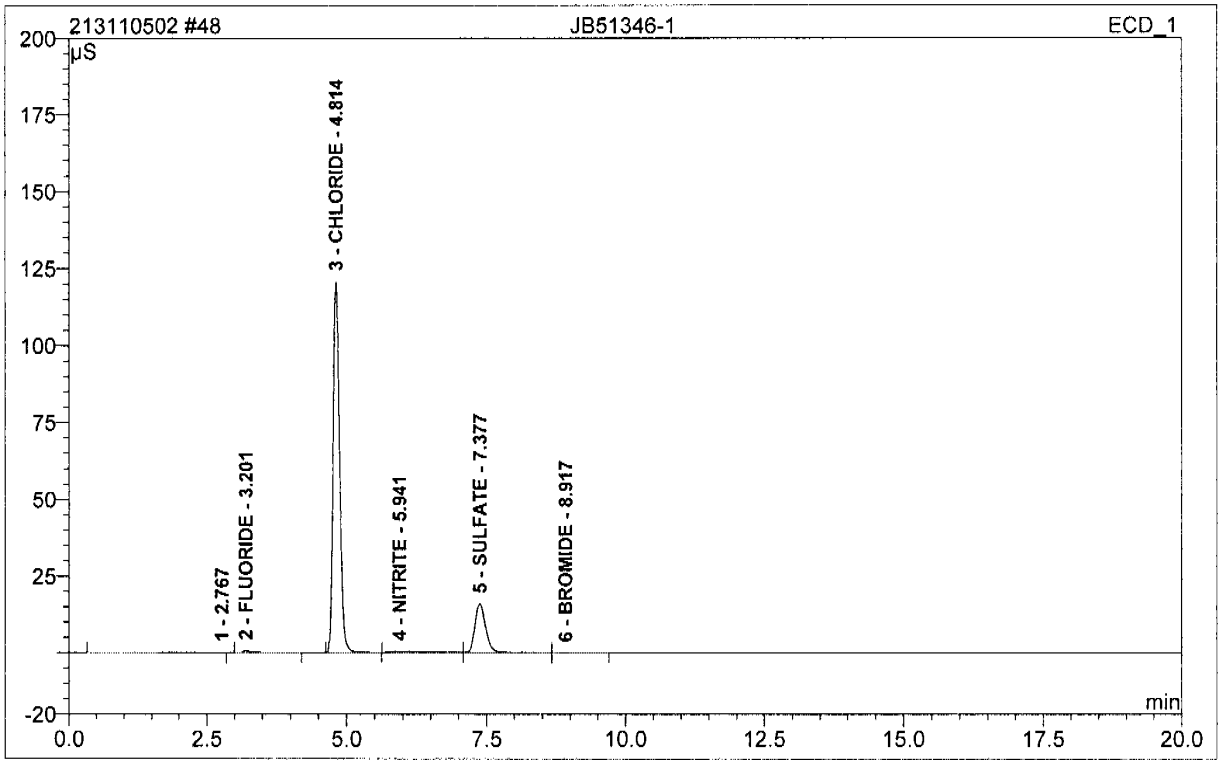
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **40** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 4:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.115 | 0.106 | 83.90 | n.a. | BMB |
| 2 | 3.17 | FLUORIDE | 0.013 | 0.006 | 4.38 | 0.019 | BMB |
| 3 | 4.84 | CHLORIDE | 0.010 | 0.001 | 0.96 | 0.007 | BMB |
| 4 | 6.09 | NITRITE | 0.054 | 0.012 | 9.77 | 0.029 | BMB |
| 5 | 7.48 | SULFATE | 0.006 | 0.001 | 1.00 | 0.010 | BMB |
| **Total:** | | | 0.199 | 0.127 | 100.00 | 0.064 | |

## 48 JB51346-1

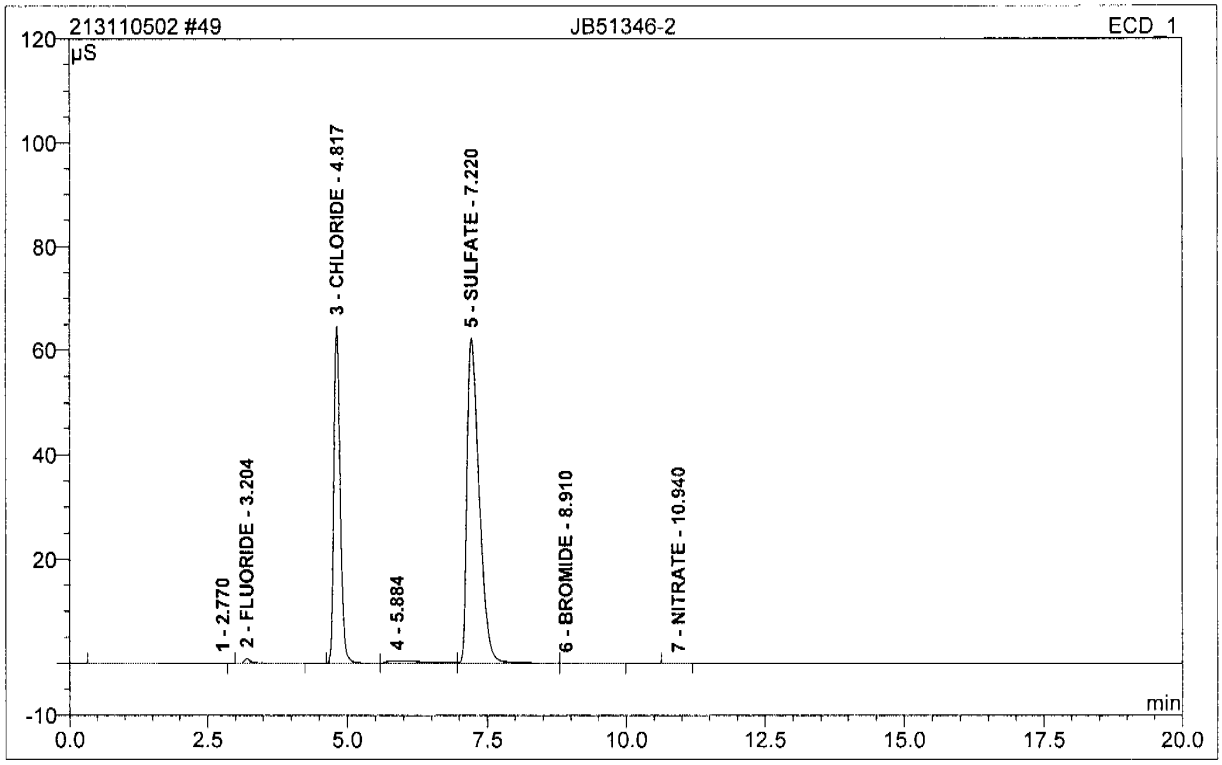
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **41** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 5:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.098 | 0.094 | 0.46 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.664 | 0.099 | 0.49 | 0.337 | BMB |
| 3 | 4.81 | CHLORIDE | 120.753 | 16.055 | 79.46 | 89.882 ✓ | BMB |
| 4 | 5.94 | NITRITE | 0.482 | 0.385 | 1.91 | 0.905 | BM |
| 5 | 7.38 | SULFATE | 15.855 | 3.552 | 17.58 | 27.051 ✓ | M |
| 6 | 8.92 | BROMIDE | 0.062 | 0.019 | 0.10 | 0.251 | MB |
| **Total:** | | | 137.914 | 20.204 | 100.00 | 118.427 | |

## 49 JB51346-2

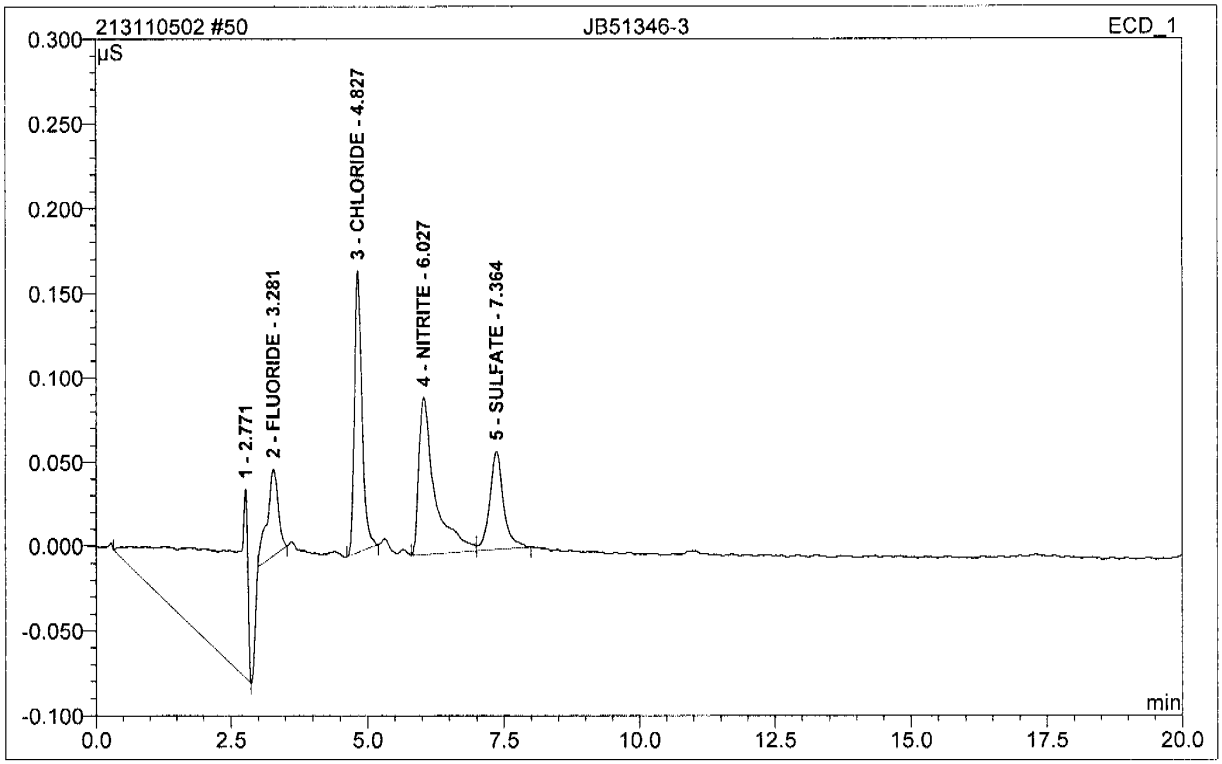
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 5:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.097 | 0.088 | 0.35 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.855 | 0.135 | 0.54 | 0.461 | BMB |
| 3 | 4.82 | CHLORIDE | 64.658 | 8.451 | 33.93 | 47.309 | BM |
| 4 | 5.88 | n.a. | 0.499 | 0.399 | 1.60 | n.a. | M |
| 5 | 7.22 | SULFATE | 62.278 | 15.809 | 63.48 | 120.383 | M |
| 6 | 8.91 | BROMIDE | 0.038 | 0.020 | 0.08 | 0.256 | MB |
| 7 | 10.94 | NITRATE | 0.016 | 0.004 | 0.02 | 0.009 | BMB |
| **Total:** | | | 128.440 | 24.905 | 100.00 | 168.419 | |

## 50 JB51346-3

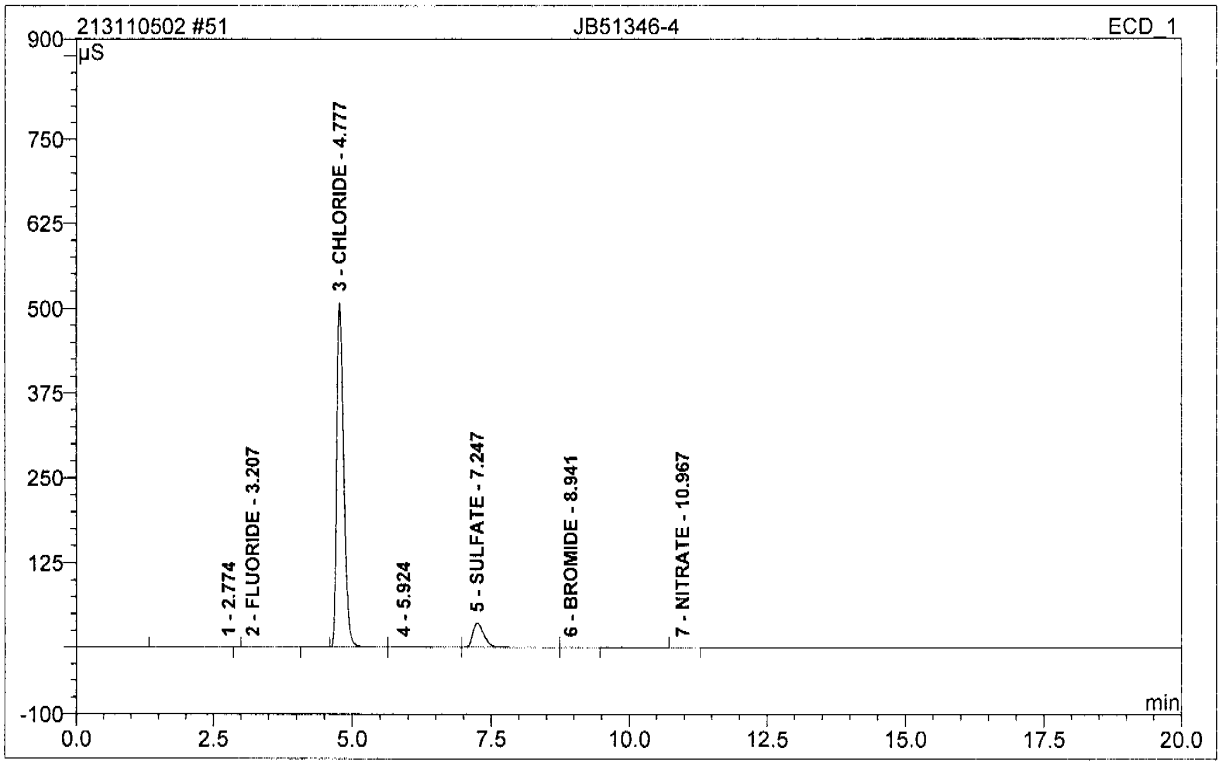
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **43** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 5:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.112 | 0.100 | 53.15 | n.a. | BMB |
| 2 | 3.28 | FLUORIDE | 0.052 | 0.012 | 6.48 | 0.042 | BMB |
| 3 | 4.83 | CHLORIDE | 0.167 | 0.027 | 14.18 | 0.149 | BMB |
| 4 | 6.03 | NITRITE | 0.093 | 0.032 | 17.07 | 0.075 | BM |
| 5 | 7.36 | SULFATE | 0.059 | 0.017 | 9.12 | 0.131 | MB |
| **Total:** | | | 0.482 | 0.188 | 100.00 | 0.397 | |

## 51 JB51346-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **44** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 6:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

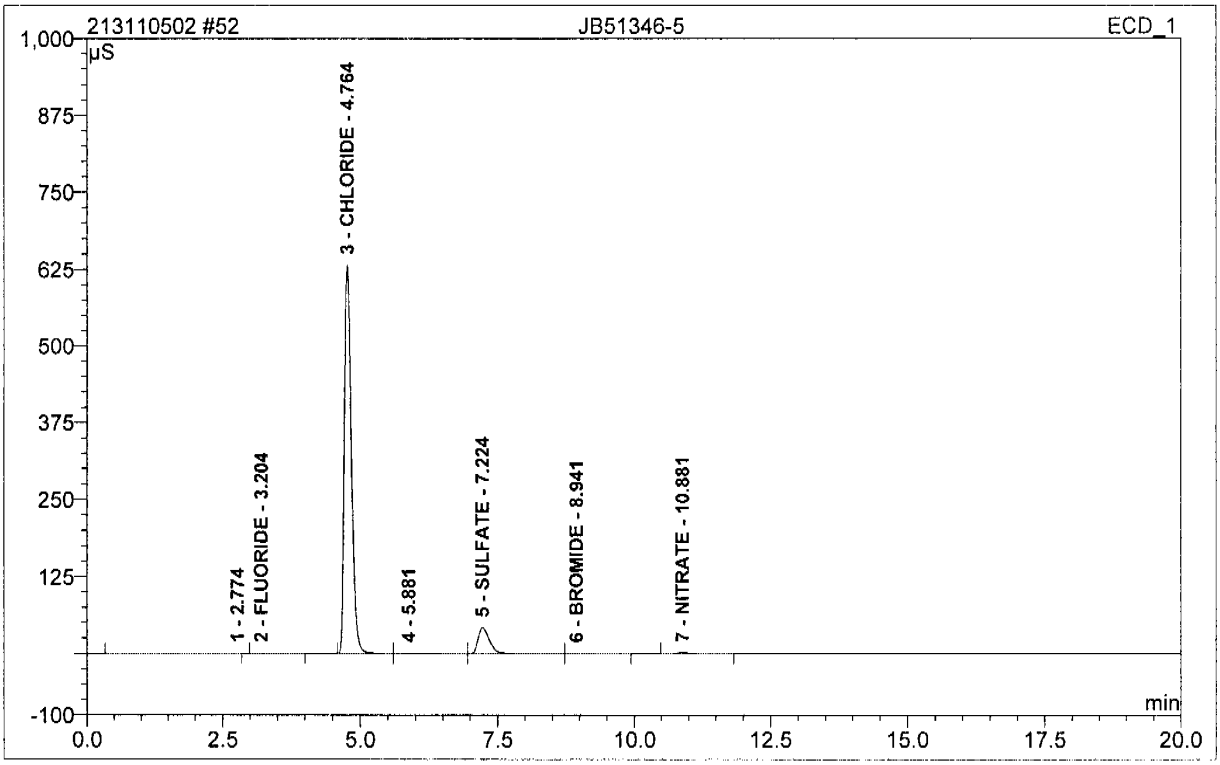



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.070 | 0.041 | 0.05 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.194 | 0.040 | 0.05 | 0.138 | BMB |
| 3 | 4.78 | CHLORIDE | 508.521 | 74.589 | 89.23 | 417.568 | BM |
| 4 | 5.92 | n.a. | 0.484 | 0.356 | 0.43 | n.a. | M |
| 5 | 7.25 | SULFATE | 36.482 | 8.542 | 10.22 | 65.050 | M |
| 6 | 8.94 | BROMIDE | 0.065 | 0.018 | 0.02 | 0.240 | MB |
| 7 | 10.97 | NITRATE | 0.007 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 545.824 | 83.589 | 100.00 | 483.000 | |

Report SO4. CHL over-range. Rerun at 1:2 dilution.

## 52 JB51346-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 6:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

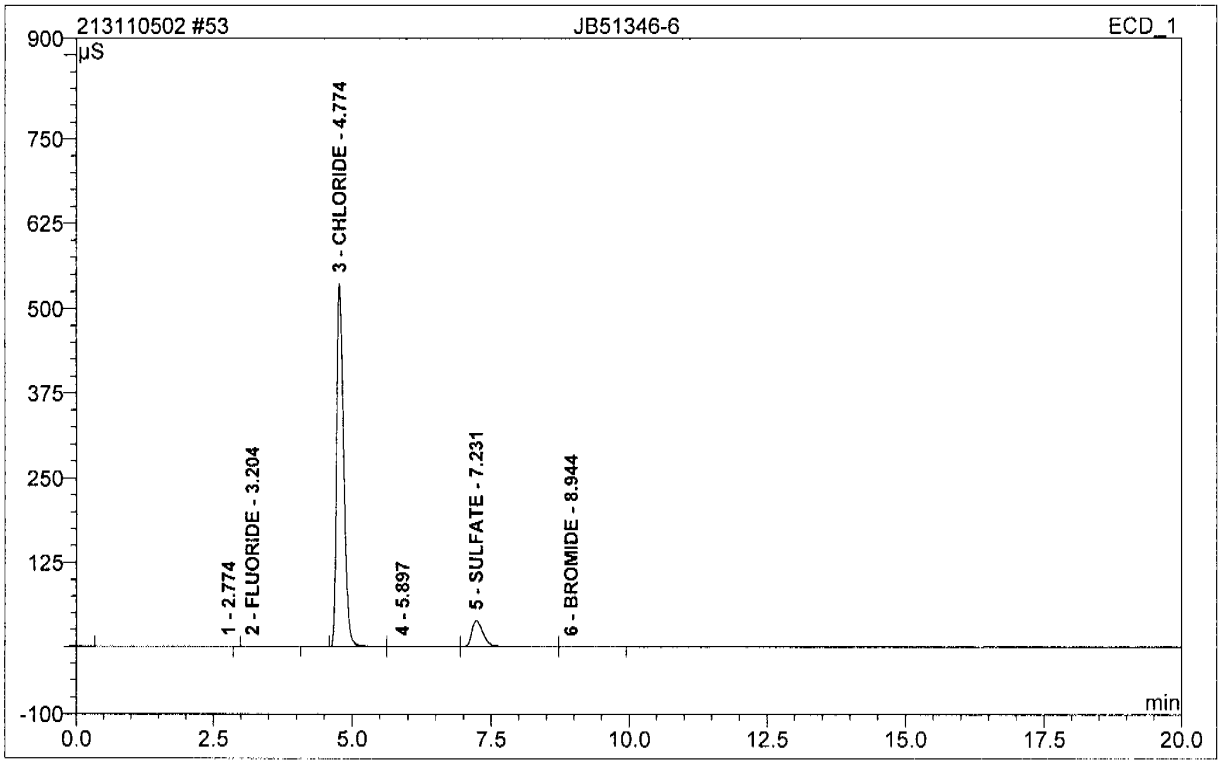



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.061 | 0.057 | 0.05 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.286 | 0.051 | 0.05 | 0.174 | BMB |
| 3 | 4.76 | CHLORIDE | 631.565 | 93.699 | 89.61 | 524.548 | BM |
| 4 | 5.88 | n.a. | 0.521 | 0.405 | 0.39 | n.a. | M |
| 5 | 7.22 | SULFATE | 41.683 | 9.868 | 9.44 | 75.145 | M |
| 6 | 8.94 | BROMIDE | 0.074 | 0.028 | 0.03 | 0.362 | MB |
| 7 | 10.88 | NITRATE | 1.712 | 0.453 | 0.43 | 1.051 | BMB |
| **Total:** | | | 675.903 | 104.560 | 100.00 | 601.280 | |

Report SO4. CHL over-range. Rerun at 1:3 dilution.

## 53 JB51346-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 7:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.075 | 0.066 | 0.07 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.216 | 0.038 | 0.04 | 0.131 | BMB |
| 3 | 4.77 | CHLORIDE | 536.422 | 78.829 | 89.12 | 441.304 | BM |
| 4 | 5.90 | n.a. | 0.500 | 0.374 | 0.42 | n.a. | M |
| 5 | 7.23 | SULFATE | 38.831 | 9.120 | 10.31 | 69.446 ✓ | M |
| 6 | 8.94 | BROMIDE | 0.076 | 0.028 | 0.03 | 0.363 | MB |
| **Total:** | | | 576.120 | 88.455 | 100.00 | 511.245 | |

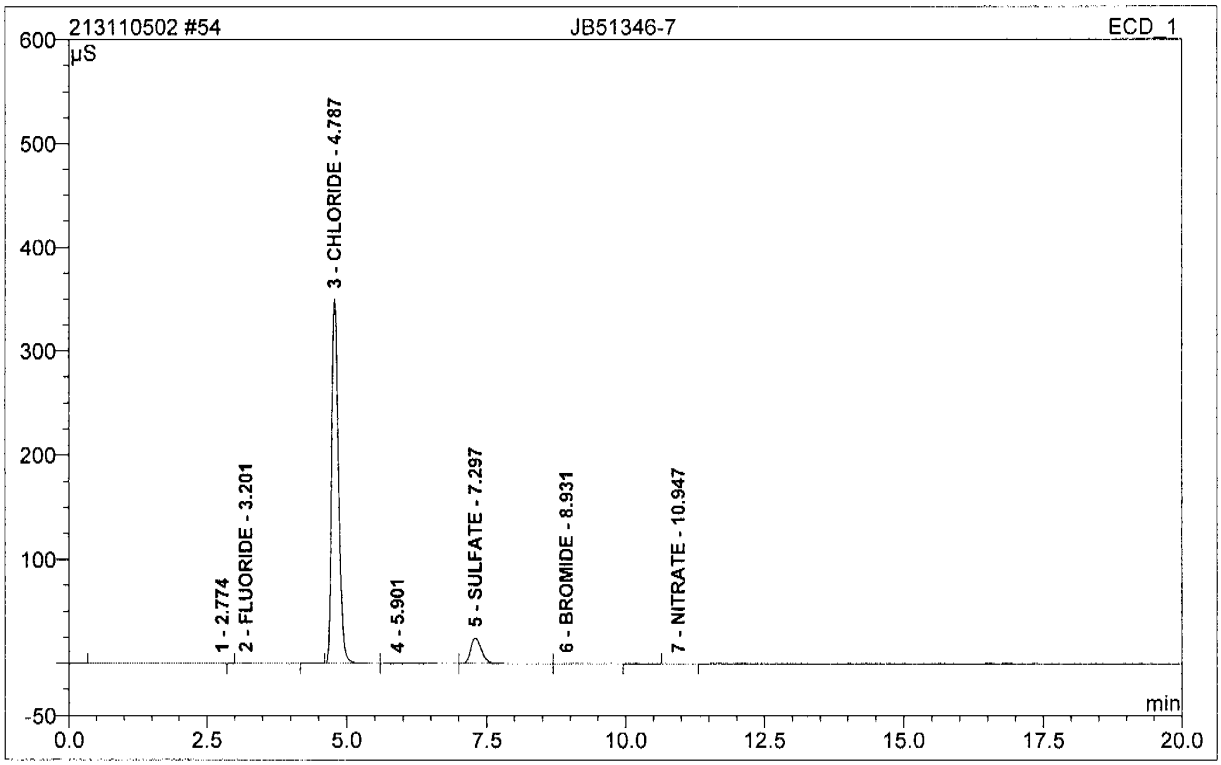
Report say. CHL over-range. Rerun at 1:2 dilution.



Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

## 54 JB51346-7

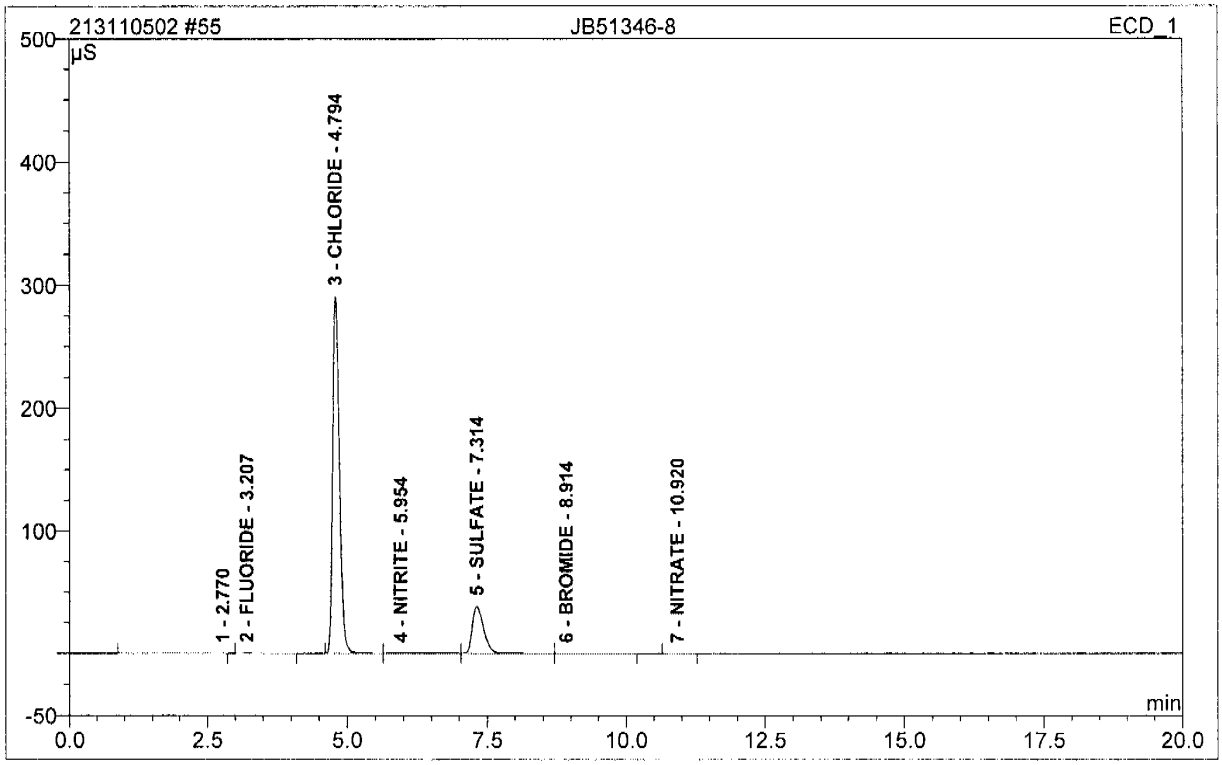
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 7:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.081 | 0.071 | 0.13 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.531 | 0.083 | 0.15 | 0.283 | BMB |
| 3 | 4.79 | CHLORIDE | 349.766 | 49.539 | 88.87 | 277.329 | BM |
| 4 | 5.90 | n.a. | 0.517 | 0.412 | 0.74 | n.a. | M |
| 5 | 7.30 | SULFATE | 24.571 | 5.597 | 10.04 | 42.617 | M |
| 6 | 8.93 | BROMIDE | 0.106 | 0.034 | 0.06 | 0.441 | MB |
| 7 | 10.95 | NITRATE | 0.037 | 0.009 | 0.02 | 0.022 | BMB |
| **Total:** | | | 375.609 | 55.745 | 100.00 | 320.692 | |

## 55 JB51346-8

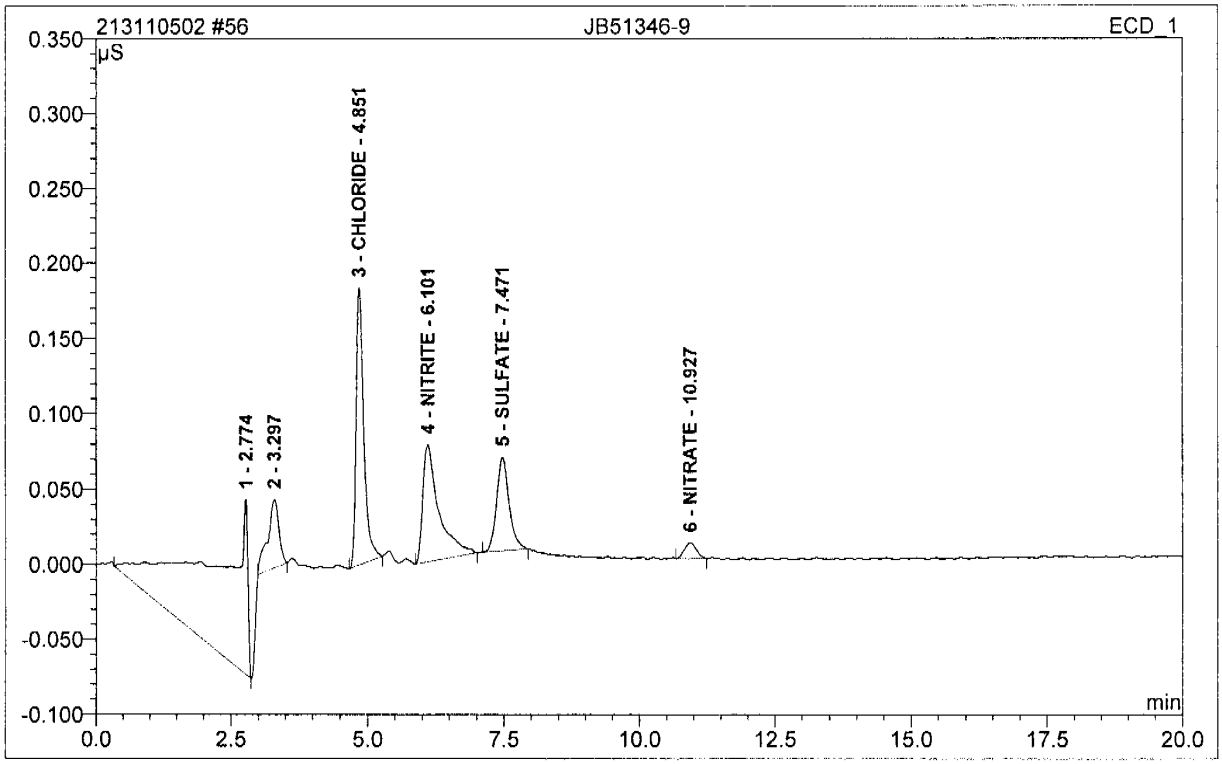
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 7:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.093 | 0.062 | 0.12 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.251 | 0.045 | 0.09 | 0.152 | BMB |
| 3 | 4.79 | CHLORIDE | 290.684 | 40.576 | 80.84 | 227.152 | BM |
| 4 | 5.95 | NITRITE | 0.492 | 0.384 | 0.77 | 0.903 | M |
| 5 | 7.31 | SULFATE | 38.402 | 9.087 | 18.10 | 69.195 | M |
| 6 | 8.91 | BROMIDE | 0.072 | 0.032 | 0.06 | 0.420 | MB |
| 7 | 10.92 | NITRATE | 0.026 | 0.007 | 0.01 | 0.016 | BMB |
| **Total:** | | | 330.020 | 50.192 | 100.00 | 297.838 | |

## 56 JB51346-9

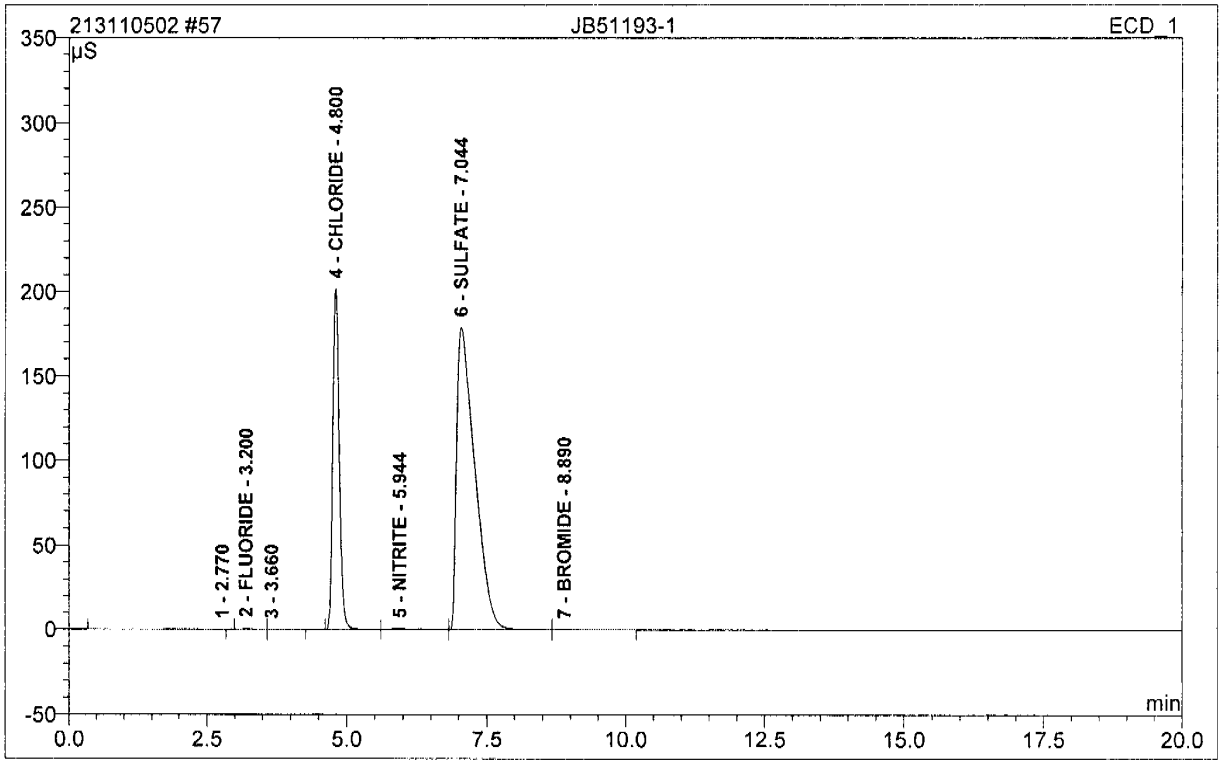
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51346-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 8:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.116 | 0.097 | 52.78 | n.a. | BMB |
| 2 | 3.30 | n.a. | 0.045 | 0.011 | 5.97 | n.a. | BMB |
| 3 | 4.85 | CHLORIDE | 0.184 | 0.030 | 16.14 | 0.166 | BMB |
| 4 | 6.10 | NITRITE | 0.078 | 0.027 | 14.59 | 0.063 | BMB |
| 5 | 7.47 | SULFATE | 0.062 | 0.017 | 9.04 | 0.127 | BMB |
| 6 | 10.93 | NITRATE | 0.011 | 0.003 | 1.49 | 0.006 | BMB |
| **Total:** | | | 0.496 | 0.184 | 100.00 | 0.363 | |

## 57 JB51193-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB51193-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 8:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.062 | 0.056 | 0.06 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 0.663 | 0.097 | 0.10 | 0.332 | BM |
| 3 | 3.66 | n.a. | 0.038 | 0.009 | 0.01 | n.a. | MB |
| 4 | 4.80 | CHLORIDE | 201.559 | 27.280 | 28.62 | 152.719 ✓ | BM |
| 5 | 5.94 | NITRITE | 0.511 | 0.387 | 0.41 | 0.909 | M |
| 6 | 7.04 | SULFATE | 178.834 | 67.375 | 70.69 | 513.052 | M |
| 7 | 8.89 | BROMIDE | 0.290 | 0.101 | 0.11 | 1.313 | MB |
| **Total:** | | | 381.956 | 95.304 | 100.00 | 668.326 | |

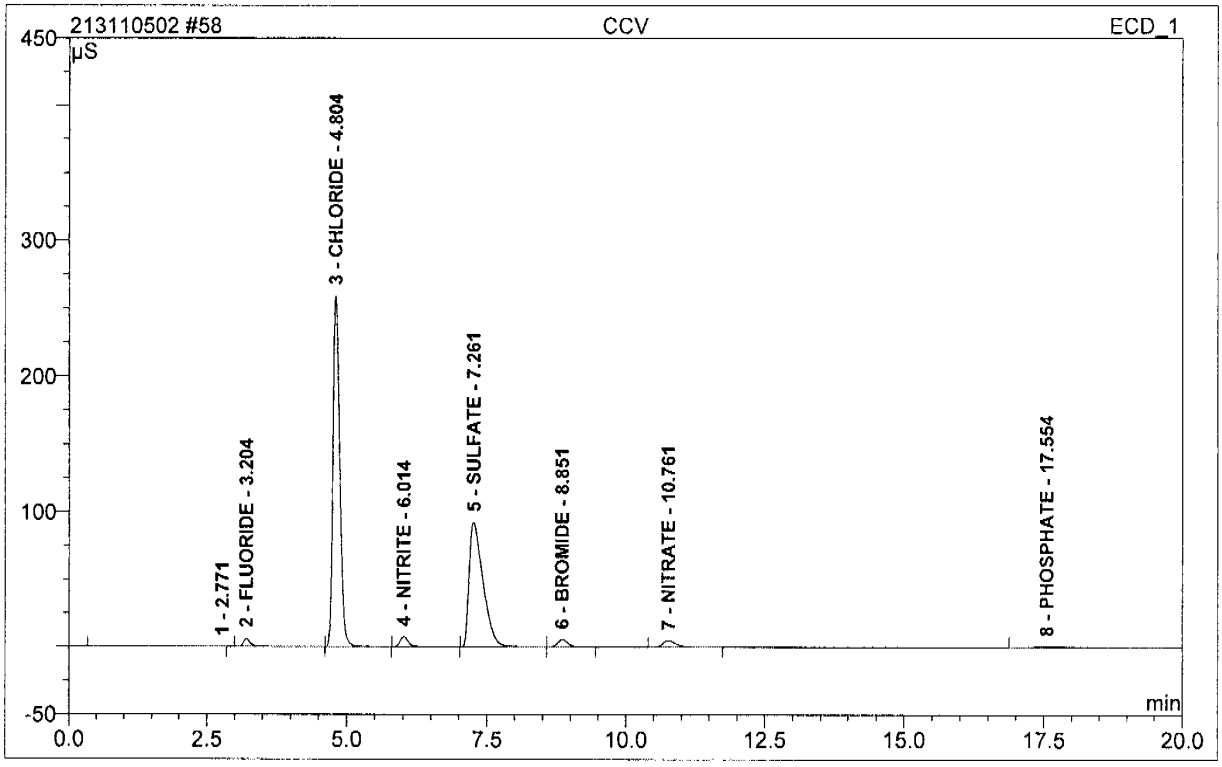
Report CHL. Say over-range. Rerun at 1:3 dilution.

anions/Integration

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## 58 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 9:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



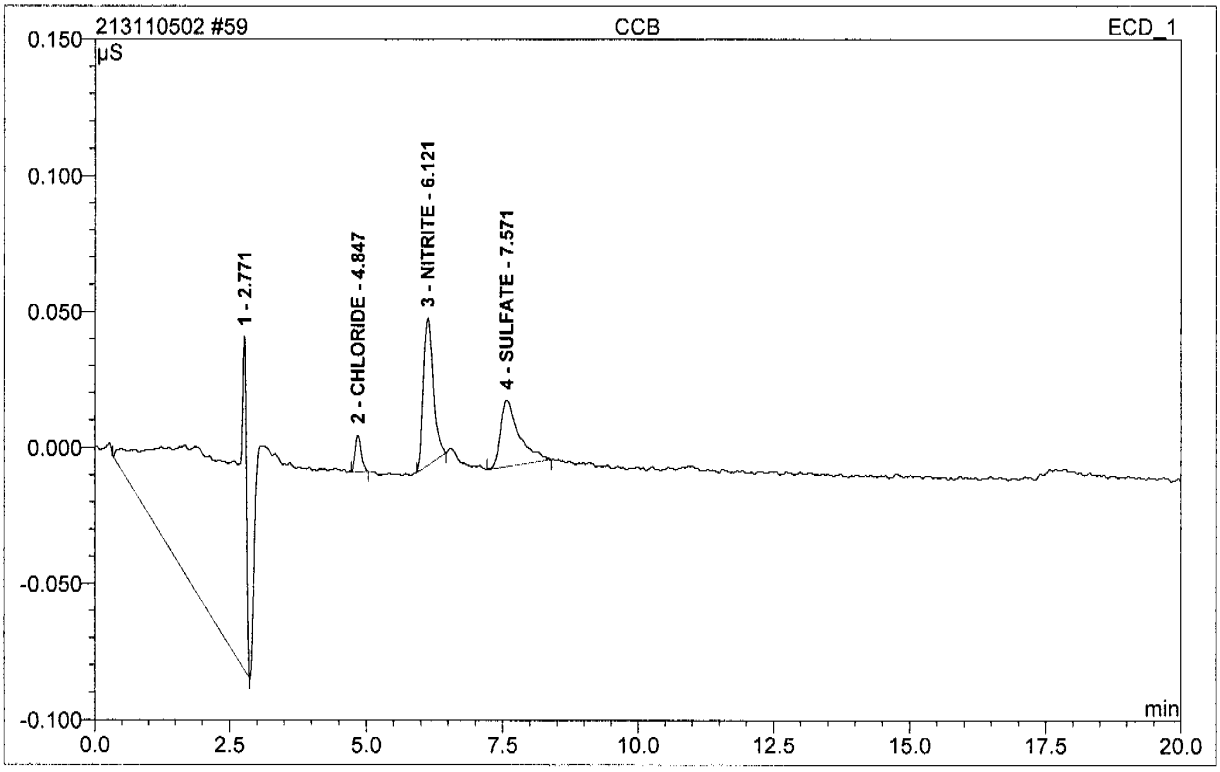

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.087 | 0.077 | 0.11 | n.a. | BMB |
| 2 | 3.20 | FLUORIDE | 5.916 | 0.843 | 1.24 | 2.884 | BMB |
| 3 | 4.80 | CHLORIDE | 258.988 | 36.177 | 53.34 | 202.526 | BMB |
| 4 | 6.01 | NITRITE | 7.516 | 1.272 | 1.88 | 2.989 | BMB |
| 5 | 7.26 | SULFATE | 92.299 | 26.596 | 39.22 | 202.528 | BMb |
| 6 | 8.85 | BROMIDE | 5.332 | 1.127 | 1.66 | 14.680 | bMB |
| 7 | 10.76 | NITRATE | 4.845 | 1.318 | 1.94 | 3.061 | BMB |
| 8 | 17.55 | PHOSPHATE | 0.568 | 0.411 | 0.61 | 2.541 | BMB |
| **Total:** | | | 375.551 | 67.821 | 100.00 | 431.209 | |

101.26

101.26

# 59 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/6/2013 9:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.122 | 0.105 | 82.08 | n.a. | BMB |
| 2 | 4.85 | CHLORIDE | 0.014 | 0.002 | 1.33 | 0.010 | BMB |
| 3 | 6.12 | NITRITE | 0.054 | 0.012 | 9.06 | 0.027 | BMB |
| 4 | 7.57 | SULFATE | 0.024 | 0.010 | 7.53 | 0.073 | BMB |
| **Total:** | | | 0.214 | 0.128 | 100.00 | 0.110 | |



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# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1322950 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02E |
| Report Date: | 11/18/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1322950
**Report Date:** 11/18/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1322950-01 | EFF-111213 | DEVENS, MA | 11/12/13 07:43 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1322950

**Project Number:** AC001.02E **Report Date:** 11/18/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1322950
**Report Date:** 11/18/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1322950
**Project Number:** AC001.02E **Report Date:** 11/18/13

**Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

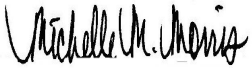
MCP Related Narratives

WG652002: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 11/18/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1322950
**Project Number:** AC001.02E
**Report Date:** 11/18/13

## SAMPLE RESULTS

Lab ID: L1322950-01
Client ID: EFF-111213
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 11/12/13 07:43
Date Received: 11/12/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0192 | | mg/l | 0.0005 | 0.0005 | 1 | 11/15/13 10:01 | 11/15/13 14:59 | EPA 3005A | 97,6020A | KL |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1322950
**Report Date:** 11/18/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG652002-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 11/15/13 10:01 | 11/15/13 14:44 | 97,6020A | KL |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1322950

**Report Date:** 11/18/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG652002-2 WG652002-3 | | | | | | | | |
| Arsenic, Total | 103 | | 107 | | 80-120 | 4 | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1322950
**Report Date:** 11/18/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information** **Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1322950-01A | Plastic 250ml HNO3 preserved | A | <2 | 3.9 | Y | Absent | MCP-AS-6020T-10(180) |

**Container Comments**

L1322950-01A

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1322950 |
| **Project Number:** | AC001.02E | **Report Date:** | 11/18/13 |

## GLOSSARY

### *Acronyms*

| | |
|---|---|
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| MDL | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| MS | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. |
| MSD | - Matrix Spike Sample Duplicate: Refer to MS. |
| NA | - Not Applicable. |
| NC | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. |
| NI | - Not Ignitable. |
| RL | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable. |
| RPD | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report. |
| SRM | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples. |

### *Footnotes*

| | |
|---|---|
| 1 | - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method. |

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

| | |
|---|---|
| **A** | - Spectra identified as "Aldol Condensation Product". |
| **B** | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| **C** | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| **D** | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| **E** | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| **G** | - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated. |
| **H** | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| **I** | - The lower value for the two columns has been reported due to obvious interference. |

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1322950 |
| **Project Number:** | AC001.02E | **Report Date:** | 11/18/13 |

***Data Qualifiers***

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

**J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

**ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with "J" Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1322950 |
| **Project Number:** | AC001.02E | **Report Date:** | 11/18/13 |

## REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certificate/Approval Program Summary

Last revised November 12, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health** Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

*Drinking Water* (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

*Wastewater/Non-Potable Water* (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

*Solid Waste/Soil* (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270). )

**State of Illinois** Certificate/Lab ID: 003155. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

*Hazardous and Solid Waste* (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

**Maine Department of Human Services** Certificate/Lab ID: 2009024.
*Drinking Water* (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

*Wastewater/Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

*Solid Waste/Soil* (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

**Massachusetts Department of Environmental Protection** Certificate/Lab ID: M-MA086.
*Drinking Water (*Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*Non-Potable Water (*Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 200307. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

**New Hampshire Department of Environmental Services** Certificate/Lab ID: 2064. ***NELAP Accredited.***
*Drinking Water* (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

*Non-Potable Water* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

*Solid & Chemical Materials* (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

**New Jersey Department of Environmental Protection** Certificate/Lab ID: MA935. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310C, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, 4500SO4-E, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 5030C, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D,

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5030C, 5035L, 5035H, NJ EPH.)

**New York Department of Health** Certificate/Lab ID: 11148. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330A, 8082A, EPA 3510C, 5030B, 5030C, 8015C, 8011.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330A, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

**North Carolina Department of the Environment and Natural Resources** Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program* Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

**Pennsylvania Department of Environmental Protection** Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

**Texas Commisson on Environmental Quality** Certificate/Lab ID: T104704476. ***NELAP Accredited.***
*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 $S2^{-}$D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460195. ***NELAP Accredited.***
*Drinking Water* (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

*Non-Potable Water* (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C,

4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, )

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.
*Drinking Water* (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

*Non-Potable Water* (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

**The following analytes are not included in our current NELAP/TNI Scope of Accreditation:**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease. **EPA 9060** in a soil matrix.

# CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — Advancing Client Confidence

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/12/13 ALPHA Job #: L1322950

## Client Information

Client: Sovereign Consulting
Address: 16 Chestnut Street
Foxborough, MA
Phone: (508) 339-3200
Fax: (508) 339-3248
Email: jchaffee@sovcon.com
☐ These samples have been Previously analyzed by Alpha

## Project Information

Project Name: Shepley's Hill ATP
Project Location: Devens, MA
Project #: AC001.02E
Project Manager: Jonathan Chaffee
ALPHA Quote #:

## Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: 11/19/13 Time:

## Report Information / Data Deliverables / Billing Information

☐ FAX ☒ EMAIL ☒ Same as Client info PO #:
☐ ADEx ☐ Add'l Deliverables

## Regulatory Requirements/Report Limits

| State/Fed Program | Criteria |
|---|---|
| N/A | N/A |

Other Project Specific Requirements/Comments/Detection Limits:

Conduct all analyses in accordance with project specific QAPP

As Detection Limit must meet 3 ppb

ANALYSIS — Total As - 6020

SAMPLE HANDLING
*Filtration*
☐ Done ☒ Not Needed ☐ Lab to do
*Preservation*
☐ Lab to do
*(Please specify below)*

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|
| 22950 1 | EFF-111213 | 11-12-13 | 0743 | E | ADW | | 1 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Container Type | P | - | - | - | - | - | - | - | - | - | - | - | |
| Preservative | C | - | - | - | - | - | - | - | - | - | - | - | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Paul Chaffee | 11-12-13 13:44 | Pat Cook | 11/12/13 1344 |
| Pat Cook | 11/12/13 1510 | Paul Chaffee | 11/12/13 1510 |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

New England ACCUTEST LABORATORIES

Reissue #1
12/18/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02I.03

Accutest Job Number: MC26418

Sampling Dates: 11/19/13 - 11/20/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com
jchaffee@sovcon.com; Denise.King@amec.com
ATTN: Jonathan Chaffee

Total number of pages in report: **674**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



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ACCUTEST LABORATORIES

Steve Passafaro
Sovereign Consulting
905B South Main Street
Mansfield, MA 02048

December 18, 2013

Accutest Job MC26418 (revision 1)

Mr. Passafaro,

The report of Accutest job number MC26418 has been revised to report dissolved metals as ppm instead of ppb to match what is requested in the QAPP/eQAPP This change has been incorporated into the revised report which is attached.

Sincerely,

Jeremy Vienneau
Accutest Laboratories of New England, Inc.

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Accutest Laboratories

# Sample Summary

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC26418-1 | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Ground Water | SHL-4-111913 |
| MC26418-1D | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Water Dup/MSD | SHL-4-111913 |
| MC26418-1F | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHL-4-111913 |
| MC26418-1FD | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Water Dup/MSD | SHL-4-111913 |
| MC26418-1FS | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Water Matrix Spike | SHL-4-111913 |
| MC26418-1S | 11/19/13 | 09:20 | EFJG | 11/19/13 | AQ | Water Matrix Spike | SHL-4-111913 |
| MC26418-2 | 11/19/13 | 10:13 | EFJG | 11/19/13 | AQ | Ground Water | SHM-10-11-111913 |
| MC26418-2F | 11/19/13 | 10:13 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHM-10-11-111913 |
| MC26418-3 | 11/19/13 | 00:00 | EFJG | 11/19/13 | AQ | Ground Water | DUPLICATE-111913 |
| MC26418-3F | 11/19/13 | 00:00 | EFJG | 11/19/13 | AQ | Groundwater Filtered | DUPLICATE-111913 |
| MC26418-4 | 11/19/13 | 11:25 | EFJG | 11/19/13 | AQ | Ground Water | SHP-01-38A-111913 |
| MC26418-4F | 11/19/13 | 11:25 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHP-01-38A-111913 |
| MC26418-5 | 11/19/13 | 13:17 | EFJG | 11/19/13 | AQ | Ground Water | SHM-10-12-111913 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC26418-5F | 11/19/13 | 13:17 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHM-10-12-111913 |
| MC26418-6 | 11/19/13 | 13:20 | EFJG | 11/19/13 | AQ | Ground Water | SHP-01-37X-111913 |
| MC26418-6F | 11/19/13 | 13:20 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHP-01-37X-111913 |
| MC26418-7F | 11/19/13 | 13:40 | EFJG | 11/19/13 | AQ | Equip Blank Filtered | RB-111913 |
| MC26418-8 | 11/19/13 | 14:35 | EFJG | 11/19/13 | AQ | Ground Water | SHP-01-36X-111913 |
| MC26418-8F | 11/19/13 | 14:35 | EFJG | 11/19/13 | AQ | Groundwater Filtered | SHP-01-36X-111913 |
| MC26418-9 | 11/20/13 | 08:45 | EFJG | 11/20/13 | AQ | Ground Water | SHM-11-06-112013 |
| MC26418-9F | 11/20/13 | 08:45 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-11-06-112013 |
| MC26418-10 | 11/20/13 | 09:16 | EFJG | 11/20/13 | AQ | Ground Water | SHM-10-15-112013 |
| MC26418-10F | 11/20/13 | 09:16 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-10-15-112013 |
| MC26418-11 | 11/20/13 | 10:17 | EFJG | 11/20/13 | AQ | Ground Water | SHM-10-16-112013 |
| MC26418-11F | 11/20/13 | 10:17 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-10-16-112013 |
| MC26418-12 | 11/20/13 | 12:02 | EFJG | 11/20/13 | AQ | Ground Water | SHM-11-02-112013 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC26418-12F | 11/20/13 | 12:02 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-11-02-112013 |
| MC26418-13 | 11/20/13 | 12:50 | EFJG | 11/20/13 | AQ | Ground Water | SHM-10-10-112013 |
| MC26418-13F | 11/20/13 | 12:50 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-10-10-112013 |
| MC26418-14F | 11/20/13 | 14:10 | EFJG | 11/20/13 | AQ | Equip Blank Filtered | RB-112013 |
| MC26418-15 | 11/20/13 | 14:05 | EFJG | 11/20/13 | AQ | Ground Water | SHM-13-03-112013 |
| MC26418-15F | 11/20/13 | 14:05 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-13-03-112013 |
| MC26418-16 | 11/20/13 | 14:09 | EFJG | 11/20/13 | AQ | Ground Water | SHM-10-06A-112013 |
| MC26418-16F | 11/20/13 | 14:09 | EFJG | 11/20/13 | AQ | Groundwater Filtered | SHM-10-06A-112013 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC26418

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 12/13/2013 4:42:32 PM

16 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 11/19/2013 and 11/20/2013 and were received at Accutest between 11/19/2013 and 11/20/2013 properly preserved, at 0.2 Deg. C and intact. These Samples received an Accutest job number of MC26418. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix:** AQ **Batch ID:** MP22168A

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1FMS, MC26418-1FMSD, MC26418-1FSDL were used as the QC samples for metals.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP22168

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1FMS, MC26418-1FMSD, MC26418-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP22168-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** N:GP76387

- MC26418-1-6, MC26418-8-13, MC26418-15, 16 for Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

## Wet Chemistry By Method EPA 353.2

**Matrix:** AQ **Batch ID:** GP16953

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

**Matrix:** AQ **Batch ID:** GP16954

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix:** AQ **Batch ID:** R34121

- MC26418-1- 6, 8, 9 -13, 15-16 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix:** AQ **Batch ID:** GP16907

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

**Matrix:** AQ **Batch ID:** GP16968

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

**Matrix:** AQ **Batch ID:** GN45307

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

**Matrix:** AQ **Batch ID:** GN45308

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

**Matrix:** AQ **Batch ID:** GN45217

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Sulfide.

**Matrix:** AQ **Batch ID:** GN45262

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

**Matrix:** AQ **Batch ID:** GN45294

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

**Matrix:** AQ **Batch ID:** GN45353

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1FDUP, MC26418-1FMS were used as the QC samples for Dissolved Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC26418).

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Accutest Labs of New England, Inc. | **Job No** | MC26418 |
| **Site:** | SCMAW: Shepley's Hill (SHL), Devens, MA | **Report Date** | 12/4/2013 1:11:47 PM |

Between 11/21/2013 and 11/22/2013, 14 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 0.4 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC26418 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** GP76387

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1DUP, MC26418-1MS, MC26418-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# Summary of Hits



**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC26418-1** | **SHL-4-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 112 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 18.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.3 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.24 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.24 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 69.3 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-1F** | **SHL-4-111913** | | | | | |
| Arsenic | | 0.0062 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 28.3 | 15 | 0.45 | mg/l | SW846 6010C |
| Iron | | 0.637 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 3.86 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 1.83 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 5.91 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 45.7 | 15 | 0.60 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.3 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-2** | **SHM-10-11-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 121 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 30.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.9 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.088 J | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.091 J | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 34.7 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-2F** | **SHM-10-11-111913** | | | | | |
| Arsenic | | 0.432 | 0.020 | 0.010 | mg/l | SW846 6020A |
| Calcium | | 23.4 | 15 | 0.45 | mg/l | SW846 6010C |
| Iron | | 60.4 | 0.50 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 2.63 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 2.40 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 4.88 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 13.9 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.7 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-3** | **DUPLICATE-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 130 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 29.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.9 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Nitrate [a] | | 0.11 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.11 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 35.0 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-3F** | **DUPLICATE-111913** | | | | | |
| Arsenic | | 0.444 | 0.020 | 0.010 | mg/l | SW846 6020A |
| Calcium | | 24.1 | 15 | 0.45 | mg/l | SW846 6010C |
| Iron | | 60.5 | 0.50 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 2.69 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 2.45 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 4.99 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 14.2 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.7 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-4** | **SHP-01-38A-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 79.2 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 7.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.2 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 1.1 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 1.1 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 115 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-4F** | **SHP-01-38A-111913** | | | | | |
| Arsenic | | 0.247 | 0.020 | 0.010 | mg/l | SW846 6020A |
| Calcium | | 39.8 | 15 | 0.45 | mg/l | SW846 6010C |
| Iron | | 17.9 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 2.45 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 2.20 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 8.41 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 23.0 | 15 | 0.60 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.2 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-5** | **SHM-10-12-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 210 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 4.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.5 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.41 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.41 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 3.8 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC26418-5F** | **SHM-10-12-111913** | | | | | |
| Arsenic | | 3.57 | 0.20 | 0.10 | mg/l | SW846 6020A |
| Calcium | | 25.3 | 15 | 0.45 | mg/l | SW846 6010C |
| Iron | | 89.6 | 1.0 | 0.30 | mg/l | SW846 6010C |
| Magnesium | | 2.09 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 6.27 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 4.39 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 4.09 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.5 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-6** | **SHP-01-37X-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 4.4 J | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 75.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Sulfate [b] | | 78.1 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-6F** | **SHP-01-37X-111913** | | | | | |
| Arsenic | | 0.0047 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 28.7 | 25 | 0.75 | mg/l | SW846 6010C |
| Iron | | 1.43 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 2.84 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.569 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 3.97 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 42.5 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.2 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-7F** | **RB-111913** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC26418-8** | **SHP-01-36X-111913** | | | | | |
| Alkalinity, Total as CaCO3 | | 24.2 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 75.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.093 J | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.064 J | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.064 J | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 23.7 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-8F** | **SHP-01-36X-111913** | | | | | |
| Arsenic | | 0.0048 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 17.4 | 5.0 | 0.15 | mg/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Iron | | 0.0752 J | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 2.54 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.0234 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 2.23 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 42.0 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-9** | **SHM-11-06-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 220 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 23.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.2 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.22 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.22 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 6.8 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-9F** | **SHM-11-06-112013** | | | | | |
| Arsenic | | 1.00 | 0.10 | 0.050 | mg/l | SW846 6020A |
| Calcium | | 45.5 | 25 | 0.75 | mg/l | SW846 6010C |
| Iron | | 74.6 | 0.50 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 6.46 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.938 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 10.8 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 18.2 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.2 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-10** | **SHM-10-15-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 210 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 9.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.8 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.28 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.28 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 10.9 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-10F** | **SHM-10-15-112013** | | | | | |
| Arsenic | | 5.74 | 0.20 | 0.10 | mg/l | SW846 6020A |
| Calcium | | 48.8 | 25 | 0.75 | mg/l | SW846 6010C |
| Iron | | 47.4 | 0.50 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 6.03 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 8.21 | 0.075 | 0.013 | mg/l | SW846 6010C |
| Potassium | | 5.07 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 10.7 | 5.0 | 0.20 | mg/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | | 2.8 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-11** | **SHM-10-16-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 312 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 24.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 3.2 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.25 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.25 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 2.9 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-11F** | **SHM-10-16-112013** | | | | | |
| Arsenic | | 1.53 | 0.10 | 0.050 | mg/l | SW846 6020A |
| Calcium | | 78.8 | 50 | 1.5 | mg/l | SW846 6010C |
| Iron | | 44.5 | 0.30 | 0.090 | mg/l | SW846 6010C |
| Magnesium | | 11.8 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 1.48 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 10.3 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 29.4 | 15 | 0.60 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.7 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-12** | **SHM-11-02-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 92.4 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 35.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [a] | | 0.34 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.34 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 9.9 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-12F** | **SHM-11-02-112013** | | | | | |
| Arsenic | | 0.0032 J | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 32.9 | 10 | 0.30 | mg/l | SW846 6010C |
| Iron | | 2.47 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 2.96 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.146 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 7.47 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 21.3 | 10 | 0.40 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 37.9 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-13** | **SHM-10-10-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 256 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 61.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Nitrogen, Ammonia | | 0.55 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.060 J | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.060 J | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [b] | | 2.9 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-13F** | **SHM-10-10-112013** | | | | | |
| Arsenic | | 0.0020 J | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 77.9 | 50 | 1.5 | mg/l | SW846 6010C |
| Iron | | 0.0487 J | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 8.50 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 23.3 | 0.15 | 0.025 | mg/l | SW846 6010C |
| Potassium | | 3.05 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 22.9 | 10 | 0.40 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 15.8 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-14F** | **RB-112013** | | | | | |
| No hits reported in this sample. | | | | | | |
| **MC26418-15** | **SHM-13-03-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 391 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 38.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.20 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Sulfate [b] | | 5.0 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-15F** | **SHM-13-03-112013** | | | | | |
| Arsenic | | 0.137 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 112 | 50 | 1.5 | mg/l | SW846 6010C |
| Iron | | 11.2 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 15.3 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 9.64 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 6.97 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 34.7 | 15 | 0.60 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.3 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26418-16** | **SHM-10-06A-112013** | | | | | |
| Alkalinity, Total as CaCO3 | | 53.9 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 1.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 1.1 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | | 0.14 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.14 | 0.10 | 0.054 | mg/l | EPA 353.2 |

# Summary of Hits

**Job Number:** MC26418
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/19/13 thru 11/20/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Sulfate [b] | | 2.1 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26418-16F** | **SHM-10-06A-112013** | | | | | |
| Arsenic | | 0.0229 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 8.33 | 5.0 | 0.15 | mg/l | SW846 6010C |
| Iron | | 3.41 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 0.933 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 1.96 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 3.43 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 2.94 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.8 | 1.0 | 0.69 | mg/l | SM21 5310 B |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

## Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHL-4-111913
**Lab Sample ID:** MC26418-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 112 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 18.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.3 | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.24 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:27 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.24 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:27 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:05 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 69.3 | 10 | 0.50 | mg/l | 1 | 12/02/13 22:50 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-4-111913
**Lab Sample ID:** MC26418-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0062 | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 28.3 | 15 | 0.45 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 0.637 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 3.86 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 1.83 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 5.91 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 45.7 | 15 | 0.60 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHL-4-111913
**Lab Sample ID:** MC26418-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.3 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 11:34 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-11-111913
**Lab Sample ID:** MC26418-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 121 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 30.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.9 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.088 J | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:46 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.091 J | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:46 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:05 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 34.7 | 10 | 0.50 | mg/l | 1 | 12/02/13 23:14 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-11-111913
**Lab Sample ID:** MC26418-2F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.432 | 0.020 | 0.010 | mg/l | 10 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 23.4 | 15 | 0.45 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 60.4 | 0.50 | 0.15 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 2.63 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 2.40 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 4.88 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 13.9 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-11-111913 | | |
| **Lab Sample ID:** | MC26418-2F | **Date Sampled:** | 11/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.7 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 11:47 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-111913
**Lab Sample ID:** MC26418-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 130 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 29.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.9 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.11 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:47 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.11 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:47 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:05 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 35.0 | 10 | 0.50 | mg/l | 1 | 12/03/13 00:49 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-111913
**Lab Sample ID:** MC26418-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.444 | 0.020 | 0.010 | mg/l | 10 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 24.1 | 15 | 0.45 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 60.5 | 0.50 | 0.15 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 2.69 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 2.45 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 4.99 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 14.2 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-111913
**Lab Sample ID:** MC26418-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.7 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 12:00 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38A-111913
**Lab Sample ID:** MC26418-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 79.2 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 7.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.2 | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 1.1 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:31 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 1.1 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:31 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:05 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 115 | 10 | 0.50 | mg/l | 1 | 12/03/13 01:13 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-38A-111913
**Lab Sample ID:** MC26418-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.247 | 0.020 | 0.010 | mg/l | 10 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 39.8 | 15 | 0.45 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 17.9 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 2.45 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 2.20 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 8.41 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 23.0 | 15 | 0.60 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-01-38A-111913 | | |
| **Lab Sample ID:** | MC26418-4F | **Date Sampled:** | 11/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.2 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 12:13 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-12-111913
**Lab Sample ID:** MC26418-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 210 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 4.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.5 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:30 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.41 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:32 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.41 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:32 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:05 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 3.8 J | 10 | 0.50 | mg/l | 1 | 12/03/13 01:37 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-12-111913
**Lab Sample ID:** MC26418-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 3.57 | 0.20 | 0.10 | mg/l | 100 | 12/02/13 | 12/09/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 25.3 | 15 | 0.45 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 89.6 | 1.0 | 0.30 | mg/l | 10 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 2.09 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 6.27 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 4.39 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 4.09 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16530
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-12-111913 | | |
| **Lab Sample ID:** | MC26418-5F | **Date Sampled:** | 11/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.5 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 12:24 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-37X-111913
**Lab Sample ID:** MC26418-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 4.4 J | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 75.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.087 U | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:36 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:36 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:08 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 78.1 | 10 | 0.50 | mg/l | 1 | 12/03/13 02:01 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-37X-111913
**Lab Sample ID:** MC26418-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0047 | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 28.7 | 25 | 0.75 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 1.43 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 2.84 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.569 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 3.97 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 42.5 | 25 | 1.0 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-01-37X-111913 | | |
| **Lab Sample ID:** | MC26418-6F | **Date Sampled:** | 11/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.2 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 13:05 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-111913
**Lab Sample ID:** MC26418-7F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0020 U | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA16504
(2) Prep QC Batch: MP22168

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-36X-111913
**Lab Sample ID:** MC26418-8
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 24.2 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 75.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.093 J | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.064 J | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:37 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.064 J | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:37 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 12:08 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 23.7 | 10 | 0.50 | mg/l | 1 | 12/03/13 02:25 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHP-01-36X-111913
**Lab Sample ID:** MC26418-8F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/19/13
**Date Received:** 11/19/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0048 | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 17.4 | 5.0 | 0.15 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Iron | 0.0752 J | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 2.54 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.0234 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 2.23 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 42.0 | 25 | 1.0 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHP-01-36X-111913 | | |
| **Lab Sample ID:** | MC26418-8F | **Date Sampled:** | 11/19/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/19/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 13:16 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-06-112013
**Lab Sample ID:** MC26418-9
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 220 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 23.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.2 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.22 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:39 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.22 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:39 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 6.8 J | 10 | 0.50 | mg/l | 1 | 12/03/13 02:49 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-06-112013
**Lab Sample ID:** MC26418-9F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.00 | 0.10 | 0.050 | mg/l | 50 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 45.5 | 25 | 0.75 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 74.6 | 0.50 | 0.15 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 6.46 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.938 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 10.8 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 18.2 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-11-06-112013 | | |
| **Lab Sample ID:** | MC26418-9F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.2 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 13:31 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-15-112013
**Lab Sample ID:** MC26418-10
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 210 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 9.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.8 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.28 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:40 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.28 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:40 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 10.9 | 10 | 0.50 | mg/l | 1 | 12/03/13 03:13 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-15-112013
**Lab Sample ID:** MC26418-10F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 5.74 | 0.20 | 0.10 | mg/l | 100 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 48.8 | 25 | 0.75 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 47.4 | 0.50 | 0.15 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 6.03 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 8.21 | 0.075 | 0.013 | mg/l | 5 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Potassium | 5.07 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 10.7 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-15-112013 | | |
| **Lab Sample ID:** | MC26418-10F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 2.8 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 13:44 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-16-112013
**Lab Sample ID:** MC26418-11
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 312 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 24.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 3.2 | 0.20 | 0.17 | mg/l | 2 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.25 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:41 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.25 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:41 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 2.9 J | 10 | 0.50 | mg/l | 1 | 12/03/13 03:37 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/22/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-16-112013
**Lab Sample ID:** MC26418-11F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.53 | 0.10 | 0.050 | mg/l | 50 | 12/02/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 78.8 | 50 | 1.5 | mg/l | 10 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 44.5 | 0.30 | 0.090 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 11.8 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 1.48 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 10.3 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 29.4 | 15 | 0.60 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-16-112013 | | |
| **Lab Sample ID:** | MC26418-11F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.7 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 13:57 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-02-112013
**Lab Sample ID:** MC26418-12
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 92.4 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 35.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.087 U | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.34 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:06 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.34 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:06 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 9.9 J | 10 | 0.50 | mg/l | 1 | 12/03/13 04:01 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-11-02-112013
**Lab Sample ID:** MC26418-12F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0032 J | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 32.9 | 10 | 0.30 | mg/l | 2 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 2.47 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 2.96 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.146 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 7.47 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 21.3 | 10 | 0.40 | mg/l | 2 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-11-02-112013 | | |
| **Lab Sample ID:** | MC26418-12F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 37.9 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 14:11 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-10-112013
**Lab Sample ID:** MC26418-13
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 256 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 61.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.55 | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.060 J | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:07 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.060 J | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:07 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 2.9 J | 10 | 0.50 | mg/l | 1 | 12/03/13 05:13 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-10-112013
**Lab Sample ID:** MC26418-13F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0020 J | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 77.9 | 50 | 1.5 | mg/l | 10 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 0.0487 J | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 8.50 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 23.3 | 0.15 | 0.025 | mg/l | 10 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Potassium | 3.05 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 22.9 | 10 | 0.40 | mg/l | 2 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-10-112013 | | |
| **Lab Sample ID:** | MC26418-13F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 15.8 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 14:25 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** RB-112013
**Lab Sample ID:** MC26418-14F
**Matrix:** AQ - Equip Blank Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0020 U | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA16504
(2) Prep QC Batch: MP22168

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-03-112013
**Lab Sample ID:** MC26418-15
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 391 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 38.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.20 | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:08 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:08 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 5.0 J | 10 | 0.50 | mg/l | 1 | 12/03/13 05:37 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-03-112013
**Lab Sample ID:** MC26418-15F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.137 | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 112 | 50 | 1.5 | mg/l | 10 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 11.2 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 15.3 | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 9.64 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 6.97 | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 34.7 | 15 | 0.60 | mg/l | 3 | 12/02/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22168
(5) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-03-112013 | | |
| **Lab Sample ID:** | MC26418-15F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.3 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 14:38 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-06A-112013
**Lab Sample ID:** MC26418-16
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 53.9 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 1.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 1.1 | 0.10 | 0.087 | mg/l | 1 | 12/03/13 15:45 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.14 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:10 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.14 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:10 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/20/13 17:11 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 2.1 J | 10 | 0.50 | mg/l | 1 | 12/03/13 06:01 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-10-06A-112013
**Lab Sample ID:** MC26418-16F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/20/13
**Date Received:** 11/20/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0229 | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [3] |
| Calcium | 8.33 | 5.0 | 0.15 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Iron | 3.41 | 0.10 | 0.030 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Magnesium | 0.933 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Manganese | 1.96 | 0.015 | 0.0025 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Potassium | 3.43 J | 5.0 | 0.50 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |
| Sodium | 2.94 J | 5.0 | 0.20 | mg/l | 1 | 12/02/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [4] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Prep QC Batch: MP22168
(4) Prep QC Batch: MP22168A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-10-06A-112013 | | |
| **Lab Sample ID:** | MC26418-16F | **Date Sampled:** | 11/20/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/20/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.8 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 14:51 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 12 (1 of 2)

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC26418

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.021.03
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Phg2 Add | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia 4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon - 5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1SD | SHL-4-111913 | | 11-19-13 | 0920 | EF | GW | 24 | | 3 | 3 | 3 | 6 | | | | 9 | X | X | X | X | X | X | X | X | X | |
| -2F | SHM-10-11-111913 | | 11-19-13 | 1013 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | V | X | X | |
| -3F | Duplicate-111913 | | 11-19-13 | 00:00 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -4F | SHP-01-38A-111913 | | 11-19-13 | 1125 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -5F | SHM-10-12-111913 | | 11-19-13 | 1317 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -6F | SHP-01-37X-111913 | | 11-19-13 | 1320 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | V | X | |
| -7F | RB-111913 | | 11-19-13 | 1340 | JG | AQ | 1 | | | 1 | | | | | | | X | | | | | | | | | |
| -8F | SHP-01-36X-111913 | | 11-19-13 | 1435 | EF | AQ | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 12B 5B |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by:

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other, See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
Metals and DOC samples were field filtered.
6020C Metals List = Ca, Fe, Mg, Mn, K, Na
SDG No: 001 open
extra volume collected for MS/MSD at SHL-4

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 11/19/13 1618 | 1 | 2 | 11/19/13 1700 | 2 |
| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 3 | | 3 | 4 | | 4 |
| Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable / On Ice / Cooler Temp |
| 5 | | 5 | | | D12 0C |

**MC26418: Chain of Custody**
**Page 1 of 3**

ACCUTEST LABORATORIES

# CHAIN OF CUSTODY

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking #: | Bottle Order Control #: 112012
Accutest Quote #: | Accutest Job #: MC26418

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.02I.03
Client Purchase Order,#: State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Phos diss | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia 4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -9F | SHM-11-06-112013 | | 11-26-13 | 0845 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -10F | SHM-10-15-112013 | | 11-20-13 | 0916 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -11F | SHM-10-16 112013 | | 11-20-13 | 1017 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -12F | SHM-11-02-112013 | | 11-20-13 | 1202 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -13F | SHM-10-10-112013 | | 11-20-13 | 1250 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -14F | RB-112013 | | 11-20-13 | 1410 | CS | AQ | 1 | | | 1 | | | | | | | X | | | | | | | | | |
| -15F | SHM-13-03-112013 | | 11-20-13 | 1405 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -16F | SHM-10-06A-112013 | | 11-20-13 | 1409 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 5B, 13A, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format
- [X] Other ,See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specific project requirements
Metals and DOC samples were field filtered.
6020C Metals List = Ca, Fe, Mg, Mn, K, Na
SDG No: 001 closed

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | Cathleen Sovereign | 11-20-13 1930 | Marshall | 2 Brenda K | 11-21-13 1615 | Brenda K |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| | | | 3 | 4 | | 4 |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # | Intact / Not intact | Preserved where applicable |

On Ice: ☐ Cooler Temp: 3.2°C, 3.9°C

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC26418 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 11/20/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS / SDG001 **No. Coolers:** 2 **Airbill #'s:**

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | Infared gun | |
| 3. Cooler media: | Ice (bag) | |

| Quality Control Preservation | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC26418: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-1 Collected: 19-NOV-13 09:20 By: EFJG Received: 19-NOV-13 By: SHL-4-111913 | | | | | | |
| MC26418-1 | SM 21 4500 NO2 B | 20-NOV-13 12:05 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-1 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-1 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-1 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-1 | EPA 353.2 | 27-NOV-13 13:27 | MC | | | NO3O |
| MC26418-1 | EPA 353.2 | 27-NOV-13 13:27 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-1 | EPA 300/SW846 9056A | 02-DEC-13 22:50 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-1 | SM18 4500NH3-C | 03-DEC-13 15:30 | BF | 03-DEC-13 | BF | AMN |
| MC26418-2 Collected: 19-NOV-13 10:13 By: EFJG Received: 19-NOV-13 By: SHM-10-11-111913 | | | | | | |
| MC26418-2 | SM 21 4500 NO2 B | 20-NOV-13 12:05 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-2 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-2 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-2 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-2 | EPA 353.2 | 27-NOV-13 14:46 | MC | | | NO3O |
| MC26418-2 | EPA 353.2 | 27-NOV-13 14:46 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-2 | EPA 300/SW846 9056A | 02-DEC-13 23:14 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-2 | SM18 4500NH3-C | 03-DEC-13 15:30 | BF | 03-DEC-13 | BF | AMN |
| MC26418-3 Collected: 19-NOV-13 00:00 By: EFJG Received: 19-NOV-13 By: DUPLICATE-111913 | | | | | | |
| MC26418-3 | SM 21 4500 NO2 B | 20-NOV-13 12:05 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-3 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-3 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-3 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-3 | EPA 353.2 | 27-NOV-13 14:47 | MC | | | NO3O |
| MC26418-3 | EPA 353.2 | 27-NOV-13 14:47 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-3 | EPA 300/SW846 9056A | 03-DEC-13 00:49 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-3 | SM18 4500NH3-C | 03-DEC-13 15:30 | BF | 03-DEC-13 | BF | AMN |
| MC26418-4 Collected: 19-NOV-13 11:25 By: EFJG Received: 19-NOV-13 By: SHP-01-38A-111913 | | | | | | |
| MC26418-4 | SM 21 4500 NO2 B | 20-NOV-13 12:05 | CF | 20-NOV-13 | CF | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-4 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-4 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-4 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-4 | EPA 353.2 | 27-NOV-13 13:31 | MC | | | NO3O |
| MC26418-4 | EPA 353.2 | 27-NOV-13 13:31 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-4 | EPA 300/SW846 9056A | 03-DEC-13 01:13 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-4 | SM18 4500NH3-C | 03-DEC-13 15:30 | BF | 03-DEC-13 | BF | AMN |
| MC26418-5 | Collected: 19-NOV-13 13:17 By: EFJG Received: 19-NOV-13 By: SHM-10-12-111913 | | | | | |
| MC26418-5 | SM 21 4500 NO2 B | 20-NOV-13 12:05 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-5 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-5 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-5 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-5 | EPA 353.2 | 27-NOV-13 13:32 | MC | | | NO3O |
| MC26418-5 | EPA 353.2 | 27-NOV-13 13:32 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-5 | EPA 300/SW846 9056A | 03-DEC-13 01:37 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-5 | SM18 4500NH3-C | 03-DEC-13 15:30 | BF | 03-DEC-13 | BF | AMN |
| MC26418-6 | Collected: 19-NOV-13 13:20 By: EFJG Received: 19-NOV-13 By: SHP-01-37X-111913 | | | | | |
| MC26418-6 | SM 21 4500 NO2 B | 20-NOV-13 12:08 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-6 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-6 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-6 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-6 | EPA 353.2 | 27-NOV-13 13:36 | MC | | | NO3O |
| MC26418-6 | EPA 353.2 | 27-NOV-13 13:36 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-6 | EPA 300/SW846 9056A | 03-DEC-13 02:01 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-6 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-8 | Collected: 19-NOV-13 14:35 By: EFJG Received: 19-NOV-13 By: SHP-01-36X-111913 | | | | | |
| MC26418-8 | SM 21 4500 NO2 B | 20-NOV-13 12:08 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-8 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-8 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-8 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-8 | EPA 353.2 | 27-NOV-13 13:37 | MC | | | NO3O |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-8 | EPA 353.2 | 27-NOV-13 13:37 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-8 | EPA 300/SW846 9056A | 03-DEC-13 02:25 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-8 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-9 | Collected: 20-NOV-13 08:45 By: EFJG | | | Received: 20-NOV-13 By: SHM-11-06-112013 | | |
| MC26418-9 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-9 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-9 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-9 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-9 | EPA 353.2 | 27-NOV-13 13:39 | MC | | | NO3O |
| MC26418-9 | EPA 353.2 | 27-NOV-13 13:39 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-9 | EPA 300/SW846 9056A | 03-DEC-13 02:49 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-9 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-10 | Collected: 20-NOV-13 09:16 By: EFJG | | | Received: 20-NOV-13 By: SHM-10-15-112013 | | |
| MC26418-10 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-10 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-10 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-10 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-10 | EPA 353.2 | 27-NOV-13 13:40 | MC | | | NO3O |
| MC26418-10 | EPA 353.2 | 27-NOV-13 13:40 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-10 | EPA 300/SW846 9056A | 03-DEC-13 03:13 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-10 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-11 | Collected: 20-NOV-13 10:17 By: EFJG | | | Received: 20-NOV-13 By: SHM-10-16-112013 | | |
| MC26418-11 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-11 | SM21 4500 S F | 22-NOV-13 | BF | | | S |
| MC26418-11 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-11 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-11 | EPA 353.2 | 27-NOV-13 13:41 | MC | | | NO3O |
| MC26418-11 | EPA 353.2 | 27-NOV-13 13:41 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-11 | EPA 300/SW846 9056A | 03-DEC-13 03:37 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-11 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-12 | Collected: 20-NOV-13 12:02 By: EFJG | | Received: 20-NOV-13 By: | | | |
| SHM-11-02-112013 | | | | | | |
| MC26418-12 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-12 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26418-12 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-12 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-12 | EPA 353.2 | 27-NOV-13 14:06 | MC | | | NO3O |
| MC26418-12 | EPA 353.2 | 27-NOV-13 14:06 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-12 | EPA 300/SW846 9056A | 03-DEC-13 04:01 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-12 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-13 | Collected: 20-NOV-13 12:50 By: EFJG | | Received: 20-NOV-13 By: | | | |
| SHM-10-10-112013 | | | | | | |
| MC26418-13 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-13 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26418-13 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-13 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-13 | EPA 353.2 | 27-NOV-13 14:07 | MC | | | NO3O |
| MC26418-13 | EPA 353.2 | 27-NOV-13 14:07 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-13 | EPA 300/SW846 9056A | 03-DEC-13 05:13 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-13 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-15 | Collected: 20-NOV-13 14:05 By: EFJG | | Received: 20-NOV-13 By: | | | |
| SHM-13-03-112013 | | | | | | |
| MC26418-15 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-15 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26418-15 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-15 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-15 | EPA 353.2 | 27-NOV-13 14:08 | MC | | | NO3O |
| MC26418-15 | EPA 353.2 | 27-NOV-13 14:08 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-15 | EPA 300/SW846 9056A | 03-DEC-13 05:37 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-15 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-16 | Collected: 20-NOV-13 14:09 By: EFJG | | Received: 20-NOV-13 By: | | | |
| SHM-10-06A-112013 | | | | | | |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-16 | SM 21 4500 NO2 B | 20-NOV-13 17:11 | CF | 20-NOV-13 | CF | NO2 |
| MC26418-16 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26418-16 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26418-16 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26418-16 | EPA 353.2 | 27-NOV-13 14:10 | MC | | | NO3O |
| MC26418-16 | EPA 353.2 | 27-NOV-13 14:10 | MC | 27-NOV-13 | MC | NO32 |
| MC26418-16 | EPA 300/SW846 9056A | 03-DEC-13 06:01 | ANJ | 02-DEC-13 | | SO4 |
| MC26418-16 | SM18 4500NH3-C | 03-DEC-13 15:45 | BF | 03-DEC-13 | BF | AMN |
| MC26418-1F | Collected: 19-NOV-13 09:20 By: EFJG Received: 19-NOV-13 By: SHL-4-111913 | | | | | |
| MC26418-1F | SW846 6020A | 03-DEC-13 14:23 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-1F | SM21 5310 B | 04-DEC-13 11:34 | MA | | | DOC |
| MC26418-1F | SW846 6010C | 09-DEC-13 15:09 | EAL | 02-DEC-13 | EM | FE,K,MG,MN |
| MC26418-1F | SW846 6010C | 12-DEC-13 19:15 | EAL | 02-DEC-13 | EM | CA,NA |
| MC26418-2F | Collected: 19-NOV-13 10:13 By: EFJG Received: 19-NOV-13 By: SHM-10-11-111913 | | | | | |
| MC26418-2F | SM21 5310 B | 04-DEC-13 11:47 | MA | | | DOC |
| MC26418-2F | SW846 6020A | 04-DEC-13 18:26 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-2F | SW846 6010C | 09-DEC-13 16:05 | EAL | 02-DEC-13 | EM | K,MG,MN,NA |
| MC26418-2F | SW846 6010C | 12-DEC-13 19:25 | EAL | 02-DEC-13 | EM | CA |
| MC26418-2F | SW846 6010C | 12-DEC-13 19:30 | EAL | 02-DEC-13 | EM | FE |
| MC26418-3F | Collected: 19-NOV-13 00:00 By: EFJG Received: 19-NOV-13 By: DUPLICATE-111913 | | | | | |
| MC26418-3F | SM21 5310 B | 04-DEC-13 12:00 | MA | | | DOC |
| MC26418-3F | SW846 6020A | 04-DEC-13 18:33 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-3F | SW846 6010C | 09-DEC-13 16:10 | EAL | 02-DEC-13 | EM | K,MG,MN,NA |
| MC26418-3F | SW846 6010C | 12-DEC-13 19:34 | EAL | 02-DEC-13 | EM | CA |
| MC26418-3F | SW846 6010C | 12-DEC-13 19:49 | EAL | 02-DEC-13 | EM | FE |
| MC26418-4F | Collected: 19-NOV-13 11:25 By: EFJG Received: 19-NOV-13 By: SHP-01-38A-111913 | | | | | |
| MC26418-4F | SM21 5310 B | 04-DEC-13 12:13 | MA | | | DOC |
| MC26418-4F | SW846 6020A | 04-DEC-13 18:40 | SA | 02-DEC-13 | EM | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-4E | SW846 6010C | 09-DEC-13 16:15 | EAL | 02-DEC-13 | EM | FE,K,MG,MN |
| MC26418-4E | SW846 6010C | 12-DEC-13 19:54 | EAL | 02-DEC-13 | EM | CA,NA |
| MC26418-5E | Collected: 19-NOV-13 13:17 By: EFJG SHM-10-12-111913 | | | Received: 19-NOV-13 By: | | |
| MC26418-5E | SM21 5310 B | 04-DEC-13 12:24 | MA | | | DOC |
| MC26418-5E | SW846 6010C | 09-DEC-13 16:20 | EAL | 02-DEC-13 | EM | K,MG,MN,NA |
| MC26418-5E | SW846 6020A | 09-DEC-13 19:06 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-5E | SW846 6010C | 12-DEC-13 19:59 | EAL | 02-DEC-13 | EM | CA |
| MC26418-5E | SW846 6010C | 12-DEC-13 20:04 | EAL | 02-DEC-13 | EM | FE |
| MC26418-6E | Collected: 19-NOV-13 13:20 By: EFJG SHP-01-37X-111913 | | | Received: 19-NOV-13 By: | | |
| MC26418-6E | SW846 6020A | 03-DEC-13 16:28 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-6E | SM21 5310 B | 04-DEC-13 13:05 | MA | | | DOC |
| MC26418-6E | SW846 6010C | 09-DEC-13 16:34 | EAL | 02-DEC-13 | EM | FE,K,MG,MN |
| MC26418-6E | SW846 6010C | 12-DEC-13 20:09 | EAL | 02-DEC-13 | EM | CA,NA |
| MC26418-7E | Collected: 19-NOV-13 13:40 By: EFJG RB-111913 | | | Received: 19-NOV-13 By: | | |
| MC26418-7E | SW846 6020A | 03-DEC-13 16:35 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-8E | Collected: 19-NOV-13 14:35 By: EFJG SHP-01-36X-111913 | | | Received: 19-NOV-13 By: | | |
| MC26418-8E | SW846 6020A | 03-DEC-13 17:12 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-8E | SM21 5310 B | 04-DEC-13 13:16 | MA | | | DOC |
| MC26418-8E | SW846 6010C | 09-DEC-13 16:44 | EAL | 02-DEC-13 | EM | CA,FE,K,MG,MN |
| MC26418-8E | SW846 6010C | 12-DEC-13 20:14 | EAL | 02-DEC-13 | EM | NA |
| MC26418-9E | Collected: 20-NOV-13 08:45 By: EFJG SHM-11-06-112013 | | | Received: 20-NOV-13 By: | | |
| MC26418-9E | SM21 5310 B | 04-DEC-13 13:31 | MA | | | DOC |
| MC26418-9E | SW846 6020A | 04-DEC-13 18:54 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-9E | SW846 6010C | 09-DEC-13 16:49 | EAL | 02-DEC-13 | EM | K,MG,MN,NA |
| MC26418-9E | SW846 6010C | 12-DEC-13 20:19 | EAL | 02-DEC-13 | EM | CA,FE |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-10 | Collected: 20-NOV-13 09:16 By: EFJG Received: 20-NOV-13 By: SHM-10-15-112013 | | | | | |
| MC26418-10 | SM21 5310 B | 04-DEC-13 13:44 | MA | | | DOC |
| MC26418-10 | SW846 6020A | 04-DEC-13 19:01 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-10 | SW846 6010C | 09-DEC-13 15:19 | EAL | 02-DEC-13 | EM | K,MG,NA |
| MC26418-10 | SW846 6010C | 12-DEC-13 20:23 | EAL | 02-DEC-13 | EM | CA,FE,MN |
| MC26418-11 | Collected: 20-NOV-13 10:17 By: EFJG Received: 20-NOV-13 By: SHM-10-16-112013 | | | | | |
| MC26418-11 | SM21 5310 B | 04-DEC-13 13:57 | MA | | | DOC |
| MC26418-11 | SW846 6020A | 04-DEC-13 19:09 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-11 | SW846 6010C | 09-DEC-13 15:35 | EAL | 02-DEC-13 | EM | K,MG,MN |
| MC26418-11 | SW846 6010C | 12-DEC-13 20:28 | EAL | 02-DEC-13 | EM | FE,NA |
| MC26418-11 | SW846 6010C | 12-DEC-13 20:33 | EAL | 02-DEC-13 | EM | CA |
| MC26418-12 | Collected: 20-NOV-13 12:02 By: EFJG Received: 20-NOV-13 By: SHM-11-02-112013 | | | | | |
| MC26418-12 | SW846 6020A | 03-DEC-13 14:52 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-12 | SM21 5310 B | 04-DEC-13 14:11 | MA | | | DOC |
| MC26418-12 | SW846 6010C | 09-DEC-13 15:40 | EAL | 02-DEC-13 | EM | FE,K,MG,MN |
| MC26418-12 | SW846 6010C | 12-DEC-13 20:48 | EAL | 02-DEC-13 | EM | CA,NA |
| MC26418-13 | Collected: 20-NOV-13 12:50 By: EFJG Received: 20-NOV-13 By: SHM-10-10-112013 | | | | | |
| MC26418-13 | SW846 6020A | 03-DEC-13 15:32 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-13 | SM21 5310 B | 04-DEC-13 14:25 | MA | | | DOC |
| MC26418-13 | SW846 6010C | 09-DEC-13 15:45 | EAL | 02-DEC-13 | EM | FE,K,MG |
| MC26418-13 | SW846 6010C | 12-DEC-13 20:53 | EAL | 02-DEC-13 | EM | NA |
| MC26418-13 | SW846 6010C | 12-DEC-13 20:58 | EAL | 02-DEC-13 | EM | CA,MN |
| MC26418-14 | Collected: 20-NOV-13 14:10 By: EFJG Received: 20-NOV-13 By: RB-112013 | | | | | |
| MC26418-14 | SW846 6020A | 03-DEC-13 15:39 | SA | 02-DEC-13 | EM | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26418

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-15C | Collected: 20-NOV-13 14:05 By: EFJG | | | Received: 20-NOV-13 By: | | |
| SHM-13-03-112013 | | | | | | |
| MC26418-15B | SW846 6020A | 03-DEC-13 15:46 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-15B | SM21 5310 B | 04-DEC-13 14:38 | MA | | | DOC |
| MC26418-15B | SW846 6010C | 09-DEC-13 15:55 | EAL | 02-DEC-13 | EM | FE,K,MG,MN |
| MC26418-15B | SW846 6010C | 12-DEC-13 21:03 | EAL | 02-DEC-13 | EM | NA |
| MC26418-15B | SW846 6010C | 12-DEC-13 21:08 | EAL | 02-DEC-13 | EM | CA |
| MC26418-16C | Collected: 20-NOV-13 14:09 By: EFJG | | | Received: 20-NOV-13 By: | | |
| SHM-10-06A-112013 | | | | | | |
| MC26418-16B | SW846 6020A | 03-DEC-13 15:53 | SA | 02-DEC-13 | EM | ASMS |
| MC26418-16B | SM21 5310 B | 04-DEC-13 14:51 | MA | | | DOC |
| MC26418-16B | SW846 6010C | 09-DEC-13 16:00 | EAL | 02-DEC-13 | EM | CA,FE,K,MG,MN,NA |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-1.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-1.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-1.2 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-1.2 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-1.7 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-1.7 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-1.8 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-1.8 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-1.9 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-1.9 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-1.10 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-1.10 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-1.11 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-1.11 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-1.11 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-1.11 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-1.12 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-1.12 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-1F.16 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-1F.16 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-1F.16 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-1F.16 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-1F.17 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-1F.17 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-1F.17 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-1F.17 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-1F.18 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-1F.18 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-1F.18 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-1F.18 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-1F.19 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-1F.19 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-1F.19 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-1F.19 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-2.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-2.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-2.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-2.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-2.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-2.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-2.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-2.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-2.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-2.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-2F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-2F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-2F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-2F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-3.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-3.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-3.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-3.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-3.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-3.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-3.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-3.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-3.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-3.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-3F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-3F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-3F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-3F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-4.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-4.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-4.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-4.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-4.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-4.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-4.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-4.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-4.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-4.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-4F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-4F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-4F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-4F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-5.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-5.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-5.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-5.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-5.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-5.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-5.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-5.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-5.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-5.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-5F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-5F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-5F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-5F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-6.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-6.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-6.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-6.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-6.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-6.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-6.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-6.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-6.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-6.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-6F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/04/13 08:02 | Retrieve from Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-6F.6 | Mehdi Abdolrahim | TOC1 | 12/04/13 08:02 | Load on Instrument |
| MC26418-6F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-6F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-8.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 11:36 | Retrieve from Storage |
| MC26418-8.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-8.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-8.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-8.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-8.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-8.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-8.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-8.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-8.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-8F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-8F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-8F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-8F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-9.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-9.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-9.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-9.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-9.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-9.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-9.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-9.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-9.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-9.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-9F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-9F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-9F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-9F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-10.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-10.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-10.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-10.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-10.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-10.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-10.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-10.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-10.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-10.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-10F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-10F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-10F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-10F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-11.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-11.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-11.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-11.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-11.3 | Walk In Ref #9 | Bijan Firowznin | 11/22/13 08:08 | Retrieve from Storage |
| MC26418-11.3 | Bijan Firowznin | | 11/22/13 09:58 | Depleted |
| MC26418-11.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-11.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-11.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-11.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-11F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-11F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-11F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-11F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-12.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-12.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-12.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-12.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-12.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26418-12.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26418-12.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-12.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-12.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-12.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-12F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-12F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-12F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-12F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-13.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-13.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-13.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-13.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-13.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26418-13.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26418-13.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-13.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-13.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-13.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-13F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-13F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-13F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-13F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-15.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-15.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |
| MC26418-15.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-15.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-15.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26418-15.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26418-15.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-15.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-15.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-15.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-15F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-15F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-15F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-15F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |
| MC26418-16.1 | Walk In Ref #9 | Crystall Woodruff | 11/20/13 16:45 | Retrieve from Storage |
| MC26418-16.1 | Crystall Woodruff | Walk In Ref #9 | 11/21/13 09:46 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-16.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26418-16.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26418-16.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26418-16.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26418-16.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26418-16.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26418-16.4 | Walk In Ref #9 | Bijan Firowznin | 12/03/13 08:06 | Retrieve from Storage |
| MC26418-16.4 | Bijan Firowznin | Walk In Ref #9 | 12/03/13 08:06 | Return to Storage |
| MC26418-16F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26418-16F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26418-16F.6 | TOC1 | Mehdi Abdolrahim | 12/04/13 16:06 | Unload from Instrument |
| MC26418-16F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/04/13 16:07 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

# QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:50 | MA16504-STD1 | 1 | | STDA |
| 11:57 | MA16504-STD2 | 1 | | STDB |
| 12:05 | MA16504-STD3 | 1 | | STDC |
| 12:12 | MA16504-STD4 | 1 | | STDD |
| 12:19 | MA16504-STD5 | 1 | | STDE |
| 12:26 | MA16504-STD6 | 1 | | STDF |
| 12:33 | MA16504-STD7 | 1 | | STDG |
| 12:40 | MA16504-STD8 | 1 | | STDH |
| 12:47 | MA16504-ICV1 | 1 | | |
| 12:54 | MA16504-ICB1 | 1 | | |
| 13:02 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCV. |
| 13:13 | MA16504-CCV1 | 1 | | |
| 13:20 | MA16504-CCB1 | 1 | | |
| 13:28 | MA16504-CRI1 | 1 | | |
| 13:36 | MA16504-ICSA1 | 1 | | |
| 13:44 | MA16504-ICSAB1 | 1 | | |
| 13:58 | ZZZZZZ | 1 | | RINSECONF |
| 14:16 | MP22168-MB1 | 2 | | |
| 14:23 | MC26418-1F | 2 | | |
| 14:31 | MP22168-SD1 | 10 | | |
| 14:38 | MC26418-10F | 2 | | AS OVER RANGE. |
| 14:45 | MC26418-11F | 2 | | |
| 14:52 | MC26418-12F | 2 | | |
| 14:59 | ZZZZZZ | 1 | | DNR: HIGH RSD, SEE RERUN. |
| 15:15 | MA16504-CCV2 | 1 | | |
| 15:25 | MA16504-CCB2 | 1 | | |
| 15:32 | MC26418-13F | 2 | | |
| 15:39 | MC26418-14F | 2 | | |
| 15:46 | MC26418-15F | 2 | | |
| 15:53 | MC26418-16F | 2 | | |
| 16:00 | MC26418-2F | 2 | | |
| 16:07 | MC26418-3F | 2 | | |
| 16:14 | MC26418-4F | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:21 | MC26418-5F | 2 | | AS OVER RANGE. |
| 16:28 | MC26418-6F | 2 | | |
| 16:35 | MC26418-7F | 2 | | |
| 16:43 | MA16504-CCV3 | 1 | | |
| 17:05 | MA16504-CCB3 | 1 | | |
| 17:12 | MC26418-8F | 2 | | |
| 17:19 | MC26418-9F | 2 | | |
| 17:26 | ZZZZZZ | 2 | | |
| 17:33 | MP22168-B1 | 25 | | |
| 17:40 | MP22168-S1 | 25 | | |
| 17:47 | MP22168-S2 | 25 | | |
| ----------> | Last reportable sample/prep for job MC26418 | | | |
| 17:57 | MA16504-CRI2 | 1 | | |
| 18:04 | MA16504-CCV4 | 1 | | |
| 18:13 | MA16504-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job MC26418 | | | |
| 18:20 | MP22178-MB1 | 2 | | |
| 18:27 | MC26484-4F | 2 | | (sample used for QC only; not part of login MC26418) |
| 18:35 | MP22178-SD1 | 10 | | |
| 18:42 | ZZZZZZ | 2 | | |
| 18:49 | ZZZZZZ | 2 | | |
| 18:56 | ZZZZZZ | 2 | | |
| 19:03 | ZZZZZZ | 2 | | |
| 19:10 | ZZZZZZ | 2 | | |
| 19:17 | ZZZZZZ | 2 | | |
| 19:24 | ZZZZZZ | 2 | | |
| 19:31 | MA16504-CCV5 | 1 | | |
| 19:39 | MA16504-CCB5 | 1 | | |
| 19:46 | ZZZZZZ | 2 | | |
| 19:53 | ZZZZZZ | 2 | | |
| 20:00 | MP22178-B1 | 25 | | |
| 20:07 | MP22178-S1 | 25 | | AS OVER RANGE. |
| 20:14 | MP22178-S2 | 25 | | AS OVER RANGE. |
| 20:21 | ZZZZZZ | 1 | | RINSECONF |
| 20:29 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CRI. |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:36 | MA16504-CCV6 | 1 | | |
| 20:43 | MA16504-CCB6 | 1 | | |
| 20:50 | MA16504-CRI3 | 1 | | |
| 20:57 | MA16504-CCV7 | 1 | | |
| 21:04 | MA16504-CCB7 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:50 | MA16504-STD1 | 1993708 R | 2491942 R | 379286 R | 463522 R | 134805 R | 2265279 R | 2375722 R | 1034375 R |
| 11:57 | MA16504-STD2 | 1974962 | 2490373 | 376187 | 459278 | 134645 | 2241398 | 2358051 | 1030933 |
| 12:05 | MA16504-STD3 | 1964192 | 2496029 | 377317 | 454772 | 133755 | 2231665 | 2346415 | 1032107 |
| 12:12 | MA16504-STD4 | 1994634 | 2474766 | 373848 | 445787 | 131344 | 2235207 | 2349435 | 1011253 |
| 12:19 | MA16504-STD5 | 1976075 | 2466361 | 368472 | 439824 | 129347 | 2215063 | 2328202 | 1006958 |
| 12:26 | MA16504-STD6 | 1951109 | 2449469 | 369936 | 433324 | 128640 | 2220862 | 2304966 | 995792 |
| 12:33 | MA16504-STD7 | 1971856 | 2484776 | 381405 | 452901 | 133547 | 2216197 | 2324406 | 1038871 |
| 12:40 | MA16504-STD8 | 1905365 | 2490593 | 381133 | 460665 | 134024 | 2146689 | 2263233 | 1016191 |
| 12:47 | MA16504-ICV1 | 1935204 | 2512936 | 374238 | 447315 | 132005 | 2177461 | 2309149 | 1007238 |
| 12:54 | MA16504-ICB1 | 1991419 | 2529677 | 380606 | 458841 | 134050 | 2279984 | 2369729 | 1041651 |
| 13:02 | ZZZZZZ | 1942260 | 2505657 | 373512 | 449418 | 131517 | 2203197 | 2312142 | 1009534 |
| 13:13 | MA16504-CCV1 | 1931305 | 2500150 | 377643 | 450237 | 132715 | 2191149 | 2310017 | 1017719 |
| 13:20 | MA16504-CCB1 | 1990625 | 2534570 | 383106 | 464503 | 135803 | 2283143 | 2387068 | 1056223 |
| 13:28 | MA16504-CRI1 | 1996339 | 2552702 | 383976 | 462146 | 135355 | 2285957 | 2406397 | 1057808 |
| 13:36 | MA16504-ICSA1 | 1795521 | 2437047 | 362341 | 464816 | 131706 | 2016545 | 2238469 | 965300 |
| 13:44 | MA16504-ICSAB1 | 1768952 | 2452325 | 343149 | 457466 | 126556 | 2042942 | 2251743 | 935567 |
| 13:58 | ZZZZZZ | 2085370 | 2682138 | 381948 | 480702 | 136868 | 2393447 | 2554333 | 1081953 |
| 14:16 | MP22168-MB1 | 2074981 | 2541736 | 369723 | 468317 | 133139 | 2259400 | 2391651 | 1049964 |
| 14:23 | MC26418-1F | 1955014 | 2489593 | 347041 | 455496 | 128196 | 2122318 | 2301056 | 986405 |
| 14:31 | MP22168-SD1 | 2020666 | 2593975 | 378140 | 472245 | 135090 | 2271451 | 2453962 | 1065673 |
| 14:38 | MC26418-10F | 1972354 | 2534654 | 343854 | 452221 | 127051 | 2102514 | 2274962 | 965890 |
| 14:45 | MC26418-11F | 1973937 | 2592821 | 359129 | 458218 | 130585 | 2107435 | 2305164 | 983445 |
| 14:52 | MC26418-12F | 1962515 | 2521009 | 361279 | 455709 | 131134 | 2144975 | 2324301 | 1016152 |
| 14:59 | ZZZZZZ | 1905788 | 2441266 | 343745 | 434302 | 125407 | 2101278 | 2266730 | 958432 |
| 15:15 | MA16504-CCV2 | 1990302 | 2509420 | 369509 | 445639 | 130328 | 2173761 | 2310739 | 1008723 |
| 15:25 | MA16504-CCB2 | 2039169 | 2533212 | 367479 | 456225 | 131288 | 2247030 | 2386952 | 1041675 |
| 15:32 | MC26418-13F | 1947199 | 2442484 | 360659 | 435540 | 128760 | 2016038 | 2197497 | 999061 |
| 15:39 | MC26418-14F | 2040996 | 2579715 | 369855 | 464325 | 133043 | 2273422 | 2401583 | 1034502 |
| 15:46 | MC26418-15F | 1958641 | 2543432 | 346692 | 444981 | 125158 | 2066141 | 2267433 | 934766 |
| 15:53 | MC26418-16F | 2001051 | 2526251 | 350378 | 450189 | 128089 | 2138650 | 2300079 | 1005505 |
| 16:00 | MC26418-2F | 1959415 | 2530933 | 351996 | 450030 | 129840 | 2079569 | 2263027 | 980186 |
| 16:07 | MC26418-3F | 1972761 | 2523873 | 348679 | 455412 | 128964 | 2084281 | 2256193 | 977880 |
| 16:14 | MC26418-4F | 1934701 | 2484432 | 343142 | 438396 | 125733 | 2043117 | 2223601 | 969579 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 16:21 | MC26418-5F | 1930969 | 2489840 | 343133 | 447815 | 128016 | 2074513 | 2248868 | 976464 |
| 16:28 | MC26418-6F | 1915930 | 2412253 | 340648 | 436860 | 124881 | 2027327 | 2213862 | 965929 |
| 16:35 | MC26418-7F | 1977683 | 2474928 | 351447 | 443177 | 128335 | 2172638 | 2331820 | 1011327 |
| 16:43 | MA16504-CCV3 | 1987452 | 2536261 | 356067 | 444934 | 127505 | 2153830 | 2314872 | 982803 |
| 17:05 | MA16504-CCB3 | 2043335 | 2505730 | 365758 | 449765 | 130411 | 2197764 | 2336681 | 1026282 |
| 17:12 | MC26418-8F | 1947941 | 2443977 | 349215 | 442575 | 126160 | 2045376 | 2224477 | 969525 |
| 17:19 | MC26418-9F | 1909424 | 2490043 | 341436 | 441717 | 126124 | 2027317 | 2198820 | 954233 |
| 17:26 | ZZZZZZ | 1912239 | 2442495 | 349184 | 437114 | 126928 | 2142294 | 2263931 | 999336 |
| 17:33 | MP22168-B1 | 2021561 | 2555098 | 362101 | 448253 | 130171 | 2224840 | 2345792 | 1015190 |
| 17:40 | MP22168-S1 | 2060233 | 2686309 | 362850 | 467382 | 130067 | 2311313 | 2461635 | 1006810 |
| 17:47 | MP22168-S2 | 1975755 | 2534302 | 361281 | 446389 | 129641 | 2174062 | 2327918 | 999047 |
| 17:57 | MA16504-CRI2 | 2027954 | 2527460 | 361578 | 448559 | 129245 | 2211504 | 2369002 | 1016339 |
| 18:04 | MA16504-CCV4 | 1950695 | 2513506 | 356460 | 436192 | 126913 | 2114147 | 2262202 | 967413 |
| 18:13 | MA16504-CCB4 | 2043350 | 2535888 | 362135 | 448205 | 129440 | 2192019 | 2328514 | 1018053 |
| 18:20 | MP22178-MB1 | 2000175 | 2450552 | 353158 | 440423 | 127610 | 2159203 | 2256651 | 997267 |
| 18:27 | MC26484-4F | 1924578 | 2456480 | 340588 | 438624 | 124879 | 1999011 | 2180561 | 952372 |
| 18:35 | MP22178-SD1 | 1901401 | 2325604 | 360093 | 427537 | 129478 | 1986689 | 2156989 | 1002258 |
| 18:42 | ZZZZZZ | 1266992 | !a2307612 | 323902 | 395796 | 108440 | 1767925 | 1995363 | 826592 |
| 18:49 | ZZZZZZ | 2095528 | 2707730 | 368369 | 469430 | 132336 | 2228936 | 2399776 | 1009069 |
| 18:56 | ZZZZZZ | 2054787 | 2602143 | 360588 | 461652 | 129101 | 2146247 | 2345505 | 1019116 |
| 19:03 | ZZZZZZ | 2082596 | 2529526 | 346702 | 448208 | 126669 | 2109052 | 2262920 | 951367 |
| 19:10 | ZZZZZZ | 1890159 | 2484916 | 342954 | 435789 | 124104 | 2016577 | 2190507 | 947975 |
| 19:17 | ZZZZZZ | 1956543 | 2544737 | 343962 | 440010 | 124117 | 2022573 | 2092481 | 940764 |
| 19:24 | ZZZZZZ | 1965205 | 2531722 | 337551 | 431016 | 123994 | 2037536 | 2232613 | 947205 |
| 19:31 | MA16504-CCV5 | 2062840 | 2656977 | 356925 | 433043 | 127565 | 2265298 | 2177425 | 987696 |
| 19:39 | MA16504-CCB5 | 2128711 | 2684876 | 363474 | 445010 | 129743 | 2074348 | 2515404 | 1020857 |
| 19:46 | ZZZZZZ | 1882384 | 2454839 | 341423 | 426869 | 124551 | 2061002 | 2224147 | 976298 |
| 19:53 | ZZZZZZ | 1907994 | 2416927 | 337728 | 431206 | 123227 | 1941812 | 2135586 | 947855 |
| 20:00 | MP22178-B1 | 2156001 | 2686999 | 365974 | 450349 | 130771 | 2216993 | 2368052 | 1023753 |
| 20:07 | MP22178-S1 | 2178137 | 2510185 | 364152 | 452420 | 129458 | 2132747 | 2303942 | 994076 |
| 20:14 | MP22178-S2 | 2078266 | 2608808 | 365024 | 447060 | 129681 | 2163364 | 2334194 | 984685 |
| 20:21 | ZZZZZZ | 2175412 | 2696073 | 362911 | 450263 | 131287 | 2023091 | 2325694 | 1010845 |
| 20:29 | ZZZZZZ | 2153259 | 2680013 | 370836 | 460951 | 131136 | 2222516 | 2390871 | 1017433 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 20:36 | MA16504-CCV6 | 2040716 | 2604096 | 357380 | 438394 | 127102 | 2112031 | 2259015 | 967945 |
| 20:43 | MA16504-CCB6 | 2219784 | 2689376 | 367633 | 451248 | 130285 | 2283374 | 2309634 | 1003630 |
| 20:50 | MA16504-CRI3 | 2143779 | 2588295 | 365041 | 456715 | 130496 | 2226183 | 2344656 | 990823 |
| 20:57 | MA16504-CCV7 | 2049600 | 2654576 | 364985 | 439393 | 129117 | 2141424 | 2248300 | 949476 |
| 21:04 | MA16504-CCB7 | 2136920 | 2622820 | 382612 | 452992 | 132006 | 2207299 | 2332922 | 1087704 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:50 | MA16504-STD1 | 2743058 R | 1599251 R |
| 11:57 | MA16504-STD2 | 2726764 | 1583286 |
| 12:05 | MA16504-STD3 | 2732789 | 1573400 |
| 12:12 | MA16504-STD4 | 2734214 | 1563680 |
| 12:19 | MA16504-STD5 | 2726107 | 1556402 |
| 12:26 | MA16504-STD6 | 2697570 | 1550514 |
| 12:33 | MA16504-STD7 | 2727159 | 1562928 |
| 12:40 | MA16504-STD8 | 2702645 | 1495969 |
| 12:47 | MA16504-ICV1 | 2734401 | 1527140 |
| 12:54 | MA16504-ICB1 | 2763234 | 1595258 |
| 13:02 | ZZZZZZ | 2738110 | 1534613 |
| 13:13 | MA16504-CCV1 | 2742209 | 1532181 |
| 13:20 | MA16504-CCB1 | 2803353 | 1599274 |
| 13:28 | MA16504-CRI1 | 2794883 | 1605170 |
| 13:36 | MA16504-ICSA1 | 2757892 | 1460161 |
| 13:44 | MA16504-ICSAB1 | 2799682 | 1461101 |
| 13:58 | ZZZZZZ | 2991262 | 1722129 |
| 14:16 | MP22168-MB1 | 2855220 | 1650849 |
| 14:23 | MC26418-1F | 2797364 | 1540126 |
| 14:31 | MP22168-SD1 | 2862409 | 1656072 |
| 14:38 | MC26418-10F | 2809301 | 1571967 |
| 14:45 | MC26418-11F | 2852388 | 1564091 |
| 14:52 | MC26418-12F | 2817646 | 1572880 |
| 14:59 | ZZZZZZ | 2692359 | 1501485 |
| 15:15 | MA16504-CCV2 | 2776437 | 1553982 |
| 15:25 | MA16504-CCB2 | 2793889 | 1615974 |
| 15:32 | MC26418-13F | 2699549 | 1489613 |
| 15:39 | MC26418-14F | 2903648 | 1655294 |
| 15:46 | MC26418-15F | 2799558 | 1510652 |
| 15:53 | MC26418-16F | 2803485 | 1569384 |
| 16:00 | MC26418-2F | 2775160 | 1529353 |
| 16:07 | MC26418-3F | 2770424 | 1531265 |
| 16:14 | MC26418-4F | 2731488 | 1495883 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 16:21 | MC26418-5F | 2763063 | 1524971 |
| 16:28 | MC26418-6F | 2712060 | 1478188 |
| 16:35 | MC26418-7F | 2783987 | 1583901 |
| 16:43 | MA16504-CCV3 | 2736795 | 1533364 |
| 17:05 | MA16504-CCB3 | 2737596 | 1574938 |
| 17:12 | MC26418-8F | 2736635 | 1497723 |
| 17:19 | MC26418-9F | 2727078 | 1483603 |
| 17:26 | ZZZZZZ | 2733138 | 1560943 |
| 17:33 | MP22168-B1 | 2735272 | 1548739 |
| 17:40 | MP22168-S1 | 2870455 | 1628150 |
| 17:47 | MP22168-S2 | 2713475 | 1522613 |
| 17:57 | MA16504-CRI2 | 2738007 | 1575019 |
| 18:04 | MA16504-CCV4 | 2701477 | 1494315 |
| 18:13 | MA16504-CCB4 | 2730029 | 1565394 |
| 18:20 | MP22178-MB1 | 2751829 | 1543014 |
| 18:27 | MC26484-4F | 2659095 | 1445802 |
| 18:35 | MP22178-SD1 | 2510376 | 1455062 |
| 18:42 | ZZZZZZ | 2544344 | 1317596 |
| 18:49 | ZZZZZZ | 2861363 | 1533667 |
| 18:56 | ZZZZZZ | 2773280 | 1533670 |
| 19:03 | ZZZZZZ | 2697942 | 1463834 |
| 19:10 | ZZZZZZ | 2686750 | 1446290 |
| 19:17 | ZZZZZZ | 2720045 | 1379600 |
| 19:24 | ZZZZZZ | 2679767 | 1429349 |
| 19:31 | MA16504-CCV5 | 2683076 | 1541904 |
| 19:39 | MA16504-CCB5 | 2734880 | 1608410 |
| 19:46 | ZZZZZZ | 2611854 | 1433481 |
| 19:53 | ZZZZZZ | 2609339 | 1382972 |
| 20:00 | MP22178-B1 | 2765621 | 1487944 |
| 20:07 | MP22178-S1 | 2645160 | 1486039 |
| 20:14 | MP22178-S2 | 2714969 | 1501918 |
| 20:21 | ZZZZZZ | 2768641 | 1556447 |
| 20:29 | ZZZZZZ | 2772793 | 1483884 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 20:36 | MA16504-CCV6 | 2662838 | 1445453 |
| 20:43 | MA16504-CCB6 | 2608920 | 1491026 |
| 20:50 | MA16504-CRI3 | 2663984 | 1459064 |
| 20:57 | MA16504-CCV7 | 2656829 | 1438653 |
| 21:04 | MA16504-CCB7 | 2689861 | 1470622 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16504  Units: ug/l

| Time: / Sample ID: | | | | 12:54 ICB1 | | 13:20 CCB1 | | 15:25 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.014 | <2.0 | -0.0023 | <2.0 | 0.058 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16504  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 17:05 CCB3 raw | 17:05 CCB3 final | 18:13 CCB4 raw | 18:13 CCB4 final |
|---|---|---|---|---|---|---|---|
| Aluminum | 25 | .77 | 20 | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.059 | <2.0 | 0.031 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | |
| Calcium | 250 | 6 | 50 | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | |
| Iron | 25 | .29 | 13 | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | |
| Potassium | 250 | 13 | 50 | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | |
| Sodium | 250 | 15 | 50 | | | | |
| Strontium | 10 | .02 | 5.0 | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | 12:47 | | | 13:13 | | | 15:15 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 57.8 | 96.3 | 50 | 47.8 | 95.6 | 50 | 47.6 | 95.2 |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | 16:43 | | | 18:04 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 48.0 | 96.0 | 50 | 47.8 | 95.6 |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | anr | | | | | |
| Magnesium | | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | anr | | | | | |
| Silver | anr | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | | 13:28 | | 17:57 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.50 | 100.0 | 0.55 | 110.0 |
| Barium | 1.0 | 1.0 | anr | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | anr | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | | | | |
| Lead | 0.50 | 0.50 | anr | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | anr | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | anr | | | |
| Silver | 0.50 | 0.50 | anr | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | | 13:36 | | 13:44 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95000 | 95.0 | 91500 | 91.5 |
| Antimony | | | 0.28 | | 0.27 | |
| Arsenic | | 20 | 0.25 | | 19.5 | 97.5 |
| Barium | | | 0.22 | | 0.23 | |
| Beryllium | | | 0.0036 | | 0.0056 | |
| Boron | | | 0.27 | | 0.22 | |
| Cadmium | | 20 | 1.1 | | 19.6 | 98.0 |
| Calcium | 100000 | 100000 | 94400 | 94.4 | 92600 | 92.6 |
| Chromium | | 20 | 1.1 | | 19.9 | 99.5 |
| Cobalt | | 20 | 0.045 | | 18.7 | 93.5 |
| Copper | | 20 | 0.43 | | 17.3 | 86.5 |
| Iron | 100000 | 100000 | 95000 | 95.0 | 96800 | 96.8 |
| Lead | | | 0.13 | | 0.13 | |
| Magnesium | 100000 | 100000 | 94000 | 94.0 | 90000 | 90.0 |
| Manganese | | 20 | 0.29 | | 19.1 | 95.5 |
| Molybdenum | 2000 | 2000 | 2050 | 102.5 | 2000 | 100.0 |
| Nickel | | 20 | 1.1 | | 19.2 | 96.0 |
| Potassium | 100000 | 100000 | 95400 | 95.4 | 93400 | 93.4 |
| Selenium | | | 0.18 | | 0.24 | |
| Silver | | 20 | 0.058 | | 19.1 | 95.5 |
| Sodium | 100000 | 100000 | 93300 | 93.3 | 89800 | 89.8 |
| Strontium | | | 5.0* | | 4.9 | |
| Thallium | | | 0.083 | | 0.051 | |
| Tin | | | 0.11 | | 0.094 | |
| Titanium | 2000 | 2000 | 1980 | 99.0 | 1940 | 97.0 |
| Vanadium | | | -0.091 | | -0.068 | |
| Zinc | | 20 | 1.9 | | 18.7 | 93.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:45 | MA16521-STD1 | 1 | | STDA |
| 13:52 | MA16521-STD2 | 1 | | STDB |
| 13:59 | MA16521-STD3 | 1 | | STDC |
| 14:07 | MA16521-STD4 | 1 | | STDD |
| 14:14 | MA16521-STD5 | 1 | | STDE |
| 14:21 | MA16521-STD6 | 1 | | STDF |
| 14:28 | MA16521-STD7 | 1 | | STDG |
| 14:35 | MA16521-STD8 | 1 | | STDH |
| 15:02 | MA16521-ICV1 | 1 | | |
| 15:17 | MA16521-ICB1 | 1 | | |
| 15:24 | MA16521-CCV1 | 1 | | |
| 15:33 | MA16521-CCB1 | 1 | | |
| 15:40 | MA16521-CRI1 | 1 | | |
| 15:52 | MA16521-ICSA1 | 1 | | |
| 15:59 | MA16521-ICSAB1 | 1 | | |
| 16:07 | ZZZZZZ | 1 | | RINSECONF |
| 16:14 | MP22187-MB1 | 5 | | |
| 16:21 | MC25983-10A | 5 | | (sample used for QC only; not part of login MC26418) |
| 16:28 | MC25983-10A | 10 | | (sample used for QC only; not part of login MC26418) |
| 16:35 | MP22187-SD1 | 25 | | |
| 16:42 | MP22187-SD1 | 50 | | |
| 16:49 | MP22187-B1 | 5 | | |
| 16:56 | MA16521-CCV2 | 1 | | |
| 17:04 | MA16521-CCB2 | 1 | | |
| 17:11 | MP22187-S1 | 10 | | |
| 17:18 | MP22187-S2 | 10 | | |
| 17:25 | MP22187-LC1 | 10 | | |
| 17:45 | MA16521-CRI2 | 1 | | |
| 17:54 | ZZZZZZ | 1 | | DNR: HIGH RSD, SEE RERUN FOR CCV. |
| 18:04 | MA16521-CCV3 | 1 | | |
| 18:12 | MA16521-CCB3 | 1 | | |
| 18:19 | MP22178-MB1 | 2 | | |
| 18:26 | MC26418-2F | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:33 | MC26418-3F | 10 | | |
| 18:40 | MC26418-4F | 10 | | |
| 18:47 | MC26418-5F | 10 | | OVER CAL RANGE. |
| 18:54 | MC26418-9F | 50 | | |
| 19:01 | MC26418-10F | 100 | | |
| 19:09 | MC26418-11F | 50 | | |
| ----------> | Last reportable sample/prep for job MC26418 | | | |
| 19:16 | MC26484-4F | 50 | | (sample used for QC only; not part of login MC26418) |
| 19:23 | MP22178-SD1 | 250 | | |
| 19:30 | MA16521-CCV4 | 1 | | |
| 19:37 | MA16521-CCB4 | 1 | | |
| 19:44 | ZZZZZZ | 50 | | |
| 19:51 | ZZZZZZ | 20 | | |
| 19:59 | MP22178-S1 | 50 | | |
| 20:06 | MP22178-S2 | 50 | | |
| 20:13 | ZZZZZZ | 1 | | |
| 20:20 | MA16521-CRI3 | 1 | | |
| 20:27 | MA16521-CCV5 | 1 | | |
| 20:34 | MA16521-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC26418 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:45 | MA16521-STD1 | 2032921 R | 2621135 R | 361541 R | 465850 R | 129632 R | 2265009 R | 2406660 R | 1007957 R |
| 13:52 | MA16521-STD2 | 2051357 | 2597555 | 357832 | 464732 | 128724 | 2248748 | 2377062 | 1005741 |
| 13:59 | MA16521-STD3 | 2045105 | 2590854 | 358232 | 459427 | 128827 | 2250670 | 2373231 | 999223 |
| 14:07 | MA16521-STD4 | 2062773 | 2581120 | 353340 | 452786 | 126855 | 2239019 | 2353376 | 981208 |
| 14:14 | MA16521-STD5 | 2004326 | 2545355 | 352223 | 446665 | 125799 | 2224967 | 2315027 | 972640 |
| 14:21 | MA16521-STD6 | 2026121 | 2580322 | 349789 | 445825 | 124446 | 2218867 | 2331900 | 959821 |
| 14:28 | MA16521-STD7 | 2000390 | 2545467 | 355058 | 452314 | 127460 | 2172832 | 2308410 | 984172 |
| 14:35 | MA16521-STD8 | 1978841 | 2570661 | 357473 | 462575 | 127846 | 2119685 | 2277386 | 962806 |
| 15:02 | MA16521-ICV1 | 1981969 | 2558966 | 349799 | 449671 | 125145 | 2148756 | 2290634 | 947294 |
| 15:17 | MA16521-ICB1 | 2052759 | 2591781 | 360171 | 463015 | 128643 | 2262188 | 2376453 | 1004542 |
| 15:24 | MA16521-CCV1 | 1991610 | 2586355 | 353324 | 451235 | 126404 | 2177443 | 2315668 | 958150 |
| 15:33 | MA16521-CCB1 | 2056894 | 2571619 | 357661 | 462201 | 128649 | 2251091 | 2378634 | 1000219 |
| 15:40 | MA16521-CRI1 | 2043726 | 2598882 | 356309 | 463762 | 128008 | 2236186 | 2379745 | 992196 |
| 15:52 | MA16521-ICSA1 | 1823085 | 2499613 | 346519 | 461114 | 125541 | 1977667 | 2203651 | 906667 |
| 15:59 | MA16521-ICSAB1 | 1825454 | 2541381 | 344648 | 461889 | 125346 | 2028329 | 2259180 | 910891 |
| 16:07 | ZZZZZZ | 2062587 | 2747381 | 363675 | 479498 | 132002 | 2373233 | 2538597 | 1026726 |
| 16:14 | MP22187-MB1 | 2048522 | 2701642 | 357219 | 472136 | 130768 | 2342233 | 2471568 | 1007247 |
| 16:21 | MC25983-10A | 1945459 | 2774879 | 361484 | 454007 | 126019 | 2172160 | 2339339 | 942058 |
| 16:28 | MC25983-10A | 1977586 | 2698701 | 354186 | 450313 | 125598 | 2198374 | 2357079 | 954261 |
| 16:35 | MP22187-SD1 | 2024689 | 2641375 | 358289 | 451376 | 127736 | 2229899 | 2374222 | 980155 |
| 16:42 | MP22187-SD1 | 2065927 | 2704433 | 359086 | 469134 | 129491 | 2290640 | 2433790 | 992632 |
| 16:49 | MP22187-B1 | 1979554 | 2600288 | 347497 | 444985 | 125167 | 2156540 | 2322345 | 961460 |
| 16:56 | MA16521-CCV2 | 1999298 | 2666215 | 351559 | 449166 | 126448 | 2136992 | 2318740 | 972200 |
| 17:04 | MA16521-CCB2 | 2063440 | 2606869 | 350595 | 456610 | 127504 | 2221125 | 2363043 | 985417 |
| 17:11 | MP22187-S1 | 1991462 | 2720803 | 360573 | 453710 | 126943 | 2170010 | 2311924 | 945884 |
| 17:18 | MP22187-S2 | 2005928 | 2700438 | 358144 | 455175 | 126804 | 2158879 | 2319058 | 938854 |
| 17:25 | MP22187-LC1 | 1998832 | 2700737 | 353054 | 444528 | 124317 | 2182569 | 2320012 | 942562 |
| 17:45 | MA16521-CRI2 | 2049778 | 2657824 | 358401 | 463963 | 128905 | 2246289 | 2411355 | 993033 |
| 17:54 | ZZZZZZ | 1992005 | 2645986 | 360100 | 455222 | 127264 | 2182131 | 2336685 | 961802 |
| 18:04 | MA16521-CCV3 | 1982620 | 2615386 | 348897 | 451029 | 125431 | 2157786 | 2303074 | 938940 |
| 18:12 | MA16521-CCB3 | 2030101 | 2602154 | 350079 | 452621 | 126521 | 2212695 | 2346035 | 976170 |
| 18:19 | MP22178-MB1 | 1933453 | 2511126 | 330795 | 445847 | 121674 | 2145885 | 2278165 | 935794 |
| 18:26 | MC26418-2F | 1975551 | 2539682 | 349052 | 452268 | 127612 | 2097283 | 2269337 | 966702 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:33 | MC26418-3F | 2007490 | 2593607 | 348224 | 457469 | 126791 | 2162380 | 2329336 | 965639 |
| 18:40 | MC26418-4F | 1964232 | 2592024 | 341348 | 451963 | 125123 | 2148606 | 2326857 | 935848 |
| 18:47 | MC26418-5F | 1959821 | 2620313 | 344580 | 459193 | 125031 | 2160729 | 2334097 | 949737 |
| 18:54 | MC26418-9F | 1975056 | 2628596 | 348323 | 456179 | 126022 | 2155611 | 2334989 | 963973 |
| 19:01 | MC26418-10F | 2016460 | 2612612 | 356313 | 460509 | 128764 | 2223862 | 2357210 | 970396 |
| 19:09 | MC26418-11F | 2305040 | 3004052 | 369748 | 522509 | 132282 | 2487869 | 2656327 | 994751 |
| 19:16 | MC26484-4F | 2078254 | 2637409 | 364672 | 456716 | 130110 | 2149977 | 2398274 | 987546 |
| 19:23 | MP22178-SD1 | 2090189 | 2676392 | 363350 | 463103 | 130449 | 2198354 | 2383950 | 986073 |
| 19:30 | MA16521-CCV4 | 2053703 | 2701889 | 359703 | 463657 | 127778 | 2195621 | 2311060 | 948749 |
| 19:37 | MA16521-CCB4 | 2110252 | 2735027 | 367070 | 472515 | 131331 | 2310779 | 2357748 | 977033 |
| 19:44 | ZZZZZZ | 2129177 | 2679912 | 367616 | 488511 | 130658 | 2234723 | 2488994 | 987224 |
| 19:51 | ZZZZZZ | 2126694 | 2774437 | 356457 | 469807 | 128922 | 2241744 | 2440312 | 980870 |
| 19:59 | MP22178-S1 | 2144198 | 2746014 | 357316 | 456902 | 128754 | 2239073 | 2368644 | 972965 |
| 20:06 | MP22178-S2 | 2081677 | 2687080 | 353476 | 451957 | 127775 | 2237480 | 2300527 | 947380 |
| 20:13 | ZZZZZZ | 2070349 | 2631061 | 351352 | 455362 | 126600 | 2220844 | 2351722 | 965979 |
| 20:20 | MA16521-CRI3 | 1995471 | 2549211 | 344381 | 446024 | 124421 | 2141431 | 2279354 | 958529 |
| 20:27 | MA16521-CCV5 | 1965653 | 2580331 | 345859 | 442684 | 124222 | 2099988 | 2231341 | 924896 |
| 20:34 | MA16521-CCB5 | 2175074 | 2739640 | 359833 | 470715 | 128715 | 2257984 | 2431554 | 969326 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:45 | MA16521-STD1 | 2763118 R | 1560225 R |
| 13:52 | MA16521-STD2 | 2722485 | 1554686 |
| 13:59 | MA16521-STD3 | 2732906 | 1552304 |
| 14:07 | MA16521-STD4 | 2720161 | 1535773 |
| 14:14 | MA16521-STD5 | 2680398 | 1520102 |
| 14:21 | MA16521-STD6 | 2704284 | 1514912 |
| 14:28 | MA16521-STD7 | 2676919 | 1503676 |
| 14:35 | MA16521-STD8 | 2671606 | 1456283 |
| 15:02 | MA16521-ICV1 | 2681621 | 1475602 |
| 15:17 | MA16521-ICB1 | 2740250 | 1557666 |
| 15:24 | MA16521-CCV1 | 2692459 | 1500433 |
| 15:33 | MA16521-CCB1 | 2712195 | 1537976 |
| 15:40 | MA16521-CRI1 | 2732738 | 1530128 |
| 15:52 | MA16521-ICSA1 | 2704151 | 1371109 |
| 15:59 | MA16521-ICSAB1 | 2763431 | 1426242 |
| 16:07 | ZZZZZZ | 2941124 | 1667406 |
| 16:14 | MP22187-MB1 | 2907583 | 1631895 |
| 16:21 | MC25983-10A | 2843534 | 1550263 |
| 16:28 | MC25983-10A | 2804640 | 1560509 |
| 16:35 | MP22187-SD1 | 2774045 | 1573328 |
| 16:42 | MP22187-SD1 | 2801775 | 1587750 |
| 16:49 | MP22187-B1 | 2771690 | 1511806 |
| 16:56 | MA16521-CCV2 | 2685740 | 1452818 |
| 17:04 | MA16521-CCB2 | 2742451 | 1570995 |
| 17:11 | MP22187-S1 | 2754334 | 1510055 |
| 17:18 | MP22187-S2 | 2761527 | 1511928 |
| 17:25 | MP22187-LC1 | 2728825 | 1527577 |
| 17:45 | MA16521-CRI2 | 2755012 | 1562615 |
| 17:54 | ZZZZZZ | 2749843 | 1507627 |
| 18:04 | MA16521-CCV3 | 2712461 | 1485939 |
| 18:12 | MA16521-CCB3 | 2680712 | 1514979 |
| 18:19 | MP22178-MB1 | 2679946 | 1505386 |
| 18:26 | MC26418-2F | 2621199 | 1486353 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:33 | MC26418-3F | 2672195 | 1487865 |
| 18:40 | MC26418-4F | 2664421 | 1487733 |
| 18:47 | MC26418-5F | 2681276 | 1506512 |
| 18:54 | MC26418-9F | 2659091 | 1460757 |
| 19:01 | MC26418-10F | 2623139 | 1449369 |
| 19:09 | MC26418-11F | 2983950 | 1617505 |
| 19:16 | MC26484-4F | 2560722 | 1377228 |
| 19:23 | MP22178-SD1 | 2611930 | 1355769 |
| 19:30 | MA16521-CCV4 | 2674921 | 1401459 |
| 19:37 | MA16521-CCB4 | 2711833 | 1481060 |
| 19:44 | ZZZZZZ | 2722207 | 1472088 |
| 19:51 | ZZZZZZ | 2805553 | 1512105 |
| 19:59 | MP22178-S1 | 2682247 | 1397869 |
| 20:06 | MP22178-S2 | 2549504 | 1396832 |
| 20:13 | ZZZZZZ | 2636027 | 1487636 |
| 20:20 | MA16521-CRI3 | 2619628 | 1456869 |
| 20:27 | MA16521-CCV5 | 2602499 | 1418996 |
| 20:34 | MA16521-CCB5 | 2682249 | 1464835 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16521  Units: ug/l

| Time: / Sample ID: | | | | 15:17 ICB1 | | 15:33 CCB1 | | 17:04 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 13 | | | | | | |
| Antimony | 0.50 | .0057 | 0.25 | | | | | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.0083 | <0.50 | 0.0031 | <0.50 | -0.0021 | <0.50 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0059 | 0.25 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 0.50 | .003 | 0.25 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 1.0 | .0096 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 1.0 | .31 | 0.50 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 0.50 | .009 | 0.25 | | | | | | |
| Magnesium | 250 | 2.1 | 50 | | | | | | |
| Manganese | 1.0 | .016 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .012 | 0.25 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 5.0 | .02 | 2.5 | | | | | | |
| Thallium | 0.50 | .022 | 0.25 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 2.0 | .094 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16521  Units: ug/l

| Time: / Sample ID: | | | | 18:12 CCB3 | | 19:37 CCB4 | | 20:34 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 13 | | | | | | |
| Antimony | 0.50 | .0057 | 0.25 | | | | | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.0087 | <0.50 | 0.0020 | <0.50 | 0.013 | <0.50 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0059 | 0.25 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 0.50 | .003 | 0.25 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 1.0 | .0096 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 1.0 | .31 | 0.50 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 0.50 | .009 | 0.25 | | | | | | |
| Magnesium | 250 | 2.1 | 50 | | | | | | |
| Manganese | 1.0 | .016 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .012 | 0.25 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 5.0 | .02 | 2.5 | | | | | | |
| Thallium | 0.50 | .022 | 0.25 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 2.0 | .094 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | 15:02 | | | 15:24 | | | 16:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | 60 | 56.6 | 94.3 | 50 | 48.3 | 96.6 | 50 | 47.8 | 95.6 |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | 18:04 | | | 19:30 | | | 20:27 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | 50 | 47.9 | 95.8 | 50 | 48.2 | 96.4 | 50 | 47.6 | 95.2 |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | | 15:40 | | 17:45 | | 20:20 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | anr | | | | | |
| Antimony | 0.50 | 0.50 | anr | | | | | |
| Arsenic | 0.50 | 0.50 | 0.49 | 98.0 | 0.51 | 102.0 | 0.48 | 96.0 |
| Barium | 1.0 | 1.0 | anr | | | | | |
| Beryllium | 0.50 | 0.50 | anr | | | | | |
| Boron | 5.0 | 5.0 | anr | | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | | | |
| Calcium | 250 | 250 | anr | | | | | |
| Chromium | 1.0 | 1.0 | anr | | | | | |
| Cobalt | 0.50 | 0.50 | anr | | | | | |
| Copper | 1.0 | 1.0 | anr | | | | | |
| Iron | 25 | 25 | anr | | | | | |
| Lead | 0.50 | 0.50 | anr | | | | | |
| Magnesium | 250 | 250 | anr | | | | | |
| Manganese | 1.0 | 1.0 | anr | | | | | |
| Molybdenum | 1.0 | 1.0 | anr | | | | | |
| Nickel | 1.0 | 1.0 | anr | | | | | |
| Potassium | 250 | 250 | anr | | | | | |
| Selenium | 0.50 | 0.50 | anr | | | | | |
| Silver | 0.50 | 0.50 | anr | | | | | |
| Sodium | 250 | 250 | anr | | | | | |
| Strontium | 5.0 | 5.0 | anr | | | | | |
| Thallium | 0.50 | 0.50 | anr | | | | | |
| Tin | 5.0 | 5.0 | anr | | | | | |
| Titanium | 1.0 | 1.0 | anr | | | | | |
| Vanadium | 1.0 | 1.0 | anr | | | | | |
| Zinc | 2.0 | 2.0 | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | | 15:52 | | 15:59 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94800 | 94.8 | 92700 | 92.7 |
| Antimony | | | 0.27 | | 0.26 | |
| Arsenic | | 20 | 0.24 | | 19.3 | 96.5 |
| Barium | | | 0.23 | | 0.23 | |
| Beryllium | | | -0.0038 | | -0.0049 | |
| Boron | | | 0.21 | | 0.16 | |
| Cadmium | | 20 | 1.0 | | 19.2 | 96.0 |
| Calcium | 100000 | 100000 | 93500 | 93.5 | 92200 | 92.2 |
| Chromium | | 20 | 0.98 | | 19.2 | 96.0 |
| Cobalt | | 20 | 0.040 | | 18.0 | 90.0 |
| Copper | | 20 | 0.36 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 93100 | 93.1 | 93300 | 93.3 |
| Lead | | | 0.12 | | 0.12 | |
| Magnesium | 100000 | 100000 | 93000 | 93.0 | 91200 | 91.2 |
| Manganese | | 20 | 0.24 | | 18.3 | 91.5 |
| Molybdenum | 2000 | 2000 | 2050 | 102.5 | 2010 | 100.5 |
| Nickel | | 20 | 0.45 | | 18.2 | 91.0 |
| Potassium | 100000 | 100000 | 94800 | 94.8 | 93400 | 93.4 |
| Selenium | | | 0.20 | | 0.10 | |
| Silver | | 20 | 0.054 | | 18.8 | 94.0 |
| Sodium | 100000 | 100000 | 91700 | 91.7 | 89500 | 89.5 |
| Strontium | | | 4.9 | | 4.8 | |
| Thallium | | | 0.028 | | 0.000091 | |
| Tin | | | 0.091 | | 0.086 | |
| Titanium | 2000 | 2000 | 1990 | 99.5 | 1950 | 97.5 |
| Vanadium | | | -0.065 | | -0.061 | |
| Zinc | | 20 | 1.9 | | 18.4 | 92.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16530
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:56 | MA16530-STD1 | 1 | | STDA |
| 16:03 | MA16530-STD2 | 1 | | STDB |
| 16:10 | MA16530-STD3 | 1 | | STDC |
| 16:18 | MA16530-STD4 | 1 | | STDD |
| 16:25 | MA16530-STD5 | 1 | | STDE |
| 16:32 | MA16530-STD6 | 1 | | STDF |
| 16:39 | MA16530-STD7 | 1 | | STDG |
| 16:46 | MA16530-STD8 | 1 | | STDH |
| 16:53 | MA16530-ICV1 | 1 | | |
| 17:01 | MA16530-ICB1 | 1 | | |
| 17:08 | MA16530-CCV1 | 1 | | |
| 17:15 | MA16530-CCB1 | 1 | | |
| 17:22 | MA16530-CRI1 | 1 | | |
| 17:34 | MA16530-ICSA1 | 1 | | |
| 17:42 | MA16530-ICSAB1 | 1 | | |
| 17:54 | ZZZZZZ | 1 | | RINSECONF |
| 18:02 | MP22218-MB1 | 2 | | |
| 18:09 | MC26931-1 | 2 | | (sample used for QC only; not part of login MC26418) |
| 18:16 | MP22218-SD1 | 10 | | |
| 18:23 | ZZZZZZ | 2 | | |
| 18:30 | MP22218-B1 | 5 | | |
| 18:37 | MP22218-S1 | 5 | | |
| 18:44 | MA16530-CCV2 | 1 | | |
| 18:51 | MA16530-CCB2 | 1 | | |
| 18:59 | MP22218-S2 | 5 | | |
| 19:06 | MC26418-5F | 100 | | |
| ----------> | Last reportable sample/prep for job MC26418 | | | |
| 19:13 | ZZZZZZ | 1 | | RINSECONF |
| 19:20 | MA16530-CRI2 | 1 | | |
| 19:27 | MA16530-CCV3 | 1 | | |
| 19:34 | MA16530-CCB3 | 1 | | |
| ----------> | Last reportable CCB for job MC26418 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16530
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 15:56 | MA16530-STD1 | 1842766 R | 2524511 R | 345410 R | 463635 R | 125267 R | 2323410 R | 2386790 R | 996705 R |
| 16:03 | MA16530-STD2 | 1863187 | 2514753 | 343043 | 461482 | 125469 | 2312861 | 2392588 | 993033 |
| 16:10 | MA16530-STD3 | 1842680 | 2517839 | 346823 | 460539 | 126057 | 2322904 | 2383408 | 1006473 |
| 16:18 | MA16530-STD4 | 1866738 | 2539067 | 342198 | 459613 | 125248 | 2331012 | 2416434 | 988297 |
| 16:25 | MA16530-STD5 | 1862054 | 2498454 | 337962 | 452660 | 123416 | 2321926 | 2383832 | 974611 |
| 16:32 | MA16530-STD6 | 1857847 | 2503853 | 336311 | 446608 | 122042 | 2298374 | 2379429 | 957732 |
| 16:39 | MA16530-STD7 | 1846110 | 2524394 | 341848 | 461029 | 124882 | 2295509 | 2379861 | 990448 |
| 16:46 | MA16530-STD8 | 1819380 | 2542221 | 340509 | 468204 | 124755 | 2227733 | 2341461 | 968913 |
| 16:53 | MA16530-ICV1 | 1929234 | 2628668 | 346677 | 464384 | 124892 | 2289429 | 2389859 | 987183 |
| 17:01 | MA16530-ICB1 | 2021486 | 2690938 | 341189 | 478555 | 125285 | 2382698 | 2450758 | 999394 |
| 17:08 | MA16530-CCV1 | 1923529 | 2619070 | 340449 | 460328 | 123355 | 2282535 | 2379807 | 966548 |
| 17:15 | MA16530-CCB1 | 1935946 | 2623781 | 340406 | 460950 | 124328 | 2292336 | 2419958 | 999546 |
| 17:22 | MA16530-CRI1 | 1837242 | 2538005 | 345358 | 461077 | 125506 | 2307608 | 2395633 | 1001043 |
| 17:34 | MA16530-ICSA1 | 1655826 | 2445810 | 334780 | 465403 | 124083 | 2057466 | 2239205 | 915983 |
| 17:42 | MA16530-ICSAB1 | 1631425 | 2471975 | 330985 | 465776 | 122252 | 2093918 | 2281193 | 909065 |
| 17:54 | ZZZZZZ | 1723831 | 2473255 | 339616 | 460747 | 125741 | 2292356 | 2411482 | 999181 |
| 18:02 | MP22218-MB1 | 1649617 | 2497605 | 331471 | 455680 | 123403 | 2307904 | 2415911 | 981783 |
| 18:09 | MC26931-1 | 1529229 | 2344567 | 327396 | 436322 | 122144 | 2108109 | 2250604 | 969170 |
| 18:16 | MP22218-SD1 | 1756957 | 2528603 | 337672 | 461624 | 124531 | 2314504 | 2421648 | 1002919 |
| 18:23 | ZZZZZZ | 1539095 | 2430515 | 323961 | 446793 | 121054 | 2149311 | 2329595 | 954715 |
| 18:30 | MP22218-B1 | 1823234 | 2599127 | 339929 | 460845 | 122908 | 2292152 | 2434797 | 984057 |
| 18:37 | MP22218-S1 | 1795005 | 2540821 | 333207 | 459881 | 122125 | 2234074 | 2381048 | 958414 |
| 18:44 | MA16530-CCV2 | 1831677 | 2535073 | 337819 | 455877 | 122820 | 2231365 | 2379173 | 968630 |
| 18:51 | MA16530-CCB2 | 1774878 | 2488922 | 335774 | 451856 | 123142 | 2282719 | 2368127 | 988323 |
| 18:59 | MP22218-S2 | 1675586 | 2492274 | 336393 | 442250 | 121487 | 2186143 | 2317367 | 947004 |
| 19:06 | MC26418-5F | 1907920 | 2545578 | 344947 | 466741 | 126556 | 2317342 | 2406724 | 1001293 |
| 19:13 | ZZZZZZ | 1791459 | 2509768 | 350612 | 457121 | 126560 | 2292813 | 2390008 | 1016775 |
| 19:20 | MA16530-CRI2 | 1908805 | 2569263 | 338700 | 461930 | 123068 | 2292828 | 2409149 | 988950 |
| 19:27 | MA16530-CCV3 | 1740798 | 2500839 | 332745 | 442722 | 121093 | 2218443 | 2309428 | 951158 |
| 19:34 | MA16530-CCB3 | 1769041 | 2524925 | 336872 | 457806 | 123665 | 2305733 | 2398742 | 987122 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16530
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| Istd#8 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16530
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 15:56 | MA16530-STD1 | 2826049 R | 1559032 R |
| 16:03 | MA16530-STD2 | 2836369 | 1560303 |
| 16:10 | MA16530-STD3 | 2827000 | 1550896 |
| 16:18 | MA16530-STD4 | 2889175 | 1579959 |
| 16:25 | MA16530-STD5 | 2844505 | 1551347 |
| 16:32 | MA16530-STD6 | 2830494 | 1546464 |
| 16:39 | MA16530-STD7 | 2821730 | 1543222 |
| 16:46 | MA16530-STD8 | 2828907 | 1490158 |
| 16:53 | MA16530-ICV1 | 2919847 | 1545584 |
| 17:01 | MA16530-ICB1 | 2858081 | 1599770 |
| 17:08 | MA16530-CCV1 | 2864241 | 1517202 |
| 17:15 | MA16530-CCB1 | 2862374 | 1609914 |
| 17:22 | MA16530-CRI1 | 2823407 | 1557083 |
| 17:34 | MA16530-ICSA1 | 2780789 | 1402385 |
| 17:42 | MA16530-ICSAB1 | 2848180 | 1422805 |
| 17:54 | ZZZZZZ | 2902851 | 1608767 |
| 18:02 | MP22218-MB1 | 2953767 | 1606720 |
| 18:09 | MC26931-1 | 2773166 | 1499886 |
| 18:16 | MP22218-SD1 | 2889091 | 1584096 |
| 18:23 | ZZZZZZ | 2837679 | 1510008 |
| 18:30 | MP22218-B1 | 2942273 | 1551412 |
| 18:37 | MP22218-S1 | 2875185 | 1520223 |
| 18:44 | MA16530-CCV2 | 2857472 | 1537996 |
| 18:51 | MA16530-CCB2 | 2822079 | 1554178 |
| 18:59 | MP22218-S2 | 2829623 | 1491788 |
| 19:06 | MC26418-5F | 2846250 | 1548937 |
| 19:13 | ZZZZZZ | 2846889 | 1548447 |
| 19:20 | MA16530-CRI2 | 2844849 | 1576483 |
| 19:27 | MA16530-CCV3 | 2825784 | 1494740 |
| 19:34 | MA16530-CCB3 | 2837038 | 1562874 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16530  Units: ug/l

| Time: | | | | 17:01 | | 17:15 | | 18:51 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | | ICB1 | | CCB1 | | CCB2 | |
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 13 | | | | | | |
| Antimony | 0.50 | .0057 | 0.25 | | | | | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.017 | <0.50 | 0.014 | <0.50 | 0.0047 | <0.50 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0059 | 0.25 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 0.50 | .003 | 0.25 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 1.0 | .0096 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 1.0 | .31 | 0.50 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 0.50 | .009 | 0.25 | | | | | | |
| Magnesium | 250 | 2.1 | 50 | | | | | | |
| Manganese | 1.0 | .016 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .012 | 0.25 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 5.0 | .02 | 2.5 | | | | | | |
| Thallium | 0.50 | .022 | 0.25 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 2.0 | .094 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16530  Units: ug/l

| Time: | | | | 19:34 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB3 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 25 | .77 | 13 | | |
| Antimony | 0.50 | .0057 | 0.25 | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.022 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | |
| Beryllium | 0.50 | .0059 | 0.25 | | |
| Boron | 5.0 | .068 | 2.5 | | |
| Cadmium | 0.50 | .003 | 0.25 | | |
| Calcium | 250 | 6 | 50 | | |
| Chromium | 1.0 | .0096 | 0.50 | | |
| Cobalt | 0.50 | .0012 | 0.25 | | |
| Copper | 1.0 | .31 | 0.50 | | |
| Iron | 25 | .29 | 13 | | |
| Lead | 0.50 | .009 | 0.25 | | |
| Magnesium | 250 | 2.1 | 50 | | |
| Manganese | 1.0 | .016 | 0.50 | | |
| Molybdenum | 1.0 | .026 | 0.50 | | |
| Nickel | 1.0 | .013 | 0.50 | | |
| Potassium | 250 | 13 | 50 | | |
| Selenium | 0.50 | .13 | 0.25 | | |
| Silver | 0.50 | .012 | 0.25 | | |
| Sodium | 250 | 15 | 50 | | |
| Strontium | 5.0 | .02 | 2.5 | | |
| Thallium | 0.50 | .022 | 0.25 | | |
| Tin | 5.0 | .0078 | 2.5 | | |
| Titanium | 1.0 | .031 | 0.50 | | |
| Vanadium | 2.0 | .057 | 1.0 | | |
| Zinc | 2.0 | .094 | 1.0 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16530  Units: ug/l

| Time: | | 16:53 | | | 17:08 | | | 18:44 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 58.0 | 96.7 | 50 | 49.9 | 99.8 | 50 | 49.4 | 98.8 |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16530  Units: ug/l

| Time: | | 19:27 | |
|---|---|---|---|
| Sample ID: | CCV | CCV3 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | 50 | 49.5 | 99.0 |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | | | |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Iron | anr | | |
| Lead | | | |
| Magnesium | | | |
| Manganese | anr | | |
| Molybdenum | | | |
| Nickel | | | |
| Potassium | | | |
| Selenium | | | |
| Silver | | | |
| Sodium | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Vanadium | | | |
| Zinc | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16530  Units: ug/l

| Time: | | | 17:22 | | 19:20 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | |
| Antimony | 0.50 | 0.50 | | | | |
| Arsenic | 0.50 | 0.50 | 0.53 | 106.0 | 0.54 | 108.0 |
| Barium | 1.0 | 1.0 | | | | |
| Beryllium | 0.50 | 0.50 | | | | |
| Boron | 5.0 | 5.0 | | | | |
| Cadmium | 0.50 | 0.50 | | | | |
| Calcium | 250 | 250 | | | | |
| Chromium | 1.0 | 1.0 | | | | |
| Cobalt | 0.50 | 0.50 | | | | |
| Copper | 1.0 | 1.0 | | | | |
| Iron | 25 | 25 | anr | | | |
| Lead | 0.50 | 0.50 | | | | |
| Magnesium | 250 | 250 | | | | |
| Manganese | 1.0 | 1.0 | anr | | | |
| Molybdenum | 1.0 | 1.0 | | | | |
| Nickel | 1.0 | 1.0 | | | | |
| Potassium | 250 | 250 | | | | |
| Selenium | 0.50 | 0.50 | | | | |
| Silver | 0.50 | 0.50 | | | | |
| Sodium | 250 | 250 | | | | |
| Strontium | 5.0 | 5.0 | | | | |
| Thallium | 0.50 | 0.50 | | | | |
| Tin | 5.0 | 5.0 | | | | |
| Titanium | 1.0 | 1.0 | | | | |
| Vanadium | 1.0 | 1.0 | | | | |
| Zinc | 2.0 | 2.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120913W1L.AGF  Date Analyzed: 12/09/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16530  Units: ug/l

| Time: | | | 17:34 | | 17:42 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 96200 | 96.2 | 94800 | 94.8 |
| Antimony | | | 0.29* | | 0.30* | |
| Arsenic | | 20 | 0.31 | | 20.2 | 101.0 |
| Barium | | | 0.24 | | 0.26 | |
| Beryllium | | | 0.0041 | | 0.0039 | |
| Boron | | | 0.29 | | 0.24 | |
| Cadmium | | 20 | 1.2* | | 20.3 | 101.5 |
| Calcium | 100000 | 100000 | 94600 | 94.6 | 93500 | 93.5 |
| Chromium | | 20 | 0.99* | | 19.8 | 99.0 |
| Cobalt | | 20 | 0.042 | | 18.7 | 93.5 |
| Copper | | 20 | 0.39 | | 17.9 | 89.5 |
| Iron | 100000 | 100000 | 95500 | 95.5 | 95700 | 95.7 |
| Lead | | | 0.13 | | 0.13 | |
| Magnesium | 100000 | 100000 | 94200 | 94.2 | 92600 | 92.6 |
| Manganese | | 20 | 0.22 | | 19.1 | 95.5 |
| Molybdenum | 2000 | 2000 | 2110 | 105.5 | 2110 | 105.5 |
| Nickel | | 20 | 0.35 | | 18.5 | 92.5 |
| Potassium | 100000 | 100000 | 96400 | 96.4 | 95900 | 95.9 |
| Selenium | | | 0.055 | | 0.012 | |
| Silver | | 20 | 0.057 | | 19.4 | 97.0 |
| Sodium | 100000 | 100000 | 93500 | 93.5 | 91700 | 91.7 |
| Strontium | | | 5.1* | | 5.0* | |
| Thallium | | | 0.084 | | 0.059 | |
| Tin | | | 0.11 | | 0.10 | |
| Titanium | 2000 | 2000 | 2050 | 102.5 | 2030 | 101.5 |
| Vanadium | | | 0.10 | | 0.10 | |
| Zinc | | 20 | 2.2* | | 19.7 | 98.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:50 | MA16536-STD1 | 1 | | STD1 |
| 13:55 | MA16536-STD2 | 1 | | STD2 |
| 14:00 | MA16536-STD3 | 1 | | STD3 |
| 14:05 | MA16536-STD4 | 1 | | STD4 |
| 14:10 | MA16536-ICV1 | 1 | | |
| 14:17 | MA16536-ICB1 | 1 | | |
| 14:22 | MA16536-CCV1 | 1 | | |
| 14:30 | MA16536-CCB1 | 1 | | |
| 14:35 | MA16536-CRI1 | 1 | | |
| 14:40 | MA16536-ICSA1 | 1 | | |
| 14:45 | MA16536-ICSAB1 | 1 | | |
| 14:50 | MP22168A-B1 | 1 | | |
| 14:54 | MP22168A-MB1 | 1 | | |
| 14:59 | MP22168A-S1 | 1 | | |
| 15:04 | MP22168A-S2 | 1 | | |
| 15:09 | MC26418-1F | 1 | | |
| 15:14 | MP22168A-SD1 | 5 | | |
| 15:19 | MC26418-10F | 1 | | |
| 15:24 | MA16536-CCV2 | 1 | | |
| 15:29 | MA16536-CCB2 | 1 | | |
| 15:35 | MC26418-11F | 1 | | |
| 15:40 | MC26418-12F | 1 | | |
| 15:45 | MC26418-13F | 1 | | |
| 15:50 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 15:55 | MC26418-15F | 1 | | |
| 16:00 | MC26418-16F | 1 | | |
| 16:05 | MC26418-2F | 1 | | |
| 16:10 | MC26418-3F | 1 | | |
| 16:15 | MC26418-4F | 1 | | |
| 16:20 | MC26418-5F | 1 | | |
| 16:25 | MA16536-CCV3 | 1 | | |
| 16:29 | MA16536-CCB3 | 1 | | |
| 16:34 | MC26418-6F | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:39 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 16:44 | MC26418-8F | 1 | | |
| 16:49 | MC26418-9F | 1 | | |
| ----------> | Last reportable sample/prep for job MC26418 | | | |
| 16:54 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 16:59 | MP22178A-B1 | 1 | | |
| 17:04 | MP22178A-MB1 | 1 | | |
| 17:09 | MP22178A-S1 | 1 | | |
| 17:13 | MP22178A-S2 | 1 | | |
| 17:18 | MC26484-4F | 1 | | (sample used for QC only; not part of login MC26418) |
| 17:23 | MA16536-CCV4 | 1 | | |
| 17:28 | MA16536-CCB4 | 1 | | |
| 17:33 | MP22178A-SD1 | 5 | | |
| 17:38 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 17:43 | ZZZZZZ | 1 | | |
| 17:48 | ZZZZZZ | 1 | | |
| 17:53 | ZZZZZZ | 1 | | |
| 17:58 | ZZZZZZ | 1 | | |
| 18:03 | ZZZZZZ | 1 | | |
| 18:08 | ZZZZZZ | 1 | | |
| 18:13 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 18:18 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 18:23 | MA16536-CCV5 | 1 | | |
| 18:28 | MA16536-CCB5 | 1 | | |
| 18:33 | MA16536-CRI2 | 1 | | |
| 18:38 | MA16536-CCV6 | 1 | | |
| 18:42 | MA16536-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC26418 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 13:50 | MA16536-STD1 | 1097 R | 51249 R | 17948 R |
| 13:55 | MA16536-STD2 | 1087 | 51236 | 18097 |
| 14:00 | MA16536-STD3 | | | 18248 |
| 14:05 | MA16536-STD4 | 1100 | 50704 | 18087 |
| 14:10 | MA16536-ICV1 | 1085 | 50364 | 18360 |
| 14:17 | MA16536-ICB1 | 1088 | 51150 | 18134 |
| 14:22 | MA16536-CCV1 | 1085 | 50872 | 18358 |
| 14:30 | MA16536-CCB1 | 1089 | 51291 | 18165 |
| 14:35 | MA16536-CRI1 | 1088 | 51096 | 18153 |
| 14:40 | MA16536-ICSA1 | 995 | 47322 | 17816 |
| 14:45 | MA16536-ICSAB1 | 1003 | 47411 | 17916 |
| 14:50 | MP22168A-B1 | 1088 | 51349 | 18255 |
| 14:54 | MP22168A-MB1 | 1091 | 51614 | 18227 |
| 14:59 | MP22168A-S1 | 1074 | 51009 | 18107 |
| 15:04 | MP22168A-S2 | 1073 | 50663 | 18117 |
| 15:09 | MC26418-1F | 1078 | 50474 | 18108 |
| 15:14 | MP22168A-SD1 | 1081 | 50921 | 18165 |
| 15:19 | MC26418-10F | 1071 | 51069 | 18183 |
| 15:24 | MA16536-CCV2 | 1079 | 50907 | 18294 |
| 15:29 | MA16536-CCB2 | 1084 | 51427 | 18099 |
| 15:35 | MC26418-11F | 1070 | 50857 | 18272 |
| 15:40 | MC26418-12F | 1077 | 51159 | 18307 |
| 15:45 | MC26418-13F | 1063 | 51087 | 18193 |
| 15:50 | ZZZZZZ | 1079 | 51474 | 18176 |
| 15:55 | MC26418-15F | 1057 | 50881 | 18054 |
| 16:00 | MC26418-16F | 1082 | 51410 | 18322 |
| 16:05 | MC26418-2F | 1070 | 50995 | 18247 |
| 16:10 | MC26418-3F | 1072 | 51068 | 18224 |
| 16:15 | MC26418-4F | 1075 | 51238 | 18332 |
| 16:20 | MC26418-5F | 1069 | 51027 | 18178 |
| 16:25 | MA16536-CCV3 | 1073 | 50915 | 18277 |
| 16:29 | MA16536-CCB3 | 1075 | 51058 | 18080 |
| 16:34 | MC26418-6F | 1077 | 51204 | 18310 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 16:39 | ZZZZZZ | 1076 | 51316 | 18252 |
| 16:44 | MC26418-8F | 1076 | 51454 | 18167 |
| 16:49 | MC26418-9F | 1064 | 51192 | 18199 |
| 16:54 | ZZZZZZ | 1076 | 52107 | 18301 |
| 16:59 | MP22178A-B1 | 1057 | 50732 | 18075 |
| 17:04 | MP22178A-MB1 | 1062 | 51036 | 18241 |
| 17:09 | MP22178A-S1 | 1048 | 50400 | 18188 |
| 17:13 | MP22178A-S2 | 1047 | 49999 | 18065 |
| 17:18 | MC26484-4F | 1052 | 50470 | 18134 |
| 17:23 | MA16536-CCV4 | 1066 | 50790 | 18234 |
| 17:28 | MA16536-CCB4 | 1069 | 50880 | 18101 |
| 17:33 | MP22178A-SD1 | 1069 | 51131 | 18049 |
| 17:38 | ZZZZZZ | 923 | 46357 | 16586 |
| 17:43 | ZZZZZZ | 1076 | 50940 | 18173 |
| 17:48 | ZZZZZZ | 1074 | 51216 | 18120 |
| 17:53 | ZZZZZZ | 1074 | 51246 | 18158 |
| 17:58 | ZZZZZZ | 1041 | 50271 | 18016 |
| 18:03 | ZZZZZZ | 1056 | 50690 | 18046 |
| 18:08 | ZZZZZZ | 1056 | 50697 | 18190 |
| 18:13 | ZZZZZZ | 1056 | 50691 | 18154 |
| 18:18 | ZZZZZZ | 1059 | 50747 | 18155 |
| 18:23 | MA16536-CCV5 | 1069 | 51028 | 18231 |
| 18:28 | MA16536-CCB5 | 1074 | 51421 | 18107 |
| 18:33 | MA16536-CRI2 | 1073 | 51402 | 18166 |
| 18:38 | MA16536-CCV6 | 1075 | 50955 | 18223 |
| 18:42 | MA16536-CCB6 | 1074 | 51343 | 18035 |

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: | | | | 14:17 ICB1 | | 14:30 CCB1 | | 15:29 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 3.4 | <5000 | -0.40 | <5000 | 0.0 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 4.5 | <100 | 2.0 | <100 | 1.4 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 5.5 | <5000 | -2.9 | <5000 | -4.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.30 | <15 | 0.20 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 4.3 | <5000 | 0.50 | <5000 | 15.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 1.3 | <5000 | -4.8 | <5000 | 0.20 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: | | | | 16:29 CCB3 | | 17:28 CCB4 | | 18:28 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.90 | <5000 | -0.80 | <5000 | 2.3 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.4 | <100 | 0.80 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -13 | <5000 | -2.3 | <5000 | -4.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.10 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 3.8 | <5000 | 33.7 | <5000 | 19.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -4.5 | <5000 | 3.8 | <5000 | 23.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | | 18:42 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 6.1 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | |
| Barium | 50 | .19 | 2.5 | | |
| Beryllium | 4.0 | .08 | 0.90 | | |
| Boron | 100 | .81 | 5.0 | | |
| Cadmium | 4.0 | .22 | 1.9 | | |
| Calcium | 5000 | 8.5 | 150 | 0.10 | <5000 |
| Chromium | 10 | .74 | 5.0 | | |
| Cobalt | 50 | .28 | 1.5 | | |
| Copper | 25 | .86 | 8.0 | | |
| Gold | 50 | 1.8 | 8.0 | | |
| Iron | 100 | 4.4 | 30 | 2.6 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | |
| Magnesium | 5000 | 43 | 200 | -13 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.40 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2 | 30 | | |
| Platinum | 50 | 8.7 | 30 | | |
| Potassium | 5000 | 24 | 500 | 3.2 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | |
| Silicon | 100 | 2.1 | 50 | | |
| Silver | 5.0 | .47 | 3.5 | | |
| Sodium | 5000 | 42 | 200 | 17.9 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | |
| Strontium | 10 | .1 | 0.90 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 5.0 | | |
| Titanium | 50 | .48 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .9 | 8.0 | | |
| Zinc | 20 | .91 | 1.5 | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 14:10 | | | 14:22 | | | 15:24 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17500 | 97.2 | 10000 | 9760 | 97.6 | 10000 | 9740 | 97.4 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17900 | 99.4 | 10000 | 9870 | 98.7 | 10000 | 9950 | 99.5 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 17600 | 97.8 | 10000 | 9550 | 95.5 | 10000 | 9550 | 95.5 |
| Manganese | 3000 | 2950 | 98.3 | 2000 | 1930 | 96.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 9870 | 98.7 | 10000 | 9870 | 98.7 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15000 | 100.0 | 10000 | 9810 | 98.1 | 10000 | 9790 | 97.9 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 16:25 | | | 17:23 | | | 18:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9700 | 97.0 | 10000 | 9760 | 97.6 | 10000 | 9690 | 96.9 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9950 | 99.5 | 10000 | 10100 | 101.0 | 10000 | 9980 | 99.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9620 | 96.2 | 10000 | 9750 | 97.5 | 10000 | 9550 | 95.5 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1910 | 95.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9900 | 99.0 | 10000 | 10000 | 100.0 | 10000 | 9880 | 98.8 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9880 | 98.8 | 10000 | 9850 | 98.5 | 10000 | 9780 | 97.8 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 18:38 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | | | |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | 10000 | 9730 | 97.3 |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Gold | | | |
| Iron | 10000 | 9940 | 99.4 |
| Lead | | | |
| Magnesium | 10000 | 9590 | 95.9 |
| Manganese | 2000 | 1910 | 95.5 |
| Molybdenum | | | |
| Nickel | | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 9900 | 99.0 |
| Selenium | | | |
| Silicon | | | |
| Silver | | | |
| Sodium | 10000 | 9840 | 98.4 |
| Sulfur | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA16536 Units: ug/l

| Time: | | | 14:35 | | 18:33 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4960 | 99.2 | 4870 | 97.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 102 | 102.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4800 | 96.0 | 4740 | 94.8 |
| Manganese | 15 | 15 | 15.2 | 101.3 | 14.7 | 98.0 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5020 | 100.4 | 5010 | 100.2 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4990 | 99.8 | 4980 | 99.6 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16536  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | | 14:40 | | 14:45 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 527000 | 105.4 | 522000 | 104.4 |
| Antimony | | 2000 | -0.90 | | 1990 | 99.5 |
| Arsenic | | 2000 | -0.10 | | 2060 | 103.0 |
| Barium | | 500 | -0.10 | | 488 | 97.6 |
| Beryllium | | 500 | 0.0 | | 448 | 89.6 |
| Boron | | 1000 | 6.8* | | 979 | 97.9 |
| Cadmium | | 1000 | -0.10 | | 984 | 98.4 |
| Calcium | 500000 | 500000 | 449000 | 89.8 | 446000 | 89.2 |
| Chromium | | 500 | -0.60 | | 478 | 95.6 |
| Cobalt | | 500 | 0.20 | | 472 | 94.4 |
| Copper | | 500 | 0.40 | | 528 | 105.6 |
| Gold | | 500 | -1.1 | | 494 | 98.8 |
| Iron | 200000 | 200000 | 180000 | 90.0 | 179000 | 89.5 |
| Lead | | 1000 | -0.10 | | 903 | 90.3 |
| Magnesium | 500000 | 500000 | 511000 | 102.2 | 508000 | 101.6 |
| Manganese | | 500 | 0.10 | | 477 | 95.4 |
| Molybdenum | | 1000 | -1.5 | | 947 | 94.7 |
| Nickel | | 1000 | 0.20 | | 858 | 85.8 |
| Palladium | | 500 | -14 | | 538 | 107.6 |
| Platinum | | 500 | -27 | | 484 | 96.8 |
| Potassium | | | -55 | | -77 | |
| Selenium | | 2000 | -0.50 | | 1890 | 94.5 |
| Silicon | | 2000 | 5720* | | 7500 | 375.0* |
| Silver | | 1000 | 0.20 | | 1050 | 105.0 |
| Sodium | | | 30.2 | | 29.6 | |
| Sulfur | | 500 | 84.3* | | 568 | 113.6 |
| Strontium | | 1000 | -8.4* | | 955 | 95.5 |
| Thallium | | 2000 | -0.40 | | 1820 | 91.0 |
| Tin | | 1000 | -0.10 | | 982 | 98.2 |
| Titanium | | 500 | 5.7* | | 501 | 100.2 |
| Tungsten | | 2000 | -5.3 | | 1910 | 95.5 |
| Vanadium | | 500 | 0.90 | | 491 | 98.2 |
| Zinc | | 1000 | 0.40 | | 899 | 89.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: / Metal | | | | |
|---|---|---|---|---|
| Zirconium | 500 | -24* | 382 | 76.4* |

(*) Outside of QC limits
(anr) Analyte not requested

6.4.5

6

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:53 | MA16557-STD1 | 1 | | STD1 |
| 17:58 | MA16557-STD2 | 1 | | STD2 |
| 18:03 | MA16557-STD3 | 1 | | STD3 |
| 18:08 | MA16557-STD4 | 1 | | STD4 |
| 18:13 | ZZZZZZ | 1 | | DNR: WRONG SOLUTION, SEE RERUN FOR ICV. |
| 18:20 | MA16557-ICV1 | 1 | | |
| 18:27 | MA16557-ICB1 | 1 | | |
| 18:32 | MA16557-CCV1 | 1 | | |
| 18:43 | MA16557-CCB1 | 1 | | |
| 18:51 | MA16557-CRI1 | 1 | | |
| 18:55 | MA16557-ICSA1 | 1 | | |
| 19:00 | MA16557-ICSAB1 | 1 | | |
| 19:05 | MP22168A-S1 | 5 | | |
| 19:10 | MP22168A-S2 | 5 | | |
| 19:15 | MC26418-1F | 3 | | |
| 19:20 | MP22168A-SD1 | 15 | | |
| 19:25 | MC26418-2F | 3 | | |
| 19:30 | MC26418-2F | 5 | | |
| 19:34 | MC26418-3F | 3 | | |
| 19:39 | MA16557-CCV2 | 1 | | |
| 19:44 | MA16557-CCB2 | 1 | | |
| 19:49 | MC26418-3F | 5 | | |
| 19:54 | MC26418-4F | 3 | | |
| 19:59 | MC26418-5F | 3 | | |
| 20:04 | MC26418-5F | 10 | | |
| 20:09 | MC26418-6F | 5 | | |
| 20:14 | MC26418-8F | 5 | | |
| 20:19 | MC26418-9F | 5 | | |
| 20:23 | MC26418-10F | 5 | | |
| 20:28 | MC26418-11F | 3 | | |
| 20:33 | MC26418-11F | 10 | | |
| 20:38 | MA16557-CCV3 | 1 | | |
| 20:43 | MA16557-CCB3 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| | Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|---|
| | 20:48 | MC26418-12F | 2 | | |
| | 20:53 | MC26418-13F | 2 | | |
| | 20:58 | MC26418-13F | 10 | | |
| | 21:03 | MC26418-15F | 3 | | |
| | 21:08 | MC26418-15F | 10 | | |
| | 21:13 | MP22168A-PS1 | 1 | | |
| | 21:17 | MP22168A-PS1 | 10 | | |
| ----------> | | Last reportable sample/prep for job MC26418 | | | |
| | 21:22 | MP22178A-S1 | 5 | | |
| | 21:27 | MP22178A-S2 | 5 | | |
| | 21:32 | MC26484-4F | 5 | | (sample used for QC only; not part of login MC26418) |
| | 21:37 | MA16557-CCV4 | 1 | | |
| | 21:42 | MA16557-CCB4 | 1 | | |
| | 21:47 | MP22178A-MB1 | 1 | | |
| | 21:52 | MP22178A-SD1 | 25 | | |
| | 21:57 | MP22178A-S1 | 10 | | |
| | 22:01 | MP22178A-S2 | 10 | | |
| | 22:06 | ZZZZZZ | 5 | | |
| | 22:11 | ZZZZZZ | 5 | | |
| | 22:16 | ZZZZZZ | 5 | | |
| | 22:21 | ZZZZZZ | 5 | | |
| | 22:26 | ZZZZZZ | 10 | | |
| | 22:31 | ZZZZZZ | 2 | | |
| | 22:36 | MA16557-CCV5 | 1 | | |
| | 22:41 | MA16557-CCB5 | 1 | | |
| | 22:46 | ZZZZZZ | 10 | | |
| | 22:51 | ZZZZZZ | 2 | | |
| | 22:56 | MP22178A-PS1 | 1 | | |
| | 23:00 | MP22178A-PS1 | 10 | | |
| | 23:05 | ZZZZZZ | 5 | | |
| | 23:10 | ZZZZZZ | 10 | | |
| | 23:15 | MA16557-CRI2 | 1 | | |
| | 23:20 | MA16557-ICSA2 | 1 | | |
| | 23:25 | MA16557-ICSAB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| | Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|---|
| | 23:30 | MA16557-CCV6 | 1 | | |
| | 23:35 | MA16557-CCB6 | 1 | | |
| -----------> | Last reportable CCB for job MC26418 | | | | |
| | 23:40 | MA16557-CRIA1 | 1 | | |
| | 23:45 | MP22244-B1 | 1 | | |
| | 23:50 | MP22244-MB1 | 1 | | |
| | 23:54 | MP22244-S1 | 1 | | |
| | 00:00 | MP22244-S2 | 1 | | |
| | 00:04 | MC26955-7 | 1 | | (sample used for QC only; not part of login MC26418) |
| | 00:10 | MP22244-SD1 | 5 | | |
| | 00:14 | MP22244-B2 | 1 | | |
| | 00:19 | MP22244-LC1 | 1 | | |
| | 00:24 | ZZZZZZ | 1 | | |
| | 00:29 | MA16557-CCV7 | 1 | | |
| | 00:34 | MA16557-CCB7 | 1 | | |
| | 00:39 | ZZZZZZ | 1 | | |
| | 00:43 | ZZZZZZ | 1 | | |
| | 00:48 | ZZZZZZ | 1 | | |
| | 00:53 | ZZZZZZ | 1 | | |
| | 00:58 | ZZZZZZ | 1 | | |
| | 01:03 | ZZZZZZ | 1 | | |
| | 01:08 | ZZZZZZ | 1 | | |
| | 01:12 | ZZZZZZ | 1 | | |
| | 01:17 | ZZZZZZ | 1 | | |
| | 01:22 | ZZZZZZ | 1 | | |
| | 01:28 | MA16557-CCV8 | 1 | | |
| | 01:32 | MA16557-CCB8 | 1 | | |
| | 01:37 | ZZZZZZ | 1 | | |
| | 01:42 | ZZZZZZ | 1 | | |
| | 01:47 | ZZZZZZ | 1 | | |
| | 01:52 | ZZZZZZ | 1 | | |
| | 01:58 | ZZZZZZ | 1 | | |
| | 02:02 | ZZZZZZ | 1 | | |
| | 02:07 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:12 | ZZZZZZ | 1 | | |
| 02:17 | ZZZZZZ | 1 | | |
| 02:22 | MA16557-CCV9 | 1 | | |
| 02:27 | MA16557-CCB9 | 1 | | |
| 02:32 | MA16557-CRIA2 | 1 | | |
| 02:37 | MA16557-ICSA3 | 1 | | |
| 02:42 | MA16557-ICSAB3 | 1 | | |
| 02:47 | MA16557-CCV10 | 1 | | |
| 02:51 | MA16557-CCB10 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:53 | MA16557-STD1 | 1160 R | 57505 R | 18747 R |
| 17:58 | MA16557-STD2 | 1152 | 57635 | 18696 |
| 18:03 | MA16557-STD3 | | | 18931 |
| 18:08 | MA16557-STD4 | 1174 | 57499 | 18781 |
| 18:13 | ZZZZZZ | 1174 | 57228 | 18904 |
| 18:20 | MA16557-ICV1 | 1160 | 57170 | 19026 |
| 18:27 | MA16557-ICB1 | 1168 | 57829 | 18810 |
| 18:32 | MA16557-CCV1 | 1168 | 57389 | 18839 |
| 18:43 | MA16557-CCB1 | 1165 | 57745 | 18825 |
| 18:51 | MA16557-CRI1 | 1169 | 57772 | 18760 |
| 18:55 | MA16557-ICSA1 | 1085 | 53577 | 18430 |
| 19:00 | MA16557-ICSAB1 | 1089 | 53441 | 18532 |
| 19:05 | MP22168A-S1 | 1187 | 57529 | 18945 |
| 19:10 | MP22168A-S2 | 1183 | 57765 | 19042 |
| 19:15 | MC26418-1F | 1176 | 57706 | 18935 |
| 19:20 | MP22168A-SD1 | 1172 | 57946 | 18856 |
| 19:25 | MC26418-2F | 1167 | 57903 | 18923 |
| 19:30 | MC26418-2F | 1164 | 58174 | 18802 |
| 19:34 | MC26418-3F | 1161 | 58280 | 18853 |
| 19:39 | MA16557-CCV2 | 1161 | 57824 | 18875 |
| 19:44 | MA16557-CCB2 | 1164 | 57557 | 18737 |
| 19:49 | MC26418-3F | 1165 | 57846 | 18798 |
| 19:54 | MC26418-4F | 1173 | 57714 | 18720 |
| 19:59 | MC26418-5F | 1175 | 57292 | 18476 |
| 20:04 | MC26418-5F | 1178 | 57465 | 18867 |
| 20:09 | MC26418-6F | 1179 | 57435 | 18935 |
| 20:14 | MC26418-8F | 1173 | 57629 | 18724 |
| 20:19 | MC26418-9F | 1171 | 57672 | 18834 |
| 20:23 | MC26418-10F | 1165 | 57803 | 18851 |
| 20:28 | MC26418-11F | 1154 | 57902 | 18844 |
| 20:33 | MC26418-11F | 1156 | 58143 | 18864 |
| 20:38 | MA16557-CCV3 | 1153 | 58158 | 18883 |
| 20:43 | MA16557-CCB3 | 1150 | 58199 | 18706 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 20:48 | MC26418-12F | 1143 | 58004 | 18954 |
| 20:53 | MC26418-13F | 1133 | 58593 | 18753 |
| 20:58 | MC26418-13F | 1146 | 57517 | 18688 |
| 21:03 | MC26418-15F | 1146 | 57500 | 18729 |
| 21:08 | MC26418-15F | 1162 | 57532 | 18770 |
| 21:13 | MP22168A-PS1 | 1114 | 56934 | 18658 |
| 21:17 | MP22168A-PS1 | 1166 | 57388 | 18755 |
| 21:22 | MP22178A-S1 | 1161 | 57336 | 18694 |
| 21:27 | MP22178A-S2 | 1157 | 57491 | 18047 |
| 21:32 | MC26484-4F | 1160 | 57727 | 18765 |
| 21:37 | MA16557-CCV4 | 1155 | 58107 | 18977 |
| 21:42 | MA16557-CCB4 | 1153 | 57732 | 18745 |
| 21:47 | MP22178A-MB1 | 1148 | 57934 | 18772 |
| 21:52 | MP22178A-SD1 | 1145 | 57965 | 18690 |
| 21:57 | MP22178A-S1 | 1146 | 57789 | 18757 |
| 22:01 | MP22178A-S2 | 1144 | 57749 | 18890 |
| 22:06 | ZZZZZZ | 1139 | 57998 | 18785 |
| 22:11 | ZZZZZZ | 1136 | 57826 | 18666 |
| 22:16 | ZZZZZZ | 1132 | 57780 | 18745 |
| 22:21 | ZZZZZZ | 1131 | 57594 | 18762 |
| 22:26 | ZZZZZZ | 1133 | 57742 | 18843 |
| 22:31 | ZZZZZZ | 1120 | 57573 | 18686 |
| 22:36 | MA16557-CCV5 | 1131 | 57771 | 18864 |
| 22:41 | MA16557-CCB5 | 1125 | 57977 | 18799 |
| 22:46 | ZZZZZZ | 1122 | 57686 | 18653 |
| 22:51 | ZZZZZZ | 1113 | 57871 | 18719 |
| 22:56 | MP22178A-PS1 | 1082 | 57015 | 18635 |
| 23:00 | MP22178A-PS1 | 1116 | 58212 | 18802 |
| 23:05 | ZZZZZZ | 1102 | 57764 | 18759 |
| 23:10 | ZZZZZZ | 1103 | 58152 | 18694 |
| 23:15 | MA16557-CRI2 | 1103 | 57972 | 18700 |
| 23:20 | MA16557-ICSA2 | 1020 | 53791 | 18400 |
| 23:25 | MA16557-ICSAB2 | 1019 | 54122 | 18348 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 23:30 | MA16557-CCV6 | 1105 | 57986 | 18772 |
| 23:35 | MA16557-CCB6 | 1104 | 57816 | 18617 |
| 23:40 | MA16557-CRIA1 | 1114 | 57352 | 18640 |
| 23:45 | MP22244-B1 | 1099 | 56734 | 18715 |
| 23:50 | MP22244-MB1 | 1122 | 57116 | 18723 |
| 23:54 | MP22244-S1 | 1180 | 60185 | 20432 |
| 00:00 | MP22244-S2 | 1177 | 59473 | 20265 |
| 00:04 | MC26955-7 | 1198 | 60435 | 20358 |
| 00:10 | MP22244-SD1 | 1160 | 57847 | 19163 |
| 00:14 | MP22244-B2 | 1124 | 56772 | 18847 |
| 00:19 | MP22244-LC1 | 1231 | 62200 | 20612 |
| 00:24 | ZZZZZZ | 1328 | 67230 | 22218 |
| 00:29 | MA16557-CCV7 | 1130 | 57924 | 18810 |
| 00:34 | MA16557-CCB7 | 1130 | 58201 | 18681 |
| 00:39 | ZZZZZZ | 1251 | 63823 | 21059 |
| 00:43 | ZZZZZZ | 1290 | 66046 | 21751 |
| 00:48 | ZZZZZZ | 1197 | 60842 | 20112 |
| 00:53 | ZZZZZZ | 1214 | 61836 | 20360 |
| 00:58 | ZZZZZZ | 1256 | 64123 | 21258 |
| 01:03 | ZZZZZZ | 1261 | 63493 | 21195 |
| 01:08 | ZZZZZZ | 1258 | 63650 | 21290 |
| 01:12 | ZZZZZZ | 1250 | 64323 | 21185 |
| 01:17 | ZZZZZZ | 1119 | 57870 | 19955 |
| 01:22 | ZZZZZZ | 1212 | 63599 | 21128 |
| 01:28 | MA16557-CCV8 | 1120 | 57536 | 18767 |
| 01:32 | MA16557-CCB8 | 1116 | 58044 | 18701 |
| 01:37 | ZZZZZZ | 1313 | 68502 | 22809 |
| 01:42 | ZZZZZZ | 1148 | 60230 | 20481 |
| 01:47 | ZZZZZZ | 1203 | 63297 | 20943 |
| 01:52 | ZZZZZZ | 1237 | 64888 | 21596 |
| 01:58 | ZZZZZZ | 1153 | 58701 | 19730 |
| 02:02 | ZZZZZZ | 1265 | 64747 | 21534 |
| 02:07 | ZZZZZZ | 1201 | 60626 | 20032 |

INTERNAL STANDARD SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 02:12 | ZZZZZZ | 1186 | 60855 | 19931 |
| 02:17 | ZZZZZZ | 1182 | 60812 | 19707 |
| 02:22 | MA16557-CCV9 | 1124 | 58015 | 18890 |
| 02:27 | MA16557-CCB9 | 1121 | 58102 | 18795 |
| 02:32 | MA16557-CRIA2 | 1108 | 57652 | 18736 |
| 02:37 | MA16557-ICSA3 | 1039 | 53819 | 18424 |
| 02:42 | MA16557-ICSAB3 | 1036 | 51423 | 18507 |
| 02:47 | MA16557-CCV10 | 1125 | 57705 | 18943 |
| 02:51 | MA16557-CCB10 | 1128 | 57918 | 18791 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 18:27 ICB1 raw | final | 18:43 CCB1 raw | final | 19:44 CCB2 raw | final |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 1.5 | <5000 | 1.2 | <5000 | 4.4 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.5 | <100 | 0.90 | <100 | 2.3 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 9.8 | <5000 | 6.3 | <5000 | 36.7 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.10 | <15 | 0.30 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 14.5 | <5000 | 13.1 | <5000 | 1.5 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -12 | <5000 | -15 | <5000 | -15 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 20:43 CCB3 raw | final | 21:42 CCB4 raw | final | 22:41 CCB5 raw | final |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 1.6 | <5000 | 2.4 | <5000 | 1.9 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.7 | <100 | 2.2 | <100 | 0.70 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -8.2 | <5000 | -6.9 | <5000 | -6.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.30 | <15 | 0.10 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 0.40 | <5000 | 3.5 | <5000 | 25.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -13 | <5000 | -13 | <5000 | -18 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | | 23:35 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 6.1 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | |
| Barium | 50 | .19 | 2.5 | | |
| Beryllium | 4.0 | .08 | 0.90 | | |
| Boron | 100 | .81 | 5.0 | | |
| Cadmium | 4.0 | .22 | 1.9 | | |
| Calcium | 5000 | 8.5 | 150 | 8.6 | <5000 |
| Chromium | 10 | .74 | 5.0 | | |
| Cobalt | 50 | .28 | 1.5 | | |
| Copper | 25 | .86 | 8.0 | | |
| Gold | 50 | 1.8 | 8.0 | | |
| Iron | 100 | 4.4 | 30 | 1.5 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | |
| Magnesium | 5000 | 43 | 200 | 21.4 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2 | 30 | | |
| Platinum | 50 | 8.7 | 30 | | |
| Potassium | 5000 | 24 | 500 | 0.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | |
| Silicon | 100 | 2.1 | 50 | | |
| Silver | 5.0 | .47 | 3.5 | | |
| Sodium | 5000 | 42 | 200 | -16 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | |
| Strontium | 10 | .1 | 0.90 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 5.0 | | |
| Titanium | 50 | .48 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .9 | 8.0 | | |
| Zinc | 20 | .91 | 1.5 | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 18:20 | | | 18:32 | | | 19:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17700 | 98.3 | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 10100 | 101.0 | 10000 | 10200 | 102.0 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 18100 | 100.6 | 10000 | 9930 | 99.3 | 10000 | 9960 | 99.6 |
| Manganese | 3000 | 2980 | 99.3 | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 10000 | 100.0 | 10000 | 10100 | 101.0 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 15200 | 101.3 | 10000 | 10100 | 101.0 | 10000 | 10200 | 102.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 20:38 | | | 21:37 | | | 22:36 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9990 | 99.9 | 10000 | 9950 | 99.5 | 10000 | 9640 | 96.4 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 10300 | 103.0 | 10000 | 10200 | 102.0 | 10000 | 9920 | 99.2 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 10000 | 100.0 | 10000 | 9870 | 98.7 | 10000 | 9700 | 97.0 |
| Manganese | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 | 2000 | 1940 | 97.0 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 | 10000 | 9780 | 97.8 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 10200 | 102.0 | 10000 | 10200 | 102.0 | 10000 | 10000 | 100.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 23:30 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | anr | | |
| Barium | anr | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | anr | | |
| Calcium | 10000 | 9590 | 95.9 |
| Chromium | anr | | |
| Cobalt | | | |
| Copper | anr | | |
| Gold | | | |
| Iron | 10000 | 10000 | 100.0 |
| Lead | anr | | |
| Magnesium | 10000 | 9780 | 97.8 |
| Manganese | 2000 | 1930 | 96.5 |
| Molybdenum | | | |
| Nickel | anr | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 9740 | 97.4 |
| Selenium | anr | | |
| Silicon | | | |
| Silver | anr | | |
| Sodium | 10000 | 10100 | 101.0 |
| Sulfur | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | anr | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16557  Units: ug/l

| Time: | | | 18:51 | | 23:15 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | anr | | | |
| Barium | 50 | 50 | anr | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | |
| Calcium | 5000 | 5000 | 4950 | 99.0 | 4860 | 97.2 |
| Chromium | 10 | 10 | anr | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | anr | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 104 | 104.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | anr | | | |
| Magnesium | 5000 | 5000 | 4920 | 98.4 | 4920 | 98.4 |
| Manganese | 15 | 15 | 15.4 | 102.7 | 15.2 | 101.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | anr | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 4990 | 99.8 |
| Selenium | 10 | 10 | anr | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | anr | | | |
| Sodium | 5000 | 5000 | 5030 | 100.6 | 5170 | 103.4 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | anr | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16557  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | | 18:55 | | 19:00 | | 23:20 | | 23:25 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 529000 | 105.8 | 522000 | 104.4 | 537000 | 107.4 | 537000 | 107.4 |
| Antimony | | 2000 | 1.5 | | 1990 | 99.5 | 0.40 | | 2060 | 103.0 |
| Arsenic | | 2000 | 0.40 | | 2050 | 102.5 | 1.2 | | 2120 | 106.0 |
| Barium | | 500 | -0.30 | | 496 | 99.2 | -0.40 | | 497 | 99.4 |
| Beryllium | | 500 | 0.10 | | 455 | 91.0 | 0.10 | | 469 | 93.8 |
| Boron | | 1000 | 7.1* | | 962 | 96.2 | 5.8* | | 1040 | 104.0 |
| Cadmium | | 1000 | 0.0 | | 978 | 97.8 | 0.10 | | 1040 | 104.0 |
| Calcium | 500000 | 500000 | 450000 | 90.0 | 449000 | 89.8 | 439000 | 87.8 | 439000 | 87.8 |
| Chromium | | 500 | -0.80 | | 484 | 96.8 | -0.70 | | 459 | 91.8 |
| Cobalt | | 500 | -0.90 | | 463 | 92.6 | 0.0 | | 500 | 100.0 |
| Copper | | 500 | 1.4 | | 521 | 104.2 | 2.0 | | 543 | 108.6 |
| Gold | | 500 | -2.2 | | 499 | 99.8 | -2.5 | | 486 | 97.2 |
| Iron | 200000 | 200000 | 179000 | 89.5 | 179000 | 89.5 | 182000 | 91.0 | 182000 | 91.0 |
| Lead | | 1000 | 0.90 | | 892 | 89.2 | 0.50 | | 922 | 92.2 |
| Magnesium | 500000 | 500000 | 519000 | 103.8 | 517000 | 103.4 | 524000 | 104.8 | 524000 | 104.8 |
| Manganese | | 500 | 0.40 | | 483 | 96.6 | 0.10 | | 472 | 94.4 |
| Molybdenum | | 1000 | -0.90 | | 945 | 94.5 | -1.1 | | 970 | 97.0 |
| Nickel | | 1000 | 0.20 | | 846 | 84.6 | -0.80 | | 885 | 88.5 |
| Palladium | | 500 | -23 | | 529 | 105.8 | -28 | | 530 | 106.0 |
| Platinum | | 500 | -28 | | 482 | 96.4 | -27 | | 471 | 94.2 |
| Potassium | | | -54 | | -6.7 | | -40 | | -24 | |
| Selenium | | 2000 | -1.8 | | 1900 | 95.0 | 0.0 | | 1970 | 98.5 |
| Silicon | | 2000 | 5660* | | 4470 | 223.5* | 3120* | | 4750 | 237.5* |
| Silver | | 1000 | -0.30 | | 1060 | 106.0 | -0.10 | | 1030 | 103.0 |
| Sodium | | | 43.8 | | 62.8 | | 39.3 | | 61.8 | |
| Sulfur | | 500 | 85.3* | | 488 | 97.6 | 93.7* | | 525 | 105.0 |
| Strontium | | 1000 | -8.4* | | 968 | 96.8 | -7.6* | | 1040 | 104.0 |
| Thallium | | 2000 | -1.5 | | 1840 | 92.0 | -1.3 | | 1880 | 94.0 |
| Tin | | 1000 | -0.20 | | 959 | 95.9 | 0.70 | | 1020 | 102.0 |
| Titanium | | 500 | 5.0* | | 504 | 100.8 | 5.5* | | 485 | 97.0 |
| Tungsten | | 2000 | -12 | | 2070 | 103.5 | -27 | | 2100 | 105.0 |
| Vanadium | | 500 | -0.10 | | 498 | 99.6 | -1.1 | | 468 | 93.6 |
| Zinc | | 1000 | 1.1 | | 864 | 86.4 | 0.70 | | 916 | 91.6 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Zirconium | 500 | -24* | 396 | 79.2* | -11* | 377 | 75.4* | |

(*) Outside of QC limits
(anr) Analyte not requested

6.5.5

6

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/02/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.99 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP22168: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-7F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-14F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 6.2 | 538 | 500 | 106.4 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP22168: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-7F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-14F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 6.2 | 550 | 500 | 108.8 | 2.2 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP22168: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-7F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-14F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/02/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 526 | 500 | 105.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22168: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-7F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-14F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 6.19 | 5.36 | 13.4 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22168: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-7F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-14F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/02/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 27.4 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 10.0 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | 19.6 | <5000 |
| Manganese | 15 | .17 | .81 | 0.20 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | 30.6 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 2.4 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP22168A: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 28300 | 54600 | 25000 | 105.2 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 637 | 2630 | 2000 | 99.7 | 75-125 |
| Lead | | | | | |
| Magnesium | 3860 | 29800 | 25000 | 103.8 | 75-125 |
| Manganese | 1830 | 2320 | 500 | 98.0 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 5910 | 32000 | 25000 | 104.4 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 45700 | 72400 | 25000 | 106.8 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|

Zirconium

Associated samples MP22168A: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 637 | 2670 | 2000 | 101.7 | 1.5 | 20 |
| Lead | | | | | | |
| Magnesium | 3860 | 29700 | 25000 | 103.4 | 0.3 | 20 |
| Manganese | 1830 | 2380 | 500 | 110.0 | 2.6 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 5910 | 32500 | 25000 | 106.4 | 1.6 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 45700 | 73800 | 25000 | 112.4 | 1.9 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22168A: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/02/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 24300 | 25000 | 97.2 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2080 | 2000 | 104.0 | 80-120 |
| Lead | | | | |
| Magnesium | 24800 | 25000 | 99.2 | 80-120 |
| Manganese | 492 | 500 | 98.4 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25100 | 25000 | 100.4 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25000 | 25000 | 100.0 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22168A: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 28300 | 29600 | 4.8 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 637 | 644 | 1.1 | 0-10 |
| Lead | | | | |
| Magnesium | 3860 | 3920 | 1.6 | 0-10 |
| Manganese | 1830 | 1850 | 0.8 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 5910 | 5970 | 0.9 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 45700 | 46900 | 2.8 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22168A: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

## Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13L03l00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\001CAL
Date Acquired: Dec 3 2013 11:43 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 02 2013 02:40 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2042224.00 | A | 18020.00 | 0.88 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 8.82 | 29.40 |
| 9 | Be | 5.56 | P | 3.85 | 69.28 |
| 11 | B | 401.13 | P | 50.04 | 12.48 |
| 11 | B | 17.78 | P | 8.39 | 47.19 |
| 23 | Na | 497893.50 | P | 15600.00 | 3.13 |
| 23 | Na | 89173.66 | P | 817.80 | 0.92 |
| 24 | Mg | 8428.11 | P | 437.20 | 5.19 |
| 24 | Mg | 584.48 | P | 82.29 | 14.08 |
| 27 | Al | 6909.55 | P | 223.00 | 3.23 |
| 27 | Al | 217.79 | P | 18.96 | 8.71 |
| 39 | K | 4641401.00 | A | 33740.00 | 0.73 |
| 44 | Ca | 20402.91 | P | 321.90 | 1.58 |
| 45 | Sc | 2515959.00 | A | 8988.00 | 0.36 |
| 45 | Sc | 386175.50 | P | 1335.00 | 0.35 |
| 47 | Ti | 113.34 | P | 3.33 | 2.94 |
| 51 | V | 5930.11 | P | 138.30 | 2.33 |
| 52 | Cr | 1642.78 | P | 27.56 | 1.68 |
| 55 | Mn | 168.45 | P | 11.65 | 6.92 |
| 56 | Fe | 24915.31 | P | 728.40 | 2.92 |
| 59 | Co | 25.33 | P | 3.53 | 13.93 |
| 60 | Ni | 573.80 | P | 32.59 | 5.68 |
| 63 | Cu | 516.46 | P | 13.68 | 2.65 |
| 66 | Zn | 115.78 | P | 11.74 | 10.14 |
| 72 | Ge | 464326.59 | P | 5088.00 | 1.10 |
| 72 | Ge | 135544.30 | P | 314.60 | 0.23 |
| 75 | As | 206.45 | P | 13.15 | 6.37 |
| 78 | Se | 243.11 | P | 21.30 | 8.76 |
| 88 | Sr | 361.13 | P | 15.40 | 4.26 |
| 98 | Mo | 274.46 | P | 45.50 | 16.58 |
| 103 | Rh | 2261217.00 | A | 5943.00 | 0.26 |
| 107 | Ag | 54.45 | P | 3.85 | 7.07 |

C:\ICPCHEM\1\DATA\13L03l00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 3.85 | 49.49 |
| 115 | In | 2380679.00 | A | 25900.00 | 1.09 |
| 115 | In | 1041277.00 | P | 6153.00 | 0.59 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 122.23 | P | 10.18 | 8.33 |
| 121 | Sb | 33.33 | P | 11.55 | 34.65 |
| 137 | Ba | 307.79 | P | 31.51 | 10.24 |
| 159 | Tb | 2733203.00 | A | 16160.00 | 0.59 |
| 175 | Lu | 2528535.00 | A | 19600.00 | 0.78 |
| 205 | Tl | 335.57 | P | 30.97 | 9.23 |
| 206 | (Pb) | 84.45 | P | 1.93 | 2.28 |
| 207 | (Pb) | 54.45 | P | 13.47 | 24.74 |
| 208 | Pb | 854.50 | P | 39.78 | 4.66 |
| 209 | Bi | 1585104.00 | A | 17320.00 | 1.09 |

C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\002CAL
Date Acquired: Dec 3 2013 11:50 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 11:47 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1993708.00 | A | 35920.00 | 1.80 |
| 7 | (Li) | | P | | |
| 9 | Be | 12.22 | P | 8.39 | 68.64 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 520.03 | P | 47.02 | 9.04 |
| 11 | B | 16.67 | P | 3.33 | 20.00 |
| 23 | Na | 469082.59 | P | 9404.00 | 2.00 |
| 23 | Na | 86766.08 | P | 386.20 | 0.45 |
| 24 | Mg | 7675.49 | P | 344.50 | 4.49 |
| 24 | Mg | 473.36 | P | 85.05 | 17.97 |
| 27 | Al | 6769.46 | P | 79.01 | 1.17 |
| 27 | Al | 274.46 | P | 33.39 | 12.17 |
| 39 | K | 4558383.00 | A | 7362.00 | 0.16 |
| 44 | Ca | 19960.07 | P | 140.00 | 0.70 |
| 45 | Sc | 2491942.00 | A | 24740.00 | 0.99 |
| 45 | Sc | 379285.50 | P | 4135.00 | 1.09 |
| 47 | Ti | 120.00 | P | 21.86 | 18.22 |
| 51 | V | 5948.33 | P | 100.60 | 1.69 |
| 52 | Cr | 1528.10 | P | 140.90 | 9.22 |
| 55 | Mn | 161.34 | P | 24.26 | 15.04 |
| 56 | Fe | 24993.44 | P | 2036.00 | 8.15 |
| 59 | Co | 14.22 | P | 2.04 | 14.32 |
| 60 | Ni | 582.69 | P | 24.04 | 4.13 |
| 63 | Cu | 516.02 | P | 33.31 | 6.46 |
| 66 | Zn | 114.45 | P | 6.05 | 5.29 |
| 72 | Ge | 463521.91 | P | 10560.00 | 2.28 |
| 72 | Ge | 134804.91 | P | 998.30 | 0.74 |
| 75 | As | 195.34 | P | 1.33 | 0.68 |
| 78 | Se | 223.34 | P | 8.08 | 3.62 |
| 88 | Sr | 340.02 | P | 20.82 | 6.12 |
| 98 | Mo | 268.90 | P | 10.18 | 3.79 |
| 103 | Rh | 2265279.00 | A | 46170.00 | 2.04 |
| 107 | Ag | 37.78 | P | 13.47 | 35.66 |

C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 2375722.00 | A | 32170.00 | 1.35 |
| 115 | In | 1034375.00 | P | 1073.00 | 0.10 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 96.67 | P | 12.02 | 12.43 |
| 121 | Sb | 33.33 | P | 3.33 | 10.00 |
| 137 | Ba | 343.35 | P | 55.68 | 16.22 |
| 159 | Tb | 2743058.00 | A | 41910.00 | 1.53 |
| 175 | Lu | 2554975.00 | A | 43220.00 | 1.69 |
| 205 | Tl | 303.35 | P | 21.86 | 7.21 |
| 206 | (Pb) | 60.00 | P | 6.67 | 11.11 |
| 207 | (Pb) | 54.45 | P | 5.09 | 9.35 |
| 208 | Pb | 926.73 | P | 26.46 | 2.86 |
| 209 | Bi | 1599251.00 | A | 22610.00 | 1.41 |

C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#
Date Acquired: Dec 3 2013 11:57 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 11:54 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1974962.00 | A | 10350.00 | 0.52 |
| 7 | (Li) | | P | | |
| 9 | Be | 3610.54 | P | 75.37 | 2.09 |
| 9 | Be | 136.67 | P | 23.33 | 17.07 |
| 11 | B | 2858.13 | P | 58.36 | 2.04 |
| 11 | B | 65.56 | P | 10.18 | 15.53 |
| 23 | Na | 501306.19 | P | 6957.00 | 1.39 |
| 23 | Na | 90381.57 | P | 233.20 | 0.26 |
| 24 | Mg | 22591.27 | P | 729.50 | 3.23 |
| 24 | Mg | 1505.68 | P | 123.90 | 8.23 |
| 27 | Al | 27990.19 | P | 710.80 | 2.54 |
| 27 | Al | 961.18 | P | 118.80 | 12.36 |
| 39 | K | 4538665.00 | A | 18310.00 | 0.40 |
| 44 | Ca | 20843.52 | P | 353.40 | 1.70 |
| 45 | Sc | 2490373.00 | A | 2526.00 | 0.10 |
| 45 | Sc | 376187.00 | P | 2187.00 | 0.58 |
| 47 | Ti | 1294.55 | P | 18.36 | 1.42 |
| 51 | V | 10457.45 | P | 45.39 | 0.43 |
| 52 | Cr | 6048.83 | P | 47.00 | 0.78 |
| 55 | Mn | 3868.09 | P | 73.46 | 1.90 |
| 56 | Fe | 32085.38 | P | 419.70 | 1.31 |
| 59 | Co | 5997.70 | P | 41.01 | 0.68 |
| 60 | Ni | 2033.05 | P | 71.38 | 3.51 |
| 63 | Cu | 4130.39 | P | 92.83 | 2.25 |
| 66 | Zn | 1042.27 | P | 51.00 | 4.89 |
| 72 | Ge | 459277.81 | P | 4120.00 | 0.90 |
| 72 | Ge | 134644.70 | P | 736.30 | 0.55 |
| 75 | As | 742.91 | P | 14.91 | 2.01 |
| 78 | Se | 290.23 | P | 14.85 | 5.12 |
| 88 | Sr | 17204.81 | P | 309.20 | 1.80 |
| 98 | Mo | 4663.11 | P | 53.20 | 1.14 |
| 103 | Rh | 2241398.00 | A | 23040.00 | 1.03 |
| 107 | Ag | 6880.73 | P | 102.30 | 1.49 |

C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 836.72 | P | 66.67 | 7.97 |
| 115 | In | 2358051.00 | A | 6958.00 | 0.30 |
| 115 | In | 1030933.00 | P | 5087.00 | 0.49 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 5949.21 | P | 16.44 | 0.28 |
| 121 | Sb | 5542.34 | P | 135.10 | 2.44 |
| 137 | Ba | 2473.64 | P | 52.08 | 2.11 |
| 159 | Tb | 2726764.00 | A | 9041.00 | 0.33 |
| 175 | Lu | 2531401.00 | A | 28290.00 | 1.12 |
| 205 | Tl | 8687.47 | P | 9.65 | 0.11 |
| 206 | (Pb) | 3381.65 | P | 133.10 | 3.94 |
| 207 | (Pb) | 2835.95 | P | 49.14 | 1.73 |
| 208 | Pb | 14234.66 | P | 244.80 | 1.72 |
| 209 | Bi | 1583286.00 | A | 19670.00 | 1.24 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1974962.00 | 0.52 | 1993708.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 2490373.00 | 0.10 | 2491942.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 376187.03 | 0.58 | 379285.53 | 99.2 | 70 - 130 | |
| 72 | Ge | 459277.81 | 0.90 | 463521.91 | 99.1 | 70 - 130 | |
| 72 | Ge | 134644.70 | 0.55 | 134804.92 | 99.9 | 70 - 130 | |
| 103 | Rh | 2241398.00 | 1.03 | 2265278.80 | 98.9 | 70 - 130 | |
| 115 | In | 2358051.30 | 0.30 | 2375722.30 | 99.3 | 70 - 130 | |
| 115 | In | 1030933.00 | 0.49 | 1034375.50 | 99.7 | 70 - 130 | |
| 159 | Tb | 2726763.50 | 0.33 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2531401.50 | 1.12 | 2554974.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 1583286.10 | 1.24 | 1599250.90 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#
Date Acquired: Dec 3 2013 12:05 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1964192.00 | A | 15140.00 | 0.77 |
| 7 | (Li) | | P | | |
| 9 | Be | 36067.37 | P | 186.50 | 0.52 |
| 9 | Be | 1510.12 | P | 58.12 | 3.85 |
| 11 | B | 22235.12 | P | 192.90 | 0.87 |
| 11 | B | 604.48 | P | 25.02 | 4.14 |
| 23 | Na | 711511.00 | P | 9368.00 | 1.32 |
| 23 | Na | 106346.80 | P | 709.90 | 0.67 |
| 24 | Mg | 124747.30 | P | 1582.00 | 1.27 |
| 24 | Mg | 8161.26 | P | 270.20 | 3.31 |
| 27 | Al | 152582.09 | P | 542.20 | 0.36 |
| 27 | Al | 5346.66 | P | 45.52 | 0.85 |
| 39 | K | 4666720.00 | A | 19500.00 | 0.42 |
| 44 | Ca | 25718.68 | P | 422.40 | 1.64 |
| 45 | Sc | 2496029.00 | A | 13470.00 | 0.54 |
| 45 | Sc | 377316.91 | P | 2514.00 | 0.67 |
| 47 | Ti | 11549.14 | P | 100.40 | 0.87 |
| 51 | V | 48850.12 | P | 378.00 | 0.77 |
| 52 | Cr | 46795.79 | P | 409.70 | 0.88 |
| 55 | Mn | 37494.66 | P | 362.40 | 0.97 |
| 56 | Fe | 68780.38 | P | 420.30 | 0.61 |
| 59 | Co | 59508.76 | P | 364.60 | 0.61 |
| 60 | Ni | 15249.54 | P | 75.81 | 0.50 |
| 63 | Cu | 36866.77 | P | 349.90 | 0.95 |
| 66 | Zn | 7279.99 | P | 88.44 | 1.21 |
| 72 | Ge | 454772.00 | P | 3972.00 | 0.87 |
| 72 | Ge | 133754.80 | P | 618.50 | 0.46 |
| 75 | As | 5649.75 | P | 49.98 | 0.88 |
| 78 | Se | 864.47 | P | 8.06 | 0.93 |
| 88 | Sr | 167283.30 | P | 284.60 | 0.17 |
| 98 | Mo | 44065.03 | P | 503.40 | 1.14 |
| 103 | Rh | 2231665.00 | A | 7559.00 | 0.34 |
| 107 | Ag | 67882.79 | P | 553.00 | 0.81 |

C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7718.94 | P | 56.99 | 0.74 |
| 115 | In | 2346415.00 | A | 18790.00 | 0.80 |
| 115 | In | 1032107.00 | P | 2840.00 | 0.28 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 56967.96 | P | 939.00 | 1.65 |
| 121 | Sb | 55183.39 | P | 385.00 | 0.70 |
| 137 | Ba | 19868.66 | P | 187.30 | 0.94 |
| 159 | Tb | 2732789.00 | A | 15080.00 | 0.55 |
| 175 | Lu | 2526445.00 | A | 18440.00 | 0.73 |
| 205 | Tl | 89044.52 | P | 743.90 | 0.84 |
| 206 | (Pb) | 34073.85 | P | 758.70 | 2.23 |
| 207 | (Pb) | 28796.36 | P | 204.40 | 0.71 |
| 208 | Pb | 134749.00 | P | 1166.00 | 0.87 |
| 209 | Bi | 1573400.00 | A | 5538.00 | 0.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1964192.30 | 0.77 | 1993708.30 | 98.5 | 70 - 130 | |
| 45 | Sc | 2496029.30 | 0.54 | 2491942.30 | 100.2 | 70 - 130 | |
| 45 | Sc | 377316.97 | 0.67 | 379285.53 | 99.5 | 70 - 130 | |
| 72 | Ge | 454771.97 | 0.87 | 463521.91 | 98.1 | 70 - 130 | |
| 72 | Ge | 133754.81 | 0.46 | 134804.92 | 99.2 | 70 - 130 | |
| 103 | Rh | 2231664.80 | 0.34 | 2265278.80 | 98.5 | 70 - 130 | |
| 115 | In | 2346414.80 | 0.80 | 2375722.30 | 98.8 | 70 - 130 | |
| 115 | In | 1032106.80 | 0.28 | 1034375.50 | 99.8 | 70 - 130 | |
| 159 | Tb | 2732788.80 | 0.55 | 2743058.00 | 99.6 | 70 - 130 | |
| 175 | Lu | 2526445.00 | 0.73 | 2554974.50 | 98.9 | 70 - 130 | |
| 209 | Bi | 1573400.00 | 0.35 | 1599250.90 | 98.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#
Date Acquired: Dec 3 2013 12:12 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1994634.00 | A | 9293.00 | 0.47 |
| 7 | (Li) | | P | | |
| 9 | Be | 175735.59 | P | 788.70 | 0.45 |
| 9 | Be | 7423.09 | P | 68.36 | 0.92 |
| 11 | B | 104380.50 | P | 264.60 | 0.25 |
| 11 | B | 2763.67 | P | 103.40 | 3.74 |
| 23 | Na | 1316194.00 | A | 1915.00 | 0.15 |
| 23 | Na | 152333.09 | P | 1068.00 | 0.70 |
| 24 | Mg | 566337.63 | P | 2906.00 | 0.51 |
| 24 | Mg | 37791.83 | P | 323.10 | 0.85 |
| 27 | Al | 693223.69 | P | 2833.00 | 0.41 |
| 27 | Al | 24729.10 | P | 71.34 | 0.29 |
| 39 | K | 5193197.00 | A | 32250.00 | 0.62 |
| 44 | Ca | 47479.23 | P | 152.60 | 0.32 |
| 45 | Sc | 2474766.00 | A | 22350.00 | 0.90 |
| 45 | Sc | 373848.19 | P | 2268.00 | 0.61 |
| 47 | Ti | 56201.92 | P | 193.20 | 0.34 |
| 51 | V | 211461.20 | P | 1434.00 | 0.68 |
| 52 | Cr | 221591.20 | P | 897.30 | 0.40 |
| 55 | Mn | 180686.59 | P | 586.60 | 0.32 |
| 56 | Fe | 230571.09 | P | 1055.00 | 0.46 |
| 59 | Co | 288719.69 | P | 1253.00 | 0.43 |
| 60 | Ni | 71436.79 | P | 659.30 | 0.92 |
| 63 | Cu | 175574.91 | P | 244.30 | 0.14 |
| 66 | Zn | 33597.25 | P | 130.90 | 0.39 |
| 72 | Ge | 445787.31 | P | 1365.00 | 0.31 |
| 72 | Ge | 131344.00 | P | 21.82 | 0.02 |
| 75 | As | 26301.63 | P | 147.70 | 0.56 |
| 78 | Se | 3287.71 | P | 50.78 | 1.54 |
| 88 | Sr | 802717.00 | P | 3814.00 | 0.48 |
| 98 | Mo | 214314.80 | P | 712.20 | 0.33 |
| 103 | Rh | 2235207.00 | A | 18430.00 | 0.82 |
| 107 | Ag | 330241.31 | P | 1295.00 | 0.39 |

C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37983.04 | P | 306.30 | 0.81 |
| 115 | In | 2349435.00 | A | 14110.00 | 0.60 |
| 115 | In | 1011253.00 | P | 4745.00 | 0.47 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 273607.09 | P | 1010.00 | 0.37 |
| 121 | Sb | 267490.50 | P | 1810.00 | 0.68 |
| 137 | Ba | 97145.60 | P | 159.40 | 0.16 |
| 159 | Tb | 2734214.00 | A | 30350.00 | 1.11 |
| 175 | Lu | 2523773.00 | A | 47110.00 | 1.87 |
| 205 | Tl | 455928.59 | P | 5369.00 | 1.18 |
| 206 | (Pb) | 167460.00 | P | 702.00 | 0.42 |
| 207 | (Pb) | 137734.91 | P | 1945.00 | 1.41 |
| 208 | Pb | 647846.13 | P | 4862.00 | 0.75 |
| 209 | Bi | 1563680.00 | A | 16440.00 | 1.05 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1994634.10 | 0.47 | 1993708.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 2474766.50 | 0.90 | 2491942.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 373848.22 | 0.61 | 379285.53 | 98.6 | 70 - 130 | |
| 72 | Ge | 445787.34 | 0.31 | 463521.91 | 96.2 | 70 - 130 | |
| 72 | Ge | 131344.02 | 0.02 | 134804.92 | 97.4 | 70 - 130 | |
| 103 | Rh | 2235207.50 | 0.82 | 2265278.80 | 98.7 | 70 - 130 | |
| 115 | In | 2349435.30 | 0.60 | 2375722.30 | 98.9 | 70 - 130 | |
| 115 | In | 1011253.00 | 0.47 | 1034375.50 | 97.8 | 70 - 130 | |
| 159 | Tb | 2734214.30 | 1.11 | 2743058.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 2523772.80 | 1.87 | 2554974.50 | 98.8 | 70 - 130 | |
| 209 | Bi | 1563680.30 | 1.05 | 1599250.90 | 97.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#
Date Acquired: Dec 3 2013 12:19 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:16 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1976075.00 | A | 7623.00 | 0.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 357652.09 | P | 3560.00 | 1.00 |
| 9 | Be | 15399.10 | P | 133.70 | 0.87 |
| 11 | B | 213448.59 | P | 2945.00 | 1.38 |
| 11 | B | 5837.95 | P | 73.37 | 1.26 |
| 23 | Na | 2145411.00 | A | 13790.00 | 0.64 |
| 23 | Na | 216304.70 | P | 801.50 | 0.37 |
| 24 | Mg | 1162829.00 | A | 9151.00 | 0.79 |
| 24 | Mg | 75906.12 | P | 723.90 | 0.95 |
| 27 | Al | 1406021.00 | A | 8084.00 | 0.57 |
| 27 | Al | 49556.96 | P | 562.20 | 1.13 |
| 39 | K | 5847501.00 | A | 27250.00 | 0.47 |
| 44 | Ca | 76165.34 | P | 310.10 | 0.41 |
| 45 | Sc | 2466361.00 | A | 27280.00 | 1.11 |
| 45 | Sc | 368471.69 | P | 983.80 | 0.27 |
| 47 | Ti | 114189.30 | P | 1206.00 | 1.06 |
| 51 | V | 422057.31 | P | 910.40 | 0.22 |
| 52 | Cr | 446638.91 | P | 1926.00 | 0.43 |
| 55 | Mn | 365833.91 | P | 1306.00 | 0.36 |
| 56 | Fe | 438326.91 | P | 3359.00 | 0.77 |
| 59 | Co | 584266.38 | P | 5197.00 | 0.89 |
| 60 | Ni | 143802.41 | P | 739.40 | 0.51 |
| 63 | Cu | 353604.00 | P | 2103.00 | 0.59 |
| 66 | Zn | 67946.21 | P | 62.26 | 0.09 |
| 72 | Ge | 439823.59 | P | 4408.00 | 1.00 |
| 72 | Ge | 129346.90 | P | 494.20 | 0.38 |
| 75 | As | 52796.38 | P | 256.10 | 0.49 |
| 78 | Se | 6363.82 | P | 28.39 | 0.45 |
| 88 | Sr | 1627841.00 | A | 5831.00 | 0.36 |
| 98 | Mo | 437356.59 | P | 5674.00 | 1.30 |
| 103 | Rh | 2215063.00 | A | 1968.00 | 0.09 |
| 107 | Ag | 671728.00 | P | 5594.00 | 0.83 |

C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 76279.69 | P | 471.10 | 0.62 |
| 115 | In | 2328202.00 | A | 5957.00 | 0.26 |
| 115 | In | 1006958.00 | P | 10070.00 | 1.00 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 558472.31 | P | 6613.00 | 1.18 |
| 121 | Sb | 541676.63 | P | 4446.00 | 0.82 |
| 137 | Ba | 195283.00 | P | 1241.00 | 0.64 |
| 159 | Tb | 2726107.00 | A | 9448.00 | 0.35 |
| 175 | Lu | 2530479.00 | A | 20570.00 | 0.81 |
| 205 | Tl | 952149.69 | P | 216.90 | 0.02 |
| 206 | (Pb) | 336591.31 | P | 2073.00 | 0.62 |
| 207 | (Pb) | 279457.00 | P | 2440.00 | 0.87 |
| 208 | Pb | 1305953.00 | P | 12680.00 | 0.97 |
| 209 | Bi | 1556402.00 | A | 2087.00 | 0.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1976074.80 | 0.39 | 1993708.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 2466361.50 | 1.11 | 2491942.30 | 99.0 | 70 - 130 | |
| 45 | Sc | 368471.66 | 0.27 | 379285.53 | 97.1 | 70 - 130 | |
| 72 | Ge | 439823.59 | 1.00 | 463521.91 | 94.9 | 70 - 130 | |
| 72 | Ge | 129346.94 | 0.38 | 134804.92 | 96.0 | 70 - 130 | |
| 103 | Rh | 2215063.50 | 0.09 | 2265278.80 | 97.8 | 70 - 130 | |
| 115 | In | 2328201.80 | 0.26 | 2375722.30 | 98.0 | 70 - 130 | |
| 115 | In | 1006958.00 | 1.00 | 1034375.50 | 97.3 | 70 - 130 | |
| 159 | Tb | 2726107.00 | 0.35 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2530478.80 | 0.81 | 2554974.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 1556402.50 | 0.13 | 1599250.90 | 97.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#
Date Acquired: Dec 3 2013 12:26 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:23 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1951109.00 | A | 15800.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 701352.38 | P | 3174.00 | 0.45 |
| 9 | Be | 30619.22 | P | 365.90 | 1.20 |
| 11 | B | 415145.91 | P | 1151.00 | 0.28 |
| 11 | B | 11513.39 | P | 192.90 | 1.68 |
| 23 | Na | 3743625.00 | A | 15010.00 | 0.40 |
| 23 | Na | 345033.81 | P | 2156.00 | 0.62 |
| 24 | Mg | 2227001.00 | A | 17980.00 | 0.81 |
| 24 | Mg | 148492.70 | P | 1531.00 | 1.03 |
| 27 | Al | 2709563.00 | A | 14560.00 | 0.54 |
| 27 | Al | 97790.14 | P | 607.50 | 0.62 |
| 39 | K | 7106704.00 | A | 57740.00 | 0.81 |
| 44 | Ca | 134055.30 | P | 1345.00 | 1.00 |
| 45 | Sc | 2449469.00 | A | 18080.00 | 0.74 |
| 45 | Sc | 369936.19 | P | 2611.00 | 0.71 |
| 47 | Ti | 223643.70 | P | 889.00 | 0.40 |
| 51 | V | 834746.00 | P | 3704.00 | 0.44 |
| 52 | Cr | 880769.38 | P | 6121.00 | 0.69 |
| 55 | Mn | 725049.88 | P | 5064.00 | 0.70 |
| 56 | Fe | 844846.50 | P | 4017.00 | 0.48 |
| 59 | Co | 1153190.00 | P | 5181.00 | 0.45 |
| 60 | Ni | 284250.91 | P | 1764.00 | 0.62 |
| 63 | Cu | 701050.00 | P | 2629.00 | 0.38 |
| 66 | Zn | 137878.00 | P | 319.40 | 0.23 |
| 72 | Ge | 433324.09 | P | 4152.00 | 0.96 |
| 72 | Ge | 128640.20 | P | 1271.00 | 0.99 |
| 75 | As | 104590.60 | P | 803.20 | 0.77 |
| 78 | Se | 12311.05 | P | 93.84 | 0.76 |
| 88 | Sr | 3128165.00 | A | 15980.00 | 0.51 |
| 98 | Mo | 859588.50 | P | 6570.00 | 0.76 |
| 103 | Rh | 2220862.00 | A | 20350.00 | 0.92 |
| 107 | Ag | 1275859.00 | A | 13030.00 | 1.02 |

C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 151777.00 | P | 425.90 | 0.28 |
| 115 | In | 2304966.00 | A | 29270.00 | 1.27 |
| 115 | In | 995791.50 | P | 4516.00 | 0.45 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1092063.00 | P | 18260.00 | 1.67 |
| 121 | Sb | 1062062.00 | P | 11640.00 | 1.10 |
| 137 | Ba | 384995.59 | P | 3998.00 | 1.04 |
| 159 | Tb | 2697570.00 | A | 26950.00 | 1.00 |
| 175 | Lu | 2514225.00 | A | 10050.00 | 0.40 |
| 205 | Tl | 1896940.00 | A | 4075.00 | 0.21 |
| 206 | (Pb) | 661579.38 | P | 9186.00 | 1.39 |
| 207 | (Pb) | 550783.00 | P | 7992.00 | 1.45 |
| 208 | Pb | 2555597.00 | A | 25630.00 | 1.00 |
| 209 | Bi | 1550514.00 | A | 8377.00 | 0.54 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1951109.40 | 0.81 | 1993708.30 | 97.9 | 70 - 130 | |
| 45 | Sc | 2449469.00 | 0.74 | 2491942.30 | 98.3 | 70 - 130 | |
| 45 | Sc | 369936.16 | 0.71 | 379285.53 | 97.5 | 70 - 130 | |
| 72 | Ge | 433324.09 | 0.96 | 463521.91 | 93.5 | 70 - 130 | |
| 72 | Ge | 128640.19 | 0.99 | 134804.92 | 95.4 | 70 - 130 | |
| 103 | Rh | 2220862.30 | 0.92 | 2265278.80 | 98.0 | 70 - 130 | |
| 115 | In | 2304966.30 | 1.27 | 2375722.30 | 97.0 | 70 - 130 | |
| 115 | In | 995791.56 | 0.45 | 1034375.50 | 96.3 | 70 - 130 | |
| 159 | Tb | 2697569.80 | 1.00 | 2743058.00 | 98.3 | 70 - 130 | |
| 175 | Lu | 2514225.00 | 0.40 | 2554974.50 | 98.4 | 70 - 130 | |
| 209 | Bi | 1550514.10 | 0.54 | 1599250.90 | 97.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 3 2013 12:33 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:30 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1971856.00 | A | 6108.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 214.45 | P | 45.38 | 21.16 |
| 9 | Be | 8.89 | P | 7.70 | 86.60 |
| 11 | B | 3592.75 | P | 159.40 | 4.44 |
| 11 | B | 95.56 | P | 22.20 | 23.23 |
| 23 | Na | 31774970.00 | A | 217000.00 | 0.68 |
| 23 | Na | 2506785.00 | A | 7719.00 | 0.31 |
| 24 | Mg | 20796980.00 | A | 119700.00 | 0.58 |
| 24 | Mg | 1411385.00 | A | 551.90 | 0.04 |
| 27 | Al | 25282870.00 | A | 271000.00 | 1.07 |
| 27 | Al | 965067.50 | P | 6759.00 | 0.70 |
| 39 | K | 31300360.00 | A | 123700.00 | 0.40 |
| 44 | Ca | 849788.81 | P | 1217.00 | 0.14 |
| 45 | Sc | 2484776.00 | A | 15020.00 | 0.60 |
| 45 | Sc | 381404.69 | P | 1813.00 | 0.48 |
| 47 | Ti | 147.78 | P | 35.33 | 23.91 |
| 51 | V | 6089.72 | P | 221.90 | 3.64 |
| 52 | Cr | 1758.79 | P | 72.09 | 4.10 |
| 55 | Mn | 630.69 | P | 31.24 | 4.95 |
| 56 | Fe | 7555198.00 | A | 59120.00 | 0.78 |
| 59 | Co | 484.46 | P | 10.86 | 2.24 |
| 60 | Ni | 721.81 | P | 60.83 | 8.43 |
| 63 | Cu | 1297.41 | P | 27.84 | 2.15 |
| 66 | Zn | 492.68 | P | 3.53 | 0.72 |
| 72 | Ge | 452900.91 | P | 3558.00 | 0.79 |
| 72 | Ge | 133546.80 | P | 812.00 | 0.61 |
| 75 | As | 242.89 | P | 4.73 | 1.95 |
| 78 | Se | 234.23 | P | 6.54 | 2.79 |
| 88 | Sr | 2330.27 | P | 83.75 | 3.59 |
| 98 | Mo | 2539.19 | P | 91.93 | 3.62 |
| 103 | Rh | 2216197.00 | A | 310.30 | 0.01 |
| 107 | Ag | 317.79 | P | 13.47 | 4.24 |

C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 38.89 | P | 10.18 | 26.18 |
| 115 | In | 2324406.00 | A | 18290.00 | 0.79 |
| 115 | In | 1038871.00 | P | 4357.00 | 0.42 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1006.74 | P | 41.77 | 4.15 |
| 121 | Sb | 721.16 | P | 35.65 | 4.94 |
| 137 | Ba | 454.47 | P | 82.62 | 18.18 |
| 159 | Tb | 2727159.00 | A | 11190.00 | 0.41 |
| 175 | Lu | 2526360.00 | A | 17750.00 | 0.70 |
| 205 | Tl | 4894.38 | P | 96.18 | 1.97 |
| 206 | (Pb) | 215.57 | P | 8.39 | 3.89 |
| 207 | (Pb) | 176.67 | P | 8.82 | 4.99 |
| 208 | Pb | 1503.44 | P | 75.72 | 5.04 |
| 209 | Bi | 1562928.00 | A | 5185.00 | 0.33 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1971856.40 | 0.31 | 1993708.30 | 98.9 | 70 - 130 | |
| 45 | Sc | 2484776.30 | 0.60 | 2491942.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 381404.66 | 0.48 | 379285.53 | 100.6 | 70 - 130 | |
| 72 | Ge | 452900.94 | 0.79 | 463521.91 | 97.7 | 70 - 130 | |
| 72 | Ge | 133546.83 | 0.61 | 134804.92 | 99.1 | 70 - 130 | |
| 103 | Rh | 2216196.80 | 0.01 | 2265278.80 | 97.8 | 70 - 130 | |
| 115 | In | 2324406.50 | 0.79 | 2375722.30 | 97.8 | 70 - 130 | |
| 115 | In | 1038870.60 | 0.42 | 1034375.50 | 100.4 | 70 - 130 | |
| 159 | Tb | 2727158.80 | 0.41 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2526360.30 | 0.70 | 2554974.50 | 98.9 | 70 - 130 | |
| 209 | Bi | 1562928.40 | 0.33 | 1599250.90 | 97.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 3 2013 12:40 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:37 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1905365.00 | A | 24380.00 | 1.28 |
| 7 | (Li) | | P | | |
| 9 | Be | 96.67 | P | 29.63 | 30.65 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 1670.14 | P | 55.68 | 3.33 |
| 11 | B | 41.11 | P | 5.09 | 12.39 |
| 23 | Na | 306555710.00 | A | 1382000.00 | 0.45 |
| 23 | Na | 22990050.00 | A | 254900.00 | 1.11 |
| 24 | Mg | 201903600.00 | A | 474900.00 | 0.24 |
| 24 | Mg | 13116160.00 | A | 103500.00 | 0.79 |
| 27 | Al | 248739200.00 | A | 1401000.00 | 0.56 |
| 27 | Al | 8651901.00 | A | 83400.00 | 0.96 |
| 39 | K | 269611490.00 | A | 1748000.00 | 0.65 |
| 44 | Ca | 7716914.00 | A | 98260.00 | 1.27 |
| 45 | Sc | 2490593.00 | A | 26210.00 | 1.05 |
| 45 | Sc | 381132.50 | P | 5273.00 | 1.38 |
| 47 | Ti | 177.79 | P | 24.11 | 13.56 |
| 51 | V | 4972.42 | P | 139.60 | 2.81 |
| 52 | Cr | 2722.05 | P | 94.02 | 3.45 |
| 55 | Mn | 2316.66 | P | 54.49 | 2.35 |
| 56 | Fe | 73202320.00 | A | 553700.00 | 0.76 |
| 59 | Co | 2279.76 | P | 85.75 | 3.76 |
| 60 | Ni | 1134.73 | P | 35.80 | 3.15 |
| 63 | Cu | 949.38 | P | 9.61 | 1.01 |
| 66 | Zn | 856.47 | P | 18.70 | 2.18 |
| 72 | Ge | 460664.81 | P | 1077.00 | 0.23 |
| 72 | Ge | 134023.50 | P | 1144.00 | 0.85 |
| 75 | As | 245.11 | P | 29.34 | 11.97 |
| 78 | Se | 234.00 | P | 21.94 | 9.38 |
| 88 | Sr | 13495.39 | P | 125.30 | 0.93 |
| 98 | Mo | 925.62 | P | 70.27 | 7.59 |
| 103 | Rh | 2146689.00 | A | 11250.00 | 0.52 |
| 107 | Ag | 482.25 | P | 88.84 | 18.42 |

C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 47.78 | P | 13.47 | 28.19 |
| 115 | In | 2263233.00 | A | 8698.00 | 0.38 |
| 115 | In | 1016191.00 | P | 4923.00 | 0.48 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 462.25 | P | 34.70 | 7.51 |
| 121 | Sb | 393.35 | P | 31.80 | 8.08 |
| 137 | Ba | 562.26 | P | 28.74 | 5.11 |
| 159 | Tb | 2702645.00 | A | 50160.00 | 1.86 |
| 175 | Lu | 2522429.00 | A | 39120.00 | 1.55 |
| 205 | Tl | 2046.89 | P | 63.60 | 3.11 |
| 206 | (Pb) | 196.68 | P | 20.82 | 10.59 |
| 207 | (Pb) | 172.23 | P | 10.18 | 5.91 |
| 208 | Pb | 1435.66 | P | 101.70 | 7.08 |
| 209 | Bi | 1495969.00 | A | 7591.00 | 0.51 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1905365.40 | 1.28 | 1993708.30 | 95.6 | 70 - 130 | |
| 45 | Sc | 2490593.00 | 1.05 | 2491942.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 381132.53 | 1.38 | 379285.53 | 100.5 | 70 - 130 | |
| 72 | Ge | 460664.78 | 0.23 | 463521.91 | 99.4 | 70 - 130 | |
| 72 | Ge | 134023.55 | 0.85 | 134804.92 | 99.4 | 70 - 130 | |
| 103 | Rh | 2146689.30 | 0.52 | 2265278.80 | 94.8 | 70 - 130 | |
| 115 | In | 2263233.30 | 0.38 | 2375722.30 | 95.3 | 70 - 130 | |
| 115 | In | 1016190.90 | 0.48 | 1034375.50 | 98.2 | 70 - 130 | |
| 159 | Tb | 2702644.80 | 1.86 | 2743058.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 2522429.30 | 1.55 | 2554974.50 | 98.7 | 70 - 130 | |
| 209 | Bi | 1495969.30 | 0.51 | 1599250.90 | 93.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 12:47 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2101 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.55 | 59.55 | ppb | 1.41 | 900.00 | |
| 9 Be | 45 | 2 | 58.51 | 58.51 | ppb | 1.58 | 900.00 | |
| 11 B | 6 | 1 | 58.81 | 58.81 | ppb | 1.75 | 900.00 | |
| 11 B | 45 | 2 | 57.08 | 57.08 | ppb | 1.03 | 900.00 | |
| 23 Na | 45 | 1 | 5414.00 | 5414.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5508.00 | 5508.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 5463.00 | 5463.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5129.00 | 5129.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 5683.00 | 5683.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.55 | 90000.00 | |
| 39 K | 45 | 1 | 5481.00 | 5481.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 5431.00 | 5431.00 | ppb | 0.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.27 | 60.27 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 58.62 | 58.62 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 56.85 | 56.85 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 57.00 | 57.00 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 5492.00 | 5492.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 56.76 | 56.76 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 56.35 | 56.35 | ppb | 1.10 | 900.00 | |
| 63 Cu | 72 | 2 | 55.51 | 55.51 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 55.22 | 55.22 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 57.83 | 57.83 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 57.80 | 57.80 | ppb | 1.08 | 900.00 | |
| 88 Sr | 103 | 1 | 62.10 | 62.10 | ppb | 0.83 | 900.00 | |
| 98 Mo | 103 | 1 | 62.60 | 62.60 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 60.47 | 60.47 | ppb | 1.35 | 900.00 | |
| 111 Cd | 115 | 2 | 57.45 | 57.45 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | 61.12 | 61.12 | ppb | 1.26 | 900.00 | |
| 121 Sb | 115 | 1 | 59.84 | 59.84 | ppb | 1.33 | 900.00 | |
| 137 Ba | 159 | 1 | 58.75 | 58.75 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 57.34 | 57.34 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.24 | 59.24 | ppb | 1.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1935204 | 1.33 | 1993708 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 2512937 | 0.73 | 2491942 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 374238 | 0.33 | 379286 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 447315 | 0.78 | 463522 | 96.5 | 70 | - | 130 |
| 72 | Ge | 2 | 132005 | 0.51 | 134805 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2177461 | 0.92 | 2265279 | 96.1 | 70 | - | 130 |
| 115 | In | 1 | 2309149 | 1.21 | 2375722 | 97.2 | 70 | - | 130 |
| 115 | In | 2 | 1007238 | 0.74 | 1034376 | 97.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2734402 | 0.55 | 2743058 | 99.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2555232 | 0.57 | 2554975 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1527140 | 1.05 | 1599251 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Dec 3 2013 12:54 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 26.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.40 | ppb | 15.64 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 35.65 | 900.00 | |
| 23 Na | 45 | 1 | -0.31 | -0.31 | ppb | 94.19 | 90000.00 | |
| 23 Na | 45 | 2 | 0.34 | 0.34 | ppb | 165.99 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.02 | -0.02 | ppb | 117.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.08 | 0.08 | ppb | 14.18 | 90000.00 | |
| 27 Al | 45 | 1 | 0.14 | 0.14 | ppb | 9.18 | 90000.00 | |
| 27 Al | 45 | 2 | 0.09 | 0.09 | ppb | 70.31 | 90000.00 | |
| 39 K | 45 | 1 | -12.01 | -12.01 | ppb | 15.74 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.32 | -1.32 | ppb | 52.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 38.97 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 13.85 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 5.99 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 115.07 | 900.00 | |
| 56 Fe | 45 | 2 | -0.18 | -0.18 | ppb | 5.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 25.67 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 962.32 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 111.02 | 900.00 | |
| 66 Zn | 72 | 2 | 0.06 | 0.06 | ppb | 7.18 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 109.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 85.13 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 62.78 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 3.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 61.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 25.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 9.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 9.24 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 1109.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.37 | 0.37 | ppb | 7.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 24.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991419 | 1.58 | 1993708 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2529677 | 0.43 | 2491942 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 380606 | 1.57 | 379286 | 100.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 458841 | 1.16 | 463522 | 99.0 | 70 - | 130 |
| 72 | Ge | 2 | 134050 | 0.72 | 134805 | 99.4 | 70 - | 130 |
| 103 | Rh | 1 | 2279984 | 0.60 | 2265279 | 100.6 | 70 - | 130 |
| 115 | In | 1 | 2369729 | 0.10 | 2375722 | 99.7 | 70 - | 130 |
| 115 | In | 2 | 1041651 | 0.86 | 1034376 | 100.7 | 70 - | 130 |
| 159 | Tb | 1 | 2763234 | 0.51 | 2743058 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 2576406 | 1.16 | 2554975 | 100.8 | 70 - | 130 |
| 209 | Bi | 1 | 1595258 | 1.15 | 1599251 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#
Date Acquired: Dec 3 2013 01:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.51 | 49.51 | ppb | 1.48 | 900.00 | |
| 9 Be | 45 | 2 | 48.71 | 48.71 | ppb | 2.19 | 900.00 | |
| 11 B | 6 | 1 | 49.75 | 49.75 | ppb | 2.41 | 900.00 | |
| 11 B | 45 | 2 | 47.96 | 47.96 | ppb | 2.67 | 900.00 | |
| 23 Na | 45 | 1 | 4917.00 | 4917.00 | ppb | 0.85 | 90000.00 | |
| 23 Na | 45 | 2 | 4936.00 | 4936.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 4941.00 | 4941.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 4611.00 | 4611.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 1 | 4902.00 | 4902.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 4457.00 | 4457.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 4895.00 | 4895.00 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 4930.00 | 4930.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.95 | 48.95 | ppb | 1.18 | 900.00 | |
| 51 V | 45 | 2 | 48.28 | 48.28 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 47.57 | 47.57 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 47.47 | 47.47 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 4950.00 | 4950.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 47.35 | 47.35 | ppb | 1.55 | 900.00 | |
| 60 Ni | 45 | 2 | 47.02 | 47.02 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 46.09 | 46.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 46.10 | 46.10 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 48.05 | 48.05 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 48.42 | 48.42 | ppb | 1.14 | 900.00 | |
| 88 Sr | 103 | 1 | 49.87 | 49.87 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 50.01 | 50.01 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 49.72 | 49.72 | ppb | 1.23 | 900.00 | |
| 111 Cd | 115 | 2 | 47.34 | 47.34 | ppb | 0.56 | 900.00 | |
| 120 Sn | 115 | 1 | 49.53 | 49.53 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 49.94 | 49.94 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 48.69 | 48.69 | ppb | 0.75 | 900.00 | |
| 205 Tl | 209 | 1 | 47.57 | 47.57 | ppb | 0.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.03 | 49.03 | ppb | 0.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1942260 | 2.17 | 1993708 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 2505657 | 0.35 | 2491942 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 373512 | 1.02 | 379286 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449418 | 0.76 | 463522 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 131517 | 0.44 | 134805 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2203197 | 1.11 | 2265279 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 2312142 | 0.49 | 2375722 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 1009534 | 0.54 | 1034376 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 2738111 | 1.06 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2548170 | 0.64 | 2554975 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 1534613 | 0.56 | 1599251 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#
Date Acquired: Dec 3 2013 01:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.63 | 49.63 | ppb | 0.08 | 900.00 | |
| 9 Be | 45 | 2 | 48.93 | 48.93 | ppb | 3.31 | 900.00 | |
| 11 B | 6 | 1 | 49.58 | 49.58 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 48.36 | 48.36 | ppb | 5.11 | 900.00 | |
| 23 Na | 45 | 1 | 4859.00 | 4859.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 4900.00 | 4900.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 4887.00 | 4887.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 4565.00 | 4565.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 4849.00 | 4849.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 2 | 4422.00 | 4422.00 | ppb | 0.37 | 90000.00 | |
| 39 K | 45 | 1 | 4876.00 | 4876.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 4897.00 | 4897.00 | ppb | 0.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.69 | 48.69 | ppb | 0.64 | 900.00 | |
| 51 V | 45 | 2 | 47.63 | 47.63 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 47.07 | 47.07 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 47.31 | 47.31 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 4929.00 | 4929.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 46.92 | 46.92 | ppb | 0.62 | 900.00 | |
| 60 Ni | 45 | 2 | 46.61 | 46.61 | ppb | 0.77 | 900.00 | |
| 63 Cu | 72 | 2 | 45.92 | 45.92 | ppb | 0.42 | 900.00 | |
| 66 Zn | 72 | 2 | 45.97 | 45.97 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 47.81 | 47.81 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 48.60 | 48.60 | ppb | 1.99 | 900.00 | |
| 88 Sr | 103 | 1 | 50.27 | 50.27 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 50.29 | 50.29 | ppb | 0.06 | 900.00 | |
| 107 Ag | 115 | 1 | 49.59 | 49.59 | ppb | 0.15 | 900.00 | |
| 111 Cd | 115 | 2 | 47.18 | 47.18 | ppb | 0.46 | 900.00 | |
| 120 Sn | 115 | 1 | 49.82 | 49.82 | ppb | 0.74 | 900.00 | |
| 121 Sb | 115 | 1 | 49.70 | 49.70 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 48.32 | 48.32 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 47.69 | 47.69 | ppb | 0.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.08 | 49.08 | ppb | 1.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1931305 | 0.39 | 1993708 | 96.9 | 70 - 130 | |
| 45 Sc | 1 | 2500150 | 0.97 | 2491942 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 377643 | 0.84 | 379286 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450237 | 0.78 | 463522 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 132715 | 0.60 | 134805 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 2191149 | 0.72 | 2265279 | 96.7 | 70 | - | 130 |
| 115 In | 1 | 2310018 | 1.14 | 2375722 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1017719 | 0.59 | 1034376 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 2742209 | 0.62 | 2743058 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 2554419 | 1.24 | 2554975 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 1532181 | 0.27 | 1599251 | 95.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#
Date Acquired: Dec 3 2013 01:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 24.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.27 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 10.82 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 20.26 | 900.00 | |
| 23 Na | 45 | 1 | 0.30 | 0.30 | ppb | 572.28 | 90000.00 | |
| 23 Na | 45 | 2 | 0.40 | 0.40 | ppb | 69.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.06 | 0.06 | ppb | 95.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.07 | 0.07 | ppb | 53.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.30 | 0.30 | ppb | 25.68 | 90000.00 | |
| 27 Al | 45 | 2 | 0.18 | 0.18 | ppb | 15.37 | 90000.00 | |
| 39 K | 45 | 1 | -13.57 | -13.57 | ppb | 147.83 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.68 | -1.68 | ppb | 139.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 63.55 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 5.25 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 34.38 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 33.31 | 900.00 | |
| 56 Fe | 45 | 2 | -0.17 | -0.17 | ppb | 23.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 18.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 92.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 18.39 | 900.00 | |
| 66 Zn | 72 | 2 | 3.01 | 3.01 | ppb | 2.81 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 419.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 40.04 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 77.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 14.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 28.82 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 489.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 22.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 30.77 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 398.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 10.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 9.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1990626 | 6.36 | 1993708 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2534571 | 12.38 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 383106 | 1.10 | 379286 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464503 | 6.95 | 463522 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 135803 | 0.25 | 134805 | 100.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2283143 | 11.27 | 2265279 | 100.8 | 70 | - | 130 |
| 115 | In | 1 | 2387069 | 8.89 | 2375722 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1056223 | 0.14 | 1034376 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 2803353 | 10.66 | 2743058 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2612480 | 10.85 | 2554975 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1599274 | 9.42 | 1599251 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D# |
| Date Acquired: | Dec 3 2013 01:28 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CRI |
| Misc Info: | |
| Vial Number: | 2105 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 0.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.57 | 0.57 | ppb | 8.50 | 900.00 | |
| 11 B | 6 | 1 | 5.07 | 5.07 | ppb | 0.40 | 900.00 | |
| 11 B | 45 | 2 | 5.38 | 5.38 | ppb | 9.54 | 900.00 | |
| 23 Na | 45 | 1 | 253.10 | 253.10 | ppb | 0.09 | 90000.00 | |
| 23 Na | 45 | 2 | 276.50 | 276.50 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.20 | 257.20 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.40 | 258.40 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 27.48 | 27.48 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 24.86 | 24.86 | ppb | 0.80 | 90000.00 | |
| 39 K | 45 | 1 | 237.30 | 237.30 | ppb | 1.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.00 | 264.00 | ppb | 1.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.49 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 1.42 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.35 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 1.21 | 900.00 | |
| 56 Fe | 45 | 2 | 27.92 | 27.92 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 0.30 | 900.00 | |
| 60 Ni | 45 | 2 | 1.50 | 1.50 | ppb | 1.51 | 900.00 | |
| 63 Cu | 72 | 2 | 1.01 | 1.01 | ppb | 2.50 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 2.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 15.17 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 1.11 | 1.11 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 3.52 | 900.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 7.10 | 900.00 | |
| 120 Sn | 115 | 1 | 5.01 | 5.01 | ppb | 0.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 2.20 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 2.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.55 | 0.55 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1996339 | 0.56 | 1993708 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 2552702 | 0.16 | 2491942 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 383976 | 0.21 | 379286 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 462146 | 0.96 | 463522 | 99.7 | 70 | - | 130 |
| 72 | Ge | 2 | 135355 | 0.26 | 134805 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2285958 | 1.38 | 2265279 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 2406397 | 0.45 | 2375722 | 101.3 | 70 | - | 130 |
| 115 | In | 2 | 1057808 | 0.61 | 1034376 | 102.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2794883 | 0.33 | 2743058 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2622146 | 0.63 | 2554975 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1605170 | 1.16 | 1599251 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\016SMPL.D\016SMPL.D#
Date Acquired: Dec 3 2013 01:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 85.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 173.23 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 7.81 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 32.72 | 900.00 | |
| 23 Na | 45 | 1 | 93330.00 | 93330.00 | ppb | 0.63 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 94020.00 | 94020.00 | ppb | 0.35 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94000.00 | 94000.00 | ppb | 0.81 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87390.00 | 87390.00 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 95040.00 | 95040.00 | ppb | 0.81 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85610.00 | 85610.00 | ppb | 0.44 | 90000.00 | |
| 39 K | 45 | 1 | 95410.00 | 95410.00 | ppb | 0.66 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94350.00 | 94350.00 | ppb | 0.01 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1982.00 | 1982.00 | ppb | 0.61 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.09 | -0.09 | ppb | 3.14 | 900.00 | |
| 52 Cr | 45 | 2 | 1.11 | 1.11 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 1.83 | 900.00 | |
| 56 Fe | 45 | 2 | 94980.00 | 94980.00 | ppb | 0.59 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 3.32 | 900.00 | |
| 60 Ni | 45 | 2 | 1.07 | 1.07 | ppb | 2.95 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.43 | ppb | 1.77 | 900.00 | |
| 66 Zn | 72 | 2 | 1.94 | 1.94 | ppb | 2.70 | 900.00 | |
| 75 As | 72 | 2 | 0.25 | 0.25 | ppb | 3.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 25.02 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.79 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 1.83 | 900.00 | |
| 111 Cd | 115 | 2 | 1.14 | 1.14 | ppb | 6.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 11.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 2.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795521 | 0.33 | 1993708 | 90.1 | 70 - 130 | |
| 45 Sc | 1 | 2437047 | 0.69 | 2491942 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 362341 | 0.79 | 379286 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464816 | 0.06 | 463522 | 100.3 | 70 | - | 130 |
| 72 | Ge | 2 | 131706 | 0.63 | 134805 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2016545 | 0.24 | 2265279 | 89.0 | 70 | - | 130 |
| 115 | In | 1 | 2238470 | 1.12 | 2375722 | 94.2 | 70 | - | 130 |
| 115 | In | 2 | 965300 | 0.24 | 1034376 | 93.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2757893 | 1.27 | 2743058 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2617117 | 1.08 | 2554975 | 102.4 | 70 | - | 130 |
| 209 | Bi | 1 | 1460161 | 0.45 | 1599251 | 91.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#
Date Acquired: Dec 3 2013 01:44 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 51.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.63 | 900.00 | |
| 11 B | 6 | 1 | 0.22 | 0.22 | ppb | 2.97 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.36 | ppb | 50.07 | 900.00 | |
| 23 Na | 45 | 1 | 89780.00 | 89780.00 | ppb | 1.69 | 90000.00 | |
| 23 Na | 45 | 2 | 94790.00 | 94790.00 | ppb | 1.73 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 90020.00 | 90020.00 | ppb | 2.02 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87610.00 | 87610.00 | ppb | 1.75 | 90000.00 | |
| 27 Al | 45 | 1 | 91460.00 | 91460.00 | ppb | 1.94 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85140.00 | 85140.00 | ppb | 2.07 | 90000.00 | |
| 39 K | 45 | 1 | 93430.00 | 93430.00 | ppb | 1.89 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92580.00 | 92580.00 | ppb | 1.79 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1943.00 | 1943.00 | ppb | 1.97 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 25.03 | 900.00 | |
| 52 Cr | 45 | 2 | 19.91 | 19.91 | ppb | 1.61 | 900.00 | |
| 55 Mn | 45 | 2 | 19.05 | 19.05 | ppb | 1.24 | 900.00 | |
| 56 Fe | 45 | 2 | 96800.00 | 96800.00 | ppb | 1.42 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.70 | 18.70 | ppb | 1.97 | 900.00 | |
| 60 Ni | 45 | 2 | 19.23 | 19.23 | ppb | 1.37 | 900.00 | |
| 63 Cu | 72 | 2 | 17.26 | 17.26 | ppb | 1.25 | 900.00 | |
| 66 Zn | 72 | 2 | 18.67 | 18.67 | ppb | 0.96 | 900.00 | |
| 75 As | 72 | 2 | 19.52 | 19.52 | ppb | 1.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.24 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 4.88 | 4.88 | ppb | 1.99 | 900.00 | |
| 98 Mo | 103 | 1 | 2003.00 | 2003.00 | ppb | 1.94 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.14 | 19.14 | ppb | 1.85 | 900.00 | |
| 111 Cd | 115 | 2 | 19.64 | 19.64 | ppb | 1.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 4.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 1.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 5.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 3.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1768953 | 0.41 | 1993708 | 88.7 | 70 - 130 | |
| 45 Sc | 1 | 2452325 | 1.32 | 2491942 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 343149 | 1.51 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 457466 | 0.73 | 463522 | 98.7 | 70 | - | 130 |
| 72 | Ge | 2 | 126556 | 0.73 | 134805 | 93.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2042942 | 1.62 | 2265279 | 90.2 | 70 | - | 130 |
| 115 | In | 1 | 2251743 | 1.40 | 2375722 | 94.8 | 70 | - | 130 |
| 115 | In | 2 | 935567 | 1.20 | 1034376 | 90.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2799683 | 1.01 | 2743058 | 102.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2654964 | 1.49 | 2554975 | 103.9 | 70 | - | 130 |
| 209 | Bi | 1 | 1461101 | 0.89 | 1599251 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D#
Date Acquired: Dec 3 2013 01:58 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 32.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 48.23 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 179.16 | 900.00 | |
| 23 Na | 45 | 1 | 9.15 | 9.15 | ppb | 4.63 | 90000.00 | |
| 23 Na | 45 | 2 | 12.58 | 12.58 | ppb | 5.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.20 | 0.20 | ppb | 8.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.48 | 0.48 | ppb | 23.82 | 90000.00 | |
| 27 Al | 45 | 1 | 0.13 | 0.13 | ppb | 8.96 | 90000.00 | |
| 27 Al | 45 | 2 | 0.23 | 0.23 | ppb | 39.25 | 90000.00 | |
| 39 K | 45 | 1 | -23.91 | -23.91 | ppb | 4.20 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.99 | -5.99 | ppb | 7.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 47.63 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 18.92 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 12.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 56.29 | 900.00 | |
| 56 Fe | 45 | 2 | 0.04 | 0.04 | ppb | 330.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 3776.60 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 168.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 18.11 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 91.76 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 147.80 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 15403.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 238.41 | 900.00 | |
| 98 Mo | 103 | 1 | 0.50 | 0.50 | ppb | 1.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 85.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 118.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 84.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 27.16 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 77.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 3.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 151.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2085370 | 0.51 | 1993708 | 104.6 | 70 - 130 | |
| 45 Sc | 1 | 2682138 | 0.93 | 2491942 | 107.6 | 70 - 130 | |
| 45 Sc | 2 | 381948 | 0.94 | 379286 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 480702 | 1.16 | 463522 | 103.7 | 70 | - | 130 |
| 72 | Ge | 2 | 136868 | 0.60 | 134805 | 101.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2393447 | 0.42 | 2265279 | 105.7 | 70 | - | 130 |
| 115 | In | 1 | 2554333 | 0.83 | 2375722 | 107.5 | 70 | - | 130 |
| 115 | In | 2 | 1081953 | 0.13 | 1034376 | 104.6 | 70 | - | 130 |
| 159 | Tb | 1 | 2991262 | 0.63 | 2743058 | 109.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2797863 | 0.56 | 2554975 | 109.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1722129 | 0.62 | 1599251 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D# |
| Date Acquired: | Dec 3 2013 02:16 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22168-MB1 |
| Misc Info: | |
| Vial Number: | 2109 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 8.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.22 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.12 | ppb | 11.66 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.04 | ppb | 171.34 | 900.00 | |
| 23 Na | 45 | 1 | 12.76 | 6.38 | ppb | 5.41 | 90000.00 | |
| 23 Na | 45 | 2 | 19.79 | 9.89 | ppb | 8.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.98 | 0.49 | ppb | 3.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.09 | 0.55 | ppb | 10.44 | 90000.00 | |
| 27 Al | 45 | 1 | 2.97 | 1.49 | ppb | 1.96 | 90000.00 | |
| 27 Al | 45 | 2 | 2.62 | 1.31 | ppb | 5.08 | 90000.00 | |
| 39 K | 45 | 1 | -20.10 | -10.05 | ppb | 22.89 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.97 | -1.49 | ppb | 31.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.10 | ppb | 21.86 | 900.00 | |
| 51 V | 45 | 2 | 3.50 | 1.75 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 4.52 | 900.00 | |
| 55 Mn | 45 | 2 | 0.56 | 0.28 | ppb | 15.36 | 900.00 | |
| 56 Fe | 45 | 2 | 9.19 | 4.59 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 9.82 | 900.00 | |
| 60 Ni | 45 | 2 | -0.16 | -0.08 | ppb | 1.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 9.46 | 900.00 | |
| 66 Zn | 72 | 2 | 2.10 | 1.05 | ppb | 1.92 | 900.00 | |
| 75 As | 72 | 2 | 0.99 | 0.50 | ppb | 5.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 71.01 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 40.17 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.11 | ppb | 8.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 82.20 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 3.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 9.94 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 30.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 6.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 27.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2074981 | 0.65 | 1993708 | 104.1 | 70 - 130 | |
| 45 Sc | 1 | 2541736 | 1.30 | 2491942 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 369723 | 1.10 | 379286 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 468317 | 1.29 | 463522 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 133139 | 0.05 | 134805 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 2259401 | 1.41 | 2265279 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 2391652 | 1.53 | 2375722 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1049964 | 0.34 | 1034376 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 2855220 | 1.15 | 2743058 | 104.1 | 70 | - | 130 |
| 175 Lu | 1 | 2709859 | 1.59 | 2554975 | 106.1 | 70 | - | 130 |
| 209 Bi | 1 | 1650849 | 1.34 | 1599251 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\020SMPL.D\020SMPL.D#
Date Acquired: Dec 3 2013 02:23 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-1F
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 12.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 57.28 | 28.64 | ppb | 0.74 | 900.00 | |
| 11 B | 45 | 2 | 60.02 | 30.01 | ppb | 7.69 | 900.00 | |
| 23 Na | 45 | 1 | 43260.00 | 21630.00 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 46940.00 | 23470.00 | ppb | 6.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 3754.00 | 1877.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 3816.00 | 1908.00 | ppb | 7.21 | 90000.00 | |
| 27 Al | 45 | 1 | 5.15 | 2.58 | ppb | 4.76 | 90000.00 | |
| 27 Al | 45 | 2 | 4.81 | 2.40 | ppb | 6.13 | 90000.00 | |
| 39 K | 45 | 1 | 5502.00 | 2751.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 27560.00 | 13780.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.05 | 0.52 | ppb | 5.32 | 900.00 | |
| 51 V | 45 | 2 | 3.92 | 1.96 | ppb | 7.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.16 | ppb | 18.27 | 900.00 | |
| 55 Mn | 45 | 2 | 1671.80 | 835.90 | ppb | 7.67 | 900.00 | |
| 56 Fe | 45 | 2 | 681.60 | 340.80 | ppb | 7.60 | 90000.00 | |
| 59 Co | 45 | 2 | 2.59 | 1.29 | ppb | 7.49 | 900.00 | |
| 60 Ni | 45 | 2 | 4.05 | 2.03 | ppb | 9.71 | 900.00 | |
| 63 Cu | 72 | 2 | 3.10 | 1.55 | ppb | 3.76 | 900.00 | |
| 66 Zn | 72 | 2 | 8.15 | 4.08 | ppb | 4.07 | 900.00 | |
| 75 As | 72 | 2 | 6.18 | 3.09 | ppb | 3.13 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.19 | ppb | 73.74 | 900.00 | |
| 88 Sr | 103 | 1 | 323.20 | 161.60 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.30 | ppb | 1.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.34 | 900.00 | |
| 111 Cd | 115 | 2 | 0.34 | 0.17 | ppb | 13.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 7.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.70 | 0.35 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 80.24 | 40.12 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.10 | ppb | 4.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 11.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1955014 | 0.90 | 1993708 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2489593 | 0.43 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 347041 | 7.64 | 379286 | 91.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455496 | 0.54 | 463522 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 128196 | 3.99 | 134805 | 95.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2122318 | 0.45 | 2265279 | 93.7 | 70 | - | 130 |
| 115 | In | 1 | 2301056 | 0.83 | 2375722 | 96.9 | 70 | - | 130 |
| 115 | In | 2 | 986405 | 5.98 | 1034376 | 95.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2797364 | 0.40 | 2743058 | 102.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2649297 | 1.07 | 2554975 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 1540126 | 1.21 | 1599251 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#
**Date Acquired:** Dec 3 2013 02:31 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22168-SD1
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 130.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.01 | ppb | 173.20 | 900.00 | |
| 11 B | 6 | 1 | 53.80 | 5.38 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 53.11 | 5.31 | ppb | 2.90 | 900.00 | |
| 23 Na | 45 | 1 | 44960.00 | 4496.00 | ppb | 0.41 | 90000.00 | |
| 23 Na | 45 | 2 | 45760.00 | 4576.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 3933.00 | 393.30 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 3971.00 | 397.10 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 12.41 | 1.24 | ppb | 1.90 | 90000.00 | |
| 27 Al | 45 | 2 | 12.22 | 1.22 | ppb | 12.58 | 90000.00 | |
| 39 K | 45 | 1 | 5565.00 | 556.50 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 29060.00 | 2906.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.12 | ppb | 6.20 | 900.00 | |
| 51 V | 45 | 2 | 0.33 | 0.03 | ppb | 42.14 | 900.00 | |
| 52 Cr | 45 | 2 | -0.41 | -0.04 | ppb | 17.44 | 900.00 | |
| 55 Mn | 45 | 2 | 1686.00 | 168.60 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 708.90 | 70.89 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 2.41 | 0.24 | ppb | 3.27 | 900.00 | |
| 60 Ni | 45 | 2 | 3.19 | 0.32 | ppb | 4.15 | 900.00 | |
| 63 Cu | 72 | 2 | 3.97 | 0.40 | ppb | 1.54 | 900.00 | |
| 66 Zn | 72 | 2 | 9.59 | 0.96 | ppb | 2.05 | 900.00 | |
| 75 As | 72 | 2 | 5.36 | 0.54 | ppb | 5.12 | 900.00 | |
| 78 Se | 72 | 2 | -0.19 | -0.02 | ppb | 225.60 | 900.00 | |
| 88 Sr | 103 | 1 | 341.90 | 34.19 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.07 | ppb | 6.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 6.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.25 | 0.03 | ppb | 16.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.01 | ppb | 74.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.70 | 0.07 | ppb | 5.15 | 900.00 | |
| 137 Ba | 159 | 1 | 82.13 | 8.21 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.03 | ppb | 9.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.01 | ppb | 6.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2020666 | 0.76 | 1993708 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2593975 | 0.50 | 2491942 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 378140 | 0.60 | 379286 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 472244 | 0.40 | 463522 | 101.9 | 70 - | 130 |
| 72 | Ge | 2 | 135090 | 0.67 | 134805 | 100.2 | 70 - | 130 |
| 103 | Rh | 1 | 2271451 | 0.33 | 2265279 | 100.3 | 70 - | 130 |
| 115 | In | 1 | 2453962 | 0.58 | 2375722 | 103.3 | 70 - | 130 |
| 115 | In | 2 | 1065673 | 0.88 | 1034376 | 103.0 | 70 - | 130 |
| 159 | Tb | 1 | 2862409 | 0.28 | 2743058 | 104.4 | 70 - | 130 |
| 175 | Lu | 1 | 2696279 | 0.39 | 2554975 | 105.5 | 70 - | 130 |
| 209 | Bi | 1 | 1656072 | 0.16 | 1599251 | 103.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 02:38 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC26418-10F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2112 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 6.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.10 | 0.05 | ppb | 54.91 | 900.00 | |
| 11 B | 6 | 1 | 57.42 | 28.71 | ppb | 2.54 | 900.00 | |
| 11 B | 45 | 2 | 56.66 | 28.33 | ppb | 6.93 | 900.00 | |
| 23 Na | 45 | 1 | 10208.00 | 5104.00 | ppb | 1.33 | 90000.00 | |
| 23 Na | 45 | 2 | 11148.00 | 5574.00 | ppb | 5.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 5906.00 | 2953.00 | ppb | 1.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 5946.00 | 2973.00 | ppb | 6.38 | 90000.00 | |
| 27 Al | 45 | 1 | 5.11 | 2.56 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4.84 | 2.42 | ppb | 8.31 | 90000.00 | |
| 39 K | 45 | 1 | 4794.00 | 2397.00 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 46180.00 | 23090.00 | ppb | 1.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.40 | 0.70 | ppb | 4.36 | 900.00 | |
| 51 V | 45 | 2 | 2.08 | 1.04 | ppb | 7.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 12.40 | 900.00 | |
| 55 Mn | 45 | 2 | 7192.00 | 3596.00 | ppb | 5.86 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 47260.00 | 23630.00 | ppb | 5.53 | 90000.00 | |
| 59 Co | 45 | 2 | 22.50 | 11.25 | ppb | 5.26 | 900.00 | |
| 60 Ni | 45 | 2 | 13.80 | 6.90 | ppb | 6.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.19 | ppb | 1.98 | 900.00 | |
| 66 Zn | 72 | 2 | 8.96 | 4.48 | ppb | 2.77 | 900.00 | |
| 75 As | 72 | 2 | 5400.00 | 2700.00 | ppb | 2.30 | 900.00 | >LDR |
| 78 Se | 72 | 2 | -0.19 | -0.10 | ppb | 68.09 | 900.00 | |
| 88 Sr | 103 | 1 | 336.60 | 168.30 | ppb | 1.53 | 900.00 | |
| 98 Mo | 103 | 1 | 3.36 | 1.68 | ppb | 0.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.78 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 50.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 16.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.05 | ppb | 9.48 | 900.00 | |
| 137 Ba | 159 | 1 | 34.22 | 17.11 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 14.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 7.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972354 | 1.51 | 1993708 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2534654 | 1.34 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 343854 | 5.38 | 379286 | 90.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 452221 | 1.01 | 463522 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 127051 | 2.49 | 134805 | 94.2 | 70 - | 130 |
| 103 | Rh | 1 | 2102514 | 1.84 | 2265279 | 92.8 | 70 - | 130 |
| 115 | In | 1 | 2274962 | 2.43 | 2375722 | 95.8 | 70 - | 130 |
| 115 | In | 2 | 965890 | 3.99 | 1034376 | 93.4 | 70 - | 130 |
| 159 | Tb | 1 | 2809301 | 1.69 | 2743058 | 102.4 | 70 - | 130 |
| 175 | Lu | 1 | 2655181 | 0.71 | 2554975 | 103.9 | 70 - | 130 |
| 209 | Bi | 1 | 1571967 | 2.25 | 1599251 | 98.3 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Dec 3 2013 02:45 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-11F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 80.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 43.41 | 900.00 | |
| 11 B | 6 | 1 | 255.60 | 127.80 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 243.60 | 121.80 | ppb | 1.41 | 900.00 | |
| 23 Na | 45 | 1 | 26880.00 | 13440.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 28740.00 | 14370.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 11592.00 | 5796.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 11226.00 | 5613.00 | ppb | 0.93 | 90000.00 | |
| 27 Al | 45 | 1 | 4.08 | 2.04 | ppb | 2.03 | 90000.00 | |
| 27 Al | 45 | 2 | 3.62 | 1.81 | ppb | 5.40 | 90000.00 | |
| 39 K | 45 | 1 | 9688.00 | 4844.00 | ppb | 0.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 73380.00 | 36690.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.54 | 1.27 | ppb | 6.45 | 900.00 | |
| 51 V | 45 | 2 | 2.15 | 1.08 | ppb | 2.29 | 900.00 | |
| 52 Cr | 45 | 2 | 0.31 | 0.15 | ppb | 6.99 | 900.00 | |
| 55 Mn | 45 | 2 | 1329.80 | 664.90 | ppb | 1.01 | 900.00 | |
| 56 Fe | 45 | 2 | 43880.00 | 21940.00 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.17 | ppb | 1.33 | 900.00 | |
| 60 Ni | 45 | 2 | 0.61 | 0.31 | ppb | 4.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.14 | ppb | 1.76 | 900.00 | |
| 66 Zn | 72 | 2 | 6.78 | 3.39 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 1475.00 | 737.50 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 679.19 | 900.00 | |
| 88 Sr | 103 | 1 | 833.60 | 416.80 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.69 | 0.35 | ppb | 1.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 53.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 33.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 10.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 8.34 | 900.00 | |
| 137 Ba | 159 | 1 | 52.30 | 26.15 | ppb | 0.17 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 13.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 15.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1973938 | 0.50 | 1993708 | 99.0 | 70 - 130 | |
| 45 Sc | 1 | 2592821 | 0.06 | 2491942 | 104.0 | 70 - 130 | |
| 45 Sc | 2 | 359129 | 0.40 | 379286 | 94.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 458218 | 0.53 | 463522 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 130585 | 0.30 | 134805 | 96.9 | 70 | - | 130 |
| 103 Rh | 1 | 2107435 | 0.38 | 2265279 | 93.0 | 70 | - | 130 |
| 115 In | 1 | 2305164 | 0.50 | 2375722 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 983445 | 0.31 | 1034376 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 2852388 | 0.45 | 2743058 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 2712499 | 0.61 | 2554975 | 106.2 | 70 | - | 130 |
| 209 Bi | 1 | 1564091 | 0.77 | 1599251 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 3 2013 02:52 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-12F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 17.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 99.37 | 900.00 | |
| 11 B | 6 | 1 | 65.02 | 32.51 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 61.48 | 30.74 | ppb | 4.60 | 900.00 | |
| 23 Na | 45 | 1 | 19550.00 | 9775.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 20300.00 | 10150.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 2998.00 | 1499.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 2920.00 | 1460.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 1 | 7.76 | 3.88 | ppb | 1.62 | 90000.00 | |
| 27 Al | 45 | 2 | 7.15 | 3.58 | ppb | 4.43 | 90000.00 | |
| 39 K | 45 | 1 | 7212.00 | 3606.00 | ppb | 1.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 31960.00 | 15980.00 | ppb | 1.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.70 | 0.35 | ppb | 3.11 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 3.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 3.62 | 900.00 | |
| 55 Mn | 45 | 2 | 140.82 | 70.41 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 2462.00 | 1231.00 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.09 | 0.05 | ppb | 5.83 | 900.00 | |
| 60 Ni | 45 | 2 | 1.61 | 0.81 | ppb | 2.61 | 900.00 | |
| 63 Cu | 72 | 2 | 4.56 | 2.28 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 13.54 | 6.77 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 3.18 | 1.59 | ppb | 0.87 | 900.00 | |
| 78 Se | 72 | 2 | -0.21 | -0.11 | ppb | 147.85 | 900.00 | |
| 88 Sr | 103 | 1 | 240.20 | 120.10 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.51 | ppb | 4.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 97.79 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 69.13 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 8.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 7.26 | 900.00 | |
| 137 Ba | 159 | 1 | 6.20 | 3.10 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 40.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.09 | ppb | 8.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1962515 | 0.67 | 1993708 | 98.4 | 70 - 130 | |
| 45 Sc | 1 | 2521009 | 1.45 | 2491942 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 361279 | 1.30 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455709 | 1.03 | 463522 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 131134 | 0.80 | 134805 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2144976 | 0.95 | 2265279 | 94.7 | 70 | - | 130 |
| 115 | In | 1 | 2324301 | 0.51 | 2375722 | 97.8 | 70 | - | 130 |
| 115 | In | 2 | 1016152 | 1.00 | 1034376 | 98.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2817646 | 1.03 | 2743058 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2647312 | 1.61 | 2554975 | 103.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1572880 | 1.46 | 1599251 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 3 2013 02:59 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.16 | 51.16 | ppb | 4.32 | 900.00 | |
| 9 Be | 45 | 2 | 51.52 | 51.52 | ppb | 2.22 | 900.00 | |
| 11 B | 6 | 1 | 51.15 | 51.15 | ppb | 4.57 | 900.00 | |
| 11 B | 45 | 2 | 50.22 | 50.22 | ppb | 4.24 | 900.00 | |
| 23 Na | 45 | 1 | 4979.00 | 4979.00 | ppb | 3.39 | 90000.00 | |
| 23 Na | 45 | 2 | 5237.00 | 5237.00 | ppb | 3.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 5011.00 | 5011.00 | ppb | 3.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 4837.00 | 4837.00 | ppb | 4.15 | 90000.00 | |
| 27 Al | 45 | 1 | 4976.00 | 4976.00 | ppb | 3.41 | 90000.00 | |
| 27 Al | 45 | 2 | 4654.00 | 4654.00 | ppb | 3.82 | 90000.00 | |
| 39 K | 45 | 1 | 5012.00 | 5012.00 | ppb | 3.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 5093.00 | 5093.00 | ppb | 3.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.19 | 50.19 | ppb | 3.01 | 900.00 | |
| 51 V | 45 | 2 | 50.60 | 50.60 | ppb | 3.55 | 900.00 | |
| 52 Cr | 45 | 2 | 50.80 | 50.80 | ppb | 3.34 | 900.00 | |
| 55 Mn | 45 | 2 | 50.18 | 50.18 | ppb | 3.93 | 900.00 | |
| 56 Fe | 45 | 2 | 5287.00 | 5287.00 | ppb | 2.98 | 90000.00 | |
| 59 Co | 45 | 2 | 50.61 | 50.61 | ppb | 3.05 | 900.00 | |
| 60 Ni | 45 | 2 | 50.26 | 50.26 | ppb | 3.11 | 900.00 | |
| 63 Cu | 72 | 2 | 47.68 | 47.68 | ppb | 1.90 | 900.00 | |
| 66 Zn | 72 | 2 | 47.66 | 47.66 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 49.55 | 49.55 | ppb | 3.09 | 900.00 | |
| 78 Se | 72 | 2 | 48.95 | 48.95 | ppb | 2.82 | 900.00 | |
| 88 Sr | 103 | 1 | 52.56 | 52.56 | ppb | 4.36 | 900.00 | |
| 98 Mo | 103 | 1 | 51.91 | 51.91 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 50.27 | 50.27 | ppb | 5.20 | 900.00 | |
| 111 Cd | 115 | 2 | 50.20 | 50.20 | ppb | 2.97 | 900.00 | |
| 120 Sn | 115 | 1 | 50.64 | 50.64 | ppb | 5.20 | 900.00 | |
| 121 Sb | 115 | 1 | 50.80 | 50.80 | ppb | 5.34 | 900.00 | |
| 137 Ba | 159 | 1 | 49.64 | 49.64 | ppb | 5.06 | 900.00 | |
| 205 Tl | 209 | 1 | 48.98 | 48.98 | ppb | 3.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.42 | 50.42 | ppb | 4.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1905788 | 3.72 | 1993708 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 2441267 | 2.95 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 343744 | 3.39 | 379286 | 90.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 434302 | 3.02 | 463522 | 93.7 | 70 | - | 130 |
| 72 Ge | 2 | 125407 | 2.32 | 134805 | 93.0 | 70 | - | 130 |
| 103 Rh | 1 | 2101278 | 3.88 | 2265279 | 92.8 | 70 | - | 130 |
| 115 In | 1 | 2266731 | 4.40 | 2375722 | 95.4 | 70 | - | 130 |
| 115 In | 2 | 958432 | 3.11 | 1034376 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 2692359 | 3.70 | 2743058 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 2544427 | 4.85 | 2554975 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 1501485 | 3.88 | 1599251 | 93.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 3 2013 03:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.24 | 49.24 | ppb | 0.44 | 900.00 | |
| 9 Be | 45 | 2 | 49.70 | 49.70 | ppb | 3.92 | 900.00 | |
| 11 B | 6 | 1 | 49.17 | 49.17 | ppb | 1.40 | 900.00 | |
| 11 B | 45 | 2 | 48.60 | 48.60 | ppb | 2.00 | 900.00 | |
| 23 Na | 45 | 1 | 4886.00 | 4886.00 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 4962.00 | 4962.00 | ppb | 2.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 4888.00 | 4888.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 4574.00 | 4574.00 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 1 | 4896.00 | 4896.00 | ppb | 0.96 | 90000.00 | |
| 27 Al | 45 | 2 | 4408.00 | 4408.00 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 4943.00 | 4943.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 5007.00 | 5007.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.70 | 48.70 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 47.77 | 47.77 | ppb | 1.99 | 900.00 | |
| 52 Cr | 45 | 2 | 47.52 | 47.52 | ppb | 2.13 | 900.00 | |
| 55 Mn | 45 | 2 | 47.02 | 47.02 | ppb | 1.95 | 900.00 | |
| 56 Fe | 45 | 2 | 4947.00 | 4947.00 | ppb | 1.77 | 90000.00 | |
| 59 Co | 45 | 2 | 47.32 | 47.32 | ppb | 2.53 | 900.00 | |
| 60 Ni | 45 | 2 | 47.07 | 47.07 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 46.41 | 46.41 | ppb | 1.16 | 900.00 | |
| 66 Zn | 72 | 2 | 46.00 | 46.00 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 47.63 | 47.63 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 48.09 | 48.09 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 51.09 | 51.09 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 50.13 | 50.13 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 49.29 | 49.29 | ppb | 1.30 | 900.00 | |
| 111 Cd | 115 | 2 | 47.19 | 47.19 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 49.67 | 49.67 | ppb | 1.32 | 900.00 | |
| 121 Sb | 115 | 1 | 50.06 | 50.06 | ppb | 1.75 | 900.00 | |
| 137 Ba | 159 | 1 | 47.94 | 47.94 | ppb | 1.56 | 900.00 | |
| 205 Tl | 209 | 1 | 47.58 | 47.58 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.08 | 49.08 | ppb | 0.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1990303 | 0.51 | 1993708 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2509421 | 0.47 | 2491942 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 369509 | 2.20 | 379286 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 445639 | 0.43 | 463522 | 96.1 | 70 - | 130 |
| 72 | Ge | 2 | 130328 | 1.27 | 134805 | 96.7 | 70 - | 130 |
| 103 | Rh | 1 | 2173761 | 0.48 | 2265279 | 96.0 | 70 - | 130 |
| 115 | In | 1 | 2310739 | 1.07 | 2375722 | 97.3 | 70 - | 130 |
| 115 | In | 2 | 1008723 | 1.79 | 1034376 | 97.5 | 70 - | 130 |
| 159 | Tb | 1 | 2776437 | 0.57 | 2743058 | 101.2 | 70 - | 130 |
| 175 | Lu | 1 | 2624410 | 0.72 | 2554975 | 102.7 | 70 - | 130 |
| 209 | Bi | 1 | 1553983 | 0.27 | 1599251 | 97.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#
Date Acquired: Dec 3 2013 03:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.56 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 6.23 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 68.64 | 900.00 | |
| 23 Na | 45 | 1 | 0.93 | 0.93 | ppb | 46.22 | 90000.00 | |
| 23 Na | 45 | 2 | 4.63 | 4.63 | ppb | 7.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.51 | 0.51 | ppb | 9.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.88 | 0.88 | ppb | 30.16 | 90000.00 | |
| 27 Al | 45 | 1 | 0.62 | 0.62 | ppb | 5.92 | 90000.00 | |
| 27 Al | 45 | 2 | 0.78 | 0.78 | ppb | 15.24 | 90000.00 | |
| 39 K | 45 | 1 | -13.09 | -13.09 | ppb | 10.28 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.13 | -6.13 | ppb | 13.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 37.21 | 900.00 | |
| 51 V | 45 | 2 | -0.14 | -0.14 | ppb | 12.25 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 16.88 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 34.27 | 900.00 | |
| 56 Fe | 45 | 2 | 0.73 | 0.73 | ppb | 33.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 36.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 44.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 31.49 | 900.00 | |
| 66 Zn | 72 | 2 | 3.39 | 3.39 | ppb | 1.66 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 32.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 62.31 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 36.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 10.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.21 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 63.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 3.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 7.71 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 236.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 3.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2039170 | 0.48 | 1993708 | 102.3 | 70 - 130 | |
| 45 Sc | 1 | 2533213 | 0.32 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 367479 | 0.72 | 379286 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456225 | 1.38 | 463522 | 98.4 | 70 | - | 130 |
| 72 Ge | 2 | 131288 | 0.40 | 134805 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 2247030 | 0.48 | 2265279 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 2386952 | 0.67 | 2375722 | 100.5 | 70 | - | 130 |
| 115 In | 2 | 1041675 | 0.06 | 1034376 | 100.7 | 70 | - | 130 |
| 159 Tb | 1 | 2793889 | 0.85 | 2743058 | 101.9 | 70 | - | 130 |
| 175 Lu | 1 | 2623367 | 1.26 | 2554975 | 102.7 | 70 | - | 130 |
| 209 Bi | 1 | 1615974 | 1.24 | 1599251 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D#
Date Acquired: Dec 3 2013 03:32 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-13F
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 55.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 116.42 | 900.00 | |
| 11 B | 6 | 1 | 174.96 | 87.48 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 162.34 | 81.17 | ppb | 2.49 | 900.00 | |
| 23 Na | 45 | 1 | 22200.00 | 11100.00 | ppb | 2.51 | 90000.00 | |
| 23 Na | 45 | 2 | 22420.00 | 11210.00 | ppb | 3.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 8702.00 | 4351.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 8058.00 | 4029.00 | ppb | 3.59 | 90000.00 | |
| 27 Al | 45 | 1 | 3.46 | 1.73 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 2 | 3.45 | 1.73 | ppb | 7.76 | 90000.00 | |
| 39 K | 45 | 1 | 2960.00 | 1480.00 | ppb | 2.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 75080.00 | 37540.00 | ppb | 2.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.40 | 0.70 | ppb | 3.34 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 5.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.12 | ppb | 7.74 | 900.00 | |
| 55 Mn | 45 | 2 | 19088.00 | 9544.00 | ppb | 2.63 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61.64 | 30.82 | ppb | 2.99 | 90000.00 | |
| 59 Co | 45 | 2 | 8.96 | 4.48 | ppb | 3.33 | 900.00 | |
| 60 Ni | 45 | 2 | 14.66 | 7.33 | ppb | 2.28 | 900.00 | |
| 63 Cu | 72 | 2 | 1.18 | 0.59 | ppb | 1.68 | 900.00 | |
| 66 Zn | 72 | 2 | 6.69 | 3.35 | ppb | 2.14 | 900.00 | |
| 75 As | 72 | 2 | 2.02 | 1.01 | ppb | 3.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.13 | ppb | 13.10 | 900.00 | |
| 88 Sr | 103 | 1 | 446.60 | 223.30 | ppb | 1.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.93 | 0.46 | ppb | 8.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 48.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.26 | 0.13 | ppb | 12.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 5.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 6.12 | 900.00 | |
| 137 Ba | 159 | 1 | 13.96 | 6.98 | ppb | 3.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 6.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 2.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1947199 | 1.85 | 1993708 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 2442485 | 2.09 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 360659 | 2.62 | 379286 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 435540 | 0.69 | 463522 | 94.0 | 70 | - | 130 |
| 72 | Ge | 2 | 128760 | 1.19 | 134805 | 95.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2016038 | 1.98 | 2265279 | 89.0 | 70 | - | 130 |
| 115 | In | 1 | 2197497 | 2.05 | 2375722 | 92.5 | 70 | - | 130 |
| 115 | In | 2 | 999061 | 2.30 | 1034376 | 96.6 | 70 | - | 130 |
| 159 | Tb | 1 | 2699549 | 1.84 | 2743058 | 98.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2576346 | 2.12 | 2554975 | 100.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1489613 | 3.56 | 1599251 | 93.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 3 2013 03:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-14F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 58.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 100.64 | 900.00 | |
| 11 B | 6 | 1 | 2.16 | 1.08 | ppb | 3.38 | 900.00 | |
| 11 B | 45 | 2 | 2.19 | 1.09 | ppb | 19.03 | 900.00 | |
| 23 Na | 45 | 1 | 17.65 | 8.82 | ppb | 5.19 | 90000.00 | |
| 23 Na | 45 | 2 | 30.26 | 15.13 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.10 | 0.55 | ppb | 5.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.10 | 0.55 | ppb | 19.13 | 90000.00 | |
| 27 Al | 45 | 1 | 2.80 | 1.40 | ppb | 5.37 | 90000.00 | |
| 27 Al | 45 | 2 | 2.58 | 1.29 | ppb | 6.56 | 90000.00 | |
| 39 K | 45 | 1 | -11.91 | -5.96 | ppb | 21.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.14 | 1.07 | ppb | 24.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.23 | 0.11 | ppb | 16.18 | 900.00 | |
| 51 V | 45 | 2 | 2.67 | 1.34 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.14 | ppb | 5.18 | 900.00 | |
| 55 Mn | 45 | 2 | 0.71 | 0.35 | ppb | 2.87 | 900.00 | |
| 56 Fe | 45 | 2 | 7.52 | 3.76 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.11 | 900.00 | |
| 60 Ni | 45 | 2 | -0.11 | -0.06 | ppb | 27.11 | 900.00 | |
| 63 Cu | 72 | 2 | 0.24 | 0.12 | ppb | 2.47 | 900.00 | |
| 66 Zn | 72 | 2 | 6.00 | 3.00 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 0.94 | 0.47 | ppb | 6.81 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.01 | ppb | 123.37 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.03 | ppb | 9.56 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 275.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 57.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 172.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 19.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.02 | ppb | 7.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 24.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 3.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 29.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2040996 | 1.38 | 1993708 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2579716 | 0.43 | 2491942 | 103.5 | 70 - 130 | |
| 45 Sc | 2 | 369855 | 1.07 | 379286 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 464325 | 0.63 | 463522 | 100.2 | 70 | - | 130 |
| 72 Ge | 2 | 133043 | 0.52 | 134805 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 2273422 | 0.48 | 2265279 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 2401583 | 1.21 | 2375722 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1034502 | 0.41 | 1034376 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 2903648 | 0.24 | 2743058 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 2705535 | 0.74 | 2554975 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 1655294 | 0.96 | 1599251 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 3 2013 03:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-15F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 19.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 139.40 | 900.00 | |
| 11 B | 6 | 1 | 296.20 | 148.10 | ppb | 7.35 | 900.00 | |
| 11 B | 45 | 2 | 291.60 | 145.80 | ppb | 7.35 | 900.00 | |
| 23 Na | 45 | 1 | 32540.00 | 16270.00 | ppb | 10.92 | 90000.00 | |
| 23 Na | 45 | 2 | 35540.00 | 17770.00 | ppb | 6.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 14718.00 | 7359.00 | ppb | 11.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 14696.00 | 7348.00 | ppb | 5.91 | 90000.00 | |
| 27 Al | 45 | 1 | 6.99 | 3.49 | ppb | 16.13 | 90000.00 | |
| 27 Al | 45 | 2 | 6.64 | 3.32 | ppb | 12.83 | 90000.00 | |
| 39 K | 45 | 1 | 6518.00 | 3259.00 | ppb | 11.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 106160.00 | 53080.00 | ppb | 11.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 1.06 | ppb | 12.77 | 900.00 | |
| 51 V | 45 | 2 | 2.31 | 1.15 | ppb | 7.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.18 | ppb | 9.04 | 900.00 | |
| 55 Mn | 45 | 2 | 9128.00 | 4564.00 | ppb | 5.43 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 11448.00 | 5724.00 | ppb | 5.56 | 90000.00 | |
| 59 Co | 45 | 2 | 14.44 | 7.22 | ppb | 6.86 | 900.00 | |
| 60 Ni | 45 | 2 | 16.79 | 8.40 | ppb | 6.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 8.25 | 900.00 | |
| 66 Zn | 72 | 2 | 8.96 | 4.48 | ppb | 5.12 | 900.00 | |
| 75 As | 72 | 2 | 137.36 | 68.68 | ppb | 4.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 424.97 | 900.00 | |
| 88 Sr | 103 | 1 | 1118.00 | 559.00 | ppb | 12.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.52 | 1.26 | ppb | 13.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 40.66 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 61.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 3.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 12.24 | 900.00 | |
| 137 Ba | 159 | 1 | 70.18 | 35.09 | ppb | 11.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 24.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 30.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1958641 | 6.37 | 1993708 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 2543432 | 10.25 | 2491942 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 346692 | 5.60 | 379286 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 444981 | 6.36 | 463522 | 96.0 | 70 | - | 130 |
| 72 | Ge | 2 | 125158 | 4.37 | 134805 | 92.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2066141 | 11.27 | 2265279 | 91.2 | 70 | - | 130 |
| 115 | In | 1 | 2267433 | 9.75 | 2375722 | 95.4 | 70 | - | 130 |
| 115 | In | 2 | 934766 | 7.95 | 1034376 | 90.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2799559 | 9.68 | 2743058 | 102.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2644140 | 9.36 | 2554975 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1510652 | 9.43 | 1599251 | 94.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 3 2013 03:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-16F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 49.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.61 | 900.00 | |
| 11 B | 6 | 1 | 32.98 | 16.49 | ppb | 0.93 | 900.00 | |
| 11 B | 45 | 2 | 31.58 | 15.79 | ppb | 10.22 | 900.00 | |
| 23 Na | 45 | 1 | 2846.00 | 1423.00 | ppb | 2.19 | 90000.00 | |
| 23 Na | 45 | 2 | 3068.00 | 1534.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 954.00 | 477.00 | ppb | 1.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 994.80 | 497.40 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 6.69 | 3.35 | ppb | 3.43 | 90000.00 | |
| 27 Al | 45 | 2 | 6.05 | 3.03 | ppb | 1.85 | 90000.00 | |
| 39 K | 45 | 1 | 3326.00 | 1663.00 | ppb | 2.02 | 90000.00 | |
| 44 Ca | 45 | 1 | 8578.00 | 4289.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 12.48 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 4.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 3.34 | 900.00 | |
| 55 Mn | 45 | 2 | 1800.60 | 900.30 | ppb | 1.20 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 3504.00 | 1752.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 5.41 | 2.71 | ppb | 1.26 | 900.00 | |
| 60 Ni | 45 | 2 | 6.89 | 3.45 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 0.85 | 0.42 | ppb | 2.29 | 900.00 | |
| 66 Zn | 72 | 2 | 21.18 | 10.59 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 22.92 | 11.46 | ppb | 1.05 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.02 | ppb | 503.20 | 900.00 | |
| 88 Sr | 103 | 1 | 82.64 | 41.32 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.47 | 0.24 | ppb | 5.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 98.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.05 | ppb | 9.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 1.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 8.87 | 900.00 | |
| 137 Ba | 159 | 1 | 8.08 | 4.04 | ppb | 1.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 10.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 2.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2001051 | 0.58 | 1993708 | 100.4 | 70 - 130 | |
| 45 Sc | 1 | 2526251 | 1.35 | 2491942 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 350378 | 0.75 | 379286 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450189 | 0.94 | 463522 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 128089 | 0.43 | 134805 | 95.0 | 70 | - | 130 |
| 103 Rh | 1 | 2138651 | 0.94 | 2265279 | 94.4 | 70 | - | 130 |
| 115 In | 1 | 2300079 | 0.50 | 2375722 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 1005505 | 1.03 | 1034376 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 2803485 | 1.13 | 2743058 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 2647425 | 0.45 | 2554975 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 1569384 | 0.87 | 1599251 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D#
Date Acquired: Dec 3 2013 04:00 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-2F
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 40.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.60 | 900.00 | |
| 11 B | 6 | 1 | 48.24 | 24.12 | ppb | 0.75 | 900.00 | |
| 11 B | 45 | 2 | 47.66 | 23.83 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 13270.00 | 6635.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 14312.00 | 7156.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 2590.00 | 1295.00 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 2650.00 | 1325.00 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 1 | 5.20 | 2.60 | ppb | 1.54 | 90000.00 | |
| 27 Al | 45 | 2 | 4.81 | 2.41 | ppb | 2.39 | 90000.00 | |
| 39 K | 45 | 1 | 4674.00 | 2337.00 | ppb | 1.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 22620.00 | 11310.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.82 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 1.94 | 0.97 | ppb | 3.51 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.17 | ppb | 2.74 | 900.00 | |
| 55 Mn | 45 | 2 | 2158.00 | 1079.00 | ppb | 0.92 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 59720.00 | 29860.00 | ppb | 0.54 | 90000.00 | |
| 59 Co | 45 | 2 | 8.59 | 4.30 | ppb | 0.46 | 900.00 | |
| 60 Ni | 45 | 2 | 6.14 | 3.07 | ppb | 1.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 1.73 | 900.00 | |
| 66 Zn | 72 | 2 | 10.08 | 5.04 | ppb | 0.90 | 900.00 | |
| 75 As | 72 | 2 | 424.60 | 212.30 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | -0.23 | -0.11 | ppb | 41.60 | 900.00 | |
| 88 Sr | 103 | 1 | 95.44 | 47.72 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.17 | ppb | 6.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 163.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 33.77 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 5.16 | 900.00 | |
| 137 Ba | 159 | 1 | 39.32 | 19.66 | ppb | 1.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 5.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 15.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1959415 | 0.97 | 1993708 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2530933 | 1.03 | 2491942 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 351996 | 0.68 | 379286 | 92.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 450030 | 0.47 | 463522 | 97.1 | 70 | - | 130 |
| 72 | Ge | 2 | 129840 | 0.50 | 134805 | 96.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2079569 | 0.80 | 2265279 | 91.8 | 70 | - | 130 |
| 115 | In | 1 | 2263027 | 0.74 | 2375722 | 95.3 | 70 | - | 130 |
| 115 | In | 2 | 980186 | 0.24 | 1034376 | 94.8 | 70 | - | 130 |
| 159 | Tb | 1 | 2775160 | 0.28 | 2743058 | 101.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2614423 | 0.61 | 2554975 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1529353 | 0.98 | 1599251 | 95.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Dec 3 2013 04:07 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-3F
**Misc Info:**
**Vial Number:** 2210
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 6.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 34.25 | 900.00 | |
| 11 B | 6 | 1 | 49.74 | 24.87 | ppb | 0.79 | 900.00 | |
| 11 B | 45 | 2 | 50.34 | 25.17 | ppb | 5.40 | 900.00 | |
| 23 Na | 45 | 1 | 13698.00 | 6849.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 14744.00 | 7372.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 2662.00 | 1331.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 2698.00 | 1349.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 5.25 | 2.62 | ppb | 2.29 | 90000.00 | |
| 27 Al | 45 | 2 | 4.82 | 2.41 | ppb | 5.98 | 90000.00 | |
| 39 K | 45 | 1 | 4750.00 | 2375.00 | ppb | 0.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 23360.00 | 11680.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.82 | ppb | 3.43 | 900.00 | |
| 51 V | 45 | 2 | 1.95 | 0.98 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 2.03 | 900.00 | |
| 55 Mn | 45 | 2 | 2218.00 | 1109.00 | ppb | 0.44 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61760.00 | 30880.00 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 8.76 | 4.38 | ppb | 1.52 | 900.00 | |
| 60 Ni | 45 | 2 | 6.39 | 3.19 | ppb | 1.49 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.12 | ppb | 4.77 | 900.00 | |
| 66 Zn | 72 | 2 | 7.88 | 3.94 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 435.00 | 217.50 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 409.45 | 900.00 | |
| 88 Sr | 103 | 1 | 98.72 | 49.36 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 6.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 123.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 41.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 3.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 8.21 | 900.00 | |
| 137 Ba | 159 | 1 | 40.18 | 20.09 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 22.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 41.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972761 | 0.88 | 1993708 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2523873 | 0.65 | 2491942 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 348679 | 0.76 | 379286 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455412 | 0.90 | 463522 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 128964 | 0.25 | 134805 | 95.7 | 70 | - | 130 |
| 103 Rh | 1 | 2084281 | 0.54 | 2265279 | 92.0 | 70 | - | 130 |
| 115 In | 1 | 2256193 | 0.33 | 2375722 | 95.0 | 70 | - | 130 |
| 115 In | 2 | 977879 | 0.98 | 1034376 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 2770424 | 0.66 | 2743058 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 2621390 | 1.21 | 2554975 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 1531265 | 0.83 | 1599251 | 95.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 04:14 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC26418-4F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.04 | ppb | 12.88 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.04 | ppb | 16.11 | 900.00 | |
| 11 B | 6 | 1 | 64.98 | 32.49 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 64.96 | 32.48 | ppb | 2.01 | 900.00 | |
| 23 Na | 45 | 1 | 21920.00 | 10960.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 23720.00 | 11860.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 2482.00 | 1241.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 2520.00 | 1260.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 52.12 | 26.06 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 48.08 | 24.04 | ppb | 1.39 | 90000.00 | |
| 39 K | 45 | 1 | 8090.00 | 4045.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 38800.00 | 19400.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.01 | 1.01 | ppb | 3.94 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.48 | 0.24 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 1997.00 | 998.50 | ppb | 0.52 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 18422.00 | 9211.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 108.10 | 54.05 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 724.60 | 362.30 | ppb | 0.44 | 900.00 | |
| 63 Cu | 72 | 2 | 1.11 | 0.56 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 37.82 | 18.91 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 240.40 | 120.20 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.20 | ppb | 64.99 | 900.00 | |
| 88 Sr | 103 | 1 | 329.40 | 164.70 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 6.60 | 3.30 | ppb | 1.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 72.15 | 900.00 | |
| 111 Cd | 115 | 2 | 0.36 | 0.18 | ppb | 10.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 17.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.97 | 0.48 | ppb | 1.90 | 900.00 | |
| 137 Ba | 159 | 1 | 76.42 | 38.21 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.57 | 0.29 | ppb | 2.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1934701 | 0.65 | 1993708 | 97.0 | 70 - 130 | |
| 45 Sc | 1 | 2484432 | 0.81 | 2491942 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 343142 | 0.74 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 438396 | 0.46 | 463522 | 94.6 | 70 - | 130 |
| 72 | Ge | 2 | 125733 | 0.39 | 134805 | 93.3 | 70 - | 130 |
| 103 | Rh | 1 | 2043117 | 1.00 | 2265279 | 90.2 | 70 - | 130 |
| 115 | In | 1 | 2223601 | 0.53 | 2375722 | 93.6 | 70 - | 130 |
| 115 | In | 2 | 969579 | 0.55 | 1034376 | 93.7 | 70 - | 130 |
| 159 | Tb | 1 | 2731488 | 0.43 | 2743058 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 2586050 | 0.43 | 2554975 | 101.2 | 70 - | 130 |
| 209 | Bi | 1 | 1495883 | 0.37 | 1599251 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 3 2013 04:21 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-5F
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.02 | ppb | 20.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 69.27 | 900.00 | |
| 11 B | 6 | 1 | 49.02 | 24.51 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 46.80 | 23.40 | ppb | 5.33 | 900.00 | |
| 23 Na | 45 | 1 | 3930.00 | 1965.00 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 4236.00 | 2118.00 | ppb | 0.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 2120.00 | 1060.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 2136.00 | 1068.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 12.38 | 6.19 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 2 | 11.88 | 5.94 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 4218.00 | 2109.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 24300.00 | 12150.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.62 | 0.81 | ppb | 8.32 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 1.60 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 2.74 | 900.00 | |
| 55 Mn | 45 | 2 | 5770.00 | 2885.00 | ppb | 0.36 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 87180.00 | 43590.00 | ppb | 0.13 | 90000.00 | |
| 59 Co | 45 | 2 | 7.77 | 3.89 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 12.64 | 6.32 | ppb | 1.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.15 | ppb | 3.80 | 900.00 | |
| 66 Zn | 72 | 2 | 8.09 | 4.05 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 3094.00 | 1547.00 | ppb | 0.29 | 900.00 | >LDR |
| 78 Se | 72 | 2 | -0.46 | -0.23 | ppb | 50.09 | 900.00 | |
| 88 Sr | 103 | 1 | 135.38 | 67.69 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.08 | ppb | 8.94 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 148.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 14.03 | 900.00 | |
| 137 Ba | 159 | 1 | 30.54 | 15.27 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 8.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 27.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1930969 | 0.76 | 1993708 | 96.9 | 70 - 130 | |
| 45 Sc | 1 | 2489840 | 0.26 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 343133 | 0.08 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 447815 | 0.85 | 463522 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 128016 | 0.13 | 134805 | 95.0 | 70 | - | 130 |
| 103 Rh | 1 | 2074513 | 0.25 | 2265279 | 91.6 | 70 | - | 130 |
| 115 In | 1 | 2248868 | 0.46 | 2375722 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 976464 | 0.21 | 1034376 | 94.4 | 70 | - | 130 |
| 159 Tb | 1 | 2763063 | 0.35 | 2743058 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 2618334 | 0.65 | 2554975 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 1524971 | 0.12 | 1599251 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D# |
| Date Acquired: | Dec 3 2013 04:28 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC26418-6F |
| Misc Info: | |
| Vial Number: | 2301 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.66 | 0.33 | ppb | 1.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.62 | 0.31 | ppb | 14.94 | 900.00 | |
| 11 B | 6 | 1 | 24.30 | 12.15 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 22.92 | 11.46 | ppb | 7.94 | 900.00 | |
| 23 Na | 45 | 1 | 40980.00 | 20490.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 42780.00 | 21390.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 2882.00 | 1441.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 2836.00 | 1418.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 1497.80 | 748.90 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 2 | 1428.20 | 714.10 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 3834.00 | 1917.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 27900.00 | 13950.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.93 | 0.46 | ppb | 3.72 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 1.14 | 900.00 | |
| 52 Cr | 45 | 2 | 1.38 | 0.69 | ppb | 4.05 | 900.00 | |
| 55 Mn | 45 | 2 | 531.00 | 265.50 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 1474.80 | 737.40 | ppb | 0.35 | 90000.00 | |
| 59 Co | 45 | 2 | 18.43 | 9.22 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 297.00 | 148.50 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 1.17 | 0.58 | ppb | 2.12 | 900.00 | |
| 66 Zn | 72 | 2 | 85.54 | 42.77 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 4.71 | 2.35 | ppb | 1.31 | 900.00 | |
| 78 Se | 72 | 2 | -0.20 | -0.10 | ppb | 89.66 | 900.00 | |
| 88 Sr | 103 | 1 | 242.80 | 121.40 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.48 | 0.24 | ppb | 2.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.63 | 900.00 | |
| 111 Cd | 115 | 2 | 0.38 | 0.19 | ppb | 3.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 10.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.68 | 0.34 | ppb | 6.37 | 900.00 | |
| 137 Ba | 159 | 1 | 53.98 | 26.99 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 21.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.09 | ppb | 7.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1915930 | 0.65 | 1993708 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 2412253 | 0.85 | 2491942 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 340648 | 1.16 | 379286 | 89.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 436860 | 0.82 | 463522 | 94.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124881 | 0.92 | 134805 | 92.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2027327 | 0.59 | 2265279 | 89.5 | 70 | - | 130 |
| 115 | In | 1 | 2213862 | 1.67 | 2375722 | 93.2 | 70 | - | 130 |
| 115 | In | 2 | 965929 | 0.44 | 1034376 | 93.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2712060 | 0.70 | 2743058 | 98.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2579682 | 1.22 | 2554975 | 101.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1478188 | 0.87 | 1599251 | 92.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 3 2013 04:35 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-7F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 94.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 99.65 | 900.00 | |
| 11 B | 6 | 1 | 1.51 | 0.75 | ppb | 4.38 | 900.00 | |
| 11 B | 45 | 2 | 1.38 | 0.69 | ppb | 37.17 | 900.00 | |
| 23 Na | 45 | 1 | 20.06 | 10.03 | ppb | 4.68 | 90000.00 | |
| 23 Na | 45 | 2 | 34.40 | 17.20 | ppb | 2.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.83 | 0.42 | ppb | 7.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.85 | 0.43 | ppb | 17.66 | 90000.00 | |
| 27 Al | 45 | 1 | 2.92 | 1.46 | ppb | 1.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2.55 | 1.28 | ppb | 2.96 | 90000.00 | |
| 39 K | 45 | 1 | -29.92 | -14.96 | ppb | 8.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.73 | 0.37 | ppb | 167.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.11 | ppb | 12.47 | 900.00 | |
| 51 V | 45 | 2 | 2.14 | 1.07 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.22 | 0.11 | ppb | 6.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.51 | 0.26 | ppb | 4.03 | 900.00 | |
| 56 Fe | 45 | 2 | 7.28 | 3.64 | ppb | 2.39 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 14.29 | 900.00 | |
| 60 Ni | 45 | 2 | -0.12 | -0.06 | ppb | 3.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 5.70 | 900.00 | |
| 66 Zn | 72 | 2 | 6.21 | 3.10 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 1.05 | 0.53 | ppb | 2.64 | 900.00 | |
| 78 Se | 72 | 2 | -0.18 | -0.09 | ppb | 53.53 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 11.14 | 900.00 | |
| 98 Mo | 103 | 1 | -0.02 | -0.01 | ppb | 14.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 28.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 97.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.64 | 0.32 | ppb | 4.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.01 | ppb | 27.19 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 60.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 82.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 11.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1977683 | 0.46 | 1993708 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 2474928 | 0.68 | 2491942 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 351447 | 0.80 | 379286 | 92.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 443177 | 0.32 | 463522 | 95.6 | 70 | - | 130 |
| 72 Ge | 2 | 128335 | 0.65 | 134805 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 2172638 | 0.26 | 2265279 | 95.9 | 70 | - | 130 |
| 115 In | 1 | 2331821 | 0.77 | 2375722 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1011327 | 0.54 | 1034376 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 2783987 | 0.72 | 2743058 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 2606013 | 0.36 | 2554975 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 1583901 | 0.91 | 1599251 | 99.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 3 2013 04:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.13 | 50.13 | ppb | 0.93 | 900.00 | |
| 9 Be | 45 | 2 | 50.62 | 50.62 | ppb | 0.20 | 900.00 | |
| 11 B | 6 | 1 | 49.93 | 49.93 | ppb | 0.62 | 900.00 | |
| 11 B | 45 | 2 | 48.02 | 48.02 | ppb | 1.57 | 900.00 | |
| 23 Na | 45 | 1 | 4854.00 | 4854.00 | ppb | 1.52 | 90000.00 | |
| 23 Na | 45 | 2 | 5019.00 | 5019.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 4813.00 | 4813.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 4604.00 | 4604.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 4829.00 | 4829.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 4344.00 | 4344.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 4853.00 | 4853.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 4929.00 | 4929.00 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.19 | 48.19 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 48.46 | 48.46 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 48.54 | 48.54 | ppb | 0.26 | 900.00 | |
| 55 Mn | 45 | 2 | 47.79 | 47.79 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 5033.00 | 5033.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 48.39 | 48.39 | ppb | 1.21 | 900.00 | |
| 60 Ni | 45 | 2 | 48.43 | 48.43 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 46.77 | 46.77 | ppb | 0.86 | 900.00 | |
| 66 Zn | 72 | 2 | 46.07 | 46.07 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 47.97 | 47.97 | ppb | 0.13 | 900.00 | |
| 78 Se | 72 | 2 | 46.88 | 46.88 | ppb | 0.73 | 900.00 | |
| 88 Sr | 103 | 1 | 50.83 | 50.83 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 49.95 | 49.95 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 48.44 | 48.44 | ppb | 0.41 | 900.00 | |
| 111 Cd | 115 | 2 | 48.44 | 48.44 | ppb | 0.92 | 900.00 | |
| 120 Sn | 115 | 1 | 49.11 | 49.11 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 49.53 | 49.53 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 48.14 | 48.14 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 47.04 | 47.04 | ppb | 0.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.73 | 48.73 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1987452 | 0.68 | 1993708 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 2536262 | 0.55 | 2491942 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 356067 | 0.18 | 379286 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444934 | 0.25 | 463522 | 96.0 | 70 | - | 130 |
| 72 Ge | 2 | 127505 | 0.21 | 134805 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 2153831 | 1.12 | 2265279 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 2314872 | 0.47 | 2375722 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 982803 | 0.32 | 1034376 | 95.0 | 70 | - | 130 |
| 159 Tb | 1 | 2736796 | 0.43 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2601054 | 0.83 | 2554975 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 1533364 | 0.46 | 1599251 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#
Date Acquired: Dec 3 2013 05:05 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 47.81 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.59 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 7.85 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 146.64 | 900.00 | |
| 23 Na | 45 | 1 | 0.44 | 0.44 | ppb | 80.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5.11 | 5.11 | ppb | 10.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.72 | 0.72 | ppb | 9.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.16 | 1.16 | ppb | 4.14 | 90000.00 | |
| 27 Al | 45 | 1 | 0.43 | 0.43 | ppb | 14.45 | 90000.00 | |
| 27 Al | 45 | 2 | 0.60 | 0.60 | ppb | 12.48 | 90000.00 | |
| 39 K | 45 | 1 | -17.59 | -17.59 | ppb | 16.22 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.68 | -7.68 | ppb | 6.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 20.70 | 900.00 | |
| 51 V | 45 | 2 | -0.15 | -0.15 | ppb | 16.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 2.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.16 | ppb | 19.38 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 5.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 13.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.85 | 0.85 | ppb | 2.05 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 4.07 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 39.25 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 35.96 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.04 | ppb | 387.98 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 81.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 3.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 26.61 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 25.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 38.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 15.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.05 | ppb | 7.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 6.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 37.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043335 | 0.49 | 1993708 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 2505730 | 1.53 | 2491942 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 365758 | 0.46 | 379286 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449765 | 0.55 | 463522 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 130411 | 0.31 | 134805 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 2197764 | 0.73 | 2265279 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 2336681 | 1.12 | 2375722 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1026282 | 0.68 | 1034376 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 2737596 | 1.54 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2555188 | 2.60 | 2554975 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 1574938 | 0.94 | 1599251 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#
Date Acquired: Dec 3 2013 05:12 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-8F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 47.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.61 | 900.00 | |
| 11 B | 6 | 1 | 15.37 | 7.68 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 14.14 | 7.07 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | 39900.00 | 19950.00 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 41760.00 | 20880.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 2526.00 | 1263.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 2512.00 | 1256.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 14.07 | 7.03 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 12.17 | 6.08 | ppb | 5.18 | 90000.00 | |
| 39 K | 45 | 1 | 2100.00 | 1050.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 17476.00 | 8738.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.60 | 0.30 | ppb | 6.68 | 900.00 | |
| 51 V | 45 | 2 | 3.78 | 1.89 | ppb | 1.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.71 | 0.36 | ppb | 1.68 | 900.00 | |
| 55 Mn | 45 | 2 | 23.16 | 11.58 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 90.88 | 45.44 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 4.58 | 2.29 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 189.88 | 94.94 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 6.47 | 3.23 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 7.38 | 3.69 | ppb | 1.86 | 900.00 | |
| 75 As | 72 | 2 | 4.76 | 2.38 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.06 | ppb | 112.27 | 900.00 | |
| 88 Sr | 103 | 1 | 136.42 | 68.21 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 1.24 | 0.62 | ppb | 5.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 71.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.06 | ppb | 12.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 15.51 | 900.00 | |
| 121 Sb | 115 | 1 | 3.73 | 1.86 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 19.86 | 9.93 | ppb | 0.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 14.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.12 | ppb | 4.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1947941 | 1.14 | 1993708 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 2443977 | 0.19 | 2491942 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 349215 | 0.95 | 379286 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 442575 | 0.82 | 463522 | 95.5 | 70 | - | 130 |
| 72 | Ge | 2 | 126160 | 1.17 | 134805 | 93.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2045376 | 1.51 | 2265279 | 90.3 | 70 | - | 130 |
| 115 | In | 1 | 2224477 | 1.23 | 2375722 | 93.6 | 70 | - | 130 |
| 115 | In | 2 | 969525 | 0.99 | 1034376 | 93.7 | 70 | - | 130 |
| 159 | Tb | 1 | 2736635 | 0.42 | 2743058 | 99.8 | 70 | - | 130 |
| 175 | Lu | 1 | 2570450 | 0.49 | 2554975 | 100.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1497723 | 1.07 | 1599251 | 93.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 3 2013 05:19 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-9F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 21.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 100.21 | 900.00 | |
| 11 B | 6 | 1 | 138.40 | 69.20 | ppb | 1.30 | 900.00 | |
| 11 B | 45 | 2 | 133.62 | 66.81 | ppb | 1.52 | 900.00 | |
| 23 Na | 45 | 1 | 17086.00 | 8543.00 | ppb | 1.44 | 90000.00 | |
| 23 Na | 45 | 2 | 18474.00 | 9237.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 6334.00 | 3167.00 | ppb | 1.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 6280.00 | 3140.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 4.49 | 2.25 | ppb | 2.45 | 90000.00 | |
| 27 Al | 45 | 2 | 4.26 | 2.13 | ppb | 5.00 | 90000.00 | |
| 39 K | 45 | 1 | 10126.00 | 5063.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 43360.00 | 21680.00 | ppb | 0.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.41 | 1.20 | ppb | 1.47 | 900.00 | |
| 51 V | 45 | 2 | 1.84 | 0.92 | ppb | 2.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 6.94 | 900.00 | |
| 55 Mn | 45 | 2 | 860.00 | 430.00 | ppb | 1.20 | 900.00 | |
| 56 Fe | 45 | 2 | 74320.00 | 37160.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 16.17 | 8.09 | ppb | 0.51 | 900.00 | |
| 60 Ni | 45 | 2 | 14.70 | 7.35 | ppb | 1.79 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 4.93 | 900.00 | |
| 66 Zn | 72 | 2 | 11.54 | 5.77 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 955.80 | 477.90 | ppb | 0.24 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 161.91 | 900.00 | |
| 88 Sr | 103 | 1 | 419.20 | 209.60 | ppb | 0.77 | 900.00 | |
| 98 Mo | 103 | 1 | 0.96 | 0.48 | ppb | 2.13 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 128.98 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 24.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 3.50 | 900.00 | |
| 137 Ba | 159 | 1 | 86.76 | 43.38 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 3.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 19.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1909424 | 0.48 | 1993708 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 2490043 | 1.18 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 341436 | 0.90 | 379286 | 90.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 441717 | 0.60 | 463522 | 95.3 | 70 - | 130 |
| 72 | Ge | 2 | 126124 | 0.42 | 134805 | 93.6 | 70 - | 130 |
| 103 | Rh | 1 | 2027317 | 0.36 | 2265279 | 89.5 | 70 - | 130 |
| 115 | In | 1 | 2198821 | 0.37 | 2375722 | 92.6 | 70 - | 130 |
| 115 | In | 2 | 954233 | 0.76 | 1034376 | 92.3 | 70 - | 130 |
| 159 | Tb | 1 | 2727078 | 0.48 | 2743058 | 99.4 | 70 - | 130 |
| 175 | Lu | 1 | 2562103 | 0.28 | 2554975 | 100.3 | 70 - | 130 |
| 209 | Bi | 1 | 1483603 | 0.24 | 1599251 | 92.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 3 2013 05:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-8F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 9.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 34.89 | 900.00 | |
| 11 B | 6 | 1 | 1.95 | 0.98 | ppb | 3.01 | 900.00 | |
| 11 B | 45 | 2 | 2.24 | 1.12 | ppb | 55.12 | 900.00 | |
| 23 Na | 45 | 1 | 20.94 | 10.47 | ppb | 5.94 | 90000.00 | |
| 23 Na | 45 | 2 | 35.06 | 17.53 | ppb | 2.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.91 | 0.46 | ppb | 6.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.89 | 0.45 | ppb | 13.86 | 90000.00 | |
| 27 Al | 45 | 1 | 3.01 | 1.50 | ppb | 5.08 | 90000.00 | |
| 27 Al | 45 | 2 | 2.62 | 1.31 | ppb | 7.39 | 90000.00 | |
| 39 K | 45 | 1 | -30.38 | -15.19 | ppb | 14.85 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.54 | -1.27 | ppb | 74.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.25 | 0.12 | ppb | 27.03 | 900.00 | |
| 51 V | 45 | 2 | 1.80 | 0.90 | ppb | 0.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.09 | ppb | 4.09 | 900.00 | |
| 55 Mn | 45 | 2 | 0.55 | 0.27 | ppb | 2.80 | 900.00 | |
| 56 Fe | 45 | 2 | 7.46 | 3.73 | ppb | 2.42 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 61.55 | 900.00 | |
| 60 Ni | 45 | 2 | -0.13 | -0.07 | ppb | 8.22 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 6.51 | 3.25 | ppb | 1.90 | 900.00 | |
| 75 As | 72 | 2 | 0.87 | 0.43 | ppb | 1.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.20 | -0.10 | ppb | 124.42 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 9.88 | 900.00 | |
| 98 Mo | 103 | 1 | -0.02 | -0.01 | ppb | 41.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 96.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 82.76 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 12.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 22.60 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 34.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 23.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 24.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1912239 | 1.21 | 1993708 | 95.9 | 70 - 130 | |
| 45 Sc | 1 | 2442495 | 1.35 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 349184 | 0.45 | 379286 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437114 | 0.09 | 463522 | 94.3 | 70 | - | 130 |
| 72 Ge | 2 | 126928 | 0.59 | 134805 | 94.2 | 70 | - | 130 |
| 103 Rh | 1 | 2142294 | 0.93 | 2265279 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 2263931 | 0.66 | 2375722 | 95.3 | 70 | - | 130 |
| 115 In | 2 | 999336 | 0.55 | 1034376 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 2733138 | 0.87 | 2743058 | 99.6 | 70 | - | 130 |
| 175 Lu | 1 | 2588426 | 0.89 | 2554975 | 101.3 | 70 | - | 130 |
| 209 Bi | 1 | 1560943 | 0.87 | 1599251 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#
Date Acquired: Dec 3 2013 05:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22168-B1
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.25 | 19.69 | ppb | 0.24 | 900.00 | |
| 9 Be | 45 | 2 | 501.50 | 20.06 | ppb | 4.37 | 900.00 | |
| 11 B | 6 | 1 | 3.76 | 0.15 | ppb | 15.28 | 900.00 | |
| 11 B | 45 | 2 | 5.81 | 0.23 | ppb | 27.58 | 900.00 | |
| 23 Na | 45 | 1 | 25400.00 | 1016.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 27200.00 | 1088.00 | ppb | 3.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 25525.00 | 1021.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 25500.00 | 1020.00 | ppb | 3.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2190.75 | 87.63 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 2 | 2061.50 | 82.46 | ppb | 3.82 | 90000.00 | |
| 39 K | 45 | 1 | 25025.00 | 1001.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 26275.00 | 1051.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 493.25 | 19.73 | ppb | 1.02 | 900.00 | |
| 51 V | 45 | 2 | 500.75 | 20.03 | ppb | 3.47 | 900.00 | |
| 52 Cr | 45 | 2 | 498.75 | 19.95 | ppb | 3.57 | 900.00 | |
| 55 Mn | 45 | 2 | 492.00 | 19.68 | ppb | 3.70 | 900.00 | |
| 56 Fe | 45 | 2 | 2540.00 | 101.60 | ppb | 3.41 | 90000.00 | |
| 59 Co | 45 | 2 | 505.75 | 20.23 | ppb | 2.81 | 900.00 | |
| 60 Ni | 45 | 2 | 495.50 | 19.82 | ppb | 3.87 | 900.00 | |
| 63 Cu | 72 | 2 | 502.25 | 20.09 | ppb | 1.74 | 900.00 | |
| 66 Zn | 72 | 2 | 517.75 | 20.71 | ppb | 1.49 | 900.00 | |
| 75 As | 72 | 2 | 526.50 | 21.06 | ppb | 1.86 | 900.00 | |
| 78 Se | 72 | 2 | 519.75 | 20.79 | ppb | 1.38 | 900.00 | |
| 88 Sr | 103 | 1 | 511.50 | 20.46 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.00 | ppb | 143.64 | 900.00 | |
| 107 Ag | 115 | 1 | 199.03 | 7.96 | ppb | 0.58 | 900.00 | |
| 111 Cd | 115 | 2 | 499.75 | 19.99 | ppb | 2.41 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 152.66 | 900.00 | |
| 121 Sb | 115 | 1 | 504.50 | 20.18 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 1958.25 | 78.33 | ppb | 0.14 | 900.00 | |
| 205 Tl | 209 | 1 | 477.25 | 19.09 | ppb | 1.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 999.25 | 39.97 | ppb | 0.59 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2021561 | 0.83 | 1993708 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2555098 | 0.57 | 2491942 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 362101 | 2.88 | 379286 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 448253 | 0.66 | 463522 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 130171 | 1.40 | 134805 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 2224840 | 0.57 | 2265279 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 2345792 | 0.42 | 2375722 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 1015190 | 2.82 | 1034376 | 98.1 | 70 | - | 130 |
| 159 Tb | 1 | 2735272 | 0.98 | 2743058 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 2565000 | 0.95 | 2554975 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 1548739 | 0.64 | 1599251 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D#
Date Acquired: Dec 3 2013 05:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22168-S1
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 480.00 | 19.20 | ppb | 8.53 | 900.00 | |
| 9 Be | 45 | 2 | 505.00 | 20.20 | ppb | 4.46 | 900.00 | |
| 11 B | 6 | 1 | 51.90 | 2.08 | ppb | 8.26 | 900.00 | |
| 11 B | 45 | 2 | 49.95 | 2.00 | ppb | 15.20 | 900.00 | |
| 23 Na | 45 | 1 | 67900.00 | 2716.00 | ppb | 12.89 | 90000.00 | |
| 23 Na | 45 | 2 | 75000.00 | 3000.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 28200.00 | 1128.00 | ppb | 12.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 29375.00 | 1175.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 2017.25 | 80.69 | ppb | 13.32 | 90000.00 | |
| 27 Al | 45 | 2 | 2030.00 | 81.20 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 29175.00 | 1167.00 | ppb | 14.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 52900.00 | 2116.00 | ppb | 13.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 469.25 | 18.77 | ppb | 13.92 | 900.00 | |
| 51 V | 45 | 2 | 507.25 | 20.29 | ppb | 0.79 | 900.00 | |
| 52 Cr | 45 | 2 | 503.00 | 20.12 | ppb | 0.60 | 900.00 | |
| 55 Mn | 45 | 2 | 2309.50 | 92.38 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 3030.00 | 121.20 | ppb | 1.20 | 90000.00 | |
| 59 Co | 45 | 2 | 510.00 | 20.40 | ppb | 1.22 | 900.00 | |
| 60 Ni | 45 | 2 | 500.50 | 20.02 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 507.50 | 20.30 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 534.50 | 21.38 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 538.00 | 21.52 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | 512.25 | 20.49 | ppb | 1.19 | 900.00 | |
| 88 Sr | 103 | 1 | 826.25 | 33.05 | ppb | 12.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.02 | ppb | 43.47 | 900.00 | |
| 107 Ag | 115 | 1 | 189.00 | 7.56 | ppb | 12.10 | 900.00 | |
| 111 Cd | 115 | 2 | 495.50 | 19.82 | ppb | 0.38 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 148.92 | 900.00 | |
| 121 Sb | 115 | 1 | 483.00 | 19.32 | ppb | 11.33 | 900.00 | |
| 137 Ba | 159 | 1 | 1893.25 | 75.73 | ppb | 12.32 | 900.00 | |
| 205 Tl | 209 | 1 | 457.75 | 18.31 | ppb | 10.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 914.25 | 36.57 | ppb | 10.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2060234 | 6.85 | 1993708 | 103.3 | 70 - 130 | |
| 45 Sc | 1 | 2686309 | 12.49 | 2491942 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 362850 | 1.09 | 379286 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 467382 | 7.97 | 463522 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 130067 | 0.15 | 134805 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2311313 | 11.44 | 2265279 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 2461635 | 10.24 | 2375722 | 103.6 | 70 | - | 130 |
| 115 | In | 2 | 1006810 | 0.81 | 1034376 | 97.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2870456 | 11.29 | 2743058 | 104.6 | 70 | - | 130 |
| 175 | Lu | 1 | 2692618 | 11.12 | 2554975 | 105.4 | 70 | - | 130 |
| 209 | Bi | 1 | 1628150 | 9.54 | 1599251 | 101.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D# |
| Date Acquired: | Dec 3 2013 05:47 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22168-S2 |
| Misc Info: | |
| Vial Number: | 2310 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 510.75 | 20.43 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 507.25 | 20.29 | ppb | 3.64 | 900.00 | |
| 11 B | 6 | 1 | 55.50 | 2.22 | ppb | 2.33 | 900.00 | |
| 11 B | 45 | 2 | 55.60 | 2.22 | ppb | 5.49 | 900.00 | |
| 23 Na | 45 | 1 | 72625.00 | 2905.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 75800.00 | 3032.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 30175.00 | 1207.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 29850.00 | 1194.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2158.50 | 86.34 | ppb | 1.35 | 90000.00 | |
| 27 Al | 45 | 2 | 2034.50 | 81.38 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 31475.00 | 1259.00 | ppb | 0.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 56550.00 | 2262.00 | ppb | 1.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 506.50 | 20.26 | ppb | 1.81 | 900.00 | |
| 51 V | 45 | 2 | 514.25 | 20.57 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 510.50 | 20.42 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 2352.00 | 94.08 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 3030.00 | 121.20 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 521.75 | 20.87 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 511.75 | 20.47 | ppb | 1.43 | 900.00 | |
| 63 Cu | 72 | 2 | 514.25 | 20.57 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 550.75 | 22.03 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 550.25 | 22.01 | ppb | 0.42 | 900.00 | |
| 78 Se | 72 | 2 | 523.75 | 20.95 | ppb | 2.87 | 900.00 | |
| 88 Sr | 103 | 1 | 891.00 | 35.64 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.02 | ppb | 12.30 | 900.00 | |
| 107 Ag | 115 | 1 | 204.28 | 8.17 | ppb | 1.69 | 900.00 | |
| 111 Cd | 115 | 2 | 515.25 | 20.61 | ppb | 0.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 211.62 | 900.00 | |
| 121 Sb | 115 | 1 | 519.25 | 20.77 | ppb | 1.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2022.75 | 80.91 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 500.00 | 20.00 | ppb | 0.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 989.50 | 39.58 | ppb | 1.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975755 | 0.54 | 1993708 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 2534302 | 1.14 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 361281 | 1.31 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446388 | 0.29 | 463522 | 96.3 | 70 | - | 130 |
| 72 Ge | 2 | 129641 | 0.84 | 134805 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 2174062 | 1.11 | 2265279 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 2327918 | 0.95 | 2375722 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 999047 | 0.44 | 1034376 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 2713476 | 0.92 | 2743058 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 2522314 | 1.02 | 2554975 | 98.7 | 70 | - | 130 |
| 209 Bi | 1 | 1522613 | 0.30 | 1599251 | 95.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 3 2013 05:57 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 5.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.56 | 0.56 | ppb | 10.42 | 900.00 | |
| 11 B | 6 | 1 | 4.93 | 4.93 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 4.35 | 4.35 | ppb | 18.09 | 900.00 | |
| 23 Na | 45 | 1 | 250.70 | 250.70 | ppb | 1.60 | 90000.00 | |
| 23 Na | 45 | 2 | 282.80 | 282.80 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 253.70 | 253.70 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.60 | 258.60 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 27.06 | 27.06 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 24.70 | 24.70 | ppb | 1.73 | 90000.00 | |
| 39 K | 45 | 1 | 232.90 | 232.90 | ppb | 2.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 256.80 | 256.80 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.93 | 900.00 | |
| 51 V | 45 | 2 | 0.82 | 0.82 | ppb | 1.00 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 1.08 | ppb | 1.14 | 900.00 | |
| 55 Mn | 45 | 2 | 1.05 | 1.05 | ppb | 1.38 | 900.00 | |
| 56 Fe | 45 | 2 | 28.70 | 28.70 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 1.57 | 1.57 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 1.05 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 2.04 | 2.04 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 2.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 5.08 | 5.08 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.10 | 1.10 | ppb | 2.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 5.23 | 900.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 6.75 | 900.00 | |
| 120 Sn | 115 | 1 | 4.99 | 4.99 | ppb | 1.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 3.38 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 1.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 2.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2027954 | 0.51 | 1993708 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 2527460 | 1.12 | 2491942 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 361578 | 0.16 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 448559 | 1.14 | 463522 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 129245 | 0.18 | 134805 | 95.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2211504 | 0.60 | 2265279 | 97.6 | 70 | - | 130 |
| 115 | In | 1 | 2369002 | 0.98 | 2375722 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 1016339 | 0.29 | 1034376 | 98.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2738007 | 1.36 | 2743058 | 99.8 | 70 | - | 130 |
| 175 | Lu | 1 | 2556082 | 2.62 | 2554975 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1575020 | 1.10 | 1599251 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#
Date Acquired: Dec 3 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.12 | 50.12 | ppb | 0.98 | 900.00 | |
| 9 Be | 45 | 2 | 51.66 | 51.66 | ppb | 0.37 | 900.00 | |
| 11 B | 6 | 1 | 49.68 | 49.68 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 48.30 | 48.30 | ppb | 1.33 | 900.00 | |
| 23 Na | 45 | 1 | 4821.00 | 4821.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 5028.00 | 5028.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 4792.00 | 4792.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 4606.00 | 4606.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 4766.00 | 4766.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4387.00 | 4387.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 4865.00 | 4865.00 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 4920.00 | 4920.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.24 | 48.24 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 48.26 | 48.26 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 48.47 | 48.47 | ppb | 0.69 | 900.00 | |
| 55 Mn | 45 | 2 | 47.43 | 47.43 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 4999.00 | 4999.00 | ppb | 1.34 | 90000.00 | |
| 59 Co | 45 | 2 | 48.40 | 48.40 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 48.37 | 48.37 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 47.01 | 47.01 | ppb | 1.32 | 900.00 | |
| 66 Zn | 72 | 2 | 46.20 | 46.20 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 47.80 | 47.80 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 46.96 | 46.96 | ppb | 0.37 | 900.00 | |
| 88 Sr | 103 | 1 | 50.98 | 50.98 | ppb | 0.22 | 900.00 | |
| 98 Mo | 103 | 1 | 50.00 | 50.00 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 48.77 | 48.77 | ppb | 0.84 | 900.00 | |
| 111 Cd | 115 | 2 | 48.29 | 48.29 | ppb | 0.67 | 900.00 | |
| 120 Sn | 115 | 1 | 49.19 | 49.19 | ppb | 0.51 | 900.00 | |
| 121 Sb | 115 | 1 | 49.38 | 49.38 | ppb | 0.67 | 900.00 | |
| 137 Ba | 159 | 1 | 47.63 | 47.63 | ppb | 0.26 | 900.00 | |
| 205 Tl | 209 | 1 | 47.40 | 47.40 | ppb | 0.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.98 | 48.98 | ppb | 1.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1950696 | 0.79 | 1993708 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 2513506 | 1.01 | 2491942 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 356460 | 0.85 | 379286 | 94.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 436192 | 0.67 | 463522 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 126913 | 0.48 | 134805 | 94.1 | 70 | - | 130 |
| 103 Rh | 1 | 2114147 | 0.61 | 2265279 | 93.3 | 70 | - | 130 |
| 115 In | 1 | 2262202 | 1.03 | 2375722 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 967413 | 0.48 | 1034376 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2701477 | 0.84 | 2743058 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 2517433 | 1.34 | 2554975 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 1494315 | 0.20 | 1599251 | 93.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D#
Date Acquired: Dec 3 2013 06:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 21.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 114.62 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 8.56 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 83.32 | 900.00 | |
| 23 Na | 45 | 1 | -0.16 | -0.16 | ppb | 35.54 | 90000.00 | |
| 23 Na | 45 | 2 | 5.02 | 5.02 | ppb | 6.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 18.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.50 | 1.50 | ppb | 10.33 | 90000.00 | |
| 27 Al | 45 | 1 | 0.41 | 0.41 | ppb | 17.31 | 90000.00 | |
| 27 Al | 45 | 2 | 0.84 | 0.84 | ppb | 16.23 | 90000.00 | |
| 39 K | 45 | 1 | -19.43 | -19.43 | ppb | 5.32 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.54 | -8.54 | ppb | 4.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 573.09 | 900.00 | |
| 51 V | 45 | 2 | -0.15 | -0.15 | ppb | 8.52 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 3.46 | 900.00 | |
| 55 Mn | 45 | 2 | 0.09 | 0.09 | ppb | 6.01 | 900.00 | |
| 56 Fe | 45 | 2 | 1.54 | 1.54 | ppb | 10.96 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.38 | 900.00 | |
| 60 Ni | 45 | 2 | 0.85 | 0.85 | ppb | 2.48 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.08 | ppb | 2.58 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 34.80 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 14.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 34.84 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 30.98 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 2.94 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 22.36 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 73.45 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 2.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 28.69 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 3118.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 4.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 29.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043351 | 1.02 | 1993708 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 2535888 | 0.76 | 2491942 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 362135 | 0.15 | 379286 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 448205 | 0.78 | 463522 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 129440 | 0.43 | 134805 | 96.0 | 70 | - | 130 |
| 103 Rh | 1 | 2192019 | 0.52 | 2265279 | 96.8 | 70 | - | 130 |
| 115 In | 1 | 2328514 | 0.53 | 2375722 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 1018053 | 0.38 | 1034376 | 98.4 | 70 | - | 130 |
| 159 Tb | 1 | 2730029 | 1.53 | 2743058 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 2539559 | 0.53 | 2554975 | 99.4 | 70 | - | 130 |
| 209 Bi | 1 | 1565394 | 0.98 | 1599251 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

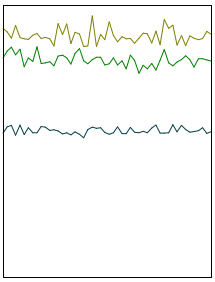




NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

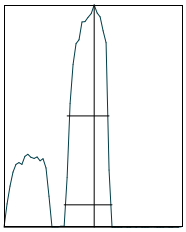
# Tune Report

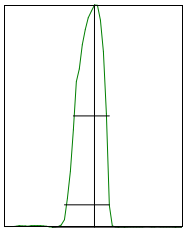
Tune File : nogas.u
Comment : 120313

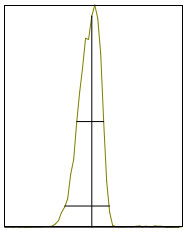


| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2678.0 | 2695.9 | 2.19 | 2.70 |
| 89 | 5,000 | 3981.0 | 3999.5 | 2.74 | 3.00 |
| 205 | 2,000 | 1789.0 | 1778.1 | 3.02 | 8.50 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.230%
Doubly Charged: 70/140 12.777%







| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,723 | 4,152 | 1,803 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.800 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

===Plasma Condition===

| | | | | | |
|---|---|---|---|---|---|
| RF Power | : | 1500 | W | | |
| RF Matching | : | 1.8 | V | | |
| Smpl Depth | : | 8.5 | mm | | |
| Torch-H | : | -0.1 | mm | | |
| Torch-V | : | 0.4 | mm | | |
| Carrier Gas | : | 0.95 | L/min | | |
| Makeup Gas | : | 0.1 | L/min | | |
| Optional Gas | : | --- | % | | |
| Nebulizer Pump | : | 0.1 | rps | | |
| Sample Pump | : | --- | rps | | |
| S/C Temp | : | 2 | degC | | |

===Ion Lenses===

| | | | | | |
|---|---|---|---|---|---|
| Extract 1 | : | 0 | V | | |
| Extract 2 | : | -140 | V | | |
| Omega Bias-ce | : | -22 | V | | |
| Omega Lens-ce | : | -0.4 | V | | |
| Cell Entrance | : | -30 | V | | |
| QP Focus | : | 5 | V | | |
| Cell Exit | : | -34 | V | | |

===Octopole Parameters===

| | | | | | |
|---|---|---|---|---|---|
| OctP RF | : | 180 | V | | |
| OctP Bias | : | -6 | V | | |

===Q-Pole Parameters===

| | | | | | |
|---|---|---|---|---|---|
| AMU Gain | : | 120 | | | |
| AMU Offset | : | 120 | | | |
| Axis Gain | : | 0.9972 | | | |
| Axis Offset | : | 0 | | | |
| QP Bias | : | -3 | V | | |

===Detector Parameters===

| | | | | | |
|---|---|---|---|---|---|
| Discriminator | : | 8 | mV | | |
| Analog HV | : | 1920 | V | | |
| Pulse HV | : | 1380 | V | | |

===Reaction Cell===

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reaction Mode | : | OFF | | | | | | |
| H2 Gas | : | --- | mL/min | He Gas | : | 3.5 | mL/min | Optional Gas : --- % |

---

Tune File : he.u
He Gas: 3.5 mL/min
Optional Gas: --- %
QP Focus: -8 V
Cell Exit: -34 V
OctP Bias: -18 V
QP Bias: -15 V

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 717.2 | 4.64 |
| 59 | 1157.9 | 3.97 |
| 89 | 1314.7 | 3.55 |

Integration Time: 0.1000sec



Generated : Dec 03, 2013 09:49:25
Printed : Dec 03, 2013 09:50:16

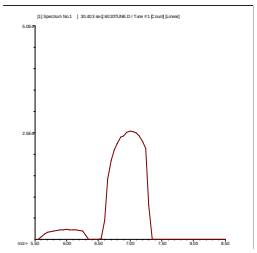
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Dec 3 2013 10:04 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

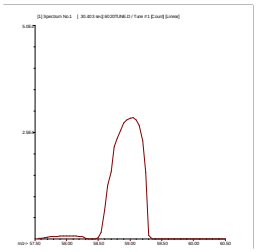
**QC Tune Summary:**
**Pass**

**RSD%**

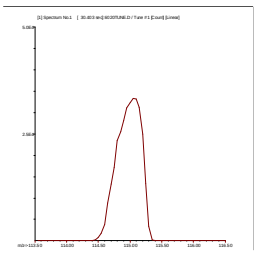
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.49 | 5.00 | 0 |
| 59 Co | 0.90 | 5.00 | |
| 115 In | 1.00 | 5.00 | |
| 205 Tl | 1.48 | 5.00 | |



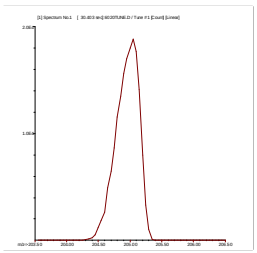
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

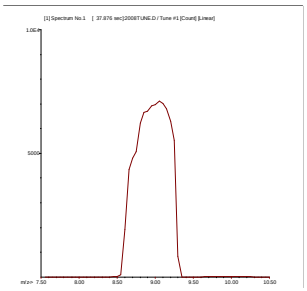
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13L03k00.B\2008TUNE.D
**Date Acquired:** Dec 3 2013 10:10 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

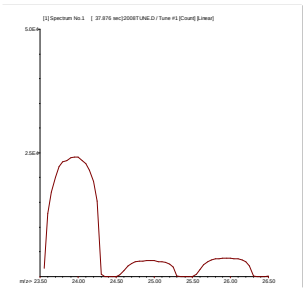


**RSD (%)**

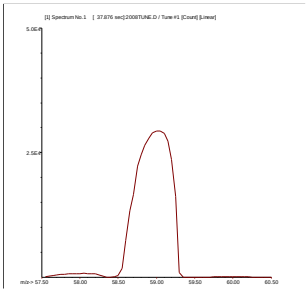
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 41608 | 40682 | 41562 | 41896 | 41799 | 42098 | **1.62** | 5.00 | |
| 24 Mg | 147504 | 148481 | 147132 | 146800 | 147978 | 147129 | **0.66** | 5.00 | |
| 59 Co | 162271 | 161509 | 161635 | 163354 | 162653 | 162202 | **0.71** | 5.00 | |
| 115 In | 168821 | 166966 | 167791 | 169827 | 169373 | 170147 | **0.65** | 5.00 | |
| 208 Pb | 61920 | 61659 | 61823 | 61502 | 61979 | 62634 | **0.98** | 5.00 | |



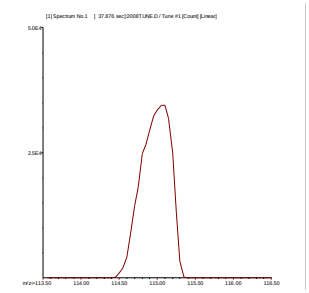
**9 Be**
**Mass Calib.**
Actual: 9.05
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



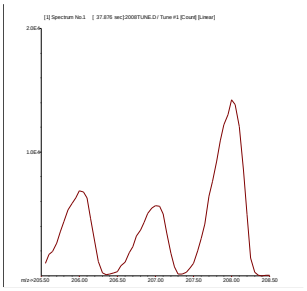
**24 Mg**
**Mass Calib.**
Actual: 23.95
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Dec 04, 2013 04:12 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

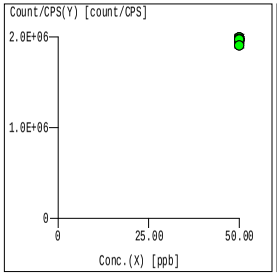
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

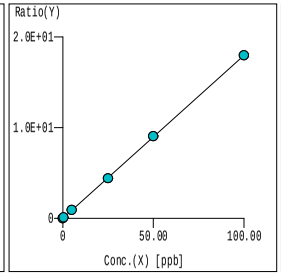
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13l03l00.b\002calb.d\002calb.d# | STDA | Dec 3 2013 11:50 am |
| 2 | c:\icpchem\1\data\13l03l00.b\003cals.d\003cals.d# | STDB | Dec 3 2013 11:57 am |
| 3 | c:\icpchem\1\data\13l03l00.b\004cals.d\004cals.d# | STDC | Dec 3 2013 12:05 pm |
| 4 | c:\icpchem\1\data\13l03l00.b\005cals.d\005cals.d# | STDD | Dec 3 2013 12:12 pm |
| 5 | c:\icpchem\1\data\13l03l00.b\006cals.d\006cals.d# | STDE | Dec 3 2013 12:19 pm |
| 6 | c:\icpchem\1\data\13l03l00.b\007cals.d\007cals.d# | STDF | Dec 3 2013 12:26 pm |
| 7 | c:\icpchem\1\data\13l03l00.b\008cals.d\008cals.d# | STDG | Dec 3 2013 12:33 pm |
| 8 | c:\icpchem\1\data\13l03l00.b\009cals.d\009cals.d# | STDH | Dec 3 2013 12:40 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

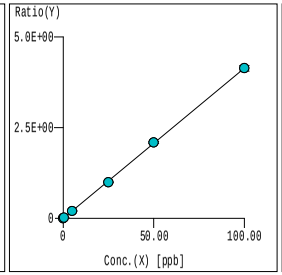
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

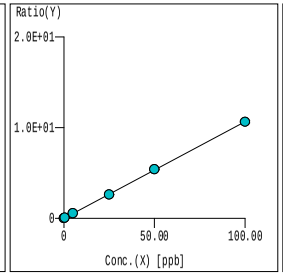
=== Graph Summary ===
Page: 1/4

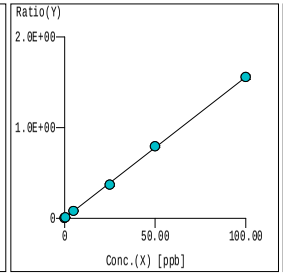
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9998 | 1.0000 |
| < DL > | --- ppb | 3.426E-03 ppb | --- ppb | 3.475E-02 ppb | 8.354E-02 ppb | 7.806E-01 ppb |
| < BEC > | --- ppb | 1.692E-03 ppb | 0.000 ppb | 1.225E-01 ppb | 1.413E-01 ppb | 15.31 ppb |

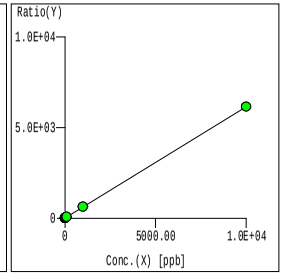


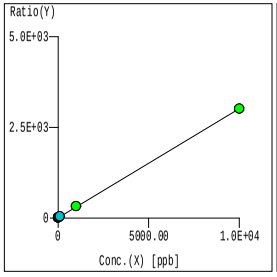



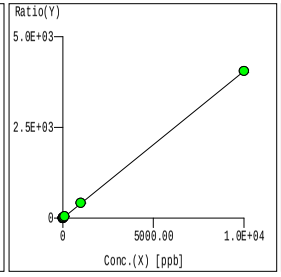



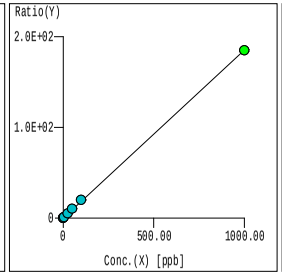



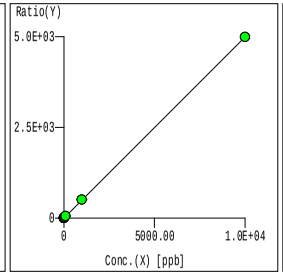



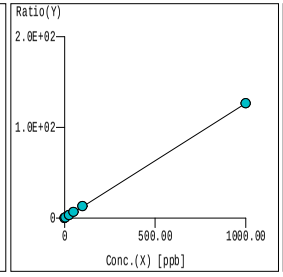

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.752 ppb | 4.610E-02 ppb | 1.907E-01 ppb | 1.770E-03 ppb | 1.057E-01 ppb | 5.977 ppb |
| < BEC > | 38.05 ppb | 3.798E-01 ppb | 3.373E-01 ppb | 2.719E-01 ppb | 2.860E-01 ppb | 171.9 ppb |

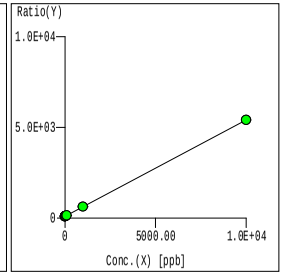


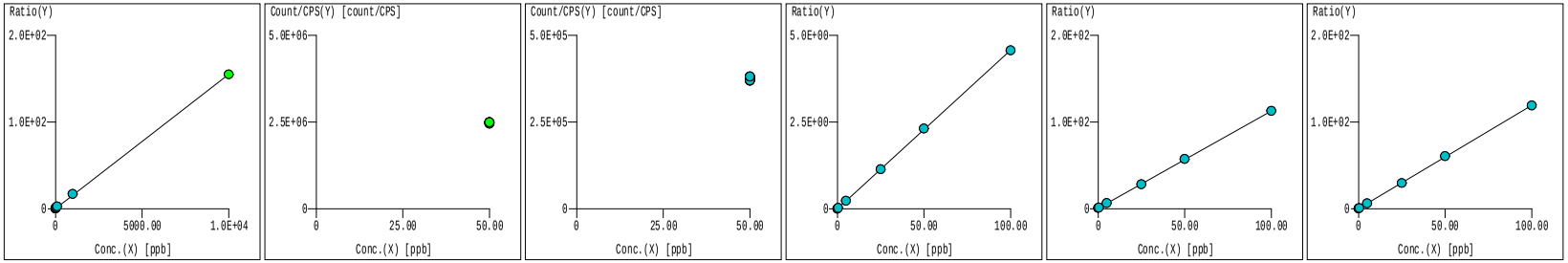



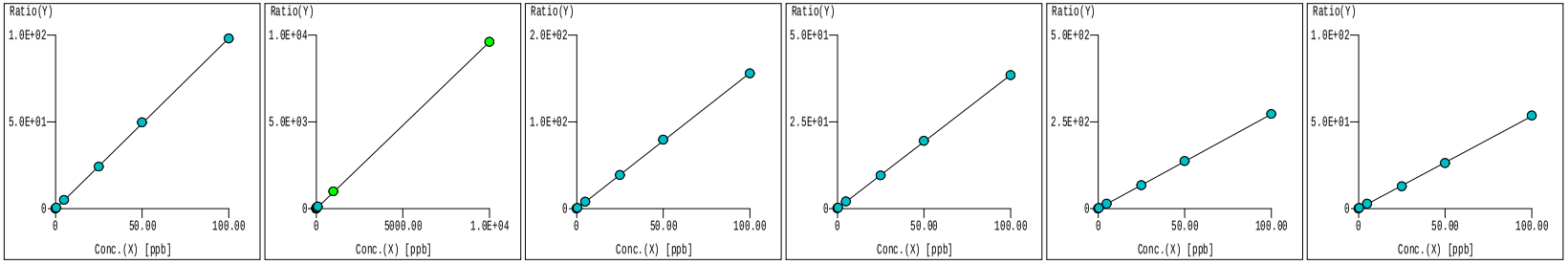
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 8.020E-01 ppb | --- ppb | --- ppb | 3.027E-02 ppb | 1.673E-02 ppb | 4.779E-02 ppb |
| < BEC > | 25.90 ppb | --- ppb | --- ppb | 5.271E-02 ppb | 6.993E-01 ppb | 1.691E-01 ppb |



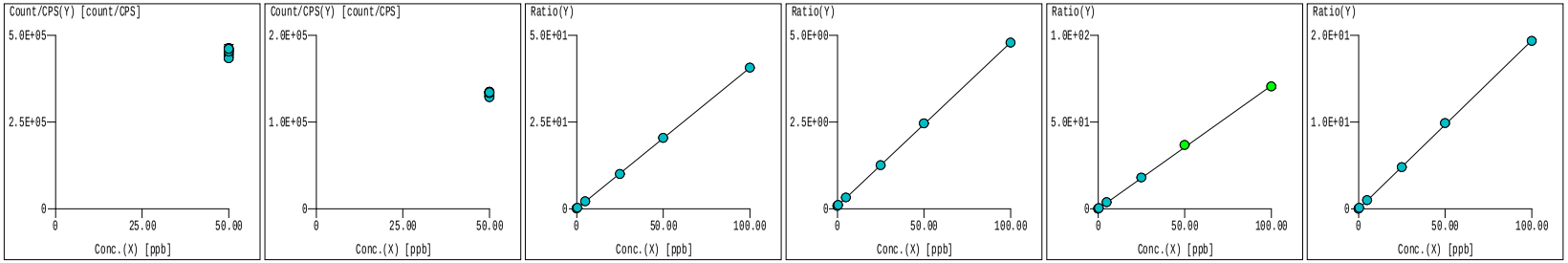

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 1.004E-02 ppb | 7.408E-01 ppb | 5.497E-04 ppb | 1.832E-02 ppb | 1.285E-02 ppb | 1.097E-02 ppb |
| < BEC > | 2.168E-02 ppb | 3.429 ppb | 1.201E-03 ppb | 1.999E-01 ppb | 7.031E-02 ppb | 7.975E-02 ppb |



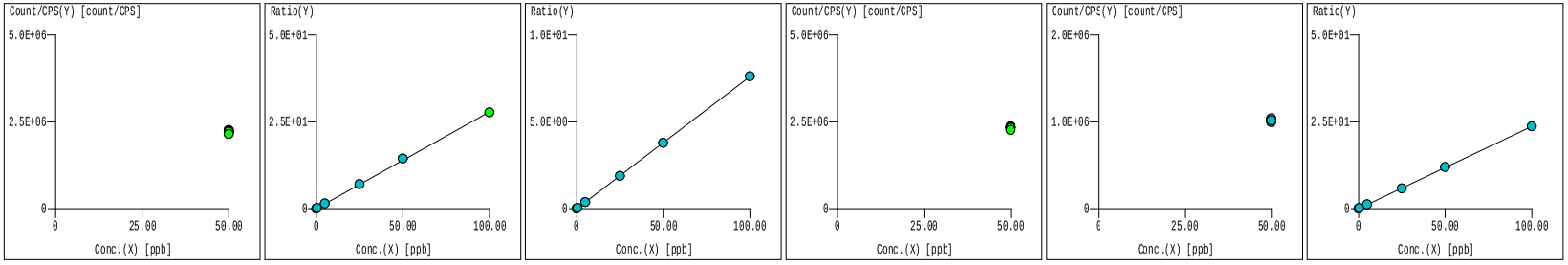
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9998 | 0.9999 |
| < DL > | --- ppb | --- ppb | 4.818E-03 ppb | 1.522E-01 ppb | 1.525E-03 ppb | 4.921E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.786E-01 ppb | 1.758 ppb | 1.056E-02 ppb | 3.059E-02 ppb |



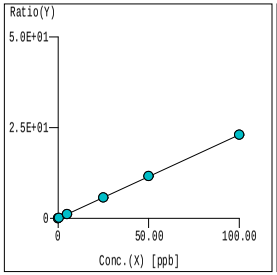

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9998 | 1.0000 | 0.0000 | 0.0000 | 1.0000 |
| < DL > | --- ppb | 2.911E-03 ppb | 6.353E-03 ppb | --- ppb | --- ppb | 3.091E-03 ppb |
| < BEC > | --- ppb | 2.839E-03 ppb | 2.119E-03 ppb | --- ppb | --- ppb | 8.572E-03 ppb |

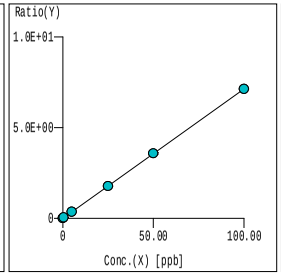


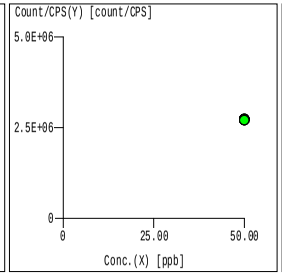
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

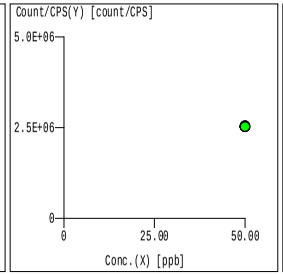
=== Graph Summary ===
Page: 4/4

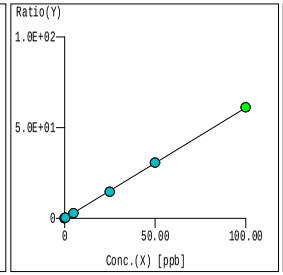
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 1.0000 |
| < DL > | 8.205E-04 ppb | 4.510E-02 ppb | --- ppb | --- ppb | 3.172E-03 ppb | --- ppb |
| < BEC > | 3.039E-03 ppb | 8.784E-02 ppb | --- ppb | --- ppb | 1.554E-02 ppb | --- ppb |

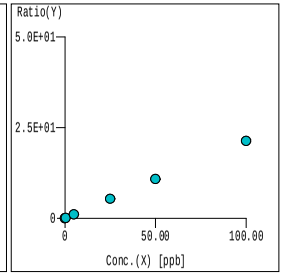




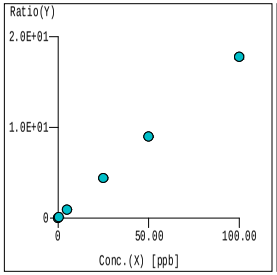


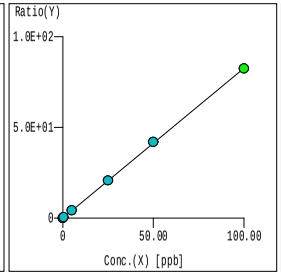


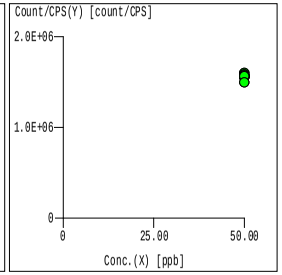





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 |
| < DL > | --- ppb | 3.400E-03 ppb | --- ppb |
| < BEC > | --- ppb | 3.505E-02 ppb | --- ppb |







C:\ICPCHEM\1\DATA\13L04n00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\001CAL
Date Acquired: Dec 4 2013 01:38 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:19 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2054691.00 | A | 4769.00 | 0.23 |
| 7 | (Li) | | P | | |
| 9 | Be | 75.56 | P | 20.37 | 26.96 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 745.60 | P | 57.96 | 7.77 |
| 11 | B | 16.67 | P | 3.33 | 20.00 |
| 23 | Na | 485343.69 | P | 9703.00 | 2.00 |
| 23 | Na | 85533.64 | P | 887.70 | 1.04 |
| 24 | Mg | 24100.28 | P | 544.10 | 2.26 |
| 24 | Mg | 1402.33 | P | 76.92 | 5.49 |
| 27 | Al | 20120.55 | P | 12.55 | 0.06 |
| 27 | Al | 551.15 | P | 42.21 | 7.66 |
| 39 | K | 4055727.00 | A | 14540.00 | 0.36 |
| 44 | Ca | 15909.80 | P | 703.80 | 4.42 |
| 45 | Sc | 2602342.00 | A | 37690.00 | 1.45 |
| 45 | Sc | 364115.19 | P | 1720.00 | 0.47 |
| 47 | Ti | 128.89 | P | 16.44 | 12.76 |
| 51 | V | 4285.98 | P | 58.58 | 1.37 |
| 52 | Cr | 2777.62 | P | 99.64 | 3.59 |
| 55 | Mn | 639.13 | P | 26.68 | 4.17 |
| 56 | Fe | 26691.79 | P | 263.50 | 0.99 |
| 59 | Co | 52.45 | P | 4.68 | 8.93 |
| 60 | Ni | 2673.61 | P | 24.91 | 0.93 |
| 63 | Cu | 954.27 | P | 63.34 | 6.64 |
| 66 | Zn | 144.67 | P | 8.35 | 5.77 |
| 72 | Ge | 465240.69 | P | 3326.00 | 0.71 |
| 72 | Ge | 130007.00 | P | 310.90 | 0.24 |
| 75 | As | 182.45 | P | 7.00 | 3.84 |
| 78 | Se | 218.23 | P | 16.06 | 7.36 |
| 88 | Sr | 403.35 | P | 20.28 | 5.03 |
| 98 | Mo | 1693.50 | P | 29.06 | 1.72 |
| 103 | Rh | 2247443.00 | A | 8639.00 | 0.38 |
| 107 | Ag | 115.56 | P | 22.69 | 19.64 |

C:\ICPCHEM\1\DATA\13L04n00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 6.94 | 56.77 |
| 115 | In | 2383577.00 | A | 16350.00 | 0.69 |
| 115 | In | 1012798.00 | P | 5661.00 | 0.56 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 255.57 | P | 18.96 | 7.42 |
| 121 | Sb | 158.90 | P | 28.74 | 18.09 |
| 137 | Ba | 362.24 | P | 61.59 | 17.00 |
| 159 | Tb | 2704792.00 | A | 9208.00 | 0.34 |
| 175 | Lu | 2500323.00 | A | 16180.00 | 0.65 |
| 205 | Tl | 1006.74 | P | 108.70 | 10.80 |
| 206 | (Pb) | 145.56 | P | 30.97 | 21.28 |
| 207 | (Pb) | 134.45 | P | 23.41 | 17.41 |
| 208 | Pb | 1124.52 | P | 120.40 | 10.71 |
| 209 | Bi | 1539322.00 | A | 20690.00 | 1.34 |

C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\002CAL
Date Acquired: Dec 4 2013 01:45 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:42 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2032921.00 | A | 17090.00 | 0.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 82.23 | P | 26.94 | 32.76 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 634.48 | P | 56.70 | 8.94 |
| 11 | B | 16.67 | P | 6.67 | 40.00 |
| 23 | Na | 475767.69 | P | 8398.00 | 1.77 |
| 23 | Na | 84676.81 | P | 477.80 | 0.56 |
| 24 | Mg | 26282.78 | P | 84.59 | 0.32 |
| 24 | Mg | 1485.68 | P | 65.35 | 4.40 |
| 27 | Al | 22095.69 | P | 492.30 | 2.23 |
| 27 | Al | 630.04 | P | 44.10 | 7.00 |
| 39 | K | 4071378.00 | A | 29120.00 | 0.72 |
| 44 | Ca | 16176.76 | P | 361.80 | 2.24 |
| 45 | Sc | 2621135.00 | A | 5548.00 | 0.21 |
| 45 | Sc | 361540.59 | P | 3691.00 | 1.02 |
| 47 | Ti | 107.78 | P | 10.18 | 9.45 |
| 51 | V | 4447.37 | P | 59.21 | 1.33 |
| 52 | Cr | 2768.73 | P | 80.78 | 2.92 |
| 55 | Mn | 659.14 | P | 19.06 | 2.89 |
| 56 | Fe | 27101.35 | P | 209.90 | 0.77 |
| 59 | Co | 56.89 | P | 7.81 | 13.73 |
| 60 | Ni | 2774.96 | P | 114.10 | 4.11 |
| 63 | Cu | 983.60 | P | 57.36 | 5.83 |
| 66 | Zn | 145.11 | P | 15.98 | 11.01 |
| 72 | Ge | 465850.00 | P | 5424.00 | 1.16 |
| 72 | Ge | 129632.10 | P | 278.30 | 0.21 |
| 75 | As | 172.00 | P | 15.25 | 8.87 |
| 78 | Se | 201.78 | P | 8.34 | 4.13 |
| 88 | Sr | 390.02 | P | 29.06 | 7.45 |
| 98 | Mo | 1591.26 | P | 130.00 | 8.17 |
| 103 | Rh | 2265009.00 | A | 21140.00 | 0.93 |
| 107 | Ag | 113.34 | P | 8.82 | 7.78 |

C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 2406660.00 | A | 16720.00 | 0.69 |
| 115 | In | 1007957.00 | P | 8991.00 | 0.89 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 221.12 | P | 9.62 | 4.35 |
| 121 | Sb | 145.56 | P | 17.11 | 11.75 |
| 137 | Ba | 358.91 | P | 35.65 | 9.93 |
| 159 | Tb | 2763118.00 | A | 15040.00 | 0.54 |
| 175 | Lu | 2515951.00 | A | 27220.00 | 1.08 |
| 205 | Tl | 802.28 | P | 52.74 | 6.57 |
| 206 | (Pb) | 162.23 | P | 25.02 | 15.42 |
| 207 | (Pb) | 106.67 | P | 24.04 | 22.54 |
| 208 | Pb | 1221.19 | P | 36.87 | 3.02 |
| 209 | Bi | 1560225.00 | A | 2507.00 | 0.16 |

C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#
Date Acquired: Dec 4 2013 01:52 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:49 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2051357.00 | A | 7536.00 | 0.37 |
| 7 | (Li) | | P | | |
| 9 | Be | 3701.66 | P | 138.90 | 3.75 |
| 9 | Be | 167.78 | P | 28.35 | 16.90 |
| 11 | B | 2691.43 | P | 109.20 | 4.06 |
| 11 | B | 72.22 | P | 21.43 | 29.67 |
| 23 | Na | 503199.00 | P | 9466.00 | 1.88 |
| 23 | Na | 85891.05 | P | 1190.00 | 1.39 |
| 24 | Mg | 23165.49 | P | 231.60 | 1.00 |
| 24 | Mg | 1333.44 | P | 87.63 | 6.57 |
| 27 | Al | 29438.91 | P | 488.10 | 1.66 |
| 27 | Al | 825.61 | P | 50.48 | 6.11 |
| 39 | K | 4059054.00 | A | 36890.00 | 0.91 |
| 44 | Ca | 16848.57 | P | 549.10 | 3.26 |
| 45 | Sc | 2597555.00 | A | 15430.00 | 0.59 |
| 45 | Sc | 357831.81 | P | 4437.00 | 1.24 |
| 47 | Ti | 1265.65 | P | 63.81 | 5.04 |
| 51 | V | 8531.36 | P | 191.10 | 2.24 |
| 52 | Cr | 5345.00 | P | 52.22 | 0.98 |
| 55 | Mn | 3550.23 | P | 84.87 | 2.39 |
| 56 | Fe | 25776.74 | P | 197.50 | 0.77 |
| 59 | Co | 5581.09 | P | 133.60 | 2.39 |
| 60 | Ni | 1928.15 | P | 38.40 | 1.99 |
| 63 | Cu | 3917.00 | P | 15.46 | 0.39 |
| 66 | Zn | 944.48 | P | 7.34 | 0.78 |
| 72 | Ge | 464731.50 | P | 3321.00 | 0.71 |
| 72 | Ge | 128724.40 | P | 1044.00 | 0.81 |
| 75 | As | 682.69 | P | 13.77 | 2.02 |
| 78 | Se | 256.00 | P | 12.98 | 5.07 |
| 88 | Sr | 16459.58 | P | 97.44 | 0.59 |
| 98 | Mo | 4600.88 | P | 219.90 | 4.78 |
| 103 | Rh | 2248748.00 | A | 6288.00 | 0.28 |
| 107 | Ag | 6535.02 | P | 96.88 | 1.48 |

C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 775.60 | P | 25.89 | 3.34 |
| 115 | In | 2377062.00 | A | 30260.00 | 1.27 |
| 115 | In | 1005741.00 | P | 8460.00 | 0.84 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 5657.97 | P | 41.64 | 0.74 |
| 121 | Sb | 5202.22 | P | 58.74 | 1.13 |
| 137 | Ba | 2188.02 | P | 80.32 | 3.67 |
| 159 | Tb | 2722485.00 | A | 36670.00 | 1.35 |
| 175 | Lu | 2499184.00 | A | 6489.00 | 0.26 |
| 205 | Tl | 8400.62 | P | 101.90 | 1.21 |
| 206 | (Pb) | 3353.86 | P | 63.88 | 1.90 |
| 207 | (Pb) | 2844.84 | P | 124.10 | 4.36 |
| 208 | Pb | 13503.09 | P | 20.82 | 0.15 |
| 209 | Bi | 1554686.00 | A | 5172.00 | 0.33 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2051356.60 | 0.37 | 2032921.30 | 100.9 | 70 - 130 | |
| 45 | Sc | 2597555.00 | 0.59 | 2621135.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 357831.84 | 1.24 | 361540.59 | 99.0 | 70 - 130 | |
| 72 | Ge | 464731.50 | 0.71 | 465850.00 | 99.8 | 70 - 130 | |
| 72 | Ge | 128724.46 | 0.81 | 129632.06 | 99.3 | 70 - 130 | |
| 103 | Rh | 2248748.00 | 0.28 | 2265009.30 | 99.3 | 70 - 130 | |
| 115 | In | 2377062.30 | 1.27 | 2406660.30 | 98.8 | 70 - 130 | |
| 115 | In | 1005741.00 | 0.84 | 1007956.90 | 99.8 | 70 - 130 | |
| 159 | Tb | 2722485.30 | 1.35 | 2763118.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 2499183.80 | 0.26 | 2515951.00 | 99.3 | 70 - 130 | |
| 209 | Bi | 1554686.30 | 0.33 | 1560224.80 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#
Date Acquired: Dec 4 2013 01:59 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:56 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2045105.00 | A | 16800.00 | 0.82 |
| 7 | (Li) | | P | | |
| 9 | Be | 34958.02 | P | 531.30 | 1.52 |
| 9 | Be | 1469.01 | P | 78.21 | 5.32 |
| 11 | B | 21154.68 | P | 330.90 | 1.56 |
| 11 | B | 554.47 | P | 41.95 | 7.57 |
| 23 | Na | 706642.13 | P | 11440.00 | 1.62 |
| 23 | Na | 101479.30 | P | 988.80 | 0.97 |
| 24 | Mg | 120028.40 | P | 757.00 | 0.63 |
| 24 | Mg | 7274.16 | P | 157.60 | 2.17 |
| 27 | Al | 147321.00 | P | 836.70 | 0.57 |
| 27 | Al | 4773.12 | P | 40.32 | 0.84 |
| 39 | K | 4181573.00 | A | 29310.00 | 0.70 |
| 44 | Ca | 21690.27 | P | 459.60 | 2.12 |
| 45 | Sc | 2590854.00 | A | 6703.00 | 0.26 |
| 45 | Sc | 358231.91 | P | 1810.00 | 0.51 |
| 47 | Ti | 11409.01 | P | 270.10 | 2.37 |
| 51 | V | 43143.39 | P | 210.00 | 0.49 |
| 52 | Cr | 43024.05 | P | 50.85 | 0.12 |
| 55 | Mn | 33432.85 | P | 157.60 | 0.47 |
| 56 | Fe | 58287.08 | P | 1288.00 | 2.21 |
| 59 | Co | 55228.92 | P | 383.70 | 0.69 |
| 60 | Ni | 14240.98 | P | 252.60 | 1.77 |
| 63 | Cu | 34475.37 | P | 355.60 | 1.03 |
| 66 | Zn | 6689.06 | P | 102.00 | 1.52 |
| 72 | Ge | 459426.50 | P | 2397.00 | 0.52 |
| 72 | Ge | 128827.20 | P | 522.90 | 0.41 |
| 75 | As | 5096.89 | P | 38.21 | 0.75 |
| 78 | Se | 752.02 | P | 20.13 | 2.68 |
| 88 | Sr | 159745.00 | P | 641.70 | 0.40 |
| 98 | Mo | 42309.71 | P | 155.30 | 0.37 |
| 103 | Rh | 2250670.00 | A | 10630.00 | 0.47 |
| 107 | Ag | 64429.95 | P | 467.70 | 0.73 |

C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7190.88 | P | 81.33 | 1.13 |
| 115 | In | 2373231.00 | A | 14050.00 | 0.59 |
| 115 | In | 999223.13 | P | 2978.00 | 0.30 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 54159.85 | P | 355.90 | 0.66 |
| 121 | Sb | 52589.51 | P | 372.30 | 0.71 |
| 137 | Ba | 18991.89 | P | 191.90 | 1.01 |
| 159 | Tb | 2732906.00 | A | 12150.00 | 0.44 |
| 175 | Lu | 2519717.00 | A | 21190.00 | 0.84 |
| 205 | Tl | 80242.69 | P | 1541.00 | 1.92 |
| 206 | (Pb) | 31845.27 | P | 473.20 | 1.49 |
| 207 | (Pb) | 26551.89 | P | 243.10 | 0.92 |
| 208 | Pb | 124286.90 | P | 1035.00 | 0.83 |
| 209 | Bi | 1552304.00 | A | 19210.00 | 1.24 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2045105.10 | 0.82 | 2032921.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 2590854.50 | 0.26 | 2621135.30 | 98.8 | 70 - 130 | |
| 45 | Sc | 358231.88 | 0.51 | 361540.59 | 99.1 | 70 - 130 | |
| 72 | Ge | 459426.50 | 0.52 | 465850.00 | 98.6 | 70 - 130 | |
| 72 | Ge | 128827.19 | 0.41 | 129632.06 | 99.4 | 70 - 130 | |
| 103 | Rh | 2250669.80 | 0.47 | 2265009.30 | 99.4 | 70 - 130 | |
| 115 | In | 2373230.50 | 0.59 | 2406660.30 | 98.6 | 70 - 130 | |
| 115 | In | 999223.13 | 0.30 | 1007956.90 | 99.1 | 70 - 130 | |
| 159 | Tb | 2732905.50 | 0.44 | 2763118.00 | 98.9 | 70 - 130 | |
| 175 | Lu | 2519717.30 | 0.84 | 2515951.00 | 100.1 | 70 - 130 | |
| 209 | Bi | 1552304.50 | 1.24 | 1560224.80 | 99.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#
Date Acquired: Dec 4 2013 02:07 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:03 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2062773.00 | A | 7759.00 | 0.38 |
| 7 | (Li) | | P | | |
| 9 | Be | 163896.80 | P | 1318.00 | 0.80 |
| 9 | Be | 6500.43 | P | 140.40 | 2.16 |
| 11 | B | 96880.64 | P | 237.40 | 0.25 |
| 11 | B | 2358.02 | P | 107.20 | 4.55 |
| 23 | Na | 1248778.00 | A | 7747.00 | 0.62 |
| 23 | Na | 136982.00 | P | 933.30 | 0.68 |
| 24 | Mg | 520673.00 | P | 3645.00 | 0.70 |
| 24 | Mg | 31850.91 | P | 319.80 | 1.00 |
| 27 | Al | 642768.00 | P | 2128.00 | 0.33 |
| 27 | Al | 19933.23 | P | 202.60 | 1.02 |
| 39 | K | 4655575.00 | A | 5580.00 | 0.12 |
| 44 | Ca | 41128.85 | P | 464.00 | 1.13 |
| 45 | Sc | 2581120.00 | A | 17590.00 | 0.68 |
| 45 | Sc | 353340.41 | P | 1986.00 | 0.56 |
| 47 | Ti | 52824.55 | P | 70.42 | 0.13 |
| 51 | V | 185965.91 | P | 629.80 | 0.34 |
| 52 | Cr | 195624.41 | P | 861.40 | 0.44 |
| 55 | Mn | 155564.00 | P | 1054.00 | 0.68 |
| 56 | Fe | 198288.30 | P | 1136.00 | 0.57 |
| 59 | Co | 257495.20 | P | 1351.00 | 0.52 |
| 60 | Ni | 64084.88 | P | 256.40 | 0.40 |
| 63 | Cu | 158953.50 | P | 282.00 | 0.18 |
| 66 | Zn | 30135.42 | P | 157.40 | 0.52 |
| 72 | Ge | 452785.91 | P | 4675.00 | 1.03 |
| 72 | Ge | 126854.60 | P | 298.00 | 0.23 |
| 75 | As | 23019.46 | P | 284.20 | 1.23 |
| 78 | Se | 2766.94 | P | 73.46 | 2.65 |
| 88 | Sr | 744122.81 | P | 4308.00 | 0.58 |
| 98 | Mo | 194723.00 | P | 1361.00 | 0.70 |
| 103 | Rh | 2239019.00 | A | 5397.00 | 0.24 |
| 107 | Ag | 299113.41 | P | 1738.00 | 0.58 |

C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 33863.04 | P | 435.60 | 1.29 |
| 115 | In | 2353376.00 | A | 2652.00 | 0.11 |
| 115 | In | 981208.13 | P | 6495.00 | 0.66 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 248562.09 | P | 1125.00 | 0.45 |
| 121 | Sb | 243988.41 | P | 2103.00 | 0.86 |
| 137 | Ba | 88148.96 | P | 743.60 | 0.84 |
| 159 | Tb | 2720161.00 | A | 24510.00 | 0.90 |
| 175 | Lu | 2527308.00 | A | 5181.00 | 0.21 |
| 205 | Tl | 405408.19 | P | 2976.00 | 0.73 |
| 206 | (Pb) | 147967.59 | P | 1775.00 | 1.20 |
| 207 | (Pb) | 123560.50 | P | 702.90 | 0.57 |
| 208 | Pb | 576401.19 | P | 2855.00 | 0.50 |
| 209 | Bi | 1535773.00 | A | 8304.00 | 0.54 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2062772.90 | 0.38 | 2032921.30 | 101.5 | 70 - 130 | |
| 45 | Sc | 2581120.30 | 0.68 | 2621135.30 | 98.5 | 70 - 130 | |
| 45 | Sc | 353340.38 | 0.56 | 361540.59 | 97.7 | 70 - 130 | |
| 72 | Ge | 452785.88 | 1.03 | 465850.00 | 97.2 | 70 - 130 | |
| 72 | Ge | 126854.62 | 0.23 | 129632.06 | 97.9 | 70 - 130 | |
| 103 | Rh | 2239018.80 | 0.24 | 2265009.30 | 98.9 | 70 - 130 | |
| 115 | In | 2353376.50 | 0.11 | 2406660.30 | 97.8 | 70 - 130 | |
| 115 | In | 981208.13 | 0.66 | 1007956.90 | 97.3 | 70 - 130 | |
| 159 | Tb | 2720161.00 | 0.90 | 2763118.00 | 98.4 | 70 - 130 | |
| 175 | Lu | 2527308.00 | 0.21 | 2515951.00 | 100.5 | 70 - 130 | |
| 209 | Bi | 1535772.80 | 0.54 | 1560224.80 | 98.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#
Date Acquired: Dec 4 2013 02:14 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:10 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2004326.00 | A | 7782.00 | 0.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 343376.09 | P | 1723.00 | 0.50 |
| 9 | Be | 13898.77 | P | 43.54 | 0.31 |
| 11 | B | 204203.00 | P | 2457.00 | 1.20 |
| 11 | B | 5188.80 | P | 204.10 | 3.93 |
| 23 | Na | 2116897.00 | A | 29200.00 | 1.38 |
| 23 | Na | 203638.41 | P | 891.60 | 0.44 |
| 24 | Mg | 1094027.00 | A | 14810.00 | 1.35 |
| 24 | Mg | 67389.57 | P | 257.00 | 0.38 |
| 27 | Al | 1345237.00 | A | 23880.00 | 1.78 |
| 27 | Al | 42651.05 | P | 422.90 | 0.99 |
| 39 | K | 5338887.00 | A | 26660.00 | 0.50 |
| 44 | Ca | 70124.73 | P | 1203.00 | 1.72 |
| 45 | Sc | 2545355.00 | A | 27590.00 | 1.08 |
| 45 | Sc | 352222.59 | P | 2946.00 | 0.84 |
| 47 | Ti | 109113.80 | P | 729.80 | 0.67 |
| 51 | V | 389852.81 | P | 1322.00 | 0.34 |
| 52 | Cr | 414649.00 | P | 869.80 | 0.21 |
| 55 | Mn | 330121.59 | P | 1999.00 | 0.61 |
| 56 | Fe | 401033.00 | P | 788.90 | 0.20 |
| 59 | Co | 549252.00 | P | 934.30 | 0.17 |
| 60 | Ni | 135600.00 | P | 401.90 | 0.30 |
| 63 | Cu | 335778.59 | P | 1103.00 | 0.33 |
| 66 | Zn | 63308.83 | P | 420.30 | 0.66 |
| 72 | Ge | 446664.69 | P | 1344.00 | 0.30 |
| 72 | Ge | 125798.60 | P | 256.20 | 0.20 |
| 75 | As | 48624.33 | P | 232.30 | 0.48 |
| 78 | Se | 5594.85 | P | 131.90 | 2.36 |
| 88 | Sr | 1564215.00 | A | 13120.00 | 0.84 |
| 98 | Mo | 410152.09 | P | 5141.00 | 1.25 |
| 103 | Rh | 2224967.00 | A | 29980.00 | 1.35 |
| 107 | Ag | 628084.38 | P | 1252.00 | 0.20 |

C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 70460.80 | P | 466.00 | 0.66 |
| 115 | In | 2315027.00 | A | 12440.00 | 0.54 |
| 115 | In | 972639.63 | P | 1583.00 | 0.16 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 521217.31 | P | 2296.00 | 0.44 |
| 121 | Sb | 507644.81 | P | 3076.00 | 0.61 |
| 137 | Ba | 183774.50 | P | 1796.00 | 0.98 |
| 159 | Tb | 2680398.00 | A | 10890.00 | 0.41 |
| 175 | Lu | 2489090.00 | A | 18360.00 | 0.74 |
| 205 | Tl | 862953.81 | P | 5544.00 | 0.64 |
| 206 | (Pb) | 308339.50 | P | 1810.00 | 0.59 |
| 207 | (Pb) | 257296.70 | P | 2481.00 | 0.96 |
| 208 | Pb | 1203463.00 | P | 5994.00 | 0.50 |
| 209 | Bi | 1520102.00 | A | 6516.00 | 0.43 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2004326.30 | 0.39 | 2032921.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 2545354.50 | 1.08 | 2621135.30 | 97.1 | 70 - 130 | |
| 45 | Sc | 352222.63 | 0.84 | 361540.59 | 97.4 | 70 - 130 | |
| 72 | Ge | 446664.72 | 0.30 | 465850.00 | 95.9 | 70 - 130 | |
| 72 | Ge | 125798.66 | 0.20 | 129632.06 | 97.0 | 70 - 130 | |
| 103 | Rh | 2224966.80 | 1.35 | 2265009.30 | 98.2 | 70 - 130 | |
| 115 | In | 2315026.80 | 0.54 | 2406660.30 | 96.2 | 70 - 130 | |
| 115 | In | 972639.56 | 0.16 | 1007956.90 | 96.5 | 70 - 130 | |
| 159 | Tb | 2680398.00 | 0.41 | 2763118.00 | 97.0 | 70 - 130 | |
| 175 | Lu | 2489090.30 | 0.74 | 2515951.00 | 98.9 | 70 - 130 | |
| 209 | Bi | 1520101.50 | 0.43 | 1560224.80 | 97.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#
Date Acquired: Dec 4 2013 02:21 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:18 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2026121.00 | A | 3485.00 | 0.17 |
| 7 | (Li) | | P | | |
| 9 | Be | 686881.69 | P | 4064.00 | 0.59 |
| 9 | Be | 28113.39 | P | 498.50 | 1.77 |
| 11 | B | 404671.69 | P | 1183.00 | 0.29 |
| 11 | B | 10219.20 | P | 130.10 | 1.27 |
| 23 | Na | 3652487.00 | A | 12640.00 | 0.35 |
| 23 | Na | 316434.69 | P | 2577.00 | 0.81 |
| 24 | Mg | 2171004.00 | A | 12670.00 | 0.58 |
| 24 | Mg | 133235.50 | P | 199.00 | 0.15 |
| 27 | Al | 2650086.00 | A | 9798.00 | 0.37 |
| 27 | Al | 84200.71 | P | 510.80 | 0.61 |
| 39 | K | 6768400.00 | A | 36240.00 | 0.54 |
| 44 | Ca | 127386.60 | P | 1286.00 | 1.01 |
| 45 | Sc | 2580322.00 | A | 18360.00 | 0.71 |
| 45 | Sc | 349788.59 | P | 2561.00 | 0.73 |
| 47 | Ti | 217703.59 | P | 1634.00 | 0.75 |
| 51 | V | 762591.31 | P | 5897.00 | 0.77 |
| 52 | Cr | 815455.69 | P | 2048.00 | 0.25 |
| 55 | Mn | 653359.38 | P | 3866.00 | 0.59 |
| 56 | Fe | 768736.31 | P | 6296.00 | 0.82 |
| 59 | Co | 1074870.00 | P | 1969.00 | 0.18 |
| 60 | Ni | 265060.81 | P | 810.20 | 0.31 |
| 63 | Cu | 657493.50 | P | 661.50 | 0.10 |
| 66 | Zn | 128166.70 | P | 170.70 | 0.13 |
| 72 | Ge | 445825.31 | P | 3608.00 | 0.81 |
| 72 | Ge | 124445.70 | P | 1052.00 | 0.85 |
| 75 | As | 95277.06 | P | 107.10 | 0.11 |
| 78 | Se | 10834.37 | P | 5.59 | 0.05 |
| 88 | Sr | 3033123.00 | A | 21550.00 | 0.71 |
| 98 | Mo | 807329.38 | P | 3139.00 | 0.39 |
| 103 | Rh | 2218867.00 | A | 13100.00 | 0.59 |
| 107 | Ag | 1204069.00 | M | 15570.00 | 1.29 |

C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 139658.20 | P | 1517.00 | 1.09 |
| 115 | In | 2331900.00 | A | 13490.00 | 0.58 |
| 115 | In | 959820.81 | P | 8398.00 | 0.87 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1032888.00 | P | 7634.00 | 0.74 |
| 121 | Sb | 1008668.00 | P | 8118.00 | 0.80 |
| 137 | Ba | 365012.59 | P | 3721.00 | 1.02 |
| 159 | Tb | 2704284.00 | A | 32910.00 | 1.22 |
| 175 | Lu | 2497212.00 | A | 26140.00 | 1.05 |
| 205 | Tl | 1761311.00 | A | 18960.00 | 1.08 |
| 206 | (Pb) | 611075.31 | P | 6951.00 | 1.14 |
| 207 | (Pb) | 510644.50 | P | 4242.00 | 0.83 |
| 208 | Pb | 2382867.00 | P | 24840.00 | 1.04 |
| 209 | Bi | 1514912.00 | A | 10270.00 | 0.68 |

**ISTD Elements**

| Element | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|
| 6 Li | 2026121.30 | 0.17 | 2032921.30 | 99.7 | 70 - 130 | |
| 45 Sc | 2580322.50 | 0.71 | 2621135.30 | 98.4 | 70 - 130 | |
| 45 Sc | 349788.59 | 0.73 | 361540.59 | 96.7 | 70 - 130 | |
| 72 Ge | 445825.25 | 0.81 | 465850.00 | 95.7 | 70 - 130 | |
| 72 Ge | 124445.70 | 0.85 | 129632.06 | 96.0 | 70 - 130 | |
| 103 Rh | 2218867.30 | 0.59 | 2265009.30 | 98.0 | 70 - 130 | |
| 115 In | 2331899.50 | 0.58 | 2406660.30 | 96.9 | 70 - 130 | |
| 115 In | 959820.81 | 0.87 | 1007956.90 | 95.2 | 70 - 130 | |
| 159 Tb | 2704283.80 | 1.22 | 2763118.00 | 97.9 | 70 - 130 | |
| 175 Lu | 2497212.00 | 1.05 | 2515951.00 | 99.3 | 70 - 130 | |
| 209 Bi | 1514911.80 | 0.68 | 1560224.80 | 97.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 4 2013 02:28 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:25 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2000390.00 | A | 17040.00 | 0.85 |
| 7 | (Li) | | P | | |
| 9 | Be | 260.01 | P | 17.64 | 6.78 |
| 9 | Be | 10.00 | P | 6.67 | 66.67 |
| 11 | B | 3604.97 | P | 203.70 | 5.65 |
| 11 | B | 72.22 | P | 5.09 | 7.05 |
| 23 | Na | 30332540.00 | A | 104800.00 | 0.35 |
| 23 | Na | 2240553.00 | A | 10110.00 | 0.45 |
| 24 | Mg | 19941690.00 | A | 34510.00 | 0.17 |
| 24 | Mg | 1229257.00 | A | 13500.00 | 1.10 |
| 27 | Al | 24214980.00 | A | 211700.00 | 0.87 |
| 27 | Al | 808911.81 | P | 7463.00 | 0.92 |
| 39 | K | 30236940.00 | A | 91140.00 | 0.30 |
| 44 | Ca | 822132.13 | P | 1831.00 | 0.22 |
| 45 | Sc | 2545467.00 | A | 11710.00 | 0.46 |
| 45 | Sc | 355058.41 | P | 3066.00 | 0.86 |
| 47 | Ti | 172.23 | P | 3.85 | 2.23 |
| 51 | V | 4378.01 | P | 16.39 | 0.37 |
| 52 | Cr | 1532.99 | P | 52.33 | 3.41 |
| 55 | Mn | 629.35 | P | 34.28 | 5.45 |
| 56 | Fe | 6869496.00 | A | 9546.00 | 0.14 |
| 59 | Co | 494.68 | P | 34.59 | 6.99 |
| 60 | Ni | 722.70 | P | 27.36 | 3.79 |
| 63 | Cu | 1191.17 | P | 30.68 | 2.58 |
| 66 | Zn | 556.24 | P | 25.58 | 4.60 |
| 72 | Ge | 452314.41 | P | 2918.00 | 0.65 |
| 72 | Ge | 127460.40 | P | 1062.00 | 0.83 |
| 75 | As | 196.89 | P | 9.53 | 4.84 |
| 78 | Se | 196.00 | P | 15.62 | 7.97 |
| 88 | Sr | 2276.92 | P | 118.40 | 5.20 |
| 98 | Mo | 3572.79 | P | 338.40 | 9.47 |
| 103 | Rh | 2172832.00 | A | 1736.00 | 0.08 |
| 107 | Ag | 412.24 | P | 5.09 | 1.24 |

C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 45.56 | P | 9.62 | 21.12 |
| 115 | In | 2308410.00 | A | 12330.00 | 0.53 |
| 115 | In | 984171.69 | P | 9468.00 | 0.96 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1113.42 | P | 15.28 | 1.37 |
| 121 | Sb | 667.82 | P | 56.80 | 8.51 |
| 137 | Ba | 446.69 | P | 58.60 | 13.12 |
| 159 | Tb | 2676919.00 | A | 22490.00 | 0.84 |
| 175 | Lu | 2453025.00 | A | 25090.00 | 1.02 |
| 205 | Tl | 5949.27 | P | 192.20 | 3.23 |
| 206 | (Pb) | 248.90 | P | 16.44 | 6.61 |
| 207 | (Pb) | 193.34 | P | 26.46 | 13.69 |
| 208 | Pb | 1493.43 | P | 96.15 | 6.44 |
| 209 | Bi | 1503676.00 | A | 31450.00 | 2.09 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2000390.40 | 0.85 | 2032921.30 | 98.4 | 70 - 130 | |
| 45 | Sc | 2545467.30 | 0.46 | 2621135.30 | 97.1 | 70 - 130 | |
| 45 | Sc | 355058.38 | 0.86 | 361540.59 | 98.2 | 70 - 130 | |
| 72 | Ge | 452314.41 | 0.65 | 465850.00 | 97.1 | 70 - 130 | |
| 72 | Ge | 127460.38 | 0.83 | 129632.06 | 98.3 | 70 - 130 | |
| 103 | Rh | 2172832.50 | 0.08 | 2265009.30 | 95.9 | 70 - 130 | |
| 115 | In | 2308410.50 | 0.53 | 2406660.30 | 95.9 | 70 - 130 | |
| 115 | In | 984171.63 | 0.96 | 1007956.90 | 97.6 | 70 - 130 | |
| 159 | Tb | 2676919.00 | 0.84 | 2763118.00 | 96.9 | 70 - 130 | |
| 175 | Lu | 2453025.50 | 1.02 | 2515951.00 | 97.5 | 70 - 130 | |
| 209 | Bi | 1503675.90 | 2.09 | 1560224.80 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 4 2013 02:35 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:32 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1978841.00 | A | 9026.00 | 0.46 |
| 7 | (Li) | | P | | |
| 9 | Be | 177.78 | P | 11.71 | 6.59 |
| 9 | Be | 4.44 | P | 1.93 | 43.31 |
| 11 | B | 1656.81 | P | 100.20 | 6.05 |
| 11 | B | 52.22 | P | 17.11 | 32.76 |
| 23 | Na | 298246020.00 | A | 2551000.00 | 0.86 |
| 23 | Na | 20652790.00 | A | 191900.00 | 0.93 |
| 24 | Mg | 194673500.00 | A | 1510000.00 | 0.78 |
| 24 | Mg | 11694650.00 | A | 136200.00 | 1.16 |
| 27 | Al | 239941500.00 | A | 125500.00 | 0.05 |
| 27 | Al | 7499317.00 | A | 80350.00 | 1.07 |
| 39 | K | 264567390.00 | A | 123700.00 | 0.05 |
| 44 | Ca | 7524736.00 | A | 20750.00 | 0.28 |
| 45 | Sc | 2570661.00 | A | 5989.00 | 0.23 |
| 45 | Sc | 357472.69 | P | 3474.00 | 0.97 |
| 47 | Ti | 146.67 | P | 5.77 | 3.94 |
| 51 | V | 4402.91 | P | 51.59 | 1.17 |
| 52 | Cr | 2477.57 | P | 127.10 | 5.13 |
| 55 | Mn | 2110.84 | P | 40.56 | 1.92 |
| 56 | Fe | 66890208.00 | A | 763400.00 | 1.14 |
| 59 | Co | 2202.41 | P | 40.13 | 1.82 |
| 60 | Ni | 1068.05 | P | 36.30 | 3.40 |
| 63 | Cu | 838.26 | P | 14.87 | 1.77 |
| 66 | Zn | 871.59 | P | 15.64 | 1.79 |
| 72 | Ge | 462575.31 | P | 2740.00 | 0.59 |
| 72 | Ge | 127845.90 | P | 492.70 | 0.39 |
| 75 | As | 202.67 | P | 7.21 | 3.56 |
| 78 | Se | 208.89 | P | 10.01 | 4.79 |
| 88 | Sr | 12957.14 | P | 233.40 | 1.80 |
| 98 | Mo | 1061.19 | P | 110.70 | 10.43 |
| 103 | Rh | 2119685.00 | A | 23700.00 | 1.12 |
| 107 | Ag | 512.25 | P | 26.74 | 5.22 |

C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 43.34 | P | 28.48 | 65.72 |
| 115 | In | 2277386.00 | A | 20010.00 | 0.88 |
| 115 | In | 962805.88 | P | 851.10 | 0.09 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 486.69 | P | 15.28 | 3.14 |
| 121 | Sb | 335.57 | P | 25.02 | 7.46 |
| 137 | Ba | 536.70 | P | 48.08 | 8.96 |
| 159 | Tb | 2671606.00 | A | 11130.00 | 0.42 |
| 175 | Lu | 2472234.00 | A | 19440.00 | 0.79 |
| 205 | Tl | 2390.29 | P | 181.90 | 7.61 |
| 206 | (Pb) | 187.79 | P | 18.36 | 9.78 |
| 207 | (Pb) | 175.56 | P | 21.43 | 12.21 |
| 208 | Pb | 1435.66 | P | 109.10 | 7.60 |
| 209 | Bi | 1456283.00 | A | 7017.00 | 0.48 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1978841.30 | 0.46 | 2032921.30 | 97.3 | 70 - 130 | |
| 45 | Sc | 2570661.50 | 0.23 | 2621135.30 | 98.1 | 70 - 130 | |
| 45 | Sc | 357472.66 | 0.97 | 361540.59 | 98.9 | 70 - 130 | |
| 72 | Ge | 462575.31 | 0.59 | 465850.00 | 99.3 | 70 - 130 | |
| 72 | Ge | 127845.90 | 0.39 | 129632.06 | 98.6 | 70 - 130 | |
| 103 | Rh | 2119685.30 | 1.12 | 2265009.30 | 93.6 | 70 - 130 | |
| 115 | In | 2277385.80 | 0.88 | 2406660.30 | 94.6 | 70 - 130 | |
| 115 | In | 962805.94 | 0.09 | 1007956.90 | 95.5 | 70 - 130 | |
| 159 | Tb | 2671605.50 | 0.42 | 2763118.00 | 96.7 | 70 - 130 | |
| 175 | Lu | 2472233.80 | 0.79 | 2515951.00 | 98.3 | 70 - 130 | |
| 209 | Bi | 1456282.80 | 0.48 | 1560224.80 | 93.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#
Date Acquired: Dec 4 2013 03:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.70 | 57.70 | ppb | 0.06 | 900.00 | |
| 9 Be | 45 | 2 | 56.49 | 56.49 | ppb | 2.08 | 900.00 | |
| 11 B | 6 | 1 | 57.02 | 57.02 | ppb | 0.22 | 900.00 | |
| 11 B | 45 | 2 | 55.20 | 55.20 | ppb | 3.88 | 900.00 | |
| 23 Na | 45 | 1 | 5305.00 | 5305.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 5377.00 | 5377.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 5410.00 | 5410.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 5129.00 | 5129.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 5634.00 | 5634.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 2 | 5233.00 | 5233.00 | ppb | 0.19 | 90000.00 | |
| 39 K | 45 | 1 | 5415.00 | 5415.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 5426.00 | 5426.00 | ppb | 0.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.57 | 59.57 | ppb | 0.78 | 900.00 | |
| 51 V | 45 | 2 | 57.23 | 57.23 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 55.66 | 55.66 | ppb | 0.93 | 900.00 | |
| 55 Mn | 45 | 2 | 55.37 | 55.37 | ppb | 0.71 | 900.00 | |
| 56 Fe | 45 | 2 | 5434.00 | 5434.00 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 55.29 | 55.29 | ppb | 0.95 | 900.00 | |
| 60 Ni | 45 | 2 | 55.30 | 55.30 | ppb | 0.88 | 900.00 | |
| 63 Cu | 72 | 2 | 54.57 | 54.57 | ppb | 0.47 | 900.00 | |
| 66 Zn | 72 | 2 | 54.07 | 54.07 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 56.63 | 56.63 | ppb | 0.42 | 900.00 | |
| 78 Se | 72 | 2 | 56.47 | 56.47 | ppb | 0.37 | 900.00 | |
| 88 Sr | 103 | 1 | 60.54 | 60.54 | ppb | 1.85 | 900.00 | |
| 98 Mo | 103 | 1 | 60.45 | 60.45 | ppb | 1.66 | 900.00 | |
| 107 Ag | 115 | 1 | 59.00 | 59.00 | ppb | 0.20 | 900.00 | |
| 111 Cd | 115 | 2 | 56.71 | 56.71 | ppb | 0.36 | 900.00 | |
| 120 Sn | 115 | 1 | 59.77 | 59.77 | ppb | 0.45 | 900.00 | |
| 121 Sb | 115 | 1 | 58.22 | 58.22 | ppb | 0.17 | 900.00 | |
| 137 Ba | 159 | 1 | 56.80 | 56.80 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 55.58 | 55.58 | ppb | 0.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 57.21 | 57.21 | ppb | 1.24 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1981969 | 0.53 | 2032921 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 2558966 | 0.28 | 2621135 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 349799 | 0.75 | 361541 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449671 | 0.20 | 465850 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 125144 | 0.65 | 129632 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 2148757 | 1.22 | 2265009 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 2290635 | 0.46 | 2406660 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 947294 | 0.77 | 1007957 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 2681621 | 0.93 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2474604 | 0.29 | 2515951 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 1475602 | 0.54 | 1560225 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#
Date Acquired: Dec 4 2013 03:17 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 120.42 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 88.00 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 18.98 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 163.32 | 900.00 | |
| 23 Na | 45 | 1 | -0.14 | -0.14 | ppb | 204.55 | 90000.00 | |
| 23 Na | 45 | 2 | -0.44 | -0.44 | ppb | 65.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.01 | 0.01 | ppb | 121.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.07 | 0.07 | ppb | 130.34 | 90000.00 | |
| 27 Al | 45 | 1 | 0.17 | 0.17 | ppb | 18.02 | 90000.00 | |
| 27 Al | 45 | 2 | 0.28 | 0.28 | ppb | 45.13 | 90000.00 | |
| 39 K | 45 | 1 | 0.60 | 0.60 | ppb | 228.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.17 | 0.17 | ppb | 280.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 137.87 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 54.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 65.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 601.13 | 900.00 | |
| 56 Fe | 45 | 2 | 0.13 | 0.13 | ppb | 57.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 186.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 347.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 80.35 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 10.30 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 141.11 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 57.91 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 87.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 107.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 90.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 116.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 93.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 65.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 50.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 18.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 6.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2052759 | 0.64 | 2032921 | 101.0 | 70 - 130 | |
| 45 Sc | 1 | 2591781 | 0.80 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 360171 | 0.97 | 361541 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463015 | 1.17 | 465850 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 128643 | 0.47 | 129632 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 2262188 | 0.51 | 2265009 | 99.9 | 70 | - | 130 |
| 115 In | 1 | 2376453 | 1.12 | 2406660 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 1004542 | 0.49 | 1007957 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 2740250 | 0.51 | 2763118 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 2537605 | 0.23 | 2515951 | 100.9 | 70 | - | 130 |
| 209 Bi | 1 | 1557666 | 0.22 | 1560225 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#
Date Acquired: Dec 4 2013 03:24 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.23 | 49.23 | ppb | 0.23 | 900.00 | |
| 9 Be | 45 | 2 | 48.91 | 48.91 | ppb | 1.05 | 900.00 | |
| 11 B | 6 | 1 | 49.15 | 49.15 | ppb | 0.20 | 900.00 | |
| 11 B | 45 | 2 | 47.53 | 47.53 | ppb | 0.92 | 900.00 | |
| 23 Na | 45 | 1 | 4816.00 | 4816.00 | ppb | 0.85 | 90000.00 | |
| 23 Na | 45 | 2 | 4966.00 | 4966.00 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 4889.00 | 4889.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 4686.00 | 4686.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 4890.00 | 4890.00 | ppb | 0.22 | 90000.00 | |
| 27 Al | 45 | 2 | 4573.00 | 4573.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 4887.00 | 4887.00 | ppb | 0.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 4969.00 | 4969.00 | ppb | 0.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.86 | 48.86 | ppb | 0.19 | 900.00 | |
| 51 V | 45 | 2 | 48.11 | 48.11 | ppb | 0.42 | 900.00 | |
| 52 Cr | 45 | 2 | 47.56 | 47.56 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 47.22 | 47.22 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 4938.00 | 4938.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 46.94 | 46.94 | ppb | 0.51 | 900.00 | |
| 60 Ni | 45 | 2 | 47.29 | 47.29 | ppb | 0.29 | 900.00 | |
| 63 Cu | 72 | 2 | 46.62 | 46.62 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 46.06 | 46.06 | ppb | 0.62 | 900.00 | |
| 75 As | 72 | 2 | 48.25 | 48.25 | ppb | 0.81 | 900.00 | |
| 78 Se | 72 | 2 | 47.54 | 47.54 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 49.35 | 49.35 | ppb | 1.11 | 900.00 | |
| 98 Mo | 103 | 1 | 50.01 | 50.01 | ppb | 1.10 | 900.00 | |
| 107 Ag | 115 | 1 | 49.18 | 49.18 | ppb | 0.25 | 900.00 | |
| 111 Cd | 115 | 2 | 48.06 | 48.06 | ppb | 0.94 | 900.00 | |
| 120 Sn | 115 | 1 | 49.35 | 49.35 | ppb | 0.22 | 900.00 | |
| 121 Sb | 115 | 1 | 49.23 | 49.23 | ppb | 0.10 | 900.00 | |
| 137 Ba | 159 | 1 | 48.33 | 48.33 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 46.66 | 46.66 | ppb | 0.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.19 | 48.19 | ppb | 0.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991610 | 0.11 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2586356 | 0.58 | 2621135 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 353324 | 0.24 | 361541 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451235 | 0.89 | 465850 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 126404 | 0.67 | 129632 | 97.5 | 70 - | 130 |
| 103 | Rh | 1 | 2177443 | 0.83 | 2265009 | 96.1 | 70 - | 130 |
| 115 | In | 1 | 2315668 | 0.77 | 2406660 | 96.2 | 70 - | 130 |
| 115 | In | 2 | 958150 | 1.07 | 1007957 | 95.1 | 70 - | 130 |
| 159 | Tb | 1 | 2692459 | 1.16 | 2763118 | 97.4 | 70 - | 130 |
| 175 | Lu | 1 | 2505237 | 1.07 | 2515951 | 99.6 | 70 - | 130 |
| 209 | Bi | 1 | 1500433 | 0.22 | 1560225 | 96.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D# |
| Date Acquired: | Dec 4 2013 03:33 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2104 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 26.77 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7623.40 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 6.64 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 41.22 | 900.00 | |
| 23 Na | 45 | 1 | -0.18 | -0.18 | ppb | 133.00 | 90000.00 | |
| 23 Na | 45 | 2 | 0.04 | 0.04 | ppb | 1076.20 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.46 | -0.46 | ppb | 4.06 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.26 | -0.26 | ppb | 35.62 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 81.56 | 90000.00 | |
| 27 Al | 45 | 2 | -0.11 | -0.11 | ppb | 80.71 | 90000.00 | |
| 39 K | 45 | 1 | 0.37 | 0.37 | ppb | 182.50 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.19 | -0.19 | ppb | 180.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 57.04 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 24.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 75.99 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 92.21 | 900.00 | |
| 56 Fe | 45 | 2 | -0.25 | -0.25 | ppb | 8.41 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 33.63 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 115.49 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 138.85 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 31.09 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 225.07 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 378.73 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 103.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 26.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 34.46 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 153.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 35.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 368.99 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 40.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.16 | ppb | 4.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 113.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2056894 | 0.84 | 2032921 | 101.2 | 70 - 130 | |
| 45 Sc | 1 | 2571619 | 0.34 | 2621135 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 357661 | 0.44 | 361541 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 462201 | 0.68 | 465850 | 99.2 | 70 - | 130 |
| 72 | Ge | 2 | 128649 | 0.45 | 129632 | 99.2 | 70 - | 130 |
| 103 | Rh | 1 | 2251091 | 0.24 | 2265009 | 99.4 | 70 - | 130 |
| 115 | In | 1 | 2378634 | 0.48 | 2406660 | 98.8 | 70 - | 130 |
| 115 | In | 2 | 1000219 | 0.30 | 1007957 | 99.2 | 70 - | 130 |
| 159 | Tb | 1 | 2712195 | 0.21 | 2763118 | 98.2 | 70 - | 130 |
| 175 | Lu | 1 | 2503498 | 1.26 | 2515951 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 1537976 | 0.48 | 1560225 | 98.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#
Date Acquired: Dec 4 2013 03:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.47 | 0.47 | ppb | 2.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.49 | 0.49 | ppb | 20.23 | 900.00 | |
| 11 B | 6 | 1 | 4.80 | 4.80 | ppb | 1.16 | 900.00 | |
| 11 B | 45 | 2 | 5.01 | 5.01 | ppb | 12.37 | 900.00 | |
| 23 Na | 45 | 1 | 248.00 | 248.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 272.90 | 272.90 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 255.60 | 255.60 | ppb | 0.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 259.20 | 259.20 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 26.45 | 26.45 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 2 | 25.09 | 25.09 | ppb | 2.84 | 90000.00 | |
| 39 K | 45 | 1 | 248.30 | 248.30 | ppb | 0.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 263.40 | 263.40 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 1.04 | ppb | 1.08 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 3.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.96 | 0.96 | ppb | 3.31 | 900.00 | |
| 56 Fe | 45 | 2 | 26.81 | 26.81 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.35 | 900.00 | |
| 60 Ni | 45 | 2 | 1.04 | 1.04 | ppb | 4.63 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 1.17 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 5.99 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 17.10 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 2.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.50 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 2.67 | 900.00 | |
| 120 Sn | 115 | 1 | 5.08 | 5.08 | ppb | 2.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 1.32 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 3.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043726 | 1.38 | 2032921 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 2598882 | 0.48 | 2621135 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 356309 | 0.10 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 463762 | 0.80 | 465850 | 99.6 | 70 - | 130 |
| 72 | Ge | 2 | 128008 | 0.41 | 129632 | 98.7 | 70 - | 130 |
| 103 | Rh | 1 | 2236187 | 0.86 | 2265009 | 98.7 | 70 - | 130 |
| 115 | In | 1 | 2379745 | 0.69 | 2406660 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 992196 | 0.23 | 1007957 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 2732738 | 1.05 | 2763118 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 2508845 | 0.66 | 2515951 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 1530128 | 0.99 | 1560225 | 98.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#
Date Acquired: Dec 4 2013 03:52 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 42.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 214.93 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 11.70 | 900.00 | |
| 11 B | 45 | 2 | 0.33 | 0.33 | ppb | 6.45 | 900.00 | |
| 23 Na | 45 | 1 | 91650.00 | 91650.00 | ppb | 0.18 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93590.00 | 93590.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92970.00 | 92970.00 | ppb | 0.45 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87600.00 | 87600.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 94820.00 | 94820.00 | ppb | 0.73 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 86040.00 | 86040.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 94770.00 | 94770.00 | ppb | 0.73 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 93510.00 | 93510.00 | ppb | 0.37 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1990.00 | 1990.00 | ppb | 0.66 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 12.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 0.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 2.25 | 900.00 | |
| 56 Fe | 45 | 2 | 93130.00 | 93130.00 | ppb | 1.11 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 5.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.45 | 0.45 | ppb | 4.26 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.36 | ppb | 4.68 | 900.00 | |
| 66 Zn | 72 | 2 | 1.90 | 1.90 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 11.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.20 | ppb | 42.49 | 900.00 | |
| 88 Sr | 103 | 1 | 4.92 | 4.92 | ppb | 0.57 | 900.00 | |
| 98 Mo | 103 | 1 | 2052.00 | 2052.00 | ppb | 1.31 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 4.77 | 900.00 | |
| 111 Cd | 115 | 2 | 1.04 | 1.04 | ppb | 8.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 7.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.29 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 5.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 12.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 4.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1823085 | 0.83 | 2032921 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 2499613 | 0.30 | 2621135 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 346519 | 0.49 | 361541 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461114 | 0.34 | 465850 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 125540 | 0.19 | 129632 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 1977667 | 0.16 | 2265009 | 87.3 | 70 | - | 130 |
| 115 In | 1 | 2203651 | 0.38 | 2406660 | 91.6 | 70 | - | 130 |
| 115 In | 2 | 906667 | 0.30 | 1007957 | 90.0 | 70 | - | 130 |
| 159 Tb | 1 | 2704151 | 0.76 | 2763118 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 2530604 | 1.67 | 2515951 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 1371109 | 2.11 | 1560225 | 87.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L04n00.B\018SMPL.D\018SMPL.D# | | |
| **Date Acquired:** | Dec 4 2013 03:59 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSAB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2107 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 04 2013 02:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 22.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2133.50 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.66 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 0.31 | 900.00 | |
| 23 Na | 45 | 1 | 89540.00 | 89540.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 93760.00 | 93760.00 | ppb | 0.73 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 91230.00 | 91230.00 | ppb | 0.59 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87490.00 | 87490.00 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 92680.00 | 92680.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85060.00 | 85060.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 93390.00 | 93390.00 | ppb | 0.38 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92190.00 | 92190.00 | ppb | 0.66 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1949.00 | 1949.00 | ppb | 1.21 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 15.10 | 900.00 | |
| 52 Cr | 45 | 2 | 19.23 | 19.23 | ppb | 0.15 | 900.00 | |
| 55 Mn | 45 | 2 | 18.29 | 18.29 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 93290.00 | 93290.00 | ppb | 1.17 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 17.96 | 17.96 | ppb | 0.29 | 900.00 | |
| 60 Ni | 45 | 2 | 18.23 | 18.23 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 17.09 | 17.09 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 18.42 | 18.42 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 19.31 | 19.31 | ppb | 1.79 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 39.16 | 900.00 | |
| 88 Sr | 103 | 1 | 4.83 | 4.83 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 2007.00 | 2007.00 | ppb | 0.28 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 18.82 | 18.82 | ppb | 1.17 | 900.00 | |
| 111 Cd | 115 | 2 | 19.15 | 19.15 | ppb | 1.49 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 7.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.26 | ppb | 5.41 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 7.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 4561.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 1.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1825454 | 0.20 | 2032921 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 2541382 | 1.19 | 2621135 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 344648 | 0.20 | 361541 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461889 | 1.09 | 465850 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 125346 | 0.28 | 129632 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 2028329 | 0.32 | 2265009 | 89.6 | 70 | - | 130 |
| 115 In | 1 | 2259180 | 0.76 | 2406660 | 93.9 | 70 | - | 130 |
| 115 In | 2 | 910891 | 0.38 | 1007957 | 90.4 | 70 | - | 130 |
| 159 Tb | 1 | 2763431 | 1.20 | 2763118 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 2585590 | 0.51 | 2515951 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 1426243 | 0.91 | 1560225 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#
Date Acquired: Dec 4 2013 04:07 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 26.92 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 85.80 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.02 | ppb | 10.70 | 900.00 | |
| 11 B | 45 | 2 | -0.03 | -0.03 | ppb | 189.73 | 900.00 | |
| 23 Na | 45 | 1 | 7.72 | 7.72 | ppb | 3.89 | 90000.00 | |
| 23 Na | 45 | 2 | 22.34 | 22.34 | ppb | 22.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.38 | 0.38 | ppb | 36.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.80 | 6.80 | ppb | 47.26 | 90000.00 | |
| 27 Al | 45 | 1 | 0.39 | 0.39 | ppb | 23.90 | 90000.00 | |
| 27 Al | 45 | 2 | 4.95 | 4.95 | ppb | 49.68 | 90000.00 | |
| 39 K | 45 | 1 | -8.61 | -8.61 | ppb | 18.41 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.14 | -2.14 | ppb | 5.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 11.20 | 900.00 | |
| 51 V | 45 | 2 | -0.09 | -0.09 | ppb | 14.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 45.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 142.78 | 900.00 | |
| 56 Fe | 45 | 2 | 6.46 | 6.46 | ppb | 42.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 25.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.04 | ppb | 30.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 15.99 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 30.91 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 71.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 95.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 47.37 | 900.00 | |
| 98 Mo | 103 | 1 | 4.97 | 4.97 | ppb | 4.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 10.23 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 945.56 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | -0.01 | ppb | 36.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 35.59 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.02 | ppb | 54.90 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 81.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 46.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2062588 | 0.75 | 2032921 | 101.5 | 70 - 130 | |
| 45 Sc | 1 | 2747381 | 0.69 | 2621135 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 363675 | 0.48 | 361541 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 479498 | 0.65 | 465850 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 132002 | 0.41 | 129632 | 101.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2373233 | 0.80 | 2265009 | 104.8 | 70 | - | 130 |
| 115 | In | 1 | 2538597 | 0.94 | 2406660 | 105.5 | 70 | - | 130 |
| 115 | In | 2 | 1026726 | 0.46 | 1007957 | 101.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2941125 | 0.82 | 2763118 | 106.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2729098 | 0.68 | 2515951 | 108.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1667406 | 0.91 | 1560225 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Dec 4 2013 04:14 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22187-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.01 | ppb | 38.51 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 365.35 | 900.00 | |
| 11 B | 6 | 1 | 0.29 | 0.06 | ppb | 9.46 | 900.00 | |
| 11 B | 45 | 2 | 0.54 | 0.11 | ppb | 60.61 | 900.00 | |
| 23 Na | 45 | 1 | 57.30 | 11.46 | ppb | 2.42 | 90000.00 | |
| 23 Na | 45 | 2 | 85.40 | 17.08 | ppb | 1.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.83 | 1.57 | ppb | 0.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 8.83 | 1.77 | ppb | 3.91 | 90000.00 | |
| 27 Al | 45 | 1 | 19.13 | 3.83 | ppb | 4.49 | 90000.00 | |
| 27 Al | 45 | 2 | 18.82 | 3.76 | ppb | 8.10 | 90000.00 | |
| 39 K | 45 | 1 | -19.81 | -3.96 | ppb | 5.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.12 | 7.02 | ppb | 9.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.64 | 0.33 | ppb | 33.62 | 900.00 | |
| 51 V | 45 | 2 | 3.13 | 0.63 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | -0.36 | -0.07 | ppb | 4.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.88 | 0.18 | ppb | 5.50 | 900.00 | |
| 56 Fe | 45 | 2 | 83.70 | 16.74 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.08 | 0.02 | ppb | 10.95 | 900.00 | |
| 60 Ni | 45 | 2 | -3.45 | -0.69 | ppb | 3.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.71 | 0.14 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.27 | 0.45 | ppb | 5.08 | 900.00 | |
| 75 As | 72 | 2 | 1.10 | 0.22 | ppb | 4.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.01 | ppb | 812.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.23 | 0.05 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 2.83 | 0.57 | ppb | 3.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 56.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 57.62 | 900.00 | |
| 120 Sn | 115 | 1 | 10.04 | 2.01 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.01 | ppb | 36.87 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 0.21 | ppb | 11.81 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 87.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.07 | ppb | 5.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2048522 | 0.82 | 2032921 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2701642 | 0.37 | 2621135 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 357219 | 0.47 | 361541 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 472136 | 0.40 | 465850 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 130768 | 0.26 | 129632 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2342233 | 1.06 | 2265009 | 103.4 | 70 | - | 130 |
| 115 | In | 1 | 2471568 | 0.48 | 2406660 | 102.7 | 70 | - | 130 |
| 115 | In | 2 | 1007247 | 0.34 | 1007957 | 99.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2907583 | 1.94 | 2763118 | 105.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2695153 | 1.91 | 2515951 | 107.1 | 70 | - | 130 |
| 209 | Bi | 1 | 1631895 | 1.03 | 1560225 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D#
Date Acquired: Dec 4 2013 04:21 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC25983-10A
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 816.50 | 163.30 | ppb | 0.40 | 900.00 | |
| 9 Be | 45 | 2 | 750.00 | 150.00 | ppb | 0.89 | 900.00 | |
| 11 B | 6 | 1 | 1571.00 | 314.20 | ppb | 0.51 | 900.00 | |
| 11 B | 45 | 2 | 1290.00 | 258.00 | ppb | 1.90 | 900.00 | |
| 23 Na | 45 | 1 | 3581.50 | 716.30 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 4000.00 | 800.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 24590.00 | 4918.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 24145.00 | 4829.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 67050.00 | 13410.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 61600.00 | 12320.00 | ppb | 0.23 | 90000.00 | |
| 39 K | 45 | 1 | 20860.00 | 4172.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 55100.00 | 11020.00 | ppb | 0.74 | 90000.00 | |
| 47 Ti | 45 | 1 | 3092.50 | 618.50 | ppb | 1.02 | 900.00 | |
| 51 V | 45 | 2 | 825.00 | 165.00 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 1222.00 | 244.40 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 4739.50 | 947.90 | ppb | 1.02 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 140300.00 | 28060.00 | ppb | 1.01 | 90000.00 | |
| 59 Co | 45 | 2 | 1108.50 | 221.70 | ppb | 1.21 | 900.00 | |
| 60 Ni | 45 | 2 | 946.50 | 189.30 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 1022.50 | 204.50 | ppb | 1.21 | 900.00 | |
| 66 Zn | 72 | 2 | 2186.00 | 437.20 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 920.00 | 184.00 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 1280.00 | 256.00 | ppb | 0.84 | 900.00 | |
| 88 Sr | 103 | 1 | 917.00 | 183.40 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 737.50 | 147.50 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 507.00 | 101.40 | ppb | 3.86 | 900.00 | |
| 111 Cd | 115 | 2 | 681.00 | 136.20 | ppb | 0.02 | 900.00 | |
| 120 Sn | 115 | 1 | 1500.50 | 300.10 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | 365.60 | 73.12 | ppb | 0.27 | 900.00 | |
| 137 Ba | 159 | 1 | 3510.50 | 702.10 | ppb | 1.00 | 900.00 | |
| 205 Tl | 209 | 1 | 1780.00 | 356.00 | ppb | 1.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1819.00 | 363.80 | ppb | 1.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1945459 | 0.26 | 2032921 | 95.7 | 70 - 130 | |
| 45 Sc | 1 | 2774879 | 0.64 | 2621135 | 105.9 | 70 - 130 | |
| 45 Sc | 2 | 361484 | 0.65 | 361541 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 454007 | 0.79 | 465850 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 126019 | 0.97 | 129632 | 97.2 | 70 | - | 130 |
| 103 Rh | 1 | 2172160 | 0.76 | 2265009 | 95.9 | 70 | - | 130 |
| 115 In | 1 | 2339339 | 0.44 | 2406660 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 942058 | 0.69 | 1007957 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2843534 | 1.11 | 2763118 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 2621586 | 1.26 | 2515951 | 104.2 | 70 | - | 130 |
| 209 Bi | 1 | 1550263 | 0.85 | 1560225 | 99.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D# |
| Date Acquired: | Dec 4 2013 04:28 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25983-10A |
| Misc Info: | |
| Vial Number: | 2111 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 10.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 10.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 787.70 | 78.77 | ppb | 0.34 | 900.00 | |
| 9 Be | 45 | 2 | 760.00 | 76.00 | ppb | 1.06 | 900.00 | |
| 11 B | 6 | 1 | 1407.00 | 140.70 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 1309.00 | 130.90 | ppb | 1.42 | 900.00 | |
| 23 Na | 45 | 1 | 3733.00 | 373.30 | ppb | 2.12 | 90000.00 | |
| 23 Na | 45 | 2 | 4173.00 | 417.30 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 25670.00 | 2567.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 25410.00 | 2541.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 70170.00 | 7017.00 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 64560.00 | 6456.00 | ppb | 0.62 | 90000.00 | |
| 39 K | 45 | 1 | 21680.00 | 2168.00 | ppb | 1.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 57870.00 | 5787.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 3172.00 | 317.20 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 866.80 | 86.68 | ppb | 0.71 | 900.00 | |
| 52 Cr | 45 | 2 | 1274.00 | 127.40 | ppb | 2.09 | 900.00 | |
| 55 Mn | 45 | 2 | 4989.00 | 498.90 | ppb | 0.37 | 900.00 | |
| 56 Fe | 45 | 2 | 145100.00 | 14510.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 1161.00 | 116.10 | ppb | 1.10 | 900.00 | |
| 60 Ni | 45 | 2 | 968.00 | 96.80 | ppb | 1.46 | 900.00 | |
| 63 Cu | 72 | 2 | 1059.00 | 105.90 | ppb | 0.72 | 900.00 | |
| 66 Zn | 72 | 2 | 2249.00 | 224.90 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 935.80 | 93.58 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | 1323.00 | 132.30 | ppb | 0.26 | 900.00 | |
| 88 Sr | 103 | 1 | 930.30 | 93.03 | ppb | 1.14 | 900.00 | |
| 98 Mo | 103 | 1 | 718.40 | 71.84 | ppb | 0.65 | 900.00 | |
| 107 Ag | 115 | 1 | 520.60 | 52.06 | ppb | 0.28 | 900.00 | |
| 111 Cd | 115 | 2 | 674.10 | 67.41 | ppb | 0.23 | 900.00 | |
| 120 Sn | 115 | 1 | 1498.00 | 149.80 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 357.10 | 35.71 | ppb | 0.23 | 900.00 | |
| 137 Ba | 159 | 1 | 3577.00 | 357.70 | ppb | 1.34 | 900.00 | |
| 205 Tl | 209 | 1 | 1810.00 | 181.00 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1825.00 | 182.50 | ppb | 0.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1977586 | 0.04 | 2032921 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 2698701 | 1.27 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 354186 | 0.54 | 361541 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450313 | 0.73 | 465850 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 125598 | 0.42 | 129632 | 96.9 | 70 | - | 130 |
| 103 Rh | 1 | 2198374 | 0.54 | 2265009 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 2357079 | 0.68 | 2406660 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 954261 | 0.29 | 1007957 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 2804640 | 1.09 | 2763118 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 2569294 | 0.93 | 2515951 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 1560509 | 0.31 | 1560225 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D# |
| Date Acquired: | Dec 4 2013 04:35 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22187-SD1 |
| Misc Info: | |
| Vial Number: | 2112 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 779.00 | 31.16 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 779.00 | 31.16 | ppb | 3.75 | 900.00 | |
| 11 B | 6 | 1 | 1380.00 | 55.20 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 1300.50 | 52.02 | ppb | 2.39 | 900.00 | |
| 23 Na | 45 | 1 | 3932.50 | 157.30 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 4437.50 | 177.50 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 26950.00 | 1078.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 26600.00 | 1064.00 | ppb | 1.47 | 90000.00 | |
| 27 Al | 45 | 1 | 73450.00 | 2938.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 2 | 68375.00 | 2735.00 | ppb | 0.14 | 90000.00 | |
| 39 K | 45 | 1 | 22555.00 | 902.20 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 61825.00 | 2473.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 3292.50 | 131.70 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 881.00 | 35.24 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1311.50 | 52.46 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 5247.50 | 209.90 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 148500.00 | 5940.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 1202.25 | 48.09 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 982.75 | 39.31 | ppb | 1.22 | 900.00 | |
| 63 Cu | 72 | 2 | 1085.75 | 43.43 | ppb | 0.88 | 900.00 | |
| 66 Zn | 72 | 2 | 2329.00 | 93.16 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 948.25 | 37.93 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 1383.75 | 55.35 | ppb | 1.26 | 900.00 | |
| 88 Sr | 103 | 1 | 942.25 | 37.69 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 694.50 | 27.78 | ppb | 0.64 | 900.00 | |
| 107 Ag | 115 | 1 | 524.75 | 20.99 | ppb | 1.01 | 900.00 | |
| 111 Cd | 115 | 2 | 687.25 | 27.49 | ppb | 0.40 | 900.00 | |
| 120 Sn | 115 | 1 | 1514.25 | 60.57 | ppb | 0.11 | 900.00 | |
| 121 Sb | 115 | 1 | 359.50 | 14.38 | ppb | 0.77 | 900.00 | |
| 137 Ba | 159 | 1 | 3622.50 | 144.90 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 1811.50 | 72.46 | ppb | 0.57 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1836.50 | 73.46 | ppb | 0.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2024689 | 0.72 | 2032921 | 99.6 | 70 - 130 | |
| 45 Sc | 1 | 2641375 | 0.24 | 2621135 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 358289 | 1.10 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451376 | 1.34 | 465850 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 127736 | 0.90 | 129632 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 2229899 | 0.61 | 2265009 | 98.4 | 70 - | 130 |
| 115 | In | 1 | 2374222 | 0.80 | 2406660 | 98.7 | 70 - | 130 |
| 115 | In | 2 | 980155 | 0.74 | 1007957 | 97.2 | 70 - | 130 |
| 159 | Tb | 1 | 2774045 | 0.85 | 2763118 | 100.4 | 70 - | 130 |
| 175 | Lu | 1 | 2548539 | 1.11 | 2515951 | 101.3 | 70 - | 130 |
| 209 | Bi | 1 | 1573328 | 0.49 | 1560225 | 100.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 4 2013 04:42 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-SD1
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 788.50 | 15.77 | ppb | 0.53 | 900.00 | |
| 9 Be | 45 | 2 | 785.00 | 15.70 | ppb | 1.33 | 900.00 | |
| 11 B | 6 | 1 | 1377.50 | 27.55 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 1298.00 | 25.96 | ppb | 7.58 | 900.00 | |
| 23 Na | 45 | 1 | 4014.50 | 80.29 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 4509.00 | 90.18 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 1 | 27390.00 | 547.80 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 27905.00 | 558.10 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 74450.00 | 1489.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 71200.00 | 1424.00 | ppb | 0.21 | 90000.00 | |
| 39 K | 45 | 1 | 22380.00 | 447.60 | ppb | 0.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 62700.00 | 1254.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 3341.00 | 66.82 | ppb | 0.51 | 900.00 | |
| 51 V | 45 | 2 | 879.50 | 17.59 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 1323.00 | 26.46 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 5430.00 | 108.60 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 151700.00 | 3034.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 1224.00 | 24.48 | ppb | 0.93 | 900.00 | |
| 60 Ni | 45 | 2 | 987.00 | 19.74 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1088.50 | 21.77 | ppb | 0.83 | 900.00 | |
| 66 Zn | 72 | 2 | 2362.50 | 47.25 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 957.50 | 19.15 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 1359.50 | 27.19 | ppb | 0.61 | 900.00 | |
| 88 Sr | 103 | 1 | 958.50 | 19.17 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 683.50 | 13.67 | ppb | 1.85 | 900.00 | |
| 107 Ag | 115 | 1 | 531.50 | 10.63 | ppb | 0.21 | 900.00 | |
| 111 Cd | 115 | 2 | 688.50 | 13.77 | ppb | 2.69 | 900.00 | |
| 120 Sn | 115 | 1 | 1490.50 | 29.81 | ppb | 0.61 | 900.00 | |
| 121 Sb | 115 | 1 | 363.65 | 7.27 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 3726.00 | 74.52 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 1873.50 | 37.47 | ppb | 0.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1876.50 | 37.53 | ppb | 0.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2065927 | 0.80 | 2032921 | 101.6 | 70 - 130 | |
| 45 Sc | 1 | 2704434 | 0.44 | 2621135 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 359086 | 0.70 | 361541 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469134 | 0.81 | 465850 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 129491 | 0.27 | 129632 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 2290640 | 1.29 | 2265009 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 2433791 | 1.04 | 2406660 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 992632 | 0.44 | 1007957 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 2801775 | 0.19 | 2763118 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 2591319 | 1.16 | 2515951 | 103.0 | 70 | - | 130 |
| 209 Bi | 1 | 1587750 | 0.61 | 1560225 | 101.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 4 2013 04:49 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-B1
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 513.50 | 102.70 | ppb | 1.27 | 900.00 | |
| 9 Be | 45 | 2 | 524.50 | 104.90 | ppb | 1.51 | 900.00 | |
| 11 B | 6 | 1 | 1119.50 | 223.90 | ppb | 1.41 | 900.00 | |
| 11 B | 45 | 2 | 1026.50 | 205.30 | ppb | 0.77 | 900.00 | |
| 23 Na | 45 | 1 | 25095.00 | 5019.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 26895.00 | 5379.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 25400.00 | 5080.00 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 24940.00 | 4988.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 2175.50 | 435.10 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 2 | 2153.50 | 430.70 | ppb | 1.36 | 90000.00 | |
| 39 K | 45 | 1 | 25880.00 | 5176.00 | ppb | 1.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 25805.00 | 5161.00 | ppb | 1.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.00 | 101.60 | ppb | 1.39 | 900.00 | |
| 51 V | 45 | 2 | 522.50 | 104.50 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 509.50 | 101.90 | ppb | 1.70 | 900.00 | |
| 55 Mn | 45 | 2 | 488.95 | 97.79 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 2318.50 | 463.70 | ppb | 3.66 | 90000.00 | |
| 59 Co | 45 | 2 | 510.50 | 102.10 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 505.50 | 101.10 | ppb | 0.62 | 900.00 | |
| 63 Cu | 72 | 2 | 509.50 | 101.90 | ppb | 0.95 | 900.00 | |
| 66 Zn | 72 | 2 | 507.00 | 101.40 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 536.50 | 107.30 | ppb | 0.95 | 900.00 | |
| 78 Se | 72 | 2 | 512.00 | 102.40 | ppb | 0.94 | 900.00 | |
| 88 Sr | 103 | 1 | 520.00 | 104.00 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 512.00 | 102.40 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 204.00 | 40.80 | ppb | 0.79 | 900.00 | |
| 111 Cd | 115 | 2 | 512.00 | 102.40 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | 985.00 | 197.00 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 518.50 | 103.70 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 1992.50 | 398.50 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 494.35 | 98.87 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1003.00 | 200.60 | ppb | 1.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1979554 | 1.05 | 2032921 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 2600288 | 1.69 | 2621135 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 347497 | 1.26 | 361541 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444985 | 1.13 | 465850 | 95.5 | 70 | - | 130 |
| 72 Ge | 2 | 125167 | 1.05 | 129632 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 2156541 | 0.82 | 2265009 | 95.2 | 70 | - | 130 |
| 115 In | 1 | 2322345 | 0.44 | 2406660 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 961460 | 0.63 | 1007957 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 2771690 | 1.40 | 2763118 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 2582538 | 0.99 | 2515951 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 1511806 | 1.32 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 4 2013 04:56 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.80 | 50.80 | ppb | 0.52 | 900.00 | |
| 9 Be | 45 | 2 | 50.64 | 50.64 | ppb | 1.66 | 900.00 | |
| 11 B | 6 | 1 | 53.63 | 53.63 | ppb | 1.17 | 900.00 | |
| 11 B | 45 | 2 | 51.03 | 51.03 | ppb | 1.37 | 900.00 | |
| 23 Na | 45 | 1 | 4687.00 | 4687.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 5050.00 | 5050.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 4763.00 | 4763.00 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 4697.00 | 4697.00 | ppb | 1.42 | 90000.00 | |
| 27 Al | 45 | 1 | 4771.00 | 4771.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 4519.00 | 4519.00 | ppb | 2.77 | 90000.00 | |
| 39 K | 45 | 1 | 4857.00 | 4857.00 | ppb | 1.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5012.00 | 5012.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.05 | 48.05 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 47.94 | 47.94 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 47.87 | 47.87 | ppb | 0.97 | 900.00 | |
| 55 Mn | 45 | 2 | 47.82 | 47.82 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 4903.00 | 4903.00 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 47.76 | 47.76 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 48.35 | 48.35 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 47.11 | 47.11 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 46.29 | 46.29 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 47.82 | 47.82 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 47.54 | 47.54 | ppb | 1.00 | 900.00 | |
| 88 Sr | 103 | 1 | 51.81 | 51.81 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 50.89 | 50.89 | ppb | 0.98 | 900.00 | |
| 107 Ag | 115 | 1 | 48.99 | 48.99 | ppb | 0.59 | 900.00 | |
| 111 Cd | 115 | 2 | 48.67 | 48.67 | ppb | 2.37 | 900.00 | |
| 120 Sn | 115 | 1 | 49.15 | 49.15 | ppb | 0.58 | 900.00 | |
| 121 Sb | 115 | 1 | 48.96 | 48.96 | ppb | 0.33 | 900.00 | |
| 137 Ba | 159 | 1 | 48.46 | 48.46 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 47.57 | 47.57 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.02 | 48.02 | ppb | 1.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1999298 | 0.25 | 2032921 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2666216 | 0.80 | 2621135 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 351559 | 1.08 | 361541 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 449166 | 1.23 | 465850 | 96.4 | 70 | - | 130 |
| 72 | Ge | 2 | 126448 | 1.28 | 129632 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2136992 | 1.06 | 2265009 | 94.3 | 70 | - | 130 |
| 115 | In | 1 | 2318740 | 1.23 | 2406660 | 96.3 | 70 | - | 130 |
| 115 | In | 2 | 972200 | 0.98 | 1007957 | 96.5 | 70 | - | 130 |
| 159 | Tb | 1 | 2685740 | 0.90 | 2763118 | 97.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2498937 | 2.15 | 2515951 | 99.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1452818 | 0.41 | 1560225 | 93.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#
Date Acquired: Dec 4 2013 05:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 12.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 193.59 | 900.00 | |
| 11 B | 6 | 1 | 0.65 | 0.65 | ppb | 2.81 | 900.00 | |
| 11 B | 45 | 2 | 0.69 | 0.69 | ppb | 5.08 | 900.00 | |
| 23 Na | 45 | 1 | 1.76 | 1.76 | ppb | 13.08 | 90000.00 | |
| 23 Na | 45 | 2 | 6.55 | 6.55 | ppb | 10.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.14 | 0.14 | ppb | 33.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.92 | 0.92 | ppb | 38.71 | 90000.00 | |
| 27 Al | 45 | 1 | 0.05 | 0.05 | ppb | 30.50 | 90000.00 | |
| 27 Al | 45 | 2 | 0.46 | 0.46 | ppb | 24.51 | 90000.00 | |
| 39 K | 45 | 1 | -1.48 | -1.48 | ppb | 73.93 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.94 | -1.94 | ppb | 21.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 39.69 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 7.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 205.17 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 37.40 | 900.00 | |
| 56 Fe | 45 | 2 | 0.59 | 0.59 | ppb | 42.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 37.03 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 9.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 93.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 77.04 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 729.08 | 900.00 | |
| 78 Se | 72 | 2 | -0.18 | -0.18 | ppb | 17.64 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 46.90 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 7.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 684.57 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 151.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 10.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 6.83 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 57.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 0.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 141.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2063440 | 0.67 | 2032921 | 101.5 | 70 - 130 | |
| 45 Sc | 1 | 2606869 | 1.01 | 2621135 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 350595 | 0.48 | 361541 | 97.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456610 | 0.75 | 465850 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 127504 | 0.57 | 129632 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 2221125 | 0.45 | 2265009 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 2363043 | 0.58 | 2406660 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 985417 | 0.71 | 1007957 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 2742451 | 0.64 | 2763118 | 99.3 | 70 | - | 130 |
| 175 Lu | 1 | 2547084 | 1.05 | 2515951 | 101.2 | 70 | - | 130 |
| 209 Bi | 1 | 1570995 | 1.05 | 1560225 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D# | | |
| **Date Acquired:** | Dec 4 2013 05:11 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP22187-S1 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2205 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 04 2013 02:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1350.00 | 135.00 | ppb | 1.06 | 900.00 | |
| 9 Be | 45 | 2 | 1264.00 | 126.40 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 2777.00 | 277.70 | ppb | 1.03 | 900.00 | |
| 11 B | 45 | 2 | 2341.00 | 234.10 | ppb | 1.64 | 900.00 | |
| 23 Na | 45 | 1 | 27830.00 | 2783.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 29360.00 | 2936.00 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 50980.00 | 5098.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 49260.00 | 4926.00 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 1 | 80870.00 | 8087.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 73920.00 | 7392.00 | ppb | 0.37 | 90000.00 | |
| 39 K | 45 | 1 | 46600.00 | 4660.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 81920.00 | 8192.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 3811.00 | 381.10 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 1371.00 | 137.10 | ppb | 0.67 | 900.00 | |
| 52 Cr | 45 | 2 | 1770.00 | 177.00 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 5289.00 | 528.90 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 148600.00 | 14860.00 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 1643.00 | 164.30 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 1456.00 | 145.60 | ppb | 1.20 | 900.00 | |
| 63 Cu | 72 | 2 | 1561.00 | 156.10 | ppb | 0.68 | 900.00 | |
| 66 Zn | 72 | 2 | 2780.00 | 278.00 | ppb | 0.06 | 900.00 | |
| 75 As | 72 | 2 | 1482.00 | 148.20 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 1809.00 | 180.90 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 1454.00 | 145.40 | ppb | 0.62 | 900.00 | |
| 98 Mo | 103 | 1 | 1252.00 | 125.20 | ppb | 0.32 | 900.00 | |
| 107 Ag | 115 | 1 | 745.80 | 74.58 | ppb | 1.16 | 900.00 | |
| 111 Cd | 115 | 2 | 1198.00 | 119.80 | ppb | 1.12 | 900.00 | |
| 120 Sn | 115 | 1 | 2510.00 | 251.00 | ppb | 0.79 | 900.00 | |
| 121 Sb | 115 | 1 | 655.00 | 65.50 | ppb | 0.67 | 900.00 | |
| 137 Ba | 159 | 1 | 5630.00 | 563.00 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 2303.00 | 230.30 | ppb | 0.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 2810.00 | 281.00 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991462 | 0.72 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2720803 | 0.40 | 2621135 | 103.8 | 70 - 130 | |
| 45 Sc | 2 | 360573 | 0.48 | 361541 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 453710 | 0.39 | 465850 | 97.4 | 70 - | 130 |
| 72 | Ge | 2 | 126943 | 0.21 | 129632 | 97.9 | 70 - | 130 |
| 103 | Rh | 1 | 2170010 | 0.53 | 2265009 | 95.8 | 70 - | 130 |
| 115 | In | 1 | 2311924 | 0.84 | 2406660 | 96.1 | 70 - | 130 |
| 115 | In | 2 | 945884 | 0.80 | 1007957 | 93.8 | 70 - | 130 |
| 159 | Tb | 1 | 2754334 | 0.88 | 2763118 | 99.7 | 70 - | 130 |
| 175 | Lu | 1 | 2575586 | 1.03 | 2515951 | 102.4 | 70 - | 130 |
| 209 | Bi | 1 | 1510055 | 0.66 | 1560225 | 96.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 4 2013 05:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-S2
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1373.00 | 137.30 | ppb | 0.70 | 900.00 | |
| 9 Be | 45 | 2 | 1308.00 | 130.80 | ppb | 0.97 | 900.00 | |
| 11 B | 6 | 1 | 2813.00 | 281.30 | ppb | 0.23 | 900.00 | |
| 11 B | 45 | 2 | 2427.00 | 242.70 | ppb | 1.29 | 900.00 | |
| 23 Na | 45 | 1 | 28910.00 | 2891.00 | ppb | 0.90 | 90000.00 | |
| 23 Na | 45 | 2 | 30500.00 | 3050.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 53020.00 | 5302.00 | ppb | 0.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 51380.00 | 5138.00 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 85270.00 | 8527.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 2 | 78130.00 | 7813.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 48480.00 | 4848.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 83310.00 | 8331.00 | ppb | 0.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 4015.00 | 401.50 | ppb | 0.27 | 900.00 | |
| 51 V | 45 | 2 | 1435.00 | 143.50 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1823.00 | 182.30 | ppb | 0.75 | 900.00 | |
| 55 Mn | 45 | 2 | 5536.00 | 553.60 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 154000.00 | 15400.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 1708.00 | 170.80 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1514.00 | 151.40 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1597.00 | 159.70 | ppb | 0.70 | 900.00 | |
| 66 Zn | 72 | 2 | 2854.00 | 285.40 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 1511.00 | 151.10 | ppb | 0.52 | 900.00 | |
| 78 Se | 72 | 2 | 1860.00 | 186.00 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 1513.00 | 151.30 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 1294.00 | 129.40 | ppb | 0.67 | 900.00 | |
| 107 Ag | 115 | 1 | 766.20 | 76.62 | ppb | 0.39 | 900.00 | |
| 111 Cd | 115 | 2 | 1255.00 | 125.50 | ppb | 0.10 | 900.00 | |
| 120 Sn | 115 | 1 | 2583.00 | 258.30 | ppb | 0.49 | 900.00 | |
| 121 Sb | 115 | 1 | 678.70 | 67.87 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 5772.00 | 577.20 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 2403.00 | 240.30 | ppb | 0.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 2907.00 | 290.70 | ppb | 0.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2005928 | 0.95 | 2032921 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 2700438 | 0.08 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 358144 | 0.58 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455175 | 0.64 | 465850 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 126804 | 0.31 | 129632 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 2158879 | 0.44 | 2265009 | 95.3 | 70 | - | 130 |
| 115 In | 1 | 2319058 | 0.40 | 2406660 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 938854 | 0.34 | 1007957 | 93.1 | 70 | - | 130 |
| 159 Tb | 1 | 2761527 | 0.48 | 2763118 | 99.9 | 70 | - | 130 |
| 175 Lu | 1 | 2540929 | 0.21 | 2515951 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 1511928 | 0.50 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 4 2013 05:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-LC1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 582.80 | 58.28 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 571.00 | 57.10 | ppb | 0.59 | 900.00 | |
| 11 B | 6 | 1 | 1021.00 | 102.10 | ppb | 0.74 | 900.00 | |
| 11 B | 45 | 2 | 936.50 | 93.65 | ppb | 3.49 | 900.00 | |
| 23 Na | 45 | 1 | 6628.00 | 662.80 | ppb | 1.50 | 90000.00 | |
| 23 Na | 45 | 2 | 7318.00 | 731.80 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 1 | 29790.00 | 2979.00 | ppb | 1.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 29330.00 | 2933.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 1 | 70650.00 | 7065.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 64600.00 | 6460.00 | ppb | 0.06 | 90000.00 | |
| 39 K | 45 | 1 | 37280.00 | 3728.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 65280.00 | 6528.00 | ppb | 1.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 1921.00 | 192.10 | ppb | 1.40 | 900.00 | |
| 51 V | 45 | 2 | 536.70 | 53.67 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 708.30 | 70.83 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 2838.00 | 283.80 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 120900.00 | 12090.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 1039.00 | 103.90 | ppb | 3.38 | 900.00 | |
| 60 Ni | 45 | 2 | 601.10 | 60.11 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 839.70 | 83.97 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 1435.00 | 143.50 | ppb | 0.40 | 900.00 | |
| 75 As | 72 | 2 | 998.80 | 99.88 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | 1753.00 | 175.30 | ppb | 0.79 | 900.00 | |
| 88 Sr | 103 | 1 | 737.70 | 73.77 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 431.40 | 43.14 | ppb | 0.33 | 900.00 | |
| 107 Ag | 115 | 1 | 368.20 | 36.82 | ppb | 0.48 | 900.00 | |
| 111 Cd | 115 | 2 | 676.10 | 67.61 | ppb | 0.83 | 900.00 | |
| 120 Sn | 115 | 1 | 1078.00 | 107.80 | ppb | 0.53 | 900.00 | |
| 121 Sb | 115 | 1 | 505.80 | 50.58 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 1714.00 | 171.40 | ppb | 0.42 | 900.00 | |
| 205 Tl | 209 | 1 | 1263.00 | 126.30 | ppb | 2.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 961.70 | 96.17 | ppb | 0.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1998832 | 1.02 | 2032921 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2700737 | 0.63 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 353054 | 1.62 | 361541 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444528 | 1.33 | 465850 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 124317 | 0.63 | 129632 | 95.9 | 70 | - | 130 |
| 103 Rh | 1 | 2182569 | 0.42 | 2265009 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 2320013 | 0.48 | 2406660 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 942562 | 0.92 | 1007957 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2728825 | 0.69 | 2763118 | 98.8 | 70 | - | 130 |
| 175 Lu | 1 | 2525272 | 0.78 | 2515951 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 1527577 | 1.00 | 1560225 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 4 2013 05:45 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 2.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 20.51 | 900.00 | |
| 11 B | 6 | 1 | 5.30 | 5.30 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 4.39 | 4.39 | ppb | 3.73 | 900.00 | |
| 23 Na | 45 | 1 | 248.60 | 248.60 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 278.10 | 278.10 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 253.90 | 253.90 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.50 | 258.50 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 26.56 | 26.56 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 24.91 | 24.91 | ppb | 1.40 | 90000.00 | |
| 39 K | 45 | 1 | 242.90 | 242.90 | ppb | 1.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 262.70 | 262.70 | ppb | 1.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 1.07 | ppb | 2.18 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 2.00 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 1.01 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 27.87 | 27.87 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 1.12 | 1.12 | ppb | 2.66 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 1.99 | 900.00 | |
| 66 Zn | 72 | 2 | 1.92 | 1.92 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 4.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.49 | 0.49 | ppb | 15.78 | 900.00 | |
| 88 Sr | 103 | 1 | 5.08 | 5.08 | ppb | 1.80 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 3.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 0.13 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 2.85 | 900.00 | |
| 120 Sn | 115 | 1 | 5.37 | 5.37 | ppb | 10.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 3.88 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 4.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.63 | 0.63 | ppb | 1.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2049779 | 0.19 | 2032921 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2657825 | 0.61 | 2621135 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 358401 | 0.91 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463963 | 1.05 | 465850 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 128905 | 0.67 | 129632 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 2246289 | 0.69 | 2265009 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 2411355 | 0.96 | 2406660 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 993033 | 0.40 | 1007957 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 2755013 | 0.76 | 2763118 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 2555576 | 0.78 | 2515951 | 101.6 | 70 | - | 130 |
| 209 Bi | 1 | 1562615 | 0.33 | 1560225 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#
Date Acquired: Dec 4 2013 05:54 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.23 | 50.23 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 47.70 | 47.70 | ppb | 8.40 | 900.00 | |
| 11 B | 6 | 1 | 50.42 | 50.42 | ppb | 1.06 | 900.00 | |
| 11 B | 45 | 2 | 46.33 | 46.33 | ppb | 3.05 | 900.00 | |
| 23 Na | 45 | 1 | 4804.00 | 4804.00 | ppb | 0.26 | 90000.00 | |
| 23 Na | 45 | 2 | 4871.00 | 4871.00 | ppb | 6.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 4852.00 | 4852.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 4508.00 | 4508.00 | ppb | 5.97 | 90000.00 | |
| 27 Al | 45 | 1 | 4859.00 | 4859.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 4310.00 | 4310.00 | ppb | 5.50 | 90000.00 | |
| 39 K | 45 | 1 | 4910.00 | 4910.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 4997.00 | 4997.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.56 | 48.56 | ppb | 1.07 | 900.00 | |
| 51 V | 45 | 2 | 46.50 | 46.50 | ppb | 6.65 | 900.00 | |
| 52 Cr | 45 | 2 | 46.32 | 46.32 | ppb | 6.82 | 900.00 | |
| 55 Mn | 45 | 2 | 45.63 | 45.63 | ppb | 6.61 | 900.00 | |
| 56 Fe | 45 | 2 | 4827.00 | 4827.00 | ppb | 6.29 | 90000.00 | |
| 59 Co | 45 | 2 | 46.44 | 46.44 | ppb | 7.07 | 900.00 | |
| 60 Ni | 45 | 2 | 46.32 | 46.32 | ppb | 6.73 | 900.00 | |
| 63 Cu | 72 | 2 | 46.35 | 46.35 | ppb | 3.54 | 900.00 | |
| 66 Zn | 72 | 2 | 45.55 | 45.55 | ppb | 4.15 | 900.00 | |
| 75 As | 72 | 2 | 47.36 | 47.36 | ppb | 3.76 | 900.00 | |
| 78 Se | 72 | 2 | 46.18 | 46.18 | ppb | 3.86 | 900.00 | |
| 88 Sr | 103 | 1 | 50.75 | 50.75 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 50.13 | 50.13 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 48.91 | 48.91 | ppb | 0.24 | 900.00 | |
| 111 Cd | 115 | 2 | 47.30 | 47.30 | ppb | 4.78 | 900.00 | |
| 120 Sn | 115 | 1 | 49.57 | 49.57 | ppb | 0.19 | 900.00 | |
| 121 Sb | 115 | 1 | 49.45 | 49.45 | ppb | 0.64 | 900.00 | |
| 137 Ba | 159 | 1 | 48.18 | 48.18 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 46.89 | 46.89 | ppb | 1.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.46 | 48.46 | ppb | 1.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1992005 | 0.56 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2645986 | 0.92 | 2621135 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 360100 | 6.07 | 361541 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455222 | 1.24 | 465850 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 127264 | 3.15 | 129632 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 2182131 | 0.38 | 2265009 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 2336685 | 0.78 | 2406660 | 97.1 | 70 | - | 130 |
| 115 In | 2 | 961802 | 2.68 | 1007957 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 2749843 | 0.32 | 2763118 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 2530533 | 0.92 | 2515951 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 1507627 | 1.69 | 1560225 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#
Date Acquired: Dec 4 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.41 | 50.41 | ppb | 0.47 | 900.00 | |
| 9 Be | 45 | 2 | 49.88 | 49.88 | ppb | 0.09 | 900.00 | |
| 11 B | 6 | 1 | 50.99 | 50.99 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 47.77 | 47.77 | ppb | 4.33 | 900.00 | |
| 23 Na | 45 | 1 | 4851.00 | 4851.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5051.00 | 5051.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 4893.00 | 4893.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 4691.00 | 4691.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4878.00 | 4878.00 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 4477.00 | 4477.00 | ppb | 1.06 | 90000.00 | |
| 39 K | 45 | 1 | 4918.00 | 4918.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 5020.00 | 5020.00 | ppb | 1.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.50 | 48.50 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 48.34 | 48.34 | ppb | 0.69 | 900.00 | |
| 52 Cr | 45 | 2 | 48.25 | 48.25 | ppb | 0.18 | 900.00 | |
| 55 Mn | 45 | 2 | 47.23 | 47.23 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 4984.00 | 4984.00 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 47.89 | 47.89 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 48.08 | 48.08 | ppb | 0.94 | 900.00 | |
| 63 Cu | 72 | 2 | 46.89 | 46.89 | ppb | 0.80 | 900.00 | |
| 66 Zn | 72 | 2 | 46.11 | 46.11 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 47.92 | 47.92 | ppb | 0.35 | 900.00 | |
| 78 Se | 72 | 2 | 47.05 | 47.05 | ppb | 0.83 | 900.00 | |
| 88 Sr | 103 | 1 | 51.12 | 51.12 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 50.18 | 50.18 | ppb | 0.34 | 900.00 | |
| 107 Ag | 115 | 1 | 49.07 | 49.07 | ppb | 0.86 | 900.00 | |
| 111 Cd | 115 | 2 | 48.38 | 48.38 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 49.71 | 49.71 | ppb | 0.44 | 900.00 | |
| 121 Sb | 115 | 1 | 49.47 | 49.47 | ppb | 0.59 | 900.00 | |
| 137 Ba | 159 | 1 | 47.90 | 47.90 | ppb | 0.28 | 900.00 | |
| 205 Tl | 209 | 1 | 46.97 | 46.97 | ppb | 0.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.44 | 48.44 | ppb | 0.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982620 | 0.37 | 2032921 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 2615387 | 0.54 | 2621135 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 348897 | 0.74 | 361541 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451029 | 0.58 | 465850 | 96.8 | 70 - | 130 |
| 72 | Ge | 2 | 125431 | 0.53 | 129632 | 96.8 | 70 - | 130 |
| 103 | Rh | 1 | 2157787 | 0.19 | 2265009 | 95.3 | 70 - | 130 |
| 115 | In | 1 | 2303074 | 0.85 | 2406660 | 95.7 | 70 - | 130 |
| 115 | In | 2 | 938940 | 0.55 | 1007957 | 93.2 | 70 - | 130 |
| 159 | Tb | 1 | 2712461 | 0.68 | 2763118 | 98.2 | 70 - | 130 |
| 175 | Lu | 1 | 2503204 | 1.03 | 2515951 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 1485939 | 0.22 | 1560225 | 95.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#
Date Acquired: Dec 4 2013 06:12 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 148.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 82.20 | 900.00 | |
| 11 B | 6 | 1 | 0.43 | 0.43 | ppb | 5.09 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 27.14 | 900.00 | |
| 23 Na | 45 | 1 | 0.59 | 0.59 | ppb | 60.46 | 90000.00 | |
| 23 Na | 45 | 2 | 6.08 | 6.08 | ppb | 3.92 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.18 | -0.18 | ppb | 19.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.74 | 0.74 | ppb | 43.80 | 90000.00 | |
| 27 Al | 45 | 1 | -0.24 | -0.24 | ppb | 30.00 | 90000.00 | |
| 27 Al | 45 | 2 | 0.33 | 0.33 | ppb | 76.82 | 90000.00 | |
| 39 K | 45 | 1 | -3.10 | -3.10 | ppb | 37.16 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.40 | -3.40 | ppb | 17.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 464.13 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 42.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.03 | ppb | 17.10 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 80.07 | 900.00 | |
| 56 Fe | 45 | 2 | 0.85 | 0.85 | ppb | 51.12 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 33.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.09 | ppb | 14.88 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 11.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 133.32 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 68.78 | 900.00 | |
| 78 Se | 72 | 2 | -0.09 | -0.09 | ppb | 132.14 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 105.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 24.29 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 121.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 28.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 42.57 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 240.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 6.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 22.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2030101 | 0.39 | 2032921 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2602154 | 0.70 | 2621135 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 350079 | 0.35 | 361541 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 452621 | 0.71 | 465850 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 126521 | 0.61 | 129632 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2212695 | 1.21 | 2265009 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 2346036 | 1.25 | 2406660 | 97.5 | 70 | - | 130 |
| 115 In | 2 | 976170 | 0.58 | 1007957 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 2680712 | 0.80 | 2763118 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 2464794 | 1.32 | 2515951 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 1514979 | 0.88 | 1560225 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 4 2013 06:19 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-MB1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 64.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 364.80 | 900.00 | |
| 11 B | 6 | 1 | 0.97 | 0.49 | ppb | 67.37 | 900.00 | |
| 11 B | 45 | 2 | 0.42 | 0.21 | ppb | 96.40 | 900.00 | |
| 23 Na | 45 | 1 | 15.26 | 7.63 | ppb | 3.42 | 90000.00 | |
| 23 Na | 45 | 2 | 30.38 | 15.19 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.97 | -0.49 | ppb | 2.65 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.64 | -0.32 | ppb | 14.35 | 90000.00 | |
| 27 Al | 45 | 1 | 1.38 | 0.69 | ppb | 5.62 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 0.68 | ppb | 17.15 | 90000.00 | |
| 39 K | 45 | 1 | 10.23 | 5.11 | ppb | 37.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.65 | 0.83 | ppb | 82.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.10 | ppb | 5.53 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.23 | ppb | 1.70 | 900.00 | |
| 52 Cr | 45 | 2 | -0.21 | -0.10 | ppb | 7.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.13 | ppb | 11.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5.48 | 2.74 | ppb | 1.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 424.71 | 900.00 | |
| 60 Ni | 45 | 2 | -1.80 | -0.90 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.07 | ppb | 5.13 | 900.00 | |
| 66 Zn | 72 | 2 | 1.99 | 1.00 | ppb | 3.47 | 900.00 | |
| 75 As | 72 | 2 | 0.73 | 0.37 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | -0.36 | -0.18 | ppb | 93.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 11.31 | 900.00 | |
| 98 Mo | 103 | 1 | -0.21 | -0.11 | ppb | 12.23 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 26.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 173.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 32.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 27.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.30 | 0.15 | ppb | 8.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 16.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1933453 | 0.61 | 2032921 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 2511126 | 0.67 | 2621135 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 330794 | 0.09 | 361541 | 91.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 445847 | 0.29 | 465850 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 121674 | 0.44 | 129632 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 2145885 | 0.85 | 2265009 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 2278165 | 0.21 | 2406660 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 935794 | 0.43 | 1007957 | 92.8 | 70 | - | 130 |
| 159 Tb | 1 | 2679946 | 1.24 | 2763118 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 2492587 | 0.93 | 2515951 | 99.1 | 70 | - | 130 |
| 209 Bi | 1 | 1505386 | 1.61 | 1560225 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#
**Date Acquired:** Dec 4 2013 06:26 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-2F
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 773.74 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 152.11 | 900.00 | |
| 11 B | 6 | 1 | 44.99 | 4.50 | ppb | 19.54 | 900.00 | |
| 11 B | 45 | 2 | 38.48 | 3.85 | ppb | 9.38 | 900.00 | |
| 23 Na | 45 | 1 | 14660.00 | 1466.00 | ppb | 26.62 | 90000.00 | |
| 23 Na | 45 | 2 | 14550.00 | 1455.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 2896.00 | 289.60 | ppb | 26.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 2768.00 | 276.80 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 3.71 | 0.37 | ppb | 90.07 | 90000.00 | |
| 27 Al | 45 | 2 | 4.28 | 0.43 | ppb | 15.62 | 90000.00 | |
| 39 K | 45 | 1 | 5158.00 | 515.80 | ppb | 33.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 25740.00 | 2574.00 | ppb | 28.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.18 | ppb | 43.82 | 900.00 | |
| 51 V | 45 | 2 | -1.32 | -0.13 | ppb | 12.29 | 900.00 | |
| 52 Cr | 45 | 2 | -2.05 | -0.21 | ppb | 1.24 | 900.00 | |
| 55 Mn | 45 | 2 | 2254.00 | 225.40 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 58890.00 | 5889.00 | ppb | 0.21 | 90000.00 | |
| 59 Co | 45 | 2 | 8.40 | 0.84 | ppb | 1.61 | 900.00 | |
| 60 Ni | 45 | 2 | -2.44 | -0.24 | ppb | 9.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.19 | 0.02 | ppb | 46.87 | 900.00 | |
| 66 Zn | 72 | 2 | 11.25 | 1.13 | ppb | 2.50 | 900.00 | |
| 75 As | 72 | 2 | 431.90 | 43.19 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | -0.91 | -0.09 | ppb | 151.95 | 900.00 | |
| 88 Sr | 103 | 1 | 102.90 | 10.29 | ppb | 30.08 | 900.00 | |
| 98 Mo | 103 | 1 | -1.19 | -0.12 | ppb | 13.43 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | 0.00 | ppb | 27.94 | 900.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 180.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.01 | ppb | 171.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.02 | ppb | 76.75 | 900.00 | |
| 137 Ba | 159 | 1 | 43.17 | 4.32 | ppb | 32.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.69 | 0.07 | ppb | 38.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | -0.01 | ppb | 91.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975551 | 19.21 | 2032921 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 2539682 | 27.10 | 2621135 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 349052 | 0.44 | 361541 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 452268 | 21.46 | 465850 | 97.1 | 70 | - | 130 |
| 72 | Ge | 2 | 127612 | 0.40 | 129632 | 98.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2097283 | 29.12 | 2265009 | 92.6 | 70 | - | 130 |
| 115 | In | 1 | 2269337 | 28.77 | 2406660 | 94.3 | 70 | - | 130 |
| 115 | In | 2 | 966702 | 0.61 | 1007957 | 95.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2621200 | 29.83 | 2763118 | 94.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2403366 | 29.22 | 2515951 | 95.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1486353 | 23.18 | 1560225 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 4 2013 06:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-3F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 358.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.01 | ppb | 218.15 | 900.00 | |
| 11 B | 6 | 1 | 45.28 | 4.53 | ppb | 1.41 | 900.00 | |
| 11 B | 45 | 2 | 41.10 | 4.11 | ppb | 4.73 | 900.00 | |
| 23 Na | 45 | 1 | 14120.00 | 1412.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 14950.00 | 1495.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 2781.00 | 278.10 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 2824.00 | 282.40 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 4.11 | 0.41 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 6.10 | 0.61 | ppb | 8.38 | 90000.00 | |
| 39 K | 45 | 1 | 4875.00 | 487.50 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 24810.00 | 2481.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.75 | 0.18 | ppb | 18.90 | 900.00 | |
| 51 V | 45 | 2 | -1.38 | -0.14 | ppb | 0.91 | 900.00 | |
| 52 Cr | 45 | 2 | -2.04 | -0.20 | ppb | 2.19 | 900.00 | |
| 55 Mn | 45 | 2 | 2318.00 | 231.80 | ppb | 1.76 | 900.00 | |
| 56 Fe | 45 | 2 | 60530.00 | 6053.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 8.45 | 0.85 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | -2.74 | -0.27 | ppb | 10.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.01 | ppb | 26.87 | 900.00 | |
| 66 Zn | 72 | 2 | 10.89 | 1.09 | ppb | 3.17 | 900.00 | |
| 75 As | 72 | 2 | 444.40 | 44.44 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.84 | -0.08 | ppb | 77.90 | 900.00 | |
| 88 Sr | 103 | 1 | 98.05 | 9.81 | ppb | 2.03 | 900.00 | |
| 98 Mo | 103 | 1 | -1.27 | -0.13 | ppb | 1.31 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 27.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 1990.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 62.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.01 | ppb | 26.87 | 900.00 | |
| 137 Ba | 159 | 1 | 41.53 | 4.15 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.60 | 0.06 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | 0.00 | ppb | 62.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2007490 | 0.25 | 2032921 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 2593607 | 0.70 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 348224 | 1.00 | 361541 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457469 | 1.05 | 465850 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 126791 | 0.66 | 129632 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 2162380 | 1.04 | 2265009 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 2329336 | 1.07 | 2406660 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 965639 | 0.47 | 1007957 | 95.8 | 70 | - | 130 |
| 159 Tb | 1 | 2672196 | 0.85 | 2763118 | 96.7 | 70 | - | 130 |
| 175 Lu | 1 | 2452473 | 0.72 | 2515951 | 97.5 | 70 | - | 130 |
| 209 Bi | 1 | 1487865 | 1.45 | 1560225 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 4 2013 06:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-4F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 141.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.01 | ppb | 80.83 | 900.00 | |
| 11 B | 6 | 1 | 59.59 | 5.96 | ppb | 3.01 | 900.00 | |
| 11 B | 45 | 2 | 55.71 | 5.57 | ppb | 7.04 | 900.00 | |
| 23 Na | 45 | 1 | 22350.00 | 2235.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 24000.00 | 2400.00 | ppb | 6.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 2579.00 | 257.90 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 2671.00 | 267.10 | ppb | 5.63 | 90000.00 | |
| 27 Al | 45 | 1 | 50.00 | 5.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 48.52 | 4.85 | ppb | 6.65 | 90000.00 | |
| 39 K | 45 | 1 | 8290.00 | 829.00 | ppb | 0.22 | 90000.00 | |
| 44 Ca | 45 | 1 | 40390.00 | 4039.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.63 | 0.16 | ppb | 6.59 | 900.00 | |
| 51 V | 45 | 2 | -1.39 | -0.14 | ppb | 18.74 | 900.00 | |
| 52 Cr | 45 | 2 | -1.92 | -0.19 | ppb | 4.91 | 900.00 | |
| 55 Mn | 45 | 2 | 2134.00 | 213.40 | ppb | 5.80 | 900.00 | |
| 56 Fe | 45 | 2 | 18490.00 | 1849.00 | ppb | 5.27 | 90000.00 | |
| 59 Co | 45 | 2 | 107.10 | 10.71 | ppb | 5.08 | 900.00 | |
| 60 Ni | 45 | 2 | 731.90 | 73.19 | ppb | 5.62 | 900.00 | |
| 63 Cu | 72 | 2 | 0.83 | 0.08 | ppb | 3.08 | 900.00 | |
| 66 Zn | 72 | 2 | 40.85 | 4.09 | ppb | 4.28 | 900.00 | |
| 75 As | 72 | 2 | 247.40 | 24.74 | ppb | 5.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.04 | ppb | 237.01 | 900.00 | |
| 88 Sr | 103 | 1 | 338.40 | 33.84 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 4.65 | 0.47 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | -0.01 | ppb | 31.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.02 | ppb | 12.63 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 24.81 | 900.00 | |
| 121 Sb | 115 | 1 | 0.86 | 0.09 | ppb | 3.47 | 900.00 | |
| 137 Ba | 159 | 1 | 77.01 | 7.70 | ppb | 2.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.93 | 0.09 | ppb | 5.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.09 | -0.01 | ppb | 22.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1964232 | 0.73 | 2032921 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 2592024 | 0.46 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 341348 | 4.39 | 361541 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451963 | 0.54 | 465850 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 125123 | 3.84 | 129632 | 96.5 | 70 - | 130 |
| 103 | Rh | 1 | 2148607 | 0.44 | 2265009 | 94.9 | 70 - | 130 |
| 115 | In | 1 | 2326857 | 0.91 | 2406660 | 96.7 | 70 - | 130 |
| 115 | In | 2 | 935848 | 7.25 | 1007957 | 92.8 | 70 - | 130 |
| 159 | Tb | 1 | 2664421 | 0.94 | 2763118 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 2442108 | 0.64 | 2515951 | 97.1 | 70 - | 130 |
| 209 | Bi | 1 | 1487733 | 1.58 | 1560225 | 95.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D# | | |
| **Date Acquired:** | Dec 4 2013 06:47 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC26418-5F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2303 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 04 2013 02:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 10.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 10.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 337.26 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | 0.00 | ppb | 206.38 | 900.00 | |
| 11 B | 6 | 1 | 44.40 | 4.44 | ppb | 2.35 | 900.00 | |
| 11 B | 45 | 2 | 46.44 | 4.64 | ppb | 7.84 | 900.00 | |
| 23 Na | 45 | 1 | 4013.00 | 401.30 | ppb | 1.11 | 90000.00 | |
| 23 Na | 45 | 2 | 4465.00 | 446.50 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 2169.00 | 216.90 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 2215.00 | 221.50 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 9.09 | 0.91 | ppb | 7.01 | 90000.00 | |
| 27 Al | 45 | 2 | 9.47 | 0.95 | ppb | 9.21 | 90000.00 | |
| 39 K | 45 | 1 | 4292.00 | 429.20 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 25530.00 | 2553.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.15 | ppb | 3.92 | 900.00 | |
| 51 V | 45 | 2 | -1.64 | -0.16 | ppb | 7.11 | 900.00 | |
| 52 Cr | 45 | 2 | -1.93 | -0.19 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | 5901.00 | 590.10 | ppb | 1.24 | 900.00 | |
| 56 Fe | 45 | 2 | 85840.00 | 8584.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 7.52 | 0.75 | ppb | 0.15 | 900.00 | |
| 60 Ni | 45 | 2 | 3.25 | 0.32 | ppb | 2.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.00 | ppb | 253.62 | 900.00 | |
| 66 Zn | 72 | 2 | 9.14 | 0.91 | ppb | 4.06 | 900.00 | |
| 75 As | 72 | 2 | 3369.00 | 336.90 | ppb | 0.94 | 900.00 | |
| 78 Se | 72 | 2 | -1.00 | -0.10 | ppb | 89.40 | 900.00 | |
| 88 Sr | 103 | 1 | 136.90 | 13.69 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | -1.42 | -0.14 | ppb | 4.18 | 900.00 | |
| 107 Ag | 115 | 1 | -0.06 | -0.01 | ppb | 4.82 | 900.00 | |
| 111 Cd | 115 | 2 | -0.04 | 0.00 | ppb | 31.35 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 66.53 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | 0.00 | ppb | 101.75 | 900.00 | |
| 137 Ba | 159 | 1 | 31.79 | 3.18 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.02 | ppb | 10.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.14 | -0.01 | ppb | 4.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1959821 | 0.93 | 2032921 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 2620313 | 0.35 | 2621135 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 344580 | 1.39 | 361541 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 459193 | 0.35 | 465850 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 125031 | 1.46 | 129632 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2160729 | 0.80 | 2265009 | 95.4 | 70 | - | 130 |
| 115 | In | 1 | 2334097 | 0.09 | 2406660 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 949737 | 0.52 | 1007957 | 94.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2681276 | 0.94 | 2763118 | 97.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2463775 | 0.95 | 2515951 | 97.9 | 70 | - | 130 |
| 209 | Bi | 1 | 1506512 | 0.78 | 1560225 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D# |
| Date Acquired: | Dec 4 2013 06:54 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC26418-9F |
| Misc Info: | |
| Vial Number: | 2304 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.22 | 0.00 | ppb | 11.36 | 900.00 | |
| 9 Be | 45 | 2 | -0.38 | -0.01 | ppb | 90.72 | 900.00 | |
| 11 B | 6 | 1 | 124.50 | 2.49 | ppb | 3.16 | 900.00 | |
| 11 B | 45 | 2 | 112.10 | 2.24 | ppb | 19.78 | 900.00 | |
| 23 Na | 45 | 1 | 18230.00 | 364.60 | ppb | 2.41 | 90000.00 | |
| 23 Na | 45 | 2 | 20080.00 | 401.60 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 6930.00 | 138.60 | ppb | 2.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 6860.00 | 137.20 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | -12.09 | -0.24 | ppb | 4.10 | 90000.00 | |
| 27 Al | 45 | 2 | -3.66 | -0.07 | ppb | 97.03 | 90000.00 | |
| 39 K | 45 | 1 | 10350.00 | 207.00 | ppb | 2.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 47945.00 | 958.90 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.62 | 0.05 | ppb | 18.90 | 900.00 | |
| 51 V | 45 | 2 | -21.17 | -0.42 | ppb | 1.68 | 900.00 | |
| 52 Cr | 45 | 2 | -12.33 | -0.25 | ppb | 3.03 | 900.00 | |
| 55 Mn | 45 | 2 | 931.00 | 18.62 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 74800.00 | 1496.00 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 16.20 | 0.32 | ppb | 2.47 | 900.00 | |
| 60 Ni | 45 | 2 | -30.49 | -0.61 | ppb | 2.79 | 900.00 | |
| 63 Cu | 72 | 2 | -0.95 | -0.02 | ppb | 17.53 | 900.00 | |
| 66 Zn | 72 | 2 | 15.62 | 0.31 | ppb | 2.79 | 900.00 | |
| 75 As | 72 | 2 | 1000.00 | 20.00 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 1.35 | 0.03 | ppb | 515.23 | 900.00 | |
| 88 Sr | 103 | 1 | 439.40 | 8.79 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | -7.25 | -0.14 | ppb | 1.09 | 900.00 | |
| 107 Ag | 115 | 1 | -0.22 | 0.00 | ppb | 21.58 | 900.00 | |
| 111 Cd | 115 | 2 | -0.07 | 0.00 | ppb | 482.21 | 900.00 | |
| 120 Sn | 115 | 1 | -0.54 | -0.01 | ppb | 9.86 | 900.00 | |
| 121 Sb | 115 | 1 | -0.42 | -0.01 | ppb | 6.41 | 900.00 | |
| 137 Ba | 159 | 1 | 90.45 | 1.81 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 2.09 | 0.04 | ppb | 5.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.41 | -0.01 | ppb | 36.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975056 | 0.26 | 2032921 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 2628596 | 1.90 | 2621135 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 348323 | 0.57 | 361541 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 456179 | 1.24 | 465850 | 97.9 | 70 - | 130 |
| 72 | Ge | 2 | 126022 | 0.58 | 129632 | 97.2 | 70 - | 130 |
| 103 | Rh | 1 | 2155612 | 1.02 | 2265009 | 95.2 | 70 - | 130 |
| 115 | In | 1 | 2334989 | 1.30 | 2406660 | 97.0 | 70 - | 130 |
| 115 | In | 2 | 963973 | 0.40 | 1007957 | 95.6 | 70 - | 130 |
| 159 | Tb | 1 | 2659091 | 0.45 | 2763118 | 96.2 | 70 - | 130 |
| 175 | Lu | 1 | 2409150 | 0.88 | 2515951 | 95.8 | 70 - | 130 |
| 209 | Bi | 1 | 1460757 | 1.04 | 1560225 | 93.6 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 4 2013 07:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-10F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.28 | 0.00 | ppb | 49.61 | 900.00 | |
| 9 Be | 45 | 2 | -0.37 | 0.00 | ppb | 182.22 | 900.00 | |
| 11 B | 6 | 1 | 46.96 | 0.47 | ppb | 7.66 | 900.00 | |
| 11 B | 45 | 2 | 46.34 | 0.46 | ppb | 28.33 | 900.00 | |
| 23 Na | 45 | 1 | 10710.00 | 107.10 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 11850.00 | 118.50 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 6428.00 | 64.28 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 6216.00 | 62.16 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 1 | 111.20 | 1.11 | ppb | 4.16 | 90000.00 | |
| 27 Al | 45 | 2 | 118.40 | 1.18 | ppb | 4.32 | 90000.00 | |
| 39 K | 45 | 1 | 4274.00 | 42.74 | ppb | 1.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 50770.00 | 507.70 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.97 | 0.01 | ppb | 22.46 | 900.00 | |
| 51 V | 45 | 2 | -45.82 | -0.46 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | -25.06 | -0.25 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 7605.00 | 76.05 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 46260.00 | 462.60 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 21.09 | 0.21 | ppb | 2.34 | 900.00 | |
| 60 Ni | 45 | 2 | -77.11 | -0.77 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | -0.24 | 0.00 | ppb | 8.55 | 900.00 | |
| 66 Zn | 72 | 2 | 15.27 | 0.15 | ppb | 5.87 | 900.00 | |
| 75 As | 72 | 2 | 5738.00 | 57.38 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 14.41 | 0.14 | ppb | 96.95 | 900.00 | |
| 88 Sr | 103 | 1 | 348.30 | 3.48 | ppb | 0.25 | 900.00 | |
| 98 Mo | 103 | 1 | -14.09 | -0.14 | ppb | 1.41 | 900.00 | |
| 107 Ag | 115 | 1 | -0.53 | -0.01 | ppb | 7.57 | 900.00 | |
| 111 Cd | 115 | 2 | -0.21 | 0.00 | ppb | 126.87 | 900.00 | |
| 120 Sn | 115 | 1 | -1.14 | -0.01 | ppb | 17.83 | 900.00 | |
| 121 Sb | 115 | 1 | -0.95 | -0.01 | ppb | 25.98 | 900.00 | |
| 137 Ba | 159 | 1 | 34.23 | 0.34 | ppb | 4.27 | 900.00 | |
| 205 Tl | 209 | 1 | 1.94 | 0.02 | ppb | 8.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -1.02 | -0.01 | ppb | 12.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2016460 | 0.91 | 2032921 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 2612612 | 0.47 | 2621135 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 356313 | 1.01 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460509 | 0.86 | 465850 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 128764 | 0.41 | 129632 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 2223862 | 0.24 | 2265009 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 2357210 | 1.44 | 2406660 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 970396 | 0.38 | 1007957 | 96.3 | 70 | - | 130 |
| 159 Tb | 1 | 2623139 | 0.81 | 2763118 | 94.9 | 70 | - | 130 |
| 175 Lu | 1 | 2396754 | 0.36 | 2515951 | 95.3 | 70 | - | 130 |
| 209 Bi | 1 | 1449369 | 0.44 | 1560225 | 92.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 4 2013 07:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-11F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.55 | 1.01 | ppb | 173.69 | 900.00 | |
| 9 Be | 45 | 2 | 3.38 | 0.07 | ppb | 44.70 | 900.00 | |
| 11 B | 6 | 1 | 264.00 | 5.28 | ppb | 29.51 | 900.00 | |
| 11 B | 45 | 2 | 221.45 | 4.43 | ppb | 5.32 | 900.00 | |
| 23 Na | 45 | 1 | 38405.00 | 768.10 | ppb | 44.97 | 90000.00 | |
| 23 Na | 45 | 2 | 30830.00 | 616.60 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 23315.00 | 466.30 | ppb | 80.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 13275.00 | 265.50 | ppb | 4.09 | 90000.00 | |
| 27 Al | 45 | 1 | 8875.00 | 177.50 | ppb | 173.35 | 90000.00 | |
| 27 Al | 45 | 2 | 523.50 | 10.47 | ppb | 50.66 | 90000.00 | |
| 39 K | 45 | 1 | 16955.00 | 339.10 | ppb | 71.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 87050.00 | 1741.00 | ppb | 12.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 194.85 | 3.90 | ppb | 169.77 | 900.00 | |
| 51 V | 45 | 2 | -17.98 | -0.36 | ppb | 9.02 | 900.00 | |
| 52 Cr | 45 | 2 | -9.10 | -0.18 | ppb | 20.30 | 900.00 | |
| 55 Mn | 45 | 2 | 1461.50 | 29.23 | ppb | 1.13 | 900.00 | |
| 56 Fe | 45 | 2 | 44690.00 | 893.80 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 3.46 | 0.07 | ppb | 45.69 | 900.00 | |
| 60 Ni | 45 | 2 | -40.86 | -0.82 | ppb | 6.02 | 900.00 | |
| 63 Cu | 72 | 2 | 2.45 | 0.05 | ppb | 75.87 | 900.00 | |
| 66 Zn | 72 | 2 | 14.20 | 0.28 | ppb | 14.82 | 900.00 | |
| 75 As | 72 | 2 | 1527.00 | 30.54 | ppb | 0.03 | 900.00 | |
| 78 Se | 72 | 2 | 3.40 | 0.07 | ppb | 140.58 | 900.00 | |
| 88 Sr | 103 | 1 | 862.00 | 17.24 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 144.95 | 2.90 | ppb | 182.65 | 900.00 | |
| 107 Ag | 115 | 1 | 34.79 | 0.70 | ppb | 174.36 | 900.00 | |
| 111 Cd | 115 | 2 | 3.49 | 0.07 | ppb | 64.01 | 900.00 | |
| 120 Sn | 115 | 1 | 62.90 | 1.26 | ppb | 174.80 | 900.00 | |
| 121 Sb | 115 | 1 | 38.26 | 0.77 | ppb | 175.01 | 900.00 | |
| 137 Ba | 159 | 1 | 154.00 | 3.08 | ppb | 109.22 | 900.00 | |
| 205 Tl | 209 | 1 | 60.75 | 1.22 | ppb | 170.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 66.20 | 1.32 | ppb | 174.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2305040 | 23.21 | 2032921 | 113.4 | 70 - 130 | |
| 45 Sc | 1 | 3004052 | 22.81 | 2621135 | 114.6 | 70 - 130 | |
| 45 Sc | 2 | 369748 | 0.35 | 361541 | 102.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 522509 | 19.98 | 465850 | 112.2 | 70 | - | 130 |
| 72 | Ge | 2 | 132282 | 0.57 | 129632 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2487869 | 20.19 | 2265009 | 109.8 | 70 | - | 130 |
| 115 | In | 1 | 2656327 | 20.47 | 2406660 | 110.4 | 70 | - | 130 |
| 115 | In | 2 | 994751 | 1.58 | 1007957 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 2983950 | 19.66 | 2763118 | 108.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2724620 | 20.32 | 2515951 | 108.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1617505 | 18.97 | 1560225 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#
**Date Acquired:** Dec 4 2013 07:16 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26484-4F
**Misc Info:**
**Vial Number:** 2307
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 50.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 50.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | 0.00 | ppb | 91.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.75 | 0.01 | ppb | 27.62 | 900.00 | |
| 11 B | 6 | 1 | 20.64 | 0.41 | ppb | 4.68 | 900.00 | |
| 11 B | 45 | 2 | 14.07 | 0.28 | ppb | 28.73 | 900.00 | |
| 23 Na | 45 | 1 | 58150.00 | 1163.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 60300.00 | 1206.00 | ppb | 11.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 2098.50 | 41.97 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 2029.00 | 40.58 | ppb | 11.51 | 90000.00 | |
| 27 Al | 45 | 1 | 15.04 | 0.30 | ppb | 32.42 | 90000.00 | |
| 27 Al | 45 | 2 | 16.96 | 0.34 | ppb | 22.26 | 90000.00 | |
| 39 K | 45 | 1 | 3321.50 | 66.43 | ppb | 6.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 20760.00 | 415.20 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.01 | 0.06 | ppb | 24.45 | 900.00 | |
| 51 V | 45 | 2 | -21.42 | -0.43 | ppb | 3.47 | 900.00 | |
| 52 Cr | 45 | 2 | -12.28 | -0.25 | ppb | 1.83 | 900.00 | |
| 55 Mn | 45 | 2 | 2437.50 | 48.75 | ppb | 11.19 | 900.00 | |
| 56 Fe | 45 | 2 | 39510.00 | 790.20 | ppb | 12.11 | 90000.00 | |
| 59 Co | 45 | 2 | 15.67 | 0.31 | ppb | 12.11 | 900.00 | |
| 60 Ni | 45 | 2 | -37.83 | -0.76 | ppb | 2.16 | 900.00 | |
| 63 Cu | 72 | 2 | -0.47 | -0.01 | ppb | 54.26 | 900.00 | |
| 66 Zn | 72 | 2 | 25.65 | 0.51 | ppb | 3.86 | 900.00 | |
| 75 As | 72 | 2 | 2539.50 | 50.79 | ppb | 6.34 | 900.00 | |
| 78 Se | 72 | 2 | 6.47 | 0.13 | ppb | 180.20 | 900.00 | |
| 88 Sr | 103 | 1 | 241.90 | 4.84 | ppb | 4.76 | 900.00 | |
| 98 Mo | 103 | 1 | -4.95 | -0.10 | ppb | 3.34 | 900.00 | |
| 107 Ag | 115 | 1 | -0.21 | 0.00 | ppb | 40.56 | 900.00 | |
| 111 Cd | 115 | 2 | -0.19 | 0.00 | ppb | 4.00 | 900.00 | |
| 120 Sn | 115 | 1 | -0.49 | -0.01 | ppb | 25.19 | 900.00 | |
| 121 Sb | 115 | 1 | -0.28 | -0.01 | ppb | 49.26 | 900.00 | |
| 137 Ba | 159 | 1 | 16.01 | 0.32 | ppb | 6.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.55 | 0.01 | ppb | 59.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.44 | -0.01 | ppb | 54.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2078254 | 1.19 | 2032921 | 102.2 | 70 - 130 | |
| 45 Sc | 1 | 2637409 | 1.84 | 2621135 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 364672 | 10.43 | 361541 | 100.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456716 | 2.19 | 465850 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 130110 | 3.97 | 129632 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 2149977 | 3.55 | 2265009 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 2398274 | 2.56 | 2406660 | 99.7 | 70 | - | 130 |
| 115 In | 2 | 987546 | 6.34 | 1007957 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 2560722 | 0.78 | 2763118 | 92.7 | 70 | - | 130 |
| 175 Lu | 1 | 2286625 | 1.31 | 2515951 | 90.9 | 70 | - | 130 |
| 209 Bi | 1 | 1377228 | 3.09 | 1560225 | 88.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#
Date Acquired: Dec 4 2013 07:23 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-SD1
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 250.00
Autodil Factor: Undiluted
Final Dil Factor: 250.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.51 | 0.00 | ppb | 259.66 | 900.00 | |
| 9 Be | 45 | 2 | 2.86 | 0.01 | ppb | 174.13 | 900.00 | |
| 11 B | 6 | 1 | 12.27 | 0.05 | ppb | 7.65 | 900.00 | |
| 11 B | 45 | 2 | 12.71 | 0.05 | ppb | 277.00 | 900.00 | |
| 23 Na | 45 | 1 | 60375.00 | 241.50 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 66325.00 | 265.30 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 2186.50 | 8.75 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 2200.00 | 8.80 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 1 | 29.15 | 0.12 | ppb | 30.76 | 90000.00 | |
| 27 Al | 45 | 2 | 63.70 | 0.25 | ppb | 13.93 | 90000.00 | |
| 39 K | 45 | 1 | 988.25 | 3.95 | ppb | 121.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 21490.00 | 85.96 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.13 | 0.02 | ppb | 20.16 | 900.00 | |
| 51 V | 45 | 2 | -118.33 | -0.47 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | -62.65 | -0.25 | ppb | 1.38 | 900.00 | |
| 55 Mn | 45 | 2 | 2507.50 | 10.03 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 40450.00 | 161.80 | ppb | 1.54 | 90000.00 | |
| 59 Co | 45 | 2 | 15.07 | 0.06 | ppb | 3.16 | 900.00 | |
| 60 Ni | 45 | 2 | -218.53 | -0.87 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | -4.26 | -0.02 | ppb | 26.31 | 900.00 | |
| 66 Zn | 72 | 2 | 37.53 | 0.15 | ppb | 7.67 | 900.00 | |
| 75 As | 72 | 2 | 2545.00 | 10.18 | ppb | 2.05 | 900.00 | |
| 78 Se | 72 | 2 | 19.59 | 0.08 | ppb | 112.82 | 900.00 | |
| 88 Sr | 103 | 1 | 248.45 | 0.99 | ppb | 7.41 | 900.00 | |
| 98 Mo | 103 | 1 | -38.23 | -0.15 | ppb | 3.14 | 900.00 | |
| 107 Ag | 115 | 1 | -0.81 | 0.00 | ppb | 48.33 | 900.00 | |
| 111 Cd | 115 | 2 | -0.94 | 0.00 | ppb | 62.26 | 900.00 | |
| 120 Sn | 115 | 1 | -3.00 | -0.01 | ppb | 8.54 | 900.00 | |
| 121 Sb | 115 | 1 | -2.71 | -0.01 | ppb | 19.16 | 900.00 | |
| 137 Ba | 159 | 1 | 15.42 | 0.06 | ppb | 43.16 | 900.00 | |
| 205 Tl | 209 | 1 | 6.44 | 0.03 | ppb | 14.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.24 | 0.00 | ppb | 611.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2090189 | 4.23 | 2032921 | 102.8 | 70 - 130 | |
| 45 Sc | 1 | 2676393 | 3.37 | 2621135 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 363350 | 0.72 | 361541 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 463103 | 1.86 | 465850 | 99.4 | 70 - | 130 |
| 72 | Ge | 2 | 130449 | 0.15 | 129632 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 2198354 | 3.83 | 2265009 | 97.1 | 70 - | 130 |
| 115 | In | 1 | 2383950 | 2.29 | 2406660 | 99.1 | 70 - | 130 |
| 115 | In | 2 | 986073 | 0.28 | 1007957 | 97.8 | 70 - | 130 |
| 159 | Tb | 1 | 2611930 | 2.25 | 2763118 | 94.5 | 70 - | 130 |
| 175 | Lu | 1 | 2359639 | 4.16 | 2515951 | 93.8 | 70 - | 130 |
| 209 | Bi | 1 | 1355769 | 3.99 | 1560225 | 86.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#
Date Acquired: Dec 4 2013 07:30 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.61 | 49.61 | ppb | 1.59 | 900.00 | |
| 9 Be | 45 | 2 | 50.57 | 50.57 | ppb | 1.72 | 900.00 | |
| 11 B | 6 | 1 | 50.58 | 50.58 | ppb | 0.60 | 900.00 | |
| 11 B | 45 | 2 | 49.60 | 49.60 | ppb | 2.88 | 900.00 | |
| 23 Na | 45 | 1 | 4799.00 | 4799.00 | ppb | 1.99 | 90000.00 | |
| 23 Na | 45 | 2 | 5040.00 | 5040.00 | ppb | 2.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 4834.00 | 4834.00 | ppb | 2.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 4703.00 | 4703.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4870.00 | 4870.00 | ppb | 3.47 | 90000.00 | |
| 27 Al | 45 | 2 | 4477.00 | 4477.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 4912.00 | 4912.00 | ppb | 2.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 4987.00 | 4987.00 | ppb | 2.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.85 | 48.85 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 48.61 | 48.61 | ppb | 1.83 | 900.00 | |
| 52 Cr | 45 | 2 | 47.28 | 47.28 | ppb | 1.90 | 900.00 | |
| 55 Mn | 45 | 2 | 47.67 | 47.67 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 4971.00 | 4971.00 | ppb | 2.96 | 90000.00 | |
| 59 Co | 45 | 2 | 47.64 | 47.64 | ppb | 2.61 | 900.00 | |
| 60 Ni | 45 | 2 | 48.94 | 48.94 | ppb | 0.83 | 900.00 | |
| 63 Cu | 72 | 2 | 46.65 | 46.65 | ppb | 2.13 | 900.00 | |
| 66 Zn | 72 | 2 | 46.41 | 46.41 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 48.15 | 48.15 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 48.24 | 48.24 | ppb | 0.77 | 900.00 | |
| 88 Sr | 103 | 1 | 51.05 | 51.05 | ppb | 3.92 | 900.00 | |
| 98 Mo | 103 | 1 | 50.03 | 50.03 | ppb | 2.79 | 900.00 | |
| 107 Ag | 115 | 1 | 49.24 | 49.24 | ppb | 1.93 | 900.00 | |
| 111 Cd | 115 | 2 | 49.66 | 49.66 | ppb | 5.92 | 900.00 | |
| 120 Sn | 115 | 1 | 49.26 | 49.26 | ppb | 2.74 | 900.00 | |
| 121 Sb | 115 | 1 | 48.68 | 48.68 | ppb | 2.17 | 900.00 | |
| 137 Ba | 159 | 1 | 48.46 | 48.46 | ppb | 2.22 | 900.00 | |
| 205 Tl | 209 | 1 | 46.49 | 46.49 | ppb | 2.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.55 | 48.55 | ppb | 2.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2053703 | 0.60 | 2032921 | 101.0 | 70 - 130 | |
| 45 Sc | 1 | 2701889 | 2.18 | 2621135 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 359703 | 1.71 | 361541 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 463657 | 1.19 | 465850 | 99.5 | 70 - | 130 |
| 72 | Ge | 2 | 127778 | 0.71 | 129632 | 98.6 | 70 - | 130 |
| 103 | Rh | 1 | 2195621 | 2.78 | 2265009 | 96.9 | 70 - | 130 |
| 115 | In | 1 | 2311060 | 2.59 | 2406660 | 96.0 | 70 - | 130 |
| 115 | In | 2 | 948749 | 3.35 | 1007957 | 94.1 | 70 - | 130 |
| 159 | Tb | 1 | 2674922 | 2.86 | 2763118 | 96.8 | 70 - | 130 |
| 175 | Lu | 1 | 2428053 | 3.37 | 2515951 | 96.5 | 70 - | 130 |
| 209 | Bi | 1 | 1401459 | 3.18 | 1560225 | 89.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 4 2013 07:37 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 254.98 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 335.11 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 2.73 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 41.82 | 900.00 | |
| 23 Na | 45 | 1 | 0.13 | 0.13 | ppb | 122.18 | 90000.00 | |
| 23 Na | 45 | 2 | 5.80 | 5.80 | ppb | 10.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.22 | 0.22 | ppb | 62.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.34 | 1.34 | ppb | 32.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.14 | 0.14 | ppb | 26.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.88 | 0.88 | ppb | 35.44 | 90000.00 | |
| 39 K | 45 | 1 | -10.13 | -10.13 | ppb | 10.71 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.78 | -2.78 | ppb | 12.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 48.14 | 900.00 | |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 21.90 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 43.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 47.86 | 900.00 | |
| 56 Fe | 45 | 2 | 1.80 | 1.80 | ppb | 28.06 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 29.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.08 | 0.08 | ppb | 7.40 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 20.20 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 131.55 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 233.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 129.18 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 76.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 17.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 115.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 199.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 43.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 63.26 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 88.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 3.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 53.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2110252 | 2.32 | 2032921 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 2735027 | 1.27 | 2621135 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 367070 | 1.02 | 361541 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 472515 | 1.25 | 465850 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 131331 | 1.60 | 129632 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 2310779 | 2.21 | 2265009 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 2357748 | 1.66 | 2406660 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 977033 | 3.29 | 1007957 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 2711833 | 1.29 | 2763118 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 2490354 | 0.81 | 2515951 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 1481061 | 2.77 | 1560225 | 94.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D#
Date Acquired: Dec 4 2013 07:44 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-6F
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 358.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.37 | 0.01 | ppb | 86.98 | 900.00 | |
| 11 B | 6 | 1 | 42.98 | 0.86 | ppb | 6.98 | 900.00 | |
| 11 B | 45 | 2 | 44.65 | 0.89 | ppb | 33.23 | 900.00 | |
| 23 Na | 45 | 1 | 119550.00 | 2391.00 | ppb | 2.82 | 90000.00 | |
| 23 Na | 45 | 2 | 121550.00 | 2431.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 2970.50 | 59.41 | ppb | 2.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 2832.50 | 56.65 | ppb | 1.60 | 90000.00 | |
| 27 Al | 45 | 1 | 44.24 | 0.88 | ppb | 47.49 | 90000.00 | |
| 27 Al | 45 | 2 | 41.98 | 0.84 | ppb | 94.13 | 90000.00 | |
| 39 K | 45 | 1 | 4712.00 | 94.24 | ppb | 1.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 22660.00 | 453.20 | ppb | 1.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.84 | 0.06 | ppb | 27.27 | 900.00 | |
| 51 V | 45 | 2 | -20.24 | -0.40 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | -11.92 | -0.24 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 2612.00 | 52.24 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 30025.00 | 600.50 | ppb | 1.40 | 90000.00 | |
| 59 Co | 45 | 2 | 13.88 | 0.28 | ppb | 4.81 | 900.00 | |
| 60 Ni | 45 | 2 | -39.02 | -0.78 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | 0.00 | ppb | 602.11 | 900.00 | |
| 66 Zn | 72 | 2 | 8.72 | 0.17 | ppb | 8.17 | 900.00 | |
| 75 As | 72 | 2 | 1341.00 | 26.82 | ppb | 1.60 | 900.00 | |
| 78 Se | 72 | 2 | -3.51 | -0.07 | ppb | 184.49 | 900.00 | |
| 88 Sr | 103 | 1 | 316.90 | 6.34 | ppb | 5.65 | 900.00 | |
| 98 Mo | 103 | 1 | -2.62 | -0.05 | ppb | 28.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 377.19 | 900.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.00 | ppb | 89.40 | 900.00 | |
| 120 Sn | 115 | 1 | -0.32 | -0.01 | ppb | 31.32 | 900.00 | |
| 121 Sb | 115 | 1 | -0.22 | 0.00 | ppb | 56.73 | 900.00 | |
| 137 Ba | 159 | 1 | 38.67 | 0.77 | ppb | 7.22 | 900.00 | |
| 205 Tl | 209 | 1 | 4.88 | 0.10 | ppb | 2.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.00 | ppb | 315.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2129177 | 3.91 | 2032921 | 104.7 | 70 - 130 | |
| 45 Sc | 1 | 2679912 | 0.18 | 2621135 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 367616 | 1.72 | 361541 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 488510 | 1.67 | 465850 | 104.9 | 70 | - | 130 |
| 72 | Ge | 2 | 130658 | 0.20 | 129632 | 100.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2234723 | 4.12 | 2265009 | 98.7 | 70 | - | 130 |
| 115 | In | 1 | 2488994 | 0.63 | 2406660 | 103.4 | 70 | - | 130 |
| 115 | In | 2 | 987224 | 0.31 | 1007957 | 97.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2722207 | 0.29 | 2763118 | 98.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2465623 | 3.59 | 2515951 | 98.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1472088 | 3.21 | 1560225 | 94.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#
**Date Acquired:** Dec 4 2013 07:51 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26484-7F
**Misc Info:**
**Vial Number:** 2312
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 20.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 20.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 14.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.01 | ppb | 223.57 | 900.00 | |
| 11 B | 6 | 1 | 157.68 | 7.88 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 134.66 | 6.73 | ppb | 6.85 | 900.00 | |
| 23 Na | 45 | 1 | 11518.00 | 575.90 | ppb | 2.23 | 90000.00 | |
| 23 Na | 45 | 2 | 12430.00 | 621.50 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 4286.00 | 214.30 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 4374.00 | 218.70 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 15.83 | 0.79 | ppb | 13.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5.93 | 0.30 | ppb | 47.07 | 90000.00 | |
| 39 K | 45 | 1 | 8212.00 | 410.60 | ppb | 1.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 25120.00 | 1256.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 0.12 | ppb | 3.98 | 900.00 | |
| 51 V | 45 | 2 | -5.97 | -0.30 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | -4.56 | -0.23 | ppb | 1.51 | 900.00 | |
| 55 Mn | 45 | 2 | 815.20 | 40.76 | ppb | 0.68 | 900.00 | |
| 56 Fe | 45 | 2 | 35960.00 | 1798.00 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 12.05 | 0.60 | ppb | 1.88 | 900.00 | |
| 60 Ni | 45 | 2 | -10.58 | -0.53 | ppb | 1.24 | 900.00 | |
| 63 Cu | 72 | 2 | 0.17 | 0.01 | ppb | 48.31 | 900.00 | |
| 66 Zn | 72 | 2 | 48.50 | 2.43 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 993.80 | 49.69 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | -1.70 | -0.08 | ppb | 56.23 | 900.00 | |
| 88 Sr | 103 | 1 | 520.80 | 26.04 | ppb | 4.90 | 900.00 | |
| 98 Mo | 103 | 1 | 11.74 | 0.59 | ppb | 3.06 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 120.64 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 3022.30 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 505.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.00 | ppb | 154.08 | 900.00 | |
| 137 Ba | 159 | 1 | 23.72 | 1.19 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.80 | 0.04 | ppb | 8.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.08 | 0.00 | ppb | 129.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2126694 | 3.77 | 2032921 | 104.6 | 70 - 130 | |
| 45 Sc | 1 | 2774438 | 0.23 | 2621135 | 105.8 | 70 - 130 | |
| 45 Sc | 2 | 356457 | 0.74 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 469806 | 1.76 | 465850 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 128922 | 0.30 | 129632 | 99.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2241745 | 1.82 | 2265009 | 99.0 | 70 | - | 130 |
| 115 | In | 1 | 2440312 | 0.50 | 2406660 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 980870 | 0.42 | 1007957 | 97.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2805553 | 3.45 | 2763118 | 101.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2561332 | 3.53 | 2515951 | 101.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1512105 | 2.51 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#
Date Acquired: Dec 4 2013 07:59 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-S1
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 507.00 | 10.14 | ppb | 7.59 | 900.00 | |
| 9 Be | 45 | 2 | 481.10 | 9.62 | ppb | 2.56 | 900.00 | |
| 11 B | 6 | 1 | 24.53 | 0.49 | ppb | 14.98 | 900.00 | |
| 11 B | 45 | 2 | 22.52 | 0.45 | ppb | 30.36 | 900.00 | |
| 23 Na | 45 | 1 | 81300.00 | 1626.00 | ppb | 2.98 | 90000.00 | |
| 23 Na | 45 | 2 | 87400.00 | 1748.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 27165.00 | 543.30 | ppb | 3.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 28230.00 | 564.60 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 2288.00 | 45.76 | ppb | 2.98 | 90000.00 | |
| 27 Al | 45 | 2 | 2107.50 | 42.15 | ppb | 1.39 | 90000.00 | |
| 39 K | 45 | 1 | 29240.00 | 584.80 | ppb | 3.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 46930.00 | 938.60 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.20 | 9.74 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 488.00 | 9.76 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 486.35 | 9.73 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 2963.00 | 59.26 | ppb | 0.30 | 900.00 | |
| 56 Fe | 45 | 2 | 42220.00 | 844.40 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 516.50 | 10.33 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 464.85 | 9.30 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 503.50 | 10.07 | ppb | 0.66 | 900.00 | |
| 66 Zn | 72 | 2 | 528.50 | 10.57 | ppb | 0.24 | 900.00 | |
| 75 As | 72 | 2 | 3089.50 | 61.79 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 519.00 | 10.38 | ppb | 2.51 | 900.00 | |
| 88 Sr | 103 | 1 | 775.00 | 15.50 | ppb | 3.41 | 900.00 | |
| 98 Mo | 103 | 1 | -3.63 | -0.07 | ppb | 8.50 | 900.00 | |
| 107 Ag | 115 | 1 | 199.75 | 4.00 | ppb | 3.89 | 900.00 | |
| 111 Cd | 115 | 2 | 498.40 | 9.97 | ppb | 1.48 | 900.00 | |
| 120 Sn | 115 | 1 | -0.30 | -0.01 | ppb | 25.92 | 900.00 | |
| 121 Sb | 115 | 1 | 508.50 | 10.17 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2042.50 | 40.85 | ppb | 4.30 | 900.00 | |
| 205 Tl | 209 | 1 | 504.00 | 10.08 | ppb | 2.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1049.00 | 20.98 | ppb | 2.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2144198 | 5.13 | 2032921 | 105.5 | 70 - 130 | |
| 45 Sc | 1 | 2746014 | 2.26 | 2621135 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 357316 | 0.65 | 361541 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456902 | 2.92 | 465850 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 128753 | 0.30 | 129632 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 2239074 | 1.53 | 2265009 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 2368644 | 0.44 | 2406660 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 972965 | 0.37 | 1007957 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 2682247 | 3.69 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2435664 | 3.40 | 2515951 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 1397869 | 2.68 | 1560225 | 89.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D#
Date Acquired: Dec 4 2013 08:06 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-S2
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 503.50 | 10.07 | ppb | 2.38 | 900.00 | |
| 9 Be | 45 | 2 | 494.05 | 9.88 | ppb | 18.61 | 900.00 | |
| 11 B | 6 | 1 | 20.44 | 0.41 | ppb | 9.90 | 900.00 | |
| 11 B | 45 | 2 | 24.06 | 0.48 | ppb | 54.00 | 900.00 | |
| 23 Na | 45 | 1 | 82300.00 | 1646.00 | ppb | 3.48 | 90000.00 | |
| 23 Na | 45 | 2 | 89800.00 | 1796.00 | ppb | 22.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 27670.00 | 553.40 | ppb | 3.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 29030.00 | 580.60 | ppb | 21.05 | 90000.00 | |
| 27 Al | 45 | 1 | 2298.50 | 45.97 | ppb | 4.47 | 90000.00 | |
| 27 Al | 45 | 2 | 2147.50 | 42.95 | ppb | 22.02 | 90000.00 | |
| 39 K | 45 | 1 | 28820.00 | 576.40 | ppb | 5.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 47180.00 | 943.60 | ppb | 5.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 506.50 | 10.13 | ppb | 2.53 | 900.00 | |
| 51 V | 45 | 2 | 500.50 | 10.01 | ppb | 22.64 | 900.00 | |
| 52 Cr | 45 | 2 | 498.95 | 9.98 | ppb | 21.78 | 900.00 | |
| 55 Mn | 45 | 2 | 3021.00 | 60.42 | ppb | 21.60 | 900.00 | |
| 56 Fe | 45 | 2 | 43065.00 | 861.30 | ppb | 20.95 | 90000.00 | |
| 59 Co | 45 | 2 | 524.50 | 10.49 | ppb | 20.47 | 900.00 | |
| 60 Ni | 45 | 2 | 472.25 | 9.45 | ppb | 24.36 | 900.00 | |
| 63 Cu | 72 | 2 | 507.00 | 10.14 | ppb | 15.82 | 900.00 | |
| 66 Zn | 72 | 2 | 528.50 | 10.57 | ppb | 16.73 | 900.00 | |
| 75 As | 72 | 2 | 3108.50 | 62.17 | ppb | 17.40 | 900.00 | |
| 78 Se | 72 | 2 | 514.50 | 10.29 | ppb | 18.70 | 900.00 | |
| 88 Sr | 103 | 1 | 737.00 | 14.74 | ppb | 3.29 | 900.00 | |
| 98 Mo | 103 | 1 | -3.92 | -0.08 | ppb | 5.17 | 900.00 | |
| 107 Ag | 115 | 1 | 200.45 | 4.01 | ppb | 4.01 | 900.00 | |
| 111 Cd | 115 | 2 | 514.00 | 10.28 | ppb | 21.23 | 900.00 | |
| 120 Sn | 115 | 1 | -0.29 | -0.01 | ppb | 56.71 | 900.00 | |
| 121 Sb | 115 | 1 | 517.00 | 10.34 | ppb | 5.24 | 900.00 | |
| 137 Ba | 159 | 1 | 2069.00 | 41.38 | ppb | 2.78 | 900.00 | |
| 205 Tl | 209 | 1 | 503.00 | 10.06 | ppb | 4.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 20.78 | ppb | 2.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2081677 | 2.61 | 2032921 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2687080 | 3.09 | 2621135 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 353476 | 20.05 | 361541 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451957 | 3.89 | 465850 | 97.0 | 70 | - | 130 |
| 72 | Ge | 2 | 127775 | 15.33 | 129632 | 98.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2237480 | 2.64 | 2265009 | 98.8 | 70 | - | 130 |
| 115 | In | 1 | 2300527 | 5.12 | 2406660 | 95.6 | 70 | - | 130 |
| 115 | In | 2 | 947380 | 18.56 | 1007957 | 94.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2549504 | 3.86 | 2763118 | 92.3 | 70 | - | 130 |
| 175 | Lu | 1 | 2371145 | 1.86 | 2515951 | 94.2 | 70 | - | 130 |
| 209 | Bi | 1 | 1396832 | 2.54 | 1560225 | 89.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#
Date Acquired: Dec 4 2013 08:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 889.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 190.69 | 900.00 | |
| 11 B | 6 | 1 | 0.00 | 0.00 | ppb | 290.19 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 114.26 | 900.00 | |
| 23 Na | 45 | 1 | 1.04 | 1.04 | ppb | 124.98 | 90000.00 | |
| 23 Na | 45 | 2 | 5.27 | 5.27 | ppb | 2.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.46 | ppb | 218.44 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.18 | -0.18 | ppb | 11.39 | 90000.00 | |
| 27 Al | 45 | 1 | 0.28 | 0.28 | ppb | 295.82 | 90000.00 | |
| 27 Al | 45 | 2 | -0.29 | -0.29 | ppb | 37.32 | 90000.00 | |
| 39 K | 45 | 1 | -4.74 | -4.74 | ppb | 23.94 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.65 | -1.65 | ppb | 76.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 49.51 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 15.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 47.83 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 43.69 | 900.00 | |
| 56 Fe | 45 | 2 | 0.05 | 0.05 | ppb | 97.68 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 18.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.10 | ppb | 36.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 247.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 8.35 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 143.49 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 2962.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 225.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 276.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 130.87 | 900.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 25.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 18.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 665.95 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 101.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 5.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 10112.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2070350 | 2.48 | 2032921 | 101.8 | 70 - 130 | |
| 45 Sc | 1 | 2631062 | 0.06 | 2621135 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 351352 | 0.44 | 361541 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455362 | 0.50 | 465850 | 97.7 | 70 | - | 130 |
| 72 | Ge | 2 | 126600 | 0.28 | 129632 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2220844 | 0.96 | 2265009 | 98.1 | 70 | - | 130 |
| 115 | In | 1 | 2351722 | 0.70 | 2406660 | 97.7 | 70 | - | 130 |
| 115 | In | 2 | 965979 | 0.36 | 1007957 | 95.8 | 70 | - | 130 |
| 159 | Tb | 1 | 2636027 | 0.56 | 2763118 | 95.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2439977 | 1.02 | 2515951 | 97.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1487636 | 1.98 | 1560225 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#
Date Acquired: Dec 4 2013 08:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 0.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.58 | 0.58 | ppb | 11.72 | 900.00 | |
| 11 B | 6 | 1 | 4.97 | 4.97 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 4.30 | 4.30 | ppb | 3.11 | 900.00 | |
| 23 Na | 45 | 1 | 251.80 | 251.80 | ppb | 1.38 | 90000.00 | |
| 23 Na | 45 | 2 | 281.70 | 281.70 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.20 | 257.20 | ppb | 1.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 259.00 | 259.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 27.13 | 27.13 | ppb | 1.98 | 90000.00 | |
| 27 Al | 45 | 2 | 24.76 | 24.76 | ppb | 2.13 | 90000.00 | |
| 39 K | 45 | 1 | 247.30 | 247.30 | ppb | 2.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.40 | 264.40 | ppb | 2.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.14 | 1.14 | ppb | 3.66 | 900.00 | |
| 51 V | 45 | 2 | 0.87 | 0.87 | ppb | 1.36 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 2.00 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 3.60 | 900.00 | |
| 56 Fe | 45 | 2 | 27.97 | 27.97 | ppb | 0.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.00 | 900.00 | |
| 60 Ni | 45 | 2 | 1.15 | 1.15 | ppb | 2.70 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 2.00 | 2.00 | ppb | 2.13 | 900.00 | |
| 75 As | 72 | 2 | 0.48 | 0.48 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.54 | ppb | 31.93 | 900.00 | |
| 88 Sr | 103 | 1 | 5.10 | 5.10 | ppb | 1.10 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 3.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 2.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 1.93 | 900.00 | |
| 120 Sn | 115 | 1 | 5.05 | 5.05 | ppb | 1.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 2.21 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.46 | 0.46 | ppb | 4.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1995471 | 0.79 | 2032921 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 2549211 | 1.25 | 2621135 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 344381 | 0.48 | 361541 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446024 | 0.83 | 465850 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 124421 | 0.27 | 129632 | 96.0 | 70 | - | 130 |
| 103 Rh | 1 | 2141431 | 1.68 | 2265009 | 94.5 | 70 | - | 130 |
| 115 In | 1 | 2279354 | 1.72 | 2406660 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 958529 | 0.32 | 1007957 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 2619628 | 1.45 | 2763118 | 94.8 | 70 | - | 130 |
| 175 Lu | 1 | 2399021 | 1.87 | 2515951 | 95.4 | 70 | - | 130 |
| 209 Bi | 1 | 1456869 | 3.08 | 1560225 | 93.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D# | | |
| **Date Acquired:** | Dec 4 2013 08:27 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2405 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 04 2013 02:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.33 | 50.33 | ppb | 0.81 | 900.00 | |
| 9 Be | 45 | 2 | 49.90 | 49.90 | ppb | 1.70 | 900.00 | |
| 11 B | 6 | 1 | 50.36 | 50.36 | ppb | 0.35 | 900.00 | |
| 11 B | 45 | 2 | 47.46 | 47.46 | ppb | 3.77 | 900.00 | |
| 23 Na | 45 | 1 | 4888.00 | 4888.00 | ppb | 2.13 | 90000.00 | |
| 23 Na | 45 | 2 | 5042.00 | 5042.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 4940.00 | 4940.00 | ppb | 2.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 4672.00 | 4672.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 4944.00 | 4944.00 | ppb | 2.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4451.00 | 4451.00 | ppb | 0.75 | 90000.00 | |
| 39 K | 45 | 1 | 4973.00 | 4973.00 | ppb | 2.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 5056.00 | 5056.00 | ppb | 2.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.82 | 48.82 | ppb | 2.76 | 900.00 | |
| 51 V | 45 | 2 | 47.97 | 47.97 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 47.93 | 47.93 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 46.81 | 46.81 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 4991.00 | 4991.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 47.53 | 47.53 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 47.99 | 47.99 | ppb | 1.06 | 900.00 | |
| 63 Cu | 72 | 2 | 46.99 | 46.99 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 45.91 | 45.91 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 47.60 | 47.60 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 45.27 | 45.27 | ppb | 0.84 | 900.00 | |
| 88 Sr | 103 | 1 | 50.97 | 50.97 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 50.41 | 50.41 | ppb | 1.99 | 900.00 | |
| 107 Ag | 115 | 1 | 49.42 | 49.42 | ppb | 3.27 | 900.00 | |
| 111 Cd | 115 | 2 | 47.47 | 47.47 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 49.77 | 49.77 | ppb | 3.45 | 900.00 | |
| 121 Sb | 115 | 1 | 49.78 | 49.78 | ppb | 2.67 | 900.00 | |
| 137 Ba | 159 | 1 | 48.30 | 48.30 | ppb | 2.81 | 900.00 | |
| 205 Tl | 209 | 1 | 46.98 | 46.98 | ppb | 2.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.48 | 48.48 | ppb | 3.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1965653 | 1.58 | 2032921 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 2580331 | 2.37 | 2621135 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 345859 | 0.89 | 361541 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 442684 | 1.03 | 465850 | 95.0 | 70 - | 130 |
| 72 | Ge | 2 | 124222 | 0.27 | 129632 | 95.8 | 70 - | 130 |
| 103 | Rh | 1 | 2099989 | 2.02 | 2265009 | 92.7 | 70 - | 130 |
| 115 | In | 1 | 2231341 | 2.68 | 2406660 | 92.7 | 70 - | 130 |
| 115 | In | 2 | 924896 | 0.20 | 1007957 | 91.8 | 70 - | 130 |
| 159 | Tb | 1 | 2602499 | 2.41 | 2763118 | 94.2 | 70 - | 130 |
| 175 | Lu | 1 | 2383720 | 2.32 | 2515951 | 94.7 | 70 - | 130 |
| 209 | Bi | 1 | 1418996 | 2.81 | 1560225 | 90.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#
Date Acquired: Dec 4 2013 08:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 12.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 41219.00 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 10.39 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 25.56 | 900.00 | |
| 23 Na | 45 | 1 | 0.54 | 0.54 | ppb | 76.93 | 90000.00 | |
| 23 Na | 45 | 2 | 6.65 | 6.65 | ppb | 13.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.64 | 0.64 | ppb | 34.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.62 | 1.62 | ppb | 101.67 | 90000.00 | |
| 27 Al | 45 | 1 | 0.52 | 0.52 | ppb | 28.82 | 90000.00 | |
| 27 Al | 45 | 2 | 1.11 | 1.11 | ppb | 94.70 | 90000.00 | |
| 39 K | 45 | 1 | -10.66 | -10.66 | ppb | 36.62 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.88 | -1.88 | ppb | 22.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 33.53 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 17.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.04 | 0.04 | ppb | 23.29 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 45.53 | 900.00 | |
| 56 Fe | 45 | 2 | 1.76 | 1.76 | ppb | 85.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 118.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.07 | ppb | 40.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 117.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 3244.80 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 140.00 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 63.56 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 18.08 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 7.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 386.83 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 102.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 10.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 21.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 53.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 3.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 367.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2175074 | 1.24 | 2032921 | 107.0 | 70 - 130 | |
| 45 Sc | 1 | 2739641 | 2.20 | 2621135 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 359833 | 1.09 | 361541 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 470715 | 2.24 | 465850 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 128715 | 0.80 | 129632 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 2257984 | 0.98 | 2265009 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 2431555 | 0.78 | 2406660 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 969326 | 4.14 | 1007957 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 2682249 | 2.03 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2436088 | 1.34 | 2515951 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 1464836 | 2.03 | 1560225 | 93.9 | 70 | - | 130 |

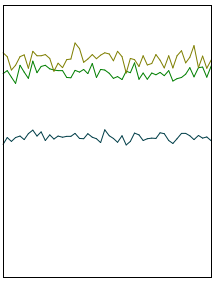
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

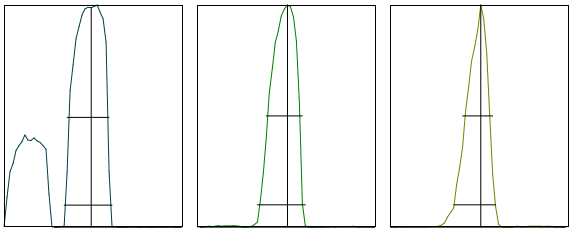
# Tune Report

Tune File : nogas.u
Comment : 120413



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2512.0 | 2575.5 | 2.48 | 3.30 |
| 89 | 5,000 | 3891.0 | 3766.0 | 2.49 | 2.60 |
| 205 | 2,000 | 1600.0 | 1607.0 | 3.04 | 9.60 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.059%
Doubly Charged: 70/140 11.684%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,528 | 3,799 | 1,790 |
| Axis: | 7.00 | 89.05 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.800 | 0.800 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 120 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 120 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9972 |
| Torch-H | : | -0.1 mm | Omega Lens-ce | : | -0.4 V | Axis Offset | : | 0 |
| Torch-V | : | 0.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 553.4 | 4.95 | |
| QP Focus: | -8 V | 59 | 1050.4 | 3.77 | |
| Cell Exit: | -34 V | 89 | 1175.9 | 3.71 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Dec 04, 2013 09:34:42
Printed : Dec 04, 2013 09:35:33

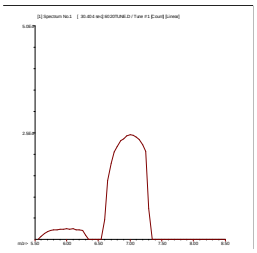
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Dec 4 2013 09:54 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

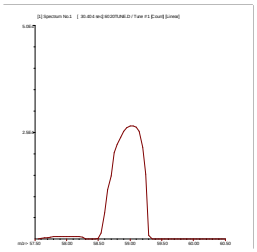
**QC Tune Summary:**
**Pass**

**RSD%**

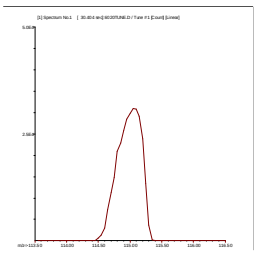
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.08 | 5.00 | 0 |
| 59 Co | 0.67 | 5.00 | |
| 115 In | 0.63 | 5.00 | |
| 205 Tl | 2.76 | 5.00 | |



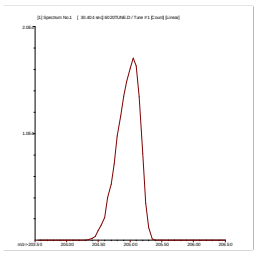
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Dec 09, 2013 08:13 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

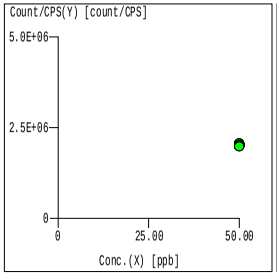
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

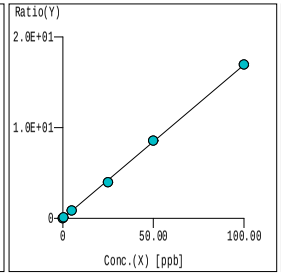
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13l04n00.b\002calb.d\002calb.d# | STDA | Dec 4 2013 01:45 pm |
| 2 | c:\icpchem\1\data\13l04n00.b\003cals.d\003cals.d# | STDB | Dec 4 2013 01:52 pm |
| 3 | c:\icpchem\1\data\13l04n00.b\004cals.d\004cals.d# | STDC | Dec 4 2013 01:59 pm |
| 4 | c:\icpchem\1\data\13l04n00.b\005cals.d\005cals.d# | STDD | Dec 4 2013 02:07 pm |
| 5 | c:\icpchem\1\data\13l04n00.b\006cals.d\006cals.d# | STDE | Dec 4 2013 02:14 pm |
| 6 | c:\icpchem\1\data\13l04n00.b\007cals.d\007cals.d# | STDF | Dec 4 2013 02:21 pm |
| 7 | c:\icpchem\1\data\13l04n00.b\008cals.d\008cals.d# | STDG | Dec 4 2013 02:28 pm |
| 8 | c:\icpchem\1\data\13l04n00.b\009cals.d\009cals.d# | STDH | Dec 4 2013 02:35 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

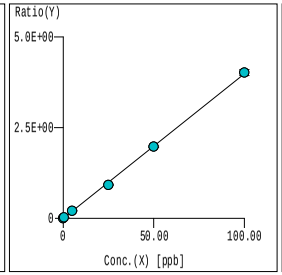
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

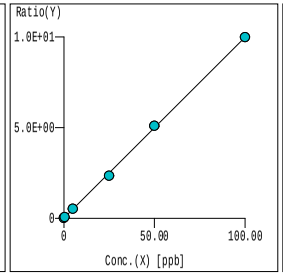
=== Graph Summary ===
Page: 1/4

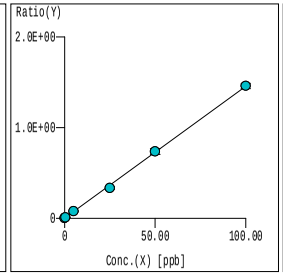
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9998 | 0.9997 | 0.9998 | 0.9997 | 1.0000 |
| < DL > | --- ppb | 1.181E-02 ppb | 3.531E-04 ppb | 4.345E-02 ppb | 1.923E-01 ppb | 9.290E-01 ppb |
| < BEC > | --- ppb | 1.195E-02 ppb | 1.156E-02 ppb | 1.565E-01 ppb | 1.588E-01 ppb | 15.67 ppb |

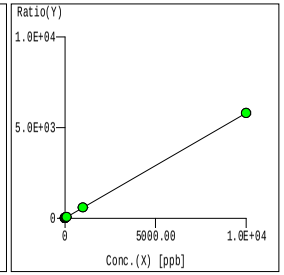


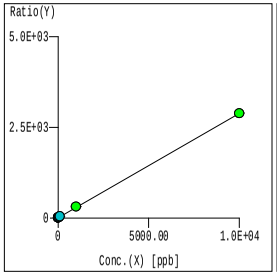



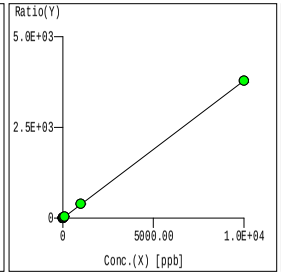



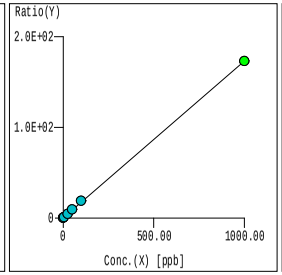



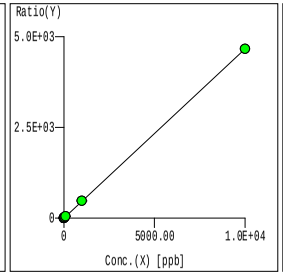



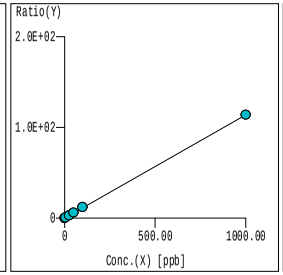

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.039E-01 ppb | 7.481E-03 ppb | 1.711E-01 ppb | 5.469E-02 ppb | 1.822E-01 ppb | 4.259 ppb |
| < BEC > | 40.68 ppb | 1.324 ppb | 1.187 ppb | 9.030E-01 ppb | 7.654E-01 ppb | 153.2 ppb |

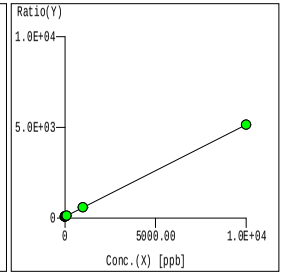


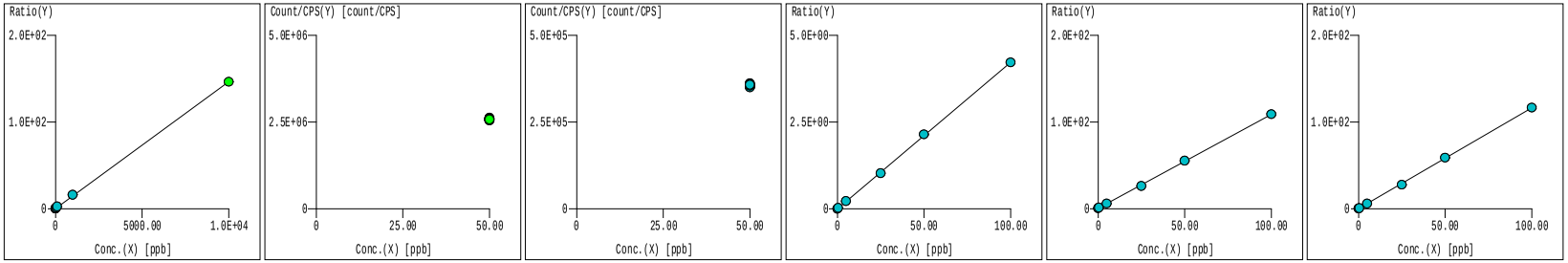



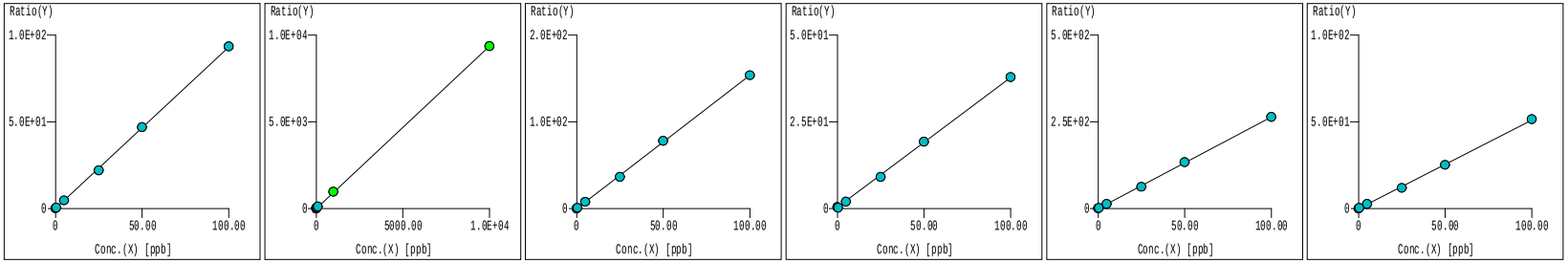
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9999 | 0.9999 |
| < DL > | 1.551 ppb | --- ppb | --- ppb | 1.360E-02 ppb | 1.238E-02 ppb | 3.064E-02 ppb |
| < BEC > | 21.11 ppb | --- ppb | --- ppb | 4.868E-02 ppb | 5.677E-01 ppb | 3.301E-01 ppb |



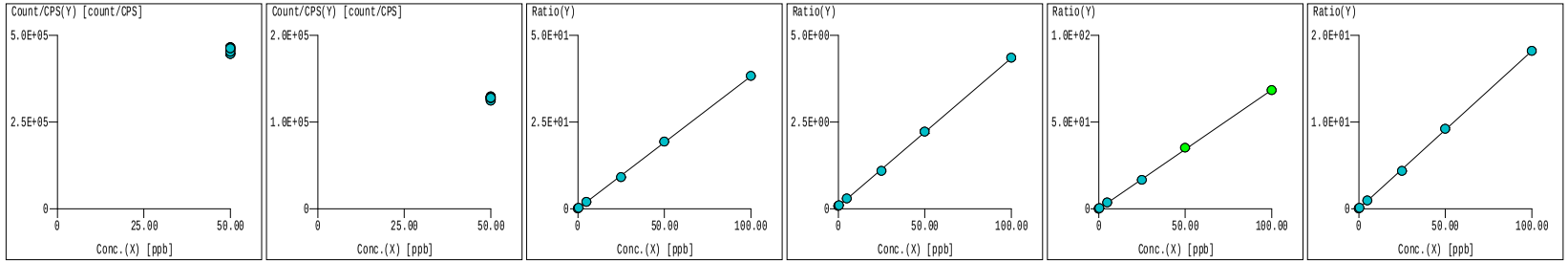

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 0.9998 | 0.9999 | 0.9998 |
| < DL > | 5.486E-03 ppb | 8.770E-02 ppb | 2.253E-03 ppb | 9.578E-02 ppb | 2.426E-02 ppb | 3.622E-02 ppb |
| < BEC > | 9.792E-02 ppb | 4.006 ppb | 5.124E-03 ppb | 1.026 ppb | 1.439E-01 ppb | 1.097E-01 ppb |



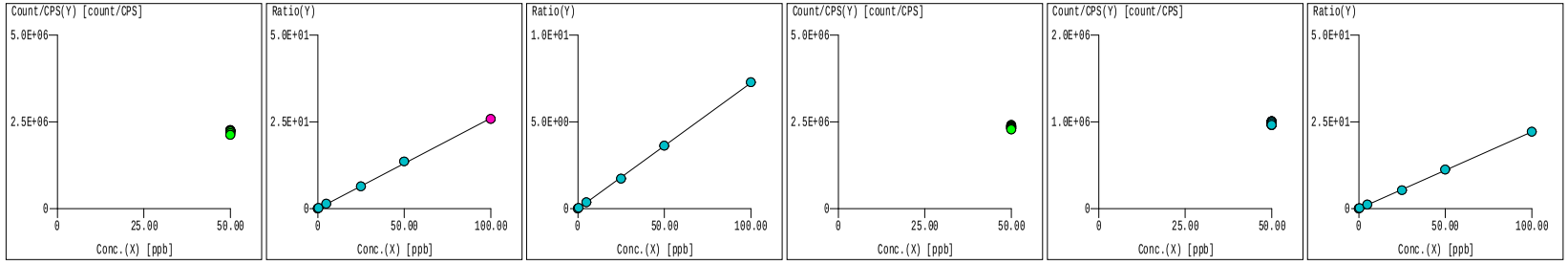
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 0.9999 | 0.9999 | 0.9999 |
| < DL > | --- ppb | --- ppb | 4.594E-02 ppb | 2.258E-01 ppb | 3.140E-03 ppb | 5.033E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.738E-01 ppb | 1.824 ppb | 1.255E-02 ppb | 1.936E-01 ppb |



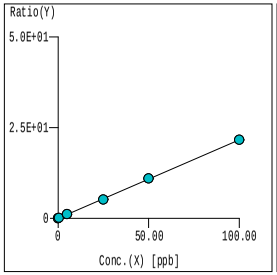

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9997 | 0.9999 | 0.0000 | 0.0000 | 0.9999 |
| < DL > | --- ppb | 2.290E-03 ppb | 4.060E-03 ppb | --- ppb | --- ppb | 3.024E-03 ppb |
| < BEC > | --- ppb | 9.043E-03 ppb | 6.088E-03 ppb | --- ppb | --- ppb | 2.073E-02 ppb |

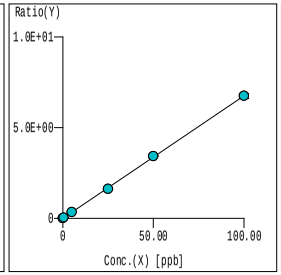


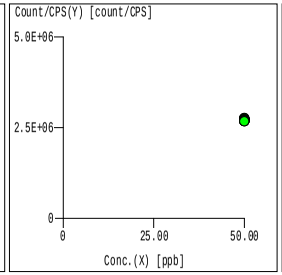
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

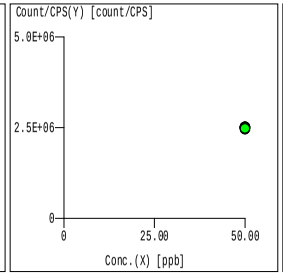
=== Graph Summary ===
Page: 4/4

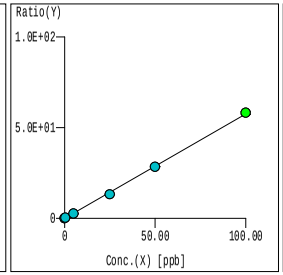
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.9997 | 0.9999 |
| < DL > | 5.054E-03 ppb | 2.912E-02 ppb | --- ppb | --- ppb | 8.865E-03 ppb | --- ppb |
| < BEC > | 1.398E-02 ppb | 9.625E-02 ppb | --- ppb | --- ppb | 4.466E-02 ppb | --- ppb |

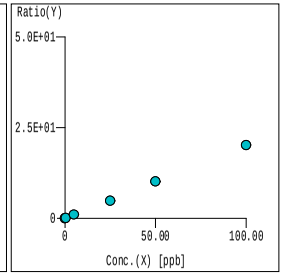




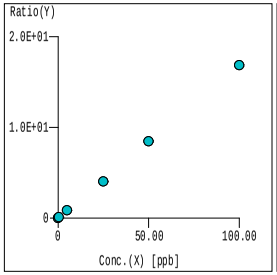


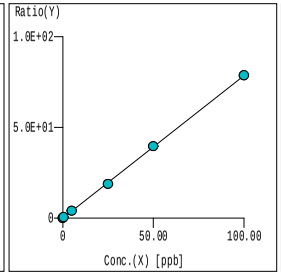


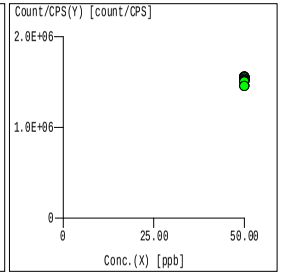





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 0.9999 | 0.9999 | 0.0000 |
| < DL > | --- ppb | 4.417E-03 ppb | --- ppb |
| < BEC > | --- ppb | 4.984E-02 ppb | --- ppb |







C:\ICPCHEM\1\DATA\13L09p00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\001CAL
Date Acquired: Dec 9 2013 03:49 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 02:25 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1876810.00 | A | 11490.00 | 0.61 |
| 7 | (Li) | | P | | |
| 9 | Be | 46.67 | P | 8.82 | 18.90 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 380.02 | P | 24.04 | 6.33 |
| 11 | B | 10.00 | P | 0.00 | 0.00 |
| 23 | Na | 322425.00 | P | 5202.00 | 1.61 |
| 23 | Na | 60416.80 | P | 436.10 | 0.72 |
| 24 | Mg | 28992.14 | P | 210.00 | 0.72 |
| 24 | Mg | 1749.05 | P | 56.71 | 3.24 |
| 27 | Al | 11961.40 | P | 287.30 | 2.40 |
| 27 | Al | 371.13 | P | 33.39 | 9.00 |
| 39 | K | 3820512.00 | A | 17350.00 | 0.45 |
| 44 | Ca | 13217.17 | P | 188.80 | 1.43 |
| 45 | Sc | 2543095.00 | A | 12780.00 | 0.50 |
| 45 | Sc | 347898.69 | P | 2129.00 | 0.61 |
| 47 | Ti | 155.56 | P | 25.24 | 16.23 |
| 51 | V | 3558.68 | P | 102.70 | 2.89 |
| 52 | Cr | 2723.39 | P | 38.31 | 1.41 |
| 55 | Mn | 764.92 | P | 34.00 | 4.44 |
| 56 | Fe | 27865.97 | P | 169.50 | 0.61 |
| 59 | Co | 52.00 | P | 10.41 | 20.02 |
| 60 | Ni | 2945.65 | P | 18.67 | 0.63 |
| 63 | Cu | 882.26 | P | 48.63 | 5.51 |
| 66 | Zn | 129.11 | P | 1.39 | 1.08 |
| 72 | Ge | 468071.50 | P | 3182.00 | 0.68 |
| 72 | Ge | 126547.70 | P | 800.40 | 0.63 |
| 75 | As | 158.22 | P | 5.97 | 3.78 |
| 78 | Se | 233.56 | P | 10.59 | 4.53 |
| 88 | Sr | 320.01 | P | 64.30 | 20.09 |
| 98 | Mo | 1661.27 | P | 87.84 | 5.29 |
| 103 | Rh | 2340876.00 | A | 6511.00 | 0.28 |
| 107 | Ag | 48.89 | P | 8.39 | 17.16 |

C:\ICPCHEM\1\DATA\13L09p00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 6.67 | P | 3.33 | 49.99 |
| 115 | In | 2429949.00 | A | 10790.00 | 0.44 |
| 115 | In | 1003907.00 | P | 9251.00 | 0.92 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 111.12 | P | 15.40 | 13.86 |
| 121 | Sb | 158.90 | P | 16.78 | 10.56 |
| 137 | Ba | 141.12 | P | 32.03 | 22.70 |
| 159 | Tb | 2846819.00 | A | 24960.00 | 0.88 |
| 175 | Lu | 2631386.00 | A | 8005.00 | 0.30 |
| 205 | Tl | 441.13 | P | 33.72 | 7.64 |
| 206 | (Pb) | 117.78 | P | 13.47 | 11.44 |
| 207 | (Pb) | 87.78 | P | 5.09 | 5.80 |
| 208 | Pb | 1013.39 | P | 14.53 | 1.43 |
| 209 | Bi | 1571625.00 | A | 7109.00 | 0.45 |

C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\002CAL
Date Acquired: Dec 9 2013 03:56 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 03:53 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1842766.00 | A | 12380.00 | 0.67 |
| 7 | (Li) | | P | | |
| 9 | Be | 38.89 | P | 13.47 | 34.64 |
| 9 | Be | 2.22 | P | 3.85 | 173.20 |
| 11 | B | 362.24 | P | 20.09 | 5.55 |
| 11 | B | 14.44 | P | 16.44 | 113.81 |
| 23 | Na | 314999.19 | P | 5204.00 | 1.65 |
| 23 | Na | 60631.97 | P | 118.40 | 0.20 |
| 24 | Mg | 28298.54 | P | 325.50 | 1.15 |
| 24 | Mg | 1654.60 | P | 90.34 | 5.46 |
| 27 | Al | 12605.95 | P | 934.70 | 7.41 |
| 27 | Al | 355.58 | P | 23.42 | 6.59 |
| 39 | K | 3814420.00 | A | 8566.00 | 0.22 |
| 44 | Ca | 12952.52 | P | 275.40 | 2.13 |
| 45 | Sc | 2524511.00 | A | 15560.00 | 0.62 |
| 45 | Sc | 345410.31 | P | 2407.00 | 0.70 |
| 47 | Ti | 176.67 | P | 32.83 | 18.58 |
| 51 | V | 3553.79 | P | 21.96 | 0.62 |
| 52 | Cr | 2801.18 | P | 44.76 | 1.60 |
| 55 | Mn | 768.47 | P | 25.17 | 3.28 |
| 56 | Fe | 27888.34 | P | 570.20 | 2.04 |
| 59 | Co | 61.78 | P | 3.08 | 4.98 |
| 60 | Ni | 3015.45 | P | 40.48 | 1.34 |
| 63 | Cu | 886.70 | P | 28.10 | 3.17 |
| 66 | Zn | 127.56 | P | 3.01 | 2.36 |
| 72 | Ge | 463635.41 | P | 950.80 | 0.21 |
| 72 | Ge | 125267.40 | P | 577.90 | 0.46 |
| 75 | As | 148.67 | P | 8.11 | 5.46 |
| 78 | Se | 214.89 | P | 16.09 | 7.49 |
| 88 | Sr | 333.35 | P | 24.04 | 7.21 |
| 98 | Mo | 1635.71 | P | 81.14 | 4.96 |
| 103 | Rh | 2323410.00 | A | 14530.00 | 0.63 |
| 107 | Ag | 45.56 | P | 10.18 | 22.35 |

C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 2386790.00 | A | 5670.00 | 0.24 |
| 115 | In | 996705.00 | P | 1708.00 | 0.17 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 95.56 | P | 25.46 | 26.64 |
| 121 | Sb | 140.01 | P | 24.04 | 17.17 |
| 137 | Ba | 140.01 | P | 3.33 | 2.38 |
| 159 | Tb | 2826049.00 | A | 22130.00 | 0.78 |
| 175 | Lu | 2625961.00 | A | 15080.00 | 0.57 |
| 205 | Tl | 418.91 | P | 17.11 | 4.08 |
| 206 | (Pb) | 130.01 | P | 12.02 | 9.25 |
| 207 | (Pb) | 101.12 | P | 13.88 | 13.73 |
| 208 | Pb | 1034.51 | P | 25.46 | 2.46 |
| 209 | Bi | 1559032.00 | A | 9534.00 | 0.61 |

C:\ICPCHEM\1\DATA\13L09p00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\003CALS.D\003CALS.D#
Date Acquired: Dec 9 2013 04:03 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1863187.00 | A | 30290.00 | 1.63 |
| 7 | (Li) | | P | | |
| 9 | Be | 3179.30 | P | 124.80 | 3.93 |
| 9 | Be | 120.00 | P | 14.53 | 12.11 |
| 11 | B | 2185.78 | P | 196.70 | 9.00 |
| 11 | B | 56.67 | P | 10.00 | 17.65 |
| 23 | Na | 351444.31 | P | 6654.00 | 1.89 |
| 23 | Na | 63414.04 | P | 600.90 | 0.95 |
| 24 | Mg | 40015.06 | P | 495.20 | 1.24 |
| 24 | Mg | 2359.15 | P | 22.20 | 0.94 |
| 27 | Al | 31645.72 | P | 1025.00 | 3.24 |
| 27 | Al | 1012.30 | P | 37.15 | 3.67 |
| 39 | K | 3828146.00 | A | 30090.00 | 0.79 |
| 44 | Ca | 13932.28 | P | 397.20 | 2.85 |
| 45 | Sc | 2514753.00 | A | 12240.00 | 0.49 |
| 45 | Sc | 343042.91 | P | 1894.00 | 0.55 |
| 47 | Ti | 1196.75 | P | 108.10 | 9.03 |
| 51 | V | 7260.46 | P | 48.51 | 0.67 |
| 52 | Cr | 6482.34 | P | 58.32 | 0.90 |
| 55 | Mn | 3956.56 | P | 22.79 | 0.58 |
| 56 | Fe | 32646.83 | P | 556.30 | 1.70 |
| 59 | Co | 5166.27 | P | 158.70 | 3.07 |
| 60 | Ni | 4081.04 | P | 120.70 | 2.96 |
| 63 | Cu | 4209.08 | P | 178.90 | 4.25 |
| 66 | Zn | 1000.93 | P | 8.95 | 0.89 |
| 72 | Ge | 461482.19 | P | 2965.00 | 0.64 |
| 72 | Ge | 125469.40 | P | 451.00 | 0.36 |
| 75 | As | 610.24 | P | 20.76 | 3.40 |
| 78 | Se | 253.34 | P | 5.03 | 1.99 |
| 88 | Sr | 16080.22 | P | 346.50 | 2.15 |
| 98 | Mo | 5701.31 | P | 123.50 | 2.17 |
| 103 | Rh | 2312861.00 | A | 14930.00 | 0.65 |
| 107 | Ag | 6443.84 | P | 95.74 | 1.49 |

C:\ICPCHEM\1\DATA\13L09p00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 684.49 | P | 36.72 | 5.36 |
| 115 | In | 2392588.00 | A | 17270.00 | 0.72 |
| 115 | In | 993032.69 | P | 2722.00 | 0.27 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 5356.72 | P | 79.23 | 1.48 |
| 121 | Sb | 5283.38 | P | 88.37 | 1.67 |
| 137 | Ba | 2005.77 | P | 44.28 | 2.21 |
| 159 | Tb | 2836369.00 | A | 23980.00 | 0.85 |
| 175 | Lu | 2614513.00 | A | 14630.00 | 0.56 |
| 205 | Tl | 8216.04 | P | 179.40 | 2.18 |
| 206 | (Pb) | 3350.53 | P | 60.29 | 1.80 |
| 207 | (Pb) | 2808.17 | P | 119.40 | 4.25 |
| 208 | Pb | 13595.40 | P | 148.10 | 1.09 |
| 209 | Bi | 1560303.00 | A | 15890.00 | 1.02 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1863187.00 | 1.63 | 1842765.80 | 101.1 | 70 - 130 | |
| 45 | Sc | 2514752.80 | 0.49 | 2524511.30 | 99.6 | 70 - 130 | |
| 45 | Sc | 343042.94 | 0.55 | 345410.28 | 99.3 | 70 - 130 | |
| 72 | Ge | 461482.19 | 0.64 | 463635.41 | 99.5 | 70 - 130 | |
| 72 | Ge | 125469.43 | 0.36 | 125267.45 | 100.2 | 70 - 130 | |
| 103 | Rh | 2312861.00 | 0.65 | 2323409.80 | 99.5 | 70 - 130 | |
| 115 | In | 2392587.80 | 0.72 | 2386790.50 | 100.2 | 70 - 130 | |
| 115 | In | 993032.69 | 0.27 | 996705.00 | 99.6 | 70 - 130 | |
| 159 | Tb | 2836369.00 | 0.85 | 2826049.50 | 100.4 | 70 - 130 | |
| 175 | Lu | 2614513.00 | 0.56 | 2625961.00 | 99.6 | 70 - 130 | |
| 209 | Bi | 1560302.90 | 1.02 | 1559032.30 | 100.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\004CALS.D\004CALS.D#
Date Acquired: Dec 9 2013 04:10 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:07 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1842680.00 | A | 36620.00 | 1.99 |
| 7 | (Li) | | P | | |
| 9 | Be | 31142.42 | P | 758.10 | 2.43 |
| 9 | Be | 1298.99 | P | 91.44 | 7.04 |
| 11 | B | 19014.21 | P | 319.10 | 1.68 |
| 11 | B | 468.91 | P | 20.09 | 4.28 |
| 23 | Na | 498333.50 | P | 4917.00 | 0.99 |
| 23 | Na | 73003.08 | P | 421.70 | 0.58 |
| 24 | Mg | 131866.41 | P | 655.70 | 0.50 |
| 24 | Mg | 8043.45 | P | 27.78 | 0.35 |
| 27 | Al | 150963.00 | P | 2581.00 | 1.71 |
| 27 | Al | 4585.27 | P | 158.70 | 3.46 |
| 39 | K | 3958468.00 | A | 11970.00 | 0.30 |
| 44 | Ca | 18674.03 | P | 469.00 | 2.51 |
| 45 | Sc | 2517839.00 | A | 29450.00 | 1.17 |
| 45 | Sc | 346822.50 | P | 3677.00 | 1.06 |
| 47 | Ti | 10730.74 | P | 271.70 | 2.53 |
| 51 | V | 39368.48 | P | 244.80 | 0.62 |
| 52 | Cr | 40763.28 | P | 388.90 | 0.95 |
| 55 | Mn | 31996.50 | P | 106.80 | 0.33 |
| 56 | Fe | 64944.84 | P | 623.50 | 0.96 |
| 59 | Co | 51232.99 | P | 279.90 | 0.55 |
| 60 | Ni | 15418.12 | P | 35.47 | 0.23 |
| 63 | Cu | 32361.04 | P | 194.00 | 0.60 |
| 66 | Zn | 7012.31 | P | 69.87 | 1.00 |
| 72 | Ge | 460539.31 | P | 5787.00 | 1.26 |
| 72 | Ge | 126057.00 | P | 1172.00 | 0.93 |
| 75 | As | 4745.88 | P | 45.77 | 0.96 |
| 78 | Se | 726.02 | P | 34.20 | 4.71 |
| 88 | Sr | 156410.50 | P | 488.30 | 0.31 |
| 98 | Mo | 41768.21 | P | 134.70 | 0.32 |
| 103 | Rh | 2322904.00 | A | 45880.00 | 1.98 |
| 107 | Ag | 64016.89 | P | 1123.00 | 1.75 |

C:\ICPCHEM\1\DATA\13L09p00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7015.26 | P | 173.80 | 2.48 |
| 115 | In | 2383408.00 | A | 29370.00 | 1.23 |
| 115 | In | 1006473.00 | P | 20040.00 | 1.99 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 53634.53 | P | 447.50 | 0.83 |
| 121 | Sb | 52121.07 | P | 626.50 | 1.20 |
| 137 | Ba | 18892.92 | P | 423.80 | 2.24 |
| 159 | Tb | 2827000.00 | A | 59550.00 | 2.11 |
| 175 | Lu | 2597256.00 | A | 45380.00 | 1.75 |
| 205 | Tl | 79701.78 | P | 1822.00 | 2.29 |
| 206 | (Pb) | 32060.10 | P | 247.90 | 0.77 |
| 207 | (Pb) | 26870.29 | P | 402.50 | 1.50 |
| 208 | Pb | 124962.30 | P | 1377.00 | 1.10 |
| 209 | Bi | 1550896.00 | A | 24560.00 | 1.58 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1842680.60 | 1.99 | 1842765.80 | 100.0 | 70 - 130 | |
| 45 | Sc | 2517839.00 | 1.17 | 2524511.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 346822.53 | 1.06 | 345410.28 | 100.4 | 70 - 130 | |
| 72 | Ge | 460539.25 | 1.26 | 463635.41 | 99.3 | 70 - 130 | |
| 72 | Ge | 126057.01 | 0.93 | 125267.45 | 100.6 | 70 - 130 | |
| 103 | Rh | 2322904.30 | 1.98 | 2323409.80 | 100.0 | 70 - 130 | |
| 115 | In | 2383408.00 | 1.23 | 2386790.50 | 99.9 | 70 - 130 | |
| 115 | In | 1006472.80 | 1.99 | 996705.00 | 101.0 | 70 - 130 | |
| 159 | Tb | 2827000.00 | 2.11 | 2826049.50 | 100.0 | 70 - 130 | |
| 175 | Lu | 2597256.00 | 1.75 | 2625961.00 | 98.9 | 70 - 130 | |
| 209 | Bi | 1550895.80 | 1.58 | 1559032.30 | 99.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\005CALS.D\005CALS.D#
Date Acquired: Dec 9 2013 04:18 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:14 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1866738.00 | A | 10220.00 | 0.55 |
| 7 | (Li) | | P | | |
| 9 | Be | 157984.00 | P | 1338.00 | 0.85 |
| 9 | Be | 6451.54 | P | 37.90 | 0.59 |
| 11 | B | 93189.31 | P | 955.70 | 1.03 |
| 11 | B | 2376.92 | P | 49.79 | 2.09 |
| 23 | Na | 1103542.00 | A | 17370.00 | 1.57 |
| 23 | Na | 114202.30 | P | 431.60 | 0.38 |
| 24 | Mg | 535264.63 | P | 4976.00 | 0.93 |
| 24 | Mg | 32625.79 | P | 915.30 | 2.81 |
| 27 | Al | 638199.63 | P | 3374.00 | 0.53 |
| 27 | Al | 19921.02 | P | 249.70 | 1.25 |
| 39 | K | 4479674.00 | A | 7843.00 | 0.18 |
| 44 | Ca | 38852.81 | P | 174.90 | 0.45 |
| 45 | Sc | 2539067.00 | A | 4792.00 | 0.19 |
| 45 | Sc | 342198.00 | P | 4009.00 | 1.17 |
| 47 | Ti | 53327.17 | P | 545.30 | 1.02 |
| 51 | V | 182316.80 | P | 2024.00 | 1.11 |
| 52 | Cr | 195075.80 | P | 1224.00 | 0.63 |
| 55 | Mn | 155804.59 | P | 787.30 | 0.51 |
| 56 | Fe | 205887.41 | P | 2300.00 | 1.12 |
| 59 | Co | 255773.70 | P | 1633.00 | 0.64 |
| 60 | Ni | 65324.41 | P | 811.50 | 1.24 |
| 63 | Cu | 157027.09 | P | 1022.00 | 0.65 |
| 66 | Zn | 30556.69 | P | 193.20 | 0.63 |
| 72 | Ge | 459613.00 | P | 3385.00 | 0.74 |
| 72 | Ge | 125248.20 | P | 1174.00 | 0.94 |
| 75 | As | 23012.78 | P | 221.50 | 0.96 |
| 78 | Se | 2788.05 | P | 5.67 | 0.20 |
| 88 | Sr | 779017.13 | P | 4878.00 | 0.63 |
| 98 | Mo | 200670.30 | P | 1062.00 | 0.53 |
| 103 | Rh | 2331012.00 | A | 19930.00 | 0.85 |
| 107 | Ag | 317933.81 | P | 3068.00 | 0.96 |

C:\ICPCHEM\1\DATA\13L09p00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 34072.37 | P | 98.16 | 0.29 |
| 115 | In | 2416434.00 | A | 23020.00 | 0.95 |
| 115 | In | 988296.88 | P | 5004.00 | 0.51 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 263890.09 | P | 3660.00 | 1.39 |
| 121 | Sb | 256085.70 | P | 1699.00 | 0.66 |
| 137 | Ba | 93922.56 | P | 962.10 | 1.02 |
| 159 | Tb | 2889175.00 | A | 16160.00 | 0.56 |
| 175 | Lu | 2661008.00 | A | 27550.00 | 1.04 |
| 205 | Tl | 425078.09 | P | 3974.00 | 0.93 |
| 206 | (Pb) | 158164.59 | P | 1758.00 | 1.11 |
| 207 | (Pb) | 133077.91 | P | 1117.00 | 0.84 |
| 208 | Pb | 618765.88 | P | 6549.00 | 1.06 |
| 209 | Bi | 1579959.00 | A | 17540.00 | 1.11 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1866737.60 | 0.55 | 1842765.80 | 101.3 | 70 - 130 | |
| 45 | Sc | 2539067.50 | 0.19 | 2524511.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 342197.97 | 1.17 | 345410.28 | 99.1 | 70 - 130 | |
| 72 | Ge | 459613.00 | 0.74 | 463635.41 | 99.1 | 70 - 130 | |
| 72 | Ge | 125248.21 | 0.94 | 125267.45 | 100.0 | 70 - 130 | |
| 103 | Rh | 2331011.80 | 0.85 | 2323409.80 | 100.3 | 70 - 130 | |
| 115 | In | 2416433.50 | 0.95 | 2386790.50 | 101.2 | 70 - 130 | |
| 115 | In | 988296.88 | 0.51 | 996705.00 | 99.2 | 70 - 130 | |
| 159 | Tb | 2889174.80 | 0.56 | 2826049.50 | 102.2 | 70 - 130 | |
| 175 | Lu | 2661008.30 | 1.04 | 2625961.00 | 101.3 | 70 - 130 | |
| 209 | Bi | 1579959.00 | 1.11 | 1559032.30 | 101.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\006CALS.D\006CALS.D#
Date Acquired: Dec 9 2013 04:25 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:21 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1862054.00 | A | 5493.00 | 0.30 |
| 7 | (Li) | | P | | |
| 9 | Be | 313708.00 | P | 641.20 | 0.20 |
| 9 | Be | 12887.86 | P | 464.20 | 3.60 |
| 11 | B | 184859.80 | P | 1256.00 | 0.68 |
| 11 | B | 4644.16 | P | 44.12 | 0.95 |
| 23 | Na | 1827031.00 | A | 15470.00 | 0.85 |
| 23 | Na | 165840.30 | P | 1242.00 | 0.75 |
| 24 | Mg | 1049375.00 | A | 1297.00 | 0.12 |
| 24 | Mg | 62566.50 | P | 404.10 | 0.65 |
| 27 | Al | 1281059.00 | A | 7725.00 | 0.60 |
| 27 | Al | 39608.73 | P | 927.10 | 2.34 |
| 39 | K | 5085132.00 | A | 13680.00 | 0.27 |
| 44 | Ca | 64418.11 | P | 339.30 | 0.53 |
| 45 | Sc | 2498454.00 | A | 5320.00 | 0.21 |
| 45 | Sc | 337962.41 | P | 2404.00 | 0.71 |
| 47 | Ti | 105779.40 | P | 1115.00 | 1.05 |
| 51 | V | 356481.41 | P | 2228.00 | 0.63 |
| 52 | Cr | 381907.81 | P | 1888.00 | 0.49 |
| 55 | Mn | 307930.81 | P | 2460.00 | 0.80 |
| 56 | Fe | 378066.09 | P | 1623.00 | 0.43 |
| 59 | Co | 503778.59 | P | 2283.00 | 0.45 |
| 60 | Ni | 127257.70 | P | 545.10 | 0.43 |
| 63 | Cu | 308944.31 | P | 1826.00 | 0.59 |
| 66 | Zn | 58436.11 | P | 98.15 | 0.17 |
| 72 | Ge | 452660.31 | P | 2217.00 | 0.49 |
| 72 | Ge | 123415.50 | P | 524.10 | 0.42 |
| 75 | As | 45528.37 | P | 27.61 | 0.06 |
| 78 | Se | 5433.01 | P | 120.70 | 2.22 |
| 88 | Sr | 1538499.00 | A | 18310.00 | 1.19 |
| 98 | Mo | 398772.00 | P | 4334.00 | 1.09 |
| 103 | Rh | 2321926.00 | A | 8392.00 | 0.36 |
| 107 | Ag | 628318.19 | P | 9460.00 | 1.51 |

C:\ICPCHEM\1\DATA\13L09p00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 67759.73 | P | 440.70 | 0.65 |
| 115 | In | 2383832.00 | A | 4301.00 | 0.18 |
| 115 | In | 974610.50 | P | 4654.00 | 0.48 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 525255.00 | P | 4535.00 | 0.86 |
| 121 | Sb | 505908.81 | P | 4200.00 | 0.83 |
| 137 | Ba | 185901.50 | P | 1324.00 | 0.71 |
| 159 | Tb | 2844505.00 | A | 6071.00 | 0.21 |
| 175 | Lu | 2620082.00 | A | 26540.00 | 1.01 |
| 205 | Tl | 879440.63 | P | 1099.00 | 0.12 |
| 206 | (Pb) | 312987.59 | P | 1093.00 | 0.35 |
| 207 | (Pb) | 260392.59 | P | 784.60 | 0.30 |
| 208 | Pb | 1217495.00 | P | 2978.00 | 0.24 |
| 209 | Bi | 1551347.00 | A | 16830.00 | 1.08 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1862053.50 | 0.30 | 1842765.80 | 101.0 | 70 - 130 | |
| 45 | Sc | 2498454.00 | 0.21 | 2524511.30 | 99.0 | 70 - 130 | |
| 45 | Sc | 337962.41 | 0.71 | 345410.28 | 97.8 | 70 - 130 | |
| 72 | Ge | 452660.25 | 0.49 | 463635.41 | 97.6 | 70 - 130 | |
| 72 | Ge | 123415.52 | 0.42 | 125267.45 | 98.5 | 70 - 130 | |
| 103 | Rh | 2321926.00 | 0.36 | 2323409.80 | 99.9 | 70 - 130 | |
| 115 | In | 2383832.30 | 0.18 | 2386790.50 | 99.9 | 70 - 130 | |
| 115 | In | 974610.50 | 0.48 | 996705.00 | 97.8 | 70 - 130 | |
| 159 | Tb | 2844505.50 | 0.21 | 2826049.50 | 100.7 | 70 - 130 | |
| 175 | Lu | 2620081.80 | 1.01 | 2625961.00 | 99.8 | 70 - 130 | |
| 209 | Bi | 1551347.00 | 1.08 | 1559032.30 | 99.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\007CALS.D\007CALS.D#
Date Acquired: Dec 9 2013 04:32 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:28 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1857847.00 | A | 22080.00 | 1.19 |
| 7 | (Li) | | P | | |
| 9 | Be | 619812.31 | P | 2450.00 | 0.40 |
| 9 | Be | 25478.92 | P | 123.70 | 0.49 |
| 11 | B | 364348.69 | P | 2512.00 | 0.69 |
| 11 | B | 9220.73 | P | 327.70 | 3.55 |
| 23 | Na | 3210729.00 | A | 14790.00 | 0.46 |
| 23 | Na | 265864.59 | P | 1056.00 | 0.40 |
| 24 | Mg | 2020422.00 | A | 1174.00 | 0.06 |
| 24 | Mg | 120384.70 | P | 503.40 | 0.42 |
| 27 | Al | 2452932.00 | A | 18490.00 | 0.75 |
| 27 | Al | 77364.64 | P | 1253.00 | 1.62 |
| 39 | K | 6269269.00 | A | 46110.00 | 0.74 |
| 44 | Ca | 111003.20 | P | 1906.00 | 1.72 |
| 45 | Sc | 2503853.00 | A | 13550.00 | 0.54 |
| 45 | Sc | 336310.50 | P | 2164.00 | 0.64 |
| 47 | Ti | 207898.41 | P | 1586.00 | 0.76 |
| 51 | V | 700483.31 | P | 3781.00 | 0.54 |
| 52 | Cr | 745712.63 | P | 4290.00 | 0.58 |
| 55 | Mn | 603477.00 | P | 4340.00 | 0.72 |
| 56 | Fe | 712881.69 | P | 2751.00 | 0.39 |
| 59 | Co | 986816.38 | P | 3270.00 | 0.33 |
| 60 | Ni | 245994.20 | P | 753.10 | 0.31 |
| 63 | Cu | 605655.63 | P | 1382.00 | 0.23 |
| 66 | Zn | 114091.50 | P | 220.20 | 0.19 |
| 72 | Ge | 446607.59 | P | 3711.00 | 0.83 |
| 72 | Ge | 122041.90 | P | 1039.00 | 0.85 |
| 75 | As | 89222.72 | P | 174.40 | 0.20 |
| 78 | Se | 10369.82 | P | 185.30 | 1.79 |
| 88 | Sr | 2993808.00 | A | 13050.00 | 0.44 |
| 98 | Mo | 777775.69 | P | 4391.00 | 0.56 |
| 103 | Rh | 2298374.00 | A | 11250.00 | 0.49 |
| 107 | Ag | 1225372.00 | P | 6183.00 | 0.50 |

C:\ICPCHEM\1\DATA\13L09p00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 132482.09 | P | 667.70 | 0.50 |
| 115 | In | 2379429.00 | A | 7500.00 | 0.32 |
| 115 | In | 957731.50 | P | 5199.00 | 0.54 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1023528.00 | P | 9299.00 | 0.91 |
| 121 | Sb | 991000.19 | P | 8212.00 | 0.83 |
| 137 | Ba | 363582.19 | P | 2469.00 | 0.68 |
| 159 | Tb | 2830494.00 | A | 19790.00 | 0.70 |
| 175 | Lu | 2582565.00 | A | 12950.00 | 0.50 |
| 205 | Tl | 1760624.00 | A | 17030.00 | 0.97 |
| 206 | (Pb) | 608167.19 | P | 3309.00 | 0.54 |
| 207 | (Pb) | 510254.59 | P | 1458.00 | 0.29 |
| 208 | Pb | 2381958.00 | P | 15720.00 | 0.66 |
| 209 | Bi | 1546464.00 | A | 10730.00 | 0.69 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1857847.30 | 1.19 | 1842765.80 | 100.8 | 70 - 130 | |
| 45 | Sc | 2503852.80 | 0.54 | 2524511.30 | 99.2 | 70 - 130 | |
| 45 | Sc | 336310.53 | 0.64 | 345410.28 | 97.4 | 70 - 130 | |
| 72 | Ge | 446607.66 | 0.83 | 463635.41 | 96.3 | 70 - 130 | |
| 72 | Ge | 122041.88 | 0.85 | 125267.45 | 97.4 | 70 - 130 | |
| 103 | Rh | 2298373.80 | 0.49 | 2323409.80 | 98.9 | 70 - 130 | |
| 115 | In | 2379429.30 | 0.32 | 2386790.50 | 99.7 | 70 - 130 | |
| 115 | In | 957731.56 | 0.54 | 996705.00 | 96.1 | 70 - 130 | |
| 159 | Tb | 2830494.00 | 0.70 | 2826049.50 | 100.2 | 70 - 130 | |
| 175 | Lu | 2582565.50 | 0.50 | 2625961.00 | 98.3 | 70 - 130 | |
| 209 | Bi | 1546464.30 | 0.69 | 1559032.30 | 99.2 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 9 2013 04:39 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:36 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1846110.00 | A | 5507.00 | 0.30 |
| 7 | (Li) | | P | | |
| 9 | Be | 141.12 | P | 30.06 | 21.30 |
| 9 | Be | 12.22 | P | 6.94 | 56.77 |
| 11 | B | 3464.94 | P | 175.40 | 5.06 |
| 11 | B | 70.00 | P | 11.55 | 16.50 |
| 23 | Na | 28798400.00 | A | 258100.00 | 0.90 |
| 23 | Na | 2058944.00 | A | 21540.00 | 1.05 |
| 24 | Mg | 19003940.00 | A | 58250.00 | 0.31 |
| 24 | Mg | 1148877.00 | A | 15420.00 | 1.34 |
| 27 | Al | 23257830.00 | A | 42810.00 | 0.18 |
| 27 | Al | 760716.38 | P | 3877.00 | 0.51 |
| 39 | K | 29065370.00 | A | 102700.00 | 0.35 |
| 44 | Ca | 794126.38 | P | 1439.00 | 0.18 |
| 45 | Sc | 2524394.00 | A | 12960.00 | 0.51 |
| 45 | Sc | 341848.41 | P | 3115.00 | 0.91 |
| 47 | Ti | 228.90 | P | 20.10 | 8.78 |
| 51 | V | 3659.60 | P | 33.35 | 0.91 |
| 52 | Cr | 2793.63 | P | 71.81 | 2.57 |
| 55 | Mn | 1092.94 | P | 15.91 | 1.46 |
| 56 | Fe | 6449933.00 | A | 70680.00 | 1.10 |
| 59 | Co | 372.45 | P | 2.04 | 0.55 |
| 60 | Ni | 2809.18 | P | 44.73 | 1.59 |
| 63 | Cu | 994.27 | P | 59.52 | 5.99 |
| 66 | Zn | 528.24 | P | 21.11 | 4.00 |
| 72 | Ge | 461029.19 | P | 3206.00 | 0.70 |
| 72 | Ge | 124882.30 | P | 26.75 | 0.02 |
| 75 | As | 181.34 | P | 13.78 | 7.60 |
| 78 | Se | 214.00 | P | 12.98 | 6.07 |
| 88 | Sr | 1895.74 | P | 100.90 | 5.32 |
| 98 | Mo | 9138.65 | P | 359.60 | 3.93 |
| 103 | Rh | 2295509.00 | A | 23480.00 | 1.02 |
| 107 | Ag | 187.79 | P | 25.89 | 13.79 |

C:\ICPCHEM\1\DATA\13L09p00.B\008CALS.D\008CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 21.11 | P | 6.94 | 32.87 | |
| 115 | In | 2379861.00 | A | 7580.00 | 0.32 | |
| 115 | In | 990448.19 | P | 1973.00 | 0.20 | |
| 118 | (In) | | P | | | |
| 118 | (In) | | P | | | |
| 120 | Sn | 865.61 | P | 32.38 | 3.74 | |
| 121 | Sb | 641.15 | P | 66.20 | 10.33 | |
| 137 | Ba | 231.12 | P | 54.30 | 23.49 | |
| 159 | Tb | 2821730.00 | A | 9824.00 | 0.35 | |
| 175 | Lu | 2629787.00 | A | 34010.00 | 1.29 | |
| 205 | Tl | 5977.04 | P | 129.60 | 2.17 | |
| 206 | (Pb) | 225.57 | P | 5.09 | 2.26 | |
| 207 | (Pb) | 202.23 | P | 27.96 | 13.83 | |
| 208 | Pb | 1394.54 | P | 60.59 | 4.34 | |
| 209 | Bi | 1543222.00 | A | 11250.00 | 0.73 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1846109.80 | 0.30 | 1842765.80 | 100.2 | 70 - 130 | |
| 45 | Sc | 2524393.50 | 0.51 | 2524511.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 341848.41 | 0.91 | 345410.28 | 99.0 | 70 - 130 | |
| 72 | Ge | 461029.22 | 0.70 | 463635.41 | 99.4 | 70 - 130 | |
| 72 | Ge | 124882.30 | 0.02 | 125267.45 | 99.7 | 70 - 130 | |
| 103 | Rh | 2295508.50 | 1.02 | 2323409.80 | 98.8 | 70 - 130 | |
| 115 | In | 2379861.00 | 0.32 | 2386790.50 | 99.7 | 70 - 130 | |
| 115 | In | 990448.19 | 0.20 | 996705.00 | 99.4 | 70 - 130 | |
| 159 | Tb | 2821730.30 | 0.35 | 2826049.50 | 99.8 | 70 - 130 | |
| 175 | Lu | 2629787.50 | 1.29 | 2625961.00 | 100.1 | 70 - 130 | |
| 209 | Bi | 1543222.00 | 0.73 | 1559032.30 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 9 2013 04:46 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 09 2013 04:43 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1819380.00 | A | 317400.00 | 17.45 |
| 7 | (Li) | | P | | |
| 9 | Be | 93.34 | P | 21.86 | 23.42 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 1491.23 | P | 54.00 | 3.62 |
| 11 | B | 37.78 | P | 6.94 | 18.37 |
| 23 | Na | 272671300.00 | A | 8444000.00 | 3.10 |
| 23 | Na | 18662350.00 | A | 168200.00 | 0.90 |
| 24 | Mg | 178136800.00 | A | 6870000.00 | 3.86 |
| 24 | Mg | 10524750.00 | A | 97280.00 | 0.92 |
| 27 | Al | 219753600.00 | A | 9013000.00 | 4.10 |
| 27 | Al | 6848570.00 | A | 78340.00 | 1.14 |
| 39 | K | 244368100.00 | A | 7285000.00 | 2.98 |
| 44 | Ca | 7050076.00 | A | 259900.00 | 3.69 |
| 45 | Sc | 2542221.00 | A | 577000.00 | 22.70 |
| 45 | Sc | 340508.50 | P | 1770.00 | 0.52 |
| 47 | Ti | 188.90 | P | 41.68 | 22.07 |
| 51 | V | 3452.88 | P | 30.25 | 0.88 |
| 52 | Cr | 3735.17 | P | 42.79 | 1.15 |
| 55 | Mn | 2365.99 | P | 28.27 | 1.19 |
| 56 | Fe | 61895000.00 | A | 136400.00 | 0.22 |
| 59 | Co | 1986.82 | P | 19.64 | 0.99 |
| 60 | Ni | 3237.28 | P | 50.86 | 1.57 |
| 63 | Cu | 1172.95 | P | 51.17 | 4.36 |
| 66 | Zn | 5053.53 | P | 75.51 | 1.49 |
| 72 | Ge | 468204.00 | P | 86320.00 | 18.44 |
| 72 | Ge | 124755.10 | P | 336.80 | 0.27 |
| 75 | As | 175.78 | P | 6.68 | 3.80 |
| 78 | Se | 208.23 | P | 10.03 | 4.82 |
| 88 | Sr | 12190.95 | P | 378.00 | 3.10 |
| 98 | Mo | 3409.41 | P | 45.53 | 1.34 |
| 103 | Rh | 2227733.00 | A | 505600.00 | 22.70 |
| 107 | Ag | 413.36 | P | 36.06 | 8.72 |

C:\ICPCHEM\1\DATA\13L09p00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 33.33 | P | 8.82 | 26.46 |
| 115 | In | 2341461.00 | A | 522500.00 | 22.32 |
| 115 | In | 968913.00 | P | 10000.00 | 1.03 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 487.80 | P | 27.95 | 5.73 |
| 121 | Sb | 364.46 | P | 51.03 | 14.00 |
| 137 | Ba | 262.23 | P | 30.97 | 11.81 |
| 159 | Tb | 2828907.00 | A | 647500.00 | 22.89 |
| 175 | Lu | 2616708.00 | A | 586600.00 | 22.42 |
| 205 | Tl | 2168.04 | P | 133.90 | 6.18 |
| 206 | (Pb) | 176.67 | P | 5.77 | 3.27 |
| 207 | (Pb) | 163.34 | P | 24.04 | 14.72 |
| 208 | Pb | 1260.09 | P | 194.70 | 15.45 |
| 209 | Bi | 1490158.00 | A | 319600.00 | 21.45 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1819380.10 | 17.45 | 1842765.80 | 98.7 | 70 - 130 | |
| 45 | Sc | 2542220.50 | 22.70 | 2524511.30 | 100.7 | 70 - 130 | |
| 45 | Sc | 340508.50 | 0.52 | 345410.28 | 98.6 | 70 - 130 | |
| 72 | Ge | 468204.00 | 18.44 | 463635.41 | 101.0 | 70 - 130 | |
| 72 | Ge | 124755.10 | 0.27 | 125267.45 | 99.6 | 70 - 130 | |
| 103 | Rh | 2227733.50 | 22.70 | 2323409.80 | 95.9 | 70 - 130 | |
| 115 | In | 2341460.50 | 22.32 | 2386790.50 | 98.1 | 70 - 130 | |
| 115 | In | 968913.00 | 1.03 | 996705.00 | 97.2 | 70 - 130 | |
| 159 | Tb | 2828907.30 | 22.89 | 2826049.50 | 100.1 | 70 - 130 | |
| 175 | Lu | 2616707.80 | 22.42 | 2625961.00 | 99.6 | 70 - 130 | |
| 209 | Bi | 1490157.90 | 21.45 | 1559032.30 | 95.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L09p00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\010SMPL.D\010SMPL.D#
Date Acquired: Dec 9 2013 04:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.70 | 59.70 | ppb | 2.17 | 900.00 | |
| 9 Be | 45 | 2 | 59.58 | 59.58 | ppb | 2.48 | 900.00 | |
| 11 B | 6 | 1 | 62.26 | 62.26 | ppb | 0.55 | 900.00 | |
| 11 B | 45 | 2 | 62.99 | 62.99 | ppb | 2.92 | 900.00 | |
| 23 Na | 45 | 1 | 5448.00 | 5448.00 | ppb | 3.14 | 90000.00 | |
| 23 Na | 45 | 2 | 5670.00 | 5670.00 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 1 | 5497.00 | 5497.00 | ppb | 2.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 5229.00 | 5229.00 | ppb | 2.03 | 90000.00 | |
| 27 Al | 45 | 1 | 5765.00 | 5765.00 | ppb | 1.56 | 90000.00 | |
| 27 Al | 45 | 2 | 5282.00 | 5282.00 | ppb | 3.27 | 90000.00 | |
| 39 K | 45 | 1 | 5540.00 | 5540.00 | ppb | 0.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 5482.00 | 5482.00 | ppb | 0.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.84 | 59.84 | ppb | 1.62 | 900.00 | |
| 51 V | 45 | 2 | 57.91 | 57.91 | ppb | 2.97 | 900.00 | |
| 52 Cr | 45 | 2 | 58.34 | 58.34 | ppb | 0.38 | 900.00 | |
| 55 Mn | 45 | 2 | 57.04 | 57.04 | ppb | 3.24 | 900.00 | |
| 56 Fe | 45 | 2 | 5595.00 | 5595.00 | ppb | 1.19 | 90000.00 | |
| 59 Co | 45 | 2 | 57.82 | 57.82 | ppb | 0.83 | 900.00 | |
| 60 Ni | 45 | 2 | 57.23 | 57.23 | ppb | 1.94 | 900.00 | |
| 63 Cu | 72 | 2 | 57.28 | 57.28 | ppb | 1.61 | 900.00 | |
| 66 Zn | 72 | 2 | 58.07 | 58.07 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 57.96 | 57.96 | ppb | 0.12 | 900.00 | |
| 78 Se | 72 | 2 | 60.43 | 60.43 | ppb | 1.37 | 900.00 | |
| 88 Sr | 103 | 1 | 62.15 | 62.15 | ppb | 2.27 | 900.00 | |
| 98 Mo | 103 | 1 | 62.23 | 62.23 | ppb | 0.94 | 900.00 | |
| 107 Ag | 115 | 1 | 61.42 | 61.42 | ppb | 0.99 | 900.00 | |
| 111 Cd | 115 | 2 | 59.94 | 59.94 | ppb | 3.44 | 900.00 | |
| 120 Sn | 115 | 1 | 62.55 | 62.55 | ppb | 1.33 | 900.00 | |
| 121 Sb | 115 | 1 | 60.23 | 60.23 | ppb | 0.36 | 900.00 | |
| 137 Ba | 159 | 1 | 58.90 | 58.90 | ppb | 1.32 | 900.00 | |
| 205 Tl | 209 | 1 | 56.49 | 56.49 | ppb | 2.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.36 | 59.36 | ppb | 0.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1929234 | 1.40 | 1842766 | 104.7 | 70 - 130 | |
| 45 Sc | 1 | 2628668 | 1.85 | 2524511 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 346677 | 1.86 | 345410 | 100.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464384 | 0.48 | 463635 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124892 | 0.31 | 125267 | 99.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2289429 | 1.77 | 2323410 | 98.5 | 70 | - | 130 |
| 115 | In | 1 | 2389859 | 0.19 | 2386791 | 100.1 | 70 | - | 130 |
| 115 | In | 2 | 987183 | 2.30 | 996705 | 99.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2919847 | 1.94 | 2826050 | 103.3 | 70 | - | 130 |
| 175 | Lu | 1 | 2675711 | 0.58 | 2625961 | 101.9 | 70 | - | 130 |
| 209 | Bi | 1 | 1545584 | 1.75 | 1559032 | 99.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\011SMPL.D\011SMPL.D#
Date Acquired: Dec 9 2013 05:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICB
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 18.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 3.04 | 900.00 | |
| 11 B | 6 | 1 | 0.42 | 0.42 | ppb | 20.25 | 900.00 | |
| 11 B | 45 | 2 | 0.42 | 0.42 | ppb | 14.68 | 900.00 | |
| 23 Na | 45 | 1 | 1.56 | 1.56 | ppb | 39.11 | 90000.00 | |
| 23 Na | 45 | 2 | 1.20 | 1.20 | ppb | 30.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.39 | 1.39 | ppb | 30.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.21 | 0.21 | ppb | 56.61 | 90000.00 | |
| 27 Al | 45 | 1 | 0.64 | 0.64 | ppb | 25.81 | 90000.00 | |
| 27 Al | 45 | 2 | 0.20 | 0.20 | ppb | 43.45 | 90000.00 | |
| 39 K | 45 | 1 | -9.60 | -9.60 | ppb | 154.83 | 90000.00 | |
| 44 Ca | 45 | 1 | 3.30 | 3.30 | ppb | 34.96 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 79.06 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 143.86 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 60.16 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 157.64 | 900.00 | |
| 56 Fe | 45 | 2 | 0.44 | 0.44 | ppb | 7.75 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 48.83 | 900.00 | |
| 60 Ni | 45 | 2 | -0.11 | -0.11 | ppb | 25.63 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 134.89 | 900.00 | |
| 66 Zn | 72 | 2 | 0.17 | 0.17 | ppb | 5.28 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 83.92 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.06 | ppb | 325.33 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 18.51 | 900.00 | |
| 98 Mo | 103 | 1 | 0.47 | 0.47 | ppb | 1.86 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 15.77 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 49.58 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.05 | ppb | 14.27 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 7.47 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 32.25 | 900.00 | |
| 205 Tl | 209 | 1 | 0.39 | 0.39 | ppb | 5.04 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 4.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2021486 | 11.11 | 1842766 | 109.7 | 70 - 130 | |
| 45 Sc | 1 | 2690938 | 9.69 | 2524511 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 341189 | 1.05 | 345410 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 478555 | 8.46 | 463635 | 103.2 | 70 | - | 130 |
| 72 | Ge | 2 | 125285 | 0.36 | 125267 | 100.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2382698 | 6.31 | 2323410 | 102.6 | 70 | - | 130 |
| 115 | In | 1 | 2450758 | 3.63 | 2386791 | 102.7 | 70 | - | 130 |
| 115 | In | 2 | 999394 | 0.09 | 996705 | 100.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2858082 | 8.41 | 2826050 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2611681 | 5.00 | 2625961 | 99.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1599770 | 4.42 | 1559032 | 102.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L09p00.B\012SMPL.D\012SMPL.D# | | |
| **Date Acquired:** | Dec 9 2013 05:08 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2103 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 09 2013 04:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.77 | 50.77 | ppb | 5.38 | 900.00 | |
| 9 Be | 45 | 2 | 49.99 | 49.99 | ppb | 1.79 | 900.00 | |
| 11 B | 6 | 1 | 52.70 | 52.70 | ppb | 5.33 | 900.00 | |
| 11 B | 45 | 2 | 51.22 | 51.22 | ppb | 1.35 | 900.00 | |
| 23 Na | 45 | 1 | 4922.00 | 4922.00 | ppb | 3.44 | 90000.00 | |
| 23 Na | 45 | 2 | 5074.00 | 5074.00 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 1 | 4933.00 | 4933.00 | ppb | 3.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 4711.00 | 4711.00 | ppb | 0.41 | 90000.00 | |
| 27 Al | 45 | 1 | 4942.00 | 4942.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 2 | 4666.00 | 4666.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 4998.00 | 4998.00 | ppb | 2.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 5037.00 | 5037.00 | ppb | 2.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.48 | 49.48 | ppb | 2.55 | 900.00 | |
| 51 V | 45 | 2 | 49.71 | 49.71 | ppb | 0.21 | 900.00 | |
| 52 Cr | 45 | 2 | 49.05 | 49.05 | ppb | 0.26 | 900.00 | |
| 55 Mn | 45 | 2 | 48.76 | 48.76 | ppb | 0.37 | 900.00 | |
| 56 Fe | 45 | 2 | 5024.00 | 5024.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 48.45 | 48.45 | ppb | 0.82 | 900.00 | |
| 60 Ni | 45 | 2 | 47.97 | 47.97 | ppb | 1.14 | 900.00 | |
| 63 Cu | 72 | 2 | 48.15 | 48.15 | ppb | 0.96 | 900.00 | |
| 66 Zn | 72 | 2 | 48.76 | 48.76 | ppb | 0.50 | 900.00 | |
| 75 As | 72 | 2 | 49.87 | 49.87 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 49.52 | 49.52 | ppb | 1.48 | 900.00 | |
| 88 Sr | 103 | 1 | 51.38 | 51.38 | ppb | 3.35 | 900.00 | |
| 98 Mo | 103 | 1 | 51.16 | 51.16 | ppb | 2.56 | 900.00 | |
| 107 Ag | 115 | 1 | 50.69 | 50.69 | ppb | 2.35 | 900.00 | |
| 111 Cd | 115 | 2 | 49.30 | 49.30 | ppb | 0.90 | 900.00 | |
| 120 Sn | 115 | 1 | 51.46 | 51.46 | ppb | 2.56 | 900.00 | |
| 121 Sb | 115 | 1 | 51.16 | 51.16 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 50.13 | 50.13 | ppb | 2.39 | 900.00 | |
| 205 Tl | 209 | 1 | 48.06 | 48.06 | ppb | 1.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.96 | 50.96 | ppb | 0.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1923529 | 4.41 | 1842766 | 104.4 | 70 - 130 | |
| 45 Sc | 1 | 2619070 | 1.76 | 2524511 | 103.7 | 70 - 130 | |
| 45 Sc | 2 | 340449 | 1.05 | 345410 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460328 | 0.76 | 463635 | 99.3 | 70 | - | 130 |
| 72 Ge | 2 | 123355 | 0.85 | 125267 | 98.5 | 70 | - | 130 |
| 103 Rh | 1 | 2282535 | 1.66 | 2323410 | 98.2 | 70 | - | 130 |
| 115 In | 1 | 2379808 | 1.66 | 2386791 | 99.7 | 70 | - | 130 |
| 115 In | 2 | 966548 | 1.13 | 996705 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 2864241 | 2.37 | 2826050 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 2628240 | 0.06 | 2625961 | 100.1 | 70 | - | 130 |
| 209 Bi | 1 | 1517202 | 0.28 | 1559032 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Dec 9 2013 05:15 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** CCB
**Misc Info:**
**Vial Number:** 2104
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 23.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 179.80 | 900.00 | |
| 11 B | 6 | 1 | 0.38 | 0.38 | ppb | 11.84 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.23 | ppb | 17.82 | 900.00 | |
| 23 Na | 45 | 1 | 0.99 | 0.99 | ppb | 17.98 | 90000.00 | |
| 23 Na | 45 | 2 | 1.32 | 1.32 | ppb | 24.11 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.48 | 0.48 | ppb | 19.93 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.01 | 0.01 | ppb | 1344.20 | 90000.00 | |
| 27 Al | 45 | 1 | 0.31 | 0.31 | ppb | 22.85 | 90000.00 | |
| 27 Al | 45 | 2 | 0.13 | 0.13 | ppb | 14.01 | 90000.00 | |
| 39 K | 45 | 1 | -8.16 | -8.16 | ppb | 53.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.62 | 1.62 | ppb | 35.95 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 129.45 | 900.00 | |
| 51 V | 45 | 2 | -0.01 | -0.01 | ppb | 100.74 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 35.08 | 900.00 | |
| 55 Mn | 45 | 2 | -0.01 | -0.01 | ppb | 24.48 | 900.00 | |
| 56 Fe | 45 | 2 | 0.37 | 0.37 | ppb | 33.20 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 103.55 | 900.00 | |
| 60 Ni | 45 | 2 | -0.14 | -0.14 | ppb | 25.67 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 156.74 | 900.00 | |
| 66 Zn | 72 | 2 | 0.26 | 0.26 | ppb | 5.50 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 64.03 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.03 | ppb | 254.23 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 34.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.49 | ppb | 9.24 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 22.63 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 79.16 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 11.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 18.54 | 900.00 | |
| 137 Ba | 159 | 1 | 0.04 | 0.04 | ppb | 30.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.40 | 0.40 | ppb | 6.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 80.01 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1935946 | 1.89 | 1842766 | 105.1 | 70 - 130 | |
| 45 Sc | 1 | 2623781 | 2.14 | 2524511 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 340406 | 1.13 | 345410 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460950 | 3.07 | 463635 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 124327 | 0.72 | 125267 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 2292336 | 4.46 | 2323410 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 2419958 | 4.52 | 2386791 | 101.4 | 70 | - | 130 |
| 115 In | 2 | 999546 | 0.92 | 996705 | 100.3 | 70 | - | 130 |
| 159 Tb | 1 | 2862374 | 4.80 | 2826050 | 101.3 | 70 | - | 130 |
| 175 Lu | 1 | 2611583 | 3.04 | 2625961 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 1609914 | 4.02 | 1559032 | 103.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\014SMPL.D\014SMPL.D#
Date Acquired: Dec 9 2013 05:22 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 4.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.41 | 0.41 | ppb | 8.00 | 900.00 | |
| 11 B | 6 | 1 | 5.31 | 5.31 | ppb | 1.64 | 900.00 | |
| 11 B | 45 | 2 | 5.34 | 5.34 | ppb | 13.26 | 900.00 | |
| 23 Na | 45 | 1 | 256.80 | 256.80 | ppb | 1.07 | 90000.00 | |
| 23 Na | 45 | 2 | 284.60 | 284.60 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 262.80 | 262.80 | ppb | 0.12 | 90000.00 | |
| 24 Mg | 45 | 2 | 264.50 | 264.50 | ppb | 0.39 | 90000.00 | |
| 27 Al | 45 | 1 | 27.46 | 27.46 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 2 | 25.72 | 25.72 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 251.70 | 251.70 | ppb | 0.79 | 90000.00 | |
| 44 Ca | 45 | 1 | 267.80 | 267.80 | ppb | 0.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 2.02 | 900.00 | |
| 51 V | 45 | 2 | 0.98 | 0.98 | ppb | 0.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.96 | 0.96 | ppb | 1.26 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 1.40 | 900.00 | |
| 56 Fe | 45 | 2 | 27.82 | 27.82 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 1.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.89 | 0.89 | ppb | 9.21 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 1.00 | ppb | 0.53 | 900.00 | |
| 66 Zn | 72 | 2 | 2.15 | 2.15 | ppb | 2.66 | 900.00 | |
| 75 As | 72 | 2 | 0.53 | 0.53 | ppb | 3.77 | 900.00 | |
| 78 Se | 72 | 2 | 0.38 | 0.38 | ppb | 44.64 | 900.00 | |
| 88 Sr | 103 | 1 | 5.16 | 5.16 | ppb | 0.75 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 1.18 | ppb | 0.25 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 3.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 7.39 | 900.00 | |
| 120 Sn | 115 | 1 | 5.27 | 5.27 | ppb | 2.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.53 | 0.53 | ppb | 1.52 | 900.00 | |
| 137 Ba | 159 | 1 | 1.06 | 1.06 | ppb | 2.04 | 900.00 | |
| 205 Tl | 209 | 1 | 0.57 | 0.57 | ppb | 0.81 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 0.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1837242 | 1.36 | 1842766 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 2538005 | 0.20 | 2524511 | 100.5 | 70 - 130 | |
| 45 Sc | 2 | 345358 | 0.29 | 345410 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461077 | 0.47 | 463635 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 125506 | 0.18 | 125267 | 100.2 | 70 | - | 130 |
| 103 Rh | 1 | 2307608 | 0.33 | 2323410 | 99.3 | 70 | - | 130 |
| 115 In | 1 | 2395633 | 0.40 | 2386791 | 100.4 | 70 | - | 130 |
| 115 In | 2 | 1001043 | 0.15 | 996705 | 100.4 | 70 | - | 130 |
| 159 Tb | 1 | 2823407 | 0.74 | 2826050 | 99.9 | 70 | - | 130 |
| 175 Lu | 1 | 2600899 | 0.95 | 2625961 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 1557083 | 1.13 | 1559032 | 99.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L09p00.B\015SMPL.D\015SMPL.D# | | |
| **Date Acquired:** | Dec 9 2013 05:34 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | ICSA | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2106 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 09 2013 04:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 7.02 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 185.42 | 900.00 | |
| 11 B | 6 | 1 | 0.29 | 0.29 | ppb | 13.10 | 900.00 | |
| 11 B | 45 | 2 | 0.19 | 0.19 | ppb | 41.30 | 900.00 | |
| 23 Na | 45 | 1 | 93520.00 | 93520.00 | ppb | 0.20 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 96990.00 | 96990.00 | ppb | 0.41 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94210.00 | 94210.00 | ppb | 0.72 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 89360.00 | 89360.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 96170.00 | 96170.00 | ppb | 0.90 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88840.00 | 88840.00 | ppb | 0.32 | 90000.00 | |
| 39 K | 45 | 1 | 96390.00 | 96390.00 | ppb | 0.21 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94640.00 | 94640.00 | ppb | 1.02 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2049.00 | 2049.00 | ppb | 0.28 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.10 | 0.10 | ppb | 13.44 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 0.34 | 900.00 | |
| 55 Mn | 45 | 2 | 0.22 | 0.22 | ppb | 2.50 | 900.00 | |
| 56 Fe | 45 | 2 | 95460.00 | 95460.00 | ppb | 0.51 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 6.31 | 900.00 | |
| 60 Ni | 45 | 2 | 0.35 | 0.35 | ppb | 12.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.39 | ppb | 2.11 | 900.00 | |
| 66 Zn | 72 | 2 | 2.19 | 2.19 | ppb | 2.11 | 900.00 | |
| 75 As | 72 | 2 | 0.31 | 0.31 | ppb | 4.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.05 | 0.05 | ppb | 368.70 | 900.00 | |
| 88 Sr | 103 | 1 | 5.06 | 5.06 | ppb | 0.15 | 900.00 | |
| 98 Mo | 103 | 1 | 2111.00 | 2111.00 | ppb | 0.53 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 7.66 | 900.00 | |
| 111 Cd | 115 | 2 | 1.24 | 1.24 | ppb | 5.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 5.94 | 900.00 | |
| 121 Sb | 115 | 1 | 0.29 | 0.29 | ppb | 3.49 | 900.00 | |
| 137 Ba | 159 | 1 | 0.24 | 0.24 | ppb | 3.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 6.56 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 0.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1655826 | 0.84 | 1842766 | 89.9 | 70 - 130 | |
| 45 Sc | 1 | 2445811 | 0.53 | 2524511 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 334780 | 0.65 | 345410 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 465403 | 1.15 | 463635 | 100.4 | 70 | - | 130 |
| 72 Ge | 2 | 124082 | 0.60 | 125267 | 99.1 | 70 | - | 130 |
| 103 Rh | 1 | 2057466 | 0.43 | 2323410 | 88.6 | 70 | - | 130 |
| 115 In | 1 | 2239206 | 0.94 | 2386791 | 93.8 | 70 | - | 130 |
| 115 In | 2 | 915983 | 0.35 | 996705 | 91.9 | 70 | - | 130 |
| 159 Tb | 1 | 2780789 | 0.92 | 2826050 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 2602185 | 0.79 | 2625961 | 99.1 | 70 | - | 130 |
| 209 Bi | 1 | 1402385 | 1.92 | 1559032 | 90.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\016SMPL.D\016SMPL.D#
**Date Acquired:** Dec 9 2013 05:42 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** ICSAB
**Misc Info:**
**Vial Number:** 2107
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 55.59 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 273.12 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.24 | ppb | 5.95 | 900.00 | |
| 11 B | 45 | 2 | 0.31 | 0.31 | ppb | 57.85 | 900.00 | |
| 23 Na | 45 | 1 | 91720.00 | 91720.00 | ppb | 0.62 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 96640.00 | 96640.00 | ppb | 0.45 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92640.00 | 92640.00 | ppb | 0.54 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 89360.00 | 89360.00 | ppb | 0.64 | 90000.00 | |
| 27 Al | 45 | 1 | 94760.00 | 94760.00 | ppb | 0.50 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 88590.00 | 88590.00 | ppb | 0.86 | 90000.00 | |
| 39 K | 45 | 1 | 95860.00 | 95860.00 | ppb | 0.24 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 93510.00 | 93510.00 | ppb | 0.43 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 2025.00 | 2025.00 | ppb | 0.94 | 900.00 | >LDR |
| 51 V | 45 | 2 | 0.10 | 0.10 | ppb | 9.05 | 900.00 | |
| 52 Cr | 45 | 2 | 19.79 | 19.79 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 19.06 | 19.06 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 95700.00 | 95700.00 | ppb | 0.26 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.67 | 18.67 | ppb | 0.47 | 900.00 | |
| 60 Ni | 45 | 2 | 18.45 | 18.45 | ppb | 0.42 | 900.00 | |
| 63 Cu | 72 | 2 | 17.85 | 17.85 | ppb | 0.70 | 900.00 | |
| 66 Zn | 72 | 2 | 19.69 | 19.69 | ppb | 0.44 | 900.00 | |
| 75 As | 72 | 2 | 20.19 | 20.19 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 0.01 | 0.01 | ppb | 1054.90 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 2105.00 | 2105.00 | ppb | 1.21 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.38 | 19.38 | ppb | 0.76 | 900.00 | |
| 111 Cd | 115 | 2 | 20.34 | 20.34 | ppb | 0.66 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.10 | ppb | 2.75 | 900.00 | |
| 121 Sb | 115 | 1 | 0.30 | 0.30 | ppb | 3.73 | 900.00 | |
| 137 Ba | 159 | 1 | 0.26 | 0.26 | ppb | 3.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 12.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.38 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1631425 | 0.58 | 1842766 | 88.5 | 70 - 130 | |
| 45 Sc | 1 | 2471976 | 0.21 | 2524511 | 97.9 | 70 - 130 | |
| 45 Sc | 2 | 330985 | 0.47 | 345410 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 465776 | 0.54 | 463635 | 100.5 | 70 | - | 130 |
| 72 | Ge | 2 | 122252 | 0.46 | 125267 | 97.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2093918 | 0.10 | 2323410 | 90.1 | 70 | - | 130 |
| 115 | In | 1 | 2281193 | 0.52 | 2386791 | 95.6 | 70 | - | 130 |
| 115 | In | 2 | 909065 | 0.20 | 996705 | 91.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2848180 | 1.03 | 2826050 | 100.8 | 70 | - | 130 |
| 175 | Lu | 1 | 2698208 | 0.65 | 2625961 | 102.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1422805 | 0.46 | 1559032 | 91.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Dec 9 2013 05:54 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** RINSECONF
**Misc Info:**
**Vial Number:** 2108
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 75.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 171.17 | 900.00 | |
| 11 B | 6 | 1 | 0.05 | 0.05 | ppb | 29.60 | 900.00 | |
| 11 B | 45 | 2 | -0.07 | -0.07 | ppb | 37.09 | 900.00 | |
| 23 Na | 45 | 1 | 9.31 | 9.31 | ppb | 24.50 | 90000.00 | |
| 23 Na | 45 | 2 | 17.45 | 17.45 | ppb | 33.38 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.23 | 0.23 | ppb | 89.38 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.28 | 6.28 | ppb | 76.98 | 90000.00 | |
| 27 Al | 45 | 1 | 0.17 | 0.17 | ppb | 41.41 | 90000.00 | |
| 27 Al | 45 | 2 | 5.42 | 5.42 | ppb | 71.02 | 90000.00 | |
| 39 K | 45 | 1 | 1.39 | 1.39 | ppb | 1035.20 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.43 | -2.43 | ppb | 62.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 55.45 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 49.45 | 900.00 | |
| 52 Cr | 45 | 2 | -0.03 | -0.03 | ppb | 112.70 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 152.91 | 900.00 | |
| 56 Fe | 45 | 2 | 6.71 | 6.71 | ppb | 63.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 108.90 | 900.00 | |
| 60 Ni | 45 | 2 | -0.13 | -0.13 | ppb | 44.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 27.09 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 19.14 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 200.24 | 900.00 | |
| 78 Se | 72 | 2 | 0.19 | 0.19 | ppb | 99.95 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 61.76 | 900.00 | |
| 98 Mo | 103 | 1 | 3.81 | 3.81 | ppb | 10.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 87.27 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 54.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 62.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 91.19 | 900.00 | |
| 137 Ba | 159 | 1 | 0.02 | 0.02 | ppb | 7.12 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 21.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 92.34 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1723831 | 4.63 | 1842766 | 93.5 | 70 - 130 | |
| 45 Sc | 1 | 2473255 | 9.16 | 2524511 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 339616 | 4.65 | 345410 | 98.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460747 | 4.41 | 463635 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 125741 | 2.20 | 125267 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 2292357 | 8.26 | 2323410 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 2411482 | 7.41 | 2386791 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 999181 | 3.55 | 996705 | 100.2 | 70 | - | 130 |
| 159 Tb | 1 | 2902851 | 7.97 | 2826050 | 102.7 | 70 | - | 130 |
| 175 Lu | 1 | 2686924 | 8.19 | 2625961 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 1608768 | 6.16 | 1559032 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\018SMPL.D\018SMPL.D#
Date Acquired: Dec 9 2013 06:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22218-MB1
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 388.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 2.18 | 900.00 | |
| 11 B | 6 | 1 | 1.18 | 0.59 | ppb | 3.44 | 900.00 | |
| 11 B | 45 | 2 | 0.99 | 0.50 | ppb | 32.61 | 900.00 | |
| 23 Na | 45 | 1 | 35.40 | 17.70 | ppb | 1.08 | 90000.00 | |
| 23 Na | 45 | 2 | 44.00 | 22.00 | ppb | 4.27 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.23 | ppb | 8.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.53 | 0.27 | ppb | 42.14 | 90000.00 | |
| 27 Al | 45 | 1 | 3.23 | 1.62 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 4.19 | 2.09 | ppb | 41.41 | 90000.00 | |
| 39 K | 45 | 1 | 1.17 | 0.59 | ppb | 193.15 | 90000.00 | |
| 44 Ca | 45 | 1 | 13.12 | 6.56 | ppb | 1.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.25 | 0.13 | ppb | 14.58 | 900.00 | |
| 51 V | 45 | 2 | 2.51 | 1.26 | ppb | 1.43 | 900.00 | |
| 52 Cr | 45 | 2 | -0.27 | -0.13 | ppb | 2.85 | 900.00 | |
| 55 Mn | 45 | 2 | 0.37 | 0.18 | ppb | 2.12 | 900.00 | |
| 56 Fe | 45 | 2 | 8.35 | 4.17 | ppb | 2.70 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 358.20 | 900.00 | |
| 60 Ni | 45 | 2 | -2.05 | -1.03 | ppb | 0.36 | 900.00 | |
| 63 Cu | 72 | 2 | 0.24 | 0.12 | ppb | 4.72 | 900.00 | |
| 66 Zn | 72 | 2 | 0.83 | 0.42 | ppb | 5.99 | 900.00 | |
| 75 As | 72 | 2 | 0.67 | 0.34 | ppb | 2.56 | 900.00 | |
| 78 Se | 72 | 2 | -0.26 | -0.13 | ppb | 33.12 | 900.00 | |
| 88 Sr | 103 | 1 | 0.04 | 0.02 | ppb | 14.50 | 900.00 | |
| 98 Mo | 103 | 1 | 2.93 | 1.46 | ppb | 5.13 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 14.63 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 343.52 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 6.26 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 19.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.11 | ppb | 12.33 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 8.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 37.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1649617 | 1.02 | 1842766 | 89.5 | 70 - 130 | |
| 45 Sc | 1 | 2497606 | 1.15 | 2524511 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 331471 | 0.79 | 345410 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455680 | 0.91 | 463635 | 98.3 | 70 - | 130 |
| 72 | Ge | 2 | 123403 | 0.63 | 125267 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 2307904 | 0.37 | 2323410 | 99.3 | 70 - | 130 |
| 115 | In | 1 | 2415911 | 0.34 | 2386791 | 101.2 | 70 - | 130 |
| 115 | In | 2 | 981783 | 0.87 | 996705 | 98.5 | 70 - | 130 |
| 159 | Tb | 1 | 2953768 | 0.72 | 2826050 | 104.5 | 70 - | 130 |
| 175 | Lu | 1 | 2730427 | 0.65 | 2625961 | 104.0 | 70 - | 130 |
| 209 | Bi | 1 | 1606720 | 0.20 | 1559032 | 103.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\019SMPL.D\019SMPL.D#
Date Acquired: Dec 9 2013 06:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26931-1
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 19.23 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 1.21 | 900.00 | |
| 11 B | 6 | 1 | 47.04 | 23.52 | ppb | 11.87 | 900.00 | |
| 11 B | 45 | 2 | 41.24 | 20.62 | ppb | 3.82 | 900.00 | |
| 23 Na | 45 | 1 | 8710.00 | 4355.00 | ppb | 18.34 | 90000.00 | |
| 23 Na | 45 | 2 | 8840.00 | 4420.00 | ppb | 0.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 3488.00 | 1744.00 | ppb | 18.39 | 90000.00 | |
| 24 Mg | 45 | 2 | 3328.00 | 1664.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 1 | 3.74 | 1.87 | ppb | 23.55 | 90000.00 | |
| 27 Al | 45 | 2 | 3.15 | 1.58 | ppb | 8.26 | 90000.00 | |
| 39 K | 45 | 1 | 2658.00 | 1329.00 | ppb | 19.62 | 90000.00 | |
| 44 Ca | 45 | 1 | 14510.00 | 7255.00 | ppb | 18.26 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.75 | ppb | 24.79 | 900.00 | |
| 51 V | 45 | 2 | 2.48 | 1.24 | ppb | 1.44 | 900.00 | |
| 52 Cr | 45 | 2 | -0.13 | -0.07 | ppb | 6.53 | 900.00 | |
| 55 Mn | 45 | 2 | 651.00 | 325.50 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 9164.00 | 4582.00 | ppb | 0.15 | 90000.00 | |
| 59 Co | 45 | 2 | 4.86 | 2.43 | ppb | 0.89 | 900.00 | |
| 60 Ni | 45 | 2 | 1.75 | 0.87 | ppb | 3.92 | 900.00 | |
| 63 Cu | 72 | 2 | 3.01 | 1.51 | ppb | 1.62 | 900.00 | |
| 66 Zn | 72 | 2 | 32.40 | 16.20 | ppb | 0.26 | 900.00 | |
| 75 As | 72 | 2 | 20.64 | 10.32 | ppb | 0.90 | 900.00 | |
| 78 Se | 72 | 2 | -0.14 | -0.07 | ppb | 262.51 | 900.00 | |
| 88 Sr | 103 | 1 | 109.56 | 54.78 | ppb | 20.17 | 900.00 | |
| 98 Mo | 103 | 1 | 1.76 | 0.88 | ppb | 18.89 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 203.85 | 900.00 | |
| 111 Cd | 115 | 2 | 0.08 | 0.04 | ppb | 16.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.06 | ppb | 21.49 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 19.86 | 900.00 | |
| 137 Ba | 159 | 1 | 16.57 | 8.29 | ppb | 16.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 25.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 15.47 | 7.74 | ppb | 14.75 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1529229 | 9.85 | 1842766 | 83.0 | 70 - 130 | |
| 45 Sc | 1 | 2344567 | 15.48 | 2524511 | 92.9 | 70 - 130 | |
| 45 Sc | 2 | 327396 | 0.45 | 345410 | 94.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 436322 | 11.31 | 463635 | 94.1 | 70 | - | 130 |
| 72 | Ge | 2 | 122144 | 0.70 | 125267 | 97.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2108109 | 16.49 | 2323410 | 90.7 | 70 | - | 130 |
| 115 | In | 1 | 2250604 | 14.74 | 2386791 | 94.3 | 70 | - | 130 |
| 115 | In | 2 | 969170 | 0.50 | 996705 | 97.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2773166 | 15.30 | 2826050 | 98.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2572488 | 15.15 | 2625961 | 98.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1499886 | 13.08 | 1559032 | 96.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\020SMPL.D\020SMPL.D#
Date Acquired: Dec 9 2013 06:16 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22218-SD1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.00 | ppb | 36.20 | 900.00 | |
| 9 Be | 45 | 2 | -0.04 | 0.00 | ppb | 188.39 | 900.00 | |
| 11 B | 6 | 1 | 42.61 | 4.26 | ppb | 2.87 | 900.00 | |
| 11 B | 45 | 2 | 37.15 | 3.72 | ppb | 10.10 | 900.00 | |
| 23 Na | 45 | 1 | 8659.00 | 865.90 | ppb | 2.32 | 90000.00 | |
| 23 Na | 45 | 2 | 9245.00 | 924.50 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 1 | 3469.00 | 346.90 | ppb | 1.40 | 90000.00 | |
| 24 Mg | 45 | 2 | 3521.00 | 352.10 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 11.01 | 1.10 | ppb | 46.13 | 90000.00 | |
| 27 Al | 45 | 2 | 7.12 | 0.71 | ppb | 15.03 | 90000.00 | |
| 39 K | 45 | 1 | 2481.00 | 248.10 | ppb | 0.49 | 90000.00 | |
| 44 Ca | 45 | 1 | 14400.00 | 1440.00 | ppb | 0.51 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.71 | 0.17 | ppb | 14.91 | 900.00 | |
| 51 V | 45 | 2 | -0.27 | -0.03 | ppb | 27.73 | 900.00 | |
| 52 Cr | 45 | 2 | -2.56 | -0.26 | ppb | 0.72 | 900.00 | |
| 55 Mn | 45 | 2 | 683.20 | 68.32 | ppb | 0.63 | 900.00 | |
| 56 Fe | 45 | 2 | 9273.00 | 927.30 | ppb | 1.35 | 90000.00 | |
| 59 Co | 45 | 2 | 4.86 | 0.49 | ppb | 2.36 | 900.00 | |
| 60 Ni | 45 | 2 | -6.95 | -0.70 | ppb | 2.39 | 900.00 | |
| 63 Cu | 72 | 2 | 3.10 | 0.31 | ppb | 3.53 | 900.00 | |
| 66 Zn | 72 | 2 | 34.87 | 3.49 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 20.74 | 2.07 | ppb | 2.10 | 900.00 | |
| 78 Se | 72 | 2 | -0.54 | -0.05 | ppb | 361.85 | 900.00 | |
| 88 Sr | 103 | 1 | 104.10 | 10.41 | ppb | 2.36 | 900.00 | |
| 98 Mo | 103 | 1 | 1.55 | 0.15 | ppb | 15.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 138.96 | 900.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.01 | ppb | 74.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.01 | ppb | 47.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.13 | 0.01 | ppb | 19.41 | 900.00 | |
| 137 Ba | 159 | 1 | 16.24 | 1.62 | ppb | 3.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.02 | ppb | 23.53 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 14.70 | 1.47 | ppb | 2.39 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1756957 | 1.28 | 1842766 | 95.3 | 70 - 130 | |
| 45 Sc | 1 | 2528603 | 1.02 | 2524511 | 100.2 | 70 - 130 | |
| 45 Sc | 2 | 337672 | 1.26 | 345410 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461624 | 0.40 | 463635 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 124531 | 0.37 | 125267 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 2314504 | 0.57 | 2323410 | 99.6 | 70 | - | 130 |
| 115 In | 1 | 2421648 | 0.93 | 2386791 | 101.5 | 70 | - | 130 |
| 115 In | 2 | 1002919 | 0.12 | 996705 | 100.6 | 70 | - | 130 |
| 159 Tb | 1 | 2889091 | 1.46 | 2826050 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 2670464 | 1.05 | 2625961 | 101.7 | 70 | - | 130 |
| 209 Bi | 1 | 1584096 | 1.87 | 1559032 | 101.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\021SMPL.D\021SMPL.D#
Date Acquired: Dec 9 2013 06:23 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26931-2
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 71.93 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 146.15 | 900.00 | |
| 11 B | 6 | 1 | 44.98 | 22.49 | ppb | 0.71 | 900.00 | |
| 11 B | 45 | 2 | 38.96 | 19.48 | ppb | 1.59 | 900.00 | |
| 23 Na | 45 | 1 | 61920.00 | 30960.00 | ppb | 0.85 | 90000.00 | |
| 23 Na | 45 | 2 | 67540.00 | 33770.00 | ppb | 1.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 2908.00 | 1454.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 2992.00 | 1496.00 | ppb | 0.78 | 90000.00 | |
| 27 Al | 45 | 1 | 4.34 | 2.17 | ppb | 1.18 | 90000.00 | |
| 27 Al | 45 | 2 | 4.33 | 2.17 | ppb | 3.23 | 90000.00 | |
| 39 K | 45 | 1 | 2392.00 | 1196.00 | ppb | 1.44 | 90000.00 | |
| 44 Ca | 45 | 1 | 7524.00 | 3762.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 0.52 | ppb | 9.59 | 900.00 | |
| 51 V | 45 | 2 | 2.61 | 1.31 | ppb | 2.75 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.01 | ppb | 10.03 | 900.00 | |
| 55 Mn | 45 | 2 | 0.53 | 0.26 | ppb | 5.39 | 900.00 | |
| 56 Fe | 45 | 2 | 14.44 | 7.22 | ppb | 1.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.15 | 0.07 | ppb | 0.66 | 900.00 | |
| 60 Ni | 45 | 2 | -1.64 | -0.82 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.14 | 0.07 | ppb | 9.35 | 900.00 | |
| 66 Zn | 72 | 2 | 4.94 | 2.47 | ppb | 2.62 | 900.00 | |
| 75 As | 72 | 2 | 3.24 | 1.62 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.04 | ppb | 394.66 | 900.00 | |
| 88 Sr | 103 | 1 | 66.08 | 33.04 | ppb | 0.21 | 900.00 | |
| 98 Mo | 103 | 1 | 1.25 | 0.63 | ppb | 3.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 23.45 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.02 | ppb | 36.71 | 900.00 | |
| 120 Sn | 115 | 1 | 2.86 | 1.43 | ppb | 1.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 4.70 | 900.00 | |
| 137 Ba | 159 | 1 | 1.45 | 0.72 | ppb | 2.31 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 7.02 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 12.94 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1539095 | 0.83 | 1842766 | 83.5 | 70 - 130 | |
| 45 Sc | 1 | 2430515 | 0.80 | 2524511 | 96.3 | 70 - 130 | |
| 45 Sc | 2 | 323961 | 0.25 | 345410 | 93.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446793 | 0.46 | 463635 | 96.4 | 70 | - | 130 |
| 72 Ge | 2 | 121054 | 0.66 | 125267 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 2149311 | 0.39 | 2323410 | 92.5 | 70 | - | 130 |
| 115 In | 1 | 2329595 | 0.26 | 2386791 | 97.6 | 70 | - | 130 |
| 115 In | 2 | 954715 | 0.47 | 996705 | 95.8 | 70 | - | 130 |
| 159 Tb | 1 | 2837679 | 0.39 | 2826050 | 100.4 | 70 | - | 130 |
| 175 Lu | 1 | 2646987 | 0.51 | 2625961 | 100.8 | 70 | - | 130 |
| 209 Bi | 1 | 1510008 | 0.52 | 1559032 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Dec 9 2013 06:30 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22218-B1
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 544.00 | 108.80 | ppb | 3.32 | 900.00 | |
| 9 Be | 45 | 2 | 544.00 | 108.80 | ppb | 3.27 | 900.00 | |
| 11 B | 6 | 1 | 4.06 | 0.81 | ppb | 1.89 | 900.00 | |
| 11 B | 45 | 2 | 3.53 | 0.71 | ppb | 21.84 | 900.00 | |
| 23 Na | 45 | 1 | 25940.00 | 5188.00 | ppb | 2.08 | 90000.00 | |
| 23 Na | 45 | 2 | 27510.00 | 5502.00 | ppb | 3.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 26240.00 | 5248.00 | ppb | 2.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 25315.00 | 5063.00 | ppb | 3.26 | 90000.00 | |
| 27 Al | 45 | 1 | 2216.00 | 443.20 | ppb | 1.82 | 90000.00 | |
| 27 Al | 45 | 2 | 2197.50 | 439.50 | ppb | 1.77 | 90000.00 | |
| 39 K | 45 | 1 | 26765.00 | 5353.00 | ppb | 1.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 26590.00 | 5318.00 | ppb | 1.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 532.50 | 106.50 | ppb | 1.15 | 900.00 | |
| 51 V | 45 | 2 | 555.50 | 111.10 | ppb | 0.93 | 900.00 | |
| 52 Cr | 45 | 2 | 529.50 | 105.90 | ppb | 1.86 | 900.00 | |
| 55 Mn | 45 | 2 | 522.00 | 104.40 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 2259.50 | 451.90 | ppb | 0.72 | 90000.00 | |
| 59 Co | 45 | 2 | 511.50 | 102.30 | ppb | 2.69 | 900.00 | |
| 60 Ni | 45 | 2 | 521.00 | 104.20 | ppb | 1.43 | 900.00 | |
| 63 Cu | 72 | 2 | 522.00 | 104.40 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 549.50 | 109.90 | ppb | 0.04 | 900.00 | |
| 75 As | 72 | 2 | 567.50 | 113.50 | ppb | 0.47 | 900.00 | |
| 78 Se | 72 | 2 | 552.00 | 110.40 | ppb | 2.59 | 900.00 | |
| 88 Sr | 103 | 1 | 540.00 | 108.00 | ppb | 1.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.30 | 0.06 | ppb | 20.79 | 900.00 | |
| 107 Ag | 115 | 1 | 213.45 | 42.69 | ppb | 1.35 | 900.00 | |
| 111 Cd | 115 | 2 | 534.00 | 106.80 | ppb | 2.82 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.01 | ppb | 17.86 | 900.00 | |
| 121 Sb | 115 | 1 | 530.50 | 106.10 | ppb | 4.99 | 900.00 | |
| 137 Ba | 159 | 1 | 2089.00 | 417.80 | ppb | 0.84 | 900.00 | |
| 205 Tl | 209 | 1 | 522.50 | 104.50 | ppb | 2.38 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1051.50 | 210.30 | ppb | 1.97 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1823234 | 2.77 | 1842766 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2599127 | 1.14 | 2524511 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 339929 | 0.33 | 345410 | 98.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 460845 | 2.06 | 463635 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 122908 | 0.14 | 125267 | 98.1 | 70 | - | 130 |
| 103 Rh | 1 | 2292152 | 0.94 | 2323410 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 2434797 | 2.76 | 2386791 | 102.0 | 70 | - | 130 |
| 115 In | 2 | 984057 | 1.15 | 996705 | 98.7 | 70 | - | 130 |
| 159 Tb | 1 | 2942273 | 1.78 | 2826050 | 104.1 | 70 | - | 130 |
| 175 Lu | 1 | 2708560 | 0.83 | 2625961 | 103.1 | 70 | - | 130 |
| 209 Bi | 1 | 1551412 | 1.24 | 1559032 | 99.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Dec 9 2013 06:37 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22218-S1
**Misc Info:**
**Vial Number:** 2202
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 530.50 | 106.10 | ppb | 4.12 | 900.00 | |
| 9 Be | 45 | 2 | 519.00 | 103.80 | ppb | 1.52 | 900.00 | |
| 11 B | 6 | 1 | 44.94 | 8.99 | ppb | 5.83 | 900.00 | |
| 11 B | 45 | 2 | 40.12 | 8.02 | ppb | 19.31 | 900.00 | |
| 23 Na | 45 | 1 | 34900.00 | 6980.00 | ppb | 3.34 | 90000.00 | |
| 23 Na | 45 | 2 | 36440.00 | 7288.00 | ppb | 2.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 29940.00 | 5988.00 | ppb | 5.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 28945.00 | 5789.00 | ppb | 3.90 | 90000.00 | |
| 27 Al | 45 | 1 | 2235.00 | 447.00 | ppb | 4.28 | 90000.00 | |
| 27 Al | 45 | 2 | 2176.50 | 435.30 | ppb | 4.28 | 90000.00 | |
| 39 K | 45 | 1 | 29095.00 | 5819.00 | ppb | 2.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 39770.00 | 7954.00 | ppb | 1.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 522.00 | 104.40 | ppb | 1.60 | 900.00 | |
| 51 V | 45 | 2 | 540.50 | 108.10 | ppb | 1.83 | 900.00 | |
| 52 Cr | 45 | 2 | 520.00 | 104.00 | ppb | 2.73 | 900.00 | |
| 55 Mn | 45 | 2 | 1181.00 | 236.20 | ppb | 3.04 | 900.00 | |
| 56 Fe | 45 | 2 | 11470.00 | 2294.00 | ppb | 3.41 | 90000.00 | |
| 59 Co | 45 | 2 | 532.00 | 106.40 | ppb | 2.03 | 900.00 | |
| 60 Ni | 45 | 2 | 512.00 | 102.40 | ppb | 1.20 | 900.00 | |
| 63 Cu | 72 | 2 | 513.00 | 102.60 | ppb | 1.63 | 900.00 | |
| 66 Zn | 72 | 2 | 562.00 | 112.40 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 572.50 | 114.50 | ppb | 1.98 | 900.00 | |
| 78 Se | 72 | 2 | 537.00 | 107.40 | ppb | 2.37 | 900.00 | |
| 88 Sr | 103 | 1 | 648.50 | 129.70 | ppb | 2.43 | 900.00 | |
| 98 Mo | 103 | 1 | 0.67 | 0.13 | ppb | 12.10 | 900.00 | |
| 107 Ag | 115 | 1 | 207.50 | 41.50 | ppb | 2.61 | 900.00 | |
| 111 Cd | 115 | 2 | 530.00 | 106.00 | ppb | 2.21 | 900.00 | |
| 120 Sn | 115 | 1 | 0.12 | 0.02 | ppb | 5.18 | 900.00 | |
| 121 Sb | 115 | 1 | 539.00 | 107.80 | ppb | 3.43 | 900.00 | |
| 137 Ba | 159 | 1 | 2064.00 | 412.80 | ppb | 1.36 | 900.00 | |
| 205 Tl | 209 | 1 | 522.00 | 104.40 | ppb | 2.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1074.50 | 214.90 | ppb | 3.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795005 | 2.73 | 1842766 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 2540821 | 1.99 | 2524511 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 333207 | 0.86 | 345410 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 459881 | 0.61 | 463635 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 122125 | 1.95 | 125267 | 97.5 | 70 | - | 130 |
| 103 Rh | 1 | 2234074 | 1.12 | 2323410 | 96.2 | 70 | - | 130 |
| 115 In | 1 | 2381048 | 2.66 | 2386791 | 99.8 | 70 | - | 130 |
| 115 In | 2 | 958414 | 1.15 | 996705 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 2875185 | 4.50 | 2826050 | 101.7 | 70 | - | 130 |
| 175 Lu | 1 | 2665227 | 1.87 | 2625961 | 101.5 | 70 | - | 130 |
| 209 Bi | 1 | 1520223 | 1.17 | 1559032 | 97.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 9 2013 06:44 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.24 | 51.24 | ppb | 3.08 | 900.00 | |
| 9 Be | 45 | 2 | 49.94 | 49.94 | ppb | 2.03 | 900.00 | |
| 11 B | 6 | 1 | 53.01 | 53.01 | ppb | 1.60 | 900.00 | |
| 11 B | 45 | 2 | 52.38 | 52.38 | ppb | 3.55 | 900.00 | |
| 23 Na | 45 | 1 | 5077.00 | 5077.00 | ppb | 4.61 | 90000.00 | |
| 23 Na | 45 | 2 | 5165.00 | 5165.00 | ppb | 0.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 5109.00 | 5109.00 | ppb | 3.35 | 90000.00 | |
| 24 Mg | 45 | 2 | 4803.00 | 4803.00 | ppb | 0.87 | 90000.00 | |
| 27 Al | 45 | 1 | 5117.00 | 5117.00 | ppb | 1.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4688.00 | 4688.00 | ppb | 0.45 | 90000.00 | |
| 39 K | 45 | 1 | 5079.00 | 5079.00 | ppb | 1.96 | 90000.00 | |
| 44 Ca | 45 | 1 | 5081.00 | 5081.00 | ppb | 2.32 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.69 | 50.69 | ppb | 2.17 | 900.00 | |
| 51 V | 45 | 2 | 49.43 | 49.43 | ppb | 0.35 | 900.00 | |
| 52 Cr | 45 | 2 | 48.98 | 48.98 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 48.88 | 48.88 | ppb | 0.95 | 900.00 | |
| 56 Fe | 45 | 2 | 5113.00 | 5113.00 | ppb | 0.63 | 90000.00 | |
| 59 Co | 45 | 2 | 49.15 | 49.15 | ppb | 0.63 | 900.00 | |
| 60 Ni | 45 | 2 | 48.54 | 48.54 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 47.80 | 47.80 | ppb | 0.82 | 900.00 | |
| 66 Zn | 72 | 2 | 48.56 | 48.56 | ppb | 1.83 | 900.00 | |
| 75 As | 72 | 2 | 49.39 | 49.39 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | 50.10 | 50.10 | ppb | 2.60 | 900.00 | |
| 88 Sr | 103 | 1 | 52.73 | 52.73 | ppb | 4.90 | 900.00 | |
| 98 Mo | 103 | 1 | 51.96 | 51.96 | ppb | 2.59 | 900.00 | |
| 107 Ag | 115 | 1 | 49.18 | 49.18 | ppb | 2.77 | 900.00 | |
| 111 Cd | 115 | 2 | 49.95 | 49.95 | ppb | 2.33 | 900.00 | |
| 120 Sn | 115 | 1 | 50.62 | 50.62 | ppb | 4.96 | 900.00 | |
| 121 Sb | 115 | 1 | 50.58 | 50.58 | ppb | 4.66 | 900.00 | |
| 137 Ba | 159 | 1 | 50.75 | 50.75 | ppb | 2.46 | 900.00 | |
| 205 Tl | 209 | 1 | 48.53 | 48.53 | ppb | 0.58 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.34 | 50.34 | ppb | 1.74 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1831677 | 1.35 | 1842766 | 99.4 | 70 - 130 | |
| 45 Sc | 1 | 2535073 | 0.98 | 2524511 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 337819 | 0.85 | 345410 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455877 | 1.33 | 463635 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 122820 | 0.47 | 125267 | 98.0 | 70 | - | 130 |
| 103 Rh | 1 | 2231365 | 2.60 | 2323410 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 2379173 | 2.89 | 2386791 | 99.7 | 70 | - | 130 |
| 115 In | 2 | 968630 | 2.00 | 996705 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 2857472 | 2.60 | 2826050 | 101.1 | 70 | - | 130 |
| 175 Lu | 1 | 2652025 | 2.84 | 2625961 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 1537996 | 1.58 | 1559032 | 98.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\025SMPL.D\025SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 9 2013 06:51 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 16.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 189.98 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.40 | ppb | 4.57 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 45.91 | 900.00 | |
| 23 Na | 45 | 1 | 2.33 | 2.33 | ppb | 11.42 | 90000.00 | |
| 23 Na | 45 | 2 | 3.03 | 3.03 | ppb | 17.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.15 | 0.15 | ppb | 118.19 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.19 | -0.19 | ppb | 13.12 | 90000.00 | |
| 27 Al | 45 | 1 | 0.40 | 0.40 | ppb | 37.66 | 90000.00 | |
| 27 Al | 45 | 2 | 0.17 | 0.17 | ppb | 20.76 | 90000.00 | |
| 39 K | 45 | 1 | -2.02 | -2.02 | ppb | 25.96 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.59 | -2.59 | ppb | 17.56 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.01 | -0.01 | ppb | 170.67 | 900.00 | |
| 51 V | 45 | 2 | 0.03 | 0.03 | ppb | 54.16 | 900.00 | |
| 52 Cr | 45 | 2 | -0.24 | -0.24 | ppb | 1.47 | 900.00 | |
| 55 Mn | 45 | 2 | -0.07 | -0.07 | ppb | 5.68 | 900.00 | |
| 56 Fe | 45 | 2 | -0.84 | -0.84 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 13.56 | 900.00 | |
| 60 Ni | 45 | 2 | -1.03 | -1.03 | ppb | 0.83 | 900.00 | |
| 63 Cu | 72 | 2 | -0.07 | -0.07 | ppb | 2.12 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 188.02 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 92.94 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.13 | ppb | 37.45 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 16.65 | 900.00 | |
| 98 Mo | 103 | 1 | 0.28 | 0.28 | ppb | 9.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 61.78 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 34.83 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 11.57 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 28.89 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 183.98 | 900.00 | |
| 205 Tl | 209 | 1 | 0.55 | 0.55 | ppb | 1.74 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 240.18 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1774878 | 1.33 | 1842766 | 96.3 | 70 - 130 | |
| 45 Sc | 1 | 2488922 | 0.37 | 2524511 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 335774 | 0.56 | 345410 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451856 | 0.27 | 463635 | 97.5 | 70 - | 130 |
| 72 | Ge | 2 | 123142 | 0.14 | 125267 | 98.3 | 70 - | 130 |
| 103 | Rh | 1 | 2282719 | 0.22 | 2323410 | 98.2 | 70 - | 130 |
| 115 | In | 1 | 2368128 | 1.06 | 2386791 | 99.2 | 70 - | 130 |
| 115 | In | 2 | 988323 | 0.30 | 996705 | 99.2 | 70 - | 130 |
| 159 | Tb | 1 | 2822079 | 0.33 | 2826050 | 99.9 | 70 - | 130 |
| 175 | Lu | 1 | 2602631 | 0.67 | 2625961 | 99.1 | 70 - | 130 |
| 209 | Bi | 1 | 1554178 | 0.15 | 1559032 | 99.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.3

7

C:\ICPCHEM\1\DATA\13L09p00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L09p00.B\026SMPL.D\026SMPL.D# | | |
| **Date Acquired:** | Dec 9 2013 06:59 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MP22218-S2 | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2205 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 09 2013 04:50 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 5.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 5.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 544.00 | 108.80 | ppb | 0.75 | 900.00 | |
| 9 Be | 45 | 2 | 505.50 | 101.10 | ppb | 12.92 | 900.00 | |
| 11 B | 6 | 1 | 43.19 | 8.64 | ppb | 0.58 | 900.00 | |
| 11 B | 45 | 2 | 39.40 | 7.88 | ppb | 15.97 | 900.00 | |
| 23 Na | 45 | 1 | 32965.00 | 6593.00 | ppb | 0.48 | 90000.00 | |
| 23 Na | 45 | 2 | 35185.00 | 7037.00 | ppb | 13.10 | 90000.00 | |
| 24 Mg | 45 | 1 | 28570.00 | 5714.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 27580.00 | 5516.00 | ppb | 13.09 | 90000.00 | |
| 27 Al | 45 | 1 | 2141.50 | 428.30 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 2099.50 | 419.90 | ppb | 13.26 | 90000.00 | |
| 39 K | 45 | 1 | 28250.00 | 5650.00 | ppb | 0.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 38410.00 | 7682.00 | ppb | 0.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 516.50 | 103.30 | ppb | 0.56 | 900.00 | |
| 51 V | 45 | 2 | 533.00 | 106.60 | ppb | 12.75 | 900.00 | |
| 52 Cr | 45 | 2 | 514.50 | 102.90 | ppb | 13.14 | 900.00 | |
| 55 Mn | 45 | 2 | 1124.00 | 224.80 | ppb | 13.08 | 900.00 | |
| 56 Fe | 45 | 2 | 10960.00 | 2192.00 | ppb | 13.37 | 90000.00 | |
| 59 Co | 45 | 2 | 513.00 | 102.60 | ppb | 12.86 | 900.00 | |
| 60 Ni | 45 | 2 | 499.15 | 99.83 | ppb | 12.62 | 900.00 | |
| 63 Cu | 72 | 2 | 510.50 | 102.10 | ppb | 8.11 | 900.00 | |
| 66 Zn | 72 | 2 | 559.00 | 111.80 | ppb | 8.46 | 900.00 | |
| 75 As | 72 | 2 | 568.50 | 113.70 | ppb | 8.35 | 900.00 | |
| 78 Se | 72 | 2 | 513.00 | 102.60 | ppb | 8.22 | 900.00 | |
| 88 Sr | 103 | 1 | 628.00 | 125.60 | ppb | 0.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.80 | 0.16 | ppb | 7.41 | 900.00 | |
| 107 Ag | 115 | 1 | 206.40 | 41.28 | ppb | 0.66 | 900.00 | |
| 111 Cd | 115 | 2 | 514.00 | 102.80 | ppb | 10.48 | 900.00 | |
| 120 Sn | 115 | 1 | 0.13 | 0.03 | ppb | 11.55 | 900.00 | |
| 121 Sb | 115 | 1 | 544.00 | 108.80 | ppb | 0.27 | 900.00 | |
| 137 Ba | 159 | 1 | 2086.00 | 417.20 | ppb | 0.45 | 900.00 | |
| 205 Tl | 209 | 1 | 509.00 | 101.80 | ppb | 1.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1052.50 | 210.50 | ppb | 0.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1675586 | 0.39 | 1842766 | 90.9 | 70 - 130 | |
| 45 Sc | 1 | 2492274 | 0.63 | 2524511 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 336393 | 11.39 | 345410 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 442250 | 0.48 | 463635 | 95.4 | 70 | - | 130 |
| 72 | Ge | 2 | 121487 | 6.83 | 125267 | 97.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2186143 | 0.39 | 2323410 | 94.1 | 70 | - | 130 |
| 115 | In | 1 | 2317367 | 0.13 | 2386791 | 97.1 | 70 | - | 130 |
| 115 | In | 2 | 947004 | 8.49 | 996705 | 95.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2829623 | 0.26 | 2826050 | 100.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2629366 | 1.55 | 2625961 | 100.1 | 70 | - | 130 |
| 209 | Bi | 1 | 1491788 | 0.69 | 1559032 | 95.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L09p00.B\027SMPL.D\027SMPL.D#
**Date Acquired:** Dec 9 2013 07:06 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-5F
**Misc Info:**
**Vial Number:** 2206
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 09 2013 04:50 pm
**Sample Type:** Sample
**Dilution Factor:** 100.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 100.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 2.47 | 0.02 | ppb | 4.96 | 900.00 | |
| 9 Be | 45 | 2 | 4.26 | 0.04 | ppb | 30.67 | 900.00 | |
| 11 B | 6 | 1 | 52.92 | 0.53 | ppb | 4.53 | 900.00 | |
| 11 B | 45 | 2 | 49.41 | 0.49 | ppb | 22.65 | 900.00 | |
| 23 Na | 45 | 1 | 4762.00 | 47.62 | ppb | 0.24 | 90000.00 | |
| 23 Na | 45 | 2 | 5176.00 | 51.76 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 2472.00 | 24.72 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 2497.00 | 24.97 | ppb | 0.18 | 90000.00 | |
| 27 Al | 45 | 1 | 36.59 | 0.37 | ppb | 21.03 | 90000.00 | |
| 27 Al | 45 | 2 | 51.61 | 0.52 | ppb | 4.01 | 90000.00 | |
| 39 K | 45 | 1 | 4044.00 | 40.44 | ppb | 4.38 | 90000.00 | |
| 44 Ca | 45 | 1 | 27720.00 | 277.20 | ppb | 0.31 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.54 | 0.03 | ppb | 67.74 | 900.00 | |
| 51 V | 45 | 2 | -32.53 | -0.33 | ppb | 1.76 | 900.00 | |
| 52 Cr | 45 | 2 | -25.64 | -0.26 | ppb | 0.74 | 900.00 | |
| 55 Mn | 45 | 2 | 6620.00 | 66.20 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 88610.00 | 886.10 | ppb | 1.30 | 90000.00 | |
| 59 Co | 45 | 2 | 11.80 | 0.12 | ppb | 4.14 | 900.00 | |
| 60 Ni | 45 | 2 | -93.13 | -0.93 | ppb | 1.19 | 900.00 | |
| 63 Cu | 72 | 2 | 2.82 | 0.03 | ppb | 8.84 | 900.00 | |
| 66 Zn | 72 | 2 | 31.76 | 0.32 | ppb | 6.05 | 900.00 | |
| 75 As | 72 | 2 | 3568.00 | 35.68 | ppb | 0.33 | 900.00 | |
| 78 Se | 72 | 2 | 9.70 | 0.10 | ppb | 179.00 | 900.00 | |
| 88 Sr | 103 | 1 | 144.70 | 1.45 | ppb | 1.02 | 900.00 | |
| 98 Mo | 103 | 1 | -13.94 | -0.14 | ppb | 3.01 | 900.00 | |
| 107 Ag | 115 | 1 | 0.59 | 0.01 | ppb | 8.12 | 900.00 | |
| 111 Cd | 115 | 2 | 5.13 | 0.05 | ppb | 14.78 | 900.00 | |
| 120 Sn | 115 | 1 | 1.05 | 0.01 | ppb | 52.84 | 900.00 | |
| 121 Sb | 115 | 1 | 2.64 | 0.03 | ppb | 28.67 | 900.00 | |
| 137 Ba | 159 | 1 | 39.53 | 0.40 | ppb | 1.30 | 900.00 | |
| 205 Tl | 209 | 1 | 97.93 | 0.98 | ppb | 3.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 3.17 | 0.03 | ppb | 24.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1907921 | 0.78 | 1842766 | 103.5 | 70 - 130 | |
| 45 Sc | 1 | 2545578 | 0.82 | 2524511 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 344947 | 0.82 | 345410 | 99.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 466741 | 0.56 | 463635 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 126556 | 0.09 | 125267 | 101.0 | 70 | - | 130 |
| 103 Rh | 1 | 2317342 | 0.61 | 2323410 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 2406724 | 0.76 | 2386791 | 100.8 | 70 | - | 130 |
| 115 In | 2 | 1001293 | 0.69 | 996705 | 100.5 | 70 | - | 130 |
| 159 Tb | 1 | 2846250 | 0.83 | 2826050 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 2614416 | 0.89 | 2625961 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 1548938 | 1.09 | 1559032 | 99.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\028SMPL.D\028SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\028SMPL.D\028SMPL.D#
Date Acquired: Dec 9 2013 07:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 30.28 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 163.38 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 30.60 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 29.82 | 900.00 | |
| 23 Na | 45 | 1 | 1.05 | 1.05 | ppb | 22.51 | 90000.00 | |
| 23 Na | 45 | 2 | 0.90 | 0.90 | ppb | 450.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.21 | 0.21 | ppb | 2.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.20 | 0.20 | ppb | 72.68 | 90000.00 | |
| 27 Al | 45 | 1 | 0.33 | 0.33 | ppb | 21.34 | 90000.00 | |
| 27 Al | 45 | 2 | 0.30 | 0.30 | ppb | 45.76 | 90000.00 | |
| 39 K | 45 | 1 | -0.68 | -0.68 | ppb | 147.25 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.21 | -2.21 | ppb | 22.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 60.05 | 900.00 | |
| 51 V | 45 | 2 | 0.00 | 0.00 | ppb | 1481.30 | 900.00 | |
| 52 Cr | 45 | 2 | 0.00 | 0.00 | ppb | 6793.80 | 900.00 | |
| 55 Mn | 45 | 2 | 0.01 | 0.01 | ppb | 97.91 | 900.00 | |
| 56 Fe | 45 | 2 | 0.49 | 0.49 | ppb | 127.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 63.99 | 900.00 | |
| 60 Ni | 45 | 2 | -0.07 | -0.07 | ppb | 220.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 55.87 | 900.00 | |
| 66 Zn | 72 | 2 | 0.25 | 0.25 | ppb | 6.99 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 205.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 348.88 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 43.09 | 900.00 | |
| 98 Mo | 103 | 1 | 0.04 | 0.04 | ppb | 33.42 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 153.19 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 61.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 68.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 14.82 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 674.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.23 | 0.23 | ppb | 2.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 17.91 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1791459 | 0.80 | 1842766 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 2509768 | 0.48 | 2524511 | 99.4 | 70 - 130 | |
| 45 Sc | 2 | 350612 | 12.09 | 345410 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 457120 | 1.00 | 463635 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 126560 | 8.36 | 125267 | 101.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2292813 | 1.15 | 2323410 | 98.7 | 70 | - | 130 |
| 115 | In | 1 | 2390008 | 0.31 | 2386791 | 100.1 | 70 | - | 130 |
| 115 | In | 2 | 1016775 | 11.38 | 996705 | 102.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2846889 | 1.00 | 2826050 | 100.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2599948 | 0.79 | 2625961 | 99.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1548447 | 0.91 | 1559032 | 99.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 9 2013 07:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.53 | 0.53 | ppb | 3.72 | 900.00 | |
| 9 Be | 45 | 2 | 0.50 | 0.50 | ppb | 25.39 | 900.00 | |
| 11 B | 6 | 1 | 5.21 | 5.21 | ppb | 2.32 | 900.00 | |
| 11 B | 45 | 2 | 5.42 | 5.42 | ppb | 2.17 | 900.00 | |
| 23 Na | 45 | 1 | 258.00 | 258.00 | ppb | 3.36 | 90000.00 | |
| 23 Na | 45 | 2 | 289.00 | 289.00 | ppb | 2.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 261.30 | 261.30 | ppb | 3.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 268.30 | 268.30 | ppb | 3.84 | 90000.00 | |
| 27 Al | 45 | 1 | 28.28 | 28.28 | ppb | 2.48 | 90000.00 | |
| 27 Al | 45 | 2 | 26.31 | 26.31 | ppb | 1.58 | 90000.00 | |
| 39 K | 45 | 1 | 254.50 | 254.50 | ppb | 0.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 269.30 | 269.30 | ppb | 1.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.03 | 1.03 | ppb | 2.73 | 900.00 | |
| 51 V | 45 | 2 | 0.97 | 0.97 | ppb | 1.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 2.55 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 3.09 | 900.00 | |
| 56 Fe | 45 | 2 | 28.05 | 28.05 | ppb | 2.30 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 2.89 | 900.00 | |
| 60 Ni | 45 | 2 | 0.95 | 0.95 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 1.04 | 1.04 | ppb | 1.89 | 900.00 | |
| 66 Zn | 72 | 2 | 2.12 | 2.12 | ppb | 3.98 | 900.00 | |
| 75 As | 72 | 2 | 0.54 | 0.54 | ppb | 7.05 | 900.00 | |
| 78 Se | 72 | 2 | 0.42 | 0.42 | ppb | 31.96 | 900.00 | |
| 88 Sr | 103 | 1 | 5.26 | 5.26 | ppb | 1.20 | 900.00 | |
| 98 Mo | 103 | 1 | 1.09 | 1.09 | ppb | 0.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 1.61 | 900.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 6.83 | 900.00 | |
| 120 Sn | 115 | 1 | 5.27 | 5.27 | ppb | 3.82 | 900.00 | |
| 121 Sb | 115 | 1 | 0.54 | 0.54 | ppb | 3.85 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 7.84 | 900.00 | |
| 205 Tl | 209 | 1 | 0.56 | 0.56 | ppb | 2.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.53 | 0.53 | ppb | 4.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1908806 | 1.32 | 1842766 | 103.6 | 70 - 130 | |
| 45 Sc | 1 | 2569263 | 1.49 | 2524511 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 338700 | 0.91 | 345410 | 98.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461930 | 0.94 | 463635 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 123068 | 1.02 | 125267 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 2292828 | 2.12 | 2323410 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 2409149 | 1.57 | 2386791 | 100.9 | 70 | - | 130 |
| 115 In | 2 | 988950 | 0.91 | 996705 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 2844849 | 1.07 | 2826050 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 2617345 | 0.65 | 2625961 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 1576483 | 0.95 | 1559032 | 101.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 9 2013 07:27 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 52.10 | 52.10 | ppb | 0.63 | 900.00 | |
| 9 Be | 45 | 2 | 51.15 | 51.15 | ppb | 2.57 | 900.00 | |
| 11 B | 6 | 1 | 51.71 | 51.71 | ppb | 0.62 | 900.00 | |
| 11 B | 45 | 2 | 49.75 | 49.75 | ppb | 6.79 | 900.00 | |
| 23 Na | 45 | 1 | 4894.00 | 4894.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 5188.00 | 5188.00 | ppb | 0.92 | 90000.00 | |
| 24 Mg | 45 | 1 | 4913.00 | 4913.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 4779.00 | 4779.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 4949.00 | 4949.00 | ppb | 0.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4704.00 | 4704.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 4990.00 | 4990.00 | ppb | 0.68 | 90000.00 | |
| 44 Ca | 45 | 1 | 5008.00 | 5008.00 | ppb | 0.44 | 90000.00 | |
| 47 Ti | 45 | 1 | 49.35 | 49.35 | ppb | 0.05 | 900.00 | |
| 51 V | 45 | 2 | 49.83 | 49.83 | ppb | 0.94 | 900.00 | |
| 52 Cr | 45 | 2 | 49.26 | 49.26 | ppb | 1.01 | 900.00 | |
| 55 Mn | 45 | 2 | 49.07 | 49.07 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 5117.00 | 5117.00 | ppb | 0.56 | 90000.00 | |
| 59 Co | 45 | 2 | 48.86 | 48.86 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 48.43 | 48.43 | ppb | 1.18 | 900.00 | |
| 63 Cu | 72 | 2 | 47.97 | 47.97 | ppb | 0.47 | 900.00 | |
| 66 Zn | 72 | 2 | 48.95 | 48.95 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 49.47 | 49.47 | ppb | 0.55 | 900.00 | |
| 78 Se | 72 | 2 | 49.51 | 49.51 | ppb | 2.59 | 900.00 | |
| 88 Sr | 103 | 1 | 51.41 | 51.41 | ppb | 1.18 | 900.00 | |
| 98 Mo | 103 | 1 | 51.36 | 51.36 | ppb | 0.70 | 900.00 | |
| 107 Ag | 115 | 1 | 49.74 | 49.74 | ppb | 0.25 | 900.00 | |
| 111 Cd | 115 | 2 | 49.28 | 49.28 | ppb | 1.37 | 900.00 | |
| 120 Sn | 115 | 1 | 50.91 | 50.91 | ppb | 0.62 | 900.00 | |
| 121 Sb | 115 | 1 | 51.44 | 51.44 | ppb | 1.03 | 900.00 | |
| 137 Ba | 159 | 1 | 49.31 | 49.31 | ppb | 0.17 | 900.00 | |
| 205 Tl | 209 | 1 | 47.77 | 47.77 | ppb | 0.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.16 | 50.16 | ppb | 0.13 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1740798 | 0.78 | 1842766 | 94.5 | 70 - 130 | |
| 45 Sc | 1 | 2500839 | 0.03 | 2524511 | 99.1 | 70 - 130 | |
| 45 Sc | 2 | 332745 | 1.04 | 345410 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 442722 | 0.74 | 463635 | 95.5 | 70 | - | 130 |
| 72 Ge | 2 | 121093 | 0.21 | 125267 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 2218443 | 0.48 | 2323410 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 2309428 | 1.10 | 2386791 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 951158 | 0.24 | 996705 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 2825784 | 1.55 | 2826050 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 2604957 | 1.36 | 2625961 | 99.2 | 70 | - | 130 |
| 209 Bi | 1 | 1494740 | 0.73 | 1559032 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L09p00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L09p00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 9 2013 07:34 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 09 2013 04:50 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 35.30 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 195.28 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 8.35 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 50.72 | 900.00 | |
| 23 Na | 45 | 1 | 0.49 | 0.49 | ppb | 23.07 | 90000.00 | |
| 23 Na | 45 | 2 | 2.24 | 2.24 | ppb | 6.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.12 | 0.12 | ppb | 18.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.27 | 0.27 | ppb | 50.49 | 90000.00 | |
| 27 Al | 45 | 1 | 0.15 | 0.15 | ppb | 19.64 | 90000.00 | |
| 27 Al | 45 | 2 | 0.15 | 0.15 | ppb | 23.28 | 90000.00 | |
| 39 K | 45 | 1 | -2.08 | -2.08 | ppb | 17.09 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.29 | -3.29 | ppb | 12.58 | 90000.00 | |
| 47 Ti | 45 | 1 | -0.02 | -0.02 | ppb | 26.87 | 900.00 | |
| 51 V | 45 | 2 | 0.02 | 0.02 | ppb | 41.64 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 181.88 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 83.03 | 900.00 | |
| 56 Fe | 45 | 2 | 0.30 | 0.30 | ppb | 8.12 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 29.64 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 183.64 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 27.51 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 176.07 | 900.00 | |
| 75 As | 72 | 2 | 0.02 | 0.02 | ppb | 21.12 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 170.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 101.58 | 900.00 | |
| 98 Mo | 103 | 1 | 0.45 | 0.45 | ppb | 5.46 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 284.21 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 98.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 11.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 30.94 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 250.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.44 | 0.44 | ppb | 2.08 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 37.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1769041 | 0.59 | 1842766 | 96.0 | 70 - 130 | |
| 45 Sc | 1 | 2524925 | 0.69 | 2524511 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 336872 | 0.40 | 345410 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L09p00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 457806 | 0.85 | 463635 | 98.7 | 70 | - | 130 |
| 72 | Ge | 2 | 123665 | 0.48 | 125267 | 98.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2305733 | 0.43 | 2323410 | 99.2 | 70 | - | 130 |
| 115 | In | 1 | 2398742 | 0.51 | 2386791 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 987122 | 0.29 | 996705 | 99.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2837038 | 0.62 | 2826050 | 100.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2625164 | 0.90 | 2625961 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1562874 | 0.82 | 1559032 | 100.2 | 70 | - | 130 |

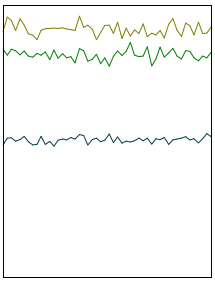
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L09p00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

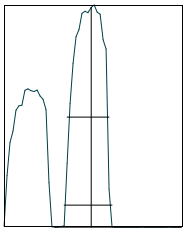
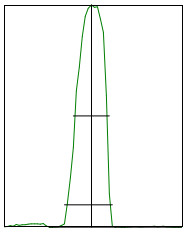
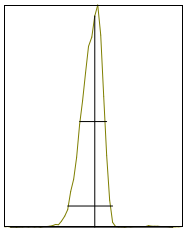
# Tune Report

Tune File : nogas.u
Comment : 120913



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2589.0 | 2528.0 | 2.22 | 2.40 |
| 89 | 5,000 | 4145.0 | 4092.0 | 2.23 | 3.80 |
| 205 | 2,000 | 1842.0 | 1826.3 | 2.34 | 7.30 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.220%
Doubly Charged: 70/140 9.049%

| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,570 | 4,047 | 2,042 |
| Axis: | 7.00 | 89.00 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.800 | 0.800 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 120 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 120 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -26 V | Axis Gain | : | 0.9972 |
| Torch-H | : | -0.1 mm | Omega Lens-ce | : | -0.4 V | Axis Offset | : | 0 |
| Torch-V | : | 0.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min | m/z | Count(Mean) | RSD% | Integration Time: 0.1000sec |
|---|---|---|---|---|---|
| Optional Gas: | --- % | 51 | 366.9 | 7.59 | |
| QP Focus: | -8 V | 59 | 1011.6 | 4.27 | |
| Cell Exit: | -34 V | 89 | 1133.5 | 3.00 | |
| OctP Bias: | -18 V | | | | |
| QP Bias: | -15 V | | | | |



Generated : Dec 09, 2013 09:12:19
Printed : Dec 09, 2013 09:13:08

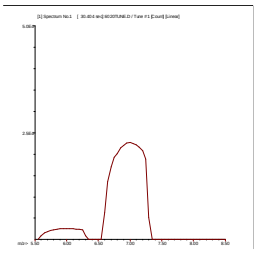
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Dec 9 2013 09:59 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

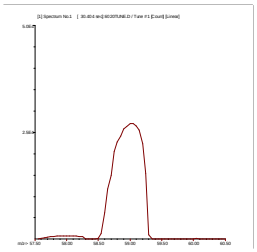
**QC Tune Summary:**
**Pass**

**RSD%**

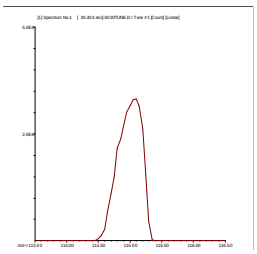
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 0.63 | 5.00 | 0 |
| 59 Co | 0.66 | 5.00 | |
| 115 In | 1.16 | 5.00 | |
| 205 Tl | 2.47 | 5.00 | |



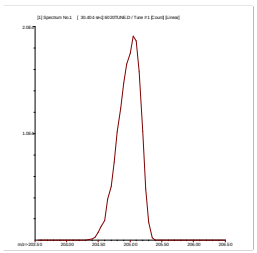
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.05
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

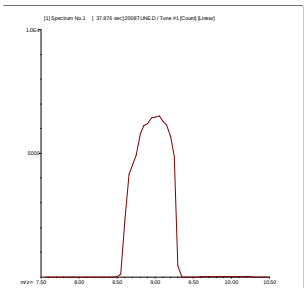
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13L09j00.B\2008TUNE.D
**Date Acquired:** Dec 9 2013 10:04 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

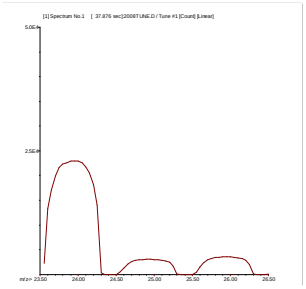


**RSD (%)**

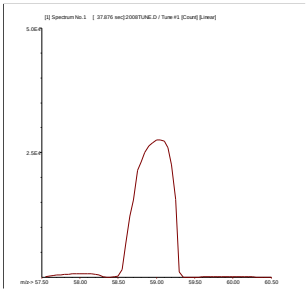
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 38476 | 37761 | 38683 | 38393 | 38612 | 38930 | **1.39** | 5.00 | |
| 24 Mg | 142438 | 141213 | 142567 | 143307 | 141014 | 144089 | **1.43** | 5.00 | |
| 59 Co | 153197 | 151221 | 152761 | 154967 | 153497 | 153539 | **0.77** | 5.00 | |
| 115 In | 162090 | 158088 | 163002 | 163248 | 162188 | 163922 | **1.52** | 5.00 | |
| 208 Pb | 59226 | 58288 | 59164 | 59329 | 59349 | 60000 | **0.96** | 5.00 | |



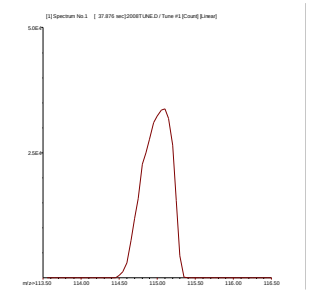
**9 Be**
**Mass Calib.**
Actual: 9.00
Required: 8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



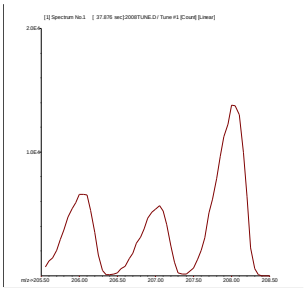
**24 Mg**
**Mass Calib.**
Actual: 23.95
Required: 23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Dec 10, 2013 01:26 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

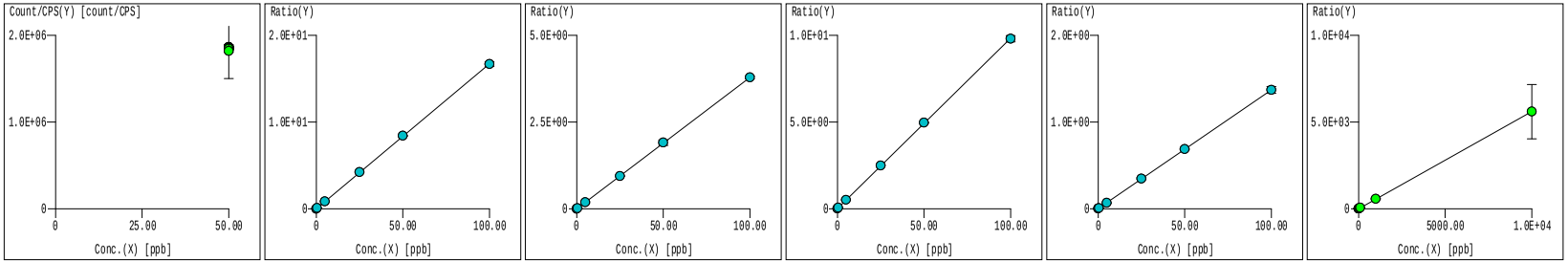
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13l09p00.b\002calb.d\002calb.d# | STDA | Dec 9 2013 03:56 pm |
| 2 | c:\icpchem\1\data\13l09p00.b\003cals.d\003cals.d# | STDB | Dec 9 2013 04:03 pm |
| 3 | c:\icpchem\1\data\13l09p00.b\004cals.d\004cals.d# | STDC | Dec 9 2013 04:10 pm |
| 4 | c:\icpchem\1\data\13l09p00.b\005cals.d\005cals.d# | STDD | Dec 9 2013 04:18 pm |
| 5 | c:\icpchem\1\data\13l09p00.b\006cals.d\006cals.d# | STDE | Dec 9 2013 04:25 pm |
| 6 | c:\icpchem\1\data\13l09p00.b\007cals.d\007cals.d# | STDF | Dec 9 2013 04:32 pm |
| 7 | c:\icpchem\1\data\13l09p00.b\008cals.d\008cals.d# | STDG | Dec 9 2013 04:39 pm |
| 8 | c:\icpchem\1\data\13l09p00.b\009cals.d\009cals.d# | STDH | Dec 9 2013 04:46 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

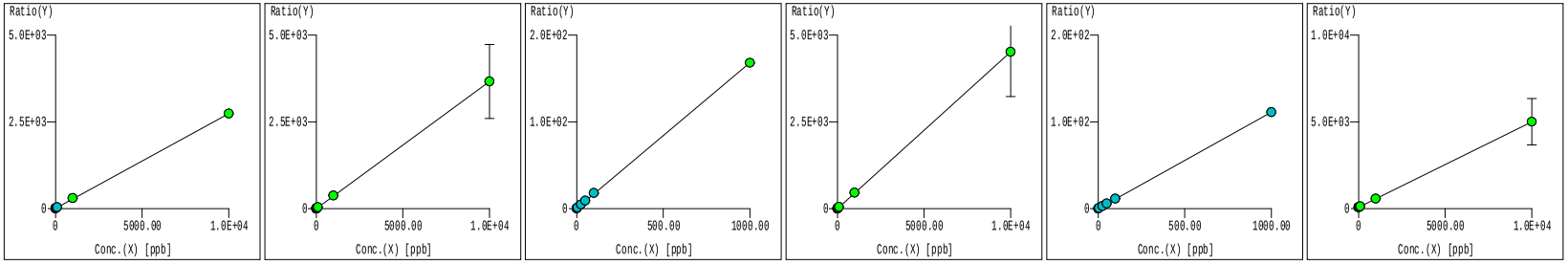
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 1/4

| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | 6.420E-03 ppb | 4.383E-02 ppb | 1.823E-02 ppb | 5.202E-01 ppb | 7.605E-01 ppb |
| < BEC > | --- ppb | 6.300E-03 ppb | 8.434E-03 ppb | 1.000E-01 ppb | 1.526E-01 ppb | 11.15 ppb |



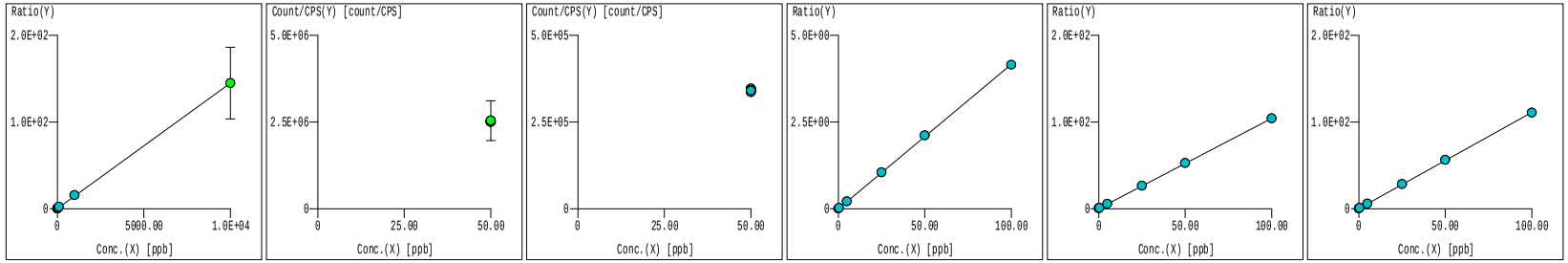

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 7.644E-01 ppb | 8.121E-02 ppb | 2.285E-01 ppb | 1.257E-01 ppb | 8.225E-02 ppb | 3.658 ppb |
| < BEC > | 32.11 ppb | 1.529 ppb | 1.426 ppb | 5.527E-01 ppb | 4.625E-01 ppb | 153.1 ppb |



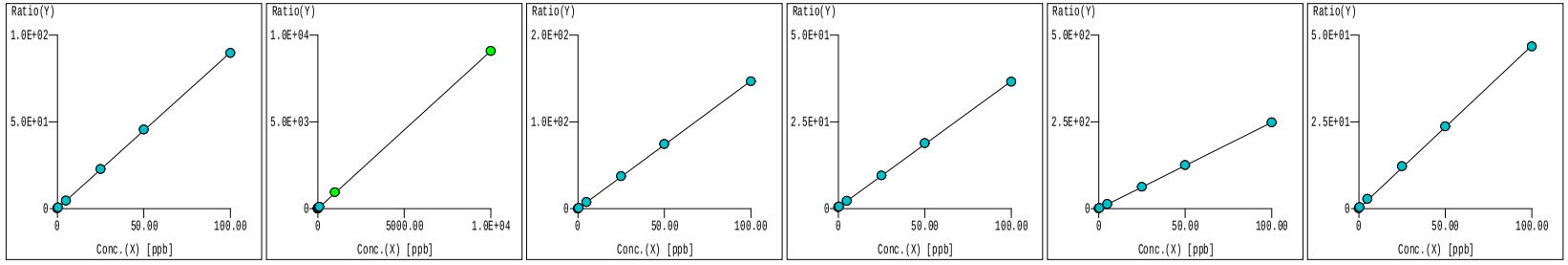
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.457 ppb | --- ppb | --- ppb | 4.831E-02 ppb | 1.193E-02 ppb | 2.524E-02 ppb |
| < BEC > | 17.72 ppb | --- ppb | --- ppb | 8.407E-02 ppb | 4.955E-01 ppb | 3.657E-01 ppb |



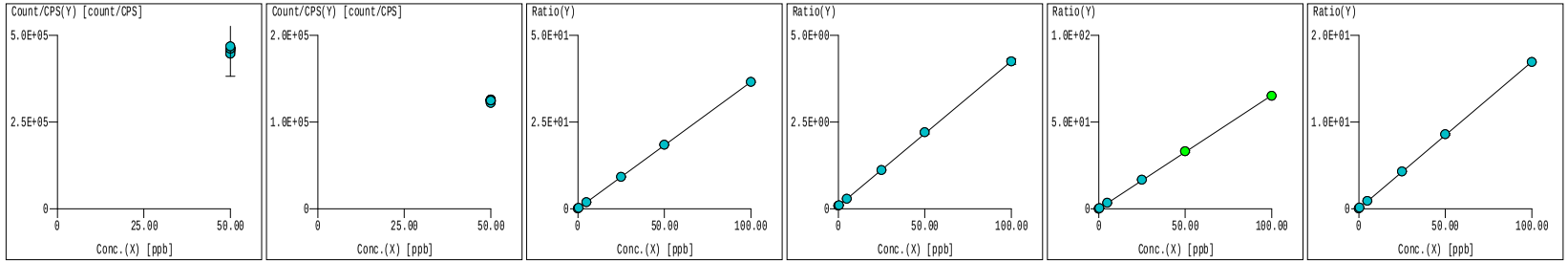

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 9.847E-03 ppb | 2.050E-01 ppb | 1.034E-03 ppb | 7.026E-02 ppb | 1.457E-02 ppb | 8.296E-03 ppb |
| < BEC > | 1.237E-01 ppb | 4.442 ppb | 6.073E-03 ppb | 1.203 ppb | 1.426E-01 ppb | 1.086E-01 ppb |



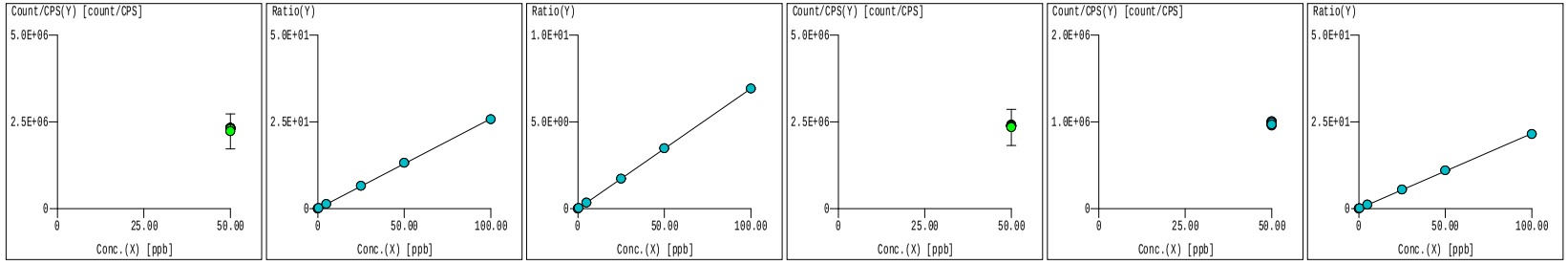
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | --- ppb | --- ppb | 2.876E-02 ppb | 4.439E-01 ppb | 2.173E-03 ppb | 3.192E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.624E-01 ppb | 2.055 ppb | 1.096E-02 ppb | 2.079E-01 ppb |



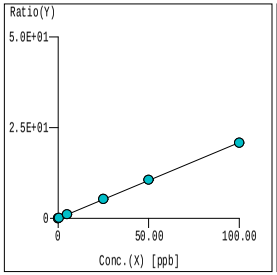

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9999 | 1.0000 | 0.0000 | 0.0000 | 0.9999 |
| < DL > | --- ppb | 2.492E-03 ppb | 7.233E-03 ppb | --- ppb | --- ppb | 7.419E-03 ppb |
| < BEC > | --- ppb | 3.687E-03 ppb | 2.413E-03 ppb | --- ppb | --- ppb | 9.259E-03 ppb |

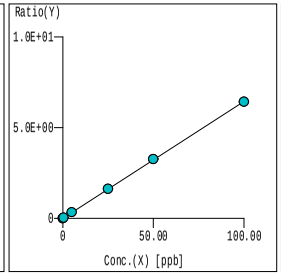


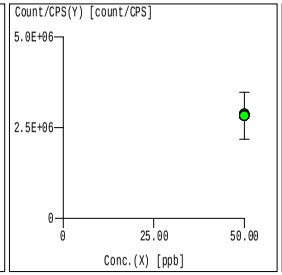
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

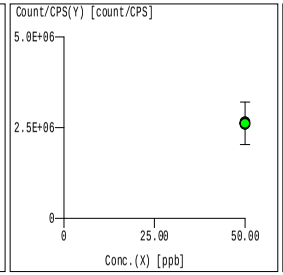
=== Graph Summary ===
Page: 4/4

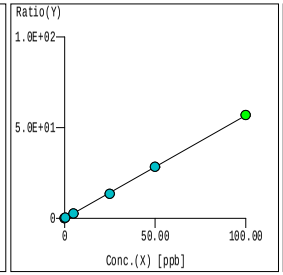
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9999 |
| < DL > | 7.252E-03 ppb | 3.635E-03 ppb | --- ppb | --- ppb | 3.325E-03 ppb | --- ppb |
| < BEC > | 1.402E-02 ppb | 3.844E-02 ppb | --- ppb | --- ppb | 2.370E-02 ppb | --- ppb |

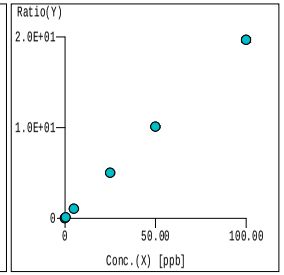




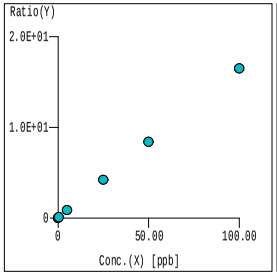


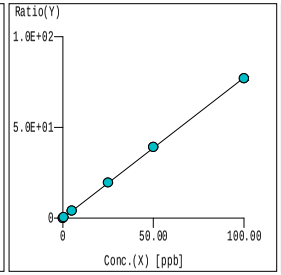


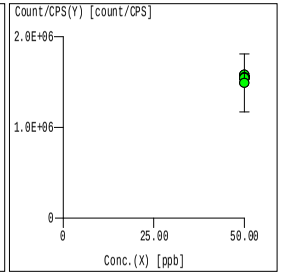





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 |
| < DL > | --- ppb | 3.257E-03 ppb | --- ppb |
| < BEC > | --- ppb | 4.291E-02 ppb | --- ppb |







Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/9/2013 13:50:43 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0021 | .0011 | -.0006 | -.0002 | .0018 | .0078 | .0004 | .0032 | .0050 |
| Stddev | .0000 | .0002 | .0001 | .0001 | .0002 | .0003 | .0001 | .0000 | .0001 |
| %RSD | 2.045 | 19.03 | 9.299 | 24.67 | 13.14 | 3.582 | 24.11 | .3641 | 1.870 |
| #1 | -.0021 | .0010 | -.0005 | -.0003 | .0020 | .0080 | .0003 | .0032 | .0050 |
| #2 | -.0021 | .0013 | -.0006 | -.0002 | .0017 | .0076 | .0005 | .0032 | .0051 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0028 | .0000 | .0207 | .0004 | .0012 | .0000 | .0006 | .0014 | .0038 |
| Stddev | .0004 | .000 | .0001 | .0001 | .0013 | .000 | .0000 | .0002 | .0005 |
| %RSD | 15.17 | 10.53 | .4259 | 14.13 | 104.2 | 712.3 | 8.929 | 17.81 | 13.68 |
| #1 | -.0025 | .0000 | .0207 | .0003 | .0003 | .0000 | .0005 | .0016 | .0041 |
| #2 | -.0031 | .0000 | .0208 | .0004 | .0021 | .0000 | .0006 | .0012 | .0034 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0041 | -.0024 | .0000 | .0001 | .0036 | .0020 | .0020 | .0305 | -.0005 |
| Stddev | .0001 | .0001 | .0000 | .0000 | .0003 | .0001 | .0001 | .0001 | .0000 |
| %RSD | 2.900 | 2.366 | 133.9 | 4.029 | 8.622 | 3.501 | 5.438 | .3743 | 2.169 |
| #1 | -.0040 | -.0024 | .0000 | .0001 | .0034 | .0019 | .0019 | .0306 | -.0005 |
| #2 | -.0042 | -.0025 | .0001 | .0000 | .0038 | .0020 | .0021 | .0305 | -.0004 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0065 | -.0004 | -.0065 | .0000 | .0000 | -.0012 | .0173 |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0000 | .0002 | .0000 |
| %RSD | .9188 | 28.72 | 2.643 | 1524. | 9087. | 12.58 | .0846 |
| #1 | .0064 | -.0005 | -.0066 | .0001 | .0000 | -.0011 | .0173 |
| #2 | .0065 | -.0003 | -.0063 | -.0001 | .0000 | -.0013 | .0173 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/9/2013 13:50:43 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1096.6 | 51249. | 17948. |
| Stddev | 2.2 | 68. | 83. |
| %RSD | .19898 | .13246 | .46251 |
| #1 | 1098.1 | 51297. | 17889. |
| #2 | 1095.1 | 51201. | 18006. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 12/9/2013 13:55:38 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1654 | .7488 | 3.338 | 18.06 | 13.38 | 11.90 | 10.47 | .6665 | 2.713 | 4.321 |
| Stddev | .0002 | .0010 | .000 | .18 | .05 | .01 | .01 | .0011 | .003 | .003 |
| %RSD | .1406 | .1289 | .0047 | 1.023 | .3662 | .0549 | .1159 | .1723 | .0909 | .0572 |
| #1 | .1656 | .7482 | 3.338 | 18.19 | 13.42 | 11.90 | 10.47 | .6656 | 2.715 | 4.319 |
| #2 | .1652 | .7495 | 3.338 | 17.93 | 13.35 | 11.91 | 10.48 | .6673 | 2.712 | 4.322 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 9.265 | 7.939 | 3.202 | 2.480 | 1.283 | 1.200 | 3.948 |
| Stddev | .025 | .007 | .004 | .003 | .000 | .000 | .011 |
| %RSD | .2642 | .0831 | .1190 | .1194 | .0218 | .0242 | .2647 |
| #1 | 9.248 | 7.934 | 3.199 | 2.482 | 1.283 | 1.200 | 3.941 |
| #2 | 9.282 | 7.944 | 3.204 | 2.478 | 1.283 | 1.200 | 3.956 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1087.3 | 51236. | 18097. |
| Stddev | 1.2 | 58. | 106. |
| %RSD | .11150 | .11275 | .58750 |
| #1 | 1086.5 | 51277. | 18021. |
| #2 | 1088.2 | 51195. | 18172. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 12/9/2013 14:00:31 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.446 | 1.758 | 1.006 | .7540 | .1174 | 3.001 |
| Stddev | .004 | .001 | .003 | .0026 | .0020 | .008 |
| %RSD | .2930 | .0755 | .2761 | .3420 | 1.690 | .2566 |
| #1 | 1.449 | 1.759 | 1.008 | .7558 | .1188 | 3.007 |
| #2 | 1.443 | 1.757 | 1.004 | .7522 | .1160 | 2.996 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18248. |
| Stddev | 39. |
| %RSD | .21127 |
| #1 | 18275. |
| #2 | 18221. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 12/9/2013 14:05:27 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2828 | .5913 | .0794 | .8502 | 3.278 | 1.761 | 32.33 | 1.274 | .8071 | .0522 |
| Stddev | .0005 | .0018 | .0001 | .0038 | .007 | .003 | .52 | .000 | .0002 | .0002 |
| %RSD | .1702 | .3125 | .0813 | .4489 | .2138 | .1680 | 1.596 | .0030 | .0225 | .3780 |
| #1 | .2824 | .5900 | .0793 | .8475 | 3.273 | 1.759 | 32.70 | 1.274 | .8072 | .0520 |
| #2 | .2831 | .5926 | .0794 | .8529 | 3.283 | 1.763 | 31.97 | 1.274 | .8070 | .0523 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 3.013 |
| Stddev | .004 |
| %RSD | .1361 |
| #1 | 3.010 |
| #2 | 3.016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1099.8 | 50704. | 18087. |
| Stddev | 1.8 | 124. | 56. |
| %RSD | .16628 | .24379 | .30837 |
| #1 | 1101.1 | 50791. | 18047. |
| #2 | 1098.5 | 50617. | 18126. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/9/2013 14:10:24 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4914 | 15.57 | 2.954 | 2.913 | 2.886 | 2.982 | 2.873 | 17.53 | 2.862 | 2.913 |
| Stddev | .0033 | .07 | .011 | .011 | .012 | .016 | .017 | .09 | .009 | .010 |
| %RSD | .6630 | .4321 | .3802 | .3780 | .4095 | .5379 | .5779 | .5407 | .3330 | .3467 |
| #1 | .4891 | 15.52 | 2.946 | 2.905 | 2.877 | 2.971 | 2.862 | 17.47 | 2.856 | 2.906 |
| #2 | .4938 | 15.62 | 2.962 | 2.921 | 2.894 | 2.994 | 2.885 | 17.60 | 2.869 | 2.920 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.034 | 2.917 | 17.90 | 15.09 | 17.64 | 2.947 | 2.805 | 15.00 | 2.793 | 2.848 |
| Stddev | .016 | .004 | .14 | .07 | .12 | .017 | .014 | .08 | .012 | .010 |
| %RSD | .5233 | .1520 | .7706 | .4369 | .6552 | .5686 | .5040 | .5107 | .4247 | .3436 |
| #1 | 3.023 | 2.914 | 17.80 | 15.04 | 17.56 | 2.935 | 2.795 | 14.95 | 2.785 | 2.841 |
| #2 | 3.046 | 2.921 | 18.00 | 15.14 | 17.73 | 2.959 | 2.815 | 15.06 | 2.801 | 2.855 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.959 | 2.944 | 2.914 | 2.904 | 2.878 | 2.893 | 3.088 | 2.936 | 2.977 | 2.854 |
| Stddev | .006 | .011 | .009 | .011 | .008 | .012 | .015 | .009 | .009 | .004 |
| %RSD | .2043 | .3698 | .3211 | .3803 | .2634 | .4162 | .4734 | .3205 | .3013 | .1304 |
| #1 | 2.955 | 2.936 | 2.908 | 2.896 | 2.873 | 2.885 | 3.078 | 2.929 | 2.971 | 2.851 |
| #2 | 2.963 | 2.952 | 2.921 | 2.912 | 2.883 | 2.902 | 3.098 | 2.942 | 2.984 | 2.857 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.916 | 2.892 | 2.896 | 3.021 |
| Stddev | .009 | .014 | .014 | .011 |
| %RSD | .3104 | .4762 | .4859 | .3480 |
| #1 | 2.909 | 2.902 | 2.886 | 3.014 |
| #2 | 2.922 | 2.883 | 2.906 | 3.028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.0 | 50364. | 18360. |
| Stddev | 3.9 | 308. | 102. |
| %RSD | .36092 | .61191 | .55787 |
| #1 | 1087.8 | 50582. | 18432. |
| #2 | 1082.2 | 50146. | 18288. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 12/9/2013 14:17:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0065 | .0017 | .0008 | .0022 | .0004 | .0002 | .0034 | .0004 | .0005 |
| Stddev | .0000 | .0004 | .0002 | .0000 | .0003 | .0000 | .0000 | .0013 | .0000 | .0000 |
| %RSD | 14.97 | 6.715 | 13.02 | 3.232 | 15.15 | 7.632 | 11.76 | 38.76 | 4.892 | 7.570 |
| #1 | .0001 | -.0068 | .0015 | .0008 | .0025 | .0004 | .0003 | .0024 | .0004 | .0005 |
| #2 | .0001 | -.0062 | .0018 | .0008 | .0020 | .0004 | .0002 | .0043 | .0004 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0004 | .0045 | .0043 | .0055 | .0003 | .0016 | .0013 | .0006 | .0006 |
| Stddev | .0002 | .0002 | .0006 | .0099 | .0093 | .0000 | .0003 | .0049 | .0002 | .0002 |
| %RSD | 46.34 | 50.84 | 13.20 | 227.5 | 169.0 | 5.906 | 17.30 | 380.0 | 35.80 | 25.18 |
| #1 | .0003 | -.0005 | .0049 | -.0026 | -.0011 | .0003 | .0018 | -.0022 | .0005 | .0005 |
| #2 | .0006 | -.0002 | .0041 | .0113 | .0121 | .0002 | .0014 | .0047 | .0008 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0034 | .0035 | .0002 | .0004 | .0017 | .0013 | .0003 | .0006 | .0015 |
| Stddev | .0007 | .0020 | .0001 | .0001 | .0008 | .0003 | .0002 | .0000 | .0002 | .0007 |
| %RSD | 457.0 | 57.68 | 3.714 | 73.53 | 186.1 | 18.22 | 13.08 | 4.182 | 32.76 | 44.20 |
| #1 | .0003 | -.0020 | .0036 | .0003 | .0010 | .0019 | .0014 | .0003 | .0005 | .0020 |
| #2 | -.0006 | -.0048 | .0034 | .0001 | -.0001 | .0015 | .0012 | .0004 | .0007 | .0010 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0139 | .0003 | .0014 |
| Stddev | .0002 | .0063 | .0001 | .0002 |
| %RSD | 37.01 | 45.28 | 51.56 | 15.57 |
| #1 | .0003 | .0095 | .0004 | .0012 |
| #2 | .0006 | .0184 | .0002 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.8 | 51150. | 18134. |
| Stddev | 1.9 | 118. | 67. |
| %RSD | .17095 | .23013 | .36710 |
| #1 | 1086.5 | 51067. | 18086. |
| #2 | 1089.1 | 51234. | 18181. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 14:22:06 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2434 | 9.771 | 1.918 | .0000 | 1.915 | 1.937 | 1.912 | 9.757 | 1.916 | 2.011 |
| Stddev | .0003 | .018 | .001 | .0015 | .002 | .003 | .003 | .041 | .001 | .001 |
| %RSD | .1320 | .1803 | .0732 | 49710. | .0893 | .1422 | .1309 | .4171 | .0342 | .0617 |
| #1 | .2431 | 9.759 | 1.918 | .0011 | 1.916 | 1.935 | 1.914 | 9.785 | 1.916 | 2.012 |
| #2 | .2436 | 9.783 | 1.917 | -.0011 | 1.914 | 1.939 | 1.910 | 9.728 | 1.915 | 2.011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.938 | 1.924 | 9.865 | 9.872 | 9.554 | 1.927 | 1.928 | 9.813 | 1.899 | 1.916 |
| Stddev | .006 | .003 | .011 | .004 | .045 | .005 | .002 | .010 | .003 | .004 |
| %RSD | .2902 | .1526 | .1136 | .0433 | .4726 | .2458 | .0848 | .1039 | .1575 | .1814 |
| #1 | 1.942 | 1.922 | 9.873 | 9.875 | 9.586 | 1.930 | 1.929 | 9.806 | 1.902 | 1.918 |
| #2 | 1.934 | 1.926 | 9.857 | 9.869 | 9.522 | 1.923 | 1.927 | 9.821 | 1.897 | 1.913 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0075 | -.0035 | 1.930 | 1.906 | -.0212 | 1.971 | 1.953 | 1.934 | 1.903 |
| Stddev | .0002 | .0012 | .0003 | .003 | .002 | .0001 | .003 | .031 | .002 | .000 |
| %RSD | 13.19 | 16.09 | 8.853 | .1505 | .0767 | .4359 | .1330 | 1.576 | .1064 | .0135 |
| #1 | .0012 | .0066 | -.0033 | 1.932 | 1.905 | -.0213 | 1.969 | 1.975 | 1.932 | 1.902 |
| #2 | .0015 | .0083 | -.0037 | 1.928 | 1.907 | -.0211 | 1.972 | 1.931 | 1.935 | 1.903 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.929 | .0368 | 1.943 | .0062 |
| Stddev | .002 | .0021 | .001 | .0023 |
| %RSD | .0787 | 5.842 | .0481 | 36.53 |
| #1 | 1.928 | .0383 | 1.943 | .0078 |
| #2 | 1.930 | .0353 | 1.944 | .0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.4 | 50872. | 18358. |
| Stddev | 2.2 | 170. | 42. |
| %RSD | .20140 | .33345 | .22977 |
| #1 | 1083.8 | 50752. | 18328. |
| #2 | 1086.9 | 50992. | 18388. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 14:30:32 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0083 | .0020 | .0010 | .0012 | .0003 | .0002 | -.0004 | .0003 | .0004 |
| Stddev | .0001 | .0019 | .0002 | .0007 | .0001 | .0000 | .0000 | .0038 | .0000 | .0002 |
| %RSD | 106.4 | 23.55 | 9.797 | 72.10 | 6.009 | 3.641 | 12.00 | 860.7 | 7.416 | 42.77 |
| #1 | .0002 | -.0069 | .0021 | .0015 | .0012 | .0003 | .0002 | .0022 | .0003 | .0005 |
| #2 | .0000 | -.0097 | .0018 | .0005 | .0011 | .0003 | .0002 | -.0031 | .0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0003 | .0020 | .0005 | -.0029 | .0002 | .0008 | -.0048 | .0007 | .0001 |
| Stddev | .0003 | .0008 | .0003 | .0107 | .0067 | .0000 | .0003 | .0058 | .0003 | .0002 |
| %RSD | 44.70 | 242.4 | 15.88 | 2066. | 236.0 | 6.041 | 39.04 | 121.5 | 38.06 | 233.1 |
| #1 | .0008 | -.0009 | .0022 | -.0071 | -.0076 | .0002 | .0010 | -.0007 | .0008 | .0002 |
| #2 | .0004 | .0002 | .0018 | .0081 | .0019 | .0002 | .0006 | -.0089 | .0005 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0002 | .0017 | .0001 | .0014 | .0001 | .0009 | .0002 | .0005 | .0018 |
| Stddev | .0003 | .0036 | .0010 | .0007 | .0010 | .0003 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 26.23 | 1816. | 59.05 | 1000. | 69.40 | 292.1 | 12.33 | 3.306 | 24.74 | .6641 |
| #1 | -.0012 | .0028 | .0010 | -.0004 | .0021 | .0003 | .0009 | .0002 | .0004 | .0018 |
| #2 | -.0008 | -.0024 | .0024 | .0005 | .0007 | -.0001 | .0008 | .0002 | .0006 | .0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0130 | .0001 | .0001 |
| Stddev | .0004 | .0057 | .0004 | .0002 |
| %RSD | 109.8 | 43.83 | 378.9 | 174.2 |
| #1 | .0001 | .0090 | .0004 | .0000 |
| #2 | .0007 | .0171 | -.0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1089.3 | 51291. | 18165. |
| Stddev | .8 | 190. | 46. |
| %RSD | .07377 | .36987 | .25129 |
| #1 | 1089.8 | 51157. | 18197. |
| #2 | 1088.7 | 51425. | 18132. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/9/2013 14:35:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0054 | .1942 | .0048 | .0015 | .0985 | .0498 | .0041 | 4.964 | .0042 | .0518 |
| Stddev | .0004 | .0011 | .0012 | .0007 | .0002 | .0002 | .0001 | .004 | .0001 | .0001 |
| %RSD | 6.934 | .5697 | 24.54 | 48.17 | .1958 | .4918 | 2.180 | .0861 | 2.557 | .1239 |
| #1 | .0051 | .1950 | .0039 | .0010 | .0984 | .0500 | .0041 | 4.961 | .0041 | .0518 |
| #2 | .0056 | .1934 | .0056 | .0020 | .0986 | .0497 | .0040 | 4.967 | .0042 | .0517 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0231 | .1021 | 5.021 | 4.799 | .0152 | .0998 | 4.993 | .0396 | .0055 |
| Stddev | .0001 | .0002 | .0011 | .007 | .062 | .0001 | .0007 | .011 | .0003 | .0007 |
| %RSD | .8692 | 1.039 | 1.045 | .1344 | 1.300 | .8261 | .6669 | .2207 | .6613 | 12.74 |
| #1 | .0102 | .0229 | .1028 | 5.026 | 4.755 | .0153 | .0993 | 4.986 | .0394 | .0060 |
| #2 | .0101 | .0232 | .1013 | 5.016 | 4.843 | .0151 | .1003 | 5.001 | .0398 | .0050 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0025 | .0007 | .0068 | .0104 | .0176 | .0989 | .0101 | .0502 | .0058 |
| Stddev | .0003 | .0011 | .0006 | .0001 | .0011 | .0002 | .0006 | .0000 | .0003 | .0002 |
| %RSD | 39.86 | 46.72 | 92.31 | 1.020 | 10.92 | 1.340 | .5979 | .0107 | .5220 | 3.731 |
| #1 | -.0010 | -.0033 | .0011 | .0068 | .0112 | .0174 | .0985 | .0101 | .0500 | .0060 |
| #2 | -.0005 | -.0016 | .0002 | .0069 | .0096 | .0178 | .0993 | .0101 | .0504 | .0056 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0099 | .0064 | .0206 | .0003 |
| Stddev | .0005 | .0015 | .0000 | .0006 |
| %RSD | 5.230 | 23.96 | .1750 | 175.3 |
| #1 | .0103 | .0053 | .0206 | .0008 |
| #2 | .0096 | .0075 | .0206 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.7 | 51096. | 18153. |
| Stddev | 2.5 | 232. | 17. |
| %RSD | .22983 | .45369 | .09225 |
| #1 | 1089.4 | 50932. | 18141. |
| #2 | 1085.9 | 51260. | 18165. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/9/2013 14:40:22 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | 526.5 | -.0001 | -.0011 | .0068 | -.0001 | .0000 | 449.2 | -.0001 | .0002 |
| Stddev | .0003 | 6.4 | .0019 | .0009 | .0005 | .0001 | .0000 | 3.9 | .0000 | .0002 |
| %RSD | 134.4 | 1.222 | 2714. | 89.08 | 6.895 | 96.19 | 268.5 | .8683 | 11.54 | 85.47 |
| #1 | .0004 | 522.0 | .0013 | -.0004 | .0065 | .0000 | .0000 | 446.5 | -.0001 | .0003 |
| #2 | .0000 | 531.1 | -.0014 | -.0017 | .0072 | -.0002 | .0000 | 452.0 | -.0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | 180.0 | -.0553 | 511.0 | .0001 | -.0015 | .0302 | .0002 | -.0001 |
| Stddev | .0001 | .0000 | .8 | .0098 | 4.2 | .0001 | .0005 | .0056 | .0004 | .0001 |
| %RSD | 10.44 | 9.407 | .4604 | 17.66 | .8299 | 46.31 | 31.17 | 18.64 | 170.6 | 98.68 |
| #1 | -.0006 | .0004 | 179.4 | -.0484 | 508.0 | .0001 | -.0012 | .0342 | .0005 | -.0002 |
| #2 | -.0005 | .0004 | 180.6 | -.0622 | 514.0 | .0002 | -.0019 | .0262 | .0000 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0138 | -.0272 | .0843 | -.0009 | -.0005 | 5.715 | -.0001 | -.0084 | .0057 | -.0004 |
| Stddev | .0001 | .0009 | .0006 | .0006 | .0004 | .006 | .0010 | .0001 | .0003 | .0005 |
| %RSD | .8232 | 3.266 | .7157 | 59.03 | 81.23 | .1065 | 857.4 | 1.363 | 5.739 | 136.0 |
| #1 | -.0139 | -.0266 | .0848 | -.0005 | -.0002 | 5.720 | -.0008 | -.0083 | .0054 | -.0008 |
| #2 | -.0137 | -.0279 | .0839 | -.0013 | -.0009 | 5.711 | .0006 | -.0085 | .0059 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | -.0053 | .0004 | -.0243 |
| Stddev | .0001 | .0080 | .0000 | .0005 |
| %RSD | 9.598 | 151.1 | 4.791 | 2.185 |
| #1 | .0010 | -.0109 | .0004 | -.0247 |
| #2 | .0008 | .0004 | .0004 | -.0239 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 994.94 | 47322. | 17816. |
| Stddev | 1.73 | 105. | 197. |
| %RSD | .17361 | .22113 | 1.1033 |
| #1 | 993.71 | 47396. | 17955. |
| #2 | 996.16 | 47248. | 17677. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/9/2013 14:45:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.048 | 521.6 | 2.056 | .4940 | .9793 | .4879 | .4484 | 446.3 | .9836 | .4722 |
| Stddev | .003 | .7 | .006 | .0031 | .0031 | .0020 | .0025 | 3.0 | .0002 | .0017 |
| %RSD | .2848 | .1319 | .2851 | .6226 | .3154 | .4019 | .5556 | .6614 | .0208 | .3642 |
| #1 | 1.050 | 521.1 | 2.060 | .4962 | .9815 | .4865 | .4467 | 444.2 | .9837 | .4735 |
| #2 | 1.046 | 522.1 | 2.052 | .4919 | .9771 | .4893 | .4502 | 448.4 | .9834 | .4710 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4780 | .5279 | 179.3 | -.0768 | 508.0 | .4772 | .9465 | .0296 | .8576 | .9027 |
| Stddev | .0005 | .0004 | .8 | .0038 | 2.9 | .0012 | .0028 | .0008 | .0010 | .0003 |
| %RSD | .1144 | .0798 | .4710 | 4.976 | .5789 | .2590 | .2940 | 2.629 | .1135 | .0303 |
| #1 | .4784 | .5276 | 178.7 | -.0795 | 505.9 | .4780 | .9485 | .0301 | .8583 | .9029 |
| #2 | .4776 | .5282 | 179.9 | -.0741 | 510.1 | .4763 | .9446 | .0290 | .8569 | .9025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5377 | .4839 | .5681 | 1.986 | 1.889 | 7.502 | .9817 | .9545 | .5008 | 1.820 |
| Stddev | .0004 | .0008 | .0014 | .004 | .004 | .017 | .0013 | .0038 | .0007 | .007 |
| %RSD | .0667 | .1612 | .2407 | .1771 | .1934 | .2227 | .1288 | .3944 | .1370 | .3955 |
| #1 | .5374 | .4833 | .5691 | 1.989 | 1.892 | 7.514 | .9826 | .9519 | .5003 | 1.825 |
| #2 | .5379 | .4844 | .5672 | 1.984 | 1.887 | 7.490 | .9808 | .9572 | .5012 | 1.815 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4906 | 1.913 | .8989 | .3819 |
| Stddev | .0010 | .006 | .0009 | .0030 |
| %RSD | .2070 | .3267 | .1041 | .7981 |
| #1 | .4913 | 1.917 | .8996 | .3798 |
| #2 | .4899 | 1.909 | .8983 | .3841 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1003.4 | 47411. | 17916. |
| Stddev | 2.0 | 69. | 94. |
| %RSD | .19970 | .14558 | .52328 |
| #1 | 1002.0 | 47362. | 17982. |
| #2 | 1004.8 | 47460. | 17850. |

Zoom In Zoom Out

Sample Name: MP22168A-B1 Acquired: 12/9/2013 14:50:13 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1979 | 2.200 | .5330 | .0011 | .0025 | 1.962 | .4904 | 24.28 | .5041 | .5028 |
| Stddev | .0011 | .002 | .0016 | .0018 | .0002 | .009 | .0001 | .15 | .0003 | .0003 |
| %RSD | .5695 | .0700 | .3085 | 160.6 | 6.690 | .4766 | .0117 | .6079 | .0629 | .0677 |
| #1 | .1971 | 2.199 | .5318 | -.0001 | .0026 | 1.968 | .4903 | 24.18 | .5039 | .5026 |
| #2 | .1987 | 2.201 | .5342 | .0023 | .0023 | 1.955 | .4904 | 24.39 | .5044 | .5030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5106 | .4772 | 2.079 | 25.07 | 24.83 | .4916 | .0007 | 25.02 | .4757 | .9748 |
| Stddev | .0038 | .0028 | .007 | .08 | .02 | .0007 | .0001 | .06 | .0007 | .0043 |
| %RSD | .7519 | .5868 | .3229 | .3072 | .0907 | .1323 | 17.43 | .2543 | .1571 | .4449 |
| #1 | .5078 | .4752 | 2.084 | 25.12 | 24.82 | .4911 | .0008 | 25.07 | .4751 | .9717 |
| #2 | .5133 | .4791 | 2.074 | 25.01 | 24.85 | .4920 | .0006 | 24.98 | .4762 | .9778 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0001 | .0051 | .5031 | .5273 | .0136 | .0000 | .4893 | .4933 | .5019 |
| Stddev | .0005 | .0027 | .0006 | .0024 | .0044 | .0001 | .0003 | .0017 | .0038 | .0038 |
| %RSD | 50.09 | 2054. | 11.86 | .4819 | .8398 | 1.006 | 1151. | .3493 | .7754 | .7634 |
| #1 | -.0014 | -.0017 | .0055 | .5014 | .5242 | .0137 | .0002 | .4905 | .4906 | .4992 |
| #2 | -.0007 | .0020 | .0046 | .5048 | .5305 | .0135 | -.0002 | .4881 | .4960 | .5046 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5127 | .0148 | .5134 | .0376 |
| Stddev | .0058 | .0010 | .0020 | .0033 |
| %RSD | 1.139 | 6.556 | .3945 | 8.914 |
| #1 | .5086 | .0141 | .5120 | .0399 |
| #2 | .5168 | .0155 | .5149 | .0352 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.9 | 51349. | 18255. |
| Stddev | 2.9 | 142. | 147. |
| %RSD | .26957 | .27634 | .80319 |
| #1 | 1089.9 | 51450. | 18358. |
| #2 | 1085.8 | 51249. | 18151. |



Zoom In Zoom Out

Sample Name: MP22168A-MB1 Acquired: 12/9/2013 14:54:58 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0160 | .0007 | .0008 | .0000 | .0006 | .0001 | .0274 | -.0001 | .0004 |
| Stddev | .0001 | .0010 | .0009 | .0006 | .001 | .0000 | .0000 | .0028 | .0000 | .0001 |
| %RSD | 47.11 | 6.400 | 122.6 | 74.36 | 2146. | 3.450 | 11.38 | 10.17 | 54.26 | 16.41 |
| #1 | .0003 | .0167 | .0013 | .0012 | .0003 | .0006 | .0001 | .0255 | .0000 | .0004 |
| #2 | .0002 | .0152 | .0001 | .0004 | -.0003 | .0006 | .0001 | .0294 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0009 | .0100 | .0306 | .0196 | .0002 | .0000 | .0024 | .0005 | .0005 |
| Stddev | .0001 | .0005 | .0015 | .0146 | .0140 | .0000 | .0000 | .0032 | .0002 | .0003 |
| %RSD | 26.99 | 56.80 | 14.91 | 47.66 | 71.26 | 11.84 | 46.42 | 131.0 | 31.89 | 56.18 |
| #1 | .0007 | -.0013 | .0089 | .0409 | .0097 | .0002 | .0000 | .0002 | .0006 | .0003 |
| #2 | .0004 | -.0005 | .0111 | .0203 | .0294 | .0002 | .0000 | .0046 | .0004 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0025 | .0021 | -.0005 | .0004 | .0073 | .0001 | .0001 | .0007 | .0051 |
| Stddev | .0002 | .0001 | .0006 | .0009 | .0007 | .0005 | .0008 | .0000 | .0001 | .0001 |
| %RSD | 21.42 | 5.508 | 26.95 | 191.9 | 158.1 | 7.359 | 674.7 | 12.17 | 12.74 | 1.380 |
| #1 | -.0011 | -.0024 | .0024 | -.0011 | .0009 | .0077 | -.0004 | .0001 | .0007 | .0052 |
| #2 | -.0008 | -.0026 | .0017 | .0002 | .0000 | .0069 | .0007 | .0001 | .0006 | .0051 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0057 | .0020 | -.0004 |
| Stddev | .0003 | .0064 | .0001 | .0002 |
| %RSD | 153.3 | 112.7 | 3.300 | 45.82 |
| #1 | -.0003 | .0102 | .0021 | -.0003 |
| #2 | .0000 | .0011 | .0020 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1091.2 | 51614. | 18227. |
| Stddev | 2.8 | 120. | 62. |
| %RSD | .25834 | .23223 | .34144 |
| #1 | 1093.2 | 51698. | 18271. |
| #2 | 1089.2 | 51529. | 18183. |



Zoom In Zoom Out

Sample Name: MP22168A-S1 Acquired: 12/9/2013 14:59:55 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2028 | 2.076 | .5493 | -.0001 | .0561 | 2.025 | .4955 | 52.97 | .5121 |
| Stddev | .0015 | .007 | .0020 | .0011 | .0002 | .001 | .0008 | .06 | .0002 |
| %RSD | .7421 | .3564 | .3701 | 1042. | .3908 | .0505 | .1633 | .1157 | .0320 |
| #1 | .2017 | 2.071 | .5479 | -.0009 | .0560 | 2.026 | .4950 | 52.93 | .5120 |
| #2 | .2038 | 2.081 | .5507 | .0006 | .0563 | 2.025 | .4961 | 53.01 | .5122 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5133 | .5108 | .4919 | 2.625 | 31.67 | 29.17 | 2.323 | .0002 | 72.32 |
| Stddev | .0006 | .0016 | .0036 | .006 | .03 | .15 | .005 | .0001 | .12 |
| %RSD | .1193 | .3214 | .7329 | .2383 | .0864 | .5157 | .2326 | 30.55 | .1668 |
| #1 | .5128 | .5096 | .4893 | 2.621 | 31.65 | 29.28 | 2.319 | .0002 | 72.23 |
| #2 | .5137 | .5120 | .4944 | 2.629 | 31.69 | 29.07 | 2.327 | .0003 | 72.40 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4856 | .9501 | -.0017 | .0161 | F22.96 | .5142 | .5284 | 6.162 | -.0013 |
| Stddev | .0008 | .0016 | .0007 | .0074 | .03 | .0015 | .0019 | .014 | .0001 |
| %RSD | .1630 | .1683 | 42.35 | 46.13 | .1246 | .3003 | .3685 | .2218 | 3.988 |
| #1 | .4851 | .9490 | -.0012 | .0213 | 22.94 | .5131 | .5270 | 6.152 | -.0013 |
| #2 | .4862 | .9512 | -.0022 | .0108 | 22.98 | .5153 | .5297 | 6.171 | -.0013 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8300 | .4962 | .5021 | .5142 | .0123 | .5351 | -.0273 |
| Stddev | .0015 | .0023 | .0021 | .0038 | .0059 | .0015 | .0004 |
| %RSD | .1810 | .4616 | .4191 | .7352 | 48.04 | .2784 | 1.470 |
| #1 | .8289 | .4946 | .5006 | .5115 | .0081 | .5340 | -.0270 |
| #2 | .8310 | .4978 | .5036 | .5169 | .0165 | .5361 | -.0275 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.9 | 51009. | 18107. |
| Stddev | .9 | 182. | 57. |
| %RSD | .08085 | .35625 | .31474 |
| #1 | 1074.5 | 51138. | 18147. |
| #2 | 1073.3 | 50881. | 18066. |



Zoom In Zoom Out

Sample Name: MP22168A-S2 Acquired: 12/9/2013 15:04:40 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2071 | 2.096 | .5592 | .0016 | .0563 | 2.059 | .5051 | 53.87 | .5207 |
| Stddev | .0007 | .013 | .0048 | .0006 | .0002 | .003 | .0006 | .07 | .0030 |
| %RSD | .3181 | .6207 | .8664 | 38.45 | .3404 | .1575 | .1142 | .1334 | .5784 |
| #1 | .2076 | 2.106 | .5558 | .0021 | .0564 | 2.062 | .5055 | 53.92 | .5186 |
| #2 | .2067 | 2.087 | .5626 | .0012 | .0562 | 2.057 | .5047 | 53.82 | .5228 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5230 | .5266 | .5042 | 2.666 | 32.25 | 29.78 | 2.376 | .0004 | 73.41 |
| Stddev | .0033 | .0004 | .0000 | .002 | .02 | .01 | .002 | .0002 | .08 |
| %RSD | .6366 | .0704 | .0067 | .0713 | .0771 | .0339 | .0934 | 62.01 | .1081 |
| #1 | .5207 | .5269 | .5042 | 2.667 | 32.24 | 29.77 | 2.377 | .0005 | 73.35 |
| #2 | .5254 | .5264 | .5042 | 2.664 | 32.27 | 29.79 | 2.374 | .0002 | 73.46 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4933 | .9645 | -.0010 | .0164 | F23.14 | .5237 | .5372 | 6.239 | -.0018 |
| Stddev | .0026 | .0049 | .0005 | .0017 | .12 | .0032 | .0037 | .038 | .0006 |
| %RSD | .5211 | .5050 | 45.39 | 10.60 | .5314 | .6049 | .6870 | .6122 | 31.07 |
| #1 | .4915 | .9610 | -.0013 | .0176 | 23.05 | .5215 | .5346 | 6.212 | -.0014 |
| #2 | .4951 | .9679 | -.0007 | .0152 | 23.22 | .5259 | .5398 | 6.266 | -.0022 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8466 | .5117 | .5124 | .5265 | .0093 | .5383 | -.0316 |
| Stddev | .0012 | .0004 | .0036 | .0016 | .0014 | .0028 | .0005 |
| %RSD | .1407 | .0843 | .7065 | .3031 | 15.26 | .5112 | 1.594 |
| #1 | .8474 | .5114 | .5098 | .5253 | .0104 | .5364 | -.0312 |
| #2 | .8457 | .5120 | .5150 | .5276 | .0083 | .5403 | -.0319 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.1 | 50663. | 18117. |
| Stddev | 5.8 | 227. | 4. |
| %RSD | .54299 | .44880 | .02166 |
| #1 | 1077.2 | 50502. | 18120. |
| #2 | 1069.0 | 50823. | 18114. |

Zoom In Zoom Out

Sample Name: MC26418-1F Acquired: 12/9/2013 15:09:25 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0029 | .0069 | .0009 | .0521 | .0842 | .0000 | 27.93 | .0002 |
| Stddev | .0002 | .0039 | .0006 | .0007 | .0004 | .0006 | .0000 | .05 | .0001 |
| %RSD | 60.99 | 135.9 | 8.008 | 71.74 | .7248 | .7195 | 128.3 | .1622 | 85.10 |
| #1 | .0004 | -.0001 | .0073 | .0014 | .0518 | .0846 | .0000 | 27.97 | .0002 |
| #2 | .0002 | -.0056 | .0065 | .0005 | .0523 | .0838 | .0000 | 27.90 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0007 | .0024 | .6367 | 5.911 | 3.855 | 1.832 | .0003 | 45.47 |
| Stddev | .0001 | .0004 | .0004 | .0122 | .062 | .055 | .020 | .0001 | .13 |
| %RSD | 5.814 | 59.33 | 14.73 | 1.923 | 1.050 | 1.427 | 1.076 | 27.06 | .2816 |
| #1 | .0026 | .0004 | .0022 | .6454 | 5.955 | 3.894 | 1.818 | .0003 | 45.38 |
| #2 | .0024 | .0010 | .0027 | .6281 | 5.867 | 3.816 | 1.846 | .0004 | 45.56 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .0004 | -.0010 | .0112 | F22.42 | .0003 | .0003 | 5.962 | -.0004 |
| Stddev | .0002 | .0007 | .0003 | .0047 | .04 | .0005 | .0002 | .016 | .0002 |
| %RSD | 5.108 | 156.8 | 25.73 | 41.97 | .1907 | 182.8 | 90.74 | .2618 | 67.59 |
| #1 | .0046 | .0009 | -.0008 | .0079 | 22.39 | -.0001 | .0004 | 5.951 | -.0005 |
| #2 | .0049 | .0000 | -.0012 | .0145 | 22.45 | .0006 | .0001 | 5.973 | -.0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .3248 | .0010 | .0044 | .0004 | .0031 | .0074 | -.0324 |
| Stddev | .0002 | .0001 | .0006 | .0001 | .0048 | .0000 | .0001 |
| %RSD | .0752 | 13.99 | 13.33 | 31.06 | 152.2 | .2052 | .3054 |
| #1 | .3246 | .0009 | .0040 | .0005 | -.0002 | .0074 | -.0323 |
| #2 | .3250 | .0011 | .0048 | .0003 | .0065 | .0074 | -.0325 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1078.0 | 50474. | 18108. |
| Stddev | 2.4 | 493. | 78. |
| %RSD | .22453 | .97583 | .43118 |
| #1 | 1079.7 | 50822. | 18052. |
| #2 | 1076.3 | 50125. | 18163. |



Zoom In Zoom Out

Sample Name: MP22168A-SD1 Acquired: 12/9/2013 15:14:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0219 | .0166 | .0002 | .0509 | .0845 | -.0002 | 28.61 | -.0008 | .0025 |
| Stddev | .0003 | .0189 | .0028 | .0026 | .0008 | .0010 | .0001 | .01 | .0009 | .0010 |
| %RSD | 61.58 | 86.49 | 16.75 | 1536. | 1.660 | 1.212 | 49.61 | .0175 | 109.5 | 40.16 |
| #1 | .0002 | -.0085 | .0186 | -.0016 | .0503 | .0852 | -.0001 | 28.62 | -.0014 | .0032 |
| #2 | .0006 | -.0352 | .0146 | .0020 | .0515 | .0838 | -.0003 | 28.61 | -.0002 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0015 | .6435 | 5.966 | 3.915 | 1.847 | .0003 | 45.94 | .0058 | .0022 |
| Stddev | .0003 | .0000 | .0014 | .099 | .052 | .000 | .0002 | .02 | .0016 | .0013 |
| %RSD | 26.21 | .2278 | .2232 | 1.662 | 1.328 | .0110 | 83.50 | .0462 | 27.00 | 60.24 |
| #1 | .0009 | -.0015 | .6425 | 6.036 | 3.879 | 1.848 | .0001 | 45.93 | .0047 | .0013 |
| #2 | .0013 | -.0016 | .6445 | 5.895 | 3.952 | 1.847 | .0005 | 45.96 | .0069 | .0031 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0036 | 22.23 | -.0001 | .0012 | 6.032 | .0013 | .3314 | .0014 | .0052 |
| Stddev | .0011 | .0164 | .04 | .0020 | .0037 | .059 | .0028 | .0019 | .0003 | .0030 |
| %RSD | 25.12 | 461.4 | .1738 | 1336. | 312.4 | .9795 | 210.1 | .5802 | 23.21 | 58.45 |
| #1 | -.0052 | -.0080 | 22.20 | .0013 | .0038 | 5.990 | -.0006 | .3328 | .0012 | .0031 |
| #2 | -.0036 | .0151 | 22.26 | -.0015 | -.0014 | 6.074 | .0033 | .3301 | .0016 | .0074 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0403 | .0116 | -.0327 |
| Stddev | .0009 | .0088 | .0029 | .0014 |
| %RSD | 487.7 | 21.93 | 24.68 | 4.203 |
| #1 | -.0008 | .0465 | .0136 | -.0317 |
| #2 | .0004 | .0340 | .0095 | -.0337 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.4 | 50921. | 18165. |
| Stddev | 3.5 | 167. | 53. |
| %RSD | .32715 | .32736 | .29143 |
| #1 | 1083.9 | 50804. | 18128. |
| #2 | 1078.9 | 51039. | 18203. |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/9/2013 15:19:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | 5.921 | .0032 | .0507 | .0354 | .0000 | 46.79 |
| Stddev | .0002 | .0035 | .022 | .0013 | .0000 | .0001 | .0000 | .00 |
| %RSD | 203.7 | 301.5 | .3729 | 41.43 | .0270 | .3516 | 53.62 | .0049 |
| #1 | -.0002 | -.0037 | 5.905 | .0041 | .0507 | .0353 | .0001 | 46.79 |
| #2 | .0000 | .0013 | 5.936 | .0022 | .0507 | .0355 | .0000 | 46.79 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | F-.0051 | .0216 | .0003 | -.0008 | 45.00 | 5.070 | 6.026 | 7.595 |
| Stddev | .0002 | .0001 | .0001 | .0003 | .05 | .019 | .007 | .048 |
| %RSD | 4.045 | .4496 | 34.71 | 42.21 | .1114 | .3675 | .1131 | .6314 |
| #1 | -.0050 | .0215 | .0003 | -.0010 | 44.97 | 5.057 | 6.030 | 7.561 |
| #2 | -.0053 | .0217 | .0002 | -.0006 | 45.04 | 5.083 | 6.021 | 7.628 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 10.70 | .0133 | -.0004 | .0018 | .0509 | 3.514 | -.0005 |
| Stddev | .0003 | .07 | .0000 | .0010 | .0006 | .0007 | .036 | .0003 |
| %RSD | 11.40 | .6612 | .2432 | 223.7 | 31.27 | 1.396 | 1.026 | 48.47 |
| #1 | .0021 | 10.65 | .0133 | .0002 | .0022 | .0504 | 3.489 | -.0004 |
| #2 | .0025 | 10.75 | .0133 | -.0011 | .0014 | .0514 | 3.540 | -.0007 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 8.176 | .0005 | .3348 | .0006 | .0025 | -.0010 | .0106 |
| Stddev | .0004 | .024 | .0002 | .0014 | .0000 | .0021 | .0001 | .0003 |
| %RSD | 116.2 | .2968 | 33.74 | .4273 | 8.472 | 81.00 | 13.17 | 3.208 |
| #1 | .0001 | 8.159 | .0007 | .3338 | .0006 | .0011 | -.0011 | .0104 |
| #2 | .0006 | 8.193 | .0004 | .3358 | .0005 | .0040 | -.0009 | .0109 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | .0103 | -.0445 |
| Stddev | .0001 | .0001 |
| %RSD | .7670 | .2765 |
| #1 | .0104 | -.0444 |
| #2 | .0103 | -.0446 |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/9/2013 15:19:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.7 | 51069. | 18183. |
| Stddev | 1.7 | 121. | 4. |
| %RSD | .16067 | .23707 | .01963 |
| #1 | 1071.9 | 51154. | 18186. |
| #2 | 1069.5 | 50983. | 18181. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 15:24:08 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2446 | 9.769 | 1.936 | -.0001 | 1.915 | 1.934 | 1.899 | 9.741 | 1.912 | 2.025 |
| Stddev | .0015 | .022 | .002 | .0002 | .004 | .003 | .004 | .009 | .002 | .002 |
| %RSD | .6333 | .2237 | .0764 | 310.9 | .1968 | .1719 | .1992 | .0889 | .0813 | .0856 |
| #1 | .2435 | 9.754 | 1.935 | .0001 | 1.913 | 1.931 | 1.897 | 9.734 | 1.911 | 2.024 |
| #2 | .2457 | 9.785 | 1.937 | -.0002 | 1.918 | 1.936 | 1.902 | 9.747 | 1.914 | 2.027 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.934 | 9.947 | 9.865 | 9.552 | 1.921 | 1.939 | 9.789 | 1.901 | 1.928 |
| Stddev | .005 | .000 | .026 | .006 | .077 | .011 | .002 | .034 | .004 | .002 |
| %RSD | .2473 | .0104 | .2587 | .0581 | .8021 | .5886 | .1075 | .3459 | .1974 | .1201 |
| #1 | 1.936 | 1.934 | 9.929 | 9.869 | 9.606 | 1.913 | 1.937 | 9.765 | 1.898 | 1.926 |
| #2 | 1.943 | 1.934 | 9.965 | 9.861 | 9.498 | 1.929 | 1.940 | 9.813 | 1.904 | 1.929 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0091 | -.0019 | 1.945 | 1.924 | -.0177 | 1.969 | 1.980 | 1.931 | 1.896 |
| Stddev | .0002 | .0002 | .0012 | .006 | .006 | .0010 | .009 | .010 | .005 | .005 |
| %RSD | 19.39 | 2.688 | 62.36 | .3284 | .3286 | 5.411 | .4688 | .4893 | .2724 | .2809 |
| #1 | .0010 | .0089 | -.0011 | 1.941 | 1.919 | -.0170 | 1.962 | 1.973 | 1.927 | 1.892 |
| #2 | .0008 | .0093 | -.0028 | 1.950 | 1.928 | -.0184 | 1.975 | 1.987 | 1.935 | 1.900 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.913 | .0342 | 1.982 | -.0010 |
| Stddev | .009 | .0028 | .002 | .0004 |
| %RSD | .4527 | 8.114 | .1149 | 34.77 |
| #1 | 1.907 | .0323 | 1.980 | -.0008 |
| #2 | 1.919 | .0362 | 1.984 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1079.0 | 50907. | 18294. |
| Stddev | .1 | 253. | 5. |
| %RSD | .00571 | .49766 | .02836 |
| #1 | 1079.0 | 51086. | 18297. |
| #2 | 1078.9 | 50728. | 18290. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 15:29:46 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0064 | .0024 | .0011 | .0013 | .0001 | .0000 | .0000 | .0000 |
| Stddev | .0006 | .0018 | .0009 | .0002 | .0003 | .0001 | .000 | .000 | .000 |
| %RSD | 195.9 | 27.80 | 35.29 | 17.25 | 23.62 | 45.78 | 456.0 | 586.5 | 3753. |
| #1 | -.0007 | -.0076 | .0018 | .0010 | .0011 | .0001 | .0000 | -.0002 | .0000 |
| #2 | .0001 | -.0051 | .0031 | .0012 | .0016 | .0001 | -.0001 | .0001 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0001 | -.0009 | .0014 | .0159 | -.0042 | .0000 | .0009 | .0002 |
| Stddev | .0001 | .0001 | .0001 | .0028 | .0146 | .0032 | .0000 | .0001 | .0016 |
| %RSD | 30.50 | 128.2 | 9.942 | 201.0 | 91.69 | 76.39 | 15.27 | 15.54 | 741.4 |
| #1 | .0004 | .0002 | -.0009 | -.0006 | .0056 | -.0065 | .0000 | .0010 | .0013 |
| #2 | .0002 | .0000 | -.0010 | .0033 | .0262 | -.0019 | .0000 | .0008 | -.0009 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | -.0002 | -.0002 | .0020 | -.0001 | .0004 | .0008 | .0007 |
| Stddev | .0001 | .0008 | .0005 | .0019 | .0016 | .0002 | .0007 | .0004 | .0001 |
| %RSD | 24.61 | 125.8 | 244.1 | 1058. | 78.56 | 131.6 | 185.6 | 46.57 | 18.32 |
| #1 | .0004 | .0011 | -.0006 | -.0015 | .0032 | .0000 | -.0001 | .0005 | .0008 |
| #2 | .0005 | .0001 | .0002 | .0011 | .0009 | -.0002 | .0008 | .0010 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | F.0020 | .0000 | .0042 | -.0003 | -.0001 |
| Stddev | .0000 | .0004 | .0002 | .0000 | .0016 | .0003 | .0000 |
| %RSD | 102.3 | 71.06 | 8.899 | 72.39 | 38.38 | 83.11 | 51.47 |
| #1 | .0000 | .0003 | .0022 | .0001 | .0031 | -.0005 | .0000 |
| #2 | .0000 | .0008 | .0019 | .0000 | .0054 | -.0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1084.4 | 51427. | 18099. |
| Stddev | 2.4 | 59. | 77. |
| %RSD | .21982 | .11567 | .42799 |
| #1 | 1086.1 | 51385. | 18044. |
| #2 | 1082.7 | 51469. | 18154. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/9/2013 15:35:57 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0015 | 1.549 | .0006 | .2297 | .0541 | .0000 | 75.26 | -.0016 | -.0004 |
| Stddev | .0004 | .0052 | .005 | .0001 | .0015 | .0000 | .000 | .16 | .0000 | .0001 |
| %RSD | 684.4 | 355.8 | .3401 | 15.19 | .6468 | .0588 | 105.1 | .2162 | 1.728 | 39.60 |
| #1 | .0003 | -.0051 | 1.545 | .0007 | .2286 | .0542 | .0000 | 75.37 | -.0016 | -.0003 |
| #2 | -.0002 | .0022 | 1.552 | .0006 | .2307 | .0541 | .0000 | 75.14 | -.0015 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0007 | 42.55 | 10.26 | 11.75 | 1.475 | .0001 | 28.52 | .0009 | -.0021 |
| Stddev | .0001 | .0006 | .06 | .05 | .09 | .002 | .0000 | .00 | .0000 | .0001 |
| %RSD | 49.91 | 80.75 | .1526 | .5228 | .7843 | .1420 | 11.02 | .0031 | 3.133 | 6.066 |
| #1 | -.0001 | -.0003 | 42.59 | 10.29 | 11.81 | 1.474 | .0001 | 28.52 | .0009 | -.0020 |
| #2 | -.0002 | -.0011 | 42.50 | 10.22 | 11.68 | 1.477 | .0001 | 28.51 | .0010 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0064 | .9075 | -.0003 | -.0007 | 15.90 | .0012 | .8282 | .0007 | .0032 |
| Stddev | .0005 | .0002 | .0062 | .0006 | .0010 | .06 | .0008 | .0004 | .0003 | .0006 |
| %RSD | 196.4 | 2.985 | .6876 | 235.2 | 129.2 | .3649 | 64.20 | .0526 | 40.57 | 18.75 |
| #1 | -.0001 | .0065 | .9031 | -.0007 | -.0001 | 15.86 | .0007 | .8279 | .0005 | .0028 |
| #2 | .0006 | .0062 | .9119 | .0002 | -.0014 | 15.94 | .0018 | .8285 | .0009 | .0037 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0110 | .0067 | -.0872 |
| Stddev | .0002 | .0080 | .0000 | .0003 |
| %RSD | 11490. | 72.17 | .0950 | .3078 |
| #1 | .0002 | .0054 | .0067 | -.0870 |
| #2 | -.0002 | .0167 | .0067 | -.0874 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.1 | 50857. | 18272. |
| Stddev | 3.1 | 38. | 46. |
| %RSD | .28575 | .07506 | .25415 |
| #1 | 1072.2 | 50884. | 18239. |
| #2 | 1067.9 | 50830. | 18304. |



Zoom In Zoom Out

Sample Name: MC26418-12F Acquired: 12/9/2013 15:40:48 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0039 | .0039 | .0004 | .0574 | .0064 | -.0001 | 31.36 | -.0004 | -.0001 |
| Stddev | .0001 | .0060 | .0016 | .0003 | .0008 | .0002 | .0000 | .07 | .0000 | .0000 |
| %RSD | 22.56 | 155.2 | 41.78 | 82.72 | 1.418 | 2.616 | 13.75 | .2306 | 3.559 | 22.25 |
| #1 | .0003 | .0004 | .0050 | .0006 | .0568 | .0063 | -.0001 | 31.31 | -.0004 | -.0002 |
| #2 | .0002 | -.0082 | .0027 | .0002 | .0580 | .0065 | -.0001 | 31.42 | -.0004 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0033 | 2.472 | 7.474 | 2.964 | .1463 | .0008 | 20.01 | .0021 | .0000 |
| Stddev | .0007 | .0001 | .008 | .005 | .005 | .0004 | .0000 | .10 | .0002 | .000 |
| %RSD | 430.3 | 3.403 | .3127 | .0701 | .1639 | .2953 | 3.395 | .5229 | 11.13 | 664.7 |
| #1 | .0006 | .0034 | 2.477 | 7.478 | 2.967 | .1460 | .0008 | 19.93 | .0023 | .0001 |
| #2 | -.0003 | .0032 | 2.467 | 7.470 | 2.961 | .1466 | .0008 | 20.08 | .0020 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0010 | 3.214 | .0001 | -.0010 | 2.113 | -.0005 | .2343 | .0010 | .0028 |
| Stddev | .0005 | .0032 | .028 | .0002 | .0003 | .006 | .0000 | .0013 | .0001 | .0010 |
| %RSD | 23.33 | 318.1 | .8582 | 336.3 | 26.58 | .2827 | .4371 | .5746 | 10.56 | 34.37 |
| #1 | -.0023 | .0012 | 3.195 | -.0001 | -.0008 | 2.109 | -.0005 | .2334 | .0011 | .0021 |
| #2 | -.0017 | -.0032 | 3.234 | .0002 | -.0012 | 2.117 | -.0005 | .2353 | .0009 | .0035 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0057 | .0140 | -.0116 |
| Stddev | .0004 | .0030 | .0001 | .0000 |
| %RSD | 471.5 | 53.32 | .6478 | .0645 |
| #1 | .0002 | .0078 | .0141 | -.0116 |
| #2 | -.0004 | .0035 | .0140 | -.0116 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1076.7 | 51159. | 18307. |
| Stddev | 3.3 | 50. | 15. |
| %RSD | .30743 | .09855 | .08024 |
| #1 | 1079.0 | 51195. | 18297. |
| #2 | 1074.3 | 51123. | 18317. |

Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/9/2013 15:45:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0064 | .0014 | .0223 | .1589 | .0141 | .0000 | 74.15 | -.0001 |
| Stddev | .0002 | .0090 | .0008 | .0037 | .0012 | .0001 | .000 | .37 | .0000 |
| %RSD | 250.1 | 139.8 | 55.85 | 16.57 | .7295 | 1.028 | 92.13 | .5041 | 61.04 |
| #1 | .0001 | .0001 | .0020 | .0197 | .1580 | .0142 | .0000 | 74.42 | -.0001 |
| #2 | -.0003 | .0128 | .0009 | .0249 | .1597 | .0140 | -.0001 | 73.89 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0091 | .0004 | .0001 | .0487 | 3.045 | 8.499 | F19.82 | .0003 | 22.59 |
| Stddev | .0002 | .0002 | .0001 | .0024 | .022 | .064 | .04 | .0002 | .02 |
| %RSD | 1.777 | 36.24 | 75.93 | 4.858 | .7155 | .7479 | .1973 | 54.98 | .0710 |
| #1 | .0090 | .0005 | .0001 | .0470 | 3.030 | 8.544 | 19.85 | .0002 | 22.61 |
| #2 | .0092 | .0003 | .0002 | .0504 | 3.060 | 8.454 | 19.80 | .0004 | 22.58 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0155 | -.0002 | -.0046 | .1329 | .8658 | -.0001 | .0026 | 7.273 | -.0007 |
| Stddev | .0002 | .0003 | .0007 | .0019 | .0040 | .0005 | .0001 | .016 | .0002 |
| %RSD | 1.604 | 143.9 | 14.96 | 1.412 | .4666 | 352.4 | 5.807 | .2124 | 21.50 |
| #1 | .0157 | -.0004 | -.0041 | .1316 | .8629 | -.0005 | .0027 | 7.262 | -.0006 |
| #2 | .0154 | .0000 | -.0051 | .1342 | .8686 | .0002 | .0024 | 7.284 | -.0008 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .4309 | .0013 | .0055 | -.0022 | .0083 | .0060 | -.0401 |
| Stddev | .0000 | .0000 | .0009 | .0006 | .0093 | .0002 | .0000 |
| %RSD | .0080 | 2.727 | 15.64 | 26.77 | 111.9 | 3.954 | .0016 |
| #1 | .4310 | .0012 | .0049 | -.0018 | .0017 | .0062 | -.0401 |
| #2 | .4309 | .0013 | .0062 | -.0026 | .0149 | .0059 | -.0401 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1062.6 | 51087. | 18193. |
| Stddev | .0 | 67. | 92. |
| %RSD | .00454 | .13097 | .50459 |
| #1 | 1062.6 | 51134. | 18128. |
| #2 | 1062.6 | 51040. | 18258. |



Zoom In Zoom Out

Sample Name: MC26418-14F Acquired: 12/9/2013 15:50:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0039 | .0023 | .0007 | .0010 | .0001 | .0000 | .0094 | -.0002 | .0003 |
| Stddev | .0002 | .0043 | .0004 | .0000 | .0004 | .0000 | .000 | .0003 | .0000 | .0001 |
| %RSD | 842.7 | 110.0 | 15.66 | 7.112 | 42.80 | 29.06 | 12.14 | 3.252 | 12.35 | 40.46 |
| #1 | -.0001 | -.0069 | .0026 | .0007 | .0013 | .0001 | .0000 | .0097 | -.0002 | .0002 |
| #2 | .0001 | -.0009 | .0021 | .0007 | .0007 | .0001 | .0000 | .0092 | -.0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0010 | -.0008 | .0083 | -.0138 | .0018 | -.0002 | .0112 | .0003 | .0004 |
| Stddev | .0001 | .0001 | .0004 | .0163 | .0145 | .0001 | .0001 | .0053 | .0001 | .0002 |
| %RSD | 14.13 | 10.66 | 46.39 | 195.3 | 105.0 | 4.716 | 34.69 | 47.47 | 22.73 | 63.00 |
| #1 | .0005 | -.0011 | -.0005 | -.0032 | -.0035 | .0018 | -.0003 | .0149 | .0003 | .0002 |
| #2 | .0004 | -.0009 | -.0010 | .0198 | -.0240 | .0019 | -.0002 | .0074 | .0004 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0018 | .0027 | -.0010 | -.0013 | .0201 | .0003 | .0001 | .0002 | .0037 |
| Stddev | .0009 | .0023 | .0007 | .0004 | .0007 | .0001 | .0003 | .0000 | .0001 | .0004 |
| %RSD | 88.11 | 128.7 | 24.54 | 39.51 | 53.04 | .2869 | 112.1 | 52.56 | 57.24 | 11.35 |
| #1 | -.0004 | -.0002 | .0022 | -.0013 | -.0018 | .0201 | .0001 | .0001 | .0001 | .0040 |
| #2 | -.0017 | -.0035 | .0031 | -.0007 | -.0008 | .0200 | .0005 | .0000 | .0003 | .0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0036 | .0069 | -.0004 |
| Stddev | .0004 | .0001 | .0000 | .0003 |
| %RSD | 337.8 | 1.500 | .2258 | 80.31 |
| #1 | .0002 | .0036 | .0069 | -.0006 |
| #2 | -.0004 | .0035 | .0069 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1079.4 | 51474. | 18176. |
| Stddev | 1.1 | 29. | 58. |
| %RSD | .09826 | .05655 | .31945 |
| #1 | 1078.6 | 51494. | 18135. |
| #2 | 1080.1 | 51453. | 18218. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/9/2013 15:55:38 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0047 | .1421 | .0060 | .2702 | .0736 | -.0001 | 108.1 | -.0006 | .0140 |
| Stddev | .0001 | .0013 | .0012 | .0007 | .0016 | .0001 | .0000 | .3 | .0000 | .0002 |
| %RSD | 152.5 | 27.34 | .8158 | 10.91 | .5941 | .1488 | 2.514 | .2370 | 3.082 | 1.394 |
| #1 | -.0002 | .0038 | .1413 | .0064 | .2691 | .0735 | -.0001 | 108.3 | -.0006 | .0138 |
| #2 | .0000 | .0056 | .1430 | .0055 | .2713 | .0736 | -.0001 | 107.9 | -.0006 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0011 | 11.15 | 6.967 | 15.25 | 9.635 | .0015 | 34.37 | .0168 | -.0011 |
| Stddev | .0000 | .0004 | .03 | .025 | .00 | .001 | .0002 | .03 | .0003 | .0000 |
| %RSD | 2.020 | 36.44 | .2348 | .3620 | .0242 | .0066 | 12.06 | .0944 | 1.501 | 2.711 |
| #1 | .0004 | -.0008 | 11.17 | 6.949 | 15.24 | 9.636 | .0016 | 34.40 | .0170 | -.0010 |
| #2 | .0004 | -.0013 | 11.13 | 6.985 | 15.25 | 9.635 | .0014 | 34.35 | .0166 | -.0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0665 | 1.621 | -.0006 | .0010 | 11.16 | -.0011 | 1.101 | .0016 | .0029 |
| Stddev | .0003 | .0061 | .013 | .0010 | .0013 | .03 | .0003 | .001 | .0001 | .0003 |
| %RSD | 9.009 | 9.208 | .7899 | 181.0 | 124.0 | .2684 | 25.06 | .1223 | 6.776 | 11.41 |
| #1 | -.0036 | .0622 | 1.612 | -.0013 | .0019 | 11.14 | -.0013 | 1.102 | .0017 | .0032 |
| #2 | -.0032 | .0709 | 1.630 | .0002 | .0001 | 11.18 | -.0009 | 1.100 | .0015 | .0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | .0036 | .0081 | -.0613 |
| Stddev | .0001 | .0010 | .0002 | .0003 |
| %RSD | 5.703 | 28.69 | 2.553 | .5468 |
| #1 | -.0009 | .0043 | .0083 | -.0610 |
| #2 | -.0009 | .0029 | .0080 | -.0615 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.7 | 50881. | 18054. |
| Stddev | 1.9 | 361. | 67. |
| %RSD | .18203 | .70875 | .36913 |
| #1 | 1058.1 | 50626. | 18007. |
| #2 | 1055.3 | 51136. | 18101. |



Zoom In Zoom Out

Sample Name: MC26418-16F Acquired: 12/9/2013 16:00:36 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | .0249 | .0008 | .0279 | .0082 | .0000 | 8.333 | -.0001 | .0055 |
| Stddev | .0004 | .0000 | .0001 | .0008 | .0001 | .0000 | .000 | .021 | .0001 | .0002 |
| %RSD | 830.6 | 17.50 | .5550 | 96.66 | .5098 | .1177 | 65.76 | .2457 | 67.69 | 3.643 |
| #1 | .0003 | .0003 | .0250 | .0014 | .0278 | .0082 | .0000 | 8.348 | -.0001 | .0054 |
| #2 | -.0002 | .0002 | .0248 | .0003 | .0280 | .0082 | -.0001 | 8.319 | -.0002 | .0057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0006 | 3.410 | 3.425 | .9326 | 1.961 | .0001 | 2.939 | .0069 | -.0004 |
| Stddev | .0000 | .0001 | .009 | .001 | .0022 | .001 | .0000 | .012 | .0001 | .0005 |
| %RSD | 5.834 | 11.77 | .2668 | .0137 | .2345 | .0415 | 30.74 | .4074 | 1.884 | 120.8 |
| #1 | .0005 | -.0007 | 3.417 | 3.424 | .9311 | 1.960 | .0001 | 2.931 | .0070 | -.0001 |
| #2 | .0005 | -.0006 | 3.404 | 3.425 | .9342 | 1.961 | .0002 | 2.948 | .0068 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0110 | 2.342 | -.0006 | .0001 | 5.677 | .0004 | .0802 | .0004 | .0032 |
| Stddev | .0011 | .0016 | .012 | .0002 | .0002 | .011 | .0001 | .0002 | .0002 | .0003 |
| %RSD | 1420. | 14.54 | .4934 | 30.10 | 314.5 | .1976 | 32.69 | .2481 | 52.31 | 10.47 |
| #1 | -.0009 | .0121 | 2.334 | -.0007 | .0002 | 5.669 | .0003 | .0800 | .0005 | .0035 |
| #2 | .0007 | .0098 | 2.350 | -.0005 | -.0001 | 5.685 | .0005 | .0803 | .0002 | .0030 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0126 | .0224 | -.0317 |
| Stddev | .0001 | .0052 | .0002 | .0000 |
| %RSD | 36.12 | 41.05 | 1.027 | .0434 |
| #1 | -.0005 | .0163 | .0223 | -.0317 |
| #2 | -.0003 | .0089 | .0226 | -.0317 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.7 | 51410. | 18322. |
| Stddev | 1.1 | 71. | 3. |
| %RSD | .10441 | .13775 | .01674 |
| #1 | 1082.5 | 51460. | 18324. |
| #2 | 1080.9 | 51360. | 18320. |

Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/9/2013 16:05:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0063 | .4558 | .0020 | .0423 | .0409 | -.0001 | 23.03 | -.0006 | .0079 |
| Stddev | .000 | .0004 | .0026 | .0006 | .0003 | .0001 | .0000 | .00 | .0001 | .0000 |
| %RSD | 881.1 | 6.392 | .5626 | 31.43 | .6467 | .3308 | 19.37 | .0209 | 9.118 | .5515 |
| #1 | -.0001 | -.0066 | .4540 | .0025 | .0425 | .0408 | -.0001 | 23.03 | -.0006 | .0079 |
| #2 | .0001 | -.0061 | .4576 | .0016 | .0421 | .0410 | -.0001 | 23.02 | -.0007 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0008 | 58.32 | 4.877 | 2.625 | 2.397 | -.0006 | 13.91 | .0061 | -.0004 |
| Stddev | .0000 | .0000 | .14 | .028 | .085 | .018 | .0001 | .05 | .0001 | .0000 |
| %RSD | 28.68 | 3.911 | .2452 | .5641 | 3.229 | .7483 | 15.87 | .3285 | 1.633 | 11.18 |
| #1 | -.0001 | -.0008 | 58.42 | 4.857 | 2.565 | 2.384 | -.0007 | 13.94 | .0060 | -.0004 |
| #2 | -.0002 | -.0008 | 58.22 | 4.896 | 2.684 | 2.410 | -.0005 | 13.88 | .0061 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0030 | .0149 | 11.20 | -.0008 | .0009 | 9.381 | .0003 | .0922 | .0007 | .0019 |
| Stddev | .0004 | .0019 | .01 | .0003 | .0010 | .003 | .0003 | .0001 | .0002 | .0009 |
| %RSD | 13.09 | 12.90 | .0675 | 41.32 | 111.0 | .0302 | 105.6 | .1412 | 34.99 | 45.43 |
| #1 | .0033 | .0135 | 11.20 | -.0010 | .0016 | 9.383 | .0005 | .0923 | .0005 | .0026 |
| #2 | .0027 | .0162 | 11.21 | -.0006 | .0002 | 9.379 | .0001 | .0921 | .0009 | .0013 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0121 | .0115 | -.0514 |
| Stddev | .0002 | .0016 | .0000 | .0002 |
| %RSD | 37.39 | 13.07 | .3066 | .3066 |
| #1 | -.0003 | .0132 | .0115 | -.0515 |
| #2 | -.0005 | .0110 | .0115 | -.0513 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.1 | 50995. | 18247. |
| Stddev | .0 | 375. | 4. |
| %RSD | .00010 | .73611 | .02463 |
| #1 | 1070.1 | 51260. | 18250. |
| #2 | 1070.1 | 50729. | 18244. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/9/2013 16:10:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0065 | .4652 | .0011 | .0437 | .0420 | -.0001 | 23.61 | -.0007 | .0079 |
| Stddev | .0001 | .0058 | .0022 | .0003 | .0003 | .0004 | .0000 | .05 | .0000 | .0002 |
| %RSD | 15.90 | 89.15 | .4654 | 28.88 | .7965 | .8468 | 8.656 | .2293 | 7.195 | 2.534 |
| #1 | .0005 | -.0024 | .4637 | .0014 | .0434 | .0423 | -.0001 | 23.57 | -.0006 | .0078 |
| #2 | .0004 | -.0105 | .4667 | .0009 | .0439 | .0418 | -.0001 | 23.64 | -.0007 | .0081 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0011 | 59.65 | 4.991 | 2.692 | 2.451 | -.0006 | 14.21 | .0061 | -.0014 |
| Stddev | .0005 | .0001 | .03 | .042 | .006 | .001 | .0001 | .04 | .0001 | .0011 |
| %RSD | 86.67 | 12.22 | .0456 | .8375 | .2225 | .0426 | 18.21 | .3035 | 1.014 | 75.71 |
| #1 | .0002 | -.0010 | 59.63 | 4.961 | 2.696 | 2.452 | -.0006 | 14.24 | .0060 | -.0021 |
| #2 | .0010 | -.0012 | 59.66 | 5.021 | 2.687 | 2.450 | -.0007 | 14.18 | .0061 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | .0125 | 11.37 | -.0006 | .0003 | 9.569 | .0008 | .0945 | .0006 | .0026 |
| Stddev | .0005 | .0002 | .02 | .0005 | .0000 | .013 | .0002 | .0002 | .0000 | .0010 |
| %RSD | 11.09 | 1.928 | .1802 | 86.28 | 6.202 | .1307 | 29.04 | .2430 | 2.014 | 37.45 |
| #1 | .0041 | .0127 | 11.35 | -.0002 | .0003 | 9.560 | .0007 | .0946 | .0006 | .0033 |
| #2 | .0048 | .0123 | 11.38 | -.0009 | .0003 | 9.578 | .0010 | .0943 | .0006 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0114 | .0090 | -.0525 |
| Stddev | .0001 | .0032 | .0007 | .0000 |
| %RSD | 36.61 | 27.76 | 7.531 | .0934 |
| #1 | -.0001 | .0092 | .0095 | -.0526 |
| #2 | -.0003 | .0137 | .0085 | -.0525 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1071.7 | 51068. | 18224. |
| Stddev | 1.1 | 14. | 58. |
| %RSD | .09889 | .02677 | .31622 |
| #1 | 1072.4 | 51058. | 18264. |
| #2 | 1070.9 | 51078. | 18183. |



Zoom In Zoom Out

Sample Name: MC26418-4F Acquired: 12/9/2013 16:15:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0451 | .2548 | .0014 | .0582 | .0782 | .0000 | 39.02 | -.0002 |
| Stddev | .0002 | .0021 | .0014 | .0005 | .0004 | .0006 | .000 | .21 | .0001 |
| %RSD | 71.04 | 4.604 | .5546 | 34.61 | .7064 | .7893 | 120.1 | .5382 | 30.95 |
| #1 | .0004 | .0436 | .2538 | .0011 | .0579 | .0787 | .0000 | 39.17 | -.0002 |
| #2 | .0001 | .0466 | .2558 | .0018 | .0585 | .0778 | .0000 | 38.87 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1090 | .0002 | .0002 | 17.85 | 8.413 | 2.451 | 2.201 | .0057 | 22.84 |
| Stddev | .0008 | .0006 | .0001 | .08 | .069 | .007 | .004 | .0001 | .13 |
| %RSD | .6890 | 314.9 | 95.01 | .4388 | .8176 | .2814 | .1624 | 2.109 | .5783 |
| #1 | .1084 | -.0003 | .0001 | 17.90 | 8.461 | 2.446 | 2.199 | .0058 | 22.93 |
| #2 | .1095 | .0007 | .0003 | 17.79 | 8.364 | 2.456 | 2.204 | .0056 | 22.75 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .6966 | -.0007 | -.0009 | .0112 | F37.62 | .0006 | .0011 | 11.68 | .0004 |
| Stddev | .0001 | .0014 | .0001 | .0008 | .05 | .0002 | .0006 | .01 | .0005 |
| %RSD | .0114 | 197.8 | 6.329 | 7.496 | .1260 | 36.20 | 57.37 | .1174 | 125.0 |
| #1 | .6965 | -.0017 | -.0009 | .0106 | 37.59 | .0007 | .0015 | 11.67 | .0008 |
| #2 | .6966 | .0003 | -.0009 | .0118 | 37.65 | .0004 | .0006 | 11.69 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .3256 | .0009 | .0038 | -.0003 | .0102 | .0415 | -.0645 |
| Stddev | .0016 | .0004 | .0004 | .0003 | .0025 | .0001 | .0002 |
| %RSD | .4979 | 41.31 | 11.04 | 119.9 | 24.83 | .3338 | .2610 |
| #1 | .3267 | .0006 | .0040 | .0000 | .0120 | .0414 | -.0647 |
| #2 | .3244 | .0011 | .0035 | -.0005 | .0084 | .0416 | -.0644 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.8 | 51238. | 18332. |
| Stddev | 1.4 | 60. | 54. |
| %RSD | .13417 | .11675 | .29440 |
| #1 | 1075.8 | 51280. | 18293. |
| #2 | 1073.8 | 51196. | 18370. |



Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/9/2013 16:20:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0017 | 3.449 | .0027 | .0418 | .0317 | .0000 | 24.44 | -.0032 | .0068 |
| Stddev | .0001 | .0017 | .009 | .0002 | .0002 | .0002 | .0000 | .13 | .0000 | .0002 |
| %RSD | 28.17 | 100.7 | .2756 | 7.916 | .5399 | .6628 | 43.54 | .5273 | .8639 | 2.357 |
| #1 | .0003 | -.0030 | 3.442 | .0026 | .0417 | .0318 | .0000 | 24.53 | -.0032 | .0069 |
| #2 | .0002 | -.0005 | 3.456 | .0029 | .0420 | .0315 | .0000 | 24.35 | -.0032 | .0067 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0012 | 84.12 | 4.392 | 2.092 | 6.265 | -.0012 | 4.087 | .0120 | -.0013 |
| Stddev | .0003 | .0004 | .34 | .037 | .037 | .043 | .0000 | .011 | .0002 | .0001 |
| %RSD | 82.59 | 33.16 | .4096 | .8398 | 1.758 | .6894 | 1.031 | .2640 | 1.564 | 6.894 |
| #1 | .0005 | -.0009 | 84.37 | 4.418 | 2.118 | 6.296 | -.0012 | 4.095 | .0119 | -.0012 |
| #2 | .0001 | -.0015 | 83.88 | 4.366 | 2.066 | 6.235 | -.0012 | 4.080 | .0121 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | .0398 | 1.179 | -.0008 | .0002 | 9.111 | .0004 | .1318 | .0003 | .0029 |
| Stddev | .0005 | .0074 | .004 | .0001 | .0002 | .018 | .0005 | .0004 | .0002 | .0015 |
| %RSD | 9.241 | 18.69 | .3383 | 14.55 | 96.22 | .1927 | 124.1 | .2931 | 61.58 | 52.06 |
| #1 | .0053 | .0450 | 1.176 | -.0007 | .0003 | 9.099 | .0001 | .1321 | .0004 | .0039 |
| #2 | .0060 | .0345 | 1.182 | -.0009 | .0001 | 9.124 | .0008 | .1315 | .0001 | .0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0140 | .0092 | -.0499 |
| Stddev | .0001 | .0073 | .0007 | .0004 |
| %RSD | 8.911 | 51.92 | 7.473 | .8244 |
| #1 | -.0006 | .0088 | .0097 | -.0496 |
| #2 | -.0006 | .0191 | .0087 | -.0502 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1069.0 | 51027. | 18178. |
| Stddev | .3 | 239. | 98. |
| %RSD | .02421 | .46853 | .54184 |
| #1 | 1069.1 | 50858. | 18108. |
| #2 | 1068.8 | 51196. | 18248. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 16:25:09 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2457 | 9.805 | 1.946 | .0000 | 1.927 | 1.948 | 1.899 | 9.703 | 1.923 | 2.043 |
| Stddev | .0014 | .004 | .006 | .000 | .003 | .003 | .002 | .019 | .001 | .001 |
| %RSD | .5815 | .0401 | .2928 | 144.2 | .1742 | .1665 | .1019 | .1944 | .0628 | .0652 |
| #1 | .2447 | 9.808 | 1.950 | .0000 | 1.925 | 1.950 | 1.900 | 9.690 | 1.924 | 2.044 |
| #2 | .2467 | 9.803 | 1.942 | -.0001 | 1.929 | 1.945 | 1.897 | 9.717 | 1.922 | 2.042 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.949 | 9.954 | 9.901 | 9.615 | 1.919 | 1.958 | 9.877 | 1.914 | 1.941 |
| Stddev | .010 | .002 | .005 | .001 | .142 | .007 | .002 | .032 | .001 | .006 |
| %RSD | .5197 | .0934 | .0488 | .0115 | 1.482 | .3762 | .0763 | .3242 | .0737 | .3242 |
| #1 | 1.933 | 1.948 | 9.950 | 9.902 | 9.716 | 1.914 | 1.957 | 9.900 | 1.915 | 1.945 |
| #2 | 1.947 | 1.950 | 9.957 | 9.901 | 9.514 | 1.924 | 1.959 | 9.854 | 1.913 | 1.936 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0046 | -.0024 | 1.960 | 1.929 | -.0238 | 1.978 | 1.957 | 1.938 | 1.904 |
| Stddev | .0016 | .0050 | .0012 | .000 | .000 | .0008 | .002 | .006 | .008 | .002 |
| %RSD | 123.1 | 108.5 | 48.19 | .0050 | .0031 | 3.467 | .0931 | .3236 | .4218 | .1285 |
| #1 | .0024 | .0011 | -.0016 | 1.959 | 1.929 | -.0232 | 1.980 | 1.952 | 1.933 | 1.902 |
| #2 | .0002 | .0082 | -.0032 | 1.960 | 1.929 | -.0244 | 1.977 | 1.961 | 1.944 | 1.905 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.911 | .0322 | 2.007 | -.0066 |
| Stddev | .005 | .0002 | .004 | .0001 |
| %RSD | .2514 | .6774 | .1871 | .9180 |
| #1 | 1.907 | .0323 | 2.009 | -.0066 |
| #2 | 1.914 | .0320 | 2.004 | -.0065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1072.6 | 50915. | 18277. |
| Stddev | 1.0 | 208. | 33. |
| %RSD | .09733 | .40920 | .17829 |
| #1 | 1071.8 | 51062. | 18254. |
| #2 | 1073.3 | 50767. | 18300. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 16:29:58 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0066 | .0019 | .0004 | .0017 | .0001 | .0000 | -.0009 | .0002 | .0001 |
| Stddev | .0002 | .0019 | .0011 | .0001 | .0002 | .0001 | .000 | .0015 | .0001 | .0001 |
| %RSD | 77.19 | 28.96 | 58.76 | 16.16 | 9.953 | 86.70 | 187.1 | 162.7 | 64.90 | 101.7 |
| #1 | .0001 | -.0079 | .0027 | .0005 | .0019 | .0000 | .0000 | -.0020 | .0001 | .0000 |
| #2 | .0003 | -.0052 | .0011 | .0004 | .0016 | .0001 | -.0001 | .0001 | .0003 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0013 | .0024 | .0038 | -.0128 | .0000 | .0013 | -.0045 | .0003 | .0009 |
| Stddev | .0005 | .0001 | .0013 | .0122 | .0196 | .0000 | .0002 | .0029 | .0000 | .0010 |
| %RSD | 191.0 | 8.405 | 54.09 | 324.4 | 153.3 | 69.94 | 18.33 | 62.83 | 10.20 | 114.1 |
| #1 | -.0001 | -.0012 | .0033 | -.0049 | .0011 | .0000 | .0014 | -.0025 | .0003 | .0002 |
| #2 | .0007 | -.0014 | .0015 | .0124 | -.0267 | .0001 | .0011 | -.0066 | .0003 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0006 | .0027 | .0001 | .0004 | -.0013 | .0001 | .0000 | .0003 | .0019 |
| Stddev | .0011 | .0003 | .0010 | .0003 | .0004 | .0005 | .0004 | .0000 | .0000 | .0006 |
| %RSD | 130.3 | 59.72 | 38.11 | 305.4 | 97.06 | 38.50 | 620.3 | 189.6 | 15.04 | 31.65 |
| #1 | -.0017 | .0008 | .0019 | .0003 | .0001 | -.0016 | -.0002 | .0001 | .0004 | .0015 |
| #2 | -.0001 | .0003 | .0034 | -.0001 | .0007 | -.0009 | .0004 | .0000 | .0003 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0032 | -.0006 | .0001 |
| Stddev | .0004 | .0042 | .0001 | .0002 |
| %RSD | 134.3 | 133.2 | 10.58 | 192.2 |
| #1 | .0000 | .0061 | -.0006 | .0000 |
| #2 | -.0006 | .0002 | -.0006 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.9 | 51058. | 18080. |
| Stddev | 1.3 | 124. | 23. |
| %RSD | .12369 | .24351 | .12723 |
| #1 | 1073.9 | 50970. | 18064. |
| #2 | 1075.8 | 51146. | 18096. |



Zoom In Zoom Out

Sample Name: MC26418-6F Acquired: 12/9/2013 16:34:55 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 1.503 | .0068 | .0009 | .0213 | .0551 | .0006 | 27.49 | .0002 |
| Stddev | .0002 | .002 | .0012 | .0012 | .0005 | .0000 | .0001 | .13 | .0001 |
| %RSD | 673.4 | .1106 | 17.95 | 134.2 | 2.200 | .0114 | 11.42 | .4767 | 24.35 |
| #1 | .0002 | 1.502 | .0060 | .0018 | .0217 | .0551 | .0006 | 27.58 | .0003 |
| #2 | -.0001 | 1.504 | .0077 | .0000 | .0210 | .0551 | .0005 | 27.40 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0187 | .0015 | .0002 | 1.428 | 3.974 | 2.838 | .5689 | .0006 | 41.50 |
| Stddev | .0001 | .0001 | .0002 | .017 | .025 | .036 | .0010 | .0001 | .03 |
| %RSD | .5390 | 5.653 | 63.18 | 1.186 | .6284 | 1.258 | .1693 | 24.17 | .0635 |
| #1 | .0186 | .0015 | .0001 | 1.440 | 3.992 | 2.863 | .5683 | .0007 | 41.48 |
| #2 | .0187 | .0016 | .0003 | 1.416 | 3.956 | 2.812 | .5696 | .0005 | 41.52 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2856 | -.0001 | -.0013 | .0050 | F24.57 | .0008 | -.0013 | 3.473 | -.0002 |
| Stddev | .0007 | .0004 | .0008 | .0024 | .09 | .0003 | .0011 | .012 | .0003 |
| %RSD | .2331 | 383.4 | 66.12 | 48.05 | .3547 | 42.16 | 85.26 | .3309 | 154.1 |
| #1 | .2851 | -.0004 | -.0019 | .0033 | 24.64 | .0006 | -.0005 | 3.481 | .0000 |
| #2 | .2861 | .0002 | -.0007 | .0067 | 24.51 | .0010 | -.0020 | 3.465 | -.0004 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .2382 | .0006 | .0043 | -.0001 | .0089 | .0940 | -.0187 |
| Stddev | .0002 | .0003 | .0001 | .0005 | .0033 | .0001 | .0004 |
| %RSD | .0903 | 47.07 | 1.496 | 726.8 | 37.53 | .1130 | 2.227 |
| #1 | .2384 | .0007 | .0043 | .0003 | .0113 | .0939 | -.0190 |
| #2 | .2381 | .0004 | .0042 | -.0004 | .0066 | .0940 | -.0184 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1077.3 | 51204. | 18310. |
| Stddev | 2.7 | 18. | 59. |
| %RSD | .25284 | .03459 | .32185 |
| #1 | 1075.4 | 51192. | 18269. |
| #2 | 1079.2 | 51217. | 18352. |



Zoom In Zoom Out

Sample Name: MC26418-7F Acquired: 12/9/2013 16:39:47 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0034 | .0011 | .0006 | .0009 | .0002 | .0000 | .0092 | -.0002 | .0003 |
| Stddev | .000 | .0062 | .0002 | .0007 | .0002 | .0001 | .000 | .0005 | .0001 | .0001 |
| %RSD | 589.4 | 184.1 | 21.26 | 126.9 | 27.42 | 73.94 | 112.9 | 5.466 | 68.37 | 19.02 |
| #1 | -.0002 | -.0077 | .0010 | .0011 | .0010 | .0001 | -.0001 | .0095 | -.0003 | .0004 |
| #2 | .0001 | .0010 | .0013 | .0001 | .0007 | .0002 | .0000 | .0088 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0013 | -.0012 | .0003 | -.0011 | .0001 | -.0002 | .0143 | .0006 | .0008 |
| Stddev | .0000 | .0000 | .0002 | .0017 | .0090 | .0001 | .0003 | .0011 | .0002 | .0003 |
| %RSD | 109.8 | 1.662 | 12.97 | 567.5 | 801.6 | 73.15 | 125.1 | 7.737 | 32.64 | 38.71 |
| #1 | .0000 | -.0014 | -.0013 | .0015 | .0052 | .0000 | .0000 | .0151 | .0007 | .0006 |
| #2 | .0001 | -.0013 | -.0011 | -.0009 | -.0075 | .0001 | -.0004 | .0135 | .0004 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0001 | .0057 | -.0005 | .0000 | .0213 | .0008 | .0000 | .0006 | .0037 |
| Stddev | .0012 | .0001 | .0004 | .0003 | .001 | .0011 | .0007 | .0000 | .0001 | .0004 |
| %RSD | 1637. | 204.7 | 6.680 | 55.02 | 1972. | 5.274 | 89.84 | 13.48 | 19.98 | 11.09 |
| #1 | .0009 | .0000 | .0060 | -.0003 | .0004 | .0205 | .0003 | .0000 | .0007 | .0034 |
| #2 | -.0008 | .0001 | .0054 | -.0007 | -.0005 | .0221 | .0013 | .0000 | .0005 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | .0060 | .0067 | -.0004 |
| Stddev | .0002 | .0017 | .0000 | .0000 |
| %RSD | 69.55 | 28.05 | .0501 | 6.665 |
| #1 | .0001 | .0072 | .0067 | -.0004 |
| #2 | .0003 | .0048 | .0067 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.6 | 51316. | 18252. |
| Stddev | 2.0 | 56. | 71. |
| %RSD | .18571 | .10934 | .38702 |
| #1 | 1077.0 | 51356. | 18302. |
| #2 | 1074.2 | 51277. | 18202. |

Zoom In Zoom Out

Sample Name: MC26418-8F Acquired: 12/9/2013 16:44:44 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0029 | .0049 | .0010 | .0136 | .0204 | .0000 | 17.37 | -.0002 | .0048 |
| Stddev | .0001 | .0068 | .0008 | .0009 | .0003 | .0002 | .000 | .01 | .0000 | .0001 |
| %RSD | 106.4 | 236.4 | 15.55 | 90.32 | 2.426 | 1.217 | 42.36 | .0489 | 14.31 | 1.652 |
| #1 | .0002 | -.0019 | .0054 | .0004 | .0133 | .0202 | .0000 | 17.38 | -.0002 | .0048 |
| #2 | .0000 | .0076 | .0044 | .0016 | .0138 | .0206 | .0000 | 17.37 | -.0002 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0053 | .0752 | 2.226 | 2.539 | .0234 | .0010 | 40.67 | .1845 | -.0002 |
| Stddev | .0002 | .0002 | .0012 | .037 | .030 | .0001 | .0001 | .11 | .0014 | .0003 |
| %RSD | 17.98 | 3.010 | 1.577 | 1.685 | 1.172 | .3954 | 10.36 | .2708 | .7607 | 133.0 |
| #1 | .0010 | .0054 | .0743 | 2.199 | 2.518 | .0234 | .0011 | 40.60 | .1835 | -.0004 |
| #2 | .0008 | .0052 | .0760 | 2.252 | 2.560 | .0233 | .0009 | 40.75 | .1855 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0027 | 7.563 | .0028 | -.0003 | 2.161 | -.0003 | .1318 | .0006 | .0043 |
| Stddev | .0004 | .0010 | .027 | .0004 | .0003 | .008 | .0000 | .0005 | .0002 | .0006 |
| %RSD | 34.32 | 38.79 | .3520 | 14.75 | 89.66 | .3507 | 7.119 | .4088 | 29.59 | 14.12 |
| #1 | -.0016 | -.0019 | 7.544 | .0031 | -.0005 | 2.155 | -.0003 | .1314 | .0007 | .0039 |
| #2 | -.0010 | -.0034 | 7.581 | .0025 | -.0001 | 2.166 | -.0004 | .1321 | .0005 | .0047 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | .0012 | .0075 | -.0122 |
| Stddev | .0000 | .0079 | .0001 | .0002 |
| %RSD | 2.401 | 663.4 | 1.368 | 2.029 |
| #1 | .0016 | -.0044 | .0074 | -.0120 |
| #2 | .0015 | .0068 | .0075 | -.0124 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.5 | 51454. | 18167. |
| Stddev | 3.2 | 84. | 10. |
| %RSD | .29812 | .16252 | .05393 |
| #1 | 1077.8 | 51395. | 18174. |
| #2 | 1073.2 | 51513. | 18160. |



Zoom In Zoom Out

Sample Name: MC26418-9F Acquired: 12/9/2013 16:49:37 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0072 | 1.026 | .0014 | .1227 | .0912 | .0000 | 43.78 | -.0012 | .0154 |
| Stddev | .0002 | .0029 | .001 | .0004 | .0001 | .0003 | .000 | .02 | .0002 | .0001 |
| %RSD | 30.17 | 40.42 | .0443 | 33.03 | .0653 | .2787 | 22.57 | .0517 | 13.73 | .8841 |
| #1 | .0006 | -.0051 | 1.026 | .0010 | .1226 | .0914 | .0000 | 43.80 | -.0014 | .0155 |
| #2 | .0009 | -.0092 | 1.027 | .0017 | .1227 | .0910 | .0000 | 43.77 | -.0011 | .0153 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0010 | 72.46 | 10.81 | 6.464 | .9383 | .0000 | 18.16 | .0142 | -.0017 |
| Stddev | .0002 | .0001 | .10 | .04 | .043 | .0016 | .0000 | .05 | .0002 | .0011 |
| %RSD | 38.55 | 5.598 | .1410 | .4020 | .6613 | .1702 | 440.7 | .2690 | 1.381 | 68.07 |
| #1 | .0006 | -.0011 | 72.39 | 10.84 | 6.495 | .9394 | .0000 | 18.13 | .0143 | -.0009 |
| #2 | .0003 | -.0010 | 72.54 | 10.77 | 6.434 | .9372 | .0000 | 18.20 | .0140 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0043 | .0010 | 2.178 | .0000 | .0008 | 14.52 | .0003 | .4173 | .0004 | .0021 |
| Stddev | .0000 | .0042 | .009 | .0005 | .0010 | .04 | .0015 | .0007 | .0001 | .0013 |
| %RSD | .9382 | 407.5 | .4146 | 1325. | 121.0 | .2558 | 490.8 | .1666 | 26.02 | 62.66 |
| #1 | .0043 | .0040 | 2.171 | .0004 | .0015 | 14.50 | -.0008 | .4168 | .0004 | .0012 |
| #2 | .0042 | -.0020 | 2.184 | -.0003 | .0001 | 14.55 | .0014 | .4177 | .0003 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0143 | .0135 | -.0800 |
| Stddev | .0003 | .0026 | .0002 | .0005 |
| %RSD | 84.76 | 17.96 | 1.200 | .5817 |
| #1 | -.0001 | .0161 | .0136 | -.0797 |
| #2 | -.0005 | .0125 | .0134 | -.0803 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1064.3 | 51192. | 18199. |
| Stddev | 2.4 | 52. | 32. |
| %RSD | .22822 | .10239 | .17412 |
| #1 | 1066.0 | 51155. | 18222. |
| #2 | 1062.6 | 51229. | 18177. |



Zoom In Zoom Out

Sample Name: MC26484-8F Acquired: 12/9/2013 16:54:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0049 | .0015 | .0011 | .0006 | .0002 | .0000 | .0122 | -.0003 | .0003 |
| Stddev | .0004 | .0005 | .0005 | .0001 | .0000 | .0000 | .000 | .0002 | .0001 | .0000 |
| %RSD | 367.1 | 9.618 | 31.07 | 6.990 | 4.269 | 7.224 | 43.35 | 1.791 | 23.77 | 1.890 |
| #1 | .0004 | -.0052 | .0018 | .0012 | .0005 | .0002 | -.0001 | .0123 | -.0002 | .0003 |
| #2 | -.0002 | -.0046 | .0011 | .0011 | .0006 | .0002 | .0000 | .0120 | -.0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0011 | .0044 | -.0007 | -.0046 | .0001 | -.0002 | .0167 | .0005 | .0008 |
| Stddev | .0002 | .0003 | .0017 | .0025 | .0024 | .0000 | .0001 | .0014 | .0000 | .0014 |
| %RSD | 69.35 | 22.70 | 39.31 | 361.2 | 51.60 | 39.51 | 28.20 | 8.484 | 7.853 | 170.0 |
| #1 | .0004 | -.0013 | .0057 | .0011 | -.0029 | .0000 | -.0003 | .0177 | .0005 | .0019 |
| #2 | .0001 | -.0009 | .0032 | -.0025 | -.0063 | .0001 | -.0002 | .0157 | .0004 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0002 | .0040 | -.0012 | .0004 | .0195 | .0007 | .0000 | .0002 | .0035 |
| Stddev | .0003 | .0022 | .0009 | .0002 | .0015 | .0007 | .0002 | .0000 | .0001 | .0006 |
| %RSD | 33.13 | 900.3 | 23.29 | 19.58 | 410.4 | 3.384 | 22.60 | 113.3 | 81.70 | 16.33 |
| #1 | -.0010 | .0018 | .0046 | -.0013 | -.0007 | .0200 | .0008 | .0001 | .0003 | .0039 |
| #2 | -.0006 | -.0013 | .0033 | -.0010 | .0014 | .0191 | .0006 | .0000 | .0001 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0028 | .0118 | -.0010 |
| Stddev | .0003 | .0031 | .0005 | .0001 |
| %RSD | 186.8 | 110.3 | 3.900 | 11.03 |
| #1 | -.0003 | .0050 | .0114 | -.0010 |
| #2 | .0000 | .0006 | .0121 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1076.3 | 52107. | 18301. |
| Stddev | 1.7 | 77. | 55. |
| %RSD | .15942 | .14873 | .29915 |
| #1 | 1075.1 | 52162. | 18340. |
| #2 | 1077.5 | 52052. | 18262. |



Zoom In Zoom Out

Sample Name: MP22178A-B1 Acquired: 12/9/2013 16:59:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1956 | 2.111 | .5286 | .0006 | .0016 | 1.995 | .4807 | 23.92 | .4954 | .5099 |
| Stddev | .0005 | .009 | .0008 | .0013 | .0002 | .004 | .0016 | .06 | .0011 | .0006 |
| %RSD | .2405 | .4108 | .1543 | 230.8 | 9.462 | .1963 | .3240 | .2542 | .2248 | .1096 |
| #1 | .1953 | 2.117 | .5291 | .0015 | .0017 | 1.998 | .4818 | 23.96 | .4962 | .5103 |
| #2 | .1959 | 2.104 | .5280 | -.0004 | .0015 | 1.992 | .4796 | 23.87 | .4946 | .5095 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5014 | .4855 | 2.061 | 25.18 | 24.58 | .4826 | .0000 | 25.09 | .4745 | .9917 |
| Stddev | .0025 | .0001 | .001 | .08 | .02 | .0020 | .000 | .07 | .0006 | .0013 |
| %RSD | .4916 | .0160 | .0421 | .3108 | .0897 | .4072 | 1555. | .2611 | .1366 | .1324 |
| #1 | .5031 | .4856 | 2.061 | 25.24 | 24.59 | .4839 | -.0001 | 25.14 | .4750 | .9926 |
| #2 | .4996 | .4855 | 2.060 | 25.13 | 24.56 | .4812 | .0001 | 25.05 | .4741 | .9908 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0024 | .0058 | .5025 | .4948 | .0358 | -.0014 | .4959 | .4857 | .4880 |
| Stddev | .0002 | .0022 | .0003 | .0007 | .0015 | .0002 | .0003 | .0011 | .0008 | .0017 |
| %RSD | 177.8 | 93.51 | 5.560 | .1478 | .3073 | .5582 | 18.51 | .2245 | .1573 | .3563 |
| #1 | -.0003 | -.0008 | .0056 | .5020 | .4958 | .0360 | -.0016 | .4967 | .4863 | .4868 |
| #2 | .0000 | -.0039 | .0060 | .5031 | .4937 | .0357 | -.0013 | .4951 | .4852 | .4892 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4991 | .0100 | .5319 | -.0011 |
| Stddev | .0003 | .0003 | .0021 | .0000 |
| %RSD | .0556 | 3.273 | .3860 | .3281 |
| #1 | .4993 | .0097 | .5333 | -.0011 |
| #2 | .4989 | .0102 | .5304 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1057.1 | 50732. | 18075. |
| Stddev | 2.4 | 41. | 14. |
| %RSD | .22905 | .08075 | .07553 |
| #1 | 1055.3 | 50761. | 18065. |
| #2 | 1058.8 | 50703. | 18084. |

Zoom In Zoom Out

Sample Name: MP22178A-MB1 Acquired: 12/9/2013 17:04:14 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0058 | .0004 | .0000 | .0000 | .0002 | -.0001 | .0019 | .0000 | -.0001 |
| Stddev | .000 | .0006 | .0016 | .0003 | .0001 | .0000 | .0000 | .0011 | .0001 | .0001 |
| %RSD | 11.52 | 10.04 | 390.4 | 747.3 | 3017. | 12.28 | 46.77 | 55.81 | 2359. | 109.5 |
| #1 | .0000 | -.0054 | -.0007 | -.0002 | -.0001 | .0002 | -.0001 | .0026 | -.0001 | -.0002 |
| #2 | .0000 | -.0062 | .0015 | .0003 | .0001 | .0002 | .0000 | .0011 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0013 | .0001 | .0149 | -.0142 | .0246 | -.0001 | .0003 | -.0003 | .0002 |
| Stddev | .0002 | .0001 | .0004 | .0250 | .0128 | .0002 | .0001 | .0009 | .0002 | .0006 |
| %RSD | 238.5 | 10.26 | 303.4 | 168.4 | 90.16 | .9218 | 84.30 | 308.1 | 69.16 | 254.5 |
| #1 | .0000 | -.0012 | -.0001 | .0326 | -.0052 | .0248 | .0000 | .0009 | -.0002 | -.0002 |
| #2 | -.0002 | -.0013 | .0004 | -.0028 | -.0233 | .0245 | -.0001 | -.0003 | -.0005 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0002 | .0051 | .0004 | .0006 | .0284 | .0003 | .0000 | .0003 | -.0014 |
| Stddev | .0003 | .0002 | .0006 | .0006 | .0017 | .0008 | .0006 | .0000 | .0003 | .0024 |
| %RSD | 36.69 | 104.2 | 11.81 | 126.5 | 275.7 | 2.759 | 225.8 | 205.9 | 117.2 | 177.0 |
| #1 | -.0010 | .0000 | .0055 | .0008 | -.0006 | .0278 | .0007 | .0001 | .0005 | .0003 |
| #2 | -.0006 | -.0003 | .0046 | .0000 | .0018 | .0289 | -.0002 | .0000 | .0000 | -.0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0046 | .0004 | -.0003 |
| Stddev | .0002 | .0003 | .0001 | .0002 |
| %RSD | 102.2 | 5.936 | 16.62 | 72.81 |
| #1 | -.0003 | .0048 | .0003 | -.0001 |
| #2 | -.0001 | .0045 | .0004 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1061.7 | 51036. | 18241. |
| Stddev | 1.7 | 62. | 72. |
| %RSD | .15613 | .12200 | .39335 |
| #1 | 1062.9 | 50992. | 18190. |
| #2 | 1060.5 | 51080. | 18291. |



Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/9/2013 17:09:11 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1991 | 2.115 | 3.102 | .0007 | .0211 | 2.027 | .4796 | 41.94 | .4953 | .5273 |
| Stddev | .0008 | .010 | .008 | .0016 | .0005 | .004 | .0018 | .26 | .0011 | .0012 |
| %RSD | .4069 | .4934 | .2500 | 216.3 | 2.445 | .2079 | .3806 | .6260 | .2122 | .2349 |
| #1 | .1985 | 2.122 | 3.096 | .0019 | .0207 | 2.030 | .4783 | 41.75 | .4946 | .5264 |
| #2 | .1997 | 2.107 | 3.107 | -.0004 | .0214 | 2.024 | .4809 | 42.12 | .4961 | .5282 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5076 | .4958 | 40.38 | 29.13 | 26.29 | 2.953 | .0031 | 82.69 | .4802 | .9893 |
| Stddev | .0002 | .0014 | .11 | .05 | .19 | .007 | .0000 | .06 | .0004 | .0040 |
| %RSD | .0366 | .2819 | .2770 | .1815 | .7333 | .2540 | .9703 | .0712 | .0925 | .4013 |
| #1 | .5075 | .4949 | 40.30 | 29.09 | 26.15 | 2.958 | .0031 | 82.73 | .4799 | .9865 |
| #2 | .5077 | .4968 | 40.46 | 29.16 | 26.42 | 2.947 | .0031 | 82.65 | .4805 | .9921 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0199 | 3.176 | .5040 | .4916 | 8.735 | -.0006 | .7233 | .4909 | .4803 |
| Stddev | .0012 | .0018 | .011 | .0005 | .0038 | .004 | .0003 | .0002 | .0015 | .0036 |
| %RSD | 56.36 | 9.288 | .3296 | .1029 | .7790 | .0489 | 46.77 | .0330 | .3043 | .7540 |
| #1 | .0030 | .0186 | 3.168 | .5036 | .4889 | 8.732 | -.0004 | .7235 | .4898 | .4777 |
| #2 | .0013 | .0212 | 3.183 | .5043 | .4943 | 8.738 | -.0008 | .7232 | .4919 | .4829 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5026 | .0157 | .5363 | -.0486 |
| Stddev | .0001 | .0037 | .0022 | .0003 |
| %RSD | .0214 | 23.91 | .4161 | .6282 |
| #1 | .5025 | .0130 | .5347 | -.0484 |
| #2 | .5027 | .0183 | .5379 | -.0489 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1048.4 | 50400. | 18188. |
| Stddev | .9 | 99. | 103. |
| %RSD | .08443 | .19658 | .56538 |
| #1 | 1049.0 | 50330. | 18261. |
| #2 | 1047.8 | 50470. | 18116. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/9/2013 17:13:56 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1972 | 2.125 | 3.104 | .0005 | .0206 | 2.035 | .4799 | 42.42 | .4955 | .5288 |
| Stddev | .0004 | .002 | .000 | .0005 | .0002 | .003 | .0005 | .03 | .0010 | .0005 |
| %RSD | .2032 | .0729 | .0033 | 108.6 | .9093 | .1336 | .1134 | .0671 | .1919 | .1023 |
| #1 | .1969 | 2.126 | 3.104 | .0001 | .0208 | 2.034 | .4795 | 42.40 | .4961 | .5292 |
| #2 | .1975 | 2.124 | 3.104 | .0009 | .0205 | 2.037 | .4803 | 42.44 | .4948 | .5285 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5139 | .4958 | 40.49 | 29.39 | 26.82 | 2.960 | .0029 | 82.19 | .4832 | .9939 |
| Stddev | .0037 | .0001 | .04 | .02 | .03 | .000 | .0003 | .07 | .0014 | .0033 |
| %RSD | .7141 | .0201 | .1102 | .0736 | .0965 | .0131 | 9.279 | .0792 | .2836 | .3302 |
| #1 | .5113 | .4957 | 40.46 | 29.41 | 26.84 | 2.960 | .0027 | 82.14 | .4822 | .9915 |
| #2 | .5165 | .4958 | 40.53 | 29.38 | 26.80 | 2.960 | .0031 | 82.24 | .4842 | .9962 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0178 | 3.165 | .5049 | .4935 | 8.709 | -.0001 | .7198 | .4979 | .4803 |
| Stddev | .0007 | .0062 | .008 | .0005 | .0026 | .012 | .0004 | .0009 | .0003 | .0010 |
| %RSD | 25.69 | 34.73 | .2460 | .1001 | .5222 | .1316 | 344.2 | .1252 | .0687 | .1981 |
| #1 | .0031 | .0134 | 3.160 | .5053 | .4917 | 8.717 | -.0004 | .7192 | .4976 | .4796 |
| #2 | .0021 | .0221 | 3.171 | .5046 | .4954 | 8.701 | .0002 | .7204 | .4981 | .4810 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5058 | .0220 | .5406 | -.0483 |
| Stddev | .0025 | .0039 | .0020 | .0001 |
| %RSD | .4890 | 17.96 | .3769 | .1245 |
| #1 | .5041 | .0192 | .5392 | -.0484 |
| #2 | .5076 | .0248 | .5421 | -.0483 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1047.3 | 49999. | 18065. |
| Stddev | 2.0 | 14. | 10. |
| %RSD | .18954 | .02781 | .05275 |
| #1 | 1045.9 | 49989. | 18059. |
| #2 | 1048.7 | 50009. | 18072. |



Zoom In Zoom Out

Sample Name: MC26484-4F Acquired: 12/9/2013 17:18:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0035 | 2.601 | .0010 | .0195 | .0145 | .0000 | 18.56 | -.0028 | .0156 |
| Stddev | .0001 | .0013 | .008 | .0002 | .0004 | .0002 | .000 | .05 | .0002 | .0001 |
| %RSD | 12.55 | 37.63 | .3119 | 17.13 | 1.810 | 1.122 | 195.8 | .2658 | 6.088 | .5732 |
| #1 | -.0005 | -.0025 | 2.607 | .0009 | .0192 | .0146 | -.0001 | 18.60 | -.0030 | .0157 |
| #2 | -.0004 | -.0044 | 2.595 | .0011 | .0197 | .0144 | .0000 | 18.53 | -.0027 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0015 | 39.12 | 3.924 | 1.914 | 2.492 | .0030 | 57.60 | .0062 | -.0007 |
| Stddev | .0000 | .0000 | .06 | .042 | .010 | .004 | .0001 | .05 | .0002 | .0000 |
| %RSD | 9.107 | .6404 | .1507 | 1.060 | .5203 | .1504 | 2.087 | .0842 | 3.727 | 6.080 |
| #1 | .0002 | -.0015 | 39.17 | 3.953 | 1.907 | 2.494 | .0030 | 57.57 | .0064 | -.0008 |
| #2 | .0002 | -.0015 | 39.08 | 3.894 | 1.921 | 2.489 | .0031 | 57.64 | .0061 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0029 | .0152 | 3.161 | .0009 | .0013 | 8.701 | .0006 | .2253 | .0005 | -.0025 |
| Stddev | .0011 | .0005 | .003 | .0012 | .0003 | .034 | .0002 | .0004 | .0006 | .0000 |
| %RSD | 38.61 | 2.980 | .0981 | 138.3 | 23.74 | .3878 | 41.98 | .1573 | 135.0 | 1.095 |
| #1 | .0021 | .0155 | 3.159 | .0017 | .0011 | 8.725 | .0007 | .2251 | .0000 | -.0024 |
| #2 | .0037 | .0148 | 3.163 | .0000 | .0015 | 8.677 | .0004 | .2256 | .0009 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0115 | .0064 | -.0476 |
| Stddev | .0001 | .0022 | .0000 | .0002 |
| %RSD | 14.31 | 19.38 | .4553 | .5189 |
| #1 | -.0007 | .0100 | .0064 | -.0477 |
| #2 | -.0005 | .0131 | .0065 | -.0474 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1052.1 | 50470. | 18134. |
| Stddev | 4.4 | 37. | 94. |
| %RSD | .42055 | .07245 | .51630 |
| #1 | 1049.0 | 50445. | 18068. |
| #2 | 1055.3 | 50496. | 18200. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 17:23:35 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.804 | 1.974 | -.0007 | 1.922 | 1.952 | 1.883 | 9.757 | 1.916 | 2.066 |
| Stddev | .0010 | .009 | .008 | .0008 | .004 | .006 | .004 | .013 | .001 | .004 |
| %RSD | .4008 | .0944 | .3843 | 107.0 | .2132 | .3051 | .1943 | .1333 | .0561 | .1877 |
| #1 | .2462 | 9.811 | 1.969 | -.0002 | 1.920 | 1.957 | 1.886 | 9.766 | 1.915 | 2.063 |
| #2 | .2476 | 9.798 | 1.979 | -.0012 | 1.925 | 1.948 | 1.881 | 9.748 | 1.916 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.949 | 1.968 | 10.12 | 10.02 | 9.750 | 1.913 | 1.977 | 9.848 | 1.920 | 1.958 |
| Stddev | .005 | .002 | .02 | .00 | .084 | .004 | .004 | .042 | .001 | .001 |
| %RSD | .2564 | .1232 | .2061 | .0417 | .8622 | .2254 | .2153 | .4302 | .0691 | .0448 |
| #1 | 1.952 | 1.970 | 10.14 | 10.02 | 9.809 | 1.916 | 1.974 | 9.878 | 1.919 | 1.958 |
| #2 | 1.945 | 1.966 | 10.11 | 10.02 | 9.690 | 1.910 | 1.980 | 9.818 | 1.921 | 1.959 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0097 | -.0051 | 1.970 | 1.945 | -.0238 | 1.982 | 1.980 | 1.947 | 1.896 |
| Stddev | .0001 | .0024 | .0004 | .003 | .015 | .0003 | .009 | .007 | .003 | .014 |
| %RSD | 11.62 | 25.00 | 7.532 | .1740 | .7539 | 1.127 | .4424 | .3497 | .1660 | .7274 |
| #1 | .0012 | .0080 | -.0048 | 1.968 | 1.934 | -.0240 | 1.976 | 1.975 | 1.949 | 1.886 |
| #2 | .0014 | .0114 | -.0054 | 1.973 | 1.955 | -.0237 | 1.989 | 1.985 | 1.945 | 1.905 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.900 | .0267 | 2.079 | -.0080 |
| Stddev | .004 | .0021 | .007 | .0001 |
| %RSD | .2020 | 7.700 | .3513 | .8090 |
| #1 | 1.903 | .0252 | 2.073 | -.0080 |
| #2 | 1.897 | .0281 | 2.084 | -.0081 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1065.5 | 50790. | 18234. |
| Stddev | 1.0 | 115. | 25. |
| %RSD | .09326 | .22566 | .13462 |
| #1 | 1066.2 | 50709. | 18217. |
| #2 | 1064.8 | 50871. | 18252. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 17:28:25 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0052 | .0023 | .0007 | .0017 | .0002 | .0000 | -.0008 | .0002 | .0003 |
| Stddev | .0002 | .0007 | .0017 | .0003 | .0001 | .0000 | .0000 | .0003 | .0001 | .0001 |
| %RSD | 109.4 | 13.72 | 74.27 | 41.42 | 8.288 | 1.474 | 9.357 | 35.25 | 69.46 | 28.85 |
| #1 | -.0004 | -.0057 | .0035 | .0009 | .0018 | .0002 | .0000 | -.0010 | .0001 | .0002 |
| #2 | .0000 | -.0047 | .0011 | .0005 | .0016 | .0002 | .0000 | -.0006 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0014 | .0008 | .0337 | -.0023 | .0001 | .0014 | .0038 | .0004 | .0009 |
| Stddev | .0003 | .0000 | .0013 | .0106 | .0044 | .0000 | .0004 | .0008 | .0002 | .0003 |
| %RSD | 73.12 | 1.698 | 151.5 | 31.30 | 189.5 | 53.57 | 30.40 | 21.63 | 62.26 | 36.46 |
| #1 | .0002 | -.0014 | .0017 | .0263 | -.0054 | .0001 | .0017 | .0032 | .0005 | .0007 |
| #2 | .0006 | -.0014 | -.0001 | .0412 | .0008 | .0000 | .0011 | .0044 | .0002 | .0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0016 | .0006 | .0002 | .0006 | -.0011 | .0015 | .0002 | .0005 | .0016 |
| Stddev | .0012 | .0009 | .0002 | .0002 | .0001 | .0004 | .0009 | .0000 | .0002 | .0007 |
| %RSD | 114.9 | 53.07 | 34.55 | 113.3 | 25.90 | 38.28 | 64.02 | 18.93 | 35.59 | 41.63 |
| #1 | -.0002 | .0010 | .0008 | .0000 | .0007 | -.0014 | .0021 | .0002 | .0006 | .0021 |
| #2 | -.0019 | .0023 | .0005 | .0003 | .0005 | -.0008 | .0008 | .0002 | .0004 | .0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0050 | .0000 | .0001 |
| Stddev | .0003 | .0008 | .000 | .0000 |
| %RSD | 208.7 | 15.94 | 735.5 | 52.85 |
| #1 | -.0001 | .0045 | -.0002 | .0001 |
| #2 | .0003 | .0056 | .0002 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1069.2 | 50880. | 18101. |
| Stddev | .2 | . | 176. |
| %RSD | .02270 | .00061 | .97401 |
| #1 | 1069.4 | 50881. | 17977. |
| #2 | 1069.1 | 50880. | 18226. |



Zoom In Zoom Out

Sample Name: MP22178A-SD1 Acquired: 12/9/2013 17:33:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0060 | 2.635 | .0054 | .0223 | .0153 | .0000 | 19.24 | -.0025 | .0162 |
| Stddev | .0017 | .0220 | .002 | .0014 | .0009 | .0003 | .000 | .05 | .0007 | .0001 |
| %RSD | 181.5 | 366.1 | .0713 | 26.04 | 3.819 | 1.657 | 21.04 | .2695 | 26.85 | .4514 |
| #1 | -.0003 | .0095 | 2.634 | .0044 | .0217 | .0151 | .0000 | 19.27 | -.0020 | .0162 |
| #2 | .0021 | -.0216 | 2.636 | .0064 | .0229 | .0155 | .0000 | 19.20 | -.0029 | .0161 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0068 | 40.57 | 4.051 | 1.896 | 2.533 | .0048 | 58.52 | .0069 | .0016 |
| Stddev | .0002 | .0006 | .07 | .102 | .060 | .008 | .0003 | .08 | .0004 | .0020 |
| %RSD | 15.23 | 8.678 | .1655 | 2.518 | 3.187 | .3149 | 6.333 | .1348 | 5.487 | 121.9 |
| #1 | .0011 | -.0063 | 40.53 | 4.123 | 1.854 | 2.527 | .0045 | 58.46 | .0066 | .0002 |
| #2 | .0014 | -.0072 | 40.62 | 3.979 | 1.939 | 2.539 | .0050 | 58.57 | .0072 | .0031 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0106 | 3.216 | -.0007 | .0021 | 8.765 | .0032 | .2293 | .0022 | -.0019 |
| Stddev | .0011 | .0206 | .015 | .0029 | .0008 | .008 | .0004 | .0008 | .0005 | .0014 |
| %RSD | 87.13 | 194.2 | .4642 | 424.3 | 36.04 | .0879 | 12.54 | .3357 | 23.13 | 74.26 |
| #1 | .0005 | .0252 | 3.206 | -.0027 | .0026 | 8.759 | .0030 | .2299 | .0018 | -.0009 |
| #2 | .0020 | -.0040 | 3.227 | .0014 | .0016 | 8.770 | .0035 | .2288 | .0026 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0012 | .0581 | .0121 | -.0492 |
| Stddev | .0017 | .0127 | .0016 | .0003 |
| %RSD | 139.5 | 21.85 | 12.82 | .5987 |
| #1 | .0024 | .0491 | .0110 | -.0490 |
| #2 | .0000 | .0671 | .0132 | -.0494 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1068.8 | 51131. | 18049. |
| Stddev | 1.4 | 19. | 16. |
| %RSD | .12773 | .03687 | .09032 |
| #1 | 1069.7 | 51145. | 18060. |
| #2 | 1067.8 | 51118. | 18037. |



Zoom In Zoom Out

Sample Name: MC26351-1F Acquired: 12/9/2013 17:38:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0134 | -.0001 | -.0079 | .3720 | .0158 | -.0001 | 449.7 |
| Stddev | .0001 | .0021 | .0015 | .0005 | .0007 | .0001 | .0000 | .1 |
| %RSD | 18.38 | 15.62 | 1067. | 5.993 | .1976 | .4089 | 22.04 | .0233 |
| #1 | .0004 | -.0148 | .0009 | -.0082 | .3715 | .0158 | -.0001 | 449.8 |
| #2 | .0003 | -.0119 | -.0012 | -.0076 | .3726 | .0159 | -.0001 | 449.6 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0056 | .0001 | .0071 | .1162 | 32.95 | F1083. | 1.557 |
| Stddev | .0002 | .0001 | .0002 | .0004 | .0015 | .08 | 2. | .001 |
| %RSD | 25.68 | 2.208 | 301.2 | 5.901 | 1.292 | .2457 | .1844 | .0904 |
| #1 | -.0007 | .0057 | .0002 | .0074 | .1151 | 32.89 | 1085. | 1.556 |
| #2 | -.0010 | .0055 | -.0001 | .0068 | .1172 | 33.01 | 1082. | 1.558 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | F1239. | .0272 | -.0041 | -.0204 | .0086 | F1482. | -.0024 |
| Stddev | .0001 | 9. | .0001 | .0002 | .0003 | .0004 | 18. | .0005 |
| %RSD | 1.499 | .7340 | .4954 | 3.899 | 1.294 | 4.237 | 1.227 | 20.91 |
| #1 | .0100 | 1233. | .0273 | -.0043 | -.0202 | .0089 | 1495. | -.0020 |
| #2 | .0098 | 1245. | .0271 | -.0040 | -.0206 | .0084 | 1469. | -.0028 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | 13.87 | -.0005 | 4.250 | .0032 | F-.0078 | -.0005 | .0213 |
| Stddev | .0000 | .00 | .0002 | .032 | .0002 | .0025 | .0001 | .0032 |
| %RSD | 3.901 | .0050 | 38.91 | .7503 | 4.956 | 31.72 | 16.61 | 15.27 |
| #1 | -.0012 | 13.87 | -.0004 | 4.228 | .0031 | -.0060 | -.0006 | .0236 |
| #2 | -.0011 | 13.87 | -.0007 | 4.273 | .0033 | -.0095 | -.0005 | .0190 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | .0090 | -.0692 |
| Stddev | .0002 | .0001 |
| %RSD | 2.007 | .0730 |
| #1 | .0091 | -.0691 |
| #2 | .0089 | -.0692 |

Zoom In Zoom Out

Sample Name: MC26351-1F Acquired: 12/9/2013 17:38:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 922.97 | 46357. | 16586. |
| Stddev | 2.07 | 18. | 25. |
| %RSD | .22424 | .03826 | .14977 |
| #1 | 921.51 | 46345. | 16569. |
| #2 | 924.44 | 46370. | 16604. |



Zoom In Zoom Out

Sample Name: MC26484-1F Acquired: 12/9/2013 17:43:33 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0024 | .0019 | .0060 | .0622 | .0114 | .0000 | 39.57 | .0000 | .0021 |
| Stddev | .0000 | .0022 | .0008 | .0022 | .0009 | .0000 | .000 | .06 | .000 | .0002 |
| %RSD | 66.28 | 91.94 | 41.02 | 36.73 | 1.500 | .1853 | 2.745 | .1564 | 10.19 | 11.51 |
| #1 | .0000 | .0009 | .0014 | .0045 | .0616 | .0114 | .0000 | 39.52 | .0000 | .0019 |
| #2 | -.0001 | .0040 | .0025 | .0076 | .0629 | .0114 | .0000 | 39.61 | .0000 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0006 | .2495 | 2.393 | 3.739 | 8.846 | .0011 | 12.30 | .0024 | -.0009 |
| Stddev | .0001 | .0004 | .0029 | .016 | .044 | .011 | .0001 | .01 | .0000 | .0006 |
| %RSD | 20.96 | 60.67 | 1.170 | .6779 | 1.186 | .1258 | 5.308 | .0920 | .4605 | 63.90 |
| #1 | .0005 | -.0003 | .2474 | 2.381 | 3.707 | 8.838 | .0011 | 12.29 | .0024 | -.0013 |
| #2 | .0004 | -.0008 | .2516 | 2.404 | 3.770 | 8.854 | .0012 | 12.30 | .0024 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0606 | 1.898 | .0006 | .0012 | 5.793 | -.0001 | .2132 | .0008 | -.0019 |
| Stddev | .0002 | .0014 | .029 | .0003 | .0005 | .091 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 14.40 | 2.237 | 1.537 | 50.77 | 43.89 | 1.573 | 258.8 | .0442 | 8.786 | 4.266 |
| #1 | -.0014 | .0615 | 1.877 | .0008 | .0016 | 5.729 | -.0004 | .2133 | .0009 | -.0020 |
| #2 | -.0017 | .0596 | 1.919 | .0004 | .0008 | 5.858 | .0001 | .2131 | .0008 | -.0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0078 | .0086 | -.0319 |
| Stddev | .0002 | .0095 | .0007 | .0004 |
| %RSD | 30.49 | 121.4 | 7.911 | 1.332 |
| #1 | -.0004 | .0011 | .0081 | -.0316 |
| #2 | -.0007 | .0145 | .0091 | -.0322 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.6 | 50940. | 18173. |
| Stddev | 14.2 | 1. | 45. |
| %RSD | 1.3243 | .00267 | .24740 |
| #1 | 1085.7 | 50941. | 18205. |
| #2 | 1065.6 | 50939. | 18141. |



Zoom In Zoom Out

Sample Name: MC26484-2F Acquired: 12/9/2013 17:48:34 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0071 | .0019 | -.0002 | .0064 | .0022 | -.0001 | 3.754 | -.0001 | -.0002 |
| Stddev | .0003 | .0026 | .0003 | .0004 | .0001 | .0001 | .0000 | .001 | .0000 | .0001 |
| %RSD | 314.1 | 36.83 | 13.11 | 257.2 | 1.028 | 3.298 | 35.59 | .0252 | 27.74 | 65.08 |
| #1 | -.0003 | -.0090 | .0017 | .0001 | .0064 | .0021 | .0000 | 3.753 | -.0001 | -.0001 |
| #2 | .0001 | -.0053 | .0021 | -.0004 | .0065 | .0022 | -.0001 | 3.755 | -.0002 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0001 | .0001 | .8012 | .4149 | .0074 | .0004 | 30.28 | .0000 | .0007 |
| Stddev | .0002 | .0002 | .0024 | .0334 | .0149 | .0000 | .0001 | .01 | .0001 | .0006 |
| %RSD | 34.13 | 136.2 | 2108. | 4.173 | 3.600 | .1421 | 27.57 | .0322 | 119.4 | 79.57 |
| #1 | .0004 | .0000 | -.0016 | .8249 | .4043 | .0074 | .0003 | 30.28 | .0000 | .0003 |
| #2 | .0006 | -.0002 | .0018 | .7776 | .4255 | .0074 | .0005 | 30.27 | .0001 | .0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0006 | 3.634 | .0010 | .0009 | 5.585 | .0009 | .0321 | -.0001 | -.0017 |
| Stddev | .0006 | .0010 | .023 | .0004 | .0003 | .025 | .0002 | .0001 | .0002 | .0014 |
| %RSD | 45.21 | 168.8 | .6226 | 38.63 | 35.03 | .4498 | 22.33 | .2054 | 172.5 | 81.89 |
| #1 | -.0009 | .0013 | 3.618 | .0013 | .0012 | 5.568 | .0007 | .0321 | .0000 | -.0007 |
| #2 | -.0017 | -.0001 | 3.650 | .0007 | .0007 | 5.603 | .0010 | .0322 | -.0002 | -.0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0031 | .0043 | -.0312 |
| Stddev | .000 | .0052 | .0004 | .0001 |
| %RSD | 217.4 | 170.8 | 9.462 | .4383 |
| #1 | .0000 | -.0006 | .0045 | -.0311 |
| #2 | -.0001 | .0068 | .0040 | -.0313 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.6 | 51216. | 18120. |
| Stddev | 4.1 | 1. | 18. |
| %RSD | .38281 | .00145 | .10067 |
| #1 | 1076.5 | 51217. | 18107. |
| #2 | 1070.7 | 51216. | 18133. |



Zoom In Zoom Out

Sample Name: MC26484-3F Acquired: 12/9/2013 17:53:30 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0055 | -.0001 | .0001 | .0063 | .0021 | .0000 | 3.811 | -.0001 | -.0002 |
| Stddev | .0001 | .0049 | .0010 | .0004 | .0004 | .0001 | .000 | .006 | .0001 | .0000 |
| %RSD | 31.32 | 90.16 | 1146. | 425.9 | 7.020 | 3.633 | 36.85 | .1630 | 93.72 | 26.51 |
| #1 | -.0002 | -.0089 | -.0008 | -.0002 | .0060 | .0020 | -.0001 | 3.807 | -.0001 | -.0001 |
| #2 | -.0003 | -.0020 | .0006 | .0004 | .0066 | .0021 | .0000 | 3.816 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0007 | .0010 | .8184 | .4024 | .0076 | .0003 | 30.52 | .0001 | -.0009 |
| Stddev | .0004 | .0001 | .0010 | .0125 | .0064 | .0001 | .0000 | .03 | .0000 | .0005 |
| %RSD | 55.71 | 20.77 | 96.86 | 1.524 | 1.587 | .6852 | 16.89 | .0978 | 47.54 | 49.82 |
| #1 | .0010 | -.0008 | .0003 | .8272 | .4069 | .0077 | .0003 | 30.50 | .0001 | -.0006 |
| #2 | .0004 | -.0006 | .0017 | .8096 | .3979 | .0076 | .0002 | 30.54 | .0001 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0026 | 3.649 | .0008 | .0003 | 5.660 | .0003 | .0322 | .0002 | -.0018 |
| Stddev | .0006 | .0002 | .017 | .0004 | .0006 | .006 | .0001 | .0001 | .0002 | .0002 |
| %RSD | 93.29 | 7.890 | .4665 | 42.98 | 192.1 | .1035 | 28.07 | .2156 | 89.56 | 12.51 |
| #1 | -.0002 | -.0025 | 3.637 | .0006 | .0008 | 5.656 | .0003 | .0321 | .0001 | -.0017 |
| #2 | -.0011 | -.0028 | 3.661 | .0011 | -.0001 | 5.665 | .0004 | .0322 | .0004 | -.0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0074 | .0041 | -.0319 |
| Stddev | .0000 | .0001 | .0007 | .0001 |
| %RSD | 22.09 | 1.795 | 16.40 | .3857 |
| #1 | .0001 | .0074 | .0046 | -.0318 |
| #2 | .0001 | .0073 | .0036 | -.0320 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.1 | 51246. | 18158. |
| Stddev | .4 | 90. | 4. |
| %RSD | .03820 | .17650 | .02472 |
| #1 | 1073.8 | 51182. | 18154. |
| #2 | 1074.4 | 51310. | 18161. |

Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/9/2013 17:58:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0054 | .0066 | .0020 | .2639 | .0370 | .0000 | 113.7 | -.0002 | .0018 |
| Stddev | .0006 | .0042 | .0010 | .0002 | .0002 | .0003 | .000 | .2 | .0001 | .0003 |
| %RSD | 214.4 | 76.79 | 14.99 | 10.06 | .0726 | .7802 | 127.4 | .1817 | 47.86 | 17.92 |
| #1 | -.0007 | .0025 | .0073 | .0022 | .2637 | .0368 | .0000 | 113.8 | -.0001 | .0016 |
| #2 | .0002 | .0083 | .0059 | .0019 | .2640 | .0372 | -.0001 | 113.5 | -.0003 | .0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0005 | 1.861 | 8.911 | 19.82 | 5.427 | .0053 | 39.25 | .0050 | -.0011 |
| Stddev | .0001 | .0004 | .003 | .055 | .05 | .024 | .0001 | .06 | .0004 | .0006 |
| %RSD | 12.67 | 91.68 | .1664 | .6148 | .2598 | .4458 | 1.603 | .1578 | 7.390 | 55.45 |
| #1 | .0012 | -.0002 | 1.863 | 8.872 | 19.86 | 5.410 | .0054 | 39.21 | .0048 | -.0015 |
| #2 | .0010 | -.0008 | 1.859 | 8.949 | 19.79 | 5.444 | .0053 | 39.30 | .0053 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | .0356 | 4.441 | .0012 | .0022 | 10.65 | -.0002 | .5435 | .0015 | -.0031 |
| Stddev | .0004 | .0003 | .001 | .0001 | .0021 | .00 | .0000 | .0005 | .0001 | .0009 |
| %RSD | 7.510 | .9180 | .0107 | 4.952 | 94.97 | .0114 | 8.713 | .1007 | 5.506 | 29.14 |
| #1 | -.0048 | .0354 | 4.442 | .0012 | .0007 | 10.66 | -.0002 | .5432 | .0015 | -.0038 |
| #2 | -.0053 | .0359 | 4.441 | .0013 | .0036 | 10.65 | -.0002 | .5439 | .0016 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0065 | .0044 | -.0580 |
| Stddev | .0000 | .0010 | .0007 | .0001 |
| %RSD | 1.109 | 15.94 | 15.01 | .2113 |
| #1 | -.0004 | .0058 | .0040 | -.0579 |
| #2 | -.0004 | .0072 | .0049 | -.0581 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1041.1 | 50271. | 18016. |
| Stddev | .0 | 128. | 22. |
| %RSD | .00462 | .25442 | .12469 |
| #1 | 1041.0 | 50361. | 18000. |
| #2 | 1041.1 | 50180. | 18032. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/9/2013 18:03:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0082 | 1.358 | .0010 | .0379 | .0391 | -.0001 | 20.66 | -.0013 | .0133 |
| Stddev | .0001 | .0027 | .001 | .0001 | .0006 | .0001 | .0000 | .00 | .0000 | .0003 |
| %RSD | 19.58 | 32.65 | .0886 | 12.05 | 1.467 | .2463 | 42.50 | .0033 | 3.391 | 1.931 |
| #1 | -.0004 | -.0063 | 1.357 | .0011 | .0375 | .0391 | -.0001 | 20.66 | -.0013 | .0131 |
| #2 | -.0005 | -.0101 | 1.359 | .0010 | .0383 | .0392 | .0000 | 20.66 | -.0014 | .0135 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0007 | 29.40 | 5.305 | 2.718 | 2.712 | .0038 | 117.8 | .0062 | -.0013 |
| Stddev | .0001 | .0007 | .06 | .027 | .046 | .006 | .0001 | .5 | .0001 | .0009 |
| %RSD | 37.59 | 109.0 | .1951 | .5118 | 1.707 | .2329 | 1.468 | .3952 | 1.433 | 73.70 |
| #1 | .0005 | -.0012 | 29.44 | 5.325 | 2.751 | 2.707 | .0038 | 118.2 | .0061 | -.0006 |
| #2 | .0003 | -.0002 | 29.36 | 5.286 | 2.685 | 2.716 | .0039 | 117.5 | .0062 | -.0019 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0207 | 3.842 | -.0001 | .0006 | 8.940 | .0005 | .2937 | .0004 | -.0014 |
| Stddev | .0010 | .0027 | .004 | .0005 | .0001 | .010 | .0000 | .0001 | .0000 | .0004 |
| %RSD | 67.85 | 13.15 | .1132 | 452.2 | 24.06 | .1077 | 7.247 | .0420 | 10.30 | 28.25 |
| #1 | .0021 | .0226 | 3.839 | .0003 | .0005 | 8.947 | .0006 | .2937 | .0005 | -.0011 |
| #2 | .0008 | .0188 | 3.845 | -.0005 | .0007 | 8.933 | .0005 | .2936 | .0004 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0053 | .0073 | -.0488 |
| Stddev | .0001 | .0024 | .0004 | .0006 |
| %RSD | 47.64 | 45.44 | 5.365 | 1.208 |
| #1 | -.0004 | .0070 | .0070 | -.0492 |
| #2 | -.0002 | .0036 | .0075 | -.0483 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.0 | 50690. | 18046. |
| Stddev | .7 | 136. | 3. |
| %RSD | .06798 | .26761 | .01908 |
| #1 | 1055.5 | 50786. | 18044. |
| #2 | 1056.5 | 50594. | 18048. |



Zoom In Zoom Out

Sample Name: MC26484-7F Acquired: 12/9/2013 18:08:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0095 | 1.005 | .0008 | .1434 | .0239 | .0000 | 22.96 | -.0009 | .0112 |
| Stddev | .0001 | .0025 | .009 | .0007 | .0015 | .0000 | .000 | .07 | .0000 | .0000 |
| %RSD | 86.07 | 25.87 | .9359 | 93.61 | 1.050 | .0846 | 161.2 | .3163 | 5.643 | .0791 |
| #1 | -.0002 | -.0112 | .9984 | .0013 | .1424 | .0239 | .0000 | 22.90 | -.0008 | .0112 |
| #2 | .0000 | -.0077 | 1.012 | .0003 | .1445 | .0239 | -.0001 | 23.01 | -.0009 | .0112 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0009 | 34.80 | 8.596 | 4.083 | .8256 | .0145 | 11.59 | .0063 | -.0007 |
| Stddev | .0002 | .0004 | .11 | .034 | .001 | .0019 | .0001 | .03 | .0003 | .0001 |
| %RSD | 111.2 | 43.85 | .3118 | .3962 | .0354 | .2313 | .4372 | .2566 | 5.003 | 7.355 |
| #1 | .0004 | -.0006 | 34.72 | 8.620 | 4.084 | .8269 | .0146 | 11.61 | .0065 | -.0008 |
| #2 | .0000 | -.0012 | 34.88 | 8.572 | 4.082 | .8242 | .0145 | 11.57 | .0060 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0029 | 1.206 | .0010 | .0010 | 11.75 | .0002 | .4873 | .0004 | -.0029 |
| Stddev | .0004 | .0015 | .007 | .0002 | .0004 | .07 | .0002 | .0002 | .0004 | .0000 |
| %RSD | 33.07 | 51.43 | .6186 | 21.45 | 33.59 | .5681 | 87.07 | .0316 | 98.52 | 1.211 |
| #1 | .0010 | .0040 | 1.201 | .0009 | .0013 | 11.70 | .0004 | .4874 | .0006 | -.0028 |
| #2 | .0016 | .0019 | 1.211 | .0012 | .0008 | 11.80 | .0001 | .4872 | .0001 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0073 | .0055 | -.0647 |
| Stddev | .0003 | .0001 | .0001 | .0006 |
| %RSD | 78.07 | 1.537 | 2.387 | .9929 |
| #1 | -.0002 | .0073 | .0056 | -.0643 |
| #2 | -.0006 | .0074 | .0054 | -.0652 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.4 | 50697. | 18190. |
| Stddev | 5.2 | 233. | 91. |
| %RSD | .49573 | .45923 | .49773 |
| #1 | 1060.1 | 50532. | 18254. |
| #2 | 1052.7 | 50862. | 18126. |



Zoom In Zoom Out

Sample Name: MC26758-1 Acquired: 12/9/2013 18:13:24 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .2093 | .0063 | .0005 | .0410 | .0317 | -.0001 | 19.26 | .0001 | .0017 |
| Stddev | .0002 | .0004 | .0009 | .0003 | .0002 | .0004 | .0000 | .05 | .0000 | .0001 |
| %RSD | 80.74 | .1706 | 13.46 | 49.66 | .5266 | 1.188 | 10.54 | .2590 | 22.87 | 6.712 |
| #1 | -.0003 | .2091 | .0069 | .0003 | .0409 | .0314 | .0000 | 19.29 | .0001 | .0016 |
| #2 | -.0001 | .2096 | .0057 | .0007 | .0412 | .0320 | -.0001 | 19.22 | .0002 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0012 | 9.176 | 4.644 | 5.713 | .6603 | .0006 | 11.74 | .0040 | -.0005 |
| Stddev | .0003 | .0010 | .000 | .088 | .133 | .0005 | .0002 | .02 | .0003 | .0003 |
| %RSD | 27.71 | 78.22 | .0003 | 1.890 | 2.324 | .0687 | 26.04 | .1333 | 7.894 | 71.61 |
| #1 | .0012 | .0019 | 9.176 | 4.582 | 5.619 | .6607 | .0007 | 11.75 | .0043 | -.0007 |
| #2 | .0008 | .0005 | 9.176 | 4.706 | 5.806 | .6600 | .0005 | 11.73 | .0038 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | 4.089 | .0011 | .0010 | 9.821 | .0003 | .1073 | .0014 | -.0034 |
| Stddev | .0010 | .0001 | .017 | .0006 | .0012 | .007 | .0002 | .0001 | .0007 | .0007 |
| %RSD | 755.5 | 3.372 | .4049 | 56.76 | 123.0 | .0726 | 64.00 | .1004 | 53.89 | 21.55 |
| #1 | .0006 | .0021 | 4.077 | .0007 | .0018 | 9.826 | .0005 | .1073 | .0009 | -.0028 |
| #2 | -.0009 | .0022 | 4.101 | .0016 | .0001 | 9.816 | .0002 | .1072 | .0019 | -.0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0049 | .0086 | -.0540 |
| Stddev | .0001 | .0045 | .0001 | .0007 |
| %RSD | 37.31 | 92.07 | .7790 | 1.259 |
| #1 | .0005 | .0017 | .0086 | -.0536 |
| #2 | .0003 | .0080 | .0085 | -.0545 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1055.9 | 50691. | 18154. |
| Stddev | 1.5 | 98. | 38. |
| %RSD | .14070 | .19294 | .20959 |
| #1 | 1054.8 | 50622. | 18127. |
| #2 | 1056.9 | 50760. | 18181. |

Zoom In Zoom Out

Sample Name: MC26758-2 Acquired: 12/9/2013 18:18:19 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0083 | .0035 | -.0001 | .0368 | .0055 | .0000 | 10.87 | .0001 |
| Stddev | .0001 | .0052 | .0004 | .0002 | .0006 | .0000 | .000 | .04 | .0001 |
| %RSD | 234.8 | 62.47 | 10.32 | 147.6 | 1.595 | .3388 | 7.226 | .3439 | 104.1 |
| #1 | .0001 | -.0120 | .0033 | .0000 | .0364 | .0055 | .0000 | 10.90 | .0000 |
| #2 | .0000 | -.0047 | .0038 | -.0003 | .0373 | .0055 | .0000 | 10.85 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0011 | -.0008 | .1838 | 2.890 | 3.940 | .0263 | .0012 | 72.37 |
| Stddev | .0001 | .0005 | .0001 | .0028 | .020 | .021 | .0001 | .0001 | .12 |
| %RSD | 99.30 | 47.51 | 9.865 | 1.510 | .7051 | .5419 | .3380 | 8.440 | .1701 |
| #1 | .0000 | .0015 | -.0007 | .1818 | 2.876 | 3.925 | .0264 | .0011 | 72.28 |
| #2 | .0002 | .0007 | -.0008 | .1858 | 2.905 | 3.955 | .0262 | .0012 | 72.46 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0006 | -.0002 | -.0007 | F34.36 | .0007 | .0005 | 5.634 | .0032 |
| Stddev | .0004 | .0009 | .0009 | .0007 | .15 | .0001 | .0002 | .020 | .0008 |
| %RSD | 52.69 | 151.9 | 383.3 | 106.2 | .4348 | 9.418 | 31.81 | .3623 | 23.67 |
| #1 | .0004 | -.0012 | .0004 | -.0002 | 34.25 | .0006 | .0006 | 5.620 | .0026 |
| #2 | .0010 | .0000 | -.0009 | -.0012 | 34.46 | .0007 | .0004 | 5.649 | .0037 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0991 | .0005 | -.0033 | .0001 | .0037 | .0056 | -.0312 |
| Stddev | .0002 | .0003 | .0013 | .0003 | .0030 | .0001 | .0005 |
| %RSD | .2029 | 62.30 | 38.46 | 328.1 | 81.25 | 1.391 | 1.615 |
| #1 | .0989 | .0007 | -.0024 | .0003 | .0058 | .0055 | -.0308 |
| #2 | .0992 | .0003 | -.0041 | -.0001 | .0016 | .0056 | -.0315 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1058.8 | 50747. | 18155. |
| Stddev | 2.8 | 152. | 34. |
| %RSD | .26566 | .29872 | .18544 |
| #1 | 1060.8 | 50639. | 18131. |
| #2 | 1056.8 | 50854. | 18179. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 18:23:22 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2445 | 9.724 | 1.949 | -.0008 | 1.917 | 1.933 | 1.880 | 9.693 | 1.909 | 2.048 |
| Stddev | .0012 | .002 | .001 | .0000 | .007 | .003 | .000 | .018 | .003 | .003 |
| %RSD | .4804 | .0206 | .0631 | 2.376 | .3434 | .1396 | .0205 | .1913 | .1327 | .1552 |
| #1 | .2436 | 9.725 | 1.948 | -.0008 | 1.913 | 1.931 | 1.880 | 9.706 | 1.907 | 2.045 |
| #2 | .2453 | 9.722 | 1.950 | -.0008 | 1.922 | 1.935 | 1.881 | 9.680 | 1.911 | 2.050 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.929 | 1.951 | 9.980 | 9.882 | 9.553 | 1.902 | 1.963 | 9.782 | 1.909 | 1.943 |
| Stddev | .001 | .008 | .003 | .003 | .092 | .003 | .005 | .030 | .001 | .000 |
| %RSD | .0358 | .3871 | .0319 | .0280 | .9687 | .1768 | .2434 | .3084 | .0551 | .0215 |
| #1 | 1.929 | 1.946 | 9.982 | 9.880 | 9.618 | 1.904 | 1.959 | 9.760 | 1.908 | 1.943 |
| #2 | 1.928 | 1.957 | 9.978 | 9.883 | 9.488 | 1.899 | 1.966 | 9.803 | 1.909 | 1.943 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0069 | .0098 | 1.953 | 1.925 | -.0266 | 1.973 | 1.991 | 1.923 | 1.893 |
| Stddev | .0002 | .0042 | .0019 | .000 | .009 | .0004 | .010 | .013 | .002 | .009 |
| %RSD | 15.06 | 60.46 | 19.64 | .0208 | .4666 | 1.345 | .4842 | .6502 | .1040 | .4943 |
| #1 | .0012 | .0099 | .0084 | 1.953 | 1.919 | -.0268 | 1.966 | 2.000 | 1.924 | 1.886 |
| #2 | .0014 | .0040 | .0111 | 1.953 | 1.931 | -.0263 | 1.980 | 1.982 | 1.921 | 1.899 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.891 | .0210 | 2.030 | -.0081 |
| Stddev | .003 | .0005 | .004 | .0001 |
| %RSD | .1689 | 2.152 | .1714 | 1.426 |
| #1 | 1.893 | .0213 | 2.028 | -.0080 |
| #2 | 1.889 | .0206 | 2.033 | -.0082 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1068.8 | 51028. | 18231. |
| Stddev | 2.6 | 10. | 29. |
| %RSD | .24012 | .02032 | .16049 |
| #1 | 1070.6 | 51021. | 18210. |
| #2 | 1067.0 | 51035. | 18252. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 18:28:13 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0012 | .0013 | .0016 | .0017 | .0004 | .0002 | .0023 | .0004 | .0006 |
| Stddev | .0002 | .0038 | .0002 | .0001 | .0005 | .0000 | .0000 | .0016 | .0001 | .0002 |
| %RSD | 69.86 | 314.4 | 17.23 | 6.888 | 30.62 | 5.515 | 11.15 | 69.90 | 33.47 | 34.69 |
| #1 | .0001 | .0015 | .0015 | .0015 | .0021 | .0004 | .0002 | .0012 | .0005 | .0007 |
| #2 | .0003 | -.0039 | .0012 | .0017 | .0013 | .0004 | .0002 | .0035 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0007 | .0029 | .0199 | -.0042 | .0004 | .0016 | .0230 | .0005 | .0006 |
| Stddev | .0000 | .0003 | .0004 | .0135 | .0035 | .0001 | .0007 | .0040 | .0001 | .0013 |
| %RSD | 9.521 | 42.09 | 15.40 | 67.65 | 83.13 | 19.00 | 42.76 | 17.27 | 27.07 | 202.5 |
| #1 | .0004 | -.0010 | .0026 | .0294 | -.0017 | .0004 | .0021 | .0202 | .0004 | -.0003 |
| #2 | .0003 | -.0005 | .0032 | .0104 | -.0066 | .0005 | .0011 | .0258 | .0005 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0023 | .0119 | .0005 | .0006 | -.0010 | .0009 | .0003 | .0009 | .0005 |
| Stddev | .0008 | .0030 | .0014 | .0004 | .0002 | .0002 | .0002 | .0001 | .0002 | .0015 |
| %RSD | 769.6 | 130.5 | 12.10 | 81.94 | 37.09 | 20.50 | 28.14 | 35.74 | 19.02 | 295.4 |
| #1 | .0005 | -.0002 | .0129 | .0007 | .0004 | -.0008 | .0007 | .0002 | .0008 | .0016 |
| #2 | -.0007 | -.0045 | .0109 | .0002 | .0007 | -.0011 | .0010 | .0004 | .0010 | -.0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0099 | .0004 | -.0003 |
| Stddev | .0001 | .0002 | .0000 | .0003 |
| %RSD | 21.99 | 2.228 | 4.127 | 92.67 |
| #1 | .0004 | .0101 | .0004 | -.0006 |
| #2 | .0005 | .0097 | .0004 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.5 | 51421. | 18107. |
| Stddev | .3 | 228. | 68. |
| %RSD | .03113 | .44368 | .37293 |
| #1 | 1073.2 | 51582. | 18155. |
| #2 | 1073.7 | 51260. | 18059. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/9/2013 18:33:12 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1899 | F.0069 | .0015 | .0979 | .0499 | .0040 | 4.872 | .0041 |
| Stddev | .0002 | .0033 | .0019 | .0002 | .0004 | .0001 | .0000 | .048 | .0002 |
| %RSD | 3.491 | 1.762 | 27.63 | 10.57 | .3618 | .1994 | 1.055 | .9848 | 3.852 |
| #1 | .0050 | .1923 | .0082 | .0016 | .0976 | .0499 | .0040 | 4.906 | .0039 |
| #2 | .0047 | .1875 | .0055 | .0014 | .0981 | .0498 | .0040 | 4.838 | .0042 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0517 | .0102 | .0232 | .1043 | 5.007 | 4.738 | .0147 | .1004 | 4.975 |
| Stddev | .0002 | .0002 | .0008 | .0016 | .013 | .039 | .0001 | .0001 | .010 |
| %RSD | .4552 | 2.236 | 3.366 | 1.548 | .2629 | .8165 | .5921 | .0527 | .2059 |
| #1 | .0515 | .0101 | .0238 | .1031 | 4.998 | 4.765 | .0148 | .1003 | 4.968 |
| #2 | .0519 | .0104 | .0227 | .1054 | 5.016 | 4.710 | .0146 | .1004 | 4.983 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0399 | .0057 | -.0006 | .0010 | .0060 | .0070 | .0104 | .0153 | .0977 |
| Stddev | .0001 | .0002 | .0000 | .0027 | .0014 | .0001 | .0011 | .0005 | .0012 |
| %RSD | .1955 | 4.026 | 5.979 | 262.5 | 22.52 | 1.504 | 11.05 | 3.242 | 1.251 |
| #1 | .0399 | .0059 | -.0006 | -.0009 | .0070 | .0069 | .0096 | .0156 | .0969 |
| #2 | .0400 | .0055 | -.0006 | .0029 | .0051 | .0071 | .0112 | .0149 | .0986 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0500 | .0051 | .0096 | .0052 | .0211 | -.0006 |
| Stddev | .0001 | .0004 | .0002 | .0001 | .0028 | .0002 | .0002 |
| %RSD | .9242 | .8997 | 4.390 | 1.025 | 53.28 | .7584 | 29.90 |
| #1 | .0103 | .0503 | .0053 | .0096 | .0033 | .0210 | -.0007 |
| #2 | .0101 | .0497 | .0050 | .0095 | .0072 | .0212 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.0 | 51402. | 18166. |
| Stddev | .4 | 104. | 18. |
| %RSD | .03378 | .20138 | .09829 |
| #1 | 1072.8 | 51475. | 18153. |
| #2 | 1073.3 | 51329. | 18178. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 18:38:08 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2445 | 9.799 | 1.950 | -.0006 | 1.919 | 1.946 | 1.891 | 9.733 | 1.916 | 2.038 |
| Stddev | .0005 | .013 | .008 | .0005 | .007 | .001 | .004 | .031 | .005 | .003 |
| %RSD | .2038 | .1329 | .4115 | 80.57 | .3426 | .0335 | .2026 | .3163 | .2447 | .1681 |
| #1 | .2448 | 9.808 | 1.944 | -.0010 | 1.915 | 1.947 | 1.888 | 9.711 | 1.912 | 2.035 |
| #2 | .2441 | 9.789 | 1.955 | -.0003 | 1.924 | 1.946 | 1.894 | 9.754 | 1.919 | 2.040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.936 | 1.950 | 9.942 | 9.902 | 9.590 | 1.912 | 1.948 | 9.836 | 1.910 | 1.933 |
| Stddev | .012 | .007 | .026 | .008 | .023 | .010 | .005 | .011 | .004 | .000 |
| %RSD | .6313 | .3747 | .2596 | .0838 | .2441 | .5306 | .2569 | .1130 | .2109 | .0161 |
| #1 | 1.945 | 1.945 | 9.923 | 9.908 | 9.606 | 1.919 | 1.945 | 9.844 | 1.907 | 1.933 |
| #2 | 1.928 | 1.955 | 9.960 | 9.896 | 9.573 | 1.904 | 1.952 | 9.829 | 1.913 | 1.933 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0122 | .0007 | 1.958 | 1.930 | -.0326 | 1.969 | 1.968 | 1.938 | 1.892 |
| Stddev | .0007 | .0017 | .0007 | .001 | .010 | .0018 | .000 | .015 | .001 | .004 |
| %RSD | 205.0 | 13.97 | 92.55 | .0280 | .5079 | 5.538 | .0114 | .7535 | .0474 | .1898 |
| #1 | -.0002 | .0110 | .0012 | 1.957 | 1.923 | -.0339 | 1.969 | 1.979 | 1.938 | 1.889 |
| #2 | .0009 | .0134 | .0003 | 1.958 | 1.937 | -.0313 | 1.969 | 1.958 | 1.937 | 1.894 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.908 | .0262 | 2.006 | -.0088 |
| Stddev | .007 | .0046 | .004 | .0005 |
| %RSD | .3715 | 17.42 | .1728 | 6.019 |
| #1 | 1.913 | .0229 | 2.003 | -.0084 |
| #2 | 1.903 | .0294 | 2.008 | -.0091 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.2 | 50955. | 18223. |
| Stddev | 2.7 | 161. | 66. |
| %RSD | .25335 | .31569 | .36439 |
| #1 | 1077.1 | 50841. | 18270. |
| #2 | 1073.2 | 51069. | 18176. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 18:42:59 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0039 | .0017 | .0006 | .0020 | .0004 | .0002 | .0001 | F.0004 |
| Stddev | .0003 | .0030 | .0010 | .0008 | .0004 | .0001 | .0000 | .0013 | .0000 |
| %RSD | 135.5 | 78.01 | 60.86 | 125.1 | 22.32 | 14.52 | 11.69 | 1491. | 4.809 |
| #1 | .0000 | -.0017 | .0010 | .0001 | .0023 | .0004 | .0002 | .0010 | .0004 |
| #2 | .0004 | -.0060 | .0025 | .0012 | .0016 | .0004 | .0002 | -.0009 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0007 | -.0009 | .0026 | .0032 | -.0132 | .0004 | .0018 | .0179 |
| Stddev | .0002 | .0005 | .0002 | .0004 | .0165 | .0112 | .0000 | .0005 | .0056 |
| %RSD | 28.88 | 68.41 | 19.65 | 16.49 | 509.2 | 85.33 | 3.102 | 27.94 | 31.44 |
| #1 | .0007 | .0004 | -.0010 | .0029 | .0149 | -.0211 | .0003 | .0021 | .0218 |
| #2 | .0005 | .0010 | -.0008 | .0023 | -.0084 | -.0052 | .0004 | .0014 | .0139 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0007 | -.0002 | .0010 | .0067 | .0007 | .0003 | -.0011 | .0011 |
| Stddev | .0001 | .0005 | .0001 | .0023 | .0003 | .0009 | .0008 | .0005 | .0002 |
| %RSD | 15.22 | 70.91 | 46.55 | 235.2 | 4.494 | 132.8 | 315.6 | 41.64 | 20.91 |
| #1 | .0006 | .0003 | -.0001 | .0027 | .0069 | .0014 | -.0003 | -.0008 | .0013 |
| #2 | .0005 | .0010 | -.0002 | -.0007 | .0065 | .0000 | .0008 | -.0015 | .0009 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0004 | .0016 | .0001 | -.0013 | .0002 | -.0003 |
| Stddev | .0000 | .0000 | .0009 | .0003 | .0012 | .0001 | .0006 |
| %RSD | 1.824 | 2.820 | 59.32 | 206.0 | 88.25 | 64.17 | 183.9 |
| #1 | .0004 | .0004 | .0023 | .0004 | -.0021 | .0001 | -.0007 |
| #2 | .0004 | .0004 | .0009 | -.0001 | -.0005 | .0003 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.1 | 51343. | 18035. |
| Stddev | .7 | 313. | 59. |
| %RSD | .06507 | .60985 | .32789 |
| #1 | 1074.6 | 51564. | 17994. |
| #2 | 1073.6 | 51121. | 18077. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000091 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000112 | 0.000000 | No |
| | | | Mo | -0.000021 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | 0.000036 | 0.000000 | No |
| | | | Al | -0.000002 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000328 | 0.000000 | No |
| | | | Mo | 0.038903 | 0.000000 | No |
| | | | Ca | 0.000070 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | 0.000009 | 0.000000 | No |
| | | | Al | 0.000011 | 0.000000 | No |
| | | | Mo | 0.000482 | 0.000000 | No |
| | | | Fe | 0.000000 | 0.000000 | No |
| | | | Mn | 0.000032 | 0.000000 | No |
| | | | Ca | 0.000004 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Cr | 0.000241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.007148 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.012631 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000019 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000310 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000005 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000063 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.002024 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000003 | 0.000000 | No |
| | | | Mn | 0.000067 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000038 | 0.000000 | No |
| | | | V | -0.000094 | 0.000000 | No |
| | | | Mo | 0.000385 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000061 | 0.000000 | No |
| | | | Fe | 0.000012 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000043 | 0.000000 | No |
| | | | Mn | 0.000035 | 0.000000 | No |
| | | | Mo | -0.001568 | 0.000000 | No |
| | | | Co | -0.000384 | 0.000000 | No |
| | | | Cu | 0.000433 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000050 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Ni | -0.000009 | 0.000000 | No |
| | | | Si | 0.000230 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Cr | 0.005518 | 0.000000 | No |
| | | | Mo | -0.002288 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000567 | 0.000000 | No |
| | | | V | -0.001074 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000310 | 0.000000 | No |
| | | | Mn | 0.000194 | 0.000000 | No |
| | | | Mo | -0.000104 | 0.000000 | No |
| | | | Ca | -0.000010 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.000115 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.001160 | 0.000000 | No |
| | | | Cr | 0.000346 | 0.000000 | No |
| | | | V | -0.027884 | 0.000000 | No |
| | | | Co | 0.001479 | 0.000000 | No |
| | | | Al | -0.000007 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000020 | 0.000000 | No |
| | | | | Ti | -0.001973 | 0.000000 | No |
| | | | | Mo | 0.000185 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000976 | 0.000000 | No |
| | | | | Mo | -0.005792 | 0.000000 | No |
| | | | | Fe | 0.000047 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000021 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000270 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/12/2013 17:53:48 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0019 | .0000 | -.0004 | -.0002 | .0014 | .0078 | .0000 | .0032 | .0046 |
| Stddev | .0000 | .000 | .0002 | .0000 | .0002 | .0003 | .000 | .0000 | .0001 |
| %RSD | 1.311 | 6199. | 52.36 | 15.09 | 13.96 | 3.855 | 74.21 | .9882 | 1.998 |
| #1 | -.0019 | -.0001 | -.0005 | -.0001 | .0012 | .0080 | .0000 | .0032 | .0047 |
| #2 | -.0019 | .0000 | -.0003 | -.0002 | .0015 | .0076 | .0000 | .0033 | .0045 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0018 | .0000 | .0029 | .0004 | .0003 | -.0001 | .0004 | .0010 | .0145 |
| Stddev | .0002 | .0000 | .0002 | .0000 | .0001 | .0000 | .0001 | .0002 | .0001 |
| %RSD | 12.17 | 53.03 | 6.604 | 10.30 | 36.70 | 23.43 | 12.55 | 25.24 | .8813 |
| #1 | -.0016 | .0000 | .0030 | .0004 | .0003 | -.0001 | .0005 | .0008 | .0144 |
| #2 | -.0019 | .0000 | .0027 | .0003 | .0002 | -.0001 | .0004 | .0011 | .0146 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0031 | -.0016 | .0000 | .0000 | .0044 | .0010 | .0021 | .0252 | -.0004 |
| Stddev | .0002 | .0004 | .000 | .0000 | .0002 | .0001 | .0000 | .0004 | .0001 |
| %RSD | 6.001 | 21.52 | 129.6 | 11.98 | 5.099 | 6.495 | 1.516 | 1.504 | 26.04 |
| #1 | -.0029 | -.0019 | .0000 | .0000 | .0046 | .0009 | .0021 | .0250 | -.0003 |
| #2 | -.0032 | -.0014 | .0000 | .0000 | .0042 | .0010 | .0021 | .0255 | -.0005 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0052 | -.0003 | -.0051 | -.0001 | .0001 | -.0006 | .0154 |
| Stddev | .0000 | .0000 | .0005 | .0001 | .0000 | .0004 | .0000 |
| %RSD | .2577 | 6.062 | 8.938 | 107.9 | 28.53 | 61.16 | .1534 |
| #1 | .0052 | -.0003 | -.0047 | -.0002 | .0001 | -.0003 | .0154 |
| #2 | .0052 | -.0004 | -.0054 | .0000 | .0001 | -.0009 | .0154 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/12/2013 17:53:48 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1159.8 | 57505. | 18747. |
| Stddev | .4 | 78. | 8. |
| %RSD | .03360 | .13496 | .04384 |
| #1 | 1160.1 | 57451. | 18741. |
| #2 | 1159.5 | 57560. | 18753. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 12/12/2013 17:58:44 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1437 | .6686 | 3.232 | 16.91 | 12.98 | 11.87 | 8.520 | .5878 | 2.218 | 4.039 |
| Stddev | .0002 | .0010 | .003 | .12 | .04 | .02 | .015 | .0002 | .004 | .003 |
| %RSD | .1721 | .1423 | .0962 | .7017 | .2840 | .1284 | .1768 | .0333 | .1595 | .0655 |
| #1 | .1439 | .6679 | 3.234 | 16.99 | 13.01 | 11.88 | 8.530 | .5880 | 2.221 | 4.041 |
| #2 | .1435 | .6693 | 3.230 | 16.82 | 12.95 | 11.86 | 8.509 | .5877 | 2.216 | 4.038 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.542 | 7.683 | 2.953 | 2.287 | 1.135 | 1.178 | 6.886 |
| Stddev | .007 | .004 | .001 | .000 | .002 | .000 | .014 |
| %RSD | .0786 | .0540 | .0260 | .0075 | .1517 | .0223 | .1983 |
| #1 | 8.537 | 7.686 | 2.952 | 2.287 | 1.137 | 1.178 | 6.896 |
| #2 | 8.547 | 7.680 | 2.953 | 2.287 | 1.134 | 1.178 | 6.876 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1151.5 | 57635. | 18696. |
| Stddev | .8 | 27. | 55. |
| %RSD | .06707 | .04682 | .29174 |
| #1 | 1151.0 | 57616. | 18657. |
| #2 | 1152.1 | 57654. | 18734. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 12/12/2013 18:03:37 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.376 | 1.624 | 1.145 | .7107 | .1002 | 2.938 |
| Stddev | .002 | .009 | .003 | .0017 | .0008 | .003 |
| %RSD | .1404 | .5402 | .2700 | .2323 | .7958 | .0903 |
| #1 | 1.374 | 1.630 | 1.147 | .7095 | .1008 | 2.936 |
| #2 | 1.377 | 1.618 | 1.143 | .7119 | .0997 | 2.940 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18931. |
| Stddev | 100. |
| %RSD | .52735 |
| #1 | 18861. |
| #2 | 19002. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 12/12/2013 18:08:31 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2454 | .5518 | .0734 | .8316 | 3.093 | 1.740 | 25.91 | 1.166 | .9133 | .0473 |
| Stddev | .0014 | .0031 | .0009 | .0093 | .012 | .006 | .18 | .009 | .0073 | .0001 |
| %RSD | .5717 | .5542 | 1.248 | 1.113 | .3847 | .3661 | .7097 | .7953 | .8003 | .2815 |
| #1 | .2463 | .5540 | .0740 | .8251 | 3.085 | 1.735 | 25.78 | 1.172 | .9185 | .0474 |
| #2 | .2444 | .5497 | .0727 | .8382 | 3.102 | 1.744 | 26.04 | 1.159 | .9082 | .0472 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.743 |
| Stddev | .018 |
| %RSD | .6458 |
| #1 | 2.755 |
| #2 | 2.730 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1174.1 | 57499. | 18781. |
| Stddev | 3.3 | 500. | 84. |
| %RSD | .27821 | .86901 | .44941 |
| #1 | 1176.4 | 57146. | 18841. |
| #2 | 1171.8 | 57853. | 18721. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/12/2013 18:13:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F.3583 | F12.10 | F1.797 | 2.151 | F1.775 | F2.351 | F2.248 | F13.66 | F1.749 |
| Stddev | .0052 | .27 | .156 | .037 | .156 | .049 | .047 | .32 | .153 |
| %RSD | 1.442 | 2.200 | 8.702 | 1.720 | 8.758 | 2.079 | 2.098 | 2.322 | 8.763 |
| #1 | .3620 | 12.29 | 1.907 | 2.177 | 1.885 | 2.386 | 2.281 | 13.88 | 1.858 |
| #2 | .3546 | 11.91 | 1.686 | 2.125 | 1.665 | 2.317 | 2.214 | 13.43 | 1.641 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.748 | F2.200 | F2.058 | F13.83 | F11.63 | F13.87 | F2.143 | F1.708 | F11.66 |
| Stddev | .155 | .042 | .042 | .30 | .25 | .44 | .039 | .150 | .23 |
| %RSD | 8.835 | 1.894 | 2.030 | 2.170 | 2.124 | 3.140 | 1.798 | 8.774 | 1.975 |
| #1 | 1.858 | 2.229 | 2.087 | 14.04 | 11.81 | 14.17 | 2.170 | 1.814 | 11.82 |
| #2 | 1.639 | 2.170 | 2.028 | 13.62 | 11.46 | 13.56 | 2.116 | 1.602 | 11.49 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.693 | F1.733 | 2.176 | 2.140 | 1.777 | F1.759 | F1.765 | 1.779 | F1.884 |
| Stddev | .149 | .152 | .040 | .048 | .162 | .156 | .155 | .161 | .165 |
| %RSD | 8.809 | 8.787 | 1.813 | 2.252 | 9.108 | 8.867 | 8.759 | 9.063 | 8.771 |
| #1 | 1.799 | 1.840 | 2.204 | 2.174 | 1.892 | 1.869 | 1.874 | 1.893 | 2.001 |
| #2 | 1.588 | 1.625 | 2.148 | 2.105 | 1.663 | 1.649 | 1.656 | 1.665 | 1.767 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | F2.345 | F2.150 | F1.786 | F2.115 | 2.178 | F1.722 | 2.222 |
| Stddev | .027 | .042 | .152 | .037 | .012 | .150 | .036 |
| %RSD | 1.141 | 1.960 | 8.500 | 1.759 | .5505 | 8.731 | 1.640 |
| #1 | 2.364 | 2.179 | 1.893 | 2.141 | 2.186 | 1.828 | 2.248 |
| #2 | 2.326 | 2.120 | 1.678 | 2.088 | 2.169 | 1.616 | 2.197 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1173.5 | 57228. | 18904. |
| Stddev | .6 | 55. | 18. |
| %RSD | .04699 | .09652 | .09736 |
| #1 | 1173.2 | 57267. | 18917. |
| #2 | 1173.9 | 57189. | 18891. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/12/2013 18:20:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4968 | 15.71 | 2.984 | 2.941 | 2.954 | 3.058 | 2.922 | 17.69 | 2.904 | 2.918 |
| Stddev | .0030 | .02 | .009 | .007 | .003 | .002 | .005 | .04 | .002 | .001 |
| %RSD | .6102 | .1000 | .2849 | .2459 | .1038 | .0651 | .1890 | .2403 | .0719 | .0317 |
| #1 | .4947 | 15.72 | 2.990 | 2.936 | 2.956 | 3.059 | 2.926 | 17.72 | 2.902 | 2.917 |
| #2 | .4989 | 15.70 | 2.978 | 2.946 | 2.952 | 3.057 | 2.919 | 17.66 | 2.905 | 2.919 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.060 | 2.885 | 17.96 | 15.14 | 18.06 | 2.981 | 2.821 | 15.18 | 2.823 | 2.875 |
| Stddev | .004 | .008 | .03 | .00 | .04 | .002 | .004 | .01 | .001 | .001 |
| %RSD | .1249 | .2805 | .1741 | .0147 | .2360 | .0699 | .1586 | .0329 | .0407 | .0229 |
| #1 | 3.057 | 2.891 | 17.98 | 15.14 | 18.09 | 2.979 | 2.818 | 15.19 | 2.823 | 2.875 |
| #2 | 3.063 | 2.879 | 17.94 | 15.14 | 18.03 | 2.982 | 2.824 | 15.18 | 2.822 | 2.876 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.016 | 2.971 | 2.961 | 2.925 | 2.923 | 2.981 | 3.126 | 3.004 | 2.987 | 2.935 |
| Stddev | .001 | .007 | .007 | .004 | .001 | .003 | .003 | .012 | .000 | .001 |
| %RSD | .0332 | .2540 | .2232 | .1353 | .0231 | .0974 | .0953 | .3865 | .0135 | .0155 |
| #1 | 3.017 | 2.976 | 2.957 | 2.928 | 2.922 | 2.983 | 3.124 | 3.012 | 2.987 | 2.935 |
| #2 | 3.016 | 2.966 | 2.966 | 2.922 | 2.923 | 2.979 | 3.128 | 2.996 | 2.987 | 2.936 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.939 | 3.012 | 2.850 | 3.087 |
| Stddev | .003 | .005 | .005 | .001 |
| %RSD | .1140 | .1768 | .1796 | .0367 |
| #1 | 2.941 | 3.008 | 2.847 | 3.086 |
| #2 | 2.936 | 3.016 | 2.854 | 3.087 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1159.8 | 57170. | 19026. |
| Stddev | .6 | 63. | 64. |
| %RSD | .05549 | .10947 | .33415 |
| #1 | 1159.3 | 57214. | 18981. |
| #2 | 1160.2 | 57126. | 19071. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 12/12/2013 18:27:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0016 | .0015 | .0007 | .0024 | .0000 | .0001 | .0015 | .0002 | .0003 |
| Stddev | .0000 | .0044 | .0000 | .0002 | .0006 | .000 | .0000 | .0011 | .0002 | .0001 |
| %RSD | 2.552 | 266.7 | .3248 | 23.85 | 25.88 | 2335. | 36.44 | 72.98 | 81.66 | 46.81 |
| #1 | .0001 | .0015 | .0015 | .0008 | .0028 | .0001 | .0001 | .0023 | .0004 | .0002 |
| #2 | .0001 | -.0047 | .0015 | .0006 | .0020 | -.0001 | .0001 | .0007 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0002 | .0015 | .0145 | .0098 | .0002 | .0025 | -.0118 | .0004 | -.0003 |
| Stddev | .0001 | .0000 | .0004 | .0081 | .0245 | .0000 | .0005 | .0019 | .0001 | .0000 |
| %RSD | 31.81 | 10.52 | 28.59 | 56.23 | 250.5 | 17.66 | 18.59 | 16.08 | 19.57 | 9.247 |
| #1 | -.0003 | .0002 | .0018 | .0087 | .0271 | .0002 | .0028 | -.0105 | .0003 | -.0002 |
| #2 | -.0004 | .0002 | .0012 | .0202 | -.0075 | .0002 | .0022 | -.0132 | .0004 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0035 | .0002 | .0001 | -.0007 | .0005 | .0010 | .0001 | .0006 | .0005 |
| Stddev | .0006 | .0048 | .0008 | .0001 | .0001 | .0005 | .0002 | .0000 | .0003 | .0006 |
| %RSD | 67.56 | 134.9 | 346.8 | 64.40 | 14.53 | 93.98 | 23.51 | 3.289 | 50.20 | 121.0 |
| #1 | .0005 | .0002 | -.0003 | .0001 | -.0007 | .0009 | .0012 | .0001 | .0008 | .0009 |
| #2 | .0013 | .0069 | .0008 | .0002 | -.0006 | .0002 | .0008 | .0001 | .0004 | .0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0138 | .0004 | .0009 |
| Stddev | .0001 | .0034 | .0002 | .0001 |
| %RSD | 9.681 | 24.32 | 46.01 | 6.373 |
| #1 | .0007 | .0114 | .0005 | .0008 |
| #2 | .0006 | .0162 | .0002 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.9 | 57829. | 18810. |
| Stddev | 1.0 | 21. | 4. |
| %RSD | .08428 | .03600 | .02332 |
| #1 | 1168.6 | 57814. | 18813. |
| #2 | 1167.2 | 57843. | 18807. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 18:32:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2489 | 10.01 | 1.959 | -.0038 | 1.954 | 1.994 | 1.986 | 10.04 | 1.968 | 2.043 |
| Stddev | .0010 | .01 | .004 | .0004 | .004 | .003 | .001 | .02 | .001 | .002 |
| %RSD | .4057 | .1299 | .1813 | 10.11 | .1898 | .1418 | .0371 | .1737 | .0593 | .1022 |
| #1 | .2496 | 10.01 | 1.961 | -.0035 | 1.951 | 1.996 | 1.985 | 10.03 | 1.967 | 2.041 |
| #2 | .2482 | 9.997 | 1.956 | -.0041 | 1.956 | 1.992 | 1.986 | 10.05 | 1.969 | 2.044 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.004 | 1.954 | 10.14 | 10.01 | 9.931 | 2.000 | 1.963 | 10.05 | 1.947 | 1.952 |
| Stddev | .007 | .001 | .01 | .01 | .028 | .006 | .004 | .02 | .001 | .000 |
| %RSD | .3485 | .0590 | .0532 | .0777 | .2842 | .3230 | .2172 | .2142 | .0732 | .0120 |
| #1 | 2.009 | 1.955 | 10.14 | 10.00 | 9.951 | 2.004 | 1.960 | 10.07 | 1.946 | 1.952 |
| #2 | 1.999 | 1.953 | 10.13 | 10.01 | 9.911 | 1.995 | 1.966 | 10.04 | 1.948 | 1.952 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0123 | -.0036 | 1.972 | 1.949 | .0118 | 1.991 | 2.044 | 1.976 | 1.971 |
| Stddev | .0009 | .0013 | .0011 | .003 | .008 | .0016 | .007 | .025 | .006 | .006 |
| %RSD | 301.3 | 10.61 | 31.22 | .1377 | .3997 | 13.36 | .3439 | 1.220 | .3282 | .3278 |
| #1 | .0009 | .0132 | -.0028 | 1.970 | 1.944 | .0107 | 1.986 | 2.027 | 1.981 | 1.966 |
| #2 | -.0003 | .0114 | -.0044 | 1.974 | 1.955 | .0129 | 1.996 | 2.062 | 1.971 | 1.976 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.975 | .0294 | 1.947 | .0101 |
| Stddev | .005 | .0066 | .001 | .0021 |
| %RSD | .2478 | 22.45 | .0291 | 20.95 |
| #1 | 1.979 | .0340 | 1.947 | .0116 |
| #2 | 1.972 | .0247 | 1.948 | .0086 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.8 | 57389. | 18839. |
| Stddev | 1.9 | 187. | 59. |
| %RSD | .16264 | .32600 | .31551 |
| #1 | 1169.1 | 57257. | 18881. |
| #2 | 1166.4 | 57521. | 18797. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 18:43:54 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0008 | .0006 | -.0010 | .0014 | -.0001 | .0000 | .0012 | -.0001 | .0001 |
| Stddev | .000 | .0018 | .0001 | .0002 | .0002 | .0001 | .0000 | .0007 | .0000 | .0001 |
| %RSD | 821.8 | 228.0 | 22.36 | 20.65 | 15.58 | 80.87 | 49.45 | 61.56 | 11.19 | 95.36 |
| #1 | .0002 | -.0005 | .0007 | -.0011 | .0016 | -.0001 | .0000 | .0017 | -.0001 | .0000 |
| #2 | -.0003 | .0020 | .0005 | -.0008 | .0013 | .0000 | .0001 | .0007 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | .0009 | .0131 | .0063 | .0001 | .0009 | -.0148 | .0002 | -.0001 |
| Stddev | .0002 | .0000 | .0004 | .0287 | .0151 | .0001 | .0001 | .0025 | .0001 | .0003 |
| %RSD | 70.07 | 36.50 | 45.45 | 218.2 | 237.9 | 44.60 | 16.84 | 16.63 | 52.68 | 281.0 |
| #1 | .0001 | -.0001 | .0011 | -.0071 | .0170 | .0001 | .0010 | -.0165 | .0003 | -.0003 |
| #2 | .0004 | -.0001 | .0006 | .0334 | -.0043 | .0001 | .0008 | -.0130 | .0001 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0035 | -.0002 | -.0003 | .0005 | -.0007 | .0004 | .0001 | .0000 | .0009 |
| Stddev | .0003 | .0006 | .0010 | .0004 | .0001 | .0001 | .0003 | .0000 | .0001 | .0005 |
| %RSD | 133.7 | 16.18 | 414.1 | 138.0 | 16.86 | 8.289 | 75.92 | 25.84 | 990.6 | 60.57 |
| #1 | .0000 | .0031 | .0005 | -.0005 | .0005 | -.0007 | .0005 | .0000 | .0001 | .0005 |
| #2 | -.0004 | .0039 | -.0009 | .0000 | .0006 | -.0006 | .0002 | .0001 | -.0001 | .0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0026 | .0001 | .0001 |
| Stddev | .0000 | .0051 | .0001 | .0000 |
| %RSD | 26.86 | 196.7 | 165.3 | 7.240 |
| #1 | -.0001 | .0062 | .0000 | .0001 |
| #2 | -.0002 | -.0010 | .0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.0 | 57745. | 18825. |
| Stddev | .3 | 10. | 49. |
| %RSD | .02195 | .01651 | .26087 |
| #1 | 1164.8 | 57738. | 18790. |
| #2 | 1165.1 | 57751. | 18860. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/12/2013 18:51:01 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .2055 | F.0056 | .0001 | .0997 | .0500 | .0041 | 4.952 | .0040 |
| Stddev | .0005 | .0060 | .0001 | .0013 | .0002 | .0001 | .0000 | .009 | .0000 |
| %RSD | 8.936 | 2.904 | 1.377 | 880.3 | .2141 | .1284 | .1955 | .1809 | .2038 |
| #1 | .0054 | .2097 | .0055 | -.0007 | .0996 | .0501 | .0041 | 4.958 | .0040 |
| #2 | .0048 | .2013 | .0056 | .0010 | .0999 | .0500 | .0041 | 4.946 | .0040 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0510 | .0099 | .0235 | .1036 | 4.986 | 4.920 | .0154 | .0995 | 5.028 |
| Stddev | .0004 | .0000 | .0000 | .0007 | .004 | .040 | .0001 | .0003 | .004 |
| %RSD | .8213 | .2015 | .0842 | .7218 | .0783 | .8162 | .6926 | .2893 | .0847 |
| #1 | .0507 | .0099 | .0235 | .1030 | 4.989 | 4.948 | .0155 | .0993 | 5.025 |
| #2 | .0513 | .0098 | .0236 | .1041 | 4.983 | 4.891 | .0153 | .0997 | 5.031 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0399 | .0045 | -.0001 | -.0020 | -.0002 | .0072 | .0087 | .0177 | .0989 |
| Stddev | .0001 | .0004 | .0015 | .0020 | .0007 | .0004 | .0001 | .0001 | .0006 |
| %RSD | .3015 | 8.761 | 1051. | 102.7 | 354.9 | 5.394 | 1.184 | .7929 | .6259 |
| #1 | .0398 | .0048 | -.0012 | -.0034 | -.0007 | .0075 | .0088 | .0176 | .0985 |
| #2 | .0400 | .0042 | .0009 | -.0005 | .0003 | .0069 | .0086 | .0178 | .0994 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0502 | .0038 | .0101 | .0033 | .0202 | .0001 |
| Stddev | .0000 | .0000 | .0009 | .0003 | .0030 | .0004 | .0003 |
| %RSD | .2039 | .0100 | 23.79 | 2.756 | 89.45 | 1.828 | 288.8 |
| #1 | .0103 | .0502 | .0044 | .0099 | .0054 | .0204 | .0003 |
| #2 | .0102 | .0502 | .0031 | .0103 | .0012 | .0199 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1169.1 | 57772. | 18760. |
| Stddev | .6 | 71. | 10. |
| %RSD | .04865 | .12302 | .05561 |
| #1 | 1169.5 | 57722. | 18752. |
| #2 | 1168.7 | 57822. | 18767. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/12/2013 18:55:54 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | 528.5 | .0004 | -.0022 | .0071 | -.0003 | .0001 | 450.3 | .0000 | -.0009 |
| Stddev | .0003 | 2.7 | .0012 | .0005 | .0005 | .0000 | .0000 | .9 | .0000 | .0002 |
| %RSD | 108.3 | .5064 | 339.6 | 24.02 | 6.473 | 6.776 | 24.18 | .2048 | 116.7 | 19.01 |
| #1 | -.0005 | 526.6 | .0012 | -.0026 | .0075 | -.0003 | .0001 | 449.7 | .0001 | -.0010 |
| #2 | -.0001 | 530.3 | -.0005 | -.0018 | .0068 | -.0003 | .0001 | 451.0 | .0000 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0014 | 179.2 | -.0544 | 519.3 | .0004 | -.0009 | .0438 | .0002 | .0009 |
| Stddev | .0000 | .0001 | .2 | .0069 | .1 | .0002 | .0001 | .0044 | .0000 | .0001 |
| %RSD | .9583 | 8.493 | .1312 | 12.72 | .0275 | 62.15 | 6.505 | 10.06 | 2.823 | 10.47 |
| #1 | -.0008 | .0013 | 179.4 | -.0593 | 519.4 | .0005 | -.0010 | .0407 | .0002 | .0010 |
| #2 | -.0008 | .0014 | 179.0 | -.0495 | 519.2 | .0002 | -.0009 | .0469 | .0002 | .0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0232 | -.0281 | .0853 | .0015 | -.0018 | 5.660 | -.0002 | -.0084 | .0050 | -.0015 |
| Stddev | .0004 | .0028 | .0018 | .0005 | .0041 | .031 | .0018 | .0000 | .0001 | .0004 |
| %RSD | 1.750 | 9.807 | 2.160 | 31.72 | 233.4 | .5546 | 1007. | .2064 | 1.111 | 26.44 |
| #1 | -.0229 | -.0261 | .0866 | .0019 | .0011 | 5.682 | .0011 | -.0084 | .0049 | -.0012 |
| #2 | -.0234 | -.0300 | .0840 | .0012 | -.0047 | 5.637 | -.0014 | -.0084 | .0050 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | -.0123 | .0011 | -.0241 |
| Stddev | .0000 | .0089 | .0005 | .0001 |
| %RSD | 3.397 | 72.35 | 42.74 | .6140 |
| #1 | -.0001 | -.0060 | .0008 | -.0242 |
| #2 | -.0001 | -.0185 | .0015 | -.0240 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.1 | 53577. | 18430. |
| Stddev | 5.0 | 120. | . |
| %RSD | .46075 | .22322 | .00045 |
| #1 | 1081.5 | 53662. | 18430. |
| #2 | 1088.6 | 53493. | 18430. |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/12/2013 19:00:57 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.061 | 522.4 | 2.054 | .4990 | .9615 | .4963 | .4554 | 448.8 | .9782 | .4633 |
| Stddev | .006 | 3.3 | .000 | .0014 | .0003 | .0013 | .0005 | 1.1 | .0013 | .0009 |
| %RSD | .6068 | .6328 | .0063 | .2710 | .0316 | .2548 | .1144 | .2430 | .1358 | .1885 |
| #1 | 1.057 | 524.7 | 2.054 | .4981 | .9618 | .4971 | .4558 | 448.0 | .9772 | .4626 |
| #2 | 1.066 | 520.0 | 2.054 | .5000 | .9613 | .4954 | .4550 | 449.6 | .9791 | .4639 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4841 | .5209 | 179.3 | -.0067 | 516.8 | .4830 | .9450 | .0628 | .8462 | .8923 |
| Stddev | .0008 | .0000 | .3 | .0085 | .1 | .0002 | .0022 | .0039 | .0026 | .0018 |
| %RSD | .1751 | .0024 | .1544 | 126.0 | .0203 | .0390 | .2297 | 6.152 | .3071 | .2035 |
| #1 | .4835 | .5210 | 179.1 | -.0007 | 516.9 | .4829 | .9435 | .0601 | .8444 | .8936 |
| #2 | .4847 | .5209 | 179.5 | -.0127 | 516.7 | .4832 | .9465 | .0655 | .8481 | .8911 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5294 | .4823 | .4880 | 1.988 | 1.899 | 4.466 | .9589 | .9679 | .5038 | 1.835 |
| Stddev | .0017 | .0032 | .0044 | .005 | .003 | .001 | .0000 | .0010 | .0018 | .005 |
| %RSD | .3177 | .6647 | .8975 | .2575 | .1657 | .0308 | .0035 | .1033 | .3514 | .2607 |
| #1 | .5305 | .4846 | .4849 | 1.985 | 1.901 | 4.467 | .9589 | .9686 | .5050 | 1.832 |
| #2 | .5282 | .4801 | .4911 | 1.992 | 1.897 | 4.465 | .9589 | .9672 | .5025 | 1.839 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4980 | 2.070 | .8639 | .3962 |
| Stddev | .0014 | .005 | .0012 | .0033 |
| %RSD | .2875 | .2620 | .1438 | .8300 |
| #1 | .4990 | 2.066 | .8630 | .3939 |
| #2 | .4969 | 2.074 | .8648 | .3986 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1089.4 | 53441. | 18532. |
| Stddev | .2 | 167. | 79. |
| %RSD | .02028 | .31301 | .42723 |
| #1 | 1089.6 | 53559. | 18588. |
| #2 | 1089.3 | 53323. | 18476. |



Zoom In Zoom Out

Sample Name: MP22168A-S1 Acquired: 12/12/2013 19:05:48 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2067 | 2.234 | .5547 | .0040 | .0644 | 2.039 | .5136 | 54.59 | .5140 | .5095 |
| Stddev | .0014 | .064 | .0023 | .0001 | .0033 | .002 | .0038 | .17 | .0036 | .0022 |
| %RSD | .6824 | 2.861 | .4133 | 3.342 | 5.163 | .0982 | .7475 | .3175 | .7051 | .4231 |
| #1 | .2057 | 2.189 | .5563 | .0039 | .0620 | 2.041 | .5164 | 54.71 | .5114 | .5080 |
| #2 | .2077 | 2.279 | .5531 | .0041 | .0667 | 2.038 | .5109 | 54.47 | .5166 | .5111 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5360 | .4860 | 2.770 | 32.03 | 29.76 | 2.435 | .0094 | 72.43 | .4900 | .9569 |
| Stddev | .0001 | .0007 | .005 | .32 | .01 | .001 | .0015 | .07 | .0038 | .0047 |
| %RSD | .0223 | .1484 | .1999 | 1.013 | .0451 | .0264 | 16.17 | .0986 | .7722 | .4923 |
| #1 | .5359 | .4865 | 2.774 | 32.26 | 29.77 | 2.435 | .0105 | 72.48 | .4873 | .9536 |
| #2 | .5360 | .4855 | 2.766 | 31.80 | 29.75 | 2.434 | .0083 | 72.38 | .4927 | .9603 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0175 | 22.42 | .5128 | .5122 | 6.148 | .0029 | .8409 | .5103 | .5243 |
| Stddev | .0057 | .0117 | .11 | .0019 | .0020 | .043 | .0022 | .0015 | .0030 | .0072 |
| %RSD | 925.3 | 66.66 | .5067 | .3664 | .3970 | .6927 | 75.20 | .1799 | .5823 | 1.375 |
| #1 | -.0034 | .0258 | 22.34 | .5115 | .5107 | 6.118 | .0014 | .8419 | .5124 | .5192 |
| #2 | .0046 | .0093 | 22.50 | .5141 | .5136 | 6.179 | .0045 | .8398 | .5082 | .5294 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5375 | .0555 | .5341 | .0880 |
| Stddev | .0067 | .0109 | .0061 | .0053 |
| %RSD | 1.250 | 19.61 | 1.139 | 5.971 |
| #1 | .5327 | .0632 | .5298 | .0917 |
| #2 | .5422 | .0478 | .5384 | .0843 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1187.0 | 57529. | 18945. |
| Stddev | 2.7 | 114. | 10. |
| %RSD | .22628 | .19803 | .05479 |
| #1 | 1188.9 | 57610. | 18938. |
| #2 | 1185.1 | 57449. | 18952. |



Zoom In Zoom Out

Sample Name: MP22168A-S2 Acquired: 12/12/2013 19:10:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2116 | 2.181 | .5658 | -.0015 | .0608 | 2.076 | .5205 | 54.93 | .5252 | .5234 |
| Stddev | .0015 | .009 | .0056 | .0043 | .0020 | .006 | .0031 | .01 | .0020 | .0039 |
| %RSD | .7157 | .4177 | .9935 | 283.3 | 3.268 | .2720 | .5933 | .0206 | .3839 | .7457 |
| #1 | .2127 | 2.174 | .5618 | .0015 | .0593 | 2.072 | .5183 | 54.93 | .5238 | .5206 |
| #2 | .2105 | 2.187 | .5697 | -.0045 | .0622 | 2.080 | .5227 | 54.94 | .5267 | .5261 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5419 | .4968 | 2.714 | 32.52 | 29.72 | 2.466 | .0039 | 73.80 | .5034 | .9751 |
| Stddev | .0013 | .0031 | .019 | .07 | .13 | .003 | .0003 | .15 | .0012 | .0012 |
| %RSD | .2425 | .6181 | .6881 | .2100 | .4437 | .1214 | 8.225 | .2082 | .2399 | .1244 |
| #1 | .5410 | .4989 | 2.701 | 32.57 | 29.81 | 2.468 | .0037 | 73.69 | .5026 | .9742 |
| #2 | .5428 | .4946 | 2.728 | 32.48 | 29.63 | 2.463 | .0042 | 73.91 | .5043 | .9759 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0187 | 22.86 | .5207 | .5294 | 6.255 | .0006 | .8601 | .5213 | .5294 |
| Stddev | .0027 | .0213 | .00 | .0036 | .0039 | .041 | .0000 | .0026 | .0041 | .0031 |
| %RSD | 804.9 | 113.9 | .0011 | .6941 | .7299 | .6617 | .0467 | .2981 | .7795 | .5824 |
| #1 | .0016 | .0036 | 22.86 | .5233 | .5267 | 6.226 | .0006 | .8582 | .5185 | .5316 |
| #2 | -.0022 | .0338 | 22.86 | .5182 | .5321 | 6.284 | .0006 | .8619 | .5242 | .5272 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5438 | .0216 | .5385 | .0042 |
| Stddev | .0016 | .0332 | .0060 | .0003 |
| %RSD | .3031 | 153.3 | 1.120 | 6.202 |
| #1 | .5426 | .0451 | .5342 | .0040 |
| #2 | .5450 | -.0018 | .5427 | .0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1182.8 | 57765. | 19042. |
| Stddev | .3 | 23. | 22. |
| %RSD | .02204 | .04063 | .11615 |
| #1 | 1182.6 | 57749. | 19026. |
| #2 | 1183.0 | 57782. | 19058. |



Zoom In Zoom Out

Sample Name: MC26418-1F Acquired: 12/12/2013 19:15:25 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0422 | .0081 | -.0003 | .0540 | .0838 | .0002 | 28.27 | -.0002 | .0019 |
| Stddev | .0003 | .0202 | .0002 | .0004 | .0005 | .0008 | .0001 | .02 | .0002 | .0003 |
| %RSD | 34.59 | 47.99 | 2.486 | 156.1 | .9136 | .9261 | 37.51 | .0872 | 145.9 | 15.75 |
| #1 | -.0006 | .0279 | .0082 | .0000 | .0543 | .0843 | .0002 | 28.25 | .0000 | .0021 |
| #2 | -.0010 | .0565 | .0079 | -.0006 | .0536 | .0832 | .0001 | 28.29 | -.0003 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0009 | .6470 | 5.797 | 3.860 | 1.859 | .0011 | 45.65 | .0051 | -.0003 |
| Stddev | .0008 | .0003 | .0058 | .067 | .020 | .002 | .0002 | .08 | .0003 | .0004 |
| %RSD | 225.2 | 34.50 | .8936 | 1.160 | .5249 | .0895 | 19.05 | .1664 | 5.523 | 143.3 |
| #1 | .0002 | .0012 | .6511 | 5.750 | 3.846 | 1.858 | .0013 | 45.70 | .0053 | -.0005 |
| #2 | -.0009 | .0007 | .6429 | 5.845 | 3.874 | 1.860 | .0010 | 45.59 | .0049 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0193 | 22.04 | -.0009 | -.0043 | 5.933 | .0004 | .3282 | .0014 | .0059 |
| Stddev | .0009 | .0105 | .06 | .0028 | .0018 | .016 | .0011 | .0002 | .0006 | .0008 |
| %RSD | 107.9 | 54.15 | .2820 | 325.3 | 41.48 | .2658 | 257.7 | .0690 | 40.85 | 13.14 |
| #1 | -.0002 | .0267 | 21.99 | -.0028 | -.0055 | 5.922 | .0012 | .3283 | .0017 | .0054 |
| #2 | -.0014 | .0119 | 22.08 | .0011 | -.0030 | 5.944 | -.0004 | .3280 | .0010 | .0065 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | -.0162 | .0100 | -.0291 |
| Stddev | .0001 | .0188 | .0004 | .0004 |
| %RSD | 7.042 | 116.0 | 4.410 | 1.300 |
| #1 | .0015 | -.0295 | .0096 | -.0294 |
| #2 | .0013 | -.0029 | .0103 | -.0288 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1175.9 | 57706. | 18935. |
| Stddev | 2.3 | 40. | 61. |
| %RSD | .19385 | .06969 | .32300 |
| #1 | 1177.5 | 57735. | 18978. |
| #2 | 1174.3 | 57678. | 18891. |

Zoom In Zoom Out

Sample Name: MP22168A-SD1 Acquired: 12/12/2013 19:20:18 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 15.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .1215 | .0298 | .0030 | .0607 | .0846 | .0010 | 29.64 | .0003 | .0049 |
| Stddev | .0026 | .0226 | .0055 | .0168 | .0033 | .0003 | .0007 | .06 | .0014 | .0022 |
| %RSD | 84.36 | 18.59 | 18.51 | 569.6 | 5.427 | .3178 | 68.14 | .2059 | 482.3 | 45.24 |
| #1 | -.0013 | .1374 | .0337 | .0149 | .0584 | .0844 | .0005 | 29.60 | .0012 | .0034 |
| #2 | -.0050 | .1055 | .0259 | -.0090 | .0631 | .0848 | .0015 | 29.69 | -.0007 | .0065 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0038 | .0044 | .7143 | 6.011 | 4.063 | 1.903 | .0031 | 46.92 | .0085 | -.0077 |
| Stddev | .0018 | .0029 | .0137 | .153 | .304 | .012 | .0023 | .10 | .0014 | .0033 |
| %RSD | 45.83 | 66.08 | 1.913 | 2.546 | 7.493 | .6089 | 74.88 | .2075 | 16.71 | 42.99 |
| #1 | .0051 | .0023 | .7047 | 5.903 | 3.848 | 1.911 | .0048 | 46.86 | .0075 | -.0101 |
| #2 | .0026 | .0064 | .7240 | 6.120 | 4.279 | 1.895 | .0015 | 46.99 | .0095 | -.0054 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0125 | 22.36 | .0023 | -.0116 | 6.018 | .0025 | .3379 | .0019 | .0249 |
| Stddev | .0129 | .0054 | .13 | .0117 | .0019 | .027 | .0079 | .0027 | .0012 | .0169 |
| %RSD | 900.0 | 43.08 | .5886 | 505.6 | 16.43 | .4512 | 320.7 | .7930 | 62.11 | 67.67 |
| #1 | .0106 | .0087 | 22.26 | .0105 | -.0102 | 5.999 | .0080 | .3360 | .0011 | .0130 |
| #2 | -.0077 | .0163 | 22.45 | -.0059 | -.0129 | 6.037 | -.0031 | .3398 | .0028 | .0369 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0050 | .0390 | .0459 | -.0243 |
| Stddev | .0030 | .0958 | .0044 | .0042 |
| %RSD | 58.98 | 245.4 | 9.520 | 17.14 |
| #1 | .0029 | -.0287 | .0490 | -.0213 |
| #2 | .0071 | .1068 | .0428 | -.0272 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1171.8 | 57946. | 18856. |
| Stddev | 1.0 | 4. | 74. |
| %RSD | .08164 | .00655 | .39342 |
| #1 | 1172.4 | 57948. | 18908. |
| #2 | 1171.1 | 57943. | 18803. |



Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/12/2013 19:25:13 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0032 | .4507 | .0003 | .0445 | .0405 | .0001 | 23.39 | -.0002 | .0070 |
| Stddev | .0001 | .0029 | .0002 | .0005 | .0001 | .0002 | .0001 | .02 | .0005 | .0005 |
| %RSD | 12.30 | 88.78 | .0464 | 163.5 | .1908 | .4641 | 69.37 | .1020 | 237.2 | 7.153 |
| #1 | .0007 | .0012 | .4508 | .0000 | .0445 | .0406 | .0001 | 23.37 | .0002 | .0074 |
| #2 | .0006 | .0053 | .4505 | .0006 | .0444 | .0403 | .0002 | 23.41 | -.0006 | .0067 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0002 | 58.98 | 4.786 | 2.686 | 2.462 | .0003 | 13.99 | .0065 | -.0021 |
| Stddev | .0001 | .0003 | .11 | .016 | .003 | .002 | .0004 | .03 | .0003 | .0035 |
| %RSD | 109.8 | 175.0 | .1806 | .3409 | .1215 | .0699 | 136.3 | .1855 | 4.350 | 166.6 |
| #1 | .0002 | -.0004 | 58.90 | 4.797 | 2.688 | 2.461 | .0006 | 13.97 | .0067 | -.0046 |
| #2 | .0000 | .0000 | 59.05 | 4.774 | 2.683 | 2.464 | .0000 | 14.01 | .0063 | .0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0213 | 11.16 | -.0015 | -.0016 | 9.309 | .0005 | .0942 | .0009 | .0057 |
| Stddev | .0039 | .0104 | .11 | .0012 | .0002 | .000 | .0001 | .0002 | .0011 | .0023 |
| %RSD | 1060. | 48.72 | .9510 | 77.43 | 9.488 | .0003 | 18.10 | .2514 | 114.4 | 40.54 |
| #1 | -.0024 | .0140 | 11.09 | -.0007 | -.0018 | 9.309 | .0006 | .0940 | .0017 | .0073 |
| #2 | .0031 | .0286 | 11.24 | -.0024 | -.0015 | 9.309 | .0004 | .0944 | .0002 | .0041 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0204 | .0103 | -.0497 |
| Stddev | .0001 | .0087 | .0014 | .0006 |
| %RSD | 34.15 | 42.81 | 13.42 | 1.280 |
| #1 | -.0005 | .0266 | .0113 | -.0502 |
| #2 | -.0003 | .0142 | .0093 | -.0493 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.3 | 57903. | 18923. |
| Stddev | 1.0 | 192. | 42. |
| %RSD | .08223 | .33232 | .22248 |
| #1 | 1166.6 | 58039. | 18953. |
| #2 | 1168.0 | 57767. | 18894. |



Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/12/2013 19:30:06 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0184 | .4563 | -.0018 | .0455 | .0410 | .0000 | 24.42 | -.0003 | .0077 |
| Stddev | .0012 | .0108 | .0016 | .0034 | .0002 | .0007 | .0001 | .02 | .0001 | .0003 |
| %RSD | 273.9 | 58.59 | .3557 | 187.3 | .5431 | 1.773 | 294.8 | .0984 | 46.00 | 4.394 |
| #1 | .0013 | .0108 | .4551 | -.0043 | .0453 | .0405 | .0000 | 24.40 | -.0002 | .0075 |
| #2 | -.0004 | .0260 | .4574 | .0006 | .0456 | .0415 | .0001 | 24.44 | -.0004 | .0079 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0005 | 60.40 | 4.882 | 2.673 | 2.483 | .0006 | 14.32 | .0059 | -.0005 |
| Stddev | .0004 | .0000 | .02 | .064 | .061 | .014 | .0004 | .06 | .0001 | .0038 |
| %RSD | 61.32 | 9.324 | .0401 | 1.302 | 2.288 | .5523 | 64.07 | .3959 | 1.497 | 851.1 |
| #1 | -.0010 | .0005 | 60.38 | 4.926 | 2.716 | 2.473 | .0009 | 14.28 | .0060 | .0023 |
| #2 | -.0004 | .0005 | 60.41 | 4.837 | 2.630 | 2.492 | .0003 | 14.36 | .0059 | -.0032 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0055 | .0475 | 11.36 | -.0030 | -.0026 | 9.479 | -.0004 | .0963 | .0019 | .0069 |
| Stddev | .0049 | .0057 | .07 | .0027 | .0012 | .003 | .0003 | .0003 | .0005 | .0030 |
| %RSD | 88.93 | 11.93 | .6142 | 90.70 | 48.78 | .0274 | 72.75 | .3616 | 28.68 | 42.99 |
| #1 | -.0089 | .0435 | 11.31 | -.0049 | -.0034 | 9.481 | -.0005 | .0966 | .0023 | .0048 |
| #2 | -.0020 | .0515 | 11.41 | -.0011 | -.0017 | 9.477 | -.0002 | .0961 | .0015 | .0090 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0018 | .0449 | .0892 | -.0510 |
| Stddev | .0002 | .0252 | .0002 | .0013 |
| %RSD | 9.741 | 56.08 | .2431 | 2.596 |
| #1 | -.0017 | .0271 | .0890 | -.0520 |
| #2 | -.0019 | .0627 | .0893 | -.0501 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1164.1 | 58174. | 18802. |
| Stddev | .7 | 221. | 2. |
| %RSD | .06047 | .37996 | .00895 |
| #1 | 1163.6 | 58330. | 18803. |
| #2 | 1164.6 | 58018. | 18801. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/12/2013 19:34:59 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0074 | .4638 | .0008 | .0451 | .0419 | .0002 | 24.12 | -.0002 | .0074 |
| Stddev | .0005 | .0103 | .0055 | .0006 | .0019 | .0003 | .0000 | .16 | .0003 | .0001 |
| %RSD | 414.6 | 138.4 | 1.188 | 70.14 | 4.323 | .6383 | 8.353 | .6840 | 114.1 | .6862 |
| #1 | -.0002 | .0147 | .4677 | .0012 | .0437 | .0417 | .0002 | 24.23 | -.0004 | .0074 |
| #2 | .0005 | .0002 | .4599 | .0004 | .0464 | .0421 | .0002 | 24.00 | .0000 | .0075 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | 60.82 | 5.029 | 2.804 | 2.494 | -.0004 | 14.39 | .0061 | -.0022 |
| Stddev | .0012 | .0005 | .27 | .168 | .020 | .006 | .0004 | .01 | .0001 | .0019 |
| %RSD | 539.7 | 115.9 | .4488 | 3.337 | .7264 | .2571 | 104.4 | .0572 | 2.157 | 85.84 |
| #1 | .0011 | .0008 | 61.01 | 4.911 | 2.819 | 2.498 | -.0001 | 14.40 | .0060 | -.0035 |
| #2 | -.0006 | .0001 | 60.63 | 5.148 | 2.790 | 2.489 | -.0007 | 14.39 | .0062 | -.0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0221 | 11.38 | -.0008 | -.0012 | 9.573 | .0003 | .0988 | .0006 | .0050 |
| Stddev | .000 | .0157 | .02 | .0013 | .0038 | .003 | .0004 | .0004 | .0020 | .0010 | .0016 |
| %RSD | 238.8 | 71.20 | .1729 | 177.8 | 321.1 | .0327 | 128.4 | 2.052 | 168.9 | 31.14 |
| #1 | -.0001 | .0110 | 11.40 | -.0017 | .0015 | 9.571 | .0000 | .0973 | -.0001 | .0061 |
| #2 | .0000 | .0332 | 11.37 | .0002 | -.0039 | 9.575 | .0006 | .1002 | .0013 | .0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | .0118 | .0301 | -.0518 |
| Stddev | .0008 | .0226 | .0003 | .0015 |
| %RSD | 84.99 | 192.2 | 1.083 | 2.809 |
| #1 | .0004 | -.0042 | .0299 | -.0507 |
| #2 | .0015 | .0277 | .0303 | -.0528 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.1 | 58280. | 18853. |
| Stddev | .2 | 276. | 161. |
| %RSD | .02129 | .47319 | .85380 |
| #1 | 1161.3 | 58085. | 18740. |
| #2 | 1161.0 | 58475. | 18967. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 19:39:52 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2498 | 10.10 | 1.972 | -.0034 | 1.981 | 2.003 | 1.993 | 10.00 | 1.986 | 2.059 |
| Stddev | .0014 | .00 | .006 | .0005 | .007 | .001 | .004 | .01 | .006 | .008 |
| %RSD | .5603 | .0089 | .3146 | 14.40 | .3415 | .0694 | .1996 | .1148 | .2923 | .3880 |
| #1 | .2508 | 10.10 | 1.976 | -.0031 | 1.986 | 2.004 | 1.996 | 10.01 | 1.990 | 2.064 |
| #2 | .2488 | 10.10 | 1.968 | -.0038 | 1.976 | 2.002 | 1.990 | 9.993 | 1.982 | 2.053 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.982 | 1.970 | 10.19 | 10.07 | 9.961 | 1.988 | 1.971 | 10.16 | 1.958 | 1.966 |
| Stddev | .010 | .006 | .02 | .02 | .058 | .009 | .003 | .00 | .007 | .007 |
| %RSD | .5000 | .3296 | .1509 | .1597 | .5804 | .4801 | .1616 | .0207 | .3786 | .3388 |
| #1 | 1.989 | 1.966 | 10.20 | 10.06 | 10.00 | 1.995 | 1.973 | 10.16 | 1.963 | 1.971 |
| #2 | 1.975 | 1.975 | 10.18 | 10.08 | 9.921 | 1.982 | 1.969 | 10.16 | 1.952 | 1.962 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0125 | -.0051 | 1.986 | 1.964 | -.0109 | 2.017 | 2.060 | 1.968 | 1.981 |
| Stddev | .0017 | .0020 | .0003 | .007 | .000 | .0009 | .000 | .018 | .004 | .004 |
| %RSD | 65510. | 16.04 | 6.626 | .3453 | .0224 | 8.478 | .0086 | .8951 | .2026 | .1917 |
| #1 | .0012 | .0111 | -.0048 | 1.991 | 1.964 | -.0116 | 2.017 | 2.047 | 1.971 | 1.979 |
| #2 | -.0012 | .0139 | -.0053 | 1.981 | 1.965 | -.0102 | 2.017 | 2.073 | 1.965 | 1.984 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.960 | .0211 | 1.955 | .0098 |
| Stddev | .008 | .0006 | .006 | .0022 |
| %RSD | .3935 | 2.622 | .2974 | 22.27 |
| #1 | 1.966 | .0207 | 1.959 | .0114 |
| #2 | 1.955 | .0214 | 1.951 | .0083 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1160.5 | 57824. | 18875. |
| Stddev | 3.9 | 288. | 6. |
| %RSD | .33508 | .49864 | .02980 |
| #1 | 1157.8 | 57620. | 18879. |
| #2 | 1163.3 | 58028. | 18871. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 19:44:41 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0009 | -.0005 | .0025 | .0001 | .0002 | .0044 | .0000 | .0001 |
| Stddev | .0002 | .0027 | .0005 | .0010 | .0000 | .0001 | .0000 | .0013 | .0000 | .0000 |
| %RSD | 209.1 | 359.0 | 57.55 | 201.0 | 1.495 | 53.84 | 5.329 | 30.04 | 332.2 | 48.54 |
| #1 | .0000 | .0026 | .0005 | .0002 | .0025 | .0001 | .0002 | .0034 | .0000 | .0001 |
| #2 | .0002 | -.0012 | .0013 | -.0012 | .0025 | .0002 | .0002 | .0053 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0000 | .0023 | .0015 | .0367 | .0003 | .0027 | -.0151 | .0003 | .0002 |
| Stddev | .0003 | .000 | .0017 | .0209 | .0020 | .0000 | .0006 | .0010 | .0001 | .0005 |
| %RSD | 69.50 | 322.2 | 75.08 | 1438. | 5.383 | 4.595 | 23.00 | 6.883 | 35.14 | 211.4 |
| #1 | .0006 | .0000 | .0011 | -.0133 | .0353 | .0002 | .0031 | -.0158 | .0002 | -.0001 |
| #2 | .0002 | .0000 | .0036 | .0162 | .0381 | .0003 | .0022 | -.0143 | .0004 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0046 | -.0002 | .0001 | -.0005 | -.0006 | .0006 | .0002 | .0002 | .0018 |
| Stddev | .0001 | .0001 | .0007 | .0002 | .0001 | .0003 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 21.16 | 1.287 | 373.3 | 220.6 | 27.45 | 51.68 | 66.64 | 2.116 | 50.17 | 28.34 |
| #1 | -.0004 | .0046 | .0003 | -.0001 | -.0006 | -.0004 | .0009 | .0002 | .0003 | .0014 |
| #2 | -.0005 | .0047 | -.0007 | .0002 | -.0004 | -.0008 | .0003 | .0002 | .0001 | .0021 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0002 | .0002 | .0002 |
| Stddev | .0001 | .0008 | .0001 | .0000 |
| %RSD | 47.62 | 402.3 | 65.89 | 29.00 |
| #1 | .0004 | .0004 | .0002 | .0001 |
| #2 | .0002 | -.0008 | .0001 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1163.7 | 57557. | 18737. |
| Stddev | 1.3 | 158. | 118. |
| %RSD | .10839 | .27395 | .63155 |
| #1 | 1162.8 | 57668. | 18821. |
| #2 | 1164.6 | 57445. | 18653. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/12/2013 19:49:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0045 | .4663 | -.0038 | .0493 | .0419 | .0002 | 24.34 | -.0005 | .0081 |
| Stddev | .0009 | .0149 | .0074 | .0063 | .0001 | .0005 | .0002 | .12 | .0003 | .0016 |
| %RSD | 1789. | 326.8 | 1.598 | 165.1 | .2445 | 1.204 | 107.1 | .4779 | 50.34 | 20.13 |
| #1 | .0007 | -.0060 | .4715 | .0006 | .0494 | .0423 | .0003 | 24.42 | -.0007 | .0069 |
| #2 | -.0006 | .0151 | .4610 | -.0082 | .0492 | .0416 | .0000 | 24.26 | -.0003 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0011 | 60.53 | 4.974 | 2.782 | 2.527 | .0035 | 14.46 | .0070 | -.0015 |
| Stddev | .0008 | .0001 | .10 | .016 | .047 | .001 | .0006 | .07 | .0003 | .0008 |
| %RSD | 914.1 | 10.70 | .1663 | .3196 | 1.687 | .0364 | 16.30 | .4766 | 4.554 | 50.13 |
| #1 | -.0006 | -.0010 | 60.60 | 4.962 | 2.815 | 2.526 | .0039 | 14.51 | .0072 | -.0020 |
| #2 | .0005 | -.0012 | 60.45 | 4.985 | 2.749 | 2.528 | .0031 | 14.41 | .0067 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0242 | 11.35 | -.0043 | -.0055 | 9.545 | .0004 | .0967 | -.0008 | .0073 |
| Stddev | .0036 | .0088 | .04 | .0010 | .0002 | .000 | .0024 | .0004 | .0003 | .0031 |
| %RSD | 83.61 | 36.33 | .3328 | 23.23 | 2.859 | .0008 | 553.1 | .4595 | 30.54 | 42.02 |
| #1 | -.0068 | .0180 | 11.33 | -.0050 | -.0056 | 9.545 | -.0013 | .0970 | -.0010 | .0095 |
| #2 | -.0018 | .0305 | 11.38 | -.0036 | -.0053 | 9.545 | .0021 | .0964 | -.0007 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0024 | .0112 | .0202 | -.0521 |
| Stddev | .0001 | .0034 | .0009 | .0000 |
| %RSD | 4.654 | 30.04 | 4.353 | .0871 |
| #1 | .0024 | .0136 | .0196 | -.0520 |
| #2 | .0023 | .0088 | .0208 | -.0521 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.1 | 57846. | 18798. |
| Stddev | 1.3 | 103. | 10. |
| %RSD | .11383 | .17848 | .05505 |
| #1 | 1164.2 | 57919. | 18806. |
| #2 | 1166.1 | 57773. | 18791. |



Zoom In Zoom Out

Sample Name: MC26418-4F Acquired: 12/12/2013 19:54:32 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0403 | .2522 | .0014 | .0602 | .0796 | .0002 | 39.83 | -.0002 | .1059 |
| Stddev | .0013 | .0006 | .0019 | .0011 | .0003 | .0007 | .0001 | .02 | .0001 | .0016 |
| %RSD | 801.5 | 1.474 | .7391 | 78.67 | .4219 | .9162 | 50.19 | .0602 | 51.44 | 1.520 |
| #1 | .0011 | .0399 | .2509 | .0006 | .0604 | .0801 | .0001 | 39.85 | -.0003 | .1048 |
| #2 | -.0008 | .0407 | .2535 | .0021 | .0600 | .0791 | .0002 | 39.82 | -.0001 | .1071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0000 | 18.21 | 8.588 | 2.560 | 2.272 | .0068 | 23.04 | .7026 | .0008 |
| Stddev | .0020 | .0003 | .07 | .089 | .060 | .005 | .0003 | .03 | .0025 | .0003 |
| %RSD | 707.1 | 2340. | .4058 | 1.036 | 2.352 | .2413 | 4.956 | .1172 | .3551 | 39.58 |
| #1 | .0011 | -.0002 | 18.26 | 8.651 | 2.603 | 2.276 | .0065 | 23.06 | .7008 | .0006 |
| #2 | -.0017 | .0002 | 18.16 | 8.525 | 2.518 | 2.269 | .0070 | 23.02 | .7043 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0351 | 36.88 | -.0008 | -.0039 | 11.52 | -.0007 | .3299 | .0011 | .0039 |
| Stddev | .0025 | .0057 | .13 | .0002 | .0025 | .03 | .0011 | .0007 | .0003 | .0015 |
| %RSD | 170.9 | 16.16 | .3427 | 26.67 | 63.93 | .2691 | 153.6 | .2229 | 29.84 | 37.45 |
| #1 | .0003 | .0311 | 36.79 | -.0007 | -.0057 | 11.50 | .0001 | .3305 | .0014 | .0029 |
| #2 | -.0032 | .0392 | 36.97 | -.0010 | -.0021 | 11.54 | -.0015 | .3294 | .0009 | .0050 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | .0069 | .0490 | -.0633 |
| Stddev | .0007 | .0101 | .0009 | .0005 |
| %RSD | 157.0 | 146.2 | 1.875 | .8440 |
| #1 | .0010 | .0141 | .0484 | -.0630 |
| #2 | -.0001 | -.0002 | .0497 | -.0637 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1173.4 | 57714. | 18720. |
| Stddev | 3.6 | 257. | 2. |
| %RSD | .30473 | .44501 | .01308 |
| #1 | 1176.0 | 57532. | 18722. |
| #2 | 1170.9 | 57896. | 18719. |

Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/12/2013 19:59:26 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0116 | 3.392 | .0026 | .0432 | .0324 | .0002 | 25.27 | -.0003 | .0055 |
| Stddev | .001 | .0021 | .022 | .0032 | .0002 | .0005 | .0001 | .60 | .0001 | .0003 |
| %RSD | 1814. | 17.68 | .6586 | 121.9 | .4294 | 1.612 | 42.88 | 2.377 | 43.64 | 6.120 |
| #1 | .0003 | .0102 | 3.377 | .0048 | .0433 | .0320 | .0002 | 24.85 | -.0002 | .0057 |
| #2 | -.0004 | .0131 | 3.408 | .0004 | .0431 | .0327 | .0001 | 25.70 | -.0003 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0004 | 86.71 | 4.431 | 2.146 | 6.544 | -.0002 | 4.152 | .0125 | .0010 |
| Stddev | .0011 | .0001 | 2.08 | .060 | .021 | .127 | .0001 | .085 | .0003 | .0022 |
| %RSD | 147.2 | 26.68 | 2.396 | 1.365 | .9848 | 1.946 | 36.35 | 2.034 | 2.780 | 214.8 |
| #1 | -.0016 | .0004 | 85.24 | 4.388 | 2.160 | 6.454 | -.0003 | 4.092 | .0123 | .0026 |
| #2 | .0000 | .0005 | 88.18 | 4.474 | 2.131 | 6.634 | -.0002 | 4.212 | .0128 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0518 | 1.150 | -.0009 | -.0036 | 8.939 | .0004 | .1355 | .0002 | .0042 |
| Stddev | .0025 | .0173 | .004 | .0012 | .0017 | .032 | .0020 | .0025 | .0010 | .0028 |
| %RSD | 138.7 | 33.43 | .3388 | 139.1 | 45.56 | .3584 | 526.0 | 1.844 | 416.4 | 67.61 |
| #1 | .0000 | .0641 | 1.147 | -.0017 | -.0048 | 8.917 | .0018 | .1337 | .0010 | .0022 |
| #2 | .0036 | .0396 | 1.153 | .0000 | -.0025 | 8.962 | -.0010 | .1373 | -.0005 | .0062 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0007 | .0072 | .0074 | -.0462 |
| Stddev | .0009 | .0167 | .0000 | .0006 |
| %RSD | 121.8 | 231.4 | .5013 | 1.331 |
| #1 | .0001 | -.0046 | .0074 | -.0466 |
| #2 | .0013 | .0191 | .0073 | -.0457 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1174.9 | 57292. | 18476. |
| Stddev | 4.9 | 722. | 471. |
| %RSD | .42124 | 1.2601 | 2.5486 |
| #1 | 1178.4 | 57802. | 18809. |
| #2 | 1171.4 | 56781. | 18143. |



Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/12/2013 20:04:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0371 | 3.497 | -.0029 | .0476 | .0337 | .0006 | 26.15 | -.0001 | .0046 |
| Stddev | .0062 | .0104 | .002 | .0101 | .0038 | .0004 | .0001 | .63 | .0002 | .0011 |
| %RSD | 552.0 | 27.97 | .0469 | 352.2 | 7.983 | 1.255 | 9.444 | 2.414 | 343.2 | 24.91 |
| #1 | .0033 | .0298 | 3.498 | .0043 | .0449 | .0334 | .0006 | 25.70 | .0001 | .0038 |
| #2 | -.0055 | .0444 | 3.495 | -.0100 | .0503 | .0340 | .0007 | 26.60 | -.0002 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0015 | 89.58 | 4.577 | 2.338 | 6.761 | .0013 | 4.127 | .0118 | .0078 |
| Stddev | .0004 | .0029 | 2.00 | .164 | .161 | .011 | .0017 | .088 | .0030 | .0027 |
| %RSD | 26.43 | 192.9 | 2.239 | 3.576 | 6.900 | .1674 | 130.2 | 2.128 | 25.31 | 34.98 |
| #1 | -.0012 | -.0035 | 88.17 | 4.461 | 2.224 | 6.753 | .0025 | 4.065 | .0097 | .0098 |
| #2 | -.0017 | .0005 | 91.00 | 4.692 | 2.452 | 6.769 | .0001 | 4.189 | .0140 | .0059 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0906 | 1.175 | -.0063 | -.0082 | 9.229 | .0005 | .1388 | .0039 | .0077 |
| Stddev | .0087 | .0363 | .021 | .0019 | .0035 | .090 | .0007 | .0035 | .0047 | .0003 |
| %RSD | 410.1 | 40.06 | 1.765 | 29.52 | 43.00 | .9745 | 128.7 | 2.524 | 120.4 | 3.679 |
| #1 | -.0040 | .1163 | 1.160 | -.0050 | -.0057 | 9.165 | .0000 | .1363 | .0072 | .0075 |
| #2 | .0083 | .0649 | 1.190 | -.0077 | -.0107 | 9.292 | .0010 | .1412 | .0006 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0085 | .0108 | -.0462 |
| Stddev | .0017 | .0789 | .0003 | .0020 |
| %RSD | 149.2 | 929.8 | 2.401 | 4.337 |
| #1 | -.0023 | -.0643 | .0106 | -.0476 |
| #2 | .0001 | .0473 | .0110 | -.0448 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1178.3 | 57465. | 18867. |
| Stddev | 2.1 | 23. | 28. |
| %RSD | .17661 | .04062 | .14705 |
| #1 | 1179.8 | 57481. | 18847. |
| #2 | 1176.8 | 57448. | 18886. |



Zoom In Zoom Out

Sample Name: MC26418-6F Acquired: 12/12/2013 20:09:14 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | 1.543 | .0040 | -.0041 | .0230 | .0568 | .0008 | 28.73 | -.0003 | .0184 |
| Stddev | .0004 | .020 | .0017 | .0004 | .0013 | .0003 | .0002 | .47 | .0008 | .0000 |
| %RSD | 81.08 | 1.279 | 41.79 | 10.28 | 5.837 | .5057 | 22.09 | 1.627 | 286.8 | .0820 |
| #1 | .0007 | 1.529 | .0052 | -.0044 | .0220 | .0566 | .0007 | 29.06 | -.0009 | .0184 |
| #2 | .0002 | 1.557 | .0028 | -.0038 | .0239 | .0570 | .0009 | 28.40 | .0003 | .0184 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0013 | 1.444 | 4.078 | 2.997 | .6071 | .0012 | 42.50 | .2907 | -.0021 |
| Stddev | .0016 | .0007 | .033 | .074 | .023 | .0051 | .0008 | .14 | .0006 | .0032 |
| %RSD | 131.1 | 56.08 | 2.309 | 1.811 | .7755 | .8364 | 68.59 | .3234 | .1994 | 148.7 |
| #1 | .0024 | -.0018 | 1.468 | 4.130 | 3.014 | .6035 | .0006 | 42.40 | .2911 | -.0044 |
| #2 | .0001 | -.0008 | 1.421 | 4.026 | 2.981 | .6107 | .0018 | 42.60 | .2902 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0231 | 24.45 | -.0004 | -.0049 | 3.489 | .0005 | .2461 | .0002 | .0036 |
| Stddev | .0046 | .0235 | .05 | .0008 | .0027 | .007 | .0008 | .0026 | .0004 | .0027 |
| %RSD | 604.9 | 101.7 | .2194 | 189.5 | 54.82 | .1992 | 152.3 | 1.077 | 196.5 | 74.71 |
| #1 | -.0040 | .0398 | 24.41 | -.0010 | -.0067 | 3.484 | .0011 | .2480 | .0005 | .0017 |
| #2 | .0025 | .0065 | 24.48 | .0001 | -.0030 | 3.494 | .0000 | .2442 | -.0001 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0031 | .0933 | -.0176 |
| Stddev | .0002 | .0016 | .0007 | .0006 |
| %RSD | 44.30 | 50.48 | .7004 | 3.386 |
| #1 | .0003 | -.0020 | .0928 | -.0171 |
| #2 | .0007 | -.0042 | .0938 | -.0180 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1178.6 | 57435. | 18935. |
| Stddev | 2.0 | 100. | 125. |
| %RSD | .17100 | .17381 | .66198 |
| #1 | 1180.0 | 57365. | 18846. |
| #2 | 1177.2 | 57506. | 19024. |



Zoom In Zoom Out

Sample Name: MC26418-8F Acquired: 12/12/2013 20:14:09 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0224 | .0068 | -.0004 | .0174 | .0210 | .0001 | 18.38 | -.0008 | .0042 |
| Stddev | .0001 | .0034 | .0117 | .0036 | .0010 | .0000 | .0002 | .18 | .0003 | .0008 |
| %RSD | 5.209 | 15.31 | 173.0 | 814.6 | 5.667 | .1081 | 329.8 | 1.002 | 40.63 | 18.78 |
| #1 | .0010 | .0200 | -.0015 | -.0030 | .0181 | .0210 | -.0001 | 18.25 | -.0006 | .0048 |
| #2 | .0011 | .0248 | .0151 | .0021 | .0167 | .0210 | .0002 | 18.51 | -.0010 | .0036 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0043 | .0775 | 2.309 | 2.582 | .0251 | .0019 | 41.96 | .1888 | -.0008 |
| Stddev | .0021 | .0011 | .0026 | .036 | .091 | .0002 | .0008 | .04 | .0022 | .0028 |
| %RSD | 161.2 | 26.64 | 3.323 | 1.543 | 3.512 | .9124 | 41.73 | .0934 | 1.147 | 337.8 |
| #1 | .0028 | .0051 | .0757 | 2.334 | 2.517 | .0252 | .0013 | 41.99 | .1873 | -.0028 |
| #2 | -.0002 | .0035 | .0793 | 2.283 | 2.646 | .0249 | .0025 | 41.93 | .1904 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0087 | 7.699 | .0000 | -.0024 | 2.215 | .0023 | .1370 | .0006 | .0042 |
| Stddev | .0008 | .0025 | .068 | .000 | .0001 | .020 | .0027 | .0006 | .0022 | .0018 |
| %RSD | 108.9 | 29.06 | .8856 | 627.3 | 3.302 | .9036 | 119.5 | .4547 | 359.6 | 42.30 |
| #1 | -.0012 | .0069 | 7.651 | .0001 | -.0023 | 2.201 | .0004 | .1365 | -.0010 | .0029 |
| #2 | -.0002 | .0105 | 7.747 | -.0002 | -.0024 | 2.229 | .0042 | .1374 | .0022 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | -.0041 | .0097 | -.0119 |
| Stddev | .0015 | .0310 | .0011 | .0009 |
| %RSD | 108.1 | 756.9 | 11.31 | 7.213 |
| #1 | .0003 | -.0260 | .0105 | -.0113 |
| #2 | .0025 | .0178 | .0089 | -.0125 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1172.8 | 57629. | 18724. |
| Stddev | .9 | 99. | 108. |
| %RSD | .07736 | .17214 | .57916 |
| #1 | 1172.2 | 57699. | 18800. |
| #2 | 1173.5 | 57559. | 18647. |

Zoom In Zoom Out

Sample Name: MC26418-9F Acquired: 12/12/2013 20:19:02 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0032 | 1.026 | -.0010 | .1261 | .0922 | .0000 | 45.50 | -.0009 | .0142 |
| Stddev | .0007 | .0133 | .004 | .0019 | .0031 | .0008 | .000 | .00 | .0004 | .0013 |
| %RSD | 78.11 | 412.0 | .3838 | 190.6 | 2.476 | .8314 | 326.2 | .0082 | 40.57 | 9.339 |
| #1 | .0004 | .0062 | 1.023 | -.0023 | .1238 | .0917 | .0000 | 45.50 | -.0011 | .0152 |
| #2 | .0013 | -.0126 | 1.029 | .0003 | .1283 | .0928 | -.0001 | 45.50 | -.0006 | .0133 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0003 | 74.57 | 10.97 | 6.811 | .9880 | .0007 | 18.41 | .0147 | -.0054 |
| Stddev | .0011 | .0010 | .12 | .18 | .063 | .0039 | .0004 | .01 | .0004 | .0004 |
| %RSD | 414.2 | 315.4 | .1641 | 1.654 | .9205 | .3938 | 50.14 | .0528 | 2.688 | 8.084 |
| #1 | .0011 | -.0010 | 74.65 | 10.84 | 6.856 | .9908 | .0010 | 18.42 | .0144 | -.0051 |
| #2 | -.0005 | .0004 | 74.48 | 11.10 | 6.767 | .9853 | .0005 | 18.41 | .0150 | -.0057 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0232 | 2.159 | -.0050 | -.0060 | 14.51 | .0028 | .4248 | .0005 | .0085 |
| Stddev | .0019 | .0126 | .019 | .0017 | .0039 | .00 | .0012 | .0007 | .0007 | .0022 |
| %RSD | 1938. | 54.50 | .8891 | 32.98 | 64.44 | .0068 | 42.24 | .1655 | 143.7 | 26.09 |
| #1 | -.0012 | .0321 | 2.145 | -.0038 | -.0088 | 14.51 | .0036 | .4243 | .0000 | .0069 |
| #2 | .0014 | .0142 | 2.172 | -.0062 | -.0033 | 14.51 | .0019 | .4253 | .0010 | .0100 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0025 | .0598 | -.0791 |
| Stddev | .001 | .0025 | .0000 | .0002 |
| %RSD | 6764. | 99.70 | .0364 | .2658 |
| #1 | .0006 | -.0007 | .0598 | -.0792 |
| #2 | -.0006 | -.0042 | .0598 | -.0789 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1171.2 | 57672. | 18834. |
| Stddev | 1.1 | 141. | 2. |
| %RSD | .09363 | .24434 | .01265 |
| #1 | 1170.4 | 57573. | 18836. |
| #2 | 1172.0 | 57772. | 18833. |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/12/2013 20:23:56 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | 6.055 | -.0017 | .0529 | .0365 | .0001 | 48.82 | .0001 | .0209 |
| Stddev | .0013 | .0114 | .007 | .0047 | .0019 | .0007 | .0001 | .27 | .0001 | .0009 |
| %RSD | 2845. | 1858. | .1145 | 272.8 | 3.642 | 1.866 | 158.2 | .5528 | 92.09 | 4.461 |
| #1 | .0010 | -.0075 | 6.060 | -.0050 | .0543 | .0370 | .0002 | 49.01 | .0002 | .0216 |
| #2 | -.0009 | .0087 | 6.050 | .0016 | .0515 | .0361 | .0000 | 48.63 | .0000 | .0203 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0001 | 47.37 | 5.087 | 6.208 | 8.207 | .0026 | 11.12 | .0140 | -.0026 |
| Stddev | .0002 | .0009 | .08 | .050 | .067 | .011 | .0004 | .04 | .0002 | .0036 |
| %RSD | 28.95 | 764.5 | .1775 | .9911 | 1.081 | .1283 | 15.89 | .3375 | 1.267 | 136.6 |
| #1 | -.0005 | -.0007 | 47.31 | 5.123 | 6.255 | 8.199 | .0023 | 11.14 | .0141 | -.0001 |
| #2 | -.0007 | .0005 | 47.42 | 5.051 | 6.160 | 8.214 | .0029 | 11.09 | .0138 | -.0052 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0700 | 3.523 | -.0017 | -.0026 | 8.388 | -.0011 | .3537 | .0018 | .0052 |
| Stddev | .0006 | .0021 | .026 | .0036 | .0037 | .003 | .0014 | .0007 | .0004 | .0040 |
| %RSD | 52.68 | 2.934 | .7512 | 210.5 | 144.2 | .0302 | 128.4 | .1872 | 20.13 | 77.24 |
| #1 | -.0016 | .0714 | 3.504 | .0008 | -.0052 | 8.390 | -.0020 | .3541 | .0021 | .0080 |
| #2 | -.0007 | .0685 | 3.542 | -.0042 | .0000 | 8.386 | -.0001 | .3532 | .0016 | .0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0016 | .0366 | -.0451 |
| Stddev | .0006 | .0048 | .0007 | .0006 |
| %RSD | 107.2 | 292.0 | 1.957 | 1.415 |
| #1 | -.0009 | .0051 | .0371 | -.0446 |
| #2 | -.0001 | -.0018 | .0361 | -.0455 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.1 | 57803. | 18851. |
| Stddev | 1.8 | 117. | 28. |
| %RSD | .15577 | .20322 | .14613 |
| #1 | 1166.3 | 57886. | 18831. |
| #2 | 1163.8 | 57720. | 18870. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/12/2013 20:28:49 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0125 | 1.594 | -.0029 | .2406 | .0559 | -.0001 | 77.58 | .0000 | -.0014 |
| Stddev | .0004 | .0012 | .009 | .0034 | .0006 | .0006 | .0001 | .27 | .0002 | .0002 |
| %RSD | 135.7 | 9.365 | .5761 | 118.0 | .2538 | 1.158 | 102.2 | .3468 | 574.2 | 16.87 |
| #1 | .0006 | -.0117 | 1.587 | -.0053 | .2401 | .0564 | -.0002 | 77.77 | -.0001 | -.0012 |
| #2 | .0000 | -.0134 | 1.600 | -.0005 | .2410 | .0554 | .0000 | 77.39 | .0002 | -.0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0008 | 44.46 | 10.41 | 12.21 | 1.544 | .0005 | 29.43 | .0010 | .0029 |
| Stddev | .0000 | .0002 | .03 | .04 | .04 | .001 | .0003 | .03 | .0000 | .0010 |
| %RSD | 5.280 | 28.20 | .0751 | .4131 | .3525 | .0444 | 54.99 | .0878 | 2.792 | 32.51 |
| #1 | .0002 | .0010 | 44.48 | 10.44 | 12.24 | 1.545 | .0003 | 29.41 | .0010 | .0023 |
| #2 | .0002 | .0007 | 44.43 | 10.38 | 12.18 | 1.544 | .0007 | 29.45 | .0010 | .0036 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | .0202 | .9078 | -.0001 | -.0028 | 16.28 | .0005 | .8695 | .0016 | .0044 |
| Stddev | .0005 | .0100 | .0025 | .0019 | .0019 | .05 | .0009 | .0007 | .0002 | .0012 |
| %RSD | 22.35 | 49.53 | .2736 | 2058. | 68.33 | .3270 | 172.2 | .0827 | 14.97 | 27.25 |
| #1 | -.0028 | .0131 | .9060 | -.0014 | -.0042 | 16.25 | .0012 | .8690 | .0014 | .0052 |
| #2 | -.0020 | .0272 | .9095 | .0012 | -.0015 | 16.32 | -.0001 | .8700 | .0017 | .0035 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0100 | .0092 | -.0897 |
| Stddev | .0006 | .0133 | .0010 | .0002 |
| %RSD | 96.87 | 133.6 | 10.67 | .2015 |
| #1 | .0010 | -.0006 | .0099 | -.0895 |
| #2 | .0002 | -.0194 | .0085 | -.0898 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1154.2 | 57902. | 18844. |
| Stddev | 2.8 | 144. | 58. |
| %RSD | .23911 | .24946 | .30539 |
| #1 | 1156.2 | 58004. | 18804. |
| #2 | 1152.3 | 57799. | 18885. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/12/2013 20:33:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0406 | 1.626 | -.0067 | .2454 | .0560 | -.0001 | 78.76 | -.0003 | -.0027 |
| Stddev | .0046 | .0076 | .012 | .0064 | .0000 | .0012 | .0001 | .12 | .0011 | .0003 |
| %RSD | 587.7 | 18.69 | .7499 | 95.15 | .0046 | 2.108 | 183.6 | .1496 | 429.7 | 10.47 |
| #1 | -.0025 | -.0460 | 1.617 | -.0022 | .2454 | .0551 | -.0002 | 78.67 | -.0011 | -.0025 |
| #2 | .0040 | -.0353 | 1.634 | -.0112 | .2455 | .0568 | .0000 | 78.84 | .0005 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0008 | 45.77 | 10.67 | 12.36 | 1.582 | .0000 | 29.97 | .0039 | -.0077 |
| Stddev | .0011 | .0013 | .24 | .07 | .27 | .003 | .0010 | .11 | .0002 | .0041 |
| %RSD | 205.8 | 158.4 | .5257 | .6641 | 2.208 | .1861 | 4079. | .3558 | 5.868 | 53.08 |
| #1 | -.0014 | -.0001 | 45.60 | 10.62 | 12.56 | 1.580 | -.0007 | 29.90 | .0041 | -.0106 |
| #2 | .0003 | .0017 | 45.94 | 10.72 | 12.17 | 1.584 | .0008 | 30.05 | .0038 | -.0048 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0276 | .9079 | -.0033 | -.0073 | 16.52 | .0010 | .8909 | .0059 | -.0064 |
| Stddev | .0045 | .0082 | .0060 | .0015 | .0004 | .01 | .0058 | .0015 | .0018 | .0010 |
| %RSD | 103.6 | 29.73 | .6580 | 45.81 | 4.949 | .0467 | 571.3 | .1728 | 29.99 | 15.79 |
| #1 | -.0075 | .0334 | .9122 | -.0044 | -.0076 | 16.51 | .0051 | .8898 | .0046 | -.0071 |
| #2 | -.0012 | .0218 | .9037 | -.0022 | -.0071 | 16.52 | -.0031 | .8920 | .0071 | -.0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0021 | -.0045 | .0406 | -.0924 |
| Stddev | .0007 | .0099 | .0001 | .0012 |
| %RSD | 32.82 | 220.0 | .2155 | 1.258 |
| #1 | .0026 | -.0115 | .0405 | -.0933 |
| #2 | .0016 | .0025 | .0406 | -.0916 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1155.8 | 58143. | 18864. |
| Stddev | 1.3 | 55. | 31. |
| %RSD | .11672 | .09403 | .16223 |
| #1 | 1156.7 | 58181. | 18886. |
| #2 | 1154.8 | 58104. | 18843. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 20:38:38 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2492 | 10.14 | 1.985 | -.0026 | 2.015 | 2.003 | 2.013 | 9.993 | 2.000 | 2.096 |
| Stddev | .0015 | .02 | .004 | .0004 | .005 | .001 | .000 | .015 | .002 | .000 |
| %RSD | .6180 | .1520 | .2180 | 17.32 | .2700 | .0235 | .0043 | .1461 | .1116 | .0012 |
| #1 | .2502 | 10.15 | 1.988 | -.0023 | 2.011 | 2.004 | 2.013 | 9.982 | 1.998 | 2.096 |
| #2 | .2481 | 10.13 | 1.982 | -.0029 | 2.019 | 2.003 | 2.013 | 10.00 | 2.001 | 2.096 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.952 | 1.998 | 10.32 | 10.06 | 9.996 | 1.980 | 1.989 | 10.24 | 1.978 | 1.990 |
| Stddev | .007 | .001 | .02 | .02 | .000 | .005 | .003 | .01 | .004 | .009 |
| %RSD | .3389 | .0643 | .2316 | .1666 | .0012 | .2443 | .1236 | .1243 | .1779 | .4494 |
| #1 | 1.948 | 1.998 | 10.33 | 10.08 | 9.996 | 1.976 | 1.987 | 10.25 | 1.976 | 1.983 |
| #2 | 1.957 | 1.997 | 10.30 | 10.05 | 9.996 | 1.983 | 1.991 | 10.23 | 1.981 | 1.996 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0133 | -.0052 | 1.993 | 1.970 | -.0081 | 2.050 | 2.091 | 1.943 | 1.995 |
| Stddev | .0006 | .0042 | .0009 | .004 | .007 | .0014 | .003 | .005 | .005 | .009 |
| %RSD | 244.2 | 31.51 | 17.64 | .1857 | .3389 | 17.81 | .1523 | .2445 | .2505 | .4561 |
| #1 | -.0007 | .0162 | -.0046 | 1.990 | 1.965 | -.0091 | 2.048 | 2.095 | 1.940 | 1.988 |
| #2 | .0002 | .0103 | -.0058 | 1.995 | 1.974 | -.0071 | 2.052 | 2.087 | 1.947 | 2.001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.930 | .0171 | 1.987 | -.0056 |
| Stddev | .002 | .0015 | .000 | .0001 |
| %RSD | .0907 | 8.711 | .0144 | 1.542 |
| #1 | 1.929 | .0182 | 1.988 | -.0055 |
| #2 | 1.931 | .0161 | 1.987 | -.0057 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1152.8 | 58158. | 18883. |
| Stddev | 1.8 | 123. | 11. |
| %RSD | .15975 | .21205 | .05749 |
| #1 | 1154.1 | 58245. | 18891. |
| #2 | 1151.5 | 58071. | 18875. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 20:43:27 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0013 | .0021 | -.0002 | .0022 | .0001 | .0002 | .0016 | .0003 | .0004 |
| Stddev | .0001 | .0017 | .0013 | .0002 | .0000 | .0000 | .0000 | .0005 | .0001 | .0000 |
| %RSD | 29.84 | 128.6 | 64.22 | 81.95 | .2791 | 60.06 | 17.07 | 30.39 | 15.31 | 2.717 |
| #1 | .0002 | -.0025 | .0030 | -.0004 | .0022 | .0000 | .0001 | .0013 | .0003 | .0004 |
| #2 | .0004 | -.0001 | .0011 | -.0001 | .0023 | .0001 | .0002 | .0020 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0017 | .0004 | -.0082 | .0003 | .0026 | -.0125 | .0007 | -.0008 |
| Stddev | .0005 | .0001 | .0003 | .0003 | .0093 | .0000 | .0007 | .0017 | .0002 | .0003 |
| %RSD | 118.8 | 19.19 | 16.12 | 68.48 | 113.1 | 8.945 | 26.60 | 13.86 | 24.38 | 33.81 |
| #1 | .0008 | .0008 | .0015 | .0006 | -.0016 | .0003 | .0031 | -.0112 | .0006 | -.0010 |
| #2 | .0001 | .0006 | .0019 | .0002 | -.0148 | .0003 | .0021 | -.0137 | .0008 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0004 | .0004 | -.0003 | .0007 | .0004 | .0006 | .0002 | .0004 | .0018 |
| Stddev | .0003 | .0034 | .0001 | .0005 | .0005 | .0003 | .0001 | .0000 | .0003 | .0010 |
| %RSD | 121.5 | 798.9 | 24.66 | 191.6 | 71.84 | 59.53 | 20.54 | 20.18 | 80.95 | 53.41 |
| #1 | .0000 | .0029 | .0003 | -.0006 | .0011 | .0006 | .0007 | .0002 | .0006 | .0025 |
| #2 | -.0004 | -.0020 | .0004 | .0001 | .0004 | .0003 | .0005 | .0002 | .0002 | .0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | -.0015 | .0001 | -.0004 |
| Stddev | .0001 | .0059 | .0002 | .0002 |
| %RSD | 193.5 | 399.2 | 202.1 | 50.66 |
| #1 | -.0001 | .0027 | .0000 | -.0005 |
| #2 | .0000 | -.0057 | .0003 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1149.6 | 58199. | 18706. |
| Stddev | 3.2 | 152. | 57. |
| %RSD | .27779 | .26127 | .30542 |
| #1 | 1151.8 | 58091. | 18666. |
| #2 | 1147.3 | 58306. | 18747. |



Zoom In Zoom Out

Sample Name: MC26418-12F Acquired: 12/12/2013 20:48:24 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0111 | .0071 | .0002 | .0641 | .0067 | .0001 | 32.94 | .0000 | -.0001 |
| Stddev | .0000 | .0019 | .0006 | .0007 | .0008 | .0001 | .0001 | .01 | .000 | .0001 |
| %RSD | 4.764 | 16.74 | 8.160 | 368.6 | 1.284 | 1.839 | 101.6 | .0153 | 743.8 | 238.7 |
| #1 | .0009 | .0098 | .0075 | .0006 | .0635 | .0066 | .0002 | 32.94 | .0002 | -.0001 |
| #2 | .0010 | .0125 | .0067 | -.0003 | .0647 | .0068 | .0000 | 32.93 | -.0003 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0056 | 2.565 | 7.688 | 3.095 | .1566 | .0024 | 21.31 | .0027 | -.0007 |
| Stddev | .0002 | .0005 | .007 | .009 | .022 | .0001 | .0001 | .07 | .0002 | .0014 |
| %RSD | 77.74 | 9.465 | .2878 | .1137 | .6988 | .0489 | 3.545 | .3191 | 8.522 | 196.3 |
| #1 | .0001 | .0052 | 2.560 | 7.694 | 3.110 | .1566 | .0024 | 21.36 | .0028 | .0003 |
| #2 | .0004 | .0059 | 2.570 | 7.682 | 3.079 | .1567 | .0023 | 21.26 | .0025 | -.0017 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0013 | 3.412 | -.0022 | -.0011 | 2.267 | -.0003 | .2566 | .0012 | .0034 |
| Stddev | .0010 | .0004 | .009 | .0010 | .0004 | .014 | .0012 | .0010 | .0001 | .0016 |
| %RSD | 43.20 | 29.92 | .2766 | 45.21 | 33.47 | .5981 | 346.2 | .3957 | 6.046 | 47.11 |
| #1 | -.0015 | .0016 | 3.405 | -.0015 | -.0014 | 2.257 | .0005 | .2573 | .0012 | .0045 |
| #2 | -.0029 | .0010 | 3.419 | -.0029 | -.0009 | 2.277 | -.0011 | .2559 | .0011 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | -.0006 | .0170 | -.0129 |
| Stddev | .0006 | .0043 | .0003 | .0003 |
| %RSD | 131.4 | 755.5 | 1.798 | 2.368 |
| #1 | .0009 | -.0036 | .0168 | -.0131 |
| #2 | .0000 | .0025 | .0172 | -.0127 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1142.7 | 58004. | 18954. |
| Stddev | 3.6 | 70. | 40. |
| %RSD | .31128 | .12115 | .20849 |
| #1 | 1145.3 | 58054. | 18982. |
| #2 | 1140.2 | 57955. | 18926. |



Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/12/2013 20:53:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0036 | .0072 | -.0027 | .1660 | .0142 | .0001 | 74.23 | .0000 | .0084 |
| Stddev | .0002 | .0111 | .0007 | .0031 | .0013 | .0002 | .0000 | .39 | .000 | .0002 |
| %RSD | 14.74 | 309.0 | 9.924 | 115.5 | .7678 | 1.078 | 63.59 | .5274 | 500.2 | 2.622 |
| #1 | .0014 | .0115 | .0077 | -.0005 | .1669 | .0143 | .0000 | 73.95 | -.0002 | .0082 |
| #2 | .0011 | -.0043 | .0066 | -.0048 | .1651 | .0140 | .0001 | 74.51 | .0001 | .0086 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0017 | .0512 | 3.040 | 8.677 | 21.06 | .0010 | 22.87 | .0155 | .0035 |
| Stddev | .0012 | .0003 | .0007 | .008 | .050 | .03 | .0003 | .18 | .0007 | .0022 |
| %RSD | 114.4 | 17.46 | 1.434 | .2668 | .5740 | .1479 | 31.14 | .7982 | 4.385 | 61.17 |
| #1 | .0002 | .0019 | .0517 | 3.034 | 8.642 | 21.04 | .0008 | 22.99 | .0159 | .0050 |
| #2 | .0019 | .0014 | .0507 | 3.046 | 8.712 | 21.08 | .0012 | 22.74 | .0150 | .0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .1497 | .8703 | -.0007 | -.0028 | 7.377 | -.0001 | .4481 | .0015 | .0039 |
| Stddev | .0015 | .0048 | .0062 | .0008 | .0010 | .076 | .0022 | .0027 | .0001 | .0002 |
| %RSD | 26.95 | 3.174 | .7172 | 115.1 | 35.15 | 1.037 | 1564. | .5975 | 4.023 | 5.167 |
| #1 | -.0065 | .1530 | .8747 | -.0001 | -.0035 | 7.431 | .0014 | .4500 | .0016 | .0041 |
| #2 | -.0044 | .1463 | .8658 | -.0012 | -.0021 | 7.323 | -.0017 | .4462 | .0015 | .0038 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0014 | -.0030 | .0075 | -.0416 |
| Stddev | .0006 | .0033 | .0002 | .0005 |
| %RSD | 46.29 | 110.4 | 2.720 | 1.261 |
| #1 | -.0019 | -.0007 | .0077 | -.0419 |
| #2 | -.0009 | -.0053 | .0074 | -.0412 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1132.6 | 58593. | 18753. |
| Stddev | 10.4 | 82. | 77. |
| %RSD | .92136 | .14078 | .41161 |
| #1 | 1125.2 | 58535. | 18807. |
| #2 | 1140.0 | 58651. | 18698. |

Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/12/2013 20:58:20 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0041 | .0023 | -.0109 | .1755 | .0147 | .0004 | 77.90 | -.0013 | .0077 |
| Stddev | .0023 | .0285 | .0029 | .0092 | .0029 | .0005 | .0000 | .06 | .0002 | .0003 |
| %RSD | 89.63 | 699.7 | 124.1 | 84.42 | 1.654 | 3.455 | 2.011 | .0767 | 14.47 | 3.710 |
| #1 | .0041 | -.0161 | .0044 | -.0044 | .1776 | .0143 | .0003 | 77.94 | -.0012 | .0075 |
| #2 | .0009 | .0243 | .0003 | -.0175 | .1735 | .0150 | .0004 | 77.85 | -.0015 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0014 | .0513 | 3.005 | 9.109 | 23.25 | .0026 | 23.60 | .0156 | -.0057 |
| Stddev | .0029 | .0005 | .0002 | .075 | .037 | .02 | .0009 | .09 | .0010 | .0046 |
| %RSD | 374.6 | 32.13 | .3407 | 2.483 | .4102 | .1057 | 35.46 | .3970 | 6.507 | 81.40 |
| #1 | -.0028 | .0018 | .0514 | 2.953 | 9.082 | 23.24 | .0033 | 23.66 | .0164 | -.0089 |
| #2 | .0013 | .0011 | .0512 | 3.058 | 9.135 | 23.27 | .0020 | 23.53 | .0149 | -.0024 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1558 | .8906 | .0003 | -.0103 | 7.544 | -.0008 | .4660 | -.0001 | .0009 |
| Stddev | .0015 | .0258 | .0030 | .0058 | .0033 | .021 | .0010 | .0013 | .0014 | .0017 |
| %RSD | 907.0 | 16.58 | .3379 | 1762. | 32.02 | .2845 | 118.7 | .2895 | 1348. | 199.2 |
| #1 | .0009 | .1375 | .8927 | .0044 | -.0126 | 7.560 | -.0001 | .4670 | -.0011 | -.0004 |
| #2 | -.0012 | .1741 | .8884 | -.0038 | -.0080 | 7.529 | -.0015 | .4651 | .0009 | .0021 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0243 | .0148 | -.0419 |
| Stddev | .0023 | .0634 | .0001 | .0024 |
| %RSD | 288.1 | 260.7 | .9185 | 5.755 |
| #1 | .0024 | -.0692 | .0147 | -.0436 |
| #2 | -.0008 | .0205 | .0149 | -.0402 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.1 | 57517. | 18688. |
| Stddev | 4.0 | 86. | 28. |
| %RSD | .34697 | .15020 | .15156 |
| #1 | 1143.2 | 57578. | 18708. |
| #2 | 1148.9 | 57456. | 18668. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/12/2013 21:03:16 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0075 | .1432 | -.0053 | .2760 | .0743 | .0001 | 108.8 | -.0005 | .0130 |
| Stddev | .0010 | .0164 | .0006 | .0060 | .0015 | .0004 | .0001 | .3 | .0002 | .0004 |
| %RSD | 99.42 | 217.8 | .4505 | 113.2 | .5530 | .4843 | 93.37 | .2957 | 32.73 | 2.908 |
| #1 | .0017 | .0041 | .1437 | -.0096 | .2749 | .0741 | .0000 | 109.0 | -.0006 | .0133 |
| #2 | .0003 | -.0193 | .1428 | -.0011 | .2771 | .0746 | .0002 | 108.5 | -.0004 | .0127 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | 11.47 | 6.949 | 15.70 | 10.28 | .0023 | 34.72 | .0172 | .0003 |
| Stddev | .0002 | .0005 | .05 | .091 | .10 | .01 | .0002 | .06 | .0015 | .0002 |
| %RSD | 14.87 | 487.1 | .4208 | 1.310 | .6177 | .0695 | 7.651 | .1663 | 8.790 | 88.76 |
| #1 | .0011 | .0003 | 11.44 | 7.013 | 15.64 | 10.28 | .0025 | 34.76 | .0162 | .0001 |
| #2 | .0013 | -.0005 | 11.50 | 6.885 | 15.77 | 10.29 | .0022 | 34.68 | .0183 | .0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0691 | 1.602 | .0001 | -.0038 | 11.15 | .0000 | 1.128 | .0025 | .0042 |
| Stddev | .0004 | .0025 | .003 | .0008 | .0034 | .00 | .0008 | .001 | .0005 | .0016 |
| %RSD | 16.24 | 3.649 | .1768 | 1388. | 91.22 | .0129 | 9657. | .0551 | 19.75 | 37.57 |
| #1 | -.0020 | .0709 | 1.600 | -.0005 | -.0062 | 11.15 | -.0006 | 1.129 | .0028 | .0053 |
| #2 | -.0025 | .0673 | 1.604 | .0006 | -.0013 | 11.15 | .0006 | 1.128 | .0021 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0072 | .0103 | -.0614 |
| Stddev | .0002 | .0129 | .0001 | .0005 |
| %RSD | 147.4 | 180.4 | 1.123 | .7743 |
| #1 | -.0003 | -.0163 | .0102 | -.0618 |
| #2 | .0000 | .0020 | .0104 | -.0611 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.1 | 57500. | 18729. |
| Stddev | 1.9 | 92. | 16. |
| %RSD | .16505 | .16066 | .08333 |
| #1 | 1144.8 | 57434. | 18718. |
| #2 | 1147.5 | 57565. | 18740. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/12/2013 21:08:12 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0212 | .1653 | -.0089 | .2814 | .0761 | .0005 | 111.8 | -.0022 | .0137 |
| Stddev | .0037 | .0104 | .0047 | .0119 | .0059 | .0000 | .0001 | .3 | .0005 | .0007 |
| %RSD | 1121. | 49.21 | 2.838 | 133.1 | 2.101 | .0491 | 28.90 | .2391 | 21.84 | 4.794 |
| #1 | .0023 | .0286 | .1620 | -.0174 | .2856 | .0760 | .0006 | 112.0 | -.0019 | .0132 |
| #2 | -.0029 | .0138 | .1686 | -.0005 | .2772 | .0761 | .0004 | 111.6 | -.0026 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0033 | 11.64 | 7.064 | 15.64 | 10.61 | .0030 | 35.52 | .0160 | .0000 |
| Stddev | .0028 | .0046 | .02 | .025 | .22 | .00 | .0003 | .01 | .0004 | .0036 |
| %RSD | 460.7 | 137.8 | .2109 | .3534 | 1.385 | .0464 | 10.92 | .0339 | 2.465 | 31040. |
| #1 | -.0026 | -.0065 | 11.63 | 7.046 | 15.79 | 10.61 | .0028 | 35.51 | .0157 | .0025 |
| #2 | .0014 | -.0001 | 11.66 | 7.081 | 15.49 | 10.60 | .0033 | 35.53 | .0163 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0632 | 1.608 | -.0018 | -.0183 | 11.30 | .0007 | 1.160 | .0019 | .0038 |
| Stddev | .0000 | .0161 | .002 | .0014 | .0012 | .03 | .0031 | .003 | .0013 | .0058 |
| %RSD | .8071 | 25.45 | .0973 | 78.98 | 6.406 | .3048 | 415.3 | .2129 | 67.59 | 152.7 |
| #1 | -.0042 | .0746 | 1.607 | -.0028 | -.0175 | 11.28 | .0029 | 1.161 | .0028 | -.0003 |
| #2 | -.0043 | .0518 | 1.609 | -.0008 | -.0192 | 11.33 | -.0014 | 1.158 | .0010 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0008 | -.0388 | .0118 | -.0624 |
| Stddev | .0026 | .0286 | .0041 | .0005 |
| %RSD | 349.6 | 73.69 | 34.80 | .7543 |
| #1 | .0011 | -.0590 | .0089 | -.0627 |
| #2 | -.0026 | -.0186 | .0148 | -.0620 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.7 | 57532. | 18770. |
| Stddev | 2.0 | 100. | 52. |
| %RSD | .17423 | .17408 | .27868 |
| #1 | 1163.1 | 57461. | 18733. |
| #2 | 1160.3 | 57603. | 18807. |



Zoom In Zoom Out

Sample Name: MP22168A-PS1 Acquired: 12/12/2013 21:13:08 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2238 | 1.855 | .1883 | -.0013 | 4.489 | 2.258 | .1746 | 67.80 | .1830 |
| Stddev | .0005 | .002 | .0030 | .0009 | .096 | .005 | .0003 | .31 | .0044 |
| %RSD | .2201 | .1289 | 1.579 | 71.16 | 2.133 | .2302 | .1646 | .4630 | 2.416 |
| #1 | .2241 | 1.853 | .1904 | -.0019 | 4.557 | 2.261 | .1744 | 67.58 | .1861 |
| #2 | .2234 | 1.857 | .1862 | -.0006 | 4.422 | 2.254 | .1748 | 68.02 | .1799 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.235 | .4317 | 1.059 | 1.456 | 49.96 | 48.56 | 2.221 | 4.323 | 85.79 |
| Stddev | .054 | .0061 | .001 | .008 | .04 | .33 | .011 | .092 | .02 |
| %RSD | 2.429 | 1.403 | .1143 | .5462 | .0762 | .6819 | .4778 | 2.137 | .0204 |
| #1 | 2.273 | .4360 | 1.059 | 1.462 | 49.99 | 48.79 | 2.228 | 4.389 | 85.78 |
| #2 | 2.196 | .4274 | 1.060 | 1.450 | 49.94 | 48.32 | 2.213 | 4.258 | 85.80 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.716 | .2203 | -.0025 | .0166 | F20.09 | .2889 | .4586 | 5.589 | 4.348 |
| Stddev | .042 | .0043 | .0006 | .0026 | .46 | .0073 | .0106 | .121 | .103 |
| %RSD | 2.423 | 1.954 | 23.52 | 15.60 | 2.300 | 2.519 | 2.322 | 2.165 | 2.374 |
| #1 | 1.746 | .2234 | -.0021 | .0147 | 20.42 | .2940 | .4662 | 5.675 | 4.420 |
| #2 | 1.687 | .2173 | -.0029 | .0184 | 19.76 | .2837 | .4511 | 5.504 | 4.275 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .7218 | 2.140 | .2264 | .4344 | .0205 | .8570 | -.0382 |
| Stddev | .0010 | .006 | .0026 | .0021 | .0029 | .0207 | .0002 |
| %RSD | .1401 | .2650 | 1.132 | .4861 | 14.09 | 2.419 | .5767 |
| #1 | .7225 | 2.144 | .2282 | .4359 | .0184 | .8716 | -.0384 |
| #2 | .7211 | 2.136 | .2246 | .4329 | .0225 | .8423 | -.0381 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1114.2 | 56934. | 18658. |
| Stddev | 20.4 | 261. | 132. |
| %RSD | 1.8277 | .45869 | .70885 |
| #1 | 1099.8 | 56750. | 18751. |
| #2 | 1128.6 | 57119. | 18564. |

Zoom In Zoom Out

Sample Name: MP22168A-PS1 Acquired: 12/12/2013 21:17:53 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2213 | 1.888 | .1926 | -.0076 | 4.350 | 2.244 | .1767 | 69.56 | .1766 | 2.219 |
| Stddev | .0010 | .037 | .0065 | .0103 | .004 | .003 | .0006 | .28 | .0008 | .008 |
| %RSD | .4672 | 1.957 | 3.355 | 134.9 | .0890 | .1460 | .3422 | .4025 | .4327 | .3524 |
| #1 | .2206 | 1.914 | .1880 | -.0004 | 4.347 | 2.241 | .1763 | 69.36 | .1761 | 2.214 |
| #2 | .2220 | 1.862 | .1972 | -.0149 | 4.353 | 2.246 | .1771 | 69.76 | .1772 | 2.225 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4365 | 1.040 | 1.493 | 50.88 | 47.72 | 2.274 | 4.353 | 85.22 | 1.714 | .2099 |
| Stddev | .0042 | .004 | .005 | .02 | .72 | .005 | .023 | .18 | .000 | .0002 |
| %RSD | .9569 | .4016 | .3177 | .0440 | 1.509 | .2375 | .5258 | .2170 | .0237 | .0870 |
| #1 | .4335 | 1.043 | 1.496 | 50.86 | 47.21 | 2.270 | 4.369 | 85.09 | 1.714 | .2097 |
| #2 | .4394 | 1.037 | 1.489 | 50.90 | 48.23 | 2.277 | 4.336 | 85.35 | 1.714 | .2100 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0287 | 19.10 | .2784 | .4232 | 5.273 | 4.264 | .7300 | 2.194 | .2320 |
| Stddev | .0004 | .0130 | .02 | .0031 | .0102 | .004 | .014 | .0058 | .009 | .0060 |
| %RSD | 13.77 | 45.42 | .0953 | 1.126 | 2.406 | .0714 | .3185 | .7894 | .4113 | 2.574 |
| #1 | .0023 | .0379 | 19.09 | .2761 | .4160 | 5.275 | 4.254 | .7259 | 2.201 | .2277 |
| #2 | .0028 | .0195 | 19.12 | .2806 | .4304 | 5.270 | 4.273 | .7341 | 2.188 | .2362 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4390 | .0320 | .8741 | -.0403 |
| Stddev | .0041 | .0001 | .0106 | .0001 |
| %RSD | .9376 | .2463 | 1.217 | .2484 |
| #1 | .4419 | .0319 | .8666 | -.0404 |
| #2 | .4361 | .0320 | .8816 | -.0402 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.6 | 57388. | 18755. |
| Stddev | 1.3 | 32. | 14. |
| %RSD | .11542 | .05534 | .07603 |
| #1 | 1164.6 | 57365. | 18765. |
| #2 | 1166.5 | 57410. | 18745. |



Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/12/2013 21:22:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2017 | 2.145 | 3.118 | -.0051 | .0313 | 2.036 | .5019 | 43.52 | .5061 | .5198 |
| Stddev | .0007 | .021 | .008 | .0047 | .0005 | .006 | .0024 | .10 | .0001 | .0010 |
| %RSD | .3679 | .9876 | .2422 | 92.26 | 1.750 | .2795 | .4870 | .2215 | .0200 | .1963 |
| #1 | .2012 | 2.160 | 3.113 | -.0084 | .0309 | 2.032 | .5002 | 43.45 | .5061 | .5191 |
| #2 | .2022 | 2.130 | 3.123 | -.0018 | .0317 | 2.040 | .5036 | 43.58 | .5060 | .5205 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5223 | .4830 | 41.40 | 29.57 | 26.97 | 3.093 | .0150 | 84.33 | .4870 | .9893 |
| Stddev | .0054 | .0005 | .04 | .09 | .12 | .007 | .0012 | .34 | .0039 | .0026 |
| %RSD | 1.041 | .0981 | .1077 | .3109 | .4453 | .2429 | 7.903 | .3982 | .7965 | .2605 |
| #1 | .5184 | .4826 | 41.37 | 29.50 | 27.05 | 3.098 | .0158 | 84.09 | .4843 | .9911 |
| #2 | .5261 | .4833 | 41.43 | 29.63 | 26.88 | 3.088 | .0141 | 84.56 | .4898 | .9875 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0207 | 3.220 | .4997 | .4988 | 8.767 | .0036 | .7345 | .4976 | .5029 |
| Stddev | .0028 | .0123 | .011 | .0037 | .0019 | .008 | .0003 | .0012 | .0003 | .0019 |
| %RSD | 982.2 | 59.46 | .3333 | .7491 | .3895 | .0929 | 7.815 | .1685 | .0580 | .3781 |
| #1 | .0017 | .0120 | 3.213 | .4971 | .4975 | 8.772 | .0034 | .7337 | .4978 | .5042 |
| #2 | -.0023 | .0294 | 3.228 | .5024 | .5002 | 8.761 | .0038 | .7354 | .4974 | .5016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5207 | .0057 | .5118 | -.0496 |
| Stddev | .0054 | .0338 | .0007 | .0010 |
| %RSD | 1.036 | 594.8 | .1393 | 2.099 |
| #1 | .5245 | -.0182 | .5113 | -.0489 |
| #2 | .5169 | .0296 | .5123 | -.0503 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.0 | 57336. | 18694. |
| Stddev | .3 | 34. | 44. |
| %RSD | .02773 | .05911 | .23567 |
| #1 | 1160.8 | 57360. | 18725. |
| #2 | 1161.3 | 57312. | 18663. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/12/2013 21:27:34 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1999 | 2.272 | 3.130 | -.0070 | .0290 | 2.160 | .5307 | 45.99 | .5094 | .5262 |
| Stddev | .0027 | .164 | .007 | .0003 | .0003 | .157 | .0413 | 3.61 | .0003 | .0004 |
| %RSD | 1.376 | 7.216 | .2346 | 4.536 | 1.012 | 7.259 | 7.778 | 7.847 | .0542 | .0758 |
| #1 | .1979 | 2.156 | 3.125 | -.0072 | .0288 | 2.050 | .5015 | 43.44 | .5092 | .5259 |
| #2 | .2018 | 2.388 | 3.136 | -.0068 | .0292 | 2.271 | .5599 | 48.55 | .5096 | .5265 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5245 | .4852 | 43.53 | 31.03 | 28.37 | 3.074 | .0080 | 88.78 | .4909 | 1.011 |
| Stddev | .0009 | .0011 | 3.33 | 2.17 | 2.10 | .001 | .0004 | 6.38 | .0012 | .006 |
| %RSD | .1744 | .2368 | 7.646 | 7.009 | 7.388 | .0418 | 4.533 | 7.185 | .2462 | .5926 |
| #1 | .5252 | .4860 | 41.17 | 29.50 | 26.89 | 3.075 | .0078 | 84.27 | .4900 | 1.007 |
| #2 | .5239 | .4844 | 45.88 | 32.57 | 29.85 | 3.073 | .0083 | 93.29 | .4918 | 1.015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0025 | 3.228 | .5033 | .5053 | 8.785 | .0000 | .7747 | .5006 | .5135 |
| Stddev | .0070 | .0078 | .011 | .0005 | .0124 | .010 | .0007 | .0570 | .0019 | .0026 |
| %RSD | 310.2 | 310.7 | .3480 | .1088 | 2.456 | .1159 | 3917. | 7.359 | .3781 | .5097 |
| #1 | .0072 | .0080 | 3.220 | .5029 | .4965 | 8.778 | .0005 | .7344 | .4992 | .5117 |
| #2 | -.0027 | -.0030 | 3.236 | .5037 | .5141 | 8.792 | -.0005 | .8150 | .5019 | .5154 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5170 | -.0049 | .5171 | -.0503 |
| Stddev | .0006 | .0038 | .0018 | .0003 |
| %RSD | .1092 | 76.92 | .3417 | .5875 |
| #1 | .5166 | -.0076 | .5184 | -.0505 |
| #2 | .5174 | -.0023 | .5159 | -.0501 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1156.5 | 57491. | 18047. |
| Stddev | 1.3 | 58. | 1159. |
| %RSD | .11259 | .10117 | 6.4205 |
| #1 | 1157.4 | 57450. | 18867. |
| #2 | 1155.6 | 57532. | 17228. |



Zoom In Zoom Out

Sample Name: MC26484-4F Acquired: 12/12/2013 21:32:23 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0105 | 2.621 | .0022 | .0245 | .0148 | .0003 | 19.38 | .0010 | .0156 |
| Stddev | .0005 | .0015 | .005 | .0008 | .0006 | .0002 | .0001 | .06 | .0000 | .0002 |
| %RSD | 58.01 | 13.93 | .2043 | 36.10 | 2.643 | 1.333 | 23.98 | .2900 | 4.085 | 1.339 |
| #1 | .0013 | -.0115 | 2.617 | .0016 | .0250 | .0147 | .0004 | 19.42 | .0010 | .0155 |
| #2 | .0005 | -.0095 | 2.625 | .0027 | .0241 | .0150 | .0003 | 19.34 | .0011 | .0157 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0000 | 39.94 | 4.112 | 2.049 | 2.591 | .0064 | 59.44 | .0069 | -.0008 |
| Stddev | .0002 | .0005 | .22 | .055 | .057 | .002 | .0002 | .06 | .0008 | .0018 |
| %RSD | 26.53 | 3305. | .5383 | 1.338 | 2.763 | .0816 | 2.638 | .0956 | 12.24 | 226.9 |
| #1 | -.0006 | .0004 | 40.10 | 4.151 | 2.009 | 2.592 | .0063 | 59.48 | .0063 | .0005 |
| #2 | -.0009 | -.0003 | 39.79 | 4.073 | 2.089 | 2.589 | .0065 | 59.40 | .0075 | -.0021 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0108 | 3.255 | -.0004 | -.0023 | 8.819 | .0022 | .2334 | .0011 | .0028 |
| Stddev | .0022 | .0001 | .000 | .0012 | .0060 | .032 | .0029 | .0001 | .0013 | .0041 |
| %RSD | 124.4 | 1.276 | .0080 | 343.3 | 261.9 | .3671 | 131.3 | .0631 | 114.5 | 143.6 |
| #1 | -.0002 | .0107 | 3.255 | -.0012 | .0020 | 8.796 | .0002 | .2335 | .0002 | .0000 |
| #2 | -.0033 | .0109 | 3.254 | .0005 | -.0065 | 8.842 | .0042 | .2333 | .0020 | .0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | .0190 | .0071 | -.0508 |
| Stddev | .0008 | .0107 | .0012 | .0007 |
| %RSD | 93.56 | 56.13 | 17.61 | 1.291 |
| #1 | .0003 | .0115 | .0080 | -.0504 |
| #2 | .0014 | .0265 | .0062 | -.0513 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1160.1 | 57727. | 18765. |
| Stddev | 2.3 | 65. | 6. |
| %RSD | .19581 | .11301 | .03272 |
| #1 | 1161.7 | 57773. | 18760. |
| #2 | 1158.5 | 57681. | 18769. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 21:37:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2497 | 10.13 | 1.991 | -.0035 | 1.994 | 2.009 | 1.991 | 9.947 | 1.980 | 2.064 |
| Stddev | .0028 | .01 | .003 | .0007 | .011 | .001 | .000 | .004 | .007 | .008 |
| %RSD | 1.118 | .1149 | .1345 | 19.57 | .5247 | .0286 | .0116 | .0377 | .3593 | .3892 |
| #1 | .2516 | 10.12 | 1.989 | -.0030 | 1.986 | 2.009 | 1.991 | 9.949 | 1.975 | 2.058 |
| #2 | .2477 | 10.14 | 1.993 | -.0039 | 2.001 | 2.008 | 1.991 | 9.944 | 1.985 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.965 | 1.963 | 10.17 | 10.07 | 9.866 | 1.973 | 1.981 | 10.20 | 1.962 | 1.981 |
| Stddev | .026 | .024 | .00 | .00 | .042 | .025 | .008 | .00 | .005 | .009 |
| %RSD | 1.304 | 1.230 | .0031 | .0178 | .4276 | 1.276 | .4076 | .0111 | .2437 | .4376 |
| #1 | 1.983 | 1.980 | 10.17 | 10.07 | 9.896 | 1.991 | 1.976 | 10.20 | 1.958 | 1.975 |
| #2 | 1.946 | 1.946 | 10.18 | 10.07 | 9.837 | 1.955 | 1.987 | 10.20 | 1.965 | 1.987 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0103 | -.0039 | 1.990 | 1.975 | -.0117 | 2.027 | 2.038 | 1.951 | 1.994 |
| Stddev | .0004 | .0017 | .0006 | .003 | .014 | .0012 | .012 | .012 | .024 | .012 |
| %RSD | 120.7 | 16.83 | 15.79 | .1618 | .7055 | 10.25 | .6024 | .5637 | 1.210 | .6161 |
| #1 | .0007 | .0115 | -.0035 | 1.988 | 1.965 | -.0125 | 2.019 | 2.047 | 1.968 | 1.985 |
| #2 | .0001 | .0090 | -.0044 | 1.992 | 1.985 | -.0108 | 2.036 | 2.030 | 1.935 | 2.003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.944 | .0113 | 1.951 | -.0090 |
| Stddev | .028 | .0030 | .000 | .0003 |
| %RSD | 1.450 | 26.02 | .0033 | 3.769 |
| #1 | 1.964 | .0093 | 1.950 | -.0087 |
| #2 | 1.924 | .0134 | 1.951 | -.0092 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1154.8 | 58107. | 18977. |
| Stddev | 5.0 | 741. | 1. |
| %RSD | .42929 | 1.2755 | .00412 |
| #1 | 1158.3 | 57583. | 18978. |
| #2 | 1151.3 | 58631. | 18977. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 21:42:08 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0014 | .0016 | -.0005 | .0028 | -.0001 | .0001 | .0024 | .0002 |
| Stddev | .0003 | .0047 | .0008 | .0005 | .0007 | .0000 | .0000 | .0006 | .0000 |
| %RSD | 225.4 | 337.1 | 48.28 | 106.7 | 26.74 | 17.96 | 57.28 | 24.78 | 17.19 |
| #1 | .0001 | .0047 | .0021 | -.0008 | .0033 | -.0001 | .0000 | .0019 | .0002 |
| #2 | -.0004 | -.0019 | .0010 | -.0001 | .0023 | -.0001 | .0001 | .0028 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0000 | .0001 | .0022 | .0035 | -.0069 | .0001 | .0029 | -.0132 |
| Stddev | .0000 | .0003 | .0002 | .0003 | .0183 | .0362 | .0000 | .0006 | .0046 |
| %RSD | 16.25 | 606.3 | 120.5 | 12.86 | 519.9 | 520.9 | 9.351 | 19.82 | 34.57 |
| #1 | .0000 | .0002 | .0002 | .0020 | -.0094 | -.0325 | .0001 | .0033 | -.0164 |
| #2 | .0000 | -.0001 | .0000 | .0024 | .0165 | .0186 | .0001 | .0025 | -.0100 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0003 | -.0011 | .0000 | -.0012 | .0005 | -.0005 | .0007 | .0007 |
| Stddev | .0000 | .0003 | .0008 | .0004 | .0014 | .0007 | .0002 | .0001 | .0000 |
| %RSD | 87.33 | 92.71 | 72.03 | 871.5 | 112.4 | 147.5 | 42.93 | 17.40 | 7.268 |
| #1 | .0001 | -.0001 | -.0005 | -.0002 | -.0022 | .0000 | -.0003 | .0007 | .0007 |
| #2 | .0000 | -.0006 | -.0016 | .0003 | -.0003 | .0009 | -.0006 | .0006 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | F.0020 | .0002 | -.0038 | .0000 | -.0001 |
| Stddev | .0000 | .0001 | .0004 | .0001 | .0027 | .0002 | .0001 |
| %RSD | 9.803 | 24.12 | 17.51 | 34.63 | 70.99 | 452.0 | 108.2 |
| #1 | .0001 | .0004 | .0023 | .0002 | -.0019 | .0002 | -.0001 |
| #2 | .0001 | .0006 | .0018 | .0001 | -.0058 | -.0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1153.4 | 57732. | 18745. |
| Stddev | 3.8 | 70. | 69. |
| %RSD | .33095 | .12075 | .36871 |
| #1 | 1156.1 | 57782. | 18794. |
| #2 | 1150.7 | 57683. | 18696. |



Zoom In Zoom Out

Sample Name: MP22178A-MB1 Acquired: 12/12/2013 21:47:06 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0006 | .0008 | .0004 | .0010 | .0001 | .0001 | .0050 | -.0002 | .0000 |
| Stddev | .0000 | .0036 | .0008 | .0007 | .0002 | .0000 | .0000 | .0008 | .0002 | .000 |
| %RSD | 1.851 | 615.1 | 96.67 | 165.1 | 16.08 | 46.53 | 13.91 | 16.55 | 94.88 | 102.4 |
| #1 | .0005 | -.0020 | .0014 | -.0001 | .0009 | .0000 | .0001 | .0056 | -.0003 | .0000 |
| #2 | .0005 | .0032 | .0003 | .0009 | .0011 | .0001 | .0001 | .0044 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | .0037 | .0290 | .0156 | .0002 | .0009 | -.0140 | .0000 | .0007 |
| Stddev | .0002 | .0002 | .0003 | .0030 | .0095 | .0000 | .0002 | .0023 | .0002 | .0006 |
| %RSD | 39.83 | 43.77 | 9.366 | 10.44 | 61.16 | 4.808 | 18.24 | 16.22 | 757.4 | 82.95 |
| #1 | .0008 | .0002 | .0034 | .0269 | .0088 | .0002 | .0010 | -.0156 | .0002 | .0003 |
| #2 | .0004 | .0005 | .0039 | .0312 | .0223 | .0002 | .0008 | -.0124 | -.0001 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0008 | .0024 | -.0011 | -.0015 | .0112 | .0001 | .0001 | .0005 | .0028 |
| Stddev | .0003 | .0029 | .0007 | .0000 | .0006 | .0002 | .0001 | .0000 | .0000 | .0017 |
| %RSD | 41.84 | 375.0 | 30.74 | .0591 | 37.41 | 1.740 | 171.4 | 38.69 | 7.351 | 61.57 |
| #1 | .0008 | -.0013 | .0019 | -.0011 | -.0019 | .0110 | .0000 | .0001 | .0005 | .0016 |
| #2 | .0004 | .0028 | .0030 | -.0011 | -.0011 | .0113 | .0001 | .0001 | .0004 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0005 | .0024 | -.0008 |
| Stddev | .0001 | .0049 | .0004 | .0000 |
| %RSD | 351.3 | 979.4 | 17.82 | 1.064 |
| #1 | -.0001 | -.0040 | .0021 | -.0008 |
| #2 | .0001 | .0030 | .0027 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1147.8 | 57934. | 18772. |
| Stddev | 1.0 | 148. | 91. |
| %RSD | .08713 | .25551 | .48412 |
| #1 | 1148.5 | 57829. | 18836. |
| #2 | 1147.1 | 58038. | 18708. |



Zoom In Zoom Out

Sample Name: MP22178A-SD1 Acquired: 12/12/2013 21:52:05 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | -.0962 | 2.696 | -.0136 | .0482 | .0160 | .0012 | 19.83 | -.0009 | .0169 |
| Stddev | .0111 | .0165 | .036 | .0005 | .0074 | .0010 | .0010 | .02 | .0012 | .0016 |
| %RSD | 111.4 | 17.10 | 1.326 | 3.544 | 15.33 | 5.989 | 79.68 | .1162 | 127.5 | 9.767 |
| #1 | .0021 | -.1079 | 2.722 | -.0132 | .0534 | .0153 | .0005 | 19.85 | -.0001 | .0157 |
| #2 | .0179 | -.0846 | 2.671 | -.0139 | .0430 | .0167 | .0019 | 19.82 | -.0018 | .0180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | .0024 | 40.98 | 4.930 | 2.300 | 2.669 | .0173 | 61.31 | .0114 | -.0038 |
| Stddev | .0002 | .0021 | .17 | .346 | .391 | .018 | .0028 | .13 | .0005 | .0071 |
| %RSD | 5.179 | 87.69 | .4158 | 7.016 | 17.00 | .6801 | 16.21 | .2172 | 4.087 | 188.6 |
| #1 | -.0043 | .0040 | 41.10 | 5.175 | 2.024 | 2.682 | .0193 | 61.21 | .0117 | -.0088 |
| #2 | -.0040 | .0009 | 40.86 | 4.686 | 2.577 | 2.656 | .0154 | 61.40 | .0111 | .0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0651 | 3.348 | -.0121 | -.0142 | 9.178 | .0017 | .2403 | .0023 | .0139 |
| Stddev | .0031 | .1092 | .031 | .0117 | .0046 | .005 | .0038 | .0021 | .0025 | .0213 |
| %RSD | 124.1 | 167.7 | .9172 | 97.07 | 32.46 | .0587 | 217.2 | .8821 | 112.2 | 152.7 |
| #1 | -.0003 | -.0121 | 3.370 | -.0203 | -.0175 | 9.174 | -.0009 | .2418 | .0041 | -.0011 |
| #2 | -.0047 | .1423 | 3.327 | -.0038 | -.0110 | 9.182 | .0044 | .2388 | .0005 | .0290 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0048 | -.0387 | .0121 | -.0598 |
| Stddev | .0021 | .0461 | .0006 | .0106 |
| %RSD | 43.83 | 119.0 | 5.354 | 17.72 |
| #1 | -.0062 | -.0713 | .0116 | -.0523 |
| #2 | -.0033 | -.0061 | .0125 | -.0673 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1144.8 | 57965. | 18690. |
| Stddev | 1.3 | 142. | 5. |
| %RSD | .11474 | .24414 | .02574 |
| #1 | 1145.7 | 57865. | 18694. |
| #2 | 1143.8 | 58065. | 18687. |

Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/12/2013 21:57:01 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2047 | 2.153 | 3.210 | -.0030 | .0296 | 2.071 | .5164 | 44.42 | .5247 | .5463 |
| Stddev | .0013 | .042 | .013 | .0034 | .0015 | .003 | .0015 | .23 | .0024 | .0008 |
| %RSD | .6502 | 1.935 | .4172 | 114.6 | 5.180 | .1277 | .2891 | .5142 | .4639 | .1481 |
| #1 | .2056 | 2.123 | 3.201 | -.0054 | .0285 | 2.073 | .5175 | 44.58 | .5230 | .5457 |
| #2 | .2037 | 2.182 | 3.220 | -.0006 | .0307 | 2.069 | .5154 | 44.26 | .5264 | .5469 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5193 | .4973 | 42.38 | 29.86 | 27.60 | 3.144 | .0069 | 86.26 | .5057 | 1.020 |
| Stddev | .0008 | .0042 | .20 | .03 | .22 | .009 | .0012 | .08 | .0037 | .009 |
| %RSD | .1534 | .8534 | .4610 | .1017 | .8121 | .2879 | 17.65 | .0953 | .7285 | .9241 |
| #1 | .5199 | .4943 | 42.52 | 29.88 | 27.76 | 3.137 | .0078 | 86.20 | .5031 | 1.026 |
| #2 | .5187 | .5003 | 42.24 | 29.84 | 27.44 | 3.150 | .0061 | 86.32 | .5083 | 1.013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0091 | .0493 | 3.352 | .5140 | .4966 | 9.119 | .0005 | .7639 | .5023 | .5254 |
| Stddev | .0068 | .0047 | .019 | .0130 | .0010 | .008 | .0007 | .0005 | .0024 | .0030 |
| %RSD | 74.58 | 9.617 | .5601 | 2.536 | .2006 | .0869 | 129.5 | .0693 | .4789 | .5715 |
| #1 | -.0043 | .0526 | 3.339 | .5048 | .4959 | 9.114 | .0010 | .7643 | .5006 | .5275 |
| #2 | -.0140 | .0459 | 3.365 | .5232 | .4973 | 9.125 | .0000 | .7635 | .5040 | .5233 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5180 | -.0145 | .5344 | -.0543 |
| Stddev | .0007 | .0370 | .0032 | .0022 |
| %RSD | .1375 | 255.9 | .5934 | 3.969 |
| #1 | .5175 | .0117 | .5322 | -.0558 |
| #2 | .5186 | -.0406 | .5367 | -.0528 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.3 | 57789. | 18757. |
| Stddev | 2.3 | 124. | 119. |
| %RSD | .20413 | .21477 | .63592 |
| #1 | 1144.6 | 57877. | 18673. |
| #2 | 1147.9 | 57701. | 18841. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/12/2013 22:01:53 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2056 | 2.224 | 3.198 | -.0067 | .0292 | 2.083 | .5215 | 44.55 | .5309 | .5475 |
| Stddev | .0033 | .001 | .009 | .0052 | .0007 | .002 | .0059 | .58 | .0038 | .0015 |
| %RSD | 1.583 | .0217 | .2762 | 77.87 | 2.453 | .0926 | 1.126 | 1.292 | .7150 | .2795 |
| #1 | .2033 | 2.224 | 3.192 | -.0030 | .0297 | 2.082 | .5173 | 44.15 | .5283 | .5465 |
| #2 | .2079 | 2.224 | 3.204 | -.0104 | .0287 | 2.084 | .5256 | 44.96 | .5336 | .5486 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5169 | .5011 | 42.81 | 30.20 | 27.54 | 3.125 | .0063 | 86.71 | .5076 | 1.030 |
| Stddev | .0020 | .0043 | .42 | .19 | .42 | .017 | .0012 | .07 | .0033 | .011 |
| %RSD | .3846 | .8578 | .9902 | .6418 | 1.531 | .5360 | 18.39 | .0793 | .6530 | 1.033 |
| #1 | .5155 | .4980 | 42.51 | 30.06 | 27.24 | 3.136 | .0055 | 86.66 | .5053 | 1.023 |
| #2 | .5183 | .5041 | 43.11 | 30.34 | 27.84 | 3.113 | .0071 | 86.76 | .5100 | 1.038 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0042 | 3.337 | .5138 | .5128 | 9.136 | .0055 | .7710 | .4967 | .5175 |
| Stddev | .0082 | .0068 | .009 | .0053 | .0014 | .021 | .0036 | .0001 | .0003 | .0110 |
| %RSD | 1240. | 160.6 | .2778 | 1.036 | .2728 | .2315 | 64.62 | .0144 | .0667 | 2.133 |
| #1 | -.0052 | .0090 | 3.330 | .5100 | .5138 | 9.121 | .0080 | .7710 | .4964 | .5097 |
| #2 | .0065 | -.0006 | 3.343 | .5176 | .5118 | 9.150 | .0030 | .7711 | .4969 | .5253 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5170 | -.0040 | .5408 | -.0549 |
| Stddev | .0001 | .0231 | .0002 | .0035 |
| %RSD | .0150 | 577.0 | .0317 | 6.460 |
| #1 | .5170 | .0123 | .5407 | -.0524 |
| #2 | .5171 | -.0204 | .5409 | -.0574 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1143.7 | 57749. | 18890. |
| Stddev | 2.5 | 202. | 49. |
| %RSD | .22294 | .34964 | .25907 |
| #1 | 1141.9 | 57606. | 18924. |
| #2 | 1145.5 | 57892. | 18855. |



Zoom In Zoom Out

Sample Name: MC26484-1F Acquired: 12/12/2013 22:06:45 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0047 | -.0007 | -.0022 | .0715 | .0116 | .0003 | 40.59 | .0002 | .0021 |
| Stddev | .0016 | .0192 | .0004 | .0047 | .0019 | .0002 | .0001 | .29 | .0003 | .0022 |
| %RSD | 77.87 | 410.8 | 54.49 | 209.0 | 2.668 | 1.395 | 44.77 | .7065 | 142.7 | 107.6 |
| #1 | .0009 | -.0183 | -.0010 | -.0056 | .0702 | .0115 | .0002 | 40.80 | .0004 | .0036 |
| #2 | .0032 | .0089 | -.0004 | .0011 | .0729 | .0117 | .0004 | 40.39 | .0000 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0004 | .2592 | 2.469 | 3.860 | 9.488 | .0030 | 12.78 | .0025 | -.0011 |
| Stddev | .0004 | .0005 | .0047 | .072 | .056 | .012 | .0010 | .07 | .0006 | .0015 |
| %RSD | 15.13 | 123.8 | 1.801 | 2.928 | 1.443 | .1311 | 31.81 | .5193 | 25.64 | 129.6 |
| #1 | .0022 | .0007 | .2625 | 2.520 | 3.820 | 9.497 | .0023 | 12.83 | .0021 | -.0001 |
| #2 | .0028 | .0000 | .2559 | 2.418 | 3.899 | 9.479 | .0037 | 12.73 | .0030 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0058 | .0733 | 1.946 | -.0010 | -.0058 | 6.137 | .0015 | .2278 | .0016 | -.0005 |
| Stddev | .0022 | .0137 | .006 | .0002 | .0016 | .028 | .0001 | .0012 | .0008 | .0019 |
| %RSD | 37.19 | 18.67 | .3019 | 18.50 | 28.17 | .4578 | 5.795 | .5375 | 52.92 | 399.7 |
| #1 | -.0043 | .0830 | 1.942 | -.0009 | -.0070 | 6.117 | .0014 | .2287 | .0010 | .0009 |
| #2 | -.0073 | .0637 | 1.950 | -.0012 | -.0046 | 6.157 | .0016 | .2270 | .0022 | -.0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0012 | -.0144 | .0118 | -.0370 |
| Stddev | .0009 | .0208 | .0011 | .0013 |
| %RSD | 71.56 | 144.0 | 9.353 | 3.462 |
| #1 | .0006 | -.0291 | .0110 | -.0361 |
| #2 | .0018 | .0003 | .0126 | -.0379 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1138.7 | 57998. | 18785. |
| Stddev | 2.9 | 148. | 81. |
| %RSD | .25148 | .25574 | .43317 |
| #1 | 1140.8 | 57894. | 18727. |
| #2 | 1136.7 | 58103. | 18842. |



Zoom In Zoom Out

Sample Name: MC26484-2F Acquired: 12/12/2013 22:11:41 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | -.0261 | .0066 | -.0037 | .0096 | .0019 | .0003 | 3.859 | -.0003 | -.0003 |
| Stddev | .0003 | .0287 | .0043 | .0038 | .0025 | .0008 | .0001 | .021 | .0007 | .0003 |
| %RSD | 17.46 | 109.8 | 65.87 | 101.3 | 25.77 | 42.45 | 42.75 | .5569 | 219.7 | 84.36 |
| #1 | .0017 | -.0058 | .0096 | -.0011 | .0078 | .0024 | .0002 | 3.874 | -.0008 | -.0001 |
| #2 | .0022 | -.0464 | .0035 | -.0064 | .0113 | .0013 | .0004 | 3.844 | .0002 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0017 | .0083 | .7975 | .4641 | .0085 | .0023 | 31.10 | .0009 | -.0018 |
| Stddev | .0036 | .0009 | .0128 | .0108 | .0315 | .0000 | .0009 | .01 | .0008 | .0023 |
| %RSD | 242.5 | 51.73 | 153.4 | 1.349 | 6.783 | .3533 | 38.69 | .0324 | 92.84 | 125.8 |
| #1 | .0041 | .0011 | .0173 | .8051 | .4419 | .0085 | .0029 | 31.11 | .0015 | -.0002 |
| #2 | -.0011 | .0023 | -.0007 | .7899 | .4864 | .0085 | .0017 | 31.09 | .0003 | -.0034 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0059 | 3.794 | -.0030 | -.0026 | 5.862 | .0020 | .0335 | -.0026 | -.0017 |
| Stddev | .0007 | .0088 | .023 | .0020 | .0057 | .029 | .0031 | .0006 | .0025 | .0028 |
| %RSD | 18.14 | 150.0 | .6173 | 65.94 | 219.3 | .5031 | 152.8 | 1.716 | 96.43 | 161.2 |
| #1 | -.0040 | -.0004 | 3.778 | -.0044 | -.0066 | 5.841 | .0042 | .0339 | -.0008 | -.0037 |
| #2 | -.0031 | .0122 | 3.811 | -.0016 | .0014 | 5.882 | -.0002 | .0331 | -.0043 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0187 | .0087 | -.0352 |
| Stddev | .0019 | .0047 | .0003 | .0006 |
| %RSD | 195.9 | 25.09 | 2.886 | 1.626 |
| #1 | -.0004 | -.0220 | .0085 | -.0356 |
| #2 | .0023 | -.0154 | .0088 | -.0348 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1136.4 | 57826. | 18666. |
| Stddev | .4 | 114. | 7. |
| %RSD | .03593 | .19767 | .03742 |
| #1 | 1136.7 | 57907. | 18671. |
| #2 | 1136.1 | 57745. | 18662. |

Zoom In Zoom Out

Sample Name: MC26484-3F Acquired: 12/12/2013 22:16:38 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0072 | -.0004 | -.0020 | .0110 | .0017 | .0002 | 3.920 | -.0006 | .0001 |
| Stddev | .0018 | .0247 | .0005 | .0006 | .0012 | .0001 | .0000 | .001 | .0002 | .0015 |
| %RSD | 81.27 | 342.8 | 115.5 | 29.68 | 11.35 | 7.164 | 15.10 | .0123 | 28.30 | 1397. |
| #1 | .0009 | .0247 | -.0001 | -.0024 | .0101 | .0018 | .0002 | 3.921 | -.0007 | .0011 |
| #2 | .0034 | -.0103 | -.0008 | -.0016 | .0119 | .0016 | .0003 | 3.920 | -.0004 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0012 | .0025 | .8258 | .4912 | .0085 | .0022 | 31.67 | .0000 | -.0011 |
| Stddev | .0015 | .0000 | .0072 | .0303 | .1104 | .0007 | .0012 | .04 | .0000 | .0015 |
| %RSD | 226.6 | 1.123 | 286.7 | 3.671 | 22.48 | 8.207 | 54.63 | .1355 | 107.3 | 140.1 |
| #1 | .0017 | .0012 | -.0026 | .8043 | .4131 | .0080 | .0030 | 31.64 | .0001 | -.0021 |
| #2 | -.0004 | .0012 | .0076 | .8472 | .5693 | .0090 | .0013 | 31.70 | .0000 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0021 | -.0019 | 3.849 | -.0024 | -.0018 | 5.998 | .0018 | .0336 | .0002 | -.0039 |
| Stddev | .0018 | .0075 | .023 | .0034 | .0003 | .026 | .0019 | .0000 | .0003 | .0058 |
| %RSD | 86.19 | 402.6 | .6001 | 142.3 | 18.66 | .4364 | 108.0 | .0917 | 112.6 | 148.2 |
| #1 | -.0008 | .0034 | 3.832 | .0000 | -.0016 | 5.979 | .0004 | .0336 | .0004 | -.0080 |
| #2 | -.0033 | -.0071 | 3.865 | -.0048 | -.0020 | 6.016 | .0031 | .0337 | .0000 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | -.0180 | .0142 | -.0366 |
| Stddev | .0013 | .0005 | .0004 | .0007 |
| %RSD | 141.4 | 2.954 | 2.537 | 1.817 |
| #1 | .0000 | -.0183 | .0139 | -.0361 |
| #2 | -.0018 | -.0176 | .0144 | -.0370 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.8 | 57780. | 18745. |
| Stddev | 2.5 | 3. | 39. |
| %RSD | .22274 | .00528 | .20769 |
| #1 | 1130.1 | 57782. | 18717. |
| #2 | 1133.6 | 57778. | 18772. |



Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/12/2013 22:21:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0113 | .0140 | -.0028 | .2812 | .0371 | .0000 | 115.4 | -.0009 | .0008 |
| Stddev | .0028 | .0278 | .0001 | .0048 | .0004 | .0001 | .0000 | .0 | .0009 | .0003 |
| %RSD | 140.7 | 245.1 | .7424 | 171.8 | .1433 | .2535 | 90.85 | .0152 | 99.34 | 41.47 |
| #1 | .0040 | -.0310 | .0139 | .0006 | .2814 | .0372 | .0000 | 115.4 | -.0016 | .0011 |
| #2 | .0000 | .0083 | .0140 | -.0062 | .2809 | .0370 | .0000 | 115.4 | -.0003 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0019 | 1.907 | 8.880 | 20.42 | 5.716 | .0063 | 40.00 | .0056 | -.0031 |
| Stddev | .0015 | .0010 | .007 | .059 | .01 | .008 | .0007 | .05 | .0006 | .0026 |
| %RSD | 136.8 | 50.97 | .3613 | .6645 | .0593 | .1364 | 11.47 | .1335 | 10.11 | 83.38 |
| #1 | -.0021 | .0026 | 1.912 | 8.921 | 20.43 | 5.711 | .0058 | 40.04 | .0060 | -.0049 |
| #2 | .0000 | .0012 | 1.902 | 8.838 | 20.41 | 5.722 | .0068 | 39.96 | .0052 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0428 | 4.595 | -.0009 | -.0073 | 10.88 | -.0029 | .5717 | .0032 | -.0001 |
| Stddev | .0039 | .0006 | .005 | .0020 | .0031 | .00 | .0029 | .0009 | .0018 | .0002 |
| %RSD | 87.80 | 1.427 | .1081 | 228.6 | 41.86 | .0378 | 101.0 | .1533 | 55.56 | 194.8 |
| #1 | -.0017 | .0432 | 4.599 | -.0023 | -.0095 | 10.88 | -.0008 | .5723 | .0019 | -.0002 |
| #2 | -.0072 | .0423 | 4.592 | .0005 | -.0051 | 10.88 | -.0049 | .5711 | .0044 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0097 | .0100 | -.0605 |
| Stddev | .0012 | .0024 | .0007 | .0001 |
| %RSD | 115.0 | 24.80 | 6.922 | .2064 |
| #1 | -.0002 | -.0114 | .0105 | -.0606 |
| #2 | -.0019 | -.0080 | .0095 | -.0604 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.1 | 57594. | 18762. |
| Stddev | .6 | 112. | 15. |
| %RSD | .05190 | .19377 | .07839 |
| #1 | 1130.6 | 57673. | 18773. |
| #2 | 1131.5 | 57515. | 18752. |



Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/12/2013 22:26:30 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0123 | .0114 | -.0088 | .2842 | .0374 | .0000 | 115.8 | -.0017 | .0001 |
| Stddev | .0033 | .0277 | .0012 | .0051 | .0041 | .0001 | .000 | .0 | .0011 | .0006 |
| %RSD | 341.7 | 224.2 | 10.47 | 58.39 | 1.434 | .2648 | 3084. | .0374 | 62.43 | 440.0 |
| #1 | .0033 | .0072 | .0122 | -.0051 | .2870 | .0373 | .0001 | 115.8 | -.0025 | .0005 |
| #2 | -.0014 | -.0319 | .0105 | -.0124 | .2813 | .0375 | -.0001 | 115.8 | -.0010 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0059 | 1.941 | 8.876 | 20.21 | 5.772 | .0085 | 40.25 | .0073 | -.0058 |
| Stddev | .0046 | .0000 | .003 | .035 | .21 | .009 | .0000 | .00 | .0046 | .0011 |
| %RSD | 19110. | .0032 | .1756 | .3948 | 1.052 | .1482 | .0019 | .0033 | 63.00 | 19.70 |
| #1 | .0033 | .0059 | 1.938 | 8.852 | 20.06 | 5.766 | .0085 | 40.25 | .0105 | -.0066 |
| #2 | -.0032 | .0059 | 1.943 | 8.901 | 20.36 | 5.778 | .0085 | 40.25 | .0040 | -.0050 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0064 | .0435 | 4.630 | -.0039 | -.0164 | 11.00 | .0019 | .5831 | .0030 | .0009 |
| Stddev | .0054 | .0212 | .064 | .0014 | .0062 | .10 | .0008 | .0013 | .0020 | .0100 |
| %RSD | 84.49 | 48.61 | 1.372 | 35.20 | 38.03 | .9355 | 39.88 | .2305 | 65.10 | 1156. |
| #1 | -.0026 | .0585 | 4.585 | -.0030 | -.0208 | 10.93 | .0024 | .5822 | .0044 | -.0062 |
| #2 | -.0102 | .0286 | 4.675 | -.0049 | -.0120 | 11.08 | .0014 | .5841 | .0016 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0176 | .0090 | -.0646 |
| Stddev | .0032 | .0118 | .0011 | .0009 |
| %RSD | 537.7 | 66.82 | 12.03 | 1.373 |
| #1 | -.0017 | -.0093 | .0082 | -.0653 |
| #2 | .0029 | -.0259 | .0097 | -.0640 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1133.0 | 57742. | 18843. |
| Stddev | 6.2 | 44. | 32. |
| %RSD | .55120 | .07644 | .16958 |
| #1 | 1137.4 | 57773. | 18820. |
| #2 | 1128.5 | 57711. | 18865. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/12/2013 22:31:26 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0048 | 1.381 | -.0029 | .0408 | .0389 | .0000 | 20.88 | .0004 | .0135 |
| Stddev | .0002 | .0021 | .001 | .0008 | .0002 | .0001 | .0000 | .13 | .0000 | .0007 |
| %RSD | 19.37 | 43.21 | .0379 | 26.50 | .5965 | .3258 | 102.8 | .6076 | 9.020 | 5.220 |
| #1 | .0012 | .0063 | 1.381 | -.0024 | .0406 | .0390 | .0000 | 20.97 | .0004 | .0130 |
| #2 | .0009 | .0033 | 1.382 | -.0035 | .0410 | .0388 | .0001 | 20.79 | .0004 | .0140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0010 | 29.97 | 5.160 | 2.695 | 2.780 | .0046 | 123.1 | .0063 | .0016 |
| Stddev | .0001 | .0003 | .17 | .070 | .074 | .003 | .0001 | .4 | .0003 | .0010 |
| %RSD | 58.77 | 29.01 | .5737 | 1.358 | 2.759 | .1199 | 1.915 | .2916 | 4.452 | 65.17 |
| #1 | .0001 | .0008 | 30.09 | 5.210 | 2.748 | 2.782 | .0045 | 123.4 | .0065 | .0023 |
| #2 | .0003 | .0013 | 29.85 | 5.111 | 2.642 | 2.777 | .0046 | 122.8 | .0061 | .0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0242 | 4.024 | .0003 | -.0006 | 9.264 | -.0006 | .3089 | .0005 | -.0008 |
| Stddev | .0005 | .0028 | .000 | .0003 | .0006 | .002 | .0002 | .0006 | .0006 | .0011 |
| %RSD | 112.7 | 11.78 | .0077 | 101.4 | 95.22 | .0199 | 24.63 | .1836 | 123.7 | 132.3 |
| #1 | -.0008 | .0262 | 4.024 | .0001 | -.0002 | 9.262 | -.0008 | .3093 | .0010 | -.0016 |
| #2 | -.0001 | .0222 | 4.024 | .0006 | -.0011 | 9.265 | -.0005 | .3085 | .0001 | -.0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0029 | .0162 | -.0521 |
| Stddev | .0001 | .0032 | .0003 | .0007 |
| %RSD | 280.7 | 109.9 | 1.691 | 1.278 |
| #1 | .0001 | -.0051 | .0160 | -.0516 |
| #2 | .0000 | -.0006 | .0164 | -.0526 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1120.1 | 57573. | 18686. |
| Stddev | .9 | 76. | 142. |
| %RSD | .08210 | .13199 | .75892 |
| #1 | 1120.7 | 57519. | 18586. |
| #2 | 1119.4 | 57626. | 18786. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 22:36:22 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2431 | 9.848 | 1.949 | -.0039 | 1.991 | 1.964 | 1.963 | 9.636 | 1.976 | 2.069 |
| Stddev | .0012 | .011 | .007 | .0006 | .009 | .004 | .003 | .029 | .007 | .003 |
| %RSD | .4866 | .1107 | .3481 | 15.65 | .4374 | .1847 | .1511 | .3006 | .3455 | .1364 |
| #1 | .2423 | 9.856 | 1.945 | -.0044 | 1.985 | 1.966 | 1.965 | 9.657 | 1.971 | 2.067 |
| #2 | .2439 | 9.840 | 1.954 | -.0035 | 1.997 | 1.961 | 1.961 | 9.616 | 1.981 | 2.071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.911 | 1.955 | 9.918 | 9.782 | 9.704 | 1.938 | 1.953 | 10.01 | 1.945 | 1.955 |
| Stddev | .001 | .001 | .005 | .015 | .074 | .002 | .004 | .02 | .005 | .005 |
| %RSD | .0275 | .0407 | .0534 | .1570 | .7639 | .0802 | .2025 | .2336 | .2469 | .2766 |
| #1 | 1.910 | 1.954 | 9.922 | 9.792 | 9.756 | 1.940 | 1.950 | 10.03 | 1.942 | 1.951 |
| #2 | 1.911 | 1.955 | 9.914 | 9.771 | 9.651 | 1.937 | 1.956 | 9.994 | 1.949 | 1.959 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0095 | -.0057 | 1.965 | 1.947 | .0160 | 2.011 | 2.038 | 1.900 | 1.967 |
| Stddev | .0003 | .0035 | .0002 | .004 | .009 | .0010 | .013 | .016 | .000 | .007 |
| %RSD | 43.67 | 36.69 | 3.285 | .2274 | .4347 | 6.329 | .6201 | .7818 | .0162 | .3778 |
| #1 | -.0005 | .0119 | -.0056 | 1.962 | 1.941 | .0153 | 2.002 | 2.049 | 1.901 | 1.961 |
| #2 | -.0009 | .0070 | -.0058 | 1.968 | 1.953 | .0167 | 2.020 | 2.027 | 1.900 | 1.972 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.877 | .0173 | 1.948 | -.0092 |
| Stddev | .002 | .0011 | .006 | .0001 |
| %RSD | .0841 | 6.535 | .3182 | .8185 |
| #1 | 1.876 | .0165 | 1.944 | -.0091 |
| #2 | 1.878 | .0181 | 1.952 | -.0092 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.1 | 57771. | 18864. |
| Stddev | 3.3 | 9. | 78. |
| %RSD | .29322 | .01498 | .41380 |
| #1 | 1133.4 | 57777. | 18809. |
| #2 | 1128.7 | 57765. | 18919. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 22:41:13 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0003 | .0014 | -.0005 | .0024 | .0000 | .0000 | .0019 | .0001 | .0003 |
| Stddev | .0003 | .0017 | .0014 | .0002 | .0001 | .0001 | .0000 | .0010 | .0001 | .0002 |
| %RSD | 207.7 | 585.1 | 100.6 | 41.53 | 2.224 | 432.5 | 133.9 | 52.21 | 48.99 | 60.32 |
| #1 | -.0001 | -.0015 | .0023 | -.0003 | .0023 | .0000 | .0000 | .0026 | .0001 | .0004 |
| #2 | .0003 | .0009 | .0004 | -.0006 | .0024 | .0001 | .0001 | .0012 | .0002 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0005 | .0007 | .0250 | -.0065 | .0002 | .0024 | -.0178 | .0004 | -.0004 |
| Stddev | .0003 | .0002 | .0015 | .0143 | .0073 | .0000 | .0006 | .0052 | .0000 | .0002 |
| %RSD | 136.5 | 31.86 | 205.7 | 57.30 | 112.8 | 21.40 | 23.02 | 29.02 | 13.17 | 50.34 |
| #1 | .0000 | .0004 | -.0003 | .0149 | -.0117 | .0002 | .0028 | -.0215 | .0003 | -.0002 |
| #2 | .0004 | .0006 | .0017 | .0352 | -.0013 | .0001 | .0020 | -.0142 | .0004 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0014 | .0005 | .0000 | -.0002 | .0004 | .0011 | .0001 | .0001 | .0009 |
| Stddev | .0001 | .0016 | .0004 | .001 | .0004 | .0001 | .0004 | .0000 | .0003 | .0015 |
| %RSD | 32.33 | 110.5 | 77.94 | 1186. | 204.7 | 12.44 | 34.63 | 11.12 | 334.3 | 177.3 |
| #1 | -.0003 | -.0003 | .0002 | .0004 | -.0004 | .0005 | .0013 | .0001 | .0003 | .0019 |
| #2 | -.0004 | -.0026 | .0007 | -.0005 | .0001 | .0004 | .0008 | .0001 | -.0001 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0002 | .0000 | -.0006 |
| Stddev | .0002 | .0005 | .0001 | .0000 |
| %RSD | 41.89 | 250.0 | 610.5 | 3.120 |
| #1 | .0003 | .0006 | .0001 | -.0007 |
| #2 | .0005 | -.0002 | -.0001 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1125.4 | 57977. | 18799. |
| Stddev | 7.6 | 47. | 125. |
| %RSD | .67613 | .08188 | .66230 |
| #1 | 1130.8 | 58011. | 18887. |
| #2 | 1120.0 | 57943. | 18711. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/12/2013 22:46:12 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0058 | .0028 | 1.414 | -.0007 | .0536 | .0394 | -.0003 | 21.50 | .0012 | .0147 |
| Stddev | .0032 | .0376 | .007 | .0116 | .0005 | .0007 | .0001 | .04 | .0001 | .0004 |
| %RSD | 55.30 | 1352. | .5205 | 1707. | .9171 | 1.879 | 30.52 | .1723 | 8.881 | 2.693 |
| #1 | .0081 | .0294 | 1.419 | -.0089 | .0540 | .0399 | -.0002 | 21.47 | .0011 | .0144 |
| #2 | .0036 | -.0238 | 1.408 | .0075 | .0533 | .0389 | -.0003 | 21.52 | .0013 | .0150 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0053 | 30.86 | 5.264 | 2.996 | 2.863 | .0118 | 126.0 | .0059 | -.0099 |
| Stddev | .0002 | .0001 | .07 | .081 | .137 | .005 | .0037 | .2 | .0009 | .0106 |
| %RSD | 28.51 | 1.530 | .2299 | 1.546 | 4.571 | .1899 | 31.23 | .1680 | 15.70 | 106.7 |
| #1 | -.0008 | .0052 | 30.81 | 5.207 | 2.899 | 2.859 | .0145 | 126.1 | .0053 | -.0174 |
| #2 | -.0005 | .0054 | 30.91 | 5.322 | 3.093 | 2.867 | .0092 | 125.8 | .0066 | -.0024 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0256 | 4.134 | -.0082 | -.0022 | 9.551 | .0069 | .3205 | -.0007 | .0029 |
| Stddev | .0051 | .0129 | .021 | .0066 | .0006 | .085 | .0012 | .0002 | .0027 | .0013 |
| %RSD | 202.9 | 50.51 | .5193 | 79.87 | 28.78 | .8851 | 16.68 | .0728 | 376.6 | 44.08 |
| #1 | -.0061 | .0347 | 4.119 | -.0129 | -.0018 | 9.492 | .0061 | .3207 | -.0026 | .0038 |
| #2 | .0011 | .0164 | 4.149 | -.0036 | -.0027 | 9.611 | .0077 | .3203 | .0012 | .0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0025 | .0206 | .0295 | -.0561 |
| Stddev | .0024 | .0356 | .0010 | .0001 |
| %RSD | 92.79 | 172.4 | 3.221 | .1418 |
| #1 | -.0009 | -.0045 | .0288 | -.0561 |
| #2 | -.0042 | .0458 | .0302 | -.0562 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1122.4 | 57686. | 18653. |
| Stddev | 1.5 | 152. | 7. |
| %RSD | .13488 | .26399 | .03807 |
| #1 | 1123.5 | 57794. | 18659. |
| #2 | 1121.3 | 57578. | 18648. |



Zoom In Zoom Out

Sample Name: MC26484-7F Acquired: 12/12/2013 22:51:10 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | -.0035 | 1.019 | -.0023 | .1558 | .0242 | .0001 | 23.18 | .0001 | .0112 |
| Stddev | .0005 | .0013 | .001 | .0006 | .0001 | .0000 | .0000 | .01 | .0002 | .0002 |
| %RSD | 40.15 | 37.88 | .1373 | 27.17 | .0809 | .1686 | 35.29 | .0219 | 305.4 | 2.081 |
| #1 | .0017 | -.0044 | 1.020 | -.0027 | .1559 | .0242 | .0001 | 23.19 | -.0001 | .0110 |
| #2 | .0009 | -.0025 | 1.018 | -.0018 | .1557 | .0241 | .0000 | 23.18 | .0002 | .0114 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | 35.41 | 8.469 | 4.201 | .8387 | .0157 | 11.86 | .0065 | -.0006 |
| Stddev | .0003 | .0002 | .01 | .010 | .025 | .0030 | .0001 | .01 | .0001 | .0002 |
| %RSD | 1270. | 18.20 | .0410 | .1197 | .5895 | .3568 | .7384 | .1230 | 1.854 | 40.14 |
| #1 | -.0002 | .0009 | 35.42 | 8.462 | 4.184 | .8408 | .0158 | 11.87 | .0064 | -.0004 |
| #2 | .0002 | .0012 | 35.40 | 8.477 | 4.219 | .8366 | .0156 | 11.85 | .0066 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0052 | 1.261 | -.0015 | -.0004 | 12.21 | .0015 | .5144 | .0005 | -.0025 |
| Stddev | .0007 | .0023 | .004 | .0002 | .0034 | .03 | .0007 | .0011 | .0002 | .0023 |
| %RSD | 458.7 | 45.46 | .3243 | 13.98 | 921.9 | .2699 | 46.23 | .2137 | 33.57 | 92.93 |
| #1 | -.0006 | .0068 | 1.258 | -.0013 | .0020 | 12.19 | .0010 | .5152 | .0004 | -.0041 |
| #2 | .0003 | .0035 | 1.264 | -.0016 | -.0028 | 12.24 | .0020 | .5136 | .0006 | -.0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0075 | .0108 | -.0693 |
| Stddev | .0007 | .0043 | .0003 | .0010 |
| %RSD | 214.8 | 56.96 | 2.550 | 1.435 |
| #1 | .0008 | -.0045 | .0110 | -.0686 |
| #2 | -.0002 | -.0105 | .0106 | -.0700 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1112.7 | 57871. | 18719. |
| Stddev | 3.0 | 285. | 3. |
| %RSD | .27286 | .49208 | .01791 |
| #1 | 1114.8 | 57669. | 18717. |
| #2 | 1110.5 | 58072. | 18722. |

Zoom In Zoom Out

Sample Name: MP22178A-PS1 Acquired: 12/12/2013 22:56:05 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2187 | 1.840 | 2.478 | -.0020 | 4.479 | 2.191 | .1775 | 58.54 | .1854 | 2.318 |
| Stddev | .0004 | .005 | .006 | .0005 | .007 | .002 | .0001 | .01 | .0000 | .000 |
| %RSD | .1671 | .2481 | .2538 | 24.12 | .1539 | .1019 | .0451 | .0235 | .0232 | .0169 |
| #1 | .2184 | 1.837 | 2.473 | -.0016 | 4.474 | 2.193 | .1776 | 58.55 | .1854 | 2.318 |
| #2 | .2189 | 1.844 | 2.482 | -.0023 | 4.484 | 2.190 | .1775 | 58.53 | .1855 | 2.319 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4187 | 1.088 | 34.52 | 47.30 | 45.67 | 2.824 | 4.350 | 97.32 | 1.737 | .2173 |
| Stddev | .0016 | .003 | .00 | .02 | .01 | .001 | .005 | .12 | .000 | .0005 |
| %RSD | .3831 | .2409 | .0054 | .0359 | .0148 | .0274 | .1146 | .1274 | .0199 | .2220 |
| #1 | .4199 | 1.086 | 34.52 | 47.28 | 45.67 | 2.825 | 4.347 | 97.41 | 1.737 | .2170 |
| #2 | .4176 | 1.090 | 34.52 | 47.31 | 45.68 | 2.824 | 4.354 | 97.23 | 1.737 | .2177 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | .0229 | 2.955 | .2852 | .4369 | 8.243 | 4.411 | .6580 | 2.098 | .2179 |
| Stddev | .0001 | .0062 | .002 | .0001 | .0025 | .019 | .003 | .0021 | .001 | .0007 |
| %RSD | 3.477 | 27.12 | .0728 | .0186 | .5653 | .2355 | .0753 | .3152 | .0662 | .3175 |
| #1 | -.0031 | .0185 | 2.956 | .2852 | .4352 | 8.230 | 4.409 | .6595 | 2.097 | .2174 |
| #2 | -.0029 | .0273 | 2.953 | .2851 | .4386 | 8.257 | 4.414 | .6566 | 2.099 | .2184 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4203 | .0223 | .8755 | -.0553 |
| Stddev | .0022 | .0008 | .0012 | .0000 |
| %RSD | .5137 | 3.432 | .1335 | .0745 |
| #1 | .4219 | .0228 | .8763 | -.0552 |
| #2 | .4188 | .0217 | .8746 | -.0553 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.7 | 57015. | 18635. |
| Stddev | .9 | 108. | 25. |
| %RSD | .08401 | .18946 | .13237 |
| #1 | 1082.4 | 57091. | 18652. |
| #2 | 1081.1 | 56938. | 18617. |



Zoom In Zoom Out

Sample Name: MP22178A-PS1 Acquired: 12/12/2013 23:00:50 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2204 | 1.811 | 2.514 | -.0043 | 4.573 | 2.173 | .1809 | 60.50 | .1871 | 2.370 |
| Stddev | .0009 | .028 | .016 | .0002 | .035 | .008 | .0015 | .11 | .0012 | .016 |
| %RSD | .3999 | 1.527 | .6391 | 4.475 | .7734 | .3711 | .8406 | .1865 | .6569 | .6663 |
| #1 | .2197 | 1.791 | 2.503 | -.0045 | 4.548 | 2.178 | .1820 | 60.42 | .1862 | 2.359 |
| #2 | .2210 | 1.830 | 2.526 | -.0042 | 4.598 | 2.167 | .1799 | 60.58 | .1879 | 2.381 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4177 | 1.075 | 36.10 | 48.53 | 45.83 | 2.883 | 4.441 | 98.15 | 1.784 | .2193 |
| Stddev | .0025 | .008 | .09 | .24 | .16 | .000 | .001 | .22 | .013 | .0027 |
| %RSD | .6091 | .7541 | .2524 | .4877 | .3385 | .0088 | .0322 | .2196 | .7507 | 1.229 |
| #1 | .4159 | 1.070 | 36.17 | 48.69 | 45.72 | 2.883 | 4.442 | 98.30 | 1.774 | .2174 |
| #2 | .4195 | 1.081 | 36.04 | 48.36 | 45.94 | 2.883 | 4.440 | 98.00 | 1.793 | .2212 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | .0078 | 2.984 | .2831 | .4451 | 8.125 | 4.470 | .6786 | 2.122 | .2191 |
| Stddev | .0111 | .0251 | .024 | .0036 | .0064 | .065 | .024 | .0050 | .009 | .0021 |
| %RSD | 183.0 | 321.8 | .8089 | 1.265 | 1.429 | .8045 | .5374 | .7407 | .4461 | .9567 |
| #1 | -.0140 | -.0099 | 2.967 | .2806 | .4496 | 8.079 | 4.453 | .6822 | 2.115 | .2176 |
| #2 | .0018 | .0255 | 3.001 | .2856 | .4406 | 8.171 | 4.487 | .6750 | 2.128 | .2206 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4148 | -.0106 | .9295 | -.0669 |
| Stddev | .0013 | .0071 | .0017 | .0013 |
| %RSD | .3068 | 67.23 | .1827 | 2.017 |
| #1 | .4157 | -.0056 | .9283 | -.0660 |
| #2 | .4139 | -.0157 | .9307 | -.0679 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1115.5 | 58212. | 18802. |
| Stddev | 3.2 | 134. | 190. |
| %RSD | .29092 | .22981 | 1.0116 |
| #1 | 1117.8 | 58307. | 18937. |
| #2 | 1113.2 | 58117. | 18668. |



Zoom In Zoom Out

Sample Name: MC26013-1F Acquired: 12/12/2013 23:05:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0081 | .0542 | -.0031 | .5790 | .0152 | .0003 | 109.7 | -.0005 |
| Stddev | .0010 | .0011 | .0004 | .0017 | .0026 | .0001 | .0001 | .9 | .0008 |
| %RSD | 67.12 | 13.05 | .7292 | 55.56 | .4489 | .8775 | 29.67 | .8263 | 145.6 |
| #1 | .0021 | .0088 | .0539 | -.0019 | .5772 | .0151 | .0003 | 110.3 | -.0011 |
| #2 | .0008 | .0073 | .0544 | -.0043 | .5808 | .0152 | .0004 | 109.0 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0021 | .0013 | .0045 | .7236 | 11.18 | 35.80 | .4769 | .0195 | 183.5 |
| Stddev | .0000 | .0004 | .0010 | .0104 | .07 | .48 | .0016 | .0003 | .4 |
| %RSD | .0128 | 29.49 | 22.43 | 1.439 | .6219 | 1.331 | .3267 | 1.685 | .2170 |
| #1 | -.0021 | .0015 | .0052 | .7162 | 11.23 | 36.14 | .4758 | .0193 | 183.2 |
| #2 | -.0021 | .0010 | .0037 | .7309 | 11.13 | 35.47 | .4780 | .0198 | 183.8 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | -.0005 | -.0020 | .0152 | F102.2 | -.0015 | -.0013 | 14.82 | .0019 |
| Stddev | .0006 | .0015 | .0034 | .0030 | .4 | .0009 | .0020 | .08 | .0004 |
| %RSD | 26.99 | 284.2 | 175.0 | 19.86 | .4169 | 63.99 | 151.5 | .5102 | 22.26 |
| #1 | .0027 | -.0016 | .0005 | .0131 | 101.9 | -.0008 | .0001 | 14.76 | .0022 |
| #2 | .0019 | .0005 | -.0044 | .0173 | 102.5 | -.0021 | -.0027 | 14.87 | .0016 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.188 | .0035 | -.0035 | .0016 | .0103 | .0127 | -.0850 |
| Stddev | .002 | .0008 | .0022 | .0011 | .0057 | .0016 | .0012 |
| %RSD | .1343 | 21.80 | 61.95 | 70.37 | 55.39 | 12.57 | 1.393 |
| #1 | 1.187 | .0040 | -.0051 | .0023 | .0063 | .0138 | -.0842 |
| #2 | 1.189 | .0029 | -.0020 | .0008 | .0144 | .0115 | -.0859 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1102.0 | 57764. | 18759. |
| Stddev | 3.5 | 53. | 129. |
| %RSD | .32093 | .09222 | .68685 |
| #1 | 1104.5 | 57726. | 18668. |
| #2 | 1099.5 | 57801. | 18850. |



Zoom In Zoom Out

Sample Name: MC26054-4F Acquired: 12/12/2013 23:10:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.0122 | .0158 | .0080 | .0949 | .0705 | .0003 | 99.24 | -.0001 | -.0011 |
| Stddev | .0052 | .0131 | .0013 | .0029 | .0013 | .0003 | .0002 | 2.40 | .0011 | .0024 |
| %RSD | 206.5 | 107.4 | 8.114 | 35.73 | 1.406 | .3711 | 53.51 | 2.416 | 872.8 | 221.6 |
| #1 | -.0012 | -.0215 | .0167 | .0060 | .0939 | .0707 | .0005 | 100.9 | -.0009 | -.0027 |
| #2 | .0062 | -.0029 | .0148 | .0100 | .0958 | .0703 | .0002 | 97.54 | .0006 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0097 | .0305 | 2.773 | 46.50 | .0041 | .0109 | 13.69 | .0019 | -.0082 |
| Stddev | .0015 | .0022 | .0006 | .055 | 1.01 | .0005 | .0000 | .30 | .0008 | .0107 |
| %RSD | 30.32 | 22.37 | 2.038 | 1.993 | 2.168 | 12.58 | .3500 | 2.197 | 41.24 | 131.2 |
| #1 | .0060 | .0112 | .0309 | 2.734 | 47.21 | .0045 | .0108 | 13.90 | .0024 | -.0006 |
| #2 | .0039 | .0082 | .0301 | 2.812 | 45.79 | .0038 | .0109 | 13.47 | .0013 | -.0158 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0061 | .0474 | 57.59 | -.0085 | -.0091 | 8.081 | .0030 | .3722 | .0017 | -.0089 |
| Stddev | .0053 | .0085 | .10 | .0044 | .0094 | .019 | .0055 | .0073 | .0022 | .0100 |
| %RSD | 86.02 | 17.98 | .1807 | 51.34 | 103.0 | .2400 | 184.5 | 1.964 | 127.1 | 113.1 |
| #1 | .0024 | .0414 | 57.67 | -.0116 | -.0025 | 8.067 | -.0009 | .3774 | .0002 | -.0018 |
| #2 | .0098 | .0534 | 57.52 | -.0054 | -.0157 | 8.095 | .0069 | .3670 | .0032 | -.0160 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | .0027 | .0154 | -.0522 |
| Stddev | .0027 | .0508 | .0028 | .0050 |
| %RSD | 195.0 | 1881. | 18.12 | 9.563 |
| #1 | .0033 | .0386 | .0174 | -.0487 |
| #2 | -.0005 | -.0332 | .0135 | -.0558 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1102.8 | 58152. | 18694. |
| Stddev | .5 | 992. | 399. |
| %RSD | .04901 | 1.7053 | 2.1344 |
| #1 | 1102.4 | 57451. | 18412. |
| #2 | 1103.2 | 58854. | 18976. |

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/12/2013 23:15:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0052 | .2078 | F.0053 | -.0009 | .1064 | .0503 | .0042 | 4.861 | .0042 |
| Stddev | .0001 | .0006 | .0007 | .0006 | .0006 | .0002 | .0000 | .001 | .0001 |
| %RSD | 2.373 | .2894 | 12.41 | 72.97 | .5185 | .4513 | .8912 | .0136 | 2.534 |
| #1 | .0051 | .2082 | .0057 | -.0013 | .1068 | .0504 | .0042 | 4.862 | .0041 |
| #2 | .0053 | .2074 | .0048 | -.0004 | .1060 | .0501 | .0042 | 4.861 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0546 | .0099 | .0257 | .1044 | 4.990 | 4.923 | .0152 | .1031 | 5.171 |
| Stddev | .0004 | .0006 | .0000 | .0004 | .053 | .012 | .0002 | .0010 | .005 |
| %RSD | .6520 | 6.251 | .0129 | .3763 | 1.067 | .2494 | 1.346 | .9872 | .0969 |
| #1 | .0549 | .0104 | .0257 | .1046 | 5.028 | 4.914 | .0150 | .1023 | 5.175 |
| #2 | .0544 | .0095 | .0257 | .1041 | 4.953 | 4.932 | .0153 | .1038 | 5.168 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0416 | .0044 | .0001 | .0021 | .0026 | .0050 | .0108 | .0207 | .1035 |
| Stddev | .0001 | .0003 | .0005 | .0027 | .0009 | .0008 | .0000 | .0004 | .0009 |
| %RSD | .2563 | 6.990 | 396.1 | 130.2 | 36.04 | 16.52 | .3615 | 1.877 | .8917 |
| #1 | .0415 | .0046 | -.0002 | .0040 | .0033 | .0045 | .0107 | .0204 | .1028 |
| #2 | .0417 | .0041 | .0005 | .0002 | .0020 | .0056 | .0108 | .0210 | .1041 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0110 | .0488 | F.0034 | .0098 | -.0006 | .0212 | -.0009 |
| Stddev | .0000 | .0003 | .0001 | .0001 | .0011 | .0002 | .0001 |
| %RSD | .2128 | .5346 | 3.948 | .5726 | 172.0 | 1.059 | 8.252 |
| #1 | .0110 | .0486 | .0035 | .0098 | -.0014 | .0210 | -.0009 |
| #2 | .0110 | .0490 | .0033 | .0098 | .0001 | .0213 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1103.4 | 57972. | 18700. |
| Stddev | 1.2 | 102. | 21. |
| %RSD | .11033 | .17674 | .11481 |
| #1 | 1102.5 | 58045. | 18685. |
| #2 | 1104.2 | 57900. | 18716. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/12/2013 23:20:33 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 536.8 | .0012 | -.0025 | .0058 | -.0004 | .0001 | 439.2 | .0001 | .0000 |
| Stddev | .0002 | .9 | .0017 | .0003 | .0008 | .0000 | .0000 | 3.1 | .0001 | .0002 |
| %RSD | 260.6 | .1643 | 139.4 | 11.27 | 13.22 | 12.48 | 33.80 | .7113 | 128.4 | 509.4 |
| #1 | .0001 | 536.2 | .0000 | -.0027 | .0053 | -.0004 | .0001 | 437.0 | .0001 | -.0001 |
| #2 | -.0002 | 537.4 | .0024 | -.0023 | .0063 | -.0004 | .0001 | 441.4 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0020 | 181.9 | -.0400 | 524.4 | .0001 | -.0011 | .0393 | -.0008 | .0005 |
| Stddev | .0002 | .0002 | .9 | .0096 | 2.8 | .0000 | .0002 | .0020 | .0001 | .0021 |
| %RSD | 23.51 | 10.40 | .5049 | 23.87 | .5368 | 9.560 | 19.22 | 5.111 | 7.051 | 392.6 |
| #1 | -.0006 | .0018 | 181.3 | -.0333 | 522.4 | .0002 | -.0012 | .0407 | -.0007 | -.0009 |
| #2 | -.0008 | .0021 | 182.6 | -.0468 | 526.4 | .0001 | -.0009 | .0379 | -.0008 | .0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0281 | -.0269 | .0937 | .0004 | .0000 | 3.124 | .0007 | -.0076 | .0055 | -.0013 |
| Stddev | .0007 | .0021 | .0002 | .0006 | .001 | .005 | .0018 | .0001 | .0004 | .0020 |
| %RSD | 2.552 | 7.876 | .2105 | 139.2 | 1608. | .1611 | 267.9 | 1.203 | 6.723 | 155.1 |
| #1 | -.0286 | -.0284 | .0936 | .0009 | .0004 | 3.120 | -.0006 | -.0075 | .0057 | .0001 |
| #2 | -.0276 | -.0254 | .0939 | .0000 | -.0005 | 3.128 | .0019 | -.0077 | .0052 | -.0028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0267 | .0007 | -.0109 |
| Stddev | .0001 | .0025 | .0001 | .0001 |
| %RSD | 7.993 | 9.542 | 14.67 | .4938 |
| #1 | -.0012 | -.0249 | .0008 | -.0108 |
| #2 | -.0010 | -.0285 | .0007 | -.0109 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1019.8 | 53791. | 18400. |
| Stddev | 2.4 | 54. | 115. |
| %RSD | .23784 | .10099 | .62334 |
| #1 | 1021.5 | 53753. | 18481. |
| #2 | 1018.1 | 53830. | 18319. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/12/2013 23:25:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.029 | 537.1 | 2.115 | .4862 | 1.035 | .4969 | .4693 | 439.2 | 1.038 | .4996 |
| Stddev | .002 | .6 | .003 | .0006 | .003 | .0003 | .0006 | .9 | .004 | .0019 |
| %RSD | .2145 | .1174 | .1550 | .1318 | .2518 | .0683 | .1268 | .2063 | .3713 | .3766 |
| #1 | 1.031 | 537.6 | 2.118 | .4867 | 1.037 | .4966 | .4697 | 439.8 | 1.040 | .5009 |
| #2 | 1.028 | 536.7 | 2.113 | .4858 | 1.033 | .4971 | .4689 | 438.5 | 1.035 | .4983 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4586 | .5425 | 182.3 | -.0243 | 523.6 | .4723 | .9702 | .0618 | .8853 | .9216 |
| Stddev | .0039 | .0005 | .3 | .0000 | 1.5 | .0001 | .0024 | .0042 | .0033 | .0036 |
| %RSD | .8435 | .0866 | .1600 | .0186 | .2864 | .0242 | .2500 | 6.713 | .3684 | .3859 |
| #1 | .4614 | .5422 | 182.5 | -.0243 | 524.6 | .4724 | .9719 | .0589 | .8876 | .9241 |
| #2 | .4559 | .5428 | 182.1 | -.0243 | 522.5 | .4722 | .9685 | .0648 | .8830 | .9191 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5297 | .4710 | .5253 | 2.063 | 1.966 | 4.749 | 1.020 | 1.037 | .4854 | 1.876 |
| Stddev | .0036 | .0041 | .0056 | .010 | .010 | .016 | .005 | .001 | .0001 | .012 |
| %RSD | .6732 | .8644 | 1.075 | .4754 | .5149 | .3363 | .4629 | .0835 | .0129 | .6580 |
| #1 | .5272 | .4681 | .5293 | 2.070 | 1.973 | 4.760 | 1.023 | 1.036 | .4854 | 1.884 |
| #2 | .5322 | .4738 | .5213 | 2.056 | 1.959 | 4.738 | 1.017 | 1.037 | .4855 | 1.867 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4676 | 2.099 | .9159 | .3772 |
| Stddev | .0009 | .005 | .0039 | .0041 |
| %RSD | .2020 | .2341 | .4276 | 1.090 |
| #1 | .4682 | 2.096 | .9187 | .3743 |
| #2 | .4669 | 2.103 | .9131 | .3801 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1019.4 | 54122. | 18348. |
| Stddev | 2.6 | 170. | 27. |
| %RSD | .25882 | .31397 | .14515 |
| #1 | 1017.5 | 54001. | 18329. |
| #2 | 1021.3 | 54242. | 18367. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 23:30:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2393 | 9.898 | 1.968 | -.0037 | 2.043 | 1.959 | 1.984 | 9.586 | 2.021 | 2.119 |
| Stddev | .0002 | .004 | .000 | .0002 | .001 | .001 | .000 | .025 | .004 | .008 |
| %RSD | .0855 | .0383 | .0031 | 4.860 | .0548 | .0471 | .0130 | .2613 | .1842 | .3725 |
| #1 | .2392 | 9.901 | 1.968 | -.0039 | 2.044 | 1.960 | 1.984 | 9.603 | 2.024 | 2.124 |
| #2 | .2395 | 9.895 | 1.968 | -.0036 | 2.042 | 1.958 | 1.985 | 9.568 | 2.019 | 2.113 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.877 | 1.982 | 10.03 | 9.737 | 9.775 | 1.932 | 1.969 | 10.08 | 1.978 | 1.973 |
| Stddev | .006 | .002 | .02 | .004 | .032 | .004 | .003 | .01 | .006 | .005 |
| %RSD | .3484 | .0799 | .1870 | .0362 | .3238 | .1973 | .1286 | .1284 | .3160 | .2665 |
| #1 | 1.882 | 1.981 | 10.04 | 9.740 | 9.753 | 1.935 | 1.971 | 10.07 | 1.982 | 1.977 |
| #2 | 1.872 | 1.983 | 10.01 | 9.735 | 9.798 | 1.929 | 1.967 | 10.09 | 1.973 | 1.970 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0115 | -.0047 | 1.996 | 1.969 | .0185 | 2.044 | 2.093 | 1.880 | 1.970 |
| Stddev | .0007 | .0008 | .0028 | .002 | .002 | .0004 | .003 | .018 | .001 | .003 |
| %RSD | 144.9 | 7.249 | 59.00 | .1218 | .0824 | 2.093 | .1314 | .8496 | .0435 | .1307 |
| #1 | .0000 | .0109 | -.0067 | 1.998 | 1.968 | .0182 | 2.046 | 2.080 | 1.880 | 1.972 |
| #2 | -.0010 | .0121 | -.0028 | 1.994 | 1.970 | .0188 | 2.042 | 2.106 | 1.879 | 1.968 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.841 | .0277 | 1.990 | .0157 |
| Stddev | .003 | .0014 | .011 | .0040 |
| %RSD | .1838 | 5.031 | .5650 | 25.81 |
| #1 | 1.844 | .0267 | 1.997 | .0185 |
| #2 | 1.839 | .0287 | 1.982 | .0128 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.9 | 57986. | 18772. |
| Stddev | 1.3 | 183. | 39. |
| %RSD | .11658 | .31508 | .20788 |
| #1 | 1104.0 | 57857. | 18744. |
| #2 | 1105.8 | 58116. | 18799. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 12/12/2013 23:35:18 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0023 | .0021 | .0001 | .0030 | .0000 | .0001 | .0086 | .0001 | .0002 |
| Stddev | .0000 | .0007 | .0011 | .0005 | .0004 | .0000 | .0000 | .0018 | .0001 | .0001 |
| %RSD | .5759 | 31.30 | 52.84 | 412.7 | 13.38 | 1287. | 12.74 | 21.00 | 85.42 | 67.27 |
| #1 | .0004 | .0028 | .0029 | .0005 | .0032 | .0000 | .0001 | .0099 | .0002 | .0002 |
| #2 | .0003 | .0018 | .0013 | -.0002 | .0027 | .0000 | .0001 | .0073 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0009 | .0015 | .0000 | .0214 | .0000 | .0027 | -.0161 | -.0001 | .0001 |
| Stddev | .0003 | .0002 | .0010 | .028 | .0142 | .0000 | .0003 | .0044 | .0000 | .0005 |
| %RSD | 34660. | 23.93 | 64.45 | 1424000. | 66.16 | 2.423 | 9.663 | 27.45 | 11.05 | 349.7 |
| #1 | -.0002 | .0010 | .0008 | -.0195 | .0315 | .0000 | .0028 | -.0130 | -.0001 | -.0002 |
| #2 | .0002 | .0007 | .0022 | .0195 | .0114 | .0000 | .0025 | -.0192 | -.0001 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0013 | -.0012 | -.0003 | .0010 | -.0008 | .0004 | .0001 | .0002 | .0018 |
| Stddev | .0006 | .0007 | .0021 | .0003 | .0008 | .0004 | .0004 | .0000 | .0003 | .0003 |
| %RSD | 110.7 | 56.21 | 174.0 | 121.3 | 84.10 | 49.64 | 104.6 | 17.06 | 138.4 | 15.72 |
| #1 | -.0010 | -.0018 | -.0027 | -.0005 | .0004 | -.0011 | .0006 | .0001 | .0005 | .0020 |
| #2 | -.0001 | -.0008 | .0003 | .0000 | .0016 | -.0005 | .0001 | .0001 | .0000 | .0016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0006 | -.0003 | -.0007 |
| Stddev | .0004 | .0017 | .0000 | .0001 |
| %RSD | 301.7 | 263.6 | 13.43 | 9.517 |
| #1 | -.0002 | .0006 | -.0003 | -.0007 |
| #2 | .0004 | -.0018 | -.0004 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.2 | 57816. | 18617. |
| Stddev | 6.1 | 110. | 18. |
| %RSD | .54984 | .18978 | .09702 |
| #1 | 1108.5 | 57894. | 18630. |
| #2 | 1099.9 | 57739. | 18605. |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000091 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000112 | 0.000000 | No |
| | | | Mo | -0.000021 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | 0.000036 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000328 | 0.000000 | No |
| | | | Mo | 0.035809 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | 0.000087 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000887 | 0.000000 | No |
| | | | Fe | -0.000000 | 0.000000 | No |
| | | | Mn | -0.000022 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000408 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.007148 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.030489 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000368 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000310 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000055 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001625 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000003 | 0.000000 | No |
| | | | Mn | 0.000067 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000067 | 0.000000 | No |
| | | | V | 0.000089 | 0.000000 | No |
| | | | Mo | 0.000183 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000061 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000043 | 0.000000 | No |
| | | | Mn | 0.000002 | 0.000000 | No |
| | | | Mo | -0.001748 | 0.000000 | No |
| | | | Co | -0.000167 | 0.000000 | No |
| | | | Cu | 0.000227 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| | | | Fe | 0.000040 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000023 | 0.000000 | No |
| | | | Si | 0.000038 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000005 | 0.000000 | No |
| | | | Fe | 0.000006 | 0.000000 | No |
| | | | Cr | 0.007492 | 0.000000 | No |
| | | | Mo | -0.000278 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000175 | 0.000000 | No |
| | | | V | -0.001624 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | -0.000232 | 0.000000 | No |
| | | | Cu | -0.000089 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000008 | 0.000000 | No |
| | | | Fe | -0.000318 | 0.000000 | No |
| | | | Mn | 0.000384 | 0.000000 | No |
| | | | Mo | 0.000125 | 0.000000 | No |
| | | | Ca | -0.000004 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.000535 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.000551 | 0.000000 | No |
| | | | Cr | 0.000195 | 0.000000 | No |
| | | | V | -0.030487 | 0.000000 | No |
| | | | Co | 0.001214 | 0.000000 | No |
| | | | Al | -0.000007 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000003 | 0.000000 | No |
| | | | | Ti | -0.002286 | 0.000000 | No |
| | | | | Mo | -0.000116 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000270 | 0.000000 | No |
| | | | | Mo | -0.005896 | 0.000000 | No |
| | | | | Fe | 0.000002 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000270 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

ACCUTEST

| Date: | 12/02/13 |
|---|---|
| Time | 13:35 |

| | |
|---|---|
| Name: | EM/MA |
| MP Batch ID: | MP22168 |
| QC Sample ID: | MC26418-1F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-38563-METALS |
| Conc HNO3 | VENDOR-14192 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1308077 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38403-METALS |
| 0.5 | RGT-38404-METALS |
| 0.5 | RGT-38405-METALS |
| 0.5 | RGT-38440-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | -1 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 1 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP22168-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP22168-B1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-16F | 50 | 50 | | | | 3 | 5 | | |
| 13 | MC26418-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-9F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26484-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review SarahA Date: 12/04/13

**(Format edits must be done by dept. Manager)**

7.6.1

7

Prep QC: MP22168

ACCUTEST

| Date: | 12/02/13 |
|---|---|
| Time | 13:35 |

| | |
|---|---|
| Name: | EM/MA |
| MP Batch ID: | MP22168 |
| QC Sample ID: | MC26418-1F |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-38563-METALS |
| Conc HNO3 | VENDOR-14192 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1308077 |

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38403-METALS |
| 0.5 | RGT-38404-METALS |
| 0.5 | RGT-38405-METALS |
| 0.5 | RGT-38440-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | -1 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 1 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP22168-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP22168-B1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-16F | 50 | 50 | | | | 3 | 5 | | |
| 13 | MC26418-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-9F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26484-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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**Protected Worksheet** MMP003-02 QC Review SarahA Date: 12/04/13

**(Format edits must be done by dept. Manager)**

7.6.2

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45307 | 5.0 | 1.1 | mg/l | 250 | 260 | 104.0 | 80-120% |
| Alkalinity, Total as CaCO3 | GN45308 | 5.0 | 1.1 | mg/l | 250 | 265 | 106.0 | 80-120% |
| Chloride | GN45294 | 1.0 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 80-120% |
| Dissolved Organic Carbon | GN45353 | 1.0 | 0.50 | mg/l | 10 | 10.9 | 109.0 | 80-120% |
| Nitrogen, Ammonia | GP16968/GN45347 | 0.10 | 0.0 | mg/l | 0.5 | 0.49 | 98.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16953/GN45311 | 0.10 | 0.029 | mg/l | 2 | 2.17 | 108.5 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | 0.10 | 0.0 | mg/l | 2 | 2.16 | 108.0 | 90-110% |
| Nitrogen, Nitrite | GP16907/GN45182 | 0.010 | 0.0 | mg/l | 0.02 | 0.021 | 105.0 | 80-120% |
| Sulfide | GN45217 | 2.0 | 0.0 | mg/l | 13.4 | 11.0 | 82.1 | 80-120% |
| Sulfide | GN45262 | 2.0 | 0.0 | mg/l | 13.4 | 13.0 | 97.0 | 80-120% |

Associated Samples:
Batch GN45217: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45262: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45294: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45307: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45308: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45353: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F
Batch GP16907: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16953: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GP16954: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16968: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45307 | MC26418-1 | mg/l | 112 | 112 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN45308 | MC26484-4 | mg/l | 33.0 | 33.0 | 0.0 | 0-20% |
| Chloride | GN45294 | MC26418-1 | mg/l | 18.0 | 18.0 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN45353 | MC26418-1F | mg/l | 3.3 | 3.2 | 3.1 | 0-20% |
| Nitrogen, Ammonia | GP16968/GN45347 | MC26418-1 | mg/l | 1.3 | 1.3 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16953/GN45311 | MC26418-1 | mg/l | 0.24 | 0.24 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | MC26484-4 | mg/l | 0.24 | 0.24 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16907/GN45182 | MC26418-1 | mg/l | 0.0017 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN45217 | MC26418-1 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN45262 | MC26484-4 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN45217: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45262: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45294: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45307: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45308: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45353: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F
Batch GP16907: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16953: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GP16954: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16968: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45307 | MC26418-1 | mg/l | 112 | 250 | 378 | 106.4 | 75-125% |
| Alkalinity, Total as CaCO3 | GN45308 | MC26484-4 | mg/l | 33.0 | 250 | 286 | 101.2 | 75-125% |
| Chloride | GN45294 | MC26418-1 | mg/l | 18.0 | 10 | 28.5 | 105.0 | 75-125% |
| Dissolved Organic Carbon | GN45353 | MC26418-1F | mg/l | 3.3 | 10 | 13.2 | 99.0 | 75-125% |
| Nitrogen, Ammonia | GP16968/GN45347 | MC26418-1 | mg/l | 1.3 | 0.5 | 1.8 | 100.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16953/GN45311 | MC26418-1 | mg/l | 0.24 | 2 | 2.5 | 113.0(a) | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | MC26484-4 | mg/l | 0.24 | 2 | 2.4 | 108.0 | 90-110% |
| Nitrogen, Nitrite | GP16907/GN45182 | MC26418-1 | mg/l | 0.0017 U | 0.02 | 0.020 | 100.0 | 75-125% |
| Sulfide | GN45217 | MC26418-1 | mg/l | 0.49 U | 10.3 | 9.7 | 94.2 | 75-125% |
| Sulfide | GN45262 | MC26484-4 | mg/l | 0.49 U | 10.3 | 10.0 | 97.1 | 75-125% |

Associated Samples:
Batch GN45217: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45262: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45294: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45307: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GN45308: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GN45353: MC26418-1F, MC26418-2F, MC26418-3F, MC26418-4F, MC26418-5F, MC26418-6F, MC26418-8F, MC26418-9F, MC26418-10F, MC26418-11F, MC26418-12F, MC26418-13F, MC26418-15F, MC26418-16F
Batch GP16907: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16953: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11
Batch GP16954: MC26418-12, MC26418-13, MC26418-15, MC26418-16
Batch GP16968: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:45 | GN45311-STD1 | 1 | | STDA5.0 |
| 12:46 | GN45311-STD2 | 1 | | STDB2.0 |
| 12:47 | GN45311-STD3 | 1 | | STDC1.0 |
| 12:49 | GN45311-STD4 | 1 | | STDD0.80 |
| 12:50 | GN45311-STD5 | 1 | | STDE0.50 |
| 12:51 | GN45311-STD6 | 1 | | STDF0.30 |
| 12:52 | GN45311-STD7 | 1 | | STDG0.10 |
| 12:54 | GN45311-STD8 | 1 | | STDH0.0 |
| 12:56 | GN45311-ICV1 | 1 | | |
| 12:58 | GN45311-ICB1 | 1 | | |
| 12:59 | GN45311-CCV1 | 1 | | |
| 13:00 | GN45311-CCB1 | 1 | | |
| 13:01 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:03 | GP16952-MB1 | 1 | | |
| 13:04 | GP16952-B1 | 1 | | |
| 13:05 | GP16952-S1 | 1 | | |
| 13:06 | GP16952-D1 | 1 | | |
| 13:08 | MC26484-7 | 1 | | (sample used for QC only; not part of login MC26418) |
| 13:09 | ZZZZZZ | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:12 | ZZZZZZ | 1 | | |
| 13:14 | GN45311-CCV2 | 1 | | |
| 13:15 | GN45311-CCB2 | 1 | | |
| 13:16 | GN45311-ICV2 | 1 | | |
| 13:17 | GN45311-ICB2 | 1 | | |
| 13:19 | GN45311-CCV3 | 1 | | |
| 13:20 | GN45311-CCB3 | 1 | | |
| 13:21 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:22 | GP16953-MB1 | 1 | | |
| 13:24 | GP16953-B1 | 1 | | |
| 13:25 | GP16953-S1 | 1 | | |
| 13:26 | GP16953-D1 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:27 | MC26418-1 | 1 | | |
| 13:29 | ZZZZZZ | 1 | | DNR, SEE RERUN. |
| 13:30 | ZZZZZZ | 1 | | DNR, SEE RERUN. |
| 13:31 | MC26418-4 | 1 | | |
| 13:32 | MC26418-5 | 1 | | |
| 13:34 | GN45311-CCV4 | 1 | | |
| 13:35 | GN45311-CCB4 | 1 | | |
| 13:36 | MC26418-6 | 1 | | |
| 13:37 | MC26418-8 | 1 | | |
| 13:39 | MC26418-9 | 1 | | |
| 13:40 | MC26418-10 | 1 | | |
| 13:41 | MC26418-11 | 1 | | |
| 13:42 | GN45311-CCV5 | 1 | | |
| 13:43 | GN45311-CCB5 | 1 | | |
| 13:45 | GN45311-ICV3 | 1 | | |
| 13:46 | GN45311-ICB3 | 1 | | |
| 13:47 | GN45311-CCV6 | 1 | | |
| 13:48 | GN45311-CCB6 | 1 | | |
| 13:50 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:51 | GP16954-MB1 | 1 | | |
| 13:52 | GP16954-B1 | 1 | | |
| 13:53 | GP16954-S1 | 1 | | |
| 13:55 | GP16954-D1 | 1 | | |
| 13:56 | MC26484-4 | 1 | | (sample used for QC only; not part of login MC26418) |
| 13:57 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 14:00 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| 14:02 | GN45311-CCV7 | 1 | | |
| 14:03 | GN45311-CCB7 | 1 | | |
| 14:05 | ZZZZZZ | 1 | | |
| 14:06 | MC26418-12 | 1 | | |
| 14:07 | MC26418-13 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:08 | MC26418-15 | 1 | | |
| 14:10 | MC26418-16 | 1 | | |
| 14:11 | GN45311-CCV8 | 1 | | |
| 14:12 | GN45311-CCB8 | 1 | | |
| 14:13 | GN45311-ICV4 | 1 | | |
| 14:15 | GN45311-ICB4 | 1 | | |
| 14:16 | GN45311-CCV9 | 1 | | |
| 14:17 | GN45311-CCB9 | 1 | | |
| 14:18 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 14:19 | GP16955-MB1 | 1 | | |
| 14:21 | GP16955-B1 | 1 | | |
| 14:22 | GP16955-S1 | 1 | | |
| 14:23 | GP16955-D1 | 1 | | |
| 14:24 | MC26426-1 | 1 | | (sample used for QC only; not part of login MC26418) |
| 14:26 | GN45311-CCV10 | 1 | | |
| 14:27 | GN45311-CCB10 | 1 | | |
| 14:43 | GN45311-CCV11 | 1 | | |
| 14:45 | GN45311-CCB11 | 1 | | |
| 14:46 | MC26418-2 | 1 | | |
| 14:47 | MC26418-3 | 1 | | |
| 14:48 | GN45311-CCV12 | 1 | | |
| 14:50 | GN45311-CCB12 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Run ID: GN45311 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45311-ICV1 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV1 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV2 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV2 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN45311-ICB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV3 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB4 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV5 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV6 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB6 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV7 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB7 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV8 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV4 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB4 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV9 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV10 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB10 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN45311-CCV11 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB11 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV12 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB12 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC120413W1.TXT  Date Analyzed: 12/04/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN45353
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:50 | GN45353-ICV1 | 1 | | |
| 10:03 | GN45353-CCV1 | 1 | | |
| 10:16 | GN45353-CCB1 | 1 | | |
| 10:29 | ZZZZZZ | 1 | | Sparger check STD |
| 10:42 | GN45353-MB1 | 1 | | |
| 10:55 | GN45353-B1 | 1 | | |
| 11:08 | GN45353-S1 | 1 | | |
| 11:21 | GN45353-D1 | 1 | | |
| 11:34 | MC26418-1F | 1 | | |
| 11:47 | MC26418-2F | 1 | | |
| 12:00 | MC26418-3F | 1 | | |
| 12:13 | MC26418-4F | 1 | | |
| 12:24 | MC26418-5F | 1 | | |
| 12:39 | GN45353-CCV2 | 1 | | |
| 12:52 | GN45353-CCB2 | 1 | | |
| 13:05 | MC26418-6F | 1 | | |
| 13:16 | MC26418-8F | 1 | | |
| 13:31 | MC26418-9F | 1 | | |
| 13:44 | MC26418-10F | 1 | | |
| 13:57 | MC26418-11F | 1 | | |
| 14:11 | MC26418-12F | 1 | | |
| 14:25 | MC26418-13F | 1 | | |
| 14:38 | MC26418-15F | 1 | | |
| 14:51 | MC26418-16F | 1 | | |
| 15:04 | GN45353-CCV3 | 1 | | |
| 15:17 | GN45353-CCB3 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26418
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC120413W1.TXT  Date Analyzed: 12/04/13  Methods: SM21 5310 B
Run ID: GN45353  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45353-ICV1 | Dissolved Organic Carbon | 31.5 | 1.0 | 0.23 | 30 | 105.0 | 90-110 |
| GN45353-CCV1 | Dissolved Organic Carbon | 21.2 | 1.0 | 0.23 | 20 | 106.0 | 90-110 |
| GN45353-CCB1 | Dissolved Organic Carbon | 0.56 | 1.0 | 0.23 | | | |
| GN45353-CCV2 | Dissolved Organic Carbon | 20.7 | 1.0 | 0.23 | 20 | 103.5 | 90-110 |
| GN45353-CCB2 | Dissolved Organic Carbon | 0.57 | 1.0 | 0.23 | | | |
| GN45353-CCV3 | Dissolved Organic Carbon | 20.6 | 1.0 | 0.23 | 20 | 103.0 | 90-110 |
| GN45353-CCB3 | Dissolved Organic Carbon | 0.58 | 1.0 | 0.23 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ Units: mg/l as N
SM 21TH 4500 NO2 B M (Solids) ○ mg/kg as N

Analyst: CRYSTALL
GN Batch ID: GN45182
GP Batch ID: GP16907
Date: 11/20/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 11/20/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.032 | 0.065 | 0.164 | 0.320 | 0.655 | 1.285 | | | | |
| Actual Value: | 0.000 | 0.010 | 0.020 | 0.051 | 0.099 | 0.203 | 0.399 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-31964-NO2 | Reagent | |
| CCV | GNSTD-31964-NO2-5 | Reagent | |
| ICV | GNSTD-31965-NO2-2 | Reagent | |
| Reagent | RGT-38278-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99995
Slope = 0.31059
Intercept = -0.00043

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC26418-1 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | |
| MS Sample ID: | MC26418-1 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.02 | % Rec: | 100% |
| MB Prep Date: | 11/20/13 | | | RL: | 0.01 | <RL ?: | Y | | |
| SB Prep Date: | 11/20/13 | Res: | 0.021 | Spike Amt: | 0.02 | % Rec: | 105% | | |
| SB Prep Date: | 11/20/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% |
| CCV (1) Res: | 0.2077 | Known: | 0.20 | % Rec: | 104% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (5) Res: | 0.21 | Known: | 0.20 | % Rec: | 105% | CCV (6) Res: | | Known: | 0.20 | % Rec: | |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:48 | CCV | N/A | | 50 | 50 | 1 | 0.670 | 0.000 | 0.208 | 0.2077 | 0.010 |
| 12:05 | CCB | N/A | | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0011 | 0.010 |
| 12:05 | ICV | N/A | | 50 | 50 | 1 | 0.328 | 0.000 | 0.101 | 0.1014 | 0.010 |
| 12:05 | GP16907-MB1 | N/A | | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0001 | 0.010 |
| 12:05 | GP16907-B1 | N/A | | 50 | 50 | 1 | 0.068 | 0.000 | 0.021 | 0.0207 | 0.010 |
| 12:05 | GP16907-S1 | 7 | | 50 | 50 | 1 | 0.066 | 0.000 | 0.020 | 0.0201 | 0.010 |
| 12:05 | GP16907-D1 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0014 | 0.010 |
| 12:05 | MC26418-1 | 7 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0008 | 0.010 |
| 12:05 | MC26418-2 | 7 | 1 | 50 | 50 | 1 | 0.010 | 0.000 | 0.003 | 0.0027 | 0.010 |
| 12:05 | MC26418-3 | 7 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.003 | 0.0033 | 0.010 |
| 12:05 | MC26418-4 | 7 | 1 | 50 | 50 | 1 | 0.015 | 0.000 | 0.004 | 0.0042 | 0.010 |
| 12:05 | MC26418-5 | 7 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.002 | 0.0017 | 0.010 |
| 12:05 | CCV | N/A | | 50 | 50 | 1 | 0.661 | 0.000 | 0.205 | 0.2049 | 0.010 |
| 12:08 | CCB | N/A | | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0001 | 0.010 |
| 12:08 | MC26418-6 | 6 | 1 | 50 | 50 | 1 | 0.004 | 0.000 | 0.001 | 0.0008 | 0.010 |
| 12:08 | MC26418-8 | 6 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0002 | 0.010 |
| 12:08 | CCV | N/A | | 50 | 50 | 1 | 0.661 | 0.000 | 0.205 | 0.2049 | 0.010 |
| 16:54 | CCB | N/A | | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0001 | 0.010 |
| 16:54 | CCV | N/A | | 50 | 50 | 1 | 0.660 | 0.000 | 0.205 | 0.2046 | 0.010 |
| 17:11 | CCB | N/A | | 50 | 50 | 1 | 0.000 | 0.000 | 0.000 | -0.0004 | 0.010 |
| 17:11 | MC26418-9 | 7 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.003 | 0.0033 | 0.010 |
| 17:11 | MC26418-10 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.001 | 0.0014 | 0.010 |
| 17:11 | MC26418-11 | 7 | 1 | 50 | 50 | 1 | 0.012 | 0.000 | 0.003 | 0.0033 | 0.010 |
| 17:11 | MC26418-12 | 6 | 1 | 50 | 50 | 1 | 0.011 | 0.000 | 0.003 | 0.0030 | 0.010 |
| 17:11 | MC26418-13 | 7 | 1 | 50 | 50 | 1 | 0.002 | 0.000 | 0.000 | 0.0002 | 0.010 |
| 17:11 | MC26418-15 | 6 | 1 | 50 | 50 | 1 | 0.005 | 0.000 | 0.001 | 0.0011 | 0.010 |
| 17:11 | MC26418-16 | 6 | 1 | 50 | 50 | 1 | 0.008 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 17:11 | CCV | N/A | | 50 | 50 | 1 | 0.662 | 0.000 | 0.205 | 0.2052 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | 0.001 | 0.000 | 0.000 | -0.0001 | 0.010 |

CCV 11-20-13

11/21/13

Analyst: Crystal Woodall Date: 11-20-13 QC Reviewer: Date: 11/21/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN45217
Date: 11/22/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-14189 |
| Iodine | 0.025 | RGT-38236-SREAC |
| HCl | 6N | RGT-37953-S |
| External QC- ICV: | | GNSTD-31927-S-1 |
| Starch Iot# | | VENDOR-14065 |
| Spike Lot# | | GNSTD-31926-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC26418-1 | Original: | <2 | MS: | 9.7 | Spk Amt | 10.3 | %REC | 94% |
| Dup Sample ID: | MC26418-1 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date | 11/22/2013 | Result: | <2 | RL: | 2 | <MDL? | Y | | |
| Spk Blk Date: | 11/22/13 | Result: | 11 | SPK AMT. | 13.4 | %Rec | 82.1% | | |
| External QC (ICV): | GNSTD-31927-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC | 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN45217-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN45217-B1 | 20 | 200 | 5 | 19.5 | 14.50 | 11.0 | 11.0 | 2 |
| 7 | GN45217-S1 | 20 | 260 | 19.5 | 33.2 | 13.70 | 9.7 | 9.7 | 2 |
| 8 | GN45217-D1 | 5 | 260 | 33.2 | 38.2 | 5.00 | 0.0 | <2 | 2 |
| 9 | MC26418-1 | 5 | 260 | 38.2 | 43.2 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-2 | 5 | 265 | 43.2 | 48.2 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-3 | 5 | 255 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-4 | 5 | 270 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-5 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-6 | 5 | 240 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-8 | 5 | 240 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-9 | 5 | 250 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-10 | 5 | 255 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-11 | 5 | 240 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

11-22-13 BIJ

Analyst: Bij Date: 11-22-13 QC Reviewer Date: 11/22/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN45262
Date: 11/25/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-14189 |
| Iodine | 0.025 | RGT-38484-SREAC |
| HCl | 6N | RGT-38486-S |
| External QC- ICV: | | GNSTD-32011-S-1 |
| Starch lot# | | VENDOR-14065 |
| Spike Lot# | | GNSTD-32010-S-1 |

Iodine Standardization

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC26484-4 | Original: | <2 | MS: | 10 | Spk Amt | 10.3 | %REC | 97% |
| Dup Sample ID: | MC26484-4 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | | |
| Method Blank Date | 11/25/2013 | Result: | <2 | RL: | 2 | <MDL? | y | | |
| Spk Blk Date: | 11/25/13 | Result: | 13 | SPK AMT. | 13.4 | %Rec | 97.0% | | |
| External QC (ICV): | GNSTD-32011-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 13.2 | %REC | 99% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN45262-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN45262-B1 | 20 | 200 | 5 | 18.5 | 13.50 | 13.0 | 13.0 | 2 |
| 9 | GN45262-S1 | 20 | 260 | 18.5 | 32 | 13.50 | 10.0 | 10.0 | 2 |
| 8 | GN45262-D1 | 5 | 250 | 32 | 37 | 5.00 | 0.0 | <2 | 2 |
| 7 | MC26484-4 | 5 | 260 | 37 | 42 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-1 | 5 | 260 | 42 | 47 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-2 | 5 | 240 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-3 | 5 | 255 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-6 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-7 | 5 | 245 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-12 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-13 | 5 | 250 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-15 | 5 | 270 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-16 | 5 | 260 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.4 | 13.40 | 13.2 | 13.2 | 2 |

BIJ 11-25-13

Analyst: BIJ Date: 11-25-13 QC Reviewer: Date: 11/26/13

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN45294** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 11/27/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN45294-MB1 | Date: | 11/27/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN45294-B1 | Date: | 11/27/2013 | Res: | 10 | Spike: | 10 | % Rec: | 100% | | |
| Duplicate ID: | MC26418-1 | Smpl Res:: | 18 | Dup Res: | 18 | % RPD: | 0% | | | | |
| MS ID: | MC26418-1 | Smpl Res: | 18 | MS Res: | 28.5 | Spike: | 10 | % Rec: | 105% | | |
| External: | GNSTD-31299-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.05 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45294-MB1 | 2.49 | 50.0 | 1 | 0.0 | 0.0500 | 0.0500 | 0.000 | 0.0 | 0 | 1 |
| | GN45294-B1 | 2.55 | 50.0 | 1 | 0.0 | 1.0500 | 1.0500 | 1.000 | 10.0 | 10 | 1 |
| 2 | GN45294-S1 | 2.45 | 50.0 | 1 | 0.0 | 2.9000 | 2.9000 | 2.850 | 28.5 | 28.49 | 1 |
| 2 | GN45294-D1 | 2.55 | 50.0 | 1 | 0.0 | 1.8500 | 1.8500 | 1.800 | 18.0 | 17.99 | 1 |
| 2 | MC26418-1 | 2.55 | 50.0 | 1 | 0.0 | 1.8500 | 1.8500 | 1.800 | 18.0 | 17.99 | 1 |
| 1 | MC26418-2 | 2.49 | 50.0 | 1 | 0.0 | 3.0500 | 3.0500 | 3.000 | 30.0 | 29.99 | 1 |
| 1 | MC26418-3 | 2.48 | 50.0 | 1 | 0.0 | 3.0000 | 3.0000 | 2.950 | 29.5 | 29.49 | 1 |
| 1 | MC26418-4 | 2.56 | 50.0 | 1 | 0.0 | 0.7500 | 0.7500 | 0.700 | 7.0 | 7 | 1 |
| 1 | MC26418-5 | 2.56 | 50.0 | 1 | 0.0 | 0.4500 | 0.4500 | 0.400 | 4.0 | 4 | 1 |
| 1 | MC26418-6 | 2.48 | 50.0 | 1 | 0.0 | 7.6000 | 7.6000 | 7.550 | 75.5 | 75.48 | 1 |
| 1 | MC26418-8 | 2.5 | 50.0 | 1 | 0.0 | 7.6000 | 7.6000 | 7.550 | 75.5 | 75.48 | 1 |
| 1 | MC26418-9 | 2.47 | 50.0 | 1 | 0.0 | 2.3500 | 2.3500 | 2.300 | 23.0 | 22.99 | 1 |
| 1 | MC26418-10 | 2.54 | 50.0 | 1 | 0.0 | 1.0000 | 1.0000 | 0.950 | 9.5 | 9.5 | 1 |
| 1 | MC26418-11 | 2.48 | 50.0 | 1 | 0.0 | 2.4500 | 2.4500 | 2.400 | 24.0 | 23.99 | 1 |
| 1 | MC26418-12 | 2.58 | 50.0 | 1 | 0.0 | 3.5500 | 3.5500 | 3.500 | 35.0 | 34.99 | 1 |
| 1 | MC26418-13 | 2.57 | 50.0 | 1 | 0.0 | 6.1500 | 6.1500 | 6.100 | 61.0 | 60.98 | 1 |
| 1 | MC26418-15 | 2.55 | 50.0 | 1 | 0.0 | 3.8500 | 3.8500 | 3.800 | 38.0 | 37.99 | 1 |
| 1 | MC26418-16 | 2.43 | 50.0 | 1 | 0.0 | 0.2000 | 0.2000 | 0.150 | 1.5 | 1.5 | 1 |
| 5 | MC26457-1 | 2.53 | 50.0 | 50 | 0.0 | 1.2500 | 1.2500 | 1.200 | 12.0 | 600 | 50 |
| | ICV | 2.45 | 50.0 | 1 | 0.0 | 0.5500 | 0.5500 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13659 | #4 | | |
| #2 | Acidic Indicator | RGT-38203-CHL | #5 | | |
| #3 | Spike | GNSTD-31867-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-14074, Result 1.99.

**Approved By:** mehdia **Date:** 11/27/2013 3:25:14 PM

ACCUTEST LABORATORIES

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN45307** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 11/27/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC26418-1 Original: 112 MS: 378 Spk Amt: 250 % Rec: 106%

Dup Sample ID: MC26418-1 Original: 112 Duplicate: 112 % RPD: 0%

MB Date: 11/27/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 260 Spike Amt: 250 % Rec: 104

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 52.8 % REC: 105.6

Sulfuric Normality: 0.022 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45307-MB1 | 100 | 5.69 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN45307-B1 | 100 | 8.95 | 4.9 | 28.5 | 23.6 | | | 259.6 | 259.6 | 5 |
| 2 | GN45307-S1 | 100 | 7.34 | 0.0 | 34.4 | 34.4 | | | 378.4 | 378.4 | 5 |
| 2 | GN45307-D1 | 100 | 6.27 | 34.4 | 44.6 | 10.2 | | | 112.2 | 112.2 | 5 |
| 2 | MC26418-1 | 100 | 6.27 | 44.6 | 54.8 | 10.2 | | | 112.2 | 112.2 | 5 |
| 1 | MC26418-2 | 100 | 6.03 | 4.8 | 15.8 | 11.0 | | | 121.0 | 121 | 5 |
| 1 | MC26418-3 | 100 | 6.05 | 15.8 | 27.6 | 11.8 | | | 129.8 | 129.8 | 5 |
| 1 | MC26418-4 | 100 | 5.99 | 0.0 | 7.2 | 7.2 | | | 79.2 | 79.2 | 5 |
| 1 | MC26418-5 | 100 | 6.02 | 7.2 | 26.3 | 19.1 | | | 210.1 | 210.1 | 5 |
| 1 | MC26418-6 | 100 | 5.52 | 26.3 | 26.8 | 0.5 | 0.1 | 0.6 | 4.4 | <5 | 5 |
| 1 | MC26418-8 | 100 | 6.35 | 26.9 | 29.1 | 2.2 | | | 24.2 | 24.2 | 5 |
| 1 | MC26418-9 | 100 | 6.29 | 29.1 | 49.1 | 20.0 | | | 220.0 | 220 | 5 |
| 1 | MC26418-10 | 100 | 6.22 | 0.0 | 19.1 | 19.1 | | | 210.1 | 210.1 | 5 |
| 1 | MC26418-11 | 100 | 6.44 | 19.1 | 47.5 | 28.4 | | | 312.4 | 312.4 | 5 |
| | ICV | 100 | 8.62 | 0.1 | 4.9 | 4.8 | | | 52.8 | 52.8 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 11/27/2013 4:42:21 PM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN45308** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 11/27/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC26484-4 Original: 33 MS: 286 Spk Amt: 250 % Rec: 101%

Dup Sample ID: MC26484-4 Original: 33 Duplicate: 33 % RPD: 0%

MB Date: 11/27/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 265 Spike Amt: 250 % Rec: 106

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 53.9 % REC: 107.8

Sulfuric Normality: 0.022 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45308-MB1 | 100 | 5.72 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN45308-B1 | 100 | 8.95 | 5.0 | 29.1 | 24.1 | | | 265.1 | 265.1 | 5 |
| 1 | GN45308-S1 | 100 | 7.41 | 0.0 | 26.0 | 26.0 | | | 286.0 | 286 | 5 |
| 1 | GN45308-D1 | 100 | 5.90 | 26.0 | 29.0 | 3.0 | | | 33.0 | 33 | 5 |
| 1 | MC26484-4 | 100 | 5.91 | 29.0 | 32.0 | 3.0 | | | 33.0 | 33 | 5 |
| 1 | MC26418-12 | 100 | 6.80 | 0.0 | 8.4 | 8.4 | | | 92.4 | 92.4 | 5 |
| 1 | MC26418-13 | 100 | 6.52 | 8.4 | 31.7 | 23.3 | | | 256.3 | 256.3 | 5 |
| 1 | MC26418-15 | 100 | 6.58 | 31.7 | 67.2 | 35.5 | | | 390.5 | 390.5 | 5 |
| 1 | MC26418-16 | 100 | 6.25 | 17.2 | 22.1 | 4.9 | | | 53.9 | 53.9 | 5 |
| 1 | MC26484-1 | 100 | 6.77 | 22.1 | 36.7 | 14.6 | | | 160.6 | 160.6 | 5 |
| 1 | MC26484-2 | 100 | 6.15 | 36.7 | 39.0 | 2.3 | | | 25.3 | 25.3 | 5 |
| 1 | MC26484-3 | 100 | 6.19 | 39.0 | 41.4 | 2.4 | | | 26.4 | 26.4 | 5 |
| 1 | MC26484-5 | 100 | 6.79 | 0.0 | 38.6 | 38.6 | | | 424.6 | 424.6 | 5 |
| 1 | MC26484-7 | 100 | 6.29 | 0.0 | 10.5 | 10.5 | | | 115.5 | 115.5 | 5 |
| | ICV | 100 | 8.62 | 0.1 | 5.0 | 4.9 | | | 53.9 | 53.9 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | $ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$ | $ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 11/30/2013 7:36:59 PM

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MIRANDAC | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 11/27/13 | **Analysis Batch ID** | GN45311 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16952, GP16953, GP16954, GP16955 |
| **File ID** | 112713W1.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 32052-NO3 | **Ammonium Hydroxide** | VENDOR- | 12241 |
| **ICV** | GNSTD- | 32053-NO3-2 | **Column EFF STD** | GNSTD- | 32054-NO3-2 |
| **CCV** | GNSTD- | 32052-NO3-4 | | | |
| **Buffer** | RGT- | 37722-NO3 | | | |
| **Color Reagent** | RGT- | 38539-NO3 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16952-S1 | 4 | 7.3 | MC26418-2 | 1 | 6.0 | GP16954-D1 | 10 | 8.1 | MC26418-16 | 4 | 8.0 |
| **GP16952-D1** | 4 | 7.3 | MC26418-3 | 1 | 6.0 | MC26484-4 | 10 | 8.1 | GP16955-S1 | 2 | 8.5 |
| **MC26484-7** | 4 | 7.3 | MC26418-4 | 4 | 7.4 | MC26484-1 | 1 | 8.7 | GP16955-D1 | 2 | 8.5 |
| **MC26669-1** | 2 | 6.9 | MC26418-5 | 4 | 8.2 | MC26484-2 | 4 | 8.8 | MC26426-1 | 2 | 8.5 |
| **MC26669-3** | 2 | 7.0 | MC26418-6 | 4 | 8.9 | MC26484-3 | 4 | 7.6 | | | |
| **MC26669-6** | 2 | 6.5 | MC26418-8 | 4 | 7.0 | MC26484-5 | 4 | 8.8 | | | |
| **MC26669-8** | 2 | 6.8 | MC26418-9 | 4 | 7.7 | MC26484-6 | 4 | 8.3 | | | |
| **GP16953-S1** | 11 | 8.2 | MC26418-10 | 4 | 8.4 | MC26418-12 | 4 | 8.5 | | | |
| **GP16953-D1** | 11 | 8.2 | MC26418-11 | 4 | 8.2 | MC26418-13 | 4 | 8.1 | | | |
| **MC26418-1** | 11 | 8.2 | GP16954-S1 | 10 | 8.1 | MC26418-15 | 4 | 8.5 | | | |

**QC Review** **Date:** 12/2/13

Author: chemistry

Date : 11/27/2013

Original Run Filename: OM_11-27-2013_12-44-28PM.OMN Created: 11/27/2013 12:44:28 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_11-27-2013_12-44-28PM.OMN Last Modified: 11/27/2013 2:29:09 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF | |
|---|---|---|---|---|
| StdA5.0 | 1 | 5.00 | | |
| StdB2.0 | 1 | 2.00 | | |
| StdC1.0 | 1 | 1.00 | | |
| StdD0.80 | 1 | 0.800 | | |
| StdE0.50 | 1 | 0.500 | | |
| StdF0.30 | 1 | 0.300 | | |
| StdG0.10 | 1 | 0.100 | | |
| StdH0.0 | 1 | 0.00 | | |
| ICV | 1 | 3.07 | | |
| Calibration: | | Table/Fig. : 1 | | |
| ICB | 1 | 0.0239 | | |
| CCV | 1 | 2.06 | | |
| CCB | 1 | 0.0251 | | |
| COLEFFCONF | 1 | 2.10 | | |
| GP16952-MB1 | 1 | 0.0261 | | |
| GP16952-B1 | 1 | 2.10 | | |
| GP16952-S1 | 1 | 1.66 | | |
| GP16952-D1 | 1 | 0.152 | | |
| MC26484-7 | 1 | 0.153 | | |
| MC26669-1 | 1 | 0.348 | | |
| MC26669-3 | 1 | 0.682 | | |
| MC26669-6 | 1 | 0.174 | | |
| MC26669-8 | 1 | 0.359 | | |
| CCV | 1 | 2.11 | | |
| CCB | 1 | 0.0252 | | |
| ICV | 1 | 3.16 | | |
| ICB | 1 | 0.0234 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0230 | | |
| COLEFFCONF | 1 | 2.16 | | |
| GP16953-MB1 | 1 | 0.0289 | | |
| GP16953-B1 | 1 | 2.17 | | |
| GP16953-S1 | 1 | 2.46 | | |
| GP16953-D1 | 1 | 0.241 | | |
| MC26418-1 | 1 | 0.244 | | |
| MC26418-2 | 1 | 0.137 | | DNR. See rerun |
| MC26418-3 | 1 | 0.325 | | DNR. See rerun. |
| MC26418-4 | 1 | 1.12 | | |
| MC26418-5 | 1 | 0.410 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0265 | | |
| MC26418-6 | 1 | 0.0533 | | |
| MC26418-8 | 1 | 0.0638 | | |
| MC26418-9 | 1 | 0.218 | | |
| MC26418-10 | 1 | 0.278 | | |
| MC26418-11 | 1 | 0.253 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0238 | | |
| ICV | 1 | 3.14 | | |
| ICB | 1 | 0.0250 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0244 | | |
| COLEFFCONF | 1 | 2.17 | | |
| GP16954-MB1 | 1 | 0.0231 | | |
| GP16954-B1 | 1 | 2.16 | | |
| GP16954-S1 | 1 | 2.36 | | |
| GP16954-D1 | 1 | 0.243 | | |
| MC26484-4 | 1 | 0.243 | | |
| MC26484-1 | 1 | 0.0370 | | |
| MC26484-2 | 1 | 0.455 | | |



12/2/13

9.7

Author: chemistry

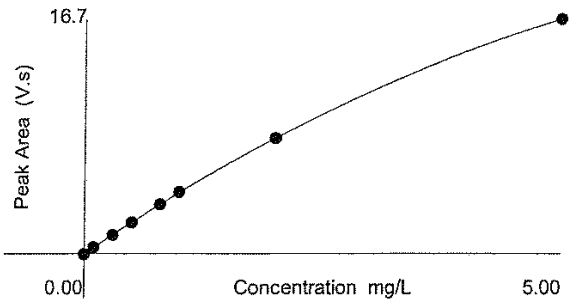
Date : 11/27/2013

| | | | |
|---|---|---|---|
| MC26484-3 | 1 | 0.453 | |
| MC26484-5 | 1 | 0.0385 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0224 | |
| MC26484-6 | 1 | 0.268 | |
| MC26418-12 | 1 | 0.338 | |
| MC26418-13 | 1 | 0.0595 | |
| MC26418-15 | 1 | 0.0363 | |
| MC26418-16 | 1 | 0.137 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0259 | |
| ICV | 1 | 3.11 | |
| ICB | 1 | 0.0271 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0273 | |
| COLEFFCONF | 1 | 2.22 | |
| GP16955-MB1 | 1 | 0.0243 | |
| GP16955-B1 | 1 | 2.13 | |
| GP16955-S1 | 1 | 2.14 | |
| GP16955-D1 | 1 | 0.0298 | |
| MC26426-1 | 1 | 0.0347 | |
| CCV | 1 | 2.07 | |
| CCB | 1 | 0.0275 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 16.7 | 1.24 | 0.0 | -4.3e-3 | 4.99 | 11/27/2013 | 12:45:23 PM |
| 2 | 2.00 | 1 | 8.22 | 0.694 | 0.0 | 0.1 | 2.03 | 11/27/2013 | 12:46:39 PM |
| 3 | 1.00 | 1 | 4.39 | 0.379 | 0.0 | -0.7 | 0.991 | 11/27/2013 | 12:47:54 PM |
| 4 | 0.800 | 1 | 3.51 | 0.304 | 0.0 | 0.2 | 0.779 | 11/27/2013 | 12:49:10 PM |
| 5 | 0.500 | 1 | 2.21 | 0.192 | 0.0 | 0.6 | 0.482 | 11/27/2013 | 12:50:25 PM |
| 6 | 0.300 | 1 | 1.31 | 0.114 | 0.0 | 1.2 | 0.291 | 11/27/2013 | 12:51:41 PM |
| 7 | 0.100 | 1 | 0.442 | 0.0381 | 0.0 | -6.1 | 0.114 | 11/27/2013 | 12:52:56 PM |
| 8 | 0.00 | 1 | -0.0579 | -3.53e-3 | | | 0.0174 | 11/27/2013 | 12:54:12 PM |

Figure : 1 (NO3)




Area = - 0.262 * Conc^2 + 4.66 * Conc - 0.0472
Conc = 6.28e-3 * Area^2 + 0.192 * Area + 0.0285
Correlation Coefficient (r) = 0.99999

Weighting : None

12,2,13

Author: chemistry

Date : 11/27/2013

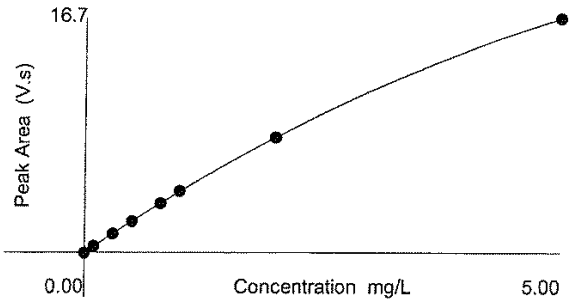
Original Run Filename: OM_11-27-2013_02-42-55PM.OMN Created: 11/27/2013 2:42:55 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_11-27-2013_02-42-55PM.OMN Last Modified: 11/27/2013 2:51:49 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| CCV | 1 | 2.13 | |
| CCB | 1 | -6.52e-3 | |
| Calibration: | | Table/Fig. : 1 | |
| MC26418-2 | 1 | 0.0906 | |
| MC26418-3 | 1 | 0.112 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0262 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 16.7 | 1.24 | 0.0 | -4.3e-3 | 4.99 | 11/27/2013 | 12:45:23 PM |
| 2 | 2.00 | 1 | 8.22 | 0.694 | 0.0 | 0.1 | 2.03 | 11/27/2013 | 12:46:39 PM |
| 3 | 1.00 | 1 | 4.39 | 0.379 | 0.0 | -0.7 | 0.991 | 11/27/2013 | 12:47:54 PM |
| 4 | 0.800 | 1 | 3.51 | 0.304 | 0.0 | 0.2 | 0.779 | 11/27/2013 | 12:49:10 PM |
| 5 | 0.500 | 1 | 2.21 | 0.192 | 0.0 | 0.6 | 0.482 | 11/27/2013 | 12:50:25 PM |
| 6 | 0.300 | 1 | 1.31 | 0.114 | 0.0 | 1.2 | 0.291 | 11/27/2013 | 12:51:41 PM |
| 7 | 0.100 | 1 | 0.442 | 0.0381 | 0.0 | -6.1 | 0.114 | 11/27/2013 | 12:52:56 PM |
| 8 | 0.00 | 1 | -0.0579 | -3.53e-3 | | | 0.0174 | 11/27/2013 | 12:54:12 PM |

Figure : 1 (NO3)




Area = - 0.262 * Conc^2 + 4.66 * Conc - 0.0472
Conc = 6.28e-3 * Area^2 + 0.192 * Area + 0.0285
Correlation Coefficient (r) = 0.99999

Weighting : None

12/2/13

Instrument QC Summary
Inorganics Analyses

Preliminary Analytical QC Report
Nov 27 2013, 03:41 pm

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Run ID: GN45311 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45311-ICV1(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB1(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV1(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB1(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV2(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB2(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV2(a) | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN45311-ICB2(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV3(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB3(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV4(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB4(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV5(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB5(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV3(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB3(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV6(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB6(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV7(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB7(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV8(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB8(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV4(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB4(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV9(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB9(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV10(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB10(a) | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN45311-CCV11(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB11(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV12(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB12(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits
(a) **** RESULTS NOT YET APPROVED BY LABORATORY; DO NOT REPORT ***

12/2/13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN45347
GP Batch ID: GP16968
Date: 12/3/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 12/3/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.065 | 0.185 | 0.320 | 0.481 | 0.610 | 1.256 | | | | |
| Actual Value: | 0.005 | 0.109 | 0.301 | 0.517 | 0.774 | 0.981 | 2.014 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-32071-AMN | Reagent | |
| CCV | GNSTD-32071-AMN-6 | Reagent | |
| ICV | RGT-38334-AMN | Reagent | |
| Reagent | VENDOR-13847 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99972
Slope = 1.60016
Intercept = 0.00462

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC26418-1 | Orig: | 1.3 | | Dup: | 1.3 | | RPD: | 0% |
| MS Sample ID: | MC26418-1 | Orig: | 1.3 | | Spike Amt: | 0.5 | MS Res: | 1.8 | % Rec: 100% |
| MB Prep Date: | 12/03/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | y | | |
| SB Prep Date: | 12/03/13 | Res: | 0.49 | Spike Amt: | 0.5 | % Rec: | 98% | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 19.008 | % Rec: | 103% | | |
| CCV (1) Res: | 0.997 | Known: | 1.00 | % Rec: | 100% | CCV (2) Res: | 1.005 | Known: | 1.00 | % Rec: | 101% |
| CCV (3) Res: | 1.011 | Known: | 1.00 | % Rec: | 101% | CCV (4) Res: | 1.016 | Known: | 1.00 | % Rec: | 102% |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: | |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:00 | CCV | | 50 | 50 | 1 | 0.620 | 0.000 | 0.997 | 0.997 | 0.100 | mg/l |
| 15:10 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.005 | 0.005 | 0.100 | mg/l |
| 15:30 | ICV | | 50 | 50 | 10 | 1.185 | 0.000 | 1.901 | 19.008 | 1.000 | mg/l |
| 15:30 | GP16968-MB1 | | 50 | 50 | 1 | 0.002 | 0.000 | 0.008 | 0.008 | 0.100 | mg/l |
| 15:30 | GP16968-B1 | | 50 | 50 | 1 | 0.304 | 0.000 | 0.491 | 0.491 | 0.100 | mg/l |
| 15:30 | GP16968-S1 | | 50 | 50 | 1 | 1.145 | 0.000 | 1.837 | 1.837 | 0.100 | mg/l |
| 15:30 | GP16968-D1 | | 50 | 50 | 1 | 0.830 | 0.000 | 1.333 | 1.333 | 0.100 | mg/l |
| 15:30 | MC26418-1 | | 50 | 50 | 1 | 0.822 | 0.000 | 1.320 | 1.320 | 0.100 | mg/l |
| 15:30 | MC26418-2 | | 50 | 50 | 2 | 1.222 | 0.000 | 1.960 | 3.920 | 0.200 | mg/l |
| 15:30 | MC26418-3 | | 50 | 50 | 2 | 1.211 | 0.000 | 1.942 | 3.885 | 0.200 | mg/l |
| 15:30 | MC26418-4 | | 50 | 50 | 1 | 0.721 | 0.000 | 1.158 | 1.158 | 0.100 | mg/l |
| 15:30 | MC26418-5 | | 50 | 50 | 2 | 1.096 | 0.000 | 1.758 | 3.517 | 0.200 | mg/l |
| 15:30 | CCV | | 50 | 50 | 1 | 0.625 | 0.000 | 1.005 | 1.005 | 0.100 | mg/l |
| 15:45 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.005 | 0.005 | 0.100 | mg/l |
| 15:45 | MC26418-6 | | 50 | 50 | 1 | 0.028 | 0.000 | 0.049 | 0.049 | 0.100 | mg/l |
| 15:45 | MC26418-8 | | 50 | 50 | 1 | 0.055 | 0.000 | 0.093 | 0.093 | 0.100 | mg/l |
| 15:45 | MC26418-9 | | 50 | 50 | 2 | 0.689 | 0.000 | 1.107 | 2.214 | 0.200 | mg/l |
| 15:45 | MC26418-10 | | 50 | 50 | 2 | 0.869 | 0.000 | 1.395 | 2.790 | 0.200 | mg/l |
| 15:45 | MC26418-11 | | 50 | 50 | 2 | 0.988 | 0.000 | 1.586 | 3.171 | 0.200 | mg/l |
| 15:45 | MC26418-12 | | 50 | 50 | 1 | 0.033 | 0.000 | 0.057 | 0.057 | 0.100 | mg/l |
| 15:45 | MC26418-13 | | 50 | 50 | 1 | 0.341 | 0.000 | 0.550 | 0.550 | 0.100 | mg/l |
| 15:45 | MC26418-15 | | 50 | 50 | 1 | 0.123 | 0.000 | 0.201 | 0.201 | 0.100 | mg/l |
| 15:45 | MC26418-16 | | 50 | 50 | 1 | 0.679 | 0.000 | 1.091 | 1.091 | 0.100 | mg/l |
| 15:45 | MC26693-1 | | 50 | 50 | 1 | 0.075 | 0.000 | 0.125 | 0.125 | 0.100 | mg/l |
| 15:45 | CCV | | 50 | 50 | 1 | 0.629 | 0.000 | 1.011 | 1.011 | 0.100 | mg/l |
| 16:00 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.005 | 0.005 | 0.100 | mg/l |
| 16:00 | MC26693-2 | | 50 | 50 | 1 | 0.025 | 0.000 | 0.045 | 0.045 | 0.100 | mg/l |
| 16:00 | MC26693-3 | | 50 | 50 | 1 | 0.156 | 0.000 | 0.254 | 0.254 | 0.100 | mg/l |
| 16:00 | MC26693-4 | | 50 | 50 | 1 | 0.170 | 0.000 | 0.277 | 0.277 | 0.100 | mg/l |
| 16:00 | MC26478-9 | | 50 | 50 | 1 | 0.008 | 0.000 | 0.017 | 0.017 | 0.100 | mg/l |
| 16:00 | MC26595-11 | | 50 | 50 | 1 | 0.004 | 0.000 | 0.011 | 0.011 | 0.100 | mg/l |
| 16:00 | CCV | | 50 | 50 | 1 | 0.632 | 0.000 | 1.016 | 1.016 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.005 | 0.005 | 0.100 | mg/l |

12-3-13 BIJ

Analyst: BIJ Date: 12-3-13 QC Reviewer: Date: 12/4/13

ACCUTEST Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 12/3/13 | Batch ID | GP16968 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC26418-1 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (Cl) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16968-MB1 | | N/A | N/D | <2 | 9095 | 100 | 100 | 10:30 | 10:50 | |
| GP16968-B1 | | N/A | N/D | <2 | 9065 | 100 | 100 | 10:30 | 10:50 | 5.0 ML OF SPIKE |
| GP16968-S1 | 10 | N/A | N/D | <2 | 9.87 | 100 | 100 | 10:30 | 10:50 | 5.0 ML OF SPIKE |
| GP16968-D1 | 11 | N/A | N/D | <2 | 9.66 | 100 | 100 | 10:30 | 10:50 | |
| MC26418-1 | 12 | N/A | N/D | <2 | 9.84 | 100 | 100 | 10:30 | 10:50 | |
| MC26418-2 | 4 | N/A | N/D | <2 | 9.88 | 100 | 100 | 10:30 | 10:50 | |
| MC26418-3 | 4 | N/A | N/D | <2 | 9.92 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-4 | 4 | N/A | N/D | <2 | 9.64 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-5 | 4 | N/A | N/D | <2 | 9.57 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-6 | 4 | N/A | N/D | <2 | 9.56 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-8 | 4 | N/A | N/D | <2 | 9.77 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-9 | 4 | N/A | N/D | <2 | 9.81 | 100 | 100 | 11:30 | 11:50 | |
| MC26418-10 | 4 | N/A | N/D | <2 | 9.92 | 100 | 100 | 12:30 | 12:55 | |
| MC26418-11 | 4 | N/A | N/D | <2 | 9.99 | 100 | 100 | 12:30 | 12:55 | |
| MC26418-12 | 4 | N/A | N/D | <2 | 10.0 | 100 | 100 | 12:30 | 12:55 | |
| MC26418-13 | 4 | N/A | N/D | <2 | 10.0 | 100 | 100 | 12:30 | 12:55 | |
| MC26418-15 | 4 | N/A | N/D | <2 | 9.56 | 100 | 100 | 12:30 | 12:55 | |
| MC26418-16 | 4 | N/A | N/D | <2 | 9.84 | 100 | 100 | 12:30 | 12:55 | |
| MC26693-1 | 1 | N/A | N/D | <2 | 9.72 | 100 | 100 | 13:30 | 13:55 | |
| MC26693-2 | 1 | N/A | N/D | <2 | 9.77 | 100 | 100 | 13:30 | 13:55 | |
| MC26693-3 | 1 | N/A | N/D | <2 | 9.67 | 100 | 100 | 13:30 | 13:55 | |
| MC26693-4 | 1 | N/A | N/D | <2 | 9.66 | 100 | 100 | 13:30 | 13:55 | |
| MC26478-9 | 2 | N/A | N/D | <2 | 9.98 | 100 | 100 | 13:30 | 13:55 | |
| MC26595-11 | 3 | N/A | N/D | <2 | 9.85 | 100 | 100 | 13:30 | 13:55 | |
| ICV | | N/A | N/D | <2 | 9.99 | 10 | 100 | 14:20 | 14:45 | ( 1:10 DILUTION ) |
| 12-3-13 AP | | | | | | | | | | |

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-38463-TCLP | Spike Solution | GNSTD-32070-AMN-1 |
| Boric Acid | RGT-38522-AMN | ICV Solution | RGT-38334-AMN |
| Borate Buffer | RGT-38575-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | RGT-38572-AMN |
| H2SO4 | N/A | N/A | |

Comment:PAGE (1 OF 2 )

QC Review _____ Date 12/4/13

ACCUTEST. Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 12/3/13 | Batch ID | GP16968 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC26418-1 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (CI) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| RB | | N/A | N/D | <2 | 9.95 | 100 | 100 | 8:50 | 9:25 | |
| CAL.STD 0.1 | | N/A | N/D | <2 | 9.86 | 100 | 100 | 8:50 | 9:25 | 1.0 ML OF GNSTD-32071-AMN-1 |
| CAL.STD 0.3 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 8:50 | 9:25 | 3.0 ML OF GNSTD-32071-AMN-1 |
| CAL.STD 0.5 | | N/A | N/D | <2 | 9.67 | 100 | 100 | 8:50 | 9:25 | 5.0 ML OF GNSTD-32071-AMN-1 |
| CAL.STD 0.8 | | N/A | N/D | <2 | 9.58 | 100 | 100 | 8:50 | 9:25 | 8.0 ML OF GNSTD-32071-AMN-1 |
| CAL.STD 1.0 | | N/A | N/D | <2 | 9.55 | 100 | 100 | 8:50 | 9:25 | 10.0 ML OF GNSTD-32071-AMN-1 |
| CAL.STD 2.0 | | N/A | N/D | <2 | 9.86 | 100 | 100 | 9:55 | 10:20 | 20.0 ML OF GNSTD-32071-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.99 | 100 | 100 | 9:55 | 10:20 | 10.0 ML OF GNSTD-32071-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.95 | 100 | 100 | 9:55 | 10:20 | |

12-3-13 DI

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-38463-TCLP | Spike Solution | GNSTD-32070-AMN-1 |
| Boric Acid | RGT-38522-AMN | ICV Solution | RGT-38334-AMN |
| Borate Buffer | RGT-38575-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3 5H2O | N/A | 0.10 N NAOH | RGT-38572-AMN |
| H2SO4 | N/A | N/A | |

Comment:PAGE( 2 OF 2 )

QC Review _____ Date 12,4,13

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MEHDIA | **Test/Analysis** | DOC SM21 5310-B |
| **Date** | 12/3/13 | **Analysis Batch ID** | GN45353 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | |
| **File ID** | TOC120313W1.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 32100-TOC | **2 M HCL** | RGT- | 38394-TOC |
| **ICV** | GNSTD- | 32101-TOC-1 | | | |
| **CCV** | GNSTD- | 32102-TOC-1 | | | |
| **Sparger check STD** | GNSTD- | 32103-TOC-1 | | | |
| **1:1 Phosphoric Acid** | RGT- | 36266-TOC | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN45353-S1 | 18, 19 | < 2 | MC26418-10F | 6 | < 2 | | | | | | |
| GN45353-D1 | 17 | < 2 | MC26418-11F | 6 | < 2 | | | | | | |
| MC26418-1F | 16 | < 2 | MC26418-12F | 6 | < 2 | | | | | | |
| MC26418-2F | 6 | < 2 | MC26418-13F | 6 | < 2 | | | | | | |
| MC26418-3F | 6 | < 2 | MC26418-15F | 6 | < 2 | | | | | | |
| MC26418-4F | 6 | < 2 | MC26418-16F | 6 | < 2 | | | | | | |
| MC26418-5F | 6 | < 2 | | | | | | | | | |
| MC26418-6F | 6 | < 2 | | | | | | | | | |
| MC26418-8F | 6 | < 2 | | | | | | | | | |
| MC26418-9F | 6 | < 2 | | | | | | | | | |

**COMMENTS**

**QC Review** **Date:** 12/4/13

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

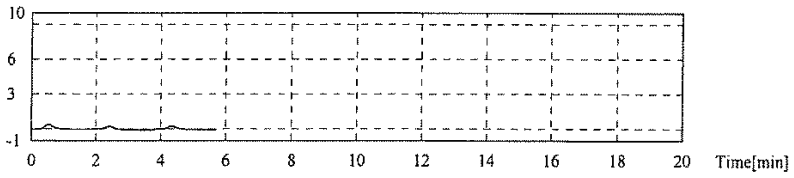
| | |
|---|---|
| Sample Name: | STD |
| Sample ID: | |
| Cal. Curve: | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal |
| Status | Completed |

| Type | Anal |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.6587 | 50uL | 1.000 | ******* | E | 12/4/2013 8:18:04 AM |
| 2 | 0.4201 | 50uL | 1.000 | ******* | | 12/4/2013 8:20:12 AM |
| 3 | 0.4929 | 50uL | 1.000 | ******* | | 12/4/2013 8:22:21 AM |

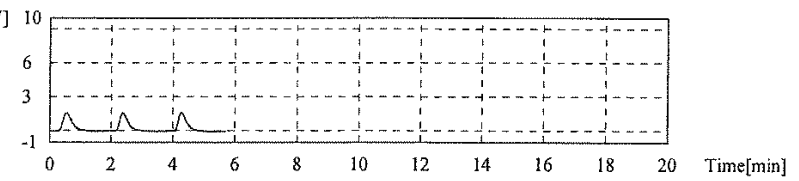
| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 0.4565 |




Conc: 1.000mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 3.281 | 50uL | 1.000 | ******* | E | 12/4/2013 8:31:06 AM |
| 2 | 2.843 | 50uL | 1.000 | ******* | | 12/4/2013 8:33:15 AM |
| 3 | 3.056 | 50uL | 1.000 | ******* | | 12/4/2013 8:35:25 AM |

| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 2.950 |



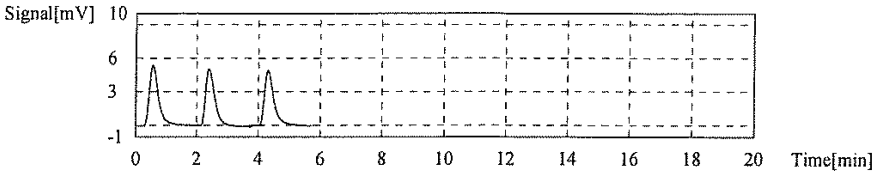

Conc: 5.000mg/L

| No | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 11.23 | 50uL | 8.000 | ******* | E | 12/4/2013 8:44:52 AM |
| 2 | 10.50 | 50uL | 8.000 | ******* | | 12/4/2013 8:47:00 AM |
| 3 | 10.52 | 50uL | 8.000 | ******* | | 12/4/2013 8:49:10 AM |

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

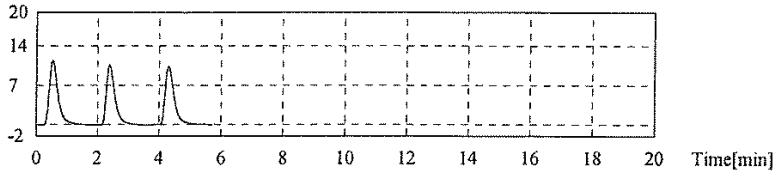
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 10.51




Conc: 10.00mg/L

| No. | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 22.84 | 50uL | 4.000 | ******* | E | 12/4/2013 8:56:41 AM |
| 2 | 20.84 | 50uL | 4.000 | ******* | | 12/4/2013 8:58:50 AM |
| 3 | 21.17 | 50uL | 4.000 | ******* | | 12/4/2013 9:00:59 AM |

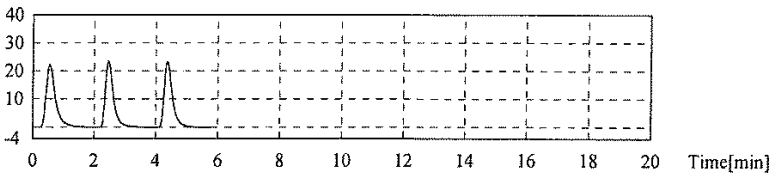
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 21.01




Conc: 20.00mg/L

| No. | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 47.13 | 50uL | 2.000 | ******* | E | 12/4/2013 9:08:35 AM |
| 2 | 43.43 | 50uL | 2.000 | ******* | | 12/4/2013 9:10:40 AM |
| 3 | 43.59 | 50uL | 2.000 | ******* | | 12/4/2013 9:12:45 AM |

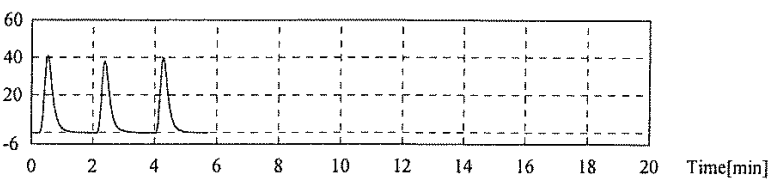
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 43.51




Conc: 30.00mg/L

| No. | Area | Inj Vol | Aut Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.12 | 50uL | 1.000 | ******* | E | 12/4/2013 9:21:46 AM |
| 2 | 73.27 | 50uL | 1.000 | ******* | | 12/4/2013 9:23:51 AM |
| 3 | 73.20 | 50uL | 1.000 | ******* | | 12/4/2013 9:26:01 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 73.24



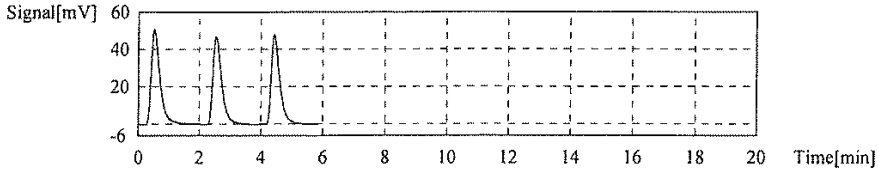

Conc: 40.00mg/L

# TOC-Control L Report

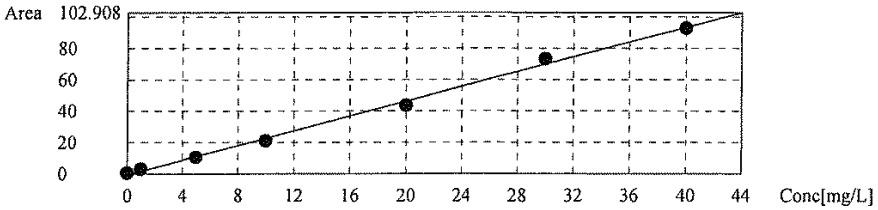
Wetchem
TOC120413W1.tlx

| No | Area | Inj Vol | Acid Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 101.4 | 50uL | 1.000 | ******* | E | 12/4/2013 9:34:55 AM |
| 2 | 93.70 | 50uL | 1.000 | ******* | | 12/4/2013 9:37:04 AM |
| 3 | 92.41 | 50uL | 1.000 | ******* | | 12/4/2013 9:39:14 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 93.06




Slope: 2.357
Intercept -0.7344
r^2 0.9967
r 0.9984
Zero Shift No




**Sample**

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

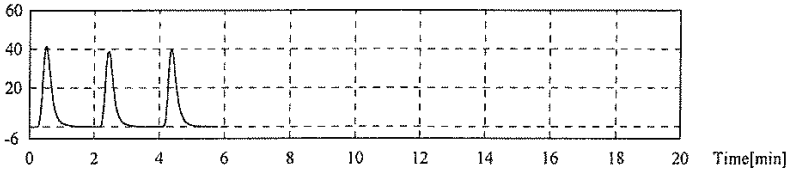
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:31.49mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Acid Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 80.11 | 34.30mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 9:48:00 AM |
| 2 | 73.54 | 31.51mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 9:50:07 AM |
| 3 | 73.45 | 31.47mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 9:52:12 AM |

Mean Area 73.50
Mean Conc. 31.49mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

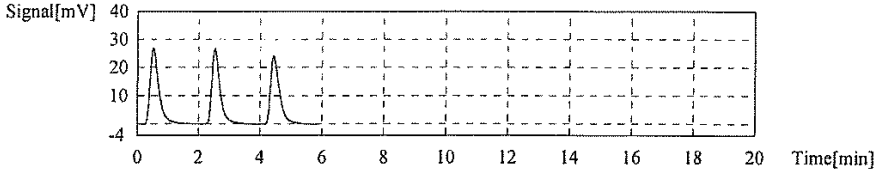
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:21.18mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 53.69 | 23.09mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:01:05 AM |
| 2 | 49.89 | 21.48mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:03:10 AM |
| 3 | 48.48 | 20.88mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:05:19 AM |

Mean Area 49.19
Mean Conc. 21.18mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

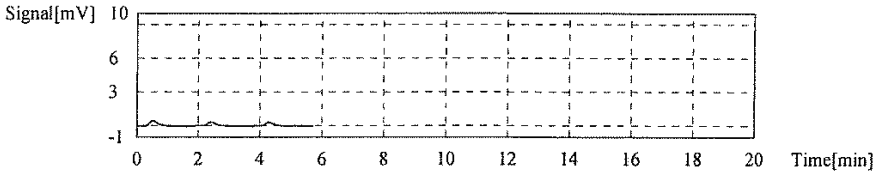
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5552mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.9383 | 0.7096mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:14:04 AM |
| 2 | 0.6134 | 0.5718mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:16:13 AM |
| 3 | 0.5354 | 0.5387mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:18:21 AM |

Mean Area 0.5744
Mean Conc. 0.5552mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

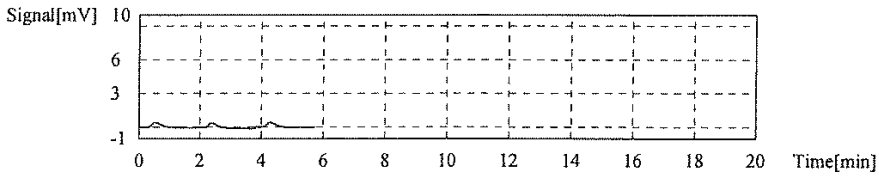
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.6300mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.9437 | 0.7119mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:27:04 AM |
| 2 | 0.7817 | 0.6432mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:29:13 AM |
| 3 | 0.7195 | 0.6168mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:31:22 AM |

Mean Area 0.7506
Mean Conc. 0.6300mg/L




**Sample**

Sample Name: GN45353-MB1
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

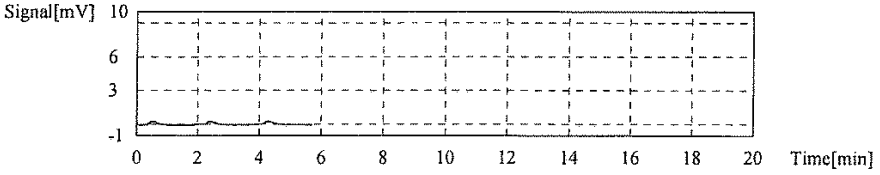
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.4952mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.6006 | 0.5663mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:40:06 AM |
| 2 | 0.3811 | 0.4732mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:42:15 AM |
| 3 | 0.4847 | 0.5172mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:44:20 AM |

Mean Area 0.4329
Mean Conc. 0.4952mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: GN45353-B1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

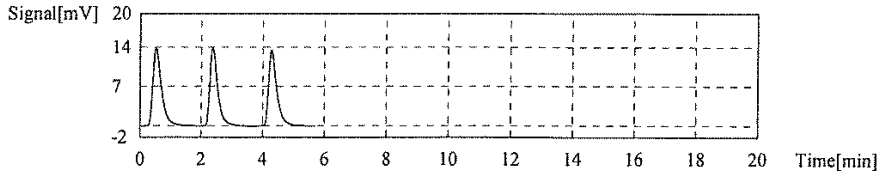
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:10.88mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol. | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 27.03 | 11.78mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:53:05 AM |
| 2 | 24.87 | 10.86mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:55:10 AM |
| 3 | 24.96 | 10.90mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 10:57:19 AM |

Mean Area 24.91
Mean Conc. 10.88mg/L




**Sample**

Sample Name: GN45353-S1
Sample ID: MC26418-1F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

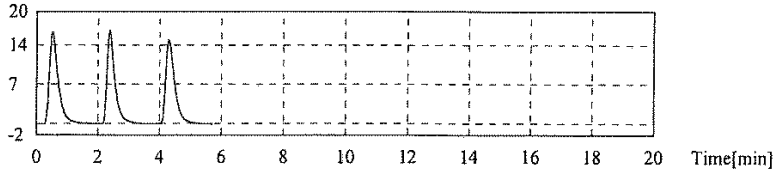
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:13.15mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol. | Aut. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 32.79 | 14.22mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:06:03 AM |
| 2 | 30.18 | 13.11mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:08:11 AM |
| 3 | 30.33 | 13.18mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:10:20 AM |

Mean Area 30.26
Mean Conc. 13.15mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: GN45353-D1
Sample ID: MC26418-1F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

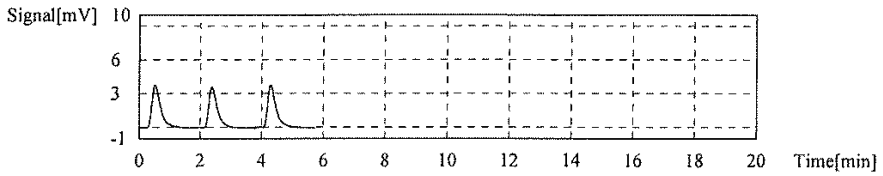
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.245mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.599 | 3.535mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:19:05 AM |
| 2 | 6.899 | 3.238mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:21:16 AM |
| 3 | 6.931 | 3.252mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:23:24 AM |

Mean Area 6.915
Mean Conc. 3.245mg/L




**Sample**

Sample Name: MC26418-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.296mg/L |

1. Det

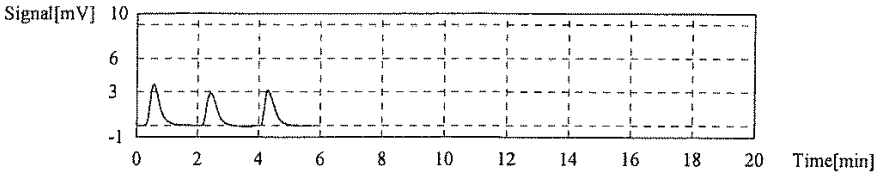
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 8.071 | 3.736mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:32:22 AM |
| 2 | 6.972 | 3.269mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:34:28 AM |
| 3 | 7.096 | 3.322mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:36:37 AM |

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

Mean Area 7.034
Mean Conc. 3.296mg/L




**Sample**

Sample Name: MC26418-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

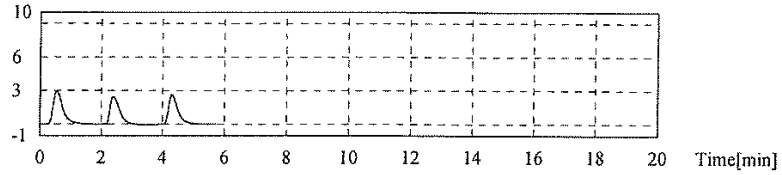
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.672mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc | Inj. Vol | Anl. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.463 | 3.053mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:45:23 AM |
| 2 | 5.578 | 2.678mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:47:29 AM |
| 3 | 5.548 | 2.665mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:49:39 AM |

Mean Area 5.563
Mean Conc. 2.672mg/L




**Sample**

Sample Name: MC26418-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.706mg/L |

1. Det

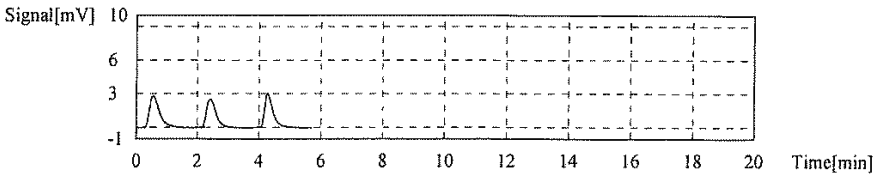
Anal.: NPOC

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

| No | Area | Conc. | Inj. Vol | Act. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.547 | 3.089mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 11:58:26 AM |
| 2 | 5.609 | 2.691mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:00:35 PM |
| 3 | 5.678 | 2.720mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:02:44 PM |

Mean Area 5.643
Mean Conc. 2.706mg/L




**Sample**

Sample Name: MC26418-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

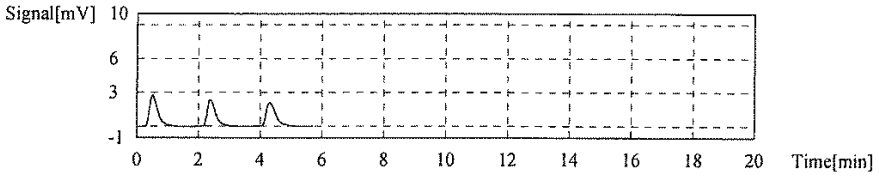
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.239mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol | Act. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.360 | 2.585mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:11:31 PM |
| 2 | 4.444 | 2.197mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:13:38 PM |
| 3 | 4.644 | 2.282mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:15:43 PM |

Mean Area 4.544
Mean Conc. 2.239mg/L




**Sample**

Sample Name: MC26418-5F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.494mg/L |

1. Det

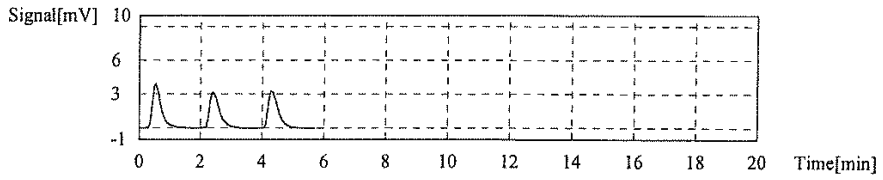
# TOC-Control L Report

Wetchem
TOC120413W1.tlx

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Di. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.619 | 3.544mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:24:29 PM |
| 2 | 7.148 | 3.344mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:26:38 PM |
| 3 | 7.385 | 3.445mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:28:43 PM |

Mean Area 7.502
Mean Conc. 3.494mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

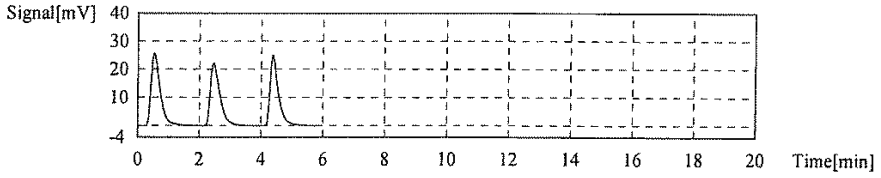
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.70mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Aut. Di. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.47 | 22.57mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:37:32 PM |
| 2 | 48.38 | 20.84mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:39:44 PM |
| 3 | 47.73 | 20.56mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:41:49 PM |

Mean Area 48.06
Mean Conc. 20.70mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5650mg/L |

# TOC-Control L Report

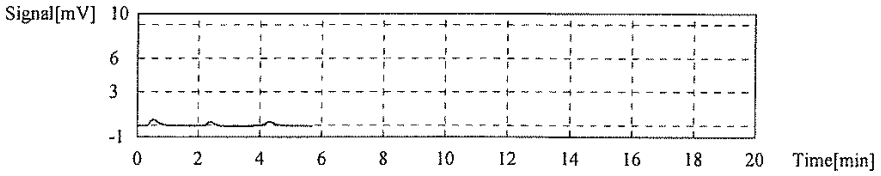
Wetchem
TOC120413W1.tlx

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.021 | 0.7447mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:50:35 PM |
| 2 | 0.5783 | 0.5569mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:52:43 PM |
| 3 | 0.6165 | 0.5731mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 12:54:52 PM |

Mean Area 0.5974
Mean Conc. 0.5650mg/L




**Sample**

Sample Name: MC26418-6F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

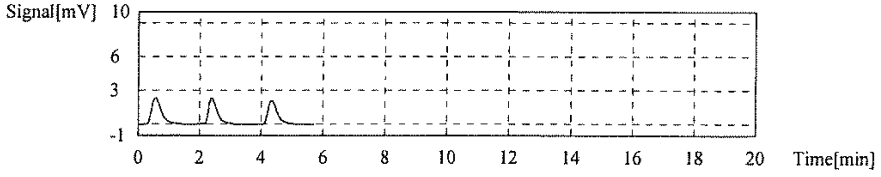
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.181mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 5.211 | 2.522mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:03:38 PM |
| 2 | 4.502 | 2.221mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:05:45 PM |
| 3 | 4.310 | 2.140mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:07:54 PM |

Mean Area 4.406
Mean Conc. 2.181mg/L




**Sample**

Sample Name: MC26418-8F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

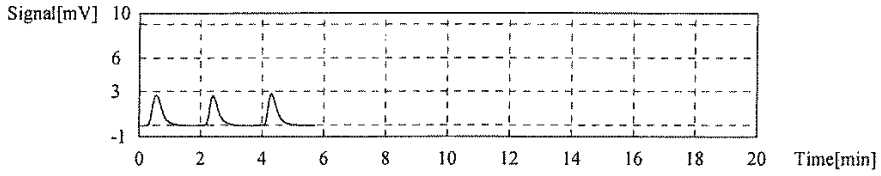
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.801mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Add. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.022 | 2.866mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:16:40 PM |
| 2 | 5.314 | 2.566mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:18:49 PM |
| 3 | 5.715 | 2.736mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:20:58 PM |

Mean Area 5.869
Mean Conc. 2.801mg/L




**Sample**

Sample Name: MC26418-9F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

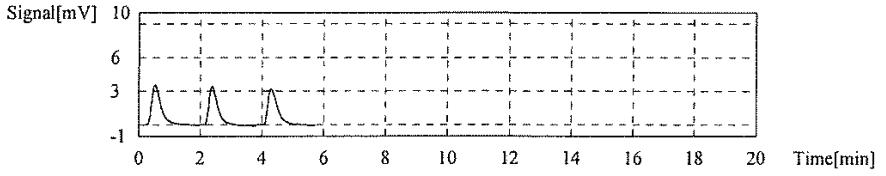
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.243mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Add. Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.429 | 3.463mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:29:44 PM |
| 2 | 6.940 | 3.256mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:31:49 PM |
| 3 | 6.882 | 3.231mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:33:58 PM |

Mean Area 6.911
Mean Conc. 3.243mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC120413W1.tlx

Sample Name: MC26418-10F
Sample ID:
Origin:
Status Completed
Chk. Result

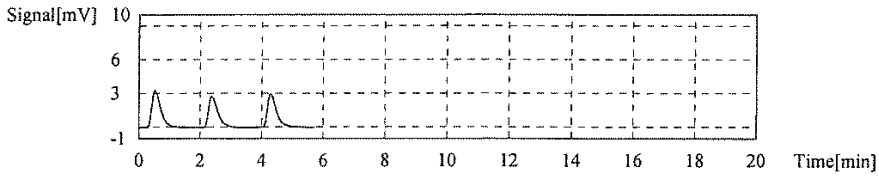
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:2.835mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 6.700 | 3.154mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:42:43 PM |
| 2 | 5.882 | 2.807mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:44:51 PM |
| 3 | 6.015 | 2.863mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:46:56 PM |

Mean Area 5.949
Mean Conc. 2.835mg/L




**Sample**

Sample Name: MC26418-11F
Sample ID:
Origin:
Status Completed
Chk. Result

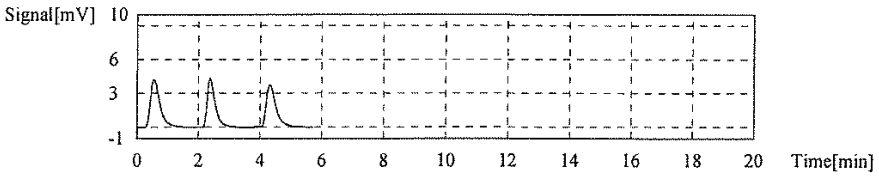
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.734mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 9.185 | 4.208mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:55:41 PM |
| 2 | 7.978 | 3.696mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:57:47 PM |
| 3 | 8.157 | 3.772mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 1:59:56 PM |

Mean Area 8.068
Mean Conc. 3.734mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: MC26418-12F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

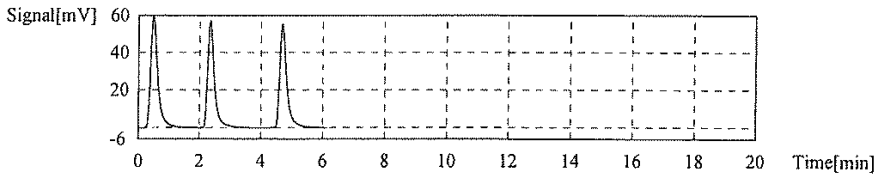
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:37.94mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 97.56 | 41.70mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:08:41 PM |
| 2 | 88.74 | 37.96mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:11:12 PM |
| 3 | 88.64 | 37.92mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:13:21 PM |

Mean Area 88.69
Mean Conc. 37.94mg/L




**Sample**

Sample Name: MC26418-13F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

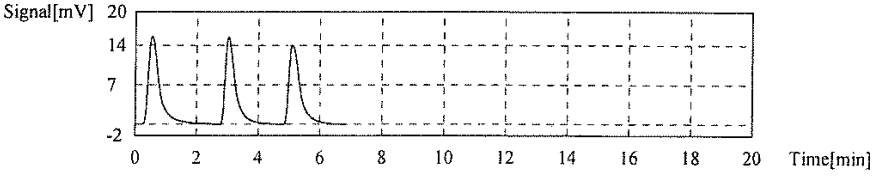
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:15.80mg/L |

1. Det

Anat.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 39.82 | 17.20mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:22:56 PM |
| 2 | 36.51 | 15.80mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:25:15 PM |
| 3 | 36.49 | 15.79mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:27:40 PM |

Mean Area 36.50
Mean Conc. 15.80mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: MC26418-15F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

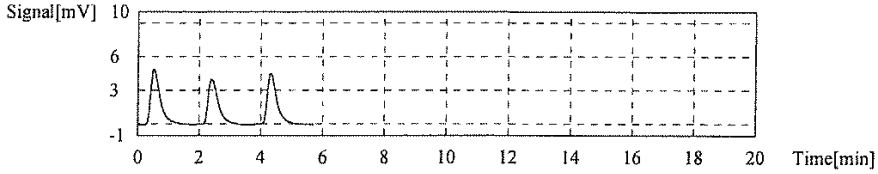
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.342mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.69 | 4.847mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:36:25 PM |
| 2 | 9.382 | 4.292mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:38:35 PM |
| 3 | 9.621 | 4.393mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:40:44 PM |

Mean Area 9.502
Mean Conc. 4.342mg/L




**Sample**

Sample Name: MC26418-16F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

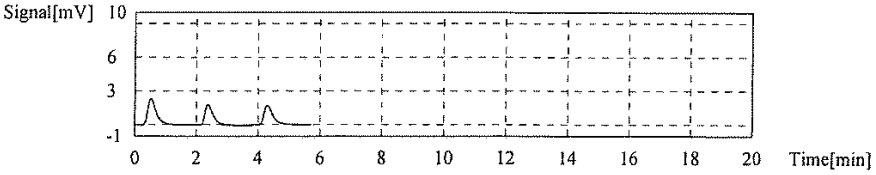
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.760mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 4.488 | 2.216mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:49:31 PM |
| 2 | 3.405 | 1.756mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:51:37 PM |
| 3 | 3.424 | 1.764mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 2:53:47 PM |

Mean Area 3.415
Mean Conc. 1.760mg/L



# TOC-Control L Report

Wetchem
TOC120413W1.tlx

**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

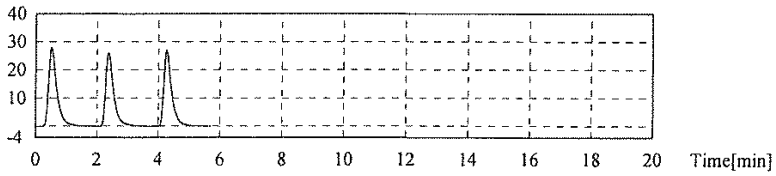
| Type | Area | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.58mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Aut Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.25 | 22.48mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:02:34 PM |
| 2 | 47.79 | 20.59mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:04:39 PM |
| 3 | 47.78 | 20.58mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:06:49 PM |

Mean Area 47.78
Mean Conc. 20.58mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Area | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5804mg/L |

1. Det

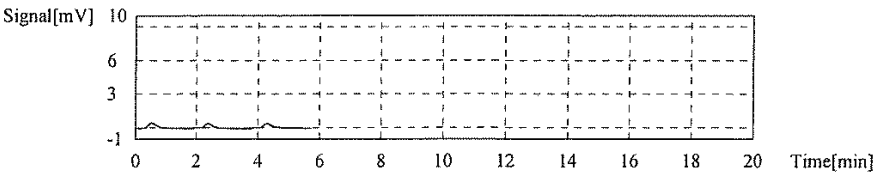
Anal.: NPOC

| No | Area | Conc. | Inj. Vol. | Aut Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8988 | 0.6929mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:15:33 PM |
| 2 | 0.6246 | 0.5765mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:17:42 PM |
| 3 | 0.6428 | 0.5842mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 3:19:47 PM |

# TOC-Control L Report

Weichem
TOC120413W1.tlx

| | |
|---|---|
| Mean Area | 0.6337 |
| Mean Conc. | 0.5804mg/L |



New England ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

FedEx # 5844 5817 4845

GW

| | |
|---|---|
| Accutest Job #: | MC26418 |
| Accutest Quote #: | Page 1 of 2 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | Subcontract Laboratory Information | Analytical Information |
|---|---|---|
| Name: Accutest New England | Name: Accutest - New Jersey | |
| Address: 50 D'Angelo Drive | Address: 2235 Route 130 | |
| City: Marlborough State: MA Zip: 01752 | City: Dayton State: NJ Zip: 08810 | |
| Send Report to: Any questions contact: Frank D'Agostino | Contact: Sample Management | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | Phone: (732) 329-0200 | |

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation: HCL | NaOH | HNO3 | H2So4 | None | SO4 by 300.0 | MS/MSD | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC26418 -1,-1D,-1S | 11/19/13 | 9:20 AM | | GW | 1 | | | | | X | X | X | | | | | |
| MC26418 -2 | 11/19/13 | 10:13 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -3 | 11/19/13 | 00:00 | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -4 | 11/19/13 | 11:25 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -5 | 11/19/13 | 1:17 PM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -6 | 11/19/13 | 1:20 PM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -8 | 11/19/13 | 2:35 PM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -9 | 11/20/13 | 8:45 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -10 | 11/20/13 | 9:16 AM | | GW | 1 | | | | | X | X | | | | | | |
| MC26418 -11 | 11/20/13 | 10:17 AM | | GW | 1 | | | | | X | X | | | | | | |

Data Deliverable Information

Comments / Remarks: STD - Due 12/4/13

BG MA

[x] STD
[ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

[ ] Commercial "A"
[ ] Commercial "B"
[ ] Commercial "BN"
[ ] Reduced Tier 1
[x] Full Tier 1
[ ] PDF
[ ] Compact Disk Deliverable
[ ] Electronic Delivery:
[ ] State Forms
[ ] Other (Specify)

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 11/21/13 | Received By: 1 FedEx | Date & Time: 11/22/13 9:45 | Seal #: None; Headspace: Yes [ ] No [ ] NA [ ] |
| Relinquished by: 2 | | Received By: 2 | Date & Time: 2 | Preserved where applicable: [ ] |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 0.4; On Ice: [x] |

3A NRT

123

750

6

10.1 10

**MC26418: Chain of Custody**
**Page 1 of 3**
**Accutest New Jersey**

# CHAIN OF CUSTODY

FedEx # 584458144875

ACCUTEST

GW

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

| | |
|---|---|
| Accutest Job #: | MC26418 |
| Accutest Quote #: | Page 2 of 2 |
| AMS P.O. #: | |
| Project No.: | |

**Client Information**

Name: Accutest New England
Address: 50 D'Angelo Drive
City: Marlborough State: MA Zip: 01752
Send Report to:
Any questions contact: Frank D'Agostino
Phone/Fax #: (508)481-6200 / (508)481-7753

**Subcontract Laboratory Information**

Name: Accutest - New Jersey
Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Contact: Sample Management
Phone: (732) 329-0200

**Analytical Information**

| Field ID / Point of Collection | Collection Date | Collection Time | | Matrix | # of bottles | Preservation HCL | NaOH | HNO3 | H2SO4 | None | SO4 by 300.0 | MS/MSD | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC26418 -12 | 11/20/13 | 12:02 PM | | GW | 1 | | | | | X | X | | | | | |
| MC26418 -13 | 11/20/13 | 12:50 PM | | GW | 1 | | | | | X | X | | | | | |
| MC26418 -15 | 11/20/13 | 2:05 PM | | GW | 1 | | | | | X | X | | | | | |
| MC26418 -16 | 11/20/13 | 2:09 PM | | GW | 1 | | | | | X | X | | | | | |

**Data Deliverable Information**

- [x] STD
- [ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [x] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

**Comments / Remarks**

STD - Due 12/4/13

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 11/21/13 | Received By: 1 | Date & Time: 11/22/13 9:45 | Seal #: NONE Headspace: Yes ☐ No ☐ NA ☐ |
| Relinquished by: 2 | | Received By: 2 | Date & Time: 2 | Preserved where applicable: ☐ |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 0.4 On Ice ☑ |

3A NRT

10.1 10

**MC26418: Chain of Custody**
**Page 2 of 3**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC26418 **Client:** **Project:**

**Date / Time Received:** 11/22/2013 **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Initial/Adjusted):** #1: (0.4/0.4); 0

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com



**MC26418: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC26418

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-1 Collected: 19-NOV-13 09:20 By: EFJG SHL-4-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-1 | EPA 300/SW846 9056A | 02-DEC-13 22:50 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-2 Collected: 19-NOV-13 10:13 By: EFJG SHM-10-11-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-2 | EPA 300/SW846 9056A | 02-DEC-13 23:14 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-3 Collected: 19-NOV-13 00:00 By: EFJG DUPLICATE-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-3 | EPA 300/SW846 9056A | 03-DEC-13 00:49 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-4 Collected: 19-NOV-13 11:25 By: EFJG SHP-01-38A-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-4 | EPA 300/SW846 9056A | 03-DEC-13 01:13 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-5 Collected: 19-NOV-13 13:17 By: EFJG SHM-10-12-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-5 | EPA 300/SW846 9056A | 03-DEC-13 01:37 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-6 Collected: 19-NOV-13 13:20 By: EFJG SHP-01-37X-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-6 | EPA 300/SW846 9056A | 03-DEC-13 02:01 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-8 Collected: 19-NOV-13 14:35 By: EFJG SHP-01-36X-111913 | | | | Received: 19-NOV-13 | By: | |
| MC26418-8 | EPA 300/SW846 9056A | 03-DEC-13 02:25 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-9 Collected: 20-NOV-13 08:45 By: EFJG SHM-11-06-112013 | | | | Received: 20-NOV-13 | By: | |
| MC26418-9 | EPA 300/SW846 9056A | 03-DEC-13 02:49 | NP | 02-DEC-13 | NP | SO4 |

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC26418

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26418-10 | Collected: 20-NOV-13 09:16 By: EFJG SHM-10-15-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-10 | EPA 300/SW846 9056A | 03-DEC-13 03:13 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-11 | Collected: 20-NOV-13 10:17 By: EFJG SHM-10-16-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-11 | EPA 300/SW846 9056A | 03-DEC-13 03:37 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-12 | Collected: 20-NOV-13 12:02 By: EFJG SHM-11-02-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-12 | EPA 300/SW846 9056A | 03-DEC-13 04:01 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-13 | Collected: 20-NOV-13 12:50 By: EFJG SHM-10-10-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-13 | EPA 300/SW846 9056A | 03-DEC-13 05:13 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-15 | Collected: 20-NOV-13 14:05 By: EFJG SHM-13-03-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-15 | EPA 300/SW846 9056A | 03-DEC-13 05:37 | NP | 02-DEC-13 | NP | SO4 |
| MC26418-16 | Collected: 20-NOV-13 14:09 By: EFJG SHM-10-06A-112013 | Received: 20-NOV-13 By: | | | | |
| MC26418-16 | EPA 300/SW846 9056A | 03-DEC-13 06:01 | NP | 02-DEC-13 | NP | SO4 |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-1.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-1.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-1.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-1.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-2.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-2.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-2.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-2.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-3.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-3.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-3.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-3.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-4.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-4.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-4.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-4.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-5.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-5.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-5.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-5.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-6.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-6.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-6.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-6.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-8.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-8.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-8.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-8.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-9.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-9.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-9.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-9.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-10.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-10.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-10.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-10.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26418
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 11/19/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26418-11.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-11.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-11.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-11.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-12.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-12.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-12.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-12.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-13.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-13.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-13.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-13.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-15.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-15.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-15.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-15.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |
| MC26418-16.1 | Secured Storage | Ana Maria Moreta | 12/01/13 15:46 | Retrieve from Storage |
| MC26418-16.1 | Ana Maria Moreta | Secured Staging Area | 12/01/13 15:48 | Return to Storage |
| MC26418-16.1 | Secured Staging Area | Nirali Patel | 12/02/13 08:32 | Retrieve from Storage |
| MC26418-16.1 | Nirali Patel | Secured Storage | 12/02/13 16:48 | Return to Storage |

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP76387/GN95920 | 10 | 0.14 | mg/l | 80 | 80.2 | 100.3 | 90-110% |

Associated Samples:
Batch GP76387: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | GP76387/GN95920 | MC26418-1 | mg/l | 69.3 | 69.2 | 0.1 | 0-20% |

Associated Samples:
Batch GP76387: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP76387/GN95920 | MC26418-1 | mg/l | 69.3 | 80 | 147 | 97.1 | 80-120% |
| Sulfate | GP76387/GN95920 | MC26418-3 | mg/l | 35.0 | 80 | 112 | 96.3 | 80-120% |

Associated Samples:
Batch GP76387: MC26418-1, MC26418-2, MC26418-3, MC26418-4, MC26418-5, MC26418-6, MC26418-8, MC26418-9, MC26418-10, MC26418-11, MC26418-12, MC26418-13, MC26418-15, MC26418-16
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120201.TXT  Date Analyzed: 12/02/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95920
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:16 | GN95920-STD1 | 1 | | Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. |
| 09:39 | GN95920-STD2 | 1 | | STDB |
| 10:03 | GN95920-STD3 | 1 | | STDC |
| 10:51 | GN95920-STD4 | 1 | | STDD |
| 11:39 | GN95920-STD5 | 1 | | STDE |
| 12:03 | GN95920-STD6 | 1 | | STDF |
| 12:27 | GN95920-STD7 | 1 | | STDG |
| 09:14 | GN95920-ICV1 | 1 | | |
| 09:38 | GN95920-CCV1 | 1 | | |
| 10:02 | GN95920-CCB1 | 1 | | |
| 10:26 | GP76245-MB3 | 1 | | |
| 10:26 | GP76328-MB2 | 1 | | Sample shown for QC tracking purposes only. |
| 10:26 | GP76386-MB1 | 1 | | Sample shown for QC tracking purposes only. |
| 10:50 | GP76245-B3 | 1 | | |
| 10:50 | GP76328-B2 | 1 | | Sample shown for QC tracking purposes only. |
| 10:50 | GP76386-B1 | 1 | | Sample shown for QC tracking purposes only. |
| 11:14 | ZZZZZZ | 1 | | |
| 11:38 | ZZZZZZ | 25 | | |
| 12:02 | ZZZZZZ | 10 | | |
| 12:26 | ZZZZZZ | 100 | | |
| 12:50 | ZZZZZZ | 100 | | |
| 13:14 | ZZZZZZ | 50 | | |
| 13:38 | ZZZZZZ | 50 | | |
| 14:01 | GN95920-CCV2 | 1 | | |
| 14:25 | GN95920-CCB2 | 1 | | |
| 14:49 | ZZZZZZ | 1 | | |
| 15:13 | ZZZZZZ | 1 | | |
| 15:39 | ZZZZZZ | 1 | | |
| 16:03 | ZZZZZZ | 1 | | |
| 16:27 | GP76386-S1 | 1 | | |
| 16:51 | GP76386-D1 | 1 | | |
| 17:15 | JB53678-3 | 1 | | (sample used for QC only; not part of login MC26418) |
| 17:39 | GP76386-S2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120201.TXT  Date Analyzed: 12/02/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95920
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:03 | JB53727-1 | 1 | | (sample used for QC only; not part of login MC26418) |
| 18:27 | ZZZZZZ | 1 | | |
| 18:51 | GN95920-CCV3 | 1 | | |
| 19:14 | GN95920-CCB3 | 1 | | |
| 19:38 | ZZZZZZ | 1 | | |
| 20:02 | ZZZZZZ | 1 | | |
| 20:26 | ZZZZZZ | 1 | | |
| 20:50 | ZZZZZZ | 1 | | |
| 21:14 | GP76387-MB1 | 1 | | |
| 21:38 | GP76387-B1 | 1 | | |
| 22:02 | GP76387-S1 | 1 | | |
| 22:26 | GP76387-D1 | 1 | | |
| 22:50 | MC26418-1 | 1 | | |
| 23:14 | MC26418-2 | 1 | | |
| 23:38 | GN95920-CCV4 | 1 | | |
| 00:02 | GN95920-CCB4 | 1 | | |
| 00:26 | GP76387-S2 | 1 | | |
| 00:49 | MC26418-3 | 1 | | |
| 01:13 | MC26418-4 | 1 | | |
| 01:37 | MC26418-5 | 1 | | |
| 02:01 | MC26418-6 | 1 | | |
| 02:25 | MC26418-8 | 1 | | |
| 02:49 | MC26418-9 | 1 | | |
| 03:13 | MC26418-10 | 1 | | |
| 03:37 | MC26418-11 | 1 | | |
| 04:01 | MC26418-12 | 1 | | |
| 04:25 | GN95920-CCV5 | 1 | | |
| 04:49 | GN95920-CCB5 | 1 | | |
| 05:13 | MC26418-13 | 1 | | |
| 05:37 | MC26418-15 | 1 | | |
| 06:01 | MC26418-16 | 1 | | |
| 06:24 | ZZZZZZ | 1 | | |
| 06:48 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120201.TXT  Date Analyzed: 12/02/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95920
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 07:12 | ZZZZZZ | 1 | | |
| 07:36 | ZZZZZZ | 1 | | |
| 08:00 | ZZZZZZ | 1 | | |
| 08:24 | ZZZZZZ | 1 | | |
| 08:48 | GN95920-CCV6 | 1 | | |
| 09:12 | GN95920-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26418
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120201.TXT  Date Analyzed: 12/02/13  Methods: EPA 300/SW846 9056A
Run ID: GN95920  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN95920-ICV1 | Sulfate | 108 | 10 | 0.094 | 110.12 | 98.1 | 90-110 |
| GN95920-CCV1 | Sulfate | 199 | 10 | 0.094 | 200 | 99.5 | 90-110 |
| GN95920-CCB1 | Sulfate | 0.11 | 10 | 0.094 | | | |
| GN95920-CCV2 | Sulfate | 200 | 10 | 0.094 | 200 | 100.0 | 90-110 |
| GN95920-CCB2 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN95920-CCV3 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN95920-CCB3 | Sulfate | 0.62 | 10 | 0.094 | | | |
| GN95920-CCV4 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN95920-CCB4 | Sulfate | 0.45 | 10 | 0.094 | | | |
| GN95920-CCV5 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN95920-CCB5 | Sulfate | 0.51 | 10 | 0.094 | | | |
| GN95920-CCV6 | Sulfate | 204 | 10 | 0.094 | 200 | 102.0 | 90-110 |
| GN95920-CCB6 | Sulfate | 0.72 | 10 | 0.094 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

(Accutest New Jersey)

Sequence: 213120201
Operator: Chemistry

GN95920


Printed: 12/2/2013 2:59:40 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\December
Timebase: ACCUTEST_SYS#2
#Samples: 70

Created: 12/2/2013 8:25:19 AM by Chemistry
Last Update: 12/2/2013 11:47:08 AM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | BLANKCONF | Unknown | 1 | 20.0 | 1.0000 | Finished | 12/2/2013 8:27:23 AM | |
| 2 | STDA | Standard | 1 | 20.0 | 1.0000 | Finished | 11/22/2013 9:16:16 AM | |
| 3 | STDB | Standard | 2 | 20.0 | 1.0000 | Finished | 11/22/2013 9:39:45 AM | |
| 4 | STDC | Standard | 3 | 20.0 | 1.0000 | Finished | 11/22/2013 10:03:41 AM | |
| 5 | STDD | Standard | 5 | 20.0 | 1.0000 | Finished | 11/22/2013 10:51:33 AM | |
| 6 | STDE | Standard | 7 | 20.0 | 1.0000 | Finished | 11/22/2013 11:39:25 AM | |
| 7 | STDF | Standard | 8 | 20.0 | 1.0000 | Finished | 11/22/2013 12:03:20 PM | |
| 8 | STDG | Standard | 9 | 20.0 | 1.0000 | Finished | 11/22/2013 12:27:16 PM | |
| 9 | ICV | Unknown | 2 | 20.0 | 1.0000 | Finished | 12/2/2013 9:14:48 AM | |
| 10 | CCV | Unknown | 3 | 20.0 | 1.0000 | Finished | 12/2/2013 9:38:43 AM | |
| 11 | CCB | Unknown | 4 | 20.0 | 1.0000 | Finished | 12/2/2013 10:02:39 AM | |
| 12 | MB | Unknown | 5 | 20.0 | 1.0000 | Finished | 12/2/2013 10:26:35 AM | |
| 13 | BSP | Unknown | 6 | 20.0 | 1.0000 | Finished | 12/2/2013 10:50:30 AM | |
| 14 | JB53814-8 | Unknown 2 | 7 | 20.0 | 1.0000 | Finished | 12/2/2013 11:14:26 AM | |
| 15 | JB53814-8 | Unknown 2 | 49 | 20.0 | 25.0000 | Finished | 12/2/2013 11:38:20 AM | |
| 16 | JB53814-6 | Unknown 2 | 8 | 20.0 | 10.0000 | Finished | 12/2/2013 12:02:18 PM | |
| 17 | JB53380-1 | Unknown 3 | 9 | 20.0 | 100.0000 | Finished | 12/2/2013 12:26:17 PM | |
| 18 | JB53380-6 | Unknown 4 | 10 | 20.0 | 100.0000 | Finished | 12/2/2013 12:50:13 PM | |
| 19 | JB53380-7 | Unknown 3 | 11 | 20.0 | 50.0000 | Finished | 12/2/2013 1:14:09 PM | |
| 20 | JB53380-8 | Unknown 4 | 12 | 20.0 | 50.0000 | Finished | 12/2/2013 1:38:04 PM | |
| 21 | CCV | Unknown | 13 | 20.0 | 1.0000 | Finished | 12/2/2013 2:01:59 PM | |
| 22 | CCB | Unknown | 14 | 20.0 | 1.0000 | Finished | 12/2/2013 2:25:54 PM | |
| [redacted] | JB53604-1 | Unknown 3 | 15 | 20.0 | 1.0000 | Running | 12/2/2013 2:49:50 PM | |
| 24 | JB53604-2 | Unknown 4 | 16 | 20.0 | 1.0000 | Single | | |
| 25 | JB53604-4 | Unknown 4 | 17 | 20.0 | 1.0000 | Single | | |
| 26 | JB53568-4A FB | Unknown 6 | 18 | 20.0 | 1.0000 | Single | | |
| 27 | JB53678-3MS | Unknown 7 | 19 | 20.0 | 1.0000 | Single | | |
| 28 | JB53678-3DUP | Unknown 7 | 20 | 20.0 | 1.0000 | Single | | |
| 29 | JB53678-3 | Unknown 7 | 21 | 20.0 | 1.0000 | Single | | |
| 30 | JB53727-1MS | Unknown 2 | 22 | 20.0 | 1.0000 | Single | | |
| 31 | JB53727-1 | Unknown 2 | 23 | 20.0 | 1.0000 | Single | | |
| 32 | JB53727-2 | Unknown 2 | 24 | 20.0 | 1.0000 | Single | | |
| 33 | CCV | Unknown | 25 | 20.0 | 1.0000 | Single | | |
| 34 | CCB | Unknown 2 | 26 | 20.0 | 1.0000 | Single | | |
| 35 | JB53727-3 | Unknown 2 | 27 | 20.0 | 1.0000 | Single | | |
| 36 | JB53727-4 | Unknown 2 | 28 | 20.0 | 1.0000 | Single | | |
| 37 | JB53727-5 | Unknown 2 | 29 | 20.0 | 1.0000 | Single | | |
| 38 | JB53725-12 FB | Unknown 7 | 30 | 20.0 | 1.0000 | Single | | |
| 39 | MB | Unknown | 31 | 20.0 | 1.0000 | Single | | |
| 40 | BSP | Unknown | 32 | 20.0 | 1.0000 | Single | | |
| 41 | MC26418-1MS | Unknown 1 | 33 | 20.0 | 1.0000 | Single | | |
| 42 | MC26418-1DUP | Unknown 1 | 34 | 20.0 | 1.0000 | Single | | |

GP76245 SO4 AP (3)
GP76328 SO4 AP (2)
GP76386 SO4 AP (1)
Bottle #s

12.1 12

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 213120201 GN95920 Page 3 of 4
Operator: Chemistry Printed: 12/2/2013 2:59:45 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\December
Timebase: ACCUTEST_SYS#2 Created: 12/2/2013 8:25:19 AM by Chemistry
#Samples: 70 Last Update: 12/2/2013 11:47:08 AM by Chemistry

GP76387 SO4 AQ (1)

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 43 | MC26418-1 | Unknown | 35 | 20.0 | 1.0000 | Single | | |
| 44 | MC26418-2 | Unknown | 36 | 20.0 | 1.0000 | Single | | |
| 45 | CCV | Unknown | 37 | 20.0 | 1.0000 | Single | | |
| 46 | CCB | Unknown | 38 | 20.0 | 1.0000 | Single | | |
| 47 | MC26418-3MS | Unknown | 39 | 20.0 | 1.0000 | Single | | |
| 48 | MC26418-3 | Unknown | 40 | 20.0 | 1.0000 | Single | | |
| 49 | MC26418-4 | Unknown | 41 | 20.0 | 1.0000 | Single | | |
| 50 | MC26418-5 | Unknown | 42 | 20.0 | 1.0000 | Single | | |
| 51 | MC26418-6 | Unknown | 43 | 20.0 | 1.0000 | Single | | |
| 52 | MC26418-8 | Unknown | 44 | 20.0 | 1.0000 | Single | | |
| 53 | MC26418-9 | Unknown | 45 | 20.0 | 1.0000 | Single | | |
| 54 | MC26418-10 | Unknown | 46 | 20.0 | 1.0000 | Single | | |
| 55 | MC26418-11 | Unknown | 47 | 20.0 | 1.0000 | Single | | |
| 56 | MC26418-12 | Unknown | 48 | 20.0 | 1.0000 | Single | | |
| 57 | CCV | Unknown | 49 | 20.0 | 1.0000 | Single | | |
| 58 | CCB | Unknown | 50 | 20.0 | 1.0000 | Single | | |
| 59 | MC26418-13 | Unknown | 1 | 20.0 | 1.0000 | Single | | |
| 60 | MC26418-15 | Unknown | 2 | 20.0 | 1.0000 | Single | | |
| 61 | MC26418-16 | Unknown | 3 | 20.0 | 1.0000 | Single | | |
| 62 | JB53821-1 | Unknown | 4 | 20.0 | 1.0000 | Single | | |
| 63 | JB53821-2 | Unknown | 5 | 20.0 | 1.0000 | Single | | |
| 64 | JB53821-3 | Unknown | 6 | 20.0 | 1.0000 | Single | | |
| 65 | JB53821-4 | Unknown | 7 | 20.0 | 1.0000 | Single | | |
| 66 | JB53821-5 | Unknown | 8 | 20.0 | 1.0000 | Single | | |
| 67 | JB53821-6 | Unknown | 9 | 20.0 | 1.0000 | Single | | |
| 68 | CCV | Unknown | 10 | 20.0 | 1.0000 | Single | | |
| 69 | CCB | Unknown | 11 | 20.0 | 1.0000 | Single | | |
| 70 | STDBY | Unknown | 12 | 20.0 | 1.0000 | Single | | |

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

ACCUTEST

Analyst NP Product IC2 Autopipette # 27

Date 12/2/13 Batch ID GN95920 Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| BSP | ✓ | ✓ mL | 50 mL | 0.50 mL GN13-218-72 |
| JB53678-3 MS | ✓ | ✓ mL | mL | |
| JB53729-1 MS | ✓ | ✓ mL | mL | |
| MC26418-1 MS | ✓ | ✓ mL | mL | |
| MC26418-3 MS | ✓ | ✓ mL | mL | |
| JB53814-8 | 1:25 | 2 mL | 50 mL | |
| L-6 | 1:10 | 3 mL | 30 mL | |
| JB53380-1 | 1:100 | 0.5 mL | 50 mL | |
| -6 | 1:100 | 0.5 mL | 50 mL | |
| -7 | 1:50 | 1 mL | 50 mL | |
| -8 | 1:50 | 1 mL | 50 mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |

Diluent = DI H2O

QC Reviewer: _____ Date: _____

Form: GN165-01
Rev. Date: 2/25/03

12.1 12

ACCUTEST.

# Reagent Information Log - IONC - Water /Soil

**GN Batch ID#:** GN95920

Curve Ran on: 11/22/13

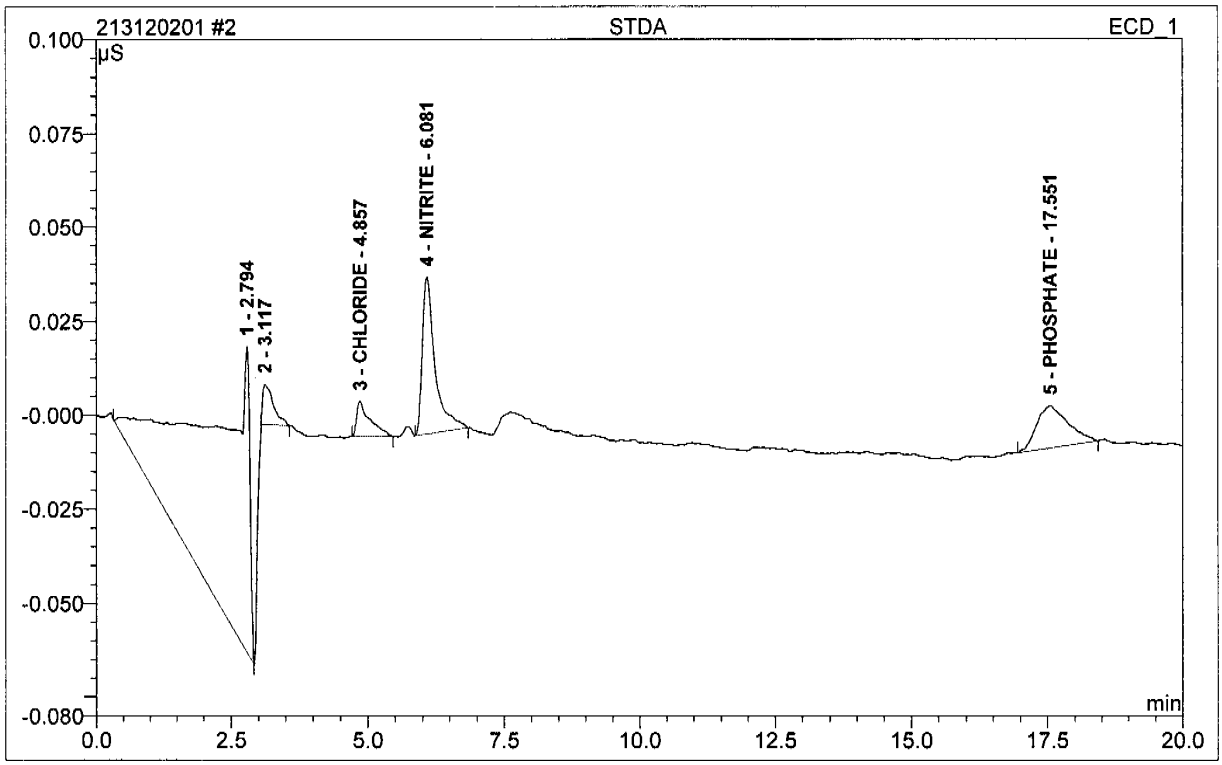
| Reagent | Reagent # or Manufacturer/Lot | Exp. Date |
|---|---|---|
| Standard Intermediate (for Calibration Curve) | GN12-212-218 | 11/28/2013 |
| Standard Intermediate (for Calibration Curve) | GN12-212-220 | 11/28/2013 |
| ICV | GN13-231-39 | 12/26/2013 |
| Eluent | 130791729016 | 7/2015 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-227 | 12/4/2013 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-229 | 12/4/2013 |
| CCV | GN13-220-109 | 12/4/2013 |
| Spiking Solution Intermediate | GN13-218-70 | 12/26/2013 |
| Spiking Solution Intermediate | GN13-218-71 | 12/26/2013 |
| Spiking Solution | GN13-218-72 | 12/4/2013 |
| Filter lot numbers | LAB SALES # 130821006 | NA |

**Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error**

Form : GN087A-76
Rev. Date: 4/7/09

## 2 STDA

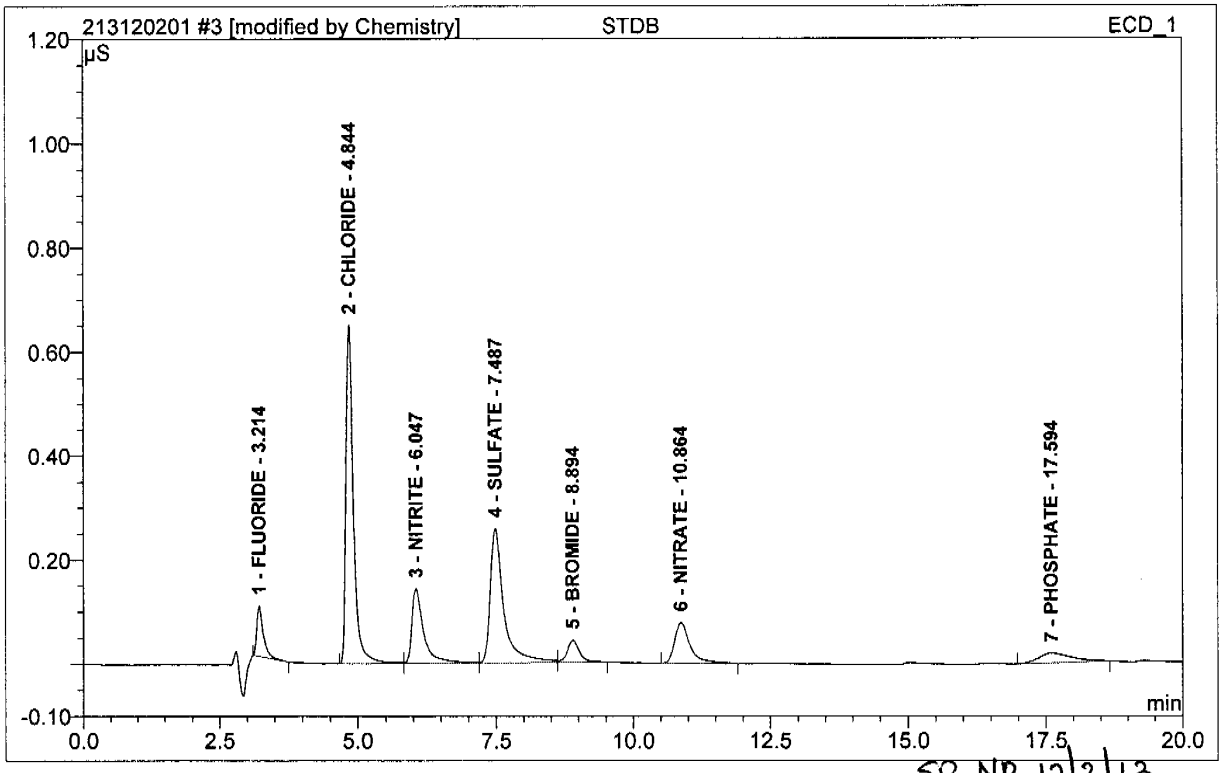
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDA** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.081 | 0.080 | 76.96 | n.a. | BMB |
| 2 | 3.12 | n.a. | 0.011 | 0.002 | 2.31 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.009 | 0.003 | 2.53 | 0.013 | BMB |
| 4 | 6.08 | NITRITE | 0.042 | 0.011 | 10.99 | 0.023 | BMB |
| 5 | 17.55 | PHOSPHATE | 0.011 | 0.007 | 7.22 | 0.042 | BMB |
| **Total:** | | | 0.154 | 0.103 | 100.00 | 0.078 | |

# 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

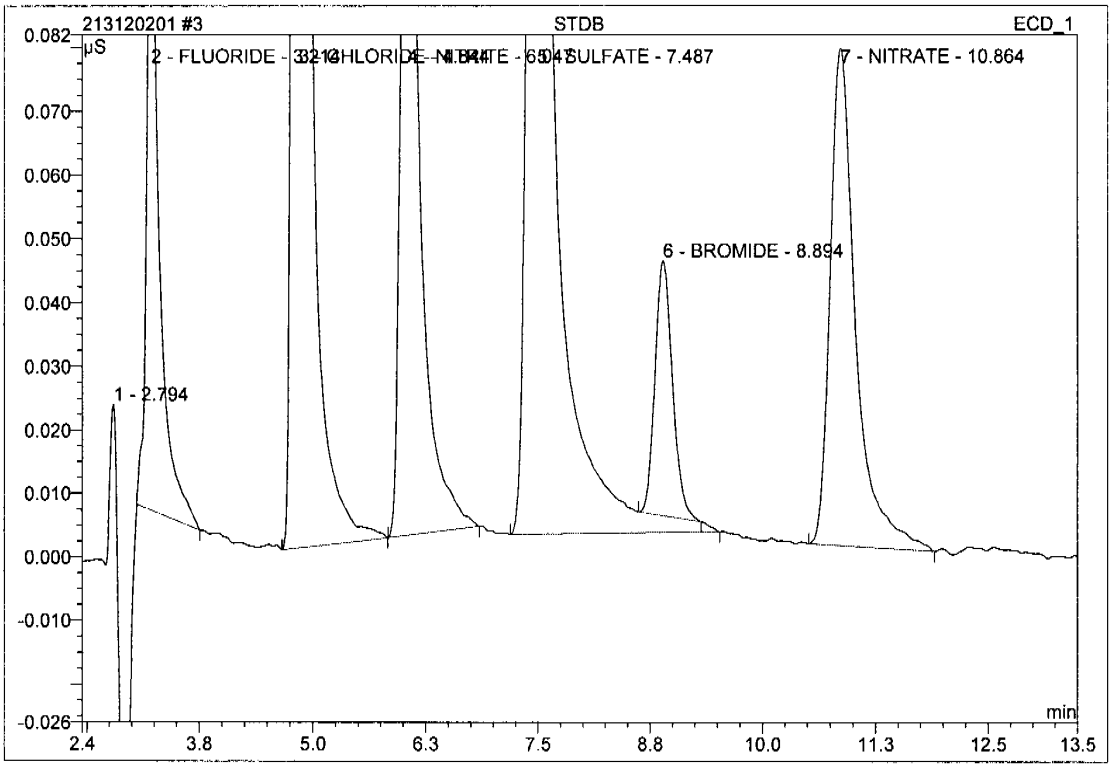



SP NP 12/2/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.096 | 0.013 | 4.87 | 0.040 | BMB* |
| 2 | 4.84 | CHLORIDE | 0.651 | 0.102 | 37.21 | 0.512 | BM * |
| 3 | 6.05 | NITRITE | 0.143 | 0.035 | 12.90 | 0.071 | M * |
| 4 | 7.49 | SULFATE | 0.258 | 0.074 | 26.81 | 0.505 | M * |
| 5 | 8.89 | BROMIDE | 0.043 | 0.011 | 4.04 | 0.109 | MB* |
| 6 | 10.86 | NITRATE | 0.078 | 0.026 | 9.32 | 0.053 | BMB |
| 7 | 17.59 | PHOSPHATE | 0.019 | 0.013 | 4.84 | 0.075 | BMB |
| **Total:** | | | 1.288 | 0.274 | 100.00 | 1.364 | |

# 3 STDB

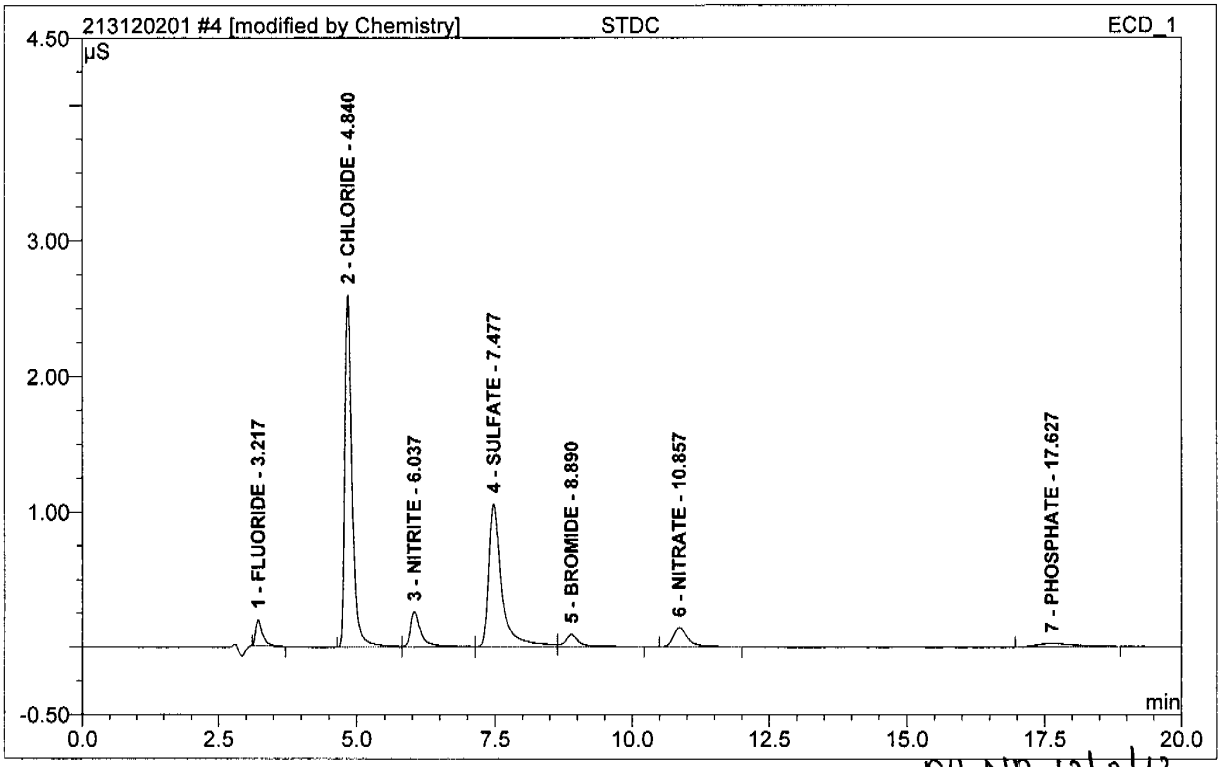
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.083 | 0.078 | 22.13 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.104 | 0.017 | 4.75 | 0.050 | BMB |
| 3 | 4.84 | CHLORIDE | 0.650 | 0.101 | 28.86 | 0.508 | BMB |
| 4 | 6.05 | NITRITE | 0.142 | 0.033 | 9.40 | 0.066 | BMB |
| 5 | 7.49 | SULFATE | 0.257 | 0.075 | 21.21 | 0.512 | BMB |
| 6 | 8.89 | BROMIDE | 0.040 | 0.009 | 2.58 | 0.089 | Rd |
| 7 | 10.86 | NITRATE | 0.078 | 0.026 | 7.28 | 0.053 | BMB |
| 8 | 17.59 | PHOSPHATE | 0.019 | 0.013 | 3.78 | 0.075 | BMB |
| **Total:** | | | 1.373 | 0.351 | 100.00 | 1.352 | |

## 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

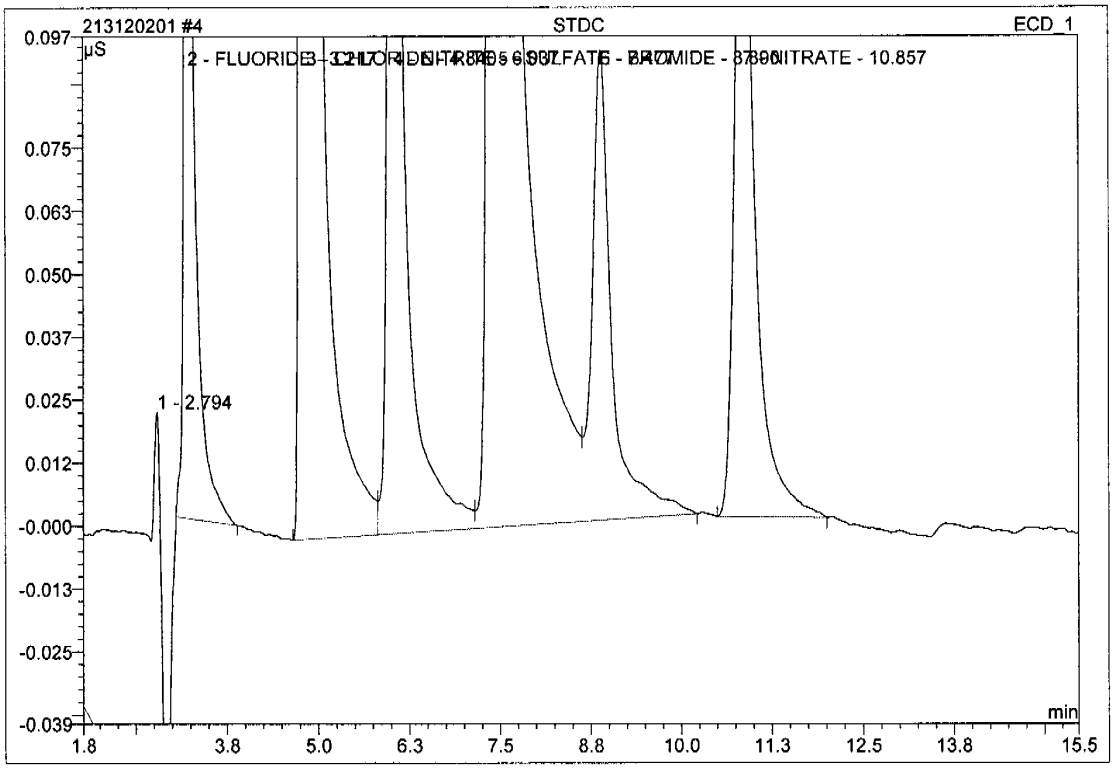



PIL NP 12/2/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.193 | 0.027 | 3.09 | 0.081 | BMB* |
| 2 | 4.84 | CHLORIDE | 2.602 | 0.400 | 45.42 | 2.002 | BM |
| 3 | 6.04 | NITRITE | 0.260 | 0.062 | 7.03 | 0.123 | M |
| 4 | 7.48 | SULFATE | 1.062 | 0.295 | 33.50 | 2.023 | M |
| 5 | 8.89 | BROMIDE | 0.093 | 0.030 | 3.37 | 0.291 | MB |
| 6 | 10.86 | NITRATE | 0.140 | 0.045 | 5.14 | 0.094 | BMB |
| 7 | 17.63 | PHOSPHATE | 0.027 | 0.022 | 2.45 | 0.121 | BMB |
| **Total:** | | | 4.377 | 0.880 | 100.00 | 4.735 | |

# 4 STDC

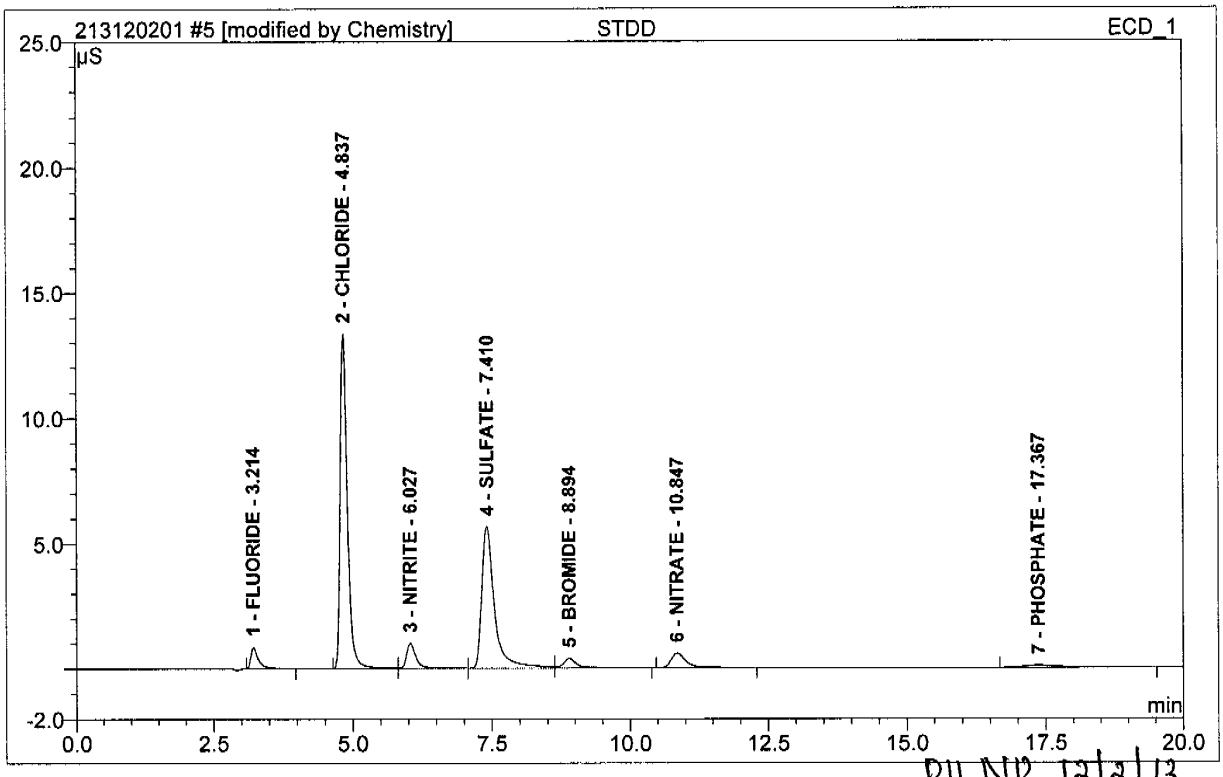
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.084 | 0.079 | 8.19 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.201 | 0.032 | 3.27 | 0.094 | BMB |
| 3 | 4.84 | CHLORIDE | 2.602 | 0.400 | 41.49 | 2.002 | BM |
| 4 | 6.04 | NITRITE | 0.260 | 0.062 | 6.43 | 0.123 | M |
| 5 | 7.48 | SULFATE | 1.062 | 0.295 | 30.60 | 2.023 | M |
| 6 | 8.89 | BROMIDE | 0.093 | 0.030 | 3.08 | 0.291 | MB |
| 7 | 10.86 | NITRATE | 0.140 | 0.045 | 4.70 | 0.094 | BMB |
| 8 | 17.63 | PHOSPHATE | 0.027 | 0.022 | 2.24 | 0.121 | BMB |
| **Total:** | | | 4.469 | 0.963 | 100.00 | 4.748 | |

# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

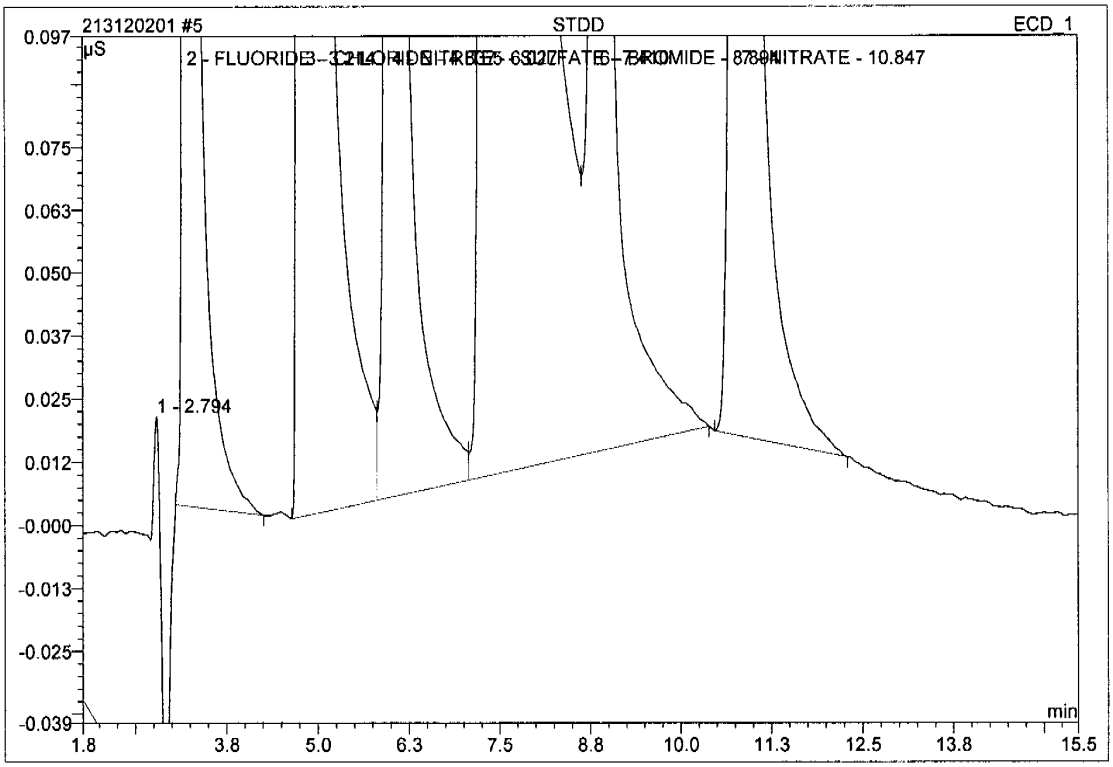



PII NP 12/2/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.842 | 0.127 | 3.02 | 0.379 | BMB* |
| 2 | 4.84 | CHLORIDE | 13.339 | 1.990 | 47.31 | 9.972 | BM |
| 3 | 6.03 | NITRITE | 1.008 | 0.203 | 4.82 | 0.404 | M |
| 4 | 7.41 | SULFATE | 5.664 | 1.508 | 35.85 | 10.357 | M |
| 5 | 8.89 | BROMIDE | 0.376 | 0.113 | 2.69 | 1.112 | MB |
| 6 | 10.85 | NITRATE | 0.581 | 0.185 | 4.39 | 0.383 | BMB |
| 7 | 17.37 | PHOSPHATE | 0.095 | 0.081 | 1.92 | 0.455 | BMB |
| **Total:** | | | 21.904 | 4.207 | 100.00 | 23.060 | |

# 5 STDD

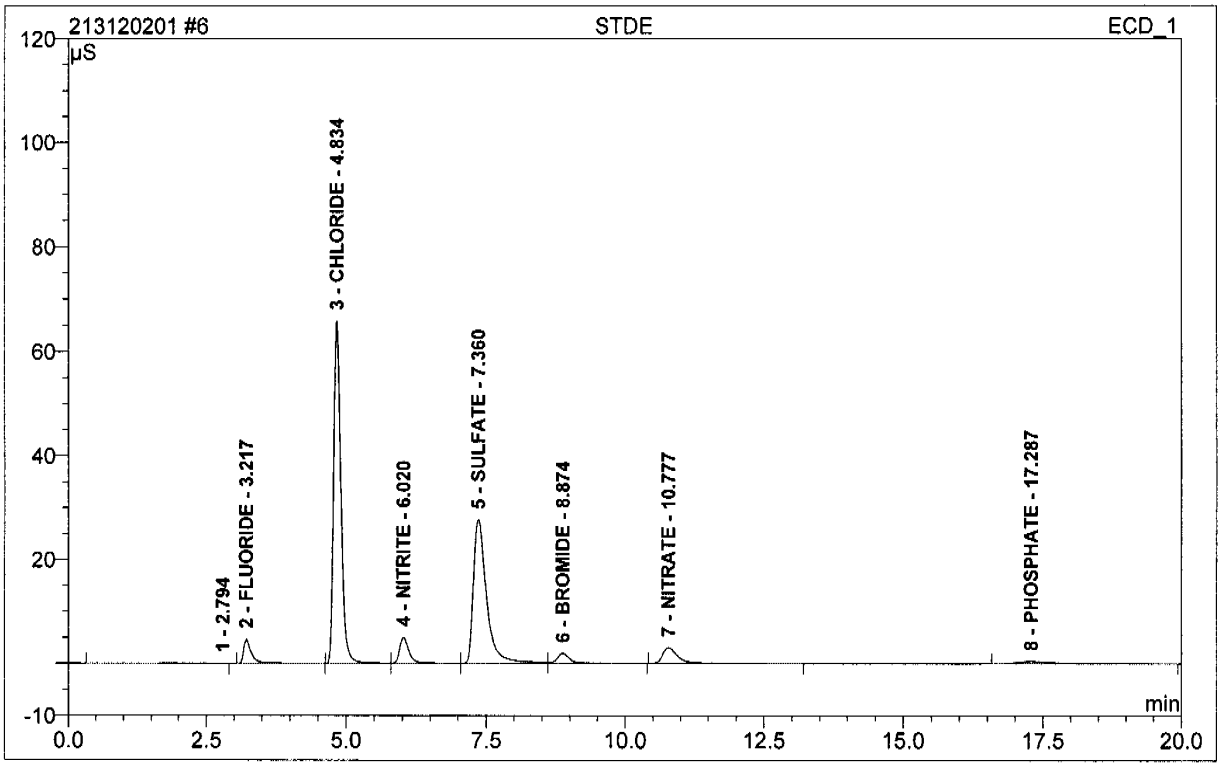
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.080 | 0.077 | 1.80 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.849 | 0.132 | 3.09 | 0.395 | BMB |
| 3 | 4.84 | CHLORIDE | 13.339 | 1.990 | 46.40 | 9.972 | BM |
| 4 | 6.03 | NITRITE | 1.008 | 0.203 | 4.73 | 0.404 | M |
| 5 | 7.41 | SULFATE | 5.664 | 1.508 | 35.16 | 10.357 | M |
| 6 | 8.89 | BROMIDE | 0.376 | 0.113 | 2.64 | 1.112 | MB |
| 7 | 10.85 | NITRATE | 0.581 | 0.185 | 4.30 | 0.383 | BMB |
| 8 | 17.37 | PHOSPHATE | 0.095 | 0.081 | 1.89 | 0.455 | BMB |
| **Total:** | | | 21.992 | 4.290 | 100.00 | 23.076 | |

# 6 STDE

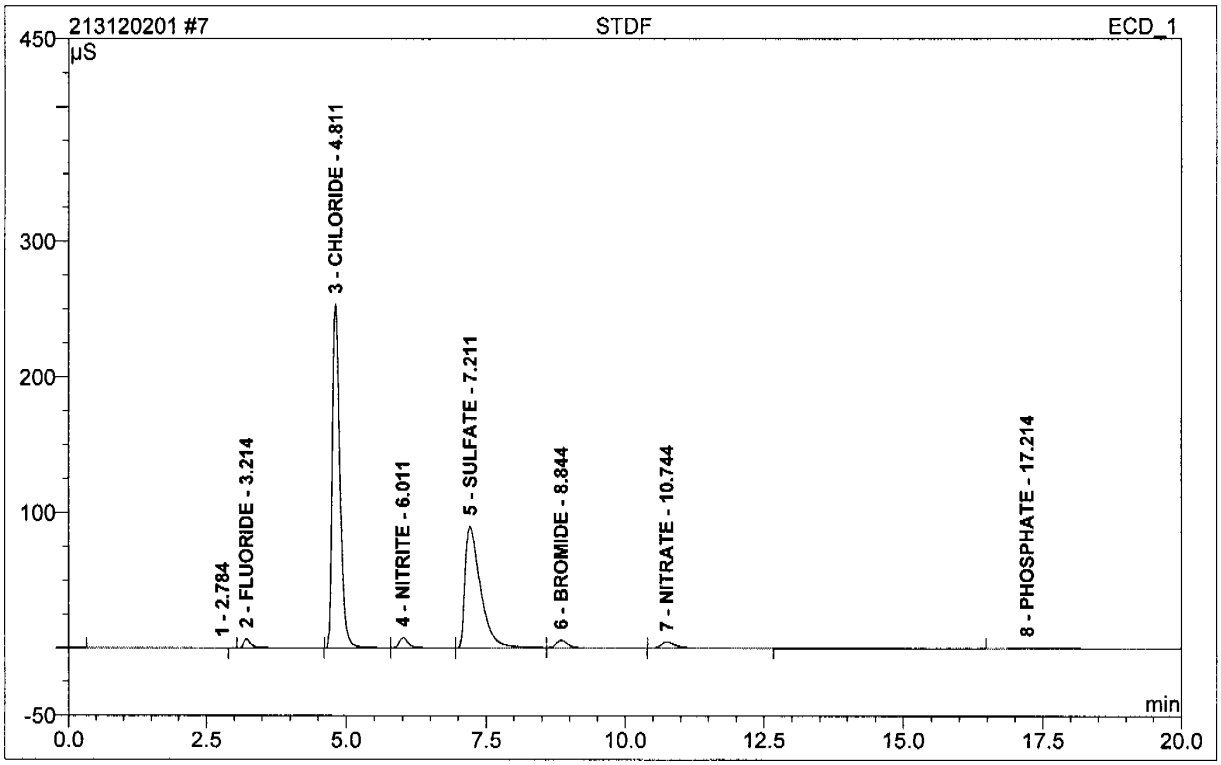
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 11:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.074 | 0.070 | 0.33 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.577 | 0.720 | 3.42 | 2.149 | BMB |
| 3 | 4.83 | CHLORIDE | 65.800 | 9.904 | 46.97 | 49.617 | BM |
| 4 | 6.02 | NITRITE | 5.031 | 0.980 | 4.65 | 1.952 | M |
| 5 | 7.36 | SULFATE | 27.623 | 7.560 | 35.85 | 51.910 | M |
| 6 | 8.87 | BROMIDE | 1.926 | 0.524 | 2.49 | 5.138 | MB |
| 7 | 10.78 | NITRATE | 3.052 | 0.971 | 4.61 | 2.014 | BMB |
| 8 | 17.29 | PHOSPHATE | 0.429 | 0.356 | 1.69 | 2.002 | BMB |
| **Total:** | | | 108.513 | 21.085 | 100.00 | 114.782 | |

# 7 STDF

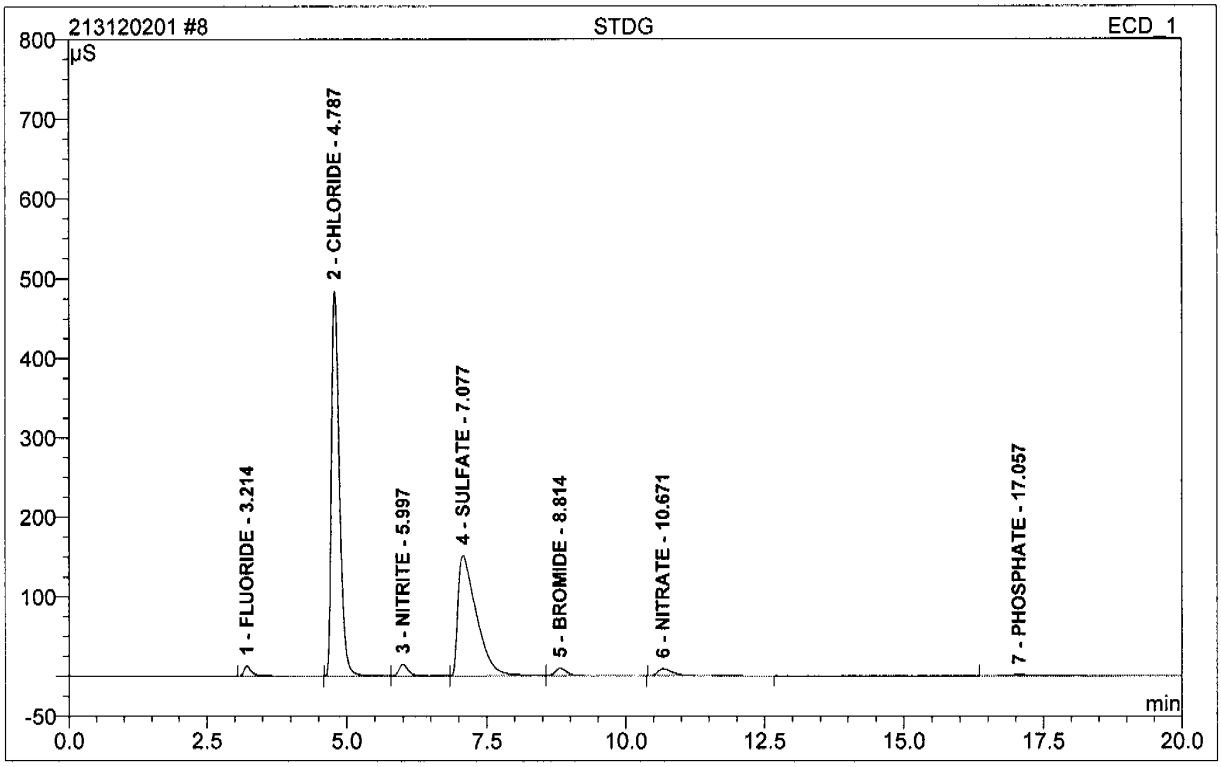
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDF** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 12:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



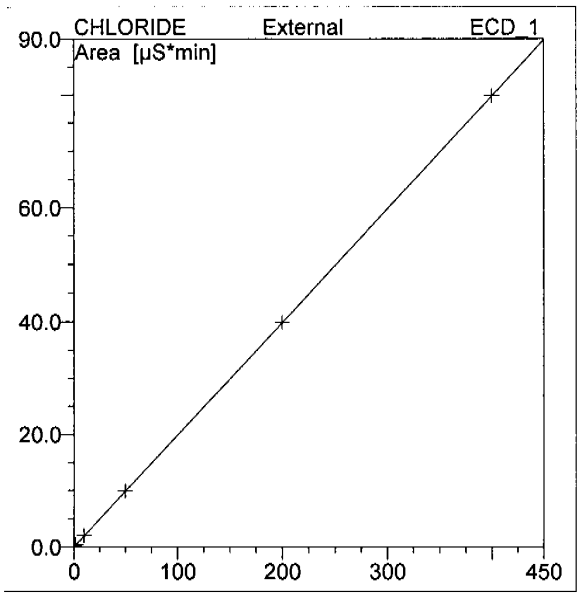

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.050 | 0.049 | 0.07 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.550 | 0.997 | 1.33 | 2.975 | BMB |
| 3 | 4.81 | CHLORIDE | 253.324 | 39.920 | 53.21 | 199.998 | BM |
| 4 | 6.01 | NITRITE | 7.598 | 1.532 | 2.04 | 3.052 | M |
| 5 | 7.21 | SULFATE | 89.875 | 29.026 | 38.69 | 199.304 | M |
| 6 | 8.84 | BROMIDE | 5.768 | 1.532 | 2.04 | 15.024 | MB |
| 7 | 10.74 | NITRATE | 4.566 | 1.433 | 1.91 | 2.973 | BMB |
| 8 | 17.21 | PHOSPHATE | 0.647 | 0.538 | 0.72 | 3.019 | BMB |
| **Total:** | | | 368.377 | 75.026 | 100.00 | 426.345 | |

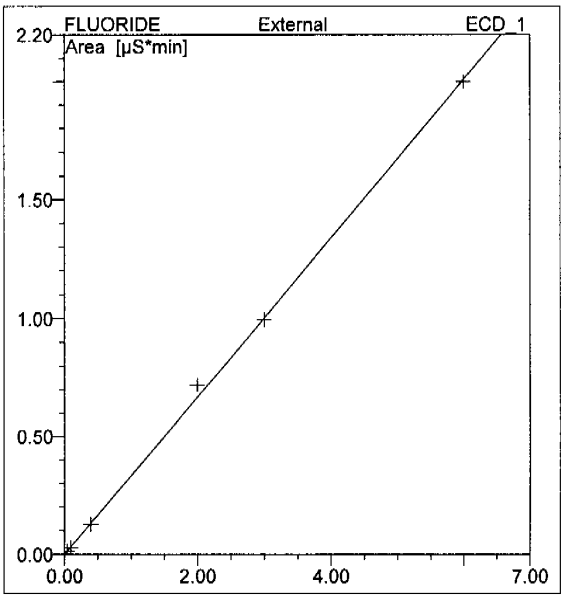
# 8 STDG

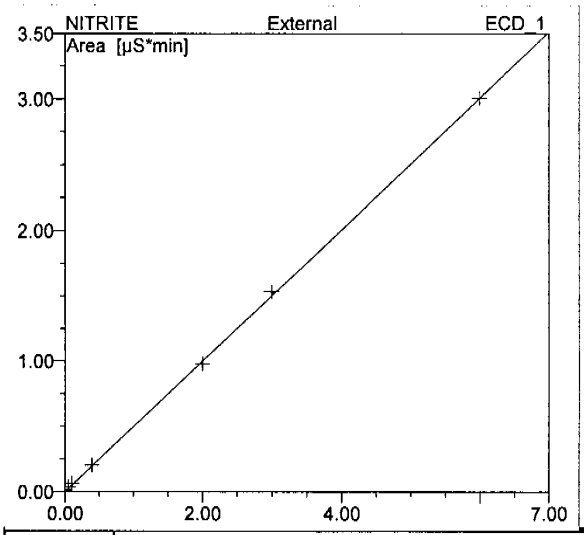
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDG** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 12:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

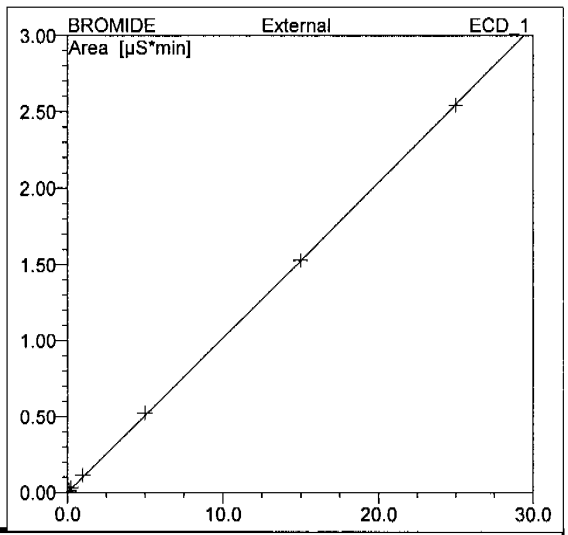



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 12.695 | 1.999 | 1.34 | 5.965 | BMB |
| 2 | 4.79 | CHLORIDE | 484.710 | 79.851 | 53.37 | 400.050 | BM |
| 3 | 6.00 | NITRITE | 14.448 | 3.005 | 2.01 | 5.989 | M |
| 4 | 7.08 | SULFATE | 152.091 | 58.269 | 38.94 | 400.100 | M |
| 5 | 8.81 | BROMIDE | 9.560 | 2.545 | 1.70 | 24.953 | MB |
| 6 | 10.67 | NITRATE | 8.900 | 2.897 | 1.94 | 6.010 | BMB |
| 7 | 17.06 | PHOSPHATE | 1.332 | 1.066 | 0.71 | 5.986 | BMB |
| **Total:** | | | 683.735 | 149.631 | 100.00 | 849.053 | |

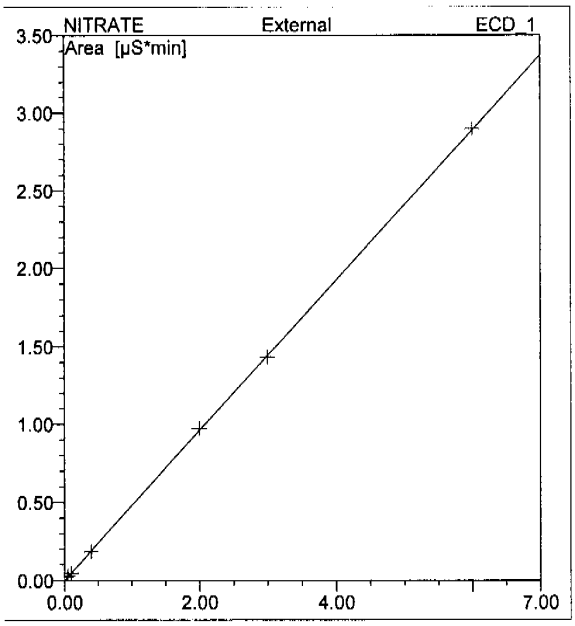


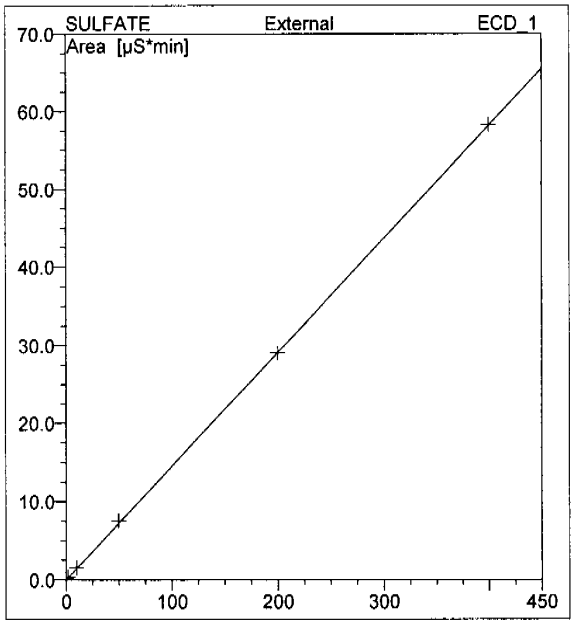



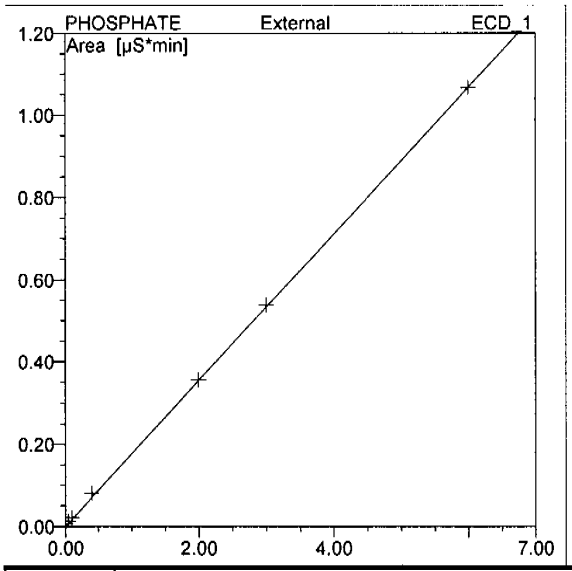




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9541 | 0.0000 | 0.3351 | 0.0000 |
| 2 | 4.79 | CHLORIDE | Lin | 7 | 100.0000 | 0.0000 | 0.1996 | 0.0000 |
| 3 | 6.00 | NITRITE | Lin | 7 | 99.9905 | 0.0000 | 0.5018 | 0.0000 |
| 4 | 7.08 | SULFATE | Lin | 6 | 99.9986 | 0.0000 | 0.1456 | 0.0000 |
| 5 | 8.81 | BROMIDE | Lin | 6 | 99.9982 | 0.0000 | 0.1020 | 0.0000 |
| 6 | 10.67 | NITRATE | Lin | 6 | 99.9978 | 0.0000 | 0.4821 | 0.0000 |
| 7 | 17.06 | PHOSPHATE | Lin | 7 | 99.9980 | 0.0000 | 0.1780 | 0.0000 |
| **Average:** | | | | | 99.9910 | 0.0000 | 0.2777 | 0.0000 |



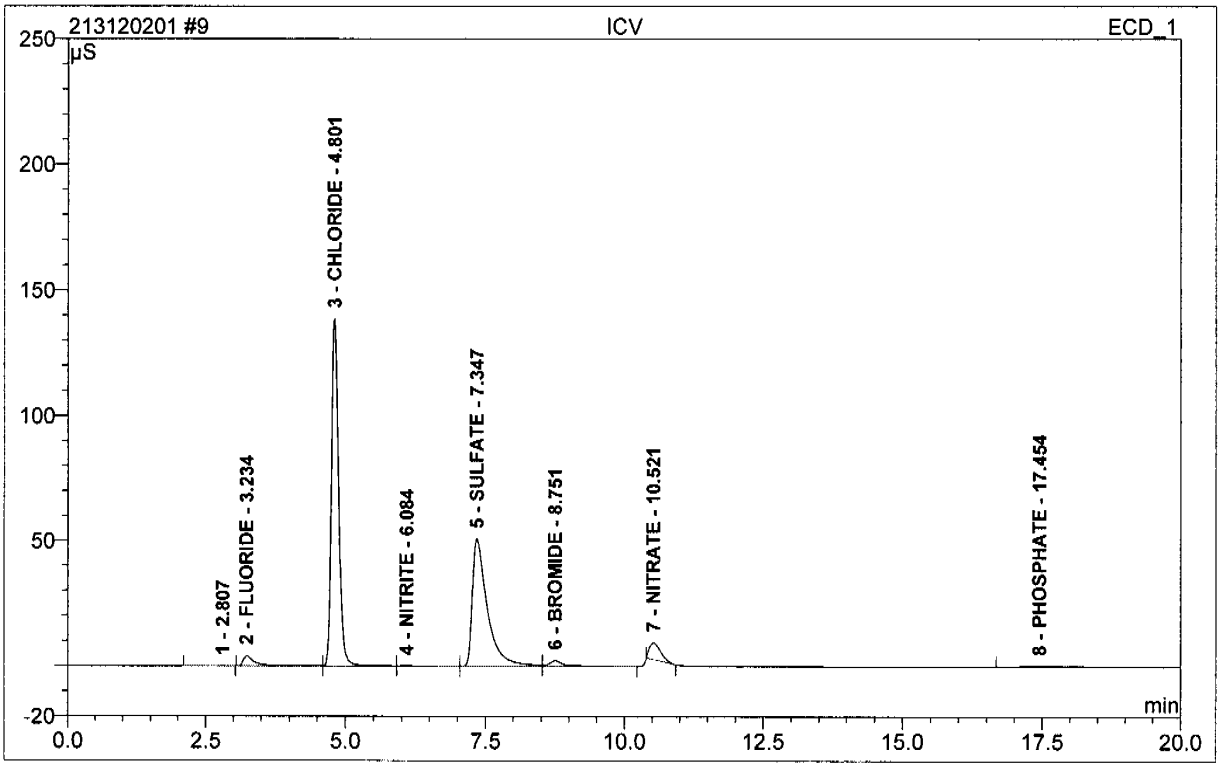




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9541 | 0.0000 | 0.3351 | 0.0000 |
| 2 | 4.79 | CHLORIDE | Lin | 7 | 100.0000 | 0.0000 | 0.1996 | 0.0000 |
| 3 | 6.00 | NITRITE | Lin | 7 | 99.9905 | 0.0000 | 0.5018 | 0.0000 |
| 4 | 7.08 | SULFATE | Lin | 6 | 99.9986 | 0.0000 | 0.1456 | 0.0000 |
| 5 | 8.81 | BROMIDE | Lin | 6 | 99.9982 | 0.0000 | 0.1020 | 0.0000 |
| 6 | 10.67 | NITRATE | Lin | 6 | 99.9978 | 0.0000 | 0.4821 | 0.0000 |
| 7 | 17.06 | PHOSPHATE | Lin | 7 | 99.9980 | 0.0000 | 0.1780 | 0.0000 |
| **Average:** | | | | | 99.9910 | 0.0000 | 0.2777 | 0.0000 |

## 9 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 9:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

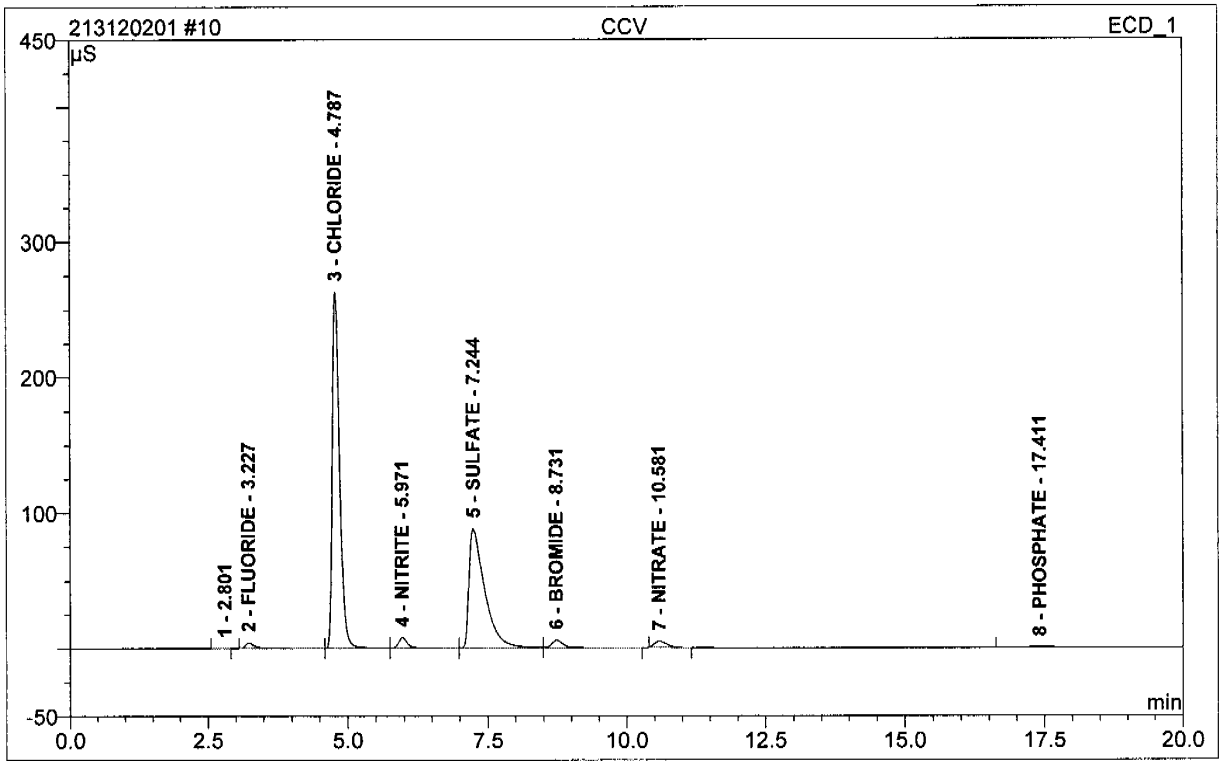



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.81 | n.a. | 0.083 | 0.010 | 0.03 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 4.033 | 1.046 | 2.61 | 3.122 | BM |
| 3 | 4.80 | CHLORIDE | 138.441 | 20.578 | 51.35 | 103.094 | M |
| 4 | 6.08 | NITRITE | 0.128 | 0.073 | 0.18 | 0.145 | M |
| 5 | 7.35 | SULFATE | 50.707 | 15.678 | 39.12 | 107.654 | M |
| 6 | 8.75 | BROMIDE | 2.248 | 0.675 | 1.68 | 6.617 | MB |
| 7 | 10.52 | NITRATE | 6.700 | 1.573 | 3.92 | 3.262 | BMB |
| 8 | 17.45 | PHOSPHATE | 0.380 | 0.440 | 1.10 | 2.472 | BMB |
| **Total:** | | | 202.722 | 40.073 | 100.00 | 226.366 | |

102.936 ✓ 110.12 ✓ 100.15 97.76

## 10 CCV

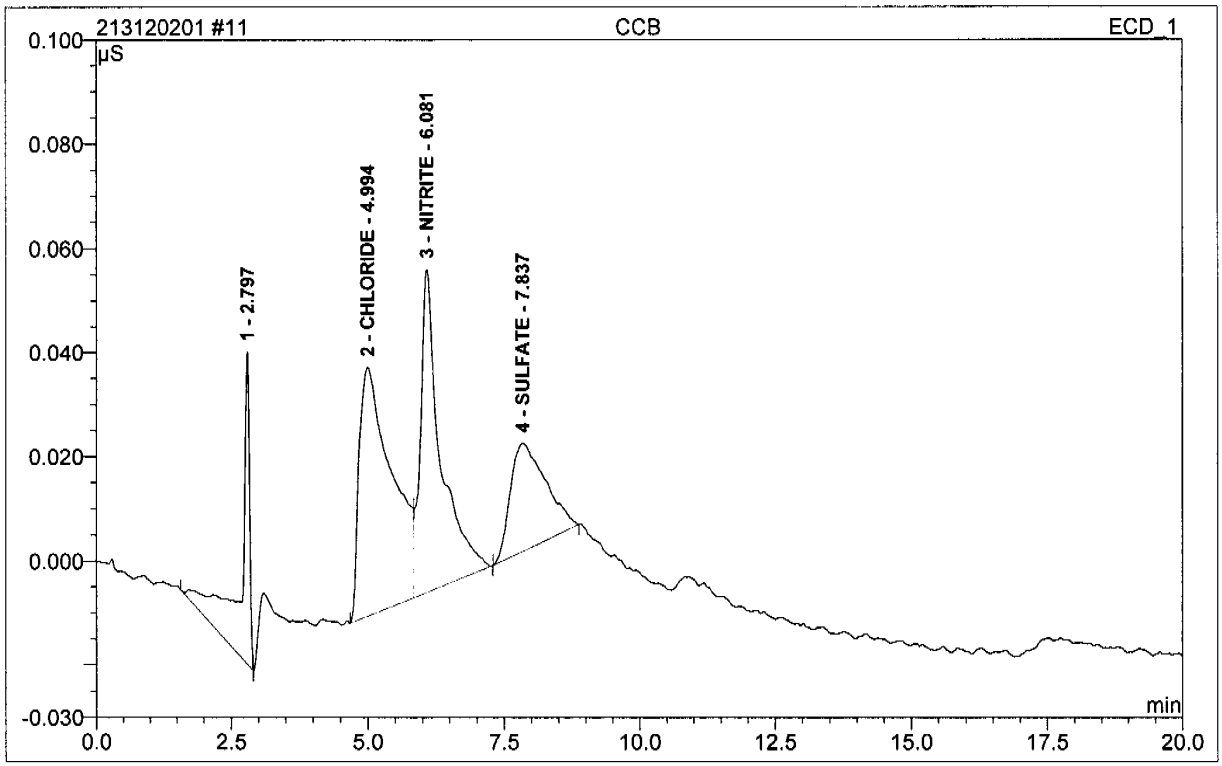
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 9:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | | Type | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 0.042 | 0.004 | 0.01 | | n.a. | | BMB | |
| 2 | 3.23 | FLUORIDE | 4.154 | 0.887 | 1.19 | | 2.647 | | BM | 99.51 |
| 3 | 4.79 | CHLORIDE | 263.026 | 39.726 | 53.39 | 200 | 199.025 | ✓ | M | |
| 4 | 5.97 | NITRITE | 8.012 | 1.560 | 2.10 | | 3.108 | | M | |
| 5 | 7.24 | SULFATE | 88.255 | 29.005 | 38.98 | 200 | 199.162 | ✓ | M | 99.58 |
| 6 | 8.73 | BROMIDE | 5.951 | 1.547 | 2.08 | | 15.165 | | MB | |
| 7 | 10.58 | NITRATE | 4.673 | 1.232 | 1.66 | | 2.555 | | BMB | |
| 8 | 17.41 | PHOSPHATE | 0.419 | 0.445 | 0.60 | | 2.501 | | BMB | |
| **Total:** | | | 374.533 | 74.405 | 100.00 | | 424.164 | | | |

## 11 CCB

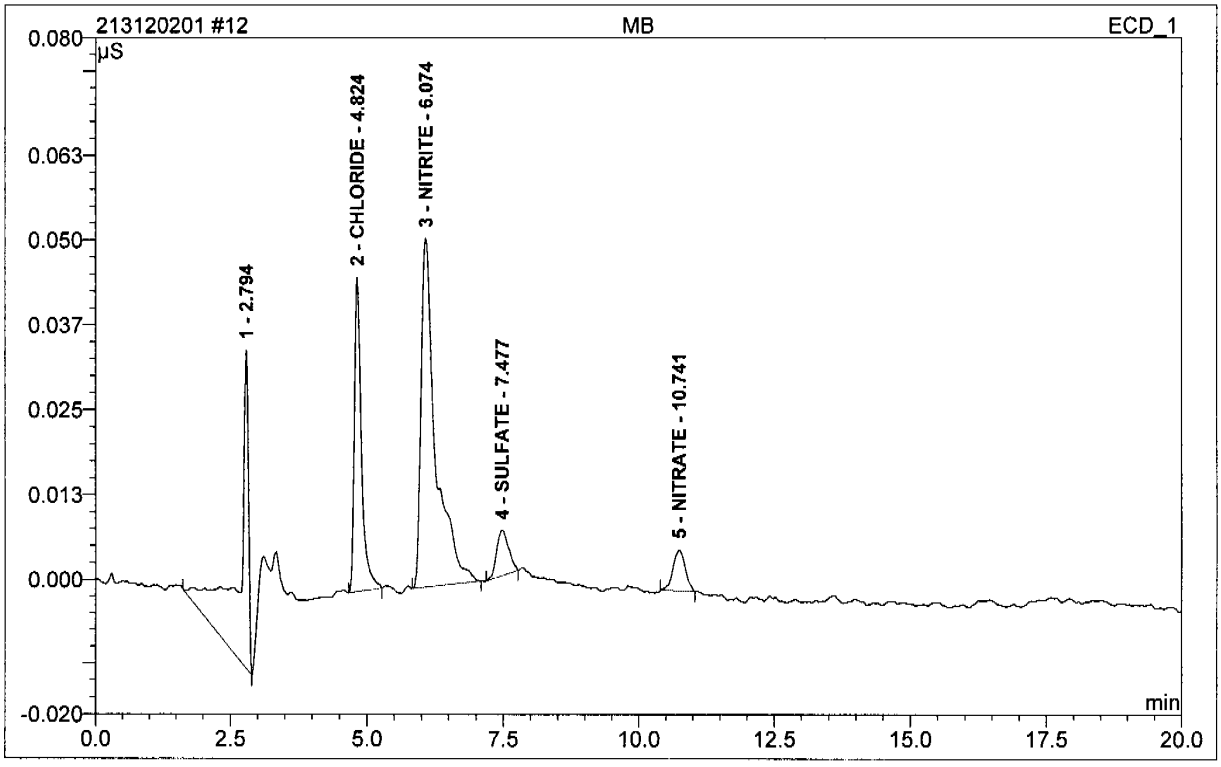
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 10:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 0.060 | 0.012 | 13.95 | n.a. | BMB |
| 2 | 4.99 | CHLORIDE | 0.048 | 0.032 | 37.43 | 0.163 | BM |
| 3 | 6.08 | NITRITE | 0.062 | 0.027 | 30.92 | 0.053 | MB |
| 4 | 7.84 | SULFATE | 0.021 | 0.015 | 17.69 | 0.105 | BMB |
| **Total:** | | | 0.191 | 0.087 | 100.00 | 0.322 | |

## 12 MB

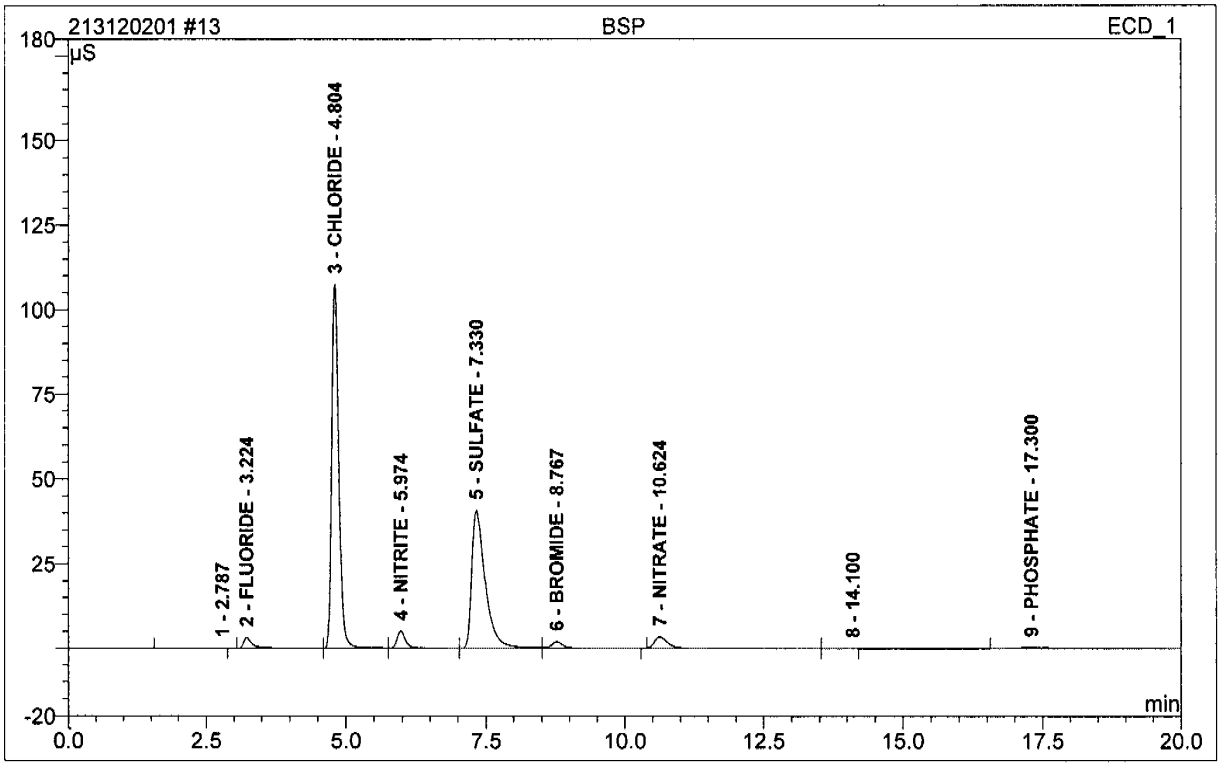
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 10:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.047 | 0.011 | 28.52 | n.a. | BMB |
| 2 | 4.82 | CHLORIDE | 0.046 | 0.007 | 18.84 | 0.035 | BMB |
| 3 | 6.07 | NITRITE | 0.051 | 0.016 | 43.70 | 0.032 | BMB |
| 4 | 7.48 | SULFATE | 0.007 | 0.002 | 4.63 | 0.012 | BMB |
| 5 | 10.74 | NITRATE | 0.006 | 0.002 | 4.31 | 0.003 | BMB |
| **Total:** | | | 0.158 | 0.037 | 100.00 | 0.082 | |

# 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 10:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.037 | 0.009 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.182 | 0.606 | 2.00 | 1.809 | BM |
| 3 | 4.80 | CHLORIDE | 107.342 | 15.625 | 51.46 | 78.281 | M |
| 4 | 5.97 | NITRITE | 5.119 | 0.963 | 3.17 | 1.918 | M |
| 5 | 7.33 | SULFATE | 40.721 | 11.479 | 37.81 | 78.817 | M |
| 6 | 8.77 | BROMIDE | 1.977 | 0.512 | 1.69 | 5.021 | MB |
| 7 | 10.62 | NITRATE | 3.391 | 0.860 | 2.83 | 1.783 | BM |
| 8 | 14.10 | n.a. | 0.006 | 0.007 | 0.02 | n.a. | MB |
| 9 | 17.30 | PHOSPHATE | 0.284 | 0.301 | 0.99 | 1.692 | BMB |
| **Total:** | | | 162.058 | 30.361 | 100.00 | 169.322 | |

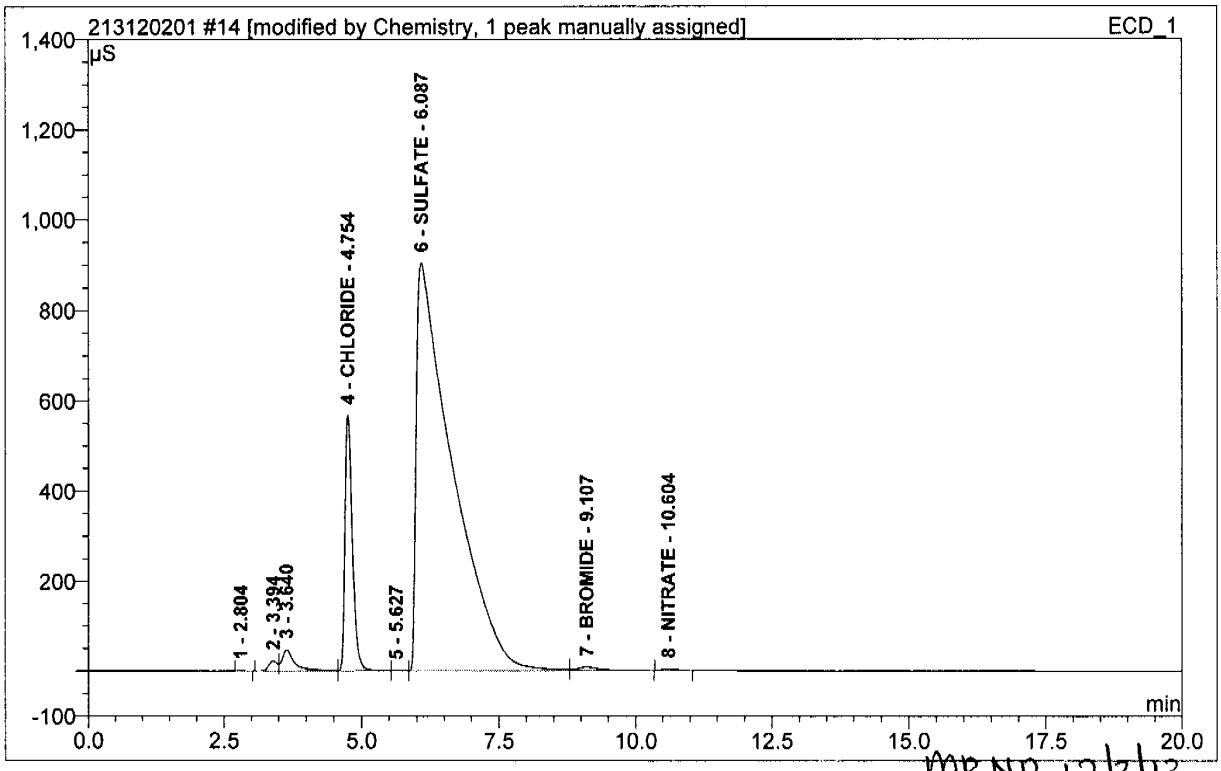
97.85

98.52

12.1 12

## 14 JB53814-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53814-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 11:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



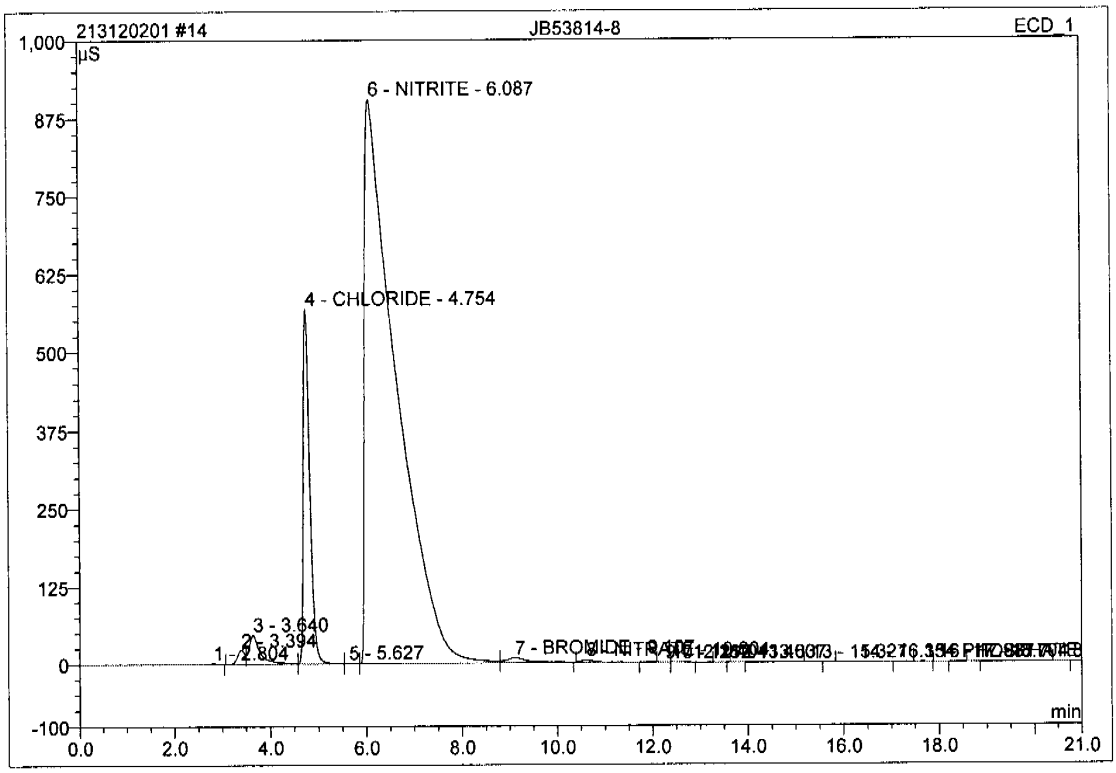

MP NP 12/2/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 1.779 | 0.168 | 0.02 | n.a. | BMB* |
| 2 | 3.39 | n.a. | 22.147 | 4.094 | 0.51 | n.a. | BM |
| 3 | 3.64 | n.a. | 47.497 | 12.502 | 1.56 | n.a. | M |
| 4 | 4.75 | CHLORIDE | 568.320 | 89.503 | 11.16 | 448.408 | M |
| 5 | 5.63 | n.a. | 1.011 | 0.254 | 0.03 | n.a. | M |
| 6 | 6.09 | SULFATE | 904.530 | 690.646 | 86.11 | 4742.287 | M ^ |
| 7 | 9.11 | BROMIDE | 7.884 | 3.835 | 0.48 | 37.606 | MB |
| 8 | 10.60 | NITRATE | 3.851 | 1.062 | 0.13 | 2.203 | BMB* |
| **Total:** | | | 1557.019 | 802.065 | 100.00 | 5230.504 | |

Soy over-range. See rerun at 1:25 dilution.

## 14 JB53814-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53814-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 11:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 1.864 | 0.350 | 0.04 | n.a. | BMB |
| 2 | 3.39 | n.a. | 22.147 | 4.094 | 0.51 | n.a. | BM |
| 3 | 3.64 | n.a. | 47.497 | 12.502 | 1.56 | n.a. | M |
| 4 | 4.75 | CHLORIDE | 568.320 | 89.503 | 11.15 | 448.408 | M |
| 5 | 5.63 | n.a. | 1.011 | 0.254 | 0.03 | n.a. | M |
| 6 | 6.09 | NITRITE | 904.530 | 690.646 | 86.08 | 1376.266 | M |
| 7 | 9.11 | BROMIDE | 7.884 | 3.835 | 0.48 | 37.606 | MB |
| 8 | 10.60 | NITRATE | 3.795 | 1.094 | 0.14 | 2.269 | BMB |
| 9 | 12.27 | n.a. | 0.020 | 0.003 | 0.00 | n.a. | BMB |
| 10 | 12.40 | n.a. | 0.007 | 0.015 | 0.00 | n.a. | BMB |
| 11 | 13.40 | n.a. | 0.020 | 0.003 | 0.00 | n.a. | BMB |

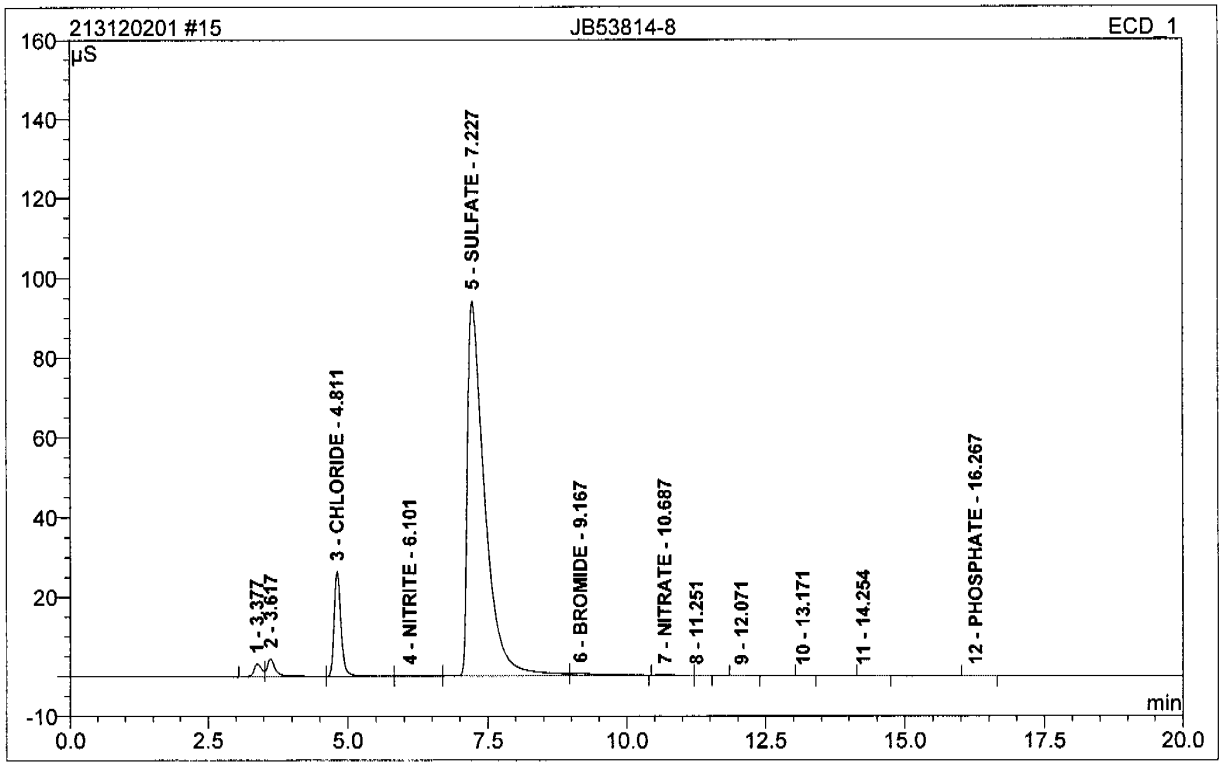
DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 13.64 | n.a. | 0.000 | 0.003 | 0.00 | n.a. | BMB |
| 13 | 15.33 | n.a. | 0.015 | 0.003 | 0.00 | n.a. | BMB |
| 14 | 16.33 | n.a. | 0.112 | 0.063 | 0.01 | n.a. | BMB |
| 15 | 17.69 | PHOSPHATE | 0.018 | 0.004 | 0.00 | 0.020 | BMB |
| 16 | 17.99 | n.a. | 0.008 | 0.002 | 0.00 | n.a. | BMB |
| 17 | 18.70 | n.a. | 0.008 | 0.001 | 0.00 | n.a. | BMB |
| 18 | 20.58 | n.a. | 0.008 | 0.002 | 0.00 | n.a. | BMB |
| **Total:** | | | 1557.265 | 802.377 | 100.00 | 1864.569 | |

## 15 JB53814-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53814-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **25.0000** |
| *Recording Time:* | **12/2/2013 11:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

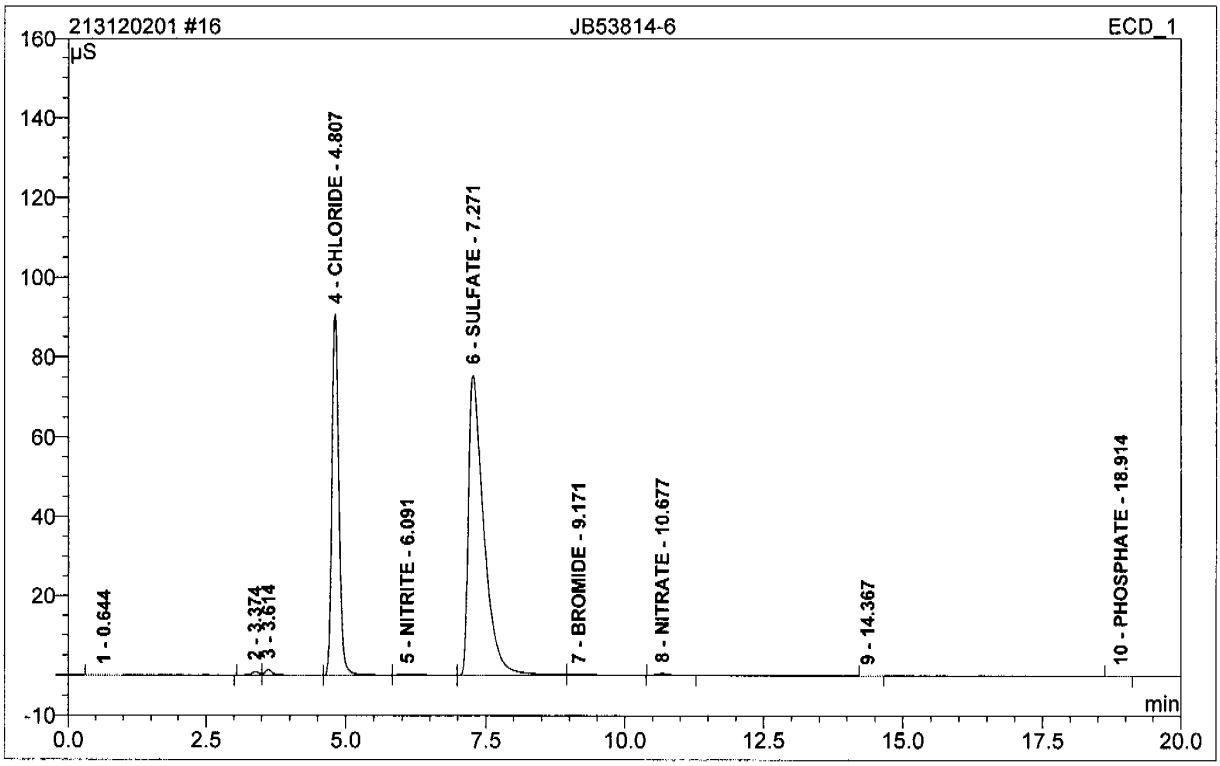



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.38 | n.a. | 3.277 | 0.539 | 1.38 | n.a. | BM |
| 2 | 3.62 | n.a. | 4.505 | 0.819 | 2.09 | n.a. | M |
| 3 | 4.81 | CHLORIDE | 26.507 | 3.800 | 9.69 | 475.954 | M |
| 4 | 6.10 | NITRITE | 0.201 | 0.110 | 0.28 | 5.485 | M |
| 5 | 7.23 | SULFATE | 94.255 | 33.548 | 85.59 | 5758.944 | M |
| 6 | 9.17 | BROMIDE | 0.529 | 0.324 | 0.83 | 79.514 | MB |
| 7 | 10.69 | NITRATE | 0.169 | 0.043 | 0.11 | 2.224 | BM |
| 8 | 11.25 | n.a. | 0.005 | 0.002 | 0.01 | n.a. | MB |
| 9 | 12.07 | n.a. | 0.016 | 0.004 | 0.01 | n.a. | BMB |
| 10 | 13.17 | n.a. | 0.008 | 0.002 | 0.00 | n.a. | BMB |
| 11 | 14.25 | n.a. | 0.010 | 0.003 | 0.01 | n.a. | BMB |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 16.27 | PHOSPHATE | 0.013 | 0.003 | 0.01 | 0.480 | BMB |
| **Total:** | | | 129.494 | 39.198 | 100.00 | 6322.601 | |

## 16 JB53814-6

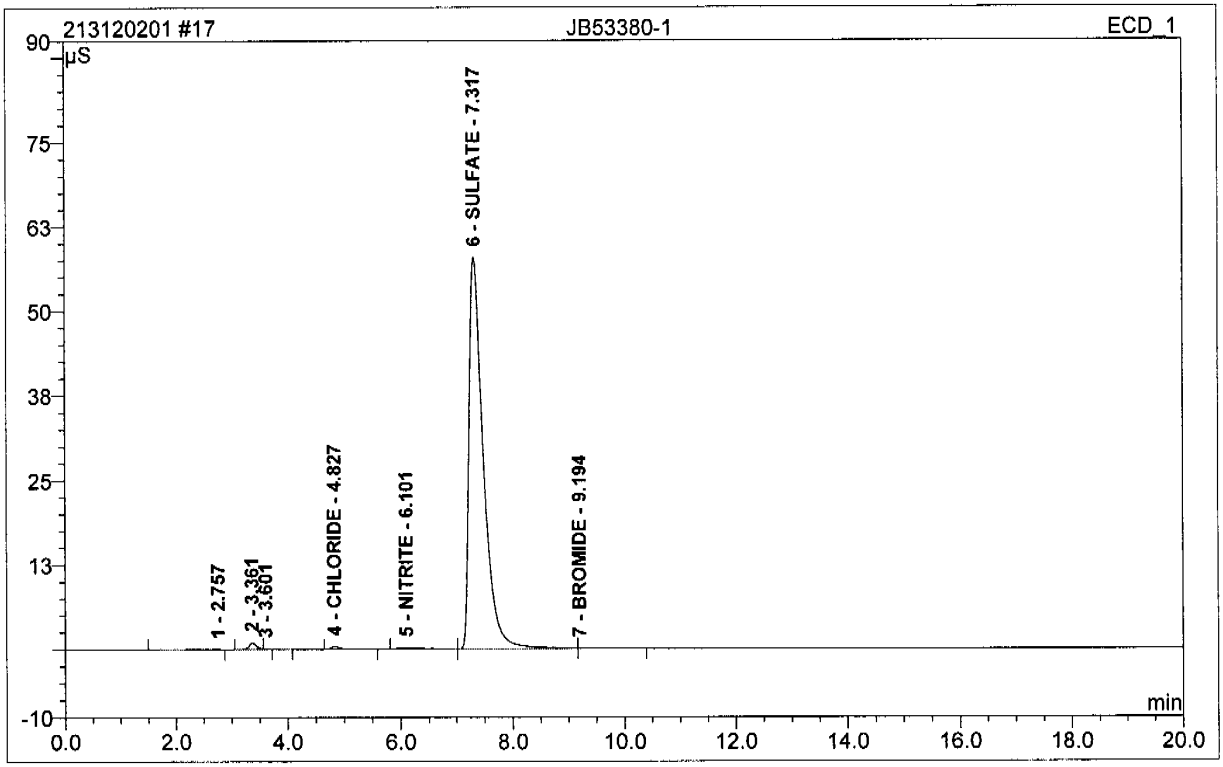
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53814-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **10.0000** |
| *Recording Time:* | **12/2/2013 12:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.64 | n.a. | 0.017 | 0.133 | 0.35 | n.a. | BMB |
| 2 | 3.37 | n.a. | 0.992 | 0.172 | 0.45 | n.a. | BM |
| 3 | 3.61 | n.a. | 1.466 | 0.250 | 0.66 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 90.734 | 13.033 | 34.16 | 652.960 | bM |
| 5 | 6.09 | NITRITE | 0.238 | 0.128 | 0.34 | 2.554 | M |
| 6 | 7.27 | SULFATE | 75.450 | 24.160 | 63.32 | 1658.908 | M |
| 7 | 9.17 | BROMIDE | 0.279 | 0.146 | 0.38 | 14.355 | MB |
| 8 | 10.68 | NITRATE | 0.498 | 0.131 | 0.34 | 2.725 | BMB |
| 9 | 14.37 | n.a. | 0.006 | 0.001 | 0.00 | n.a. | BMB |
| 10 | 18.91 | PHOSPHATE | 0.004 | 0.001 | 0.00 | 0.057 | BMB |
| **Total:** | | | 169.684 | 38.156 | 100.00 | 2331.560 | |

## 17 JB53380-1

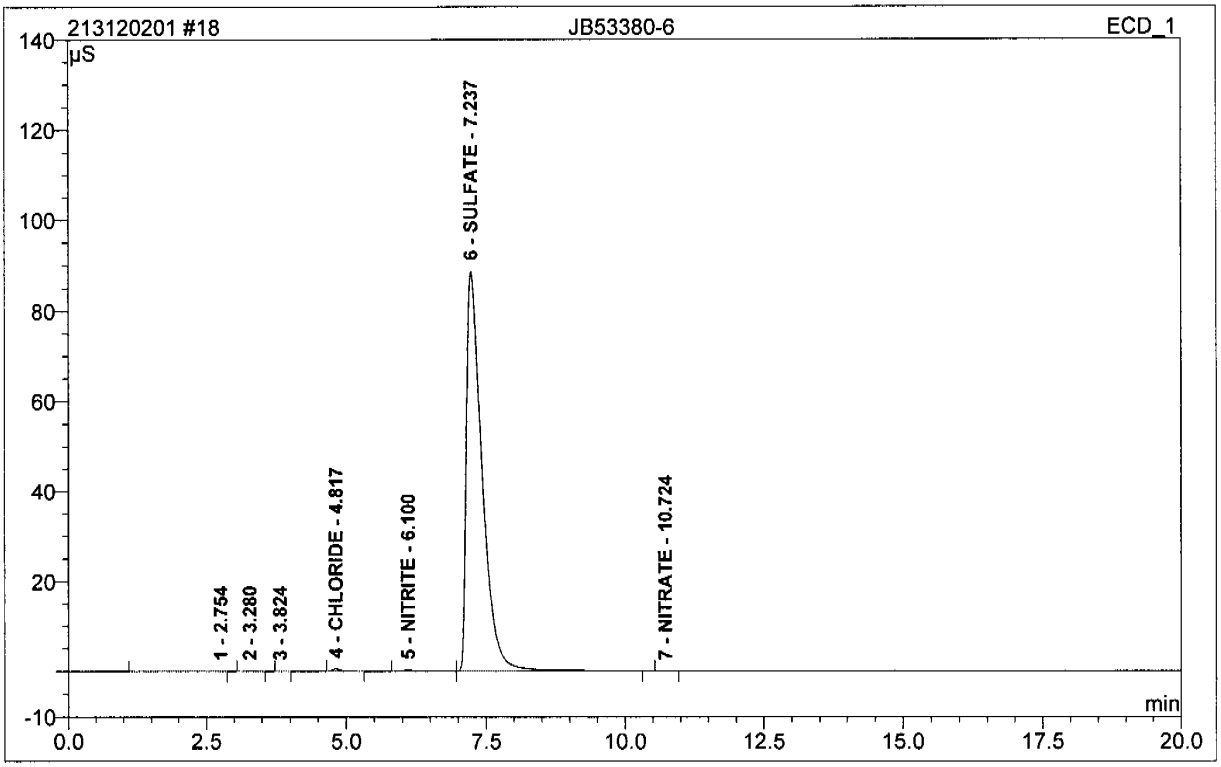
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53380-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **100.0000** |
| *Recording Time:* | **12/2/2013 12:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.035 | 0.023 | 0.13 | n.a. | BMB |
| 2 | 3.36 | n.a. | 0.968 | 0.177 | 1.01 | n.a. | BMB |
| 3 | 3.60 | n.a. | 0.021 | 0.002 | 0.01 | n.a. | Rd |
| 4 | 4.83 | CHLORIDE | 0.416 | 0.080 | 0.46 | 40.081 | BMB |
| 5 | 6.10 | NITRITE | 0.219 | 0.102 | 0.58 | 20.304 | BM |
| 6 | 7.32 | SULFATE | 57.868 | 17.028 | 97.55 | 11692.524 | M |
| 7 | 9.19 | BROMIDE | 0.089 | 0.044 | 0.25 | 42.735 | MB |
| **Total:** | | | 59.616 | 17.456 | 100.00 | 11795.644 | |

## 18 JB53380-6

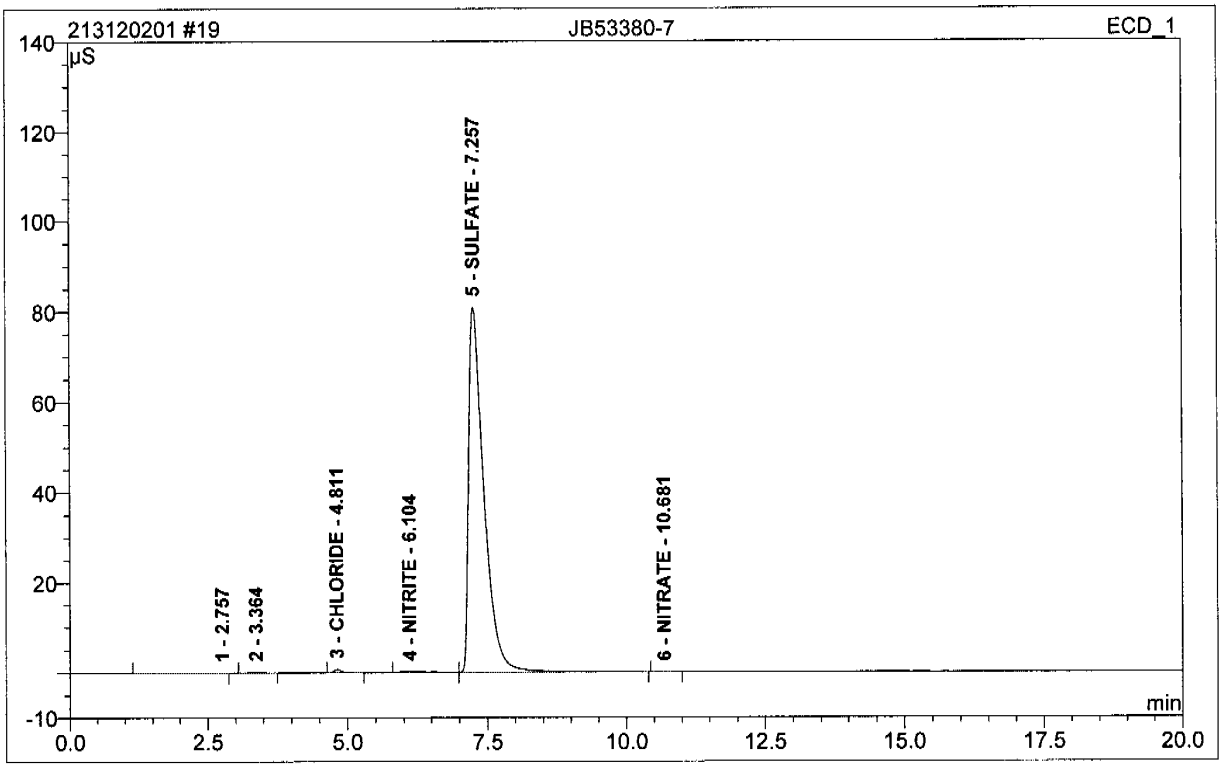
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53380-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **100.0000** |
| *Recording Time:* | **12/2/2013 12:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.75 | n.a. | 0.035 | 0.029 | 0.10 | n.a. | BMB |
| 2 | 3.28 | n.a. | 0.050 | 0.011 | 0.04 | n.a. | BMB |
| 3 | 3.82 | n.a. | 0.011 | 0.001 | 0.00 | n.a. | BMB |
| 4 | 4.82 | CHLORIDE | 0.535 | 0.087 | 0.30 | 43.580 | BMB |
| 5 | 6.10 | NITRITE | 0.218 | 0.098 | 0.34 | 19.450 | BM |
| 6 | 7.24 | SULFATE | 88.694 | 28.873 | 99.22 | 19825.201 | MB |
| 7 | 10.72 | NITRATE | 0.010 | 0.002 | 0.01 | 0.475 | BMB |
| **Total:** | | | 89.552 | 29.101 | 100.00 | 19888.707 | |

## 19 JB53380-7

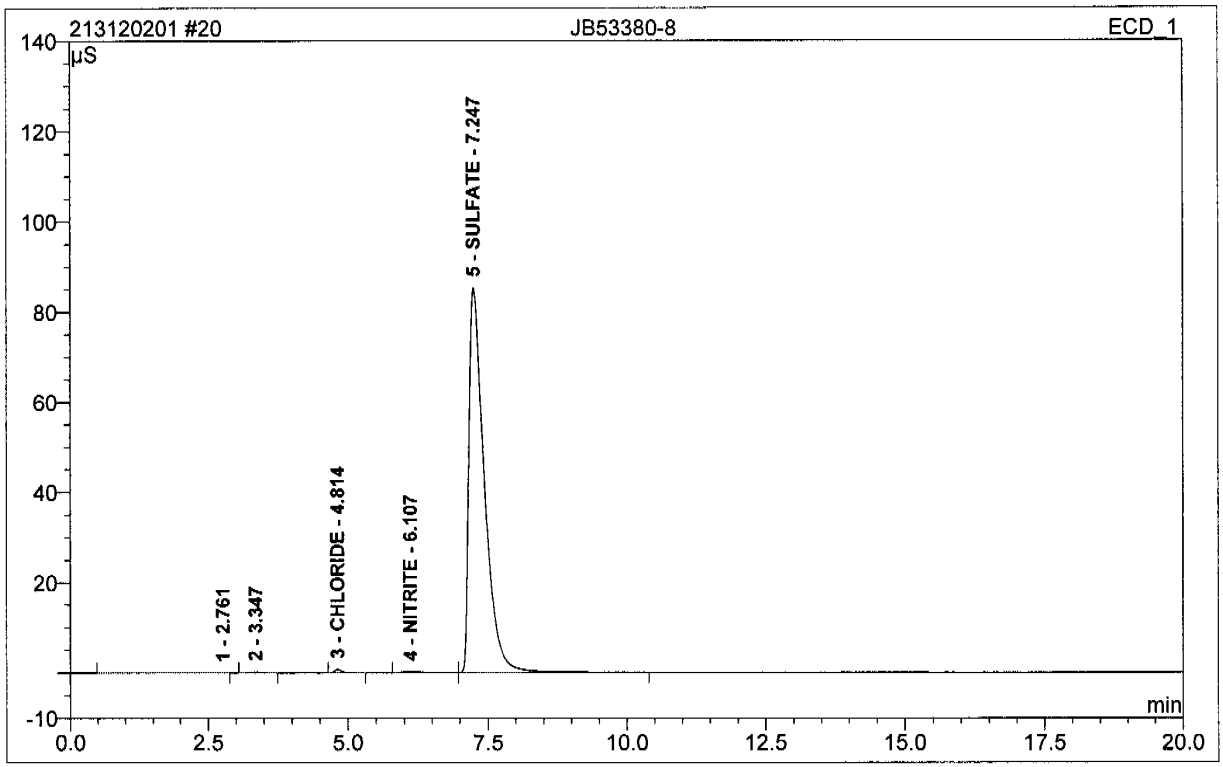
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53380-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **50.0000** |
| *Recording Time:* | **12/2/2013 13:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.036 | 0.027 | 0.10 | n.a. | BMB |
| 2 | 3.36 | n.a. | 0.165 | 0.031 | 0.12 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 0.712 | 0.107 | 0.41 | 26.703 | BMB |
| 4 | 6.10 | NITRITE | 0.273 | 0.147 | 0.57 | 14.633 | BM |
| 5 | 7.26 | SULFATE | 80.796 | 25.579 | 98.78 | 8781.807 | MB |
| 6 | 10.68 | NITRATE | 0.011 | 0.003 | 0.01 | 0.312 | BMB |
| **Total:** | | | 81.993 | 25.894 | 100.00 | 8823.455 | |

## 20 JB53380-8

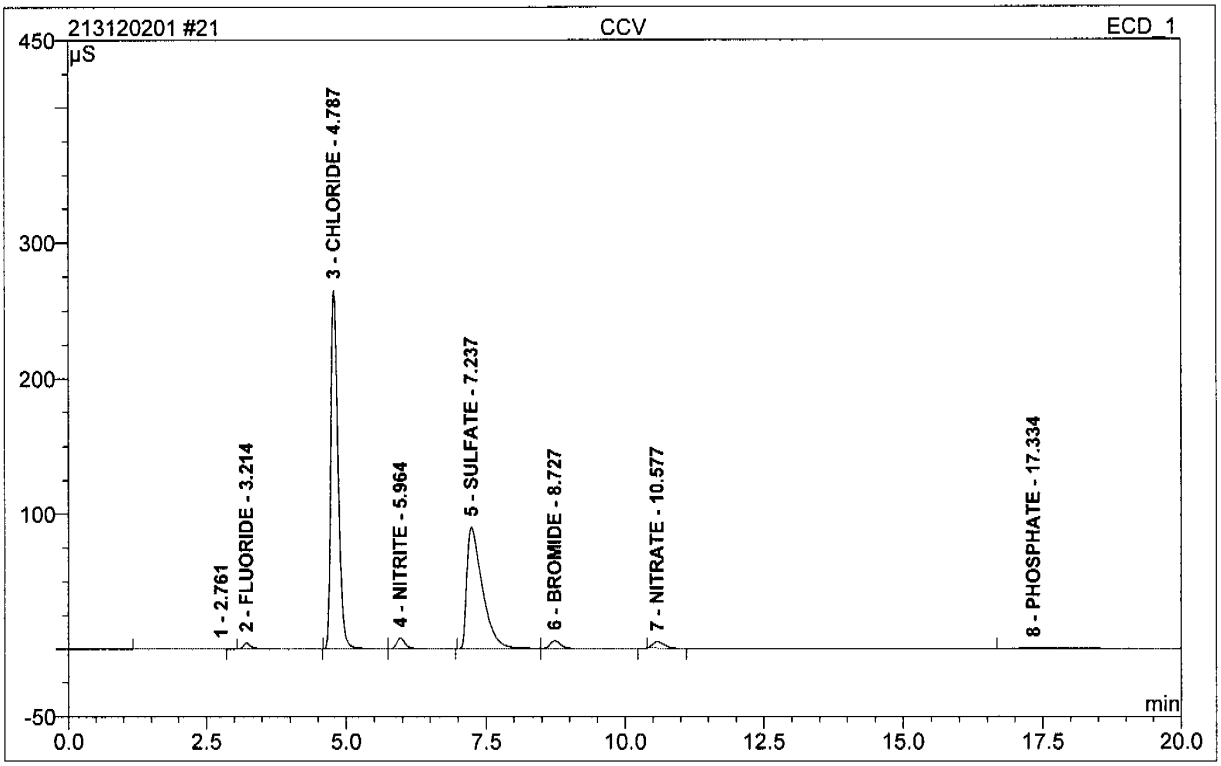
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53380-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **50.0000** |
| *Recording Time:* | **12/2/2013 13:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.037 | 0.039 | 0.14 | n.a. | BMB |
| 2 | 3.35 | n.a. | 0.194 | 0.036 | 0.13 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 0.765 | 0.114 | 0.41 | 28.615 | BMB |
| 4 | 6.11 | NITRITE | 0.264 | 0.137 | 0.49 | 13.647 | BM |
| 5 | 7.25 | SULFATE | 85.339 | 27.389 | 98.82 | 9403.135 | MB |
| **Total:** | | | 86.599 | 27.716 | 100.00 | 9445.396 | |

## 21 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 14:01** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.029 | 0.021 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 4.480 | 0.781 | 1.05 | 2.330 | BMB |
| 3 | 4.79 | CHLORIDE | 265.056 | 39.738 | 53.54 | 199.086 | BMb |
| 4 | 5.96 | NITRITE | 7.964 | 1.398 | 1.88 | 2.787 | bMB |
| 5 | 7.24 | SULFATE | 90.093 | 29.105 | 39.21 | 199.848 | BM |
| 6 | 8.73 | BROMIDE | 5.943 | 1.446 | 1.95 | 14.178 | MB |
| 7 | 10.58 | NITRATE | 4.731 | 1.239 | 1.67 | 2.571 | BMB |
| 8 | 17.33 | PHOSPHATE | 0.538 | 0.499 | 0.67 | 2.802 | BMB |
| **Total:** | | | 378.835 | 74.227 | 100.00 | 423.600 | |

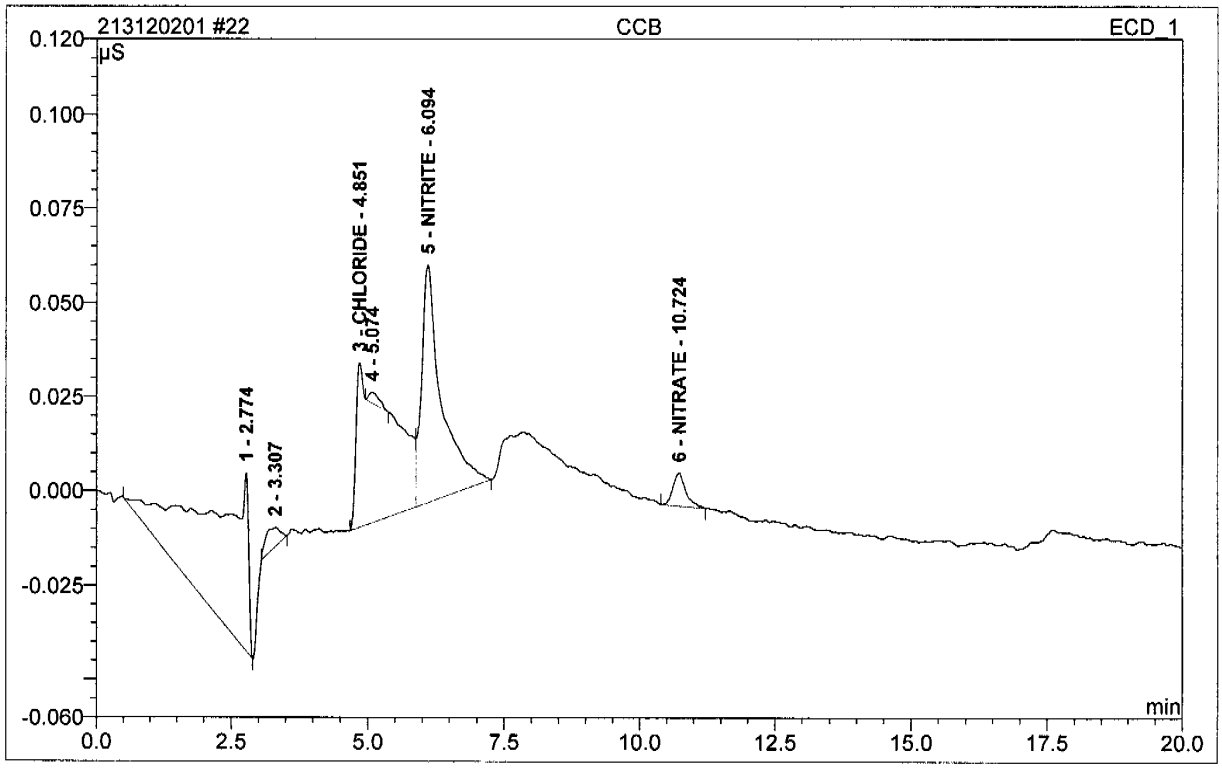
200 199.086 ✓ 99.54

200 199.848 ✓ 99.92

12.1 12

## 22 CCB

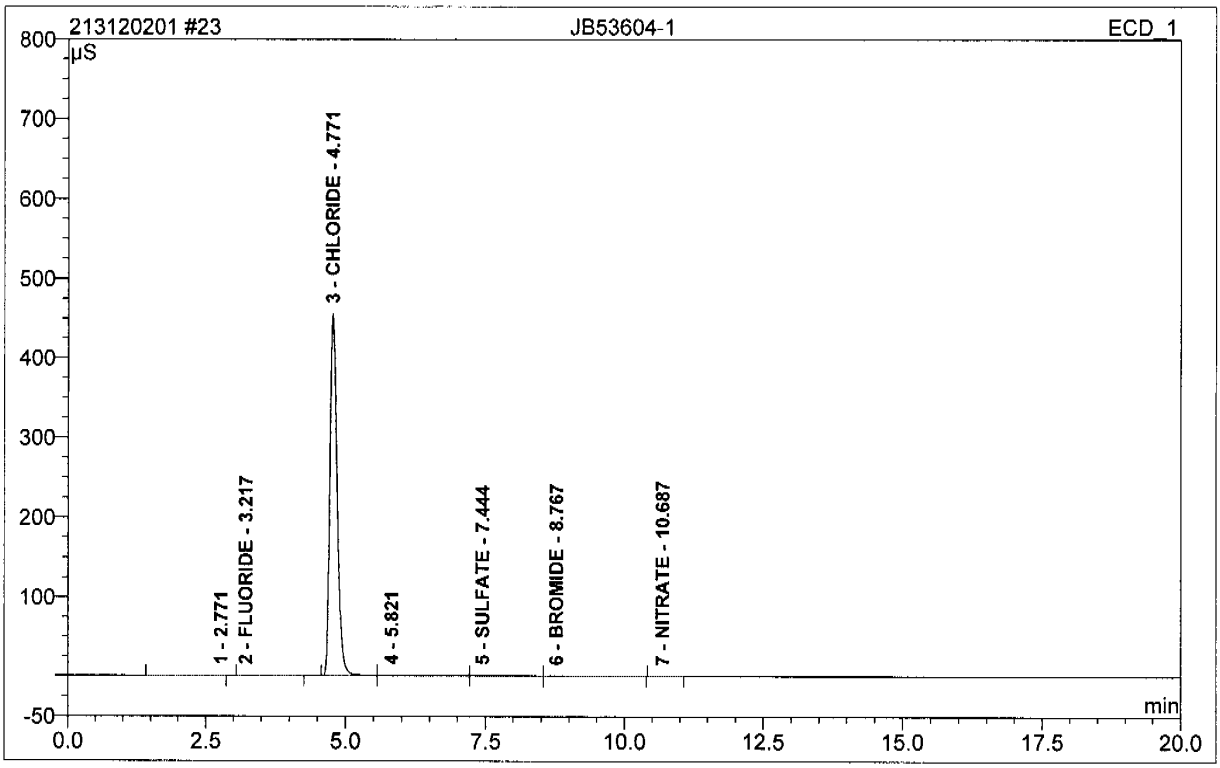
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 14:25** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.047 | 0.042 | 40.04 | n.a. | BMB |
| 2 | 3.31 | n.a. | 0.005 | 0.002 | 1.61 | n.a. | BMB |
| 3 | 4.85 | CHLORIDE | 0.044 | 0.031 | 29.74 | 0.158 | BM |
| 4 | 5.07 | n.a. | 0.003 | 0.001 | 0.60 | n.a. | Rd |
| 5 | 6.09 | NITRITE | 0.063 | 0.027 | 25.69 | 0.054 | MB |
| 6 | 10.72 | NITRATE | 0.009 | 0.002 | 2.31 | 0.005 | BMB |
| **Total:** | | | 0.171 | 0.106 | 100.00 | 0.217 | |

## 23 JB53604-1

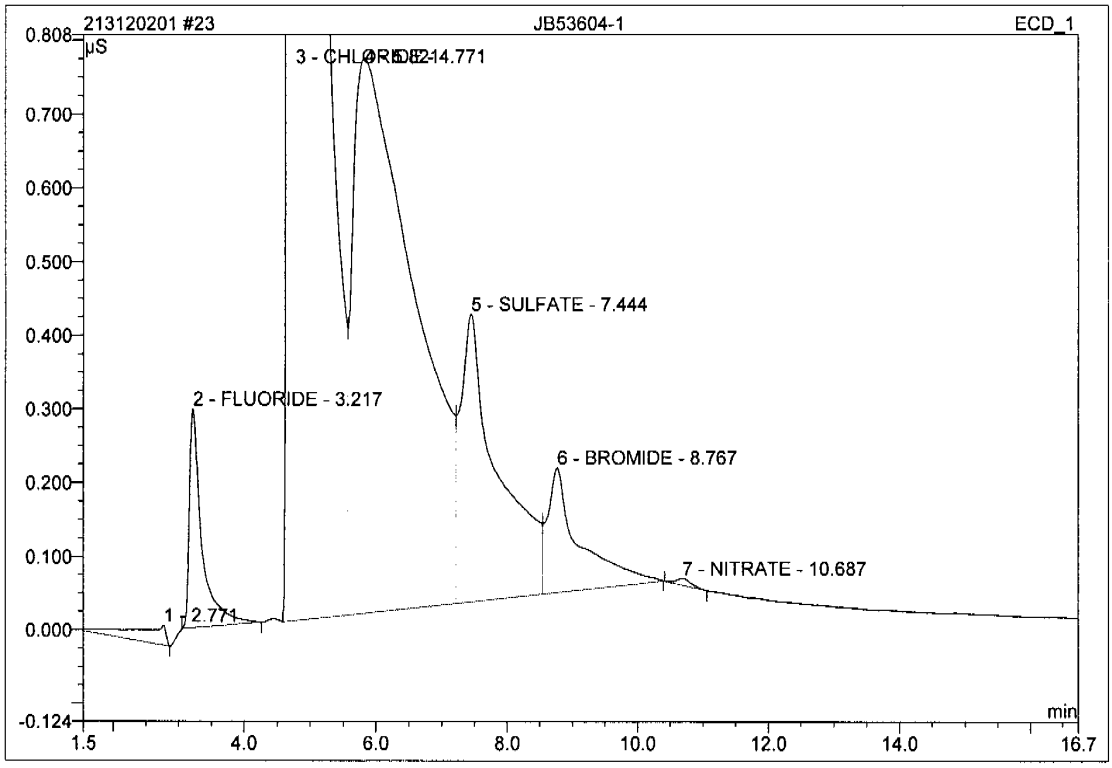
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 14:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.027 | 0.016 | 0.02 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.297 | 0.065 | 0.09 | 0.195 | BMB |
| 3 | 4.77 | CHLORIDE | 455.629 | 68.822 | 98.20 | 344.797 | BM |
| 4 | 5.82 | n.a. | 0.753 | 0.823 | 1.17 | n.a. | M |
| 5 | 7.44 | SULFATE | 0.390 | 0.260 | 0.37 | 1.786 | M |
| 6 | 8.77 | BROMIDE | 0.169 | 0.096 | 0.14 | 0.946 | MB |
| 7 | 10.69 | NITRATE | 0.009 | 0.003 | 0.00 | 0.005 | BMB |
| **Total:** | | | 457.275 | 70.086 | 100.00 | 347.729 | |

# 23 JB53604-1

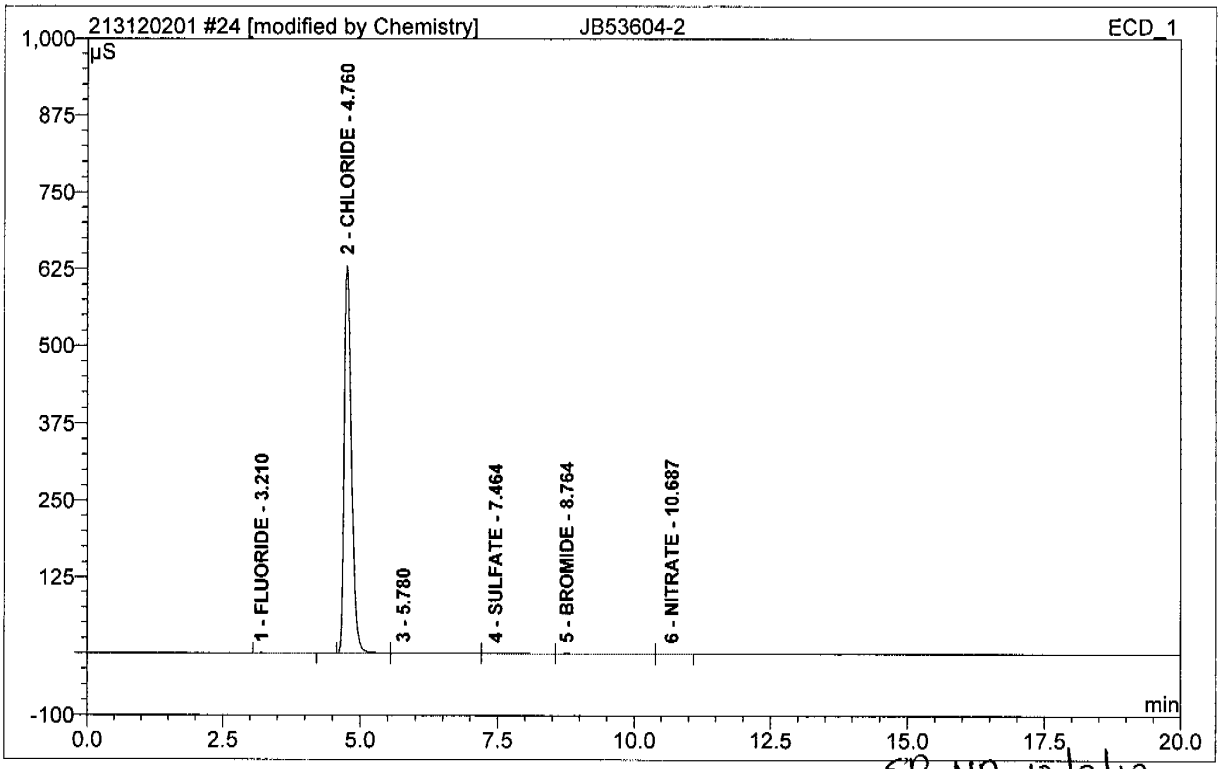
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 14:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.027 | 0.016 | 0.02 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.297 | 0.065 | 0.09 | 0.195 | BMB |
| 3 | 4.77 | CHLORIDE | 455.629 | 68.822 | 98.20 | 344.797 | BM |
| 4 | 5.82 | n.a. | 0.753 | 0.823 | 1.17 | n.a. | M |
| 5 | 7.44 | SULFATE | 0.390 | 0.260 | 0.37 | 1.786 | M |
| 6 | 8.77 | BROMIDE | 0.169 | 0.096 | 0.14 | 0.946 | MB |
| 7 | 10.69 | NITRATE | 0.009 | 0.003 | 0.00 | 0.005 | BMB |
| **Total:** | | | 457.275 | 70.086 | 100.00 | 347.729 | |

## 24 JB53604-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

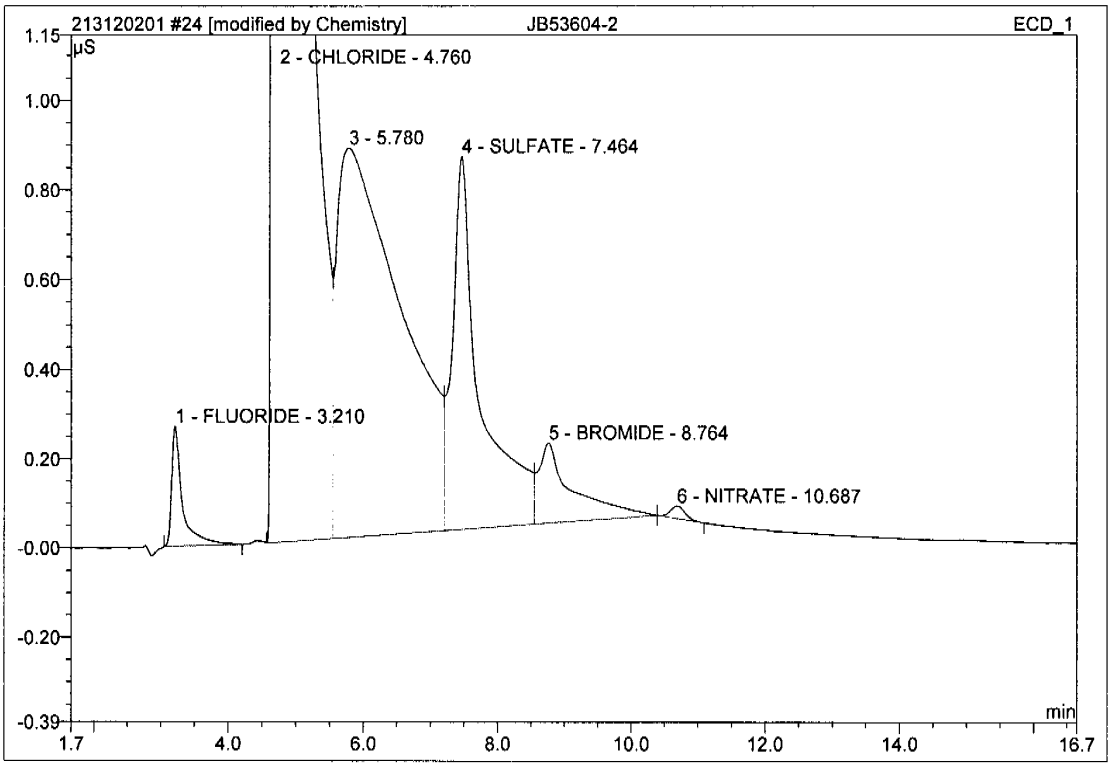



SP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.268 | 0.050 | 0.05 | 0.148 | BMB |
| 2 | 4.76 | CHLORIDE | 630.234 | 96.856 | 98.44 | 485.245 | BM |
| 3 | 5.78 | n.a. | 0.870 | 0.970 | 0.99 | n.a. | M |
| 4 | 7.46 | SULFATE | 0.834 | 0.405 | 0.41 | 2.783 ✓ | M * |
| 5 | 8.76 | BROMIDE | 0.181 | 0.107 | 0.11 | 1.052 | Mb* |
| 6 | 10.69 | NITRATE | 0.028 | 0.007 | 0.01 | 0.015 | bMB |
| **Total:** | | | 632.415 | 98.396 | 100.00 | 489.243 | |

## 24 JB53604-2

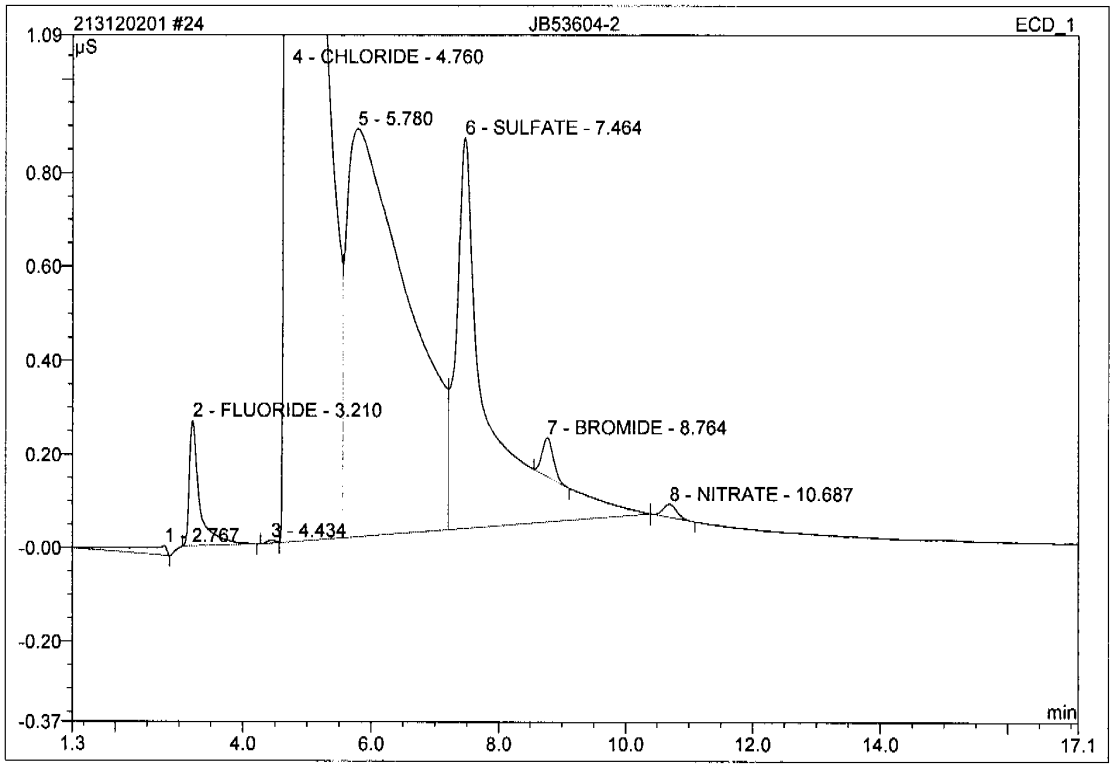
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.268 | 0.050 | 0.05 | 0.148 | BMB |
| 2 | 4.76 | CHLORIDE | 630.234 | 96.856 | 98.44 | 485.245 | BM |
| 3 | 5.78 | n.a. | 0.870 | 0.970 | 0.99 | n.a. | M |
| 4 | 7.46 | SULFATE | 0.834 | 0.405 | 0.41 | 2.783 | M * |
| 5 | 8.76 | BROMIDE | 0.181 | 0.107 | 0.11 | 1.052 | Mb* |
| 6 | 10.69 | NITRATE | 0.028 | 0.007 | 0.01 | 0.015 | bMB |
| **Total:** | | | 632.415 | 98.396 | 100.00 | 489.243 | |

## 24 JB53604-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



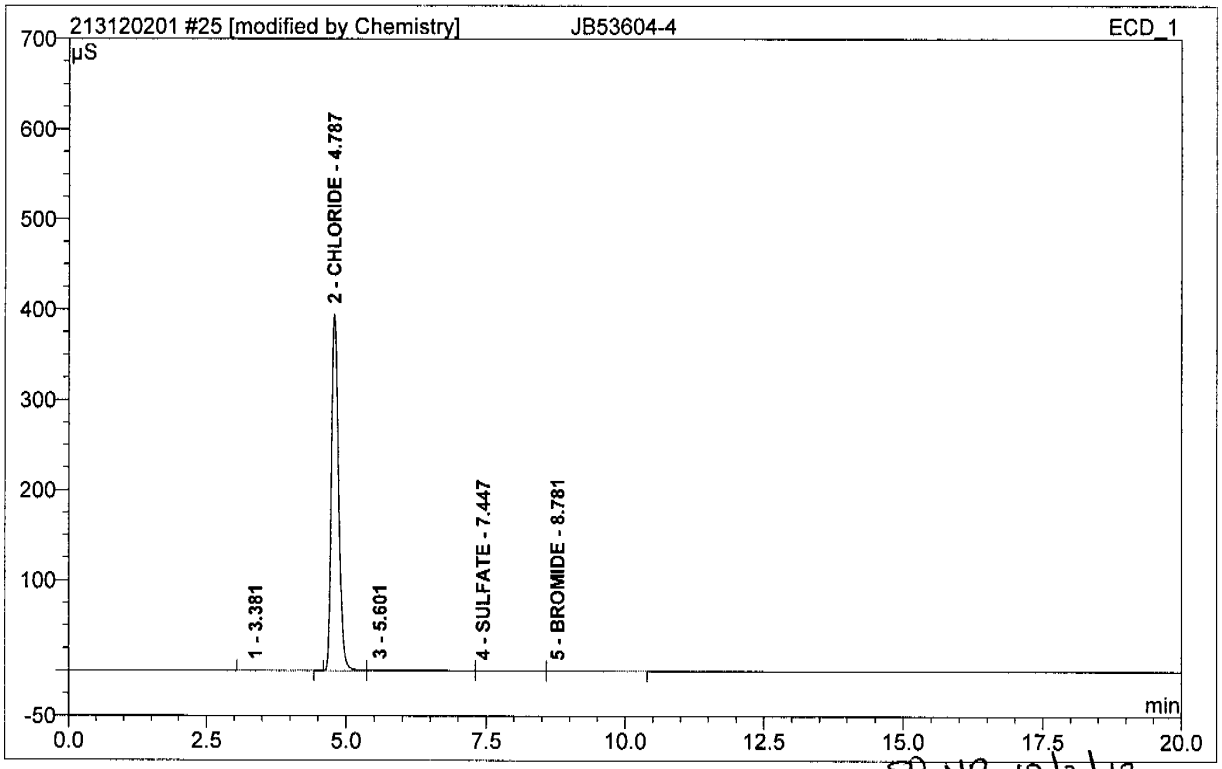

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.021 | 0.013 | 0.01 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.268 | 0.050 | 0.05 | 0.148 | BMB |
| 3 | 4.43 | n.a. | 0.006 | 0.001 | 0.00 | n.a. | BMB |
| 4 | 4.76 | CHLORIDE | 630.234 | 96.856 | 98.42 | 485.245 | BM |
| 5 | 5.78 | n.a. | 0.870 | 0.970 | 0.99 | n.a. | M |
| 6 | 7.46 | SULFATE | 0.834 | 0.496 | 0.50 | 3.405 | Mb |
| 7 | 8.76 | BROMIDE | 0.083 | 0.017 | 0.02 | 0.164 | Rd |
| 8 | 10.69 | NITRATE | 0.028 | 0.007 | 0.01 | 0.015 | bMB |
| **Total:** | | | 632.344 | 98.410 | 100.00 | 488.977 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 25 JB53604-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

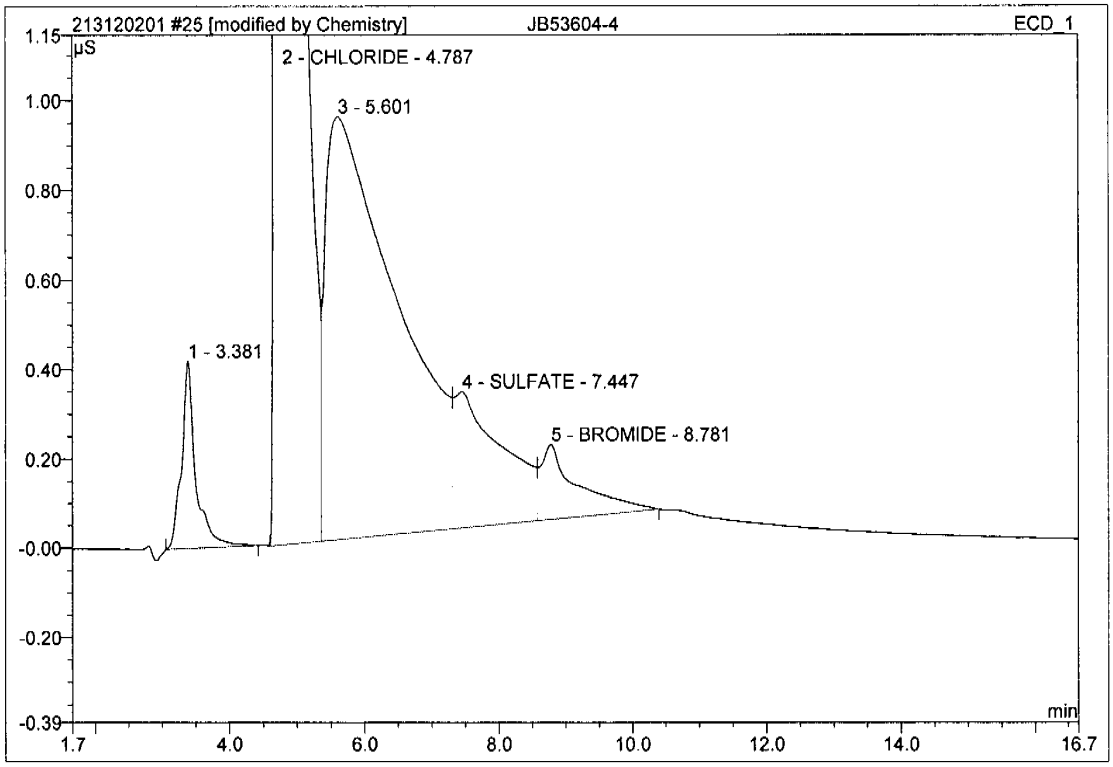



SP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.38 | n.a. | 0.420 | 0.102 | 0.17 | n.a. | BMB |
| 2 | 4.79 | CHLORIDE | 394.257 | 58.667 | 97.29 | 293.921 | BM |
| 3 | 5.60 | n.a. | 0.945 | 1.165 | 1.93 | n.a. | M * |
| 4 | 7.45 | SULFATE | 0.306 | 0.255 | 0.42 | 1.752 ✓ | M * |
| 5 | 8.78 | BROMIDE | 0.169 | 0.109 | 0.18 | 1.068 | MB* |
| **Total:** | | | 396.097 | 60.298 | 100.00 | 296.742 | |

## 25 JB53604-4

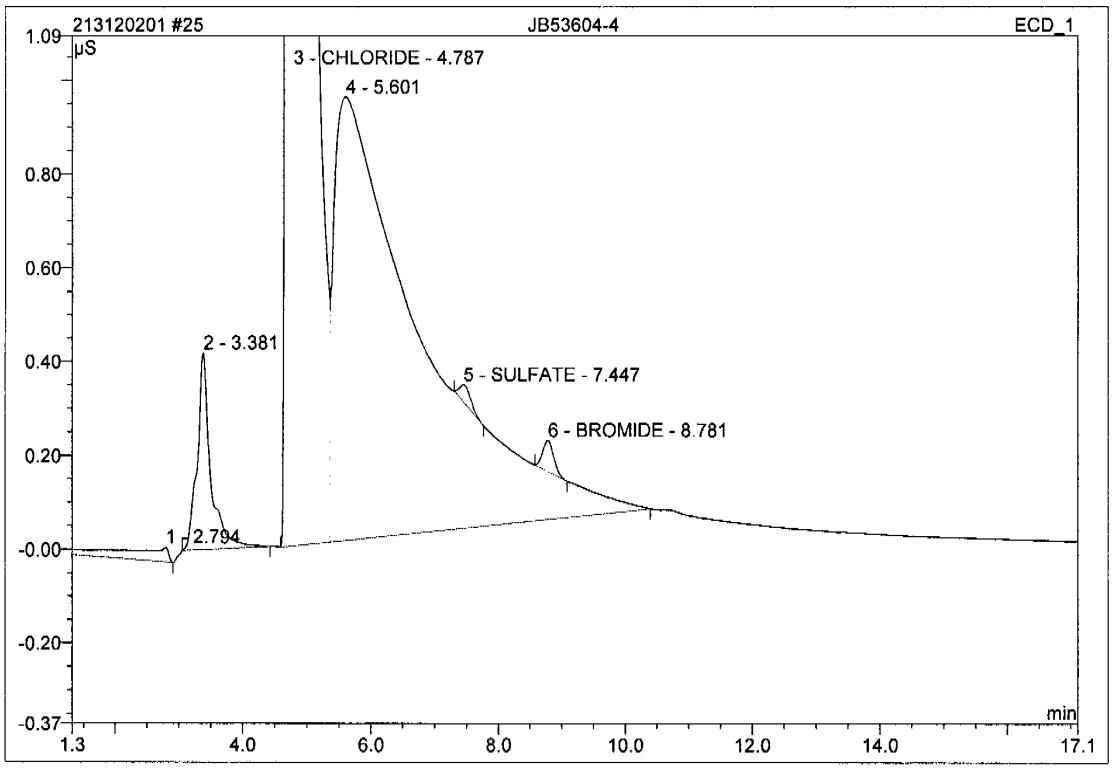
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.38 | n.a. | 0.420 | 0.102 | 0.17 | n.a. | BMB |
| 2 | 4.79 | CHLORIDE | 394.257 | 58.667 | 97.29 | 293.921 | BM |
| 3 | 5.60 | n.a. | 0.945 | 1.165 | 1.93 | n.a. | M * |
| 4 | 7.45 | SULFATE | 0.306 | 0.255 | 0.42 | 1.752 | M * |
| 5 | 8.78 | BROMIDE | 0.169 | 0.109 | 0.18 | 1.068 | MB* |
| **Total:** | | | 396.097 | 60.298 | 100.00 | 296.742 | |

## 25 JB53604-4

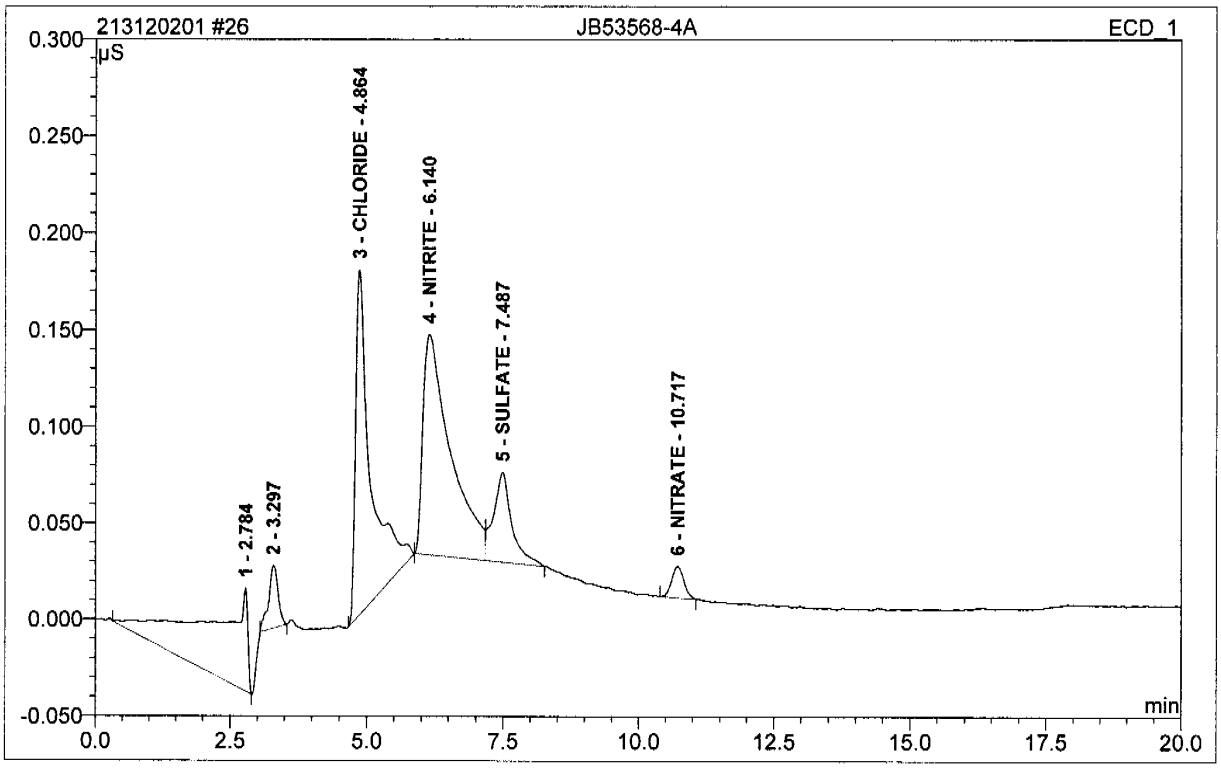
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53604-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 15:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.031 | 0.031 | 0.05 | n.a. | BMB |
| 2 | 3.38 | n.a. | 0.420 | 0.102 | 0.17 | n.a. | BMB |
| 3 | 4.79 | CHLORIDE | 394.257 | 58.667 | 97.24 | 293.921 | BM |
| 4 | 5.60 | n.a. | 0.945 | 1.509 | 2.50 | n.a. | MB |
| 5 | 7.45 | SULFATE | 0.035 | 0.008 | 0.01 | 0.052 | Rd |
| 6 | 8.78 | BROMIDE | 0.066 | 0.013 | 0.02 | 0.129 | Rd |
| **Total:** | | | 395.754 | 60.330 | 100.00 | 294.102 | |

## 26 JB53568-4A

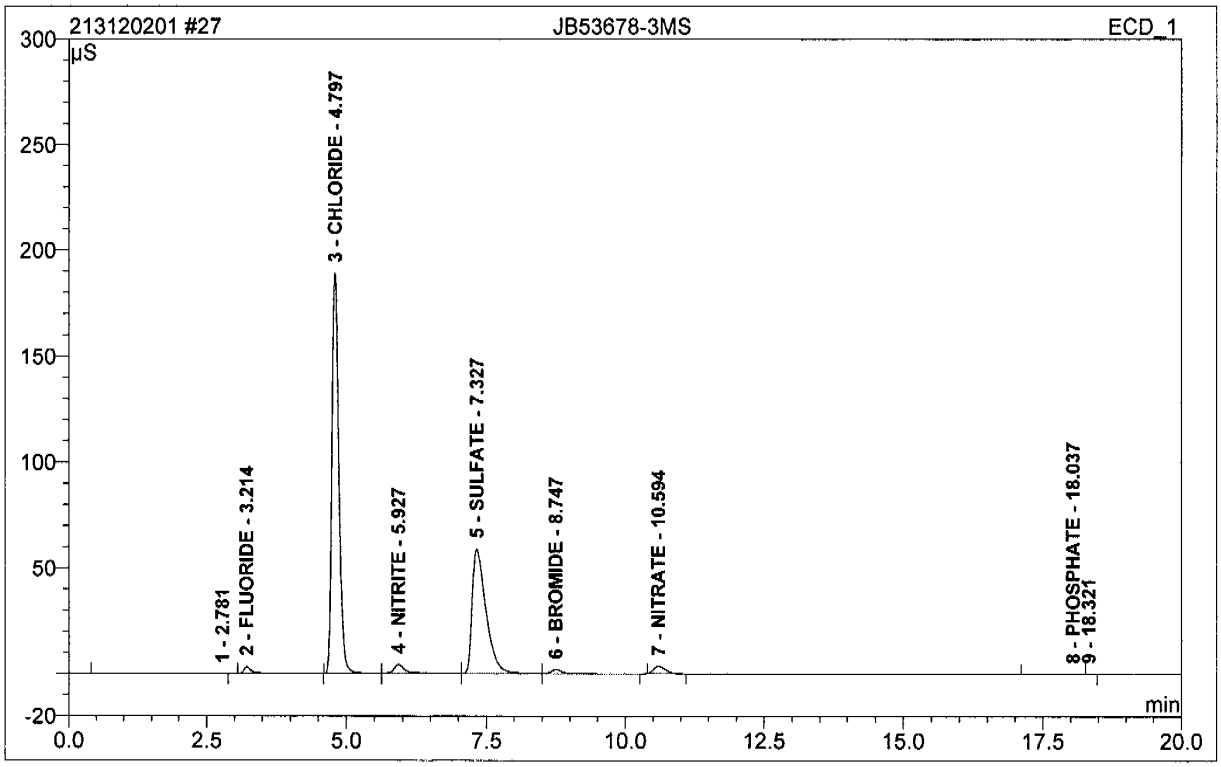
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53568-4A** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 16:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.053 | 0.047 | 23.48 | n.a. | BMB |
| 2 | 3.30 | n.a. | 0.032 | 0.007 | 3.26 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.179 | 0.057 | 28.46 | 0.287 | BMB |
| 4 | 6.14 | NITRITE | 0.114 | 0.068 | 33.62 | 0.135 | bM |
| 5 | 7.49 | SULFATE | 0.047 | 0.018 | 9.08 | 0.126 | MB |
| 6 | 10.72 | NITRATE | 0.016 | 0.004 | 2.10 | 0.009 | BMB |
| **Total:** | | | 0.442 | 0.202 | 100.00 | 0.557 | |

## 27 JB53678-3MS

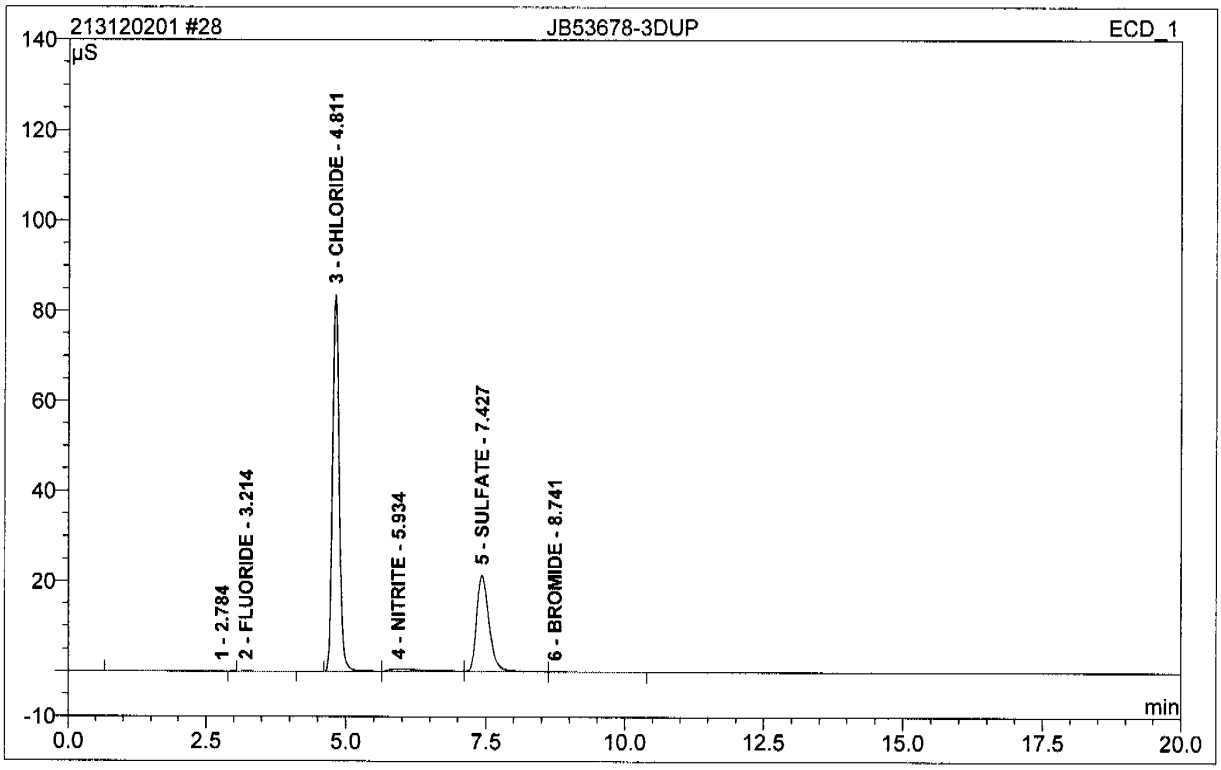
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53678-3MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 16:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.035 | 0.031 | 0.07 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 3.319 | 0.545 | 1.14 | 1.626 | BMB |
| 3 | 4.80 | CHLORIDE | 189.039 | 27.112 | 56.95 | 135.829 | BM |
| 4 | 5.93 | NITRITE | 4.460 | 1.273 | 2.67 | 2.536 | M |
| 5 | 7.33 | SULFATE | 59.096 | 17.048 | 35.81 | 117.061 | M |
| 6 | 8.75 | BROMIDE | 2.030 | 0.519 | 1.09 | 5.090 | MB |
| 7 | 10.59 | NITRATE | 3.521 | 0.899 | 1.89 | 1.865 | BMB |
| 8 | 18.04 | PHOSPHATE | 0.108 | 0.183 | 0.39 | 1.030 | BMB |
| 9 | 18.32 | n.a. | 0.003 | 0.000 | 0.00 | n.a. | Rd |
| **Total:** | | | 261.612 | 47.610 | 100.00 | 265.038 | |

## 28 JB53678-3DUP

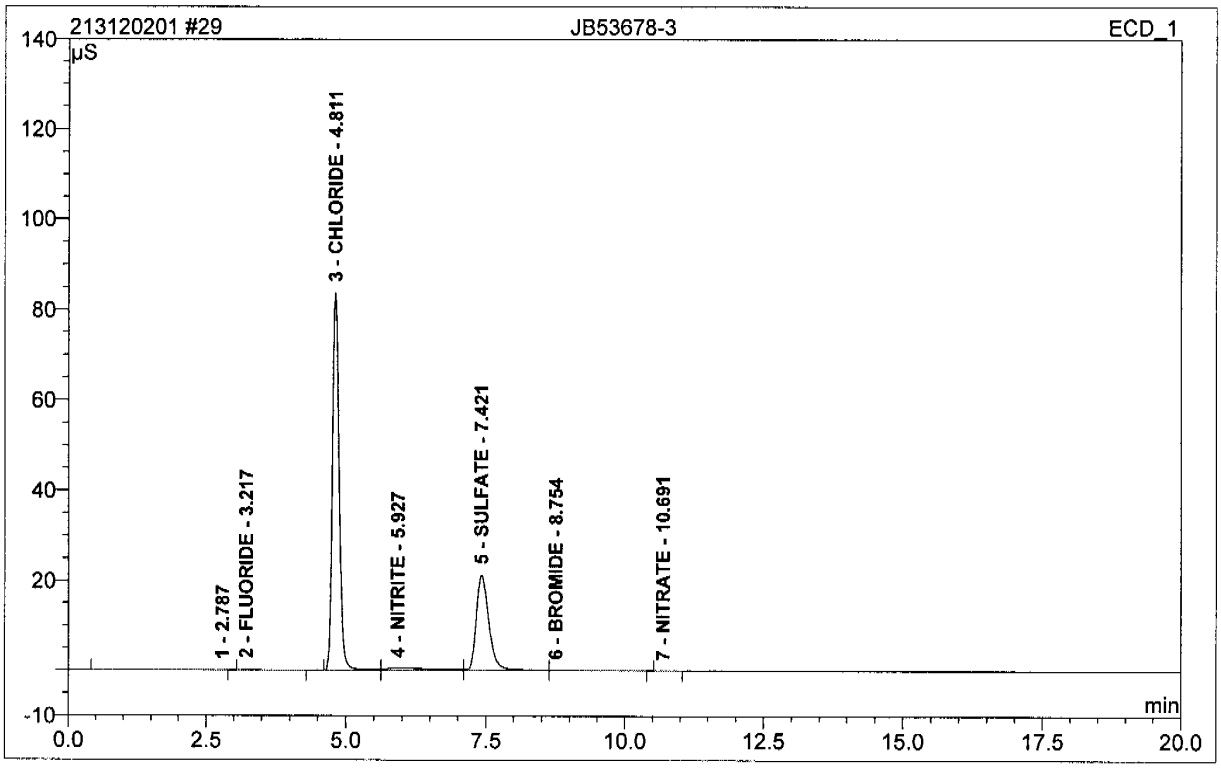
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53678-3DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **20** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 16:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.048 | 0.040 | 0.22 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.192 | 0.032 | 0.18 | 0.096 | BMB |
| 3 | 4.81 | CHLORIDE | 83.639 | 11.631 | 65.08 | 58.271 | BM |
| 4 | 5.93 | NITRITE | 0.525 | 0.500 | 2.80 | 0.997 | M |
| 5 | 7.43 | SULFATE | 21.323 | 5.600 | 31.33 | 38.454 | M |
| 6 | 8.74 | BROMIDE | 0.101 | 0.069 | 0.39 | 0.677 | MB |
| **Total:** | | | 105.828 | 17.872 | 100.00 | 98.495 | |

## 29 JB53678-3

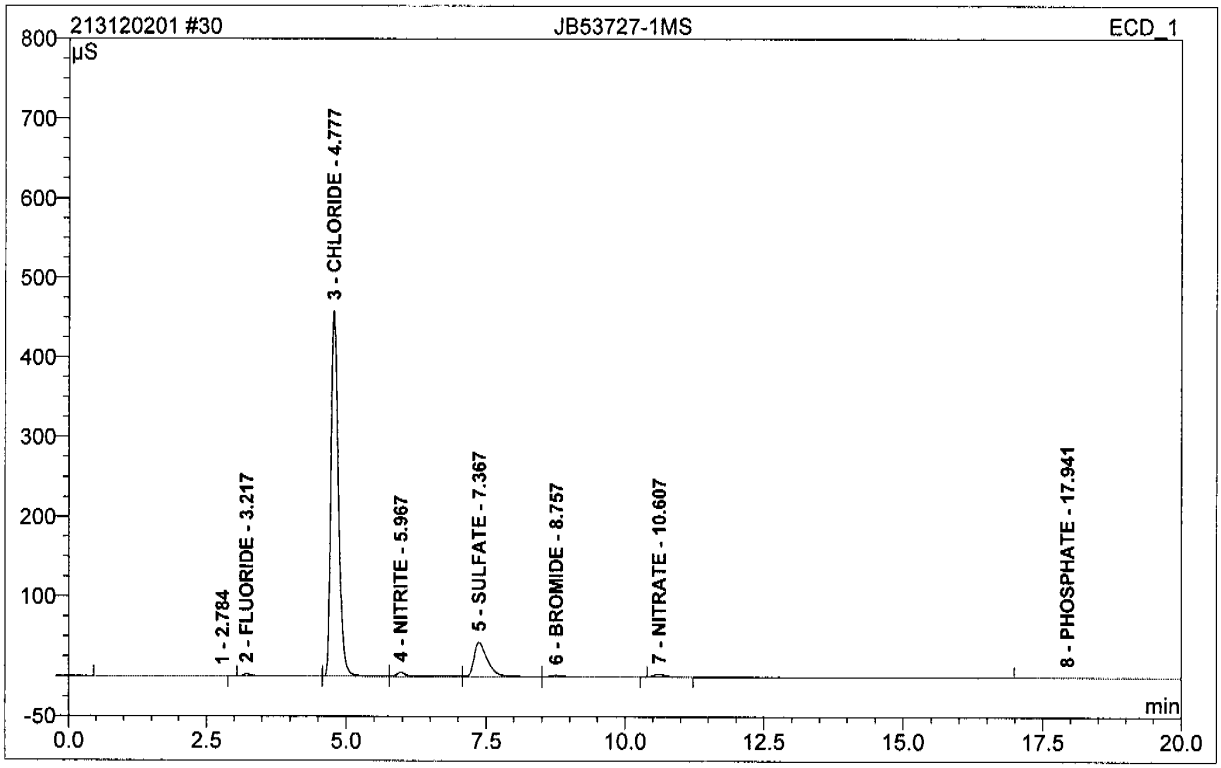
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53678-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 17:15** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.047 | 0.039 | 0.22 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.205 | 0.040 | 0.22 | 0.119 | BMB |
| 3 | 4.81 | CHLORIDE | 83.721 | 11.666 | 65.02 | 58.445 | BM |
| 4 | 5.93 | NITRITE | 0.532 | 0.509 | 2.84 | 1.015 | M |
| 5 | 7.42 | SULFATE | 21.311 | 5.619 | 31.32 | 38.586 | M |
| 6 | 8.75 | BROMIDE | 0.099 | 0.067 | 0.37 | 0.652 | MB |
| 7 | 10.69 | NITRATE | 0.006 | 0.001 | 0.01 | 0.003 | BMB |
| **Total:** | | | 105.921 | 17.941 | 100.00 | 98.819 | |

## 30 JB53727-1MS

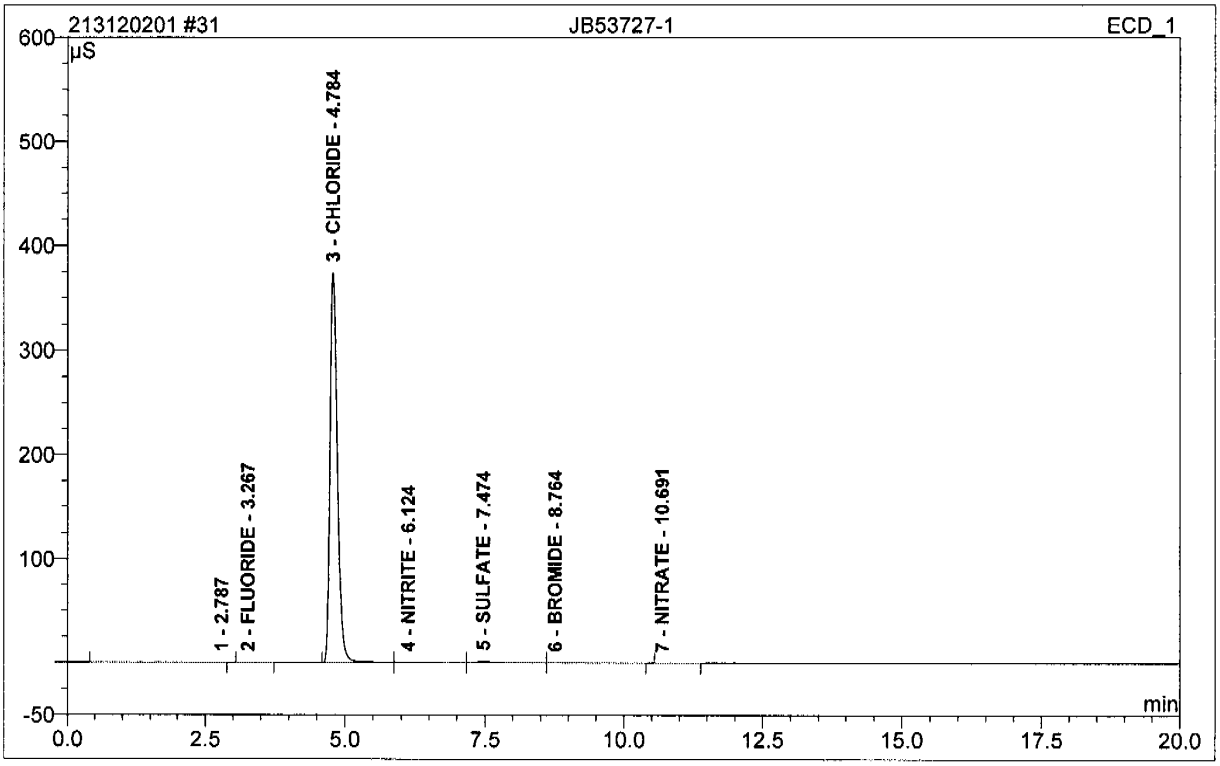
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 17:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.037 | 0.031 | 0.04 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.041 | 0.522 | 0.60 | 1.557 | BM |
| 3 | 4.78 | CHLORIDE | 458.510 | 70.927 | 82.13 | 355.341 | M |
| 4 | 5.97 | NITRITE | 5.421 | 1.227 | 1.42 | 2.444 | M |
| 5 | 7.37 | SULFATE | 42.934 | 11.994 | 13.89 | 82.354 | M |
| 6 | 8.76 | BROMIDE | 2.054 | 0.538 | 0.62 | 5.278 | MB |
| 7 | 10.61 | NITRATE | 3.465 | 0.915 | 1.06 | 1.897 | BMB |
| 8 | 17.94 | PHOSPHATE | 0.126 | 0.209 | 0.24 | 1.176 | BMB |
| **Total:** | | | 515.588 | 86.362 | 100.00 | 450.048 | |

## 31 JB53727-1

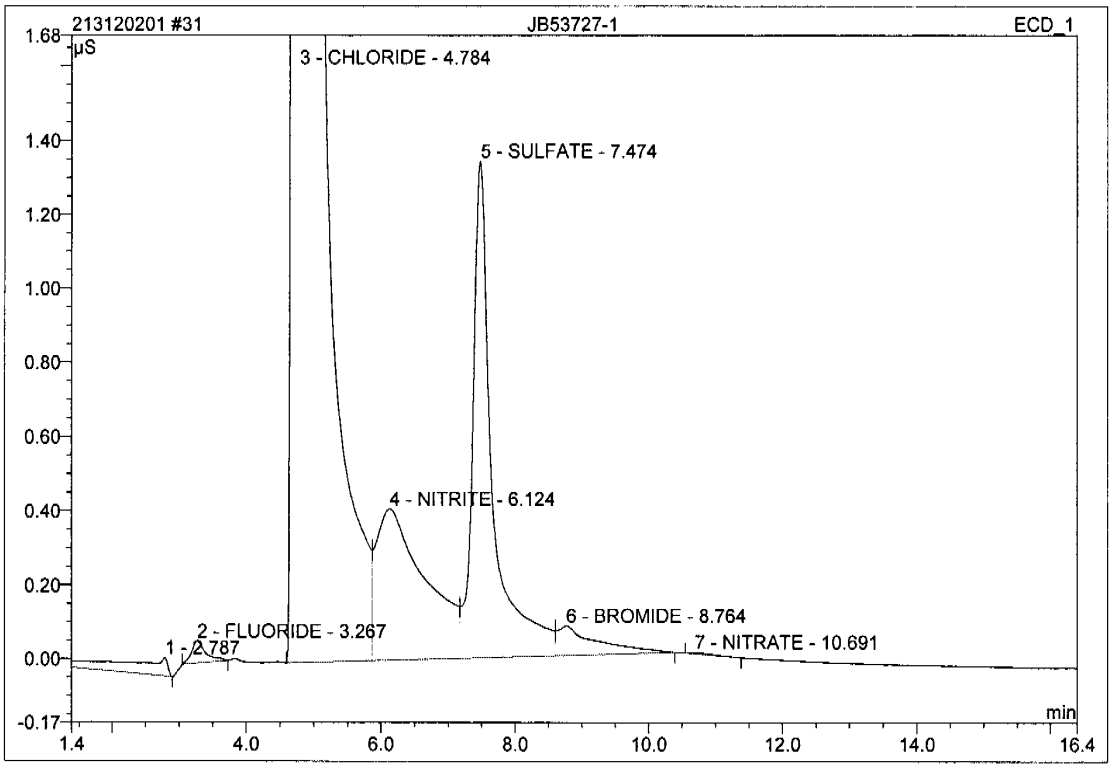
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 18:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.048 | 0.08 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.059 | 0.014 | 0.02 | 0.043 | BMB |
| 3 | 4.78 | CHLORIDE | 374.170 | 57.202 | 98.41 | 286.579 | BM |
| 4 | 6.12 | NITRITE | 0.409 | 0.344 | 0.59 | 0.686 | M |
| 5 | 7.47 | SULFATE | 1.341 | 0.459 | 0.79 | 3.153 | M |
| 6 | 8.76 | BROMIDE | 0.080 | 0.056 | 0.10 | 0.545 | MB |
| 7 | 10.69 | NITRATE | 0.004 | 0.001 | 0.00 | 0.003 | BMB |
| **Total:** | | | 376.114 | 58.124 | 100.00 | 291.009 | |

# 31 JB53727-1

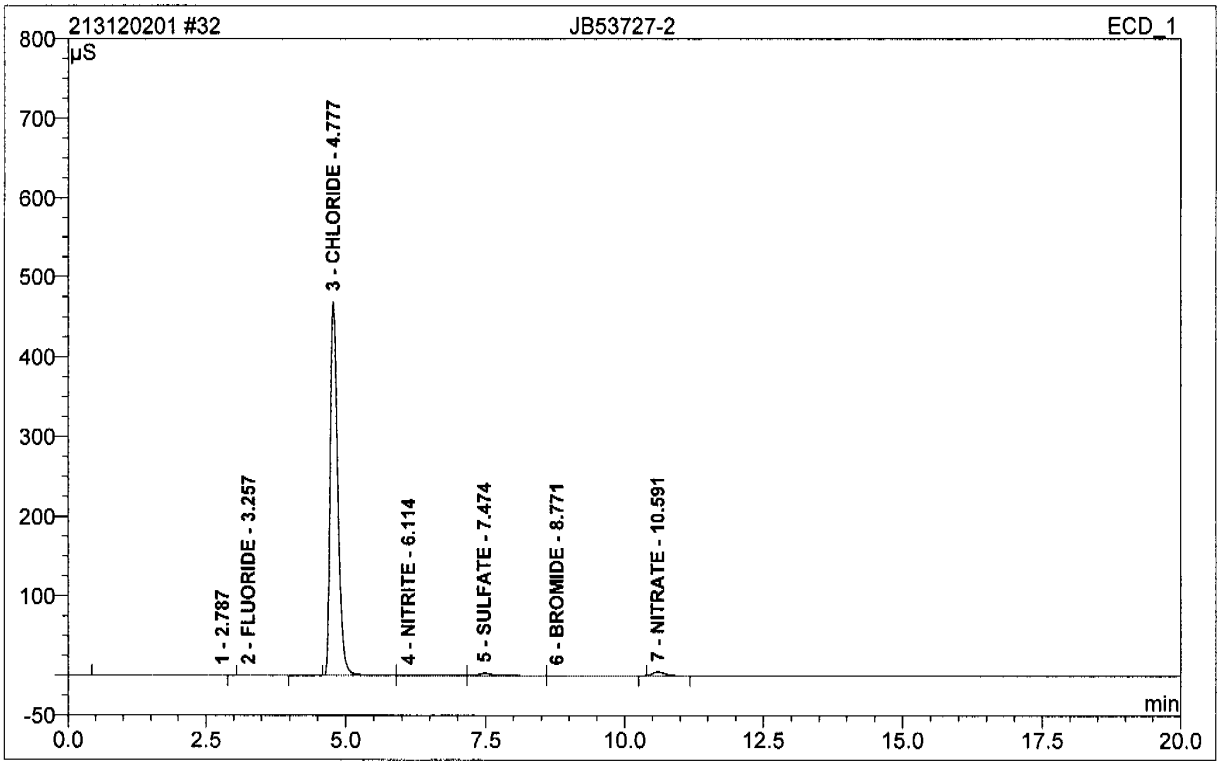
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 18:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.048 | 0.08 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.059 | 0.014 | 0.02 | 0.043 | BMB |
| 3 | 4.78 | CHLORIDE | 374.170 | 57.202 | 98.41 | 286.579 | BM |
| 4 | 6.12 | NITRITE | 0.409 | 0.344 | 0.59 | 0.686 | M |
| 5 | 7.47 | SULFATE | 1.341 | 0.459 | 0.79 | 3.153 | M |
| 6 | 8.76 | BROMIDE | 0.080 | 0.056 | 0.10 | 0.545 | MB |
| 7 | 10.69 | NITRATE | 0.004 | 0.001 | 0.00 | 0.003 | BMB |
| **Total:** | | | 376.114 | 58.124 | 100.00 | 291.009 | |

## 32 JB53727-2

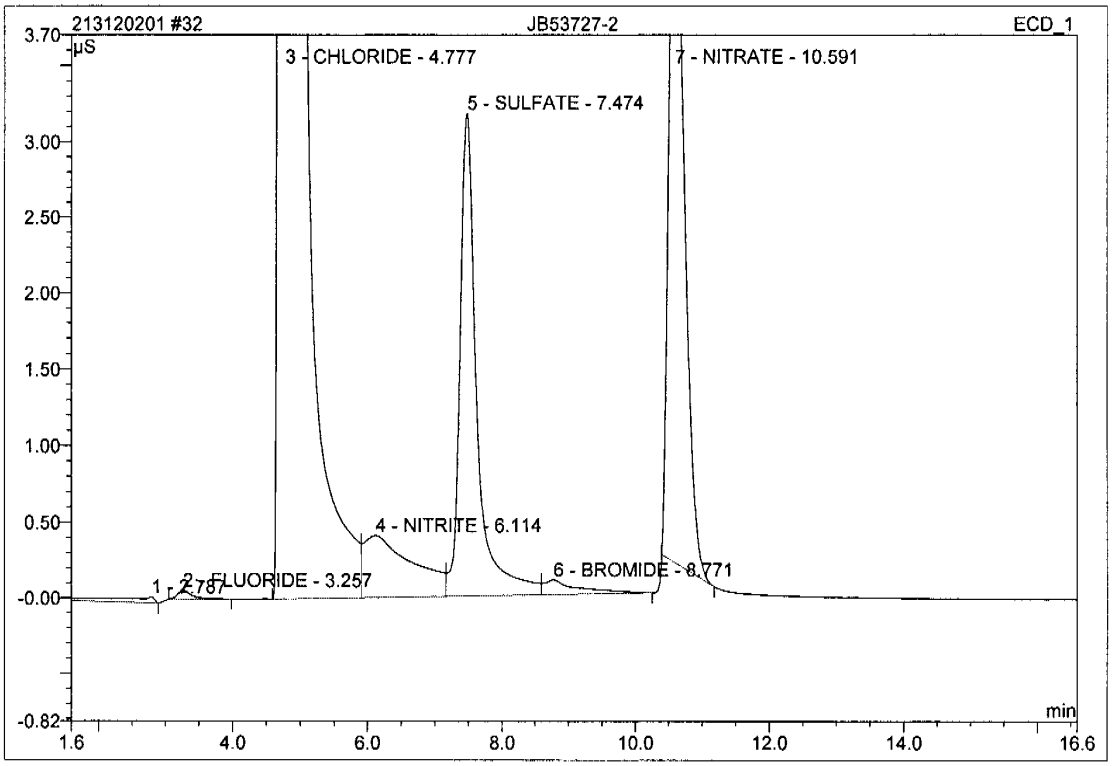
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 18:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.043 | 0.035 | 0.05 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.059 | 0.015 | 0.02 | 0.045 | BMB |
| 3 | 4.78 | CHLORIDE | 468.639 | 73.204 | 96.49 | 366.751 | BM |
| 4 | 6.11 | NITRITE | 0.412 | 0.347 | 0.46 | 0.691 | M |
| 5 | 7.47 | SULFATE | 3.176 | 0.931 | 1.23 | 6.392 | M |
| 6 | 8.77 | BROMIDE | 0.099 | 0.059 | 0.08 | 0.581 | MB |
| 7 | 10.59 | NITRATE | 4.786 | 1.274 | 1.68 | 2.643 | BMB |
| **Total:** | | | 477.214 | 75.865 | 100.00 | 377.102 | |

# 32 JB53727-2

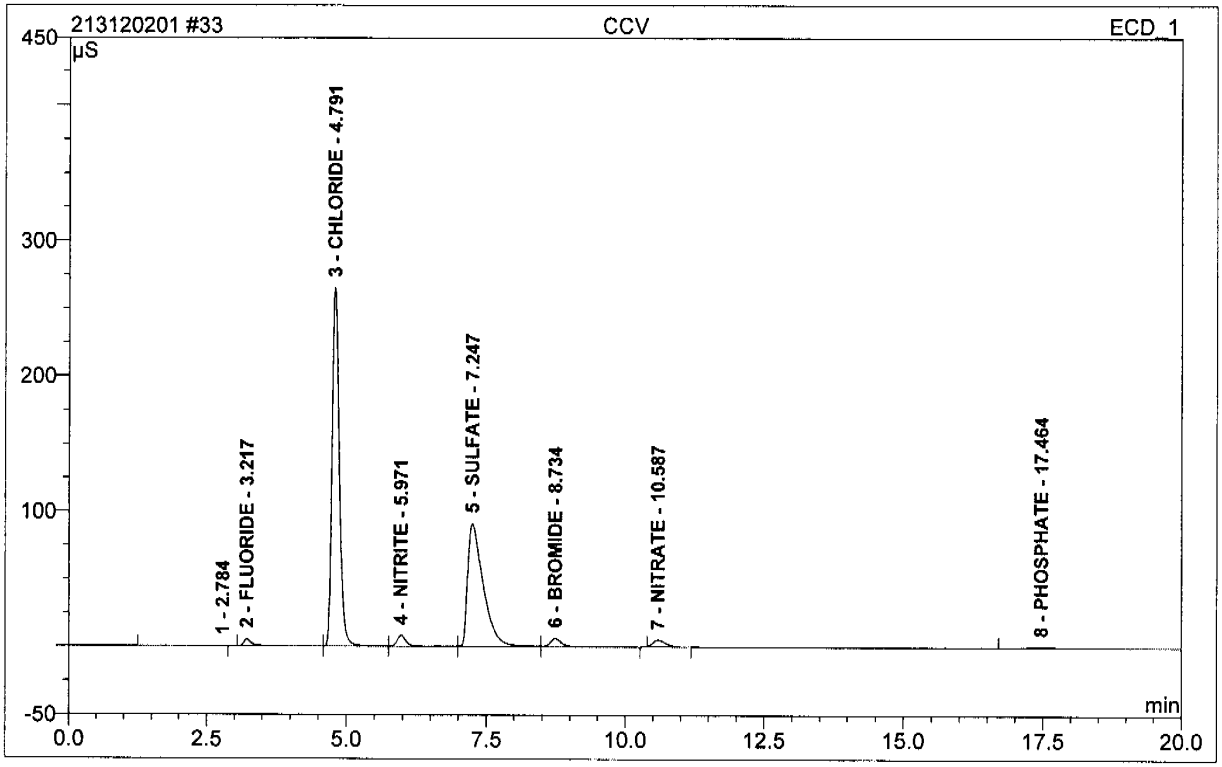
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 18:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.043 | 0.035 | 0.05 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.059 | 0.015 | 0.02 | 0.045 | BMB |
| 3 | 4.78 | CHLORIDE | 468.639 | 73.204 | 96.49 | 366.751 | BM |
| 4 | 6.11 | NITRITE | 0.412 | 0.347 | 0.46 | 0.691 | M |
| 5 | 7.47 | SULFATE | 3.176 | 0.931 | 1.23 | 6.392 | M |
| 6 | 8.77 | BROMIDE | 0.099 | 0.059 | 0.08 | 0.581 | MB |
| 7 | 10.59 | NITRATE | 4.786 | 1.274 | 1.68 | 2.643 | BMB |
| **Total:** | | | 477.214 | 75.865 | 100.00 | 377.102 | |

## 33 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 18:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.032 | 0.017 | 0.02 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 5.026 | 0.858 | 1.14 | 2.561 | BM |
| 3 | 4.79 | CHLORIDE | 265.303 | 39.916 | 53.16 | 199.980 | M |
| 4 | 5.97 | NITRITE | 8.158 | 1.594 | 2.12 | 3.176 | M |
| 5 | 7.25 | SULFATE | 90.996 | 29.489 | 39.27 | 202.486 | M |
| 6 | 8.73 | BROMIDE | 6.019 | 1.483 | 1.98 | 14.542 | MB |
| 7 | 10.59 | NITRATE | 4.805 | 1.293 | 1.72 | 2.682 | BMB |
| 8 | 17.46 | PHOSPHATE | 0.397 | 0.438 | 0.58 | 2.462 | BMB |
| **Total:** | | | 380.735 | 75.089 | 100.00 | 427.890 | |

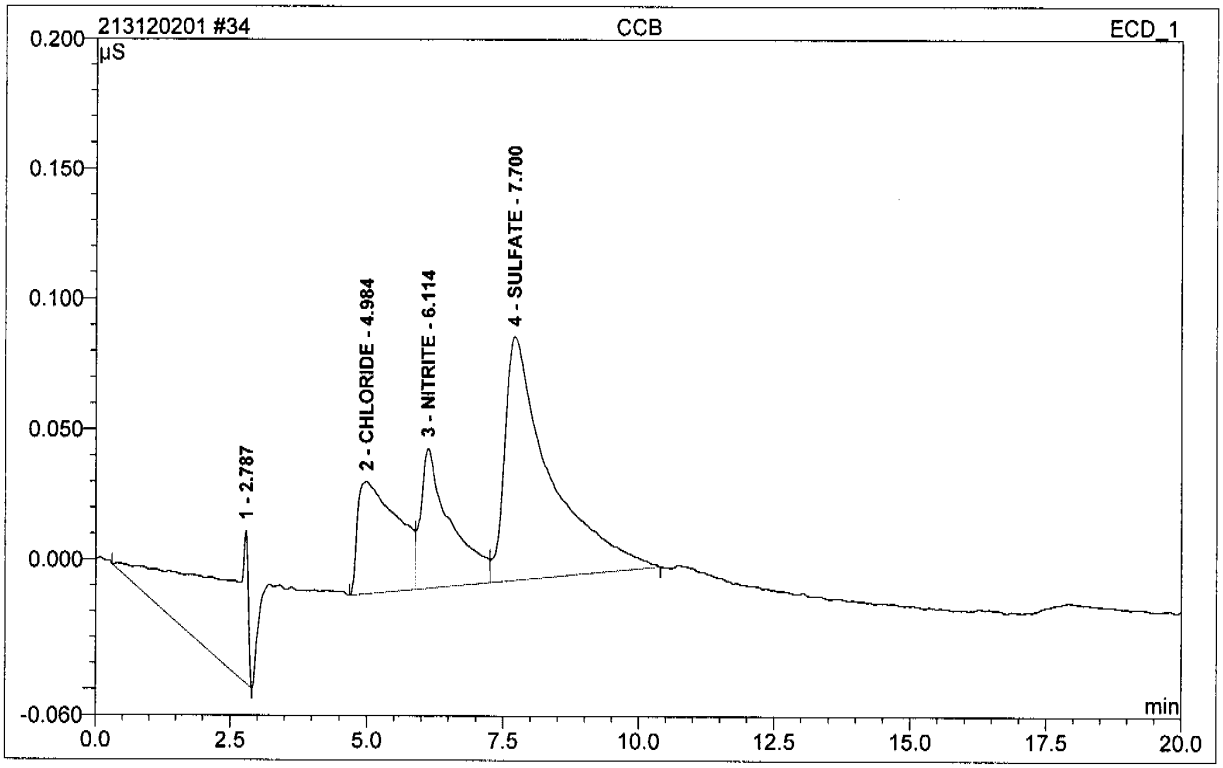
200 199.980 ✓ 99.99

200 202.486 ✓ 101.24

12.1 12

## 34 CCB

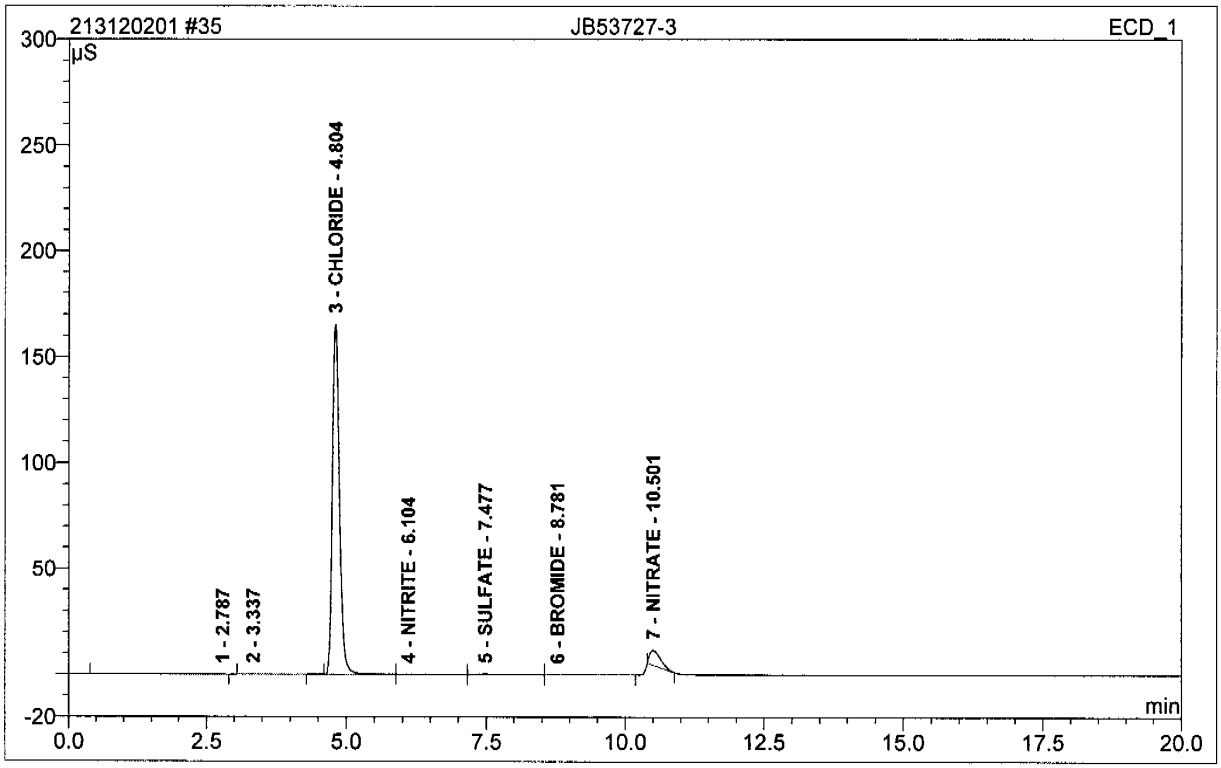
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 19:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.059 | 0.052 | 24.45 | n.a. | BMB |
| 2 | 4.98 | CHLORIDE | 0.043 | 0.036 | 17.00 | 0.182 | BM |
| 3 | 6.11 | NITRITE | 0.054 | 0.034 | 16.06 | 0.068 | M |
| 4 | 7.70 | SULFATE | 0.093 | 0.091 | 42.48 | 0.623 | MB |
| **Total:** | | | 0.249 | 0.213 | 100.00 | 0.873 | |

## 35 JB53727-3

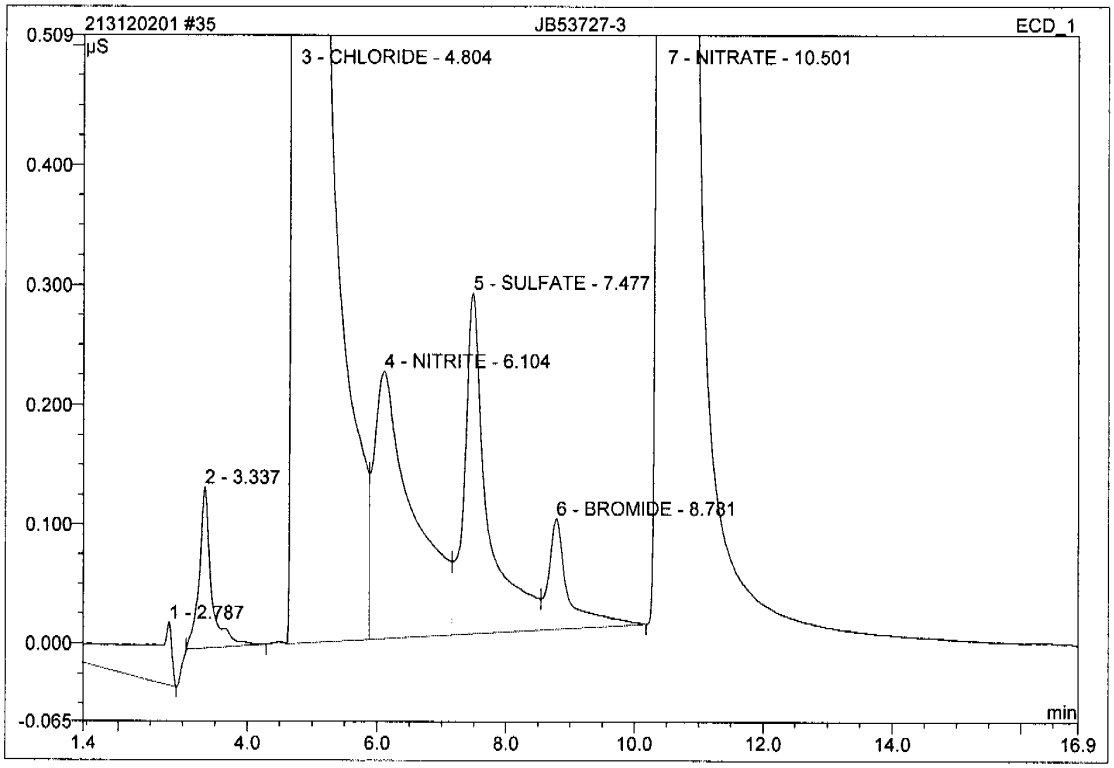
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 19:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.052 | 0.044 | 0.17 | n.a. | BMB |
| 2 | 3.34 | n.a. | 0.135 | 0.030 | 0.11 | n.a. | BMB |
| 3 | 4.80 | CHLORIDE | 165.359 | 24.298 | 92.48 | 121.734 | BM |
| 4 | 6.10 | NITRITE | 0.224 | 0.158 | 0.60 | 0.315 | M |
| 5 | 7.48 | SULFATE | 0.286 | 0.122 | 0.46 | 0.839 | M |
| 6 | 8.78 | BROMIDE | 0.093 | 0.034 | 0.13 | 0.336 | MB |
| 7 | 10.50 | NITRATE | 6.961 | 1.587 | 6.04 | 3.292 | BMB |
| **Total:** | | | 173.111 | 26.273 | 100.00 | 126.515 | |

## 35 JB53727-3

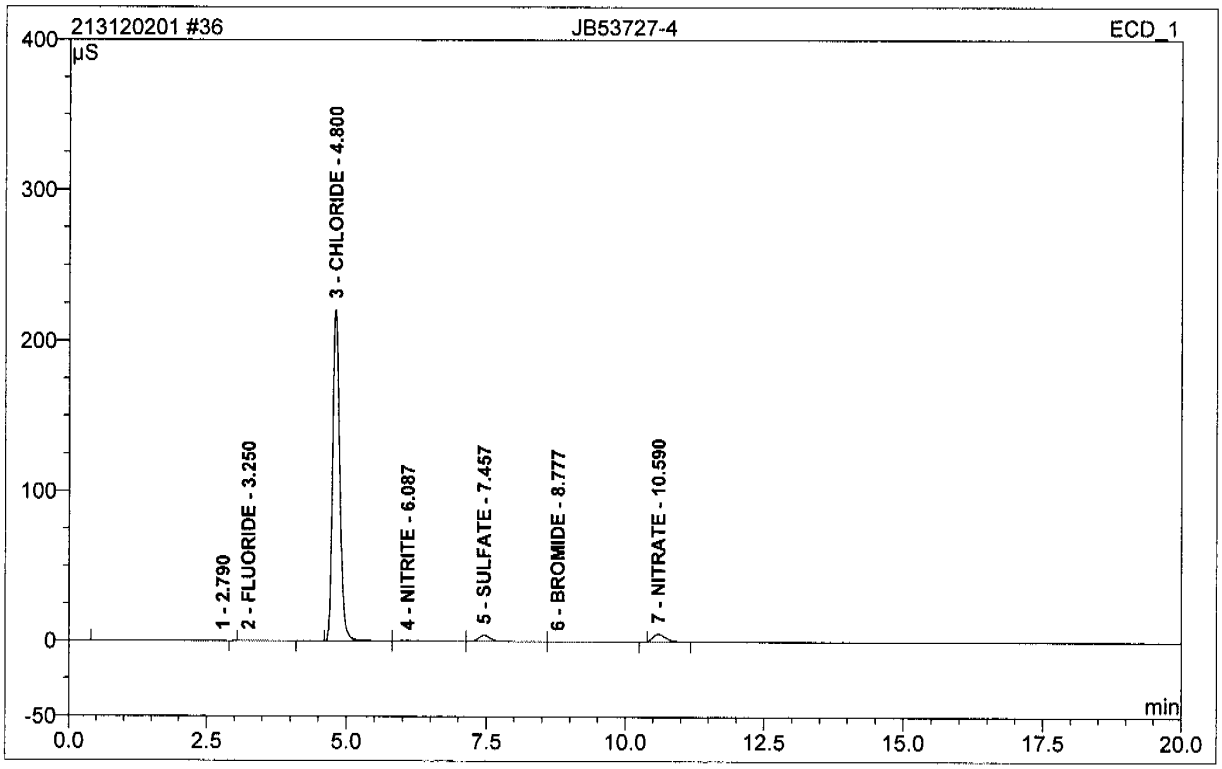
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 19:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.052 | 0.044 | 0.17 | n.a. | BMB |
| 2 | 3.34 | n.a. | 0.135 | 0.030 | 0.11 | n.a. | BMB |
| 3 | 4.80 | CHLORIDE | 165.359 | 24.298 | 92.48 | 121.734 | BM |
| 4 | 6.10 | NITRITE | 0.224 | 0.158 | 0.60 | 0.315 | M |
| 5 | 7.48 | SULFATE | 0.286 | 0.122 | 0.46 | 0.839 | M |
| 6 | 8.78 | BROMIDE | 0.093 | 0.034 | 0.13 | 0.336 | MB |
| 7 | 10.50 | NITRATE | 6.961 | 1.587 | 6.04 | 3.292 | BMB |
| **Total:** | | | 173.111 | 26.273 | 100.00 | 126.515 | |

## 36 JB53727-4

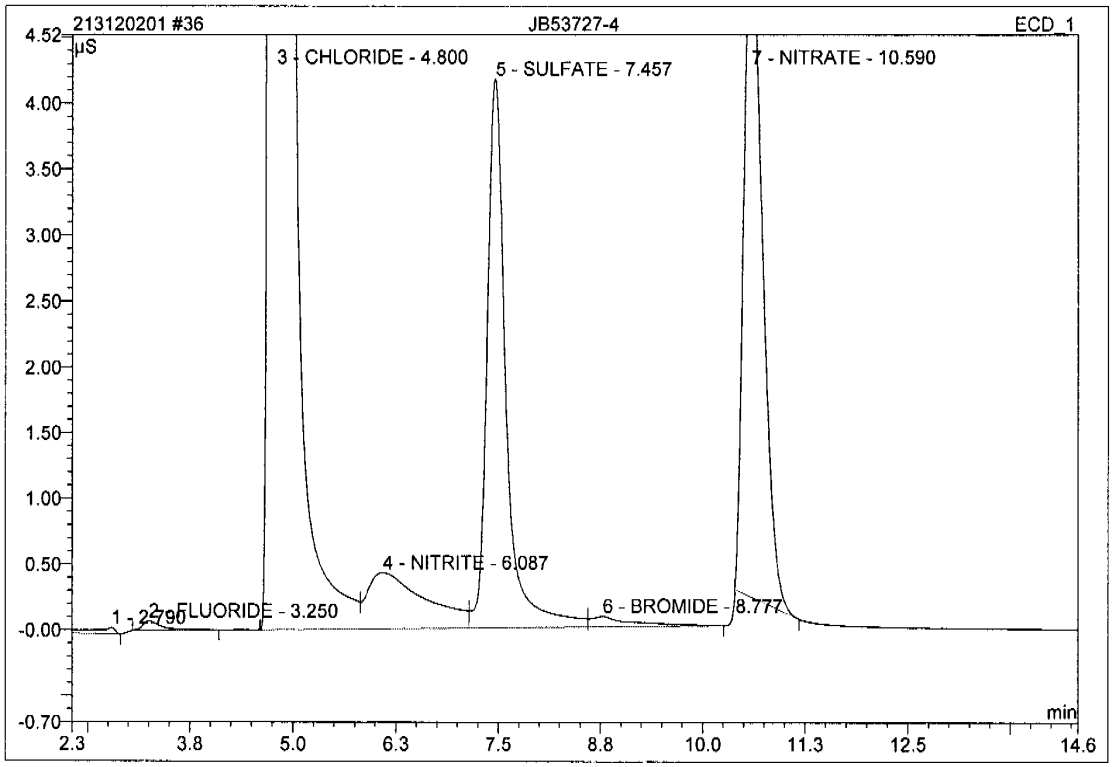
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.048 | 0.039 | 0.11 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.071 | 0.019 | 0.05 | 0.057 | BMB |
| 3 | 4.80 | CHLORIDE | 220.864 | 32.775 | 91.84 | 164.203 | BM |
| 4 | 6.09 | NITRITE | 0.428 | 0.351 | 0.98 | 0.699 | M |
| 5 | 7.46 | SULFATE | 4.166 | 1.126 | 3.15 | 7.729 | M |
| 6 | 8.78 | BROMIDE | 0.079 | 0.047 | 0.13 | 0.457 | MB |
| 7 | 10.59 | NITRATE | 5.032 | 1.329 | 3.72 | 2.757 | BMB |
| **Total:** | | | 230.687 | 35.686 | 100.00 | 175.903 | |

## 36 JB53727-4

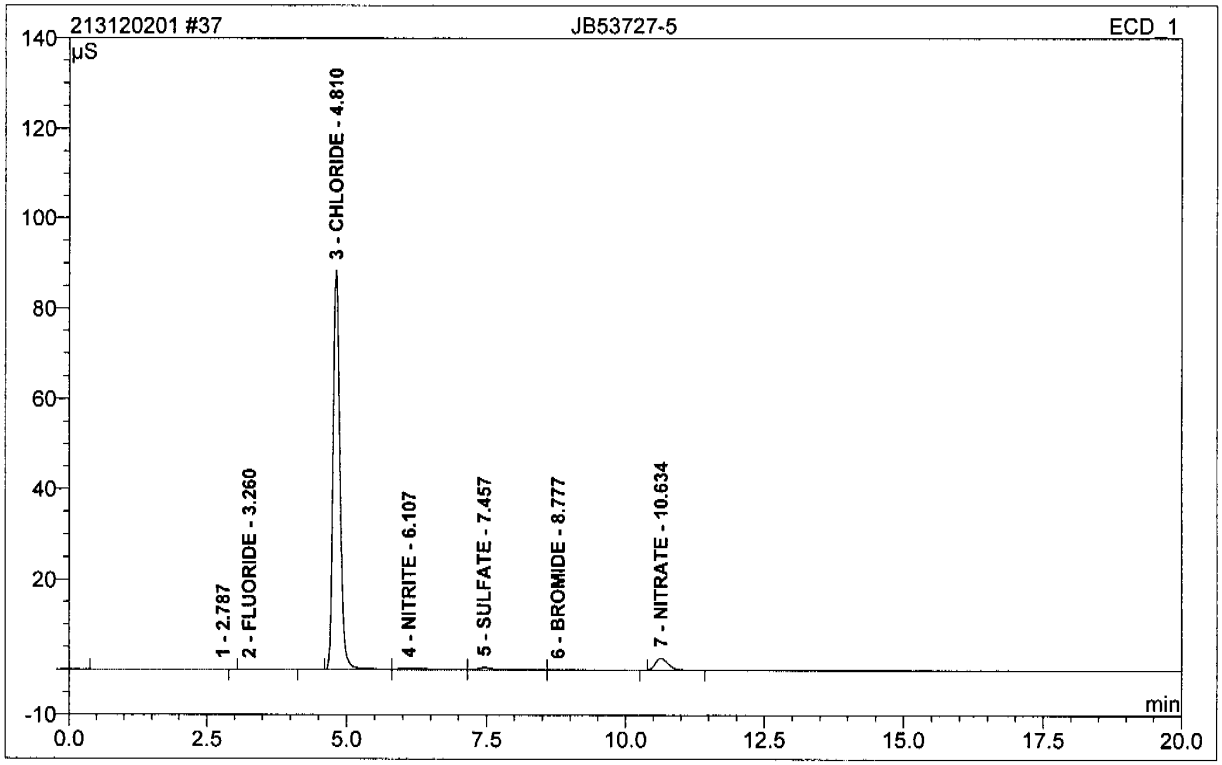
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.048 | 0.039 | 0.11 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.071 | 0.019 | 0.05 | 0.057 | BMB |
| 3 | 4.80 | CHLORIDE | 220.864 | 32.775 | 91.84 | 164.203 | BM |
| 4 | 6.09 | NITRITE | 0.428 | 0.351 | 0.98 | 0.699 | M |
| 5 | 7.46 | SULFATE | 4.166 | 1.126 | 3.15 | 7.729 | M |
| 6 | 8.78 | BROMIDE | 0.079 | 0.047 | 0.13 | 0.457 | MB |
| 7 | 10.59 | NITRATE | 5.032 | 1.329 | 3.72 | 2.757 | BMB |
| **Total:** | | | 230.687 | 35.686 | 100.00 | 175.903 | |

## 37 JB53727-5

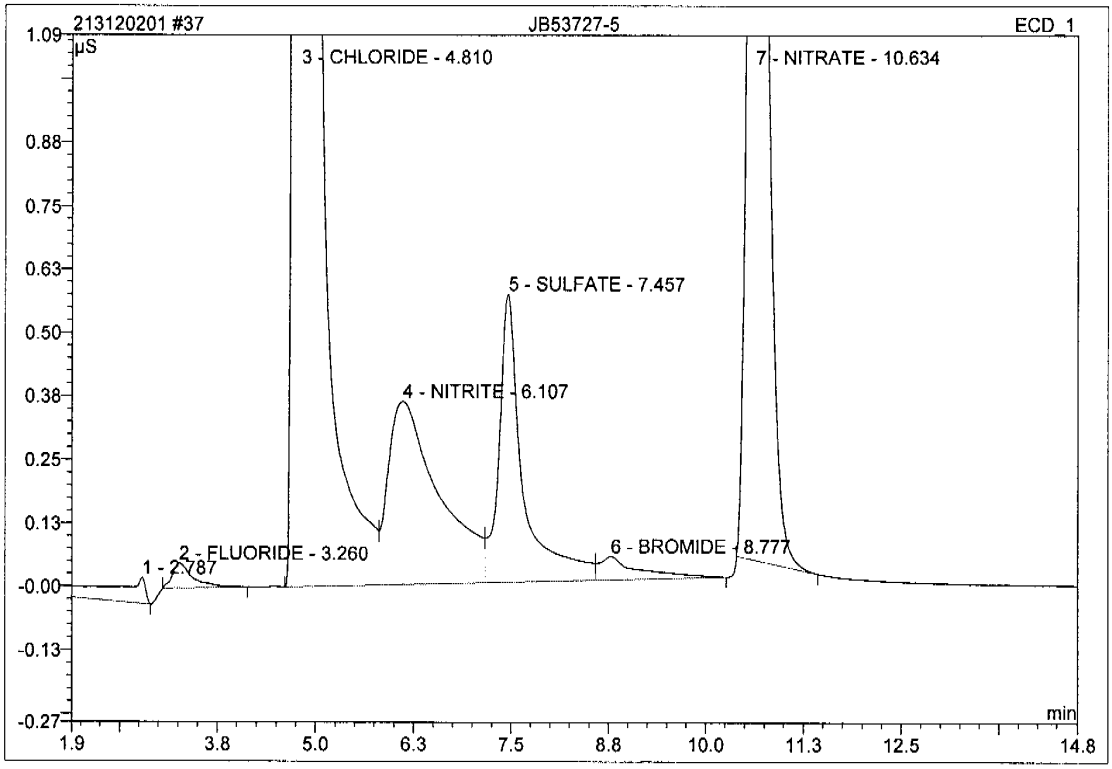
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.042 | 0.30 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.049 | 0.015 | 0.11 | 0.044 | BMB |
| 3 | 4.81 | CHLORIDE | 88.390 | 12.665 | 90.95 | 63.449 | BM |
| 4 | 6.11 | NITRITE | 0.361 | 0.274 | 1.97 | 0.545 | M |
| 5 | 7.46 | SULFATE | 0.567 | 0.206 | 1.48 | 1.411 | M |
| 6 | 8.78 | BROMIDE | 0.046 | 0.027 | 0.20 | 0.267 | MB |
| 7 | 10.63 | NITRATE | 2.623 | 0.697 | 5.01 | 1.446 | BMB |
| **Total:** | | | 92.087 | 13.925 | 100.00 | 67.164 | |

## 37 JB53727-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53727-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



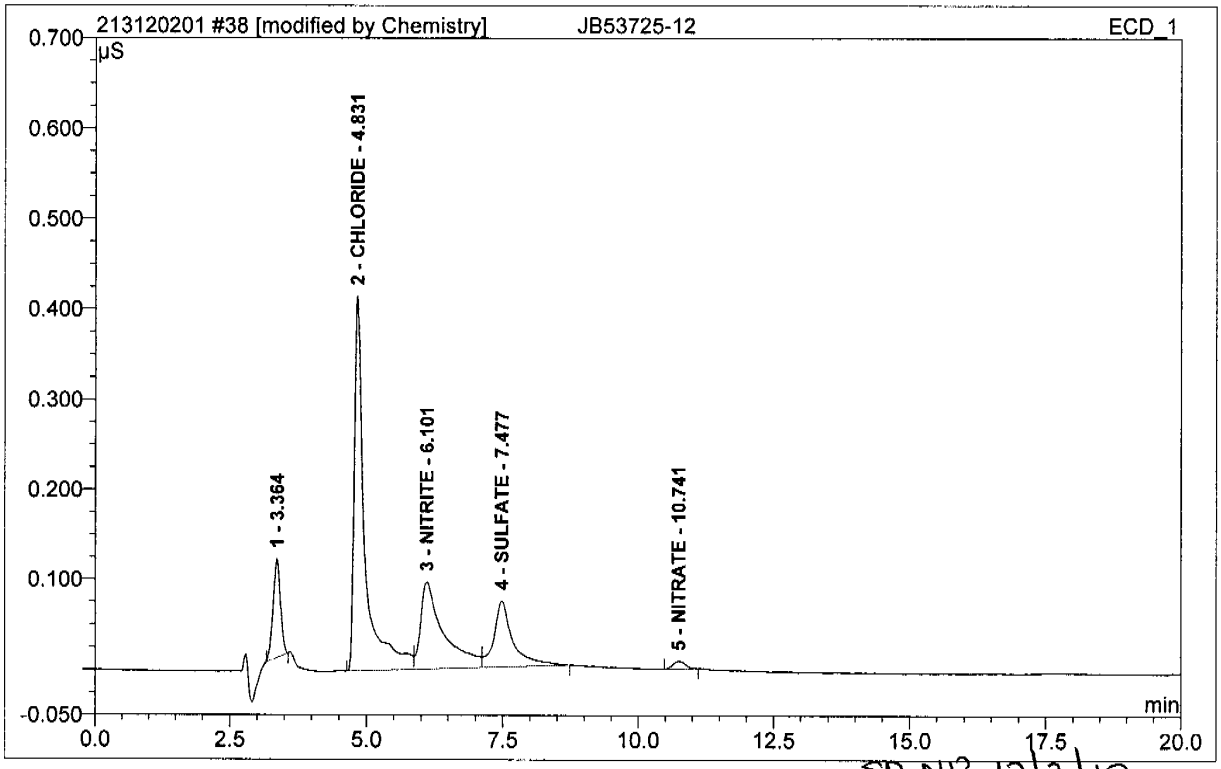

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.042 | 0.30 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.049 | 0.015 | 0.11 | 0.044 | BMB |
| 3 | 4.81 | CHLORIDE | 88.390 | 12.665 | 90.95 | 63.449 | BM |
| 4 | 6.11 | NITRITE | 0.361 | 0.274 | 1.97 | 0.545 | M |
| 5 | 7.46 | SULFATE | 0.567 | 0.206 | 1.48 | 1.411 | M |
| 6 | 8.78 | BROMIDE | 0.046 | 0.027 | 0.20 | 0.267 | MB |
| 7 | 10.63 | NITRATE | 2.623 | 0.697 | 5.01 | 1.446 | BMB |
| **Total:** | | | 92.087 | 13.925 | 100.00 | 67.164 | |

DEFAULT/Integration

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## 38 JB53725-12

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53725-12** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

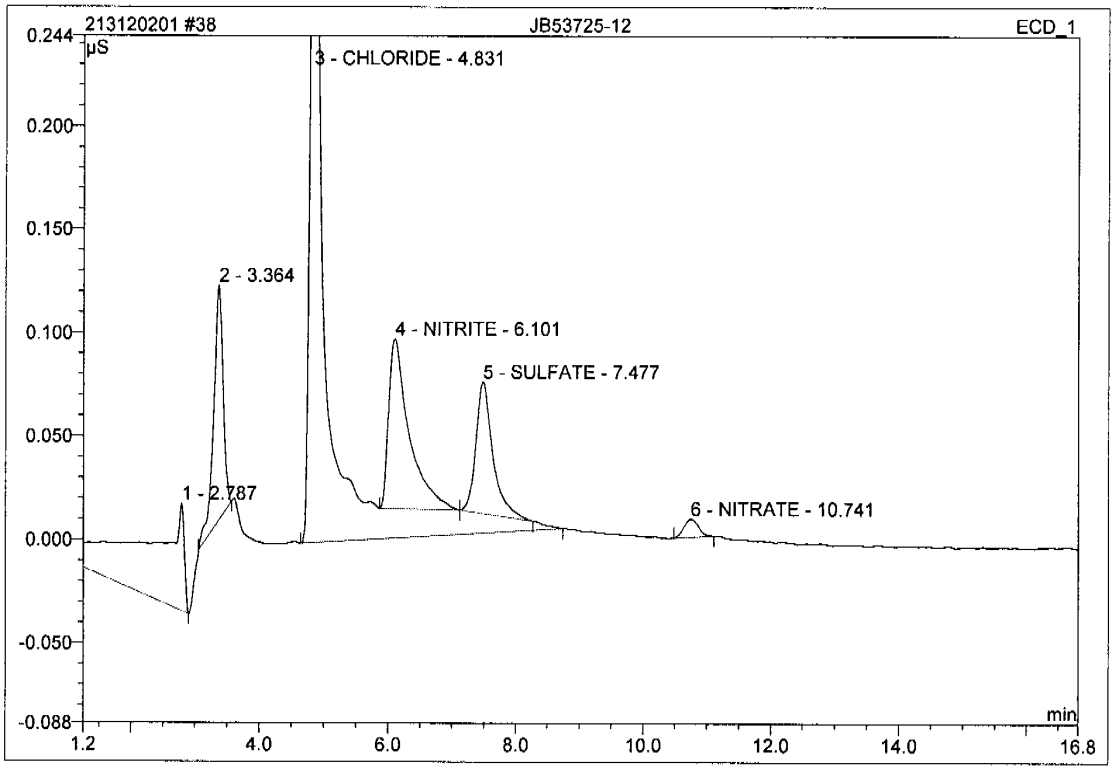



SP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.36 | n.a. | 0.109 | 0.017 | 8.93 | n.a. | BMB* |
| 2 | 4.83 | CHLORIDE | 0.416 | 0.094 | 49.49 | 0.470 | BM * |
| 3 | 6.10 | NITRITE | 0.096 | 0.047 | 24.73 | 0.093 | M * |
| 4 | 7.48 | SULFATE | 0.073 | 0.030 | 15.66 | 0.204 | MB* |
| 5 | 10.74 | NITRATE | 0.009 | 0.002 | 1.20 | 0.005 | BMB |
| **Total:** | | | 0.702 | 0.190 | 100.00 | 0.773 | |

## 38 JB53725-12

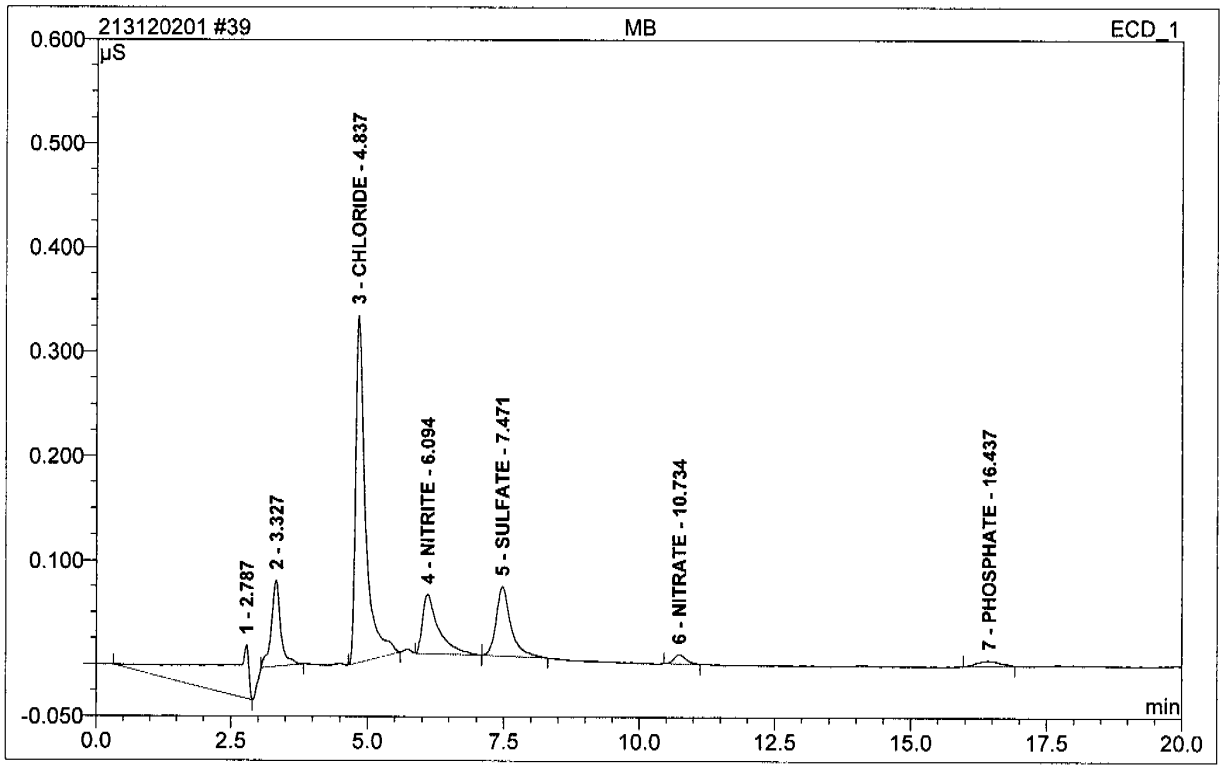
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53725-12** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 20:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.052 | 0.043 | 18.26 | n.a. | BMB |
| 2 | 3.36 | n.a. | 0.114 | 0.019 | 8.21 | n.a. | BMB |
| 3 | 4.83 | CHLORIDE | 0.416 | 0.120 | 51.27 | 0.604 | BMB |
| 4 | 6.10 | NITRITE | 0.082 | 0.030 | 12.97 | 0.061 | Rd |
| 5 | 7.48 | SULFATE | 0.063 | 0.020 | 8.32 | 0.134 | Rd |
| 6 | 10.74 | NITRATE | 0.009 | 0.002 | 0.97 | 0.005 | BMB |
| **Total:** | | | 0.735 | 0.235 | 100.00 | 0.803 | |

## 39 MB

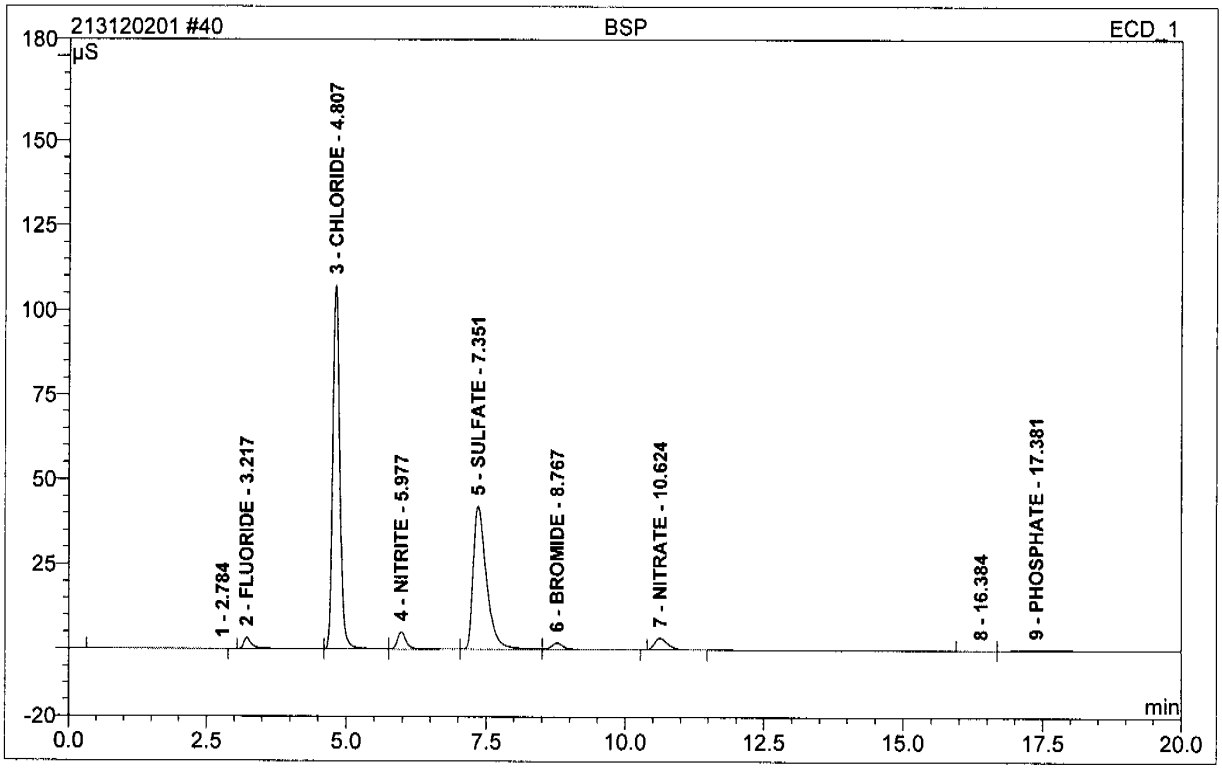
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 21:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.042 | 24.38 | n.a. | BMB |
| 2 | 3.33 | n.a. | 0.083 | 0.017 | 9.51 | n.a. | BMB |
| 3 | 4.84 | CHLORIDE | 0.334 | 0.070 | 40.17 | 0.351 | BMB |
| 4 | 6.09 | NITRITE | 0.058 | 0.019 | 11.15 | 0.039 | BMB |
| 5 | 7.47 | SULFATE | 0.067 | 0.021 | 12.00 | 0.143 | BMB |
| 6 | 10.73 | NITRATE | 0.009 | 0.002 | 1.33 | 0.005 | BMB |
| 7 | 16.44 | PHOSPHATE | 0.005 | 0.003 | 1.46 | 0.014 | BMB |
| **Total:** | | | 0.606 | 0.174 | 100.00 | 0.552 | |

## 40 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **32** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 21:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.041 | 0.036 | 0.12 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.307 | 0.583 | 1.90 | 1.738 | BM |
| 3 | 4.81 | CHLORIDE | 107.361 | 15.625 | 51.03 | 78.279 | M |
| 4 | 5.98 | NITRITE | 5.109 | 0.967 | 3.16 | 1.927 | M |
| 5 | 7.35 | SULFATE | 42.182 | 11.685 | 38.16 | 80.238 | M |
| 6 | 8.77 | BROMIDE | 1.982 | 0.505 | 1.65 | 4.951 | MB |
| 7 | 10.62 | NITRATE | 3.376 | 0.936 | 3.06 | 1.941 | BMB |
| 8 | 16.38 | n.a. | 0.005 | 0.002 | 0.01 | n.a. | BMB |
| 9 | 17.38 | PHOSPHATE | 0.274 | 0.280 | 0.92 | 1.575 | BMB |
| **Total:** | | | 163.637 | 30.619 | 100.00 | 170.650 | |

80

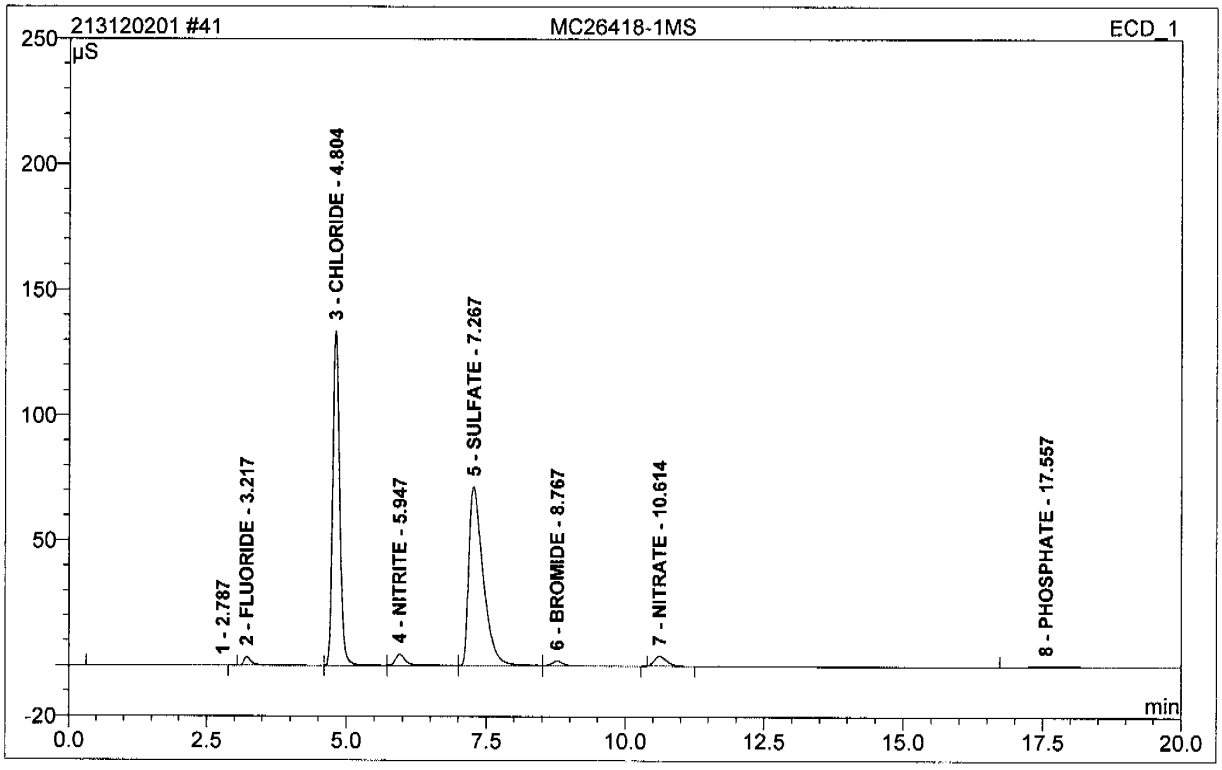
100.3

12.1

12

# 41 MC26418-1MS

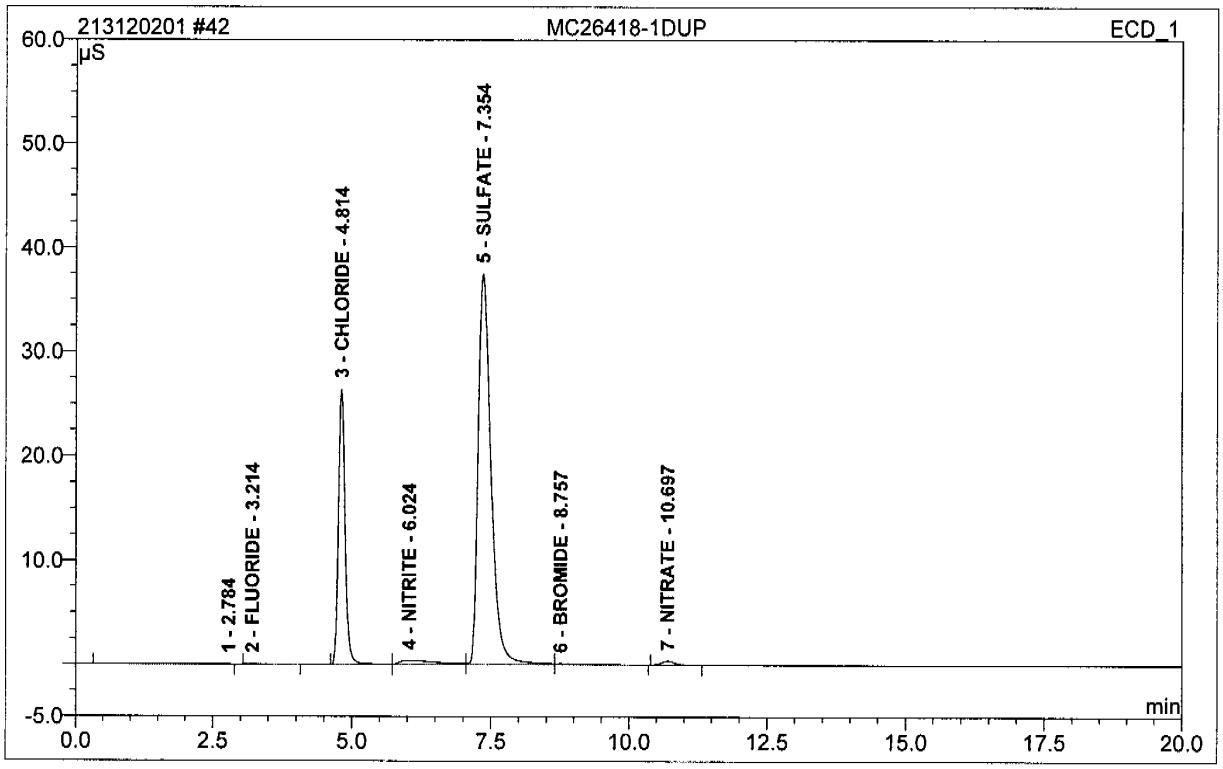
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **33** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 22:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.036 | 0.034 | 0.08 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.488 | 0.580 | 1.30 | 1.730 | BM |
| 3 | 4.80 | CHLORIDE | 133.522 | 19.307 | 43.47 | 96.730 | M |
| 4 | 5.95 | NITRITE | 4.642 | 1.132 | 2.55 | 2.256 | M |
| 5 | 7.27 | SULFATE | 71.472 | 21.474 | 48.35 | 147.453 | M |
| 6 | 8.77 | BROMIDE | 2.053 | 0.537 | 1.21 | 5.270 | MB |
| 7 | 10.61 | NITRATE | 3.924 | 1.043 | 2.35 | 2.163 | BMB |
| 8 | 17.56 | PHOSPHATE | 0.233 | 0.311 | 0.70 | 1.749 | BMB |
| **Total:** | | | 219.370 | 44.419 | 100.00 | 257.352 | |

# 42 MC26418-1DUP

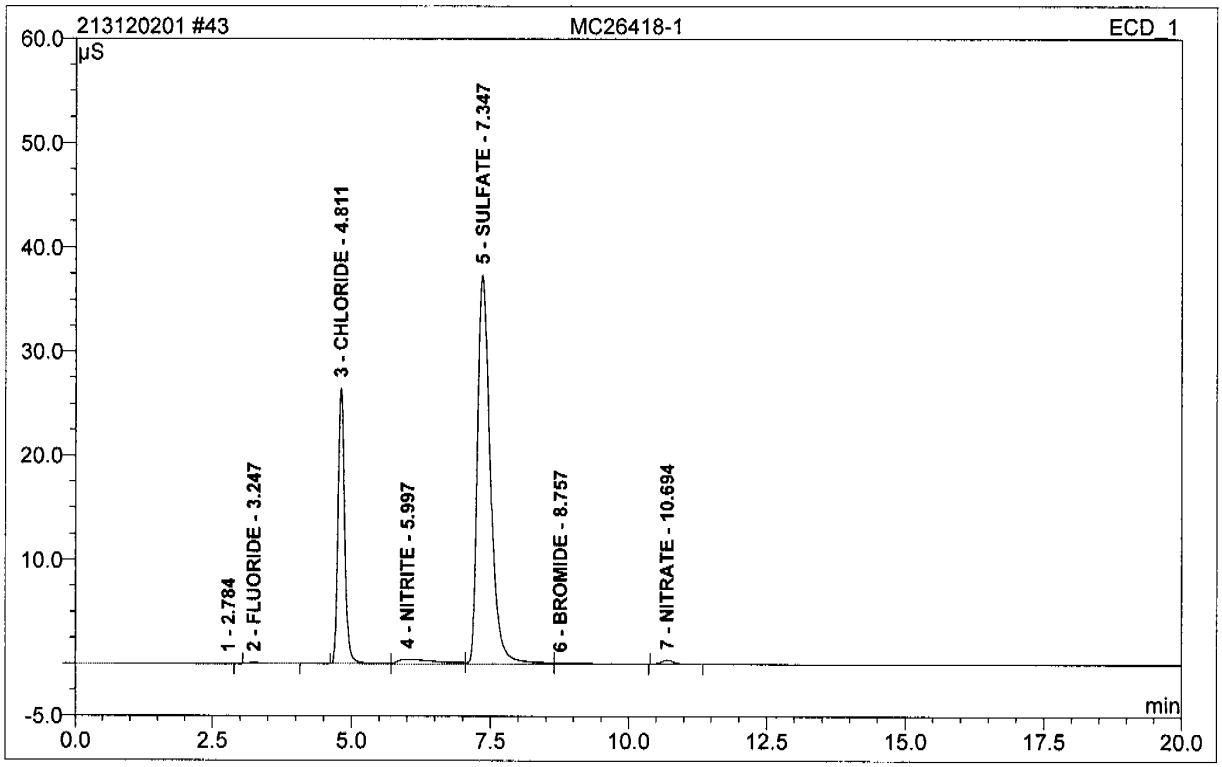
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **34** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 22:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.047 | 0.044 | 0.31 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.063 | 0.013 | 0.09 | 0.039 | BMB |
| 3 | 4.81 | CHLORIDE | 26.383 | 3.632 | 25.49 | 18.199 | BM |
| 4 | 6.02 | NITRITE | 0.407 | 0.311 | 2.18 | 0.619 | M |
| 5 | 7.35 | SULFATE | 37.492 | 10.084 | 70.77 | 69.244 | M |
| 6 | 8.76 | BROMIDE | 0.108 | 0.066 | 0.46 | 0.644 | MB |
| 7 | 10.70 | NITRATE | 0.382 | 0.100 | 0.70 | 0.207 | BMB |
| **Total:** | | | 64.882 | 14.250 | 100.00 | 88.952 | |

## 43 MC26418-1

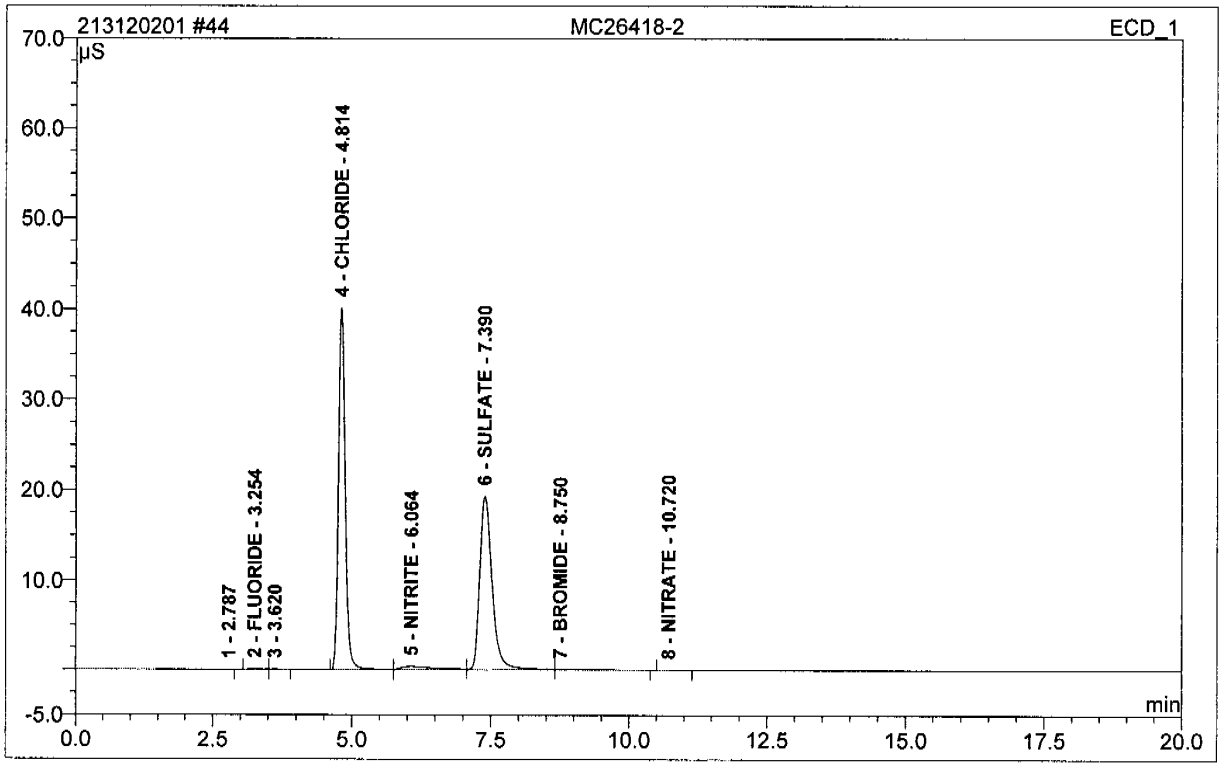
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 22:50** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.045 | 0.045 | 0.31 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.090 | 0.022 | 0.15 | 0.065 | BMB |
| 3 | 4.81 | CHLORIDE | 26.482 | 3.646 | 25.46 | 18.266 | BM |
| 4 | 6.00 | NITRITE | 0.429 | 0.342 | 2.39 | 0.682 | M |
| 5 | 7.35 | SULFATE | 37.384 | 10.097 | 70.52 | 69.332 | M |
| 6 | 8.76 | BROMIDE | 0.109 | 0.068 | 0.47 | 0.666 | MB |
| 7 | 10.69 | NITRATE | 0.377 | 0.098 | 0.68 | 0.203 | BMB |
| **Total:** | | | 64.915 | 14.318 | 100.00 | 89.215 | |

## 44 MC26418-2

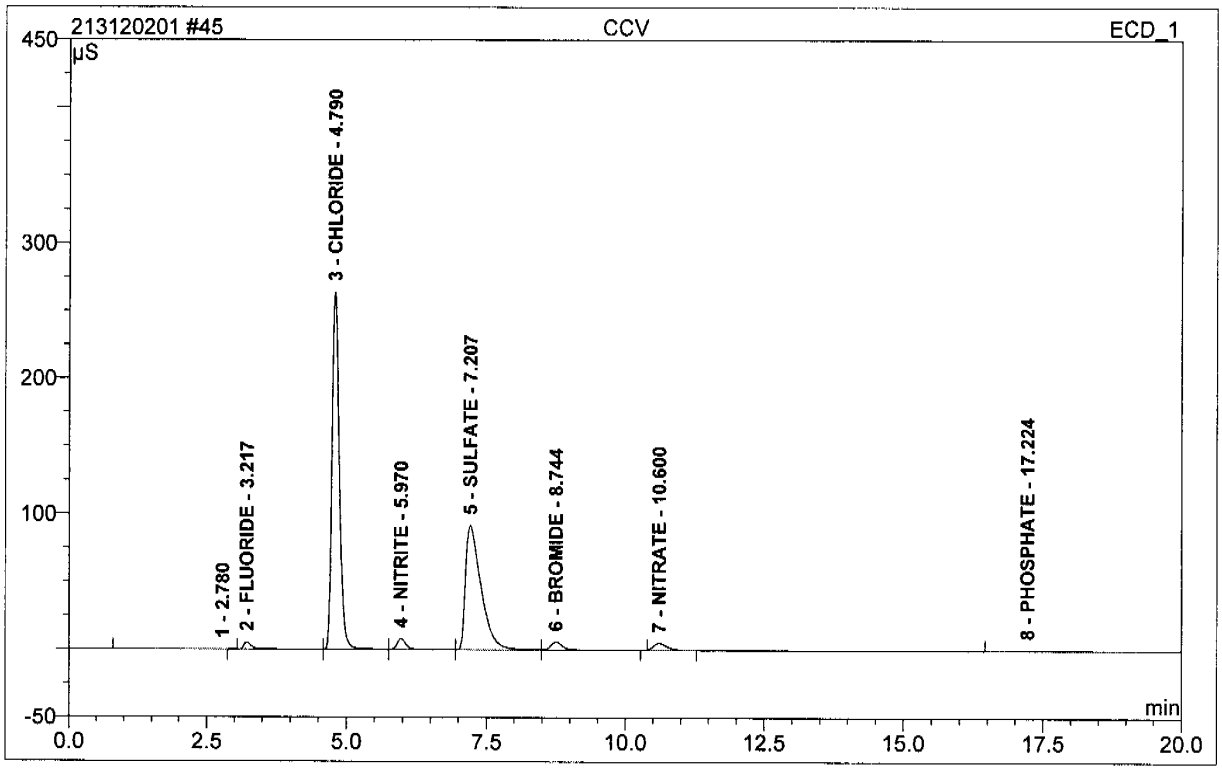
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 23:14** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.047 | 0.046 | 0.42 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.083 | 0.020 | 0.18 | 0.060 | BM |
| 3 | 3.62 | n.a. | 0.058 | 0.008 | 0.08 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 40.149 | 5.618 | 50.73 | 28.145 | BM |
| 5 | 6.06 | NITRITE | 0.368 | 0.272 | 2.46 | 0.543 | M |
| 6 | 7.39 | SULFATE | 19.321 | 5.054 | 45.64 | 34.706 | M |
| 7 | 8.75 | BROMIDE | 0.081 | 0.053 | 0.48 | 0.517 | MB |
| 8 | 10.72 | NITRATE | 0.008 | 0.002 | 0.02 | 0.004 | BMB |
| **Total:** | | | 60.115 | 11.074 | 100.00 | 63.974 | |

## 45 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/2/2013 23:38** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.027 | 0.020 | 0.03 | | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 5.159 | 0.880 | 1.17 | | 2.627 | BM |
| 3 | 4.79 | CHLORIDE | 263.659 | 39.948 | 53.11 | 200 | 200.139 ✓ | M |
| 4 | 5.97 | NITRITE | 8.086 | 1.563 | 2.08 | | 3.115 | M |
| 5 | 7.21 | SULFATE | 91.598 | 29.525 | 39.25 | 200 | 202.732 ✓ | M |
| 6 | 8.74 | BROMIDE | 5.977 | 1.461 | 1.94 | | 14.326 | MB |
| 7 | 10.60 | NITRATE | 4.922 | 1.353 | 1.80 | | 2.807 | BMB |
| 8 | 17.22 | PHOSPHATE | 0.505 | 0.473 | 0.63 | | 2.658 | BMB |
| **Total:** | | | 379.932 | 75.224 | 100.00 | | 428.404 | |

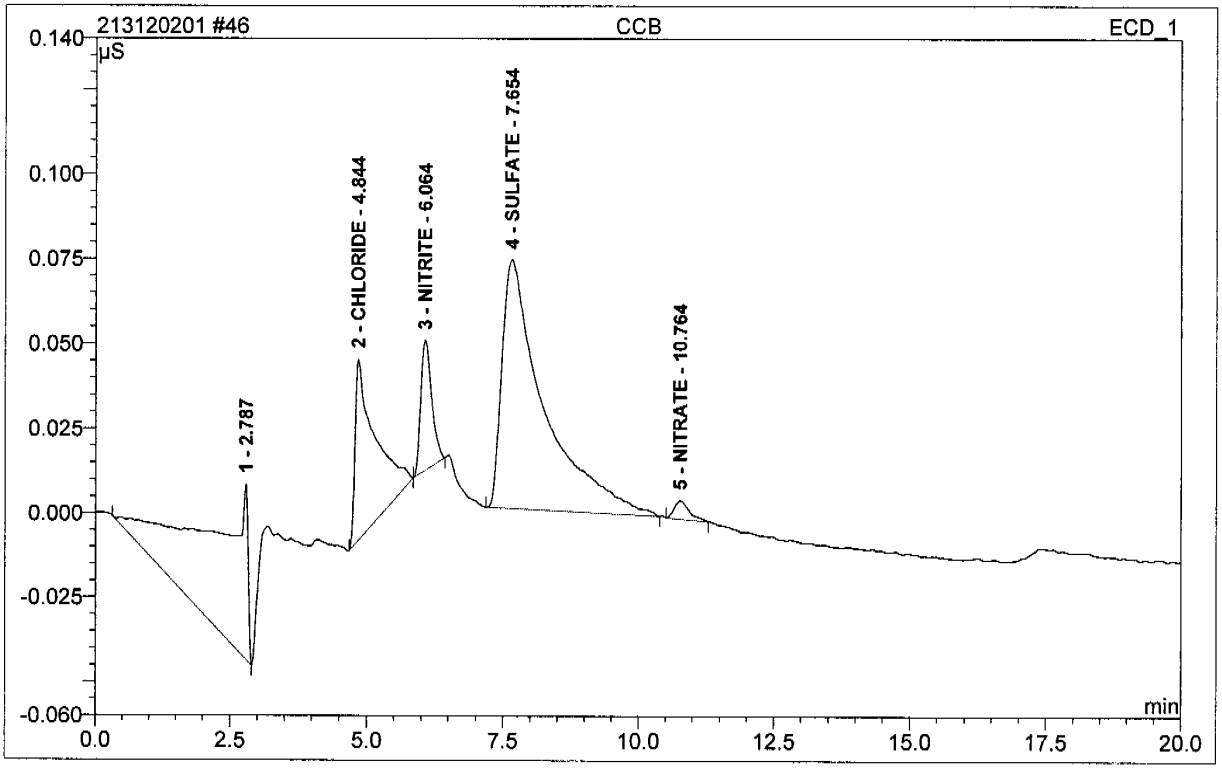
100.07

101.37

12.1 12

# 46 CCB

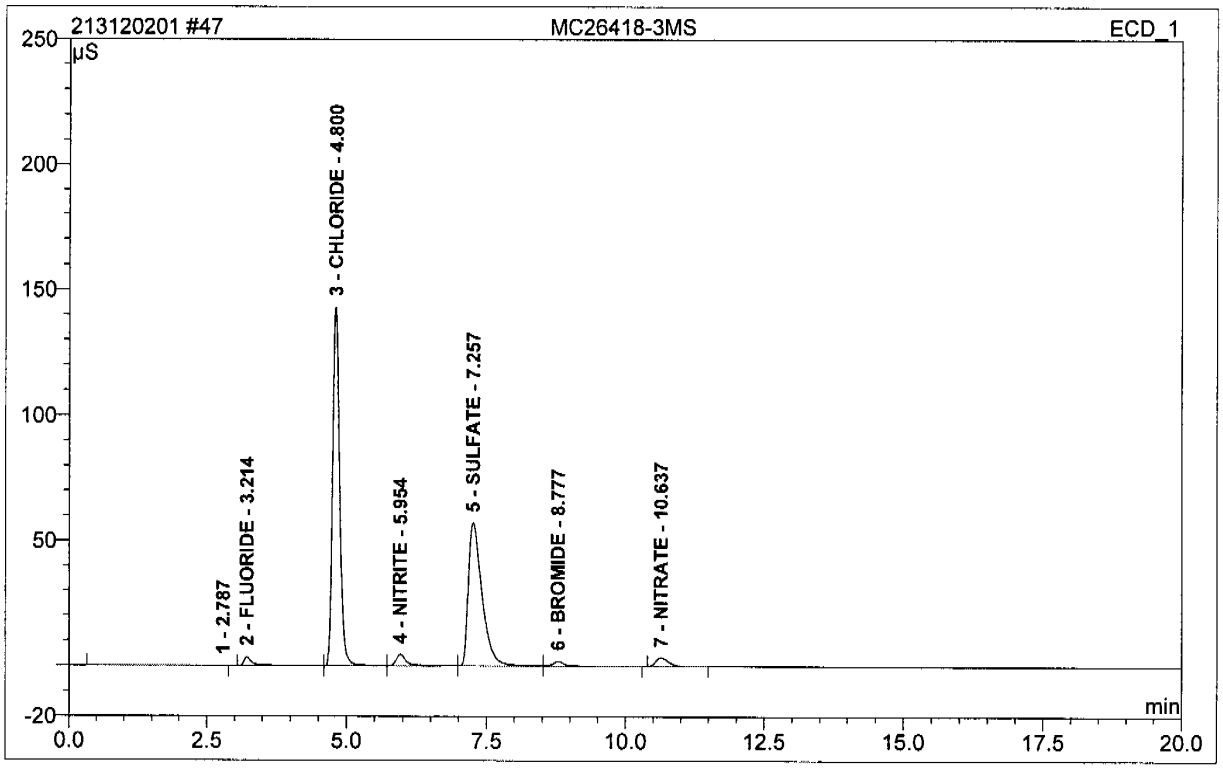
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 0:02** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.052 | 0.047 | 32.27 | n.a. | BMB |
| 2 | 4.84 | CHLORIDE | 0.053 | 0.023 | 15.49 | 0.113 | BMB |
| 3 | 6.06 | NITRITE | 0.038 | 0.009 | 6.15 | 0.018 | bMB |
| 4 | 7.65 | SULFATE | 0.073 | 0.066 | 44.88 | 0.450 | BMB |
| 5 | 10.76 | NITRATE | 0.006 | 0.002 | 1.22 | 0.004 | BMB |
| **Total:** | | | 0.222 | 0.146 | 100.00 | 0.585 | |

# 47 MC26418-3MS

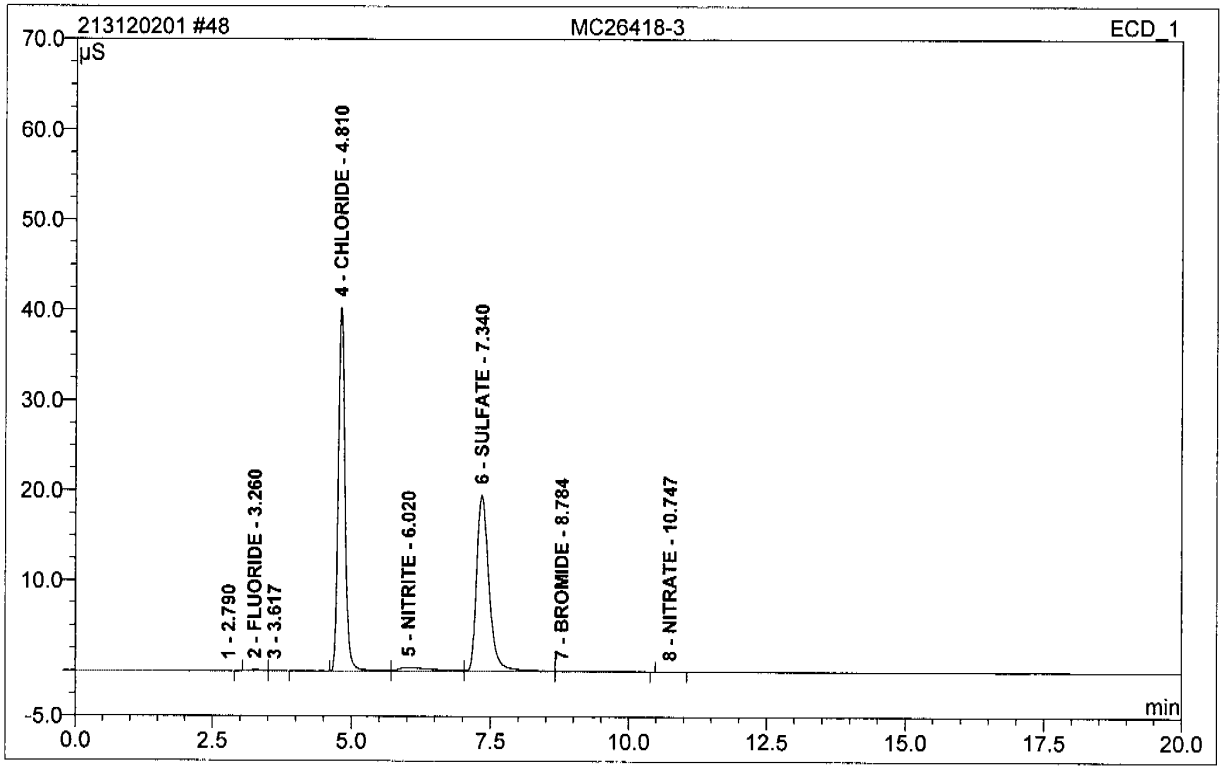
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-3MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **39** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 0:26** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.038 | 0.034 | 0.08 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 3.378 | 0.574 | 1.42 | 1.714 | BM |
| 3 | 4.80 | CHLORIDE | 143.023 | 20.819 | 51.61 | 104.304 | M |
| 4 | 5.95 | NITRITE | 4.592 | 1.096 | 2.72 | 2.184 | M |
| 5 | 7.26 | SULFATE | 57.185 | 16.373 | 40.59 | 112.427 | M |
| 6 | 8.78 | BROMIDE | 1.958 | 0.505 | 1.25 | 4.953 | MB |
| 7 | 10.64 | NITRATE | 3.471 | 0.935 | 2.32 | 1.940 | BMB |
| **Total:** | | | 213.645 | 40.337 | 100.00 | 227.522 | |

## 48 MC26418-3

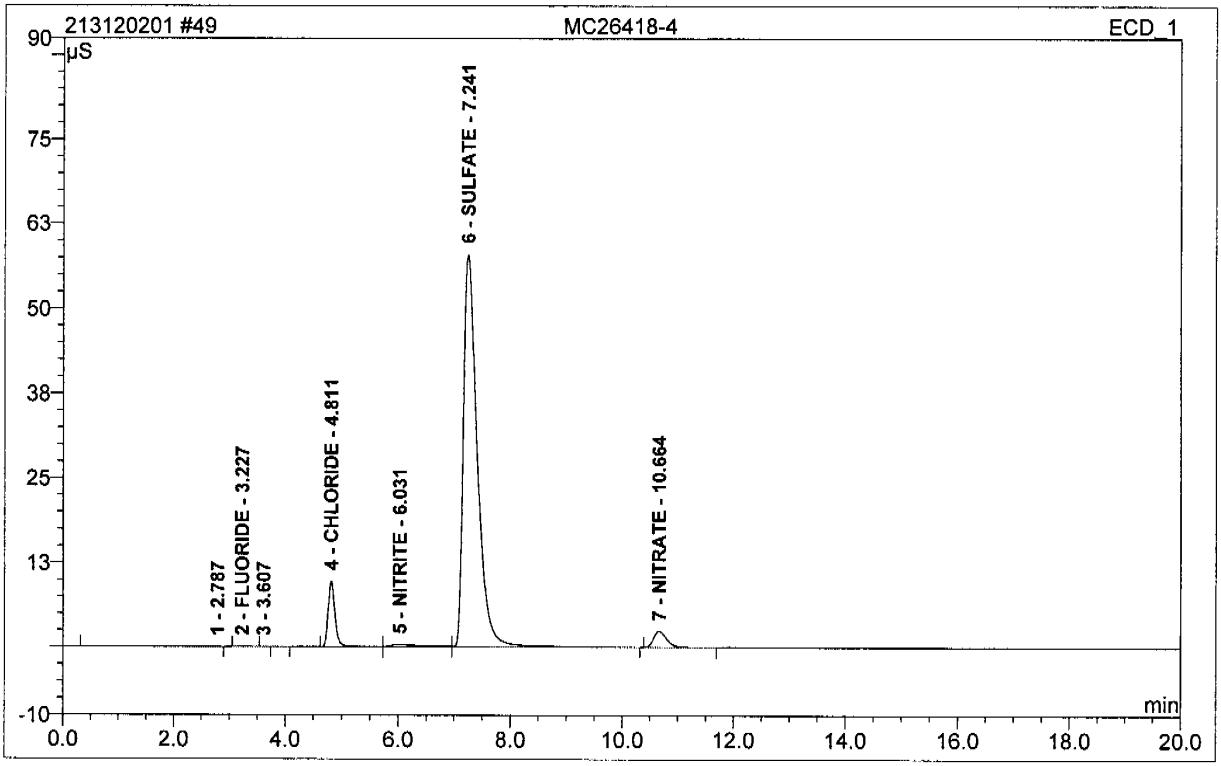
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **40** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 0:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.047 | 0.050 | 0.45 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.098 | 0.024 | 0.22 | 0.072 | BM |
| 3 | 3.62 | n.a. | 0.069 | 0.010 | 0.09 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 40.256 | 5.650 | 50.53 | 28.305 | BM |
| 5 | 6.02 | NITRITE | 0.394 | 0.298 | 2.67 | 0.594 | M |
| 6 | 7.34 | SULFATE | 19.551 | 5.093 | 45.56 | 34.972 | M |
| 7 | 8.78 | BROMIDE | 0.080 | 0.054 | 0.48 | 0.528 | MB |
| 8 | 10.75 | NITRATE | 0.006 | 0.002 | 0.01 | 0.003 | BMB |
| **Total:** | | | 60.502 | 11.180 | 100.00 | 64.475 | |

## 49 MC26418-4

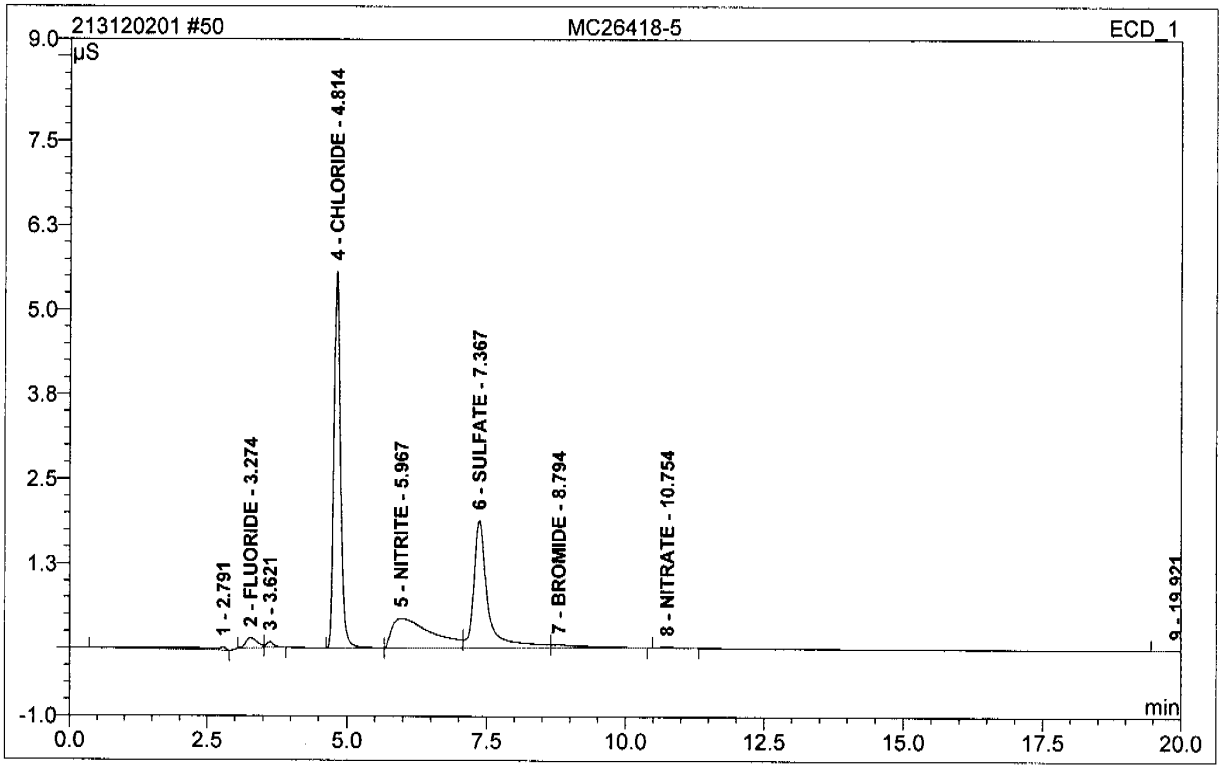
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **41** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 1:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.042 | 0.22 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.085 | 0.020 | 0.11 | 0.060 | BMB |
| 3 | 3.61 | n.a. | 0.006 | 0.001 | 0.00 | n.a. | Rd |
| 4 | 4.81 | CHLORIDE | 9.837 | 1.367 | 7.19 | 6.847 | BM |
| 5 | 6.03 | NITRITE | 0.339 | 0.219 | 1.15 | 0.436 | M |
| 6 | 7.24 | SULFATE | 57.939 | 16.724 | 87.93 | 114.834 | MB |
| 7 | 10.66 | NITRATE | 2.397 | 0.648 | 3.41 | 1.345 | BMB |
| **Total:** | | | 70.646 | 19.020 | 100.00 | 123.521 | |

## 50 MC26418-5

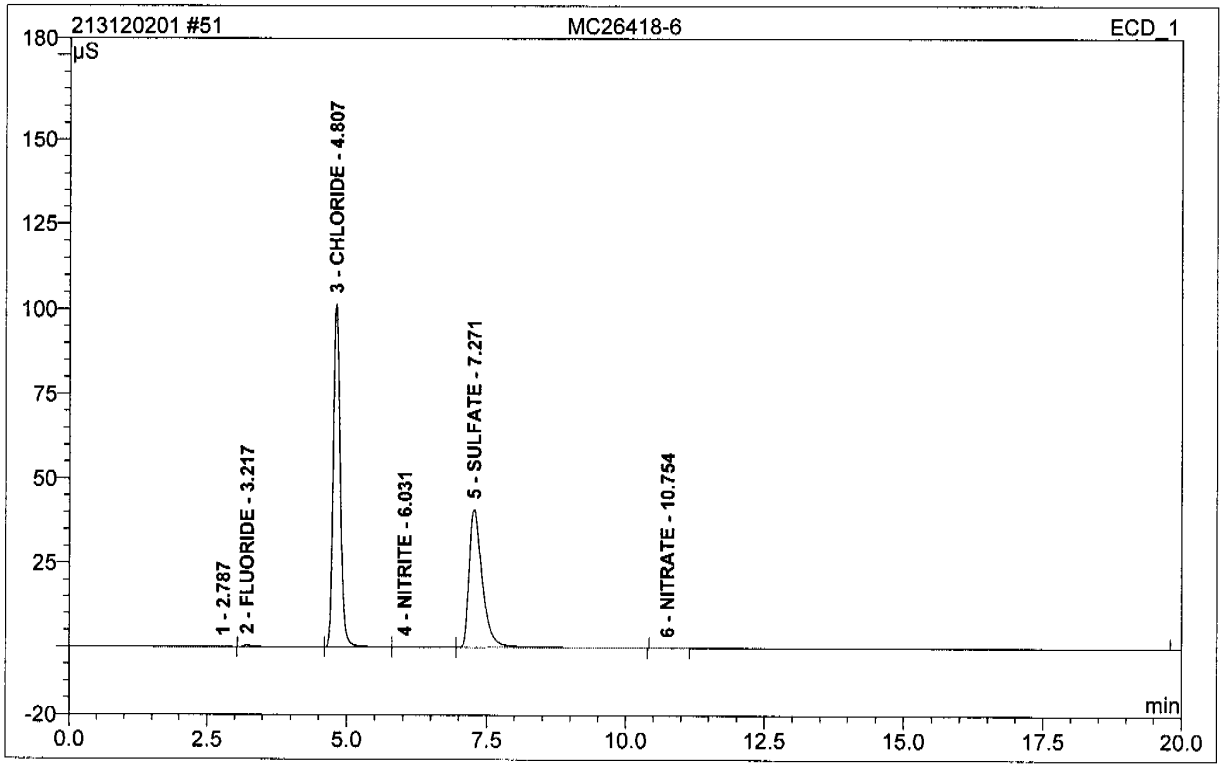
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 1:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.046 | 0.044 | 2.44 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.146 | 0.035 | 1.97 | 0.106 | BM |
| 3 | 3.62 | n.a. | 0.087 | 0.013 | 0.71 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 5.574 | 0.764 | 42.39 | 3.826 | BM |
| 5 | 5.97 | NITRITE | 0.434 | 0.358 | 19.86 | 0.713 | M |
| 6 | 7.37 | SULFATE | 1.877 | 0.547 | 30.38 | 3.758 | M |
| 7 | 8.79 | BROMIDE | 0.047 | 0.034 | 1.89 | 0.334 | MB |
| 8 | 10.75 | NITRATE | 0.016 | 0.004 | 0.24 | 0.009 | BMB |
| 9 | 19.92 | n.a. | 0.004 | 0.002 | 0.13 | n.a. | BMB |
| **Total:** | | | 8.232 | 1.802 | 100.00 | 8.745 | |

## 51 MC26418-6

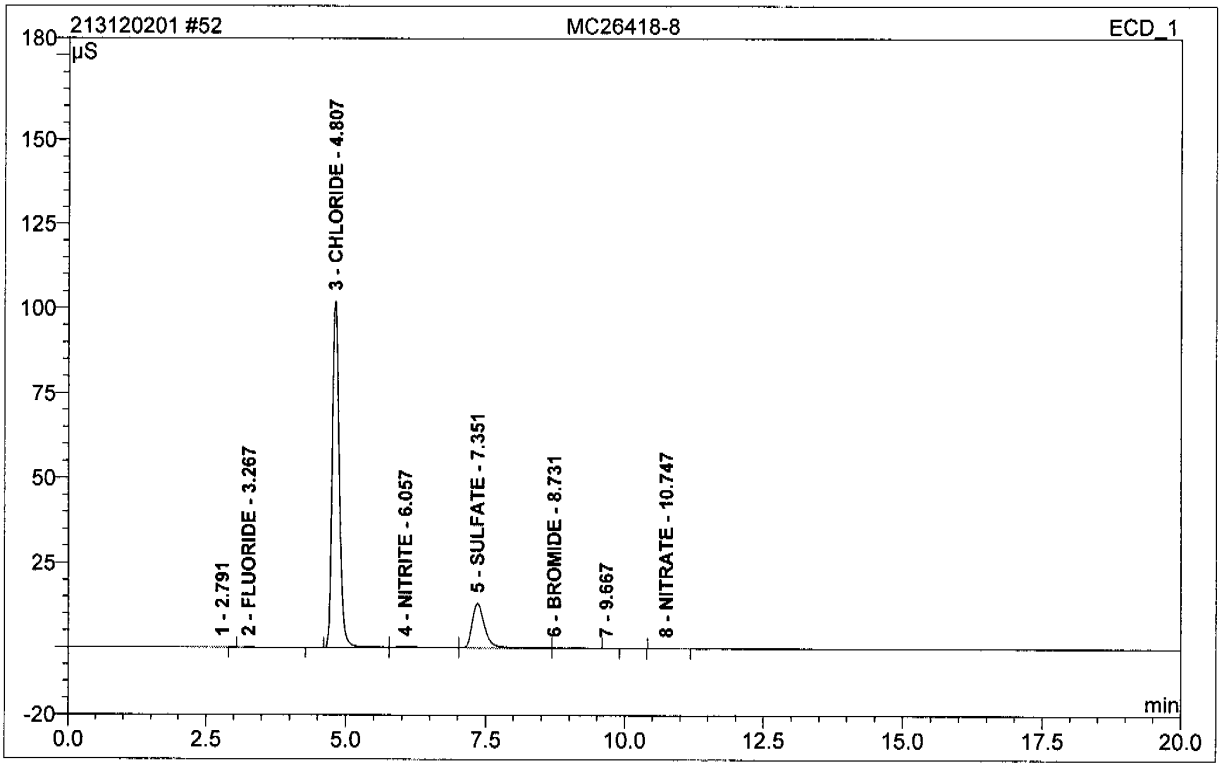
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **43** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 2:01** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.076 | 0.099 | 0.37 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.610 | 0.139 | 0.52 | 0.415 | BMB |
| 3 | 4.81 | CHLORIDE | 101.574 | 14.814 | 55.78 | 74.216 | bM |
| 4 | 6.03 | NITRITE | 0.203 | 0.124 | 0.47 | 0.248 | M |
| 5 | 7.27 | SULFATE | 40.868 | 11.372 | 42.82 | 78.086 | MB |
| 6 | 10.75 | NITRATE | 0.025 | 0.007 | 0.02 | 0.013 | BMB |
| 7 | 20.30 | n.a. | 0.007 | 0.004 | 0.02 | n.a. | BMB |
| **Total:** | | | 143.363 | 26.559 | 100.00 | 152.978 | |

## 52 MC26418-8

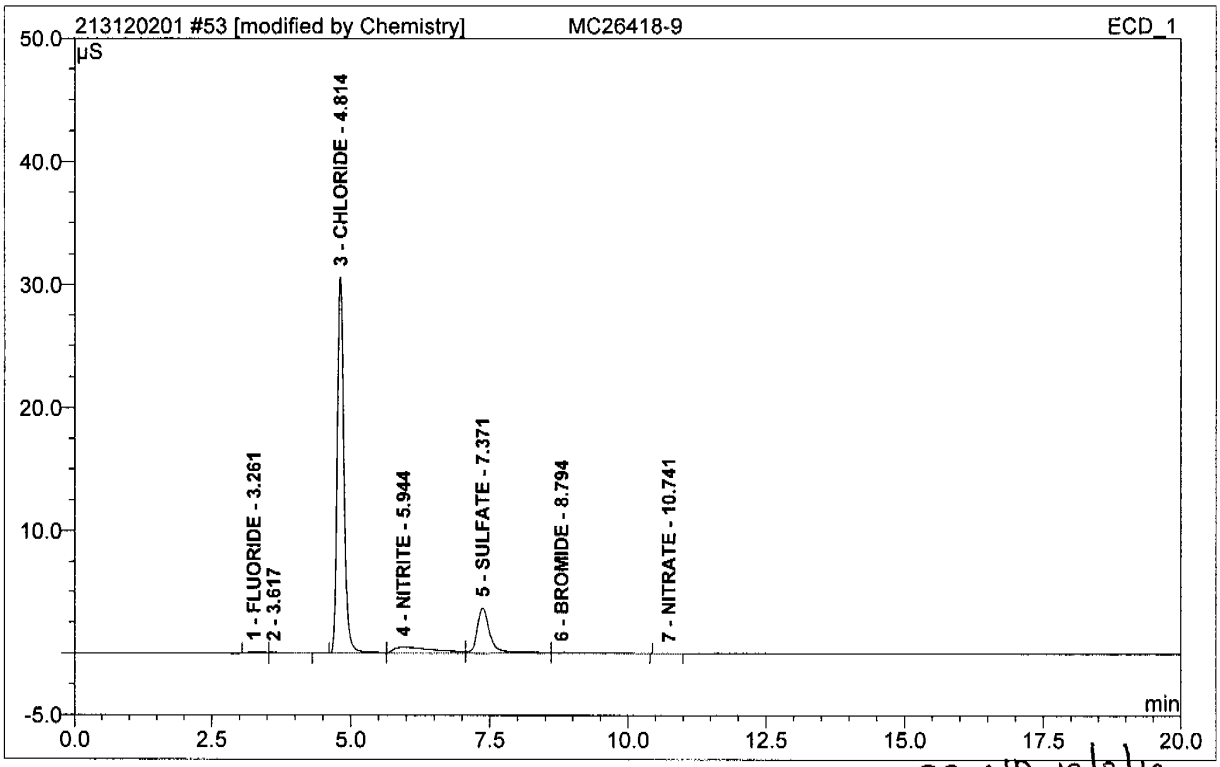
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **44** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 2:25** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.043 | 0.047 | 0.25 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.073 | 0.022 | 0.12 | 0.065 | BMB |
| 3 | 4.81 | CHLORIDE | 102.103 | 14.922 | 79.76 | 74.757 | BM |
| 4 | 6.06 | NITRITE | 0.313 | 0.211 | 1.13 | 0.420 | M |
| 5 | 7.35 | SULFATE | 13.063 | 3.447 | 18.42 | 23.668 | M |
| 6 | 8.73 | BROMIDE | 0.067 | 0.046 | 0.24 | 0.447 | MB |
| 7 | 9.67 | n.a. | 0.004 | 0.000 | 0.00 | n.a. | Rd |
| 8 | 10.75 | NITRATE | 0.052 | 0.014 | 0.07 | 0.029 | BMB |
| **Total:** | | | 115.718 | 18.708 | 100.00 | 99.386 | |

## 53 MC26418-9

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 2:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

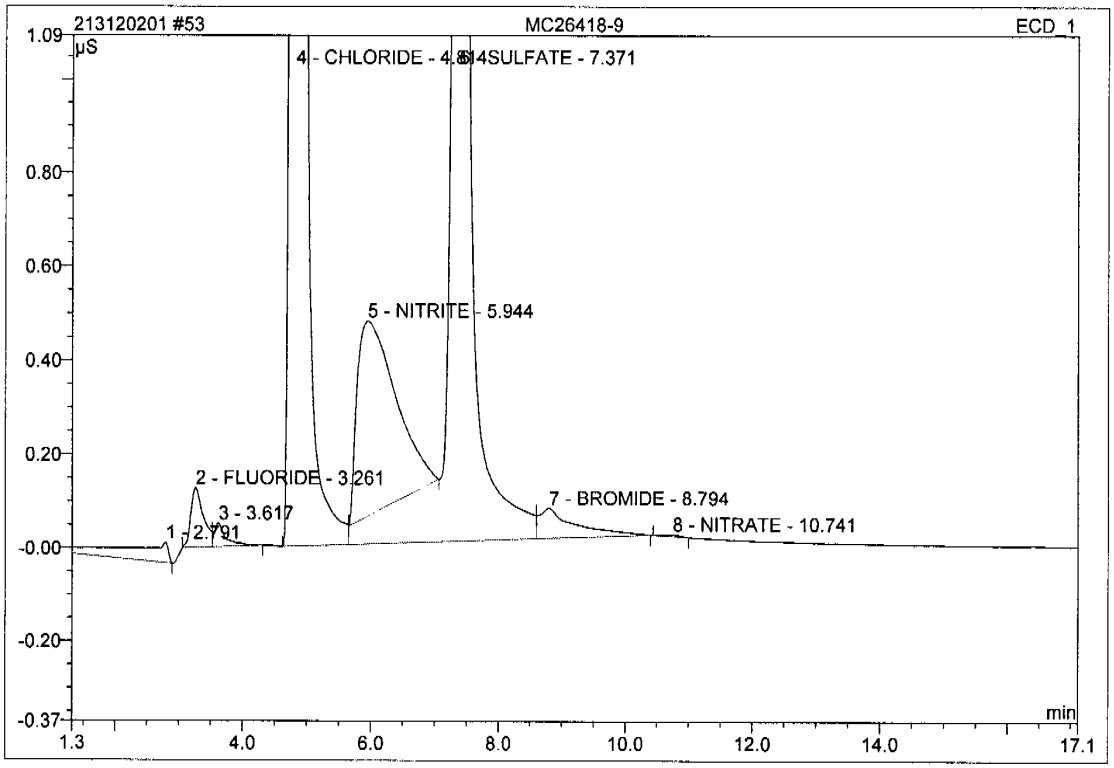



SP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.26 | FLUORIDE | 0.128 | 0.030 | 0.51 | 0.088 | BM |
| 2 | 3.62 | n.a. | 0.051 | 0.010 | 0.18 | n.a. | MB |
| 3 | 4.81 | CHLORIDE | 30.610 | 4.264 | 74.14 | 21.365 | BM |
| 4 | 5.94 | NITRITE | 0.475 | 0.413 | 7.17 | 0.822 | M * |
| 5 | 7.37 | SULFATE | 3.690 | 0.991 | 17.23 | 6.807 | M * |
| 6 | 8.79 | BROMIDE | 0.064 | 0.043 | 0.74 | 0.417 | MB |
| 7 | 10.74 | NITRATE | 0.004 | 0.001 | 0.02 | 0.002 | BMB |
| **Total:** | | | 35.022 | 5.752 | 100.00 | 29.501 | |

# 53 MC26418-9

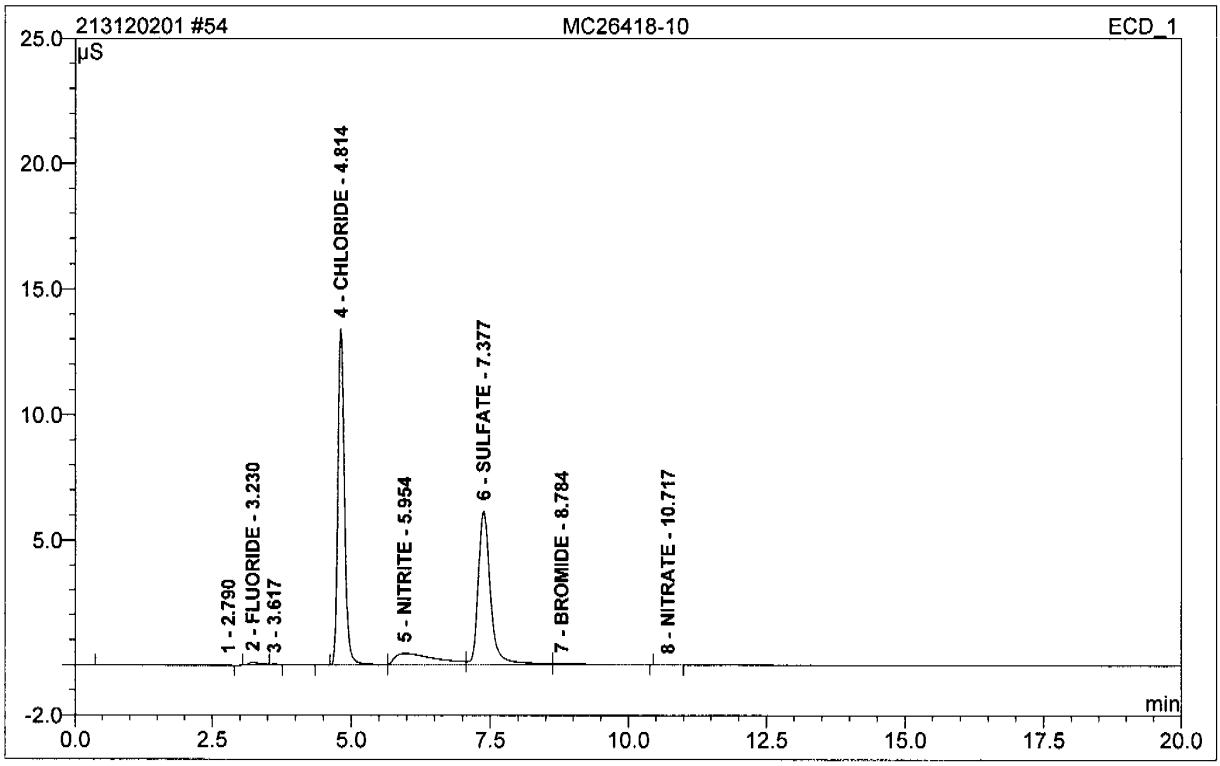
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 2:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.041 | 0.72 | n.a. | BMB |
| 2 | 3.26 | FLUORIDE | 0.128 | 0.030 | 0.51 | 0.088 | BM |
| 3 | 3.62 | n.a. | 0.051 | 0.010 | 0.18 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 30.610 | 4.264 | 73.61 | 21.365 | BM |
| 5 | 5.94 | NITRITE | 0.415 | 0.289 | 4.98 | 0.575 | Ru |
| 6 | 7.37 | SULFATE | 3.690 | 1.115 | 19.25 | 7.657 | M |
| 7 | 8.79 | BROMIDE | 0.064 | 0.043 | 0.73 | 0.417 | MB |
| 8 | 10.74 | NITRATE | 0.004 | 0.001 | 0.02 | 0.002 | BMB |
| **Total:** | | | 35.007 | 5.793 | 100.00 | 30.105 | |

## 54 MC26418-10

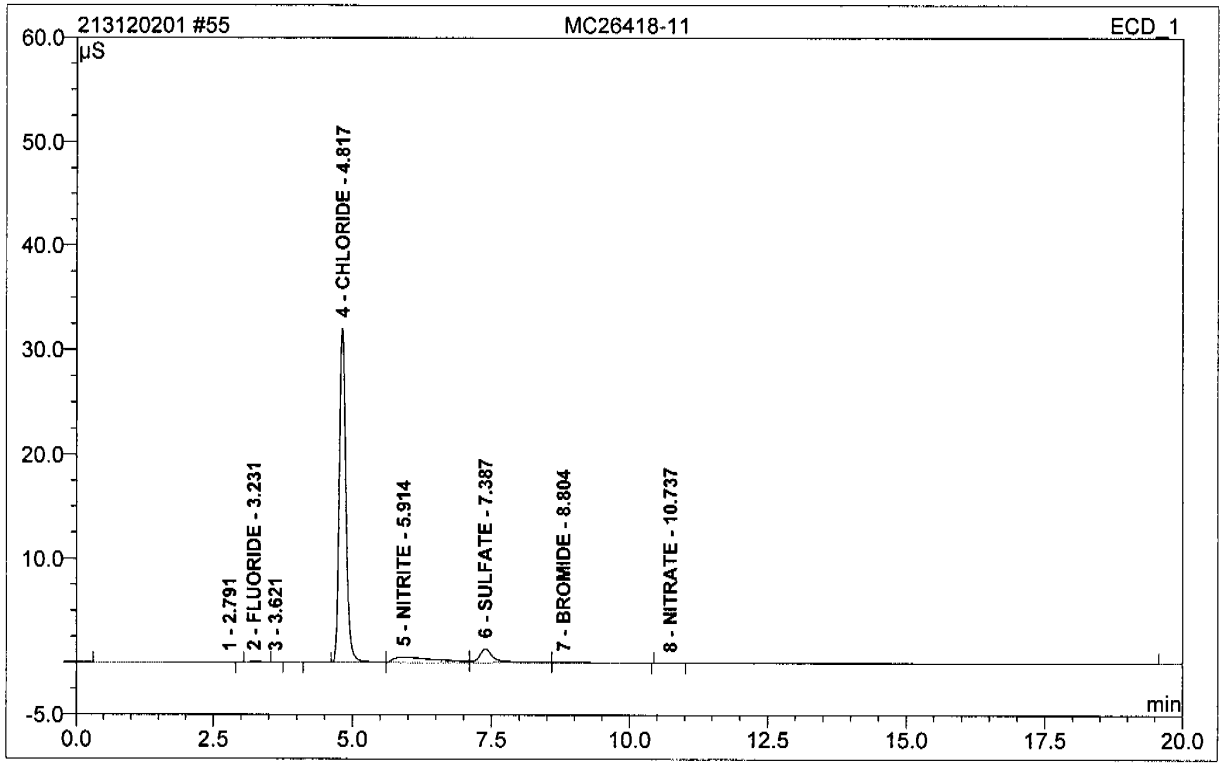
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 3:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.045 | 0.042 | 1.07 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.114 | 0.030 | 0.77 | 0.091 | BMB |
| 3 | 3.62 | n.a. | 0.016 | 0.002 | 0.04 | n.a. | Rd |
| 4 | 4.81 | CHLORIDE | 13.428 | 1.841 | 46.68 | 9.221 | BM |
| 5 | 5.95 | NITRITE | 0.459 | 0.394 | 10.00 | 0.786 | M |
| 6 | 7.38 | SULFATE | 6.155 | 1.594 | 40.42 | 10.944 | M |
| 7 | 8.78 | BROMIDE | 0.055 | 0.039 | 0.98 | 0.378 | MB |
| 8 | 10.72 | NITRATE | 0.005 | 0.001 | 0.03 | 0.002 | BMB |
| **Total:** | | | 20.277 | 3.943 | 100.00 | 21.422 | |

## 55 MC26418-11

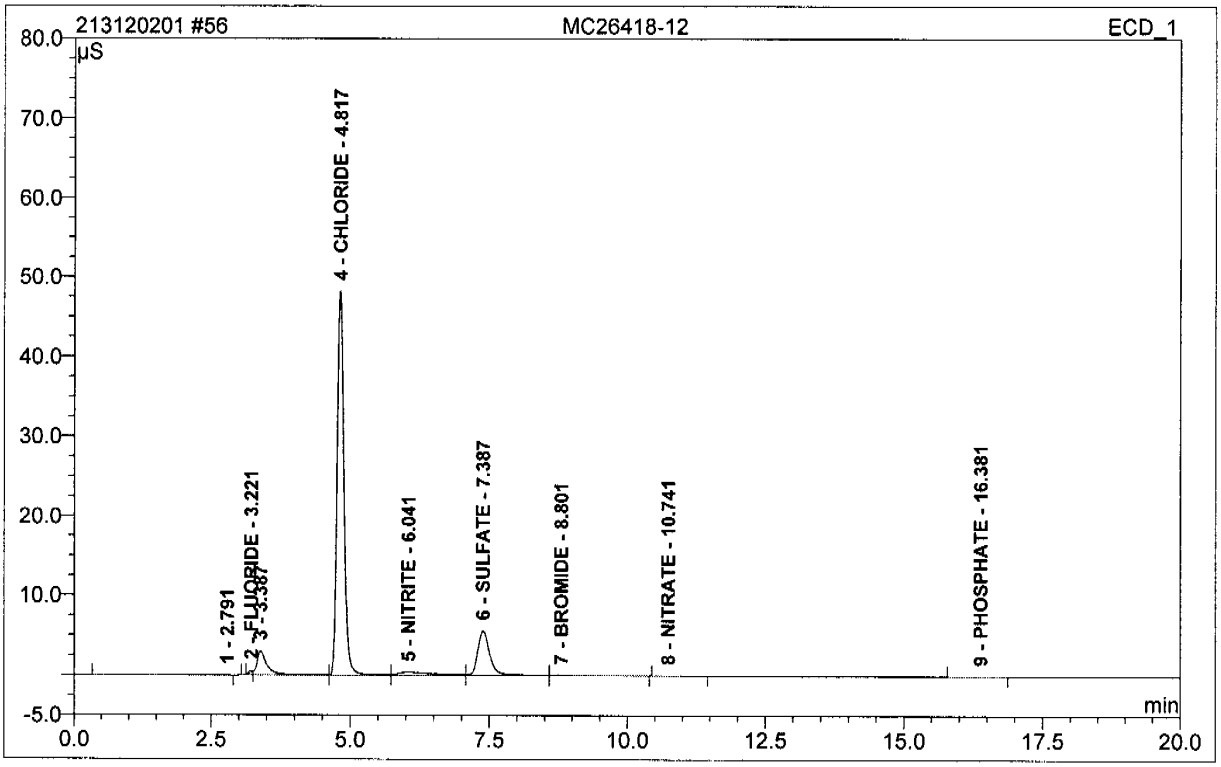
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-11** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 3:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.042 | 0.041 | 0.75 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.105 | 0.029 | 0.53 | 0.086 | BMB |
| 3 | 3.62 | n.a. | 0.017 | 0.002 | 0.03 | n.a. | Rd |
| 4 | 4.82 | CHLORIDE | 32.113 | 4.451 | 81.36 | 22.299 | BM |
| 5 | 5.91 | NITRITE | 0.509 | 0.474 | 8.66 | 0.944 | M |
| 6 | 7.39 | SULFATE | 1.341 | 0.426 | 7.79 | 2.925 | M |
| 7 | 8.80 | BROMIDE | 0.078 | 0.045 | 0.82 | 0.439 | MB |
| 8 | 10.74 | NITRATE | 0.007 | 0.002 | 0.03 | 0.003 | BMB |
| 9 | 20.01 | n.a. | 0.004 | 0.002 | 0.03 | n.a. | BMB |
| **Total:** | | | 34.217 | 5.471 | 100.00 | 26.697 | |

## 56 MC26418-12

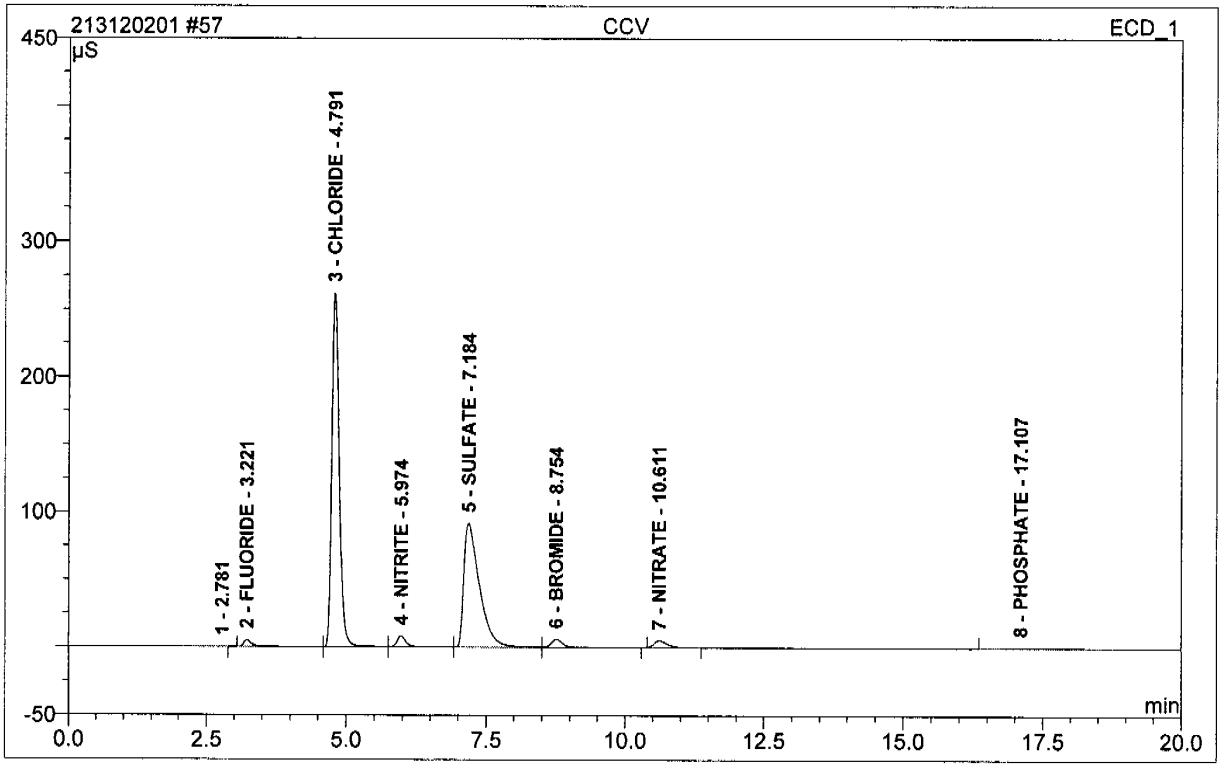
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-12** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 4:01** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.046 | 0.044 | 0.47 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.222 | 0.017 | 0.18 | 0.050 | Ru |
| 3 | 3.39 | n.a. | 3.003 | 0.669 | 7.15 | n.a. | BM |
| 4 | 4.82 | CHLORIDE | 48.190 | 6.834 | 73.06 | 34.240 | M |
| 5 | 6.04 | NITRITE | 0.390 | 0.301 | 3.22 | 0.600 | M |
| 6 | 7.39 | SULFATE | 5.566 | 1.437 | 15.36 | 9.866 | M |
| 7 | 8.80 | BROMIDE | 0.089 | 0.043 | 0.46 | 0.422 | MB |
| 8 | 10.74 | NITRATE | 0.018 | 0.005 | 0.05 | 0.010 | BMB |
| 9 | 16.38 | PHOSPHATE | 0.007 | 0.003 | 0.04 | 0.019 | BMB |
| **Total:** | | | 57.531 | 9.354 | 100.00 | 45.207 | |

## 57 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 4:25** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

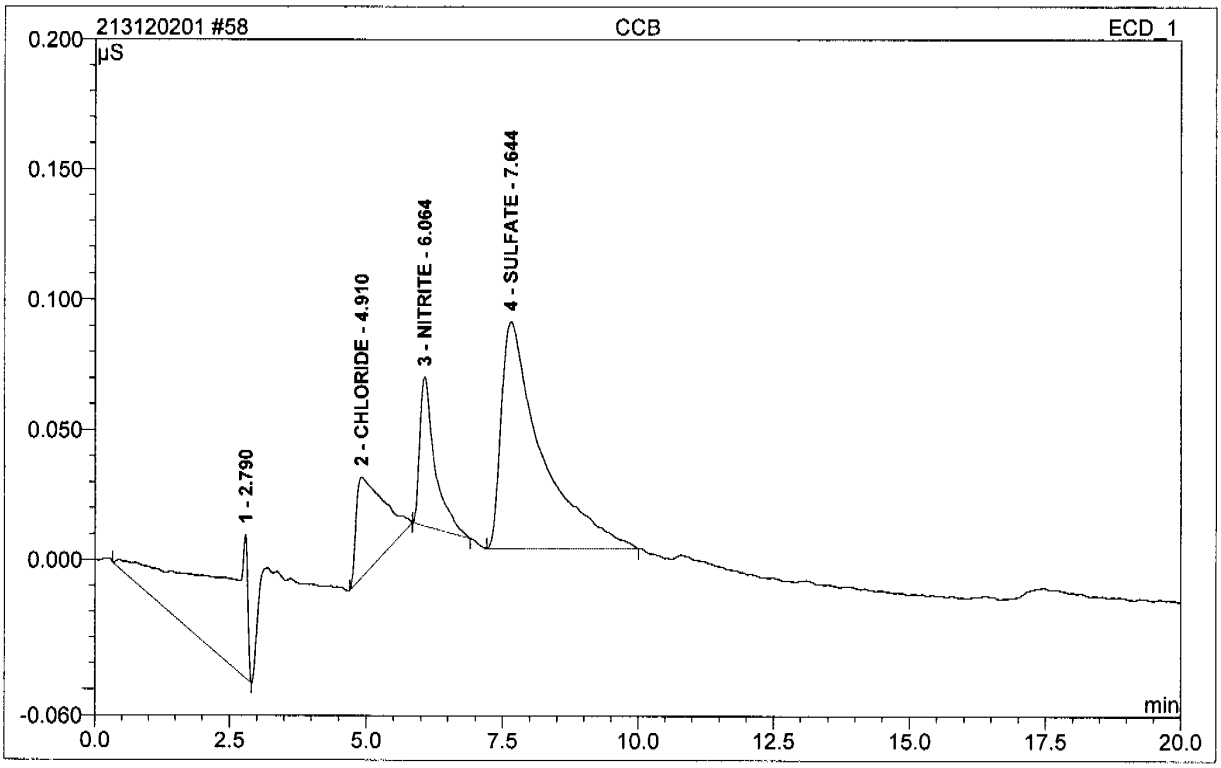



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.031 | 0.034 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.951 | 0.882 | 1.17 | 2.633 | BM |
| 3 | 4.79 | CHLORIDE | 262.160 | 39.997 | 52.99 | 200.384 | M |
| 4 | 5.97 | NITRITE | 8.054 | 1.571 | 2.08 | 3.131 | M |
| 5 | 7.18 | SULFATE | 91.825 | 29.666 | 39.30 | 203.701 | M |
| 6 | 8.75 | BROMIDE | 5.948 | 1.460 | 1.93 | 14.317 | MB |
| 7 | 10.61 | NITRATE | 4.949 | 1.383 | 1.83 | 2.868 | BMB |
| 8 | 17.11 | PHOSPHATE | 0.510 | 0.489 | 0.65 | 2.747 | BMB |
| **Total:** | | | 378.427 | 75.483 | 100.00 | 429.781 | |

200 ✓ 200 ✓ 100.19 101.85

## 58 CCB

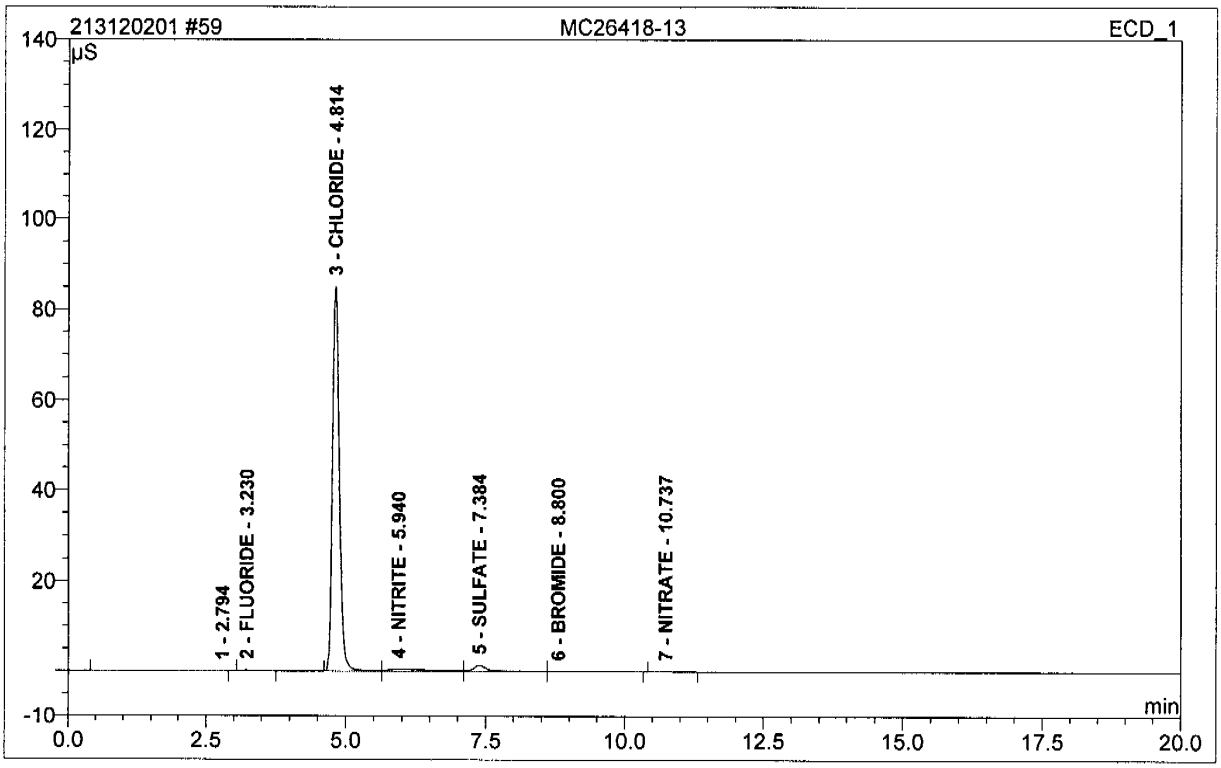
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 4:49** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.055 | 0.050 | 30.13 | n.a. | BMB |
| 2 | 4.91 | CHLORIDE | 0.039 | 0.021 | 13.05 | 0.108 | BMB |
| 3 | 6.06 | NITRITE | 0.057 | 0.019 | 11.28 | 0.037 | bMB |
| 4 | 7.64 | SULFATE | 0.087 | 0.075 | 45.54 | 0.515 | BMB |
| **Total:** | | | 0.239 | 0.165 | 100.00 | 0.659 | |

## 59 MC26418-13

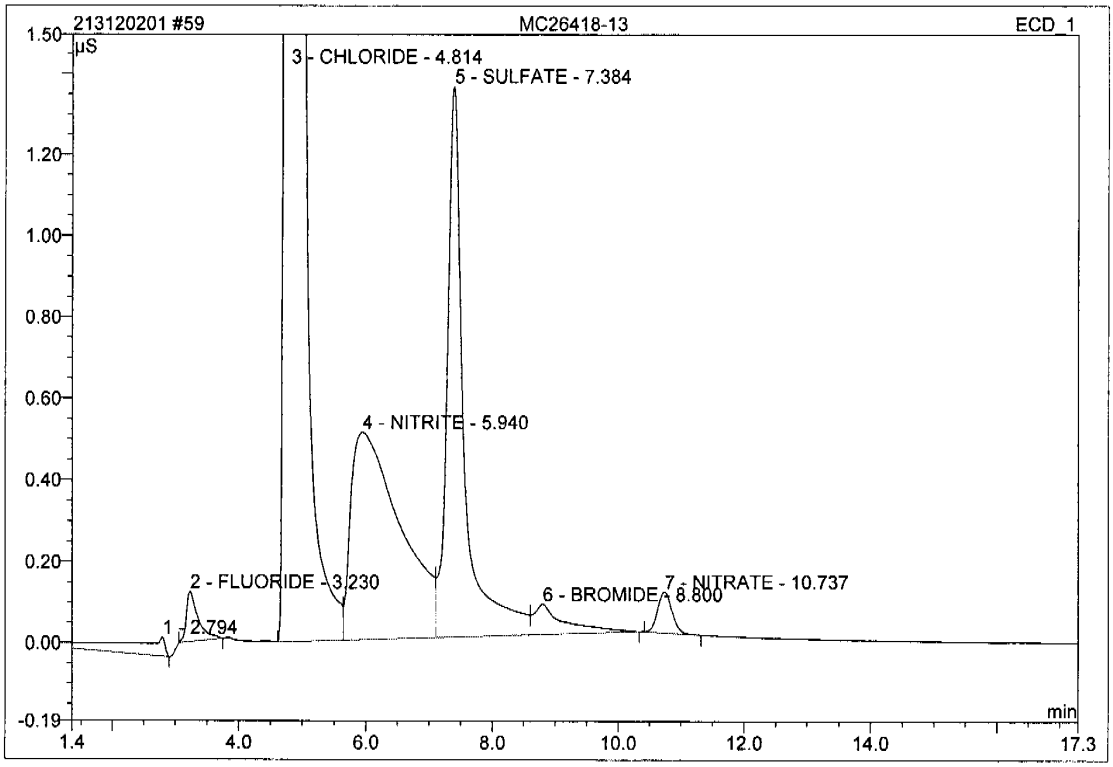
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 5:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.046 | 0.041 | 0.31 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.124 | 0.026 | 0.20 | 0.078 | BMB |
| 3 | 4.81 | CHLORIDE | 85.099 | 12.172 | 92.25 | 60.979 | BM |
| 4 | 5.94 | NITRITE | 0.508 | 0.462 | 3.50 | 0.921 | M |
| 5 | 7.38 | SULFATE | 1.353 | 0.424 | 3.21 | 2.912 | M |
| 6 | 8.80 | BROMIDE | 0.074 | 0.042 | 0.32 | 0.412 | MB |
| 7 | 10.74 | NITRATE | 0.101 | 0.027 | 0.20 | 0.055 | BMB |
| **Total:** | | | 87.305 | 13.194 | 100.00 | 65.357 | |

# 59 MC26418-13

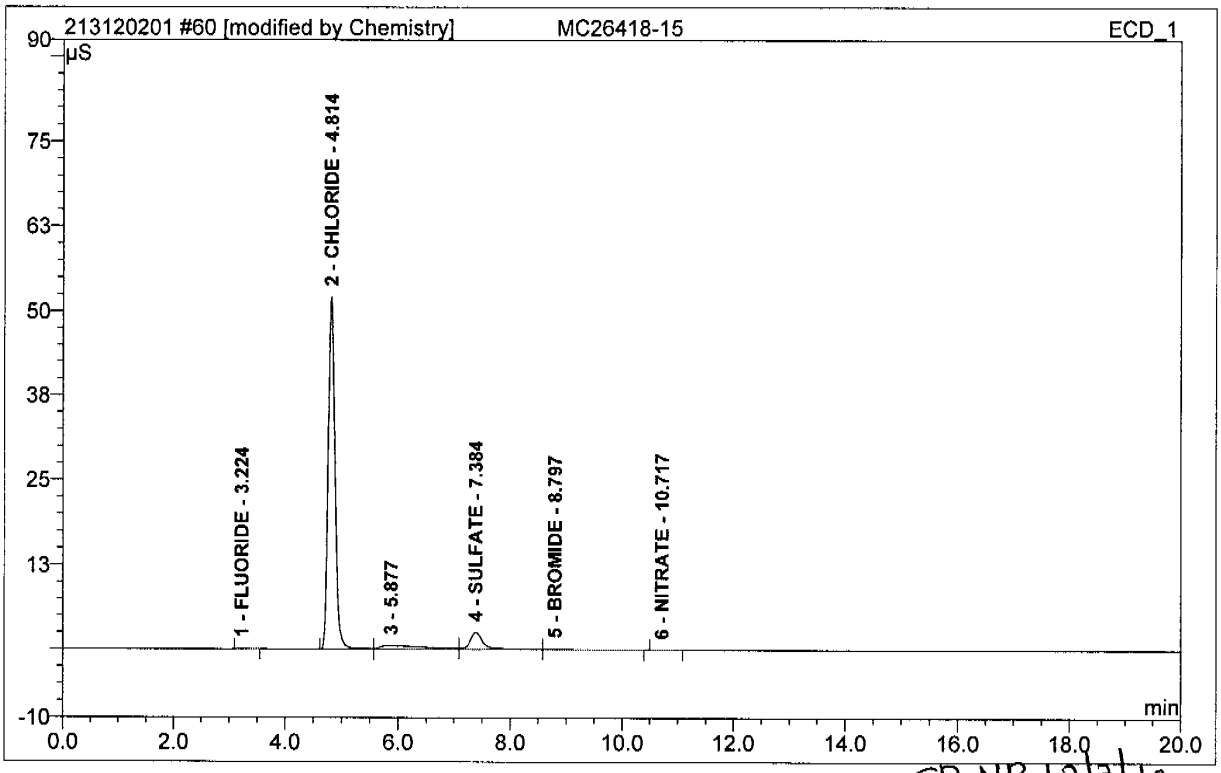
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-13** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 5:13** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.046 | 0.041 | 0.31 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.124 | 0.026 | 0.20 | 0.078 | BMB |
| 3 | 4.81 | CHLORIDE | 85.099 | 12.172 | 92.25 | 60.979 | BM |
| 4 | 5.94 | NITRITE | 0.508 | 0.462 | 3.50 | 0.921 | M |
| 5 | 7.38 | SULFATE | 1.353 | 0.424 | 3.21 | 2.912 | M |
| 6 | 8.80 | BROMIDE | 0.074 | 0.042 | 0.32 | 0.412 | MB |
| 7 | 10.74 | NITRATE | 0.101 | 0.027 | 0.20 | 0.055 | BMB |
| **Total:** | | | 87.305 | 13.194 | 100.00 | 65.357 | |

## 60 MC26418-15

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-15** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 5:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

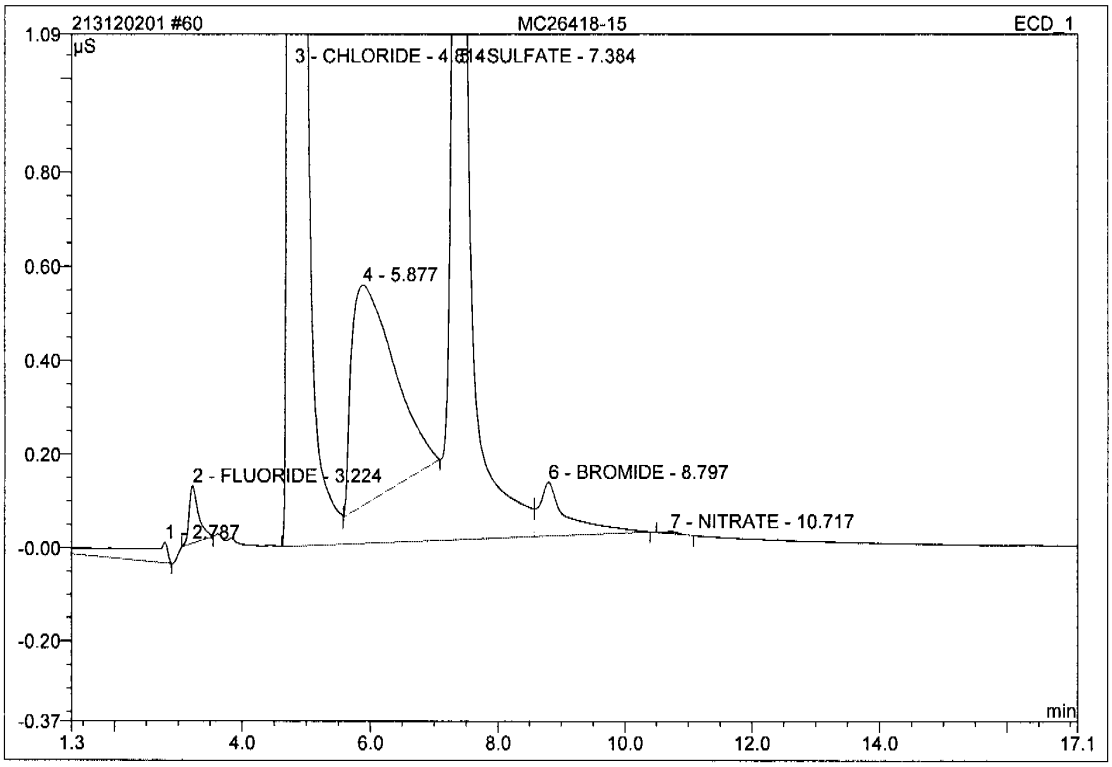



SP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.118 | 0.019 | 0.22 | 0.058 | BMB* |
| 2 | 4.81 | CHLORIDE | 52.095 | 7.293 | 84.43 | 36.539 | BM |
| 3 | 5.88 | n.a. | 0.551 | 0.536 | 6.20 | n.a. | M * |
| 4 | 7.38 | SULFATE | 2.544 | 0.729 | 8.44 | 5.006 ✓ | M * |
| 5 | 8.80 | BROMIDE | 0.115 | 0.060 | 0.69 | 0.585 | MB |
| 6 | 10.72 | NITRATE | 0.005 | 0.001 | 0.01 | 0.002 | BMB |
| **Total:** | | | 55.428 | 8.638 | 100.00 | 42.190 | |

# 60 MC26418-15

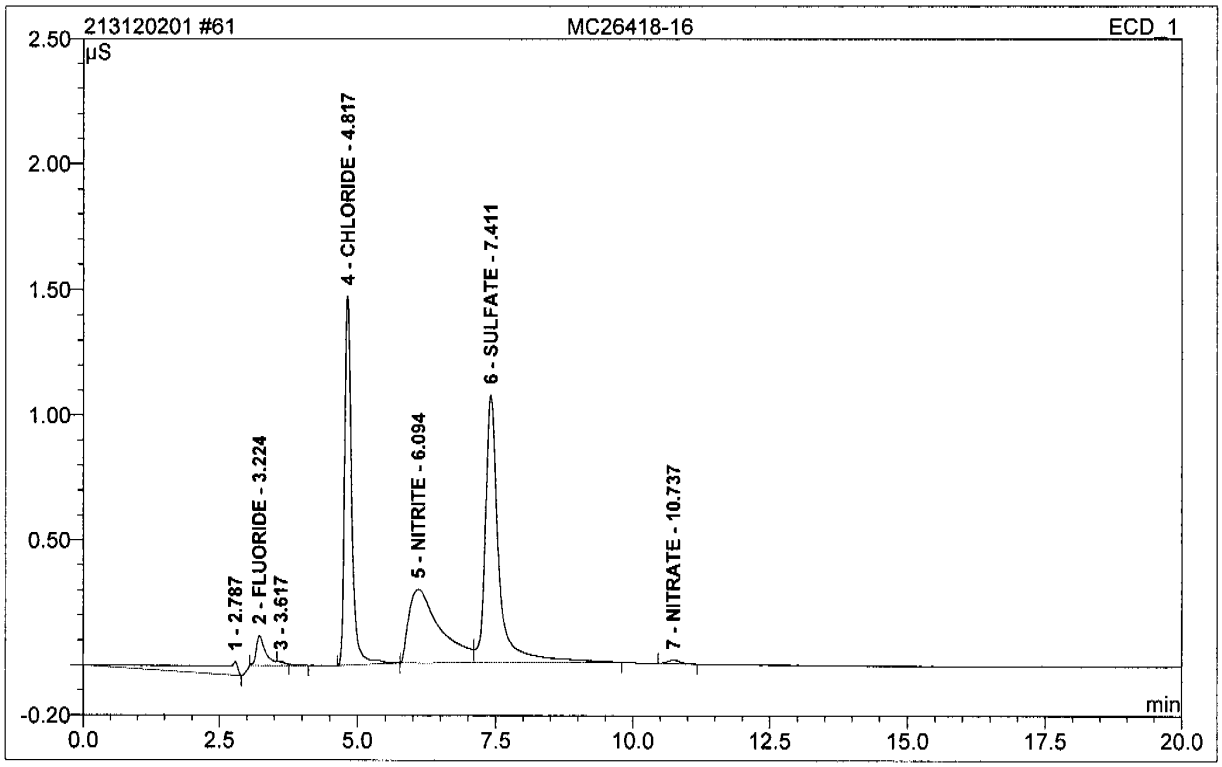
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-15** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 5:37** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.039 | 0.45 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.122 | 0.021 | 0.24 | 0.062 | BMB |
| 3 | 4.81 | CHLORIDE | 52.095 | 7.293 | 84.04 | 36.539 | BM |
| 4 | 5.88 | n.a. | 0.471 | 0.361 | 4.16 | n.a. | Ru |
| 5 | 7.38 | SULFATE | 2.544 | 0.904 | 10.41 | 6.206 | M |
| 6 | 8.80 | BROMIDE | 0.115 | 0.060 | 0.69 | 0.585 | MB |
| 7 | 10.72 | NITRATE | 0.005 | 0.001 | 0.01 | 0.002 | BMB |
| **Total:** | | | 55.396 | 8.678 | 100.00 | 43.394 | |

# 61 MC26418-16

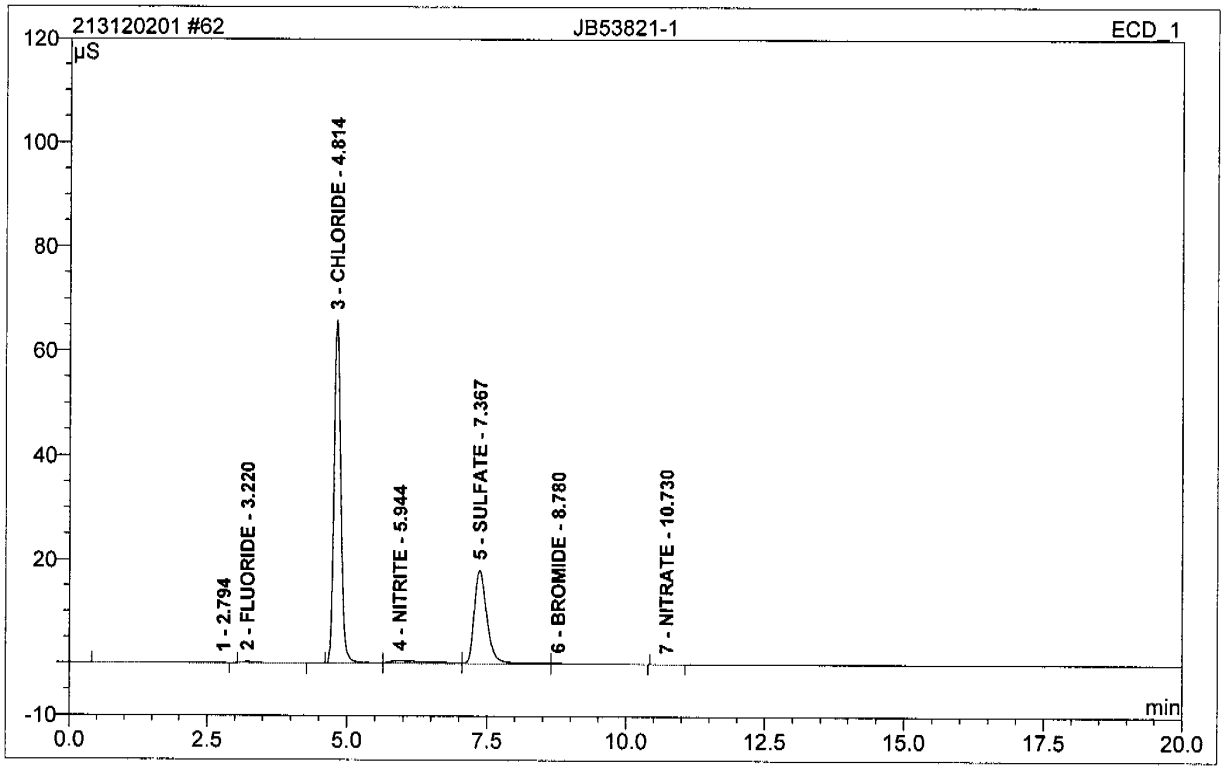
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26418-16** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 6:01** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.054 | 0.055 | 6.84 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.120 | 0.026 | 3.25 | 0.078 | BMB |
| 3 | 3.62 | n.a. | 0.006 | 0.001 | 0.08 | n.a. | Rd |
| 4 | 4.82 | CHLORIDE | 1.476 | 0.220 | 27.29 | 1.101 | BMB |
| 5 | 6.09 | NITRITE | 0.294 | 0.194 | 24.12 | 0.387 | BM |
| 6 | 7.41 | SULFATE | 1.072 | 0.306 | 37.95 | 2.098 | MB |
| 7 | 10.74 | NITRATE | 0.015 | 0.004 | 0.49 | 0.008 | BMB |
| **Total:** | | | 3.037 | 0.805 | 100.00 | 3.672 | |

## 62 JB53821-1

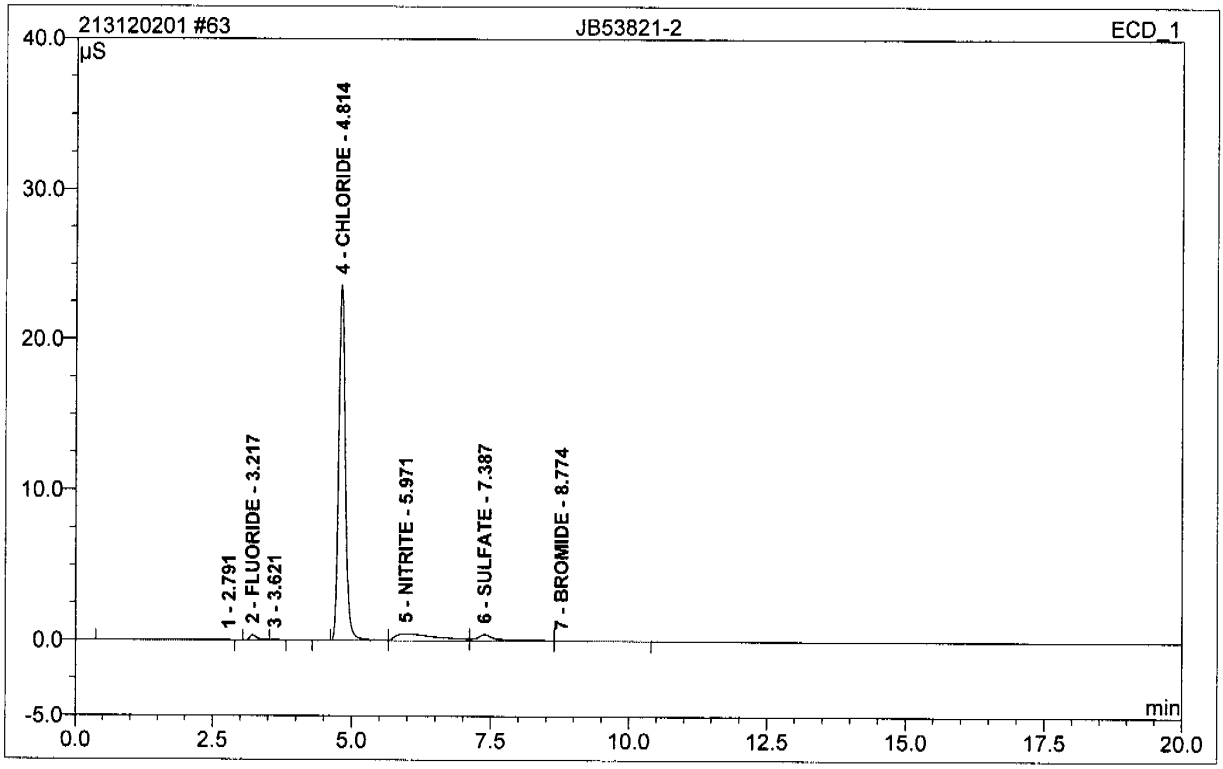
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 6:24** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.048 | 0.038 | 0.26 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.272 | 0.052 | 0.36 | 0.157 | BMB |
| 3 | 4.81 | CHLORIDE | 65.883 | 9.328 | 63.44 | 46.734 | BM |
| 4 | 5.94 | NITRITE | 0.495 | 0.441 | 3.00 | 0.879 | M |
| 5 | 7.37 | SULFATE | 18.072 | 4.789 | 32.57 | 32.884 | M |
| 6 | 8.78 | BROMIDE | 0.079 | 0.052 | 0.35 | 0.508 | MB |
| 7 | 10.73 | NITRATE | 0.008 | 0.002 | 0.01 | 0.004 | BMB |
| **Total:** | | | 84.857 | 14.703 | 100.00 | 81.166 | |

## 63 JB53821-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 6:48** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



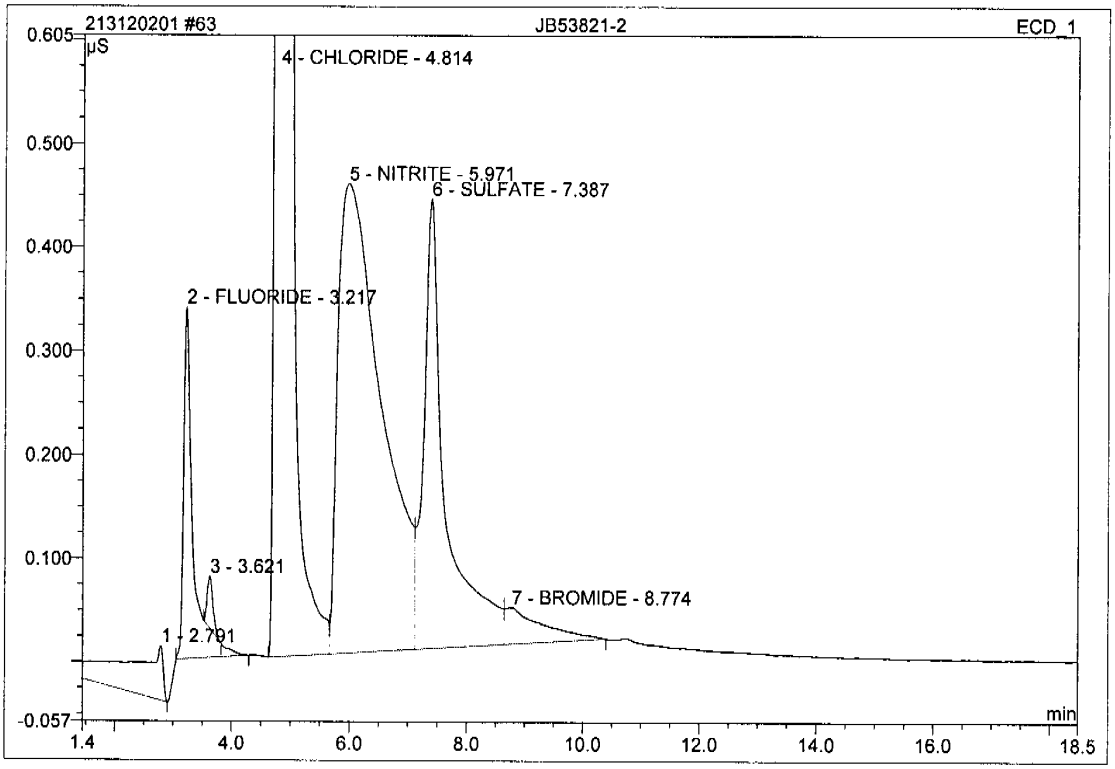

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.053 | 0.048 | 1.20 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.339 | 0.064 | 1.60 | 0.191 | BMB |
| 3 | 3.62 | n.a. | 0.050 | 0.006 | 0.14 | n.a. | Rd |
| 4 | 4.81 | CHLORIDE | 23.627 | 3.275 | 81.88 | 16.406 | BM |
| 5 | 5.97 | NITRITE | 0.453 | 0.392 | 9.80 | 0.781 | M |
| 6 | 7.39 | SULFATE | 0.434 | 0.189 | 4.73 | 1.298 | M |
| 7 | 8.77 | BROMIDE | 0.036 | 0.026 | 0.66 | 0.259 | MB |
| **Total:** | | | 24.991 | 3.999 | 100.00 | 18.935 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213120201



## 63 JB53821-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 6:48** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



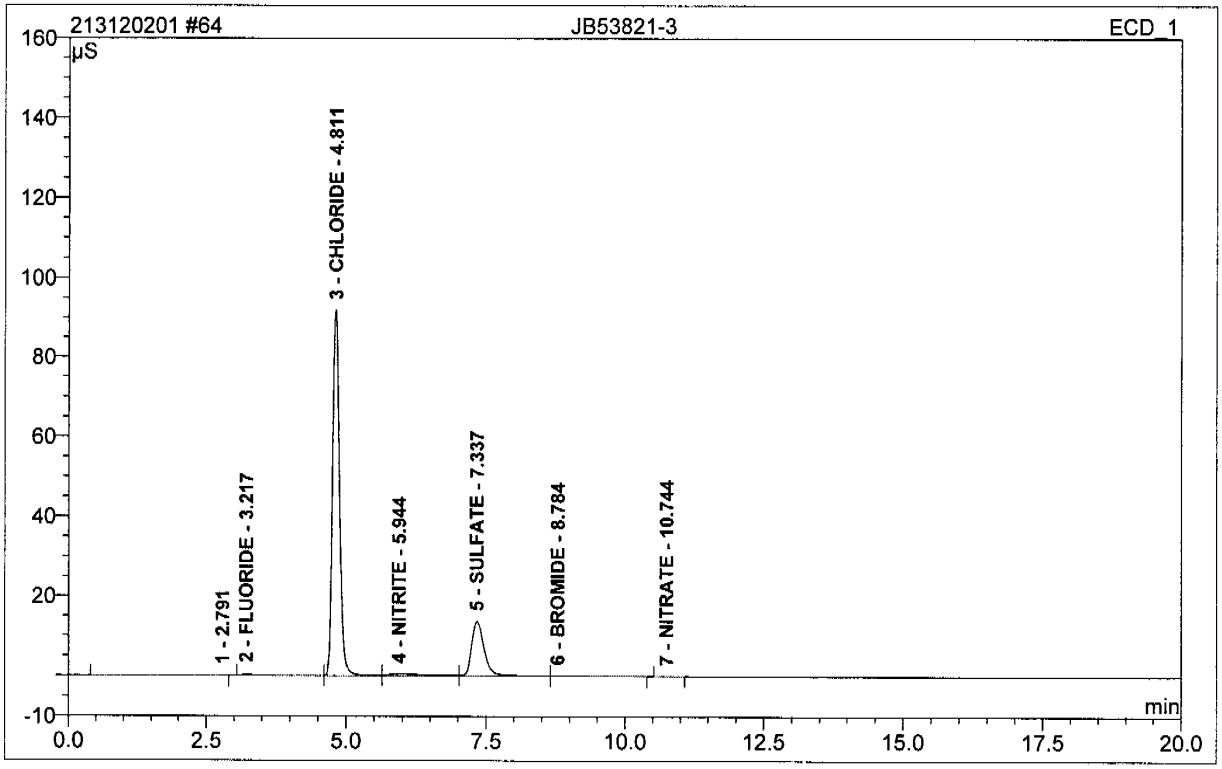

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.053 | 0.048 | 1.20 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.339 | 0.064 | 1.60 | 0.191 | BMB |
| 3 | 3.62 | n.a. | 0.050 | 0.006 | 0.14 | n.a. | Rd |
| 4 | 4.81 | CHLORIDE | 23.627 | 3.275 | 81.88 | 16.406 | BM |
| 5 | 5.97 | NITRITE | 0.453 | 0.392 | 9.80 | 0.781 | M |
| 6 | 7.39 | SULFATE | 0.434 | 0.189 | 4.73 | 1.298 | M |
| 7 | 8.77 | BROMIDE | 0.036 | 0.026 | 0.66 | 0.259 | MB |
| **Total:** | | | 24.991 | 3.999 | 100.00 | 18.935 | |

DEFAULT/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 64 JB53821-3

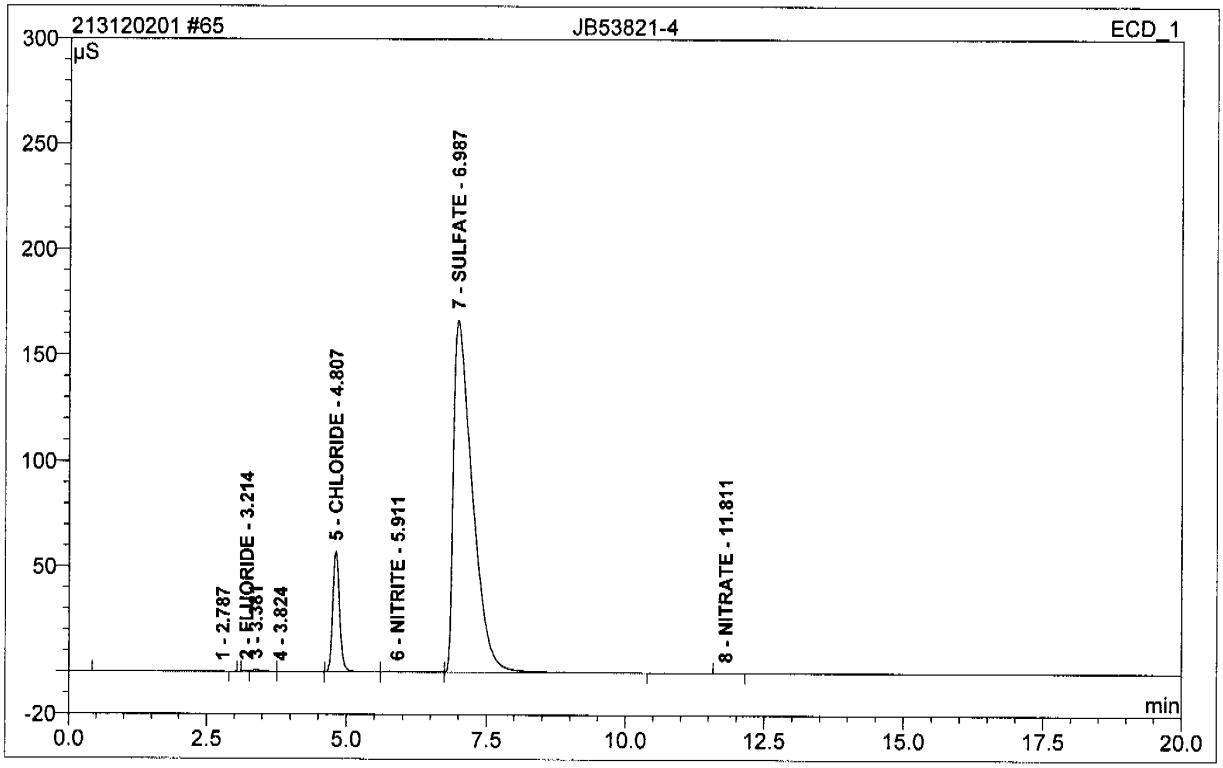
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 7:12** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.050 | 0.045 | 0.26 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.444 | 0.088 | 0.51 | 0.263 | BMB |
| 3 | 4.81 | CHLORIDE | 91.800 | 13.203 | 75.88 | 66.144 | BM |
| 4 | 5.94 | NITRITE | 0.490 | 0.426 | 2.45 | 0.850 | M |
| 5 | 7.34 | SULFATE | 13.589 | 3.587 | 20.61 | 24.628 | M |
| 6 | 8.78 | BROMIDE | 0.070 | 0.048 | 0.28 | 0.473 | MB |
| 7 | 10.74 | NITRATE | 0.009 | 0.002 | 0.01 | 0.005 | BMB |
| **Total:** | | | 106.453 | 17.400 | 100.00 | 92.363 | |

## 65 JB53821-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 7:36** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.031 | 0.029 | 0.04 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.174 | 0.014 | 0.02 | 0.042 | Ru |
| 3 | 3.38 | n.a. | 0.965 | 0.208 | 0.28 | n.a. | BM |
| 4 | 3.82 | n.a. | 0.080 | 0.020 | 0.03 | n.a. | MB |
| 5 | 4.81 | CHLORIDE | 57.411 | 8.110 | 10.91 | 40.629 | BM |
| 6 | 5.91 | NITRITE | 0.468 | 0.351 | 0.47 | 0.700 | M |
| 7 | 6.99 | SULFATE | 166.733 | 65.582 | 88.25 | 450.317 | MB |
| 8 | 11.81 | NITRATE | 0.008 | 0.002 | 0.00 | 0.005 | BMB |
| **Total:** | | | 225.870 | 74.316 | 100.00 | 491.692 | |

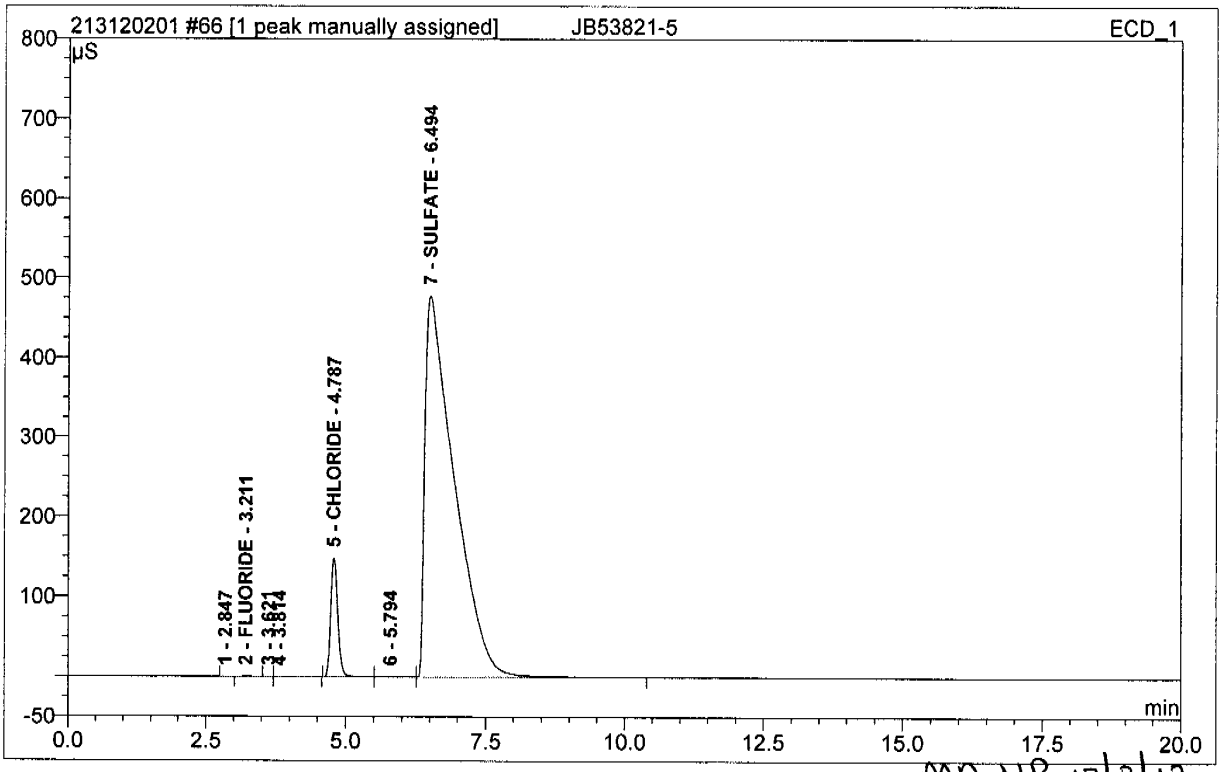
Say over-range. Rerun at 1:2 dilution.



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Version 6.80 SR9a Build 2680 (163077)

## 66 JB53821-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:00** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



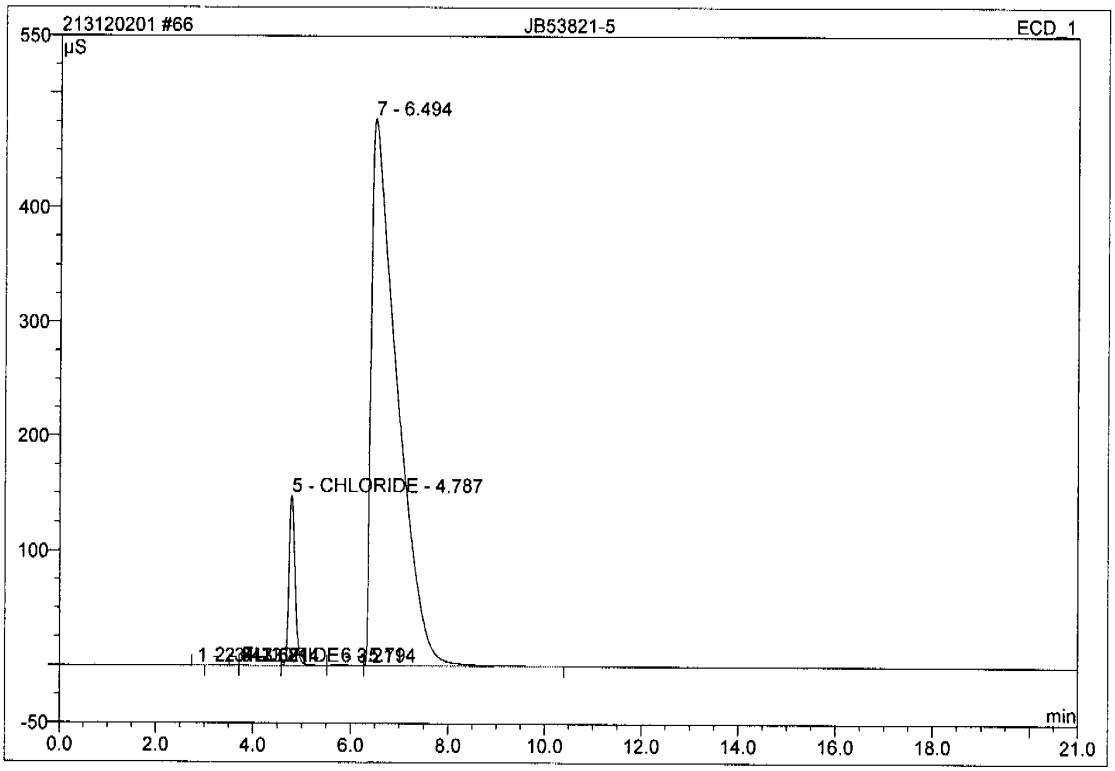

MP NP 12/3/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.85 | n.a. | 0.040 | 0.005 | 0.00 | n.a. | Ru |
| 2 | 3.21 | FLUORIDE | 0.320 | 0.081 | 0.03 | 0.240 | BM |
| 3 | 3.62 | n.a. | 0.037 | 0.004 | 0.00 | n.a. | Rd |
| 4 | 3.81 | n.a. | 0.115 | 0.024 | 0.01 | n.a. | MB |
| 5 | 4.79 | CHLORIDE | 148.071 | 21.505 | 6.87 | 107.742 | BM |
| 6 | 5.79 | n.a. | 0.510 | 0.298 | 0.10 | n.a. | M |
| 7 | 6.49 | SULFATE | 477.768 | 291.205 | 93.00 | 1999.542 | MB^ |
| **Total:** | | | 626.859 | 313.122 | 100.00 | 2107.524 | |

SO4 over-range. Rerun at 1:10 dilution.

## 66 JB53821-5

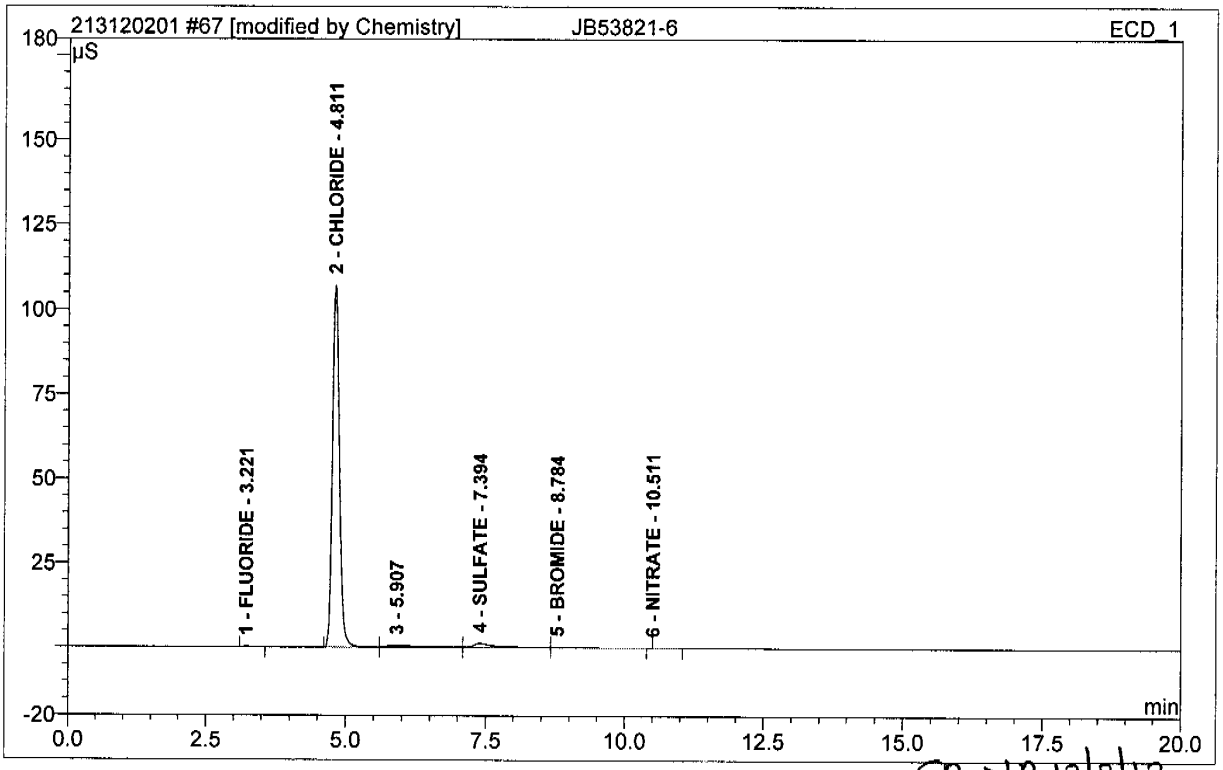
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:00** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.85 | n.a. | 0.040 | 0.005 | 0.00 | n.a. | Ru |
| 2 | 3.21 | FLUORIDE | 0.320 | 0.081 | 0.03 | 0.240 | BM |
| 3 | 3.62 | n.a. | 0.037 | 0.004 | 0.00 | n.a. | Rd |
| 4 | 3.81 | n.a. | 0.115 | 0.024 | 0.01 | n.a. | MB |
| 5 | 4.79 | CHLORIDE | 148.071 | 21.505 | 6.87 | 107.742 | BM |
| 6 | 5.79 | n.a. | 0.510 | 0.298 | 0.10 | n.a. | M |
| 7 | 6.49 | n.a. | 477.768 | 291.205 | 93.00 | n.a. | MB |
| **Total:** | | | 626.859 | 313.122 | 100.00 | 107.982 | |

## 67 JB53821-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:24** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP NP 12/3/13

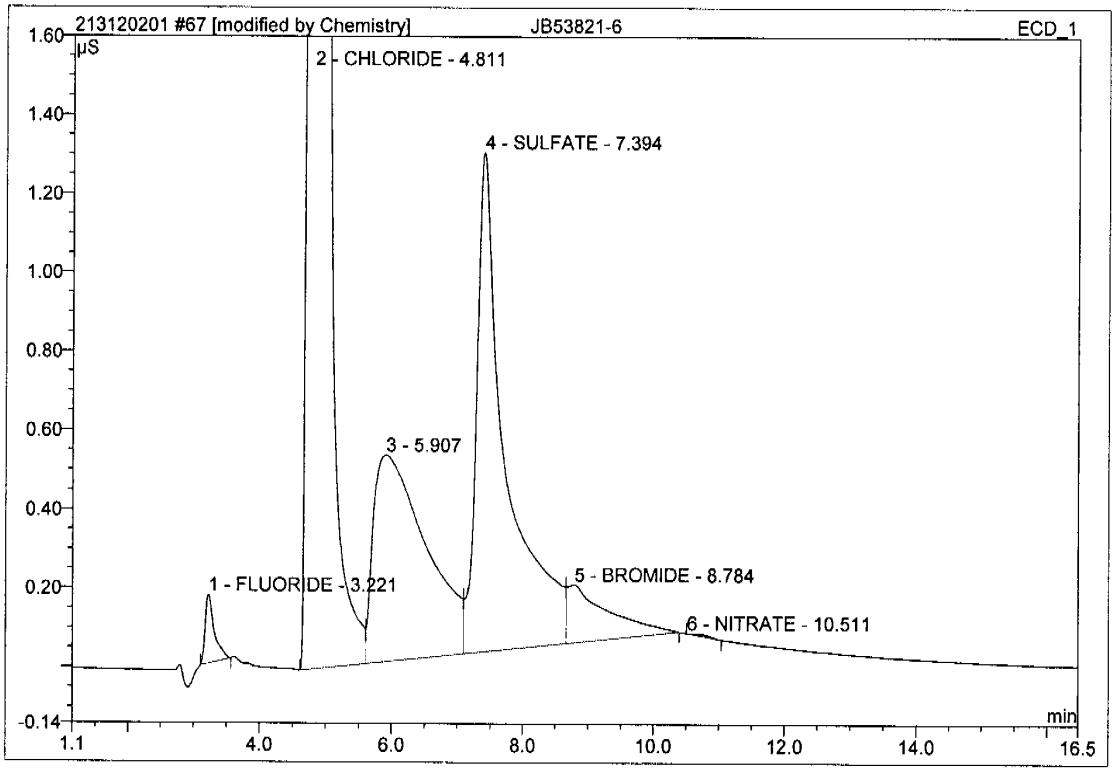
| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.174 | 0.028 | 0.16 | 0.082 | BMB* |
| 2 | 4.81 | CHLORIDE | 107.176 | 15.483 | 92.38 | 77.571 | BM |
| 3 | 5.91 | n.a. | 0.522 | 0.483 | 2.88 | n.a. | M |
| 4 | 7.39 | SULFATE | 1.265 | 0.658 | 3.92 | 4.516 ✓ | M * |
| 5 | 8.78 | BROMIDE | 0.147 | 0.106 | 0.63 | 1.043 | MB* |
| 6 | 10.51 | NITRATE | 0.000 | 0.001 | 0.01 | 0.003 | BMB |
| **Total:** | | | 109.284 | 16.760 | 100.00 | 83.214 | |

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213120201



# 67 JB53821-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:24** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.174 | 0.028 | 0.16 | 0.082 | BMB* |
| 2 | 4.81 | CHLORIDE | 107.176 | 15.483 | 92.38 | 77.571 | BM |
| 3 | 5.91 | n.a. | 0.522 | 0.483 | 2.88 | n.a. | M |
| 4 | 7.39 | SULFATE | 1.265 | 0.658 | 3.92 | 4.516 | M * |
| 5 | 8.78 | BROMIDE | 0.147 | 0.106 | 0.63 | 1.043 | MB* |
| 6 | 10.51 | NITRATE | 0.000 | 0.001 | 0.01 | 0.003 | BMB |
| **Total:** | | | 109.284 | 16.760 | 100.00 | 83.214 | |

DEFAULT/Integration

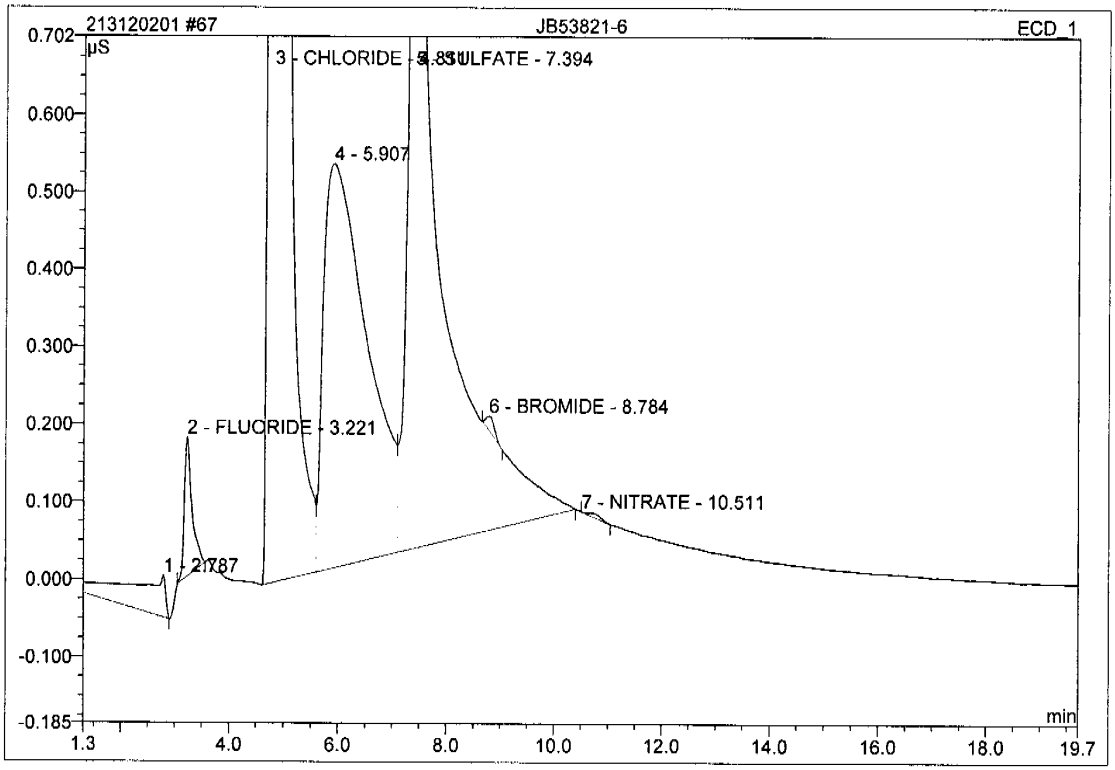
Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

Operator:Chemistry Timebase:ACCUTEST_SYS#2 Sequence:213120201


12/3/2013 9:53 AM

## 67 JB53821-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53821-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:24** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



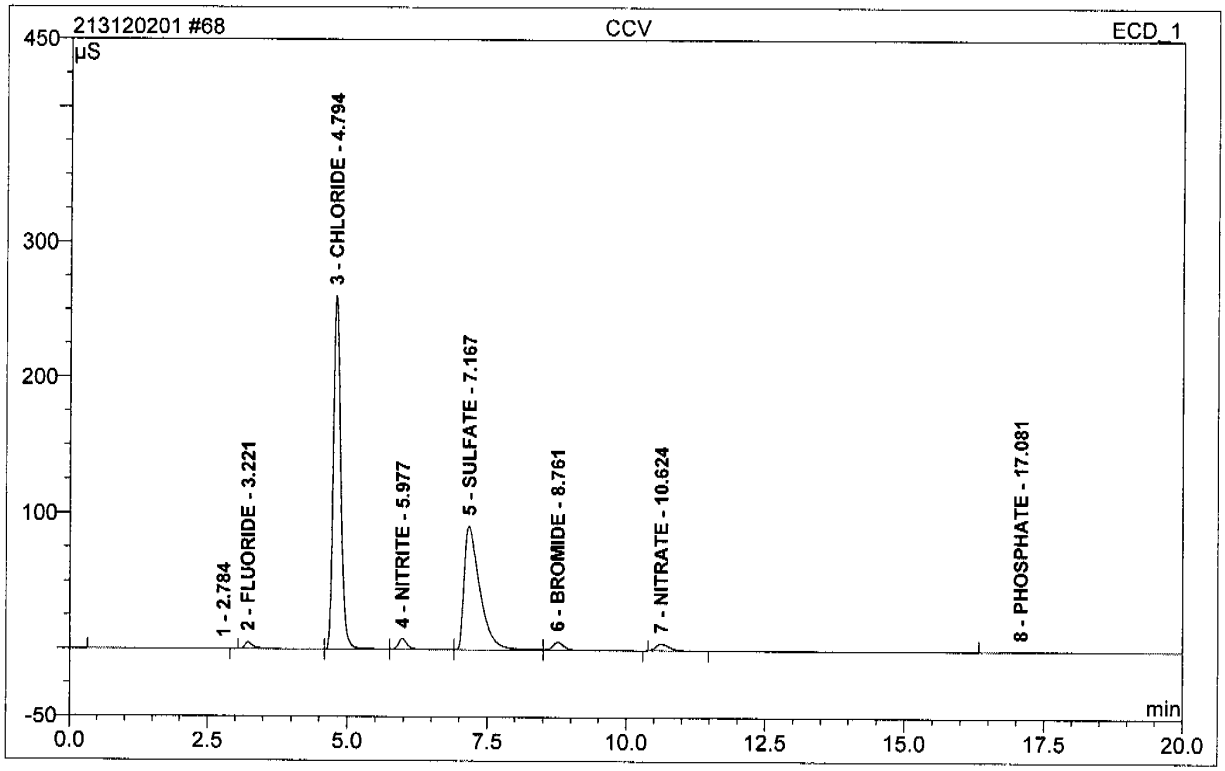

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.053 | 0.050 | 0.30 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.179 | 0.030 | 0.18 | 0.088 | BMB |
| 3 | 4.81 | CHLORIDE | 107.176 | 15.483 | 92.10 | 77.571 | BM |
| 4 | 5.91 | n.a. | 0.522 | 0.483 | 2.87 | n.a. | M |
| 5 | 7.39 | SULFATE | 1.265 | 0.761 | 4.52 | 5.222 | MB |
| 6 | 8.78 | BROMIDE | 0.018 | 0.003 | 0.02 | 0.033 | Rd |
| 7 | 10.51 | NITRATE | 0.000 | 0.001 | 0.01 | 0.003 | BMB |
| **Total:** | | | 109.214 | 16.811 | 100.00 | 82.918 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 68 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 8:48** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.038 | 0.037 | 0.05 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.934 | 0.896 | 1.19 | 2.675 | BM |
| 3 | 4.79 | CHLORIDE | 260.413 | 40.048 | 53.04 | 200.639 | M |
| 4 | 5.98 | NITRITE | 7.975 | 1.558 | 2.06 | 3.106 | M |
| 5 | 7.17 | SULFATE | 90.978 | 29.661 | 39.28 | 203.666 | M |
| 6 | 8.76 | BROMIDE | 5.922 | 1.469 | 1.95 | 14.409 | MB |
| 7 | 10.62 | NITRATE | 4.939 | 1.408 | 1.87 | 2.921 | BMB |
| 8 | 17.08 | PHOSPHATE | 0.398 | 0.431 | 0.57 | 2.419 | BMB |
| Total: | | | 375.597 | 75.509 | 100.00 | 429.835 | |

200 200 100.32 101.83

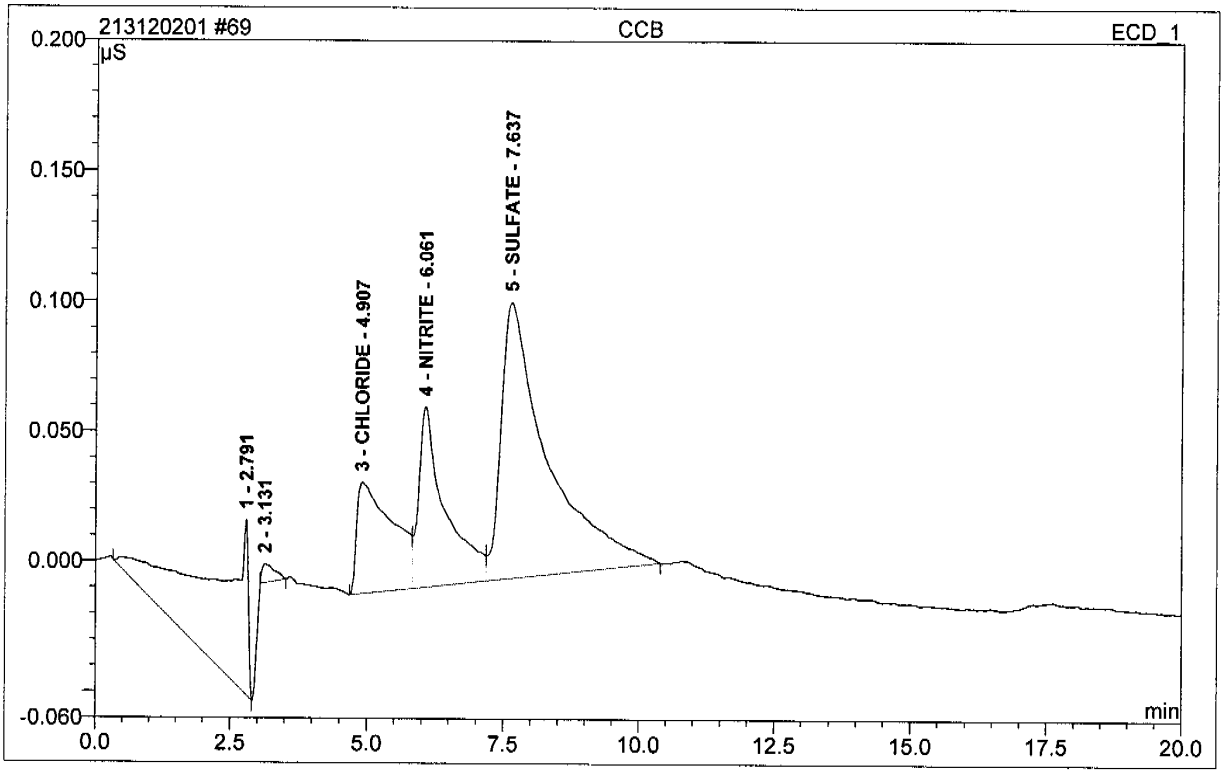
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

12.1 12

# 69 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 9:12** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.067 | 0.057 | 24.08 | n.a. | BMB |
| 2 | 3.13 | n.a. | 0.007 | 0.002 | 0.78 | n.a. | BMB |
| 3 | 4.91 | CHLORIDE | 0.043 | 0.032 | 13.68 | 0.161 | BM |
| 4 | 6.06 | NITRITE | 0.069 | 0.039 | 16.64 | 0.078 | M |
| 5 | 7.64 | SULFATE | 0.106 | 0.105 | 44.82 | 0.724 | MB |
| **Total:** | | | 0.293 | 0.235 | 100.00 | 0.964 | |

New England ACCUTEST LABORATORIES

Reissue #1
12/24/13



Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.02I.03

Accutest Job Number: MC26484

Sampling Date: 11/21/13

Report to:

Sovereign Consulting

spassafaro@sovcon.com

ATTN: Steve Passafaro

Total number of pages in report: **611**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



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ACCUTEST
LABORATORIES

Steve Passafaro
Sovereign Consulting
905B South Main Street
Mansfield, MA 02048

December 24, 2013

Accutest Job MC26484 (revision 1)

Mr. Passafaro,

The report of Accutest job number MC26484 has been revised to report dissolved metals as ppm instead of ppb to match what is requested in the QAPP/eQAPP This change has been incorporated into the revised report which is attached.

Sincerely,

Jeremy Vienneau
Accutest Laboratories of New England, Inc.

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# Sample Summary

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC26484-1 | 11/21/13 | 08:50 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-02-112113 |
| MC26484-1F | 11/21/13 | 08:50 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-02-112113 |
| MC26484-2 | 11/21/13 | 09:00 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-01-112113 |
| MC26484-2F | 11/21/13 | 09:00 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-01-112113 |
| MC26484-3 | 11/21/13 | 00:00 | JGEF | 11/21/13 | AQ | Ground Water | DUPLICATE-112113 |
| MC26484-3F | 11/21/13 | 00:00 | JGEF | 11/21/13 | AQ | Groundwater Filtered | DUPLICATE-112113 |
| MC26484-4 | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-06-112113 |
| MC26484-4D | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Water Dup/MSD | SHM-13-06-112113 |
| MC26484-4F | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-06-112113 |
| MC26484-4FD | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Water Dup/MSD | SHM-13-06-112113 |
| MC26484-4FS | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Water Matrix Spike | SHM-13-06-112113 |
| MC26484-4S | 11/21/13 | 09:36 | JGEF | 11/21/13 | AQ | Water Matrix Spike | SHM-13-06-112113 |
| MC26484-5 | 11/21/13 | 10:40 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-05-112113 |

# Sample Summary
(continued)

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| MC26484-5F | 11/21/13 | 10:40 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-05-112113 |
| MC26484-6 | 11/21/13 | 11:22 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-07-112113 |
| MC26484-6F | 11/21/13 | 11:22 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-07-112113 |
| MC26484-7 | 11/21/13 | 11:45 | JGEF | 11/21/13 | AQ | Ground Water | SHM-13-08-112113 |
| MC26484-7F | 11/21/13 | 11:45 | JGEF | 11/21/13 | AQ | Groundwater Filtered | SHM-13-08-112113 |
| MC26484-8F | 11/21/13 | 11:52 | JGEF | 11/21/13 | AQ | Equip Blank Filtered | RB-112113 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Sovereign Consulting **Job No** MC26484

**Site:** Shepley's Hill (SHL), Devens, MA **Report Date** 12/13/2013 5:05:33 PM

8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 11/21/2013 and were received at Accutest on 11/21/2013 properly preserved, at 0.6 Deg. C and intact. These Samples received an Accutest job number of MC26484. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals By Method SW846 6010C

**Matrix:** AQ **Batch ID:** MP22178A

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4FMS, MC26484-4FMSD, MC26484-4FSDL, MC26484-4FPS were used as the QC samples for metals.
- MP22178A-S1 for Iron: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- MC26484-4F for Iron: Matrix spike and matrix spike duplicate recoveries outside of the control limits. Post-digestion spike recovery outside of the control limit.
- MP22178A-PS1 for Iron: Post-digestion spike recovery outside of the control limit.
- MSD Recovery(s) for Iron: Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

## Metals By Method SW846 6020A

**Matrix:** AQ **Batch ID:** MP22168

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26418-1FMS, MC26418-1FMSD, MC26418-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP22168-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

**Matrix:** AQ **Batch ID:** MP22178

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4FMS, MC26484-4FMSD, MC26484-4FSDL were used as the QC samples for metals.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** N:GP76423

- MC26484-1-7 for Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

## Wet Chemistry By Method EPA 353.2

**Matrix:** AQ **Batch ID:** GP16952

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-7DUP, MC26484-7MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

**Matrix:** AQ **Batch ID:** GP16954

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

**Matrix:** AQ **Batch ID:** R34120

- MC26484-1-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

## Wet Chemistry By Method SM 21 4500 NO2 B

**Matrix:** AQ **Batch ID:** GP16920

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Nitrogen, Nitrite.

## Wet Chemistry By Method SM18 4500NH3-C

**Matrix:** AQ **Batch ID:** GP16945

- All samples were distilled and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Nitrogen, Ammonia.

## Wet Chemistry By Method SM21 2320B

**Matrix:** AQ **Batch ID:** GN45308

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Alkalinity, Total as CaCO3.

**Matrix:** AQ **Batch ID:** GN45341

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-6DUP, MC26484-6MS were used as the QC samples for Alkalinity, Total as CaCO3.

## Wet Chemistry By Method SM21 4500 S F

| Matrix: AQ | Batch ID: GN45262 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Sulfide.

| Matrix: AQ | Batch ID: GN45263 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-5DUP, MC26484-5MS were used as the QC samples for Sulfide.

## Wet Chemistry By Method SM21 4500CL C

| Matrix: AQ | Batch ID: GN45295 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4DUP, MC26484-4MS were used as the QC samples for Chloride.

## Wet Chemistry By Method SM21 5310 B

| Matrix: AQ | Batch ID: GN45354 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-4FDUP, MC26484-4FMS were used as the QC samples for Dissolved Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC26484).

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Accutest Labs of New England, Inc. | **Job No** | MC26484 |
| **Site:** | SCMAW: Shepley's Hill (SHL), Devens, MA | **Report Date** | 12/5/2013 3:02:45 PM |

On 11/27/2013, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC26484 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Wet Chemistry By Method EPA 300/SW846 9056A

**Matrix:** AQ **Batch ID:** GP76423

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC26484-1MS, MC26484-4DUP, MC26484-4MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# Summary of Hits



**Job Number:** MC26484
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/21/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC26484-1** | **SHM-13-02-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 161 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 8.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.14 | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Sulfate [a] | | 5.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-1F** | **SHM-13-02-112113** | | | | | |
| Arsenic | | 0.0027 J | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 40.6 | 25 | 0.75 | mg/l | SW846 6010C |
| Iron | | 0.250 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 3.74 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 9.49 | 0.075 | 0.013 | mg/l | SW846 6010C |
| Potassium | | 2.39 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 12.3 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.9 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-2** | **SHM-13-01-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 25.3 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 32.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [b] | | 0.46 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.46 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [a] | | 11.9 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-2F** | **SHM-13-01-112113** | | | | | |
| Arsenic | | 0.0022 J | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 3.75 J | 5.0 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 0.415 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.0074 J | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 0.801 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 31.1 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 0.82 J | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-3** | **DUPLICATE-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 26.4 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 33.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Nitrate [b] | | 0.45 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.45 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [a] | | 11.7 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |

# Summary of Hits

**Job Number:** MC26484
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/21/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **MC26484-3F** | **DUPLICATE-112113** | | | | | |
| Arsenic | | 0.0022 J | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 3.81 J | 5.0 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 0.402 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.0076 J | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 0.818 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 31.7 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 0.75 J | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-4** | **SHM-13-06-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 33.0 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 145 | 10 | 6.0 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.8 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [b] | | 0.24 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.24 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [a] | | 11.4 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-4F** | **SHM-13-06-112113** | | | | | |
| Arsenic | | 2.54 | 0.10 | 0.050 | mg/l | SW846 6020A |
| Calcium | | 18.6 | 5.0 | 0.15 | mg/l | SW846 6010C |
| Iron [c] | | 39.9 J | 0.50 | 0.15 | mg/l | SW846 6010C |
| Magnesium | | 1.91 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 2.49 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 3.92 J | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 59.4 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.5 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-5** | **SHM-13-05-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 425 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 41.5 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 0.095 J | 0.10 | 0.087 | mg/l | SM18 4500NH3-C |
| Sulfate [a] | | 11.4 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-5F** | **SHM-13-05-112113** | | | | | |
| Arsenic | | 0.0068 | 0.0040 | 0.0020 | mg/l | SW846 6020A |
| Calcium | | 116 | 50 | 1.5 | mg/l | SW846 6010C |
| Iron | | 1.86 | 0.10 | 0.030 | mg/l | SW846 6010C |
| Magnesium | | 19.8 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 5.72 | 0.075 | 0.013 | mg/l | SW846 6010C |
| Potassium | | 8.91 | 5.0 | 0.50 | mg/l | SW846 6010C |

# Summary of Hits

**Job Number:** MC26484
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/21/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| Sodium | | 40.0 | 25 | 1.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 4.5 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-6** | **SHM-13-07-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 44.9 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 225 | 10 | 6.0 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 2.4 | 0.20 | 0.17 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [b] | | 0.26 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.27 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Nitrogen, Nitrite | | 0.0052 J | 0.010 | 0.0051 | mg/l | SM 21 4500 NO2 B |
| Sulfate [a] | | 12.1 | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-6F** | **SHM-13-07-112113** | | | | | |
| Arsenic | | 1.34 | 0.10 | 0.050 | mg/l | SW846 6020A |
| Calcium | | 20.9 | 10 | 0.30 | mg/l | SW846 6010C |
| Iron | | 30.0 | 0.20 | 0.060 | mg/l | SW846 6010C |
| Magnesium | | 2.72 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 2.71 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 5.31 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 126 | 50 | 2.0 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 1.6 | 1.0 | 0.69 | mg/l | SM21 5310 B |
| **MC26484-7** | **SHM-13-08-112113** | | | | | |
| Alkalinity, Total as CaCO3 | | 116 | 5.0 | 3.0 | mg/l | SM21 2320B |
| Chloride | | 8.0 | 1.0 | 0.60 | mg/l | SM21 4500CL C |
| Nitrogen, Ammonia | | 5.1 | 0.50 | 0.44 | mg/l | SM18 4500NH3-C |
| Nitrogen, Nitrate [b] | | 0.15 | 0.11 | 0.059 | mg/l | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | | 0.15 | 0.10 | 0.054 | mg/l | EPA 353.2 |
| Sulfate [a] | | 3.7 J | 10 | 0.50 | mg/l | EPA 300/SW846 9056A |
| **MC26484-7F** | **SHM-13-08-112113** | | | | | |
| Arsenic | | 0.994 | 0.040 | 0.020 | mg/l | SW846 6020A |
| Calcium | | 23.2 | 10 | 0.30 | mg/l | SW846 6010C |
| Iron | | 35.4 | 0.20 | 0.060 | mg/l | SW846 6010C |
| Magnesium | | 4.08 J | 5.0 | 0.20 | mg/l | SW846 6010C |
| Manganese | | 0.826 | 0.015 | 0.0025 | mg/l | SW846 6010C |
| Potassium | | 8.60 | 5.0 | 0.50 | mg/l | SW846 6010C |
| Sodium | | 11.6 | 5.0 | 0.20 | mg/l | SW846 6010C |
| Dissolved Organic Carbon | | 3.2 | 1.0 | 0.69 | mg/l | SM21 5310 B |

# Summary of Hits

**Job Number:** MC26484
**Account:** Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Collected:** 11/21/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|

**MC26484-8F** **RB-112113**

No hits reported in this sample.

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(c) Matrix spike and matrix spike duplicate recoveries outside of the control limits. Post-digestion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES



Sample Results

Report of Analysis

# Report of Analysis





**Client Sample ID:** SHM-13-02-112113
**Lab Sample ID:** MC26484-1
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 161 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 8.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.14 | 0.10 | 0.087 | mg/l | 1 | 11/26/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:57 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:57 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 10:57 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 5.7 J | 10 | 0.50 | mg/l | 1 | 12/04/13 00:30 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-02-112113
**Lab Sample ID:** MC26484-1F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0027 J | 0.0040 | 0.0020 | mg/l | 2 | 12/03/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 40.6 | 25 | 0.75 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 0.250 | 0.10 | 0.030 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 3.74 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 9.49 | 0.075 | 0.013 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Potassium | 2.39 J | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 12.3 | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-02-112113 | | |
| **Lab Sample ID:** | MC26484-1F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.9 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 18:18 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-01-112113
**Lab Sample ID:** MC26484-2
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 25.3 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 32.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.087 U | 0.10 | 0.087 | mg/l | 1 | 11/26/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.46 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:58 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.46 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:58 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 10:57 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 11.9 | 10 | 0.50 | mg/l | 1 | 12/04/13 01:42 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-112113 | | |
| **Lab Sample ID:** | MC26484-2F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0022 J | 0.0040 | 0.0020 | mg/l | 2 | 12/03/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 3.75 J | 5.0 | 0.15 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Iron | 0.030 U | 0.10 | 0.030 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 0.415 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.0074 J | 0.015 | 0.0025 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 0.801 J | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 31.1 | 25 | 1.0 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-01-112113 | | |
| **Lab Sample ID:** | MC26484-2F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.82 J | 1.0 | 0.69 | mg/l | 1 | 12/04/13 18:31 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-112113
**Lab Sample ID:** MC26484-3
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 26.4 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 33.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.087 U | 0.10 | 0.087 | mg/l | 1 | 11/26/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.45 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:00 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.45 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:00 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 10:57 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 11.7 | 10 | 0.50 | mg/l | 1 | 12/04/13 02:06 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** DUPLICATE-112113
**Lab Sample ID:** MC26484-3F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0022 J | 0.0040 | 0.0020 | mg/l | 2 | 12/03/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 3.81 J | 5.0 | 0.15 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Iron | 0.030 U | 0.10 | 0.030 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 0.402 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.0076 J | 0.015 | 0.0025 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 0.818 J | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 31.7 | 25 | 1.0 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUPLICATE-112113 | | |
| **Lab Sample ID:** | MC26484-3F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 0.75 J | 1.0 | 0.69 | mg/l | 1 | 12/04/13 18:44 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-06-112113
**Lab Sample ID:** MC26484-4
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 33.0 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 145 | 10 | 6.0 | mg/l | 10 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.8 | 0.20 | 0.17 | mg/l | 2 | 11/26/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.24 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:56 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.24 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:56 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 10:57 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 11.4 | 10 | 0.50 | mg/l | 1 | 12/03/13 23:42 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-06-112113
**Lab Sample ID:** MC26484-4F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 2.54 | 0.10 | 0.050 | mg/l | 50 | 12/03/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 18.6 | 5.0 | 0.15 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Iron [a] | 39.9 J | 0.50 | 0.15 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 1.91 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 2.49 | 0.015 | 0.0025 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 3.92 J | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 59.4 | 25 | 1.0 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

(a) Matrix spike and matrix spike duplicate recoveries outside of the control limits. Post-digestion spike recovery outside of the control limit.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-06-112113 | | |
| **Lab Sample ID:** | MC26484-4F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.5 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 18:05 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-05-112113
**Lab Sample ID:** MC26484-5
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 425 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 41.5 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 0.095 J | 0.10 | 0.087 | mg/l | 1 | 11/26/13 16:10 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.059 U | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:01 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.054 U | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:01 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 10:57 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 11.4 | 10 | 0.50 | mg/l | 1 | 12/04/13 02:30 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-05-112113
**Lab Sample ID:** MC26484-5F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0068 | 0.0040 | 0.0020 | mg/l | 2 | 12/03/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 116 | 50 | 1.5 | mg/l | 10 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 1.86 | 0.10 | 0.030 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Magnesium | 19.8 | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 5.72 | 0.075 | 0.013 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Potassium | 8.91 | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 40.0 | 25 | 1.0 | mg/l | 5 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16504
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-05-112113 | | |
| **Lab Sample ID:** | MC26484-5F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 4.5 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 18:57 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-07-112113
**Lab Sample ID:** MC26484-6
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 44.9 | 5.0 | 3.0 | mg/l | 1 | 12/02/13 | CF | SM21 2320B |
| Chloride | 225 | 10 | 6.0 | mg/l | 10 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 2.4 | 0.20 | 0.17 | mg/l | 2 | 11/26/13 16:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.26 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 14:05 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.27 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 14:05 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0052 J | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 11:00 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 12.1 | 10 | 0.50 | mg/l | 1 | 12/04/13 02:54 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-07-112113
**Lab Sample ID:** MC26484-6F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 1.34 | 0.10 | 0.050 | mg/l | 50 | 12/03/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 20.9 | 10 | 0.30 | mg/l | 2 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 30.0 | 0.20 | 0.060 | mg/l | 2 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 2.72 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 2.71 | 0.015 | 0.0025 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 5.31 | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 126 | 50 | 2.0 | mg/l | 10 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-07-112113 | | |
| **Lab Sample ID:** | MC26484-6F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 1.6 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 19:36 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-08-112113
**Lab Sample ID:** MC26484-7
**Matrix:** AQ - Ground Water
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | 116 | 5.0 | 3.0 | mg/l | 1 | 11/27/13 | CF | SM21 2320B |
| Chloride | 8.0 | 1.0 | 0.60 | mg/l | 1 | 11/27/13 | MC | SM21 4500CL C |
| Nitrogen, Ammonia | 5.1 | 0.50 | 0.44 | mg/l | 5 | 11/26/13 16:20 | BF | SM18 4500NH3-C |
| Nitrogen, Nitrate [a] | 0.15 | 0.11 | 0.059 | mg/l | 1 | 11/27/13 13:08 | MC | EPA 353.2 |
| Nitrogen, Nitrate + Nitrite | 0.15 | 0.10 | 0.054 | mg/l | 1 | 11/27/13 13:08 | MC | EPA 353.2 |
| Nitrogen, Nitrite | 0.0051 U | 0.010 | 0.0051 | mg/l | 1 | 11/22/13 11:00 | CF | SM 21 4500 NO2 B |
| Sulfate [b] | 3.7 J | 10 | 0.50 | mg/l | 1 | 12/04/13 03:18 | ANJ | EPA 300/SW846 9056A |
| Sulfide | 1.5 U | 2.0 | 1.5 | mg/l | 1 | 11/25/13 | BF | SM21 4500 S F |

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





**Client Sample ID:** SHM-13-08-112113
**Lab Sample ID:** MC26484-7F
**Matrix:** AQ - Groundwater Filtered
**Project:** Shepley's Hill (SHL), Devens, MA

**Date Sampled:** 11/21/13
**Date Received:** 11/21/13
**Percent Solids:** n/a

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.994 | 0.040 | 0.020 | mg/l | 20 | 12/03/13 | 12/04/13 | SA | SW846 6020A [1] | SW846 3010A [4] |
| Calcium | 23.2 | 10 | 0.30 | mg/l | 2 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Iron | 35.4 | 0.20 | 0.060 | mg/l | 2 | 12/03/13 | 12/12/13 | EAL | SW846 6010C [3] | SW846 3010A [5] |
| Magnesium | 4.08 J | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Manganese | 0.826 | 0.015 | 0.0025 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Potassium | 8.60 | 5.0 | 0.50 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |
| Sodium | 11.6 | 5.0 | 0.20 | mg/l | 1 | 12/03/13 | 12/09/13 | EAL | SW846 6010C [2] | SW846 3010A [5] |

(1) Instrument QC Batch: MA16521
(2) Instrument QC Batch: MA16536
(3) Instrument QC Batch: MA16557
(4) Prep QC Batch: MP22178
(5) Prep QC Batch: MP22178A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SHM-13-08-112113 | | |
| **Lab Sample ID:** | MC26484-7F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Groundwater Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**General Chemistry**

| Analyte | Result | LOQ | LOD | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Dissolved Organic Carbon | 3.2 | 1.0 | 0.69 | mg/l | 1 | 12/04/13 19:49 | MA | SM21 5310 B |

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | RB-112113 | | |
| **Lab Sample ID:** | MC26484-8F | **Date Sampled:** | 11/21/13 |
| **Matrix:** | AQ - Equip Blank Filtered | **Date Received:** | 11/21/13 |
| | | **Percent Solids:** | n/a |
| **Project:** | Shepley's Hill (SHL), Devens, MA | | |

**Dissolved Metals Analysis**

| Analyte | Result | LOQ | LOD | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0020 U | 0.0040 | 0.0020 | mg/l | 2 | 12/02/13 | 12/03/13 | SA | SW846 6020A [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA16504
(2) Prep QC Batch: MP22168

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST LABORATORIES

*Accutest New England*
495 Technology Center West, Building 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC26484

**Client / Reporting Information**

Company Name: Sovereign Consulting Inc.
Street Address: 16 Chestnut Street Suite 520
City: Foxborough State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail: spassafaro@sovcon.com
Phone #: (508) 339-3200 Fax #: (508) 339-3248
Sampler(s) Name(s): Sovereign Staff Phone #:

**Project Information**

Project Name: SHL-Devens
Street:
City: Devens State: MA
Project #: AC001.021.03
Client Purchase Order # State: Zip:
Project Manager: Steve Passafaro

**Requested Analysis ( see TEST CODE sheet)**

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

| Accutest Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Matrix | # of bottles | Number of preserved Bottles: HCl | NaOH | HNO3 | H2SO4 | NONE | DI Water | MEOH | ENCORE | Pres Field | Dissolved As - 6020A | Dissolved Metals List - 6010C | Alkalinity - 2320B | Chloride 4500CL-C | Ammonia -4500NH3-BC | Nitrate/Nitrite - 353.2 | Sulfate - 300.0 | Sulfide - 4500S-2F | Dissolved Organic Carbon -5310BM | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -1F | SHM-13-02-112113 | | 11-21-13 | 0850 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | V | V | V | |
| -2F | SHM-13-03-112113 | | 11-21-13 | 0900 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | V | V | V | |
| -3F | Duplicate - 112113 | | 11-21-13 | 00:00 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | V | V | X | X | X | X | V | V | V | |
| -4F | SHM-13-06-112113 | | 11-21-13 | 0936 | JG | GW | 24 | | 3 | 3 | 3 | 6 | | | | 9 | V | V | X | X | X | X | V | V | V | |
| -5F | SHM-13-05-112113 | | 11-21-13 | 1040 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | X | X | X | X | X | X | X | |
| -6F | SHM-13-07-112113 | | 11-21-13 | 1122 | JG | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | X | V | V | X | V | V | X | X | |
| -7F | SHM-13-08-112113 | | 11-21-13 | 1145 | EF | GW | 8 | | 1 | 1 | 1 | 2 | | | | 3 | X | V | X | X | X | X | X | V | X | |
| -8F | RB-112113 | | 11-21-13 | 1152 | CS | AQ | 1 | CP | 1 | | | | | | | | X | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 13E, EX |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Turnaround Time ( Business days)**

- [X] Std. 14 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved by: _____

**Data Deliverable Information**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" ( Level 2)
- [ ] FULT1 ( Level 3+4)
- [ ] MAMCP
- [ ] CTRCP
- [ ] State Forms
- [ ] EDD Format _____
- [X] Other See QAPP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

**Comments / Special Instructions**

See Project QAPP for all specfic project requirements
Metals and DOC samples were field filtered.
6020C Metals List = Ca, Fe, Mg, Mn, K, Na
SDG No: 002 Open and Close
Extra vol. collect for MS/MSD at SHM-13-06

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | [signature] | 11/21/13 1230 | 1 [signature] | 2 [signature] | 11/21/13 1450 | 2 [signature] |
| 3 | | | 3 | 4 | | 4 |
| 5 | | | 5 | Custody Seal # | ☐ Intact ☐ Not Intact | Preserved where applicable ☐ On Ice ☑ Cooler Temp: 0.6° 1.0°c |

**MC26484: Chain of Custody**
**Page 1 of 2**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC26484 **Client:** SOVEREIGN **Immediate Client Services Action Required:** No

**Date / Time Received:** 11/21/2013 **Delivery Method:** **Client Service Action Required at Login:** No

**Project:** SHL DEVENS SDG002 **No. Coolers:** 2 **Airbill #'s:**

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | Infared gun | |
| 3. Cooler media: | Ice (bag) | |

| Quality Control Preservation | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☑ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☑ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com



**MC26484: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26484-1 Collected: 21-NOV-13 08:50 By: JGEF Received: 21-NOV-13 By: SHM-13-02-112113 | | | | | | |
| MC26484-1 | SM 21 4500 NO2 B | 22-NOV-13 10:57 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-1 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-1 | SM18 4500NH3-C | 26-NOV-13 16:10 | BF | 26-NOV-13 | BF | AMN |
| MC26484-1 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-1 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-1 | EPA 353.2 | 27-NOV-13 13:57 | MC | | | NO3O |
| MC26484-1 | EPA 353.2 | 27-NOV-13 13:57 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-1 | EPA 300/SW846 9056A | 04-DEC-13 00:30 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-2 Collected: 21-NOV-13 09:00 By: JGEF Received: 21-NOV-13 By: SHM-13-01-112113 | | | | | | |
| MC26484-2 | SM 21 4500 NO2 B | 22-NOV-13 10:57 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-2 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-2 | SM18 4500NH3-C | 26-NOV-13 16:10 | BF | 26-NOV-13 | BF | AMN |
| MC26484-2 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-2 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-2 | EPA 353.2 | 27-NOV-13 13:58 | MC | | | NO3O |
| MC26484-2 | EPA 353.2 | 27-NOV-13 13:58 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-2 | EPA 300/SW846 9056A | 04-DEC-13 01:42 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-3 Collected: 21-NOV-13 00:00 By: JGEF Received: 21-NOV-13 By: DUPLICATE-112113 | | | | | | |
| MC26484-3 | SM 21 4500 NO2 B | 22-NOV-13 10:57 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-3 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-3 | SM18 4500NH3-C | 26-NOV-13 16:10 | BF | 26-NOV-13 | BF | AMN |
| MC26484-3 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-3 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-3 | EPA 353.2 | 27-NOV-13 14:00 | MC | | | NO3O |
| MC26484-3 | EPA 353.2 | 27-NOV-13 14:00 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-3 | EPA 300/SW846 9056A | 04-DEC-13 02:06 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-4 Collected: 21-NOV-13 09:36 By: JGEF Received: 21-NOV-13 By: SHM-13-06-112113 | | | | | | |
| MC26484-4 | SM 21 4500 NO2 B | 22-NOV-13 10:57 | CF | 22-NOV-13 | CF | NO2 |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26484-4 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-4 | SM18 4500NH3-C | 26-NOV-13 16:10 | BF | 26-NOV-13 | BF | AMN |
| MC26484-4 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-4 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-4 | EPA 353.2 | 27-NOV-13 13:56 | MC | | | NO3O |
| MC26484-4 | EPA 353.2 | 27-NOV-13 13:56 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-4 | EPA 300/SW846 9056A | 03-DEC-13 23:42 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-5 Collected: 21-NOV-13 10:40 By: JGEF Received: 21-NOV-13 By: SHM-13-05-112113 | | | | | | |
| MC26484-5 | SM 21 4500 NO2 B | 22-NOV-13 10:57 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-5 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-5 | SM18 4500NH3-C | 26-NOV-13 16:10 | BF | 26-NOV-13 | BF | AMN |
| MC26484-5 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-5 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-5 | EPA 353.2 | 27-NOV-13 14:01 | MC | | | NO3O |
| MC26484-5 | EPA 353.2 | 27-NOV-13 14:01 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-5 | EPA 300/SW846 9056A | 04-DEC-13 02:30 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-6 Collected: 21-NOV-13 11:22 By: JGEF Received: 21-NOV-13 By: SHM-13-07-112113 | | | | | | |
| MC26484-6 | SM 21 4500 NO2 B | 22-NOV-13 11:00 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-6 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-6 | SM18 4500NH3-C | 26-NOV-13 16:20 | BF | 26-NOV-13 | BF | AMN |
| MC26484-6 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |
| MC26484-6 | EPA 353.2 | 27-NOV-13 14:05 | MC | | | NO3O |
| MC26484-6 | EPA 353.2 | 27-NOV-13 14:05 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-6 | SM21 2320B | 02-DEC-13 | CF | | | ALK |
| MC26484-6 | EPA 300/SW846 9056A | 04-DEC-13 02:54 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-7 Collected: 21-NOV-13 11:45 By: JGEF Received: 21-NOV-13 By: SHM-13-08-112113 | | | | | | |
| MC26484-7 | SM 21 4500 NO2 B | 22-NOV-13 11:00 | CF | 22-NOV-13 | CF | NO2 |
| MC26484-7 | SM21 4500 S F | 25-NOV-13 | BF | | | S |
| MC26484-7 | SM18 4500NH3-C | 26-NOV-13 16:20 | BF | 26-NOV-13 | BF | AMN |
| MC26484-7 | SM21 2320B | 27-NOV-13 | CF | | | ALK |
| MC26484-7 | SM21 4500CL C | 27-NOV-13 | MC | | | CHL |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26484-7 | EPA 353.2 | 27-NOV-13 13:08 | MC | | | NO3O |
| MC26484-7 | EPA 353.2 | 27-NOV-13 13:08 | MC | 27-NOV-13 | MC | NO32 |
| MC26484-7 | EPA 300/SW846 9056A | 04-DEC-13 03:18 | ANJ | 03-DEC-13 | | SO4 |
| MC26484-1F | Collected: 21-NOV-13 08:50 By: JGEF SHM-13-02-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-1F | SW846 6020A | 03-DEC-13 18:49 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-1F | SM21 5310 B | 04-DEC-13 18:18 | MA | | | DOC |
| MC26484-1F | SW846 6010C | 09-DEC-13 17:43 | EAL | 03-DEC-13 | SA | FE,K,MG,NA |
| MC26484-1F | SW846 6010C | 12-DEC-13 22:06 | EAL | 03-DEC-13 | SA | CA,MN |
| MC26484-2F | Collected: 21-NOV-13 09:00 By: JGEF SHM-13-01-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-2F | SW846 6020A | 03-DEC-13 18:56 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-2F | SM21 5310 B | 04-DEC-13 18:31 | MA | | | DOC |
| MC26484-2F | SW846 6010C | 09-DEC-13 17:48 | EAL | 03-DEC-13 | SA | CA,FE,K,MG,MN |
| MC26484-2F | SW846 6010C | 12-DEC-13 22:11 | EAL | 03-DEC-13 | SA | NA |
| MC26484-3F | Collected: 21-NOV-13 00:00 By: JGEF DUPLICATE-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-3F | SW846 6020A | 03-DEC-13 19:03 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-3F | SM21 5310 B | 04-DEC-13 18:44 | MA | | | DOC |
| MC26484-3F | SW846 6010C | 09-DEC-13 17:53 | EAL | 03-DEC-13 | SA | CA,FE,K,MG,MN |
| MC26484-3F | SW846 6010C | 12-DEC-13 22:16 | EAL | 03-DEC-13 | SA | NA |
| MC26484-4F | Collected: 21-NOV-13 09:36 By: JGEF SHM-13-06-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-4F | SM21 5310 B | 04-DEC-13 18:05 | MA | | | DOC |
| MC26484-4F | SW846 6020A | 04-DEC-13 19:16 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-4F | SW846 6010C | 09-DEC-13 17:18 | EAL | 03-DEC-13 | SA | CA,K,MG,MN |
| MC26484-4F | SW846 6010C | 12-DEC-13 21:32 | EAL | 03-DEC-13 | SA | FE,NA |
| MC26484-5F | Collected: 21-NOV-13 10:40 By: JGEF SHM-13-05-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-5F | SW846 6020A | 03-DEC-13 19:10 | SA | 03-DEC-13 | SA | ASMS |

# Internal Sample Tracking Chronicle

Sovereign Consulting

**Job No:** MC26484

Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26484-5E | SM21 5310 B | 04-DEC-13 18:57 | MA | | | DOC |
| MC26484-5E | SW846 6010C | 09-DEC-13 17:58 | EAL | 03-DEC-13 | SA | FE,K,MG |
| MC26484-5E | SW846 6010C | 12-DEC-13 22:21 | EAL | 03-DEC-13 | SA | MN,NA |
| MC26484-5E | SW846 6010C | 12-DEC-13 22:26 | EAL | 03-DEC-13 | SA | CA |
| MC26484-6E | Collected: 21-NOV-13 11:22 By: JGEF SHM-13-07-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-6E | SM21 5310 B | 04-DEC-13 19:36 | MA | | | DOC |
| MC26484-6E | SW846 6020A | 04-DEC-13 19:44 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-6E | SW846 6010C | 09-DEC-13 18:03 | EAL | 03-DEC-13 | SA | K,MG,MN |
| MC26484-6E | SW846 6010C | 12-DEC-13 22:31 | EAL | 03-DEC-13 | SA | CA,FE |
| MC26484-6E | SW846 6010C | 12-DEC-13 22:46 | EAL | 03-DEC-13 | SA | NA |
| MC26484-7E | Collected: 21-NOV-13 11:45 By: JGEF SHM-13-08-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-7E | SM21 5310 B | 04-DEC-13 19:49 | MA | | | DOC |
| MC26484-7E | SW846 6020A | 04-DEC-13 19:51 | SA | 03-DEC-13 | SA | ASMS |
| MC26484-7E | SW846 6010C | 09-DEC-13 18:08 | EAL | 03-DEC-13 | SA | K,MG,MN,NA |
| MC26484-7E | SW846 6010C | 12-DEC-13 22:51 | EAL | 03-DEC-13 | SA | CA,FE |
| MC26484-8E | Collected: 21-NOV-13 11:52 By: JGEF RB-112113 | | Received: 21-NOV-13 By: | | | |
| MC26484-8E | SW846 6020A | 03-DEC-13 17:26 | SA | 02-DEC-13 | EM | ASMS |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-1.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-1.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-1.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-1.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-1.1 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-1.1 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-1.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-1.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-1.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-1.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-1.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-1.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-1F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-1F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-1F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-1F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-1F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-1F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-2.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-2.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-2.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-2.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-2.1 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-2.1 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-2.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-2.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-2.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-2.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-2.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 11:30 | Retrieve from Storage |
| MC26484-2.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-2F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-2F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-2F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-2F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-2F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-2F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-3.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-3.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-3.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-3.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-3.2 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-3.2 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-3.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-3.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-3.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-3.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-3.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-3.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-3F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-3F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-3F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-3F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-3F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-3F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-4.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-4.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-4.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-4.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-4.1 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-4.1 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-4.7 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-4.7 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-4.8 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-4.8 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-4.9 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-4.9 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-4.10 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-4.10 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-4.10 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-4.10 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-4.11 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-4.11 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-4.12 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-4.12 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-4.12 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-4.12 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-4F.13 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-4F.13 | Kerry Ryan | Walk In Ref #5 | 12/03/13 12:55 | Return to Storage |
| MC26484-4F.14 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-4F.14 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-4F.15 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-4F.15 | Kerry Ryan | Walk In Ref #5 | 12/03/13 12:55 | Return to Storage |
| MC26484-4F.16 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-4F.16 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-4F.16 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-4F.16 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-4F.17 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-4F.17 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-4F.17 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-4F.17 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-4F.18 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-4F.18 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-4F.18 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-4F.18 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-4F.19 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-4F.19 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-4F.19 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-4F.19 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-5.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-5.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-5.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-5.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-5.1 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-5.1 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-5.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-5.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-5.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-5.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-5.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-5.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-5F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-5F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-5F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-5F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-5F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-5F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |
| MC26484-6.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-6.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-6.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-6.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-6.1 | Walk In Ref #9 | Crystall Woodruff | 12/02/13 15:38 | Retrieve from Storage |
| MC26484-6.1 | Crystall Woodruff | Walk In Ref #9 | 12/02/13 16:24 | Return to Storage |
| MC26484-6.2 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-6.2 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-6.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-6.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-6.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-6.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-6.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-6.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-6F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-6F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-6F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-6F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-6F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-6F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** SCMAW Sovereign Consulting
**Project:** Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-7.1 | Walk In Ref #9 | Crystall Woodruff | 11/22/13 10:02 | Retrieve from Storage |
| MC26484-7.1 | Crystall Woodruff | Walk In Ref #9 | 11/25/13 07:46 | Return to Storage |
| MC26484-7.1 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 07:38 | Retrieve from Storage |
| MC26484-7.1 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 10:05 | Return to Storage |
| MC26484-7.1 | Walk In Ref #9 | Kerry Ryan | 12/03/13 12:38 | Retrieve from Storage |
| MC26484-7.1 | Kerry Ryan | Walk In Ref #9 | 12/03/13 12:44 | Return to Storage |
| MC26484-7.3 | Walk In Ref #9 | Bijan Firowznin | 11/25/13 15:14 | Retrieve from Storage |
| MC26484-7.3 | Bijan Firowznin | | 11/25/13 16:54 | Depleted |
| MC26484-7.4 | Walk In Ref #9 | Bijan Firowznin | 11/26/13 09:00 | Retrieve from Storage |
| MC26484-7.4 | Bijan Firowznin | Walk In Ref #9 | 11/26/13 09:00 | Return to Storage |
| MC26484-7.4 | Walk In Ref #9 | Miranda Cardullo | 11/27/13 10:06 | Retrieve from Storage |
| MC26484-7.4 | Miranda Cardullo | Walk In Ref #9 | 11/27/13 15:36 | Return to Storage |
| MC26484-7F.5 | Walk In Ref #5 | Kerry Ryan | 12/03/13 12:45 | Retrieve from Storage |
| MC26484-7F.5 | Kerry Ryan | Walk In Ref #5 | 12/03/13 13:53 | Return to Storage |
| MC26484-7F.6 | Walk In Ref #9 | Mehdi Abdolrahim | 12/03/13 16:01 | Retrieve from Storage |
| MC26484-7F.6 | Mehdi Abdolrahim | TOC1 | 12/03/13 16:01 | Load on Instrument |
| MC26484-7F.6 | TOC1 | Mehdi Abdolrahim | 12/05/13 10:10 | Unload from Instrument |
| MC26484-7F.6 | Mehdi Abdolrahim | Walk In Ref #9 | 12/05/13 12:11 | Return to Storage |

New England ACCUTEST LABORATORIES



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:50 | MA16504-STD1 | 1 | | STDA |
| 11:57 | MA16504-STD2 | 1 | | STDB |
| 12:05 | MA16504-STD3 | 1 | | STDC |
| 12:12 | MA16504-STD4 | 1 | | STDD |
| 12:19 | MA16504-STD5 | 1 | | STDE |
| 12:26 | MA16504-STD6 | 1 | | STDF |
| 12:33 | MA16504-STD7 | 1 | | STDG |
| 12:40 | MA16504-STD8 | 1 | | STDH |
| 12:47 | MA16504-ICV1 | 1 | | |
| 12:54 | MA16504-ICB1 | 1 | | |
| 13:02 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CCV. |
| 13:13 | MA16504-CCV1 | 1 | | |
| 13:20 | MA16504-CCB1 | 1 | | |
| 13:28 | MA16504-CRI1 | 1 | | |
| 13:36 | MA16504-ICSA1 | 1 | | |
| 13:44 | MA16504-ICSAB1 | 1 | | |
| 13:58 | ZZZZZZ | 1 | | RINSECONF |
| 14:16 | MP22168-MB1 | 2 | | |
| 14:23 | MC26418-1F | 2 | | (sample used for QC only; not part of login MC26484) |
| 14:31 | MP22168-SD1 | 10 | | |
| 14:38 | ZZZZZZ | 2 | | |
| 14:45 | ZZZZZZ | 2 | | |
| 14:52 | ZZZZZZ | 2 | | |
| 14:59 | ZZZZZZ | 1 | | DNR: HIGH RSD, SEE RERUN. |
| 15:15 | MA16504-CCV2 | 1 | | |
| 15:25 | MA16504-CCB2 | 1 | | |
| 15:32 | ZZZZZZ | 2 | | |
| 15:39 | ZZZZZZ | 2 | | |
| 15:46 | ZZZZZZ | 2 | | |
| 15:53 | ZZZZZZ | 2 | | |
| 16:00 | ZZZZZZ | 2 | | |
| 16:07 | ZZZZZZ | 2 | | |
| 16:14 | ZZZZZZ | 2 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:21 | ZZZZZZ | 2 | | |
| 16:28 | ZZZZZZ | 2 | | |
| 16:35 | ZZZZZZ | 2 | | |
| 16:43 | MA16504-CCV3 | 1 | | |
| 17:05 | MA16504-CCB3 | 1 | | |
| 17:12 | ZZZZZZ | 2 | | |
| 17:19 | ZZZZZZ | 2 | | |
| 17:26 | MC26484-8F | 2 | | |
| 17:33 | MP22168-B1 | 25 | | |
| 17:40 | MP22168-S1 | 25 | | |
| 17:47 | MP22168-S2 | 25 | | |
| 17:57 | MA16504-CRI2 | 1 | | |
| 18:04 | MA16504-CCV4 | 1 | | |
| 18:13 | MA16504-CCB4 | 1 | | |
| 18:20 | MP22178-MB1 | 2 | | |
| 18:27 | MC26484-4F | 2 | | AS OVER RANGE. |
| 18:35 | MP22178-SD1 | 10 | | |
| 18:42 | ZZZZZZ | 2 | | |
| 18:49 | MC26484-1F | 2 | | |
| 18:56 | MC26484-2F | 2 | | |
| 19:03 | MC26484-3F | 2 | | |
| 19:10 | MC26484-5F | 2 | | |
| 19:17 | MC26484-6F | 2 | | |
| 19:24 | MC26484-7F | 2 | | |
| 19:31 | MA16504-CCV5 | 1 | | |
| 19:39 | MA16504-CCB5 | 1 | | |
| 19:46 | ZZZZZZ | 2 | | |
| 19:53 | ZZZZZZ | 2 | | |
| 20:00 | MP22178-B1 | 25 | | |
| 20:07 | MP22178-S1 | 25 | | AS OVER RANGE. |
| 20:14 | MP22178-S2 | 25 | | AS OVER RANGE. |
| ----------> | Last reportable sample/prep for job MC26484 | | | |
| 20:21 | ZZZZZZ | 1 | | RINSECONF |
| 20:29 | ZZZZZZ | 1 | | DNR: SEE RERUN FOR CRI. |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:36 | MA16504-CCV6 | 1 | | |
| 20:43 | MA16504-CCB6 | 1 | | |
| 20:50 | MA16504-CRI3 | 1 | | |
| 20:57 | MA16504-CCV7 | 1 | | |
| 21:04 | MA16504-CCB7 | 1 | | |

----------> Last reportable CCB for job MC26484
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 11:50 | MA16504-STD1 | 1993708 R | 2491942 R | 379286 R | 463522 R | 134805 R | 2265279 R | 2375722 R | 1034375 R |
| 11:57 | MA16504-STD2 | 1974962 | 2490373 | 376187 | 459278 | 134645 | 2241398 | 2358051 | 1030933 |
| 12:05 | MA16504-STD3 | 1964192 | 2496029 | 377317 | 454772 | 133755 | 2231665 | 2346415 | 1032107 |
| 12:12 | MA16504-STD4 | 1994634 | 2474766 | 373848 | 445787 | 131344 | 2235207 | 2349435 | 1011253 |
| 12:19 | MA16504-STD5 | 1976075 | 2466361 | 368472 | 439824 | 129347 | 2215063 | 2328202 | 1006958 |
| 12:26 | MA16504-STD6 | 1951109 | 2449469 | 369936 | 433324 | 128640 | 2220862 | 2304966 | 995792 |
| 12:33 | MA16504-STD7 | 1971856 | 2484776 | 381405 | 452901 | 133547 | 2216197 | 2324406 | 1038871 |
| 12:40 | MA16504-STD8 | 1905365 | 2490593 | 381133 | 460665 | 134024 | 2146689 | 2263233 | 1016191 |
| 12:47 | MA16504-ICV1 | 1935204 | 2512936 | 374238 | 447315 | 132005 | 2177461 | 2309149 | 1007238 |
| 12:54 | MA16504-ICB1 | 1991419 | 2529677 | 380606 | 458841 | 134050 | 2279984 | 2369729 | 1041651 |
| 13:02 | ZZZZZZ | 1942260 | 2505657 | 373512 | 449418 | 131517 | 2203197 | 2312142 | 1009534 |
| 13:13 | MA16504-CCV1 | 1931305 | 2500150 | 377643 | 450237 | 132715 | 2191149 | 2310017 | 1017719 |
| 13:20 | MA16504-CCB1 | 1990625 | 2534570 | 383106 | 464503 | 135803 | 2283143 | 2387068 | 1056223 |
| 13:28 | MA16504-CRI1 | 1996339 | 2552702 | 383976 | 462146 | 135355 | 2285957 | 2406397 | 1057808 |
| 13:36 | MA16504-ICSA1 | 1795521 | 2437047 | 362341 | 464816 | 131706 | 2016545 | 2238469 | 965300 |
| 13:44 | MA16504-ICSAB1 | 1768952 | 2452325 | 343149 | 457466 | 126556 | 2042942 | 2251743 | 935567 |
| 13:58 | ZZZZZZ | 2085370 | 2682138 | 381948 | 480702 | 136868 | 2393447 | 2554333 | 1081953 |
| 14:16 | MP22168-MB1 | 2074981 | 2541736 | 369723 | 468317 | 133139 | 2259400 | 2391651 | 1049964 |
| 14:23 | MC26418-1F | 1955014 | 2489593 | 347041 | 455496 | 128196 | 2122318 | 2301056 | 986405 |
| 14:31 | MP22168-SD1 | 2020666 | 2593975 | 378140 | 472245 | 135090 | 2271451 | 2453962 | 1065673 |
| 14:38 | ZZZZZZ | 1972354 | 2534654 | 343854 | 452221 | 127051 | 2102514 | 2274962 | 965890 |
| 14:45 | ZZZZZZ | 1973937 | 2592821 | 359129 | 458218 | 130585 | 2107435 | 2305164 | 983445 |
| 14:52 | ZZZZZZ | 1962515 | 2521009 | 361279 | 455709 | 131134 | 2144975 | 2324301 | 1016152 |
| 14:59 | ZZZZZZ | 1905788 | 2441266 | 343745 | 434302 | 125407 | 2101278 | 2266730 | 958432 |
| 15:15 | MA16504-CCV2 | 1990302 | 2509420 | 369509 | 445639 | 130328 | 2173761 | 2310739 | 1008723 |
| 15:25 | MA16504-CCB2 | 2039169 | 2533212 | 367479 | 456225 | 131288 | 2247030 | 2386952 | 1041675 |
| 15:32 | ZZZZZZ | 1947199 | 2442484 | 360659 | 435540 | 128760 | 2016038 | 2197497 | 999061 |
| 15:39 | ZZZZZZ | 2040996 | 2579715 | 369855 | 464325 | 133043 | 2273422 | 2401583 | 1034502 |
| 15:46 | ZZZZZZ | 1958641 | 2543432 | 346692 | 444981 | 125158 | 2066141 | 2267433 | 934766 |
| 15:53 | ZZZZZZ | 2001051 | 2526251 | 350378 | 450189 | 128089 | 2138650 | 2300079 | 1005505 |
| 16:00 | ZZZZZZ | 1959415 | 2530933 | 351996 | 450030 | 129840 | 2079569 | 2263027 | 980186 |
| 16:07 | ZZZZZZ | 1972761 | 2523873 | 348679 | 455412 | 128964 | 2084281 | 2256193 | 977880 |
| 16:14 | ZZZZZZ | 1934701 | 2484432 | 343142 | 438396 | 125733 | 2043117 | 2223601 | 969579 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 16:21 | ZZZZZZ | 1930969 | 2489840 | 343133 | 447815 | 128016 | 2074513 | 2248868 | 976464 |
| 16:28 | ZZZZZZ | 1915930 | 2412253 | 340648 | 436860 | 124881 | 2027327 | 2213862 | 965929 |
| 16:35 | ZZZZZZ | 1977683 | 2474928 | 351447 | 443177 | 128335 | 2172638 | 2331820 | 1011327 |
| 16:43 | MA16504-CCV3 | 1987452 | 2536261 | 356067 | 444934 | 127505 | 2153830 | 2314872 | 982803 |
| 17:05 | MA16504-CCB3 | 2043335 | 2505730 | 365758 | 449765 | 130411 | 2197764 | 2336681 | 1026282 |
| 17:12 | ZZZZZZ | 1947941 | 2443977 | 349215 | 442575 | 126160 | 2045376 | 2224477 | 969525 |
| 17:19 | ZZZZZZ | 1909424 | 2490043 | 341436 | 441717 | 126124 | 2027317 | 2198820 | 954233 |
| 17:26 | MC26484-8F | 1912239 | 2442495 | 349184 | 437114 | 126928 | 2142294 | 2263931 | 999336 |
| 17:33 | MP22168-B1 | 2021561 | 2555098 | 362101 | 448253 | 130171 | 2224840 | 2345792 | 1015190 |
| 17:40 | MP22168-S1 | 2060233 | 2686309 | 362850 | 467382 | 130067 | 2311313 | 2461635 | 1006810 |
| 17:47 | MP22168-S2 | 1975755 | 2534302 | 361281 | 446389 | 129641 | 2174062 | 2327918 | 999047 |
| 17:57 | MA16504-CRI2 | 2027954 | 2527460 | 361578 | 448559 | 129245 | 2211504 | 2369002 | 1016339 |
| 18:04 | MA16504-CCV4 | 1950695 | 2513506 | 356460 | 436192 | 126913 | 2114147 | 2262202 | 967413 |
| 18:13 | MA16504-CCB4 | 2043350 | 2535888 | 362135 | 448205 | 129440 | 2192019 | 2328514 | 1018053 |
| 18:20 | MP22178-MB1 | 2000175 | 2450552 | 353158 | 440423 | 127610 | 2159203 | 2256651 | 997267 |
| 18:27 | MC26484-4F | 1924578 | 2456480 | 340588 | 438624 | 124879 | 1999011 | 2180561 | 952372 |
| 18:35 | MP22178-SD1 | 1901401 | 2325604 | 360093 | 427537 | 129478 | 1986689 | 2156989 | 1002258 |
| 18:42 | ZZZZZZ | 1266992 | !a2307612 | 323902 | 395796 | 108440 | 1767925 | 1995363 | 826592 |
| 18:49 | MC26484-1F | 2095528 | 2707730 | 368369 | 469430 | 132336 | 2228936 | 2399776 | 1009069 |
| 18:56 | MC26484-2F | 2054787 | 2602143 | 360588 | 461652 | 129101 | 2146247 | 2345505 | 1019116 |
| 19:03 | MC26484-3F | 2082596 | 2529526 | 346702 | 448208 | 126669 | 2109052 | 2262920 | 951367 |
| 19:10 | MC26484-5F | 1890159 | 2484916 | 342954 | 435789 | 124104 | 2016577 | 2190507 | 947975 |
| 19:17 | MC26484-6F | 1956543 | 2544737 | 343962 | 440010 | 124117 | 2022573 | 2092481 | 940764 |
| 19:24 | MC26484-7F | 1965205 | 2531722 | 337551 | 431016 | 123994 | 2037536 | 2232613 | 947205 |
| 19:31 | MA16504-CCV5 | 2062840 | 2656977 | 356925 | 433043 | 127565 | 2265298 | 2177425 | 987696 |
| 19:39 | MA16504-CCB5 | 2128711 | 2684876 | 363474 | 445010 | 129743 | 2074348 | 2515404 | 1020857 |
| 19:46 | ZZZZZZ | 1882384 | 2454839 | 341423 | 426869 | 124551 | 2061002 | 2224147 | 976298 |
| 19:53 | ZZZZZZ | 1907994 | 2416927 | 337728 | 431206 | 123227 | 1941812 | 2135586 | 947855 |
| 20:00 | MP22178-B1 | 2156001 | 2686999 | 365974 | 450349 | 130771 | 2216993 | 2368052 | 1023753 |
| 20:07 | MP22178-S1 | 2178137 | 2510185 | 364152 | 452420 | 129458 | 2132747 | 2303942 | 994076 |
| 20:14 | MP22178-S2 | 2078266 | 2608808 | 365024 | 447060 | 129681 | 2163364 | 2334194 | 984685 |
| 20:21 | ZZZZZZ | 2175412 | 2696073 | 362911 | 450263 | 131287 | 2023091 | 2325694 | 1010845 |
| 20:29 | ZZZZZZ | 2153259 | 2680013 | 370836 | 460951 | 131136 | 2222516 | 2390871 | 1017433 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 20:36 | MA16504-CCV6 | 2040716 | 2604096 | 357380 | 438394 | 127102 | 2112031 | 2259015 | 967945 |
| 20:43 | MA16504-CCB6 | 2219784 | 2689376 | 367633 | 451248 | 130285 | 2283374 | 2309634 | 1003630 |
| 20:50 | MA16504-CRI3 | 2143779 | 2588295 | 365041 | 456715 | 130496 | 2226183 | 2344656 | 990823 |
| 20:57 | MA16504-CCV7 | 2049600 | 2654576 | 364985 | 439393 | 129117 | 2141424 | 2248300 | 949476 |
| 21:04 | MA16504-CCB7 | 2136920 | 2622820 | 382612 | 452992 | 132006 | 2207299 | 2332922 | 1087704 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

(a) No element reported by this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF Date Analyzed: 12/03/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 11:50 | MA16504-STD1 | 2743058 R | 1599251 R |
| 11:57 | MA16504-STD2 | 2726764 | 1583286 |
| 12:05 | MA16504-STD3 | 2732789 | 1573400 |
| 12:12 | MA16504-STD4 | 2734214 | 1563680 |
| 12:19 | MA16504-STD5 | 2726107 | 1556402 |
| 12:26 | MA16504-STD6 | 2697570 | 1550514 |
| 12:33 | MA16504-STD7 | 2727159 | 1562928 |
| 12:40 | MA16504-STD8 | 2702645 | 1495969 |
| 12:47 | MA16504-ICV1 | 2734401 | 1527140 |
| 12:54 | MA16504-ICB1 | 2763234 | 1595258 |
| 13:02 | ZZZZZZ | 2738110 | 1534613 |
| 13:13 | MA16504-CCV1 | 2742209 | 1532181 |
| 13:20 | MA16504-CCB1 | 2803353 | 1599274 |
| 13:28 | MA16504-CRI1 | 2794883 | 1605170 |
| 13:36 | MA16504-ICSA1 | 2757892 | 1460161 |
| 13:44 | MA16504-ICSAB1 | 2799682 | 1461101 |
| 13:58 | ZZZZZZ | 2991262 | 1722129 |
| 14:16 | MP22168-MB1 | 2855220 | 1650849 |
| 14:23 | MC26418-1F | 2797364 | 1540126 |
| 14:31 | MP22168-SD1 | 2862409 | 1656072 |
| 14:38 | ZZZZZZ | 2809301 | 1571967 |
| 14:45 | ZZZZZZ | 2852388 | 1564091 |
| 14:52 | ZZZZZZ | 2817646 | 1572880 |
| 14:59 | ZZZZZZ | 2692359 | 1501485 |
| 15:15 | MA16504-CCV2 | 2776437 | 1553982 |
| 15:25 | MA16504-CCB2 | 2793889 | 1615974 |
| 15:32 | ZZZZZZ | 2699549 | 1489613 |
| 15:39 | ZZZZZZ | 2903648 | 1655294 |
| 15:46 | ZZZZZZ | 2799558 | 1510652 |
| 15:53 | ZZZZZZ | 2803485 | 1569384 |
| 16:00 | ZZZZZZ | 2775160 | 1529353 |
| 16:07 | ZZZZZZ | 2770424 | 1531265 |
| 16:14 | ZZZZZZ | 2731488 | 1495883 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 16:21 | ZZZZZZ | 2763063 | 1524971 |
| 16:28 | ZZZZZZ | 2712060 | 1478188 |
| 16:35 | ZZZZZZ | 2783987 | 1583901 |
| 16:43 | MA16504-CCV3 | 2736795 | 1533364 |
| 17:05 | MA16504-CCB3 | 2737596 | 1574938 |
| 17:12 | ZZZZZZ | 2736635 | 1497723 |
| 17:19 | ZZZZZZ | 2727078 | 1483603 |
| 17:26 | MC26484-8F | 2733138 | 1560943 |
| 17:33 | MP22168-B1 | 2735272 | 1548739 |
| 17:40 | MP22168-S1 | 2870455 | 1628150 |
| 17:47 | MP22168-S2 | 2713475 | 1522613 |
| 17:57 | MA16504-CRI2 | 2738007 | 1575019 |
| 18:04 | MA16504-CCV4 | 2701477 | 1494315 |
| 18:13 | MA16504-CCB4 | 2730029 | 1565394 |
| 18:20 | MP22178-MB1 | 2751829 | 1543014 |
| 18:27 | MC26484-4F | 2659095 | 1445802 |
| 18:35 | MP22178-SD1 | 2510376 | 1455062 |
| 18:42 | ZZZZZZ | 2544344 | 1317596 |
| 18:49 | MC26484-1F | 2861363 | 1533667 |
| 18:56 | MC26484-2F | 2773280 | 1533670 |
| 19:03 | MC26484-3F | 2697942 | 1463834 |
| 19:10 | MC26484-5F | 2686750 | 1446290 |
| 19:17 | MC26484-6F | 2720045 | 1379600 |
| 19:24 | MC26484-7F | 2679767 | 1429349 |
| 19:31 | MA16504-CCV5 | 2683076 | 1541904 |
| 19:39 | MA16504-CCB5 | 2734880 | 1608410 |
| 19:46 | ZZZZZZ | 2611854 | 1433481 |
| 19:53 | ZZZZZZ | 2609339 | 1382972 |
| 20:00 | MP22178-B1 | 2765621 | 1487944 |
| 20:07 | MP22178-S1 | 2645160 | 1486039 |
| 20:14 | MP22178-S2 | 2714969 | 1501918 |
| 20:21 | ZZZZZZ | 2768641 | 1556447 |
| 20:29 | ZZZZZZ | 2772793 | 1483884 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16504
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 20:36 | MA16504-CCV6 | 2662838 | 1445453 |
| 20:43 | MA16504-CCB6 | 2608920 | 1491026 |
| 20:50 | MA16504-CRI3 | 2663984 | 1459064 |
| 20:57 | MA16504-CCV7 | 2656829 | 1438653 |
| 21:04 | MA16504-CCB7 | 2689861 | 1470622 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16504  Units: ug/l

| Time: / Sample ID: | | | | 12:54 ICB1 | | 13:20 CCB1 | | 15:25 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.014 | <2.0 | -0.0023 | <2.0 | 0.058 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16504  Units: ug/l

| Time: / Sample ID: | | | | 17:05 CCB3 | | 18:13 CCB4 | | 19:39 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.059 | <2.0 | 0.031 | <2.0 | 0.077 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 10 | .02 | 5.0 | | | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16504  Units: ug/l

| Time: / Sample ID: | | | | 20:43 CCB6 | | 21:04 CCB7 | |
|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final |
| Aluminum | 25 | .77 | 20 | | | | |
| Antimony | 2.0 | .0057 | 1.0 | | | | |
| Arsenic | 2.0 | .019 | 1.0 | 0.032 | <2.0 | 0.14 | <2.0 |
| Barium | 1.0 | .02 | 0.50 | | | | |
| Beryllium | 1.0 | .0059 | 0.50 | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | |
| Cadmium | 3.0 | .003 | 2.0 | | | | |
| Calcium | 250 | 6 | 50 | | | | |
| Chromium | 4.0 | .0096 | 3.0 | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | |
| Copper | 4.0 | .31 | 2.0 | | | | |
| Iron | 25 | .29 | 13 | | | | |
| Lead | 1.5 | .009 | 1.0 | | | | |
| Magnesium | 250 | 2.1 | 130 | | | | |
| Manganese | 2.0 | .016 | 1.0 | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | |
| Nickel | 4.0 | .013 | 3.0 | | | | |
| Potassium | 250 | 13 | 50 | | | | |
| Selenium | 1.0 | .13 | 0.50 | | | | |
| Silver | 1.0 | .012 | 0.50 | | | | |
| Sodium | 250 | 15 | 50 | | | | |
| Strontium | 10 | .02 | 5.0 | | | | |
| Thallium | 1.0 | .022 | 0.50 | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | |
| Zinc | 4.0 | .094 | 3.0 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | 12:47 | | | 13:13 | | | 15:15 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 60 | 57.8 | 96.3 | 50 | 47.8 | 95.6 | 50 | 47.6 | 95.2 |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | 16:43 | | | 18:04 | | | 19:31 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | 50 | 48.0 | 96.0 | 50 | 47.8 | 95.6 | 50 | 48.1 | 96.2 |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Iron | | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | 20:36 | | | 20:57 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 50 | 48.0 | 96.0 | 50 | 48.1 | 96.2 |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | anr | | | | | |
| Magnesium | | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | anr | | | | | |
| Silver | anr | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | | 13:28 | | 17:57 | | 20:50 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | | | | | | |
| Antimony | 0.50 | 0.50 | | | | | | |
| Arsenic | 0.50 | 0.50 | 0.50 | 100.0 | 0.55 | 110.0 | 0.52 | 104.0 |
| Barium | 1.0 | 1.0 | anr | | | | | |
| Beryllium | 0.50 | 0.50 | | | | | | |
| Boron | 5.0 | 5.0 | | | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | | | |
| Calcium | 250 | 250 | | | | | | |
| Chromium | 1.0 | 1.0 | anr | | | | | |
| Cobalt | 0.50 | 0.50 | | | | | | |
| Copper | 1.0 | 1.0 | | | | | | |
| Iron | 25 | 25 | | | | | | |
| Lead | 0.50 | 0.50 | anr | | | | | |
| Magnesium | 250 | 250 | | | | | | |
| Manganese | 1.0 | 1.0 | anr | | | | | |
| Molybdenum | 1.0 | 1.0 | | | | | | |
| Nickel | 1.0 | 1.0 | | | | | | |
| Potassium | 250 | 250 | | | | | | |
| Selenium | 0.50 | 0.50 | anr | | | | | |
| Silver | 0.50 | 0.50 | anr | | | | | |
| Sodium | 250 | 250 | | | | | | |
| Strontium | 5.0 | 5.0 | | | | | | |
| Thallium | 0.50 | 0.50 | | | | | | |
| Tin | 5.0 | 5.0 | | | | | | |
| Titanium | 1.0 | 1.0 | | | | | | |
| Vanadium | 1.0 | 1.0 | | | | | | |
| Zinc | 2.0 | 2.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120313W1L.AGF  Date Analyzed: 12/03/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16504  Units: ug/l

| Time: | | | 13:36 | | 13:44 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 95000 | 95.0 | 91500 | 91.5 |
| Antimony | | | 0.28 | | 0.27 | |
| Arsenic | | 20 | 0.25 | | 19.5 | 97.5 |
| Barium | | | 0.22 | | 0.23 | |
| Beryllium | | | 0.0036 | | 0.0056 | |
| Boron | | | 0.27 | | 0.22 | |
| Cadmium | | 20 | 1.1 | | 19.6 | 98.0 |
| Calcium | 100000 | 100000 | 94400 | 94.4 | 92600 | 92.6 |
| Chromium | | 20 | 1.1 | | 19.9 | 99.5 |
| Cobalt | | 20 | 0.045 | | 18.7 | 93.5 |
| Copper | | 20 | 0.43 | | 17.3 | 86.5 |
| Iron | 100000 | 100000 | 95000 | 95.0 | 96800 | 96.8 |
| Lead | | | 0.13 | | 0.13 | |
| Magnesium | 100000 | 100000 | 94000 | 94.0 | 90000 | 90.0 |
| Manganese | | 20 | 0.29 | | 19.1 | 95.5 |
| Molybdenum | 2000 | 2000 | 2050 | 102.5 | 2000 | 100.0 |
| Nickel | | 20 | 1.1 | | 19.2 | 96.0 |
| Potassium | 100000 | 100000 | 95400 | 95.4 | 93400 | 93.4 |
| Selenium | | | 0.18 | | 0.24 | |
| Silver | | 20 | 0.058 | | 19.1 | 95.5 |
| Sodium | 100000 | 100000 | 93300 | 93.3 | 89800 | 89.8 |
| Strontium | | | 5.0* | | 4.9 | |
| Thallium | | | 0.083 | | 0.051 | |
| Tin | | | 0.11 | | 0.094 | |
| Titanium | 2000 | 2000 | 1980 | 99.0 | 1940 | 97.0 |
| Vanadium | | | -0.091 | | -0.068 | |
| Zinc | | 20 | 1.9 | | 18.7 | 93.5 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:45 | MA16521-STD1 | 1 | | STDA |
| 13:52 | MA16521-STD2 | 1 | | STDB |
| 13:59 | MA16521-STD3 | 1 | | STDC |
| 14:07 | MA16521-STD4 | 1 | | STDD |
| 14:14 | MA16521-STD5 | 1 | | STDE |
| 14:21 | MA16521-STD6 | 1 | | STDF |
| 14:28 | MA16521-STD7 | 1 | | STDG |
| 14:35 | MA16521-STD8 | 1 | | STDH |
| 15:02 | MA16521-ICV1 | 1 | | |
| 15:17 | MA16521-ICB1 | 1 | | |
| 15:24 | MA16521-CCV1 | 1 | | |
| 15:33 | MA16521-CCB1 | 1 | | |
| 15:40 | MA16521-CRI1 | 1 | | |
| 15:52 | MA16521-ICSA1 | 1 | | |
| 15:59 | MA16521-ICSAB1 | 1 | | |
| 16:07 | ZZZZZZ | 1 | | RINSECONF |
| 16:14 | MP22187-MB1 | 5 | | |
| 16:21 | MC25983-10A | 5 | | (sample used for QC only; not part of login MC26484) |
| 16:28 | MC25983-10A | 10 | | (sample used for QC only; not part of login MC26484) |
| 16:35 | MP22187-SD1 | 25 | | |
| 16:42 | MP22187-SD1 | 50 | | |
| 16:49 | MP22187-B1 | 5 | | |
| 16:56 | MA16521-CCV2 | 1 | | |
| 17:04 | MA16521-CCB2 | 1 | | |
| 17:11 | MP22187-S1 | 10 | | |
| 17:18 | MP22187-S2 | 10 | | |
| 17:25 | MP22187-LC1 | 10 | | |
| 17:45 | MA16521-CRI2 | 1 | | |
| 17:54 | ZZZZZZ | 1 | | DNR: HIGH RSD, SEE RERUN FOR CCV. |
| 18:04 | MA16521-CCV3 | 1 | | |
| 18:12 | MA16521-CCB3 | 1 | | |
| 18:19 | MP22178-MB1 | 2 | | |
| 18:26 | ZZZZZZ | 10 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:33 | ZZZZZZ | 10 | | |
| 18:40 | ZZZZZZ | 10 | | |
| 18:47 | ZZZZZZ | 10 | | |
| 18:54 | ZZZZZZ | 50 | | |
| 19:01 | ZZZZZZ | 100 | | |
| 19:09 | ZZZZZZ | 50 | | |
| 19:16 | MC26484-4F | 50 | | |
| 19:23 | MP22178-SD1 | 250 | | |
| 19:30 | MA16521-CCV4 | 1 | | |
| 19:37 | MA16521-CCB4 | 1 | | |
| 19:44 | MC26484-6F | 50 | | |
| 19:51 | MC26484-7F | 20 | | |
| 19:59 | MP22178-S1 | 50 | | |
| 20:06 | MP22178-S2 | 50 | | |
| ----------> | Last reportable sample/prep for job MC26484 | | | |
| 20:13 | ZZZZZZ | 1 | | |
| 20:20 | MA16521-CRI3 | 1 | | |
| 20:27 | MA16521-CCV5 | 1 | | |
| 20:34 | MA16521-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job MC26484 | | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF Date Analyzed: 12/04/13 Methods: SW846 6020A
Analyst: SA Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 13:45 | MA16521-STD1 | 2032921 R | 2621135 R | 361541 R | 465850 R | 129632 R | 2265009 R | 2406660 R | 1007957 R |
| 13:52 | MA16521-STD2 | 2051357 | 2597555 | 357832 | 464732 | 128724 | 2248748 | 2377062 | 1005741 |
| 13:59 | MA16521-STD3 | 2045105 | 2590854 | 358232 | 459427 | 128827 | 2250670 | 2373231 | 999223 |
| 14:07 | MA16521-STD4 | 2062773 | 2581120 | 353340 | 452786 | 126855 | 2239019 | 2353376 | 981208 |
| 14:14 | MA16521-STD5 | 2004326 | 2545355 | 352223 | 446665 | 125799 | 2224967 | 2315027 | 972640 |
| 14:21 | MA16521-STD6 | 2026121 | 2580322 | 349789 | 445825 | 124446 | 2218867 | 2331900 | 959821 |
| 14:28 | MA16521-STD7 | 2000390 | 2545467 | 355058 | 452314 | 127460 | 2172832 | 2308410 | 984172 |
| 14:35 | MA16521-STD8 | 1978841 | 2570661 | 357473 | 462575 | 127846 | 2119685 | 2277386 | 962806 |
| 15:02 | MA16521-ICV1 | 1981969 | 2558966 | 349799 | 449671 | 125145 | 2148756 | 2290634 | 947294 |
| 15:17 | MA16521-ICB1 | 2052759 | 2591781 | 360171 | 463015 | 128643 | 2262188 | 2376453 | 1004542 |
| 15:24 | MA16521-CCV1 | 1991610 | 2586355 | 353324 | 451235 | 126404 | 2177443 | 2315668 | 958150 |
| 15:33 | MA16521-CCB1 | 2056894 | 2571619 | 357661 | 462201 | 128649 | 2251091 | 2378634 | 1000219 |
| 15:40 | MA16521-CRI1 | 2043726 | 2598882 | 356309 | 463762 | 128008 | 2236186 | 2379745 | 992196 |
| 15:52 | MA16521-ICSA1 | 1823085 | 2499613 | 346519 | 461114 | 125541 | 1977667 | 2203651 | 906667 |
| 15:59 | MA16521-ICSAB1 | 1825454 | 2541381 | 344648 | 461889 | 125346 | 2028329 | 2259180 | 910891 |
| 16:07 | ZZZZZZ | 2062587 | 2747381 | 363675 | 479498 | 132002 | 2373233 | 2538597 | 1026726 |
| 16:14 | MP22187-MB1 | 2048522 | 2701642 | 357219 | 472136 | 130768 | 2342233 | 2471568 | 1007247 |
| 16:21 | MC25983-10A | 1945459 | 2774879 | 361484 | 454007 | 126019 | 2172160 | 2339339 | 942058 |
| 16:28 | MC25983-10A | 1977586 | 2698701 | 354186 | 450313 | 125598 | 2198374 | 2357079 | 954261 |
| 16:35 | MP22187-SD1 | 2024689 | 2641375 | 358289 | 451376 | 127736 | 2229899 | 2374222 | 980155 |
| 16:42 | MP22187-SD1 | 2065927 | 2704433 | 359086 | 469134 | 129491 | 2290640 | 2433790 | 992632 |
| 16:49 | MP22187-B1 | 1979554 | 2600288 | 347497 | 444985 | 125167 | 2156540 | 2322345 | 961460 |
| 16:56 | MA16521-CCV2 | 1999298 | 2666215 | 351559 | 449166 | 126448 | 2136992 | 2318740 | 972200 |
| 17:04 | MA16521-CCB2 | 2063440 | 2606869 | 350595 | 456610 | 127504 | 2221125 | 2363043 | 985417 |
| 17:11 | MP22187-S1 | 1991462 | 2720803 | 360573 | 453710 | 126943 | 2170010 | 2311924 | 945884 |
| 17:18 | MP22187-S2 | 2005928 | 2700438 | 358144 | 455175 | 126804 | 2158879 | 2319058 | 938854 |
| 17:25 | MP22187-LC1 | 1998832 | 2700737 | 353054 | 444528 | 124317 | 2182569 | 2320012 | 942562 |
| 17:45 | MA16521-CRI2 | 2049778 | 2657824 | 358401 | 463963 | 128905 | 2246289 | 2411355 | 993033 |
| 17:54 | ZZZZZZ | 1992005 | 2645986 | 360100 | 455222 | 127264 | 2182131 | 2336685 | 961802 |
| 18:04 | MA16521-CCV3 | 1982620 | 2615386 | 348897 | 451029 | 125431 | 2157786 | 2303074 | 938940 |
| 18:12 | MA16521-CCB3 | 2030101 | 2602154 | 350079 | 452621 | 126521 | 2212695 | 2346035 | 976170 |
| 18:19 | MP22178-MB1 | 1933453 | 2511126 | 330795 | 445847 | 121674 | 2145885 | 2278165 | 935794 |
| 18:26 | ZZZZZZ | 1975551 | 2539682 | 349052 | 452268 | 127612 | 2097283 | 2269337 | 966702 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 | Istd#5 | Istd#6 | Istd#7 | Istd#8 |
|---|---|---|---|---|---|---|---|---|---|
| 18:33 | ZZZZZZ | 2007490 | 2593607 | 348224 | 457469 | 126791 | 2162380 | 2329336 | 965639 |
| 18:40 | ZZZZZZ | 1964232 | 2592024 | 341348 | 451963 | 125123 | 2148606 | 2326857 | 935848 |
| 18:47 | ZZZZZZ | 1959821 | 2620313 | 344580 | 459193 | 125031 | 2160729 | 2334097 | 949737 |
| 18:54 | ZZZZZZ | 1975056 | 2628596 | 348323 | 456179 | 126022 | 2155611 | 2334989 | 963973 |
| 19:01 | ZZZZZZ | 2016460 | 2612612 | 356313 | 460509 | 128764 | 2223862 | 2357210 | 970396 |
| 19:09 | ZZZZZZ | 2305040 | 3004052 | 369748 | 522509 | 132282 | 2487869 | 2656327 | 994751 |
| 19:16 | MC26484-4F | 2078254 | 2637409 | 364672 | 456716 | 130110 | 2149977 | 2398274 | 987546 |
| 19:23 | MP22178-SD1 | 2090189 | 2676392 | 363350 | 463103 | 130449 | 2198354 | 2383950 | 986073 |
| 19:30 | MA16521-CCV4 | 2053703 | 2701889 | 359703 | 463657 | 127778 | 2195621 | 2311060 | 948749 |
| 19:37 | MA16521-CCB4 | 2110252 | 2735027 | 367070 | 472515 | 131331 | 2310779 | 2357748 | 977033 |
| 19:44 | MC26484-6F | 2129177 | 2679912 | 367616 | 488511 | 130658 | 2234723 | 2488994 | 987224 |
| 19:51 | MC26484-7F | 2126694 | 2774437 | 356457 | 469807 | 128922 | 2241744 | 2440312 | 980870 |
| 19:59 | MP22178-S1 | 2144198 | 2746014 | 357316 | 456902 | 128754 | 2239073 | 2368644 | 972965 |
| 20:06 | MP22178-S2 | 2081677 | 2687080 | 353476 | 451957 | 127775 | 2237480 | 2300527 | 947380 |
| 20:13 | ZZZZZZ | 2070349 | 2631061 | 351352 | 455362 | 126600 | 2220844 | 2351722 | 965979 |
| 20:20 | MA16521-CRI3 | 1995471 | 2549211 | 344381 | 446024 | 124421 | 2141431 | 2279354 | 958529 |
| 20:27 | MA16521-CCV5 | 1965653 | 2580331 | 345859 | 442684 | 124222 | 2099988 | 2231341 | 924896 |
| 20:34 | MA16521-CCB5 | 2175074 | 2739640 | 359833 | 470715 | 128715 | 2257984 | 2431554 | 969326 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: | | | CCV/CCB |
|---|---|---|---|
| Istd# | Parameter | Limits | Limits |
| Istd#1 | LiISTD | 70-130 % | 70-130 % |
| Istd#2 | Scandium (45-1) | 70-130 % | 70-130 % |
| Istd#3 | Scandium (45-2) | 70-130 % | 70-130 % |
| Istd#4 | Germanium (72-1) | 70-130 % | 70-130 % |
| Istd#5 | Germanium (72-2) | 70-130 % | 70-130 % |
| Istd#6 | Rhodium | 70-130 % | 70-130 % |
| Istd#7 | Indium (115-1) | 70-130 % | 70-130 % |
| Istd#8 | Indium (115-2) | 70-130 % | 70-130 % |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 13:45 | MA16521-STD1 | 2763118 R | 1560225 R |
| 13:52 | MA16521-STD2 | 2722485 | 1554686 |
| 13:59 | MA16521-STD3 | 2732906 | 1552304 |
| 14:07 | MA16521-STD4 | 2720161 | 1535773 |
| 14:14 | MA16521-STD5 | 2680398 | 1520102 |
| 14:21 | MA16521-STD6 | 2704284 | 1514912 |
| 14:28 | MA16521-STD7 | 2676919 | 1503676 |
| 14:35 | MA16521-STD8 | 2671606 | 1456283 |
| 15:02 | MA16521-ICV1 | 2681621 | 1475602 |
| 15:17 | MA16521-ICB1 | 2740250 | 1557666 |
| 15:24 | MA16521-CCV1 | 2692459 | 1500433 |
| 15:33 | MA16521-CCB1 | 2712195 | 1537976 |
| 15:40 | MA16521-CRI1 | 2732738 | 1530128 |
| 15:52 | MA16521-ICSA1 | 2704151 | 1371109 |
| 15:59 | MA16521-ICSAB1 | 2763431 | 1426242 |
| 16:07 | ZZZZZZ | 2941124 | 1667406 |
| 16:14 | MP22187-MB1 | 2907583 | 1631895 |
| 16:21 | MC25983-10A | 2843534 | 1550263 |
| 16:28 | MC25983-10A | 2804640 | 1560509 |
| 16:35 | MP22187-SD1 | 2774045 | 1573328 |
| 16:42 | MP22187-SD1 | 2801775 | 1587750 |
| 16:49 | MP22187-B1 | 2771690 | 1511806 |
| 16:56 | MA16521-CCV2 | 2685740 | 1452818 |
| 17:04 | MA16521-CCB2 | 2742451 | 1570995 |
| 17:11 | MP22187-S1 | 2754334 | 1510055 |
| 17:18 | MP22187-S2 | 2761527 | 1511928 |
| 17:25 | MP22187-LC1 | 2728825 | 1527577 |
| 17:45 | MA16521-CRI2 | 2755012 | 1562615 |
| 17:54 | ZZZZZZ | 2749843 | 1507627 |
| 18:04 | MA16521-CCV3 | 2712461 | 1485939 |
| 18:12 | MA16521-CCB3 | 2680712 | 1514979 |
| 18:19 | MP22178-MB1 | 2679946 | 1505386 |
| 18:26 | ZZZZZZ | 2621199 | 1486353 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
Analyst: SA  Run ID: MA16521
Parameters: As

| Time | Sample Description | Istd#9 | Istd#10 |
|---|---|---|---|
| 18:33 | ZZZZZZ | 2672195 | 1487865 |
| 18:40 | ZZZZZZ | 2664421 | 1487733 |
| 18:47 | ZZZZZZ | 2681276 | 1506512 |
| 18:54 | ZZZZZZ | 2659091 | 1460757 |
| 19:01 | ZZZZZZ | 2623139 | 1449369 |
| 19:09 | ZZZZZZ | 2983950 | 1617505 |
| 19:16 | MC26484-4F | 2560722 | 1377228 |
| 19:23 | MP22178-SD1 | 2611930 | 1355769 |
| 19:30 | MA16521-CCV4 | 2674921 | 1401459 |
| 19:37 | MA16521-CCB4 | 2711833 | 1481060 |
| 19:44 | MC26484-6F | 2722207 | 1472088 |
| 19:51 | MC26484-7F | 2805553 | 1512105 |
| 19:59 | MP22178-S1 | 2682247 | 1397869 |
| 20:06 | MP22178-S2 | 2549504 | 1396832 |
| 20:13 | ZZZZZZ | 2636027 | 1487636 |
| 20:20 | MA16521-CRI3 | 2619628 | 1456869 |
| 20:27 | MA16521-CCV5 | 2602499 | 1418996 |
| 20:34 | MA16521-CCB5 | 2682249 | 1464835 |

R = Reference for ISTD limits.  ! = Outside limits.

| LEGEND: Istd# | Parameter | Limits | CCV/CCB Limits |
|---|---|---|---|
| Istd#9 | Terbium | 70-130 % | 70-130 % |
| Istd#10 | Bismuth | 70-130 % | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16521  Units: ug/l

| Time: / Sample ID: | | | | 15:17 ICB1 | | 15:33 CCB1 | | 17:04 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 13 | | | | | | |
| Antimony | 0.50 | .0057 | 0.25 | | | | | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.0083 | <0.50 | 0.0031 | <0.50 | -0.0021 | <0.50 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0059 | 0.25 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 0.50 | .003 | 0.25 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 1.0 | .0096 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 1.0 | .31 | 0.50 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 0.50 | .009 | 0.25 | | | | | | |
| Magnesium | 250 | 2.1 | 50 | | | | | | |
| Manganese | 1.0 | .016 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .012 | 0.25 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 5.0 | .02 | 2.5 | | | | | | |
| Thallium | 0.50 | .022 | 0.25 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 2.0 | .094 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: result < LOD  Run ID: MA16521  Units: ug/l

| Time: / Sample ID: | | | | 18:12 CCB3 | | 19:37 CCB4 | | 20:34 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 25 | .77 | 13 | | | | | | |
| Antimony | 0.50 | .0057 | 0.25 | | | | | | |
| Arsenic | 0.50 | .019 | 0.25 | 0.0087 | <0.50 | 0.0020 | <0.50 | 0.013 | <0.50 |
| Barium | 1.0 | .02 | 0.50 | | | | | | |
| Beryllium | 0.50 | .0059 | 0.25 | | | | | | |
| Boron | 5.0 | .068 | 2.5 | | | | | | |
| Cadmium | 0.50 | .003 | 0.25 | | | | | | |
| Calcium | 250 | 6 | 50 | | | | | | |
| Chromium | 1.0 | .0096 | 0.50 | | | | | | |
| Cobalt | 0.50 | .0012 | 0.25 | | | | | | |
| Copper | 1.0 | .31 | 0.50 | | | | | | |
| Iron | 25 | .29 | 13 | | | | | | |
| Lead | 0.50 | .009 | 0.25 | | | | | | |
| Magnesium | 250 | 2.1 | 50 | | | | | | |
| Manganese | 1.0 | .016 | 0.50 | | | | | | |
| Molybdenum | 1.0 | .026 | 0.50 | | | | | | |
| Nickel | 1.0 | .013 | 0.50 | | | | | | |
| Potassium | 250 | 13 | 50 | | | | | | |
| Selenium | 0.50 | .13 | 0.25 | | | | | | |
| Silver | 0.50 | .012 | 0.25 | | | | | | |
| Sodium | 250 | 15 | 50 | | | | | | |
| Strontium | 5.0 | .02 | 2.5 | | | | | | |
| Thallium | 0.50 | .022 | 0.25 | | | | | | |
| Tin | 5.0 | .0078 | 2.5 | | | | | | |
| Titanium | 1.0 | .031 | 0.50 | | | | | | |
| Vanadium | 2.0 | .057 | 1.0 | | | | | | |
| Zinc | 2.0 | .094 | 1.0 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | 15:02 | | | 15:24 | | | 16:56 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | 60 | 56.6 | 94.3 | 50 | 48.3 | 96.6 | 50 | 47.8 | 95.6 |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 90 to 110 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | 18:04 | | | 19:30 | | | 20:27 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | 50 | 47.9 | 95.8 | 50 | 48.2 | 96.4 | 50 | 47.6 | 95.2 |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 70 to 130 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | | 15:40 | | 17:45 | | 20:20 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | | CRI3 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 25 | 25 | anr | | | | | |
| Antimony | 0.50 | 0.50 | anr | | | | | |
| Arsenic | 0.50 | 0.50 | 0.49 | 98.0 | 0.51 | 102.0 | 0.48 | 96.0 |
| Barium | 1.0 | 1.0 | anr | | | | | |
| Beryllium | 0.50 | 0.50 | anr | | | | | |
| Boron | 5.0 | 5.0 | anr | | | | | |
| Cadmium | 0.50 | 0.50 | anr | | | | | |
| Calcium | 250 | 250 | anr | | | | | |
| Chromium | 1.0 | 1.0 | anr | | | | | |
| Cobalt | 0.50 | 0.50 | anr | | | | | |
| Copper | 1.0 | 1.0 | anr | | | | | |
| Iron | 25 | 25 | anr | | | | | |
| Lead | 0.50 | 0.50 | anr | | | | | |
| Magnesium | 250 | 250 | anr | | | | | |
| Manganese | 1.0 | 1.0 | anr | | | | | |
| Molybdenum | 1.0 | 1.0 | anr | | | | | |
| Nickel | 1.0 | 1.0 | anr | | | | | |
| Potassium | 250 | 250 | anr | | | | | |
| Selenium | 0.50 | 0.50 | anr | | | | | |
| Silver | 0.50 | 0.50 | anr | | | | | |
| Sodium | 250 | 250 | anr | | | | | |
| Strontium | 5.0 | 5.0 | anr | | | | | |
| Thallium | 0.50 | 0.50 | anr | | | | | |
| Tin | 5.0 | 5.0 | anr | | | | | |
| Titanium | 1.0 | 1.0 | anr | | | | | |
| Vanadium | 1.0 | 1.0 | anr | | | | | |
| Zinc | 2.0 | 2.0 | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA120413W1L.AGF  Date Analyzed: 12/04/13  Methods: SW846 6020A
QC Limits: 80 to 120 % Recovery  Run ID: MA16521  Units: ug/l

| Time: | | | 15:52 | | 15:59 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 100000 | 100000 | 94800 | 94.8 | 92700 | 92.7 |
| Antimony | | | 0.27 | | 0.26 | |
| Arsenic | | 20 | 0.24 | | 19.3 | 96.5 |
| Barium | | | 0.23 | | 0.23 | |
| Beryllium | | | -0.0038 | | -0.0049 | |
| Boron | | | 0.21 | | 0.16 | |
| Cadmium | | 20 | 1.0 | | 19.2 | 96.0 |
| Calcium | 100000 | 100000 | 93500 | 93.5 | 92200 | 92.2 |
| Chromium | | 20 | 0.98 | | 19.2 | 96.0 |
| Cobalt | | 20 | 0.040 | | 18.0 | 90.0 |
| Copper | | 20 | 0.36 | | 17.1 | 85.5 |
| Iron | 100000 | 100000 | 93100 | 93.1 | 93300 | 93.3 |
| Lead | | | 0.12 | | 0.12 | |
| Magnesium | 100000 | 100000 | 93000 | 93.0 | 91200 | 91.2 |
| Manganese | | 20 | 0.24 | | 18.3 | 91.5 |
| Molybdenum | 2000 | 2000 | 2050 | 102.5 | 2010 | 100.5 |
| Nickel | | 20 | 0.45 | | 18.2 | 91.0 |
| Potassium | 100000 | 100000 | 94800 | 94.8 | 93400 | 93.4 |
| Selenium | | | 0.20 | | 0.10 | |
| Silver | | 20 | 0.054 | | 18.8 | 94.0 |
| Sodium | 100000 | 100000 | 91700 | 91.7 | 89500 | 89.5 |
| Strontium | | | 4.9 | | 4.8 | |
| Thallium | | | 0.028 | | 0.000091 | |
| Tin | | | 0.091 | | 0.086 | |
| Titanium | 2000 | 2000 | 1990 | 99.5 | 1950 | 97.5 |
| Vanadium | | | -0.065 | | -0.061 | |
| Zinc | | 20 | 1.9 | | 18.4 | 92.0 |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:50 | MA16536-STD1 | 1 | | STD1 |
| 13:55 | MA16536-STD2 | 1 | | STD2 |
| 14:00 | MA16536-STD3 | 1 | | STD3 |
| 14:05 | MA16536-STD4 | 1 | | STD4 |
| 14:10 | MA16536-ICV1 | 1 | | |
| 14:17 | MA16536-ICB1 | 1 | | |
| 14:22 | MA16536-CCV1 | 1 | | |
| 14:30 | MA16536-CCB1 | 1 | | |
| 14:35 | MA16536-CRI1 | 1 | | |
| 14:40 | MA16536-ICSA1 | 1 | | |
| 14:45 | MA16536-ICSAB1 | 1 | | |
| 14:50 | MP22168A-B1 | 1 | | |
| 14:54 | MP22168A-MB1 | 1 | | |
| 14:59 | MP22168A-S1 | 1 | | |
| 15:04 | MP22168A-S2 | 1 | | |
| 15:09 | MC26418-1F | 1 | | (sample used for QC only; not part of login MC26484) |
| 15:14 | MP22168A-SD1 | 5 | | |
| 15:19 | ZZZZZZ | 1 | | |
| 15:24 | MA16536-CCV2 | 1 | | |
| 15:29 | MA16536-CCB2 | 1 | | |
| 15:35 | ZZZZZZ | 1 | | |
| 15:40 | ZZZZZZ | 1 | | |
| 15:45 | ZZZZZZ | 1 | | |
| 15:50 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 15:55 | ZZZZZZ | 1 | | |
| 16:00 | ZZZZZZ | 1 | | |
| 16:05 | ZZZZZZ | 1 | | |
| 16:10 | ZZZZZZ | 1 | | |
| 16:15 | ZZZZZZ | 1 | | |
| 16:20 | ZZZZZZ | 1 | | |
| 16:25 | MA16536-CCV3 | 1 | | |
| 16:29 | MA16536-CCB3 | 1 | | |
| 16:34 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:39 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 16:44 | ZZZZZZ | 1 | | |
| 16:49 | ZZZZZZ | 1 | | |
| 16:54 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 16:59 | MP22178A-B1 | 1 | | |
| 17:04 | MP22178A-MB1 | 1 | | |
| 17:09 | MP22178A-S1 | 1 | | |
| 17:13 | MP22178A-S2 | 1 | | |
| 17:18 | MC26484-4F | 1 | | |
| 17:23 | MA16536-CCV4 | 1 | | |
| 17:28 | MA16536-CCB4 | 1 | | |
| 17:33 | MP22178A-SD1 | 5 | | |
| 17:38 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 17:43 | MC26484-1F | 1 | | |
| 17:48 | MC26484-2F | 1 | | |
| 17:53 | MC26484-3F | 1 | | |
| 17:58 | MC26484-5F | 1 | | |
| 18:03 | MC26484-6F | 1 | | |
| 18:08 | MC26484-7F | 1 | | |
| ----------> | Last reportable sample/prep for job MC26484 | | | |
| 18:13 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 18:18 | ZZZZZZ | 1 | | DNR: FOR ICP-MS ANALYSIS ONLY. |
| 18:23 | MA16536-CCV5 | 1 | | |
| 18:28 | MA16536-CCB5 | 1 | | |
| 18:33 | MA16536-CRI2 | 1 | | |
| 18:38 | MA16536-CCV6 | 1 | | |
| 18:42 | MA16536-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job MC26484 | | | |
| | Refer to raw data for calibration curve and standards. | | | |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 13:50 | MA16536-STD1 | 1097 R | 51249 R | 17948 R |
| 13:55 | MA16536-STD2 | 1087 | 51236 | 18097 |
| 14:00 | MA16536-STD3 | | | 18248 |
| 14:05 | MA16536-STD4 | 1100 | 50704 | 18087 |
| 14:10 | MA16536-ICV1 | 1085 | 50364 | 18360 |
| 14:17 | MA16536-ICB1 | 1088 | 51150 | 18134 |
| 14:22 | MA16536-CCV1 | 1085 | 50872 | 18358 |
| 14:30 | MA16536-CCB1 | 1089 | 51291 | 18165 |
| 14:35 | MA16536-CRI1 | 1088 | 51096 | 18153 |
| 14:40 | MA16536-ICSA1 | 995 | 47322 | 17816 |
| 14:45 | MA16536-ICSAB1 | 1003 | 47411 | 17916 |
| 14:50 | MP22168A-B1 | 1088 | 51349 | 18255 |
| 14:54 | MP22168A-MB1 | 1091 | 51614 | 18227 |
| 14:59 | MP22168A-S1 | 1074 | 51009 | 18107 |
| 15:04 | MP22168A-S2 | 1073 | 50663 | 18117 |
| 15:09 | MC26418-1F | 1078 | 50474 | 18108 |
| 15:14 | MP22168A-SD1 | 1081 | 50921 | 18165 |
| 15:19 | ZZZZZZ | 1071 | 51069 | 18183 |
| 15:24 | MA16536-CCV2 | 1079 | 50907 | 18294 |
| 15:29 | MA16536-CCB2 | 1084 | 51427 | 18099 |
| 15:35 | ZZZZZZ | 1070 | 50857 | 18272 |
| 15:40 | ZZZZZZ | 1077 | 51159 | 18307 |
| 15:45 | ZZZZZZ | 1063 | 51087 | 18193 |
| 15:50 | ZZZZZZ | 1079 | 51474 | 18176 |
| 15:55 | ZZZZZZ | 1057 | 50881 | 18054 |
| 16:00 | ZZZZZZ | 1082 | 51410 | 18322 |
| 16:05 | ZZZZZZ | 1070 | 50995 | 18247 |
| 16:10 | ZZZZZZ | 1072 | 51068 | 18224 |
| 16:15 | ZZZZZZ | 1075 | 51238 | 18332 |
| 16:20 | ZZZZZZ | 1069 | 51027 | 18178 |
| 16:25 | MA16536-CCV3 | 1073 | 50915 | 18277 |
| 16:29 | MA16536-CCB3 | 1075 | 51058 | 18080 |
| 16:34 | ZZZZZZ | 1077 | 51204 | 18310 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16536
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 16:39 | ZZZZZZ | 1076 | 51316 | 18252 |
| 16:44 | ZZZZZZ | 1076 | 51454 | 18167 |
| 16:49 | ZZZZZZ | 1064 | 51192 | 18199 |
| 16:54 | ZZZZZZ | 1076 | 52107 | 18301 |
| 16:59 | MP22178A-B1 | 1057 | 50732 | 18075 |
| 17:04 | MP22178A-MB1 | 1062 | 51036 | 18241 |
| 17:09 | MP22178A-S1 | 1048 | 50400 | 18188 |
| 17:13 | MP22178A-S2 | 1047 | 49999 | 18065 |
| 17:18 | MC26484-4F | 1052 | 50470 | 18134 |
| 17:23 | MA16536-CCV4 | 1066 | 50790 | 18234 |
| 17:28 | MA16536-CCB4 | 1069 | 50880 | 18101 |
| 17:33 | MP22178A-SD1 | 1069 | 51131 | 18049 |
| 17:38 | ZZZZZZ | 923 | 46357 | 16586 |
| 17:43 | MC26484-1F | 1076 | 50940 | 18173 |
| 17:48 | MC26484-2F | 1074 | 51216 | 18120 |
| 17:53 | MC26484-3F | 1074 | 51246 | 18158 |
| 17:58 | MC26484-5F | 1041 | 50271 | 18016 |
| 18:03 | MC26484-6F | 1056 | 50690 | 18046 |
| 18:08 | MC26484-7F | 1056 | 50697 | 18190 |
| 18:13 | ZZZZZZ | 1056 | 50691 | 18154 |
| 18:18 | ZZZZZZ | 1059 | 50747 | 18155 |
| 18:23 | MA16536-CCV5 | 1069 | 51028 | 18231 |
| 18:28 | MA16536-CCB5 | 1074 | 51421 | 18107 |
| 18:33 | MA16536-CRI2 | 1073 | 51402 | 18166 |
| 18:38 | MA16536-CCV6 | 1075 | 50955 | 18223 |
| 18:42 | MA16536-CCB6 | 1074 | 51343 | 18035 |

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: | | | | 14:17 ICB1 | | 14:30 CCB1 | | 15:29 CCB2 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 3.4 | <5000 | -0.40 | <5000 | 0.0 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 4.5 | <100 | 2.0 | <100 | 1.4 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 5.5 | <5000 | -2.9 | <5000 | -4.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.30 | <15 | 0.20 | <15 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 4.3 | <5000 | 0.50 | <5000 | 15.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | 1.3 | <5000 | -4.8 | <5000 | 0.20 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: | | | | 16:29 CCB3 | | 17:28 CCB4 | | 18:28 CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | LOD | raw | final | raw | final | raw | final |
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | -0.90 | <5000 | -0.80 | <5000 | 2.3 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 2.4 | <100 | 0.80 | <100 | 2.9 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -13 | <5000 | -2.3 | <5000 | -4.2 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 | 0.10 | <15 | 0.40 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 3.8 | <5000 | 33.7 | <5000 | 19.9 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -4.5 | <5000 | 3.8 | <5000 | 23.0 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | | 18:42 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 6.1 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | |
| Barium | 50 | .19 | 2.5 | | |
| Beryllium | 4.0 | .08 | 0.90 | | |
| Boron | 100 | .81 | 5.0 | | |
| Cadmium | 4.0 | .22 | 1.9 | | |
| Calcium | 5000 | 8.5 | 150 | 0.10 | <5000 |
| Chromium | 10 | .74 | 5.0 | | |
| Cobalt | 50 | .28 | 1.5 | | |
| Copper | 25 | .86 | 8.0 | | |
| Gold | 50 | 1.8 | 8.0 | | |
| Iron | 100 | 4.4 | 30 | 2.6 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | |
| Magnesium | 5000 | 43 | 200 | -13 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.40 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2 | 30 | | |
| Platinum | 50 | 8.7 | 30 | | |
| Potassium | 5000 | 24 | 500 | 3.2 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | |
| Silicon | 100 | 2.1 | 50 | | |
| Silver | 5.0 | .47 | 3.5 | | |
| Sodium | 5000 | 42 | 200 | 17.9 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | |
| Strontium | 10 | .1 | 0.90 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 5.0 | | |
| Titanium | 50 | .48 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .9 | 8.0 | | |
| Zinc | 20 | .91 | 1.5 | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16536  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 14:10 | | | 14:22 | | | 15:24 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 18000 | 17500 | 97.2 | 10000 | 9760 | 97.6 | 10000 | 9740 | 97.4 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 17900 | 99.4 | 10000 | 9870 | 98.7 | 10000 | 9950 | 99.5 |
| Lead | | | | | | | | | |
| Magnesium | 18000 | 17600 | 97.8 | 10000 | 9550 | 95.5 | 10000 | 9550 | 95.5 |
| Manganese | 3000 | 2950 | 98.3 | 2000 | 1930 | 96.5 | 2000 | 1920 | 96.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 9870 | 98.7 | 10000 | 9870 | 98.7 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 15000 | 15000 | 100.0 | 10000 | 9810 | 98.1 | 10000 | 9790 | 97.9 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 16:25 | | | 17:23 | | | 18:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | | | | | | | | | |
| Barium | | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | | | | | | | | | |
| Calcium | 10000 | 9700 | 97.0 | 10000 | 9760 | 97.6 | 10000 | 9690 | 96.9 |
| Chromium | | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 9950 | 99.5 | 10000 | 10100 | 101.0 | 10000 | 9980 | 99.8 |
| Lead | | | | | | | | | |
| Magnesium | 10000 | 9620 | 96.2 | 10000 | 9750 | 97.5 | 10000 | 9550 | 95.5 |
| Manganese | 2000 | 1920 | 96.0 | 2000 | 1910 | 95.5 | 2000 | 1900 | 95.0 |
| Molybdenum | | | | | | | | | |
| Nickel | | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 9900 | 99.0 | 10000 | 10000 | 100.0 | 10000 | 9880 | 98.8 |
| Selenium | | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | | | | | | | | | |
| Sodium | 10000 | 9880 | 98.8 | 10000 | 9850 | 98.5 | 10000 | 9780 | 97.8 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | 18:38 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | | | |
| Barium | | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | | | |
| Calcium | 10000 | 9730 | 97.3 |
| Chromium | | | |
| Cobalt | | | |
| Copper | | | |
| Gold | | | |
| Iron | 10000 | 9940 | 99.4 |
| Lead | | | |
| Magnesium | 10000 | 9590 | 95.9 |
| Manganese | 2000 | 1910 | 95.5 |
| Molybdenum | | | |
| Nickel | | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 9900 | 99.0 |
| Selenium | | | |
| Silicon | | | |
| Silver | | | |
| Sodium | 10000 | 9840 | 98.4 |
| Sulfur | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP Date Analyzed: 12/09/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA16536 Units: ug/l

| Time: | | | 14:35 | | 18:33 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | | | | |
| Barium | 50 | 50 | | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | | | | |
| Calcium | 5000 | 5000 | 4960 | 99.2 | 4870 | 97.4 |
| Chromium | 10 | 10 | | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 102 | 102.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | | | | |
| Magnesium | 5000 | 5000 | 4800 | 96.0 | 4740 | 94.8 |
| Manganese | 15 | 15 | 15.2 | 101.3 | 14.7 | 98.0 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 5020 | 100.4 | 5010 | 100.2 |
| Selenium | 10 | 10 | | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | | | | |
| Sodium | 5000 | 5000 | 4990 | 99.8 | 4980 | 99.6 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16536  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16536  Units: ug/l

| Time: | | | 14:40 | | 14:45 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 527000 | 105.4 | 522000 | 104.4 |
| Antimony | | 2000 | -0.90 | | 1990 | 99.5 |
| Arsenic | | 2000 | -0.10 | | 2060 | 103.0 |
| Barium | | 500 | -0.10 | | 488 | 97.6 |
| Beryllium | | 500 | 0.0 | | 448 | 89.6 |
| Boron | | 1000 | 6.8* | | 979 | 97.9 |
| Cadmium | | 1000 | -0.10 | | 984 | 98.4 |
| Calcium | 500000 | 500000 | 449000 | 89.8 | 446000 | 89.2 |
| Chromium | | 500 | -0.60 | | 478 | 95.6 |
| Cobalt | | 500 | 0.20 | | 472 | 94.4 |
| Copper | | 500 | 0.40 | | 528 | 105.6 |
| Gold | | 500 | -1.1 | | 494 | 98.8 |
| Iron | 200000 | 200000 | 180000 | 90.0 | 179000 | 89.5 |
| Lead | | 1000 | -0.10 | | 903 | 90.3 |
| Magnesium | 500000 | 500000 | 511000 | 102.2 | 508000 | 101.6 |
| Manganese | | 500 | 0.10 | | 477 | 95.4 |
| Molybdenum | | 1000 | -1.5 | | 947 | 94.7 |
| Nickel | | 1000 | 0.20 | | 858 | 85.8 |
| Palladium | | 500 | -14 | | 538 | 107.6 |
| Platinum | | 500 | -27 | | 484 | 96.8 |
| Potassium | | | -55 | | -77 | |
| Selenium | | 2000 | -0.50 | | 1890 | 94.5 |
| Silicon | | 2000 | 5720* | | 7500 | 375.0* |
| Silver | | 1000 | 0.20 | | 1050 | 105.0 |
| Sodium | | | 30.2 | | 29.6 | |
| Sulfur | | 500 | 84.3* | | 568 | 113.6 |
| Strontium | | 1000 | -8.4* | | 955 | 95.5 |
| Thallium | | 2000 | -0.40 | | 1820 | 91.0 |
| Tin | | 1000 | -0.10 | | 982 | 98.2 |
| Titanium | | 500 | 5.7* | | 501 | 100.2 |
| Tungsten | | 2000 | -5.3 | | 1910 | 95.5 |
| Vanadium | | 500 | 0.90 | | 491 | 98.2 |
| Zinc | | 1000 | 0.40 | | 899 | 89.9 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB120913M1L.ICP  Date Analyzed: 12/09/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16536  Units: ug/l

| Time: / Sample ID: / Metal | | | | | |
|---|---|---|---|---|---|
| Zirconium | 500 | -24* | 382 | 76.4* | |

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:53 | MA16557-STD1 | 1 | | STD1 |
| 17:58 | MA16557-STD2 | 1 | | STD2 |
| 18:03 | MA16557-STD3 | 1 | | STD3 |
| 18:08 | MA16557-STD4 | 1 | | STD4 |
| 18:13 | ZZZZZZ | 1 | | DNR: WRONG SOLUTION, SEE RERUN FOR ICV. |
| 18:20 | MA16557-ICV1 | 1 | | |
| 18:27 | MA16557-ICB1 | 1 | | |
| 18:32 | MA16557-CCV1 | 1 | | |
| 18:43 | MA16557-CCB1 | 1 | | |
| 18:51 | MA16557-CRI1 | 1 | | |
| 18:55 | MA16557-ICSA1 | 1 | | |
| 19:00 | MA16557-ICSAB1 | 1 | | |
| 19:05 | MP22168A-S1 | 5 | | |
| 19:10 | MP22168A-S2 | 5 | | |
| 19:15 | MC26418-1F | 3 | | (sample used for QC only; not part of login MC26484) |
| 19:20 | MP22168A-SD1 | 15 | | |
| 19:25 | ZZZZZZ | 3 | | |
| 19:30 | ZZZZZZ | 5 | | |
| 19:34 | ZZZZZZ | 3 | | |
| 19:39 | MA16557-CCV2 | 1 | | |
| 19:44 | MA16557-CCB2 | 1 | | |
| 19:49 | ZZZZZZ | 5 | | |
| 19:54 | ZZZZZZ | 3 | | |
| 19:59 | ZZZZZZ | 3 | | |
| 20:04 | ZZZZZZ | 10 | | |
| 20:09 | ZZZZZZ | 5 | | |
| 20:14 | ZZZZZZ | 5 | | |
| 20:19 | ZZZZZZ | 5 | | |
| 20:23 | ZZZZZZ | 5 | | |
| 20:28 | ZZZZZZ | 3 | | |
| 20:33 | ZZZZZZ | 10 | | |
| 20:38 | MA16557-CCV3 | 1 | | |
| 20:43 | MA16557-CCB3 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:48 | ZZZZZZ | 2 | | |
| 20:53 | ZZZZZZ | 2 | | |
| 20:58 | ZZZZZZ | 10 | | |
| 21:03 | ZZZZZZ | 3 | | |
| 21:08 | ZZZZZZ | 10 | | |
| 21:13 | MP22168A-PS1 | 1 | | |
| 21:17 | MP22168A-PS1 | 10 | | |
| 21:22 | MP22178A-S1 | 5 | | |
| 21:27 | MP22178A-S2 | 5 | | |
| 21:32 | MC26484-4F | 5 | | |
| 21:37 | MA16557-CCV4 | 1 | | |
| 21:42 | MA16557-CCB4 | 1 | | |
| 21:47 | MP22178A-MB1 | 1 | | |
| 21:52 | MP22178A-SD1 | 25 | | |
| 21:57 | MP22178A-S1 | 10 | | |
| 22:01 | MP22178A-S2 | 10 | | |
| 22:06 | MC26484-1F | 5 | | |
| 22:11 | MC26484-2F | 5 | | |
| 22:16 | MC26484-3F | 5 | | |
| 22:21 | MC26484-5F | 5 | | |
| 22:26 | MC26484-5F | 10 | | |
| 22:31 | MC26484-6F | 2 | | |
| 22:36 | MA16557-CCV5 | 1 | | |
| 22:41 | MA16557-CCB5 | 1 | | |
| 22:46 | MC26484-6F | 10 | | |
| 22:51 | MC26484-7F | 2 | | |
| 22:56 | MP22178A-PS1 | 1 | | |
| 23:00 | MP22178A-PS1 | 10 | | |
| ----------> | Last reportable sample/prep for job MC26484 | | | |
| 23:05 | ZZZZZZ | 5 | | |
| 23:10 | ZZZZZZ | 10 | | |
| 23:15 | MA16557-CRI2 | 1 | | |
| 23:20 | MA16557-ICSA2 | 1 | | |
| 23:25 | MA16557-ICSAB2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| | Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|---|
| | 23:30 | MA16557-CCV6 | 1 | | |
| | 23:35 | MA16557-CCB6 | 1 | | |
| -----------> | Last reportable CCB for job MC26484 | | | | |
| | 23:40 | MA16557-CRIA1 | 1 | | |
| | 23:45 | MP22244-B1 | 1 | | |
| | 23:50 | MP22244-MB1 | 1 | | |
| | 23:54 | MP22244-S1 | 1 | | |
| | 00:00 | MP22244-S2 | 1 | | |
| | 00:04 | MC26955-7 | 1 | | (sample used for QC only; not part of login MC26484) |
| | 00:10 | MP22244-SD1 | 5 | | |
| | 00:14 | MP22244-B2 | 1 | | |
| | 00:19 | MP22244-LC1 | 1 | | |
| | 00:24 | ZZZZZZ | 1 | | |
| | 00:29 | MA16557-CCV7 | 1 | | |
| | 00:34 | MA16557-CCB7 | 1 | | |
| | 00:39 | ZZZZZZ | 1 | | |
| | 00:43 | ZZZZZZ | 1 | | |
| | 00:48 | ZZZZZZ | 1 | | |
| | 00:53 | ZZZZZZ | 1 | | |
| | 00:58 | ZZZZZZ | 1 | | |
| | 01:03 | ZZZZZZ | 1 | | |
| | 01:08 | ZZZZZZ | 1 | | |
| | 01:12 | ZZZZZZ | 1 | | |
| | 01:17 | ZZZZZZ | 1 | | |
| | 01:22 | ZZZZZZ | 1 | | |
| | 01:28 | MA16557-CCV8 | 1 | | |
| | 01:32 | MA16557-CCB8 | 1 | | |
| | 01:37 | ZZZZZZ | 1 | | |
| | 01:42 | ZZZZZZ | 1 | | |
| | 01:47 | ZZZZZZ | 1 | | |
| | 01:52 | ZZZZZZ | 1 | | |
| | 01:58 | ZZZZZZ | 1 | | |
| | 02:02 | ZZZZZZ | 1 | | |
| | 02:07 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:12 | ZZZZZZ | 1 | | |
| 02:17 | ZZZZZZ | 1 | | |
| 02:22 | MA16557-CCV9 | 1 | | |
| 02:27 | MA16557-CCB9 | 1 | | |
| 02:32 | MA16557-CRIA2 | 1 | | |
| 02:37 | MA16557-ICSA3 | 1 | | |
| 02:42 | MA16557-ICSAB3 | 1 | | |
| 02:47 | MA16557-CCV10 | 1 | | |
| 02:51 | MA16557-CCB10 | 1 | | |

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 17:53 | MA16557-STD1 | 1160 R | 57505 R | 18747 R |
| 17:58 | MA16557-STD2 | 1152 | 57635 | 18696 |
| 18:03 | MA16557-STD3 | | | 18931 |
| 18:08 | MA16557-STD4 | 1174 | 57499 | 18781 |
| 18:13 | ZZZZZZ | 1174 | 57228 | 18904 |
| 18:20 | MA16557-ICV1 | 1160 | 57170 | 19026 |
| 18:27 | MA16557-ICB1 | 1168 | 57829 | 18810 |
| 18:32 | MA16557-CCV1 | 1168 | 57389 | 18839 |
| 18:43 | MA16557-CCB1 | 1165 | 57745 | 18825 |
| 18:51 | MA16557-CRI1 | 1169 | 57772 | 18760 |
| 18:55 | MA16557-ICSA1 | 1085 | 53577 | 18430 |
| 19:00 | MA16557-ICSAB1 | 1089 | 53441 | 18532 |
| 19:05 | MP22168A-S1 | 1187 | 57529 | 18945 |
| 19:10 | MP22168A-S2 | 1183 | 57765 | 19042 |
| 19:15 | MC26418-1F | 1176 | 57706 | 18935 |
| 19:20 | MP22168A-SD1 | 1172 | 57946 | 18856 |
| 19:25 | ZZZZZZ | 1167 | 57903 | 18923 |
| 19:30 | ZZZZZZ | 1164 | 58174 | 18802 |
| 19:34 | ZZZZZZ | 1161 | 58280 | 18853 |
| 19:39 | MA16557-CCV2 | 1161 | 57824 | 18875 |
| 19:44 | MA16557-CCB2 | 1164 | 57557 | 18737 |
| 19:49 | ZZZZZZ | 1165 | 57846 | 18798 |
| 19:54 | ZZZZZZ | 1173 | 57714 | 18720 |
| 19:59 | ZZZZZZ | 1175 | 57292 | 18476 |
| 20:04 | ZZZZZZ | 1178 | 57465 | 18867 |
| 20:09 | ZZZZZZ | 1179 | 57435 | 18935 |
| 20:14 | ZZZZZZ | 1173 | 57629 | 18724 |
| 20:19 | ZZZZZZ | 1171 | 57672 | 18834 |
| 20:23 | ZZZZZZ | 1165 | 57803 | 18851 |
| 20:28 | ZZZZZZ | 1154 | 57902 | 18844 |
| 20:33 | ZZZZZZ | 1156 | 58143 | 18864 |
| 20:38 | MA16557-CCV3 | 1153 | 58158 | 18883 |
| 20:43 | MA16557-CCB3 | 1150 | 58199 | 18706 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 20:48 | ZZZZZZ | 1143 | 58004 | 18954 |
| 20:53 | ZZZZZZ | 1133 | 58593 | 18753 |
| 20:58 | ZZZZZZ | 1146 | 57517 | 18688 |
| 21:03 | ZZZZZZ | 1146 | 57500 | 18729 |
| 21:08 | ZZZZZZ | 1162 | 57532 | 18770 |
| 21:13 | MP22168A-PS1 | 1114 | 56934 | 18658 |
| 21:17 | MP22168A-PS1 | 1166 | 57388 | 18755 |
| 21:22 | MP22178A-S1 | 1161 | 57336 | 18694 |
| 21:27 | MP22178A-S2 | 1157 | 57491 | 18047 |
| 21:32 | MC26484-4F | 1160 | 57727 | 18765 |
| 21:37 | MA16557-CCV4 | 1155 | 58107 | 18977 |
| 21:42 | MA16557-CCB4 | 1153 | 57732 | 18745 |
| 21:47 | MP22178A-MB1 | 1148 | 57934 | 18772 |
| 21:52 | MP22178A-SD1 | 1145 | 57965 | 18690 |
| 21:57 | MP22178A-S1 | 1146 | 57789 | 18757 |
| 22:01 | MP22178A-S2 | 1144 | 57749 | 18890 |
| 22:06 | MC26484-1F | 1139 | 57998 | 18785 |
| 22:11 | MC26484-2F | 1136 | 57826 | 18666 |
| 22:16 | MC26484-3F | 1132 | 57780 | 18745 |
| 22:21 | MC26484-5F | 1131 | 57594 | 18762 |
| 22:26 | MC26484-5F | 1133 | 57742 | 18843 |
| 22:31 | MC26484-6F | 1120 | 57573 | 18686 |
| 22:36 | MA16557-CCV5 | 1131 | 57771 | 18864 |
| 22:41 | MA16557-CCB5 | 1125 | 57977 | 18799 |
| 22:46 | MC26484-6F | 1122 | 57686 | 18653 |
| 22:51 | MC26484-7F | 1113 | 57871 | 18719 |
| 22:56 | MP22178A-PS1 | 1082 | 57015 | 18635 |
| 23:00 | MP22178A-PS1 | 1116 | 58212 | 18802 |
| 23:05 | ZZZZZZ | 1102 | 57764 | 18759 |
| 23:10 | ZZZZZZ | 1103 | 58152 | 18694 |
| 23:15 | MA16557-CRI2 | 1103 | 57972 | 18700 |
| 23:20 | MA16557-ICSA2 | 1020 | 53791 | 18400 |
| 23:25 | MA16557-ICSAB2 | 1019 | 54122 | 18348 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP Date Analyzed: 12/12/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 23:30 | MA16557-CCV6 | 1105 | 57986 | 18772 |
| 23:35 | MA16557-CCB6 | 1104 | 57816 | 18617 |
| 23:40 | MA16557-CRIA1 | 1114 | 57352 | 18640 |
| 23:45 | MP22244-B1 | 1099 | 56734 | 18715 |
| 23:50 | MP22244-MB1 | 1122 | 57116 | 18723 |
| 23:54 | MP22244-S1 | 1180 | 60185 | 20432 |
| 00:00 | MP22244-S2 | 1177 | 59473 | 20265 |
| 00:04 | MC26955-7 | 1198 | 60435 | 20358 |
| 00:10 | MP22244-SD1 | 1160 | 57847 | 19163 |
| 00:14 | MP22244-B2 | 1124 | 56772 | 18847 |
| 00:19 | MP22244-LC1 | 1231 | 62200 | 20612 |
| 00:24 | ZZZZZZ | 1328 | 67230 | 22218 |
| 00:29 | MA16557-CCV7 | 1130 | 57924 | 18810 |
| 00:34 | MA16557-CCB7 | 1130 | 58201 | 18681 |
| 00:39 | ZZZZZZ | 1251 | 63823 | 21059 |
| 00:43 | ZZZZZZ | 1290 | 66046 | 21751 |
| 00:48 | ZZZZZZ | 1197 | 60842 | 20112 |
| 00:53 | ZZZZZZ | 1214 | 61836 | 20360 |
| 00:58 | ZZZZZZ | 1256 | 64123 | 21258 |
| 01:03 | ZZZZZZ | 1261 | 63493 | 21195 |
| 01:08 | ZZZZZZ | 1258 | 63650 | 21290 |
| 01:12 | ZZZZZZ | 1250 | 64323 | 21185 |
| 01:17 | ZZZZZZ | 1119 | 57870 | 19955 |
| 01:22 | ZZZZZZ | 1212 | 63599 | 21128 |
| 01:28 | MA16557-CCV8 | 1120 | 57536 | 18767 |
| 01:32 | MA16557-CCB8 | 1116 | 58044 | 18701 |
| 01:37 | ZZZZZZ | 1313 | 68502 | 22809 |
| 01:42 | ZZZZZZ | 1148 | 60230 | 20481 |
| 01:47 | ZZZZZZ | 1203 | 63297 | 20943 |
| 01:52 | ZZZZZZ | 1237 | 64888 | 21596 |
| 01:58 | ZZZZZZ | 1153 | 58701 | 19730 |
| 02:02 | ZZZZZZ | 1265 | 64747 | 21534 |
| 02:07 | ZZZZZZ | 1201 | 60626 | 20032 |

INTERNAL STANDARD SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
Analyst: EAL  Run ID: MA16557
Parameters: Ca,Fe,Mg,Mn,K,Na

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 |
|---|---|---|---|---|
| 02:12 | ZZZZZZ | 1186 | 60855 | 19931 |
| 02:17 | ZZZZZZ | 1182 | 60812 | 19707 |
| 02:22 | MA16557-CCV9 | 1124 | 58015 | 18890 |
| 02:27 | MA16557-CCB9 | 1121 | 58102 | 18795 |
| 02:32 | MA16557-CRIA2 | 1108 | 57652 | 18736 |
| 02:37 | MA16557-ICSA3 | 1039 | 53819 | 18424 |
| 02:42 | MA16557-ICSAB3 | 1036 | 51423 | 18507 |
| 02:47 | MA16557-CCV10 | 1125 | 57705 | 18943 |
| 02:51 | MA16557-CCB10 | 1128 | 57918 | 18791 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 18:27 ICB1 raw | final | 18:43 CCB1 raw | final | 19:44 CCB2 raw | final |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 1.5 | <5000 | 1.2 | <5000 | 4.4 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.5 | <100 | 0.90 | <100 | 2.3 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | 9.8 | <5000 | 6.3 | <5000 | 36.7 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.20 | <15 | 0.10 | <15 | 0.30 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 14.5 | <5000 | 13.1 | <5000 | 1.5 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -12 | <5000 | -15 | <5000 | -15 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | RL | IDL | LOD | 20:43 CCB3 raw | final | 21:42 CCB4 raw | final | 22:41 CCB5 raw | final |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 150 | | | | | | |
| Antimony | 6.0 | 1.1 | 5.0 | | | | | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | | | | | |
| Barium | 50 | .19 | 2.5 | | | | | | |
| Beryllium | 4.0 | .08 | 0.90 | | | | | | |
| Boron | 100 | .81 | 5.0 | | | | | | |
| Cadmium | 4.0 | .22 | 1.9 | | | | | | |
| Calcium | 5000 | 8.5 | 150 | 1.6 | <5000 | 2.4 | <5000 | 1.9 | <5000 |
| Chromium | 10 | .74 | 5.0 | | | | | | |
| Cobalt | 50 | .28 | 1.5 | | | | | | |
| Copper | 25 | .86 | 8.0 | | | | | | |
| Gold | 50 | 1.8 | 8.0 | | | | | | |
| Iron | 100 | 4.4 | 30 | 1.7 | <100 | 2.2 | <100 | 0.70 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | | | | | |
| Magnesium | 5000 | 43 | 200 | -8.2 | <5000 | -6.9 | <5000 | -6.5 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.30 | <15 | 0.10 | <15 | 0.20 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | | | | | |
| Nickel | 40 | .45 | 1.5 | | | | | | |
| Palladium | 50 | 2 | 30 | | | | | | |
| Platinum | 50 | 8.7 | 30 | | | | | | |
| Potassium | 5000 | 24 | 500 | 0.40 | <5000 | 3.5 | <5000 | 25.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | | | | | |
| Silicon | 100 | 2.1 | 50 | | | | | | |
| Silver | 5.0 | .47 | 3.5 | | | | | | |
| Sodium | 5000 | 42 | 200 | -13 | <5000 | -13 | <5000 | -18 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | | | | | |
| Strontium | 10 | .1 | 0.90 | | | | | | |
| Thallium | 5.0 | 1.7 | 1.9 | | | | | | |
| Tin | 100 | 1.5 | 5.0 | | | | | | |
| Titanium | 50 | .48 | 5.0 | | | | | | |
| Tungsten | 100 | 9.3 | 30 | | | | | | |
| Vanadium | 10 | .9 | 8.0 | | | | | | |
| Zinc | 20 | .91 | 1.5 | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | | 23:35 | |
|---|---|---|---|---|---|
| Sample ID: | | | | CCB6 | |
| Metal | RL | IDL | LOD | raw | final |
| Aluminum | 200 | 6.1 | 150 | | |
| Antimony | 6.0 | 1.1 | 5.0 | | |
| Arsenic | 4.0 | 2.2 | 3.5 | | |
| Barium | 50 | .19 | 2.5 | | |
| Beryllium | 4.0 | .08 | 0.90 | | |
| Boron | 100 | .81 | 5.0 | | |
| Cadmium | 4.0 | .22 | 1.9 | | |
| Calcium | 5000 | 8.5 | 150 | 8.6 | <5000 |
| Chromium | 10 | .74 | 5.0 | | |
| Cobalt | 50 | .28 | 1.5 | | |
| Copper | 25 | .86 | 8.0 | | |
| Gold | 50 | 1.8 | 8.0 | | |
| Iron | 100 | 4.4 | 30 | 1.5 | <100 |
| Lead | 5.0 | 1.6 | 2.5 | | |
| Magnesium | 5000 | 43 | 200 | 21.4 | <5000 |
| Manganese | 15 | .17 | 2.5 | 0.0 | <15 |
| Molybdenum | 100 | .4 | 2.5 | | |
| Nickel | 40 | .45 | 1.5 | | |
| Palladium | 50 | 2 | 30 | | |
| Platinum | 50 | 8.7 | 30 | | |
| Potassium | 5000 | 24 | 500 | 0.0 | <5000 |
| Selenium | 10 | 1.4 | 8.0 | | |
| Silicon | 100 | 2.1 | 50 | | |
| Silver | 5.0 | .47 | 3.5 | | |
| Sodium | 5000 | 42 | 200 | -16 | <5000 |
| Sulfur | 50 | 2.9 | 30 | | |
| Strontium | 10 | .1 | 0.90 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 5.0 | | |
| Titanium | 50 | .48 | 5.0 | | |
| Tungsten | 100 | 9.3 | 30 | | |
| Vanadium | 10 | .9 | 8.0 | | |
| Zinc | 20 | .91 | 1.5 | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: result < LOD  Run ID: MA16557  Units: ug/l

| Time: | | | |
|---|---|---|---|
| Sample ID: | | | |
| Metal | | | |
| Zirconium | 50 | .76 | 8.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 18:20 | | | 18:32 | | | 19:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 18000 | 17700 | 98.3 | 10000 | 10000 | 100.0 | 10000 | 10000 | 100.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 18000 | 18000 | 100.0 | 10000 | 10100 | 101.0 | 10000 | 10200 | 102.0 |
| Lead | anr | | | | | | | | |
| Magnesium | 18000 | 18100 | 100.6 | 10000 | 9930 | 99.3 | 10000 | 9960 | 99.6 |
| Manganese | 3000 | 2980 | 99.3 | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 15000 | 15100 | 100.7 | 10000 | 10000 | 100.0 | 10000 | 10100 | 101.0 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 15000 | 15200 | 101.3 | 10000 | 10100 | 101.0 | 10000 | 10200 | 102.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 20:38 | | | 21:37 | | | 22:36 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | 10000 | 9990 | 99.9 | 10000 | 9950 | 99.5 | 10000 | 9640 | 96.4 |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Gold | | | | | | | | | |
| Iron | 10000 | 10300 | 103.0 | 10000 | 10200 | 102.0 | 10000 | 9920 | 99.2 |
| Lead | anr | | | | | | | | |
| Magnesium | 10000 | 10000 | 100.0 | 10000 | 9870 | 98.7 | 10000 | 9700 | 97.0 |
| Manganese | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 | 2000 | 1940 | 97.0 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Palladium | | | | | | | | | |
| Platinum | | | | | | | | | |
| Potassium | 10000 | 10100 | 101.0 | 10000 | 10100 | 101.0 | 10000 | 9780 | 97.8 |
| Selenium | anr | | | | | | | | |
| Silicon | | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | 10000 | 10200 | 102.0 | 10000 | 10200 | 102.0 | 10000 | 10000 | 100.0 |
| Sulfur | | | | | | | | | |
| Strontium | | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | 23:30 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Aluminum | | | |
| Antimony | | | |
| Arsenic | anr | | |
| Barium | anr | | |
| Beryllium | | | |
| Boron | | | |
| Cadmium | anr | | |
| Calcium | 10000 | 9590 | 95.9 |
| Chromium | anr | | |
| Cobalt | | | |
| Copper | anr | | |
| Gold | | | |
| Iron | 10000 | 10000 | 100.0 |
| Lead | anr | | |
| Magnesium | 10000 | 9780 | 97.8 |
| Manganese | 2000 | 1930 | 96.5 |
| Molybdenum | | | |
| Nickel | anr | | |
| Palladium | | | |
| Platinum | | | |
| Potassium | 10000 | 9740 | 97.4 |
| Selenium | anr | | |
| Silicon | | | |
| Silver | anr | | |
| Sodium | 10000 | 10100 | 101.0 |
| Sulfur | | | |
| Strontium | | | |
| Thallium | | | |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | | | |
| Zinc | anr | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | |
|---|---|
| Sample ID: | |
| Metal | |

Zirconium

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16557  Units: ug/l

| Time: | | | 18:51 | | 23:15 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 200 | | | | |
| Antimony | 6.0 | 10 | | | | |
| Arsenic | 4.0 | 10 | anr | | | |
| Barium | 50 | 50 | anr | | | |
| Beryllium | 4.0 | 4.0 | | | | |
| Boron | 100 | 100 | | | | |
| Cadmium | 4.0 | 4.0 | anr | | | |
| Calcium | 5000 | 5000 | 4950 | 99.0 | 4860 | 97.2 |
| Chromium | 10 | 10 | anr | | | |
| Cobalt | 50 | 50 | | | | |
| Copper | 25 | 25 | anr | | | |
| Gold | 50 | 50 | | | | |
| Iron | 100 | 100 | 104 | 104.0 | 104 | 104.0 |
| Lead | 5.0 | 10 | anr | | | |
| Magnesium | 5000 | 5000 | 4920 | 98.4 | 4920 | 98.4 |
| Manganese | 15 | 15 | 15.4 | 102.7 | 15.2 | 101.3 |
| Molybdenum | 100 | 100 | | | | |
| Nickel | 40 | 40 | anr | | | |
| Palladium | 50 | 50 | | | | |
| Platinum | 50 | 50 | | | | |
| Potassium | 5000 | 5000 | 4990 | 99.8 | 4990 | 99.8 |
| Selenium | 10 | 10 | anr | | | |
| Silicon | 100 | 100 | | | | |
| Silver | 5.0 | 5.0 | anr | | | |
| Sodium | 5000 | 5000 | 5030 | 100.6 | 5170 | 103.4 |
| Sulfur | 50 | 50 | | | | |
| Strontium | 10 | 10 | | | | |
| Thallium | 5.0 | 10 | | | | |
| Tin | 100 | 100 | | | | |
| Titanium | 50 | 50 | | | | |
| Tungsten | 100 | 100 | | | | |
| Vanadium | 10 | 10 | | | | |
| Zinc | 20 | 20 | anr | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: CRI 70-130%  CRIA 70-130%  Run ID: MA16557  Units: ug/l

| Time: | | |
|---|---|---|
| Sample ID: | | |
| Metal | | |
| Zirconium | 50 | 50 |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16557  Units: ug/l

| Time: | | | 18:55 | | 19:00 | | 23:20 | | 23:25 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 529000 | 105.8 | 522000 | 104.4 | 537000 | 107.4 | 537000 | 107.4 |
| Antimony | | 2000 | 1.5 | | 1990 | 99.5 | 0.40 | | 2060 | 103.0 |
| Arsenic | | 2000 | 0.40 | | 2050 | 102.5 | 1.2 | | 2120 | 106.0 |
| Barium | | 500 | -0.30 | | 496 | 99.2 | -0.40 | | 497 | 99.4 |
| Beryllium | | 500 | 0.10 | | 455 | 91.0 | 0.10 | | 469 | 93.8 |
| Boron | | 1000 | 7.1* | | 962 | 96.2 | 5.8* | | 1040 | 104.0 |
| Cadmium | | 1000 | 0.0 | | 978 | 97.8 | 0.10 | | 1040 | 104.0 |
| Calcium | 500000 | 500000 | 450000 | 90.0 | 449000 | 89.8 | 439000 | 87.8 | 439000 | 87.8 |
| Chromium | | 500 | -0.80 | | 484 | 96.8 | -0.70 | | 459 | 91.8 |
| Cobalt | | 500 | -0.90 | | 463 | 92.6 | 0.0 | | 500 | 100.0 |
| Copper | | 500 | 1.4 | | 521 | 104.2 | 2.0 | | 543 | 108.6 |
| Gold | | 500 | -2.2 | | 499 | 99.8 | -2.5 | | 486 | 97.2 |
| Iron | 200000 | 200000 | 179000 | 89.5 | 179000 | 89.5 | 182000 | 91.0 | 182000 | 91.0 |
| Lead | | 1000 | 0.90 | | 892 | 89.2 | 0.50 | | 922 | 92.2 |
| Magnesium | 500000 | 500000 | 519000 | 103.8 | 517000 | 103.4 | 524000 | 104.8 | 524000 | 104.8 |
| Manganese | | 500 | 0.40 | | 483 | 96.6 | 0.10 | | 472 | 94.4 |
| Molybdenum | | 1000 | -0.90 | | 945 | 94.5 | -1.1 | | 970 | 97.0 |
| Nickel | | 1000 | 0.20 | | 846 | 84.6 | -0.80 | | 885 | 88.5 |
| Palladium | | 500 | -23 | | 529 | 105.8 | -28 | | 530 | 106.0 |
| Platinum | | 500 | -28 | | 482 | 96.4 | -27 | | 471 | 94.2 |
| Potassium | | | -54 | | -6.7 | | -40 | | -24 | |
| Selenium | | 2000 | -1.8 | | 1900 | 95.0 | 0.0 | | 1970 | 98.5 |
| Silicon | | 2000 | 5660* | | 4470 | 223.5* | 3120* | | 4750 | 237.5* |
| Silver | | 1000 | -0.30 | | 1060 | 106.0 | -0.10 | | 1030 | 103.0 |
| Sodium | | | 43.8 | | 62.8 | | 39.3 | | 61.8 | |
| Sulfur | | 500 | 85.3* | | 488 | 97.6 | 93.7* | | 525 | 105.0 |
| Strontium | | 1000 | -8.4* | | 968 | 96.8 | -7.6* | | 1040 | 104.0 |
| Thallium | | 2000 | -1.5 | | 1840 | 92.0 | -1.3 | | 1880 | 94.0 |
| Tin | | 1000 | -0.20 | | 959 | 95.9 | 0.70 | | 1020 | 102.0 |
| Titanium | | 500 | 5.0* | | 504 | 100.8 | 5.5* | | 485 | 97.0 |
| Tungsten | | 2000 | -12 | | 2070 | 103.5 | -27 | | 2100 | 105.0 |
| Vanadium | | 500 | -0.10 | | 498 | 99.6 | -1.1 | | 468 | 93.6 |
| Zinc | | 1000 | 1.1 | | 864 | 86.4 | 0.70 | | 916 | 91.6 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SB121213M2L.ICP  Date Analyzed: 12/12/13  Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery  Run ID: MA16557  Units: ug/l

| Time: / Sample ID: / Metal | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Zirconium | 500 | -24* | | 396 | 79.2* | -11* | | 377 | 75.4* |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/02/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.99 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 4.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP22168: MC26484-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 6.2 | 538 | 500 | 106.4 | 75-125 |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | | | | | |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | | | | | |
| Silver | | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP22168: MC26484-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 6.2 | 550 | 500 | 108.8 | 2.2 | 20 |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | | | | | | |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | | | | | | |
| Silver | | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP22168: MC26484-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/02/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 526 | 500 | 105.2 | 80-120 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22168: MC26484-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22168 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/02/13

| Metal | MC26418-1F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 6.19 | 5.36 | 13.4 (a) | 0-10 |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22168: MC26484-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 50 | 1.5 | 3.5 | | |
| Antimony | 4.0 | .011 | .044 | | |
| Arsenic | 4.0 | .038 | .41 | 0.80 | <4.0 |
| Barium | 2.0 | .039 | .08 | | |
| Beryllium | 2.0 | .012 | .029 | | |
| Boron | 10 | .14 | .16 | | |
| Cadmium | 6.0 | .0059 | .037 | | |
| Calcium | 500 | 12 | 83 | | |
| Chromium | 8.0 | .019 | .15 | | |
| Cobalt | 1.0 | .0024 | .019 | | |
| Copper | 8.0 | .62 | .89 | | |
| Iron | 50 | .58 | 12 | | |
| Lead | 3.0 | .018 | .025 | | |
| Magnesium | 500 | 4.1 | 1.8 | | |
| Manganese | 2.0 | .031 | .69 | | |
| Molybdenum | 2.0 | .052 | .3 | | |
| Nickel | 8.0 | .027 | .22 | | |
| Potassium | 500 | 26 | 49 | | |
| Selenium | 2.0 | .26 | .38 | | |
| Silver | 2.0 | .024 | .025 | | |
| Sodium | 500 | 31 | 6.2 | | |
| Strontium | 20 | .039 | .039 | | |
| Thallium | 2.0 | .043 | .014 | | |
| Tin | 10 | .016 | .5 | | |
| Titanium | 2.0 | .061 | .13 | | |
| Vanadium | 4.0 | .11 | 1.3 | | |
| Zinc | 8.0 | .19 | 1.4 | | |

Associated samples MP22178: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 2540 | 3090 | 500 | 110.0 | 75-125 |
| Barium | anr | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | anr | | | | |
| Calcium | | | | | |
| Chromium | anr | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Iron | | | | | |
| Lead | anr | | | | |
| Magnesium | | | | | |
| Manganese | anr | | | | |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Potassium | | | | | |
| Selenium | anr | | | | |
| Silver | anr | | | | |
| Sodium | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

Associated samples MP22178: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178 Methods: SW846 6020A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 2540 | 3110 | 500 | 114.0 | 0.6 | 20 |
| Barium | anr | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | anr | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Iron | | | | | | |
| Lead | anr | | | | | |
| Magnesium | | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Potassium | | | | | | |
| Selenium | anr | | | | | |
| Silver | anr | | | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

Associated samples MP22178: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 533 | 500 | 106.6 | 80-120 |
| Barium | anr | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | anr | | | |
| Calcium | | | | |
| Chromium | anr | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | anr | | | |
| Magnesium | | | | |
| Manganese | anr | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | anr | | | |
| Silver | anr | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22178: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | SDL 2:10 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 2540 | 2540 | 0.2 | 0-10 |
| Barium | anr | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | anr | | | |
| Calcium | | | | |
| Chromium | anr | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | | | | |
| Lead | anr | | | |
| Magnesium | | | | |
| Manganese | anr | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | anr | | | |
| Silver | anr | | | |
| Sodium | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP22178: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 200 | 6.1 | 40 | | |
| Antimony | 6.0 | 1.1 | 1.9 | | |
| Arsenic | 4.0 | 2.2 | 2.9 | | |
| Barium | 50 | .19 | .81 | | |
| Beryllium | 4.0 | .08 | .25 | | |
| Boron | 100 | .81 | 1.4 | | |
| Cadmium | 4.0 | .22 | .5 | | |
| Calcium | 5000 | 8.5 | 38 | 1.9 | <5000 |
| Chromium | 10 | .74 | 1.4 | | |
| Cobalt | 50 | .28 | .4 | | |
| Copper | 25 | .86 | 7 | | |
| Gold | 50 | 1.8 | 5 | | |
| Iron | 100 | 4.4 | 20 | 0.10 | <100 |
| Lead | 5.0 | 1.6 | 1.7 | | |
| Magnesium | 5000 | 43 | 59 | -14 | <5000 |
| Manganese | 15 | .17 | .81 | 0.20 | <15 |
| Molybdenum | 100 | .4 | .77 | | |
| Nickel | 40 | .45 | .57 | | |
| Palladium | 50 | 2 | 7.6 | | |
| Platinum | 50 | 8.7 | 14 | | |
| Potassium | 5000 | 24 | 160 | 14.9 | <5000 |
| Selenium | 10 | 1.4 | 4.8 | | |
| Silicon | 100 | 2.1 | 45 | | |
| Silver | 5.0 | .47 | 1 | | |
| Sodium | 5000 | 42 | 60 | 0.30 | <5000 |
| Sulfur | 50 | 2.9 | 8 | | |
| Strontium | 10 | .1 | .26 | | |
| Thallium | 5.0 | 1.7 | 1.9 | | |
| Tin | 100 | 1.5 | 1.4 | | |
| Titanium | 50 | .48 | 1.8 | | |
| Tungsten | 100 | 9.3 | 16 | | |
| Vanadium | 10 | .9 | 2.8 | | |
| Zinc | 20 | .91 | .5 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal | | | |
|---|---|---|---|
| Zirconium | 50 | .76 | 2.2 |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | MS | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | | | | | |
| Barium | | | | | |
| Beryllium | | | | | |
| Boron | | | | | |
| Cadmium | | | | | |
| Calcium | 18600 | 43500 | 25000 | 99.6 | 75-125 |
| Chromium | | | | | |
| Cobalt | | | | | |
| Copper | | | | | |
| Gold | | | | | |
| Iron | 39900 | 42400 | 2000 | 125.0(a) | 75-125 |
| Lead | | | | | |
| Magnesium | 1910 | 27000 | 25000 | 100.4 | 75-125 |
| Manganese | 2490 | 2950 | 500 | 92.0 | 75-125 |
| Molybdenum | | | | | |
| Nickel | | | | | |
| Palladium | | | | | |
| Platinum | | | | | |
| Potassium | 3920 | 29600 | 25000 | 102.7 | 75-125 |
| Selenium | | | | | |
| Silicon | | | | | |
| Silver | | | | | |
| Sodium | 59400 | 86300 | 25000 | 107.6 | 75-125 |
| Sulfur | | | | | |
| Strontium | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | MSD | Spikelot MPICP | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | | | | | | |
| Barium | | | | | | |
| Beryllium | | | | | | |
| Boron | | | | | | |
| Cadmium | | | | | | |
| Calcium | 18600 | 46000 | 25000 | 109.6 | 5.6 | 20 |
| Chromium | | | | | | |
| Cobalt | | | | | | |
| Copper | | | | | | |
| Gold | | | | | | |
| Iron | 39900 | 42800 | 2000 | 145.0(a) | 0.9 | 20 |
| Lead | | | | | | |
| Magnesium | 1910 | 28400 | 25000 | 106.0 | 5.1 | 20 |
| Manganese | 2490 | 2960 | 500 | 94.0 | 0.3 | 20 |
| Molybdenum | | | | | | |
| Nickel | | | | | | |
| Palladium | | | | | | |
| Platinum | | | | | | |
| Potassium | 3920 | 31000 | 25000 | 108.3 | 4.6 | 20 |
| Selenium | | | | | | |
| Silicon | | | | | | |
| Silver | | | | | | |
| Sodium | 59400 | 86700 | 25000 | 109.2 | 0.5 | 20 |
| Sulfur | | | | | | |
| Strontium | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | BSP Result | Spikelot MPICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 23900 | 25000 | 95.6 | 80-120 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 2060 | 2000 | 103.0 | 80-120 |
| Lead | | | | |
| Magnesium | 24600 | 25000 | 98.4 | 80-120 |
| Manganese | 483 | 500 | 96.6 | 80-120 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 25200 | 25000 | 100.8 | 80-120 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 25100 | 25000 | 100.4 | 80-120 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | MC26484-4F Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Boron | | | | |
| Cadmium | | | | |
| Calcium | 18600 | 19200 | 3.7 | 0-10 |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Gold | | | | |
| Iron | 39900 | 41000 | 2.6 | 0-10 |
| Lead | | | | |
| Magnesium | 1910 | 1900 | 0.9 | 0-10 |
| Manganese | 2490 | 2530 | 1.6 | 0-10 |
| Molybdenum | | | | |
| Nickel | | | | |
| Palladium | | | | |
| Platinum | | | | |
| Potassium | 3920 | 4050 | 3.2 | 0-10 |
| Selenium | | | | |
| Silicon | | | | |
| Silver | | | | |
| Sodium | 59400 | 61300 | 3.1 | 0-10 |
| Sulfur | | | | |
| Strontium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

| Metal |
|---|
| Zirconium |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP22178A
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/03/13

| Metal | Sample ml | Final ml | MC26484-4F Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | | | | | | | | | | |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Gold | | | | | | | | | | |
| Iron | 10 | 11.5 | 39940 | 34730.43 | 36100 | 1 | 10 | 869.5652 | 157.5(a) | 80-120 |
| Lead | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Palladium | | | | | | | | | | |
| Platinum | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sulfur | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |
| Zirconium | | | | | | | | | | |

Associated samples MP22178A: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Post-digestion spike recovery outside of the control limit.

New England ACCUTEST LABORATORIES

Metals Analysis

Raw Data

C:\ICPCHEM\1\DATA\13L03l00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\001CAL
Date Acquired: Dec 3 2013 11:43 am
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 02 2013 02:40 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2042224.00 | A | 18020.00 | 0.88 |
| 7 | (Li) | | P | | |
| 9 | Be | 30.00 | P | 8.82 | 29.40 |
| 9 | Be | 5.56 | P | 3.85 | 69.28 |
| 11 | B | 401.13 | P | 50.04 | 12.48 |
| 11 | B | 17.78 | P | 8.39 | 47.19 |
| 23 | Na | 497893.50 | P | 15600.00 | 3.13 |
| 23 | Na | 89173.66 | P | 817.80 | 0.92 |
| 24 | Mg | 8428.11 | P | 437.20 | 5.19 |
| 24 | Mg | 584.48 | P | 82.29 | 14.08 |
| 27 | Al | 6909.55 | P | 223.00 | 3.23 |
| 27 | Al | 217.79 | P | 18.96 | 8.71 |
| 39 | K | 4641401.00 | A | 33740.00 | 0.73 |
| 44 | Ca | 20402.91 | P | 321.90 | 1.58 |
| 45 | Sc | 2515959.00 | A | 8988.00 | 0.36 |
| 45 | Sc | 386175.50 | P | 1335.00 | 0.35 |
| 47 | Ti | 113.34 | P | 3.33 | 2.94 |
| 51 | V | 5930.11 | P | 138.30 | 2.33 |
| 52 | Cr | 1642.78 | P | 27.56 | 1.68 |
| 55 | Mn | 168.45 | P | 11.65 | 6.92 |
| 56 | Fe | 24915.31 | P | 728.40 | 2.92 |
| 59 | Co | 25.33 | P | 3.53 | 13.93 |
| 60 | Ni | 573.80 | P | 32.59 | 5.68 |
| 63 | Cu | 516.46 | P | 13.68 | 2.65 |
| 66 | Zn | 115.78 | P | 11.74 | 10.14 |
| 72 | Ge | 464326.59 | P | 5088.00 | 1.10 |
| 72 | Ge | 135544.30 | P | 314.60 | 0.23 |
| 75 | As | 206.45 | P | 13.15 | 6.37 |
| 78 | Se | 243.11 | P | 21.30 | 8.76 |
| 88 | Sr | 361.13 | P | 15.40 | 4.26 |
| 98 | Mo | 274.46 | P | 45.50 | 16.58 |
| 103 | Rh | 2261217.00 | A | 5943.00 | 0.26 |
| 107 | Ag | 54.45 | P | 3.85 | 7.07 |

C:\ICPCHEM\1\DATA\13L03l00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7.78 | P | 3.85 | 49.49 |
| 115 | In | 2380679.00 | A | 25900.00 | 1.09 |
| 115 | In | 1041277.00 | P | 6153.00 | 0.59 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 122.23 | P | 10.18 | 8.33 |
| 121 | Sb | 33.33 | P | 11.55 | 34.65 |
| 137 | Ba | 307.79 | P | 31.51 | 10.24 |
| 159 | Tb | 2733203.00 | A | 16160.00 | 0.59 |
| 175 | Lu | 2528535.00 | A | 19600.00 | 0.78 |
| 205 | Tl | 335.57 | P | 30.97 | 9.23 |
| 206 | (Pb) | 84.45 | P | 1.93 | 2.28 |
| 207 | (Pb) | 54.45 | P | 13.47 | 24.74 |
| 208 | Pb | 854.50 | P | 39.78 | 4.66 |
| 209 | Bi | 1585104.00 | A | 17320.00 | 1.09 |

C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\002CAL
Date Acquired: Dec 3 2013 11:50 am
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 11:47 am
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1993708.00 | A | 35920.00 | 1.80 |
| 7 | (Li) | | P | | |
| 9 | Be | 12.22 | P | 8.39 | 68.64 |
| 9 | Be | 0.00 | P | 0.00 | 0.00 |
| 11 | B | 520.03 | P | 47.02 | 9.04 |
| 11 | B | 16.67 | P | 3.33 | 20.00 |
| 23 | Na | 469082.59 | P | 9404.00 | 2.00 |
| 23 | Na | 86766.08 | P | 386.20 | 0.45 |
| 24 | Mg | 7675.49 | P | 344.50 | 4.49 |
| 24 | Mg | 473.36 | P | 85.05 | 17.97 |
| 27 | Al | 6769.46 | P | 79.01 | 1.17 |
| 27 | Al | 274.46 | P | 33.39 | 12.17 |
| 39 | K | 4558383.00 | A | 7362.00 | 0.16 |
| 44 | Ca | 19960.07 | P | 140.00 | 0.70 |
| 45 | Sc | 2491942.00 | A | 24740.00 | 0.99 |
| 45 | Sc | 379285.50 | P | 4135.00 | 1.09 |
| 47 | Ti | 120.00 | P | 21.86 | 18.22 |
| 51 | V | 5948.33 | P | 100.60 | 1.69 |
| 52 | Cr | 1528.10 | P | 140.90 | 9.22 |
| 55 | Mn | 161.34 | P | 24.26 | 15.04 |
| 56 | Fe | 24993.44 | P | 2036.00 | 8.15 |
| 59 | Co | 14.22 | P | 2.04 | 14.32 |
| 60 | Ni | 582.69 | P | 24.04 | 4.13 |
| 63 | Cu | 516.02 | P | 33.31 | 6.46 |
| 66 | Zn | 114.45 | P | 6.05 | 5.29 |
| 72 | Ge | 463521.91 | P | 10560.00 | 2.28 |
| 72 | Ge | 134804.91 | P | 998.30 | 0.74 |
| 75 | As | 195.34 | P | 1.33 | 0.68 |
| 78 | Se | 223.34 | P | 8.08 | 3.62 |
| 88 | Sr | 340.02 | P | 20.82 | 6.12 |
| 98 | Mo | 268.90 | P | 10.18 | 3.79 |
| 103 | Rh | 2265279.00 | A | 46170.00 | 2.04 |
| 107 | Ag | 37.78 | P | 13.47 | 35.66 |

C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 3.33 | P | 3.33 | 99.99 |
| 115 | In | 2375722.00 | A | 32170.00 | 1.35 |
| 115 | In | 1034375.00 | P | 1073.00 | 0.10 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 96.67 | P | 12.02 | 12.43 |
| 121 | Sb | 33.33 | P | 3.33 | 10.00 |
| 137 | Ba | 343.35 | P | 55.68 | 16.22 |
| 159 | Tb | 2743058.00 | A | 41910.00 | 1.53 |
| 175 | Lu | 2554975.00 | A | 43220.00 | 1.69 |
| 205 | Tl | 303.35 | P | 21.86 | 7.21 |
| 206 | (Pb) | 60.00 | P | 6.67 | 11.11 |
| 207 | (Pb) | 54.45 | P | 5.09 | 9.35 |
| 208 | Pb | 926.73 | P | 26.46 | 2.86 |
| 209 | Bi | 1599251.00 | A | 22610.00 | 1.41 |

C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#
Date Acquired: Dec 3 2013 11:57 am
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 11:54 am
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1974962.00 | A | 10350.00 | 0.52 |
| 7 | (Li) | | P | | |
| 9 | Be | 3610.54 | P | 75.37 | 2.09 |
| 9 | Be | 136.67 | P | 23.33 | 17.07 |
| 11 | B | 2858.13 | P | 58.36 | 2.04 |
| 11 | B | 65.56 | P | 10.18 | 15.53 |
| 23 | Na | 501306.19 | P | 6957.00 | 1.39 |
| 23 | Na | 90381.57 | P | 233.20 | 0.26 |
| 24 | Mg | 22591.27 | P | 729.50 | 3.23 |
| 24 | Mg | 1505.68 | P | 123.90 | 8.23 |
| 27 | Al | 27990.19 | P | 710.80 | 2.54 |
| 27 | Al | 961.18 | P | 118.80 | 12.36 |
| 39 | K | 4538665.00 | A | 18310.00 | 0.40 |
| 44 | Ca | 20843.52 | P | 353.40 | 1.70 |
| 45 | Sc | 2490373.00 | A | 2526.00 | 0.10 |
| 45 | Sc | 376187.00 | P | 2187.00 | 0.58 |
| 47 | Ti | 1294.55 | P | 18.36 | 1.42 |
| 51 | V | 10457.45 | P | 45.39 | 0.43 |
| 52 | Cr | 6048.83 | P | 47.00 | 0.78 |
| 55 | Mn | 3868.09 | P | 73.46 | 1.90 |
| 56 | Fe | 32085.38 | P | 419.70 | 1.31 |
| 59 | Co | 5997.70 | P | 41.01 | 0.68 |
| 60 | Ni | 2033.05 | P | 71.38 | 3.51 |
| 63 | Cu | 4130.39 | P | 92.83 | 2.25 |
| 66 | Zn | 1042.27 | P | 51.00 | 4.89 |
| 72 | Ge | 459277.81 | P | 4120.00 | 0.90 |
| 72 | Ge | 134644.70 | P | 736.30 | 0.55 |
| 75 | As | 742.91 | P | 14.91 | 2.01 |
| 78 | Se | 290.23 | P | 14.85 | 5.12 |
| 88 | Sr | 17204.81 | P | 309.20 | 1.80 |
| 98 | Mo | 4663.11 | P | 53.20 | 1.14 |
| 103 | Rh | 2241398.00 | A | 23040.00 | 1.03 |
| 107 | Ag | 6880.73 | P | 102.30 | 1.49 |

C:\ICPCHEM\1\DATA\13L03l00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 836.72 | P | 66.67 | 7.97 |
| 115 | In | 2358051.00 | A | 6958.00 | 0.30 |
| 115 | In | 1030933.00 | P | 5087.00 | 0.49 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 5949.21 | P | 16.44 | 0.28 |
| 121 | Sb | 5542.34 | P | 135.10 | 2.44 |
| 137 | Ba | 2473.64 | P | 52.08 | 2.11 |
| 159 | Tb | 2726764.00 | A | 9041.00 | 0.33 |
| 175 | Lu | 2531401.00 | A | 28290.00 | 1.12 |
| 205 | Tl | 8687.47 | P | 9.65 | 0.11 |
| 206 | (Pb) | 3381.65 | P | 133.10 | 3.94 |
| 207 | (Pb) | 2835.95 | P | 49.14 | 1.73 |
| 208 | Pb | 14234.66 | P | 244.80 | 1.72 |
| 209 | Bi | 1583286.00 | A | 19670.00 | 1.24 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1974962.00 | 0.52 | 1993708.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 2490373.00 | 0.10 | 2491942.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 376187.03 | 0.58 | 379285.53 | 99.2 | 70 - 130 | |
| 72 | Ge | 459277.81 | 0.90 | 463521.91 | 99.1 | 70 - 130 | |
| 72 | Ge | 134644.70 | 0.55 | 134804.92 | 99.9 | 70 - 130 | |
| 103 | Rh | 2241398.00 | 1.03 | 2265278.80 | 98.9 | 70 - 130 | |
| 115 | In | 2358051.30 | 0.30 | 2375722.30 | 99.3 | 70 - 130 | |
| 115 | In | 1030933.00 | 0.49 | 1034375.50 | 99.7 | 70 - 130 | |
| 159 | Tb | 2726763.50 | 0.33 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2531401.50 | 1.12 | 2554974.50 | 99.1 | 70 - 130 | |
| 209 | Bi | 1583286.10 | 1.24 | 1599250.90 | 99.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#
Date Acquired: Dec 3 2013 12:05 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:01 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1964192.00 | A | 15140.00 | 0.77 |
| 7 | (Li) | | P | | |
| 9 | Be | 36067.37 | P | 186.50 | 0.52 |
| 9 | Be | 1510.12 | P | 58.12 | 3.85 |
| 11 | B | 22235.12 | P | 192.90 | 0.87 |
| 11 | B | 604.48 | P | 25.02 | 4.14 |
| 23 | Na | 711511.00 | P | 9368.00 | 1.32 |
| 23 | Na | 106346.80 | P | 709.90 | 0.67 |
| 24 | Mg | 124747.30 | P | 1582.00 | 1.27 |
| 24 | Mg | 8161.26 | P | 270.20 | 3.31 |
| 27 | Al | 152582.09 | P | 542.20 | 0.36 |
| 27 | Al | 5346.66 | P | 45.52 | 0.85 |
| 39 | K | 4666720.00 | A | 19500.00 | 0.42 |
| 44 | Ca | 25718.68 | P | 422.40 | 1.64 |
| 45 | Sc | 2496029.00 | A | 13470.00 | 0.54 |
| 45 | Sc | 377316.91 | P | 2514.00 | 0.67 |
| 47 | Ti | 11549.14 | P | 100.40 | 0.87 |
| 51 | V | 48850.12 | P | 378.00 | 0.77 |
| 52 | Cr | 46795.79 | P | 409.70 | 0.88 |
| 55 | Mn | 37494.66 | P | 362.40 | 0.97 |
| 56 | Fe | 68780.38 | P | 420.30 | 0.61 |
| 59 | Co | 59508.76 | P | 364.60 | 0.61 |
| 60 | Ni | 15249.54 | P | 75.81 | 0.50 |
| 63 | Cu | 36866.77 | P | 349.90 | 0.95 |
| 66 | Zn | 7279.99 | P | 88.44 | 1.21 |
| 72 | Ge | 454772.00 | P | 3972.00 | 0.87 |
| 72 | Ge | 133754.80 | P | 618.50 | 0.46 |
| 75 | As | 5649.75 | P | 49.98 | 0.88 |
| 78 | Se | 864.47 | P | 8.06 | 0.93 |
| 88 | Sr | 167283.30 | P | 284.60 | 0.17 |
| 98 | Mo | 44065.03 | P | 503.40 | 1.14 |
| 103 | Rh | 2231665.00 | A | 7559.00 | 0.34 |
| 107 | Ag | 67882.79 | P | 553.00 | 0.81 |

C:\ICPCHEM\1\DATA\13L03l00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7718.94 | P | 56.99 | 0.74 |
| 115 | In | 2346415.00 | A | 18790.00 | 0.80 |
| 115 | In | 1032107.00 | P | 2840.00 | 0.28 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 56967.96 | P | 939.00 | 1.65 |
| 121 | Sb | 55183.39 | P | 385.00 | 0.70 |
| 137 | Ba | 19868.66 | P | 187.30 | 0.94 |
| 159 | Tb | 2732789.00 | A | 15080.00 | 0.55 |
| 175 | Lu | 2526445.00 | A | 18440.00 | 0.73 |
| 205 | Tl | 89044.52 | P | 743.90 | 0.84 |
| 206 | (Pb) | 34073.85 | P | 758.70 | 2.23 |
| 207 | (Pb) | 28796.36 | P | 204.40 | 0.71 |
| 208 | Pb | 134749.00 | P | 1166.00 | 0.87 |
| 209 | Bi | 1573400.00 | A | 5538.00 | 0.35 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | | Flag |
|---|---|---|---|---|---|---|---|---|
| 6 | Li | 1964192.30 | 0.77 | 1993708.30 | 98.5 | 70 - | 130 | |
| 45 | Sc | 2496029.30 | 0.54 | 2491942.30 | 100.2 | 70 - | 130 | |
| 45 | Sc | 377316.97 | 0.67 | 379285.53 | 99.5 | 70 - | 130 | |
| 72 | Ge | 454771.97 | 0.87 | 463521.91 | 98.1 | 70 - | 130 | |
| 72 | Ge | 133754.81 | 0.46 | 134804.92 | 99.2 | 70 - | 130 | |
| 103 | Rh | 2231664.80 | 0.34 | 2265278.80 | 98.5 | 70 - | 130 | |
| 115 | In | 2346414.80 | 0.80 | 2375722.30 | 98.8 | 70 - | 130 | |
| 115 | In | 1032106.80 | 0.28 | 1034375.50 | 99.8 | 70 - | 130 | |
| 159 | Tb | 2732788.80 | 0.55 | 2743058.00 | 99.6 | 70 - | 130 | |
| 175 | Lu | 2526445.00 | 0.73 | 2554974.50 | 98.9 | 70 - | 130 | |
| 209 | Bi | 1573400.00 | 0.35 | 1599250.90 | 98.4 | 70 - | 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#
Date Acquired: Dec 3 2013 12:12 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:08 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1994634.00 | A | 9293.00 | 0.47 |
| 7 | (Li) | | P | | |
| 9 | Be | 175735.59 | P | 788.70 | 0.45 |
| 9 | Be | 7423.09 | P | 68.36 | 0.92 |
| 11 | B | 104380.50 | P | 264.60 | 0.25 |
| 11 | B | 2763.67 | P | 103.40 | 3.74 |
| 23 | Na | 1316194.00 | A | 1915.00 | 0.15 |
| 23 | Na | 152333.09 | P | 1068.00 | 0.70 |
| 24 | Mg | 566337.63 | P | 2906.00 | 0.51 |
| 24 | Mg | 37791.83 | P | 323.10 | 0.85 |
| 27 | Al | 693223.69 | P | 2833.00 | 0.41 |
| 27 | Al | 24729.10 | P | 71.34 | 0.29 |
| 39 | K | 5193197.00 | A | 32250.00 | 0.62 |
| 44 | Ca | 47479.23 | P | 152.60 | 0.32 |
| 45 | Sc | 2474766.00 | A | 22350.00 | 0.90 |
| 45 | Sc | 373848.19 | P | 2268.00 | 0.61 |
| 47 | Ti | 56201.92 | P | 193.20 | 0.34 |
| 51 | V | 211461.20 | P | 1434.00 | 0.68 |
| 52 | Cr | 221591.20 | P | 897.30 | 0.40 |
| 55 | Mn | 180686.59 | P | 586.60 | 0.32 |
| 56 | Fe | 230571.09 | P | 1055.00 | 0.46 |
| 59 | Co | 288719.69 | P | 1253.00 | 0.43 |
| 60 | Ni | 71436.79 | P | 659.30 | 0.92 |
| 63 | Cu | 175574.91 | P | 244.30 | 0.14 |
| 66 | Zn | 33597.25 | P | 130.90 | 0.39 |
| 72 | Ge | 445787.31 | P | 1365.00 | 0.31 |
| 72 | Ge | 131344.00 | P | 21.82 | 0.02 |
| 75 | As | 26301.63 | P | 147.70 | 0.56 |
| 78 | Se | 3287.71 | P | 50.78 | 1.54 |
| 88 | Sr | 802717.00 | P | 3814.00 | 0.48 |
| 98 | Mo | 214314.80 | P | 712.20 | 0.33 |
| 103 | Rh | 2235207.00 | A | 18430.00 | 0.82 |
| 107 | Ag | 330241.31 | P | 1295.00 | 0.39 |

C:\ICPCHEM\1\DATA\13L03l00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 37983.04 | P | 306.30 | 0.81 |
| 115 | In | 2349435.00 | A | 14110.00 | 0.60 |
| 115 | In | 1011253.00 | P | 4745.00 | 0.47 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 273607.09 | P | 1010.00 | 0.37 |
| 121 | Sb | 267490.50 | P | 1810.00 | 0.68 |
| 137 | Ba | 97145.60 | P | 159.40 | 0.16 |
| 159 | Tb | 2734214.00 | A | 30350.00 | 1.11 |
| 175 | Lu | 2523773.00 | A | 47110.00 | 1.87 |
| 205 | Tl | 455928.59 | P | 5369.00 | 1.18 |
| 206 | (Pb) | 167460.00 | P | 702.00 | 0.42 |
| 207 | (Pb) | 137734.91 | P | 1945.00 | 1.41 |
| 208 | Pb | 647846.13 | P | 4862.00 | 0.75 |
| 209 | Bi | 1563680.00 | A | 16440.00 | 1.05 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1994634.10 | 0.47 | 1993708.30 | 100.0 | 70 - 130 | |
| 45 | Sc | 2474766.50 | 0.90 | 2491942.30 | 99.3 | 70 - 130 | |
| 45 | Sc | 373848.22 | 0.61 | 379285.53 | 98.6 | 70 - 130 | |
| 72 | Ge | 445787.34 | 0.31 | 463521.91 | 96.2 | 70 - 130 | |
| 72 | Ge | 131344.02 | 0.02 | 134804.92 | 97.4 | 70 - 130 | |
| 103 | Rh | 2235207.50 | 0.82 | 2265278.80 | 98.7 | 70 - 130 | |
| 115 | In | 2349435.30 | 0.60 | 2375722.30 | 98.9 | 70 - 130 | |
| 115 | In | 1011253.00 | 0.47 | 1034375.50 | 97.8 | 70 - 130 | |
| 159 | Tb | 2734214.30 | 1.11 | 2743058.00 | 99.7 | 70 - 130 | |
| 175 | Lu | 2523772.80 | 1.87 | 2554974.50 | 98.8 | 70 - 130 | |
| 209 | Bi | 1563680.30 | 1.05 | 1599250.90 | 97.8 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#
Date Acquired: Dec 3 2013 12:19 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:16 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1976075.00 | A | 7623.00 | 0.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 357652.09 | P | 3560.00 | 1.00 |
| 9 | Be | 15399.10 | P | 133.70 | 0.87 |
| 11 | B | 213448.59 | P | 2945.00 | 1.38 |
| 11 | B | 5837.95 | P | 73.37 | 1.26 |
| 23 | Na | 2145411.00 | A | 13790.00 | 0.64 |
| 23 | Na | 216304.70 | P | 801.50 | 0.37 |
| 24 | Mg | 1162829.00 | A | 9151.00 | 0.79 |
| 24 | Mg | 75906.12 | P | 723.90 | 0.95 |
| 27 | Al | 1406021.00 | A | 8084.00 | 0.57 |
| 27 | Al | 49556.96 | P | 562.20 | 1.13 |
| 39 | K | 5847501.00 | A | 27250.00 | 0.47 |
| 44 | Ca | 76165.34 | P | 310.10 | 0.41 |
| 45 | Sc | 2466361.00 | A | 27280.00 | 1.11 |
| 45 | Sc | 368471.69 | P | 983.80 | 0.27 |
| 47 | Ti | 114189.30 | P | 1206.00 | 1.06 |
| 51 | V | 422057.31 | P | 910.40 | 0.22 |
| 52 | Cr | 446638.91 | P | 1926.00 | 0.43 |
| 55 | Mn | 365833.91 | P | 1306.00 | 0.36 |
| 56 | Fe | 438326.91 | P | 3359.00 | 0.77 |
| 59 | Co | 584266.38 | P | 5197.00 | 0.89 |
| 60 | Ni | 143802.41 | P | 739.40 | 0.51 |
| 63 | Cu | 353604.00 | P | 2103.00 | 0.59 |
| 66 | Zn | 67946.21 | P | 62.26 | 0.09 |
| 72 | Ge | 439823.59 | P | 4408.00 | 1.00 |
| 72 | Ge | 129346.90 | P | 494.20 | 0.38 |
| 75 | As | 52796.38 | P | 256.10 | 0.49 |
| 78 | Se | 6363.82 | P | 28.39 | 0.45 |
| 88 | Sr | 1627841.00 | A | 5831.00 | 0.36 |
| 98 | Mo | 437356.59 | P | 5674.00 | 1.30 |
| 103 | Rh | 2215063.00 | A | 1968.00 | 0.09 |
| 107 | Ag | 671728.00 | P | 5594.00 | 0.83 |

C:\ICPCHEM\1\DATA\13L03l00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 76279.69 | P | 471.10 | 0.62 |
| 115 | In | 2328202.00 | A | 5957.00 | 0.26 |
| 115 | In | 1006958.00 | P | 10070.00 | 1.00 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 558472.31 | P | 6613.00 | 1.18 |
| 121 | Sb | 541676.63 | P | 4446.00 | 0.82 |
| 137 | Ba | 195283.00 | P | 1241.00 | 0.64 |
| 159 | Tb | 2726107.00 | A | 9448.00 | 0.35 |
| 175 | Lu | 2530479.00 | A | 20570.00 | 0.81 |
| 205 | Tl | 952149.69 | P | 216.90 | 0.02 |
| 206 | (Pb) | 336591.31 | P | 2073.00 | 0.62 |
| 207 | (Pb) | 279457.00 | P | 2440.00 | 0.87 |
| 208 | Pb | 1305953.00 | P | 12680.00 | 0.97 |
| 209 | Bi | 1556402.00 | A | 2087.00 | 0.13 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1976074.80 | 0.39 | 1993708.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 2466361.50 | 1.11 | 2491942.30 | 99.0 | 70 - 130 | |
| 45 | Sc | 368471.66 | 0.27 | 379285.53 | 97.1 | 70 - 130 | |
| 72 | Ge | 439823.59 | 1.00 | 463521.91 | 94.9 | 70 - 130 | |
| 72 | Ge | 129346.94 | 0.38 | 134804.92 | 96.0 | 70 - 130 | |
| 103 | Rh | 2215063.50 | 0.09 | 2265278.80 | 97.8 | 70 - 130 | |
| 115 | In | 2328201.80 | 0.26 | 2375722.30 | 98.0 | 70 - 130 | |
| 115 | In | 1006958.00 | 1.00 | 1034375.50 | 97.3 | 70 - 130 | |
| 159 | Tb | 2726107.00 | 0.35 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2530478.80 | 0.81 | 2554974.50 | 99.0 | 70 - 130 | |
| 209 | Bi | 1556402.50 | 0.13 | 1599250.90 | 97.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#
Date Acquired: Dec 3 2013 12:26 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:23 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1951109.00 | A | 15800.00 | 0.81 |
| 7 | (Li) | | P | | |
| 9 | Be | 701352.38 | P | 3174.00 | 0.45 |
| 9 | Be | 30619.22 | P | 365.90 | 1.20 |
| 11 | B | 415145.91 | P | 1151.00 | 0.28 |
| 11 | B | 11513.39 | P | 192.90 | 1.68 |
| 23 | Na | 3743625.00 | A | 15010.00 | 0.40 |
| 23 | Na | 345033.81 | P | 2156.00 | 0.62 |
| 24 | Mg | 2227001.00 | A | 17980.00 | 0.81 |
| 24 | Mg | 148492.70 | P | 1531.00 | 1.03 |
| 27 | Al | 2709563.00 | A | 14560.00 | 0.54 |
| 27 | Al | 97790.14 | P | 607.50 | 0.62 |
| 39 | K | 7106704.00 | A | 57740.00 | 0.81 |
| 44 | Ca | 134055.30 | P | 1345.00 | 1.00 |
| 45 | Sc | 2449469.00 | A | 18080.00 | 0.74 |
| 45 | Sc | 369936.19 | P | 2611.00 | 0.71 |
| 47 | Ti | 223643.70 | P | 889.00 | 0.40 |
| 51 | V | 834746.00 | P | 3704.00 | 0.44 |
| 52 | Cr | 880769.38 | P | 6121.00 | 0.69 |
| 55 | Mn | 725049.88 | P | 5064.00 | 0.70 |
| 56 | Fe | 844846.50 | P | 4017.00 | 0.48 |
| 59 | Co | 1153190.00 | P | 5181.00 | 0.45 |
| 60 | Ni | 284250.91 | P | 1764.00 | 0.62 |
| 63 | Cu | 701050.00 | P | 2629.00 | 0.38 |
| 66 | Zn | 137878.00 | P | 319.40 | 0.23 |
| 72 | Ge | 433324.09 | P | 4152.00 | 0.96 |
| 72 | Ge | 128640.20 | P | 1271.00 | 0.99 |
| 75 | As | 104590.60 | P | 803.20 | 0.77 |
| 78 | Se | 12311.05 | P | 93.84 | 0.76 |
| 88 | Sr | 3128165.00 | A | 15980.00 | 0.51 |
| 98 | Mo | 859588.50 | P | 6570.00 | 0.76 |
| 103 | Rh | 2220862.00 | A | 20350.00 | 0.92 |
| 107 | Ag | 1275859.00 | A | 13030.00 | 1.02 |

C:\ICPCHEM\1\DATA\13L03l00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 151777.00 | P | 425.90 | 0.28 |
| 115 | In | 2304966.00 | A | 29270.00 | 1.27 |
| 115 | In | 995791.50 | P | 4516.00 | 0.45 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1092063.00 | P | 18260.00 | 1.67 |
| 121 | Sb | 1062062.00 | P | 11640.00 | 1.10 |
| 137 | Ba | 384995.59 | P | 3998.00 | 1.04 |
| 159 | Tb | 2697570.00 | A | 26950.00 | 1.00 |
| 175 | Lu | 2514225.00 | A | 10050.00 | 0.40 |
| 205 | Tl | 1896940.00 | A | 4075.00 | 0.21 |
| 206 | (Pb) | 661579.38 | P | 9186.00 | 1.39 |
| 207 | (Pb) | 550783.00 | P | 7992.00 | 1.45 |
| 208 | Pb | 2555597.00 | A | 25630.00 | 1.00 |
| 209 | Bi | 1550514.00 | A | 8377.00 | 0.54 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1951109.40 | 0.81 | 1993708.30 | 97.9 | 70 - 130 | |
| 45 | Sc | 2449469.00 | 0.74 | 2491942.30 | 98.3 | 70 - 130 | |
| 45 | Sc | 369936.16 | 0.71 | 379285.53 | 97.5 | 70 - 130 | |
| 72 | Ge | 433324.09 | 0.96 | 463521.91 | 93.5 | 70 - 130 | |
| 72 | Ge | 128640.19 | 0.99 | 134804.92 | 95.4 | 70 - 130 | |
| 103 | Rh | 2220862.30 | 0.92 | 2265278.80 | 98.0 | 70 - 130 | |
| 115 | In | 2304966.30 | 1.27 | 2375722.30 | 97.0 | 70 - 130 | |
| 115 | In | 995791.56 | 0.45 | 1034375.50 | 96.3 | 70 - 130 | |
| 159 | Tb | 2697569.80 | 1.00 | 2743058.00 | 98.3 | 70 - 130 | |
| 175 | Lu | 2514225.00 | 0.40 | 2554974.50 | 98.4 | 70 - 130 | |
| 209 | Bi | 1550514.10 | 0.54 | 1599250.90 | 97.0 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 3 2013 12:33 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:30 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1971856.00 | A | 6108.00 | 0.31 |
| 7 | (Li) | | P | | |
| 9 | Be | 214.45 | P | 45.38 | 21.16 |
| 9 | Be | 8.89 | P | 7.70 | 86.60 |
| 11 | B | 3592.75 | P | 159.40 | 4.44 |
| 11 | B | 95.56 | P | 22.20 | 23.23 |
| 23 | Na | 31774970.00 | A | 217000.00 | 0.68 |
| 23 | Na | 2506785.00 | A | 7719.00 | 0.31 |
| 24 | Mg | 20796980.00 | A | 119700.00 | 0.58 |
| 24 | Mg | 1411385.00 | A | 551.90 | 0.04 |
| 27 | Al | 25282870.00 | A | 271000.00 | 1.07 |
| 27 | Al | 965067.50 | P | 6759.00 | 0.70 |
| 39 | K | 31300360.00 | A | 123700.00 | 0.40 |
| 44 | Ca | 849788.81 | P | 1217.00 | 0.14 |
| 45 | Sc | 2484776.00 | A | 15020.00 | 0.60 |
| 45 | Sc | 381404.69 | P | 1813.00 | 0.48 |
| 47 | Ti | 147.78 | P | 35.33 | 23.91 |
| 51 | V | 6089.72 | P | 221.90 | 3.64 |
| 52 | Cr | 1758.79 | P | 72.09 | 4.10 |
| 55 | Mn | 630.69 | P | 31.24 | 4.95 |
| 56 | Fe | 7555198.00 | A | 59120.00 | 0.78 |
| 59 | Co | 484.46 | P | 10.86 | 2.24 |
| 60 | Ni | 721.81 | P | 60.83 | 8.43 |
| 63 | Cu | 1297.41 | P | 27.84 | 2.15 |
| 66 | Zn | 492.68 | P | 3.53 | 0.72 |
| 72 | Ge | 452900.91 | P | 3558.00 | 0.79 |
| 72 | Ge | 133546.80 | P | 812.00 | 0.61 |
| 75 | As | 242.89 | P | 4.73 | 1.95 |
| 78 | Se | 234.23 | P | 6.54 | 2.79 |
| 88 | Sr | 2330.27 | P | 83.75 | 3.59 |
| 98 | Mo | 2539.19 | P | 91.93 | 3.62 |
| 103 | Rh | 2216197.00 | A | 310.30 | 0.01 |
| 107 | Ag | 317.79 | P | 13.47 | 4.24 |

C:\ICPCHEM\1\DATA\13L03l00.B\008CALS.D\008CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 38.89 | P | 10.18 | 26.18 |
| 115 | In | 2324406.00 | A | 18290.00 | 0.79 |
| 115 | In | 1038871.00 | P | 4357.00 | 0.42 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1006.74 | P | 41.77 | 4.15 |
| 121 | Sb | 721.16 | P | 35.65 | 4.94 |
| 137 | Ba | 454.47 | P | 82.62 | 18.18 |
| 159 | Tb | 2727159.00 | A | 11190.00 | 0.41 |
| 175 | Lu | 2526360.00 | A | 17750.00 | 0.70 |
| 205 | Tl | 4894.38 | P | 96.18 | 1.97 |
| 206 | (Pb) | 215.57 | P | 8.39 | 3.89 |
| 207 | (Pb) | 176.67 | P | 8.82 | 4.99 |
| 208 | Pb | 1503.44 | P | 75.72 | 5.04 |
| 209 | Bi | 1562928.00 | A | 5185.00 | 0.33 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1971856.40 | 0.31 | 1993708.30 | 98.9 | 70 - 130 | |
| 45 | Sc | 2484776.30 | 0.60 | 2491942.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 381404.66 | 0.48 | 379285.53 | 100.6 | 70 - 130 | |
| 72 | Ge | 452900.94 | 0.79 | 463521.91 | 97.7 | 70 - 130 | |
| 72 | Ge | 133546.83 | 0.61 | 134804.92 | 99.1 | 70 - 130 | |
| 103 | Rh | 2216196.80 | 0.01 | 2265278.80 | 97.8 | 70 - 130 | |
| 115 | In | 2324406.50 | 0.79 | 2375722.30 | 97.8 | 70 - 130 | |
| 115 | In | 1038870.60 | 0.42 | 1034375.50 | 100.4 | 70 - 130 | |
| 159 | Tb | 2727158.80 | 0.41 | 2743058.00 | 99.4 | 70 - 130 | |
| 175 | Lu | 2526360.30 | 0.70 | 2554974.50 | 98.9 | 70 - 130 | |
| 209 | Bi | 1562928.40 | 0.33 | 1599250.90 | 97.7 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 3 2013 12:40 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 03 2013 12:37 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1905365.00 | A | 24380.00 | 1.28 |
| 7 | (Li) | | P | | |
| 9 | Be | 96.67 | P | 29.63 | 30.65 |
| 9 | Be | 5.56 | P | 5.09 | 91.65 |
| 11 | B | 1670.14 | P | 55.68 | 3.33 |
| 11 | B | 41.11 | P | 5.09 | 12.39 |
| 23 | Na | 306555710.00 | A | 1382000.00 | 0.45 |
| 23 | Na | 22990050.00 | A | 254900.00 | 1.11 |
| 24 | Mg | 201903600.00 | A | 474900.00 | 0.24 |
| 24 | Mg | 13116160.00 | A | 103500.00 | 0.79 |
| 27 | Al | 248739200.00 | A | 1401000.00 | 0.56 |
| 27 | Al | 8651901.00 | A | 83400.00 | 0.96 |
| 39 | K | 269611490.00 | A | 1748000.00 | 0.65 |
| 44 | Ca | 7716914.00 | A | 98260.00 | 1.27 |
| 45 | Sc | 2490593.00 | A | 26210.00 | 1.05 |
| 45 | Sc | 381132.50 | P | 5273.00 | 1.38 |
| 47 | Ti | 177.79 | P | 24.11 | 13.56 |
| 51 | V | 4972.42 | P | 139.60 | 2.81 |
| 52 | Cr | 2722.05 | P | 94.02 | 3.45 |
| 55 | Mn | 2316.66 | P | 54.49 | 2.35 |
| 56 | Fe | 73202320.00 | A | 553700.00 | 0.76 |
| 59 | Co | 2279.76 | P | 85.75 | 3.76 |
| 60 | Ni | 1134.73 | P | 35.80 | 3.15 |
| 63 | Cu | 949.38 | P | 9.61 | 1.01 |
| 66 | Zn | 856.47 | P | 18.70 | 2.18 |
| 72 | Ge | 460664.81 | P | 1077.00 | 0.23 |
| 72 | Ge | 134023.50 | P | 1144.00 | 0.85 |
| 75 | As | 245.11 | P | 29.34 | 11.97 |
| 78 | Se | 234.00 | P | 21.94 | 9.38 |
| 88 | Sr | 13495.39 | P | 125.30 | 0.93 |
| 98 | Mo | 925.62 | P | 70.27 | 7.59 |
| 103 | Rh | 2146689.00 | A | 11250.00 | 0.52 |
| 107 | Ag | 482.25 | P | 88.84 | 18.42 |

C:\ICPCHEM\1\DATA\13L03l00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 47.78 | P | 13.47 | 28.19 |
| 115 | In | 2263233.00 | A | 8698.00 | 0.38 |
| 115 | In | 1016191.00 | P | 4923.00 | 0.48 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 462.25 | P | 34.70 | 7.51 |
| 121 | Sb | 393.35 | P | 31.80 | 8.08 |
| 137 | Ba | 562.26 | P | 28.74 | 5.11 |
| 159 | Tb | 2702645.00 | A | 50160.00 | 1.86 |
| 175 | Lu | 2522429.00 | A | 39120.00 | 1.55 |
| 205 | Tl | 2046.89 | P | 63.60 | 3.11 |
| 206 | (Pb) | 196.68 | P | 20.82 | 10.59 |
| 207 | (Pb) | 172.23 | P | 10.18 | 5.91 |
| 208 | Pb | 1435.66 | P | 101.70 | 7.08 |
| 209 | Bi | 1495969.00 | A | 7591.00 | 0.51 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1905365.40 | 1.28 | 1993708.30 | 95.6 | 70 - 130 | |
| 45 | Sc | 2490593.00 | 1.05 | 2491942.30 | 99.9 | 70 - 130 | |
| 45 | Sc | 381132.53 | 1.38 | 379285.53 | 100.5 | 70 - 130 | |
| 72 | Ge | 460664.78 | 0.23 | 463521.91 | 99.4 | 70 - 130 | |
| 72 | Ge | 134023.55 | 0.85 | 134804.92 | 99.4 | 70 - 130 | |
| 103 | Rh | 2146689.30 | 0.52 | 2265278.80 | 94.8 | 70 - 130 | |
| 115 | In | 2263233.30 | 0.38 | 2375722.30 | 95.3 | 70 - 130 | |
| 115 | In | 1016190.90 | 0.48 | 1034375.50 | 98.2 | 70 - 130 | |
| 159 | Tb | 2702644.80 | 1.86 | 2743058.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 2522429.30 | 1.55 | 2554974.50 | 98.7 | 70 - 130 | |
| 209 | Bi | 1495969.30 | 0.51 | 1599250.90 | 93.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 12:47 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | ICV | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2101 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 59.55 | 59.55 | ppb | 1.41 | 900.00 | |
| 9 Be | 45 | 2 | 58.51 | 58.51 | ppb | 1.58 | 900.00 | |
| 11 B | 6 | 1 | 58.81 | 58.81 | ppb | 1.75 | 900.00 | |
| 11 B | 45 | 2 | 57.08 | 57.08 | ppb | 1.03 | 900.00 | |
| 23 Na | 45 | 1 | 5414.00 | 5414.00 | ppb | 0.53 | 90000.00 | |
| 23 Na | 45 | 2 | 5508.00 | 5508.00 | ppb | 0.87 | 90000.00 | |
| 24 Mg | 45 | 1 | 5463.00 | 5463.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 5129.00 | 5129.00 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 1 | 5683.00 | 5683.00 | ppb | 0.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5207.00 | 5207.00 | ppb | 0.55 | 90000.00 | |
| 39 K | 45 | 1 | 5481.00 | 5481.00 | ppb | 0.55 | 90000.00 | |
| 44 Ca | 45 | 1 | 5431.00 | 5431.00 | ppb | 0.86 | 90000.00 | |
| 47 Ti | 45 | 1 | 60.27 | 60.27 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 58.62 | 58.62 | ppb | 0.55 | 900.00 | |
| 52 Cr | 45 | 2 | 56.85 | 56.85 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 57.00 | 57.00 | ppb | 0.13 | 900.00 | |
| 56 Fe | 45 | 2 | 5492.00 | 5492.00 | ppb | 0.58 | 90000.00 | |
| 59 Co | 45 | 2 | 56.76 | 56.76 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 56.35 | 56.35 | ppb | 1.10 | 900.00 | |
| 63 Cu | 72 | 2 | 55.51 | 55.51 | ppb | 1.03 | 900.00 | |
| 66 Zn | 72 | 2 | 55.22 | 55.22 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 57.83 | 57.83 | ppb | 0.44 | 900.00 | |
| 78 Se | 72 | 2 | 57.80 | 57.80 | ppb | 1.08 | 900.00 | |
| 88 Sr | 103 | 1 | 62.10 | 62.10 | ppb | 0.83 | 900.00 | |
| 98 Mo | 103 | 1 | 62.60 | 62.60 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 60.47 | 60.47 | ppb | 1.35 | 900.00 | |
| 111 Cd | 115 | 2 | 57.45 | 57.45 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | 61.12 | 61.12 | ppb | 1.26 | 900.00 | |
| 121 Sb | 115 | 1 | 59.84 | 59.84 | ppb | 1.33 | 900.00 | |
| 137 Ba | 159 | 1 | 58.75 | 58.75 | ppb | 0.96 | 900.00 | |
| 205 Tl | 209 | 1 | 57.34 | 57.34 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 59.24 | 59.24 | ppb | 1.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1935204 | 1.33 | 1993708 | 97.1 | 70 - 130 | |
| 45 Sc | 1 | 2512937 | 0.73 | 2491942 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 374238 | 0.33 | 379286 | 98.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\010SMPL.D\010SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 447315 | 0.78 | 463522 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 132005 | 0.51 | 134805 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 2177461 | 0.92 | 2265279 | 96.1 | 70 | - | 130 |
| 115 In | 1 | 2309149 | 1.21 | 2375722 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1007238 | 0.74 | 1034376 | 97.4 | 70 | - | 130 |
| 159 Tb | 1 | 2734402 | 0.55 | 2743058 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 2555232 | 0.57 | 2554975 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 1527140 | 1.05 | 1599251 | 95.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D# |
| Date Acquired: | Dec 3 2013 12:54 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | ICB |
| Misc Info: | |
| Vial Number: | 2102 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 26.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.40 | ppb | 15.64 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 35.65 | 900.00 | |
| 23 Na | 45 | 1 | -0.31 | -0.31 | ppb | 94.19 | 90000.00 | |
| 23 Na | 45 | 2 | 0.34 | 0.34 | ppb | 165.99 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.02 | -0.02 | ppb | 117.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.08 | 0.08 | ppb | 14.18 | 90000.00 | |
| 27 Al | 45 | 1 | 0.14 | 0.14 | ppb | 9.18 | 90000.00 | |
| 27 Al | 45 | 2 | 0.09 | 0.09 | ppb | 70.31 | 90000.00 | |
| 39 K | 45 | 1 | -12.01 | -12.01 | ppb | 15.74 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.32 | -1.32 | ppb | 52.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 38.97 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 13.85 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 5.99 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 115.07 | 900.00 | |
| 56 Fe | 45 | 2 | -0.18 | -0.18 | ppb | 5.08 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 25.67 | 900.00 | |
| 60 Ni | 45 | 2 | 0.00 | 0.00 | ppb | 962.32 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 111.02 | 900.00 | |
| 66 Zn | 72 | 2 | 0.06 | 0.06 | ppb | 7.18 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 109.17 | 900.00 | |
| 78 Se | 72 | 2 | 0.17 | 0.17 | ppb | 85.13 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 62.78 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 3.50 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 61.80 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 25.11 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 9.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 9.24 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 1109.20 | 900.00 | |
| 205 Tl | 209 | 1 | 0.37 | 0.37 | ppb | 7.07 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 24.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991419 | 1.58 | 1993708 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2529677 | 0.43 | 2491942 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 380606 | 1.57 | 379286 | 100.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\011SMPL.D\011SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 458841 | 1.16 | 463522 | 99.0 | 70 - | 130 |
| 72 | Ge | 2 | 134050 | 0.72 | 134805 | 99.4 | 70 - | 130 |
| 103 | Rh | 1 | 2279984 | 0.60 | 2265279 | 100.6 | 70 - | 130 |
| 115 | In | 1 | 2369729 | 0.10 | 2375722 | 99.7 | 70 - | 130 |
| 115 | In | 2 | 1041651 | 0.86 | 1034376 | 100.7 | 70 - | 130 |
| 159 | Tb | 1 | 2763234 | 0.51 | 2743058 | 100.7 | 70 - | 130 |
| 175 | Lu | 1 | 2576406 | 1.16 | 2554975 | 100.8 | 70 - | 130 |
| 209 | Bi | 1 | 1595258 | 1.15 | 1599251 | 99.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#
Date Acquired: Dec 3 2013 01:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.51 | 49.51 | ppb | 1.48 | 900.00 | |
| 9 Be | 45 | 2 | 48.71 | 48.71 | ppb | 2.19 | 900.00 | |
| 11 B | 6 | 1 | 49.75 | 49.75 | ppb | 2.41 | 900.00 | |
| 11 B | 45 | 2 | 47.96 | 47.96 | ppb | 2.67 | 900.00 | |
| 23 Na | 45 | 1 | 4917.00 | 4917.00 | ppb | 0.85 | 90000.00 | |
| 23 Na | 45 | 2 | 4936.00 | 4936.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 4941.00 | 4941.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 4611.00 | 4611.00 | ppb | 0.32 | 90000.00 | |
| 27 Al | 45 | 1 | 4902.00 | 4902.00 | ppb | 0.23 | 90000.00 | |
| 27 Al | 45 | 2 | 4457.00 | 4457.00 | ppb | 0.24 | 90000.00 | |
| 39 K | 45 | 1 | 4895.00 | 4895.00 | ppb | 0.74 | 90000.00 | |
| 44 Ca | 45 | 1 | 4930.00 | 4930.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.95 | 48.95 | ppb | 1.18 | 900.00 | |
| 51 V | 45 | 2 | 48.28 | 48.28 | ppb | 0.75 | 900.00 | |
| 52 Cr | 45 | 2 | 47.57 | 47.57 | ppb | 0.61 | 900.00 | |
| 55 Mn | 45 | 2 | 47.47 | 47.47 | ppb | 0.36 | 900.00 | |
| 56 Fe | 45 | 2 | 4950.00 | 4950.00 | ppb | 0.96 | 90000.00 | |
| 59 Co | 45 | 2 | 47.35 | 47.35 | ppb | 1.55 | 900.00 | |
| 60 Ni | 45 | 2 | 47.02 | 47.02 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 46.09 | 46.09 | ppb | 0.38 | 900.00 | |
| 66 Zn | 72 | 2 | 46.10 | 46.10 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 48.05 | 48.05 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 48.42 | 48.42 | ppb | 1.14 | 900.00 | |
| 88 Sr | 103 | 1 | 49.87 | 49.87 | ppb | 0.43 | 900.00 | |
| 98 Mo | 103 | 1 | 50.01 | 50.01 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 49.72 | 49.72 | ppb | 1.23 | 900.00 | |
| 111 Cd | 115 | 2 | 47.34 | 47.34 | ppb | 0.56 | 900.00 | |
| 120 Sn | 115 | 1 | 49.53 | 49.53 | ppb | 1.55 | 900.00 | |
| 121 Sb | 115 | 1 | 49.94 | 49.94 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 48.69 | 48.69 | ppb | 0.75 | 900.00 | |
| 205 Tl | 209 | 1 | 47.57 | 47.57 | ppb | 0.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.03 | 49.03 | ppb | 0.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1942260 | 2.17 | 1993708 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 2505657 | 0.35 | 2491942 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 373512 | 1.02 | 379286 | 98.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449418 | 0.76 | 463522 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 131517 | 0.44 | 134805 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2203197 | 1.11 | 2265279 | 97.3 | 70 | - | 130 |
| 115 In | 1 | 2312142 | 0.49 | 2375722 | 97.3 | 70 | - | 130 |
| 115 In | 2 | 1009534 | 0.54 | 1034376 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 2738111 | 1.06 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2548170 | 0.64 | 2554975 | 99.7 | 70 | - | 130 |
| 209 Bi | 1 | 1534613 | 0.56 | 1599251 | 96.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#
Date Acquired: Dec 3 2013 01:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.63 | 49.63 | ppb | 0.08 | 900.00 | |
| 9 Be | 45 | 2 | 48.93 | 48.93 | ppb | 3.31 | 900.00 | |
| 11 B | 6 | 1 | 49.58 | 49.58 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 48.36 | 48.36 | ppb | 5.11 | 900.00 | |
| 23 Na | 45 | 1 | 4859.00 | 4859.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 4900.00 | 4900.00 | ppb | 1.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 4887.00 | 4887.00 | ppb | 0.67 | 90000.00 | |
| 24 Mg | 45 | 2 | 4565.00 | 4565.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 4849.00 | 4849.00 | ppb | 0.36 | 90000.00 | |
| 27 Al | 45 | 2 | 4422.00 | 4422.00 | ppb | 0.37 | 90000.00 | |
| 39 K | 45 | 1 | 4876.00 | 4876.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 4897.00 | 4897.00 | ppb | 0.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.69 | 48.69 | ppb | 0.64 | 900.00 | |
| 51 V | 45 | 2 | 47.63 | 47.63 | ppb | 0.98 | 900.00 | |
| 52 Cr | 45 | 2 | 47.07 | 47.07 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 47.31 | 47.31 | ppb | 0.22 | 900.00 | |
| 56 Fe | 45 | 2 | 4929.00 | 4929.00 | ppb | 0.19 | 90000.00 | |
| 59 Co | 45 | 2 | 46.92 | 46.92 | ppb | 0.62 | 900.00 | |
| 60 Ni | 45 | 2 | 46.61 | 46.61 | ppb | 0.77 | 900.00 | |
| 63 Cu | 72 | 2 | 45.92 | 45.92 | ppb | 0.42 | 900.00 | |
| 66 Zn | 72 | 2 | 45.97 | 45.97 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 47.81 | 47.81 | ppb | 1.06 | 900.00 | |
| 78 Se | 72 | 2 | 48.60 | 48.60 | ppb | 1.99 | 900.00 | |
| 88 Sr | 103 | 1 | 50.27 | 50.27 | ppb | 0.85 | 900.00 | |
| 98 Mo | 103 | 1 | 50.29 | 50.29 | ppb | 0.06 | 900.00 | |
| 107 Ag | 115 | 1 | 49.59 | 49.59 | ppb | 0.15 | 900.00 | |
| 111 Cd | 115 | 2 | 47.18 | 47.18 | ppb | 0.46 | 900.00 | |
| 120 Sn | 115 | 1 | 49.82 | 49.82 | ppb | 0.74 | 900.00 | |
| 121 Sb | 115 | 1 | 49.70 | 49.70 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 48.32 | 48.32 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 47.69 | 47.69 | ppb | 0.84 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.08 | 49.08 | ppb | 1.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1931305 | 0.39 | 1993708 | 96.9 | 70 - 130 | |
| 45 Sc | 1 | 2500150 | 0.97 | 2491942 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 377643 | 0.84 | 379286 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 450237 | 0.78 | 463522 | 97.1 | 70 - | 130 |
| 72 | Ge | 2 | 132715 | 0.60 | 134805 | 98.4 | 70 - | 130 |
| 103 | Rh | 1 | 2191149 | 0.72 | 2265279 | 96.7 | 70 - | 130 |
| 115 | In | 1 | 2310018 | 1.14 | 2375722 | 97.2 | 70 - | 130 |
| 115 | In | 2 | 1017719 | 0.59 | 1034376 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 2742209 | 0.62 | 2743058 | 100.0 | 70 - | 130 |
| 175 | Lu | 1 | 2554419 | 1.24 | 2554975 | 100.0 | 70 - | 130 |
| 209 | Bi | 1 | 1532181 | 0.27 | 1599251 | 95.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#
Date Acquired: Dec 3 2013 01:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 24.19 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.27 | 900.00 | |
| 11 B | 6 | 1 | 0.32 | 0.32 | ppb | 10.82 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 20.26 | 900.00 | |
| 23 Na | 45 | 1 | 0.30 | 0.30 | ppb | 572.28 | 90000.00 | |
| 23 Na | 45 | 2 | 0.40 | 0.40 | ppb | 69.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.06 | 0.06 | ppb | 95.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.07 | 0.07 | ppb | 53.59 | 90000.00 | |
| 27 Al | 45 | 1 | 0.30 | 0.30 | ppb | 25.68 | 90000.00 | |
| 27 Al | 45 | 2 | 0.18 | 0.18 | ppb | 15.37 | 90000.00 | |
| 39 K | 45 | 1 | -13.57 | -13.57 | ppb | 147.83 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.68 | -1.68 | ppb | 139.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 63.55 | 900.00 | |
| 51 V | 45 | 2 | -0.12 | -0.12 | ppb | 5.25 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 34.38 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 33.31 | 900.00 | |
| 56 Fe | 45 | 2 | -0.17 | -0.17 | ppb | 23.80 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 18.49 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 92.00 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 18.39 | 900.00 | |
| 66 Zn | 72 | 2 | 3.01 | 3.01 | ppb | 2.81 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 419.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 40.04 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 77.88 | 900.00 | |
| 98 Mo | 103 | 1 | 0.13 | 0.13 | ppb | 14.47 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 28.82 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 489.81 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 22.54 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 30.77 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 398.88 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 10.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 9.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1990626 | 6.36 | 1993708 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2534571 | 12.38 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 383106 | 1.10 | 379286 | 101.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464503 | 6.95 | 463522 | 100.2 | 70 | - | 130 |
| 72 | Ge | 2 | 135803 | 0.25 | 134805 | 100.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2283143 | 11.27 | 2265279 | 100.8 | 70 | - | 130 |
| 115 | In | 1 | 2387069 | 8.89 | 2375722 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1056223 | 0.14 | 1034376 | 102.1 | 70 | - | 130 |
| 159 | Tb | 1 | 2803353 | 10.66 | 2743058 | 102.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2612480 | 10.85 | 2554975 | 102.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1599274 | 9.42 | 1599251 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D#
Date Acquired: Dec 3 2013 01:28 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 0.95 | 900.00 | |
| 9 Be | 45 | 2 | 0.57 | 0.57 | ppb | 8.50 | 900.00 | |
| 11 B | 6 | 1 | 5.07 | 5.07 | ppb | 0.40 | 900.00 | |
| 11 B | 45 | 2 | 5.38 | 5.38 | ppb | 9.54 | 900.00 | |
| 23 Na | 45 | 1 | 253.10 | 253.10 | ppb | 0.09 | 90000.00 | |
| 23 Na | 45 | 2 | 276.50 | 276.50 | ppb | 0.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.20 | 257.20 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.40 | 258.40 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 27.48 | 27.48 | ppb | 0.80 | 90000.00 | |
| 27 Al | 45 | 2 | 24.86 | 24.86 | ppb | 0.80 | 90000.00 | |
| 39 K | 45 | 1 | 237.30 | 237.30 | ppb | 1.27 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.00 | 264.00 | ppb | 1.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.49 | 900.00 | |
| 51 V | 45 | 2 | 0.85 | 0.85 | ppb | 1.42 | 900.00 | |
| 52 Cr | 45 | 2 | 1.05 | 1.05 | ppb | 0.35 | 900.00 | |
| 55 Mn | 45 | 2 | 1.01 | 1.01 | ppb | 1.21 | 900.00 | |
| 56 Fe | 45 | 2 | 27.92 | 27.92 | ppb | 0.26 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 0.30 | 900.00 | |
| 60 Ni | 45 | 2 | 1.50 | 1.50 | ppb | 1.51 | 900.00 | |
| 63 Cu | 72 | 2 | 1.01 | 1.01 | ppb | 2.50 | 900.00 | |
| 66 Zn | 72 | 2 | 2.01 | 2.01 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 0.50 | 0.50 | ppb | 2.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 15.17 | 900.00 | |
| 88 Sr | 103 | 1 | 5.05 | 5.05 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 1.11 | 1.11 | ppb | 2.80 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 3.52 | 900.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 7.10 | 900.00 | |
| 120 Sn | 115 | 1 | 5.01 | 5.01 | ppb | 0.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 2.20 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 2.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.55 | 0.55 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1996339 | 0.56 | 1993708 | 100.1 | 70 - 130 | |
| 45 Sc | 1 | 2552702 | 0.16 | 2491942 | 102.4 | 70 - 130 | |
| 45 Sc | 2 | 383976 | 0.21 | 379286 | 101.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 462146 | 0.96 | 463522 | 99.7 | 70 | - | 130 |
| 72 | Ge | 2 | 135355 | 0.26 | 134805 | 100.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2285958 | 1.38 | 2265279 | 100.9 | 70 | - | 130 |
| 115 | In | 1 | 2406397 | 0.45 | 2375722 | 101.3 | 70 | - | 130 |
| 115 | In | 2 | 1057808 | 0.61 | 1034376 | 102.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2794883 | 0.33 | 2743058 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2622146 | 0.63 | 2554975 | 102.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1605170 | 1.16 | 1599251 | 100.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\016SMPL.D\016SMPL.D#
Date Acquired: Dec 3 2013 01:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSA
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 85.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 173.23 | 900.00 | |
| 11 B | 6 | 1 | 0.27 | 0.27 | ppb | 7.81 | 900.00 | |
| 11 B | 45 | 2 | 0.24 | 0.24 | ppb | 32.72 | 900.00 | |
| 23 Na | 45 | 1 | 93330.00 | 93330.00 | ppb | 0.63 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 94020.00 | 94020.00 | ppb | 0.35 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 94000.00 | 94000.00 | ppb | 0.81 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87390.00 | 87390.00 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 95040.00 | 95040.00 | ppb | 0.81 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85610.00 | 85610.00 | ppb | 0.44 | 90000.00 | |
| 39 K | 45 | 1 | 95410.00 | 95410.00 | ppb | 0.66 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 94350.00 | 94350.00 | ppb | 0.01 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1982.00 | 1982.00 | ppb | 0.61 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.09 | -0.09 | ppb | 3.14 | 900.00 | |
| 52 Cr | 45 | 2 | 1.11 | 1.11 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 0.29 | 0.29 | ppb | 1.83 | 900.00 | |
| 56 Fe | 45 | 2 | 94980.00 | 94980.00 | ppb | 0.59 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.05 | 0.05 | ppb | 3.32 | 900.00 | |
| 60 Ni | 45 | 2 | 1.07 | 1.07 | ppb | 2.95 | 900.00 | |
| 63 Cu | 72 | 2 | 0.43 | 0.43 | ppb | 1.77 | 900.00 | |
| 66 Zn | 72 | 2 | 1.94 | 1.94 | ppb | 2.70 | 900.00 | |
| 75 As | 72 | 2 | 0.25 | 0.25 | ppb | 3.60 | 900.00 | |
| 78 Se | 72 | 2 | 0.18 | 0.18 | ppb | 25.02 | 900.00 | |
| 88 Sr | 103 | 1 | 5.04 | 5.04 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 2046.00 | 2046.00 | ppb | 0.79 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.06 | 0.06 | ppb | 1.83 | 900.00 | |
| 111 Cd | 115 | 2 | 1.14 | 1.14 | ppb | 6.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.11 | ppb | 11.12 | 900.00 | |
| 121 Sb | 115 | 1 | 0.28 | 0.28 | ppb | 1.66 | 900.00 | |
| 137 Ba | 159 | 1 | 0.22 | 0.22 | ppb | 0.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 2.49 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 4.18 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1795521 | 0.33 | 1993708 | 90.1 | 70 - 130 | |
| 45 Sc | 1 | 2437047 | 0.69 | 2491942 | 97.8 | 70 - 130 | |
| 45 Sc | 2 | 362341 | 0.79 | 379286 | 95.5 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 464816 | 0.06 | 463522 | 100.3 | 70 | - | 130 |
| 72 | Ge | 2 | 131706 | 0.63 | 134805 | 97.7 | 70 | - | 130 |
| 103 | Rh | 1 | 2016545 | 0.24 | 2265279 | 89.0 | 70 | - | 130 |
| 115 | In | 1 | 2238470 | 1.12 | 2375722 | 94.2 | 70 | - | 130 |
| 115 | In | 2 | 965300 | 0.24 | 1034376 | 93.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2757893 | 1.27 | 2743058 | 100.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2617117 | 1.08 | 2554975 | 102.4 | 70 | - | 130 |
| 209 | Bi | 1 | 1460161 | 0.45 | 1599251 | 91.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#
Date Acquired: Dec 3 2013 01:44 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 51.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.63 | 900.00 | |
| 11 B | 6 | 1 | 0.22 | 0.22 | ppb | 2.97 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.36 | ppb | 50.07 | 900.00 | |
| 23 Na | 45 | 1 | 89780.00 | 89780.00 | ppb | 1.69 | 90000.00 | |
| 23 Na | 45 | 2 | 94790.00 | 94790.00 | ppb | 1.73 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 90020.00 | 90020.00 | ppb | 2.02 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87610.00 | 87610.00 | ppb | 1.75 | 90000.00 | |
| 27 Al | 45 | 1 | 91460.00 | 91460.00 | ppb | 1.94 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85140.00 | 85140.00 | ppb | 2.07 | 90000.00 | |
| 39 K | 45 | 1 | 93430.00 | 93430.00 | ppb | 1.89 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92580.00 | 92580.00 | ppb | 1.79 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1943.00 | 1943.00 | ppb | 1.97 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 25.03 | 900.00 | |
| 52 Cr | 45 | 2 | 19.91 | 19.91 | ppb | 1.61 | 900.00 | |
| 55 Mn | 45 | 2 | 19.05 | 19.05 | ppb | 1.24 | 900.00 | |
| 56 Fe | 45 | 2 | 96800.00 | 96800.00 | ppb | 1.42 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 18.70 | 18.70 | ppb | 1.97 | 900.00 | |
| 60 Ni | 45 | 2 | 19.23 | 19.23 | ppb | 1.37 | 900.00 | |
| 63 Cu | 72 | 2 | 17.26 | 17.26 | ppb | 1.25 | 900.00 | |
| 66 Zn | 72 | 2 | 18.67 | 18.67 | ppb | 0.96 | 900.00 | |
| 75 As | 72 | 2 | 19.52 | 19.52 | ppb | 1.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.24 | 0.24 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 4.88 | 4.88 | ppb | 1.99 | 900.00 | |
| 98 Mo | 103 | 1 | 2003.00 | 2003.00 | ppb | 1.94 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 19.14 | 19.14 | ppb | 1.85 | 900.00 | |
| 111 Cd | 115 | 2 | 19.64 | 19.64 | ppb | 1.68 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 4.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 1.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.05 | ppb | 5.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.13 | 0.13 | ppb | 3.21 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1768953 | 0.41 | 1993708 | 88.7 | 70 - 130 | |
| 45 Sc | 1 | 2452325 | 1.32 | 2491942 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 343149 | 1.51 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457466 | 0.73 | 463522 | 98.7 | 70 | - | 130 |
| 72 Ge | 2 | 126556 | 0.73 | 134805 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 2042942 | 1.62 | 2265279 | 90.2 | 70 | - | 130 |
| 115 In | 1 | 2251743 | 1.40 | 2375722 | 94.8 | 70 | - | 130 |
| 115 In | 2 | 935567 | 1.20 | 1034376 | 90.4 | 70 | - | 130 |
| 159 Tb | 1 | 2799683 | 1.01 | 2743058 | 102.1 | 70 | - | 130 |
| 175 Lu | 1 | 2654964 | 1.49 | 2554975 | 103.9 | 70 | - | 130 |
| 209 Bi | 1 | 1461101 | 0.89 | 1599251 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D# |
| Date Acquired: | Dec 3 2013 01:58 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | RINSECONF |
| Misc Info: | |
| Vial Number: | 2108 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 32.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 48.23 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 179.16 | 900.00 | |
| 23 Na | 45 | 1 | 9.15 | 9.15 | ppb | 4.63 | 90000.00 | |
| 23 Na | 45 | 2 | 12.58 | 12.58 | ppb | 5.04 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.20 | 0.20 | ppb | 8.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.48 | 0.48 | ppb | 23.82 | 90000.00 | |
| 27 Al | 45 | 1 | 0.13 | 0.13 | ppb | 8.96 | 90000.00 | |
| 27 Al | 45 | 2 | 0.23 | 0.23 | ppb | 39.25 | 90000.00 | |
| 39 K | 45 | 1 | -23.91 | -23.91 | ppb | 4.20 | 90000.00 | |
| 44 Ca | 45 | 1 | -5.99 | -5.99 | ppb | 7.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 47.63 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 18.92 | 900.00 | |
| 52 Cr | 45 | 2 | -0.02 | -0.02 | ppb | 12.79 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 56.29 | 900.00 | |
| 56 Fe | 45 | 2 | 0.04 | 0.04 | ppb | 330.60 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 3776.60 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 168.53 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 18.11 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 91.76 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 147.80 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 15403.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 238.41 | 900.00 | |
| 98 Mo | 103 | 1 | 0.50 | 0.50 | ppb | 1.51 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 85.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 118.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 84.09 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 27.16 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 77.23 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.02 | ppb | 3.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 151.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2085370 | 0.51 | 1993708 | 104.6 | 70 - 130 | |
| 45 Sc | 1 | 2682138 | 0.93 | 2491942 | 107.6 | 70 - 130 | |
| 45 Sc | 2 | 381948 | 0.94 | 379286 | 100.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\018SMPL.D\018SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 480702 | 1.16 | 463522 | 103.7 | 70 | - | 130 |
| 72 | Ge | 2 | 136868 | 0.60 | 134805 | 101.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2393447 | 0.42 | 2265279 | 105.7 | 70 | - | 130 |
| 115 | In | 1 | 2554333 | 0.83 | 2375722 | 107.5 | 70 | - | 130 |
| 115 | In | 2 | 1081953 | 0.13 | 1034376 | 104.6 | 70 | - | 130 |
| 159 | Tb | 1 | 2991262 | 0.63 | 2743058 | 109.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2797863 | 0.56 | 2554975 | 109.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1722129 | 0.62 | 1599251 | 107.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D# |
| Date Acquired: | Dec 3 2013 02:16 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22168-MB1 |
| Misc Info: | |
| Vial Number: | 2109 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 8.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.22 | 900.00 | |
| 11 B | 6 | 1 | 0.24 | 0.12 | ppb | 11.66 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.04 | ppb | 171.34 | 900.00 | |
| 23 Na | 45 | 1 | 12.76 | 6.38 | ppb | 5.41 | 90000.00 | |
| 23 Na | 45 | 2 | 19.79 | 9.89 | ppb | 8.72 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.98 | 0.49 | ppb | 3.55 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.09 | 0.55 | ppb | 10.44 | 90000.00 | |
| 27 Al | 45 | 1 | 2.97 | 1.49 | ppb | 1.96 | 90000.00 | |
| 27 Al | 45 | 2 | 2.62 | 1.31 | ppb | 5.08 | 90000.00 | |
| 39 K | 45 | 1 | -20.10 | -10.05 | ppb | 22.89 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.97 | -1.49 | ppb | 31.97 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.10 | ppb | 21.86 | 900.00 | |
| 51 V | 45 | 2 | 3.50 | 1.75 | ppb | 0.23 | 900.00 | |
| 52 Cr | 45 | 2 | 0.26 | 0.13 | ppb | 4.52 | 900.00 | |
| 55 Mn | 45 | 2 | 0.56 | 0.28 | ppb | 15.36 | 900.00 | |
| 56 Fe | 45 | 2 | 9.19 | 4.59 | ppb | 1.22 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.00 | ppb | 9.82 | 900.00 | |
| 60 Ni | 45 | 2 | -0.16 | -0.08 | ppb | 1.39 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 9.46 | 900.00 | |
| 66 Zn | 72 | 2 | 2.10 | 1.05 | ppb | 1.92 | 900.00 | |
| 75 As | 72 | 2 | 0.99 | 0.50 | ppb | 5.85 | 900.00 | |
| 78 Se | 72 | 2 | 0.12 | 0.06 | ppb | 71.01 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 40.17 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.11 | ppb | 8.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 82.20 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 0.70 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 3.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.04 | 0.02 | ppb | 9.94 | 900.00 | |
| 137 Ba | 159 | 1 | 0.08 | 0.04 | ppb | 30.53 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 6.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 27.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2074981 | 0.65 | 1993708 | 104.1 | 70 - 130 | |
| 45 Sc | 1 | 2541736 | 1.30 | 2491942 | 102.0 | 70 - 130 | |
| 45 Sc | 2 | 369723 | 1.10 | 379286 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 468317 | 1.29 | 463522 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 133139 | 0.05 | 134805 | 98.8 | 70 | - | 130 |
| 103 Rh | 1 | 2259401 | 1.41 | 2265279 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 2391652 | 1.53 | 2375722 | 100.7 | 70 | - | 130 |
| 115 In | 2 | 1049964 | 0.34 | 1034376 | 101.5 | 70 | - | 130 |
| 159 Tb | 1 | 2855220 | 1.15 | 2743058 | 104.1 | 70 | - | 130 |
| 175 Lu | 1 | 2709859 | 1.59 | 2554975 | 106.1 | 70 | - | 130 |
| 209 Bi | 1 | 1650849 | 1.34 | 1599251 | 103.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\020SMPL.D\020SMPL.D# |
| Date Acquired: | Dec 3 2013 02:23 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC26418-1F |
| Misc Info: | |
| Vial Number: | 2110 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 12.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 57.28 | 28.64 | ppb | 0.74 | 900.00 | |
| 11 B | 45 | 2 | 60.02 | 30.01 | ppb | 7.69 | 900.00 | |
| 23 Na | 45 | 1 | 43260.00 | 21630.00 | ppb | 0.92 | 90000.00 | |
| 23 Na | 45 | 2 | 46940.00 | 23470.00 | ppb | 6.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 3754.00 | 1877.00 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 3816.00 | 1908.00 | ppb | 7.21 | 90000.00 | |
| 27 Al | 45 | 1 | 5.15 | 2.58 | ppb | 4.76 | 90000.00 | |
| 27 Al | 45 | 2 | 4.81 | 2.40 | ppb | 6.13 | 90000.00 | |
| 39 K | 45 | 1 | 5502.00 | 2751.00 | ppb | 0.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 27560.00 | 13780.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.05 | 0.52 | ppb | 5.32 | 900.00 | |
| 51 V | 45 | 2 | 3.92 | 1.96 | ppb | 7.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.16 | ppb | 18.27 | 900.00 | |
| 55 Mn | 45 | 2 | 1671.80 | 835.90 | ppb | 7.67 | 900.00 | |
| 56 Fe | 45 | 2 | 681.60 | 340.80 | ppb | 7.60 | 90000.00 | |
| 59 Co | 45 | 2 | 2.59 | 1.29 | ppb | 7.49 | 900.00 | |
| 60 Ni | 45 | 2 | 4.05 | 2.03 | ppb | 9.71 | 900.00 | |
| 63 Cu | 72 | 2 | 3.10 | 1.55 | ppb | 3.76 | 900.00 | |
| 66 Zn | 72 | 2 | 8.15 | 4.08 | ppb | 4.07 | 900.00 | |
| 75 As | 72 | 2 | 6.18 | 3.09 | ppb | 3.13 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.19 | ppb | 73.74 | 900.00 | |
| 88 Sr | 103 | 1 | 323.20 | 161.60 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.59 | 0.30 | ppb | 1.78 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.34 | 900.00 | |
| 111 Cd | 115 | 2 | 0.34 | 0.17 | ppb | 13.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 7.22 | 900.00 | |
| 121 Sb | 115 | 1 | 0.70 | 0.35 | ppb | 1.79 | 900.00 | |
| 137 Ba | 159 | 1 | 80.24 | 40.12 | ppb | 0.78 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.10 | ppb | 4.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 11.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1955014 | 0.90 | 1993708 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2489593 | 0.43 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 347041 | 7.64 | 379286 | 91.5 | 70 - 130 | |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455496 | 0.54 | 463522 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 128196 | 3.99 | 134805 | 95.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2122318 | 0.45 | 2265279 | 93.7 | 70 | - | 130 |
| 115 | In | 1 | 2301056 | 0.83 | 2375722 | 96.9 | 70 | - | 130 |
| 115 | In | 2 | 986405 | 5.98 | 1034376 | 95.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2797364 | 0.40 | 2743058 | 102.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2649297 | 1.07 | 2554975 | 103.7 | 70 | - | 130 |
| 209 | Bi | 1 | 1540126 | 1.21 | 1599251 | 96.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#
Date Acquired: Dec 3 2013 02:31 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22168-SD1
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 130.10 | 900.00 | |
| 9 Be | 45 | 2 | 0.07 | 0.01 | ppb | 173.20 | 900.00 | |
| 11 B | 6 | 1 | 53.80 | 5.38 | ppb | 1.92 | 900.00 | |
| 11 B | 45 | 2 | 53.11 | 5.31 | ppb | 2.90 | 900.00 | |
| 23 Na | 45 | 1 | 44960.00 | 4496.00 | ppb | 0.41 | 90000.00 | |
| 23 Na | 45 | 2 | 45760.00 | 4576.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 3933.00 | 393.30 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 2 | 3971.00 | 397.10 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 12.41 | 1.24 | ppb | 1.90 | 90000.00 | |
| 27 Al | 45 | 2 | 12.22 | 1.22 | ppb | 12.58 | 90000.00 | |
| 39 K | 45 | 1 | 5565.00 | 556.50 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 29060.00 | 2906.00 | ppb | 0.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.17 | 0.12 | ppb | 6.20 | 900.00 | |
| 51 V | 45 | 2 | 0.33 | 0.03 | ppb | 42.14 | 900.00 | |
| 52 Cr | 45 | 2 | -0.41 | -0.04 | ppb | 17.44 | 900.00 | |
| 55 Mn | 45 | 2 | 1686.00 | 168.60 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 708.90 | 70.89 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 2.41 | 0.24 | ppb | 3.27 | 900.00 | |
| 60 Ni | 45 | 2 | 3.19 | 0.32 | ppb | 4.15 | 900.00 | |
| 63 Cu | 72 | 2 | 3.97 | 0.40 | ppb | 1.54 | 900.00 | |
| 66 Zn | 72 | 2 | 9.59 | 0.96 | ppb | 2.05 | 900.00 | |
| 75 As | 72 | 2 | 5.36 | 0.54 | ppb | 5.12 | 900.00 | |
| 78 Se | 72 | 2 | -0.19 | -0.02 | ppb | 225.60 | 900.00 | |
| 88 Sr | 103 | 1 | 341.90 | 34.19 | ppb | 0.53 | 900.00 | |
| 98 Mo | 103 | 1 | 0.72 | 0.07 | ppb | 6.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.03 | 0.00 | ppb | 6.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.25 | 0.03 | ppb | 16.46 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.01 | ppb | 74.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.70 | 0.07 | ppb | 5.15 | 900.00 | |
| 137 Ba | 159 | 1 | 82.13 | 8.21 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.03 | ppb | 9.71 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.01 | ppb | 6.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2020666 | 0.76 | 1993708 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2593975 | 0.50 | 2491942 | 104.1 | 70 - 130 | |
| 45 Sc | 2 | 378140 | 0.60 | 379286 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 472244 | 0.40 | 463522 | 101.9 | 70 | - | 130 |
| 72 | Ge | 2 | 135090 | 0.67 | 134805 | 100.2 | 70 | - | 130 |
| 103 | Rh | 1 | 2271451 | 0.33 | 2265279 | 100.3 | 70 | - | 130 |
| 115 | In | 1 | 2453962 | 0.58 | 2375722 | 103.3 | 70 | - | 130 |
| 115 | In | 2 | 1065673 | 0.88 | 1034376 | 103.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2862409 | 0.28 | 2743058 | 104.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2696279 | 0.39 | 2554975 | 105.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1656072 | 0.16 | 1599251 | 103.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D#
Date Acquired: Dec 3 2013 02:38 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-10F
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.11 | 0.06 | ppb | 6.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.10 | 0.05 | ppb | 54.91 | 900.00 | |
| 11 B | 6 | 1 | 57.42 | 28.71 | ppb | 2.54 | 900.00 | |
| 11 B | 45 | 2 | 56.66 | 28.33 | ppb | 6.93 | 900.00 | |
| 23 Na | 45 | 1 | 10208.00 | 5104.00 | ppb | 1.33 | 90000.00 | |
| 23 Na | 45 | 2 | 11148.00 | 5574.00 | ppb | 5.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 5906.00 | 2953.00 | ppb | 1.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 5946.00 | 2973.00 | ppb | 6.38 | 90000.00 | |
| 27 Al | 45 | 1 | 5.11 | 2.56 | ppb | 1.49 | 90000.00 | |
| 27 Al | 45 | 2 | 4.84 | 2.42 | ppb | 8.31 | 90000.00 | |
| 39 K | 45 | 1 | 4794.00 | 2397.00 | ppb | 0.90 | 90000.00 | |
| 44 Ca | 45 | 1 | 46180.00 | 23090.00 | ppb | 1.60 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.40 | 0.70 | ppb | 4.36 | 900.00 | |
| 51 V | 45 | 2 | 2.08 | 1.04 | ppb | 7.63 | 900.00 | |
| 52 Cr | 45 | 2 | 0.25 | 0.12 | ppb | 12.40 | 900.00 | |
| 55 Mn | 45 | 2 | 7192.00 | 3596.00 | ppb | 5.86 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 47260.00 | 23630.00 | ppb | 5.53 | 90000.00 | |
| 59 Co | 45 | 2 | 22.50 | 11.25 | ppb | 5.26 | 900.00 | |
| 60 Ni | 45 | 2 | 13.80 | 6.90 | ppb | 6.02 | 900.00 | |
| 63 Cu | 72 | 2 | 0.39 | 0.19 | ppb | 1.98 | 900.00 | |
| 66 Zn | 72 | 2 | 8.96 | 4.48 | ppb | 2.77 | 900.00 | |
| 75 As | 72 | 2 | 5400.00 | 2700.00 | ppb | 2.30 | 900.00 | >LDR |
| 78 Se | 72 | 2 | -0.19 | -0.10 | ppb | 68.09 | 900.00 | |
| 88 Sr | 103 | 1 | 336.60 | 168.30 | ppb | 1.53 | 900.00 | |
| 98 Mo | 103 | 1 | 3.36 | 1.68 | ppb | 0.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.78 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 50.08 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 16.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.11 | 0.05 | ppb | 9.48 | 900.00 | |
| 137 Ba | 159 | 1 | 34.22 | 17.11 | ppb | 0.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 14.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 7.50 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972354 | 1.51 | 1993708 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2534654 | 1.34 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 343854 | 5.38 | 379286 | 90.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 452221 | 1.01 | 463522 | 97.6 | 70 | - | 130 |
| 72 Ge | 2 | 127051 | 2.49 | 134805 | 94.2 | 70 | - | 130 |
| 103 Rh | 1 | 2102514 | 1.84 | 2265279 | 92.8 | 70 | - | 130 |
| 115 In | 1 | 2274962 | 2.43 | 2375722 | 95.8 | 70 | - | 130 |
| 115 In | 2 | 965890 | 3.99 | 1034376 | 93.4 | 70 | - | 130 |
| 159 Tb | 1 | 2809301 | 1.69 | 2743058 | 102.4 | 70 | - | 130 |
| 175 Lu | 1 | 2655181 | 0.71 | 2554975 | 103.9 | 70 | - | 130 |
| 209 Bi | 1 | 1571967 | 2.25 | 1599251 | 98.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Dec 3 2013 02:45 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-11F
**Misc Info:**
**Vial Number:** 2201
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 80.17 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.01 | ppb | 43.41 | 900.00 | |
| 11 B | 6 | 1 | 255.60 | 127.80 | ppb | 0.43 | 900.00 | |
| 11 B | 45 | 2 | 243.60 | 121.80 | ppb | 1.41 | 900.00 | |
| 23 Na | 45 | 1 | 26880.00 | 13440.00 | ppb | 0.44 | 90000.00 | |
| 23 Na | 45 | 2 | 28740.00 | 14370.00 | ppb | 0.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 11592.00 | 5796.00 | ppb | 1.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 11226.00 | 5613.00 | ppb | 0.93 | 90000.00 | |
| 27 Al | 45 | 1 | 4.08 | 2.04 | ppb | 2.03 | 90000.00 | |
| 27 Al | 45 | 2 | 3.62 | 1.81 | ppb | 5.40 | 90000.00 | |
| 39 K | 45 | 1 | 9688.00 | 4844.00 | ppb | 0.82 | 90000.00 | |
| 44 Ca | 45 | 1 | 73380.00 | 36690.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.54 | 1.27 | ppb | 6.45 | 900.00 | |
| 51 V | 45 | 2 | 2.15 | 1.08 | ppb | 2.29 | 900.00 | |
| 52 Cr | 45 | 2 | 0.31 | 0.15 | ppb | 6.99 | 900.00 | |
| 55 Mn | 45 | 2 | 1329.80 | 664.90 | ppb | 1.01 | 900.00 | |
| 56 Fe | 45 | 2 | 43880.00 | 21940.00 | ppb | 0.98 | 90000.00 | |
| 59 Co | 45 | 2 | 0.34 | 0.17 | ppb | 1.33 | 900.00 | |
| 60 Ni | 45 | 2 | 0.61 | 0.31 | ppb | 4.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.29 | 0.14 | ppb | 1.76 | 900.00 | |
| 66 Zn | 72 | 2 | 6.78 | 3.39 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 1475.00 | 737.50 | ppb | 0.30 | 900.00 | |
| 78 Se | 72 | 2 | 0.02 | 0.01 | ppb | 679.19 | 900.00 | |
| 88 Sr | 103 | 1 | 833.60 | 416.80 | ppb | 0.66 | 900.00 | |
| 98 Mo | 103 | 1 | 0.69 | 0.35 | ppb | 1.96 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 53.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 33.37 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 10.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 8.34 | 900.00 | |
| 137 Ba | 159 | 1 | 52.30 | 26.15 | ppb | 0.17 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 13.80 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.05 | 0.02 | ppb | 15.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1973938 | 0.50 | 1993708 | 99.0 | 70 - 130 | |
| 45 Sc | 1 | 2592821 | 0.06 | 2491942 | 104.0 | 70 - 130 | |
| 45 Sc | 2 | 359129 | 0.40 | 379286 | 94.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 458218 | 0.53 | 463522 | 98.9 | 70 | - | 130 |
| 72 Ge | 2 | 130585 | 0.30 | 134805 | 96.9 | 70 | - | 130 |
| 103 Rh | 1 | 2107435 | 0.38 | 2265279 | 93.0 | 70 | - | 130 |
| 115 In | 1 | 2305164 | 0.50 | 2375722 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 983445 | 0.31 | 1034376 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 2852388 | 0.45 | 2743058 | 104.0 | 70 | - | 130 |
| 175 Lu | 1 | 2712499 | 0.61 | 2554975 | 106.2 | 70 | - | 130 |
| 209 Bi | 1 | 1564091 | 0.77 | 1599251 | 97.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 3 2013 02:52 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-12F
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 17.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 99.37 | 900.00 | |
| 11 B | 6 | 1 | 65.02 | 32.51 | ppb | 1.43 | 900.00 | |
| 11 B | 45 | 2 | 61.48 | 30.74 | ppb | 4.60 | 900.00 | |
| 23 Na | 45 | 1 | 19550.00 | 9775.00 | ppb | 0.28 | 90000.00 | |
| 23 Na | 45 | 2 | 20300.00 | 10150.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 2998.00 | 1499.00 | ppb | 0.70 | 90000.00 | |
| 24 Mg | 45 | 2 | 2920.00 | 1460.00 | ppb | 0.71 | 90000.00 | |
| 27 Al | 45 | 1 | 7.76 | 3.88 | ppb | 1.62 | 90000.00 | |
| 27 Al | 45 | 2 | 7.15 | 3.58 | ppb | 4.43 | 90000.00 | |
| 39 K | 45 | 1 | 7212.00 | 3606.00 | ppb | 1.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 31960.00 | 15980.00 | ppb | 1.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.70 | 0.35 | ppb | 3.11 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 3.55 | 900.00 | |
| 52 Cr | 45 | 2 | 0.32 | 0.16 | ppb | 3.62 | 900.00 | |
| 55 Mn | 45 | 2 | 140.82 | 70.41 | ppb | 0.81 | 900.00 | |
| 56 Fe | 45 | 2 | 2462.00 | 1231.00 | ppb | 0.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.09 | 0.05 | ppb | 5.83 | 900.00 | |
| 60 Ni | 45 | 2 | 1.61 | 0.81 | ppb | 2.61 | 900.00 | |
| 63 Cu | 72 | 2 | 4.56 | 2.28 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 13.54 | 6.77 | ppb | 1.54 | 900.00 | |
| 75 As | 72 | 2 | 3.18 | 1.59 | ppb | 0.87 | 900.00 | |
| 78 Se | 72 | 2 | -0.21 | -0.11 | ppb | 147.85 | 900.00 | |
| 88 Sr | 103 | 1 | 240.20 | 120.10 | ppb | 0.52 | 900.00 | |
| 98 Mo | 103 | 1 | 1.02 | 0.51 | ppb | 4.06 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 97.79 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 69.13 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 8.88 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 7.26 | 900.00 | |
| 137 Ba | 159 | 1 | 6.20 | 3.10 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 40.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.09 | ppb | 8.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1962515 | 0.67 | 1993708 | 98.4 | 70 - 130 | |
| 45 Sc | 1 | 2521009 | 1.45 | 2491942 | 101.2 | 70 - 130 | |
| 45 Sc | 2 | 361279 | 1.30 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 455709 | 1.03 | 463522 | 98.3 | 70 | - | 130 |
| 72 | Ge | 2 | 131134 | 0.80 | 134805 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2144976 | 0.95 | 2265279 | 94.7 | 70 | - | 130 |
| 115 | In | 1 | 2324301 | 0.51 | 2375722 | 97.8 | 70 | - | 130 |
| 115 | In | 2 | 1016152 | 1.00 | 1034376 | 98.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2817646 | 1.03 | 2743058 | 102.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2647312 | 1.61 | 2554975 | 103.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1572880 | 1.46 | 1599251 | 98.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 3 2013 02:59 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 51.16 | 51.16 | ppb | 4.32 | 900.00 | |
| 9 Be | 45 | 2 | 51.52 | 51.52 | ppb | 2.22 | 900.00 | |
| 11 B | 6 | 1 | 51.15 | 51.15 | ppb | 4.57 | 900.00 | |
| 11 B | 45 | 2 | 50.22 | 50.22 | ppb | 4.24 | 900.00 | |
| 23 Na | 45 | 1 | 4979.00 | 4979.00 | ppb | 3.39 | 90000.00 | |
| 23 Na | 45 | 2 | 5237.00 | 5237.00 | ppb | 3.99 | 90000.00 | |
| 24 Mg | 45 | 1 | 5011.00 | 5011.00 | ppb | 3.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 4837.00 | 4837.00 | ppb | 4.15 | 90000.00 | |
| 27 Al | 45 | 1 | 4976.00 | 4976.00 | ppb | 3.41 | 90000.00 | |
| 27 Al | 45 | 2 | 4654.00 | 4654.00 | ppb | 3.82 | 90000.00 | |
| 39 K | 45 | 1 | 5012.00 | 5012.00 | ppb | 3.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 5093.00 | 5093.00 | ppb | 3.61 | 90000.00 | |
| 47 Ti | 45 | 1 | 50.19 | 50.19 | ppb | 3.01 | 900.00 | |
| 51 V | 45 | 2 | 50.60 | 50.60 | ppb | 3.55 | 900.00 | |
| 52 Cr | 45 | 2 | 50.80 | 50.80 | ppb | 3.34 | 900.00 | |
| 55 Mn | 45 | 2 | 50.18 | 50.18 | ppb | 3.93 | 900.00 | |
| 56 Fe | 45 | 2 | 5287.00 | 5287.00 | ppb | 2.98 | 90000.00 | |
| 59 Co | 45 | 2 | 50.61 | 50.61 | ppb | 3.05 | 900.00 | |
| 60 Ni | 45 | 2 | 50.26 | 50.26 | ppb | 3.11 | 900.00 | |
| 63 Cu | 72 | 2 | 47.68 | 47.68 | ppb | 1.90 | 900.00 | |
| 66 Zn | 72 | 2 | 47.66 | 47.66 | ppb | 1.88 | 900.00 | |
| 75 As | 72 | 2 | 49.55 | 49.55 | ppb | 3.09 | 900.00 | |
| 78 Se | 72 | 2 | 48.95 | 48.95 | ppb | 2.82 | 900.00 | |
| 88 Sr | 103 | 1 | 52.56 | 52.56 | ppb | 4.36 | 900.00 | |
| 98 Mo | 103 | 1 | 51.91 | 51.91 | ppb | 4.76 | 900.00 | |
| 107 Ag | 115 | 1 | 50.27 | 50.27 | ppb | 5.20 | 900.00 | |
| 111 Cd | 115 | 2 | 50.20 | 50.20 | ppb | 2.97 | 900.00 | |
| 120 Sn | 115 | 1 | 50.64 | 50.64 | ppb | 5.20 | 900.00 | |
| 121 Sb | 115 | 1 | 50.80 | 50.80 | ppb | 5.34 | 900.00 | |
| 137 Ba | 159 | 1 | 49.64 | 49.64 | ppb | 5.06 | 900.00 | |
| 205 Tl | 209 | 1 | 48.98 | 48.98 | ppb | 3.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 50.42 | 50.42 | ppb | 4.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1905788 | 3.72 | 1993708 | 95.6 | 70 - 130 | |
| 45 Sc | 1 | 2441267 | 2.95 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 343744 | 3.39 | 379286 | 90.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 434302 | 3.02 | 463522 | 93.7 | 70 | - | 130 |
| 72 Ge | 2 | 125407 | 2.32 | 134805 | 93.0 | 70 | - | 130 |
| 103 Rh | 1 | 2101278 | 3.88 | 2265279 | 92.8 | 70 | - | 130 |
| 115 In | 1 | 2266731 | 4.40 | 2375722 | 95.4 | 70 | - | 130 |
| 115 In | 2 | 958432 | 3.11 | 1034376 | 92.7 | 70 | - | 130 |
| 159 Tb | 1 | 2692359 | 3.70 | 2743058 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 2544427 | 4.85 | 2554975 | 99.6 | 70 | - | 130 |
| 209 Bi | 1 | 1501485 | 3.88 | 1599251 | 93.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 3 2013 03:15 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.24 | 49.24 | ppb | 0.44 | 900.00 | |
| 9 Be | 45 | 2 | 49.70 | 49.70 | ppb | 3.92 | 900.00 | |
| 11 B | 6 | 1 | 49.17 | 49.17 | ppb | 1.40 | 900.00 | |
| 11 B | 45 | 2 | 48.60 | 48.60 | ppb | 2.00 | 900.00 | |
| 23 Na | 45 | 1 | 4886.00 | 4886.00 | ppb | 0.67 | 90000.00 | |
| 23 Na | 45 | 2 | 4962.00 | 4962.00 | ppb | 2.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 4888.00 | 4888.00 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 4574.00 | 4574.00 | ppb | 1.19 | 90000.00 | |
| 27 Al | 45 | 1 | 4896.00 | 4896.00 | ppb | 0.96 | 90000.00 | |
| 27 Al | 45 | 2 | 4408.00 | 4408.00 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 4943.00 | 4943.00 | ppb | 0.52 | 90000.00 | |
| 44 Ca | 45 | 1 | 5007.00 | 5007.00 | ppb | 0.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.70 | 48.70 | ppb | 0.40 | 900.00 | |
| 51 V | 45 | 2 | 47.77 | 47.77 | ppb | 1.99 | 900.00 | |
| 52 Cr | 45 | 2 | 47.52 | 47.52 | ppb | 2.13 | 900.00 | |
| 55 Mn | 45 | 2 | 47.02 | 47.02 | ppb | 1.95 | 900.00 | |
| 56 Fe | 45 | 2 | 4947.00 | 4947.00 | ppb | 1.77 | 90000.00 | |
| 59 Co | 45 | 2 | 47.32 | 47.32 | ppb | 2.53 | 900.00 | |
| 60 Ni | 45 | 2 | 47.07 | 47.07 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 46.41 | 46.41 | ppb | 1.16 | 900.00 | |
| 66 Zn | 72 | 2 | 46.00 | 46.00 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 47.63 | 47.63 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 48.09 | 48.09 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 51.09 | 51.09 | ppb | 0.88 | 900.00 | |
| 98 Mo | 103 | 1 | 50.13 | 50.13 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 49.29 | 49.29 | ppb | 1.30 | 900.00 | |
| 111 Cd | 115 | 2 | 47.19 | 47.19 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 49.67 | 49.67 | ppb | 1.32 | 900.00 | |
| 121 Sb | 115 | 1 | 50.06 | 50.06 | ppb | 1.75 | 900.00 | |
| 137 Ba | 159 | 1 | 47.94 | 47.94 | ppb | 1.56 | 900.00 | |
| 205 Tl | 209 | 1 | 47.58 | 47.58 | ppb | 0.72 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.08 | 49.08 | ppb | 0.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1990303 | 0.51 | 1993708 | 99.8 | 70 - 130 | |
| 45 Sc | 1 | 2509421 | 0.47 | 2491942 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 369509 | 2.20 | 379286 | 97.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 445639 | 0.43 | 463522 | 96.1 | 70 - | 130 |
| 72 | Ge | 2 | 130328 | 1.27 | 134805 | 96.7 | 70 - | 130 |
| 103 | Rh | 1 | 2173761 | 0.48 | 2265279 | 96.0 | 70 - | 130 |
| 115 | In | 1 | 2310739 | 1.07 | 2375722 | 97.3 | 70 - | 130 |
| 115 | In | 2 | 1008723 | 1.79 | 1034376 | 97.5 | 70 - | 130 |
| 159 | Tb | 1 | 2776437 | 0.57 | 2743058 | 101.2 | 70 - | 130 |
| 175 | Lu | 1 | 2624410 | 0.72 | 2554975 | 102.7 | 70 - | 130 |
| 209 | Bi | 1 | 1553983 | 0.27 | 1599251 | 97.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#
Date Acquired: Dec 3 2013 03:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 35.41 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.56 | 900.00 | |
| 11 B | 6 | 1 | 0.26 | 0.26 | ppb | 6.23 | 900.00 | |
| 11 B | 45 | 2 | 0.17 | 0.17 | ppb | 68.64 | 900.00 | |
| 23 Na | 45 | 1 | 0.93 | 0.93 | ppb | 46.22 | 90000.00 | |
| 23 Na | 45 | 2 | 4.63 | 4.63 | ppb | 7.42 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.51 | 0.51 | ppb | 9.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.88 | 0.88 | ppb | 30.16 | 90000.00 | |
| 27 Al | 45 | 1 | 0.62 | 0.62 | ppb | 5.92 | 90000.00 | |
| 27 Al | 45 | 2 | 0.78 | 0.78 | ppb | 15.24 | 90000.00 | |
| 39 K | 45 | 1 | -13.09 | -13.09 | ppb | 10.28 | 90000.00 | |
| 44 Ca | 45 | 1 | -6.13 | -6.13 | ppb | 13.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 37.21 | 900.00 | |
| 51 V | 45 | 2 | -0.14 | -0.14 | ppb | 12.25 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 16.88 | 900.00 | |
| 55 Mn | 45 | 2 | 0.03 | 0.03 | ppb | 34.27 | 900.00 | |
| 56 Fe | 45 | 2 | 0.73 | 0.73 | ppb | 33.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 36.15 | 900.00 | |
| 60 Ni | 45 | 2 | 0.02 | 0.02 | ppb | 44.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.01 | 0.01 | ppb | 31.49 | 900.00 | |
| 66 Zn | 72 | 2 | 3.39 | 3.39 | ppb | 1.66 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 32.07 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 62.31 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 36.21 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 10.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 12.21 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 63.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 3.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 7.71 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 236.02 | 900.00 | |
| 205 Tl | 209 | 1 | 0.19 | 0.19 | ppb | 3.96 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 12.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2039170 | 0.48 | 1993708 | 102.3 | 70 - 130 | |
| 45 Sc | 1 | 2533213 | 0.32 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 367479 | 0.72 | 379286 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 456225 | 1.38 | 463522 | 98.4 | 70 | - | 130 |
| 72 | Ge | 2 | 131288 | 0.40 | 134805 | 97.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2247030 | 0.48 | 2265279 | 99.2 | 70 | - | 130 |
| 115 | In | 1 | 2386952 | 0.67 | 2375722 | 100.5 | 70 | - | 130 |
| 115 | In | 2 | 1041675 | 0.06 | 1034376 | 100.7 | 70 | - | 130 |
| 159 | Tb | 1 | 2793889 | 0.85 | 2743058 | 101.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2623367 | 1.26 | 2554975 | 102.7 | 70 | - | 130 |
| 209 | Bi | 1 | 1615974 | 1.24 | 1599251 | 101.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D# |
| Date Acquired: | Dec 3 2013 03:32 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC26418-13F |
| Misc Info: | |
| Vial Number: | 2205 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 2.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 2.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 55.79 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.02 | ppb | 116.42 | 900.00 | |
| 11 B | 6 | 1 | 174.96 | 87.48 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 162.34 | 81.17 | ppb | 2.49 | 900.00 | |
| 23 Na | 45 | 1 | 22200.00 | 11100.00 | ppb | 2.51 | 90000.00 | |
| 23 Na | 45 | 2 | 22420.00 | 11210.00 | ppb | 3.23 | 90000.00 | |
| 24 Mg | 45 | 1 | 8702.00 | 4351.00 | ppb | 2.20 | 90000.00 | |
| 24 Mg | 45 | 2 | 8058.00 | 4029.00 | ppb | 3.59 | 90000.00 | |
| 27 Al | 45 | 1 | 3.46 | 1.73 | ppb | 1.72 | 90000.00 | |
| 27 Al | 45 | 2 | 3.45 | 1.73 | ppb | 7.76 | 90000.00 | |
| 39 K | 45 | 1 | 2960.00 | 1480.00 | ppb | 2.69 | 90000.00 | |
| 44 Ca | 45 | 1 | 75080.00 | 37540.00 | ppb | 2.41 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.40 | 0.70 | ppb | 3.34 | 900.00 | |
| 51 V | 45 | 2 | 2.29 | 1.15 | ppb | 5.66 | 900.00 | |
| 52 Cr | 45 | 2 | 0.23 | 0.12 | ppb | 7.74 | 900.00 | |
| 55 Mn | 45 | 2 | 19088.00 | 9544.00 | ppb | 2.63 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61.64 | 30.82 | ppb | 2.99 | 90000.00 | |
| 59 Co | 45 | 2 | 8.96 | 4.48 | ppb | 3.33 | 900.00 | |
| 60 Ni | 45 | 2 | 14.66 | 7.33 | ppb | 2.28 | 900.00 | |
| 63 Cu | 72 | 2 | 1.18 | 0.59 | ppb | 1.68 | 900.00 | |
| 66 Zn | 72 | 2 | 6.69 | 3.35 | ppb | 2.14 | 900.00 | |
| 75 As | 72 | 2 | 2.02 | 1.01 | ppb | 3.75 | 900.00 | |
| 78 Se | 72 | 2 | 0.27 | 0.13 | ppb | 13.10 | 900.00 | |
| 88 Sr | 103 | 1 | 446.60 | 223.30 | ppb | 1.82 | 900.00 | |
| 98 Mo | 103 | 1 | 0.93 | 0.46 | ppb | 8.66 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 48.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.26 | 0.13 | ppb | 12.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.15 | 0.07 | ppb | 5.01 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 6.12 | 900.00 | |
| 137 Ba | 159 | 1 | 13.96 | 6.98 | ppb | 3.06 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.08 | ppb | 6.18 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.04 | ppb | 2.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1947199 | 1.85 | 1993708 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 2442485 | 2.09 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 360659 | 2.62 | 379286 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 435540 | 0.69 | 463522 | 94.0 | 70 | - | 130 |
| 72 Ge | 2 | 128760 | 1.19 | 134805 | 95.5 | 70 | - | 130 |
| 103 Rh | 1 | 2016038 | 1.98 | 2265279 | 89.0 | 70 | - | 130 |
| 115 In | 1 | 2197497 | 2.05 | 2375722 | 92.5 | 70 | - | 130 |
| 115 In | 2 | 999061 | 2.30 | 1034376 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 2699549 | 1.84 | 2743058 | 98.4 | 70 | - | 130 |
| 175 Lu | 1 | 2576346 | 2.12 | 2554975 | 100.8 | 70 | - | 130 |
| 209 Bi | 1 | 1489613 | 3.56 | 1599251 | 93.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 3 2013 03:39 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-14F
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 58.38 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 100.64 | 900.00 | |
| 11 B | 6 | 1 | 2.16 | 1.08 | ppb | 3.38 | 900.00 | |
| 11 B | 45 | 2 | 2.19 | 1.09 | ppb | 19.03 | 900.00 | |
| 23 Na | 45 | 1 | 17.65 | 8.82 | ppb | 5.19 | 90000.00 | |
| 23 Na | 45 | 2 | 30.26 | 15.13 | ppb | 1.18 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.10 | 0.55 | ppb | 5.17 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.10 | 0.55 | ppb | 19.13 | 90000.00 | |
| 27 Al | 45 | 1 | 2.80 | 1.40 | ppb | 5.37 | 90000.00 | |
| 27 Al | 45 | 2 | 2.58 | 1.29 | ppb | 6.56 | 90000.00 | |
| 39 K | 45 | 1 | -11.91 | -5.96 | ppb | 21.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 2.14 | 1.07 | ppb | 24.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.23 | 0.11 | ppb | 16.18 | 900.00 | |
| 51 V | 45 | 2 | 2.67 | 1.34 | ppb | 1.74 | 900.00 | |
| 52 Cr | 45 | 2 | 0.27 | 0.14 | ppb | 5.18 | 900.00 | |
| 55 Mn | 45 | 2 | 0.71 | 0.35 | ppb | 2.87 | 900.00 | |
| 56 Fe | 45 | 2 | 7.52 | 3.76 | ppb | 0.59 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 12.11 | 900.00 | |
| 60 Ni | 45 | 2 | -0.11 | -0.06 | ppb | 27.11 | 900.00 | |
| 63 Cu | 72 | 2 | 0.24 | 0.12 | ppb | 2.47 | 900.00 | |
| 66 Zn | 72 | 2 | 6.00 | 3.00 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 0.94 | 0.47 | ppb | 6.81 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.01 | ppb | 123.37 | 900.00 | |
| 88 Sr | 103 | 1 | 0.07 | 0.03 | ppb | 9.56 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 275.98 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 57.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 172.75 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 19.42 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.02 | ppb | 7.55 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 24.32 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.03 | ppb | 3.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 29.43 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2040996 | 1.38 | 1993708 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2579716 | 0.43 | 2491942 | 103.5 | 70 - 130 | |
| 45 Sc | 2 | 369855 | 1.07 | 379286 | 97.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 464325 | 0.63 | 463522 | 100.2 | 70 | - | 130 |
| 72 Ge | 2 | 133043 | 0.52 | 134805 | 98.7 | 70 | - | 130 |
| 103 Rh | 1 | 2273422 | 0.48 | 2265279 | 100.4 | 70 | - | 130 |
| 115 In | 1 | 2401583 | 1.21 | 2375722 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 1034502 | 0.41 | 1034376 | 100.0 | 70 | - | 130 |
| 159 Tb | 1 | 2903648 | 0.24 | 2743058 | 105.9 | 70 | - | 130 |
| 175 Lu | 1 | 2705535 | 0.74 | 2554975 | 105.9 | 70 | - | 130 |
| 209 Bi | 1 | 1655294 | 0.96 | 1599251 | 103.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 3 2013 03:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-15F
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 19.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.06 | 0.03 | ppb | 139.40 | 900.00 | |
| 11 B | 6 | 1 | 296.20 | 148.10 | ppb | 7.35 | 900.00 | |
| 11 B | 45 | 2 | 291.60 | 145.80 | ppb | 7.35 | 900.00 | |
| 23 Na | 45 | 1 | 32540.00 | 16270.00 | ppb | 10.92 | 90000.00 | |
| 23 Na | 45 | 2 | 35540.00 | 17770.00 | ppb | 6.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 14718.00 | 7359.00 | ppb | 11.15 | 90000.00 | |
| 24 Mg | 45 | 2 | 14696.00 | 7348.00 | ppb | 5.91 | 90000.00 | |
| 27 Al | 45 | 1 | 6.99 | 3.49 | ppb | 16.13 | 90000.00 | |
| 27 Al | 45 | 2 | 6.64 | 3.32 | ppb | 12.83 | 90000.00 | |
| 39 K | 45 | 1 | 6518.00 | 3259.00 | ppb | 11.73 | 90000.00 | |
| 44 Ca | 45 | 1 | 106160.00 | 53080.00 | ppb | 11.65 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.11 | 1.06 | ppb | 12.77 | 900.00 | |
| 51 V | 45 | 2 | 2.31 | 1.15 | ppb | 7.20 | 900.00 | |
| 52 Cr | 45 | 2 | 0.37 | 0.18 | ppb | 9.04 | 900.00 | |
| 55 Mn | 45 | 2 | 9128.00 | 4564.00 | ppb | 5.43 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 11448.00 | 5724.00 | ppb | 5.56 | 90000.00 | |
| 59 Co | 45 | 2 | 14.44 | 7.22 | ppb | 6.86 | 900.00 | |
| 60 Ni | 45 | 2 | 16.79 | 8.40 | ppb | 6.43 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.18 | ppb | 8.25 | 900.00 | |
| 66 Zn | 72 | 2 | 8.96 | 4.48 | ppb | 5.12 | 900.00 | |
| 75 As | 72 | 2 | 137.36 | 68.68 | ppb | 4.92 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 424.97 | 900.00 | |
| 88 Sr | 103 | 1 | 1118.00 | 559.00 | ppb | 12.85 | 900.00 | |
| 98 Mo | 103 | 1 | 2.52 | 1.26 | ppb | 13.05 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 40.66 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 61.41 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 3.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 12.24 | 900.00 | |
| 137 Ba | 159 | 1 | 70.18 | 35.09 | ppb | 11.37 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.03 | ppb | 24.32 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 30.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1958641 | 6.37 | 1993708 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 2543432 | 10.25 | 2491942 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 346692 | 5.60 | 379286 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 444981 | 6.36 | 463522 | 96.0 | 70 | - | 130 |
| 72 | Ge | 2 | 125158 | 4.37 | 134805 | 92.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2066141 | 11.27 | 2265279 | 91.2 | 70 | - | 130 |
| 115 | In | 1 | 2267433 | 9.75 | 2375722 | 95.4 | 70 | - | 130 |
| 115 | In | 2 | 934766 | 7.95 | 1034376 | 90.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2799559 | 9.68 | 2743058 | 102.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2644140 | 9.36 | 2554975 | 103.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1510652 | 9.43 | 1599251 | 94.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 3 2013 03:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-16F
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 49.60 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.61 | 900.00 | |
| 11 B | 6 | 1 | 32.98 | 16.49 | ppb | 0.93 | 900.00 | |
| 11 B | 45 | 2 | 31.58 | 15.79 | ppb | 10.22 | 900.00 | |
| 23 Na | 45 | 1 | 2846.00 | 1423.00 | ppb | 2.19 | 90000.00 | |
| 23 Na | 45 | 2 | 3068.00 | 1534.00 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 954.00 | 477.00 | ppb | 1.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 994.80 | 497.40 | ppb | 1.02 | 90000.00 | |
| 27 Al | 45 | 1 | 6.69 | 3.35 | ppb | 3.43 | 90000.00 | |
| 27 Al | 45 | 2 | 6.05 | 3.03 | ppb | 1.85 | 90000.00 | |
| 39 K | 45 | 1 | 3326.00 | 1663.00 | ppb | 2.02 | 90000.00 | |
| 44 Ca | 45 | 1 | 8578.00 | 4289.00 | ppb | 1.28 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 0.54 | ppb | 12.48 | 900.00 | |
| 51 V | 45 | 2 | 2.28 | 1.14 | ppb | 4.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.36 | 0.18 | ppb | 3.34 | 900.00 | |
| 55 Mn | 45 | 2 | 1800.60 | 900.30 | ppb | 1.20 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 3504.00 | 1752.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 5.41 | 2.71 | ppb | 1.26 | 900.00 | |
| 60 Ni | 45 | 2 | 6.89 | 3.45 | ppb | 1.04 | 900.00 | |
| 63 Cu | 72 | 2 | 0.85 | 0.42 | ppb | 2.29 | 900.00 | |
| 66 Zn | 72 | 2 | 21.18 | 10.59 | ppb | 0.18 | 900.00 | |
| 75 As | 72 | 2 | 22.92 | 11.46 | ppb | 1.05 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.02 | ppb | 503.20 | 900.00 | |
| 88 Sr | 103 | 1 | 82.64 | 41.32 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 0.47 | 0.24 | ppb | 5.81 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 98.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.09 | 0.05 | ppb | 9.14 | 900.00 | |
| 120 Sn | 115 | 1 | 0.14 | 0.07 | ppb | 1.23 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.07 | ppb | 8.87 | 900.00 | |
| 137 Ba | 159 | 1 | 8.08 | 4.04 | ppb | 1.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 10.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.07 | 0.03 | ppb | 2.86 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2001051 | 0.58 | 1993708 | 100.4 | 70 - 130 | |
| 45 Sc | 1 | 2526251 | 1.35 | 2491942 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 350378 | 0.75 | 379286 | 92.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450189 | 0.94 | 463522 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 128089 | 0.43 | 134805 | 95.0 | 70 | - | 130 |
| 103 Rh | 1 | 2138651 | 0.94 | 2265279 | 94.4 | 70 | - | 130 |
| 115 In | 1 | 2300079 | 0.50 | 2375722 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 1005505 | 1.03 | 1034376 | 97.2 | 70 | - | 130 |
| 159 Tb | 1 | 2803485 | 1.13 | 2743058 | 102.2 | 70 | - | 130 |
| 175 Lu | 1 | 2647425 | 0.45 | 2554975 | 103.6 | 70 | - | 130 |
| 209 Bi | 1 | 1569384 | 0.87 | 1599251 | 98.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 04:00 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC26418-2F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2209 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 40.84 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.60 | 900.00 | |
| 11 B | 6 | 1 | 48.24 | 24.12 | ppb | 0.75 | 900.00 | |
| 11 B | 45 | 2 | 47.66 | 23.83 | ppb | 1.51 | 900.00 | |
| 23 Na | 45 | 1 | 13270.00 | 6635.00 | ppb | 0.99 | 90000.00 | |
| 23 Na | 45 | 2 | 14312.00 | 7156.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 2590.00 | 1295.00 | ppb | 1.08 | 90000.00 | |
| 24 Mg | 45 | 2 | 2650.00 | 1325.00 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 1 | 5.20 | 2.60 | ppb | 1.54 | 90000.00 | |
| 27 Al | 45 | 2 | 4.81 | 2.41 | ppb | 2.39 | 90000.00 | |
| 39 K | 45 | 1 | 4674.00 | 2337.00 | ppb | 1.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 22620.00 | 11310.00 | ppb | 1.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.82 | ppb | 2.77 | 900.00 | |
| 51 V | 45 | 2 | 1.94 | 0.97 | ppb | 3.51 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.17 | ppb | 2.74 | 900.00 | |
| 55 Mn | 45 | 2 | 2158.00 | 1079.00 | ppb | 0.92 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 59720.00 | 29860.00 | ppb | 0.54 | 90000.00 | |
| 59 Co | 45 | 2 | 8.59 | 4.30 | ppb | 0.46 | 900.00 | |
| 60 Ni | 45 | 2 | 6.14 | 3.07 | ppb | 1.44 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 1.73 | 900.00 | |
| 66 Zn | 72 | 2 | 10.08 | 5.04 | ppb | 0.90 | 900.00 | |
| 75 As | 72 | 2 | 424.60 | 212.30 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | -0.23 | -0.11 | ppb | 41.60 | 900.00 | |
| 88 Sr | 103 | 1 | 95.44 | 47.72 | ppb | 0.94 | 900.00 | |
| 98 Mo | 103 | 1 | 0.35 | 0.17 | ppb | 6.91 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 163.06 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 33.77 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 9.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 5.16 | 900.00 | |
| 137 Ba | 159 | 1 | 39.32 | 19.66 | ppb | 1.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 5.91 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.02 | ppb | 15.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1959415 | 0.97 | 1993708 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2530933 | 1.03 | 2491942 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 351996 | 0.68 | 379286 | 92.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450030 | 0.47 | 463522 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 129840 | 0.50 | 134805 | 96.3 | 70 | - | 130 |
| 103 Rh | 1 | 2079569 | 0.80 | 2265279 | 91.8 | 70 | - | 130 |
| 115 In | 1 | 2263027 | 0.74 | 2375722 | 95.3 | 70 | - | 130 |
| 115 In | 2 | 980186 | 0.24 | 1034376 | 94.8 | 70 | - | 130 |
| 159 Tb | 1 | 2775160 | 0.28 | 2743058 | 101.2 | 70 | - | 130 |
| 175 Lu | 1 | 2614423 | 0.61 | 2554975 | 102.3 | 70 | - | 130 |
| 209 Bi | 1 | 1529353 | 0.98 | 1599251 | 95.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#
**Date Acquired:** Dec 3 2013 04:07 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-3F
**Misc Info:**
**Vial Number:** 2210
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 6.32 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 34.25 | 900.00 | |
| 11 B | 6 | 1 | 49.74 | 24.87 | ppb | 0.79 | 900.00 | |
| 11 B | 45 | 2 | 50.34 | 25.17 | ppb | 5.40 | 900.00 | |
| 23 Na | 45 | 1 | 13698.00 | 6849.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 14744.00 | 7372.00 | ppb | 0.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 2662.00 | 1331.00 | ppb | 0.99 | 90000.00 | |
| 24 Mg | 45 | 2 | 2698.00 | 1349.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 5.25 | 2.62 | ppb | 2.29 | 90000.00 | |
| 27 Al | 45 | 2 | 4.82 | 2.41 | ppb | 5.98 | 90000.00 | |
| 39 K | 45 | 1 | 4750.00 | 2375.00 | ppb | 0.29 | 90000.00 | |
| 44 Ca | 45 | 1 | 23360.00 | 11680.00 | ppb | 0.43 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.65 | 0.82 | ppb | 3.43 | 900.00 | |
| 51 V | 45 | 2 | 1.95 | 0.98 | ppb | 1.05 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 2.03 | 900.00 | |
| 55 Mn | 45 | 2 | 2218.00 | 1109.00 | ppb | 0.44 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 61760.00 | 30880.00 | ppb | 0.76 | 90000.00 | |
| 59 Co | 45 | 2 | 8.76 | 4.38 | ppb | 1.52 | 900.00 | |
| 60 Ni | 45 | 2 | 6.39 | 3.19 | ppb | 1.49 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.12 | ppb | 4.77 | 900.00 | |
| 66 Zn | 72 | 2 | 7.88 | 3.94 | ppb | 0.53 | 900.00 | |
| 75 As | 72 | 2 | 435.00 | 217.50 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 409.45 | 900.00 | |
| 88 Sr | 103 | 1 | 98.72 | 49.36 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.16 | ppb | 6.33 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 123.88 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 41.94 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 3.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 8.21 | 900.00 | |
| 137 Ba | 159 | 1 | 40.18 | 20.09 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 22.73 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 41.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1972761 | 0.88 | 1993708 | 98.9 | 70 - 130 | |
| 45 Sc | 1 | 2523873 | 0.65 | 2491942 | 101.3 | 70 - 130 | |
| 45 Sc | 2 | 348679 | 0.76 | 379286 | 91.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455412 | 0.90 | 463522 | 98.3 | 70 | - | 130 |
| 72 Ge | 2 | 128964 | 0.25 | 134805 | 95.7 | 70 | - | 130 |
| 103 Rh | 1 | 2084281 | 0.54 | 2265279 | 92.0 | 70 | - | 130 |
| 115 In | 1 | 2256193 | 0.33 | 2375722 | 95.0 | 70 | - | 130 |
| 115 In | 2 | 977879 | 0.98 | 1034376 | 94.5 | 70 | - | 130 |
| 159 Tb | 1 | 2770424 | 0.66 | 2743058 | 101.0 | 70 | - | 130 |
| 175 Lu | 1 | 2621390 | 1.21 | 2554975 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 1531265 | 0.83 | 1599251 | 95.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 04:14 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC26418-4F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2211 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.09 | 0.04 | ppb | 12.88 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.04 | ppb | 16.11 | 900.00 | |
| 11 B | 6 | 1 | 64.98 | 32.49 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 64.96 | 32.48 | ppb | 2.01 | 900.00 | |
| 23 Na | 45 | 1 | 21920.00 | 10960.00 | ppb | 0.29 | 90000.00 | |
| 23 Na | 45 | 2 | 23720.00 | 11860.00 | ppb | 0.59 | 90000.00 | |
| 24 Mg | 45 | 1 | 2482.00 | 1241.00 | ppb | 1.05 | 90000.00 | |
| 24 Mg | 45 | 2 | 2520.00 | 1260.00 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 1 | 52.12 | 26.06 | ppb | 0.53 | 90000.00 | |
| 27 Al | 45 | 2 | 48.08 | 24.04 | ppb | 1.39 | 90000.00 | |
| 39 K | 45 | 1 | 8090.00 | 4045.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 38800.00 | 19400.00 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.01 | 1.01 | ppb | 3.94 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | 0.48 | 0.24 | ppb | 0.39 | 900.00 | |
| 55 Mn | 45 | 2 | 1997.00 | 998.50 | ppb | 0.52 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 18422.00 | 9211.00 | ppb | 0.65 | 90000.00 | |
| 59 Co | 45 | 2 | 108.10 | 54.05 | ppb | 0.58 | 900.00 | |
| 60 Ni | 45 | 2 | 724.60 | 362.30 | ppb | 0.44 | 900.00 | |
| 63 Cu | 72 | 2 | 1.11 | 0.56 | ppb | 0.71 | 900.00 | |
| 66 Zn | 72 | 2 | 37.82 | 18.91 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 240.40 | 120.20 | ppb | 0.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.39 | 0.20 | ppb | 64.99 | 900.00 | |
| 88 Sr | 103 | 1 | 329.40 | 164.70 | ppb | 1.13 | 900.00 | |
| 98 Mo | 103 | 1 | 6.60 | 3.30 | ppb | 1.32 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 72.15 | 900.00 | |
| 111 Cd | 115 | 2 | 0.36 | 0.18 | ppb | 10.44 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 17.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.97 | 0.48 | ppb | 1.90 | 900.00 | |
| 137 Ba | 159 | 1 | 76.42 | 38.21 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 0.57 | 0.29 | ppb | 2.63 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 0.66 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1934701 | 0.65 | 1993708 | 97.0 | 70 - 130 | |
| 45 Sc | 1 | 2484432 | 0.81 | 2491942 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 343142 | 0.74 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 438396 | 0.46 | 463522 | 94.6 | 70 - | 130 |
| 72 | Ge | 2 | 125733 | 0.39 | 134805 | 93.3 | 70 - | 130 |
| 103 | Rh | 1 | 2043117 | 1.00 | 2265279 | 90.2 | 70 - | 130 |
| 115 | In | 1 | 2223601 | 0.53 | 2375722 | 93.6 | 70 - | 130 |
| 115 | In | 2 | 969579 | 0.55 | 1034376 | 93.7 | 70 - | 130 |
| 159 | Tb | 1 | 2731488 | 0.43 | 2743058 | 99.6 | 70 - | 130 |
| 175 | Lu | 1 | 2586050 | 0.43 | 2554975 | 101.2 | 70 - | 130 |
| 209 | Bi | 1 | 1495883 | 0.37 | 1599251 | 93.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 3 2013 04:21 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-5F
Misc Info:
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.02 | ppb | 20.42 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 69.27 | 900.00 | |
| 11 B | 6 | 1 | 49.02 | 24.51 | ppb | 0.68 | 900.00 | |
| 11 B | 45 | 2 | 46.80 | 23.40 | ppb | 5.33 | 900.00 | |
| 23 Na | 45 | 1 | 3930.00 | 1965.00 | ppb | 0.87 | 90000.00 | |
| 23 Na | 45 | 2 | 4236.00 | 2118.00 | ppb | 0.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 2120.00 | 1060.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 2136.00 | 1068.00 | ppb | 0.73 | 90000.00 | |
| 27 Al | 45 | 1 | 12.38 | 6.19 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 2 | 11.88 | 5.94 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 4218.00 | 2109.00 | ppb | 0.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 24300.00 | 12150.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.62 | 0.81 | ppb | 8.32 | 900.00 | |
| 51 V | 45 | 2 | 2.00 | 1.00 | ppb | 1.60 | 900.00 | |
| 52 Cr | 45 | 2 | 0.45 | 0.22 | ppb | 2.74 | 900.00 | |
| 55 Mn | 45 | 2 | 5770.00 | 2885.00 | ppb | 0.36 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 87180.00 | 43590.00 | ppb | 0.13 | 90000.00 | |
| 59 Co | 45 | 2 | 7.77 | 3.89 | ppb | 0.65 | 900.00 | |
| 60 Ni | 45 | 2 | 12.64 | 6.32 | ppb | 1.14 | 900.00 | |
| 63 Cu | 72 | 2 | 0.31 | 0.15 | ppb | 3.80 | 900.00 | |
| 66 Zn | 72 | 2 | 8.09 | 4.05 | ppb | 1.69 | 900.00 | |
| 75 As | 72 | 2 | 3094.00 | 1547.00 | ppb | 0.29 | 900.00 | >LDR |
| 78 Se | 72 | 2 | -0.46 | -0.23 | ppb | 50.09 | 900.00 | |
| 88 Sr | 103 | 1 | 135.38 | 67.69 | ppb | 0.68 | 900.00 | |
| 98 Mo | 103 | 1 | 0.17 | 0.08 | ppb | 8.94 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 148.18 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.05 | ppb | 8.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 14.03 | 900.00 | |
| 137 Ba | 159 | 1 | 30.54 | 15.27 | ppb | 1.52 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 8.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 27.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1930969 | 0.76 | 1993708 | 96.9 | 70 - 130 | |
| 45 Sc | 1 | 2489840 | 0.26 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 343133 | 0.08 | 379286 | 90.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 447815 | 0.85 | 463522 | 96.6 | 70 | - | 130 |
| 72 Ge | 2 | 128016 | 0.13 | 134805 | 95.0 | 70 | - | 130 |
| 103 Rh | 1 | 2074513 | 0.25 | 2265279 | 91.6 | 70 | - | 130 |
| 115 In | 1 | 2248868 | 0.46 | 2375722 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 976464 | 0.21 | 1034376 | 94.4 | 70 | - | 130 |
| 159 Tb | 1 | 2763063 | 0.35 | 2743058 | 100.7 | 70 | - | 130 |
| 175 Lu | 1 | 2618334 | 0.65 | 2554975 | 102.5 | 70 | - | 130 |
| 209 Bi | 1 | 1524971 | 0.12 | 1599251 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D#
Date Acquired: Dec 3 2013 04:28 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-6F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.66 | 0.33 | ppb | 1.45 | 900.00 | |
| 9 Be | 45 | 2 | 0.62 | 0.31 | ppb | 14.94 | 900.00 | |
| 11 B | 6 | 1 | 24.30 | 12.15 | ppb | 0.84 | 900.00 | |
| 11 B | 45 | 2 | 22.92 | 11.46 | ppb | 7.94 | 900.00 | |
| 23 Na | 45 | 1 | 40980.00 | 20490.00 | ppb | 0.65 | 90000.00 | |
| 23 Na | 45 | 2 | 42780.00 | 21390.00 | ppb | 0.21 | 90000.00 | |
| 24 Mg | 45 | 1 | 2882.00 | 1441.00 | ppb | 1.21 | 90000.00 | |
| 24 Mg | 45 | 2 | 2836.00 | 1418.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 1497.80 | 748.90 | ppb | 0.88 | 90000.00 | |
| 27 Al | 45 | 2 | 1428.20 | 714.10 | ppb | 0.69 | 90000.00 | |
| 39 K | 45 | 1 | 3834.00 | 1917.00 | ppb | 1.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 27900.00 | 13950.00 | ppb | 0.71 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.93 | 0.46 | ppb | 3.72 | 900.00 | |
| 51 V | 45 | 2 | 2.21 | 1.11 | ppb | 1.14 | 900.00 | |
| 52 Cr | 45 | 2 | 1.38 | 0.69 | ppb | 4.05 | 900.00 | |
| 55 Mn | 45 | 2 | 531.00 | 265.50 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 1474.80 | 737.40 | ppb | 0.35 | 90000.00 | |
| 59 Co | 45 | 2 | 18.43 | 9.22 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 297.00 | 148.50 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | 1.17 | 0.58 | ppb | 2.12 | 900.00 | |
| 66 Zn | 72 | 2 | 85.54 | 42.77 | ppb | 1.26 | 900.00 | |
| 75 As | 72 | 2 | 4.71 | 2.35 | ppb | 1.31 | 900.00 | |
| 78 Se | 72 | 2 | -0.20 | -0.10 | ppb | 89.66 | 900.00 | |
| 88 Sr | 103 | 1 | 242.80 | 121.40 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | 0.48 | 0.24 | ppb | 2.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 44.63 | 900.00 | |
| 111 Cd | 115 | 2 | 0.38 | 0.19 | ppb | 3.88 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.04 | ppb | 10.08 | 900.00 | |
| 121 Sb | 115 | 1 | 0.68 | 0.34 | ppb | 6.37 | 900.00 | |
| 137 Ba | 159 | 1 | 53.98 | 26.99 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 21.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.18 | 0.09 | ppb | 7.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1915930 | 0.65 | 1993708 | 96.1 | 70 - 130 | |
| 45 Sc | 1 | 2412253 | 0.85 | 2491942 | 96.8 | 70 - 130 | |
| 45 Sc | 2 | 340648 | 1.16 | 379286 | 89.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 436860 | 0.82 | 463522 | 94.2 | 70 | - | 130 |
| 72 | Ge | 2 | 124881 | 0.92 | 134805 | 92.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2027327 | 0.59 | 2265279 | 89.5 | 70 | - | 130 |
| 115 | In | 1 | 2213862 | 1.67 | 2375722 | 93.2 | 70 | - | 130 |
| 115 | In | 2 | 965929 | 0.44 | 1034376 | 93.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2712060 | 0.70 | 2743058 | 98.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2579682 | 1.22 | 2554975 | 101.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1478188 | 0.87 | 1599251 | 92.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 3 2013 04:35 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-7F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 94.07 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 99.65 | 900.00 | |
| 11 B | 6 | 1 | 1.51 | 0.75 | ppb | 4.38 | 900.00 | |
| 11 B | 45 | 2 | 1.38 | 0.69 | ppb | 37.17 | 900.00 | |
| 23 Na | 45 | 1 | 20.06 | 10.03 | ppb | 4.68 | 90000.00 | |
| 23 Na | 45 | 2 | 34.40 | 17.20 | ppb | 2.63 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.83 | 0.42 | ppb | 7.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.85 | 0.43 | ppb | 17.66 | 90000.00 | |
| 27 Al | 45 | 1 | 2.92 | 1.46 | ppb | 1.63 | 90000.00 | |
| 27 Al | 45 | 2 | 2.55 | 1.28 | ppb | 2.96 | 90000.00 | |
| 39 K | 45 | 1 | -29.92 | -14.96 | ppb | 8.84 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.73 | 0.37 | ppb | 167.39 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.11 | ppb | 12.47 | 900.00 | |
| 51 V | 45 | 2 | 2.14 | 1.07 | ppb | 1.67 | 900.00 | |
| 52 Cr | 45 | 2 | 0.22 | 0.11 | ppb | 6.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.51 | 0.26 | ppb | 4.03 | 900.00 | |
| 56 Fe | 45 | 2 | 7.28 | 3.64 | ppb | 2.39 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 14.29 | 900.00 | |
| 60 Ni | 45 | 2 | -0.12 | -0.06 | ppb | 3.45 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 5.70 | 900.00 | |
| 66 Zn | 72 | 2 | 6.21 | 3.10 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 1.05 | 0.53 | ppb | 2.64 | 900.00 | |
| 78 Se | 72 | 2 | -0.18 | -0.09 | ppb | 53.53 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.02 | ppb | 11.14 | 900.00 | |
| 98 Mo | 103 | 1 | -0.02 | -0.01 | ppb | 14.21 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 28.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 97.97 | 900.00 | |
| 120 Sn | 115 | 1 | 0.64 | 0.32 | ppb | 4.07 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.01 | ppb | 27.19 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 60.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.01 | 0.00 | ppb | 82.25 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 11.33 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1977683 | 0.46 | 1993708 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 2474928 | 0.68 | 2491942 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 351447 | 0.80 | 379286 | 92.7 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 443177 | 0.32 | 463522 | 95.6 | 70 | - | 130 |
| 72 Ge | 2 | 128335 | 0.65 | 134805 | 95.2 | 70 | - | 130 |
| 103 Rh | 1 | 2172638 | 0.26 | 2265279 | 95.9 | 70 | - | 130 |
| 115 In | 1 | 2331821 | 0.77 | 2375722 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 1011327 | 0.54 | 1034376 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 2783987 | 0.72 | 2743058 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 2606013 | 0.36 | 2554975 | 102.0 | 70 | - | 130 |
| 209 Bi | 1 | 1583901 | 0.91 | 1599251 | 99.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 3 2013 04:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.13 | 50.13 | ppb | 0.93 | 900.00 | |
| 9 Be | 45 | 2 | 50.62 | 50.62 | ppb | 0.20 | 900.00 | |
| 11 B | 6 | 1 | 49.93 | 49.93 | ppb | 0.62 | 900.00 | |
| 11 B | 45 | 2 | 48.02 | 48.02 | ppb | 1.57 | 900.00 | |
| 23 Na | 45 | 1 | 4854.00 | 4854.00 | ppb | 1.52 | 90000.00 | |
| 23 Na | 45 | 2 | 5019.00 | 5019.00 | ppb | 0.55 | 90000.00 | |
| 24 Mg | 45 | 1 | 4813.00 | 4813.00 | ppb | 0.82 | 90000.00 | |
| 24 Mg | 45 | 2 | 4604.00 | 4604.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 1 | 4829.00 | 4829.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 4344.00 | 4344.00 | ppb | 0.58 | 90000.00 | |
| 39 K | 45 | 1 | 4853.00 | 4853.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 4929.00 | 4929.00 | ppb | 1.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.19 | 48.19 | ppb | 0.72 | 900.00 | |
| 51 V | 45 | 2 | 48.46 | 48.46 | ppb | 0.38 | 900.00 | |
| 52 Cr | 45 | 2 | 48.54 | 48.54 | ppb | 0.26 | 900.00 | |
| 55 Mn | 45 | 2 | 47.79 | 47.79 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 5033.00 | 5033.00 | ppb | 0.74 | 90000.00 | |
| 59 Co | 45 | 2 | 48.39 | 48.39 | ppb | 1.21 | 900.00 | |
| 60 Ni | 45 | 2 | 48.43 | 48.43 | ppb | 0.96 | 900.00 | |
| 63 Cu | 72 | 2 | 46.77 | 46.77 | ppb | 0.86 | 900.00 | |
| 66 Zn | 72 | 2 | 46.07 | 46.07 | ppb | 0.77 | 900.00 | |
| 75 As | 72 | 2 | 47.97 | 47.97 | ppb | 0.13 | 900.00 | |
| 78 Se | 72 | 2 | 46.88 | 46.88 | ppb | 0.73 | 900.00 | |
| 88 Sr | 103 | 1 | 50.83 | 50.83 | ppb | 1.05 | 900.00 | |
| 98 Mo | 103 | 1 | 49.95 | 49.95 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 48.44 | 48.44 | ppb | 0.41 | 900.00 | |
| 111 Cd | 115 | 2 | 48.44 | 48.44 | ppb | 0.92 | 900.00 | |
| 120 Sn | 115 | 1 | 49.11 | 49.11 | ppb | 1.20 | 900.00 | |
| 121 Sb | 115 | 1 | 49.53 | 49.53 | ppb | 1.11 | 900.00 | |
| 137 Ba | 159 | 1 | 48.14 | 48.14 | ppb | 1.28 | 900.00 | |
| 205 Tl | 209 | 1 | 47.04 | 47.04 | ppb | 0.33 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.73 | 48.73 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1987452 | 0.68 | 1993708 | 99.7 | 70 - 130 | |
| 45 Sc | 1 | 2536262 | 0.55 | 2491942 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 356067 | 0.18 | 379286 | 93.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444934 | 0.25 | 463522 | 96.0 | 70 | - | 130 |
| 72 Ge | 2 | 127505 | 0.21 | 134805 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 2153831 | 1.12 | 2265279 | 95.1 | 70 | - | 130 |
| 115 In | 1 | 2314872 | 0.47 | 2375722 | 97.4 | 70 | - | 130 |
| 115 In | 2 | 982803 | 0.32 | 1034376 | 95.0 | 70 | - | 130 |
| 159 Tb | 1 | 2736796 | 0.43 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2601054 | 0.83 | 2554975 | 101.8 | 70 | - | 130 |
| 209 Bi | 1 | 1533364 | 0.46 | 1599251 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#
Date Acquired: Dec 3 2013 05:05 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 47.81 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.59 | 900.00 | |
| 11 B | 6 | 1 | 0.06 | 0.06 | ppb | 7.85 | 900.00 | |
| 11 B | 45 | 2 | 0.08 | 0.08 | ppb | 146.64 | 900.00 | |
| 23 Na | 45 | 1 | 0.44 | 0.44 | ppb | 80.37 | 90000.00 | |
| 23 Na | 45 | 2 | 5.11 | 5.11 | ppb | 10.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.72 | 0.72 | ppb | 9.02 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.16 | 1.16 | ppb | 4.14 | 90000.00 | |
| 27 Al | 45 | 1 | 0.43 | 0.43 | ppb | 14.45 | 90000.00 | |
| 27 Al | 45 | 2 | 0.60 | 0.60 | ppb | 12.48 | 90000.00 | |
| 39 K | 45 | 1 | -17.59 | -17.59 | ppb | 16.22 | 90000.00 | |
| 44 Ca | 45 | 1 | -7.68 | -7.68 | ppb | 6.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 20.70 | 900.00 | |
| 51 V | 45 | 2 | -0.15 | -0.15 | ppb | 16.81 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 2.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.16 | ppb | 19.38 | 900.00 | |
| 56 Fe | 45 | 2 | 1.66 | 1.66 | ppb | 5.88 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 13.44 | 900.00 | |
| 60 Ni | 45 | 2 | 0.85 | 0.85 | ppb | 2.05 | 900.00 | |
| 63 Cu | 72 | 2 | 0.07 | 0.07 | ppb | 4.07 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 39.25 | 900.00 | |
| 75 As | 72 | 2 | 0.06 | 0.06 | ppb | 35.96 | 900.00 | |
| 78 Se | 72 | 2 | -0.04 | -0.04 | ppb | 387.98 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 81.81 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 3.36 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 26.61 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 25.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 38.90 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 15.52 | 900.00 | |
| 137 Ba | 159 | 1 | 0.05 | 0.05 | ppb | 7.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.04 | ppb | 6.39 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 37.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043335 | 0.49 | 1993708 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 2505730 | 1.53 | 2491942 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 365758 | 0.46 | 379286 | 96.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449765 | 0.55 | 463522 | 97.0 | 70 | - | 130 |
| 72 Ge | 2 | 130411 | 0.31 | 134805 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 2197764 | 0.73 | 2265279 | 97.0 | 70 | - | 130 |
| 115 In | 1 | 2336681 | 1.12 | 2375722 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 1026282 | 0.68 | 1034376 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 2737596 | 1.54 | 2743058 | 99.8 | 70 | - | 130 |
| 175 Lu | 1 | 2555188 | 2.60 | 2554975 | 100.0 | 70 | - | 130 |
| 209 Bi | 1 | 1574938 | 0.94 | 1599251 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#
Date Acquired: Dec 3 2013 05:12 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-8F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 47.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 86.61 | 900.00 | |
| 11 B | 6 | 1 | 15.37 | 7.68 | ppb | 1.68 | 900.00 | |
| 11 B | 45 | 2 | 14.14 | 7.07 | ppb | 3.13 | 900.00 | |
| 23 Na | 45 | 1 | 39900.00 | 19950.00 | ppb | 0.43 | 90000.00 | |
| 23 Na | 45 | 2 | 41760.00 | 20880.00 | ppb | 0.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 2526.00 | 1263.00 | ppb | 1.00 | 90000.00 | |
| 24 Mg | 45 | 2 | 2512.00 | 1256.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 14.07 | 7.03 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 12.17 | 6.08 | ppb | 5.18 | 90000.00 | |
| 39 K | 45 | 1 | 2100.00 | 1050.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 17476.00 | 8738.00 | ppb | 0.09 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.60 | 0.30 | ppb | 6.68 | 900.00 | |
| 51 V | 45 | 2 | 3.78 | 1.89 | ppb | 1.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.71 | 0.36 | ppb | 1.68 | 900.00 | |
| 55 Mn | 45 | 2 | 23.16 | 11.58 | ppb | 0.86 | 900.00 | |
| 56 Fe | 45 | 2 | 90.88 | 45.44 | ppb | 0.77 | 90000.00 | |
| 59 Co | 45 | 2 | 4.58 | 2.29 | ppb | 0.39 | 900.00 | |
| 60 Ni | 45 | 2 | 189.88 | 94.94 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 6.47 | 3.23 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 7.38 | 3.69 | ppb | 1.86 | 900.00 | |
| 75 As | 72 | 2 | 4.76 | 2.38 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.06 | ppb | 112.27 | 900.00 | |
| 88 Sr | 103 | 1 | 136.42 | 68.21 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 1.24 | 0.62 | ppb | 5.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 71.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.11 | 0.06 | ppb | 12.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.07 | 0.04 | ppb | 15.51 | 900.00 | |
| 121 Sb | 115 | 1 | 3.73 | 1.86 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 19.86 | 9.93 | ppb | 0.68 | 900.00 | |
| 205 Tl | 209 | 1 | 0.07 | 0.04 | ppb | 14.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.24 | 0.12 | ppb | 4.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1947941 | 1.14 | 1993708 | 97.7 | 70 - 130 | |
| 45 Sc | 1 | 2443977 | 0.19 | 2491942 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 349215 | 0.95 | 379286 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 442575 | 0.82 | 463522 | 95.5 | 70 - | 130 |
| 72 | Ge | 2 | 126160 | 1.17 | 134805 | 93.6 | 70 - | 130 |
| 103 | Rh | 1 | 2045376 | 1.51 | 2265279 | 90.3 | 70 - | 130 |
| 115 | In | 1 | 2224477 | 1.23 | 2375722 | 93.6 | 70 - | 130 |
| 115 | In | 2 | 969525 | 0.99 | 1034376 | 93.7 | 70 - | 130 |
| 159 | Tb | 1 | 2736635 | 0.42 | 2743058 | 99.8 | 70 - | 130 |
| 175 | Lu | 1 | 2570450 | 0.49 | 2554975 | 100.6 | 70 - | 130 |
| 209 | Bi | 1 | 1497723 | 1.07 | 1599251 | 93.7 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 3 2013 05:19 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-9F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 21.00 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 100.21 | 900.00 | |
| 11 B | 6 | 1 | 138.40 | 69.20 | ppb | 1.30 | 900.00 | |
| 11 B | 45 | 2 | 133.62 | 66.81 | ppb | 1.52 | 900.00 | |
| 23 Na | 45 | 1 | 17086.00 | 8543.00 | ppb | 1.44 | 90000.00 | |
| 23 Na | 45 | 2 | 18474.00 | 9237.00 | ppb | 0.34 | 90000.00 | |
| 24 Mg | 45 | 1 | 6334.00 | 3167.00 | ppb | 1.84 | 90000.00 | |
| 24 Mg | 45 | 2 | 6280.00 | 3140.00 | ppb | 0.70 | 90000.00 | |
| 27 Al | 45 | 1 | 4.49 | 2.25 | ppb | 2.45 | 90000.00 | |
| 27 Al | 45 | 2 | 4.26 | 2.13 | ppb | 5.00 | 90000.00 | |
| 39 K | 45 | 1 | 10126.00 | 5063.00 | ppb | 0.89 | 90000.00 | |
| 44 Ca | 45 | 1 | 43360.00 | 21680.00 | ppb | 0.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.41 | 1.20 | ppb | 1.47 | 900.00 | |
| 51 V | 45 | 2 | 1.84 | 0.92 | ppb | 2.35 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 6.94 | 900.00 | |
| 55 Mn | 45 | 2 | 860.00 | 430.00 | ppb | 1.20 | 900.00 | |
| 56 Fe | 45 | 2 | 74320.00 | 37160.00 | ppb | 0.31 | 90000.00 | |
| 59 Co | 45 | 2 | 16.17 | 8.09 | ppb | 0.51 | 900.00 | |
| 60 Ni | 45 | 2 | 14.70 | 7.35 | ppb | 1.79 | 900.00 | |
| 63 Cu | 72 | 2 | 0.30 | 0.15 | ppb | 4.93 | 900.00 | |
| 66 Zn | 72 | 2 | 11.54 | 5.77 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 955.80 | 477.90 | ppb | 0.24 | 900.00 | |
| 78 Se | 72 | 2 | -0.13 | -0.06 | ppb | 161.91 | 900.00 | |
| 88 Sr | 103 | 1 | 419.20 | 209.60 | ppb | 0.77 | 900.00 | |
| 98 Mo | 103 | 1 | 0.96 | 0.48 | ppb | 2.13 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 128.98 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 24.99 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 3.55 | 900.00 | |
| 121 Sb | 115 | 1 | 0.14 | 0.07 | ppb | 3.50 | 900.00 | |
| 137 Ba | 159 | 1 | 86.76 | 43.38 | ppb | 0.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 3.36 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 19.82 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1909424 | 0.48 | 1993708 | 95.8 | 70 - 130 | |
| 45 Sc | 1 | 2490043 | 1.18 | 2491942 | 99.9 | 70 - 130 | |
| 45 Sc | 2 | 341436 | 0.90 | 379286 | 90.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 441717 | 0.60 | 463522 | 95.3 | 70 | - | 130 |
| 72 Ge | 2 | 126124 | 0.42 | 134805 | 93.6 | 70 | - | 130 |
| 103 Rh | 1 | 2027317 | 0.36 | 2265279 | 89.5 | 70 | - | 130 |
| 115 In | 1 | 2198821 | 0.37 | 2375722 | 92.6 | 70 | - | 130 |
| 115 In | 2 | 954233 | 0.76 | 1034376 | 92.3 | 70 | - | 130 |
| 159 Tb | 1 | 2727078 | 0.48 | 2743058 | 99.4 | 70 | - | 130 |
| 175 Lu | 1 | 2562103 | 0.28 | 2554975 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 1483603 | 0.24 | 1599251 | 92.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 3 2013 05:26 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-8F
Misc Info:
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 9.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.04 | 0.02 | ppb | 34.89 | 900.00 | |
| 11 B | 6 | 1 | 1.95 | 0.98 | ppb | 3.01 | 900.00 | |
| 11 B | 45 | 2 | 2.24 | 1.12 | ppb | 55.12 | 900.00 | |
| 23 Na | 45 | 1 | 20.94 | 10.47 | ppb | 5.94 | 90000.00 | |
| 23 Na | 45 | 2 | 35.06 | 17.53 | ppb | 2.85 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.91 | 0.46 | ppb | 6.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.89 | 0.45 | ppb | 13.86 | 90000.00 | |
| 27 Al | 45 | 1 | 3.01 | 1.50 | ppb | 5.08 | 90000.00 | |
| 27 Al | 45 | 2 | 2.62 | 1.31 | ppb | 7.39 | 90000.00 | |
| 39 K | 45 | 1 | -30.38 | -15.19 | ppb | 14.85 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.54 | -1.27 | ppb | 74.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.25 | 0.12 | ppb | 27.03 | 900.00 | |
| 51 V | 45 | 2 | 1.80 | 0.90 | ppb | 0.71 | 900.00 | |
| 52 Cr | 45 | 2 | 0.19 | 0.09 | ppb | 4.09 | 900.00 | |
| 55 Mn | 45 | 2 | 0.55 | 0.27 | ppb | 2.80 | 900.00 | |
| 56 Fe | 45 | 2 | 7.46 | 3.73 | ppb | 2.42 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 61.55 | 900.00 | |
| 60 Ni | 45 | 2 | -0.13 | -0.07 | ppb | 8.22 | 900.00 | |
| 63 Cu | 72 | 2 | 0.23 | 0.11 | ppb | 3.41 | 900.00 | |
| 66 Zn | 72 | 2 | 6.51 | 3.25 | ppb | 1.90 | 900.00 | |
| 75 As | 72 | 2 | 0.87 | 0.43 | ppb | 1.40 | 900.00 | |
| 78 Se | 72 | 2 | -0.20 | -0.10 | ppb | 124.42 | 900.00 | |
| 88 Sr | 103 | 1 | 0.03 | 0.01 | ppb | 9.88 | 900.00 | |
| 98 Mo | 103 | 1 | -0.02 | -0.01 | ppb | 41.53 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 96.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 82.76 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 12.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 22.60 | 900.00 | |
| 137 Ba | 159 | 1 | 0.06 | 0.03 | ppb | 34.66 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 23.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 24.85 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1912239 | 1.21 | 1993708 | 95.9 | 70 - 130 | |
| 45 Sc | 1 | 2442495 | 1.35 | 2491942 | 98.0 | 70 - 130 | |
| 45 Sc | 2 | 349184 | 0.45 | 379286 | 92.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 437114 | 0.09 | 463522 | 94.3 | 70 | - | 130 |
| 72 Ge | 2 | 126928 | 0.59 | 134805 | 94.2 | 70 | - | 130 |
| 103 Rh | 1 | 2142294 | 0.93 | 2265279 | 94.6 | 70 | - | 130 |
| 115 In | 1 | 2263931 | 0.66 | 2375722 | 95.3 | 70 | - | 130 |
| 115 In | 2 | 999336 | 0.55 | 1034376 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 2733138 | 0.87 | 2743058 | 99.6 | 70 | - | 130 |
| 175 Lu | 1 | 2588426 | 0.89 | 2554975 | 101.3 | 70 | - | 130 |
| 209 Bi | 1 | 1560943 | 0.87 | 1599251 | 97.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#
Date Acquired: Dec 3 2013 05:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22168-B1
Misc Info:
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 492.25 | 19.69 | ppb | 0.24 | 900.00 | |
| 9 Be | 45 | 2 | 501.50 | 20.06 | ppb | 4.37 | 900.00 | |
| 11 B | 6 | 1 | 3.76 | 0.15 | ppb | 15.28 | 900.00 | |
| 11 B | 45 | 2 | 5.81 | 0.23 | ppb | 27.58 | 900.00 | |
| 23 Na | 45 | 1 | 25400.00 | 1016.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 27200.00 | 1088.00 | ppb | 3.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 25525.00 | 1021.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 25500.00 | 1020.00 | ppb | 3.30 | 90000.00 | |
| 27 Al | 45 | 1 | 2190.75 | 87.63 | ppb | 0.90 | 90000.00 | |
| 27 Al | 45 | 2 | 2061.50 | 82.46 | ppb | 3.82 | 90000.00 | |
| 39 K | 45 | 1 | 25025.00 | 1001.00 | ppb | 0.51 | 90000.00 | |
| 44 Ca | 45 | 1 | 26275.00 | 1051.00 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 493.25 | 19.73 | ppb | 1.02 | 900.00 | |
| 51 V | 45 | 2 | 500.75 | 20.03 | ppb | 3.47 | 900.00 | |
| 52 Cr | 45 | 2 | 498.75 | 19.95 | ppb | 3.57 | 900.00 | |
| 55 Mn | 45 | 2 | 492.00 | 19.68 | ppb | 3.70 | 900.00 | |
| 56 Fe | 45 | 2 | 2540.00 | 101.60 | ppb | 3.41 | 90000.00 | |
| 59 Co | 45 | 2 | 505.75 | 20.23 | ppb | 2.81 | 900.00 | |
| 60 Ni | 45 | 2 | 495.50 | 19.82 | ppb | 3.87 | 900.00 | |
| 63 Cu | 72 | 2 | 502.25 | 20.09 | ppb | 1.74 | 900.00 | |
| 66 Zn | 72 | 2 | 517.75 | 20.71 | ppb | 1.49 | 900.00 | |
| 75 As | 72 | 2 | 526.50 | 21.06 | ppb | 1.86 | 900.00 | |
| 78 Se | 72 | 2 | 519.75 | 20.79 | ppb | 1.38 | 900.00 | |
| 88 Sr | 103 | 1 | 511.50 | 20.46 | ppb | 1.40 | 900.00 | |
| 98 Mo | 103 | 1 | 0.11 | 0.00 | ppb | 143.64 | 900.00 | |
| 107 Ag | 115 | 1 | 199.03 | 7.96 | ppb | 0.58 | 900.00 | |
| 111 Cd | 115 | 2 | 499.75 | 19.99 | ppb | 2.41 | 900.00 | |
| 120 Sn | 115 | 1 | -0.04 | 0.00 | ppb | 152.66 | 900.00 | |
| 121 Sb | 115 | 1 | 504.50 | 20.18 | ppb | 0.70 | 900.00 | |
| 137 Ba | 159 | 1 | 1958.25 | 78.33 | ppb | 0.14 | 900.00 | |
| 205 Tl | 209 | 1 | 477.25 | 19.09 | ppb | 1.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 999.25 | 39.97 | ppb | 0.59 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2021561 | 0.83 | 1993708 | 101.4 | 70 - 130 | |
| 45 Sc | 1 | 2555098 | 0.57 | 2491942 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 362101 | 2.88 | 379286 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 448253 | 0.66 | 463522 | 96.7 | 70 - | 130 |
| 72 | Ge | 2 | 130171 | 1.40 | 134805 | 96.6 | 70 - | 130 |
| 103 | Rh | 1 | 2224840 | 0.57 | 2265279 | 98.2 | 70 - | 130 |
| 115 | In | 1 | 2345792 | 0.42 | 2375722 | 98.7 | 70 - | 130 |
| 115 | In | 2 | 1015190 | 2.82 | 1034376 | 98.1 | 70 - | 130 |
| 159 | Tb | 1 | 2735272 | 0.98 | 2743058 | 99.7 | 70 - | 130 |
| 175 | Lu | 1 | 2565000 | 0.95 | 2554975 | 100.4 | 70 - | 130 |
| 209 | Bi | 1 | 1548739 | 0.64 | 1599251 | 96.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D# |
| Date Acquired: | Dec 3 2013 05:40 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22168-S1 |
| Misc Info: | |
| Vial Number: | 2309 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 480.00 | 19.20 | ppb | 8.53 | 900.00 | |
| 9 Be | 45 | 2 | 505.00 | 20.20 | ppb | 4.46 | 900.00 | |
| 11 B | 6 | 1 | 51.90 | 2.08 | ppb | 8.26 | 900.00 | |
| 11 B | 45 | 2 | 49.95 | 2.00 | ppb | 15.20 | 900.00 | |
| 23 Na | 45 | 1 | 67900.00 | 2716.00 | ppb | 12.89 | 90000.00 | |
| 23 Na | 45 | 2 | 75000.00 | 3000.00 | ppb | 0.30 | 90000.00 | |
| 24 Mg | 45 | 1 | 28200.00 | 1128.00 | ppb | 12.52 | 90000.00 | |
| 24 Mg | 45 | 2 | 29375.00 | 1175.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 2017.25 | 80.69 | ppb | 13.32 | 90000.00 | |
| 27 Al | 45 | 2 | 2030.00 | 81.20 | ppb | 1.13 | 90000.00 | |
| 39 K | 45 | 1 | 29175.00 | 1167.00 | ppb | 14.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 52900.00 | 2116.00 | ppb | 13.04 | 90000.00 | |
| 47 Ti | 45 | 1 | 469.25 | 18.77 | ppb | 13.92 | 900.00 | |
| 51 V | 45 | 2 | 507.25 | 20.29 | ppb | 0.79 | 900.00 | |
| 52 Cr | 45 | 2 | 503.00 | 20.12 | ppb | 0.60 | 900.00 | |
| 55 Mn | 45 | 2 | 2309.50 | 92.38 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 3030.00 | 121.20 | ppb | 1.20 | 90000.00 | |
| 59 Co | 45 | 2 | 510.00 | 20.40 | ppb | 1.22 | 900.00 | |
| 60 Ni | 45 | 2 | 500.50 | 20.02 | ppb | 1.70 | 900.00 | |
| 63 Cu | 72 | 2 | 507.50 | 20.30 | ppb | 0.43 | 900.00 | |
| 66 Zn | 72 | 2 | 534.50 | 21.38 | ppb | 0.49 | 900.00 | |
| 75 As | 72 | 2 | 538.00 | 21.52 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | 512.25 | 20.49 | ppb | 1.19 | 900.00 | |
| 88 Sr | 103 | 1 | 826.25 | 33.05 | ppb | 12.48 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.02 | ppb | 43.47 | 900.00 | |
| 107 Ag | 115 | 1 | 189.00 | 7.56 | ppb | 12.10 | 900.00 | |
| 111 Cd | 115 | 2 | 495.50 | 19.82 | ppb | 0.38 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 148.92 | 900.00 | |
| 121 Sb | 115 | 1 | 483.00 | 19.32 | ppb | 11.33 | 900.00 | |
| 137 Ba | 159 | 1 | 1893.25 | 75.73 | ppb | 12.32 | 900.00 | |
| 205 Tl | 209 | 1 | 457.75 | 18.31 | ppb | 10.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 914.25 | 36.57 | ppb | 10.55 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2060234 | 6.85 | 1993708 | 103.3 | 70 - 130 | |
| 45 Sc | 1 | 2686309 | 12.49 | 2491942 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 362850 | 1.09 | 379286 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 467382 | 7.97 | 463522 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 130067 | 0.15 | 134805 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2311313 | 11.44 | 2265279 | 102.0 | 70 | - | 130 |
| 115 | In | 1 | 2461635 | 10.24 | 2375722 | 103.6 | 70 | - | 130 |
| 115 | In | 2 | 1006810 | 0.81 | 1034376 | 97.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2870456 | 11.29 | 2743058 | 104.6 | 70 | - | 130 |
| 175 | Lu | 1 | 2692618 | 11.12 | 2554975 | 105.4 | 70 | - | 130 |
| 209 | Bi | 1 | 1628150 | 9.54 | 1599251 | 101.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D# |
| Date Acquired: | Dec 3 2013 05:47 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22168-S2 |
| Misc Info: | |
| Vial Number: | 2310 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 25.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 25.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 510.75 | 20.43 | ppb | 1.20 | 900.00 | |
| 9 Be | 45 | 2 | 507.25 | 20.29 | ppb | 3.64 | 900.00 | |
| 11 B | 6 | 1 | 55.50 | 2.22 | ppb | 2.33 | 900.00 | |
| 11 B | 45 | 2 | 55.60 | 2.22 | ppb | 5.49 | 900.00 | |
| 23 Na | 45 | 1 | 72625.00 | 2905.00 | ppb | 1.02 | 90000.00 | |
| 23 Na | 45 | 2 | 75800.00 | 3032.00 | ppb | 0.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 30175.00 | 1207.00 | ppb | 1.06 | 90000.00 | |
| 24 Mg | 45 | 2 | 29850.00 | 1194.00 | ppb | 1.01 | 90000.00 | |
| 27 Al | 45 | 1 | 2158.50 | 86.34 | ppb | 1.35 | 90000.00 | |
| 27 Al | 45 | 2 | 2034.50 | 81.38 | ppb | 0.65 | 90000.00 | |
| 39 K | 45 | 1 | 31475.00 | 1259.00 | ppb | 0.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 56550.00 | 2262.00 | ppb | 1.62 | 90000.00 | |
| 47 Ti | 45 | 1 | 506.50 | 20.26 | ppb | 1.81 | 900.00 | |
| 51 V | 45 | 2 | 514.25 | 20.57 | ppb | 0.37 | 900.00 | |
| 52 Cr | 45 | 2 | 510.50 | 20.42 | ppb | 1.35 | 900.00 | |
| 55 Mn | 45 | 2 | 2352.00 | 94.08 | ppb | 0.56 | 900.00 | |
| 56 Fe | 45 | 2 | 3030.00 | 121.20 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 521.75 | 20.87 | ppb | 1.29 | 900.00 | |
| 60 Ni | 45 | 2 | 511.75 | 20.47 | ppb | 1.43 | 900.00 | |
| 63 Cu | 72 | 2 | 514.25 | 20.57 | ppb | 0.34 | 900.00 | |
| 66 Zn | 72 | 2 | 550.75 | 22.03 | ppb | 0.51 | 900.00 | |
| 75 As | 72 | 2 | 550.25 | 22.01 | ppb | 0.42 | 900.00 | |
| 78 Se | 72 | 2 | 523.75 | 20.95 | ppb | 2.87 | 900.00 | |
| 88 Sr | 103 | 1 | 891.00 | 35.64 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 0.52 | 0.02 | ppb | 12.30 | 900.00 | |
| 107 Ag | 115 | 1 | 204.28 | 8.17 | ppb | 1.69 | 900.00 | |
| 111 Cd | 115 | 2 | 515.25 | 20.61 | ppb | 0.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 211.62 | 900.00 | |
| 121 Sb | 115 | 1 | 519.25 | 20.77 | ppb | 1.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2022.75 | 80.91 | ppb | 0.43 | 900.00 | |
| 205 Tl | 209 | 1 | 500.00 | 20.00 | ppb | 0.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 989.50 | 39.58 | ppb | 1.46 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975755 | 0.54 | 1993708 | 99.1 | 70 - 130 | |
| 45 Sc | 1 | 2534302 | 1.14 | 2491942 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 361281 | 1.31 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446388 | 0.29 | 463522 | 96.3 | 70 | - | 130 |
| 72 Ge | 2 | 129641 | 0.84 | 134805 | 96.2 | 70 | - | 130 |
| 103 Rh | 1 | 2174062 | 1.11 | 2265279 | 96.0 | 70 | - | 130 |
| 115 In | 1 | 2327918 | 0.95 | 2375722 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 999047 | 0.44 | 1034376 | 96.6 | 70 | - | 130 |
| 159 Tb | 1 | 2713476 | 0.92 | 2743058 | 98.9 | 70 | - | 130 |
| 175 Lu | 1 | 2522314 | 1.02 | 2554975 | 98.7 | 70 | - | 130 |
| 209 Bi | 1 | 1522613 | 0.30 | 1599251 | 95.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 3 2013 05:57 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 5.51 | 900.00 | |
| 9 Be | 45 | 2 | 0.56 | 0.56 | ppb | 10.42 | 900.00 | |
| 11 B | 6 | 1 | 4.93 | 4.93 | ppb | 1.83 | 900.00 | |
| 11 B | 45 | 2 | 4.35 | 4.35 | ppb | 18.09 | 900.00 | |
| 23 Na | 45 | 1 | 250.70 | 250.70 | ppb | 1.60 | 90000.00 | |
| 23 Na | 45 | 2 | 282.80 | 282.80 | ppb | 0.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 253.70 | 253.70 | ppb | 1.57 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.60 | 258.60 | ppb | 0.66 | 90000.00 | |
| 27 Al | 45 | 1 | 27.06 | 27.06 | ppb | 0.52 | 90000.00 | |
| 27 Al | 45 | 2 | 24.70 | 24.70 | ppb | 1.73 | 90000.00 | |
| 39 K | 45 | 1 | 232.90 | 232.90 | ppb | 2.04 | 90000.00 | |
| 44 Ca | 45 | 1 | 256.80 | 256.80 | ppb | 0.35 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.08 | 1.08 | ppb | 2.93 | 900.00 | |
| 51 V | 45 | 2 | 0.82 | 0.82 | ppb | 1.00 | 900.00 | |
| 52 Cr | 45 | 2 | 1.08 | 1.08 | ppb | 1.14 | 900.00 | |
| 55 Mn | 45 | 2 | 1.05 | 1.05 | ppb | 1.38 | 900.00 | |
| 56 Fe | 45 | 2 | 28.70 | 28.70 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.51 | 0.51 | ppb | 0.36 | 900.00 | |
| 60 Ni | 45 | 2 | 1.57 | 1.57 | ppb | 2.22 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 1.05 | ppb | 0.74 | 900.00 | |
| 66 Zn | 72 | 2 | 2.04 | 2.04 | ppb | 0.73 | 900.00 | |
| 75 As | 72 | 2 | 0.55 | 0.55 | ppb | 2.96 | 900.00 | |
| 78 Se | 72 | 2 | 0.55 | 0.55 | ppb | 12.35 | 900.00 | |
| 88 Sr | 103 | 1 | 5.08 | 5.08 | ppb | 1.27 | 900.00 | |
| 98 Mo | 103 | 1 | 1.10 | 1.10 | ppb | 2.88 | 900.00 | |
| 107 Ag | 115 | 1 | 0.48 | 0.48 | ppb | 5.23 | 900.00 | |
| 111 Cd | 115 | 2 | 0.51 | 0.51 | ppb | 6.75 | 900.00 | |
| 120 Sn | 115 | 1 | 4.99 | 4.99 | ppb | 1.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 3.38 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 1.75 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 2.90 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.51 | 0.51 | ppb | 2.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2027954 | 0.51 | 1993708 | 101.7 | 70 - 130 | |
| 45 Sc | 1 | 2527460 | 1.12 | 2491942 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 361578 | 0.16 | 379286 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 448559 | 1.14 | 463522 | 96.8 | 70 | - | 130 |
| 72 | Ge | 2 | 129245 | 0.18 | 134805 | 95.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2211504 | 0.60 | 2265279 | 97.6 | 70 | - | 130 |
| 115 | In | 1 | 2369002 | 0.98 | 2375722 | 99.7 | 70 | - | 130 |
| 115 | In | 2 | 1016339 | 0.29 | 1034376 | 98.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2738007 | 1.36 | 2743058 | 99.8 | 70 | - | 130 |
| 175 | Lu | 1 | 2556082 | 2.62 | 2554975 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1575020 | 1.10 | 1599251 | 98.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#
Date Acquired: Dec 3 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.12 | 50.12 | ppb | 0.98 | 900.00 | |
| 9 Be | 45 | 2 | 51.66 | 51.66 | ppb | 0.37 | 900.00 | |
| 11 B | 6 | 1 | 49.68 | 49.68 | ppb | 0.88 | 900.00 | |
| 11 B | 45 | 2 | 48.30 | 48.30 | ppb | 1.33 | 900.00 | |
| 23 Na | 45 | 1 | 4821.00 | 4821.00 | ppb | 0.42 | 90000.00 | |
| 23 Na | 45 | 2 | 5028.00 | 5028.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 4792.00 | 4792.00 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 4606.00 | 4606.00 | ppb | 0.97 | 90000.00 | |
| 27 Al | 45 | 1 | 4766.00 | 4766.00 | ppb | 0.67 | 90000.00 | |
| 27 Al | 45 | 2 | 4387.00 | 4387.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 4865.00 | 4865.00 | ppb | 1.24 | 90000.00 | |
| 44 Ca | 45 | 1 | 4920.00 | 4920.00 | ppb | 0.80 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.24 | 48.24 | ppb | 0.68 | 900.00 | |
| 51 V | 45 | 2 | 48.26 | 48.26 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 48.47 | 48.47 | ppb | 0.69 | 900.00 | |
| 55 Mn | 45 | 2 | 47.43 | 47.43 | ppb | 0.34 | 900.00 | |
| 56 Fe | 45 | 2 | 4999.00 | 4999.00 | ppb | 1.34 | 90000.00 | |
| 59 Co | 45 | 2 | 48.40 | 48.40 | ppb | 0.76 | 900.00 | |
| 60 Ni | 45 | 2 | 48.37 | 48.37 | ppb | 1.29 | 900.00 | |
| 63 Cu | 72 | 2 | 47.01 | 47.01 | ppb | 1.32 | 900.00 | |
| 66 Zn | 72 | 2 | 46.20 | 46.20 | ppb | 0.12 | 900.00 | |
| 75 As | 72 | 2 | 47.80 | 47.80 | ppb | 0.57 | 900.00 | |
| 78 Se | 72 | 2 | 46.96 | 46.96 | ppb | 0.37 | 900.00 | |
| 88 Sr | 103 | 1 | 50.98 | 50.98 | ppb | 0.22 | 900.00 | |
| 98 Mo | 103 | 1 | 50.00 | 50.00 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 48.77 | 48.77 | ppb | 0.84 | 900.00 | |
| 111 Cd | 115 | 2 | 48.29 | 48.29 | ppb | 0.67 | 900.00 | |
| 120 Sn | 115 | 1 | 49.19 | 49.19 | ppb | 0.51 | 900.00 | |
| 121 Sb | 115 | 1 | 49.38 | 49.38 | ppb | 0.67 | 900.00 | |
| 137 Ba | 159 | 1 | 47.63 | 47.63 | ppb | 0.26 | 900.00 | |
| 205 Tl | 209 | 1 | 47.40 | 47.40 | ppb | 0.24 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.98 | 48.98 | ppb | 1.02 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1950696 | 0.79 | 1993708 | 97.8 | 70 - 130 | |
| 45 Sc | 1 | 2513506 | 1.01 | 2491942 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 356460 | 0.85 | 379286 | 94.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 436192 | 0.67 | 463522 | 94.1 | 70 | - | 130 |
| 72 Ge | 2 | 126913 | 0.48 | 134805 | 94.1 | 70 | - | 130 |
| 103 Rh | 1 | 2114147 | 0.61 | 2265279 | 93.3 | 70 | - | 130 |
| 115 In | 1 | 2262202 | 1.03 | 2375722 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 967413 | 0.48 | 1034376 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2701477 | 0.84 | 2743058 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 2517433 | 1.34 | 2554975 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 1494315 | 0.20 | 1599251 | 93.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D# |
| Date Acquired: | Dec 3 2013 06:13 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCB |
| Misc Info: | |
| Vial Number: | 2401 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 03 2013 12:44 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 21.80 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 114.62 | 900.00 | |
| 11 B | 6 | 1 | 0.20 | 0.20 | ppb | 8.56 | 900.00 | |
| 11 B | 45 | 2 | 0.15 | 0.15 | ppb | 83.32 | 900.00 | |
| 23 Na | 45 | 1 | -0.16 | -0.16 | ppb | 35.54 | 90000.00 | |
| 23 Na | 45 | 2 | 5.02 | 5.02 | ppb | 6.74 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.71 | 0.71 | ppb | 18.47 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.50 | 1.50 | ppb | 10.33 | 90000.00 | |
| 27 Al | 45 | 1 | 0.41 | 0.41 | ppb | 17.31 | 90000.00 | |
| 27 Al | 45 | 2 | 0.84 | 0.84 | ppb | 16.23 | 90000.00 | |
| 39 K | 45 | 1 | -19.43 | -19.43 | ppb | 5.32 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.54 | -8.54 | ppb | 4.15 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 573.09 | 900.00 | |
| 51 V | 45 | 2 | -0.15 | -0.15 | ppb | 8.52 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 3.46 | 900.00 | |
| 55 Mn | 45 | 2 | 0.09 | 0.09 | ppb | 6.01 | 900.00 | |
| 56 Fe | 45 | 2 | 1.54 | 1.54 | ppb | 10.96 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 18.38 | 900.00 | |
| 60 Ni | 45 | 2 | 0.85 | 0.85 | ppb | 2.48 | 900.00 | |
| 63 Cu | 72 | 2 | 0.08 | 0.08 | ppb | 2.58 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 34.80 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 14.20 | 900.00 | |
| 78 Se | 72 | 2 | 0.14 | 0.14 | ppb | 34.84 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 30.98 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 2.94 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 22.36 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 73.45 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 2.77 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 28.69 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 3118.30 | 900.00 | |
| 205 Tl | 209 | 1 | 0.17 | 0.17 | ppb | 4.35 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 29.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043351 | 1.02 | 1993708 | 102.5 | 70 - 130 | |
| 45 Sc | 1 | 2535888 | 0.76 | 2491942 | 101.8 | 70 - 130 | |
| 45 Sc | 2 | 362135 | 0.15 | 379286 | 95.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 448205 | 0.78 | 463522 | 96.7 | 70 - | 130 |
| 72 | Ge | 2 | 129440 | 0.43 | 134805 | 96.0 | 70 - | 130 |
| 103 | Rh | 1 | 2192019 | 0.52 | 2265279 | 96.8 | 70 - | 130 |
| 115 | In | 1 | 2328514 | 0.53 | 2375722 | 98.0 | 70 - | 130 |
| 115 | In | 2 | 1018053 | 0.38 | 1034376 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 2730029 | 1.53 | 2743058 | 99.5 | 70 - | 130 |
| 175 | Lu | 1 | 2539559 | 0.53 | 2554975 | 99.4 | 70 - | 130 |
| 209 | Bi | 1 | 1565394 | 0.98 | 1599251 | 97.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\049SMPL.D\049SMPL.D#
Date Acquired: Dec 3 2013 06:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-MB1
Misc Info:
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 21.76 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 100.53 | 900.00 | |
| 11 B | 6 | 1 | 0.40 | 0.20 | ppb | 7.70 | 900.00 | |
| 11 B | 45 | 2 | 0.46 | 0.23 | ppb | 57.34 | 900.00 | |
| 23 Na | 45 | 1 | 5.15 | 2.57 | ppb | 16.34 | 90000.00 | |
| 23 Na | 45 | 2 | 16.33 | 8.16 | ppb | 5.35 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.06 | 0.53 | ppb | 4.24 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.19 | 0.60 | ppb | 6.55 | 90000.00 | |
| 27 Al | 45 | 1 | 3.25 | 1.62 | ppb | 2.30 | 90000.00 | |
| 27 Al | 45 | 2 | 2.79 | 1.39 | ppb | 7.86 | 90000.00 | |
| 39 K | 45 | 1 | -12.62 | -6.31 | ppb | 44.19 | 90000.00 | |
| 44 Ca | 45 | 1 | -10.81 | -5.40 | ppb | 9.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.35 | 0.18 | ppb | 10.20 | 900.00 | |
| 51 V | 45 | 2 | 2.35 | 1.17 | ppb | 1.13 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.08 | ppb | 1.44 | 900.00 | |
| 55 Mn | 45 | 2 | 24.30 | 12.15 | ppb | 0.82 | 900.00 | |
| 56 Fe | 45 | 2 | 9.48 | 4.74 | ppb | 3.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 17.52 | 900.00 | |
| 60 Ni | 45 | 2 | -0.15 | -0.07 | ppb | 4.77 | 900.00 | |
| 63 Cu | 72 | 2 | 0.28 | 0.14 | ppb | 3.11 | 900.00 | |
| 66 Zn | 72 | 2 | 0.42 | 0.21 | ppb | 3.52 | 900.00 | |
| 75 As | 72 | 2 | 0.80 | 0.40 | ppb | 11.22 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.03 | ppb | 162.66 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.01 | ppb | 7.76 | 900.00 | |
| 98 Mo | 103 | 1 | 0.03 | 0.01 | ppb | 15.57 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 67.55 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 151.80 | 900.00 | |
| 120 Sn | 115 | 1 | 0.11 | 0.06 | ppb | 2.64 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.02 | ppb | 13.56 | 900.00 | |
| 137 Ba | 159 | 1 | 0.09 | 0.05 | ppb | 4.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.09 | ppb | 4.20 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 13.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2000175 | 0.35 | 1993708 | 100.3 | 70 - 130 | |
| 45 Sc | 1 | 2450552 | 1.06 | 2491942 | 98.3 | 70 - 130 | |
| 45 Sc | 2 | 353158 | 0.93 | 379286 | 93.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 440423 | 0.62 | 463522 | 95.0 | 70 | - | 130 |
| 72 Ge | 2 | 127610 | 0.41 | 134805 | 94.7 | 70 | - | 130 |
| 103 Rh | 1 | 2159203 | 0.85 | 2265279 | 95.3 | 70 | - | 130 |
| 115 In | 1 | 2256651 | 0.74 | 2375722 | 95.0 | 70 | - | 130 |
| 115 In | 2 | 997267 | 0.63 | 1034376 | 96.4 | 70 | - | 130 |
| 159 Tb | 1 | 2751829 | 0.55 | 2743058 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 2563676 | 0.67 | 2554975 | 100.3 | 70 | - | 130 |
| 209 Bi | 1 | 1543014 | 0.37 | 1599251 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\050SMPL.D\050SMPL.D#
Date Acquired: Dec 3 2013 06:27 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-4F
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 32.49 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 0.77 | 900.00 | |
| 11 B | 6 | 1 | 22.70 | 11.35 | ppb | 1.44 | 900.00 | |
| 11 B | 45 | 2 | 22.70 | 11.35 | ppb | 3.68 | 900.00 | |
| 23 Na | 45 | 1 | 55300.00 | 27650.00 | ppb | 0.51 | 90000.00 | |
| 23 Na | 45 | 2 | 58900.00 | 29450.00 | ppb | 0.15 | 90000.00 | |
| 24 Mg | 45 | 1 | 1911.60 | 955.80 | ppb | 0.72 | 90000.00 | |
| 24 Mg | 45 | 2 | 1934.40 | 967.20 | ppb | 1.34 | 90000.00 | |
| 27 Al | 45 | 1 | 4.92 | 2.46 | ppb | 1.62 | 90000.00 | |
| 27 Al | 45 | 2 | 4.88 | 2.44 | ppb | 8.18 | 90000.00 | |
| 39 K | 45 | 1 | 3694.00 | 1847.00 | ppb | 0.99 | 90000.00 | |
| 44 Ca | 45 | 1 | 18708.00 | 9354.00 | ppb | 0.59 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.59 | 0.79 | ppb | 2.33 | 900.00 | |
| 51 V | 45 | 2 | 1.66 | 0.83 | ppb | 0.59 | 900.00 | |
| 52 Cr | 45 | 2 | 0.21 | 0.10 | ppb | 3.64 | 900.00 | |
| 55 Mn | 45 | 2 | 2242.00 | 1121.00 | ppb | 0.52 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 39480.00 | 19740.00 | ppb | 0.50 | 90000.00 | |
| 59 Co | 45 | 2 | 16.21 | 8.11 | ppb | 1.40 | 900.00 | |
| 60 Ni | 45 | 2 | 6.90 | 3.45 | ppb | 2.12 | 900.00 | |
| 63 Cu | 72 | 2 | 0.52 | 0.26 | ppb | 1.50 | 900.00 | |
| 66 Zn | 72 | 2 | 17.58 | 8.79 | ppb | 2.53 | 900.00 | |
| 75 As | 72 | 2 | 2348.00 | 1174.00 | ppb | 0.43 | 900.00 | >LDR |
| 78 Se | 72 | 2 | -0.12 | -0.06 | ppb | 155.47 | 900.00 | |
| 88 Sr | 103 | 1 | 231.60 | 115.80 | ppb | 1.17 | 900.00 | |
| 98 Mo | 103 | 1 | 3.98 | 1.99 | ppb | 0.40 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 64.54 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 119.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.10 | 0.05 | ppb | 10.26 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 0.82 | 900.00 | |
| 137 Ba | 159 | 1 | 14.01 | 7.01 | ppb | 0.95 | 900.00 | |
| 205 Tl | 209 | 1 | 0.11 | 0.06 | ppb | 8.23 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 32.79 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1924578 | 0.21 | 1993708 | 96.5 | 70 - 130 | |
| 45 Sc | 1 | 2456480 | 0.36 | 2491942 | 98.6 | 70 - 130 | |
| 45 Sc | 2 | 340588 | 0.77 | 379286 | 89.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438624 | 0.30 | 463522 | 94.6 | 70 | - | 130 |
| 72 Ge | 2 | 124879 | 0.31 | 134805 | 92.6 | 70 | - | 130 |
| 103 Rh | 1 | 1999011 | 0.37 | 2265279 | 88.2 | 70 | - | 130 |
| 115 In | 1 | 2180561 | 0.89 | 2375722 | 91.8 | 70 | - | 130 |
| 115 In | 2 | 952372 | 0.57 | 1034376 | 92.1 | 70 | - | 130 |
| 159 Tb | 1 | 2659095 | 1.48 | 2743058 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 2523049 | 0.53 | 2554975 | 98.8 | 70 | - | 130 |
| 209 Bi | 1 | 1445802 | 1.21 | 1599251 | 90.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\051SMPL.D\051SMPL.D#
Date Acquired: Dec 3 2013 06:35 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-SD1
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 93.75 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 22.09 | 2.21 | ppb | 9.14 | 900.00 | |
| 11 B | 45 | 2 | 21.10 | 2.11 | ppb | 19.53 | 900.00 | |
| 23 Na | 45 | 1 | 62790.00 | 6279.00 | ppb | 13.50 | 90000.00 | |
| 23 Na | 45 | 2 | 59210.00 | 5921.00 | ppb | 0.24 | 90000.00 | |
| 24 Mg | 45 | 1 | 2205.00 | 220.50 | ppb | 13.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 2026.00 | 202.60 | ppb | 0.58 | 90000.00 | |
| 27 Al | 45 | 1 | 9.07 | 0.91 | ppb | 11.04 | 90000.00 | |
| 27 Al | 45 | 2 | 7.91 | 0.79 | ppb | 8.03 | 90000.00 | |
| 39 K | 45 | 1 | 4115.00 | 411.50 | ppb | 18.78 | 90000.00 | |
| 44 Ca | 45 | 1 | 21700.00 | 2170.00 | ppb | 14.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.13 | 0.21 | ppb | 24.22 | 900.00 | |
| 51 V | 45 | 2 | -2.92 | -0.29 | ppb | 6.74 | 900.00 | |
| 52 Cr | 45 | 2 | -0.50 | -0.05 | ppb | 12.26 | 900.00 | |
| 55 Mn | 45 | 2 | 2381.00 | 238.10 | ppb | 1.19 | 900.00 | |
| 56 Fe | 45 | 2 | 39830.00 | 3983.00 | ppb | 1.19 | 90000.00 | |
| 59 Co | 45 | 2 | 16.18 | 1.62 | ppb | 0.87 | 900.00 | |
| 60 Ni | 45 | 2 | 6.18 | 0.62 | ppb | 3.62 | 900.00 | |
| 63 Cu | 72 | 2 | 1.00 | 0.10 | ppb | 4.94 | 900.00 | |
| 66 Zn | 72 | 2 | 7.01 | 0.70 | ppb | 1.92 | 900.00 | |
| 75 As | 72 | 2 | 2538.00 | 253.80 | ppb | 0.58 | 900.00 | |
| 78 Se | 72 | 2 | 0.91 | 0.09 | ppb | 36.29 | 900.00 | |
| 88 Sr | 103 | 1 | 258.80 | 25.88 | ppb | 15.06 | 900.00 | |
| 98 Mo | 103 | 1 | 3.96 | 0.40 | ppb | 18.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 90.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.07 | 0.01 | ppb | 45.71 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 27.70 | 900.00 | |
| 121 Sb | 115 | 1 | 0.08 | 0.01 | ppb | 45.08 | 900.00 | |
| 137 Ba | 159 | 1 | 15.44 | 1.54 | ppb | 12.60 | 900.00 | |
| 205 Tl | 209 | 1 | 0.22 | 0.02 | ppb | 10.46 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.09 | 0.01 | ppb | 37.52 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1901401 | 8.05 | 1993708 | 95.4 | 70 - 130 | |
| 45 Sc | 1 | 2325604 | 12.75 | 2491942 | 93.3 | 70 - 130 | |
| 45 Sc | 2 | 360093 | 0.32 | 379286 | 94.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 427537 | 7.91 | 463522 | 92.2 | 70 | - | 130 |
| 72 | Ge | 2 | 129478 | 0.66 | 134805 | 96.0 | 70 | - | 130 |
| 103 | Rh | 1 | 1986689 | 12.39 | 2265279 | 87.7 | 70 | - | 130 |
| 115 | In | 1 | 2156990 | 10.53 | 2375722 | 90.8 | 70 | - | 130 |
| 115 | In | 2 | 1002259 | 0.40 | 1034376 | 96.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2510376 | 12.42 | 2743058 | 91.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2361436 | 13.01 | 2554975 | 92.4 | 70 | - | 130 |
| 209 | Bi | 1 | 1455062 | 11.15 | 1599251 | 91.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\052SMPL.D\052SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\052SMPL.D\052SMPL.D#
**Date Acquired:** Dec 3 2013 06:42 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26351-1F
**Misc Info:**
**Vial Number:** 2405
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes: Fail**
**ISTD: Fail**

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 38.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 503.20 | 251.60 | ppb | 2.27 | 900.00 | |
| 11 B | 45 | 2 | 354.60 | 177.30 | ppb | 2.22 | 900.00 | |
| 23 Na | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 1422600.00 | 711300.00 | ppb | 0.51 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | ---- | -------- | ppb | -------- | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 891200.00 | 445600.00 | ppb | 1.11 | 90000.00 | >LDR |
| 27 Al | 45 | 1 | 5.61 | 2.81 | ppb | 1.28 | 90000.00 | |
| 27 Al | 45 | 2 | 4.03 | 2.01 | ppb | 7.71 | 90000.00 | |
| 39 K | 45 | 1 | 27380.00 | 13690.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 452200.00 | 226100.00 | ppb | 0.26 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 4.66 | 2.33 | ppb | 4.36 | 900.00 | |
| 51 V | 45 | 2 | 5.17 | 2.58 | ppb | 0.80 | 900.00 | |
| 52 Cr | 45 | 2 | 0.48 | 0.24 | ppb | 4.18 | 900.00 | |
| 55 Mn | 45 | 2 | 1403.60 | 701.80 | ppb | 0.52 | 900.00 | |
| 56 Fe | 45 | 2 | 138.52 | 69.26 | ppb | 1.25 | 90000.00 | |
| 59 Co | 45 | 2 | 6.18 | 3.09 | ppb | 1.03 | 900.00 | |
| 60 Ni | 45 | 2 | 24.42 | 12.21 | ppb | 0.44 | 900.00 | |
| 63 Cu | 72 | 2 | 5.31 | 2.66 | ppb | 1.97 | 900.00 | |
| 66 Zn | 72 | 2 | 14.80 | 7.40 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 5.81 | 2.91 | ppb | 3.27 | 900.00 | |
| 78 Se | 72 | 2 | 1.76 | 0.88 | ppb | 9.25 | 900.00 | |
| 88 Sr | 103 | 1 | 4416.00 | 2208.00 | ppb | 0.92 | 900.00 | >LDR |
| 98 Mo | 103 | 1 | 11.95 | 5.98 | ppb | 1.58 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 20.43 | 900.00 | |
| 111 Cd | 115 | 2 | 0.28 | 0.14 | ppb | 20.38 | 900.00 | |
| 120 Sn | 115 | 1 | 0.44 | 0.22 | ppb | 1.87 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.13 | ppb | 3.25 | 900.00 | |
| 137 Ba | 159 | 1 | 14.64 | 7.32 | ppb | 1.83 | 900.00 | |
| 205 Tl | 209 | 1 | 0.21 | 0.11 | ppb | 5.76 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.19 | ppb | 2.96 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1266992 | 1.99 | 1993708 | 63.5 | 70 - 130 | IS Fail |
| 45 Sc | 1 | 2307612 | 1.18 | 2491942 | 92.6 | 70 - 130 | |
| 45 Sc | 2 | 323902 | 1.62 | 379286 | 85.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 395796 | 0.37 | 463522 | 85.4 | 70 - | 130 |
| 72 | Ge | 2 | 108440 | 0.93 | 134805 | 80.4 | 70 - | 130 |
| 103 | Rh | 1 | 1767925 | 0.88 | 2265279 | 78.0 | 70 - | 130 |
| 115 | In | 1 | 1995363 | 0.66 | 2375722 | 84.0 | 70 - | 130 |
| 115 | In | 2 | 826592 | 0.42 | 1034376 | 79.9 | 70 - | 130 |
| 159 | Tb | 1 | 2544344 | 0.92 | 2743058 | 92.8 | 70 - | 130 |
| 175 | Lu | 1 | 2405804 | 0.94 | 2554975 | 94.2 | 70 - | 130 |
| 209 | Bi | 1 | 1317596 | 0.57 | 1599251 | 82.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

6 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L03l00.B\053SMPL.D\053SMPL.D#
**Date Acquired:** Dec 3 2013 06:49 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26484-1F
**Misc Info:**
**Vial Number:** 2406
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 03 2013 12:44 pm
**Sample Type:** Sample
**Dilution Factor:** 2.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 2.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 72.48 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.25 | 900.00 | |
| 11 B | 6 | 1 | 76.42 | 38.21 | ppb | 2.15 | 900.00 | |
| 11 B | 45 | 2 | 73.60 | 36.80 | ppb | 4.01 | 900.00 | |
| 23 Na | 45 | 1 | 11654.00 | 5827.00 | ppb | 1.21 | 90000.00 | |
| 23 Na | 45 | 2 | 12884.00 | 6442.00 | ppb | 1.96 | 90000.00 | |
| 24 Mg | 45 | 1 | 3662.00 | 1831.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 3756.00 | 1878.00 | ppb | 1.09 | 90000.00 | |
| 27 Al | 45 | 1 | 6.31 | 3.16 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 7.07 | 3.54 | ppb | 18.49 | 90000.00 | |
| 39 K | 45 | 1 | 2198.00 | 1099.00 | ppb | 1.36 | 90000.00 | |
| 44 Ca | 45 | 1 | 39620.00 | 19810.00 | ppb | 0.79 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.38 | 0.69 | ppb | 5.85 | 900.00 | |
| 51 V | 45 | 2 | 3.72 | 1.86 | ppb | 1.88 | 900.00 | |
| 52 Cr | 45 | 2 | 0.33 | 0.17 | ppb | 3.97 | 900.00 | |
| 55 Mn | 45 | 2 | 8312.00 | 4156.00 | ppb | 3.06 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 283.80 | 141.90 | ppb | 3.55 | 90000.00 | |
| 59 Co | 45 | 2 | 2.48 | 1.24 | ppb | 1.16 | 900.00 | |
| 60 Ni | 45 | 2 | 2.45 | 1.23 | ppb | 0.82 | 900.00 | |
| 63 Cu | 72 | 2 | 0.72 | 0.36 | ppb | 1.04 | 900.00 | |
| 66 Zn | 72 | 2 | 8.95 | 4.47 | ppb | 1.85 | 900.00 | |
| 75 As | 72 | 2 | 2.72 | 1.36 | ppb | 2.36 | 900.00 | |
| 78 Se | 72 | 2 | 0.04 | 0.02 | ppb | 508.90 | 900.00 | |
| 88 Sr | 103 | 1 | 216.00 | 108.00 | ppb | 1.14 | 900.00 | |
| 98 Mo | 103 | 1 | 1.49 | 0.75 | ppb | 4.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 76.27 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 40.69 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.05 | ppb | 4.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.05 | ppb | 7.91 | 900.00 | |
| 137 Ba | 159 | 1 | 11.27 | 5.63 | ppb | 2.57 | 900.00 | |
| 205 Tl | 209 | 1 | 0.05 | 0.03 | ppb | 15.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 10.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2095528 | 1.07 | 1993708 | 105.1 | 70 - 130 | |
| 45 Sc | 1 | 2707731 | 0.67 | 2491942 | 108.7 | 70 - 130 | |
| 45 Sc | 2 | 368369 | 0.33 | 379286 | 97.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469430 | 0.59 | 463522 | 101.3 | 70 | - | 130 |
| 72 Ge | 2 | 132336 | 0.50 | 134805 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 2228936 | 0.99 | 2265279 | 98.4 | 70 | - | 130 |
| 115 In | 1 | 2399777 | 0.75 | 2375722 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 1009069 | 3.75 | 1034376 | 97.6 | 70 | - | 130 |
| 159 Tb | 1 | 2861363 | 1.43 | 2743058 | 104.3 | 70 | - | 130 |
| 175 Lu | 1 | 2684780 | 0.69 | 2554975 | 105.1 | 70 | - | 130 |
| 209 Bi | 1 | 1533667 | 1.96 | 1599251 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\054SMPL.D\054SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 06:56 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC26484-2F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2407 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 57.46 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.17 | 900.00 | |
| 11 B | 6 | 1 | 8.21 | 4.10 | ppb | 2.32 | 900.00 | |
| 11 B | 45 | 2 | 7.45 | 3.73 | ppb | 12.38 | 900.00 | |
| 23 Na | 45 | 1 | 29380.00 | 14690.00 | ppb | 1.18 | 90000.00 | |
| 23 Na | 45 | 2 | 31320.00 | 15660.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 1 | 427.40 | 213.70 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 2 | 450.20 | 225.10 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 3.68 | 1.84 | ppb | 1.81 | 90000.00 | |
| 27 Al | 45 | 2 | 4.69 | 2.34 | ppb | 19.83 | 90000.00 | |
| 39 K | 45 | 1 | 731.20 | 365.60 | ppb | 0.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 3908.00 | 1954.00 | ppb | 0.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.30 | 0.65 | ppb | 3.24 | 900.00 | |
| 51 V | 45 | 2 | 3.65 | 1.82 | ppb | 2.84 | 900.00 | |
| 52 Cr | 45 | 2 | 0.52 | 0.26 | ppb | 4.51 | 900.00 | |
| 55 Mn | 45 | 2 | 7.81 | 3.91 | ppb | 0.26 | 900.00 | |
| 56 Fe | 45 | 2 | 11.80 | 5.90 | ppb | 11.67 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 9.82 | 900.00 | |
| 60 Ni | 45 | 2 | 0.13 | 0.07 | ppb | 29.79 | 900.00 | |
| 63 Cu | 72 | 2 | 1.05 | 0.52 | ppb | 3.87 | 900.00 | |
| 66 Zn | 72 | 2 | 4.49 | 2.25 | ppb | 0.70 | 900.00 | |
| 75 As | 72 | 2 | 2.18 | 1.09 | ppb | 3.81 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.04 | ppb | 240.75 | 900.00 | |
| 88 Sr | 103 | 1 | 33.82 | 16.91 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | 0.49 | 0.25 | ppb | 0.79 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 19.56 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 90.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.02 | ppb | 17.73 | 900.00 | |
| 121 Sb | 115 | 1 | 0.05 | 0.02 | ppb | 15.79 | 900.00 | |
| 137 Ba | 159 | 1 | 1.97 | 0.99 | ppb | 1.51 | 900.00 | |
| 205 Tl | 209 | 1 | 0.04 | 0.02 | ppb | 3.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 18.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2054787 | 0.80 | 1993708 | 103.1 | 70 - 130 | |
| 45 Sc | 1 | 2602143 | 0.88 | 2491942 | 104.4 | 70 - 130 | |
| 45 Sc | 2 | 360588 | 2.01 | 379286 | 95.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 461652 | 0.62 | 463522 | 99.6 | 70 | - | 130 |
| 72 | Ge | 2 | 129100 | 0.03 | 134805 | 95.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2146247 | 0.33 | 2265279 | 94.7 | 70 | - | 130 |
| 115 | In | 1 | 2345505 | 0.54 | 2375722 | 98.7 | 70 | - | 130 |
| 115 | In | 2 | 1019116 | 3.13 | 1034376 | 98.5 | 70 | - | 130 |
| 159 | Tb | 1 | 2773281 | 1.01 | 2743058 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2607407 | 0.71 | 2554975 | 102.1 | 70 | - | 130 |
| 209 | Bi | 1 | 1533670 | 0.65 | 1599251 | 95.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\055SMPL.D\055SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\055SMPL.D\055SMPL.D#
Date Acquired: Dec 3 2013 07:03 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-3F
Misc Info:
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 17.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.18 | 900.00 | |
| 11 B | 6 | 1 | 7.46 | 3.73 | ppb | 2.73 | 900.00 | |
| 11 B | 45 | 2 | 7.92 | 3.96 | ppb | 9.28 | 900.00 | |
| 23 Na | 45 | 1 | 29820.00 | 14910.00 | ppb | 1.83 | 90000.00 | |
| 23 Na | 45 | 2 | 31320.00 | 15660.00 | ppb | 0.26 | 90000.00 | |
| 24 Mg | 45 | 1 | 439.60 | 219.80 | ppb | 1.36 | 90000.00 | |
| 24 Mg | 45 | 2 | 453.00 | 226.50 | ppb | 3.35 | 90000.00 | |
| 27 Al | 45 | 1 | 4.75 | 2.38 | ppb | 14.05 | 90000.00 | |
| 27 Al | 45 | 2 | 4.49 | 2.24 | ppb | 53.14 | 90000.00 | |
| 39 K | 45 | 1 | 747.00 | 373.50 | ppb | 1.09 | 90000.00 | |
| 44 Ca | 45 | 1 | 3968.00 | 1984.00 | ppb | 0.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.15 | 0.58 | ppb | 5.86 | 900.00 | |
| 51 V | 45 | 2 | 4.05 | 2.03 | ppb | 2.06 | 900.00 | |
| 52 Cr | 45 | 2 | 0.53 | 0.26 | ppb | 2.14 | 900.00 | |
| 55 Mn | 45 | 2 | 7.99 | 4.00 | ppb | 7.59 | 900.00 | |
| 56 Fe | 45 | 2 | 10.03 | 5.02 | ppb | 36.72 | 90000.00 | |
| 59 Co | 45 | 2 | 0.04 | 0.02 | ppb | 21.86 | 900.00 | |
| 60 Ni | 45 | 2 | 0.16 | 0.08 | ppb | 19.94 | 900.00 | |
| 63 Cu | 72 | 2 | 0.37 | 0.19 | ppb | 3.15 | 900.00 | |
| 66 Zn | 72 | 2 | 4.47 | 2.24 | ppb | 0.91 | 900.00 | |
| 75 As | 72 | 2 | 2.15 | 1.08 | ppb | 3.86 | 900.00 | |
| 78 Se | 72 | 2 | -0.30 | -0.15 | ppb | 48.48 | 900.00 | |
| 88 Sr | 103 | 1 | 33.64 | 16.82 | ppb | 2.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.50 | 0.25 | ppb | 1.49 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 57.84 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 89.62 | 900.00 | |
| 120 Sn | 115 | 1 | 0.05 | 0.03 | ppb | 17.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 9.45 | 900.00 | |
| 137 Ba | 159 | 1 | 1.96 | 0.98 | ppb | 1.14 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.02 | ppb | 25.03 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 52.68 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2082596 | 0.28 | 1993708 | 104.5 | 70 - 130 | |
| 45 Sc | 1 | 2529526 | 0.45 | 2491942 | 101.5 | 70 - 130 | |
| 45 Sc | 2 | 346702 | 0.51 | 379286 | 91.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\055SMPL.D\055SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 448208 | 1.85 | 463522 | 96.7 | 70 | - | 130 |
| 72 | Ge | 2 | 126669 | 1.45 | 134805 | 94.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2109053 | 1.32 | 2265279 | 93.1 | 70 | - | 130 |
| 115 | In | 1 | 2262920 | 1.03 | 2375722 | 95.3 | 70 | - | 130 |
| 115 | In | 2 | 951367 | 3.89 | 1034376 | 92.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2697942 | 0.71 | 2743058 | 98.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2525023 | 0.53 | 2554975 | 98.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1463834 | 0.78 | 1599251 | 91.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\056SMPL.D\056SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\056SMPL.D\056SMPL.D#
Date Acquired: Dec 3 2013 07:10 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-5F
Misc Info:
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 60.78 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.01 | ppb | 173.26 | 900.00 | |
| 11 B | 6 | 1 | 297.80 | 148.90 | ppb | 1.53 | 900.00 | |
| 11 B | 45 | 2 | 285.40 | 142.70 | ppb | 2.60 | 900.00 | |
| 23 Na | 45 | 1 | 36220.00 | 18110.00 | ppb | 1.65 | 90000.00 | |
| 23 Na | 45 | 2 | 39700.00 | 19850.00 | ppb | 0.37 | 90000.00 | |
| 24 Mg | 45 | 1 | 19106.00 | 9553.00 | ppb | 1.73 | 90000.00 | |
| 24 Mg | 45 | 2 | 18800.00 | 9400.00 | ppb | 0.75 | 90000.00 | |
| 27 Al | 45 | 1 | 6.02 | 3.01 | ppb | 2.36 | 90000.00 | |
| 27 Al | 45 | 2 | 5.39 | 2.70 | ppb | 4.25 | 90000.00 | |
| 39 K | 45 | 1 | 8286.00 | 4143.00 | ppb | 0.14 | 90000.00 | |
| 44 Ca | 45 | 1 | 111320.00 | 55660.00 | ppb | 0.78 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.25 | 1.12 | ppb | 4.20 | 900.00 | |
| 51 V | 45 | 2 | 3.07 | 1.54 | ppb | 3.16 | 900.00 | |
| 52 Cr | 45 | 2 | 0.62 | 0.31 | ppb | 0.52 | 900.00 | |
| 55 Mn | 45 | 2 | 4922.00 | 2461.00 | ppb | 0.07 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 1902.80 | 951.40 | ppb | 0.11 | 90000.00 | |
| 59 Co | 45 | 2 | 2.56 | 1.28 | ppb | 1.84 | 900.00 | |
| 60 Ni | 45 | 2 | 4.89 | 2.45 | ppb | 1.86 | 900.00 | |
| 63 Cu | 72 | 2 | 0.42 | 0.21 | ppb | 7.26 | 900.00 | |
| 66 Zn | 72 | 2 | 4.96 | 2.48 | ppb | 1.44 | 900.00 | |
| 75 As | 72 | 2 | 6.76 | 3.38 | ppb | 0.98 | 900.00 | |
| 78 Se | 72 | 2 | -0.12 | -0.06 | ppb | 123.11 | 900.00 | |
| 88 Sr | 103 | 1 | 544.60 | 272.30 | ppb | 0.73 | 900.00 | |
| 98 Mo | 103 | 1 | 6.06 | 3.03 | ppb | 1.72 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 38.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 24.77 | 900.00 | |
| 120 Sn | 115 | 1 | 1.75 | 0.87 | ppb | 2.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.20 | 0.10 | ppb | 5.86 | 900.00 | |
| 137 Ba | 159 | 1 | 34.96 | 17.48 | ppb | 1.09 | 900.00 | |
| 205 Tl | 209 | 1 | 0.02 | 0.01 | ppb | 55.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.01 | ppb | 54.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1890159 | 2.34 | 1993708 | 94.8 | 70 - 130 | |
| 45 Sc | 1 | 2484916 | 1.15 | 2491942 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 342954 | 0.36 | 379286 | 90.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\056SMPL.D\056SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 435789 | 0.67 | 463522 | 94.0 | 70 | - | 130 |
| 72 | Ge | 2 | 124104 | 0.95 | 134805 | 92.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2016577 | 1.04 | 2265279 | 89.0 | 70 | - | 130 |
| 115 | In | 1 | 2190507 | 0.66 | 2375722 | 92.2 | 70 | - | 130 |
| 115 | In | 2 | 947975 | 0.60 | 1034376 | 91.6 | 70 | - | 130 |
| 159 | Tb | 1 | 2686750 | 0.77 | 2743058 | 97.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2551118 | 0.66 | 2554975 | 99.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1446290 | 0.72 | 1599251 | 90.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\057SMPL.D\057SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\057SMPL.D\057SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 07:17 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Fail |
| **Sample Name:** | MC26484-6F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2410 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 2.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 2.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 121.23 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.00 | ppb | 173.21 | 900.00 | |
| 11 B | 6 | 1 | 47.44 | 23.72 | ppb | 14.75 | 900.00 | |
| 11 B | 45 | 2 | 41.16 | 20.58 | ppb | 4.06 | 900.00 | |
| 23 Na | 45 | 1 | 124400.00 | 62200.00 | ppb | 20.03 | 90000.00 | |
| 23 Na | 45 | 2 | 122300.00 | 61150.00 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 2460.00 | 1230.00 | ppb | 8.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 2686.00 | 1343.00 | ppb | 1.41 | 90000.00 | |
| 27 Al | 45 | 1 | 6.52 | 3.26 | ppb | 30.34 | 90000.00 | |
| 27 Al | 45 | 2 | 5.48 | 2.74 | ppb | 21.17 | 90000.00 | |
| 39 K | 45 | 1 | 4906.00 | 2453.00 | ppb | 8.10 | 90000.00 | |
| 44 Ca | 45 | 1 | 21000.00 | 10500.00 | ppb | 3.81 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.92 | 0.96 | ppb | 16.42 | 900.00 | |
| 51 V | 45 | 2 | 2.07 | 1.03 | ppb | 2.19 | 900.00 | |
| 52 Cr | 45 | 2 | 0.34 | 0.17 | ppb | 1.32 | 900.00 | |
| 55 Mn | 45 | 2 | 2396.00 | 1198.00 | ppb | 1.81 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 29540.00 | 14770.00 | ppb | 0.35 | 90000.00 | |
| 59 Co | 45 | 2 | 13.96 | 6.98 | ppb | 1.62 | 900.00 | |
| 60 Ni | 45 | 2 | 6.58 | 3.29 | ppb | 2.74 | 900.00 | |
| 63 Cu | 72 | 2 | 0.56 | 0.28 | ppb | 1.77 | 900.00 | |
| 66 Zn | 72 | 2 | 7.08 | 3.54 | ppb | 0.71 | 900.00 | |
| 75 As | 72 | 2 | 1297.00 | 648.50 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 487.30 | 900.00 | |
| 88 Sr | 103 | 1 | 325.80 | 162.90 | ppb | 2.27 | 900.00 | |
| 98 Mo | 103 | 1 | 5.27 | 2.63 | ppb | 1.27 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 98.90 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 52.28 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.03 | ppb | 22.33 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.04 | ppb | 13.74 | 900.00 | |
| 137 Ba | 159 | 1 | 36.54 | 18.27 | ppb | 9.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.01 | ppb | 25.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.03 | 0.01 | ppb | 51.56 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1956543 | 8.59 | 1993708 | 98.1 | 70 - 130 | |
| 45 Sc | 1 | 2544737 | 7.19 | 2491942 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 343962 | 0.74 | 379286 | 90.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\057SMPL.D\057SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 440010 | 7.99 | 463522 | 94.9 | 70 | - | 130 |
| 72 | Ge | 2 | 124117 | 0.83 | 134805 | 92.1 | 70 | - | 130 |
| 103 | Rh | 1 | 2022573 | 10.18 | 2265279 | 89.3 | 70 | - | 130 |
| 115 | In | 1 | 2092481 | 2.66 | 2375722 | 88.1 | 70 | - | 130 |
| 115 | In | 2 | 940764 | 0.63 | 1034376 | 90.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2720046 | 6.24 | 2743058 | 99.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2676411 | 5.17 | 2554975 | 104.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1379600 | 4.16 | 1599251 | 86.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\058SMPL.D\058SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\058SMPL.D\058SMPL.D#
Date Acquired: Dec 3 2013 07:24 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-7F
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 81.63 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 161.76 | 80.88 | ppb | 2.83 | 900.00 | |
| 11 B | 45 | 2 | 158.42 | 79.21 | ppb | 2.07 | 900.00 | |
| 23 Na | 45 | 1 | 10988.00 | 5494.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 12000.00 | 6000.00 | ppb | 0.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 4050.00 | 2025.00 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 2 | 4096.00 | 2048.00 | ppb | 0.61 | 90000.00 | |
| 27 Al | 45 | 1 | 9.54 | 4.77 | ppb | 37.79 | 90000.00 | |
| 27 Al | 45 | 2 | 4.22 | 2.11 | ppb | 4.98 | 90000.00 | |
| 39 K | 45 | 1 | 8098.00 | 4049.00 | ppb | 4.87 | 90000.00 | |
| 44 Ca | 45 | 1 | 23160.00 | 11580.00 | ppb | 0.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.19 | 1.09 | ppb | 2.23 | 900.00 | |
| 51 V | 45 | 2 | 1.96 | 0.98 | ppb | 2.92 | 900.00 | |
| 52 Cr | 45 | 2 | 0.35 | 0.18 | ppb | 5.08 | 900.00 | |
| 55 Mn | 45 | 2 | 769.00 | 384.50 | ppb | 0.21 | 900.00 | |
| 56 Fe | 45 | 2 | 35880.00 | 17940.00 | ppb | 0.39 | 90000.00 | |
| 59 Co | 45 | 2 | 12.16 | 6.08 | ppb | 0.34 | 900.00 | |
| 60 Ni | 45 | 2 | 7.14 | 3.57 | ppb | 1.47 | 900.00 | |
| 63 Cu | 72 | 2 | 0.33 | 0.17 | ppb | 2.24 | 900.00 | |
| 66 Zn | 72 | 2 | 5.15 | 2.57 | ppb | 1.36 | 900.00 | |
| 75 As | 72 | 2 | 947.80 | 473.90 | ppb | 0.82 | 900.00 | |
| 78 Se | 72 | 2 | -0.27 | -0.14 | ppb | 69.96 | 900.00 | |
| 88 Sr | 103 | 1 | 500.40 | 250.20 | ppb | 4.71 | 900.00 | |
| 98 Mo | 103 | 1 | 16.19 | 8.09 | ppb | 2.84 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.01 | ppb | 64.18 | 900.00 | |
| 111 Cd | 115 | 2 | 0.03 | 0.01 | ppb | 27.56 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.04 | ppb | 7.05 | 900.00 | |
| 121 Sb | 115 | 1 | 0.09 | 0.04 | ppb | 19.98 | 900.00 | |
| 137 Ba | 159 | 1 | 22.84 | 11.42 | ppb | 2.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.04 | ppb | 21.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.04 | 0.02 | ppb | 38.81 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1965205 | 4.51 | 1993708 | 98.6 | 70 - 130 | |
| 45 Sc | 1 | 2531723 | 2.28 | 2491942 | 101.6 | 70 - 130 | |
| 45 Sc | 2 | 337551 | 0.84 | 379286 | 89.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\058SMPL.D\058SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 431016 | 1.41 | 463522 | 93.0 | 70 | - | 130 |
| 72 | Ge | 2 | 123994 | 0.15 | 134805 | 92.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2037536 | 3.64 | 2265279 | 89.9 | 70 | - | 130 |
| 115 | In | 1 | 2232613 | 2.58 | 2375722 | 94.0 | 70 | - | 130 |
| 115 | In | 2 | 947205 | 0.63 | 1034376 | 91.6 | 70 | - | 130 |
| 159 | Tb | 1 | 2679767 | 0.81 | 2743058 | 97.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2555790 | 1.29 | 2554975 | 100.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1429349 | 1.07 | 1599251 | 89.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\059SMPL.D\059SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\059SMPL.D\059SMPL.D#
Date Acquired: Dec 3 2013 07:31 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 48.71 | 48.71 | ppb | 4.60 | 900.00 | |
| 9 Be | 45 | 2 | 52.58 | 52.58 | ppb | 4.65 | 900.00 | |
| 11 B | 6 | 1 | 55.69 | 55.69 | ppb | 7.78 | 900.00 | |
| 11 B | 45 | 2 | 53.70 | 53.70 | ppb | 2.19 | 900.00 | |
| 23 Na | 45 | 1 | 4812.00 | 4812.00 | ppb | 1.38 | 90000.00 | |
| 23 Na | 45 | 2 | 5189.00 | 5189.00 | ppb | 1.58 | 90000.00 | |
| 24 Mg | 45 | 1 | 4666.00 | 4666.00 | ppb | 2.98 | 90000.00 | |
| 24 Mg | 45 | 2 | 4671.00 | 4671.00 | ppb | 2.55 | 90000.00 | |
| 27 Al | 45 | 1 | 4467.00 | 4467.00 | ppb | 8.37 | 90000.00 | |
| 27 Al | 45 | 2 | 4304.00 | 4304.00 | ppb | 1.14 | 90000.00 | |
| 39 K | 45 | 1 | 4542.00 | 4542.00 | ppb | 9.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 4800.00 | 4800.00 | ppb | 3.99 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.51 | 48.51 | ppb | 5.63 | 900.00 | |
| 51 V | 45 | 2 | 48.73 | 48.73 | ppb | 0.79 | 900.00 | |
| 52 Cr | 45 | 2 | 49.15 | 49.15 | ppb | 0.05 | 900.00 | |
| 55 Mn | 45 | 2 | 47.31 | 47.31 | ppb | 1.17 | 900.00 | |
| 56 Fe | 45 | 2 | 5062.00 | 5062.00 | ppb | 2.23 | 90000.00 | |
| 59 Co | 45 | 2 | 49.34 | 49.34 | ppb | 3.23 | 900.00 | |
| 60 Ni | 45 | 2 | 49.32 | 49.32 | ppb | 0.32 | 900.00 | |
| 63 Cu | 72 | 2 | 47.80 | 47.80 | ppb | 0.51 | 900.00 | |
| 66 Zn | 72 | 2 | 47.04 | 47.04 | ppb | 0.72 | 900.00 | |
| 75 As | 72 | 2 | 48.06 | 48.06 | ppb | 0.75 | 900.00 | |
| 78 Se | 72 | 2 | 47.40 | 47.40 | ppb | 2.70 | 900.00 | |
| 88 Sr | 103 | 1 | 46.43 | 46.43 | ppb | 13.77 | 900.00 | |
| 98 Mo | 103 | 1 | 47.62 | 47.62 | ppb | 6.83 | 900.00 | |
| 107 Ag | 115 | 1 | 52.08 | 52.08 | ppb | 9.23 | 900.00 | |
| 111 Cd | 115 | 2 | 49.04 | 49.04 | ppb | 1.60 | 900.00 | |
| 120 Sn | 115 | 1 | 54.83 | 54.83 | ppb | 12.20 | 900.00 | |
| 121 Sb | 115 | 1 | 52.50 | 52.50 | ppb | 10.27 | 900.00 | |
| 137 Ba | 159 | 1 | 46.18 | 46.18 | ppb | 2.68 | 900.00 | |
| 205 Tl | 209 | 1 | 47.18 | 47.18 | ppb | 1.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 46.23 | 46.23 | ppb | 6.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2062840 | 1.40 | 1993708 | 103.5 | 70 - 130 | |
| 45 Sc | 1 | 2656977 | 1.73 | 2491942 | 106.6 | 70 - 130 | |
| 45 Sc | 2 | 356925 | 0.69 | 379286 | 94.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\059SMPL.D\059SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 433043 | 2.24 | 463522 | 93.4 | 70 | - | 130 |
| 72 Ge | 2 | 127565 | 0.45 | 134805 | 94.6 | 70 | - | 130 |
| 103 Rh | 1 | 2265298 | 7.19 | 2265279 | 100.0 | 70 | - | 130 |
| 115 In | 1 | 2177426 | 6.60 | 2375722 | 91.7 | 70 | - | 130 |
| 115 In | 2 | 987696 | 1.74 | 1034376 | 95.5 | 70 | - | 130 |
| 159 Tb | 1 | 2683076 | 3.97 | 2743058 | 97.8 | 70 | - | 130 |
| 175 Lu | 1 | 2624608 | 1.85 | 2554975 | 102.7 | 70 | - | 130 |
| 209 Bi | 1 | 1541904 | 5.00 | 1599251 | 96.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\060SMPL.D\060SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L03l00.B\060SMPL.D\060SMPL.D# | | |
| **Date Acquired:** | Dec 3 2013 07:39 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | CCB | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2501 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 03 2013 12:44 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 1.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 1.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 50.49 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 173.19 | 900.00 | |
| 11 B | 6 | 1 | 0.43 | 0.43 | ppb | 8.08 | 900.00 | |
| 11 B | 45 | 2 | 0.36 | 0.36 | ppb | 30.83 | 900.00 | |
| 23 Na | 45 | 1 | 12.83 | 12.83 | ppb | 9.59 | 90000.00 | |
| 23 Na | 45 | 2 | 23.40 | 23.40 | ppb | 12.86 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.66 | 1.66 | ppb | 20.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.79 | 2.79 | ppb | 84.28 | 90000.00 | |
| 27 Al | 45 | 1 | 0.64 | 0.64 | ppb | 24.80 | 90000.00 | |
| 27 Al | 45 | 2 | 0.76 | 0.76 | ppb | 72.66 | 90000.00 | |
| 39 K | 45 | 1 | -33.81 | -33.81 | ppb | 15.47 | 90000.00 | |
| 44 Ca | 45 | 1 | -10.90 | -10.90 | ppb | 8.57 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 170.28 | 900.00 | |
| 51 V | 45 | 2 | -0.14 | -0.14 | ppb | 3.94 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 1.02 | 900.00 | |
| 55 Mn | 45 | 2 | 0.16 | 0.16 | ppb | 51.50 | 900.00 | |
| 56 Fe | 45 | 2 | 2.06 | 2.06 | ppb | 55.82 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 83.01 | 900.00 | |
| 60 Ni | 45 | 2 | 0.85 | 0.85 | ppb | 5.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.11 | 0.11 | ppb | 6.72 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 56.92 | 900.00 | |
| 75 As | 72 | 2 | 0.08 | 0.08 | ppb | 34.22 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 4519.20 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 18.91 | 900.00 | |
| 98 Mo | 103 | 1 | 0.27 | 0.27 | ppb | 7.02 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 74.92 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 90.85 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 30.46 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 52.85 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 46.93 | 900.00 | |
| 205 Tl | 209 | 1 | 0.18 | 0.18 | ppb | 19.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 38.83 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2128711 | 4.47 | 1993708 | 106.8 | 70 - 130 | |
| 45 Sc | 1 | 2684876 | 2.49 | 2491942 | 107.7 | 70 - 130 | |
| 45 Sc | 2 | 363474 | 0.94 | 379286 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\060SMPL.D\060SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 445010 | 2.31 | 463522 | 96.0 | 70 | - | 130 |
| 72 | Ge | 2 | 129743 | 0.56 | 134805 | 96.2 | 70 | - | 130 |
| 103 | Rh | 1 | 2074348 | 10.21 | 2265279 | 91.6 | 70 | - | 130 |
| 115 | In | 1 | 2515404 | 14.16 | 2375722 | 105.9 | 70 | - | 130 |
| 115 | In | 2 | 1020857 | 0.61 | 1034376 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 2734880 | 3.24 | 2743058 | 99.7 | 70 | - | 130 |
| 175 | Lu | 1 | 2472703 | 7.83 | 2554975 | 96.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1608410 | 4.08 | 1599251 | 100.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\061SMPL.D\061SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\061SMPL.D\061SMPL.D#
Date Acquired: Dec 3 2013 07:46 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26758-1
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.01 | ppb | 11.58 | 900.00 | |
| 9 Be | 45 | 2 | 0.05 | 0.02 | ppb | 87.06 | 900.00 | |
| 11 B | 6 | 1 | 49.12 | 24.56 | ppb | 1.13 | 900.00 | |
| 11 B | 45 | 2 | 47.92 | 23.96 | ppb | 5.19 | 900.00 | |
| 23 Na | 45 | 1 | 11648.00 | 5824.00 | ppb | 4.00 | 90000.00 | |
| 23 Na | 45 | 2 | 12432.00 | 6216.00 | ppb | 0.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 5928.00 | 2964.00 | ppb | 4.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 5646.00 | 2823.00 | ppb | 0.20 | 90000.00 | |
| 27 Al | 45 | 1 | 227.20 | 113.60 | ppb | 3.43 | 90000.00 | |
| 27 Al | 45 | 2 | 204.00 | 102.00 | ppb | 0.68 | 90000.00 | |
| 39 K | 45 | 1 | 4388.00 | 2194.00 | ppb | 1.00 | 90000.00 | |
| 44 Ca | 45 | 1 | 19368.00 | 9684.00 | ppb | 1.70 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.02 | 1.51 | ppb | 5.20 | 900.00 | |
| 51 V | 45 | 2 | 2.36 | 1.18 | ppb | 2.25 | 900.00 | |
| 52 Cr | 45 | 2 | 0.88 | 0.44 | ppb | 2.87 | 900.00 | |
| 55 Mn | 45 | 2 | 622.80 | 311.40 | ppb | 0.49 | 900.00 | |
| 56 Fe | 45 | 2 | 9532.00 | 4766.00 | ppb | 0.39 | 90000.00 | |
| 59 Co | 45 | 2 | 2.36 | 1.18 | ppb | 0.26 | 900.00 | |
| 60 Ni | 45 | 2 | 4.49 | 2.25 | ppb | 2.18 | 900.00 | |
| 63 Cu | 72 | 2 | 2.05 | 1.02 | ppb | 2.17 | 900.00 | |
| 66 Zn | 72 | 2 | 7.97 | 3.98 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 6.27 | 3.14 | ppb | 1.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.03 | 0.02 | ppb | 1045.20 | 900.00 | |
| 88 Sr | 103 | 1 | 108.24 | 54.12 | ppb | 1.70 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 0.53 | ppb | 6.52 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 21.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.10 | 0.05 | ppb | 30.03 | 900.00 | |
| 120 Sn | 115 | 1 | 0.33 | 0.17 | ppb | 5.66 | 900.00 | |
| 121 Sb | 115 | 1 | 0.06 | 0.03 | ppb | 9.85 | 900.00 | |
| 137 Ba | 159 | 1 | 31.70 | 15.85 | ppb | 6.54 | 900.00 | |
| 205 Tl | 209 | 1 | 0.20 | 0.10 | ppb | 1.99 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.44 | 0.22 | ppb | 3.67 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1882384 | 4.30 | 1993708 | 94.4 | 70 - 130 | |
| 45 Sc | 1 | 2454840 | 2.23 | 2491942 | 98.5 | 70 - 130 | |
| 45 Sc | 2 | 341423 | 0.46 | 379286 | 90.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\061SMPL.D\061SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 426869 | 2.30 | 463522 | 92.1 | 70 | - | 130 |
| 72 | Ge | 2 | 124550 | 0.09 | 134805 | 92.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2061002 | 1.33 | 2265279 | 91.0 | 70 | - | 130 |
| 115 | In | 1 | 2224147 | 0.63 | 2375722 | 93.6 | 70 | - | 130 |
| 115 | In | 2 | 976298 | 1.18 | 1034376 | 94.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2611854 | 4.10 | 2743058 | 95.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2454748 | 1.84 | 2554975 | 96.1 | 70 | - | 130 |
| 209 | Bi | 1 | 1433481 | 0.85 | 1599251 | 89.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\062SMPL.D\062SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\062SMPL.D\062SMPL.D#
Date Acquired: Dec 3 2013 07:53 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26758-2
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.00 | ppb | 18.53 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 0.00 | 900.00 | |
| 11 B | 6 | 1 | 44.34 | 22.17 | ppb | 1.71 | 900.00 | |
| 11 B | 45 | 2 | 41.32 | 20.66 | ppb | 4.35 | 900.00 | |
| 23 Na | 45 | 1 | 70540.00 | 35270.00 | ppb | 1.64 | 90000.00 | |
| 23 Na | 45 | 2 | 74500.00 | 37250.00 | ppb | 1.78 | 90000.00 | |
| 24 Mg | 45 | 1 | 3922.00 | 1961.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 3850.00 | 1925.00 | ppb | 0.99 | 90000.00 | |
| 27 Al | 45 | 1 | 5.43 | 2.72 | ppb | 0.91 | 90000.00 | |
| 27 Al | 45 | 2 | 4.99 | 2.50 | ppb | 8.33 | 90000.00 | |
| 39 K | 45 | 1 | 2738.00 | 1369.00 | ppb | 1.05 | 90000.00 | |
| 44 Ca | 45 | 1 | 11130.00 | 5565.00 | ppb | 0.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.23 | 0.61 | ppb | 4.94 | 900.00 | |
| 51 V | 45 | 2 | 3.06 | 1.53 | ppb | 2.48 | 900.00 | |
| 52 Cr | 45 | 2 | 0.93 | 0.47 | ppb | 4.64 | 900.00 | |
| 55 Mn | 45 | 2 | 25.66 | 12.83 | ppb | 0.55 | 900.00 | |
| 56 Fe | 45 | 2 | 206.20 | 103.10 | ppb | 1.71 | 90000.00 | |
| 59 Co | 45 | 2 | 0.33 | 0.17 | ppb | 2.46 | 900.00 | |
| 60 Ni | 45 | 2 | 0.94 | 0.47 | ppb | 4.87 | 900.00 | |
| 63 Cu | 72 | 2 | 1.04 | 0.52 | ppb | 3.17 | 900.00 | |
| 66 Zn | 72 | 2 | 5.43 | 2.72 | ppb | 0.68 | 900.00 | |
| 75 As | 72 | 2 | 3.61 | 1.80 | ppb | 1.39 | 900.00 | |
| 78 Se | 72 | 2 | 0.11 | 0.05 | ppb | 292.56 | 900.00 | |
| 88 Sr | 103 | 1 | 105.28 | 52.64 | ppb | 1.07 | 900.00 | |
| 98 Mo | 103 | 1 | 1.55 | 0.77 | ppb | 3.65 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.00 | ppb | 12.60 | 900.00 | |
| 111 Cd | 115 | 2 | 0.02 | 0.01 | ppb | 44.46 | 900.00 | |
| 120 Sn | 115 | 1 | 2.87 | 1.44 | ppb | 2.13 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.03 | ppb | 2.83 | 900.00 | |
| 137 Ba | 159 | 1 | 5.27 | 2.64 | ppb | 2.07 | 900.00 | |
| 205 Tl | 209 | 1 | 0.09 | 0.04 | ppb | 4.28 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.06 | 0.03 | ppb | 0.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1907994 | 0.28 | 1993708 | 95.7 | 70 - 130 | |
| 45 Sc | 1 | 2416927 | 0.98 | 2491942 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 337728 | 0.81 | 379286 | 89.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\062SMPL.D\062SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 431206 | 0.71 | 463522 | 93.0 | 70 - | 130 |
| 72 | Ge | 2 | 123227 | 0.90 | 134805 | 91.4 | 70 - | 130 |
| 103 | Rh | 1 | 1941812 | 1.11 | 2265279 | 85.7 | 70 - | 130 |
| 115 | In | 1 | 2135586 | 0.51 | 2375722 | 89.9 | 70 - | 130 |
| 115 | In | 2 | 947855 | 0.26 | 1034376 | 91.6 | 70 - | 130 |
| 159 | Tb | 1 | 2609339 | 0.49 | 2743058 | 95.1 | 70 - | 130 |
| 175 | Lu | 1 | 2469098 | 1.36 | 2554975 | 96.6 | 70 - | 130 |
| 209 | Bi | 1 | 1382972 | 0.76 | 1599251 | 86.5 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\063SMPL.D\063SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\063SMPL.D\063SMPL.D#
Date Acquired: Dec 3 2013 08:00 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-B1
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 519.25 | 20.77 | ppb | 7.07 | 900.00 | |
| 9 Be | 45 | 2 | 539.25 | 21.57 | ppb | 3.18 | 900.00 | |
| 11 B | 6 | 1 | 5.68 | 0.23 | ppb | 15.89 | 900.00 | |
| 11 B | 45 | 2 | 4.52 | 0.18 | ppb | 48.56 | 900.00 | |
| 23 Na | 45 | 1 | 25475.00 | 1019.00 | ppb | 3.99 | 90000.00 | |
| 23 Na | 45 | 2 | 28650.00 | 1146.00 | ppb | 0.98 | 90000.00 | |
| 24 Mg | 45 | 1 | 25350.00 | 1014.00 | ppb | 5.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 25925.00 | 1037.00 | ppb | 1.69 | 90000.00 | |
| 27 Al | 45 | 1 | 2253.50 | 90.14 | ppb | 4.07 | 90000.00 | |
| 27 Al | 45 | 2 | 2100.25 | 84.01 | ppb | 2.15 | 90000.00 | |
| 39 K | 45 | 1 | 25575.00 | 1023.00 | ppb | 3.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 26650.00 | 1066.00 | ppb | 1.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 486.25 | 19.45 | ppb | 0.53 | 900.00 | |
| 51 V | 45 | 2 | 510.25 | 20.41 | ppb | 1.39 | 900.00 | |
| 52 Cr | 45 | 2 | 512.75 | 20.51 | ppb | 1.10 | 900.00 | |
| 55 Mn | 45 | 2 | 490.75 | 19.63 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 2395.75 | 95.83 | ppb | 1.79 | 90000.00 | |
| 59 Co | 45 | 2 | 524.75 | 20.99 | ppb | 2.64 | 900.00 | |
| 60 Ni | 45 | 2 | 507.50 | 20.30 | ppb | 0.81 | 900.00 | |
| 63 Cu | 72 | 2 | 523.75 | 20.95 | ppb | 2.43 | 900.00 | |
| 66 Zn | 72 | 2 | 531.50 | 21.26 | ppb | 0.66 | 900.00 | |
| 75 As | 72 | 2 | 533.50 | 21.34 | ppb | 1.35 | 900.00 | |
| 78 Se | 72 | 2 | 530.50 | 21.22 | ppb | 3.64 | 900.00 | |
| 88 Sr | 103 | 1 | 540.00 | 21.60 | ppb | 2.97 | 900.00 | |
| 98 Mo | 103 | 1 | 0.47 | 0.02 | ppb | 24.70 | 900.00 | |
| 107 Ag | 115 | 1 | 198.58 | 7.94 | ppb | 2.71 | 900.00 | |
| 111 Cd | 115 | 2 | 508.25 | 20.33 | ppb | 1.65 | 900.00 | |
| 120 Sn | 115 | 1 | 0.08 | 0.00 | ppb | 48.47 | 900.00 | |
| 121 Sb | 115 | 1 | 496.25 | 19.85 | ppb | 3.29 | 900.00 | |
| 137 Ba | 159 | 1 | 1986.50 | 79.46 | ppb | 2.47 | 900.00 | |
| 205 Tl | 209 | 1 | 496.25 | 19.85 | ppb | 3.93 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1027.50 | 41.10 | ppb | 0.78 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2156001 | 5.23 | 1993708 | 108.1 | 70 - 130 | |
| 45 Sc | 1 | 2686999 | 2.03 | 2491942 | 107.8 | 70 - 130 | |
| 45 Sc | 2 | 365974 | 0.12 | 379286 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\063SMPL.D\063SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450349 | 1.02 | 463522 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 130771 | 0.42 | 134805 | 97.0 | 70 | - | 130 |
| 103 Rh | 1 | 2216993 | 1.60 | 2265279 | 97.9 | 70 | - | 130 |
| 115 In | 1 | 2368052 | 1.60 | 2375722 | 99.7 | 70 | - | 130 |
| 115 In | 2 | 1023753 | 0.95 | 1034376 | 99.0 | 70 | - | 130 |
| 159 Tb | 1 | 2765621 | 1.43 | 2743058 | 100.8 | 70 | - | 130 |
| 175 Lu | 1 | 2576406 | 2.49 | 2554975 | 100.8 | 70 | - | 130 |
| 209 Bi | 1 | 1487944 | 0.54 | 1599251 | 93.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\064SMPL.D\064SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\064SMPL.D\064SMPL.D#
Date Acquired: Dec 3 2013 08:07 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-S1
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 469.75 | 18.79 | ppb | 1.66 | 900.00 | |
| 9 Be | 45 | 2 | 532.75 | 21.31 | ppb | 1.12 | 900.00 | |
| 11 B | 6 | 1 | 23.29 | 0.93 | ppb | 7.15 | 900.00 | |
| 11 B | 45 | 2 | 27.88 | 1.12 | ppb | 14.21 | 900.00 | |
| 23 Na | 45 | 1 | 89525.00 | 3581.00 | ppb | 2.26 | 90000.00 | |
| 23 Na | 45 | 2 | 88700.00 | 3548.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 29650.00 | 1186.00 | ppb | 2.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 27375.00 | 1095.00 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 2398.50 | 95.94 | ppb | 2.34 | 90000.00 | |
| 27 Al | 45 | 2 | 2047.75 | 81.91 | ppb | 0.38 | 90000.00 | |
| 39 K | 45 | 1 | 29625.00 | 1185.00 | ppb | 0.63 | 90000.00 | |
| 44 Ca | 45 | 1 | 45800.00 | 1832.00 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 504.75 | 20.19 | ppb | 2.72 | 900.00 | |
| 51 V | 45 | 2 | 502.25 | 20.09 | ppb | 0.05 | 900.00 | |
| 52 Cr | 45 | 2 | 499.75 | 19.99 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 2945.00 | 117.80 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 42250.00 | 1690.00 | ppb | 0.86 | 90000.00 | |
| 59 Co | 45 | 2 | 526.00 | 21.04 | ppb | 0.95 | 900.00 | |
| 60 Ni | 45 | 2 | 507.50 | 20.30 | ppb | 0.19 | 900.00 | |
| 63 Cu | 72 | 2 | 510.25 | 20.41 | ppb | 0.50 | 900.00 | |
| 66 Zn | 72 | 2 | 530.25 | 21.21 | ppb | 0.01 | 900.00 | |
| 75 As | 72 | 2 | 3087.50 | 123.50 | ppb | 0.38 | 900.00 | |
| 78 Se | 72 | 2 | 503.75 | 20.15 | ppb | 2.54 | 900.00 | |
| 88 Sr | 103 | 1 | 760.50 | 30.42 | ppb | 1.21 | 900.00 | |
| 98 Mo | 103 | 1 | 5.00 | 0.20 | ppb | 15.18 | 900.00 | |
| 107 Ag | 115 | 1 | 197.68 | 7.91 | ppb | 0.47 | 900.00 | |
| 111 Cd | 115 | 2 | 502.50 | 20.10 | ppb | 2.19 | 900.00 | |
| 120 Sn | 115 | 1 | 0.18 | 0.01 | ppb | 101.68 | 900.00 | |
| 121 Sb | 115 | 1 | 499.75 | 19.99 | ppb | 0.92 | 900.00 | |
| 137 Ba | 159 | 1 | 1990.25 | 79.61 | ppb | 3.10 | 900.00 | |
| 205 Tl | 209 | 1 | 489.75 | 19.59 | ppb | 2.27 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 987.25 | 39.49 | ppb | 3.40 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2178138 | 1.28 | 1993708 | 109.3 | 70 - 130 | |
| 45 Sc | 1 | 2510186 | 1.44 | 2491942 | 100.7 | 70 - 130 | |
| 45 Sc | 2 | 364152 | 0.68 | 379286 | 96.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\064SMPL.D\064SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 452420 | 1.64 | 463522 | 97.6 | 70 - | 130 |
| 72 | Ge | 2 | 129457 | 0.48 | 134805 | 96.0 | 70 - | 130 |
| 103 | Rh | 1 | 2132747 | 0.38 | 2265279 | 94.1 | 70 - | 130 |
| 115 | In | 1 | 2303942 | 1.89 | 2375722 | 97.0 | 70 - | 130 |
| 115 | In | 2 | 994076 | 0.64 | 1034376 | 96.1 | 70 - | 130 |
| 159 | Tb | 1 | 2645160 | 1.12 | 2743058 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 2466406 | 2.62 | 2554975 | 96.5 | 70 - | 130 |
| 209 | Bi | 1 | 1486039 | 2.27 | 1599251 | 92.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\065SMPL.D\065SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\065SMPL.D\065SMPL.D#
Date Acquired: Dec 3 2013 08:14 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-S2
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 25.00
Autodil Factor: Undiluted
Final Dil Factor: 25.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 500.00 | 20.00 | ppb | 2.17 | 900.00 | |
| 9 Be | 45 | 2 | 514.50 | 20.58 | ppb | 4.11 | 900.00 | |
| 11 B | 6 | 1 | 24.22 | 0.97 | ppb | 1.05 | 900.00 | |
| 11 B | 45 | 2 | 23.41 | 0.94 | ppb | 25.89 | 900.00 | |
| 23 Na | 45 | 1 | 83250.00 | 3330.00 | ppb | 0.75 | 90000.00 | |
| 23 Na | 45 | 2 | 88850.00 | 3554.00 | ppb | 1.64 | 90000.00 | |
| 24 Mg | 45 | 1 | 27525.00 | 1101.00 | ppb | 0.83 | 90000.00 | |
| 24 Mg | 45 | 2 | 27625.00 | 1105.00 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 2233.50 | 89.34 | ppb | 0.06 | 90000.00 | |
| 27 Al | 45 | 2 | 2053.75 | 82.15 | ppb | 2.43 | 90000.00 | |
| 39 K | 45 | 1 | 28575.00 | 1143.00 | ppb | 0.37 | 90000.00 | |
| 44 Ca | 45 | 1 | 45400.00 | 1816.00 | ppb | 0.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 483.75 | 19.35 | ppb | 0.79 | 900.00 | |
| 51 V | 45 | 2 | 500.50 | 20.02 | ppb | 0.67 | 900.00 | |
| 52 Cr | 45 | 2 | 503.75 | 20.15 | ppb | 1.66 | 900.00 | |
| 55 Mn | 45 | 2 | 2900.00 | 116.00 | ppb | 0.85 | 900.00 | |
| 56 Fe | 45 | 2 | 42975.00 | 1719.00 | ppb | 2.37 | 90000.00 | |
| 59 Co | 45 | 2 | 523.50 | 20.94 | ppb | 0.17 | 900.00 | |
| 60 Ni | 45 | 2 | 513.00 | 20.52 | ppb | 1.13 | 900.00 | |
| 63 Cu | 72 | 2 | 510.25 | 20.41 | ppb | 0.75 | 900.00 | |
| 66 Zn | 72 | 2 | 530.25 | 21.21 | ppb | 0.47 | 900.00 | |
| 75 As | 72 | 2 | 3080.00 | 123.20 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 505.75 | 20.23 | ppb | 1.73 | 900.00 | |
| 88 Sr | 103 | 1 | 757.25 | 30.29 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 3.78 | 0.15 | ppb | 10.48 | 900.00 | |
| 107 Ag | 115 | 1 | 192.83 | 7.71 | ppb | 0.18 | 900.00 | |
| 111 Cd | 115 | 2 | 516.00 | 20.64 | ppb | 3.01 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 122.97 | 900.00 | |
| 121 Sb | 115 | 1 | 495.50 | 19.82 | ppb | 0.93 | 900.00 | |
| 137 Ba | 159 | 1 | 1982.75 | 79.31 | ppb | 0.36 | 900.00 | |
| 205 Tl | 209 | 1 | 477.50 | 19.10 | ppb | 0.82 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1003.25 | 40.13 | ppb | 0.77 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2078266 | 1.78 | 1993708 | 104.2 | 70 - 130 | |
| 45 Sc | 1 | 2608808 | 0.45 | 2491942 | 104.7 | 70 - 130 | |
| 45 Sc | 2 | 365024 | 0.63 | 379286 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\065SMPL.D\065SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 447060 | 1.61 | 463522 | 96.4 | 70 | - | 130 |
| 72 | Ge | 2 | 129681 | 0.22 | 134805 | 96.2 | 70 | - | 130 |
| 103 | Rh | 1 | 2163364 | 0.66 | 2265279 | 95.5 | 70 | - | 130 |
| 115 | In | 1 | 2334194 | 0.30 | 2375722 | 98.3 | 70 | - | 130 |
| 115 | In | 2 | 984685 | 1.75 | 1034376 | 95.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2714969 | 0.40 | 2743058 | 99.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2517971 | 1.16 | 2554975 | 98.6 | 70 | - | 130 |
| 209 | Bi | 1 | 1501918 | 0.39 | 1599251 | 93.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\066SMPL.D\066SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\066SMPL.D\066SMPL.D#
Date Acquired: Dec 3 2013 08:21 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 8.22 | 900.00 | |
| 9 Be | 45 | 2 | 0.02 | 0.02 | ppb | 100.95 | 900.00 | |
| 11 B | 6 | 1 | 0.03 | 0.03 | ppb | 76.78 | 900.00 | |
| 11 B | 45 | 2 | -0.01 | -0.01 | ppb | 131.39 | 900.00 | |
| 23 Na | 45 | 1 | 6.64 | 6.64 | ppb | 7.23 | 90000.00 | |
| 23 Na | 45 | 2 | 15.88 | 15.88 | ppb | 16.68 | 90000.00 | |
| 24 Mg | 45 | 1 | 1.61 | 1.61 | ppb | 13.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.85 | 1.85 | ppb | 10.38 | 90000.00 | |
| 27 Al | 45 | 1 | 0.47 | 0.47 | ppb | 17.34 | 90000.00 | |
| 27 Al | 45 | 2 | 0.46 | 0.46 | ppb | 14.91 | 90000.00 | |
| 39 K | 45 | 1 | -32.13 | -32.13 | ppb | 15.93 | 90000.00 | |
| 44 Ca | 45 | 1 | -10.50 | -10.50 | ppb | 2.91 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 247.39 | 900.00 | |
| 51 V | 45 | 2 | -0.10 | -0.10 | ppb | 18.56 | 900.00 | |
| 52 Cr | 45 | 2 | 0.16 | 0.16 | ppb | 3.59 | 900.00 | |
| 55 Mn | 45 | 2 | 0.12 | 0.12 | ppb | 5.76 | 900.00 | |
| 56 Fe | 45 | 2 | 1.59 | 1.59 | ppb | 5.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 23.82 | 900.00 | |
| 60 Ni | 45 | 2 | 0.89 | 0.89 | ppb | 6.34 | 900.00 | |
| 63 Cu | 72 | 2 | 0.10 | 0.10 | ppb | 8.72 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 147.10 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 52.60 | 900.00 | |
| 78 Se | 72 | 2 | -0.06 | -0.06 | ppb | 104.40 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 10.90 | 900.00 | |
| 98 Mo | 103 | 1 | 0.16 | 0.16 | ppb | 3.83 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 33.66 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 215.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 230.63 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 4.91 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 109.99 | 900.00 | |
| 205 Tl | 209 | 1 | 0.14 | 0.14 | ppb | 1.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 20.42 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2175413 | 5.15 | 1993708 | 109.1 | 70 - 130 | |
| 45 Sc | 1 | 2696073 | 3.90 | 2491942 | 108.2 | 70 - 130 | |
| 45 Sc | 2 | 362911 | 2.73 | 379286 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\066SMPL.D\066SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450263 | 1.90 | 463522 | 97.1 | 70 | - | 130 |
| 72 Ge | 2 | 131287 | 1.65 | 134805 | 97.4 | 70 | - | 130 |
| 103 Rh | 1 | 2023091 | 6.04 | 2265279 | 89.3 | 70 | - | 130 |
| 115 In | 1 | 2325694 | 4.54 | 2375722 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 1010845 | 3.73 | 1034376 | 97.7 | 70 | - | 130 |
| 159 Tb | 1 | 2768641 | 1.69 | 2743058 | 100.9 | 70 | - | 130 |
| 175 Lu | 1 | 2516506 | 0.94 | 2554975 | 98.5 | 70 | - | 130 |
| 209 Bi | 1 | 1556447 | 3.19 | 1599251 | 97.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\067SMPL.D\067SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\067SMPL.D\067SMPL.D#
Date Acquired: Dec 3 2013 08:29 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.51 | 0.51 | ppb | 6.50 | 900.00 | |
| 9 Be | 45 | 2 | 0.60 | 0.60 | ppb | 19.78 | 900.00 | |
| 11 B | 6 | 1 | 5.51 | 5.51 | ppb | 3.49 | 900.00 | |
| 11 B | 45 | 2 | 5.22 | 5.22 | ppb | 14.62 | 900.00 | |
| 23 Na | 45 | 1 | 288.40 | 288.40 | ppb | 11.44 | 90000.00 | |
| 23 Na | 45 | 2 | 308.30 | 308.30 | ppb | 0.80 | 90000.00 | |
| 24 Mg | 45 | 1 | 279.20 | 279.20 | ppb | 8.03 | 90000.00 | |
| 24 Mg | 45 | 2 | 272.20 | 272.20 | ppb | 2.98 | 90000.00 | |
| 27 Al | 45 | 1 | 33.49 | 33.49 | ppb | 19.41 | 90000.00 | |
| 27 Al | 45 | 2 | 26.40 | 26.40 | ppb | 6.72 | 90000.00 | |
| 39 K | 45 | 1 | 231.30 | 231.30 | ppb | 5.28 | 90000.00 | |
| 44 Ca | 45 | 1 | 287.90 | 287.90 | ppb | 12.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.15 | 1.15 | ppb | 11.58 | 900.00 | |
| 51 V | 45 | 2 | 0.89 | 0.89 | ppb | 0.96 | 900.00 | |
| 52 Cr | 45 | 2 | 1.12 | 1.12 | ppb | 0.63 | 900.00 | |
| 55 Mn | 45 | 2 | 1.35 | 1.35 | ppb | 17.86 | 900.00 | |
| 56 Fe | 45 | 2 | 33.23 | 33.23 | ppb | 11.49 | 90000.00 | |
| 59 Co | 45 | 2 | 0.53 | 0.53 | ppb | 1.83 | 900.00 | |
| 60 Ni | 45 | 2 | 1.75 | 1.75 | ppb | 1.54 | 900.00 | |
| 63 Cu | 72 | 2 | 1.11 | 1.11 | ppb | 2.64 | 900.00 | |
| 66 Zn | 72 | 2 | 2.05 | 2.05 | ppb | 2.02 | 900.00 | |
| 75 As | 72 | 2 | 0.60 | 0.60 | ppb | 10.67 | 900.00 | |
| 78 Se | 72 | 2 | 0.46 | 0.46 | ppb | 42.45 | 900.00 | |
| 88 Sr | 103 | 1 | 5.43 | 5.43 | ppb | 5.59 | 900.00 | |
| 98 Mo | 103 | 1 | 1.25 | 1.25 | ppb | 11.48 | 900.00 | |
| 107 Ag | 115 | 1 | 0.51 | 0.51 | ppb | 3.74 | 900.00 | |
| 111 Cd | 115 | 2 | 0.49 | 0.49 | ppb | 5.99 | 900.00 | |
| 120 Sn | 115 | 1 | 4.93 | 4.93 | ppb | 2.17 | 900.00 | |
| 121 Sb | 115 | 1 | 0.52 | 0.52 | ppb | 3.17 | 900.00 | |
| 137 Ba | 159 | 1 | 1.07 | 1.07 | ppb | 3.49 | 900.00 | |
| 205 Tl | 209 | 1 | 0.53 | 0.53 | ppb | 4.67 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.55 | 0.55 | ppb | 5.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2153259 | 1.34 | 1993708 | 108.0 | 70 - 130 | |
| 45 Sc | 1 | 2680013 | 2.10 | 2491942 | 107.5 | 70 - 130 | |
| 45 Sc | 2 | 370836 | 1.19 | 379286 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\067SMPL.D\067SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 460951 | 0.28 | 463522 | 99.4 | 70 | - | 130 |
| 72 | Ge | 2 | 131136 | 0.56 | 134805 | 97.3 | 70 | - | 130 |
| 103 | Rh | 1 | 2222516 | 0.98 | 2265279 | 98.1 | 70 | - | 130 |
| 115 | In | 1 | 2390871 | 1.48 | 2375722 | 100.6 | 70 | - | 130 |
| 115 | In | 2 | 1017433 | 1.97 | 1034376 | 98.4 | 70 | - | 130 |
| 159 | Tb | 1 | 2772793 | 3.69 | 2743058 | 101.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2516375 | 2.87 | 2554975 | 98.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1483884 | 1.42 | 1599251 | 92.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\068SMPL.D\068SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\068SMPL.D\068SMPL.D#
Date Acquired: Dec 3 2013 08:36 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.81 | 49.81 | ppb | 0.71 | 900.00 | |
| 9 Be | 45 | 2 | 52.07 | 52.07 | ppb | 0.84 | 900.00 | |
| 11 B | 6 | 1 | 52.02 | 52.02 | ppb | 1.08 | 900.00 | |
| 11 B | 45 | 2 | 51.71 | 51.71 | ppb | 3.27 | 900.00 | |
| 23 Na | 45 | 1 | 4820.00 | 4820.00 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 5145.00 | 5145.00 | ppb | 1.49 | 90000.00 | |
| 24 Mg | 45 | 1 | 4790.00 | 4790.00 | ppb | 1.16 | 90000.00 | |
| 24 Mg | 45 | 2 | 4635.00 | 4635.00 | ppb | 0.92 | 90000.00 | |
| 27 Al | 45 | 1 | 4803.00 | 4803.00 | ppb | 1.20 | 90000.00 | |
| 27 Al | 45 | 2 | 4342.00 | 4342.00 | ppb | 1.09 | 90000.00 | |
| 39 K | 45 | 1 | 4885.00 | 4885.00 | ppb | 0.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 4933.00 | 4933.00 | ppb | 1.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 46.69 | 46.69 | ppb | 0.39 | 900.00 | |
| 51 V | 45 | 2 | 48.80 | 48.80 | ppb | 0.82 | 900.00 | |
| 52 Cr | 45 | 2 | 49.18 | 49.18 | ppb | 1.39 | 900.00 | |
| 55 Mn | 45 | 2 | 47.62 | 47.62 | ppb | 0.73 | 900.00 | |
| 56 Fe | 45 | 2 | 5058.00 | 5058.00 | ppb | 1.17 | 90000.00 | |
| 59 Co | 45 | 2 | 49.19 | 49.19 | ppb | 1.13 | 900.00 | |
| 60 Ni | 45 | 2 | 49.13 | 49.13 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 47.97 | 47.97 | ppb | 0.20 | 900.00 | |
| 66 Zn | 72 | 2 | 46.65 | 46.65 | ppb | 0.60 | 900.00 | |
| 75 As | 72 | 2 | 48.01 | 48.01 | ppb | 0.39 | 900.00 | |
| 78 Se | 72 | 2 | 47.36 | 47.36 | ppb | 1.62 | 900.00 | |
| 88 Sr | 103 | 1 | 51.61 | 51.61 | ppb | 1.22 | 900.00 | |
| 98 Mo | 103 | 1 | 49.89 | 49.89 | ppb | 0.87 | 900.00 | |
| 107 Ag | 115 | 1 | 48.85 | 48.85 | ppb | 0.66 | 900.00 | |
| 111 Cd | 115 | 2 | 48.51 | 48.51 | ppb | 1.30 | 900.00 | |
| 120 Sn | 115 | 1 | 49.39 | 49.39 | ppb | 0.66 | 900.00 | |
| 121 Sb | 115 | 1 | 48.95 | 48.95 | ppb | 0.73 | 900.00 | |
| 137 Ba | 159 | 1 | 47.83 | 47.83 | ppb | 0.62 | 900.00 | |
| 205 Tl | 209 | 1 | 47.08 | 47.08 | ppb | 0.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 49.08 | 49.08 | ppb | 0.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2040716 | 1.18 | 1993708 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2604096 | 0.44 | 2491942 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 357380 | 1.06 | 379286 | 94.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\068SMPL.D\068SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 438394 | 0.82 | 463522 | 94.6 | 70 | - | 130 |
| 72 Ge | 2 | 127102 | 0.21 | 134805 | 94.3 | 70 | - | 130 |
| 103 Rh | 1 | 2112031 | 0.59 | 2265279 | 93.2 | 70 | - | 130 |
| 115 In | 1 | 2259016 | 0.29 | 2375722 | 95.1 | 70 | - | 130 |
| 115 In | 2 | 967944 | 0.54 | 1034376 | 93.6 | 70 | - | 130 |
| 159 Tb | 1 | 2662839 | 0.12 | 2743058 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2488922 | 0.43 | 2554975 | 97.4 | 70 | - | 130 |
| 209 Bi | 1 | 1445453 | 0.70 | 1599251 | 90.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\069SMPL.D\069SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\069SMPL.D\069SMPL.D#
Date Acquired: Dec 3 2013 08:43 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.02 | ppb | 32.24 | 900.00 | |
| 9 Be | 45 | 2 | 0.03 | 0.03 | ppb | 33.06 | 900.00 | |
| 11 B | 6 | 1 | 0.35 | 0.35 | ppb | 24.18 | 900.00 | |
| 11 B | 45 | 2 | 0.23 | 0.23 | ppb | 39.22 | 900.00 | |
| 23 Na | 45 | 1 | 23.09 | 23.09 | ppb | 38.42 | 90000.00 | |
| 23 Na | 45 | 2 | 11.81 | 11.81 | ppb | 3.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 15.77 | 15.77 | ppb | 33.79 | 90000.00 | |
| 24 Mg | 45 | 2 | 2.01 | 2.01 | ppb | 4.17 | 90000.00 | |
| 27 Al | 45 | 1 | 4.47 | 4.47 | ppb | 31.96 | 90000.00 | |
| 27 Al | 45 | 2 | 0.53 | 0.53 | ppb | 6.45 | 90000.00 | |
| 39 K | 45 | 1 | -27.99 | -27.99 | ppb | 26.46 | 90000.00 | |
| 44 Ca | 45 | 1 | 7.87 | 7.87 | ppb | 103.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.07 | 0.07 | ppb | 33.77 | 900.00 | |
| 51 V | 45 | 2 | -0.09 | -0.09 | ppb | 30.65 | 900.00 | |
| 52 Cr | 45 | 2 | 0.17 | 0.17 | ppb | 1.19 | 900.00 | |
| 55 Mn | 45 | 2 | 0.11 | 0.11 | ppb | 2.37 | 900.00 | |
| 56 Fe | 45 | 2 | 1.31 | 1.31 | ppb | 13.84 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 7.37 | 900.00 | |
| 60 Ni | 45 | 2 | 0.81 | 0.81 | ppb | 5.25 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.09 | ppb | 5.28 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 85.40 | 900.00 | |
| 75 As | 72 | 2 | 0.03 | 0.03 | ppb | 29.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.09 | 0.09 | ppb | 83.63 | 900.00 | |
| 88 Sr | 103 | 1 | 0.11 | 0.11 | ppb | 37.52 | 900.00 | |
| 98 Mo | 103 | 1 | 0.34 | 0.34 | ppb | 6.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.01 | 0.01 | ppb | 6.85 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 97.12 | 900.00 | |
| 120 Sn | 115 | 1 | 0.04 | 0.04 | ppb | 13.16 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.02 | ppb | 9.06 | 900.00 | |
| 137 Ba | 159 | 1 | 0.03 | 0.03 | ppb | 23.05 | 900.00 | |
| 205 Tl | 209 | 1 | 0.25 | 0.25 | ppb | 8.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.02 | 0.02 | ppb | 14.60 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2219784 | 8.05 | 1993708 | 111.3 | 70 - 130 | |
| 45 Sc | 1 | 2689376 | 5.67 | 2491942 | 107.9 | 70 - 130 | |
| 45 Sc | 2 | 367633 | 0.47 | 379286 | 96.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\069SMPL.D\069SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 451248 | 2.93 | 463522 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 130285 | 0.88 | 134805 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 2283374 | 4.55 | 2265279 | 100.8 | 70 | - | 130 |
| 115 In | 1 | 2309634 | 4.68 | 2375722 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 1003630 | 3.18 | 1034376 | 97.0 | 70 | - | 130 |
| 159 Tb | 1 | 2608920 | 5.40 | 2743058 | 95.1 | 70 | - | 130 |
| 175 Lu | 1 | 2447462 | 4.11 | 2554975 | 95.8 | 70 | - | 130 |
| 209 Bi | 1 | 1491026 | 3.04 | 1599251 | 93.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

7.1

7

C:\ICPCHEM\1\DATA\13L03l00.B\070SMPL.D\070SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\070SMPL.D\070SMPL.D#
Date Acquired: Dec 3 2013 08:50 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.50 | 0.50 | ppb | 5.81 | 900.00 | |
| 9 Be | 45 | 2 | 0.47 | 0.47 | ppb | 8.26 | 900.00 | |
| 11 B | 6 | 1 | 5.32 | 5.32 | ppb | 8.85 | 900.00 | |
| 11 B | 45 | 2 | 5.12 | 5.12 | ppb | 2.81 | 900.00 | |
| 23 Na | 45 | 1 | 263.00 | 263.00 | ppb | 3.76 | 90000.00 | |
| 23 Na | 45 | 2 | 301.90 | 301.90 | ppb | 1.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 262.00 | 262.00 | ppb | 5.32 | 90000.00 | |
| 24 Mg | 45 | 2 | 271.50 | 271.50 | ppb | 4.33 | 90000.00 | |
| 27 Al | 45 | 1 | 27.90 | 27.90 | ppb | 8.16 | 90000.00 | |
| 27 Al | 45 | 2 | 25.40 | 25.40 | ppb | 0.43 | 90000.00 | |
| 39 K | 45 | 1 | 229.00 | 229.00 | ppb | 9.31 | 90000.00 | |
| 44 Ca | 45 | 1 | 259.60 | 259.60 | ppb | 2.07 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 1.04 | ppb | 3.88 | 900.00 | |
| 51 V | 45 | 2 | 0.91 | 0.91 | ppb | 0.74 | 900.00 | |
| 52 Cr | 45 | 2 | 1.19 | 1.19 | ppb | 2.18 | 900.00 | |
| 55 Mn | 45 | 2 | 1.15 | 1.15 | ppb | 5.93 | 900.00 | |
| 56 Fe | 45 | 2 | 30.29 | 30.29 | ppb | 2.93 | 90000.00 | |
| 59 Co | 45 | 2 | 0.52 | 0.52 | ppb | 1.27 | 900.00 | |
| 60 Ni | 45 | 2 | 2.02 | 2.02 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 1.11 | 1.11 | ppb | 2.18 | 900.00 | |
| 66 Zn | 72 | 2 | 1.98 | 1.98 | ppb | 1.48 | 900.00 | |
| 75 As | 72 | 2 | 0.52 | 0.52 | ppb | 4.31 | 900.00 | |
| 78 Se | 72 | 2 | 0.50 | 0.50 | ppb | 25.26 | 900.00 | |
| 88 Sr | 103 | 1 | 5.16 | 5.16 | ppb | 2.14 | 900.00 | |
| 98 Mo | 103 | 1 | 1.18 | 1.18 | ppb | 3.31 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 4.99 | 900.00 | |
| 111 Cd | 115 | 2 | 0.50 | 0.50 | ppb | 14.40 | 900.00 | |
| 120 Sn | 115 | 1 | 4.98 | 4.98 | ppb | 0.72 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 4.18 | 900.00 | |
| 137 Ba | 159 | 1 | 1.00 | 1.00 | ppb | 10.90 | 900.00 | |
| 205 Tl | 209 | 1 | 0.54 | 0.54 | ppb | 1.17 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.52 | 0.52 | ppb | 4.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2143780 | 3.50 | 1993708 | 107.5 | 70 - 130 | |
| 45 Sc | 1 | 2588295 | 4.65 | 2491942 | 103.9 | 70 - 130 | |
| 45 Sc | 2 | 365041 | 0.36 | 379286 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\070SMPL.D\070SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456715 | 4.72 | 463522 | 98.5 | 70 | - | 130 |
| 72 Ge | 2 | 130496 | 0.86 | 134805 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 2226183 | 1.33 | 2265279 | 98.3 | 70 | - | 130 |
| 115 In | 1 | 2344657 | 0.48 | 2375722 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 990823 | 2.29 | 1034376 | 95.8 | 70 | - | 130 |
| 159 Tb | 1 | 2663984 | 3.59 | 2743058 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2461943 | 3.02 | 2554975 | 96.4 | 70 | - | 130 |
| 209 Bi | 1 | 1459064 | 3.10 | 1599251 | 91.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\071SMPL.D\071SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\071SMPL.D\071SMPL.D#
Date Acquired: Dec 3 2013 08:57 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.96 | 50.96 | ppb | 0.20 | 900.00 | |
| 9 Be | 45 | 2 | 53.64 | 53.64 | ppb | 2.91 | 900.00 | |
| 11 B | 6 | 1 | 52.61 | 52.61 | ppb | 2.05 | 900.00 | |
| 11 B | 45 | 2 | 50.11 | 50.11 | ppb | 2.51 | 900.00 | |
| 23 Na | 45 | 1 | 4682.00 | 4682.00 | ppb | 1.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5071.00 | 5071.00 | ppb | 1.77 | 90000.00 | |
| 24 Mg | 45 | 1 | 4680.00 | 4680.00 | ppb | 0.74 | 90000.00 | |
| 24 Mg | 45 | 2 | 4603.00 | 4603.00 | ppb | 1.22 | 90000.00 | |
| 27 Al | 45 | 1 | 4698.00 | 4698.00 | ppb | 0.31 | 90000.00 | |
| 27 Al | 45 | 2 | 4327.00 | 4327.00 | ppb | 4.56 | 90000.00 | |
| 39 K | 45 | 1 | 4796.00 | 4796.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 4924.00 | 4924.00 | ppb | 0.68 | 90000.00 | |
| 47 Ti | 45 | 1 | 47.09 | 47.09 | ppb | 0.87 | 900.00 | |
| 51 V | 45 | 2 | 49.15 | 49.15 | ppb | 3.01 | 900.00 | |
| 52 Cr | 45 | 2 | 48.01 | 48.01 | ppb | 2.91 | 900.00 | |
| 55 Mn | 45 | 2 | 47.90 | 47.90 | ppb | 4.11 | 900.00 | |
| 56 Fe | 45 | 2 | 5072.00 | 5072.00 | ppb | 2.71 | 90000.00 | |
| 59 Co | 45 | 2 | 48.11 | 48.11 | ppb | 2.90 | 900.00 | |
| 60 Ni | 45 | 2 | 49.29 | 49.29 | ppb | 2.68 | 900.00 | |
| 63 Cu | 72 | 2 | 47.40 | 47.40 | ppb | 2.15 | 900.00 | |
| 66 Zn | 72 | 2 | 46.74 | 46.74 | ppb | 0.88 | 900.00 | |
| 75 As | 72 | 2 | 48.12 | 48.12 | ppb | 1.09 | 900.00 | |
| 78 Se | 72 | 2 | 47.83 | 47.83 | ppb | 0.95 | 900.00 | |
| 88 Sr | 103 | 1 | 50.93 | 50.93 | ppb | 1.87 | 900.00 | |
| 98 Mo | 103 | 1 | 49.61 | 49.61 | ppb | 1.23 | 900.00 | |
| 107 Ag | 115 | 1 | 48.82 | 48.82 | ppb | 1.07 | 900.00 | |
| 111 Cd | 115 | 2 | 49.67 | 49.67 | ppb | 3.27 | 900.00 | |
| 120 Sn | 115 | 1 | 49.84 | 49.84 | ppb | 0.54 | 900.00 | |
| 121 Sb | 115 | 1 | 48.71 | 48.71 | ppb | 0.85 | 900.00 | |
| 137 Ba | 159 | 1 | 48.06 | 48.06 | ppb | 1.39 | 900.00 | |
| 205 Tl | 209 | 1 | 46.52 | 46.52 | ppb | 1.26 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.30 | 48.30 | ppb | 0.87 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2049600 | 1.22 | 1993708 | 102.8 | 70 - 130 | |
| 45 Sc | 1 | 2654577 | 0.32 | 2491942 | 106.5 | 70 - 130 | |
| 45 Sc | 2 | 364985 | 0.67 | 379286 | 96.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\071SMPL.D\071SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 439393 | 1.74 | 463522 | 94.8 | 70 | - | 130 |
| 72 Ge | 2 | 129117 | 0.02 | 134805 | 95.8 | 70 | - | 130 |
| 103 Rh | 1 | 2141425 | 0.73 | 2265279 | 94.5 | 70 | - | 130 |
| 115 In | 1 | 2248300 | 1.11 | 2375722 | 94.6 | 70 | - | 130 |
| 115 In | 2 | 949476 | 2.56 | 1034376 | 91.8 | 70 | - | 130 |
| 159 Tb | 1 | 2656829 | 0.71 | 2743058 | 96.9 | 70 | - | 130 |
| 175 Lu | 1 | 2465500 | 0.98 | 2554975 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 1438653 | 0.31 | 1599251 | 90.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L03l00.B\072SMPL.D\072SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L03l00.B\072SMPL.D\072SMPL.D#
Date Acquired: Dec 3 2013 09:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 03 2013 12:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 61.62 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 86.73 | 900.00 | |
| 11 B | 6 | 1 | 0.41 | 0.41 | ppb | 12.99 | 900.00 | |
| 11 B | 45 | 2 | 0.31 | 0.31 | ppb | 46.76 | 900.00 | |
| 23 Na | 45 | 1 | 4.87 | 4.87 | ppb | 15.88 | 90000.00 | |
| 23 Na | 45 | 2 | 25.85 | 25.85 | ppb | 60.93 | 90000.00 | |
| 24 Mg | 45 | 1 | 2.74 | 2.74 | ppb | 4.23 | 90000.00 | |
| 24 Mg | 45 | 2 | 12.67 | 12.67 | ppb | 91.95 | 90000.00 | |
| 27 Al | 45 | 1 | 1.02 | 1.02 | ppb | 5.00 | 90000.00 | |
| 27 Al | 45 | 2 | 3.03 | 3.03 | ppb | 85.09 | 90000.00 | |
| 39 K | 45 | 1 | -30.31 | -30.31 | ppb | 13.18 | 90000.00 | |
| 44 Ca | 45 | 1 | -8.37 | -8.37 | ppb | 8.11 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.03 | 0.03 | ppb | 50.95 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 42.39 | 900.00 | |
| 52 Cr | 45 | 2 | 0.18 | 0.18 | ppb | 11.84 | 900.00 | |
| 55 Mn | 45 | 2 | 0.45 | 0.45 | ppb | 75.85 | 900.00 | |
| 56 Fe | 45 | 2 | 7.20 | 7.20 | ppb | 95.83 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 94.26 | 900.00 | |
| 60 Ni | 45 | 2 | 0.84 | 0.84 | ppb | 8.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.10 | 0.10 | ppb | 26.05 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 59.35 | 900.00 | |
| 75 As | 72 | 2 | 0.14 | 0.14 | ppb | 96.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.15 | 0.15 | ppb | 20.49 | 900.00 | |
| 88 Sr | 103 | 1 | 0.02 | 0.02 | ppb | 13.15 | 900.00 | |
| 98 Mo | 103 | 1 | 0.32 | 0.32 | ppb | 13.57 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 15.57 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 108.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 19.19 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 12.11 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 32.86 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 2.47 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.01 | 0.01 | ppb | 2.07 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2136920 | 2.77 | 1993708 | 107.2 | 70 - 130 | |
| 45 Sc | 1 | 2622820 | 2.90 | 2491942 | 105.3 | 70 - 130 | |
| 45 Sc | 2 | 382612 | 3.85 | 379286 | 100.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L03l00.B\072SMPL.D\072SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 452992 | 2.00 | 463522 | 97.7 | 70 | - | 130 |
| 72 | Ge | 2 | 132006 | 2.52 | 134805 | 97.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2207299 | 1.66 | 2265279 | 97.4 | 70 | - | 130 |
| 115 | In | 1 | 2332922 | 2.05 | 2375722 | 98.2 | 70 | - | 130 |
| 115 | In | 2 | 1087704 | 13.38 | 1034376 | 105.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2689862 | 2.87 | 2743058 | 98.1 | 70 | - | 130 |
| 175 | Lu | 1 | 2477965 | 2.35 | 2554975 | 97.0 | 70 | - | 130 |
| 209 | Bi | 1 | 1470622 | 1.12 | 1599251 | 92.0 | 70 | - | 130 |

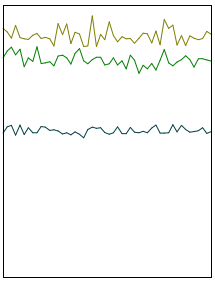
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L03l00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

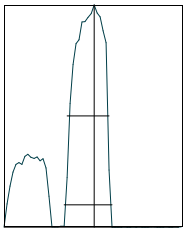
# Tune Report

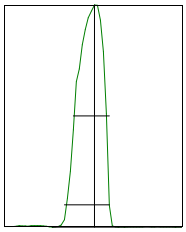
Tune File : nogas.u
Comment : 120313

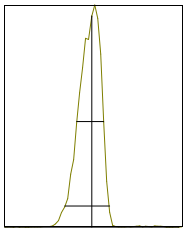


| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2678.0 | 2695.9 | 2.19 | 2.70 |
| 89 | 5,000 | 3981.0 | 3999.5 | 2.74 | 3.00 |
| 205 | 2,000 | 1789.0 | 1778.1 | 3.02 | 8.50 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.230%
Doubly Charged: 70/140 12.777%







| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,723 | 4,152 | 1,803 |
| Axis: | 7.05 | 89.05 | 205.00 |
| W-50%: | 0.70 | 0.60 | 0.45 |
| W-10%: | 0.800 | 0.7500 | 0.7500 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 120 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 120 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9972 |
| Torch-H | : | -0.1 mm | Omega Lens-ce | : | -0.4 V | Axis Offset | : | 0 |
| Torch-V | : | 0.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 717.2 | 4.64 |
| 59 | 1157.9 | 3.97 |
| 89 | 1314.7 | 3.55 |

Integration Time: 0.1000sec



Generated : Dec 03, 2013 09:49:25
Printed : Dec 03, 2013 09:50:16

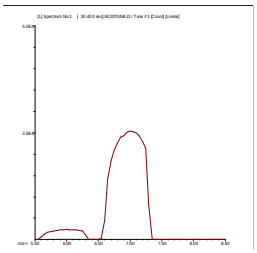
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Dec 3 2013 10:04 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

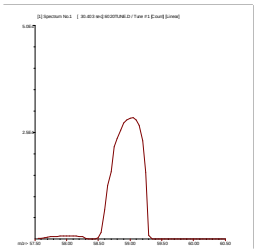
**QC Tune Summary:**
**Pass**

**RSD%**

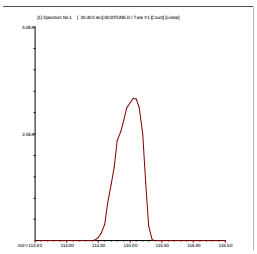
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.49 | 5.00 | 0 |
| 59 Co | 0.90 | 5.00 | |
| 115 In | 1.00 | 5.00 | |
| 205 Tl | 1.48 | 5.00 | |



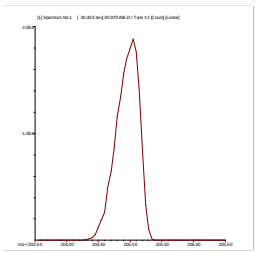
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

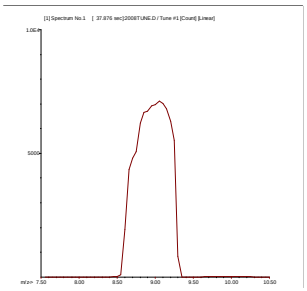
# 200.8 QC Tune Report

**Data File:** C:\ICPCHEM\1\DATA\13L03k00.B\2008TUNE.D
**Date Acquired:** Dec 3 2013 10:10 am
**Acq. Method:** TN200_8.M
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1307
**Current Method:** C:\ICPCHEM\1\METHODS\TN200_8.M

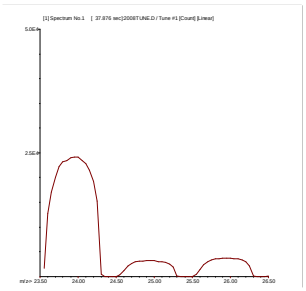


**RSD (%)**

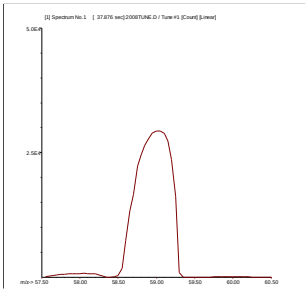
| Element | CPS Mean | Rep1 | Rep2 | Rep3 | Rep4 | Rep5 | %RSD | Required | Flag |
|---|---|---|---|---|---|---|---|---|---|
| 9 Be | 41608 | 40682 | 41562 | 41896 | 41799 | 42098 | **1.62** | 5.00 | |
| 24 Mg | 147504 | 148481 | 147132 | 146800 | 147978 | 147129 | **0.66** | 5.00 | |
| 59 Co | 162271 | 161509 | 161635 | 163354 | 162653 | 162202 | **0.71** | 5.00 | |
| 115 In | 168821 | 166966 | 167791 | 169827 | 169373 | 170147 | **0.65** | 5.00 | |
| 208 Pb | 61920 | 61659 | 61823 | 61502 | 61979 | 62634 | **0.98** | 5.00 | |



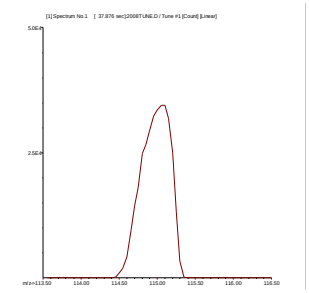
**9 Be**
**Mass Calib.**
Actual: 9.05
Required:8.90 - 9.10
Flag:
**Peak Width**
Actual: 0.70
Required:1.00
Flag:



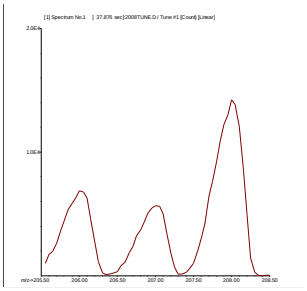
**24 Mg**
**Mass Calib.**
Actual: 23.95
Required:23.90 - 24.10
Flag:
**Peak Width**
Actual: 0.65
Required:1.00
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.70
Required: 1.00
Flag:



**208 Pb**
**Mass Calib.**
Actual: 208.00
Required: 207.90 - 208.10
Flag:
**Peak Width**
Actual: 0.65
Required: 1.00
Flag:

**Tune Result:** Pass

Last Calib: Dec 04, 2013 04:12 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

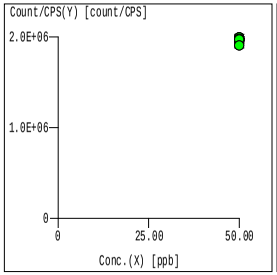
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

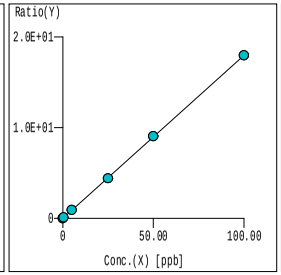
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13l03l00.b\002calb.d\002calb.d# | STDA | Dec 3 2013 11:50 am |
| 2 | c:\icpchem\1\data\13l03l00.b\003cals.d\003cals.d# | STDB | Dec 3 2013 11:57 am |
| 3 | c:\icpchem\1\data\13l03l00.b\004cals.d\004cals.d# | STDC | Dec 3 2013 12:05 pm |
| 4 | c:\icpchem\1\data\13l03l00.b\005cals.d\005cals.d# | STDD | Dec 3 2013 12:12 pm |
| 5 | c:\icpchem\1\data\13l03l00.b\006cals.d\006cals.d# | STDE | Dec 3 2013 12:19 pm |
| 6 | c:\icpchem\1\data\13l03l00.b\007cals.d\007cals.d# | STDF | Dec 3 2013 12:26 pm |
| 7 | c:\icpchem\1\data\13l03l00.b\008cals.d\008cals.d# | STDG | Dec 3 2013 12:33 pm |
| 8 | c:\icpchem\1\data\13l03l00.b\009cals.d\009cals.d# | STDH | Dec 3 2013 12:40 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

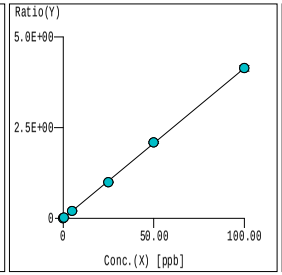
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

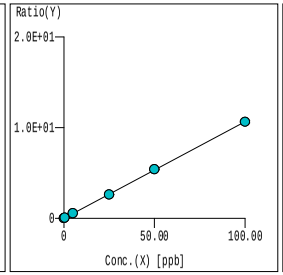
=== Graph Summary ===
Page: 1/4

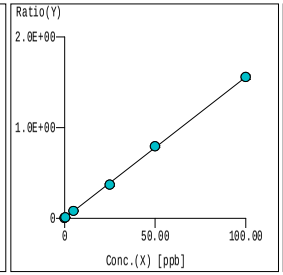
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 1.0000 | 0.9999 | 1.0000 | 0.9998 | 1.0000 |
| < DL > | --- ppb | 3.426E-03 ppb | --- ppb | 3.475E-02 ppb | 8.354E-02 ppb | 7.806E-01 ppb |
| < BEC > | --- ppb | 1.692E-03 ppb | 0.000 ppb | 1.225E-01 ppb | 1.413E-01 ppb | 15.31 ppb |

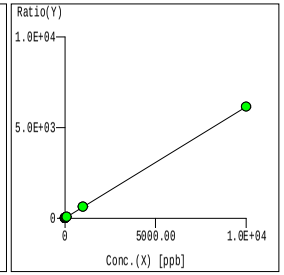


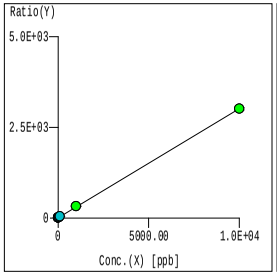



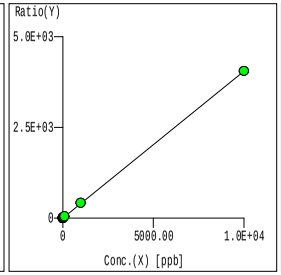



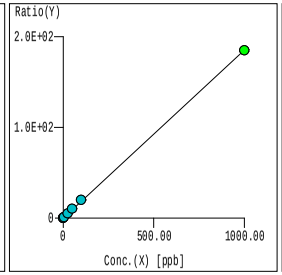



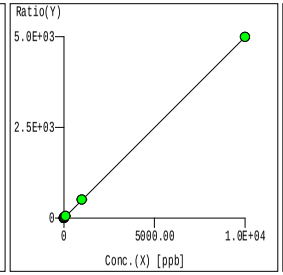



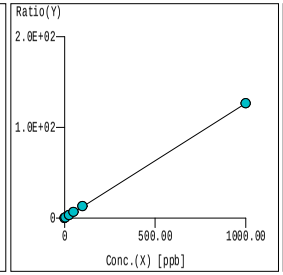

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 1.752 ppb | 4.610E-02 ppb | 1.907E-01 ppb | 1.770E-03 ppb | 1.057E-01 ppb | 5.977 ppb |
| < BEC > | 38.05 ppb | 3.798E-01 ppb | 3.373E-01 ppb | 2.719E-01 ppb | 2.860E-01 ppb | 171.9 ppb |

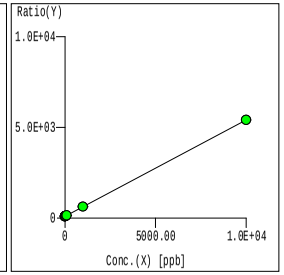


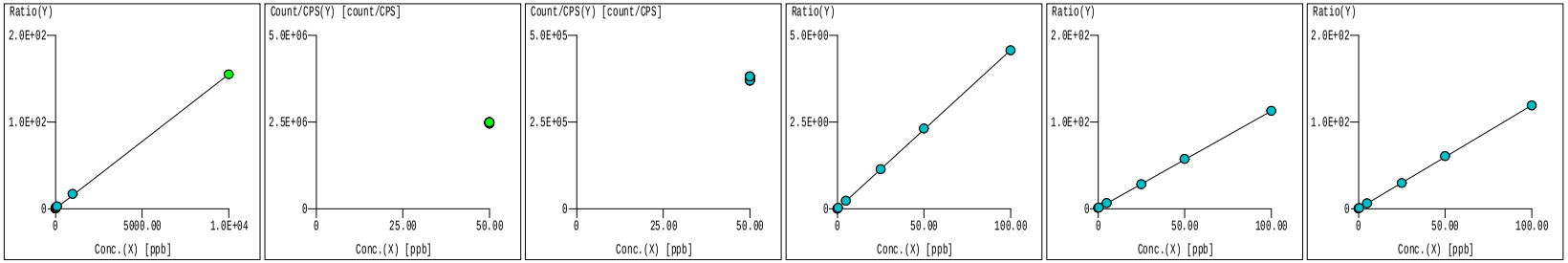



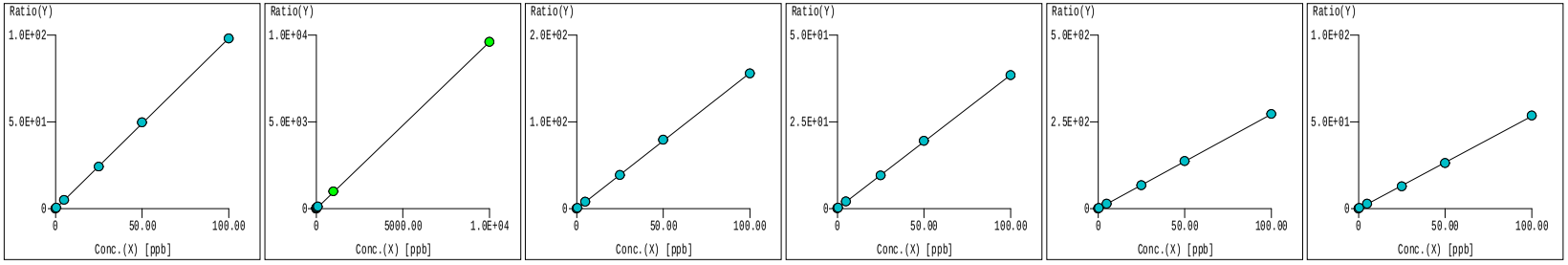
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 8.020E-01 ppb | --- ppb | --- ppb | 3.027E-02 ppb | 1.673E-02 ppb | 4.779E-02 ppb |
| < BEC > | 25.90 ppb | --- ppb | --- ppb | 5.271E-02 ppb | 6.993E-01 ppb | 1.691E-01 ppb |




| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| < DL > | 1.004E-02 ppb | 7.408E-01 ppb | 5.497E-04 ppb | 1.832E-02 ppb | 1.285E-02 ppb | 1.097E-02 ppb |
| < BEC > | 2.168E-02 ppb | 3.429 ppb | 1.201E-03 ppb | 1.999E-01 ppb | 7.031E-02 ppb | 7.975E-02 ppb |







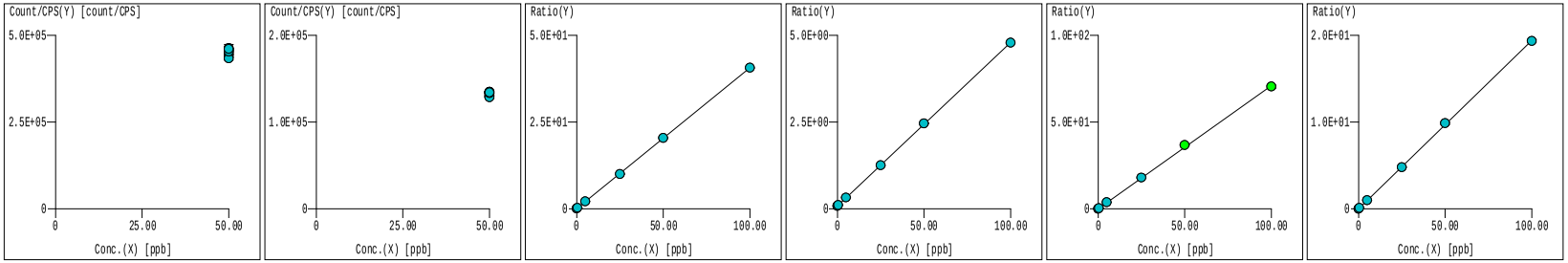



MC26484

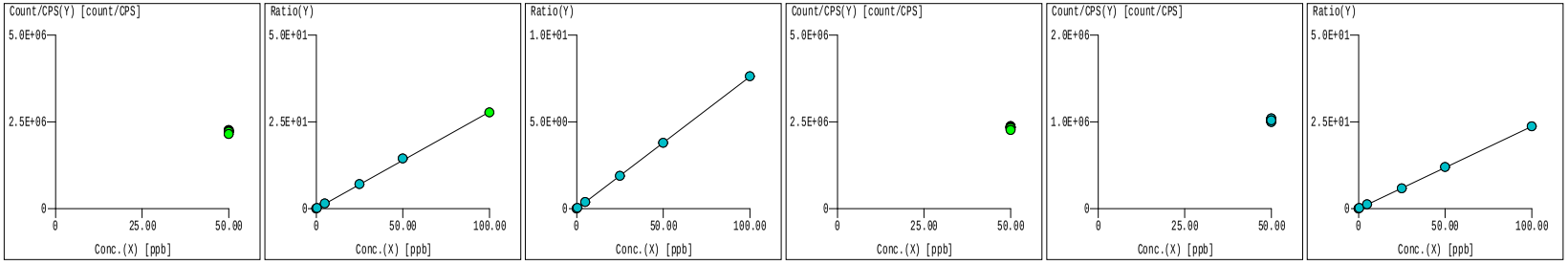
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 1.0000 | 1.0000 | 0.9998 | 0.9999 |
| < DL > | --- ppb | --- ppb | 4.818E-03 ppb | 1.522E-01 ppb | 1.525E-03 ppb | 4.921E-03 ppb |
| < BEC > | --- ppb | --- ppb | 1.786E-01 ppb | 1.758 ppb | 1.056E-02 ppb | 3.059E-02 ppb |



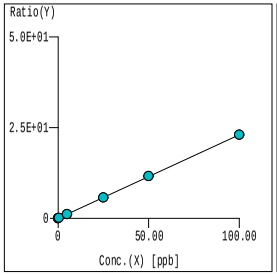

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9998 | 1.0000 | 0.0000 | 0.0000 | 1.0000 |
| < DL > | --- ppb | 2.911E-03 ppb | 6.353E-03 ppb | --- ppb | --- ppb | 3.091E-03 ppb |
| < BEC > | --- ppb | 2.839E-03 ppb | 2.119E-03 ppb | --- ppb | --- ppb | 8.572E-03 ppb |

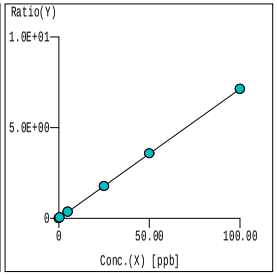


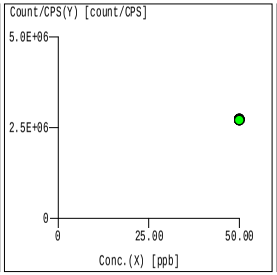
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

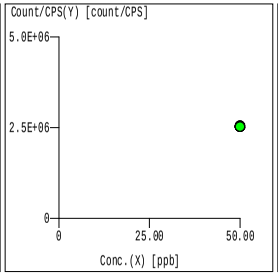
=== Graph Summary ===
Page: 4/4

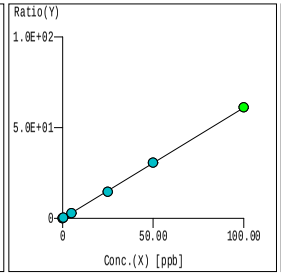
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 1.0000 |
| < DL > | 8.205E-04 ppb | 4.510E-02 ppb | --- ppb | --- ppb | 3.172E-03 ppb | --- ppb |
| < BEC > | 3.039E-03 ppb | 8.784E-02 ppb | --- ppb | --- ppb | 1.554E-02 ppb | --- ppb |

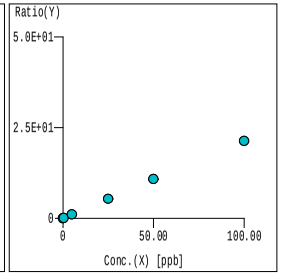




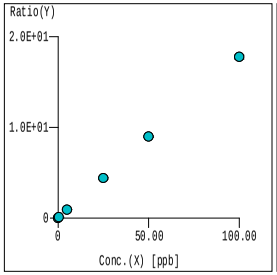


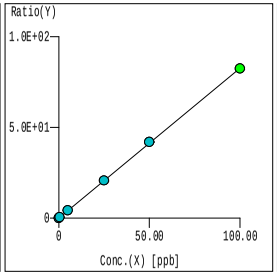


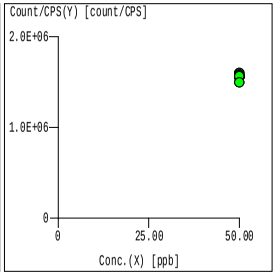





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 0.0000 |
| < DL > | --- ppb | 3.400E-03 ppb | --- ppb |
| < BEC > | --- ppb | 3.505E-02 ppb | --- ppb |







C:\ICPCHEM\1\DATA\13L04n00.B\001CALB.D\001CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\001CAL
Date Acquired: Dec 4 2013 01:38 pm
Operator: METALS
Sample Name: BLK
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:19 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2054691.00 | A | 4769.00 | 0.23 |
| 7 | (Li) | | P | | |
| 9 | Be | 75.56 | P | 20.37 | 26.96 |
| 9 | Be | 1.11 | P | 1.93 | 173.24 |
| 11 | B | 745.60 | P | 57.96 | 7.77 |
| 11 | B | 16.67 | P | 3.33 | 20.00 |
| 23 | Na | 485343.69 | P | 9703.00 | 2.00 |
| 23 | Na | 85533.64 | P | 887.70 | 1.04 |
| 24 | Mg | 24100.28 | P | 544.10 | 2.26 |
| 24 | Mg | 1402.33 | P | 76.92 | 5.49 |
| 27 | Al | 20120.55 | P | 12.55 | 0.06 |
| 27 | Al | 551.15 | P | 42.21 | 7.66 |
| 39 | K | 4055727.00 | A | 14540.00 | 0.36 |
| 44 | Ca | 15909.80 | P | 703.80 | 4.42 |
| 45 | Sc | 2602342.00 | A | 37690.00 | 1.45 |
| 45 | Sc | 364115.19 | P | 1720.00 | 0.47 |
| 47 | Ti | 128.89 | P | 16.44 | 12.76 |
| 51 | V | 4285.98 | P | 58.58 | 1.37 |
| 52 | Cr | 2777.62 | P | 99.64 | 3.59 |
| 55 | Mn | 639.13 | P | 26.68 | 4.17 |
| 56 | Fe | 26691.79 | P | 263.50 | 0.99 |
| 59 | Co | 52.45 | P | 4.68 | 8.93 |
| 60 | Ni | 2673.61 | P | 24.91 | 0.93 |
| 63 | Cu | 954.27 | P | 63.34 | 6.64 |
| 66 | Zn | 144.67 | P | 8.35 | 5.77 |
| 72 | Ge | 465240.69 | P | 3326.00 | 0.71 |
| 72 | Ge | 130007.00 | P | 310.90 | 0.24 |
| 75 | As | 182.45 | P | 7.00 | 3.84 |
| 78 | Se | 218.23 | P | 16.06 | 7.36 |
| 88 | Sr | 403.35 | P | 20.28 | 5.03 |
| 98 | Mo | 1693.50 | P | 29.06 | 1.72 |
| 103 | Rh | 2247443.00 | A | 8639.00 | 0.38 |
| 107 | Ag | 115.56 | P | 22.69 | 19.64 |

C:\ICPCHEM\1\DATA\13L04n00.B\001CALB.D\001CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 12.22 | P | 6.94 | 56.77 |
| 115 | In | 2383577.00 | A | 16350.00 | 0.69 |
| 115 | In | 1012798.00 | P | 5661.00 | 0.56 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 255.57 | P | 18.96 | 7.42 |
| 121 | Sb | 158.90 | P | 28.74 | 18.09 |
| 137 | Ba | 362.24 | P | 61.59 | 17.00 |
| 159 | Tb | 2704792.00 | A | 9208.00 | 0.34 |
| 175 | Lu | 2500323.00 | A | 16180.00 | 0.65 |
| 205 | Tl | 1006.74 | P | 108.70 | 10.80 |
| 206 | (Pb) | 145.56 | P | 30.97 | 21.28 |
| 207 | (Pb) | 134.45 | P | 23.41 | 17.41 |
| 208 | Pb | 1124.52 | P | 120.40 | 10.71 |
| 209 | Bi | 1539322.00 | A | 20690.00 | 1.34 |

C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

# Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\002CAL
Date Acquired: Dec 4 2013 01:45 pm
Operator: METALS
Sample Name: STDA
Misc Info: 0
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:42 pm
Sample Type: CalBlk
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2032921.00 | A | 17090.00 | 0.84 |
| 7 | (Li) | | P | | |
| 9 | Be | 82.23 | P | 26.94 | 32.76 |
| 9 | Be | 3.33 | P | 0.00 | 0.00 |
| 11 | B | 634.48 | P | 56.70 | 8.94 |
| 11 | B | 16.67 | P | 6.67 | 40.00 |
| 23 | Na | 475767.69 | P | 8398.00 | 1.77 |
| 23 | Na | 84676.81 | P | 477.80 | 0.56 |
| 24 | Mg | 26282.78 | P | 84.59 | 0.32 |
| 24 | Mg | 1485.68 | P | 65.35 | 4.40 |
| 27 | Al | 22095.69 | P | 492.30 | 2.23 |
| 27 | Al | 630.04 | P | 44.10 | 7.00 |
| 39 | K | 4071378.00 | A | 29120.00 | 0.72 |
| 44 | Ca | 16176.76 | P | 361.80 | 2.24 |
| 45 | Sc | 2621135.00 | A | 5548.00 | 0.21 |
| 45 | Sc | 361540.59 | P | 3691.00 | 1.02 |
| 47 | Ti | 107.78 | P | 10.18 | 9.45 |
| 51 | V | 4447.37 | P | 59.21 | 1.33 |
| 52 | Cr | 2768.73 | P | 80.78 | 2.92 |
| 55 | Mn | 659.14 | P | 19.06 | 2.89 |
| 56 | Fe | 27101.35 | P | 209.90 | 0.77 |
| 59 | Co | 56.89 | P | 7.81 | 13.73 |
| 60 | Ni | 2774.96 | P | 114.10 | 4.11 |
| 63 | Cu | 983.60 | P | 57.36 | 5.83 |
| 66 | Zn | 145.11 | P | 15.98 | 11.01 |
| 72 | Ge | 465850.00 | P | 5424.00 | 1.16 |
| 72 | Ge | 129632.10 | P | 278.30 | 0.21 |
| 75 | As | 172.00 | P | 15.25 | 8.87 |
| 78 | Se | 201.78 | P | 8.34 | 4.13 |
| 88 | Sr | 390.02 | P | 29.06 | 7.45 |
| 98 | Mo | 1591.26 | P | 130.00 | 8.17 |
| 103 | Rh | 2265009.00 | A | 21140.00 | 0.93 |
| 107 | Ag | 113.34 | P | 8.82 | 7.78 |

C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 8.89 | P | 1.93 | 21.66 |
| 115 | In | 2406660.00 | A | 16720.00 | 0.69 |
| 115 | In | 1007957.00 | P | 8991.00 | 0.89 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 221.12 | P | 9.62 | 4.35 |
| 121 | Sb | 145.56 | P | 17.11 | 11.75 |
| 137 | Ba | 358.91 | P | 35.65 | 9.93 |
| 159 | Tb | 2763118.00 | A | 15040.00 | 0.54 |
| 175 | Lu | 2515951.00 | A | 27220.00 | 1.08 |
| 205 | Tl | 802.28 | P | 52.74 | 6.57 |
| 206 | (Pb) | 162.23 | P | 25.02 | 15.42 |
| 207 | (Pb) | 106.67 | P | 24.04 | 22.54 |
| 208 | Pb | 1221.19 | P | 36.87 | 3.02 |
| 209 | Bi | 1560225.00 | A | 2507.00 | 0.16 |

C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#
Date Acquired: Dec 4 2013 01:52 pm
Operator: METALS
Sample Name: STDB
Misc Info: 0.5 ppb
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:49 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2051357.00 | A | 7536.00 | 0.37 |
| 7 | (Li) | | P | | |
| 9 | Be | 3701.66 | P | 138.90 | 3.75 |
| 9 | Be | 167.78 | P | 28.35 | 16.90 |
| 11 | B | 2691.43 | P | 109.20 | 4.06 |
| 11 | B | 72.22 | P | 21.43 | 29.67 |
| 23 | Na | 503199.00 | P | 9466.00 | 1.88 |
| 23 | Na | 85891.05 | P | 1190.00 | 1.39 |
| 24 | Mg | 23165.49 | P | 231.60 | 1.00 |
| 24 | Mg | 1333.44 | P | 87.63 | 6.57 |
| 27 | Al | 29438.91 | P | 488.10 | 1.66 |
| 27 | Al | 825.61 | P | 50.48 | 6.11 |
| 39 | K | 4059054.00 | A | 36890.00 | 0.91 |
| 44 | Ca | 16848.57 | P | 549.10 | 3.26 |
| 45 | Sc | 2597555.00 | A | 15430.00 | 0.59 |
| 45 | Sc | 357831.81 | P | 4437.00 | 1.24 |
| 47 | Ti | 1265.65 | P | 63.81 | 5.04 |
| 51 | V | 8531.36 | P | 191.10 | 2.24 |
| 52 | Cr | 5345.00 | P | 52.22 | 0.98 |
| 55 | Mn | 3550.23 | P | 84.87 | 2.39 |
| 56 | Fe | 25776.74 | P | 197.50 | 0.77 |
| 59 | Co | 5581.09 | P | 133.60 | 2.39 |
| 60 | Ni | 1928.15 | P | 38.40 | 1.99 |
| 63 | Cu | 3917.00 | P | 15.46 | 0.39 |
| 66 | Zn | 944.48 | P | 7.34 | 0.78 |
| 72 | Ge | 464731.50 | P | 3321.00 | 0.71 |
| 72 | Ge | 128724.40 | P | 1044.00 | 0.81 |
| 75 | As | 682.69 | P | 13.77 | 2.02 |
| 78 | Se | 256.00 | P | 12.98 | 5.07 |
| 88 | Sr | 16459.58 | P | 97.44 | 0.59 |
| 98 | Mo | 4600.88 | P | 219.90 | 4.78 |
| 103 | Rh | 2248748.00 | A | 6288.00 | 0.28 |
| 107 | Ag | 6535.02 | P | 96.88 | 1.48 |

C:\ICPCHEM\1\DATA\13L04n00.B\003CALS.D\003CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 775.60 | P | 25.89 | 3.34 |
| 115 | In | 2377062.00 | A | 30260.00 | 1.27 |
| 115 | In | 1005741.00 | P | 8460.00 | 0.84 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 5657.97 | P | 41.64 | 0.74 |
| 121 | Sb | 5202.22 | P | 58.74 | 1.13 |
| 137 | Ba | 2188.02 | P | 80.32 | 3.67 |
| 159 | Tb | 2722485.00 | A | 36670.00 | 1.35 |
| 175 | Lu | 2499184.00 | A | 6489.00 | 0.26 |
| 205 | Tl | 8400.62 | P | 101.90 | 1.21 |
| 206 | (Pb) | 3353.86 | P | 63.88 | 1.90 |
| 207 | (Pb) | 2844.84 | P | 124.10 | 4.36 |
| 208 | Pb | 13503.09 | P | 20.82 | 0.15 |
| 209 | Bi | 1554686.00 | A | 5172.00 | 0.33 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2051356.60 | 0.37 | 2032921.30 | 100.9 | 70 - 130 | |
| 45 | Sc | 2597555.00 | 0.59 | 2621135.30 | 99.1 | 70 - 130 | |
| 45 | Sc | 357831.84 | 1.24 | 361540.59 | 99.0 | 70 - 130 | |
| 72 | Ge | 464731.50 | 0.71 | 465850.00 | 99.8 | 70 - 130 | |
| 72 | Ge | 128724.46 | 0.81 | 129632.06 | 99.3 | 70 - 130 | |
| 103 | Rh | 2248748.00 | 0.28 | 2265009.30 | 99.3 | 70 - 130 | |
| 115 | In | 2377062.30 | 1.27 | 2406660.30 | 98.8 | 70 - 130 | |
| 115 | In | 1005741.00 | 0.84 | 1007956.90 | 99.8 | 70 - 130 | |
| 159 | Tb | 2722485.30 | 1.35 | 2763118.00 | 98.5 | 70 - 130 | |
| 175 | Lu | 2499183.80 | 0.26 | 2515951.00 | 99.3 | 70 - 130 | |
| 209 | Bi | 1554686.30 | 0.33 | 1560224.80 | 99.6 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#
Date Acquired: Dec 4 2013 01:59 pm
Operator: METALS
Sample Name: STDC
Misc Info: 5 ppb
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 01:56 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2045105.00 | A | 16800.00 | 0.82 |
| 7 | (Li) | | P | | |
| 9 | Be | 34958.02 | P | 531.30 | 1.52 |
| 9 | Be | 1469.01 | P | 78.21 | 5.32 |
| 11 | B | 21154.68 | P | 330.90 | 1.56 |
| 11 | B | 554.47 | P | 41.95 | 7.57 |
| 23 | Na | 706642.13 | P | 11440.00 | 1.62 |
| 23 | Na | 101479.30 | P | 988.80 | 0.97 |
| 24 | Mg | 120028.40 | P | 757.00 | 0.63 |
| 24 | Mg | 7274.16 | P | 157.60 | 2.17 |
| 27 | Al | 147321.00 | P | 836.70 | 0.57 |
| 27 | Al | 4773.12 | P | 40.32 | 0.84 |
| 39 | K | 4181573.00 | A | 29310.00 | 0.70 |
| 44 | Ca | 21690.27 | P | 459.60 | 2.12 |
| 45 | Sc | 2590854.00 | A | 6703.00 | 0.26 |
| 45 | Sc | 358231.91 | P | 1810.00 | 0.51 |
| 47 | Ti | 11409.01 | P | 270.10 | 2.37 |
| 51 | V | 43143.39 | P | 210.00 | 0.49 |
| 52 | Cr | 43024.05 | P | 50.85 | 0.12 |
| 55 | Mn | 33432.85 | P | 157.60 | 0.47 |
| 56 | Fe | 58287.08 | P | 1288.00 | 2.21 |
| 59 | Co | 55228.92 | P | 383.70 | 0.69 |
| 60 | Ni | 14240.98 | P | 252.60 | 1.77 |
| 63 | Cu | 34475.37 | P | 355.60 | 1.03 |
| 66 | Zn | 6689.06 | P | 102.00 | 1.52 |
| 72 | Ge | 459426.50 | P | 2397.00 | 0.52 |
| 72 | Ge | 128827.20 | P | 522.90 | 0.41 |
| 75 | As | 5096.89 | P | 38.21 | 0.75 |
| 78 | Se | 752.02 | P | 20.13 | 2.68 |
| 88 | Sr | 159745.00 | P | 641.70 | 0.40 |
| 98 | Mo | 42309.71 | P | 155.30 | 0.37 |
| 103 | Rh | 2250670.00 | A | 10630.00 | 0.47 |
| 107 | Ag | 64429.95 | P | 467.70 | 0.73 |

C:\ICPCHEM\1\DATA\13L04n00.B\004CALS.D\004CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 7190.88 | P | 81.33 | 1.13 |
| 115 | In | 2373231.00 | A | 14050.00 | 0.59 |
| 115 | In | 999223.13 | P | 2978.00 | 0.30 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 54159.85 | P | 355.90 | 0.66 |
| 121 | Sb | 52589.51 | P | 372.30 | 0.71 |
| 137 | Ba | 18991.89 | P | 191.90 | 1.01 |
| 159 | Tb | 2732906.00 | A | 12150.00 | 0.44 |
| 175 | Lu | 2519717.00 | A | 21190.00 | 0.84 |
| 205 | Tl | 80242.69 | P | 1541.00 | 1.92 |
| 206 | (Pb) | 31845.27 | P | 473.20 | 1.49 |
| 207 | (Pb) | 26551.89 | P | 243.10 | 0.92 |
| 208 | Pb | 124286.90 | P | 1035.00 | 0.83 |
| 209 | Bi | 1552304.00 | A | 19210.00 | 1.24 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2045105.10 | 0.82 | 2032921.30 | 100.6 | 70 - 130 | |
| 45 | Sc | 2590854.50 | 0.26 | 2621135.30 | 98.8 | 70 - 130 | |
| 45 | Sc | 358231.88 | 0.51 | 361540.59 | 99.1 | 70 - 130 | |
| 72 | Ge | 459426.50 | 0.52 | 465850.00 | 98.6 | 70 - 130 | |
| 72 | Ge | 128827.19 | 0.41 | 129632.06 | 99.4 | 70 - 130 | |
| 103 | Rh | 2250669.80 | 0.47 | 2265009.30 | 99.4 | 70 - 130 | |
| 115 | In | 2373230.50 | 0.59 | 2406660.30 | 98.6 | 70 - 130 | |
| 115 | In | 999223.13 | 0.30 | 1007956.90 | 99.1 | 70 - 130 | |
| 159 | Tb | 2732905.50 | 0.44 | 2763118.00 | 98.9 | 70 - 130 | |
| 175 | Lu | 2519717.30 | 0.84 | 2515951.00 | 100.1 | 70 - 130 | |
| 209 | Bi | 1552304.50 | 1.24 | 1560224.80 | 99.5 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#
Date Acquired: Dec 4 2013 02:07 pm
Operator: METALS
Sample Name: STDD
Misc Info: 25 ppb
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:03 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2062773.00 | A | 7759.00 | 0.38 |
| 7 | (Li) | | P | | |
| 9 | Be | 163896.80 | P | 1318.00 | 0.80 |
| 9 | Be | 6500.43 | P | 140.40 | 2.16 |
| 11 | B | 96880.64 | P | 237.40 | 0.25 |
| 11 | B | 2358.02 | P | 107.20 | 4.55 |
| 23 | Na | 1248778.00 | A | 7747.00 | 0.62 |
| 23 | Na | 136982.00 | P | 933.30 | 0.68 |
| 24 | Mg | 520673.00 | P | 3645.00 | 0.70 |
| 24 | Mg | 31850.91 | P | 319.80 | 1.00 |
| 27 | Al | 642768.00 | P | 2128.00 | 0.33 |
| 27 | Al | 19933.23 | P | 202.60 | 1.02 |
| 39 | K | 4655575.00 | A | 5580.00 | 0.12 |
| 44 | Ca | 41128.85 | P | 464.00 | 1.13 |
| 45 | Sc | 2581120.00 | A | 17590.00 | 0.68 |
| 45 | Sc | 353340.41 | P | 1986.00 | 0.56 |
| 47 | Ti | 52824.55 | P | 70.42 | 0.13 |
| 51 | V | 185965.91 | P | 629.80 | 0.34 |
| 52 | Cr | 195624.41 | P | 861.40 | 0.44 |
| 55 | Mn | 155564.00 | P | 1054.00 | 0.68 |
| 56 | Fe | 198288.30 | P | 1136.00 | 0.57 |
| 59 | Co | 257495.20 | P | 1351.00 | 0.52 |
| 60 | Ni | 64084.88 | P | 256.40 | 0.40 |
| 63 | Cu | 158953.50 | P | 282.00 | 0.18 |
| 66 | Zn | 30135.42 | P | 157.40 | 0.52 |
| 72 | Ge | 452785.91 | P | 4675.00 | 1.03 |
| 72 | Ge | 126854.60 | P | 298.00 | 0.23 |
| 75 | As | 23019.46 | P | 284.20 | 1.23 |
| 78 | Se | 2766.94 | P | 73.46 | 2.65 |
| 88 | Sr | 744122.81 | P | 4308.00 | 0.58 |
| 98 | Mo | 194723.00 | P | 1361.00 | 0.70 |
| 103 | Rh | 2239019.00 | A | 5397.00 | 0.24 |
| 107 | Ag | 299113.41 | P | 1738.00 | 0.58 |

C:\ICPCHEM\1\DATA\13L04n00.B\005CALS.D\005CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 33863.04 | P | 435.60 | 1.29 |
| 115 | In | 2353376.00 | A | 2652.00 | 0.11 |
| 115 | In | 981208.13 | P | 6495.00 | 0.66 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 248562.09 | P | 1125.00 | 0.45 |
| 121 | Sb | 243988.41 | P | 2103.00 | 0.86 |
| 137 | Ba | 88148.96 | P | 743.60 | 0.84 |
| 159 | Tb | 2720161.00 | A | 24510.00 | 0.90 |
| 175 | Lu | 2527308.00 | A | 5181.00 | 0.21 |
| 205 | Tl | 405408.19 | P | 2976.00 | 0.73 |
| 206 | (Pb) | 147967.59 | P | 1775.00 | 1.20 |
| 207 | (Pb) | 123560.50 | P | 702.90 | 0.57 |
| 208 | Pb | 576401.19 | P | 2855.00 | 0.50 |
| 209 | Bi | 1535773.00 | A | 8304.00 | 0.54 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2062772.90 | 0.38 | 2032921.30 | 101.5 | 70 - 130 | |
| 45 | Sc | 2581120.30 | 0.68 | 2621135.30 | 98.5 | 70 - 130 | |
| 45 | Sc | 353340.38 | 0.56 | 361540.59 | 97.7 | 70 - 130 | |
| 72 | Ge | 452785.88 | 1.03 | 465850.00 | 97.2 | 70 - 130 | |
| 72 | Ge | 126854.62 | 0.23 | 129632.06 | 97.9 | 70 - 130 | |
| 103 | Rh | 2239018.80 | 0.24 | 2265009.30 | 98.9 | 70 - 130 | |
| 115 | In | 2353376.50 | 0.11 | 2406660.30 | 97.8 | 70 - 130 | |
| 115 | In | 981208.13 | 0.66 | 1007956.90 | 97.3 | 70 - 130 | |
| 159 | Tb | 2720161.00 | 0.90 | 2763118.00 | 98.4 | 70 - 130 | |
| 175 | Lu | 2527308.00 | 0.21 | 2515951.00 | 100.5 | 70 - 130 | |
| 209 | Bi | 1535772.80 | 0.54 | 1560224.80 | 98.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#
Date Acquired: Dec 4 2013 02:14 pm
Operator: METALS
Sample Name: STDE
Misc Info: 50 ppb
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:10 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2004326.00 | A | 7782.00 | 0.39 |
| 7 | (Li) | | P | | |
| 9 | Be | 343376.09 | P | 1723.00 | 0.50 |
| 9 | Be | 13898.77 | P | 43.54 | 0.31 |
| 11 | B | 204203.00 | P | 2457.00 | 1.20 |
| 11 | B | 5188.80 | P | 204.10 | 3.93 |
| 23 | Na | 2116897.00 | A | 29200.00 | 1.38 |
| 23 | Na | 203638.41 | P | 891.60 | 0.44 |
| 24 | Mg | 1094027.00 | A | 14810.00 | 1.35 |
| 24 | Mg | 67389.57 | P | 257.00 | 0.38 |
| 27 | Al | 1345237.00 | A | 23880.00 | 1.78 |
| 27 | Al | 42651.05 | P | 422.90 | 0.99 |
| 39 | K | 5338887.00 | A | 26660.00 | 0.50 |
| 44 | Ca | 70124.73 | P | 1203.00 | 1.72 |
| 45 | Sc | 2545355.00 | A | 27590.00 | 1.08 |
| 45 | Sc | 352222.59 | P | 2946.00 | 0.84 |
| 47 | Ti | 109113.80 | P | 729.80 | 0.67 |
| 51 | V | 389852.81 | P | 1322.00 | 0.34 |
| 52 | Cr | 414649.00 | P | 869.80 | 0.21 |
| 55 | Mn | 330121.59 | P | 1999.00 | 0.61 |
| 56 | Fe | 401033.00 | P | 788.90 | 0.20 |
| 59 | Co | 549252.00 | P | 934.30 | 0.17 |
| 60 | Ni | 135600.00 | P | 401.90 | 0.30 |
| 63 | Cu | 335778.59 | P | 1103.00 | 0.33 |
| 66 | Zn | 63308.83 | P | 420.30 | 0.66 |
| 72 | Ge | 446664.69 | P | 1344.00 | 0.30 |
| 72 | Ge | 125798.60 | P | 256.20 | 0.20 |
| 75 | As | 48624.33 | P | 232.30 | 0.48 |
| 78 | Se | 5594.85 | P | 131.90 | 2.36 |
| 88 | Sr | 1564215.00 | A | 13120.00 | 0.84 |
| 98 | Mo | 410152.09 | P | 5141.00 | 1.25 |
| 103 | Rh | 2224967.00 | A | 29980.00 | 1.35 |
| 107 | Ag | 628084.38 | P | 1252.00 | 0.20 |

C:\ICPCHEM\1\DATA\13L04n00.B\006CALS.D\006CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 70460.80 | P | 466.00 | 0.66 |
| 115 | In | 2315027.00 | A | 12440.00 | 0.54 |
| 115 | In | 972639.63 | P | 1583.00 | 0.16 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 521217.31 | P | 2296.00 | 0.44 |
| 121 | Sb | 507644.81 | P | 3076.00 | 0.61 |
| 137 | Ba | 183774.50 | P | 1796.00 | 0.98 |
| 159 | Tb | 2680398.00 | A | 10890.00 | 0.41 |
| 175 | Lu | 2489090.00 | A | 18360.00 | 0.74 |
| 205 | Tl | 862953.81 | P | 5544.00 | 0.64 |
| 206 | (Pb) | 308339.50 | P | 1810.00 | 0.59 |
| 207 | (Pb) | 257296.70 | P | 2481.00 | 0.96 |
| 208 | Pb | 1203463.00 | P | 5994.00 | 0.50 |
| 209 | Bi | 1520102.00 | A | 6516.00 | 0.43 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2004326.30 | 0.39 | 2032921.30 | 98.6 | 70 - 130 | |
| 45 | Sc | 2545354.50 | 1.08 | 2621135.30 | 97.1 | 70 - 130 | |
| 45 | Sc | 352222.63 | 0.84 | 361540.59 | 97.4 | 70 - 130 | |
| 72 | Ge | 446664.72 | 0.30 | 465850.00 | 95.9 | 70 - 130 | |
| 72 | Ge | 125798.66 | 0.20 | 129632.06 | 97.0 | 70 - 130 | |
| 103 | Rh | 2224966.80 | 1.35 | 2265009.30 | 98.2 | 70 - 130 | |
| 115 | In | 2315026.80 | 0.54 | 2406660.30 | 96.2 | 70 - 130 | |
| 115 | In | 972639.56 | 0.16 | 1007956.90 | 96.5 | 70 - 130 | |
| 159 | Tb | 2680398.00 | 0.41 | 2763118.00 | 97.0 | 70 - 130 | |
| 175 | Lu | 2489090.30 | 0.74 | 2515951.00 | 98.9 | 70 - 130 | |
| 209 | Bi | 1520101.50 | 0.43 | 1560224.80 | 97.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#
Date Acquired: Dec 4 2013 02:21 pm
Operator: METALS
Sample Name: STDF
Misc Info: 100 ppb
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:18 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2026121.00 | A | 3485.00 | 0.17 |
| 7 | (Li) | | P | | |
| 9 | Be | 686881.69 | P | 4064.00 | 0.59 |
| 9 | Be | 28113.39 | P | 498.50 | 1.77 |
| 11 | B | 404671.69 | P | 1183.00 | 0.29 |
| 11 | B | 10219.20 | P | 130.10 | 1.27 |
| 23 | Na | 3652487.00 | A | 12640.00 | 0.35 |
| 23 | Na | 316434.69 | P | 2577.00 | 0.81 |
| 24 | Mg | 2171004.00 | A | 12670.00 | 0.58 |
| 24 | Mg | 133235.50 | P | 199.00 | 0.15 |
| 27 | Al | 2650086.00 | A | 9798.00 | 0.37 |
| 27 | Al | 84200.71 | P | 510.80 | 0.61 |
| 39 | K | 6768400.00 | A | 36240.00 | 0.54 |
| 44 | Ca | 127386.60 | P | 1286.00 | 1.01 |
| 45 | Sc | 2580322.00 | A | 18360.00 | 0.71 |
| 45 | Sc | 349788.59 | P | 2561.00 | 0.73 |
| 47 | Ti | 217703.59 | P | 1634.00 | 0.75 |
| 51 | V | 762591.31 | P | 5897.00 | 0.77 |
| 52 | Cr | 815455.69 | P | 2048.00 | 0.25 |
| 55 | Mn | 653359.38 | P | 3866.00 | 0.59 |
| 56 | Fe | 768736.31 | P | 6296.00 | 0.82 |
| 59 | Co | 1074870.00 | P | 1969.00 | 0.18 |
| 60 | Ni | 265060.81 | P | 810.20 | 0.31 |
| 63 | Cu | 657493.50 | P | 661.50 | 0.10 |
| 66 | Zn | 128166.70 | P | 170.70 | 0.13 |
| 72 | Ge | 445825.31 | P | 3608.00 | 0.81 |
| 72 | Ge | 124445.70 | P | 1052.00 | 0.85 |
| 75 | As | 95277.06 | P | 107.10 | 0.11 |
| 78 | Se | 10834.37 | P | 5.59 | 0.05 |
| 88 | Sr | 3033123.00 | A | 21550.00 | 0.71 |
| 98 | Mo | 807329.38 | P | 3139.00 | 0.39 |
| 103 | Rh | 2218867.00 | A | 13100.00 | 0.59 |
| 107 | Ag | 1204069.00 | M | 15570.00 | 1.29 |

C:\ICPCHEM\1\DATA\13L04n00.B\007CALS.D\007CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 139658.20 | P | 1517.00 | 1.09 |
| 115 | In | 2331900.00 | A | 13490.00 | 0.58 |
| 115 | In | 959820.81 | P | 8398.00 | 0.87 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 1032888.00 | P | 7634.00 | 0.74 |
| 121 | Sb | 1008668.00 | P | 8118.00 | 0.80 |
| 137 | Ba | 365012.59 | P | 3721.00 | 1.02 |
| 159 | Tb | 2704284.00 | A | 32910.00 | 1.22 |
| 175 | Lu | 2497212.00 | A | 26140.00 | 1.05 |
| 205 | Tl | 1761311.00 | A | 18960.00 | 1.08 |
| 206 | (Pb) | 611075.31 | P | 6951.00 | 1.14 |
| 207 | (Pb) | 510644.50 | P | 4242.00 | 0.83 |
| 208 | Pb | 2382867.00 | P | 24840.00 | 1.04 |
| 209 | Bi | 1514912.00 | A | 10270.00 | 0.68 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2026121.30 | 0.17 | 2032921.30 | 99.7 | 70 - 130 | |
| 45 | Sc | 2580322.50 | 0.71 | 2621135.30 | 98.4 | 70 - 130 | |
| 45 | Sc | 349788.59 | 0.73 | 361540.59 | 96.7 | 70 - 130 | |
| 72 | Ge | 445825.25 | 0.81 | 465850.00 | 95.7 | 70 - 130 | |
| 72 | Ge | 124445.70 | 0.85 | 129632.06 | 96.0 | 70 - 130 | |
| 103 | Rh | 2218867.30 | 0.59 | 2265009.30 | 98.0 | 70 - 130 | |
| 115 | In | 2331899.50 | 0.58 | 2406660.30 | 96.9 | 70 - 130 | |
| 115 | In | 959820.81 | 0.87 | 1007956.90 | 95.2 | 70 - 130 | |
| 159 | Tb | 2704283.80 | 1.22 | 2763118.00 | 97.9 | 70 - 130 | |
| 175 | Lu | 2497212.00 | 1.05 | 2515951.00 | 99.3 | 70 - 130 | |
| 209 | Bi | 1514911.80 | 0.68 | 1560224.80 | 97.1 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 4 2013 02:28 pm
Operator: METALS
Sample Name: STDG
Misc Info: 1000 ppb
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:25 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 2000390.00 | A | 17040.00 | 0.85 |
| 7 | (Li) | | P | | |
| 9 | Be | 260.01 | P | 17.64 | 6.78 |
| 9 | Be | 10.00 | P | 6.67 | 66.67 |
| 11 | B | 3604.97 | P | 203.70 | 5.65 |
| 11 | B | 72.22 | P | 5.09 | 7.05 |
| 23 | Na | 30332540.00 | A | 104800.00 | 0.35 |
| 23 | Na | 2240553.00 | A | 10110.00 | 0.45 |
| 24 | Mg | 19941690.00 | A | 34510.00 | 0.17 |
| 24 | Mg | 1229257.00 | A | 13500.00 | 1.10 |
| 27 | Al | 24214980.00 | A | 211700.00 | 0.87 |
| 27 | Al | 808911.81 | P | 7463.00 | 0.92 |
| 39 | K | 30236940.00 | A | 91140.00 | 0.30 |
| 44 | Ca | 822132.13 | P | 1831.00 | 0.22 |
| 45 | Sc | 2545467.00 | A | 11710.00 | 0.46 |
| 45 | Sc | 355058.41 | P | 3066.00 | 0.86 |
| 47 | Ti | 172.23 | P | 3.85 | 2.23 |
| 51 | V | 4378.01 | P | 16.39 | 0.37 |
| 52 | Cr | 1532.99 | P | 52.33 | 3.41 |
| 55 | Mn | 629.35 | P | 34.28 | 5.45 |
| 56 | Fe | 6869496.00 | A | 9546.00 | 0.14 |
| 59 | Co | 494.68 | P | 34.59 | 6.99 |
| 60 | Ni | 722.70 | P | 27.36 | 3.79 |
| 63 | Cu | 1191.17 | P | 30.68 | 2.58 |
| 66 | Zn | 556.24 | P | 25.58 | 4.60 |
| 72 | Ge | 452314.41 | P | 2918.00 | 0.65 |
| 72 | Ge | 127460.40 | P | 1062.00 | 0.83 |
| 75 | As | 196.89 | P | 9.53 | 4.84 |
| 78 | Se | 196.00 | P | 15.62 | 7.97 |
| 88 | Sr | 2276.92 | P | 118.40 | 5.20 |
| 98 | Mo | 3572.79 | P | 338.40 | 9.47 |
| 103 | Rh | 2172832.00 | A | 1736.00 | 0.08 |
| 107 | Ag | 412.24 | P | 5.09 | 1.24 |

C:\ICPCHEM\1\DATA\13L04n00.B\008CALS.D\008CALS.D#

| | | | | | | |
|---|---|---|---|---|---|---|
| 111 | Cd | 45.56 | P | 9.62 | 21.12 | |
| 115 | In | 2308410.00 | A | 12330.00 | 0.53 | |
| 115 | In | 984171.69 | P | 9468.00 | 0.96 | |
| 118 | (In) | | P | | | |
| 118 | (In) | | P | | | |
| 120 | Sn | 1113.42 | P | 15.28 | 1.37 | |
| 121 | Sb | 667.82 | P | 56.80 | 8.51 | |
| 137 | Ba | 446.69 | P | 58.60 | 13.12 | |
| 159 | Tb | 2676919.00 | A | 22490.00 | 0.84 | |
| 175 | Lu | 2453025.00 | A | 25090.00 | 1.02 | |
| 205 | Tl | 5949.27 | P | 192.20 | 3.23 | |
| 206 | (Pb) | 248.90 | P | 16.44 | 6.61 | |
| 207 | (Pb) | 193.34 | P | 26.46 | 13.69 | |
| 208 | Pb | 1493.43 | P | 96.15 | 6.44 | |
| 209 | Bi | 1503676.00 | A | 31450.00 | 2.09 | |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 2000390.40 | 0.85 | 2032921.30 | 98.4 | 70 - 130 | |
| 45 | Sc | 2545467.30 | 0.46 | 2621135.30 | 97.1 | 70 - 130 | |
| 45 | Sc | 355058.38 | 0.86 | 361540.59 | 98.2 | 70 - 130 | |
| 72 | Ge | 452314.41 | 0.65 | 465850.00 | 97.1 | 70 - 130 | |
| 72 | Ge | 127460.38 | 0.83 | 129632.06 | 98.3 | 70 - 130 | |
| 103 | Rh | 2172832.50 | 0.08 | 2265009.30 | 95.9 | 70 - 130 | |
| 115 | In | 2308410.50 | 0.53 | 2406660.30 | 95.9 | 70 - 130 | |
| 115 | In | 984171.63 | 0.96 | 1007956.90 | 97.6 | 70 - 130 | |
| 159 | Tb | 2676919.00 | 0.84 | 2763118.00 | 96.9 | 70 - 130 | |
| 175 | Lu | 2453025.50 | 1.02 | 2515951.00 | 97.5 | 70 - 130 | |
| 209 | Bi | 1503675.90 | 2.09 | 1560224.80 | 96.4 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#

# Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 4 2013 02:35 pm
Operator: METALS
Sample Name: STDH
Misc Info: 10 ppm
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal Update: Dec 04 2013 02:32 pm
Sample Type: CalStd
Total Dil Factor: 1.00



**QC&ISTD Elements**

| Element | | CPS Mean | | SD | RSD(%) |
|---|---|---|---|---|---|
| 6 | Li | 1978841.00 | A | 9026.00 | 0.46 |
| 7 | (Li) | | P | | |
| 9 | Be | 177.78 | P | 11.71 | 6.59 |
| 9 | Be | 4.44 | P | 1.93 | 43.31 |
| 11 | B | 1656.81 | P | 100.20 | 6.05 |
| 11 | B | 52.22 | P | 17.11 | 32.76 |
| 23 | Na | 298246020.00 | A | 2551000.00 | 0.86 |
| 23 | Na | 20652790.00 | A | 191900.00 | 0.93 |
| 24 | Mg | 194673500.00 | A | 1510000.00 | 0.78 |
| 24 | Mg | 11694650.00 | A | 136200.00 | 1.16 |
| 27 | Al | 239941500.00 | A | 125500.00 | 0.05 |
| 27 | Al | 7499317.00 | A | 80350.00 | 1.07 |
| 39 | K | 264567390.00 | A | 123700.00 | 0.05 |
| 44 | Ca | 7524736.00 | A | 20750.00 | 0.28 |
| 45 | Sc | 2570661.00 | A | 5989.00 | 0.23 |
| 45 | Sc | 357472.69 | P | 3474.00 | 0.97 |
| 47 | Ti | 146.67 | P | 5.77 | 3.94 |
| 51 | V | 4402.91 | P | 51.59 | 1.17 |
| 52 | Cr | 2477.57 | P | 127.10 | 5.13 |
| 55 | Mn | 2110.84 | P | 40.56 | 1.92 |
| 56 | Fe | 66890208.00 | A | 763400.00 | 1.14 |
| 59 | Co | 2202.41 | P | 40.13 | 1.82 |
| 60 | Ni | 1068.05 | P | 36.30 | 3.40 |
| 63 | Cu | 838.26 | P | 14.87 | 1.77 |
| 66 | Zn | 871.59 | P | 15.64 | 1.79 |
| 72 | Ge | 462575.31 | P | 2740.00 | 0.59 |
| 72 | Ge | 127845.90 | P | 492.70 | 0.39 |
| 75 | As | 202.67 | P | 7.21 | 3.56 |
| 78 | Se | 208.89 | P | 10.01 | 4.79 |
| 88 | Sr | 12957.14 | P | 233.40 | 1.80 |
| 98 | Mo | 1061.19 | P | 110.70 | 10.43 |
| 103 | Rh | 2119685.00 | A | 23700.00 | 1.12 |
| 107 | Ag | 512.25 | P | 26.74 | 5.22 |

C:\ICPCHEM\1\DATA\13L04n00.B\009CALS.D\009CALS.D#

| | | | | | |
|---|---|---|---|---|---|
| 111 | Cd | 43.34 | P | 28.48 | 65.72 |
| 115 | In | 2277386.00 | A | 20010.00 | 0.88 |
| 115 | In | 962805.88 | P | 851.10 | 0.09 |
| 118 | (In) | | P | | |
| 118 | (In) | | P | | |
| 120 | Sn | 486.69 | P | 15.28 | 3.14 |
| 121 | Sb | 335.57 | P | 25.02 | 7.46 |
| 137 | Ba | 536.70 | P | 48.08 | 8.96 |
| 159 | Tb | 2671606.00 | A | 11130.00 | 0.42 |
| 175 | Lu | 2472234.00 | A | 19440.00 | 0.79 |
| 205 | Tl | 2390.29 | P | 181.90 | 7.61 |
| 206 | (Pb) | 187.79 | P | 18.36 | 9.78 |
| 207 | (Pb) | 175.56 | P | 21.43 | 12.21 |
| 208 | Pb | 1435.66 | P | 109.10 | 7.60 |
| 209 | Bi | 1456283.00 | A | 7017.00 | 0.48 |

**ISTD Elements**

| Element | | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 | Li | 1978841.30 | 0.46 | 2032921.30 | 97.3 | 70 - 130 | |
| 45 | Sc | 2570661.50 | 0.23 | 2621135.30 | 98.1 | 70 - 130 | |
| 45 | Sc | 357472.66 | 0.97 | 361540.59 | 98.9 | 70 - 130 | |
| 72 | Ge | 462575.31 | 0.59 | 465850.00 | 99.3 | 70 - 130 | |
| 72 | Ge | 127845.90 | 0.39 | 129632.06 | 98.6 | 70 - 130 | |
| 103 | Rh | 2119685.30 | 1.12 | 2265009.30 | 93.6 | 70 - 130 | |
| 115 | In | 2277385.80 | 0.88 | 2406660.30 | 94.6 | 70 - 130 | |
| 115 | In | 962805.94 | 0.09 | 1007956.90 | 95.5 | 70 - 130 | |
| 159 | Tb | 2671605.50 | 0.42 | 2763118.00 | 96.7 | 70 - 130 | |
| 175 | Lu | 2472233.80 | 0.79 | 2515951.00 | 98.3 | 70 - 130 | |
| 209 | Bi | 1456282.80 | 0.48 | 1560224.80 | 93.3 | 70 - 130 | |

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**Data Results:**
**Analytes: Pass**
**ISTD: Pass**

C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#
Date Acquired: Dec 4 2013 03:02 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICV
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 57.70 | 57.70 | ppb | 0.06 | 900.00 | |
| 9 Be | 45 | 2 | 56.49 | 56.49 | ppb | 2.08 | 900.00 | |
| 11 B | 6 | 1 | 57.02 | 57.02 | ppb | 0.22 | 900.00 | |
| 11 B | 45 | 2 | 55.20 | 55.20 | ppb | 3.88 | 900.00 | |
| 23 Na | 45 | 1 | 5305.00 | 5305.00 | ppb | 0.35 | 90000.00 | |
| 23 Na | 45 | 2 | 5377.00 | 5377.00 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 5410.00 | 5410.00 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 5129.00 | 5129.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 5634.00 | 5634.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 2 | 5233.00 | 5233.00 | ppb | 0.19 | 90000.00 | |
| 39 K | 45 | 1 | 5415.00 | 5415.00 | ppb | 0.41 | 90000.00 | |
| 44 Ca | 45 | 1 | 5426.00 | 5426.00 | ppb | 0.30 | 90000.00 | |
| 47 Ti | 45 | 1 | 59.57 | 59.57 | ppb | 0.78 | 900.00 | |
| 51 V | 45 | 2 | 57.23 | 57.23 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 55.66 | 55.66 | ppb | 0.93 | 900.00 | |
| 55 Mn | 45 | 2 | 55.37 | 55.37 | ppb | 0.71 | 900.00 | |
| 56 Fe | 45 | 2 | 5434.00 | 5434.00 | ppb | 0.62 | 90000.00 | |
| 59 Co | 45 | 2 | 55.29 | 55.29 | ppb | 0.95 | 900.00 | |
| 60 Ni | 45 | 2 | 55.30 | 55.30 | ppb | 0.88 | 900.00 | |
| 63 Cu | 72 | 2 | 54.57 | 54.57 | ppb | 0.47 | 900.00 | |
| 66 Zn | 72 | 2 | 54.07 | 54.07 | ppb | 0.46 | 900.00 | |
| 75 As | 72 | 2 | 56.63 | 56.63 | ppb | 0.42 | 900.00 | |
| 78 Se | 72 | 2 | 56.47 | 56.47 | ppb | 0.37 | 900.00 | |
| 88 Sr | 103 | 1 | 60.54 | 60.54 | ppb | 1.85 | 900.00 | |
| 98 Mo | 103 | 1 | 60.45 | 60.45 | ppb | 1.66 | 900.00 | |
| 107 Ag | 115 | 1 | 59.00 | 59.00 | ppb | 0.20 | 900.00 | |
| 111 Cd | 115 | 2 | 56.71 | 56.71 | ppb | 0.36 | 900.00 | |
| 120 Sn | 115 | 1 | 59.77 | 59.77 | ppb | 0.45 | 900.00 | |
| 121 Sb | 115 | 1 | 58.22 | 58.22 | ppb | 0.17 | 900.00 | |
| 137 Ba | 159 | 1 | 56.80 | 56.80 | ppb | 0.51 | 900.00 | |
| 205 Tl | 209 | 1 | 55.58 | 55.58 | ppb | 0.29 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 57.21 | 57.21 | ppb | 1.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1981969 | 0.53 | 2032921 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 2558966 | 0.28 | 2621135 | 97.6 | 70 - 130 | |
| 45 Sc | 2 | 349799 | 0.75 | 361541 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\012SMPL.D\012SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 449671 | 0.20 | 465850 | 96.5 | 70 | - | 130 |
| 72 Ge | 2 | 125144 | 0.65 | 129632 | 96.5 | 70 | - | 130 |
| 103 Rh | 1 | 2148757 | 1.22 | 2265009 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 2290635 | 0.46 | 2406660 | 95.2 | 70 | - | 130 |
| 115 In | 2 | 947294 | 0.77 | 1007957 | 94.0 | 70 | - | 130 |
| 159 Tb | 1 | 2681621 | 0.93 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2474604 | 0.29 | 2515951 | 98.4 | 70 | - | 130 |
| 209 Bi | 1 | 1475602 | 0.54 | 1560225 | 94.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#
**Date Acquired:** Dec 4 2013 03:17 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** ICB
**Misc Info:**
**Vial Number:** 2102
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 120.42 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 88.00 | 900.00 | |
| 11 B | 6 | 1 | 0.07 | 0.07 | ppb | 18.98 | 900.00 | |
| 11 B | 45 | 2 | 0.02 | 0.02 | ppb | 163.32 | 900.00 | |
| 23 Na | 45 | 1 | -0.14 | -0.14 | ppb | 204.55 | 90000.00 | |
| 23 Na | 45 | 2 | -0.44 | -0.44 | ppb | 65.79 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.01 | 0.01 | ppb | 121.97 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.07 | 0.07 | ppb | 130.34 | 90000.00 | |
| 27 Al | 45 | 1 | 0.17 | 0.17 | ppb | 18.02 | 90000.00 | |
| 27 Al | 45 | 2 | 0.28 | 0.28 | ppb | 45.13 | 90000.00 | |
| 39 K | 45 | 1 | 0.60 | 0.60 | ppb | 228.97 | 90000.00 | |
| 44 Ca | 45 | 1 | 0.17 | 0.17 | ppb | 280.46 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 137.87 | 900.00 | |
| 51 V | 45 | 2 | -0.02 | -0.02 | ppb | 54.61 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 65.37 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 601.13 | 900.00 | |
| 56 Fe | 45 | 2 | 0.13 | 0.13 | ppb | 57.11 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 186.93 | 900.00 | |
| 60 Ni | 45 | 2 | 0.01 | 0.01 | ppb | 347.97 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 80.35 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 10.30 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 141.11 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 57.91 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 87.86 | 900.00 | |
| 98 Mo | 103 | 1 | 0.02 | 0.02 | ppb | 107.16 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 90.28 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 116.40 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 93.96 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 65.31 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 50.46 | 900.00 | |
| 205 Tl | 209 | 1 | 0.06 | 0.06 | ppb | 18.88 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 6.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2052759 | 0.64 | 2032921 | 101.0 | 70 - 130 | |
| 45 Sc | 1 | 2591781 | 0.80 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 360171 | 0.97 | 361541 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\013SMPL.D\013SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463015 | 1.17 | 465850 | 99.4 | 70 | - | 130 |
| 72 Ge | 2 | 128643 | 0.47 | 129632 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 2262188 | 0.51 | 2265009 | 99.9 | 70 | - | 130 |
| 115 In | 1 | 2376453 | 1.12 | 2406660 | 98.7 | 70 | - | 130 |
| 115 In | 2 | 1004542 | 0.49 | 1007957 | 99.7 | 70 | - | 130 |
| 159 Tb | 1 | 2740250 | 0.51 | 2763118 | 99.2 | 70 | - | 130 |
| 175 Lu | 1 | 2537605 | 0.23 | 2515951 | 100.9 | 70 | - | 130 |
| 209 Bi | 1 | 1557666 | 0.22 | 1560225 | 99.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#
Date Acquired: Dec 4 2013 03:24 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.23 | 49.23 | ppb | 0.23 | 900.00 | |
| 9 Be | 45 | 2 | 48.91 | 48.91 | ppb | 1.05 | 900.00 | |
| 11 B | 6 | 1 | 49.15 | 49.15 | ppb | 0.20 | 900.00 | |
| 11 B | 45 | 2 | 47.53 | 47.53 | ppb | 0.92 | 900.00 | |
| 23 Na | 45 | 1 | 4816.00 | 4816.00 | ppb | 0.85 | 90000.00 | |
| 23 Na | 45 | 2 | 4966.00 | 4966.00 | ppb | 0.36 | 90000.00 | |
| 24 Mg | 45 | 1 | 4889.00 | 4889.00 | ppb | 0.68 | 90000.00 | |
| 24 Mg | 45 | 2 | 4686.00 | 4686.00 | ppb | 1.12 | 90000.00 | |
| 27 Al | 45 | 1 | 4890.00 | 4890.00 | ppb | 0.22 | 90000.00 | |
| 27 Al | 45 | 2 | 4573.00 | 4573.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 4887.00 | 4887.00 | ppb | 0.13 | 90000.00 | |
| 44 Ca | 45 | 1 | 4969.00 | 4969.00 | ppb | 0.13 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.86 | 48.86 | ppb | 0.19 | 900.00 | |
| 51 V | 45 | 2 | 48.11 | 48.11 | ppb | 0.42 | 900.00 | |
| 52 Cr | 45 | 2 | 47.56 | 47.56 | ppb | 0.25 | 900.00 | |
| 55 Mn | 45 | 2 | 47.22 | 47.22 | ppb | 0.33 | 900.00 | |
| 56 Fe | 45 | 2 | 4938.00 | 4938.00 | ppb | 0.60 | 90000.00 | |
| 59 Co | 45 | 2 | 46.94 | 46.94 | ppb | 0.51 | 900.00 | |
| 60 Ni | 45 | 2 | 47.29 | 47.29 | ppb | 0.29 | 900.00 | |
| 63 Cu | 72 | 2 | 46.62 | 46.62 | ppb | 1.33 | 900.00 | |
| 66 Zn | 72 | 2 | 46.06 | 46.06 | ppb | 0.62 | 900.00 | |
| 75 As | 72 | 2 | 48.25 | 48.25 | ppb | 0.81 | 900.00 | |
| 78 Se | 72 | 2 | 47.54 | 47.54 | ppb | 1.13 | 900.00 | |
| 88 Sr | 103 | 1 | 49.35 | 49.35 | ppb | 1.11 | 900.00 | |
| 98 Mo | 103 | 1 | 50.01 | 50.01 | ppb | 1.10 | 900.00 | |
| 107 Ag | 115 | 1 | 49.18 | 49.18 | ppb | 0.25 | 900.00 | |
| 111 Cd | 115 | 2 | 48.06 | 48.06 | ppb | 0.94 | 900.00 | |
| 120 Sn | 115 | 1 | 49.35 | 49.35 | ppb | 0.22 | 900.00 | |
| 121 Sb | 115 | 1 | 49.23 | 49.23 | ppb | 0.10 | 900.00 | |
| 137 Ba | 159 | 1 | 48.33 | 48.33 | ppb | 0.41 | 900.00 | |
| 205 Tl | 209 | 1 | 46.66 | 46.66 | ppb | 0.37 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.19 | 48.19 | ppb | 0.90 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991610 | 0.11 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2586356 | 0.58 | 2621135 | 98.7 | 70 - 130 | |
| 45 Sc | 2 | 353324 | 0.24 | 361541 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\014SMPL.D\014SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451235 | 0.89 | 465850 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 126404 | 0.67 | 129632 | 97.5 | 70 - | 130 |
| 103 | Rh | 1 | 2177443 | 0.83 | 2265009 | 96.1 | 70 - | 130 |
| 115 | In | 1 | 2315668 | 0.77 | 2406660 | 96.2 | 70 - | 130 |
| 115 | In | 2 | 958150 | 1.07 | 1007957 | 95.1 | 70 - | 130 |
| 159 | Tb | 1 | 2692459 | 1.16 | 2763118 | 97.4 | 70 - | 130 |
| 175 | Lu | 1 | 2505237 | 1.07 | 2515951 | 99.6 | 70 - | 130 |
| 209 | Bi | 1 | 1500433 | 0.22 | 1560225 | 96.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D#
Date Acquired: Dec 4 2013 03:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 26.77 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 7623.40 | 900.00 | |
| 11 B | 6 | 1 | 0.19 | 0.19 | ppb | 6.64 | 900.00 | |
| 11 B | 45 | 2 | 0.12 | 0.12 | ppb | 41.22 | 900.00 | |
| 23 Na | 45 | 1 | -0.18 | -0.18 | ppb | 133.00 | 90000.00 | |
| 23 Na | 45 | 2 | 0.04 | 0.04 | ppb | 1076.20 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.46 | -0.46 | ppb | 4.06 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.26 | -0.26 | ppb | 35.62 | 90000.00 | |
| 27 Al | 45 | 1 | -0.21 | -0.21 | ppb | 81.56 | 90000.00 | |
| 27 Al | 45 | 2 | -0.11 | -0.11 | ppb | 80.71 | 90000.00 | |
| 39 K | 45 | 1 | 0.37 | 0.37 | ppb | 182.50 | 90000.00 | |
| 44 Ca | 45 | 1 | -0.19 | -0.19 | ppb | 180.84 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.04 | 0.04 | ppb | 57.04 | 900.00 | |
| 51 V | 45 | 2 | -0.03 | -0.03 | ppb | 24.08 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 75.99 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 92.21 | 900.00 | |
| 56 Fe | 45 | 2 | -0.25 | -0.25 | ppb | 8.41 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 33.63 | 900.00 | |
| 60 Ni | 45 | 2 | -0.02 | -0.02 | ppb | 115.49 | 900.00 | |
| 63 Cu | 72 | 2 | -0.01 | -0.01 | ppb | 138.85 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 31.09 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 225.07 | 900.00 | |
| 78 Se | 72 | 2 | -0.03 | -0.03 | ppb | 378.73 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 103.05 | 900.00 | |
| 98 Mo | 103 | 1 | 0.07 | 0.07 | ppb | 26.04 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 34.46 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 153.86 | 900.00 | |
| 120 Sn | 115 | 1 | 0.01 | 0.01 | ppb | 35.80 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 368.99 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 40.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.16 | 0.16 | ppb | 4.86 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 113.03 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2056894 | 0.84 | 2032921 | 101.2 | 70 - 130 | |
| 45 Sc | 1 | 2571619 | 0.34 | 2621135 | 98.1 | 70 - 130 | |
| 45 Sc | 2 | 357661 | 0.44 | 361541 | 98.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\015SMPL.D\015SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 462201 | 0.68 | 465850 | 99.2 | 70 | - | 130 |
| 72 Ge | 2 | 128649 | 0.45 | 129632 | 99.2 | 70 | - | 130 |
| 103 Rh | 1 | 2251091 | 0.24 | 2265009 | 99.4 | 70 | - | 130 |
| 115 In | 1 | 2378634 | 0.48 | 2406660 | 98.8 | 70 | - | 130 |
| 115 In | 2 | 1000219 | 0.30 | 1007957 | 99.2 | 70 | - | 130 |
| 159 Tb | 1 | 2712195 | 0.21 | 2763118 | 98.2 | 70 | - | 130 |
| 175 Lu | 1 | 2503498 | 1.26 | 2515951 | 99.5 | 70 | - | 130 |
| 209 Bi | 1 | 1537976 | 0.48 | 1560225 | 98.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#
Date Acquired: Dec 4 2013 03:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.47 | 0.47 | ppb | 2.47 | 900.00 | |
| 9 Be | 45 | 2 | 0.49 | 0.49 | ppb | 20.23 | 900.00 | |
| 11 B | 6 | 1 | 4.80 | 4.80 | ppb | 1.16 | 900.00 | |
| 11 B | 45 | 2 | 5.01 | 5.01 | ppb | 12.37 | 900.00 | |
| 23 Na | 45 | 1 | 248.00 | 248.00 | ppb | 0.71 | 90000.00 | |
| 23 Na | 45 | 2 | 272.90 | 272.90 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 255.60 | 255.60 | ppb | 0.18 | 90000.00 | |
| 24 Mg | 45 | 2 | 259.20 | 259.20 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 1 | 26.45 | 26.45 | ppb | 0.26 | 90000.00 | |
| 27 Al | 45 | 2 | 25.09 | 25.09 | ppb | 2.84 | 90000.00 | |
| 39 K | 45 | 1 | 248.30 | 248.30 | ppb | 0.35 | 90000.00 | |
| 44 Ca | 45 | 1 | 263.40 | 263.40 | ppb | 0.69 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.04 | 1.04 | ppb | 1.08 | 900.00 | |
| 51 V | 45 | 2 | 0.92 | 0.92 | ppb | 3.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 1.15 | 900.00 | |
| 55 Mn | 45 | 2 | 0.96 | 0.96 | ppb | 3.31 | 900.00 | |
| 56 Fe | 45 | 2 | 26.81 | 26.81 | ppb | 0.53 | 90000.00 | |
| 59 Co | 45 | 2 | 0.49 | 0.49 | ppb | 1.35 | 900.00 | |
| 60 Ni | 45 | 2 | 1.04 | 1.04 | ppb | 4.63 | 900.00 | |
| 63 Cu | 72 | 2 | 0.97 | 0.97 | ppb | 1.17 | 900.00 | |
| 66 Zn | 72 | 2 | 1.93 | 1.93 | ppb | 0.28 | 900.00 | |
| 75 As | 72 | 2 | 0.49 | 0.49 | ppb | 5.99 | 900.00 | |
| 78 Se | 72 | 2 | 0.53 | 0.53 | ppb | 17.10 | 900.00 | |
| 88 Sr | 103 | 1 | 4.97 | 4.97 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 2.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 0.50 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 2.67 | 900.00 | |
| 120 Sn | 115 | 1 | 5.08 | 5.08 | ppb | 2.38 | 900.00 | |
| 121 Sb | 115 | 1 | 0.51 | 0.51 | ppb | 1.32 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 1.03 | ppb | 0.73 | 900.00 | |
| 205 Tl | 209 | 1 | 0.48 | 0.48 | ppb | 3.22 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.54 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2043726 | 1.38 | 2032921 | 100.5 | 70 - 130 | |
| 45 Sc | 1 | 2598882 | 0.48 | 2621135 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 356309 | 0.10 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\016SMPL.D\016SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 463762 | 0.80 | 465850 | 99.6 | 70 - | 130 |
| 72 | Ge | 2 | 128008 | 0.41 | 129632 | 98.7 | 70 - | 130 |
| 103 | Rh | 1 | 2236187 | 0.86 | 2265009 | 98.7 | 70 - | 130 |
| 115 | In | 1 | 2379745 | 0.69 | 2406660 | 98.9 | 70 - | 130 |
| 115 | In | 2 | 992196 | 0.23 | 1007957 | 98.4 | 70 - | 130 |
| 159 | Tb | 1 | 2732738 | 1.05 | 2763118 | 98.9 | 70 - | 130 |
| 175 | Lu | 1 | 2508845 | 0.66 | 2515951 | 99.7 | 70 - | 130 |
| 209 | Bi | 1 | 1530128 | 0.99 | 1560225 | 98.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#
**Date Acquired:** Dec 4 2013 03:52 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** ICSA
**Misc Info:**
**Vial Number:** 2106
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 1.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 1.00

**Data Results:**
**Analytes:** Fail
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 42.85 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 214.93 | 900.00 | |
| 11 B | 6 | 1 | 0.21 | 0.21 | ppb | 11.70 | 900.00 | |
| 11 B | 45 | 2 | 0.33 | 0.33 | ppb | 6.45 | 900.00 | |
| 23 Na | 45 | 1 | 91650.00 | 91650.00 | ppb | 0.18 | 90000.00 | >LDR |
| 23 Na | 45 | 2 | 93590.00 | 93590.00 | ppb | 0.31 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 92970.00 | 92970.00 | ppb | 0.45 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87600.00 | 87600.00 | ppb | 0.55 | 90000.00 | |
| 27 Al | 45 | 1 | 94820.00 | 94820.00 | ppb | 0.73 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 86040.00 | 86040.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 94770.00 | 94770.00 | ppb | 0.73 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 93510.00 | 93510.00 | ppb | 0.37 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1990.00 | 1990.00 | ppb | 0.66 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 12.02 | 900.00 | |
| 52 Cr | 45 | 2 | 0.98 | 0.98 | ppb | 0.63 | 900.00 | |
| 55 Mn | 45 | 2 | 0.24 | 0.24 | ppb | 2.25 | 900.00 | |
| 56 Fe | 45 | 2 | 93130.00 | 93130.00 | ppb | 1.11 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 0.04 | 0.04 | ppb | 5.16 | 900.00 | |
| 60 Ni | 45 | 2 | 0.45 | 0.45 | ppb | 4.26 | 900.00 | |
| 63 Cu | 72 | 2 | 0.36 | 0.36 | ppb | 4.68 | 900.00 | |
| 66 Zn | 72 | 2 | 1.90 | 1.90 | ppb | 1.60 | 900.00 | |
| 75 As | 72 | 2 | 0.24 | 0.24 | ppb | 11.74 | 900.00 | |
| 78 Se | 72 | 2 | 0.20 | 0.20 | ppb | 42.49 | 900.00 | |
| 88 Sr | 103 | 1 | 4.92 | 4.92 | ppb | 0.57 | 900.00 | |
| 98 Mo | 103 | 1 | 2052.00 | 2052.00 | ppb | 1.31 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 0.05 | 0.05 | ppb | 4.77 | 900.00 | |
| 111 Cd | 115 | 2 | 1.04 | 1.04 | ppb | 8.84 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 7.32 | 900.00 | |
| 121 Sb | 115 | 1 | 0.27 | 0.27 | ppb | 3.29 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 5.79 | 900.00 | |
| 205 Tl | 209 | 1 | 0.03 | 0.03 | ppb | 12.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 4.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1823085 | 0.83 | 2032921 | 89.7 | 70 - 130 | |
| 45 Sc | 1 | 2499613 | 0.30 | 2621135 | 95.4 | 70 - 130 | |
| 45 Sc | 2 | 346519 | 0.49 | 361541 | 95.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\017SMPL.D\017SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461114 | 0.34 | 465850 | 99.0 | 70 | - | 130 |
| 72 Ge | 2 | 125540 | 0.19 | 129632 | 96.8 | 70 | - | 130 |
| 103 Rh | 1 | 1977667 | 0.16 | 2265009 | 87.3 | 70 | - | 130 |
| 115 In | 1 | 2203651 | 0.38 | 2406660 | 91.6 | 70 | - | 130 |
| 115 In | 2 | 906667 | 0.30 | 1007957 | 90.0 | 70 | - | 130 |
| 159 Tb | 1 | 2704151 | 0.76 | 2763118 | 97.9 | 70 | - | 130 |
| 175 Lu | 1 | 2530604 | 1.67 | 2515951 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 1371109 | 2.11 | 1560225 | 87.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\018SMPL.D\018SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\018SMPL.D\018SMPL.D#
Date Acquired: Dec 4 2013 03:59 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: ICSAB
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 22.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 2133.50 | 900.00 | |
| 11 B | 6 | 1 | 0.16 | 0.16 | ppb | 15.66 | 900.00 | |
| 11 B | 45 | 2 | 0.27 | 0.27 | ppb | 0.31 | 900.00 | |
| 23 Na | 45 | 1 | 89540.00 | 89540.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 93760.00 | 93760.00 | ppb | 0.73 | 90000.00 | >LDR |
| 24 Mg | 45 | 1 | 91230.00 | 91230.00 | ppb | 0.59 | 90000.00 | >LDR |
| 24 Mg | 45 | 2 | 87490.00 | 87490.00 | ppb | 0.59 | 90000.00 | |
| 27 Al | 45 | 1 | 92680.00 | 92680.00 | ppb | 1.05 | 90000.00 | >LDR |
| 27 Al | 45 | 2 | 85060.00 | 85060.00 | ppb | 0.90 | 90000.00 | |
| 39 K | 45 | 1 | 93390.00 | 93390.00 | ppb | 0.38 | 90000.00 | >LDR |
| 44 Ca | 45 | 1 | 92190.00 | 92190.00 | ppb | 0.66 | 90000.00 | >LDR |
| 47 Ti | 45 | 1 | 1949.00 | 1949.00 | ppb | 1.21 | 900.00 | >LDR |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 15.10 | 900.00 | |
| 52 Cr | 45 | 2 | 19.23 | 19.23 | ppb | 0.15 | 900.00 | |
| 55 Mn | 45 | 2 | 18.29 | 18.29 | ppb | 1.03 | 900.00 | |
| 56 Fe | 45 | 2 | 93290.00 | 93290.00 | ppb | 1.17 | 90000.00 | >LDR |
| 59 Co | 45 | 2 | 17.96 | 17.96 | ppb | 0.29 | 900.00 | |
| 60 Ni | 45 | 2 | 18.23 | 18.23 | ppb | 0.43 | 900.00 | |
| 63 Cu | 72 | 2 | 17.09 | 17.09 | ppb | 0.37 | 900.00 | |
| 66 Zn | 72 | 2 | 18.42 | 18.42 | ppb | 0.64 | 900.00 | |
| 75 As | 72 | 2 | 19.31 | 19.31 | ppb | 1.79 | 900.00 | |
| 78 Se | 72 | 2 | 0.10 | 0.10 | ppb | 39.16 | 900.00 | |
| 88 Sr | 103 | 1 | 4.83 | 4.83 | ppb | 0.56 | 900.00 | |
| 98 Mo | 103 | 1 | 2007.00 | 2007.00 | ppb | 0.28 | 900.00 | >LDR |
| 107 Ag | 115 | 1 | 18.82 | 18.82 | ppb | 1.17 | 900.00 | |
| 111 Cd | 115 | 2 | 19.15 | 19.15 | ppb | 1.49 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.09 | ppb | 7.59 | 900.00 | |
| 121 Sb | 115 | 1 | 0.26 | 0.26 | ppb | 5.41 | 900.00 | |
| 137 Ba | 159 | 1 | 0.23 | 0.23 | ppb | 7.18 | 900.00 | |
| 205 Tl | 209 | 1 | 0.00 | 0.00 | ppb | 4561.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.12 | 0.12 | ppb | 1.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1825454 | 0.20 | 2032921 | 89.8 | 70 - 130 | |
| 45 Sc | 1 | 2541382 | 1.19 | 2621135 | 97.0 | 70 - 130 | |
| 45 Sc | 2 | 344648 | 0.20 | 361541 | 95.3 | 70 - 130 | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 461889 | 1.09 | 465850 | 99.1 | 70 | - | 130 |
| 72 Ge | 2 | 125346 | 0.28 | 129632 | 96.7 | 70 | - | 130 |
| 103 Rh | 1 | 2028329 | 0.32 | 2265009 | 89.6 | 70 | - | 130 |
| 115 In | 1 | 2259180 | 0.76 | 2406660 | 93.9 | 70 | - | 130 |
| 115 In | 2 | 910891 | 0.38 | 1007957 | 90.4 | 70 | - | 130 |
| 159 Tb | 1 | 2763431 | 1.20 | 2763118 | 100.0 | 70 | - | 130 |
| 175 Lu | 1 | 2585590 | 0.51 | 2515951 | 102.8 | 70 | - | 130 |
| 209 Bi | 1 | 1426243 | 0.91 | 1560225 | 91.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#
Date Acquired: Dec 4 2013 04:07 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | -0.01 | ppb | 26.92 | 900.00 | |
| 9 Be | 45 | 2 | -0.01 | -0.01 | ppb | 85.80 | 900.00 | |
| 11 B | 6 | 1 | -0.02 | -0.02 | ppb | 10.70 | 900.00 | |
| 11 B | 45 | 2 | -0.03 | -0.03 | ppb | 189.73 | 900.00 | |
| 23 Na | 45 | 1 | 7.72 | 7.72 | ppb | 3.89 | 90000.00 | |
| 23 Na | 45 | 2 | 22.34 | 22.34 | ppb | 22.40 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.38 | 0.38 | ppb | 36.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 6.80 | 6.80 | ppb | 47.26 | 90000.00 | |
| 27 Al | 45 | 1 | 0.39 | 0.39 | ppb | 23.90 | 90000.00 | |
| 27 Al | 45 | 2 | 4.95 | 4.95 | ppb | 49.68 | 90000.00 | |
| 39 K | 45 | 1 | -8.61 | -8.61 | ppb | 18.41 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.14 | -2.14 | ppb | 5.76 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.10 | 0.10 | ppb | 11.20 | 900.00 | |
| 51 V | 45 | 2 | -0.09 | -0.09 | ppb | 14.95 | 900.00 | |
| 52 Cr | 45 | 2 | -0.01 | -0.01 | ppb | 45.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.00 | 0.00 | ppb | 142.78 | 900.00 | |
| 56 Fe | 45 | 2 | 6.46 | 6.46 | ppb | 42.27 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 25.02 | 900.00 | |
| 60 Ni | 45 | 2 | 0.04 | 0.04 | ppb | 30.58 | 900.00 | |
| 63 Cu | 72 | 2 | 0.03 | 0.03 | ppb | 15.99 | 900.00 | |
| 66 Zn | 72 | 2 | -0.01 | -0.01 | ppb | 30.91 | 900.00 | |
| 75 As | 72 | 2 | -0.02 | -0.02 | ppb | 71.72 | 900.00 | |
| 78 Se | 72 | 2 | -0.05 | -0.05 | ppb | 95.00 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 47.37 | 900.00 | |
| 98 Mo | 103 | 1 | 4.97 | 4.97 | ppb | 4.82 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 10.23 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 945.56 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | -0.01 | ppb | 36.00 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 35.59 | 900.00 | |
| 137 Ba | 159 | 1 | -0.02 | -0.02 | ppb | 54.90 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | -0.01 | ppb | 81.94 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 46.29 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2062588 | 0.75 | 2032921 | 101.5 | 70 - 130 | |
| 45 Sc | 1 | 2747381 | 0.69 | 2621135 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 363675 | 0.48 | 361541 | 100.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\019SMPL.D\019SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 479498 | 0.65 | 465850 | 102.9 | 70 | - | 130 |
| 72 | Ge | 2 | 132002 | 0.41 | 129632 | 101.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2373233 | 0.80 | 2265009 | 104.8 | 70 | - | 130 |
| 115 | In | 1 | 2538597 | 0.94 | 2406660 | 105.5 | 70 | - | 130 |
| 115 | In | 2 | 1026726 | 0.46 | 1007957 | 101.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2941125 | 0.82 | 2763118 | 106.4 | 70 | - | 130 |
| 175 | Lu | 1 | 2729098 | 0.68 | 2515951 | 108.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1667406 | 0.91 | 1560225 | 106.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#
**Date Acquired:** Dec 4 2013 04:14 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22187-MB1
**Misc Info:**
**Vial Number:** 2109
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 5.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 5.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.04 | 0.01 | ppb | 38.51 | 900.00 | |
| 9 Be | 45 | 2 | -0.02 | 0.00 | ppb | 365.35 | 900.00 | |
| 11 B | 6 | 1 | 0.29 | 0.06 | ppb | 9.46 | 900.00 | |
| 11 B | 45 | 2 | 0.54 | 0.11 | ppb | 60.61 | 900.00 | |
| 23 Na | 45 | 1 | 57.30 | 11.46 | ppb | 2.42 | 90000.00 | |
| 23 Na | 45 | 2 | 85.40 | 17.08 | ppb | 1.76 | 90000.00 | |
| 24 Mg | 45 | 1 | 7.83 | 1.57 | ppb | 0.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 8.83 | 1.77 | ppb | 3.91 | 90000.00 | |
| 27 Al | 45 | 1 | 19.13 | 3.83 | ppb | 4.49 | 90000.00 | |
| 27 Al | 45 | 2 | 18.82 | 3.76 | ppb | 8.10 | 90000.00 | |
| 39 K | 45 | 1 | -19.81 | -3.96 | ppb | 5.94 | 90000.00 | |
| 44 Ca | 45 | 1 | 35.12 | 7.02 | ppb | 9.33 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.64 | 0.33 | ppb | 33.62 | 900.00 | |
| 51 V | 45 | 2 | 3.13 | 0.63 | ppb | 1.09 | 900.00 | |
| 52 Cr | 45 | 2 | -0.36 | -0.07 | ppb | 4.92 | 900.00 | |
| 55 Mn | 45 | 2 | 0.88 | 0.18 | ppb | 5.50 | 900.00 | |
| 56 Fe | 45 | 2 | 83.70 | 16.74 | ppb | 0.73 | 90000.00 | |
| 59 Co | 45 | 2 | 0.08 | 0.02 | ppb | 10.95 | 900.00 | |
| 60 Ni | 45 | 2 | -3.45 | -0.69 | ppb | 3.30 | 900.00 | |
| 63 Cu | 72 | 2 | 0.71 | 0.14 | ppb | 4.37 | 900.00 | |
| 66 Zn | 72 | 2 | 2.27 | 0.45 | ppb | 5.08 | 900.00 | |
| 75 As | 72 | 2 | 1.10 | 0.22 | ppb | 4.97 | 900.00 | |
| 78 Se | 72 | 2 | 0.07 | 0.01 | ppb | 812.77 | 900.00 | |
| 88 Sr | 103 | 1 | 0.23 | 0.05 | ppb | 1.06 | 900.00 | |
| 98 Mo | 103 | 1 | 2.83 | 0.57 | ppb | 3.30 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 56.47 | 900.00 | |
| 111 Cd | 115 | 2 | 0.05 | 0.01 | ppb | 57.62 | 900.00 | |
| 120 Sn | 115 | 1 | 10.04 | 2.01 | ppb | 0.95 | 900.00 | |
| 121 Sb | 115 | 1 | 0.07 | 0.01 | ppb | 36.87 | 900.00 | |
| 137 Ba | 159 | 1 | 1.03 | 0.21 | ppb | 11.81 | 900.00 | |
| 205 Tl | 209 | 1 | -0.01 | 0.00 | ppb | 87.45 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.37 | 0.07 | ppb | 5.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2048522 | 0.82 | 2032921 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2701642 | 0.37 | 2621135 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 357219 | 0.47 | 361541 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\020SMPL.D\020SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 472136 | 0.40 | 465850 | 101.3 | 70 | - | 130 |
| 72 | Ge | 2 | 130768 | 0.26 | 129632 | 100.9 | 70 | - | 130 |
| 103 | Rh | 1 | 2342233 | 1.06 | 2265009 | 103.4 | 70 | - | 130 |
| 115 | In | 1 | 2471568 | 0.48 | 2406660 | 102.7 | 70 | - | 130 |
| 115 | In | 2 | 1007247 | 0.34 | 1007957 | 99.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2907583 | 1.94 | 2763118 | 105.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2695153 | 1.91 | 2515951 | 107.1 | 70 | - | 130 |
| 209 | Bi | 1 | 1631895 | 1.03 | 1560225 | 104.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D# |
| Date Acquired: | Dec 4 2013 04:21 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC25983-10A |
| Misc Info: | |
| Vial Number: | 2110 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 5.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 5.00 |

Data Results:
Analytes: Fail
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 816.50 | 163.30 | ppb | 0.40 | 900.00 | |
| 9 Be | 45 | 2 | 750.00 | 150.00 | ppb | 0.89 | 900.00 | |
| 11 B | 6 | 1 | 1571.00 | 314.20 | ppb | 0.51 | 900.00 | |
| 11 B | 45 | 2 | 1290.00 | 258.00 | ppb | 1.90 | 900.00 | |
| 23 Na | 45 | 1 | 3581.50 | 716.30 | ppb | 0.69 | 90000.00 | |
| 23 Na | 45 | 2 | 4000.00 | 800.00 | ppb | 0.17 | 90000.00 | |
| 24 Mg | 45 | 1 | 24590.00 | 4918.00 | ppb | 0.43 | 90000.00 | |
| 24 Mg | 45 | 2 | 24145.00 | 4829.00 | ppb | 0.63 | 90000.00 | |
| 27 Al | 45 | 1 | 67050.00 | 13410.00 | ppb | 0.40 | 90000.00 | |
| 27 Al | 45 | 2 | 61600.00 | 12320.00 | ppb | 0.23 | 90000.00 | |
| 39 K | 45 | 1 | 20860.00 | 4172.00 | ppb | 0.56 | 90000.00 | |
| 44 Ca | 45 | 1 | 55100.00 | 11020.00 | ppb | 0.74 | 90000.00 | |
| 47 Ti | 45 | 1 | 3092.50 | 618.50 | ppb | 1.02 | 900.00 | |
| 51 V | 45 | 2 | 825.00 | 165.00 | ppb | 1.06 | 900.00 | |
| 52 Cr | 45 | 2 | 1222.00 | 244.40 | ppb | 0.88 | 900.00 | |
| 55 Mn | 45 | 2 | 4739.50 | 947.90 | ppb | 1.02 | 900.00 | >LDR |
| 56 Fe | 45 | 2 | 140300.00 | 28060.00 | ppb | 1.01 | 90000.00 | |
| 59 Co | 45 | 2 | 1108.50 | 221.70 | ppb | 1.21 | 900.00 | |
| 60 Ni | 45 | 2 | 946.50 | 189.30 | ppb | 0.30 | 900.00 | |
| 63 Cu | 72 | 2 | 1022.50 | 204.50 | ppb | 1.21 | 900.00 | |
| 66 Zn | 72 | 2 | 2186.00 | 437.20 | ppb | 0.20 | 900.00 | |
| 75 As | 72 | 2 | 920.00 | 184.00 | ppb | 0.54 | 900.00 | |
| 78 Se | 72 | 2 | 1280.00 | 256.00 | ppb | 0.84 | 900.00 | |
| 88 Sr | 103 | 1 | 917.00 | 183.40 | ppb | 0.42 | 900.00 | |
| 98 Mo | 103 | 1 | 737.50 | 147.50 | ppb | 0.74 | 900.00 | |
| 107 Ag | 115 | 1 | 507.00 | 101.40 | ppb | 3.86 | 900.00 | |
| 111 Cd | 115 | 2 | 681.00 | 136.20 | ppb | 0.02 | 900.00 | |
| 120 Sn | 115 | 1 | 1500.50 | 300.10 | ppb | 0.90 | 900.00 | |
| 121 Sb | 115 | 1 | 365.60 | 73.12 | ppb | 0.27 | 900.00 | |
| 137 Ba | 159 | 1 | 3510.50 | 702.10 | ppb | 1.00 | 900.00 | |
| 205 Tl | 209 | 1 | 1780.00 | 356.00 | ppb | 1.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1819.00 | 363.80 | ppb | 1.05 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1945459 | 0.26 | 2032921 | 95.7 | 70 - 130 | |
| 45 Sc | 1 | 2774879 | 0.64 | 2621135 | 105.9 | 70 - 130 | |
| 45 Sc | 2 | 361484 | 0.65 | 361541 | 100.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\021SMPL.D\021SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 454007 | 0.79 | 465850 | 97.5 | 70 | - | 130 |
| 72 Ge | 2 | 126019 | 0.97 | 129632 | 97.2 | 70 | - | 130 |
| 103 Rh | 1 | 2172160 | 0.76 | 2265009 | 95.9 | 70 | - | 130 |
| 115 In | 1 | 2339339 | 0.44 | 2406660 | 97.2 | 70 | - | 130 |
| 115 In | 2 | 942058 | 0.69 | 1007957 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2843534 | 1.11 | 2763118 | 102.9 | 70 | - | 130 |
| 175 Lu | 1 | 2621586 | 1.26 | 2515951 | 104.2 | 70 | - | 130 |
| 209 Bi | 1 | 1550263 | 0.85 | 1560225 | 99.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D#
**Date Acquired:** Dec 4 2013 04:28 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC25983-10A
**Misc Info:**
**Vial Number:** 2111
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 787.70 | 78.77 | ppb | 0.34 | 900.00 | |
| 9 Be | 45 | 2 | 760.00 | 76.00 | ppb | 1.06 | 900.00 | |
| 11 B | 6 | 1 | 1407.00 | 140.70 | ppb | 0.56 | 900.00 | |
| 11 B | 45 | 2 | 1309.00 | 130.90 | ppb | 1.42 | 900.00 | |
| 23 Na | 45 | 1 | 3733.00 | 373.30 | ppb | 2.12 | 90000.00 | |
| 23 Na | 45 | 2 | 4173.00 | 417.30 | ppb | 0.88 | 90000.00 | |
| 24 Mg | 45 | 1 | 25670.00 | 2567.00 | ppb | 1.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 25410.00 | 2541.00 | ppb | 0.82 | 90000.00 | |
| 27 Al | 45 | 1 | 70170.00 | 7017.00 | ppb | 1.74 | 90000.00 | |
| 27 Al | 45 | 2 | 64560.00 | 6456.00 | ppb | 0.62 | 90000.00 | |
| 39 K | 45 | 1 | 21680.00 | 2168.00 | ppb | 1.88 | 90000.00 | |
| 44 Ca | 45 | 1 | 57870.00 | 5787.00 | ppb | 1.03 | 90000.00 | |
| 47 Ti | 45 | 1 | 3172.00 | 317.20 | ppb | 0.89 | 900.00 | |
| 51 V | 45 | 2 | 866.80 | 86.68 | ppb | 0.71 | 900.00 | |
| 52 Cr | 45 | 2 | 1274.00 | 127.40 | ppb | 2.09 | 900.00 | |
| 55 Mn | 45 | 2 | 4989.00 | 498.90 | ppb | 0.37 | 900.00 | |
| 56 Fe | 45 | 2 | 145100.00 | 14510.00 | ppb | 0.91 | 90000.00 | |
| 59 Co | 45 | 2 | 1161.00 | 116.10 | ppb | 1.10 | 900.00 | |
| 60 Ni | 45 | 2 | 968.00 | 96.80 | ppb | 1.46 | 900.00 | |
| 63 Cu | 72 | 2 | 1059.00 | 105.90 | ppb | 0.72 | 900.00 | |
| 66 Zn | 72 | 2 | 2249.00 | 224.90 | ppb | 0.57 | 900.00 | |
| 75 As | 72 | 2 | 935.80 | 93.58 | ppb | 0.46 | 900.00 | |
| 78 Se | 72 | 2 | 1323.00 | 132.30 | ppb | 0.26 | 900.00 | |
| 88 Sr | 103 | 1 | 930.30 | 93.03 | ppb | 1.14 | 900.00 | |
| 98 Mo | 103 | 1 | 718.40 | 71.84 | ppb | 0.65 | 900.00 | |
| 107 Ag | 115 | 1 | 520.60 | 52.06 | ppb | 0.28 | 900.00 | |
| 111 Cd | 115 | 2 | 674.10 | 67.41 | ppb | 0.23 | 900.00 | |
| 120 Sn | 115 | 1 | 1498.00 | 149.80 | ppb | 1.01 | 900.00 | |
| 121 Sb | 115 | 1 | 357.10 | 35.71 | ppb | 0.23 | 900.00 | |
| 137 Ba | 159 | 1 | 3577.00 | 357.70 | ppb | 1.34 | 900.00 | |
| 205 Tl | 209 | 1 | 1810.00 | 181.00 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1825.00 | 182.50 | ppb | 0.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1977586 | 0.04 | 2032921 | 97.3 | 70 - 130 | |
| 45 Sc | 1 | 2698701 | 1.27 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 354186 | 0.54 | 361541 | 98.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\022SMPL.D\022SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 450313 | 0.73 | 465850 | 96.7 | 70 | - | 130 |
| 72 Ge | 2 | 125598 | 0.42 | 129632 | 96.9 | 70 | - | 130 |
| 103 Rh | 1 | 2198374 | 0.54 | 2265009 | 97.1 | 70 | - | 130 |
| 115 In | 1 | 2357079 | 0.68 | 2406660 | 97.9 | 70 | - | 130 |
| 115 In | 2 | 954261 | 0.29 | 1007957 | 94.7 | 70 | - | 130 |
| 159 Tb | 1 | 2804640 | 1.09 | 2763118 | 101.5 | 70 | - | 130 |
| 175 Lu | 1 | 2569294 | 0.93 | 2515951 | 102.1 | 70 | - | 130 |
| 209 Bi | 1 | 1560509 | 0.31 | 1560225 | 100.0 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D#
**Date Acquired:** Dec 4 2013 04:35 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MP22187-SD1
**Misc Info:**
**Vial Number:** 2112
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 25.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 25.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 779.00 | 31.16 | ppb | 1.14 | 900.00 | |
| 9 Be | 45 | 2 | 779.00 | 31.16 | ppb | 3.75 | 900.00 | |
| 11 B | 6 | 1 | 1380.00 | 55.20 | ppb | 0.65 | 900.00 | |
| 11 B | 45 | 2 | 1300.50 | 52.02 | ppb | 2.39 | 900.00 | |
| 23 Na | 45 | 1 | 3932.50 | 157.30 | ppb | 0.39 | 90000.00 | |
| 23 Na | 45 | 2 | 4437.50 | 177.50 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 1 | 26950.00 | 1078.00 | ppb | 0.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 26600.00 | 1064.00 | ppb | 1.47 | 90000.00 | |
| 27 Al | 45 | 1 | 73450.00 | 2938.00 | ppb | 1.10 | 90000.00 | |
| 27 Al | 45 | 2 | 68375.00 | 2735.00 | ppb | 0.14 | 90000.00 | |
| 39 K | 45 | 1 | 22555.00 | 902.20 | ppb | 1.19 | 90000.00 | |
| 44 Ca | 45 | 1 | 61825.00 | 2473.00 | ppb | 0.34 | 90000.00 | |
| 47 Ti | 45 | 1 | 3292.50 | 131.70 | ppb | 0.41 | 900.00 | |
| 51 V | 45 | 2 | 881.00 | 35.24 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1311.50 | 52.46 | ppb | 0.27 | 900.00 | |
| 55 Mn | 45 | 2 | 5247.50 | 209.90 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 148500.00 | 5940.00 | ppb | 0.20 | 90000.00 | |
| 59 Co | 45 | 2 | 1202.25 | 48.09 | ppb | 0.64 | 900.00 | |
| 60 Ni | 45 | 2 | 982.75 | 39.31 | ppb | 1.22 | 900.00 | |
| 63 Cu | 72 | 2 | 1085.75 | 43.43 | ppb | 0.88 | 900.00 | |
| 66 Zn | 72 | 2 | 2329.00 | 93.16 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 948.25 | 37.93 | ppb | 0.53 | 900.00 | |
| 78 Se | 72 | 2 | 1383.75 | 55.35 | ppb | 1.26 | 900.00 | |
| 88 Sr | 103 | 1 | 942.25 | 37.69 | ppb | 0.84 | 900.00 | |
| 98 Mo | 103 | 1 | 694.50 | 27.78 | ppb | 0.64 | 900.00 | |
| 107 Ag | 115 | 1 | 524.75 | 20.99 | ppb | 1.01 | 900.00 | |
| 111 Cd | 115 | 2 | 687.25 | 27.49 | ppb | 0.40 | 900.00 | |
| 120 Sn | 115 | 1 | 1514.25 | 60.57 | ppb | 0.11 | 900.00 | |
| 121 Sb | 115 | 1 | 359.50 | 14.38 | ppb | 0.77 | 900.00 | |
| 137 Ba | 159 | 1 | 3622.50 | 144.90 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 1811.50 | 72.46 | ppb | 0.57 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1836.50 | 73.46 | ppb | 0.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2024689 | 0.72 | 2032921 | 99.6 | 70 - 130 | |
| 45 Sc | 1 | 2641375 | 0.24 | 2621135 | 100.8 | 70 - 130 | |
| 45 Sc | 2 | 358289 | 1.10 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\023SMPL.D\023SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451376 | 1.34 | 465850 | 96.9 | 70 - | 130 |
| 72 | Ge | 2 | 127736 | 0.90 | 129632 | 98.5 | 70 - | 130 |
| 103 | Rh | 1 | 2229899 | 0.61 | 2265009 | 98.4 | 70 - | 130 |
| 115 | In | 1 | 2374222 | 0.80 | 2406660 | 98.7 | 70 - | 130 |
| 115 | In | 2 | 980155 | 0.74 | 1007957 | 97.2 | 70 - | 130 |
| 159 | Tb | 1 | 2774045 | 0.85 | 2763118 | 100.4 | 70 - | 130 |
| 175 | Lu | 1 | 2548539 | 1.11 | 2515951 | 101.3 | 70 - | 130 |
| 209 | Bi | 1 | 1573328 | 0.49 | 1560225 | 100.8 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 4 2013 04:42 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-SD1
Misc Info:
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 788.50 | 15.77 | ppb | 0.53 | 900.00 | |
| 9 Be | 45 | 2 | 785.00 | 15.70 | ppb | 1.33 | 900.00 | |
| 11 B | 6 | 1 | 1377.50 | 27.55 | ppb | 0.90 | 900.00 | |
| 11 B | 45 | 2 | 1298.00 | 25.96 | ppb | 7.58 | 900.00 | |
| 23 Na | 45 | 1 | 4014.50 | 80.29 | ppb | 0.54 | 90000.00 | |
| 23 Na | 45 | 2 | 4509.00 | 90.18 | ppb | 0.08 | 90000.00 | |
| 24 Mg | 45 | 1 | 27390.00 | 547.80 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 27905.00 | 558.10 | ppb | 0.72 | 90000.00 | |
| 27 Al | 45 | 1 | 74450.00 | 1489.00 | ppb | 0.35 | 90000.00 | |
| 27 Al | 45 | 2 | 71200.00 | 1424.00 | ppb | 0.21 | 90000.00 | |
| 39 K | 45 | 1 | 22380.00 | 447.60 | ppb | 0.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 62700.00 | 1254.00 | ppb | 0.82 | 90000.00 | |
| 47 Ti | 45 | 1 | 3341.00 | 66.82 | ppb | 0.51 | 900.00 | |
| 51 V | 45 | 2 | 879.50 | 17.59 | ppb | 0.62 | 900.00 | |
| 52 Cr | 45 | 2 | 1323.00 | 26.46 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 5430.00 | 108.60 | ppb | 0.27 | 900.00 | |
| 56 Fe | 45 | 2 | 151700.00 | 3034.00 | ppb | 0.09 | 90000.00 | |
| 59 Co | 45 | 2 | 1224.00 | 24.48 | ppb | 0.93 | 900.00 | |
| 60 Ni | 45 | 2 | 987.00 | 19.74 | ppb | 1.31 | 900.00 | |
| 63 Cu | 72 | 2 | 1088.50 | 21.77 | ppb | 0.83 | 900.00 | |
| 66 Zn | 72 | 2 | 2362.50 | 47.25 | ppb | 0.31 | 900.00 | |
| 75 As | 72 | 2 | 957.50 | 19.15 | ppb | 0.45 | 900.00 | |
| 78 Se | 72 | 2 | 1359.50 | 27.19 | ppb | 0.61 | 900.00 | |
| 88 Sr | 103 | 1 | 958.50 | 19.17 | ppb | 0.59 | 900.00 | |
| 98 Mo | 103 | 1 | 683.50 | 13.67 | ppb | 1.85 | 900.00 | |
| 107 Ag | 115 | 1 | 531.50 | 10.63 | ppb | 0.21 | 900.00 | |
| 111 Cd | 115 | 2 | 688.50 | 13.77 | ppb | 2.69 | 900.00 | |
| 120 Sn | 115 | 1 | 1490.50 | 29.81 | ppb | 0.61 | 900.00 | |
| 121 Sb | 115 | 1 | 363.65 | 7.27 | ppb | 0.94 | 900.00 | |
| 137 Ba | 159 | 1 | 3726.00 | 74.52 | ppb | 1.22 | 900.00 | |
| 205 Tl | 209 | 1 | 1873.50 | 37.47 | ppb | 0.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1876.50 | 37.53 | ppb | 0.44 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2065927 | 0.80 | 2032921 | 101.6 | 70 - 130 | |
| 45 Sc | 1 | 2704434 | 0.44 | 2621135 | 103.2 | 70 - 130 | |
| 45 Sc | 2 | 359086 | 0.70 | 361541 | 99.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\024SMPL.D\024SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 469134 | 0.81 | 465850 | 100.7 | 70 | - | 130 |
| 72 Ge | 2 | 129491 | 0.27 | 129632 | 99.9 | 70 | - | 130 |
| 103 Rh | 1 | 2290640 | 1.29 | 2265009 | 101.1 | 70 | - | 130 |
| 115 In | 1 | 2433791 | 1.04 | 2406660 | 101.1 | 70 | - | 130 |
| 115 In | 2 | 992632 | 0.44 | 1007957 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 2801775 | 0.19 | 2763118 | 101.4 | 70 | - | 130 |
| 175 Lu | 1 | 2591319 | 1.16 | 2515951 | 103.0 | 70 | - | 130 |
| 209 Bi | 1 | 1587750 | 0.61 | 1560225 | 101.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 4 2013 04:49 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-B1
Misc Info:
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 513.50 | 102.70 | ppb | 1.27 | 900.00 | |
| 9 Be | 45 | 2 | 524.50 | 104.90 | ppb | 1.51 | 900.00 | |
| 11 B | 6 | 1 | 1119.50 | 223.90 | ppb | 1.41 | 900.00 | |
| 11 B | 45 | 2 | 1026.50 | 205.30 | ppb | 0.77 | 900.00 | |
| 23 Na | 45 | 1 | 25095.00 | 5019.00 | ppb | 1.29 | 90000.00 | |
| 23 Na | 45 | 2 | 26895.00 | 5379.00 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 25400.00 | 5080.00 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 2 | 24940.00 | 4988.00 | ppb | 0.48 | 90000.00 | |
| 27 Al | 45 | 1 | 2175.50 | 435.10 | ppb | 1.17 | 90000.00 | |
| 27 Al | 45 | 2 | 2153.50 | 430.70 | ppb | 1.36 | 90000.00 | |
| 39 K | 45 | 1 | 25880.00 | 5176.00 | ppb | 1.43 | 90000.00 | |
| 44 Ca | 45 | 1 | 25805.00 | 5161.00 | ppb | 1.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 508.00 | 101.60 | ppb | 1.39 | 900.00 | |
| 51 V | 45 | 2 | 522.50 | 104.50 | ppb | 0.44 | 900.00 | |
| 52 Cr | 45 | 2 | 509.50 | 101.90 | ppb | 1.70 | 900.00 | |
| 55 Mn | 45 | 2 | 488.95 | 97.79 | ppb | 0.64 | 900.00 | |
| 56 Fe | 45 | 2 | 2318.50 | 463.70 | ppb | 3.66 | 90000.00 | |
| 59 Co | 45 | 2 | 510.50 | 102.10 | ppb | 1.07 | 900.00 | |
| 60 Ni | 45 | 2 | 505.50 | 101.10 | ppb | 0.62 | 900.00 | |
| 63 Cu | 72 | 2 | 509.50 | 101.90 | ppb | 0.95 | 900.00 | |
| 66 Zn | 72 | 2 | 507.00 | 101.40 | ppb | 0.33 | 900.00 | |
| 75 As | 72 | 2 | 536.50 | 107.30 | ppb | 0.95 | 900.00 | |
| 78 Se | 72 | 2 | 512.00 | 102.40 | ppb | 0.94 | 900.00 | |
| 88 Sr | 103 | 1 | 520.00 | 104.00 | ppb | 1.38 | 900.00 | |
| 98 Mo | 103 | 1 | 512.00 | 102.40 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | 204.00 | 40.80 | ppb | 0.79 | 900.00 | |
| 111 Cd | 115 | 2 | 512.00 | 102.40 | ppb | 0.78 | 900.00 | |
| 120 Sn | 115 | 1 | 985.00 | 197.00 | ppb | 0.85 | 900.00 | |
| 121 Sb | 115 | 1 | 518.50 | 103.70 | ppb | 0.47 | 900.00 | |
| 137 Ba | 159 | 1 | 1992.50 | 398.50 | ppb | 1.29 | 900.00 | |
| 205 Tl | 209 | 1 | 494.35 | 98.87 | ppb | 1.48 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1003.00 | 200.60 | ppb | 1.93 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1979554 | 1.05 | 2032921 | 97.4 | 70 - 130 | |
| 45 Sc | 1 | 2600288 | 1.69 | 2621135 | 99.2 | 70 - 130 | |
| 45 Sc | 2 | 347497 | 1.26 | 361541 | 96.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\025SMPL.D\025SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444985 | 1.13 | 465850 | 95.5 | 70 | - | 130 |
| 72 Ge | 2 | 125167 | 1.05 | 129632 | 96.6 | 70 | - | 130 |
| 103 Rh | 1 | 2156541 | 0.82 | 2265009 | 95.2 | 70 | - | 130 |
| 115 In | 1 | 2322345 | 0.44 | 2406660 | 96.5 | 70 | - | 130 |
| 115 In | 2 | 961460 | 0.63 | 1007957 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 2771690 | 1.40 | 2763118 | 100.3 | 70 | - | 130 |
| 175 Lu | 1 | 2582538 | 0.99 | 2515951 | 102.6 | 70 | - | 130 |
| 209 Bi | 1 | 1511806 | 1.32 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 4 2013 04:56 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.80 | 50.80 | ppb | 0.52 | 900.00 | |
| 9 Be | 45 | 2 | 50.64 | 50.64 | ppb | 1.66 | 900.00 | |
| 11 B | 6 | 1 | 53.63 | 53.63 | ppb | 1.17 | 900.00 | |
| 11 B | 45 | 2 | 51.03 | 51.03 | ppb | 1.37 | 900.00 | |
| 23 Na | 45 | 1 | 4687.00 | 4687.00 | ppb | 1.04 | 90000.00 | |
| 23 Na | 45 | 2 | 5050.00 | 5050.00 | ppb | 0.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 4763.00 | 4763.00 | ppb | 1.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 4697.00 | 4697.00 | ppb | 1.42 | 90000.00 | |
| 27 Al | 45 | 1 | 4771.00 | 4771.00 | ppb | 1.14 | 90000.00 | |
| 27 Al | 45 | 2 | 4519.00 | 4519.00 | ppb | 2.77 | 90000.00 | |
| 39 K | 45 | 1 | 4857.00 | 4857.00 | ppb | 1.58 | 90000.00 | |
| 44 Ca | 45 | 1 | 5012.00 | 5012.00 | ppb | 1.23 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.05 | 48.05 | ppb | 0.92 | 900.00 | |
| 51 V | 45 | 2 | 47.94 | 47.94 | ppb | 1.15 | 900.00 | |
| 52 Cr | 45 | 2 | 47.87 | 47.87 | ppb | 0.97 | 900.00 | |
| 55 Mn | 45 | 2 | 47.82 | 47.82 | ppb | 0.32 | 900.00 | |
| 56 Fe | 45 | 2 | 4903.00 | 4903.00 | ppb | 3.99 | 90000.00 | |
| 59 Co | 45 | 2 | 47.76 | 47.76 | ppb | 0.57 | 900.00 | |
| 60 Ni | 45 | 2 | 48.35 | 48.35 | ppb | 0.72 | 900.00 | |
| 63 Cu | 72 | 2 | 47.11 | 47.11 | ppb | 0.59 | 900.00 | |
| 66 Zn | 72 | 2 | 46.29 | 46.29 | ppb | 1.15 | 900.00 | |
| 75 As | 72 | 2 | 47.82 | 47.82 | ppb | 0.32 | 900.00 | |
| 78 Se | 72 | 2 | 47.54 | 47.54 | ppb | 1.00 | 900.00 | |
| 88 Sr | 103 | 1 | 51.81 | 51.81 | ppb | 0.76 | 900.00 | |
| 98 Mo | 103 | 1 | 50.89 | 50.89 | ppb | 0.98 | 900.00 | |
| 107 Ag | 115 | 1 | 48.99 | 48.99 | ppb | 0.59 | 900.00 | |
| 111 Cd | 115 | 2 | 48.67 | 48.67 | ppb | 2.37 | 900.00 | |
| 120 Sn | 115 | 1 | 49.15 | 49.15 | ppb | 0.58 | 900.00 | |
| 121 Sb | 115 | 1 | 48.96 | 48.96 | ppb | 0.33 | 900.00 | |
| 137 Ba | 159 | 1 | 48.46 | 48.46 | ppb | 0.25 | 900.00 | |
| 205 Tl | 209 | 1 | 47.57 | 47.57 | ppb | 0.77 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.02 | 48.02 | ppb | 1.10 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1999298 | 0.25 | 2032921 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2666216 | 0.80 | 2621135 | 101.7 | 70 - 130 | |
| 45 Sc | 2 | 351559 | 1.08 | 361541 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\026SMPL.D\026SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 449166 | 1.23 | 465850 | 96.4 | 70 - | 130 |
| 72 | Ge | 2 | 126448 | 1.28 | 129632 | 97.5 | 70 - | 130 |
| 103 | Rh | 1 | 2136992 | 1.06 | 2265009 | 94.3 | 70 - | 130 |
| 115 | In | 1 | 2318740 | 1.23 | 2406660 | 96.3 | 70 - | 130 |
| 115 | In | 2 | 972200 | 0.98 | 1007957 | 96.5 | 70 - | 130 |
| 159 | Tb | 1 | 2685740 | 0.90 | 2763118 | 97.2 | 70 - | 130 |
| 175 | Lu | 1 | 2498937 | 2.15 | 2515951 | 99.3 | 70 - | 130 |
| 209 | Bi | 1 | 1452818 | 0.41 | 1560225 | 93.1 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#
Date Acquired: Dec 4 2013 05:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 12.99 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 193.59 | 900.00 | |
| 11 B | 6 | 1 | 0.65 | 0.65 | ppb | 2.81 | 900.00 | |
| 11 B | 45 | 2 | 0.69 | 0.69 | ppb | 5.08 | 900.00 | |
| 23 Na | 45 | 1 | 1.76 | 1.76 | ppb | 13.08 | 90000.00 | |
| 23 Na | 45 | 2 | 6.55 | 6.55 | ppb | 10.29 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.14 | 0.14 | ppb | 33.96 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.92 | 0.92 | ppb | 38.71 | 90000.00 | |
| 27 Al | 45 | 1 | 0.05 | 0.05 | ppb | 30.50 | 90000.00 | |
| 27 Al | 45 | 2 | 0.46 | 0.46 | ppb | 24.51 | 90000.00 | |
| 39 K | 45 | 1 | -1.48 | -1.48 | ppb | 73.93 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.94 | -1.94 | ppb | 21.08 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 39.69 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 7.89 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 205.17 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 37.40 | 900.00 | |
| 56 Fe | 45 | 2 | 0.59 | 0.59 | ppb | 42.28 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 37.03 | 900.00 | |
| 60 Ni | 45 | 2 | 0.03 | 0.03 | ppb | 9.35 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 93.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.02 | 0.02 | ppb | 77.04 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 729.08 | 900.00 | |
| 78 Se | 72 | 2 | -0.18 | -0.18 | ppb | 17.64 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 46.90 | 900.00 | |
| 98 Mo | 103 | 1 | 0.21 | 0.21 | ppb | 7.54 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 684.57 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 151.24 | 900.00 | |
| 120 Sn | 115 | 1 | 0.06 | 0.06 | ppb | 10.65 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 6.83 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 57.96 | 900.00 | |
| 205 Tl | 209 | 1 | 0.43 | 0.43 | ppb | 0.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 141.37 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2063440 | 0.67 | 2032921 | 101.5 | 70 - 130 | |
| 45 Sc | 1 | 2606869 | 1.01 | 2621135 | 99.5 | 70 - 130 | |
| 45 Sc | 2 | 350595 | 0.48 | 361541 | 97.0 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\027SMPL.D\027SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456610 | 0.75 | 465850 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 127504 | 0.57 | 129632 | 98.4 | 70 | - | 130 |
| 103 Rh | 1 | 2221125 | 0.45 | 2265009 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 2363043 | 0.58 | 2406660 | 98.2 | 70 | - | 130 |
| 115 In | 2 | 985417 | 0.71 | 1007957 | 97.8 | 70 | - | 130 |
| 159 Tb | 1 | 2742451 | 0.64 | 2763118 | 99.3 | 70 | - | 130 |
| 175 Lu | 1 | 2547084 | 1.05 | 2515951 | 101.2 | 70 | - | 130 |
| 209 Bi | 1 | 1570995 | 1.05 | 1560225 | 100.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D#
Date Acquired: Dec 4 2013 05:11 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-S1
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1350.00 | 135.00 | ppb | 1.06 | 900.00 | |
| 9 Be | 45 | 2 | 1264.00 | 126.40 | ppb | 1.16 | 900.00 | |
| 11 B | 6 | 1 | 2777.00 | 277.70 | ppb | 1.03 | 900.00 | |
| 11 B | 45 | 2 | 2341.00 | 234.10 | ppb | 1.64 | 900.00 | |
| 23 Na | 45 | 1 | 27830.00 | 2783.00 | ppb | 0.64 | 90000.00 | |
| 23 Na | 45 | 2 | 29360.00 | 2936.00 | ppb | 0.22 | 90000.00 | |
| 24 Mg | 45 | 1 | 50980.00 | 5098.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 2 | 49260.00 | 4926.00 | ppb | 0.62 | 90000.00 | |
| 27 Al | 45 | 1 | 80870.00 | 8087.00 | ppb | 0.47 | 90000.00 | |
| 27 Al | 45 | 2 | 73920.00 | 7392.00 | ppb | 0.37 | 90000.00 | |
| 39 K | 45 | 1 | 46600.00 | 4660.00 | ppb | 0.53 | 90000.00 | |
| 44 Ca | 45 | 1 | 81920.00 | 8192.00 | ppb | 0.54 | 90000.00 | |
| 47 Ti | 45 | 1 | 3811.00 | 381.10 | ppb | 0.33 | 900.00 | |
| 51 V | 45 | 2 | 1371.00 | 137.10 | ppb | 0.67 | 900.00 | |
| 52 Cr | 45 | 2 | 1770.00 | 177.00 | ppb | 0.67 | 900.00 | |
| 55 Mn | 45 | 2 | 5289.00 | 528.90 | ppb | 0.09 | 900.00 | |
| 56 Fe | 45 | 2 | 148600.00 | 14860.00 | ppb | 0.38 | 90000.00 | |
| 59 Co | 45 | 2 | 1643.00 | 164.30 | ppb | 0.44 | 900.00 | |
| 60 Ni | 45 | 2 | 1456.00 | 145.60 | ppb | 1.20 | 900.00 | |
| 63 Cu | 72 | 2 | 1561.00 | 156.10 | ppb | 0.68 | 900.00 | |
| 66 Zn | 72 | 2 | 2780.00 | 278.00 | ppb | 0.06 | 900.00 | |
| 75 As | 72 | 2 | 1482.00 | 148.20 | ppb | 0.26 | 900.00 | |
| 78 Se | 72 | 2 | 1809.00 | 180.90 | ppb | 0.80 | 900.00 | |
| 88 Sr | 103 | 1 | 1454.00 | 145.40 | ppb | 0.62 | 900.00 | |
| 98 Mo | 103 | 1 | 1252.00 | 125.20 | ppb | 0.32 | 900.00 | |
| 107 Ag | 115 | 1 | 745.80 | 74.58 | ppb | 1.16 | 900.00 | |
| 111 Cd | 115 | 2 | 1198.00 | 119.80 | ppb | 1.12 | 900.00 | |
| 120 Sn | 115 | 1 | 2510.00 | 251.00 | ppb | 0.79 | 900.00 | |
| 121 Sb | 115 | 1 | 655.00 | 65.50 | ppb | 0.67 | 900.00 | |
| 137 Ba | 159 | 1 | 5630.00 | 563.00 | ppb | 0.97 | 900.00 | |
| 205 Tl | 209 | 1 | 2303.00 | 230.30 | ppb | 0.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 2810.00 | 281.00 | ppb | 1.15 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1991462 | 0.72 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2720803 | 0.40 | 2621135 | 103.8 | 70 - 130 | |
| 45 Sc | 2 | 360573 | 0.48 | 361541 | 99.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\028SMPL.D\028SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 453710 | 0.39 | 465850 | 97.4 | 70 | - | 130 |
| 72 Ge | 2 | 126943 | 0.21 | 129632 | 97.9 | 70 | - | 130 |
| 103 Rh | 1 | 2170010 | 0.53 | 2265009 | 95.8 | 70 | - | 130 |
| 115 In | 1 | 2311924 | 0.84 | 2406660 | 96.1 | 70 | - | 130 |
| 115 In | 2 | 945884 | 0.80 | 1007957 | 93.8 | 70 | - | 130 |
| 159 Tb | 1 | 2754334 | 0.88 | 2763118 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 2575586 | 1.03 | 2515951 | 102.4 | 70 | - | 130 |
| 209 Bi | 1 | 1510055 | 0.66 | 1560225 | 96.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 4 2013 05:18 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-S2
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 1373.00 | 137.30 | ppb | 0.70 | 900.00 | |
| 9 Be | 45 | 2 | 1308.00 | 130.80 | ppb | 0.97 | 900.00 | |
| 11 B | 6 | 1 | 2813.00 | 281.30 | ppb | 0.23 | 900.00 | |
| 11 B | 45 | 2 | 2427.00 | 242.70 | ppb | 1.29 | 900.00 | |
| 23 Na | 45 | 1 | 28910.00 | 2891.00 | ppb | 0.90 | 90000.00 | |
| 23 Na | 45 | 2 | 30500.00 | 3050.00 | ppb | 1.03 | 90000.00 | |
| 24 Mg | 45 | 1 | 53020.00 | 5302.00 | ppb | 0.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 51380.00 | 5138.00 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 85270.00 | 8527.00 | ppb | 0.17 | 90000.00 | |
| 27 Al | 45 | 2 | 78130.00 | 7813.00 | ppb | 0.60 | 90000.00 | |
| 39 K | 45 | 1 | 48480.00 | 4848.00 | ppb | 0.30 | 90000.00 | |
| 44 Ca | 45 | 1 | 83310.00 | 8331.00 | ppb | 0.14 | 90000.00 | |
| 47 Ti | 45 | 1 | 4015.00 | 401.50 | ppb | 0.27 | 900.00 | |
| 51 V | 45 | 2 | 1435.00 | 143.50 | ppb | 0.51 | 900.00 | |
| 52 Cr | 45 | 2 | 1823.00 | 182.30 | ppb | 0.75 | 900.00 | |
| 55 Mn | 45 | 2 | 5536.00 | 553.60 | ppb | 0.58 | 900.00 | |
| 56 Fe | 45 | 2 | 154000.00 | 15400.00 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 1708.00 | 170.80 | ppb | 0.54 | 900.00 | |
| 60 Ni | 45 | 2 | 1514.00 | 151.40 | ppb | 0.80 | 900.00 | |
| 63 Cu | 72 | 2 | 1597.00 | 159.70 | ppb | 0.70 | 900.00 | |
| 66 Zn | 72 | 2 | 2854.00 | 285.40 | ppb | 0.54 | 900.00 | |
| 75 As | 72 | 2 | 1511.00 | 151.10 | ppb | 0.52 | 900.00 | |
| 78 Se | 72 | 2 | 1860.00 | 186.00 | ppb | 1.22 | 900.00 | |
| 88 Sr | 103 | 1 | 1513.00 | 151.30 | ppb | 0.17 | 900.00 | |
| 98 Mo | 103 | 1 | 1294.00 | 129.40 | ppb | 0.67 | 900.00 | |
| 107 Ag | 115 | 1 | 766.20 | 76.62 | ppb | 0.39 | 900.00 | |
| 111 Cd | 115 | 2 | 1255.00 | 125.50 | ppb | 0.10 | 900.00 | |
| 120 Sn | 115 | 1 | 2583.00 | 258.30 | ppb | 0.49 | 900.00 | |
| 121 Sb | 115 | 1 | 678.70 | 67.87 | ppb | 0.69 | 900.00 | |
| 137 Ba | 159 | 1 | 5772.00 | 577.20 | ppb | 0.74 | 900.00 | |
| 205 Tl | 209 | 1 | 2403.00 | 240.30 | ppb | 0.92 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 2907.00 | 290.70 | ppb | 0.19 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2005928 | 0.95 | 2032921 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 2700438 | 0.08 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 358144 | 0.58 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\029SMPL.D\029SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455175 | 0.64 | 465850 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 126804 | 0.31 | 129632 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 2158879 | 0.44 | 2265009 | 95.3 | 70 | - | 130 |
| 115 In | 1 | 2319058 | 0.40 | 2406660 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 938854 | 0.34 | 1007957 | 93.1 | 70 | - | 130 |
| 159 Tb | 1 | 2761527 | 0.48 | 2763118 | 99.9 | 70 | - | 130 |
| 175 Lu | 1 | 2540929 | 0.21 | 2515951 | 101.0 | 70 | - | 130 |
| 209 Bi | 1 | 1511928 | 0.50 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 4 2013 05:25 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22187-LC1
Misc Info:
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 582.80 | 58.28 | ppb | 1.18 | 900.00 | |
| 9 Be | 45 | 2 | 571.00 | 57.10 | ppb | 0.59 | 900.00 | |
| 11 B | 6 | 1 | 1021.00 | 102.10 | ppb | 0.74 | 900.00 | |
| 11 B | 45 | 2 | 936.50 | 93.65 | ppb | 3.49 | 900.00 | |
| 23 Na | 45 | 1 | 6628.00 | 662.80 | ppb | 1.50 | 90000.00 | |
| 23 Na | 45 | 2 | 7318.00 | 731.80 | ppb | 0.91 | 90000.00 | |
| 24 Mg | 45 | 1 | 29790.00 | 2979.00 | ppb | 1.11 | 90000.00 | |
| 24 Mg | 45 | 2 | 29330.00 | 2933.00 | ppb | 0.65 | 90000.00 | |
| 27 Al | 45 | 1 | 70650.00 | 7065.00 | ppb | 0.98 | 90000.00 | |
| 27 Al | 45 | 2 | 64600.00 | 6460.00 | ppb | 0.06 | 90000.00 | |
| 39 K | 45 | 1 | 37280.00 | 3728.00 | ppb | 0.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 65280.00 | 6528.00 | ppb | 1.18 | 90000.00 | |
| 47 Ti | 45 | 1 | 1921.00 | 192.10 | ppb | 1.40 | 900.00 | |
| 51 V | 45 | 2 | 536.70 | 53.67 | ppb | 0.56 | 900.00 | |
| 52 Cr | 45 | 2 | 708.30 | 70.83 | ppb | 1.05 | 900.00 | |
| 55 Mn | 45 | 2 | 2838.00 | 283.80 | ppb | 1.23 | 900.00 | |
| 56 Fe | 45 | 2 | 120900.00 | 12090.00 | ppb | 0.78 | 90000.00 | |
| 59 Co | 45 | 2 | 1039.00 | 103.90 | ppb | 3.38 | 900.00 | |
| 60 Ni | 45 | 2 | 601.10 | 60.11 | ppb | 1.42 | 900.00 | |
| 63 Cu | 72 | 2 | 839.70 | 83.97 | ppb | 0.44 | 900.00 | |
| 66 Zn | 72 | 2 | 1435.00 | 143.50 | ppb | 0.40 | 900.00 | |
| 75 As | 72 | 2 | 998.80 | 99.88 | ppb | 0.79 | 900.00 | |
| 78 Se | 72 | 2 | 1753.00 | 175.30 | ppb | 0.79 | 900.00 | |
| 88 Sr | 103 | 1 | 737.70 | 73.77 | ppb | 0.99 | 900.00 | |
| 98 Mo | 103 | 1 | 431.40 | 43.14 | ppb | 0.33 | 900.00 | |
| 107 Ag | 115 | 1 | 368.20 | 36.82 | ppb | 0.48 | 900.00 | |
| 111 Cd | 115 | 2 | 676.10 | 67.61 | ppb | 0.83 | 900.00 | |
| 120 Sn | 115 | 1 | 1078.00 | 107.80 | ppb | 0.53 | 900.00 | |
| 121 Sb | 115 | 1 | 505.80 | 50.58 | ppb | 0.78 | 900.00 | |
| 137 Ba | 159 | 1 | 1714.00 | 171.40 | ppb | 0.42 | 900.00 | |
| 205 Tl | 209 | 1 | 1263.00 | 126.30 | ppb | 2.09 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 961.70 | 96.17 | ppb | 0.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1998832 | 1.02 | 2032921 | 98.3 | 70 - 130 | |
| 45 Sc | 1 | 2700737 | 0.63 | 2621135 | 103.0 | 70 - 130 | |
| 45 Sc | 2 | 353054 | 1.62 | 361541 | 97.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\030SMPL.D\030SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 444528 | 1.33 | 465850 | 95.4 | 70 | - | 130 |
| 72 Ge | 2 | 124317 | 0.63 | 129632 | 95.9 | 70 | - | 130 |
| 103 Rh | 1 | 2182569 | 0.42 | 2265009 | 96.4 | 70 | - | 130 |
| 115 In | 1 | 2320013 | 0.48 | 2406660 | 96.4 | 70 | - | 130 |
| 115 In | 2 | 942562 | 0.92 | 1007957 | 93.5 | 70 | - | 130 |
| 159 Tb | 1 | 2728825 | 0.69 | 2763118 | 98.8 | 70 | - | 130 |
| 175 Lu | 1 | 2525272 | 0.78 | 2515951 | 100.4 | 70 | - | 130 |
| 209 Bi | 1 | 1527577 | 1.00 | 1560225 | 97.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 4 2013 05:45 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 2.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.48 | 0.48 | ppb | 20.51 | 900.00 | |
| 11 B | 6 | 1 | 5.30 | 5.30 | ppb | 0.89 | 900.00 | |
| 11 B | 45 | 2 | 4.39 | 4.39 | ppb | 3.73 | 900.00 | |
| 23 Na | 45 | 1 | 248.60 | 248.60 | ppb | 0.49 | 90000.00 | |
| 23 Na | 45 | 2 | 278.10 | 278.10 | ppb | 0.62 | 90000.00 | |
| 24 Mg | 45 | 1 | 253.90 | 253.90 | ppb | 0.41 | 90000.00 | |
| 24 Mg | 45 | 2 | 258.50 | 258.50 | ppb | 0.42 | 90000.00 | |
| 27 Al | 45 | 1 | 26.56 | 26.56 | ppb | 0.57 | 90000.00 | |
| 27 Al | 45 | 2 | 24.91 | 24.91 | ppb | 1.40 | 90000.00 | |
| 39 K | 45 | 1 | 242.90 | 242.90 | ppb | 1.20 | 90000.00 | |
| 44 Ca | 45 | 1 | 262.70 | 262.70 | ppb | 1.52 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.07 | 1.07 | ppb | 2.18 | 900.00 | |
| 51 V | 45 | 2 | 0.93 | 0.93 | ppb | 2.00 | 900.00 | |
| 52 Cr | 45 | 2 | 0.97 | 0.97 | ppb | 1.01 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 0.89 | 900.00 | |
| 56 Fe | 45 | 2 | 27.87 | 27.87 | ppb | 0.46 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.04 | 900.00 | |
| 60 Ni | 45 | 2 | 1.12 | 1.12 | ppb | 2.66 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 1.99 | 900.00 | |
| 66 Zn | 72 | 2 | 1.92 | 1.92 | ppb | 0.78 | 900.00 | |
| 75 As | 72 | 2 | 0.51 | 0.51 | ppb | 4.41 | 900.00 | |
| 78 Se | 72 | 2 | 0.49 | 0.49 | ppb | 15.78 | 900.00 | |
| 88 Sr | 103 | 1 | 5.08 | 5.08 | ppb | 1.80 | 900.00 | |
| 98 Mo | 103 | 1 | 1.05 | 1.05 | ppb | 3.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.49 | 0.49 | ppb | 0.13 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 2.85 | 900.00 | |
| 120 Sn | 115 | 1 | 5.37 | 5.37 | ppb | 10.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 3.88 | 900.00 | |
| 137 Ba | 159 | 1 | 1.05 | 1.05 | ppb | 4.15 | 900.00 | |
| 205 Tl | 209 | 1 | 0.63 | 0.63 | ppb | 1.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.80 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2049779 | 0.19 | 2032921 | 100.8 | 70 - 130 | |
| 45 Sc | 1 | 2657825 | 0.61 | 2621135 | 101.4 | 70 - 130 | |
| 45 Sc | 2 | 358401 | 0.91 | 361541 | 99.1 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\031SMPL.D\031SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463963 | 1.05 | 465850 | 99.6 | 70 | - | 130 |
| 72 Ge | 2 | 128905 | 0.67 | 129632 | 99.4 | 70 | - | 130 |
| 103 Rh | 1 | 2246289 | 0.69 | 2265009 | 99.2 | 70 | - | 130 |
| 115 In | 1 | 2411355 | 0.96 | 2406660 | 100.2 | 70 | - | 130 |
| 115 In | 2 | 993033 | 0.40 | 1007957 | 98.5 | 70 | - | 130 |
| 159 Tb | 1 | 2755013 | 0.76 | 2763118 | 99.7 | 70 | - | 130 |
| 175 Lu | 1 | 2555576 | 0.78 | 2515951 | 101.6 | 70 | - | 130 |
| 209 Bi | 1 | 1562615 | 0.33 | 1560225 | 100.2 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#
Date Acquired: Dec 4 2013 05:54 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.23 | 50.23 | ppb | 0.76 | 900.00 | |
| 9 Be | 45 | 2 | 47.70 | 47.70 | ppb | 8.40 | 900.00 | |
| 11 B | 6 | 1 | 50.42 | 50.42 | ppb | 1.06 | 900.00 | |
| 11 B | 45 | 2 | 46.33 | 46.33 | ppb | 3.05 | 900.00 | |
| 23 Na | 45 | 1 | 4804.00 | 4804.00 | ppb | 0.26 | 90000.00 | |
| 23 Na | 45 | 2 | 4871.00 | 4871.00 | ppb | 6.39 | 90000.00 | |
| 24 Mg | 45 | 1 | 4852.00 | 4852.00 | ppb | 0.89 | 90000.00 | |
| 24 Mg | 45 | 2 | 4508.00 | 4508.00 | ppb | 5.97 | 90000.00 | |
| 27 Al | 45 | 1 | 4859.00 | 4859.00 | ppb | 0.74 | 90000.00 | |
| 27 Al | 45 | 2 | 4310.00 | 4310.00 | ppb | 5.50 | 90000.00 | |
| 39 K | 45 | 1 | 4910.00 | 4910.00 | ppb | 0.39 | 90000.00 | |
| 44 Ca | 45 | 1 | 4997.00 | 4997.00 | ppb | 0.55 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.56 | 48.56 | ppb | 1.07 | 900.00 | |
| 51 V | 45 | 2 | 46.50 | 46.50 | ppb | 6.65 | 900.00 | |
| 52 Cr | 45 | 2 | 46.32 | 46.32 | ppb | 6.82 | 900.00 | |
| 55 Mn | 45 | 2 | 45.63 | 45.63 | ppb | 6.61 | 900.00 | |
| 56 Fe | 45 | 2 | 4827.00 | 4827.00 | ppb | 6.29 | 90000.00 | |
| 59 Co | 45 | 2 | 46.44 | 46.44 | ppb | 7.07 | 900.00 | |
| 60 Ni | 45 | 2 | 46.32 | 46.32 | ppb | 6.73 | 900.00 | |
| 63 Cu | 72 | 2 | 46.35 | 46.35 | ppb | 3.54 | 900.00 | |
| 66 Zn | 72 | 2 | 45.55 | 45.55 | ppb | 4.15 | 900.00 | |
| 75 As | 72 | 2 | 47.36 | 47.36 | ppb | 3.76 | 900.00 | |
| 78 Se | 72 | 2 | 46.18 | 46.18 | ppb | 3.86 | 900.00 | |
| 88 Sr | 103 | 1 | 50.75 | 50.75 | ppb | 0.65 | 900.00 | |
| 98 Mo | 103 | 1 | 50.13 | 50.13 | ppb | 0.49 | 900.00 | |
| 107 Ag | 115 | 1 | 48.91 | 48.91 | ppb | 0.24 | 900.00 | |
| 111 Cd | 115 | 2 | 47.30 | 47.30 | ppb | 4.78 | 900.00 | |
| 120 Sn | 115 | 1 | 49.57 | 49.57 | ppb | 0.19 | 900.00 | |
| 121 Sb | 115 | 1 | 49.45 | 49.45 | ppb | 0.64 | 900.00 | |
| 137 Ba | 159 | 1 | 48.18 | 48.18 | ppb | 1.19 | 900.00 | |
| 205 Tl | 209 | 1 | 46.89 | 46.89 | ppb | 1.98 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.46 | 48.46 | ppb | 1.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1992005 | 0.56 | 2032921 | 98.0 | 70 - 130 | |
| 45 Sc | 1 | 2645986 | 0.92 | 2621135 | 100.9 | 70 - 130 | |
| 45 Sc | 2 | 360100 | 6.07 | 361541 | 99.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\032SMPL.D\032SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455222 | 1.24 | 465850 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 127264 | 3.15 | 129632 | 98.2 | 70 | - | 130 |
| 103 Rh | 1 | 2182131 | 0.38 | 2265009 | 96.3 | 70 | - | 130 |
| 115 In | 1 | 2336685 | 0.78 | 2406660 | 97.1 | 70 | - | 130 |
| 115 In | 2 | 961802 | 2.68 | 1007957 | 95.4 | 70 | - | 130 |
| 159 Tb | 1 | 2749843 | 0.32 | 2763118 | 99.5 | 70 | - | 130 |
| 175 Lu | 1 | 2530533 | 0.92 | 2515951 | 100.6 | 70 | - | 130 |
| 209 Bi | 1 | 1507627 | 1.69 | 1560225 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#
Date Acquired: Dec 4 2013 06:04 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.41 | 50.41 | ppb | 0.47 | 900.00 | |
| 9 Be | 45 | 2 | 49.88 | 49.88 | ppb | 0.09 | 900.00 | |
| 11 B | 6 | 1 | 50.99 | 50.99 | ppb | 0.32 | 900.00 | |
| 11 B | 45 | 2 | 47.77 | 47.77 | ppb | 4.33 | 900.00 | |
| 23 Na | 45 | 1 | 4851.00 | 4851.00 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 5051.00 | 5051.00 | ppb | 1.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 4893.00 | 4893.00 | ppb | 0.71 | 90000.00 | |
| 24 Mg | 45 | 2 | 4691.00 | 4691.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4878.00 | 4878.00 | ppb | 1.40 | 90000.00 | |
| 27 Al | 45 | 2 | 4477.00 | 4477.00 | ppb | 1.06 | 90000.00 | |
| 39 K | 45 | 1 | 4918.00 | 4918.00 | ppb | 0.57 | 90000.00 | |
| 44 Ca | 45 | 1 | 5020.00 | 5020.00 | ppb | 1.06 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.50 | 48.50 | ppb | 0.65 | 900.00 | |
| 51 V | 45 | 2 | 48.34 | 48.34 | ppb | 0.69 | 900.00 | |
| 52 Cr | 45 | 2 | 48.25 | 48.25 | ppb | 0.18 | 900.00 | |
| 55 Mn | 45 | 2 | 47.23 | 47.23 | ppb | 0.31 | 900.00 | |
| 56 Fe | 45 | 2 | 4984.00 | 4984.00 | ppb | 0.29 | 90000.00 | |
| 59 Co | 45 | 2 | 47.89 | 47.89 | ppb | 0.81 | 900.00 | |
| 60 Ni | 45 | 2 | 48.08 | 48.08 | ppb | 0.94 | 900.00 | |
| 63 Cu | 72 | 2 | 46.89 | 46.89 | ppb | 0.80 | 900.00 | |
| 66 Zn | 72 | 2 | 46.11 | 46.11 | ppb | 0.10 | 900.00 | |
| 75 As | 72 | 2 | 47.92 | 47.92 | ppb | 0.35 | 900.00 | |
| 78 Se | 72 | 2 | 47.05 | 47.05 | ppb | 0.83 | 900.00 | |
| 88 Sr | 103 | 1 | 51.12 | 51.12 | ppb | 0.96 | 900.00 | |
| 98 Mo | 103 | 1 | 50.18 | 50.18 | ppb | 0.34 | 900.00 | |
| 107 Ag | 115 | 1 | 49.07 | 49.07 | ppb | 0.86 | 900.00 | |
| 111 Cd | 115 | 2 | 48.38 | 48.38 | ppb | 1.04 | 900.00 | |
| 120 Sn | 115 | 1 | 49.71 | 49.71 | ppb | 0.44 | 900.00 | |
| 121 Sb | 115 | 1 | 49.47 | 49.47 | ppb | 0.59 | 900.00 | |
| 137 Ba | 159 | 1 | 47.90 | 47.90 | ppb | 0.28 | 900.00 | |
| 205 Tl | 209 | 1 | 46.97 | 46.97 | ppb | 0.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.44 | 48.44 | ppb | 0.84 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1982620 | 0.37 | 2032921 | 97.5 | 70 - 130 | |
| 45 Sc | 1 | 2615387 | 0.54 | 2621135 | 99.8 | 70 - 130 | |
| 45 Sc | 2 | 348897 | 0.74 | 361541 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\033SMPL.D\033SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451029 | 0.58 | 465850 | 96.8 | 70 - | 130 |
| 72 | Ge | 2 | 125431 | 0.53 | 129632 | 96.8 | 70 - | 130 |
| 103 | Rh | 1 | 2157787 | 0.19 | 2265009 | 95.3 | 70 - | 130 |
| 115 | In | 1 | 2303074 | 0.85 | 2406660 | 95.7 | 70 - | 130 |
| 115 | In | 2 | 938940 | 0.55 | 1007957 | 93.2 | 70 - | 130 |
| 159 | Tb | 1 | 2712461 | 0.68 | 2763118 | 98.2 | 70 - | 130 |
| 175 | Lu | 1 | 2503204 | 1.03 | 2515951 | 99.5 | 70 - | 130 |
| 209 | Bi | 1 | 1485939 | 0.22 | 1560225 | 95.2 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#
Date Acquired: Dec 4 2013 06:12 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 148.13 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 82.20 | 900.00 | |
| 11 B | 6 | 1 | 0.43 | 0.43 | ppb | 5.09 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 27.14 | 900.00 | |
| 23 Na | 45 | 1 | 0.59 | 0.59 | ppb | 60.46 | 90000.00 | |
| 23 Na | 45 | 2 | 6.08 | 6.08 | ppb | 3.92 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.18 | -0.18 | ppb | 19.92 | 90000.00 | |
| 24 Mg | 45 | 2 | 0.74 | 0.74 | ppb | 43.80 | 90000.00 | |
| 27 Al | 45 | 1 | -0.24 | -0.24 | ppb | 30.00 | 90000.00 | |
| 27 Al | 45 | 2 | 0.33 | 0.33 | ppb | 76.82 | 90000.00 | |
| 39 K | 45 | 1 | -3.10 | -3.10 | ppb | 37.16 | 90000.00 | |
| 44 Ca | 45 | 1 | -3.40 | -3.40 | ppb | 17.25 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.00 | 0.00 | ppb | 464.13 | 900.00 | |
| 51 V | 45 | 2 | -0.05 | -0.05 | ppb | 42.42 | 900.00 | |
| 52 Cr | 45 | 2 | 0.03 | 0.03 | ppb | 17.10 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 80.07 | 900.00 | |
| 56 Fe | 45 | 2 | 0.85 | 0.85 | ppb | 51.12 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 33.63 | 900.00 | |
| 60 Ni | 45 | 2 | 0.09 | 0.09 | ppb | 14.88 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 11.73 | 900.00 | |
| 66 Zn | 72 | 2 | 0.01 | 0.01 | ppb | 133.32 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 68.78 | 900.00 | |
| 78 Se | 72 | 2 | -0.09 | -0.09 | ppb | 132.14 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 105.01 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 4.22 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 24.29 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 121.04 | 900.00 | |
| 120 Sn | 115 | 1 | 0.03 | 0.03 | ppb | 28.03 | 900.00 | |
| 121 Sb | 115 | 1 | 0.01 | 0.01 | ppb | 42.57 | 900.00 | |
| 137 Ba | 159 | 1 | 0.00 | 0.00 | ppb | 240.67 | 900.00 | |
| 205 Tl | 209 | 1 | 0.31 | 0.31 | ppb | 6.12 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 22.88 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2030101 | 0.39 | 2032921 | 99.9 | 70 - 130 | |
| 45 Sc | 1 | 2602154 | 0.70 | 2621135 | 99.3 | 70 - 130 | |
| 45 Sc | 2 | 350079 | 0.35 | 361541 | 96.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\034SMPL.D\034SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 452621 | 0.71 | 465850 | 97.2 | 70 | - | 130 |
| 72 Ge | 2 | 126521 | 0.61 | 129632 | 97.6 | 70 | - | 130 |
| 103 Rh | 1 | 2212695 | 1.21 | 2265009 | 97.7 | 70 | - | 130 |
| 115 In | 1 | 2346036 | 1.25 | 2406660 | 97.5 | 70 | - | 130 |
| 115 In | 2 | 976170 | 0.58 | 1007957 | 96.8 | 70 | - | 130 |
| 159 Tb | 1 | 2680712 | 0.80 | 2763118 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 2464794 | 1.32 | 2515951 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 1514979 | 0.88 | 1560225 | 97.1 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 4 2013 06:19 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-MB1
Misc Info:
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.01 | 0.01 | ppb | 64.37 | 900.00 | |
| 9 Be | 45 | 2 | 0.01 | 0.01 | ppb | 364.80 | 900.00 | |
| 11 B | 6 | 1 | 0.97 | 0.49 | ppb | 67.37 | 900.00 | |
| 11 B | 45 | 2 | 0.42 | 0.21 | ppb | 96.40 | 900.00 | |
| 23 Na | 45 | 1 | 15.26 | 7.63 | ppb | 3.42 | 90000.00 | |
| 23 Na | 45 | 2 | 30.38 | 15.19 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 1 | -0.97 | -0.49 | ppb | 2.65 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.64 | -0.32 | ppb | 14.35 | 90000.00 | |
| 27 Al | 45 | 1 | 1.38 | 0.69 | ppb | 5.62 | 90000.00 | |
| 27 Al | 45 | 2 | 1.35 | 0.68 | ppb | 17.15 | 90000.00 | |
| 39 K | 45 | 1 | 10.23 | 5.11 | ppb | 37.75 | 90000.00 | |
| 44 Ca | 45 | 1 | 1.65 | 0.83 | ppb | 82.47 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.21 | 0.10 | ppb | 5.53 | 900.00 | |
| 51 V | 45 | 2 | 2.45 | 1.23 | ppb | 1.70 | 900.00 | |
| 52 Cr | 45 | 2 | -0.21 | -0.10 | ppb | 7.36 | 900.00 | |
| 55 Mn | 45 | 2 | 0.27 | 0.13 | ppb | 11.43 | 900.00 | |
| 56 Fe | 45 | 2 | 5.48 | 2.74 | ppb | 1.58 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 424.71 | 900.00 | |
| 60 Ni | 45 | 2 | -1.80 | -0.90 | ppb | 0.37 | 900.00 | |
| 63 Cu | 72 | 2 | 0.15 | 0.07 | ppb | 5.13 | 900.00 | |
| 66 Zn | 72 | 2 | 1.99 | 1.00 | ppb | 3.47 | 900.00 | |
| 75 As | 72 | 2 | 0.73 | 0.37 | ppb | 0.67 | 900.00 | |
| 78 Se | 72 | 2 | -0.36 | -0.18 | ppb | 93.06 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 11.31 | 900.00 | |
| 98 Mo | 103 | 1 | -0.21 | -0.11 | ppb | 12.23 | 900.00 | |
| 107 Ag | 115 | 1 | -0.01 | 0.00 | ppb | 26.71 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.00 | ppb | 173.51 | 900.00 | |
| 120 Sn | 115 | 1 | 0.26 | 0.13 | ppb | 0.91 | 900.00 | |
| 121 Sb | 115 | 1 | 0.03 | 0.01 | ppb | 32.85 | 900.00 | |
| 137 Ba | 159 | 1 | 0.10 | 0.05 | ppb | 27.44 | 900.00 | |
| 205 Tl | 209 | 1 | 0.30 | 0.15 | ppb | 8.97 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.01 | 0.00 | ppb | 16.63 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1933453 | 0.61 | 2032921 | 95.1 | 70 - 130 | |
| 45 Sc | 1 | 2511126 | 0.67 | 2621135 | 95.8 | 70 - 130 | |
| 45 Sc | 2 | 330794 | 0.09 | 361541 | 91.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\035SMPL.D\035SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 445847 | 0.29 | 465850 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 121674 | 0.44 | 129632 | 93.9 | 70 | - | 130 |
| 103 Rh | 1 | 2145885 | 0.85 | 2265009 | 94.7 | 70 | - | 130 |
| 115 In | 1 | 2278165 | 0.21 | 2406660 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 935794 | 0.43 | 1007957 | 92.8 | 70 | - | 130 |
| 159 Tb | 1 | 2679946 | 1.24 | 2763118 | 97.0 | 70 | - | 130 |
| 175 Lu | 1 | 2492587 | 0.93 | 2515951 | 99.1 | 70 | - | 130 |
| 209 Bi | 1 | 1505386 | 1.61 | 1560225 | 96.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#
**Date Acquired:** Dec 4 2013 06:26 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26418-2F
**Misc Info:**
**Vial Number:** 2212
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 10.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 10.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 773.74 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.02 | ppb | 152.11 | 900.00 | |
| 11 B | 6 | 1 | 44.99 | 4.50 | ppb | 19.54 | 900.00 | |
| 11 B | 45 | 2 | 38.48 | 3.85 | ppb | 9.38 | 900.00 | |
| 23 Na | 45 | 1 | 14660.00 | 1466.00 | ppb | 26.62 | 90000.00 | |
| 23 Na | 45 | 2 | 14550.00 | 1455.00 | ppb | 0.51 | 90000.00 | |
| 24 Mg | 45 | 1 | 2896.00 | 289.60 | ppb | 26.27 | 90000.00 | |
| 24 Mg | 45 | 2 | 2768.00 | 276.80 | ppb | 0.34 | 90000.00 | |
| 27 Al | 45 | 1 | 3.71 | 0.37 | ppb | 90.07 | 90000.00 | |
| 27 Al | 45 | 2 | 4.28 | 0.43 | ppb | 15.62 | 90000.00 | |
| 39 K | 45 | 1 | 5158.00 | 515.80 | ppb | 33.42 | 90000.00 | |
| 44 Ca | 45 | 1 | 25740.00 | 2574.00 | ppb | 28.66 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.79 | 0.18 | ppb | 43.82 | 900.00 | |
| 51 V | 45 | 2 | -1.32 | -0.13 | ppb | 12.29 | 900.00 | |
| 52 Cr | 45 | 2 | -2.05 | -0.21 | ppb | 1.24 | 900.00 | |
| 55 Mn | 45 | 2 | 2254.00 | 225.40 | ppb | 0.67 | 900.00 | |
| 56 Fe | 45 | 2 | 58890.00 | 5889.00 | ppb | 0.21 | 90000.00 | |
| 59 Co | 45 | 2 | 8.40 | 0.84 | ppb | 1.61 | 900.00 | |
| 60 Ni | 45 | 2 | -2.44 | -0.24 | ppb | 9.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.19 | 0.02 | ppb | 46.87 | 900.00 | |
| 66 Zn | 72 | 2 | 11.25 | 1.13 | ppb | 2.50 | 900.00 | |
| 75 As | 72 | 2 | 431.90 | 43.19 | ppb | 0.63 | 900.00 | |
| 78 Se | 72 | 2 | -0.91 | -0.09 | ppb | 151.95 | 900.00 | |
| 88 Sr | 103 | 1 | 102.90 | 10.29 | ppb | 30.08 | 900.00 | |
| 98 Mo | 103 | 1 | -1.19 | -0.12 | ppb | 13.43 | 900.00 | |
| 107 Ag | 115 | 1 | -0.03 | 0.00 | ppb | 27.94 | 900.00 | |
| 111 Cd | 115 | 2 | -0.01 | 0.00 | ppb | 180.09 | 900.00 | |
| 120 Sn | 115 | 1 | 0.09 | 0.01 | ppb | 171.86 | 900.00 | |
| 121 Sb | 115 | 1 | 0.15 | 0.02 | ppb | 76.75 | 900.00 | |
| 137 Ba | 159 | 1 | 43.17 | 4.32 | ppb | 32.89 | 900.00 | |
| 205 Tl | 209 | 1 | 0.69 | 0.07 | ppb | 38.60 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.06 | -0.01 | ppb | 91.24 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975551 | 19.21 | 2032921 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 2539682 | 27.10 | 2621135 | 96.9 | 70 - 130 | |
| 45 Sc | 2 | 349052 | 0.44 | 361541 | 96.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\036SMPL.D\036SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 452268 | 21.46 | 465850 | 97.1 | 70 | - | 130 |
| 72 | Ge | 2 | 127612 | 0.40 | 129632 | 98.4 | 70 | - | 130 |
| 103 | Rh | 1 | 2097283 | 29.12 | 2265009 | 92.6 | 70 | - | 130 |
| 115 | In | 1 | 2269337 | 28.77 | 2406660 | 94.3 | 70 | - | 130 |
| 115 | In | 2 | 966702 | 0.61 | 1007957 | 95.9 | 70 | - | 130 |
| 159 | Tb | 1 | 2621200 | 29.83 | 2763118 | 94.9 | 70 | - | 130 |
| 175 | Lu | 1 | 2403366 | 29.22 | 2515951 | 95.5 | 70 | - | 130 |
| 209 | Bi | 1 | 1486353 | 23.18 | 1560225 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 4 2013 06:33 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-3F
Misc Info:
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 358.90 | 900.00 | |
| 9 Be | 45 | 2 | 0.08 | 0.01 | ppb | 218.15 | 900.00 | |
| 11 B | 6 | 1 | 45.28 | 4.53 | ppb | 1.41 | 900.00 | |
| 11 B | 45 | 2 | 41.10 | 4.11 | ppb | 4.73 | 900.00 | |
| 23 Na | 45 | 1 | 14120.00 | 1412.00 | ppb | 1.28 | 90000.00 | |
| 23 Na | 45 | 2 | 14950.00 | 1495.00 | ppb | 0.95 | 90000.00 | |
| 24 Mg | 45 | 1 | 2781.00 | 278.10 | ppb | 0.85 | 90000.00 | |
| 24 Mg | 45 | 2 | 2824.00 | 282.40 | ppb | 1.06 | 90000.00 | |
| 27 Al | 45 | 1 | 4.11 | 0.41 | ppb | 1.08 | 90000.00 | |
| 27 Al | 45 | 2 | 6.10 | 0.61 | ppb | 8.38 | 90000.00 | |
| 39 K | 45 | 1 | 4875.00 | 487.50 | ppb | 1.06 | 90000.00 | |
| 44 Ca | 45 | 1 | 24810.00 | 2481.00 | ppb | 0.75 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.75 | 0.18 | ppb | 18.90 | 900.00 | |
| 51 V | 45 | 2 | -1.38 | -0.14 | ppb | 0.91 | 900.00 | |
| 52 Cr | 45 | 2 | -2.04 | -0.20 | ppb | 2.19 | 900.00 | |
| 55 Mn | 45 | 2 | 2318.00 | 231.80 | ppb | 1.76 | 900.00 | |
| 56 Fe | 45 | 2 | 60530.00 | 6053.00 | ppb | 0.93 | 90000.00 | |
| 59 Co | 45 | 2 | 8.45 | 0.85 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | -2.74 | -0.27 | ppb | 10.81 | 900.00 | |
| 63 Cu | 72 | 2 | 0.09 | 0.01 | ppb | 26.87 | 900.00 | |
| 66 Zn | 72 | 2 | 10.89 | 1.09 | ppb | 3.17 | 900.00 | |
| 75 As | 72 | 2 | 444.40 | 44.44 | ppb | 0.70 | 900.00 | |
| 78 Se | 72 | 2 | -0.84 | -0.08 | ppb | 77.90 | 900.00 | |
| 88 Sr | 103 | 1 | 98.05 | 9.81 | ppb | 2.03 | 900.00 | |
| 98 Mo | 103 | 1 | -1.27 | -0.13 | ppb | 1.31 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 27.53 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 1990.30 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.00 | ppb | 62.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.10 | 0.01 | ppb | 26.87 | 900.00 | |
| 137 Ba | 159 | 1 | 41.53 | 4.15 | ppb | 0.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.60 | 0.06 | ppb | 2.70 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.03 | 0.00 | ppb | 62.89 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2007490 | 0.25 | 2032921 | 98.7 | 70 - 130 | |
| 45 Sc | 1 | 2593607 | 0.70 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 348224 | 1.00 | 361541 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\037SMPL.D\037SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 457469 | 1.05 | 465850 | 98.2 | 70 | - | 130 |
| 72 Ge | 2 | 126791 | 0.66 | 129632 | 97.8 | 70 | - | 130 |
| 103 Rh | 1 | 2162380 | 1.04 | 2265009 | 95.5 | 70 | - | 130 |
| 115 In | 1 | 2329336 | 1.07 | 2406660 | 96.8 | 70 | - | 130 |
| 115 In | 2 | 965639 | 0.47 | 1007957 | 95.8 | 70 | - | 130 |
| 159 Tb | 1 | 2672196 | 0.85 | 2763118 | 96.7 | 70 | - | 130 |
| 175 Lu | 1 | 2452473 | 0.72 | 2515951 | 97.5 | 70 | - | 130 |
| 209 Bi | 1 | 1487865 | 1.45 | 1560225 | 95.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 4 2013 06:40 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-4F
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.02 | 0.00 | ppb | 141.69 | 900.00 | |
| 9 Be | 45 | 2 | 0.09 | 0.01 | ppb | 80.83 | 900.00 | |
| 11 B | 6 | 1 | 59.59 | 5.96 | ppb | 3.01 | 900.00 | |
| 11 B | 45 | 2 | 55.71 | 5.57 | ppb | 7.04 | 900.00 | |
| 23 Na | 45 | 1 | 22350.00 | 2235.00 | ppb | 0.72 | 90000.00 | |
| 23 Na | 45 | 2 | 24000.00 | 2400.00 | ppb | 6.47 | 90000.00 | |
| 24 Mg | 45 | 1 | 2579.00 | 257.90 | ppb | 0.60 | 90000.00 | |
| 24 Mg | 45 | 2 | 2671.00 | 267.10 | ppb | 5.63 | 90000.00 | |
| 27 Al | 45 | 1 | 50.00 | 5.00 | ppb | 0.60 | 90000.00 | |
| 27 Al | 45 | 2 | 48.52 | 4.85 | ppb | 6.65 | 90000.00 | |
| 39 K | 45 | 1 | 8290.00 | 829.00 | ppb | 0.22 | 90000.00 | |
| 44 Ca | 45 | 1 | 40390.00 | 4039.00 | ppb | 0.77 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.63 | 0.16 | ppb | 6.59 | 900.00 | |
| 51 V | 45 | 2 | -1.39 | -0.14 | ppb | 18.74 | 900.00 | |
| 52 Cr | 45 | 2 | -1.92 | -0.19 | ppb | 4.91 | 900.00 | |
| 55 Mn | 45 | 2 | 2134.00 | 213.40 | ppb | 5.80 | 900.00 | |
| 56 Fe | 45 | 2 | 18490.00 | 1849.00 | ppb | 5.27 | 90000.00 | |
| 59 Co | 45 | 2 | 107.10 | 10.71 | ppb | 5.08 | 900.00 | |
| 60 Ni | 45 | 2 | 731.90 | 73.19 | ppb | 5.62 | 900.00 | |
| 63 Cu | 72 | 2 | 0.83 | 0.08 | ppb | 3.08 | 900.00 | |
| 66 Zn | 72 | 2 | 40.85 | 4.09 | ppb | 4.28 | 900.00 | |
| 75 As | 72 | 2 | 247.40 | 24.74 | ppb | 5.27 | 900.00 | |
| 78 Se | 72 | 2 | 0.40 | 0.04 | ppb | 237.01 | 900.00 | |
| 88 Sr | 103 | 1 | 338.40 | 33.84 | ppb | 1.03 | 900.00 | |
| 98 Mo | 103 | 1 | 4.65 | 0.47 | ppb | 0.69 | 900.00 | |
| 107 Ag | 115 | 1 | -0.05 | -0.01 | ppb | 31.05 | 900.00 | |
| 111 Cd | 115 | 2 | 0.24 | 0.02 | ppb | 12.63 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 24.81 | 900.00 | |
| 121 Sb | 115 | 1 | 0.86 | 0.09 | ppb | 3.47 | 900.00 | |
| 137 Ba | 159 | 1 | 77.01 | 7.70 | ppb | 2.22 | 900.00 | |
| 205 Tl | 209 | 1 | 0.93 | 0.09 | ppb | 5.44 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.09 | -0.01 | ppb | 22.31 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1964232 | 0.73 | 2032921 | 96.6 | 70 - 130 | |
| 45 Sc | 1 | 2592024 | 0.46 | 2621135 | 98.9 | 70 - 130 | |
| 45 Sc | 2 | 341348 | 4.39 | 361541 | 94.4 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\038SMPL.D\038SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451963 | 0.54 | 465850 | 97.0 | 70 - | 130 |
| 72 | Ge | 2 | 125123 | 3.84 | 129632 | 96.5 | 70 - | 130 |
| 103 | Rh | 1 | 2148607 | 0.44 | 2265009 | 94.9 | 70 - | 130 |
| 115 | In | 1 | 2326857 | 0.91 | 2406660 | 96.7 | 70 - | 130 |
| 115 | In | 2 | 935848 | 7.25 | 1007957 | 92.8 | 70 - | 130 |
| 159 | Tb | 1 | 2664421 | 0.94 | 2763118 | 96.4 | 70 - | 130 |
| 175 | Lu | 1 | 2442108 | 0.64 | 2515951 | 97.1 | 70 - | 130 |
| 209 | Bi | 1 | 1487733 | 1.58 | 1560225 | 95.4 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D#
Date Acquired: Dec 4 2013 06:47 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-5F
Misc Info:
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.01 | 0.00 | ppb | 337.26 | 900.00 | |
| 9 Be | 45 | 2 | -0.03 | 0.00 | ppb | 206.38 | 900.00 | |
| 11 B | 6 | 1 | 44.40 | 4.44 | ppb | 2.35 | 900.00 | |
| 11 B | 45 | 2 | 46.44 | 4.64 | ppb | 7.84 | 900.00 | |
| 23 Na | 45 | 1 | 4013.00 | 401.30 | ppb | 1.11 | 90000.00 | |
| 23 Na | 45 | 2 | 4465.00 | 446.50 | ppb | 1.50 | 90000.00 | |
| 24 Mg | 45 | 1 | 2169.00 | 216.90 | ppb | 0.28 | 90000.00 | |
| 24 Mg | 45 | 2 | 2215.00 | 221.50 | ppb | 0.43 | 90000.00 | |
| 27 Al | 45 | 1 | 9.09 | 0.91 | ppb | 7.01 | 90000.00 | |
| 27 Al | 45 | 2 | 9.47 | 0.95 | ppb | 9.21 | 90000.00 | |
| 39 K | 45 | 1 | 4292.00 | 429.20 | ppb | 1.34 | 90000.00 | |
| 44 Ca | 45 | 1 | 25530.00 | 2553.00 | ppb | 0.17 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.50 | 0.15 | ppb | 3.92 | 900.00 | |
| 51 V | 45 | 2 | -1.64 | -0.16 | ppb | 7.11 | 900.00 | |
| 52 Cr | 45 | 2 | -1.93 | -0.19 | ppb | 1.74 | 900.00 | |
| 55 Mn | 45 | 2 | 5901.00 | 590.10 | ppb | 1.24 | 900.00 | |
| 56 Fe | 45 | 2 | 85840.00 | 8584.00 | ppb | 0.52 | 90000.00 | |
| 59 Co | 45 | 2 | 7.52 | 0.75 | ppb | 0.15 | 900.00 | |
| 60 Ni | 45 | 2 | 3.25 | 0.32 | ppb | 2.16 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.00 | ppb | 253.62 | 900.00 | |
| 66 Zn | 72 | 2 | 9.14 | 0.91 | ppb | 4.06 | 900.00 | |
| 75 As | 72 | 2 | 3369.00 | 336.90 | ppb | 0.94 | 900.00 | |
| 78 Se | 72 | 2 | -1.00 | -0.10 | ppb | 89.40 | 900.00 | |
| 88 Sr | 103 | 1 | 136.90 | 13.69 | ppb | 0.93 | 900.00 | |
| 98 Mo | 103 | 1 | -1.42 | -0.14 | ppb | 4.18 | 900.00 | |
| 107 Ag | 115 | 1 | -0.06 | -0.01 | ppb | 4.82 | 900.00 | |
| 111 Cd | 115 | 2 | -0.04 | 0.00 | ppb | 31.35 | 900.00 | |
| 120 Sn | 115 | 1 | -0.02 | 0.00 | ppb | 66.53 | 900.00 | |
| 121 Sb | 115 | 1 | -0.03 | 0.00 | ppb | 101.75 | 900.00 | |
| 137 Ba | 159 | 1 | 31.79 | 3.18 | ppb | 2.63 | 900.00 | |
| 205 Tl | 209 | 1 | 0.24 | 0.02 | ppb | 10.68 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.14 | -0.01 | ppb | 4.58 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1959821 | 0.93 | 2032921 | 96.4 | 70 - 130 | |
| 45 Sc | 1 | 2620313 | 0.35 | 2621135 | 100.0 | 70 - 130 | |
| 45 Sc | 2 | 344580 | 1.39 | 361541 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\039SMPL.D\039SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 459193 | 0.35 | 465850 | 98.6 | 70 | - | 130 |
| 72 | Ge | 2 | 125031 | 1.46 | 129632 | 96.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2160729 | 0.80 | 2265009 | 95.4 | 70 | - | 130 |
| 115 | In | 1 | 2334097 | 0.09 | 2406660 | 97.0 | 70 | - | 130 |
| 115 | In | 2 | 949737 | 0.52 | 1007957 | 94.2 | 70 | - | 130 |
| 159 | Tb | 1 | 2681276 | 0.94 | 2763118 | 97.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2463775 | 0.95 | 2515951 | 97.9 | 70 | - | 130 |
| 209 | Bi | 1 | 1506512 | 0.78 | 1560225 | 96.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D# |
| Date Acquired: | Dec 4 2013 06:54 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MC26418-9F |
| Misc Info: | |
| Vial Number: | 2304 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.22 | 0.00 | ppb | 11.36 | 900.00 | |
| 9 Be | 45 | 2 | -0.38 | -0.01 | ppb | 90.72 | 900.00 | |
| 11 B | 6 | 1 | 124.50 | 2.49 | ppb | 3.16 | 900.00 | |
| 11 B | 45 | 2 | 112.10 | 2.24 | ppb | 19.78 | 900.00 | |
| 23 Na | 45 | 1 | 18230.00 | 364.60 | ppb | 2.41 | 90000.00 | |
| 23 Na | 45 | 2 | 20080.00 | 401.60 | ppb | 0.69 | 90000.00 | |
| 24 Mg | 45 | 1 | 6930.00 | 138.60 | ppb | 2.13 | 90000.00 | |
| 24 Mg | 45 | 2 | 6860.00 | 137.20 | ppb | 0.69 | 90000.00 | |
| 27 Al | 45 | 1 | -12.09 | -0.24 | ppb | 4.10 | 90000.00 | |
| 27 Al | 45 | 2 | -3.66 | -0.07 | ppb | 97.03 | 90000.00 | |
| 39 K | 45 | 1 | 10350.00 | 207.00 | ppb | 2.32 | 90000.00 | |
| 44 Ca | 45 | 1 | 47945.00 | 958.90 | ppb | 0.67 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.62 | 0.05 | ppb | 18.90 | 900.00 | |
| 51 V | 45 | 2 | -21.17 | -0.42 | ppb | 1.68 | 900.00 | |
| 52 Cr | 45 | 2 | -12.33 | -0.25 | ppb | 3.03 | 900.00 | |
| 55 Mn | 45 | 2 | 931.00 | 18.62 | ppb | 0.39 | 900.00 | |
| 56 Fe | 45 | 2 | 74800.00 | 1496.00 | ppb | 0.30 | 90000.00 | |
| 59 Co | 45 | 2 | 16.20 | 0.32 | ppb | 2.47 | 900.00 | |
| 60 Ni | 45 | 2 | -30.49 | -0.61 | ppb | 2.79 | 900.00 | |
| 63 Cu | 72 | 2 | -0.95 | -0.02 | ppb | 17.53 | 900.00 | |
| 66 Zn | 72 | 2 | 15.62 | 0.31 | ppb | 2.79 | 900.00 | |
| 75 As | 72 | 2 | 1000.00 | 20.00 | ppb | 0.78 | 900.00 | |
| 78 Se | 72 | 2 | 1.35 | 0.03 | ppb | 515.23 | 900.00 | |
| 88 Sr | 103 | 1 | 439.40 | 8.79 | ppb | 0.69 | 900.00 | |
| 98 Mo | 103 | 1 | -7.25 | -0.14 | ppb | 1.09 | 900.00 | |
| 107 Ag | 115 | 1 | -0.22 | 0.00 | ppb | 21.58 | 900.00 | |
| 111 Cd | 115 | 2 | -0.07 | 0.00 | ppb | 482.21 | 900.00 | |
| 120 Sn | 115 | 1 | -0.54 | -0.01 | ppb | 9.86 | 900.00 | |
| 121 Sb | 115 | 1 | -0.42 | -0.01 | ppb | 6.41 | 900.00 | |
| 137 Ba | 159 | 1 | 90.45 | 1.81 | ppb | 0.22 | 900.00 | |
| 205 Tl | 209 | 1 | 2.09 | 0.04 | ppb | 5.54 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.41 | -0.01 | ppb | 36.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1975056 | 0.26 | 2032921 | 97.2 | 70 - 130 | |
| 45 Sc | 1 | 2628596 | 1.90 | 2621135 | 100.3 | 70 - 130 | |
| 45 Sc | 2 | 348323 | 0.57 | 361541 | 96.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\040SMPL.D\040SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456179 | 1.24 | 465850 | 97.9 | 70 | - | 130 |
| 72 Ge | 2 | 126022 | 0.58 | 129632 | 97.2 | 70 | - | 130 |
| 103 Rh | 1 | 2155612 | 1.02 | 2265009 | 95.2 | 70 | - | 130 |
| 115 In | 1 | 2334989 | 1.30 | 2406660 | 97.0 | 70 | - | 130 |
| 115 In | 2 | 963973 | 0.40 | 1007957 | 95.6 | 70 | - | 130 |
| 159 Tb | 1 | 2659091 | 0.45 | 2763118 | 96.2 | 70 | - | 130 |
| 175 Lu | 1 | 2409150 | 0.88 | 2515951 | 95.8 | 70 | - | 130 |
| 209 Bi | 1 | 1460757 | 1.04 | 1560225 | 93.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 4 2013 07:01 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-10F
Misc Info:
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.28 | 0.00 | ppb | 49.61 | 900.00 | |
| 9 Be | 45 | 2 | -0.37 | 0.00 | ppb | 182.22 | 900.00 | |
| 11 B | 6 | 1 | 46.96 | 0.47 | ppb | 7.66 | 900.00 | |
| 11 B | 45 | 2 | 46.34 | 0.46 | ppb | 28.33 | 900.00 | |
| 23 Na | 45 | 1 | 10710.00 | 107.10 | ppb | 0.31 | 90000.00 | |
| 23 Na | 45 | 2 | 11850.00 | 118.50 | ppb | 1.48 | 90000.00 | |
| 24 Mg | 45 | 1 | 6428.00 | 64.28 | ppb | 0.65 | 90000.00 | |
| 24 Mg | 45 | 2 | 6216.00 | 62.16 | ppb | 1.55 | 90000.00 | |
| 27 Al | 45 | 1 | 111.20 | 1.11 | ppb | 4.16 | 90000.00 | |
| 27 Al | 45 | 2 | 118.40 | 1.18 | ppb | 4.32 | 90000.00 | |
| 39 K | 45 | 1 | 4274.00 | 42.74 | ppb | 1.67 | 90000.00 | |
| 44 Ca | 45 | 1 | 50770.00 | 507.70 | ppb | 0.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.97 | 0.01 | ppb | 22.46 | 900.00 | |
| 51 V | 45 | 2 | -45.82 | -0.46 | ppb | 0.45 | 900.00 | |
| 52 Cr | 45 | 2 | -25.06 | -0.25 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 7605.00 | 76.05 | ppb | 0.50 | 900.00 | |
| 56 Fe | 45 | 2 | 46260.00 | 462.60 | ppb | 0.47 | 90000.00 | |
| 59 Co | 45 | 2 | 21.09 | 0.21 | ppb | 2.34 | 900.00 | |
| 60 Ni | 45 | 2 | -77.11 | -0.77 | ppb | 0.86 | 900.00 | |
| 63 Cu | 72 | 2 | -0.24 | 0.00 | ppb | 8.55 | 900.00 | |
| 66 Zn | 72 | 2 | 15.27 | 0.15 | ppb | 5.87 | 900.00 | |
| 75 As | 72 | 2 | 5738.00 | 57.38 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 14.41 | 0.14 | ppb | 96.95 | 900.00 | |
| 88 Sr | 103 | 1 | 348.30 | 3.48 | ppb | 0.25 | 900.00 | |
| 98 Mo | 103 | 1 | -14.09 | -0.14 | ppb | 1.41 | 900.00 | |
| 107 Ag | 115 | 1 | -0.53 | -0.01 | ppb | 7.57 | 900.00 | |
| 111 Cd | 115 | 2 | -0.21 | 0.00 | ppb | 126.87 | 900.00 | |
| 120 Sn | 115 | 1 | -1.14 | -0.01 | ppb | 17.83 | 900.00 | |
| 121 Sb | 115 | 1 | -0.95 | -0.01 | ppb | 25.98 | 900.00 | |
| 137 Ba | 159 | 1 | 34.23 | 0.34 | ppb | 4.27 | 900.00 | |
| 205 Tl | 209 | 1 | 1.94 | 0.02 | ppb | 8.83 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -1.02 | -0.01 | ppb | 12.92 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2016460 | 0.91 | 2032921 | 99.2 | 70 - 130 | |
| 45 Sc | 1 | 2612612 | 0.47 | 2621135 | 99.7 | 70 - 130 | |
| 45 Sc | 2 | 356313 | 1.01 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\041SMPL.D\041SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 460509 | 0.86 | 465850 | 98.9 | 70 - | 130 |
| 72 | Ge | 2 | 128764 | 0.41 | 129632 | 99.3 | 70 - | 130 |
| 103 | Rh | 1 | 2223862 | 0.24 | 2265009 | 98.2 | 70 - | 130 |
| 115 | In | 1 | 2357210 | 1.44 | 2406660 | 97.9 | 70 - | 130 |
| 115 | In | 2 | 970396 | 0.38 | 1007957 | 96.3 | 70 - | 130 |
| 159 | Tb | 1 | 2623139 | 0.81 | 2763118 | 94.9 | 70 - | 130 |
| 175 | Lu | 1 | 2396754 | 0.36 | 2515951 | 95.3 | 70 - | 130 |
| 209 | Bi | 1 | 1449369 | 0.44 | 1560225 | 92.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 4 2013 07:09 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26418-11F
Misc Info:
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.55 | 1.01 | ppb | 173.69 | 900.00 | |
| 9 Be | 45 | 2 | 3.38 | 0.07 | ppb | 44.70 | 900.00 | |
| 11 B | 6 | 1 | 264.00 | 5.28 | ppb | 29.51 | 900.00 | |
| 11 B | 45 | 2 | 221.45 | 4.43 | ppb | 5.32 | 900.00 | |
| 23 Na | 45 | 1 | 38405.00 | 768.10 | ppb | 44.97 | 90000.00 | |
| 23 Na | 45 | 2 | 30830.00 | 616.60 | ppb | 1.33 | 90000.00 | |
| 24 Mg | 45 | 1 | 23315.00 | 466.30 | ppb | 80.66 | 90000.00 | |
| 24 Mg | 45 | 2 | 13275.00 | 265.50 | ppb | 4.09 | 90000.00 | |
| 27 Al | 45 | 1 | 8875.00 | 177.50 | ppb | 173.35 | 90000.00 | |
| 27 Al | 45 | 2 | 523.50 | 10.47 | ppb | 50.66 | 90000.00 | |
| 39 K | 45 | 1 | 16955.00 | 339.10 | ppb | 71.40 | 90000.00 | |
| 44 Ca | 45 | 1 | 87050.00 | 1741.00 | ppb | 12.89 | 90000.00 | |
| 47 Ti | 45 | 1 | 194.85 | 3.90 | ppb | 169.77 | 900.00 | |
| 51 V | 45 | 2 | -17.98 | -0.36 | ppb | 9.02 | 900.00 | |
| 52 Cr | 45 | 2 | -9.10 | -0.18 | ppb | 20.30 | 900.00 | |
| 55 Mn | 45 | 2 | 1461.50 | 29.23 | ppb | 1.13 | 900.00 | |
| 56 Fe | 45 | 2 | 44690.00 | 893.80 | ppb | 1.11 | 90000.00 | |
| 59 Co | 45 | 2 | 3.46 | 0.07 | ppb | 45.69 | 900.00 | |
| 60 Ni | 45 | 2 | -40.86 | -0.82 | ppb | 6.02 | 900.00 | |
| 63 Cu | 72 | 2 | 2.45 | 0.05 | ppb | 75.87 | 900.00 | |
| 66 Zn | 72 | 2 | 14.20 | 0.28 | ppb | 14.82 | 900.00 | |
| 75 As | 72 | 2 | 1527.00 | 30.54 | ppb | 0.03 | 900.00 | |
| 78 Se | 72 | 2 | 3.40 | 0.07 | ppb | 140.58 | 900.00 | |
| 88 Sr | 103 | 1 | 862.00 | 17.24 | ppb | 0.67 | 900.00 | |
| 98 Mo | 103 | 1 | 144.95 | 2.90 | ppb | 182.65 | 900.00 | |
| 107 Ag | 115 | 1 | 34.79 | 0.70 | ppb | 174.36 | 900.00 | |
| 111 Cd | 115 | 2 | 3.49 | 0.07 | ppb | 64.01 | 900.00 | |
| 120 Sn | 115 | 1 | 62.90 | 1.26 | ppb | 174.80 | 900.00 | |
| 121 Sb | 115 | 1 | 38.26 | 0.77 | ppb | 175.01 | 900.00 | |
| 137 Ba | 159 | 1 | 154.00 | 3.08 | ppb | 109.22 | 900.00 | |
| 205 Tl | 209 | 1 | 60.75 | 1.22 | ppb | 170.95 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 66.20 | 1.32 | ppb | 174.47 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2305040 | 23.21 | 2032921 | 113.4 | 70 - 130 | |
| 45 Sc | 1 | 3004052 | 22.81 | 2621135 | 114.6 | 70 - 130 | |
| 45 Sc | 2 | 369748 | 0.35 | 361541 | 102.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\042SMPL.D\042SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 522509 | 19.98 | 465850 | 112.2 | 70 | - | 130 |
| 72 | Ge | 2 | 132282 | 0.57 | 129632 | 102.0 | 70 | - | 130 |
| 103 | Rh | 1 | 2487869 | 20.19 | 2265009 | 109.8 | 70 | - | 130 |
| 115 | In | 1 | 2656327 | 20.47 | 2406660 | 110.4 | 70 | - | 130 |
| 115 | In | 2 | 994751 | 1.58 | 1007957 | 98.7 | 70 | - | 130 |
| 159 | Tb | 1 | 2983950 | 19.66 | 2763118 | 108.0 | 70 | - | 130 |
| 175 | Lu | 1 | 2724620 | 20.32 | 2515951 | 108.3 | 70 | - | 130 |
| 209 | Bi | 1 | 1617505 | 18.97 | 1560225 | 103.7 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#

**Sample QC Report**

**Data File:** C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#
**Date Acquired:** Dec 4 2013 07:16 pm
**Acq. Method:** EPA6020A.M
**Operator:** METALS
**Sample Name:** MC26484-4F
**Misc Info:**
**Vial Number:** 2307
**Current Method:** C:\ICPCHEM\1\METHODS\EPA6020A.M
**Calibration File:** C:\ICPCHEM\1\CALIB\EPA6020A.C
**Last Cal. Update:** Dec 04 2013 02:39 pm
**Sample Type:** Sample
**Dilution Factor:** 50.00
**Autodil Factor:** Undiluted
**Final Dil Factor:** 50.00

**Data Results:**
**Analytes:** Pass
**ISTD:** Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.18 | 0.00 | ppb | 91.87 | 900.00 | |
| 9 Be | 45 | 2 | 0.75 | 0.01 | ppb | 27.62 | 900.00 | |
| 11 B | 6 | 1 | 20.64 | 0.41 | ppb | 4.68 | 900.00 | |
| 11 B | 45 | 2 | 14.07 | 0.28 | ppb | 28.73 | 900.00 | |
| 23 Na | 45 | 1 | 58150.00 | 1163.00 | ppb | 1.26 | 90000.00 | |
| 23 Na | 45 | 2 | 60300.00 | 1206.00 | ppb | 11.20 | 90000.00 | |
| 24 Mg | 45 | 1 | 2098.50 | 41.97 | ppb | 0.58 | 90000.00 | |
| 24 Mg | 45 | 2 | 2029.00 | 40.58 | ppb | 11.51 | 90000.00 | |
| 27 Al | 45 | 1 | 15.04 | 0.30 | ppb | 32.42 | 90000.00 | |
| 27 Al | 45 | 2 | 16.96 | 0.34 | ppb | 22.26 | 90000.00 | |
| 39 K | 45 | 1 | 3321.50 | 66.43 | ppb | 6.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 20760.00 | 415.20 | ppb | 0.42 | 90000.00 | |
| 47 Ti | 45 | 1 | 3.01 | 0.06 | ppb | 24.45 | 900.00 | |
| 51 V | 45 | 2 | -21.42 | -0.43 | ppb | 3.47 | 900.00 | |
| 52 Cr | 45 | 2 | -12.28 | -0.25 | ppb | 1.83 | 900.00 | |
| 55 Mn | 45 | 2 | 2437.50 | 48.75 | ppb | 11.19 | 900.00 | |
| 56 Fe | 45 | 2 | 39510.00 | 790.20 | ppb | 12.11 | 90000.00 | |
| 59 Co | 45 | 2 | 15.67 | 0.31 | ppb | 12.11 | 900.00 | |
| 60 Ni | 45 | 2 | -37.83 | -0.76 | ppb | 2.16 | 900.00 | |
| 63 Cu | 72 | 2 | -0.47 | -0.01 | ppb | 54.26 | 900.00 | |
| 66 Zn | 72 | 2 | 25.65 | 0.51 | ppb | 3.86 | 900.00 | |
| 75 As | 72 | 2 | 2539.50 | 50.79 | ppb | 6.34 | 900.00 | |
| 78 Se | 72 | 2 | 6.47 | 0.13 | ppb | 180.20 | 900.00 | |
| 88 Sr | 103 | 1 | 241.90 | 4.84 | ppb | 4.76 | 900.00 | |
| 98 Mo | 103 | 1 | -4.95 | -0.10 | ppb | 3.34 | 900.00 | |
| 107 Ag | 115 | 1 | -0.21 | 0.00 | ppb | 40.56 | 900.00 | |
| 111 Cd | 115 | 2 | -0.19 | 0.00 | ppb | 4.00 | 900.00 | |
| 120 Sn | 115 | 1 | -0.49 | -0.01 | ppb | 25.19 | 900.00 | |
| 121 Sb | 115 | 1 | -0.28 | -0.01 | ppb | 49.26 | 900.00 | |
| 137 Ba | 159 | 1 | 16.01 | 0.32 | ppb | 6.38 | 900.00 | |
| 205 Tl | 209 | 1 | 0.55 | 0.01 | ppb | 59.66 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.44 | -0.01 | ppb | 54.64 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2078254 | 1.19 | 2032921 | 102.2 | 70 - 130 | |
| 45 Sc | 1 | 2637409 | 1.84 | 2621135 | 100.6 | 70 - 130 | |
| 45 Sc | 2 | 364672 | 10.43 | 361541 | 100.9 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\043SMPL.D\043SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456716 | 2.19 | 465850 | 98.0 | 70 | - | 130 |
| 72 Ge | 2 | 130110 | 3.97 | 129632 | 100.4 | 70 | - | 130 |
| 103 Rh | 1 | 2149977 | 3.55 | 2265009 | 94.9 | 70 | - | 130 |
| 115 In | 1 | 2398274 | 2.56 | 2406660 | 99.7 | 70 | - | 130 |
| 115 In | 2 | 987546 | 6.34 | 1007957 | 98.0 | 70 | - | 130 |
| 159 Tb | 1 | 2560722 | 0.78 | 2763118 | 92.7 | 70 | - | 130 |
| 175 Lu | 1 | 2286625 | 1.31 | 2515951 | 90.9 | 70 | - | 130 |
| 209 Bi | 1 | 1377228 | 3.09 | 1560225 | 88.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#** | | |
| **Date Acquired:** | **Dec 4 2013 07:23 pm** | | |
| **Acq. Method:** | **EPA6020A.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **MP22178-SD1** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2308** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020A.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020A.C** | | |
| **Last Cal. Update:** | **Dec 04 2013 02:39 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **250.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **250.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | -0.51 | 0.00 | ppb | 259.66 | 900.00 | |
| 9 Be | 45 | 2 | 2.86 | 0.01 | ppb | 174.13 | 900.00 | |
| 11 B | 6 | 1 | 12.27 | 0.05 | ppb | 7.65 | 900.00 | |
| 11 B | 45 | 2 | 12.71 | 0.05 | ppb | 277.00 | 900.00 | |
| 23 Na | 45 | 1 | 60375.00 | 241.50 | ppb | 0.45 | 90000.00 | |
| 23 Na | 45 | 2 | 66325.00 | 265.30 | ppb | 0.75 | 90000.00 | |
| 24 Mg | 45 | 1 | 2186.50 | 8.75 | ppb | 2.54 | 90000.00 | |
| 24 Mg | 45 | 2 | 2200.00 | 8.80 | ppb | 2.75 | 90000.00 | |
| 27 Al | 45 | 1 | 29.15 | 0.12 | ppb | 30.76 | 90000.00 | |
| 27 Al | 45 | 2 | 63.70 | 0.25 | ppb | 13.93 | 90000.00 | |
| 39 K | 45 | 1 | 988.25 | 3.95 | ppb | 121.98 | 90000.00 | |
| 44 Ca | 45 | 1 | 21490.00 | 85.96 | ppb | 0.63 | 90000.00 | |
| 47 Ti | 45 | 1 | 6.13 | 0.02 | ppb | 20.16 | 900.00 | |
| 51 V | 45 | 2 | -118.33 | -0.47 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | -62.65 | -0.25 | ppb | 1.38 | 900.00 | |
| 55 Mn | 45 | 2 | 2507.50 | 10.03 | ppb | 0.83 | 900.00 | |
| 56 Fe | 45 | 2 | 40450.00 | 161.80 | ppb | 1.54 | 90000.00 | |
| 59 Co | 45 | 2 | 15.07 | 0.06 | ppb | 3.16 | 900.00 | |
| 60 Ni | 45 | 2 | -218.53 | -0.87 | ppb | 0.49 | 900.00 | |
| 63 Cu | 72 | 2 | -4.26 | -0.02 | ppb | 26.31 | 900.00 | |
| 66 Zn | 72 | 2 | 37.53 | 0.15 | ppb | 7.67 | 900.00 | |
| 75 As | 72 | 2 | 2545.00 | 10.18 | ppb | 2.05 | 900.00 | |
| 78 Se | 72 | 2 | 19.59 | 0.08 | ppb | 112.82 | 900.00 | |
| 88 Sr | 103 | 1 | 248.45 | 0.99 | ppb | 7.41 | 900.00 | |
| 98 Mo | 103 | 1 | -38.23 | -0.15 | ppb | 3.14 | 900.00 | |
| 107 Ag | 115 | 1 | -0.81 | 0.00 | ppb | 48.33 | 900.00 | |
| 111 Cd | 115 | 2 | -0.94 | 0.00 | ppb | 62.26 | 900.00 | |
| 120 Sn | 115 | 1 | -3.00 | -0.01 | ppb | 8.54 | 900.00 | |
| 121 Sb | 115 | 1 | -2.71 | -0.01 | ppb | 19.16 | 900.00 | |
| 137 Ba | 159 | 1 | 15.42 | 0.06 | ppb | 43.16 | 900.00 | |
| 205 Tl | 209 | 1 | 6.44 | 0.03 | ppb | 14.64 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.24 | 0.00 | ppb | 611.61 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2090189 | 4.23 | 2032921 | 102.8 | 70 - 130 | |
| 45 Sc | 1 | 2676393 | 3.37 | 2621135 | 102.1 | 70 - 130 | |
| 45 Sc | 2 | 363350 | 0.72 | 361541 | 100.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\044SMPL.D\044SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 463103 | 1.86 | 465850 | 99.4 | 70 - | 130 |
| 72 | Ge | 2 | 130449 | 0.15 | 129632 | 100.6 | 70 - | 130 |
| 103 | Rh | 1 | 2198354 | 3.83 | 2265009 | 97.1 | 70 - | 130 |
| 115 | In | 1 | 2383950 | 2.29 | 2406660 | 99.1 | 70 - | 130 |
| 115 | In | 2 | 986073 | 0.28 | 1007957 | 97.8 | 70 - | 130 |
| 159 | Tb | 1 | 2611930 | 2.25 | 2763118 | 94.5 | 70 - | 130 |
| 175 | Lu | 1 | 2359639 | 4.16 | 2515951 | 93.8 | 70 - | 130 |
| 209 | Bi | 1 | 1355769 | 3.99 | 1560225 | 86.9 | 70 - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#
Date Acquired: Dec 4 2013 07:30 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCV
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 49.61 | 49.61 | ppb | 1.59 | 900.00 | |
| 9 Be | 45 | 2 | 50.57 | 50.57 | ppb | 1.72 | 900.00 | |
| 11 B | 6 | 1 | 50.58 | 50.58 | ppb | 0.60 | 900.00 | |
| 11 B | 45 | 2 | 49.60 | 49.60 | ppb | 2.88 | 900.00 | |
| 23 Na | 45 | 1 | 4799.00 | 4799.00 | ppb | 1.99 | 90000.00 | |
| 23 Na | 45 | 2 | 5040.00 | 5040.00 | ppb | 2.19 | 90000.00 | |
| 24 Mg | 45 | 1 | 4834.00 | 4834.00 | ppb | 2.25 | 90000.00 | |
| 24 Mg | 45 | 2 | 4703.00 | 4703.00 | ppb | 1.16 | 90000.00 | |
| 27 Al | 45 | 1 | 4870.00 | 4870.00 | ppb | 3.47 | 90000.00 | |
| 27 Al | 45 | 2 | 4477.00 | 4477.00 | ppb | 0.64 | 90000.00 | |
| 39 K | 45 | 1 | 4912.00 | 4912.00 | ppb | 2.76 | 90000.00 | |
| 44 Ca | 45 | 1 | 4987.00 | 4987.00 | ppb | 2.05 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.85 | 48.85 | ppb | 2.19 | 900.00 | |
| 51 V | 45 | 2 | 48.61 | 48.61 | ppb | 1.83 | 900.00 | |
| 52 Cr | 45 | 2 | 47.28 | 47.28 | ppb | 1.90 | 900.00 | |
| 55 Mn | 45 | 2 | 47.67 | 47.67 | ppb | 0.53 | 900.00 | |
| 56 Fe | 45 | 2 | 4971.00 | 4971.00 | ppb | 2.96 | 90000.00 | |
| 59 Co | 45 | 2 | 47.64 | 47.64 | ppb | 2.61 | 900.00 | |
| 60 Ni | 45 | 2 | 48.94 | 48.94 | ppb | 0.83 | 900.00 | |
| 63 Cu | 72 | 2 | 46.65 | 46.65 | ppb | 2.13 | 900.00 | |
| 66 Zn | 72 | 2 | 46.41 | 46.41 | ppb | 0.93 | 900.00 | |
| 75 As | 72 | 2 | 48.15 | 48.15 | ppb | 0.92 | 900.00 | |
| 78 Se | 72 | 2 | 48.24 | 48.24 | ppb | 0.77 | 900.00 | |
| 88 Sr | 103 | 1 | 51.05 | 51.05 | ppb | 3.92 | 900.00 | |
| 98 Mo | 103 | 1 | 50.03 | 50.03 | ppb | 2.79 | 900.00 | |
| 107 Ag | 115 | 1 | 49.24 | 49.24 | ppb | 1.93 | 900.00 | |
| 111 Cd | 115 | 2 | 49.66 | 49.66 | ppb | 5.92 | 900.00 | |
| 120 Sn | 115 | 1 | 49.26 | 49.26 | ppb | 2.74 | 900.00 | |
| 121 Sb | 115 | 1 | 48.68 | 48.68 | ppb | 2.17 | 900.00 | |
| 137 Ba | 159 | 1 | 48.46 | 48.46 | ppb | 2.22 | 900.00 | |
| 205 Tl | 209 | 1 | 46.49 | 46.49 | ppb | 2.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.55 | 48.55 | ppb | 2.53 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2053703 | 0.60 | 2032921 | 101.0 | 70 - 130 | |
| 45 Sc | 1 | 2701889 | 2.18 | 2621135 | 103.1 | 70 - 130 | |
| 45 Sc | 2 | 359703 | 1.71 | 361541 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\045SMPL.D\045SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 463657 | 1.19 | 465850 | 99.5 | 70 | - | 130 |
| 72 Ge | 2 | 127778 | 0.71 | 129632 | 98.6 | 70 | - | 130 |
| 103 Rh | 1 | 2195621 | 2.78 | 2265009 | 96.9 | 70 | - | 130 |
| 115 In | 1 | 2311060 | 2.59 | 2406660 | 96.0 | 70 | - | 130 |
| 115 In | 2 | 948749 | 3.35 | 1007957 | 94.1 | 70 | - | 130 |
| 159 Tb | 1 | 2674922 | 2.86 | 2763118 | 96.8 | 70 | - | 130 |
| 175 Lu | 1 | 2428053 | 3.37 | 2515951 | 96.5 | 70 | - | 130 |
| 209 Bi | 1 | 1401459 | 3.18 | 1560225 | 89.8 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 4 2013 07:37 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CCB
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 254.98 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 335.11 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 2.73 | 900.00 | |
| 11 B | 45 | 2 | 0.20 | 0.20 | ppb | 41.82 | 900.00 | |
| 23 Na | 45 | 1 | 0.13 | 0.13 | ppb | 122.18 | 90000.00 | |
| 23 Na | 45 | 2 | 5.80 | 5.80 | ppb | 10.66 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.22 | 0.22 | ppb | 62.49 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.34 | 1.34 | ppb | 32.79 | 90000.00 | |
| 27 Al | 45 | 1 | 0.14 | 0.14 | ppb | 26.49 | 90000.00 | |
| 27 Al | 45 | 2 | 0.88 | 0.88 | ppb | 35.44 | 90000.00 | |
| 39 K | 45 | 1 | -10.13 | -10.13 | ppb | 10.71 | 90000.00 | |
| 44 Ca | 45 | 1 | -2.78 | -2.78 | ppb | 12.48 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.02 | 0.02 | ppb | 48.14 | 900.00 | |
| 51 V | 45 | 2 | -0.06 | -0.06 | ppb | 21.90 | 900.00 | |
| 52 Cr | 45 | 2 | 0.02 | 0.02 | ppb | 43.06 | 900.00 | |
| 55 Mn | 45 | 2 | 0.04 | 0.04 | ppb | 47.86 | 900.00 | |
| 56 Fe | 45 | 2 | 1.80 | 1.80 | ppb | 28.06 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 29.66 | 900.00 | |
| 60 Ni | 45 | 2 | 0.08 | 0.08 | ppb | 7.40 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 20.20 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 131.55 | 900.00 | |
| 75 As | 72 | 2 | 0.00 | 0.00 | ppb | 233.15 | 900.00 | |
| 78 Se | 72 | 2 | 0.06 | 0.06 | ppb | 129.18 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 76.60 | 900.00 | |
| 98 Mo | 103 | 1 | 0.19 | 0.19 | ppb | 17.56 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 115.91 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 199.53 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 43.97 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 63.26 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 88.56 | 900.00 | |
| 205 Tl | 209 | 1 | 0.28 | 0.28 | ppb | 3.42 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 53.27 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2110252 | 2.32 | 2032921 | 103.8 | 70 - 130 | |
| 45 Sc | 1 | 2735027 | 1.27 | 2621135 | 104.3 | 70 - 130 | |
| 45 Sc | 2 | 367070 | 1.02 | 361541 | 101.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\046SMPL.D\046SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 472515 | 1.25 | 465850 | 101.4 | 70 | - | 130 |
| 72 Ge | 2 | 131331 | 1.60 | 129632 | 101.3 | 70 | - | 130 |
| 103 Rh | 1 | 2310779 | 2.21 | 2265009 | 102.0 | 70 | - | 130 |
| 115 In | 1 | 2357748 | 1.66 | 2406660 | 98.0 | 70 | - | 130 |
| 115 In | 2 | 977033 | 3.29 | 1007957 | 96.9 | 70 | - | 130 |
| 159 Tb | 1 | 2711833 | 1.29 | 2763118 | 98.1 | 70 | - | 130 |
| 175 Lu | 1 | 2490354 | 0.81 | 2515951 | 99.0 | 70 | - | 130 |
| 209 Bi | 1 | 1481061 | 2.77 | 1560225 | 94.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D# | | |
| **Date Acquired:** | Dec 4 2013 07:44 pm | | |
| **Acq. Method:** | EPA6020A.M | **Data Results:** | |
| **Operator:** | METALS | **Analytes:** | Pass |
| **Sample Name:** | MC26484-6F | **ISTD:** | Pass |
| **Misc Info:** | | | |
| **Vial Number:** | 2311 | | |
| **Current Method:** | C:\ICPCHEM\1\METHODS\EPA6020A.M | | |
| **Calibration File:** | C:\ICPCHEM\1\CALIB\EPA6020A.C | | |
| **Last Cal. Update:** | Dec 04 2013 02:39 pm | | |
| **Sample Type:** | Sample | | |
| **Dilution Factor:** | 50.00 | | |
| **Autodil Factor:** | Undiluted | | |
| **Final Dil Factor:** | 50.00 | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 358.73 | 900.00 | |
| 9 Be | 45 | 2 | 0.37 | 0.01 | ppb | 86.98 | 900.00 | |
| 11 B | 6 | 1 | 42.98 | 0.86 | ppb | 6.98 | 900.00 | |
| 11 B | 45 | 2 | 44.65 | 0.89 | ppb | 33.23 | 900.00 | |
| 23 Na | 45 | 1 | 119550.00 | 2391.00 | ppb | 2.82 | 90000.00 | |
| 23 Na | 45 | 2 | 121550.00 | 2431.00 | ppb | 0.94 | 90000.00 | |
| 24 Mg | 45 | 1 | 2970.50 | 59.41 | ppb | 2.01 | 90000.00 | |
| 24 Mg | 45 | 2 | 2832.50 | 56.65 | ppb | 1.60 | 90000.00 | |
| 27 Al | 45 | 1 | 44.24 | 0.88 | ppb | 47.49 | 90000.00 | |
| 27 Al | 45 | 2 | 41.98 | 0.84 | ppb | 94.13 | 90000.00 | |
| 39 K | 45 | 1 | 4712.00 | 94.24 | ppb | 1.70 | 90000.00 | |
| 44 Ca | 45 | 1 | 22660.00 | 453.20 | ppb | 1.88 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.84 | 0.06 | ppb | 27.27 | 900.00 | |
| 51 V | 45 | 2 | -20.24 | -0.40 | ppb | 3.33 | 900.00 | |
| 52 Cr | 45 | 2 | -11.92 | -0.24 | ppb | 2.25 | 900.00 | |
| 55 Mn | 45 | 2 | 2612.00 | 52.24 | ppb | 1.30 | 900.00 | |
| 56 Fe | 45 | 2 | 30025.00 | 600.50 | ppb | 1.40 | 90000.00 | |
| 59 Co | 45 | 2 | 13.88 | 0.28 | ppb | 4.81 | 900.00 | |
| 60 Ni | 45 | 2 | -39.02 | -0.78 | ppb | 1.82 | 900.00 | |
| 63 Cu | 72 | 2 | -0.08 | 0.00 | ppb | 602.11 | 900.00 | |
| 66 Zn | 72 | 2 | 8.72 | 0.17 | ppb | 8.17 | 900.00 | |
| 75 As | 72 | 2 | 1341.00 | 26.82 | ppb | 1.60 | 900.00 | |
| 78 Se | 72 | 2 | -3.51 | -0.07 | ppb | 184.49 | 900.00 | |
| 88 Sr | 103 | 1 | 316.90 | 6.34 | ppb | 5.65 | 900.00 | |
| 98 Mo | 103 | 1 | -2.62 | -0.05 | ppb | 28.15 | 900.00 | |
| 107 Ag | 115 | 1 | 0.02 | 0.00 | ppb | 377.19 | 900.00 | |
| 111 Cd | 115 | 2 | 0.20 | 0.00 | ppb | 89.40 | 900.00 | |
| 120 Sn | 115 | 1 | -0.32 | -0.01 | ppb | 31.32 | 900.00 | |
| 121 Sb | 115 | 1 | -0.22 | 0.00 | ppb | 56.73 | 900.00 | |
| 137 Ba | 159 | 1 | 38.67 | 0.77 | ppb | 7.22 | 900.00 | |
| 205 Tl | 209 | 1 | 4.88 | 0.10 | ppb | 2.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.08 | 0.00 | ppb | 315.22 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2129177 | 3.91 | 2032921 | 104.7 | 70 - 130 | |
| 45 Sc | 1 | 2679912 | 0.18 | 2621135 | 102.2 | 70 - 130 | |
| 45 Sc | 2 | 367616 | 1.72 | 361541 | 101.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\047SMPL.D\047SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 488510 | 1.67 | 465850 | 104.9 | 70 | - | 130 |
| 72 Ge | 2 | 130658 | 0.20 | 129632 | 100.8 | 70 | - | 130 |
| 103 Rh | 1 | 2234723 | 4.12 | 2265009 | 98.7 | 70 | - | 130 |
| 115 In | 1 | 2488994 | 0.63 | 2406660 | 103.4 | 70 | - | 130 |
| 115 In | 2 | 987224 | 0.31 | 1007957 | 97.9 | 70 | - | 130 |
| 159 Tb | 1 | 2722207 | 0.29 | 2763118 | 98.5 | 70 | - | 130 |
| 175 Lu | 1 | 2465623 | 3.59 | 2515951 | 98.0 | 70 | - | 130 |
| 209 Bi | 1 | 1472088 | 3.21 | 1560225 | 94.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#
Date Acquired: Dec 4 2013 07:51 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MC26484-7F
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.05 | 0.00 | ppb | 14.12 | 900.00 | |
| 9 Be | 45 | 2 | 0.16 | 0.01 | ppb | 223.57 | 900.00 | |
| 11 B | 6 | 1 | 157.68 | 7.88 | ppb | 5.17 | 900.00 | |
| 11 B | 45 | 2 | 134.66 | 6.73 | ppb | 6.85 | 900.00 | |
| 23 Na | 45 | 1 | 11518.00 | 575.90 | ppb | 2.23 | 90000.00 | |
| 23 Na | 45 | 2 | 12430.00 | 621.50 | ppb | 0.54 | 90000.00 | |
| 24 Mg | 45 | 1 | 4286.00 | 214.30 | ppb | 1.07 | 90000.00 | |
| 24 Mg | 45 | 2 | 4374.00 | 218.70 | ppb | 0.19 | 90000.00 | |
| 27 Al | 45 | 1 | 15.83 | 0.79 | ppb | 13.68 | 90000.00 | |
| 27 Al | 45 | 2 | 5.93 | 0.30 | ppb | 47.07 | 90000.00 | |
| 39 K | 45 | 1 | 8212.00 | 410.60 | ppb | 1.23 | 90000.00 | |
| 44 Ca | 45 | 1 | 25120.00 | 1256.00 | ppb | 0.45 | 90000.00 | |
| 47 Ti | 45 | 1 | 2.40 | 0.12 | ppb | 3.98 | 900.00 | |
| 51 V | 45 | 2 | -5.97 | -0.30 | ppb | 0.86 | 900.00 | |
| 52 Cr | 45 | 2 | -4.56 | -0.23 | ppb | 1.51 | 900.00 | |
| 55 Mn | 45 | 2 | 815.20 | 40.76 | ppb | 0.68 | 900.00 | |
| 56 Fe | 45 | 2 | 35960.00 | 1798.00 | ppb | 0.90 | 90000.00 | |
| 59 Co | 45 | 2 | 12.05 | 0.60 | ppb | 1.88 | 900.00 | |
| 60 Ni | 45 | 2 | -10.58 | -0.53 | ppb | 1.24 | 900.00 | |
| 63 Cu | 72 | 2 | 0.17 | 0.01 | ppb | 48.31 | 900.00 | |
| 66 Zn | 72 | 2 | 48.50 | 2.43 | ppb | 0.83 | 900.00 | |
| 75 As | 72 | 2 | 993.80 | 49.69 | ppb | 0.09 | 900.00 | |
| 78 Se | 72 | 2 | -1.70 | -0.08 | ppb | 56.23 | 900.00 | |
| 88 Sr | 103 | 1 | 520.80 | 26.04 | ppb | 4.90 | 900.00 | |
| 98 Mo | 103 | 1 | 11.74 | 0.59 | ppb | 3.06 | 900.00 | |
| 107 Ag | 115 | 1 | -0.04 | 0.00 | ppb | 120.64 | 900.00 | |
| 111 Cd | 115 | 2 | 0.00 | 0.00 | ppb | 3022.30 | 900.00 | |
| 120 Sn | 115 | 1 | -0.01 | 0.00 | ppb | 505.71 | 900.00 | |
| 121 Sb | 115 | 1 | 0.02 | 0.00 | ppb | 154.08 | 900.00 | |
| 137 Ba | 159 | 1 | 23.72 | 1.19 | ppb | 0.91 | 900.00 | |
| 205 Tl | 209 | 1 | 0.80 | 0.04 | ppb | 8.30 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | -0.08 | 0.00 | ppb | 129.57 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2126694 | 3.77 | 2032921 | 104.6 | 70 - 130 | |
| 45 Sc | 1 | 2774438 | 0.23 | 2621135 | 105.8 | 70 - 130 | |
| 45 Sc | 2 | 356457 | 0.74 | 361541 | 98.6 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\048SMPL.D\048SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 469806 | 1.76 | 465850 | 100.8 | 70 | - | 130 |
| 72 | Ge | 2 | 128922 | 0.30 | 129632 | 99.5 | 70 | - | 130 |
| 103 | Rh | 1 | 2241745 | 1.82 | 2265009 | 99.0 | 70 | - | 130 |
| 115 | In | 1 | 2440312 | 0.50 | 2406660 | 101.4 | 70 | - | 130 |
| 115 | In | 2 | 980870 | 0.42 | 1007957 | 97.3 | 70 | - | 130 |
| 159 | Tb | 1 | 2805553 | 3.45 | 2763118 | 101.5 | 70 | - | 130 |
| 175 | Lu | 1 | 2561332 | 3.53 | 2515951 | 101.8 | 70 | - | 130 |
| 209 | Bi | 1 | 1512105 | 2.51 | 1560225 | 96.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#
Date Acquired: Dec 4 2013 07:59 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: MP22178-S1
Misc Info:
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 50.00
Autodil Factor: Undiluted
Final Dil Factor: 50.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 507.00 | 10.14 | ppb | 7.59 | 900.00 | |
| 9 Be | 45 | 2 | 481.10 | 9.62 | ppb | 2.56 | 900.00 | |
| 11 B | 6 | 1 | 24.53 | 0.49 | ppb | 14.98 | 900.00 | |
| 11 B | 45 | 2 | 22.52 | 0.45 | ppb | 30.36 | 900.00 | |
| 23 Na | 45 | 1 | 81300.00 | 1626.00 | ppb | 2.98 | 90000.00 | |
| 23 Na | 45 | 2 | 87400.00 | 1748.00 | ppb | 0.57 | 90000.00 | |
| 24 Mg | 45 | 1 | 27165.00 | 543.30 | ppb | 3.62 | 90000.00 | |
| 24 Mg | 45 | 2 | 28230.00 | 564.60 | ppb | 0.85 | 90000.00 | |
| 27 Al | 45 | 1 | 2288.00 | 45.76 | ppb | 2.98 | 90000.00 | |
| 27 Al | 45 | 2 | 2107.50 | 42.15 | ppb | 1.39 | 90000.00 | |
| 39 K | 45 | 1 | 29240.00 | 584.80 | ppb | 3.11 | 90000.00 | |
| 44 Ca | 45 | 1 | 46930.00 | 938.60 | ppb | 0.56 | 90000.00 | |
| 47 Ti | 45 | 1 | 487.20 | 9.74 | ppb | 2.05 | 900.00 | |
| 51 V | 45 | 2 | 488.00 | 9.76 | ppb | 0.57 | 900.00 | |
| 52 Cr | 45 | 2 | 486.35 | 9.73 | ppb | 0.47 | 900.00 | |
| 55 Mn | 45 | 2 | 2963.00 | 59.26 | ppb | 0.30 | 900.00 | |
| 56 Fe | 45 | 2 | 42220.00 | 844.40 | ppb | 0.27 | 90000.00 | |
| 59 Co | 45 | 2 | 516.50 | 10.33 | ppb | 1.05 | 900.00 | |
| 60 Ni | 45 | 2 | 464.85 | 9.30 | ppb | 0.21 | 900.00 | |
| 63 Cu | 72 | 2 | 503.50 | 10.07 | ppb | 0.66 | 900.00 | |
| 66 Zn | 72 | 2 | 528.50 | 10.57 | ppb | 0.24 | 900.00 | |
| 75 As | 72 | 2 | 3089.50 | 61.79 | ppb | 0.50 | 900.00 | |
| 78 Se | 72 | 2 | 519.00 | 10.38 | ppb | 2.51 | 900.00 | |
| 88 Sr | 103 | 1 | 775.00 | 15.50 | ppb | 3.41 | 900.00 | |
| 98 Mo | 103 | 1 | -3.63 | -0.07 | ppb | 8.50 | 900.00 | |
| 107 Ag | 115 | 1 | 199.75 | 4.00 | ppb | 3.89 | 900.00 | |
| 111 Cd | 115 | 2 | 498.40 | 9.97 | ppb | 1.48 | 900.00 | |
| 120 Sn | 115 | 1 | -0.30 | -0.01 | ppb | 25.92 | 900.00 | |
| 121 Sb | 115 | 1 | 508.50 | 10.17 | ppb | 2.71 | 900.00 | |
| 137 Ba | 159 | 1 | 2042.50 | 40.85 | ppb | 4.30 | 900.00 | |
| 205 Tl | 209 | 1 | 504.00 | 10.08 | ppb | 2.65 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1049.00 | 20.98 | ppb | 2.73 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2144198 | 5.13 | 2032921 | 105.5 | 70 - 130 | |
| 45 Sc | 1 | 2746014 | 2.26 | 2621135 | 104.8 | 70 - 130 | |
| 45 Sc | 2 | 357316 | 0.65 | 361541 | 98.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\049SMPL.D\049SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 456902 | 2.92 | 465850 | 98.1 | 70 | - | 130 |
| 72 Ge | 2 | 128753 | 0.30 | 129632 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 2239074 | 1.53 | 2265009 | 98.9 | 70 | - | 130 |
| 115 In | 1 | 2368644 | 0.44 | 2406660 | 98.4 | 70 | - | 130 |
| 115 In | 2 | 972965 | 0.37 | 1007957 | 96.5 | 70 | - | 130 |
| 159 Tb | 1 | 2682247 | 3.69 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2435664 | 3.40 | 2515951 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 1397869 | 2.68 | 1560225 | 89.6 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D# |
| Date Acquired: | Dec 4 2013 08:06 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | MP22178-S2 |
| Misc Info: | |
| Vial Number: | 2402 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 50.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 50.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 503.50 | 10.07 | ppb | 2.38 | 900.00 | |
| 9 Be | 45 | 2 | 494.05 | 9.88 | ppb | 18.61 | 900.00 | |
| 11 B | 6 | 1 | 20.44 | 0.41 | ppb | 9.90 | 900.00 | |
| 11 B | 45 | 2 | 24.06 | 0.48 | ppb | 54.00 | 900.00 | |
| 23 Na | 45 | 1 | 82300.00 | 1646.00 | ppb | 3.48 | 90000.00 | |
| 23 Na | 45 | 2 | 89800.00 | 1796.00 | ppb | 22.09 | 90000.00 | |
| 24 Mg | 45 | 1 | 27670.00 | 553.40 | ppb | 3.31 | 90000.00 | |
| 24 Mg | 45 | 2 | 29030.00 | 580.60 | ppb | 21.05 | 90000.00 | |
| 27 Al | 45 | 1 | 2298.50 | 45.97 | ppb | 4.47 | 90000.00 | |
| 27 Al | 45 | 2 | 2147.50 | 42.95 | ppb | 22.02 | 90000.00 | |
| 39 K | 45 | 1 | 28820.00 | 576.40 | ppb | 5.61 | 90000.00 | |
| 44 Ca | 45 | 1 | 47180.00 | 943.60 | ppb | 5.53 | 90000.00 | |
| 47 Ti | 45 | 1 | 506.50 | 10.13 | ppb | 2.53 | 900.00 | |
| 51 V | 45 | 2 | 500.50 | 10.01 | ppb | 22.64 | 900.00 | |
| 52 Cr | 45 | 2 | 498.95 | 9.98 | ppb | 21.78 | 900.00 | |
| 55 Mn | 45 | 2 | 3021.00 | 60.42 | ppb | 21.60 | 900.00 | |
| 56 Fe | 45 | 2 | 43065.00 | 861.30 | ppb | 20.95 | 90000.00 | |
| 59 Co | 45 | 2 | 524.50 | 10.49 | ppb | 20.47 | 900.00 | |
| 60 Ni | 45 | 2 | 472.25 | 9.45 | ppb | 24.36 | 900.00 | |
| 63 Cu | 72 | 2 | 507.00 | 10.14 | ppb | 15.82 | 900.00 | |
| 66 Zn | 72 | 2 | 528.50 | 10.57 | ppb | 16.73 | 900.00 | |
| 75 As | 72 | 2 | 3108.50 | 62.17 | ppb | 17.40 | 900.00 | |
| 78 Se | 72 | 2 | 514.50 | 10.29 | ppb | 18.70 | 900.00 | |
| 88 Sr | 103 | 1 | 737.00 | 14.74 | ppb | 3.29 | 900.00 | |
| 98 Mo | 103 | 1 | -3.92 | -0.08 | ppb | 5.17 | 900.00 | |
| 107 Ag | 115 | 1 | 200.45 | 4.01 | ppb | 4.01 | 900.00 | |
| 111 Cd | 115 | 2 | 514.00 | 10.28 | ppb | 21.23 | 900.00 | |
| 120 Sn | 115 | 1 | -0.29 | -0.01 | ppb | 56.71 | 900.00 | |
| 121 Sb | 115 | 1 | 517.00 | 10.34 | ppb | 5.24 | 900.00 | |
| 137 Ba | 159 | 1 | 2069.00 | 41.38 | ppb | 2.78 | 900.00 | |
| 205 Tl | 209 | 1 | 503.00 | 10.06 | ppb | 4.15 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 1039.00 | 20.78 | ppb | 2.41 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2081677 | 2.61 | 2032921 | 102.4 | 70 - 130 | |
| 45 Sc | 1 | 2687080 | 3.09 | 2621135 | 102.5 | 70 - 130 | |
| 45 Sc | 2 | 353476 | 20.05 | 361541 | 97.8 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\050SMPL.D\050SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 451957 | 3.89 | 465850 | 97.0 | 70 | - | 130 |
| 72 | Ge | 2 | 127775 | 15.33 | 129632 | 98.6 | 70 | - | 130 |
| 103 | Rh | 1 | 2237480 | 2.64 | 2265009 | 98.8 | 70 | - | 130 |
| 115 | In | 1 | 2300527 | 5.12 | 2406660 | 95.6 | 70 | - | 130 |
| 115 | In | 2 | 947380 | 18.56 | 1007957 | 94.0 | 70 | - | 130 |
| 159 | Tb | 1 | 2549504 | 3.86 | 2763118 | 92.3 | 70 | - | 130 |
| 175 | Lu | 1 | 2371145 | 1.86 | 2515951 | 94.2 | 70 | - | 130 |
| 209 | Bi | 1 | 1396832 | 2.54 | 1560225 | 89.5 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#
Date Acquired: Dec 4 2013 08:13 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: RINSECONF
Misc Info:
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 889.94 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 190.69 | 900.00 | |
| 11 B | 6 | 1 | 0.00 | 0.00 | ppb | 290.19 | 900.00 | |
| 11 B | 45 | 2 | 0.06 | 0.06 | ppb | 114.26 | 900.00 | |
| 23 Na | 45 | 1 | 1.04 | 1.04 | ppb | 124.98 | 90000.00 | |
| 23 Na | 45 | 2 | 5.27 | 5.27 | ppb | 2.28 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.46 | 0.46 | ppb | 218.44 | 90000.00 | |
| 24 Mg | 45 | 2 | -0.18 | -0.18 | ppb | 11.39 | 90000.00 | |
| 27 Al | 45 | 1 | 0.28 | 0.28 | ppb | 295.82 | 90000.00 | |
| 27 Al | 45 | 2 | -0.29 | -0.29 | ppb | 37.32 | 90000.00 | |
| 39 K | 45 | 1 | -4.74 | -4.74 | ppb | 23.94 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.65 | -1.65 | ppb | 76.36 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.01 | 0.01 | ppb | 49.51 | 900.00 | |
| 51 V | 45 | 2 | -0.08 | -0.08 | ppb | 15.95 | 900.00 | |
| 52 Cr | 45 | 2 | 0.01 | 0.01 | ppb | 47.83 | 900.00 | |
| 55 Mn | 45 | 2 | 0.02 | 0.02 | ppb | 43.69 | 900.00 | |
| 56 Fe | 45 | 2 | 0.05 | 0.05 | ppb | 97.68 | 90000.00 | |
| 59 Co | 45 | 2 | 0.00 | 0.00 | ppb | 18.61 | 900.00 | |
| 60 Ni | 45 | 2 | 0.10 | 0.10 | ppb | 36.54 | 900.00 | |
| 63 Cu | 72 | 2 | 0.00 | 0.00 | ppb | 247.23 | 900.00 | |
| 66 Zn | 72 | 2 | -0.02 | -0.02 | ppb | 8.35 | 900.00 | |
| 75 As | 72 | 2 | -0.01 | -0.01 | ppb | 143.49 | 900.00 | |
| 78 Se | 72 | 2 | 0.00 | 0.00 | ppb | 2962.30 | 900.00 | |
| 88 Sr | 103 | 1 | 0.00 | 0.00 | ppb | 225.85 | 900.00 | |
| 98 Mo | 103 | 1 | 0.00 | 0.00 | ppb | 276.68 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 130.87 | 900.00 | |
| 111 Cd | 115 | 2 | -0.01 | -0.01 | ppb | 25.87 | 900.00 | |
| 120 Sn | 115 | 1 | 0.00 | 0.00 | ppb | 18.89 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 665.95 | 900.00 | |
| 137 Ba | 159 | 1 | -0.01 | -0.01 | ppb | 101.03 | 900.00 | |
| 205 Tl | 209 | 1 | 0.08 | 0.08 | ppb | 5.43 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 10112.00 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2070350 | 2.48 | 2032921 | 101.8 | 70 - 130 | |
| 45 Sc | 1 | 2631062 | 0.06 | 2621135 | 100.4 | 70 - 130 | |
| 45 Sc | 2 | 351352 | 0.44 | 361541 | 97.2 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\051SMPL.D\051SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 455362 | 0.50 | 465850 | 97.7 | 70 | - | 130 |
| 72 Ge | 2 | 126600 | 0.28 | 129632 | 97.7 | 70 | - | 130 |
| 103 Rh | 1 | 2220844 | 0.96 | 2265009 | 98.1 | 70 | - | 130 |
| 115 In | 1 | 2351722 | 0.70 | 2406660 | 97.7 | 70 | - | 130 |
| 115 In | 2 | 965979 | 0.36 | 1007957 | 95.8 | 70 | - | 130 |
| 159 Tb | 1 | 2636027 | 0.56 | 2763118 | 95.4 | 70 | - | 130 |
| 175 Lu | 1 | 2439977 | 1.02 | 2515951 | 97.0 | 70 | - | 130 |
| 209 Bi | 1 | 1487636 | 1.98 | 1560225 | 95.3 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#
Date Acquired: Dec 4 2013 08:20 pm
Acq. Method: EPA6020A.M
Operator: METALS
Sample Name: CRI
Misc Info:
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA6020A.C
Last Cal. Update: Dec 04 2013 02:39 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Data Results:
Analytes: Pass
ISTD: Pass

QC Elements

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.49 | 0.49 | ppb | 0.31 | 900.00 | |
| 9 Be | 45 | 2 | 0.58 | 0.58 | ppb | 11.72 | 900.00 | |
| 11 B | 6 | 1 | 4.97 | 4.97 | ppb | 1.49 | 900.00 | |
| 11 B | 45 | 2 | 4.30 | 4.30 | ppb | 3.11 | 900.00 | |
| 23 Na | 45 | 1 | 251.80 | 251.80 | ppb | 1.38 | 90000.00 | |
| 23 Na | 45 | 2 | 281.70 | 281.70 | ppb | 0.52 | 90000.00 | |
| 24 Mg | 45 | 1 | 257.20 | 257.20 | ppb | 1.76 | 90000.00 | |
| 24 Mg | 45 | 2 | 259.00 | 259.00 | ppb | 0.46 | 90000.00 | |
| 27 Al | 45 | 1 | 27.13 | 27.13 | ppb | 1.98 | 90000.00 | |
| 27 Al | 45 | 2 | 24.76 | 24.76 | ppb | 2.13 | 90000.00 | |
| 39 K | 45 | 1 | 247.30 | 247.30 | ppb | 2.03 | 90000.00 | |
| 44 Ca | 45 | 1 | 264.40 | 264.40 | ppb | 2.24 | 90000.00 | |
| 47 Ti | 45 | 1 | 1.14 | 1.14 | ppb | 3.66 | 900.00 | |
| 51 V | 45 | 2 | 0.87 | 0.87 | ppb | 1.36 | 900.00 | |
| 52 Cr | 45 | 2 | 0.99 | 0.99 | ppb | 2.00 | 900.00 | |
| 55 Mn | 45 | 2 | 1.00 | 1.00 | ppb | 3.60 | 900.00 | |
| 56 Fe | 45 | 2 | 27.97 | 27.97 | ppb | 0.18 | 90000.00 | |
| 59 Co | 45 | 2 | 0.50 | 0.50 | ppb | 1.00 | 900.00 | |
| 60 Ni | 45 | 2 | 1.15 | 1.15 | ppb | 2.70 | 900.00 | |
| 63 Cu | 72 | 2 | 1.02 | 1.02 | ppb | 2.48 | 900.00 | |
| 66 Zn | 72 | 2 | 2.00 | 2.00 | ppb | 2.13 | 900.00 | |
| 75 As | 72 | 2 | 0.48 | 0.48 | ppb | 1.46 | 900.00 | |
| 78 Se | 72 | 2 | 0.54 | 0.54 | ppb | 31.93 | 900.00 | |
| 88 Sr | 103 | 1 | 5.10 | 5.10 | ppb | 1.10 | 900.00 | |
| 98 Mo | 103 | 1 | 1.03 | 1.03 | ppb | 3.61 | 900.00 | |
| 107 Ag | 115 | 1 | 0.50 | 0.50 | ppb | 2.40 | 900.00 | |
| 111 Cd | 115 | 2 | 0.48 | 0.48 | ppb | 1.93 | 900.00 | |
| 120 Sn | 115 | 1 | 5.05 | 5.05 | ppb | 1.41 | 900.00 | |
| 121 Sb | 115 | 1 | 0.50 | 0.50 | ppb | 2.21 | 900.00 | |
| 137 Ba | 159 | 1 | 1.02 | 1.02 | ppb | 3.94 | 900.00 | |
| 205 Tl | 209 | 1 | 0.46 | 0.46 | ppb | 4.89 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.50 | 0.50 | ppb | 1.43 | 900.00 | |

ISTD Elements

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1995471 | 0.79 | 2032921 | 98.2 | 70 - 130 | |
| 45 Sc | 1 | 2549211 | 1.25 | 2621135 | 97.3 | 70 - 130 | |
| 45 Sc | 2 | 344381 | 0.48 | 361541 | 95.3 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\052SMPL.D\052SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 446024 | 0.83 | 465850 | 95.7 | 70 | - | 130 |
| 72 Ge | 2 | 124421 | 0.27 | 129632 | 96.0 | 70 | - | 130 |
| 103 Rh | 1 | 2141431 | 1.68 | 2265009 | 94.5 | 70 | - | 130 |
| 115 In | 1 | 2279354 | 1.72 | 2406660 | 94.7 | 70 | - | 130 |
| 115 In | 2 | 958529 | 0.32 | 1007957 | 95.1 | 70 | - | 130 |
| 159 Tb | 1 | 2619628 | 1.45 | 2763118 | 94.8 | 70 | - | 130 |
| 175 Lu | 1 | 2399021 | 1.87 | 2515951 | 95.4 | 70 | - | 130 |
| 209 Bi | 1 | 1456869 | 3.08 | 1560225 | 93.4 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D#

**Sample QC Report**

| | |
|---|---|
| Data File: | C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D# |
| Date Acquired: | Dec 4 2013 08:27 pm |
| Acq. Method: | EPA6020A.M |
| Operator: | METALS |
| Sample Name: | CCV |
| Misc Info: | |
| Vial Number: | 2405 |
| Current Method: | C:\ICPCHEM\1\METHODS\EPA6020A.M |
| Calibration File: | C:\ICPCHEM\1\CALIB\EPA6020A.C |
| Last Cal. Update: | Dec 04 2013 02:39 pm |
| Sample Type: | Sample |
| Dilution Factor: | 1.00 |
| Autodil Factor: | Undiluted |
| Final Dil Factor: | 1.00 |

Data Results:
Analytes: Pass
ISTD: Pass

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 50.33 | 50.33 | ppb | 0.81 | 900.00 | |
| 9 Be | 45 | 2 | 49.90 | 49.90 | ppb | 1.70 | 900.00 | |
| 11 B | 6 | 1 | 50.36 | 50.36 | ppb | 0.35 | 900.00 | |
| 11 B | 45 | 2 | 47.46 | 47.46 | ppb | 3.77 | 900.00 | |
| 23 Na | 45 | 1 | 4888.00 | 4888.00 | ppb | 2.13 | 90000.00 | |
| 23 Na | 45 | 2 | 5042.00 | 5042.00 | ppb | 0.53 | 90000.00 | |
| 24 Mg | 45 | 1 | 4940.00 | 4940.00 | ppb | 2.63 | 90000.00 | |
| 24 Mg | 45 | 2 | 4672.00 | 4672.00 | ppb | 0.56 | 90000.00 | |
| 27 Al | 45 | 1 | 4944.00 | 4944.00 | ppb | 2.11 | 90000.00 | |
| 27 Al | 45 | 2 | 4451.00 | 4451.00 | ppb | 0.75 | 90000.00 | |
| 39 K | 45 | 1 | 4973.00 | 4973.00 | ppb | 2.45 | 90000.00 | |
| 44 Ca | 45 | 1 | 5056.00 | 5056.00 | ppb | 2.49 | 90000.00 | |
| 47 Ti | 45 | 1 | 48.82 | 48.82 | ppb | 2.76 | 900.00 | |
| 51 V | 45 | 2 | 47.97 | 47.97 | ppb | 0.25 | 900.00 | |
| 52 Cr | 45 | 2 | 47.93 | 47.93 | ppb | 0.73 | 900.00 | |
| 55 Mn | 45 | 2 | 46.81 | 46.81 | ppb | 0.42 | 900.00 | |
| 56 Fe | 45 | 2 | 4991.00 | 4991.00 | ppb | 0.24 | 90000.00 | |
| 59 Co | 45 | 2 | 47.53 | 47.53 | ppb | 0.80 | 900.00 | |
| 60 Ni | 45 | 2 | 47.99 | 47.99 | ppb | 1.06 | 900.00 | |
| 63 Cu | 72 | 2 | 46.99 | 46.99 | ppb | 0.17 | 900.00 | |
| 66 Zn | 72 | 2 | 45.91 | 45.91 | ppb | 0.16 | 900.00 | |
| 75 As | 72 | 2 | 47.60 | 47.60 | ppb | 0.28 | 900.00 | |
| 78 Se | 72 | 2 | 45.27 | 45.27 | ppb | 0.84 | 900.00 | |
| 88 Sr | 103 | 1 | 50.97 | 50.97 | ppb | 1.39 | 900.00 | |
| 98 Mo | 103 | 1 | 50.41 | 50.41 | ppb | 1.99 | 900.00 | |
| 107 Ag | 115 | 1 | 49.42 | 49.42 | ppb | 3.27 | 900.00 | |
| 111 Cd | 115 | 2 | 47.47 | 47.47 | ppb | 1.28 | 900.00 | |
| 120 Sn | 115 | 1 | 49.77 | 49.77 | ppb | 3.45 | 900.00 | |
| 121 Sb | 115 | 1 | 49.78 | 49.78 | ppb | 2.67 | 900.00 | |
| 137 Ba | 159 | 1 | 48.30 | 48.30 | ppb | 2.81 | 900.00 | |
| 205 Tl | 209 | 1 | 46.98 | 46.98 | ppb | 2.62 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 48.48 | 48.48 | ppb | 3.30 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 1965653 | 1.58 | 2032921 | 96.7 | 70 - 130 | |
| 45 Sc | 1 | 2580331 | 2.37 | 2621135 | 98.4 | 70 - 130 | |
| 45 Sc | 2 | 345859 | 0.89 | 361541 | 95.7 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\053SMPL.D\053SMPL.D#

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72 | Ge | 1 | 442684 | 1.03 | 465850 | 95.0 | 70 | - | 130 |
| 72 | Ge | 2 | 124222 | 0.27 | 129632 | 95.8 | 70 | - | 130 |
| 103 | Rh | 1 | 2099989 | 2.02 | 2265009 | 92.7 | 70 | - | 130 |
| 115 | In | 1 | 2231341 | 2.68 | 2406660 | 92.7 | 70 | - | 130 |
| 115 | In | 2 | 924896 | 0.20 | 1007957 | 91.8 | 70 | - | 130 |
| 159 | Tb | 1 | 2602499 | 2.41 | 2763118 | 94.2 | 70 | - | 130 |
| 175 | Lu | 1 | 2383720 | 2.32 | 2515951 | 94.7 | 70 | - | 130 |
| 209 | Bi | 1 | 1418996 | 2.81 | 1560225 | 90.9 | 70 | - | 130 |

Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#

**Sample QC Report**

| | | | |
|---|---|---|---|
| **Data File:** | **C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#** | | |
| **Date Acquired:** | **Dec 4 2013 08:34 pm** | | |
| **Acq. Method:** | **EPA6020A.M** | **Data Results:** | |
| **Operator:** | **METALS** | **Analytes:** | **Pass** |
| **Sample Name:** | **CCB** | **ISTD:** | **Pass** |
| **Misc Info:** | | | |
| **Vial Number:** | **2406** | | |
| **Current Method:** | **C:\ICPCHEM\1\METHODS\EPA6020A.M** | | |
| **Calibration File:** | **C:\ICPCHEM\1\CALIB\EPA6020A.C** | | |
| **Last Cal. Update:** | **Dec 04 2013 02:39 pm** | | |
| **Sample Type:** | **Sample** | | |
| **Dilution Factor:** | **1.00** | | |
| **Autodil Factor:** | **Undiluted** | | |
| **Final Dil Factor:** | **1.00** | | |

**QC Elements**

| Element | IS Ref | Tune | Corr Conc | Raw Conc | Units | RSD(%) | High Limit | Flag |
|---|---|---|---|---|---|---|---|---|
| 9 Be | 6 | 1 | 0.00 | 0.00 | ppb | 12.16 | 900.00 | |
| 9 Be | 45 | 2 | 0.00 | 0.00 | ppb | 41219.00 | 900.00 | |
| 11 B | 6 | 1 | 0.34 | 0.34 | ppb | 10.39 | 900.00 | |
| 11 B | 45 | 2 | 0.28 | 0.28 | ppb | 25.56 | 900.00 | |
| 23 Na | 45 | 1 | 0.54 | 0.54 | ppb | 76.93 | 90000.00 | |
| 23 Na | 45 | 2 | 6.65 | 6.65 | ppb | 13.05 | 90000.00 | |
| 24 Mg | 45 | 1 | 0.64 | 0.64 | ppb | 34.30 | 90000.00 | |
| 24 Mg | 45 | 2 | 1.62 | 1.62 | ppb | 101.67 | 90000.00 | |
| 27 Al | 45 | 1 | 0.52 | 0.52 | ppb | 28.82 | 90000.00 | |
| 27 Al | 45 | 2 | 1.11 | 1.11 | ppb | 94.70 | 90000.00 | |
| 39 K | 45 | 1 | -10.66 | -10.66 | ppb | 36.62 | 90000.00 | |
| 44 Ca | 45 | 1 | -1.88 | -1.88 | ppb | 22.38 | 90000.00 | |
| 47 Ti | 45 | 1 | 0.05 | 0.05 | ppb | 33.53 | 900.00 | |
| 51 V | 45 | 2 | -0.07 | -0.07 | ppb | 17.31 | 900.00 | |
| 52 Cr | 45 | 2 | 0.04 | 0.04 | ppb | 23.29 | 900.00 | |
| 55 Mn | 45 | 2 | 0.06 | 0.06 | ppb | 45.53 | 900.00 | |
| 56 Fe | 45 | 2 | 1.76 | 1.76 | ppb | 85.03 | 90000.00 | |
| 59 Co | 45 | 2 | 0.01 | 0.01 | ppb | 118.48 | 900.00 | |
| 60 Ni | 45 | 2 | 0.07 | 0.07 | ppb | 40.56 | 900.00 | |
| 63 Cu | 72 | 2 | 0.02 | 0.02 | ppb | 117.60 | 900.00 | |
| 66 Zn | 72 | 2 | 0.00 | 0.00 | ppb | 3244.80 | 900.00 | |
| 75 As | 72 | 2 | 0.01 | 0.01 | ppb | 140.00 | 900.00 | |
| 78 Se | 72 | 2 | -0.07 | -0.07 | ppb | 63.56 | 900.00 | |
| 88 Sr | 103 | 1 | 0.01 | 0.01 | ppb | 18.08 | 900.00 | |
| 98 Mo | 103 | 1 | 0.18 | 0.18 | ppb | 7.41 | 900.00 | |
| 107 Ag | 115 | 1 | 0.00 | 0.00 | ppb | 386.83 | 900.00 | |
| 111 Cd | 115 | 2 | 0.01 | 0.01 | ppb | 102.31 | 900.00 | |
| 120 Sn | 115 | 1 | 0.02 | 0.02 | ppb | 10.18 | 900.00 | |
| 121 Sb | 115 | 1 | 0.00 | 0.00 | ppb | 21.05 | 900.00 | |
| 137 Ba | 159 | 1 | 0.01 | 0.01 | ppb | 53.36 | 900.00 | |
| 205 Tl | 209 | 1 | 0.27 | 0.27 | ppb | 3.01 | 900.00 | |
| 206 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 207 (Pb) | 209 | 1 | ---- | -------- | ppb | -------- | 900.00 | |
| 208 Pb | 209 | 1 | 0.00 | 0.00 | ppb | 367.12 | 900.00 | |

**ISTD Elements**

| Element | Tune | CPS Mean | RSD(%) | Ref Value | Rec(%) | QC Range(%) | Flag |
|---|---|---|---|---|---|---|---|
| 6 Li | 1 | 2175074 | 1.24 | 2032921 | 107.0 | 70 - 130 | |
| 45 Sc | 1 | 2739641 | 2.20 | 2621135 | 104.5 | 70 - 130 | |
| 45 Sc | 2 | 359833 | 1.09 | 361541 | 99.5 | 70 - 130 | |

C:\ICPCHEM\1\DATA\13L04n00.B\054SMPL.D\054SMPL.D#

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 72 Ge | 1 | 470715 | 2.24 | 465850 | 101.0 | 70 | - | 130 |
| 72 Ge | 2 | 128715 | 0.80 | 129632 | 99.3 | 70 | - | 130 |
| 103 Rh | 1 | 2257984 | 0.98 | 2265009 | 99.7 | 70 | - | 130 |
| 115 In | 1 | 2431555 | 0.78 | 2406660 | 101.0 | 70 | - | 130 |
| 115 In | 2 | 969326 | 4.14 | 1007957 | 96.2 | 70 | - | 130 |
| 159 Tb | 1 | 2682249 | 2.03 | 2763118 | 97.1 | 70 | - | 130 |
| 175 Lu | 1 | 2436088 | 1.34 | 2515951 | 96.8 | 70 | - | 130 |
| 209 Bi | 1 | 1464836 | 2.03 | 1560225 | 93.9 | 70 | - | 130 |

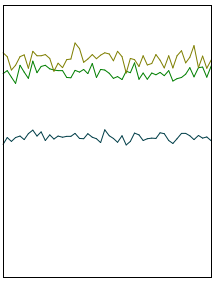
Tune File# 1 c:\icpchem\1\7500\nogas.u
Tune File# 2 c:\icpchem\1\7500\he.u
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\13L04n00.B\002CALB.D\002CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

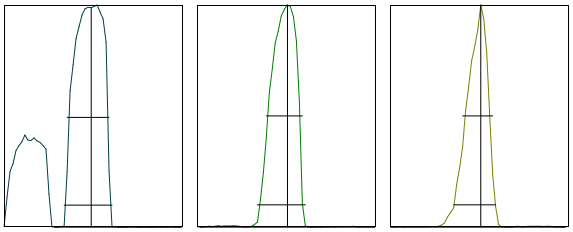
# Tune Report

Tune File : nogas.u
Comment : 120413



| m/z | Range | Count | Mean | RSD% | Background |
|---|---|---|---|---|---|
| 7 | 5,000 | 2512.0 | 2575.5 | 2.48 | 3.30 |
| 89 | 5,000 | 3891.0 | 3766.0 | 2.49 | 2.60 |
| 205 | 2,000 | 1600.0 | 1607.0 | 3.04 | 9.60 |

Integration Time: 0.1000 sec
Sampling Period: 0.3100 sec
n: 50
Oxide: 156/140 1.059%
Doubly Charged: 70/140 11.684%



| m/z: | 7 | 89 | 205 |
|---|---|---|---|
| Height: | 2,528 | 3,799 | 1,790 |
| Axis: | 7.00 | 89.05 | 205.05 |
| W-50%: | 0.70 | 0.60 | 0.50 |
| W-10%: | 0.800 | 0.800 | 0.700 |

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec
Y axis : Linear

| ===Plasma Condition=== | | | ===Ion Lenses=== | | | ===Q-Pole Parameters=== | | |
|---|---|---|---|---|---|---|---|---|
| RF Power | : | 1500 W | Extract 1 | : | 0 V | AMU Gain | : | 120 |
| RF Matching | : | 1.8 V | Extract 2 | : | -140 V | AMU Offset | : | 120 |
| Smpl Depth | : | 8.5 mm | Omega Bias-ce | : | -22 V | Axis Gain | : | 0.9972 |
| Torch-H | : | -0.1 mm | Omega Lens-ce | : | -0.4 V | Axis Offset | : | 0 |
| Torch-V | : | 0.4 mm | Cell Entrance | : | -30 V | QP Bias | : | -3 V |
| Carrier Gas | : | 0.95 L/min | QP Focus | : | 5 V | | | |
| Makeup Gas | : | 0.1 L/min | Cell Exit | : | -34 V | ===Detector Parameters=== | | |
| Optional Gas | : | --- % | | | | Discriminator | : | 8 mV |
| Nebulizer Pump | : | 0.1 rps | ===Octopole Parameters=== | | | Analog HV | : | 1920 V |
| Sample Pump | : | --- rps | OctP RF | : | 180 V | Pulse HV | : | 1380 V |
| S/C Temp | : | 2 degC | OctP Bias | : | -6 V | | | |

===Reaction Cell===

| Reaction Mode | : | OFF | | | | | | |
|---|---|---|---|---|---|---|---|---|
| H2 Gas | : | --- mL/min | He Gas | : | 3.5 mL/min | Optional Gas | : | --- % |

---

Tune File : he.u

| He Gas: | 3.5 mL/min |
|---|---|
| Optional Gas: | --- % |
| QP Focus: | -8 V |
| Cell Exit: | -34 V |
| OctP Bias: | -18 V |
| QP Bias: | -15 V |

| m/z | Count(Mean) | RSD% |
|---|---|---|
| 51 | 553.4 | 4.95 |
| 59 | 1050.4 | 3.77 |
| 89 | 1175.9 | 3.71 |

Integration Time: 0.1000sec



Generated : Dec 04, 2013 09:34:42
Printed : Dec 04, 2013 09:35:33

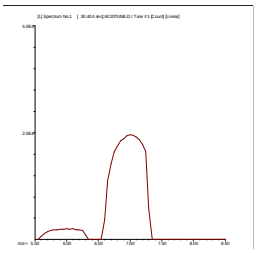
# 6020 Tune Check Sample

**Data File:** 6020TUNE.D
**Date Acquired:** Dec 4 2013 09:54 am
**Operator:** METALS
**Sample Name:** TUNE CHECK
**Misc Info:**
**Vial Number:** 1303
**Current Method:** TN_6020.M

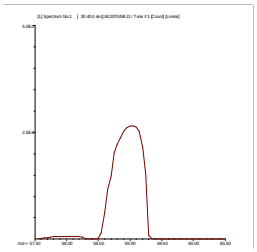
**QC Tune Summary:**
**Pass**

**RSD%**

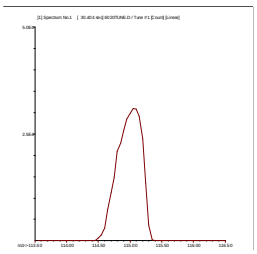
| Element | Actual | Required | Flag |
|---|---|---|---|
| 7 Li | 1.08 | 5.00 | 0 |
| 59 Co | 0.67 | 5.00 | |
| 115 In | 0.63 | 5.00 | |
| 205 Tl | 2.76 | 5.00 | |



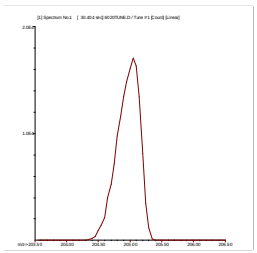
**7 Li**
**Mass Calib.**
Actual: 7.00
Required: 6.90 - 7.10
Flag:
**Peak Width**
Actual: 0.70
Required: 0.90
Flag:



**59 Co**
**Mass Calib.**
Actual: 59.00
Required: 58.90 - 59.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**115 In**
**Mass Calib.**
Actual: 115.05
Required: 114.90 - 115.10
Flag:
**Peak Width**
Actual: 0.65
Required: 0.90
Flag:



**205 Tl**
**Mass Calib.**
Actual: 205.00
Required: 204.90 - 205.10
Flag:
**Peak Width**
Actual: 0.60
Required: 0.90
Flag:

Last Calib: Dec 09, 2013 08:13 am
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EPA6020A.M
Multi Tune: #1 nogas.u
#2 he.u

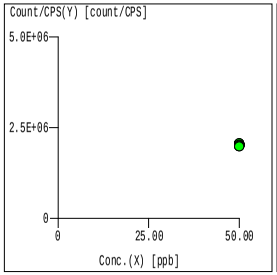
=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

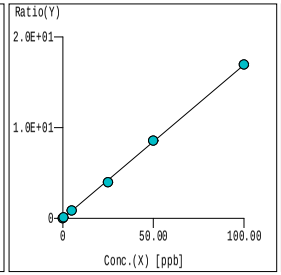
| | Data File | Sample Name | Date Acquired |
|---|---|---|---|
| 1 | c:\icpchem\1\data\13l04n00.b\002calb.d\002calb.d# | STDA | Dec 4 2013 01:45 pm |
| 2 | c:\icpchem\1\data\13l04n00.b\003cals.d\003cals.d# | STDB | Dec 4 2013 01:52 pm |
| 3 | c:\icpchem\1\data\13l04n00.b\004cals.d\004cals.d# | STDC | Dec 4 2013 01:59 pm |
| 4 | c:\icpchem\1\data\13l04n00.b\005cals.d\005cals.d# | STDD | Dec 4 2013 02:07 pm |
| 5 | c:\icpchem\1\data\13l04n00.b\006cals.d\006cals.d# | STDE | Dec 4 2013 02:14 pm |
| 6 | c:\icpchem\1\data\13l04n00.b\007cals.d\007cals.d# | STDF | Dec 4 2013 02:21 pm |
| 7 | c:\icpchem\1\data\13l04n00.b\008cals.d\008cals.d# | STDG | Dec 4 2013 02:28 pm |
| 8 | c:\icpchem\1\data\13l04n00.b\009cals.d\009cals.d# | STDH | Dec 4 2013 02:35 pm |
| 9 | --- | | |
| 10 | --- | | |
| 11 | --- | | |
| 12 | --- | | |
| 13 | --- | | |
| 14 | --- | | |
| 15 | --- | | |
| 16 | --- | | |
| 17 | --- | | |
| 18 | --- | | |
| 19 | --- | | |
| 20 | --- | | |

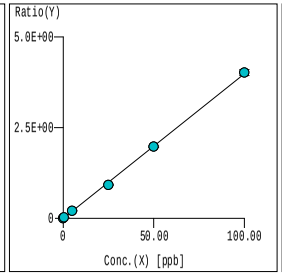
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

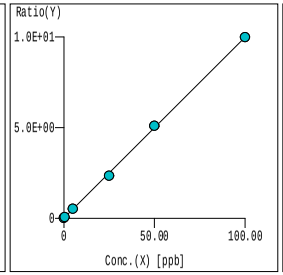
=== Graph Summary ===
Page: 1/4

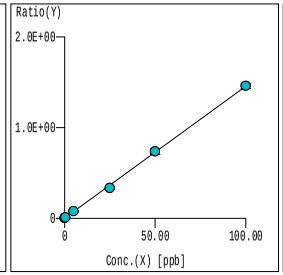
| | (1) 6 Li | (1) 9 Be | (2) 9 Be | (1) 11 B | (2) 11 B | (1) 23 Na |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9998 | 0.9997 | 0.9998 | 0.9997 | 1.0000 |
| < DL > | --- ppb | 1.181E-02 ppb | 3.531E-04 ppb | 4.345E-02 ppb | 1.923E-01 ppb | 9.290E-01 ppb |
| < BEC > | --- ppb | 1.195E-02 ppb | 1.156E-02 ppb | 1.565E-01 ppb | 1.588E-01 ppb | 15.67 ppb |

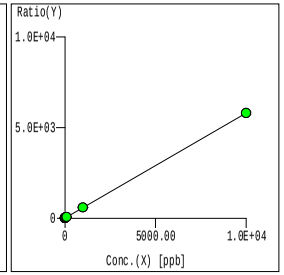


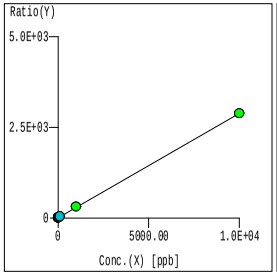



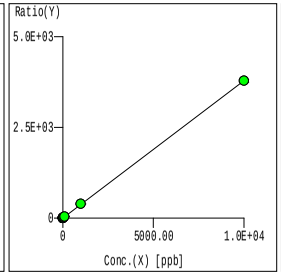



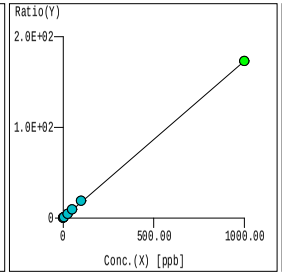



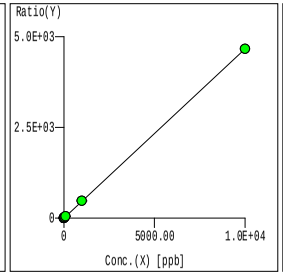



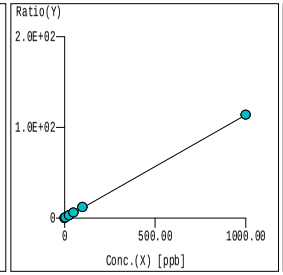

| | (2) 23 Na | (1) 24 Mg | (2) 24 Mg | (1) 27 Al | (2) 27 Al | (1) 39 K |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| < DL > | 6.039E-01 ppb | 7.481E-03 ppb | 1.711E-01 ppb | 5.469E-02 ppb | 1.822E-01 ppb | 4.259 ppb |
| < BEC > | 40.68 ppb | 1.324 ppb | 1.187 ppb | 9.030E-01 ppb | 7.654E-01 ppb | 153.2 ppb |

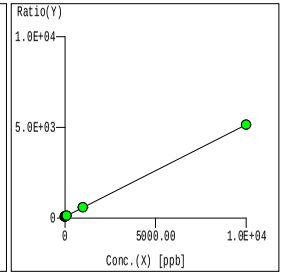


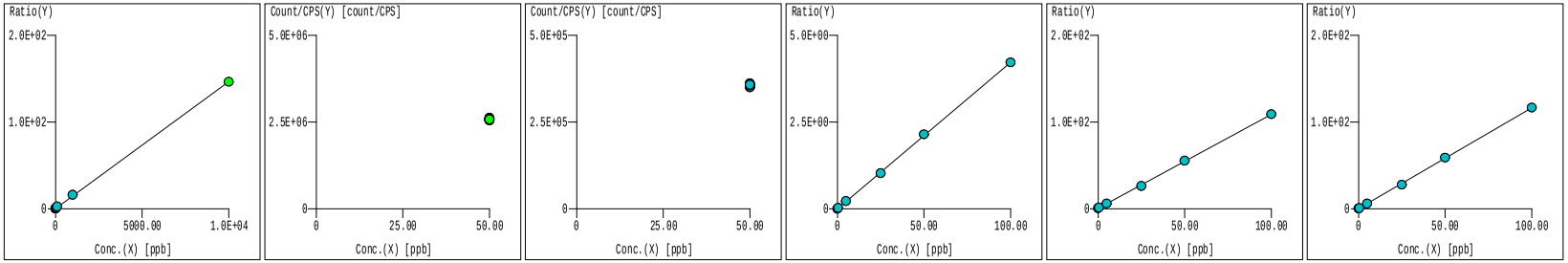



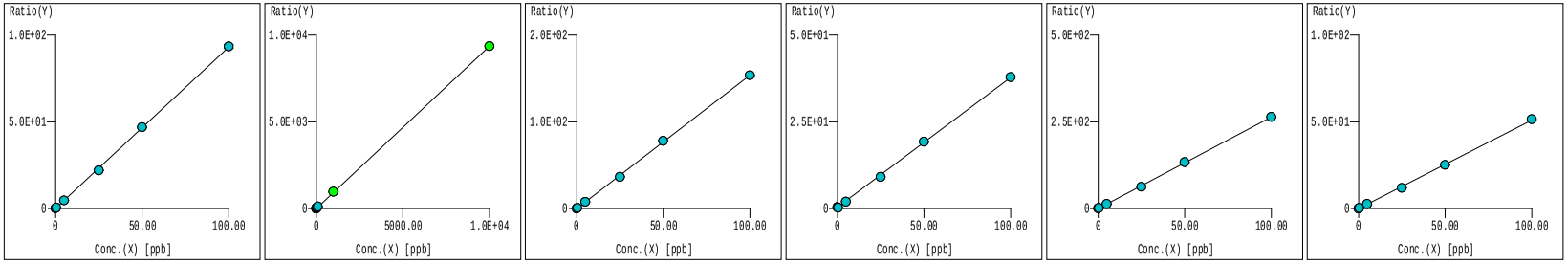
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 2/4

| | (1) 44 Ca | (1) 45 Sc | (2) 45 Sc | (1) 47 Ti | (2) 51 V | (2) 52 Cr |
|---|---|---|---|---|---|---|
| < r > | 1.0000 | 0.0000 | 0.0000 | 0.9999 | 0.9999 | 0.9999 |
| < DL > | 1.551 ppb | --- ppb | --- ppb | 1.360E-02 ppb | 1.238E-02 ppb | 3.064E-02 ppb |
| < BEC > | 21.11 ppb | --- ppb | --- ppb | 4.868E-02 ppb | 5.677E-01 ppb | 3.301E-01 ppb |



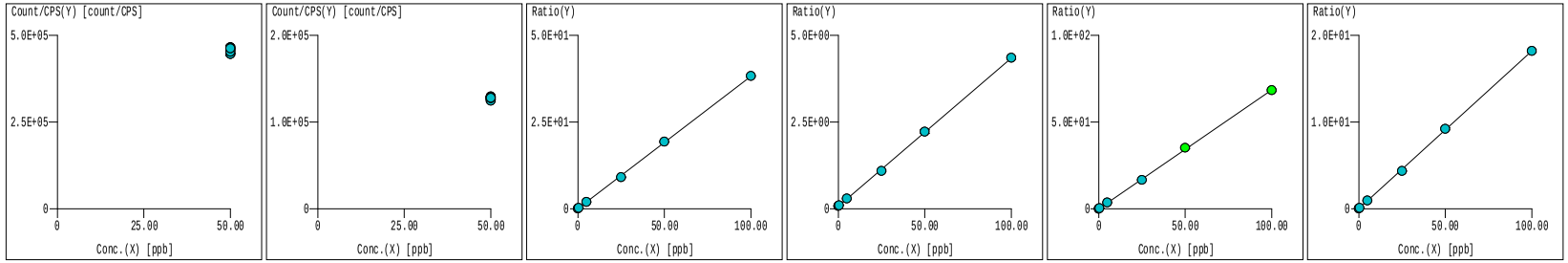

| | (2) 55 Mn | (2) 56 Fe | (2) 59 Co | (2) 60 Ni | (2) 63 Cu | (2) 66 Zn |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 1.0000 | 0.9999 | 0.9998 | 0.9999 | 0.9998 |
| < DL > | 5.486E-03 ppb | 8.770E-02 ppb | 2.253E-03 ppb | 9.578E-02 ppb | 2.426E-02 ppb | 3.622E-02 ppb |
| < BEC > | 9.792E-02 ppb | 4.006 ppb | 5.124E-03 ppb | 1.026 ppb | 1.439E-01 ppb | 1.097E-01 ppb |



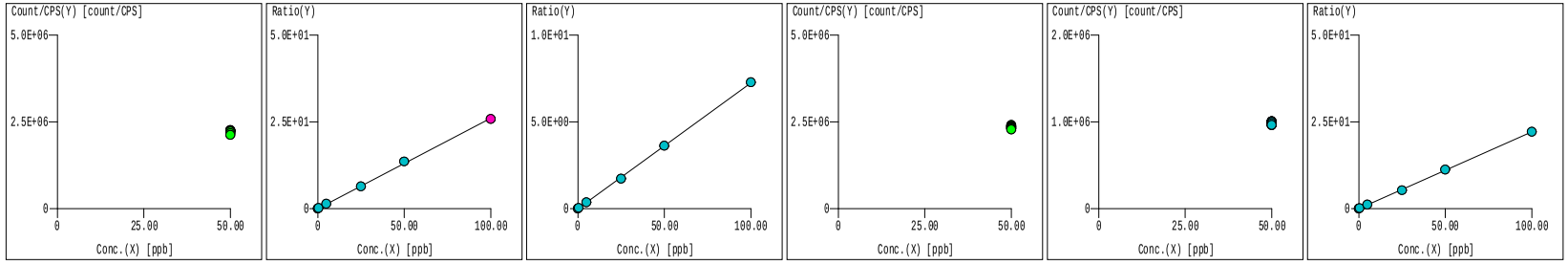
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

=== Graph Summary ===
Page: 3/4

| | (1) 72 Ge | (2) 72 Ge | (2) 75 As | (2) 78 Se | (1) 88 Sr | (1) 98 Mo |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.0000 | 0.9999 | 0.9999 | 0.9999 | 0.9999 |
| < DL > | --- ppb | --- ppb | 4.594E-02 ppb | 2.258E-01 ppb | 3.140E-03 ppb | 5.033E-02 ppb |
| < BEC > | --- ppb | --- ppb | 1.738E-01 ppb | 1.824 ppb | 1.255E-02 ppb | 1.936E-01 ppb |



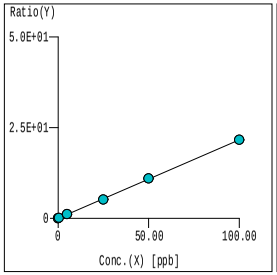

| | (1) 103 Rh | (1) 107 Ag | (2) 111 Cd | (1) 115 In | (2) 115 In | (1) 120 Sn |
|---|---|---|---|---|---|---|
| < r > | 0.0000 | 0.9997 | 0.9999 | 0.0000 | 0.0000 | 0.9999 |
| < DL > | --- ppb | 2.290E-03 ppb | 4.060E-03 ppb | --- ppb | --- ppb | 3.024E-03 ppb |
| < BEC > | --- ppb | 9.043E-03 ppb | 6.088E-03 ppb | --- ppb | --- ppb | 2.073E-02 ppb |

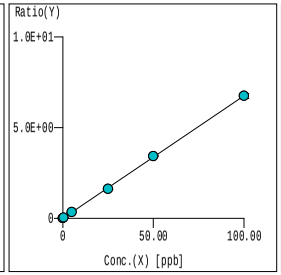


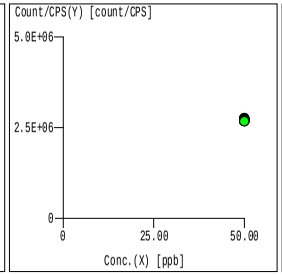
Calibration - C:\ICPCHEM\1\CALIB\EPA6020A.C

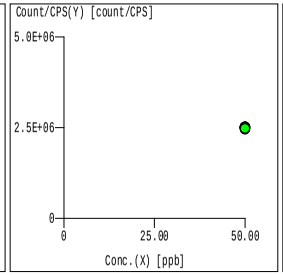
=== Graph Summary ===
Page: 4/4

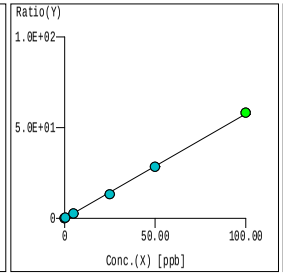
| | (1) 121 Sb | (1) 137 Ba | (1) 159 Tb | (1) 175 Lu | (1) 205 Tl | (1) 206 (Pb) |
|---|---|---|---|---|---|---|
| < r > | 0.9999 | 0.9999 | 0.0000 | 0.0000 | 0.9997 | 0.9999 |
| < DL > | 5.054E-03 ppb | 2.912E-02 ppb | --- ppb | --- ppb | 8.865E-03 ppb | --- ppb |
| < BEC > | 1.398E-02 ppb | 9.625E-02 ppb | --- ppb | --- ppb | 4.466E-02 ppb | --- ppb |

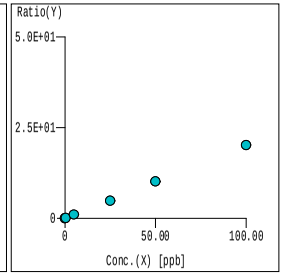




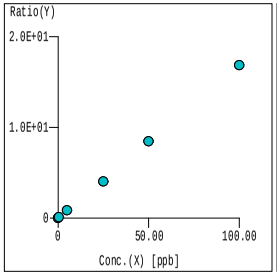


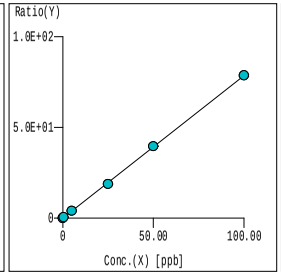


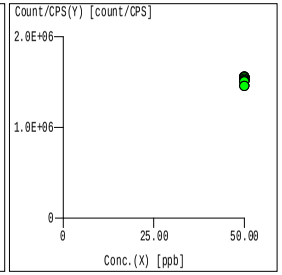





| | (1) 207 (Pb) | (1) 208 Pb | (1) 209 Bi |
|---|---|---|---|
| < r > | 0.9999 | 0.9999 | 0.0000 |
| < DL > | --- ppb | 4.417E-03 ppb | --- ppb |
| < BEC > | --- ppb | 4.984E-02 ppb | --- ppb |







Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/9/2013 13:50:43 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0021 | .0011 | -.0006 | -.0002 | .0018 | .0078 | .0004 | .0032 | .0050 |
| Stddev | .0000 | .0002 | .0001 | .0001 | .0002 | .0003 | .0001 | .0000 | .0001 |
| %RSD | 2.045 | 19.03 | 9.299 | 24.67 | 13.14 | 3.582 | 24.11 | .3641 | 1.870 |
| #1 | -.0021 | .0010 | -.0005 | -.0003 | .0020 | .0080 | .0003 | .0032 | .0050 |
| #2 | -.0021 | .0013 | -.0006 | -.0002 | .0017 | .0076 | .0005 | .0032 | .0051 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0028 | .0000 | .0207 | .0004 | .0012 | .0000 | .0006 | .0014 | .0038 |
| Stddev | .0004 | .000 | .0001 | .0001 | .0013 | .000 | .0000 | .0002 | .0005 |
| %RSD | 15.17 | 10.53 | .4259 | 14.13 | 104.2 | 712.3 | 8.929 | 17.81 | 13.68 |
| #1 | -.0025 | .0000 | .0207 | .0003 | .0003 | .0000 | .0005 | .0016 | .0041 |
| #2 | -.0031 | .0000 | .0208 | .0004 | .0021 | .0000 | .0006 | .0012 | .0034 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0041 | -.0024 | .0000 | .0001 | .0036 | .0020 | .0020 | .0305 | -.0005 |
| Stddev | .0001 | .0001 | .0000 | .0000 | .0003 | .0001 | .0001 | .0001 | .0000 |
| %RSD | 2.900 | 2.366 | 133.9 | 4.029 | 8.622 | 3.501 | 5.438 | .3743 | 2.169 |
| #1 | -.0040 | -.0024 | .0000 | .0001 | .0034 | .0019 | .0019 | .0306 | -.0005 |
| #2 | -.0042 | -.0025 | .0001 | .0000 | .0038 | .0020 | .0021 | .0305 | -.0004 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0065 | -.0004 | -.0065 | .0000 | .0000 | -.0012 | .0173 |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0000 | .0002 | .0000 |
| %RSD | .9188 | 28.72 | 2.643 | 1524. | 9087. | 12.58 | .0846 |
| #1 | .0064 | -.0005 | -.0066 | .0001 | .0000 | -.0011 | .0173 |
| #2 | .0065 | -.0003 | -.0063 | -.0001 | .0000 | -.0013 | .0173 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/9/2013 13:50:43 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1096.6 | 51249. | 17948. |
| Stddev | 2.2 | 68. | 83. |
| %RSD | .19898 | .13246 | .46251 |
| #1 | 1098.1 | 51297. | 17889. |
| #2 | 1095.1 | 51201. | 18006. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 12/9/2013 13:55:38 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1654 | .7488 | 3.338 | 18.06 | 13.38 | 11.90 | 10.47 | .6665 | 2.713 | 4.321 |
| Stddev | .0002 | .0010 | .000 | .18 | .05 | .01 | .01 | .0011 | .003 | .003 |
| %RSD | .1406 | .1289 | .0047 | 1.023 | .3662 | .0549 | .1159 | .1723 | .0909 | .0572 |
| #1 | .1656 | .7482 | 3.338 | 18.19 | 13.42 | 11.90 | 10.47 | .6656 | 2.715 | 4.319 |
| #2 | .1652 | .7495 | 3.338 | 17.93 | 13.35 | 11.91 | 10.48 | .6673 | 2.712 | 4.322 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 9.265 | 7.939 | 3.202 | 2.480 | 1.283 | 1.200 | 3.948 |
| Stddev | .025 | .007 | .004 | .003 | .000 | .000 | .011 |
| %RSD | .2642 | .0831 | .1190 | .1194 | .0218 | .0242 | .2647 |
| #1 | 9.248 | 7.934 | 3.199 | 2.482 | 1.283 | 1.200 | 3.941 |
| #2 | 9.282 | 7.944 | 3.204 | 2.478 | 1.283 | 1.200 | 3.956 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1087.3 | 51236. | 18097. |
| Stddev | 1.2 | 58. | 106. |
| %RSD | .11150 | .11275 | .58750 |
| #1 | 1086.5 | 51277. | 18021. |
| #2 | 1088.2 | 51195. | 18172. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 12/9/2013 14:00:31 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.446 | 1.758 | 1.006 | .7540 | .1174 | 3.001 |
| Stddev | .004 | .001 | .003 | .0026 | .0020 | .008 |
| %RSD | .2930 | .0755 | .2761 | .3420 | 1.690 | .2566 |
| #1 | 1.449 | 1.759 | 1.008 | .7558 | .1188 | 3.007 |
| #2 | 1.443 | 1.757 | 1.004 | .7522 | .1160 | 2.996 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18248. |
| Stddev | 39. |
| %RSD | .21127 |
| #1 | 18275. |
| #2 | 18221. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 12/9/2013 14:05:27 Type: Cal
Method: Accutest -SS2 with S(v242) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2828 | .5913 | .0794 | .8502 | 3.278 | 1.761 | 32.33 | 1.274 | .8071 | .0522 |
| Stddev | .0005 | .0018 | .0001 | .0038 | .007 | .003 | .52 | .000 | .0002 | .0002 |
| %RSD | .1702 | .3125 | .0813 | .4489 | .2138 | .1680 | 1.596 | .0030 | .0225 | .3780 |
| #1 | .2824 | .5900 | .0793 | .8475 | 3.273 | 1.759 | 32.70 | 1.274 | .8072 | .0520 |
| #2 | .2831 | .5926 | .0794 | .8529 | 3.283 | 1.763 | 31.97 | 1.274 | .8070 | .0523 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 3.013 |
| Stddev | .004 |
| %RSD | .1361 |
| #1 | 3.010 |
| #2 | 3.016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1099.8 | 50704. | 18087. |
| Stddev | 1.8 | 124. | 56. |
| %RSD | .16628 | .24379 | .30837 |
| #1 | 1101.1 | 50791. | 18047. |
| #2 | 1098.5 | 50617. | 18126. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/9/2013 14:10:24 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4914 | 15.57 | 2.954 | 2.913 | 2.886 | 2.982 | 2.873 | 17.53 | 2.862 | 2.913 |
| Stddev | .0033 | .07 | .011 | .011 | .012 | .016 | .017 | .09 | .009 | .010 |
| %RSD | .6630 | .4321 | .3802 | .3780 | .4095 | .5379 | .5779 | .5407 | .3330 | .3467 |
| #1 | .4891 | 15.52 | 2.946 | 2.905 | 2.877 | 2.971 | 2.862 | 17.47 | 2.856 | 2.906 |
| #2 | .4938 | 15.62 | 2.962 | 2.921 | 2.894 | 2.994 | 2.885 | 17.60 | 2.869 | 2.920 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.034 | 2.917 | 17.90 | 15.09 | 17.64 | 2.947 | 2.805 | 15.00 | 2.793 | 2.848 |
| Stddev | .016 | .004 | .14 | .07 | .12 | .017 | .014 | .08 | .012 | .010 |
| %RSD | .5233 | .1520 | .7706 | .4369 | .6552 | .5686 | .5040 | .5107 | .4247 | .3436 |
| #1 | 3.023 | 2.914 | 17.80 | 15.04 | 17.56 | 2.935 | 2.795 | 14.95 | 2.785 | 2.841 |
| #2 | 3.046 | 2.921 | 18.00 | 15.14 | 17.73 | 2.959 | 2.815 | 15.06 | 2.801 | 2.855 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.959 | 2.944 | 2.914 | 2.904 | 2.878 | 2.893 | 3.088 | 2.936 | 2.977 | 2.854 |
| Stddev | .006 | .011 | .009 | .011 | .008 | .012 | .015 | .009 | .009 | .004 |
| %RSD | .2043 | .3698 | .3211 | .3803 | .2634 | .4162 | .4734 | .3205 | .3013 | .1304 |
| #1 | 2.955 | 2.936 | 2.908 | 2.896 | 2.873 | 2.885 | 3.078 | 2.929 | 2.971 | 2.851 |
| #2 | 2.963 | 2.952 | 2.921 | 2.912 | 2.883 | 2.902 | 3.098 | 2.942 | 2.984 | 2.857 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.916 | 2.892 | 2.896 | 3.021 |
| Stddev | .009 | .014 | .014 | .011 |
| %RSD | .3104 | .4762 | .4859 | .3480 |
| #1 | 2.909 | 2.902 | 2.886 | 3.014 |
| #2 | 2.922 | 2.883 | 2.906 | 3.028 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.0 | 50364. | 18360. |
| Stddev | 3.9 | 308. | 102. |
| %RSD | .36092 | .61191 | .55787 |
| #1 | 1087.8 | 50582. | 18432. |
| #2 | 1082.2 | 50146. | 18288. |





Zoom In Zoom Out

Sample Name: ICB Acquired: 12/9/2013 14:17:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0065 | .0017 | .0008 | .0022 | .0004 | .0002 | .0034 | .0004 | .0005 |
| Stddev | .0000 | .0004 | .0002 | .0000 | .0003 | .0000 | .0000 | .0013 | .0000 | .0000 |
| %RSD | 14.97 | 6.715 | 13.02 | 3.232 | 15.15 | 7.632 | 11.76 | 38.76 | 4.892 | 7.570 |
| #1 | .0001 | -.0068 | .0015 | .0008 | .0025 | .0004 | .0003 | .0024 | .0004 | .0005 |
| #2 | .0001 | -.0062 | .0018 | .0008 | .0020 | .0004 | .0002 | .0043 | .0004 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0004 | .0045 | .0043 | .0055 | .0003 | .0016 | .0013 | .0006 | .0006 |
| Stddev | .0002 | .0002 | .0006 | .0099 | .0093 | .0000 | .0003 | .0049 | .0002 | .0002 |
| %RSD | 46.34 | 50.84 | 13.20 | 227.5 | 169.0 | 5.906 | 17.30 | 380.0 | 35.80 | 25.18 |
| #1 | .0003 | -.0005 | .0049 | -.0026 | -.0011 | .0003 | .0018 | -.0022 | .0005 | .0005 |
| #2 | .0006 | -.0002 | .0041 | .0113 | .0121 | .0002 | .0014 | .0047 | .0008 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0034 | .0035 | .0002 | .0004 | .0017 | .0013 | .0003 | .0006 | .0015 |
| Stddev | .0007 | .0020 | .0001 | .0001 | .0008 | .0003 | .0002 | .0000 | .0002 | .0007 |
| %RSD | 457.0 | 57.68 | 3.714 | 73.53 | 186.1 | 18.22 | 13.08 | 4.182 | 32.76 | 44.20 |
| #1 | .0003 | -.0020 | .0036 | .0003 | .0010 | .0019 | .0014 | .0003 | .0005 | .0020 |
| #2 | -.0006 | -.0048 | .0034 | .0001 | -.0001 | .0015 | .0012 | .0004 | .0007 | .0010 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0139 | .0003 | .0014 |
| Stddev | .0002 | .0063 | .0001 | .0002 |
| %RSD | 37.01 | 45.28 | 51.56 | 15.57 |
| #1 | .0003 | .0095 | .0004 | .0012 |
| #2 | .0006 | .0184 | .0002 | .0016 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.8 | 51150. | 18134. |
| Stddev | 1.9 | 118. | 67. |
| %RSD | .17095 | .23013 | .36710 |
| #1 | 1086.5 | 51067. | 18086. |
| #2 | 1089.1 | 51234. | 18181. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 14:22:06 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2434 | 9.771 | 1.918 | .0000 | 1.915 | 1.937 | 1.912 | 9.757 | 1.916 | 2.011 |
| Stddev | .0003 | .018 | .001 | .0015 | .002 | .003 | .003 | .041 | .001 | .001 |
| %RSD | .1320 | .1803 | .0732 | 49710. | .0893 | .1422 | .1309 | .4171 | .0342 | .0617 |
| #1 | .2431 | 9.759 | 1.918 | .0011 | 1.916 | 1.935 | 1.914 | 9.785 | 1.916 | 2.012 |
| #2 | .2436 | 9.783 | 1.917 | -.0011 | 1.914 | 1.939 | 1.910 | 9.728 | 1.915 | 2.011 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.938 | 1.924 | 9.865 | 9.872 | 9.554 | 1.927 | 1.928 | 9.813 | 1.899 | 1.916 |
| Stddev | .006 | .003 | .011 | .004 | .045 | .005 | .002 | .010 | .003 | .004 |
| %RSD | .2902 | .1526 | .1136 | .0433 | .4726 | .2458 | .0848 | .1039 | .1575 | .1814 |
| #1 | 1.942 | 1.922 | 9.873 | 9.875 | 9.586 | 1.930 | 1.929 | 9.806 | 1.902 | 1.918 |
| #2 | 1.934 | 1.926 | 9.857 | 9.869 | 9.522 | 1.923 | 1.927 | 9.821 | 1.897 | 1.913 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0075 | -.0035 | 1.930 | 1.906 | -.0212 | 1.971 | 1.953 | 1.934 | 1.903 |
| Stddev | .0002 | .0012 | .0003 | .003 | .002 | .0001 | .003 | .031 | .002 | .000 |
| %RSD | 13.19 | 16.09 | 8.853 | .1505 | .0767 | .4359 | .1330 | 1.576 | .1064 | .0135 |
| #1 | .0012 | .0066 | -.0033 | 1.932 | 1.905 | -.0213 | 1.969 | 1.975 | 1.932 | 1.902 |
| #2 | .0015 | .0083 | -.0037 | 1.928 | 1.907 | -.0211 | 1.972 | 1.931 | 1.935 | 1.903 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.929 | .0368 | 1.943 | .0062 |
| Stddev | .002 | .0021 | .001 | .0023 |
| %RSD | .0787 | 5.842 | .0481 | 36.53 |
| #1 | 1.928 | .0383 | 1.943 | .0078 |
| #2 | 1.930 | .0353 | 1.944 | .0046 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.4 | 50872. | 18358. |
| Stddev | 2.2 | 170. | 42. |
| %RSD | .20140 | .33345 | .22977 |
| #1 | 1083.8 | 50752. | 18328. |
| #2 | 1086.9 | 50992. | 18388. |

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 14:30:32 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0083 | .0020 | .0010 | .0012 | .0003 | .0002 | -.0004 | .0003 | .0004 |
| Stddev | .0001 | .0019 | .0002 | .0007 | .0001 | .0000 | .0000 | .0038 | .0000 | .0002 |
| %RSD | 106.4 | 23.55 | 9.797 | 72.10 | 6.009 | 3.641 | 12.00 | 860.7 | 7.416 | 42.77 |
| #1 | .0002 | -.0069 | .0021 | .0015 | .0012 | .0003 | .0002 | .0022 | .0003 | .0005 |
| #2 | .0000 | -.0097 | .0018 | .0005 | .0011 | .0003 | .0002 | -.0031 | .0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0003 | .0020 | .0005 | -.0029 | .0002 | .0008 | -.0048 | .0007 | .0001 |
| Stddev | .0003 | .0008 | .0003 | .0107 | .0067 | .0000 | .0003 | .0058 | .0003 | .0002 |
| %RSD | 44.70 | 242.4 | 15.88 | 2066. | 236.0 | 6.041 | 39.04 | 121.5 | 38.06 | 233.1 |
| #1 | .0008 | -.0009 | .0022 | -.0071 | -.0076 | .0002 | .0010 | -.0007 | .0008 | .0002 |
| #2 | .0004 | .0002 | .0018 | .0081 | .0019 | .0002 | .0006 | -.0089 | .0005 | -.0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0002 | .0017 | .0001 | .0014 | .0001 | .0009 | .0002 | .0005 | .0018 |
| Stddev | .0003 | .0036 | .0010 | .0007 | .0010 | .0003 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 26.23 | 1816. | 59.05 | 1000. | 69.40 | 292.1 | 12.33 | 3.306 | 24.74 | .6641 |
| #1 | -.0012 | .0028 | .0010 | -.0004 | .0021 | .0003 | .0009 | .0002 | .0004 | .0018 |
| #2 | -.0008 | -.0024 | .0024 | .0005 | .0007 | -.0001 | .0008 | .0002 | .0006 | .0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0130 | .0001 | .0001 |
| Stddev | .0004 | .0057 | .0004 | .0002 |
| %RSD | 109.8 | 43.83 | 378.9 | 174.2 |
| #1 | .0001 | .0090 | .0004 | .0000 |
| #2 | .0007 | .0171 | -.0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1089.3 | 51291. | 18165. |
| Stddev | .8 | 190. | 46. |
| %RSD | .07377 | .36987 | .25129 |
| #1 | 1089.8 | 51157. | 18197. |
| #2 | 1088.7 | 51425. | 18132. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/9/2013 14:35:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0054 | .1942 | .0048 | .0015 | .0985 | .0498 | .0041 | 4.964 | .0042 | .0518 |
| Stddev | .0004 | .0011 | .0012 | .0007 | .0002 | .0002 | .0001 | .004 | .0001 | .0001 |
| %RSD | 6.934 | .5697 | 24.54 | 48.17 | .1958 | .4918 | 2.180 | .0861 | 2.557 | .1239 |
| #1 | .0051 | .1950 | .0039 | .0010 | .0984 | .0500 | .0041 | 4.961 | .0041 | .0518 |
| #2 | .0056 | .1934 | .0056 | .0020 | .0986 | .0497 | .0040 | 4.967 | .0042 | .0517 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0231 | .1021 | 5.021 | 4.799 | .0152 | .0998 | 4.993 | .0396 | .0055 |
| Stddev | .0001 | .0002 | .0011 | .007 | .062 | .0001 | .0007 | .011 | .0003 | .0007 |
| %RSD | .8692 | 1.039 | 1.045 | .1344 | 1.300 | .8261 | .6669 | .2207 | .6613 | 12.74 |
| #1 | .0102 | .0229 | .1028 | 5.026 | 4.755 | .0153 | .0993 | 4.986 | .0394 | .0060 |
| #2 | .0101 | .0232 | .1013 | 5.016 | 4.843 | .0151 | .1003 | 5.001 | .0398 | .0050 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0025 | .0007 | .0068 | .0104 | .0176 | .0989 | .0101 | .0502 | .0058 |
| Stddev | .0003 | .0011 | .0006 | .0001 | .0011 | .0002 | .0006 | .0000 | .0003 | .0002 |
| %RSD | 39.86 | 46.72 | 92.31 | 1.020 | 10.92 | 1.340 | .5979 | .0107 | .5220 | 3.731 |
| #1 | -.0010 | -.0033 | .0011 | .0068 | .0112 | .0174 | .0985 | .0101 | .0500 | .0060 |
| #2 | -.0005 | -.0016 | .0002 | .0069 | .0096 | .0178 | .0993 | .0101 | .0504 | .0056 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0099 | .0064 | .0206 | .0003 |
| Stddev | .0005 | .0015 | .0000 | .0006 |
| %RSD | 5.230 | 23.96 | .1750 | 175.3 |
| #1 | .0103 | .0053 | .0206 | .0008 |
| #2 | .0096 | .0075 | .0206 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.7 | 51096. | 18153. |
| Stddev | 2.5 | 232. | 17. |
| %RSD | .22983 | .45369 | .09225 |
| #1 | 1089.4 | 50932. | 18141. |
| #2 | 1085.9 | 51260. | 18165. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/9/2013 14:40:22 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | 526.5 | -.0001 | -.0011 | .0068 | -.0001 | .0000 | 449.2 | -.0001 | .0002 |
| Stddev | .0003 | 6.4 | .0019 | .0009 | .0005 | .0001 | .0000 | 3.9 | .0000 | .0002 |
| %RSD | 134.4 | 1.222 | 2714. | 89.08 | 6.895 | 96.19 | 268.5 | .8683 | 11.54 | 85.47 |
| #1 | .0004 | 522.0 | .0013 | -.0004 | .0065 | .0000 | .0000 | 446.5 | -.0001 | .0003 |
| #2 | .0000 | 531.1 | -.0014 | -.0017 | .0072 | -.0002 | .0000 | 452.0 | -.0001 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0004 | 180.0 | -.0553 | 511.0 | .0001 | -.0015 | .0302 | .0002 | -.0001 |
| Stddev | .0001 | .0000 | .8 | .0098 | 4.2 | .0001 | .0005 | .0056 | .0004 | .0001 |
| %RSD | 10.44 | 9.407 | .4604 | 17.66 | .8299 | 46.31 | 31.17 | 18.64 | 170.6 | 98.68 |
| #1 | -.0006 | .0004 | 179.4 | -.0484 | 508.0 | .0001 | -.0012 | .0342 | .0005 | -.0002 |
| #2 | -.0005 | .0004 | 180.6 | -.0622 | 514.0 | .0002 | -.0019 | .0262 | .0000 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0138 | -.0272 | .0843 | -.0009 | -.0005 | 5.715 | -.0001 | -.0084 | .0057 | -.0004 |
| Stddev | .0001 | .0009 | .0006 | .0006 | .0004 | .006 | .0010 | .0001 | .0003 | .0005 |
| %RSD | .8232 | 3.266 | .7157 | 59.03 | 81.23 | .1065 | 857.4 | 1.363 | 5.739 | 136.0 |
| #1 | -.0139 | -.0266 | .0848 | -.0005 | -.0002 | 5.720 | -.0008 | -.0083 | .0054 | -.0008 |
| #2 | -.0137 | -.0279 | .0839 | -.0013 | -.0009 | 5.711 | .0006 | -.0085 | .0059 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | -.0053 | .0004 | -.0243 |
| Stddev | .0001 | .0080 | .0000 | .0005 |
| %RSD | 9.598 | 151.1 | 4.791 | 2.185 |
| #1 | .0010 | -.0109 | .0004 | -.0247 |
| #2 | .0008 | .0004 | .0004 | -.0239 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 994.94 | 47322. | 17816. |
| Stddev | 1.73 | 105. | 197. |
| %RSD | .17361 | .22113 | 1.1033 |
| #1 | 993.71 | 47396. | 17955. |
| #2 | 996.16 | 47248. | 17677. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/9/2013 14:45:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.048 | 521.6 | 2.056 | .4940 | .9793 | .4879 | .4484 | 446.3 | .9836 | .4722 |
| Stddev | .003 | .7 | .006 | .0031 | .0031 | .0020 | .0025 | 3.0 | .0002 | .0017 |
| %RSD | .2848 | .1319 | .2851 | .6226 | .3154 | .4019 | .5556 | .6614 | .0208 | .3642 |
| #1 | 1.050 | 521.1 | 2.060 | .4962 | .9815 | .4865 | .4467 | 444.2 | .9837 | .4735 |
| #2 | 1.046 | 522.1 | 2.052 | .4919 | .9771 | .4893 | .4502 | 448.4 | .9834 | .4710 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4780 | .5279 | 179.3 | -.0768 | 508.0 | .4772 | .9465 | .0296 | .8576 | .9027 |
| Stddev | .0005 | .0004 | .8 | .0038 | 2.9 | .0012 | .0028 | .0008 | .0010 | .0003 |
| %RSD | .1144 | .0798 | .4710 | 4.976 | .5789 | .2590 | .2940 | 2.629 | .1135 | .0303 |
| #1 | .4784 | .5276 | 178.7 | -.0795 | 505.9 | .4780 | .9485 | .0301 | .8583 | .9029 |
| #2 | .4776 | .5282 | 179.9 | -.0741 | 510.1 | .4763 | .9446 | .0290 | .8569 | .9025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5377 | .4839 | .5681 | 1.986 | 1.889 | 7.502 | .9817 | .9545 | .5008 | 1.820 |
| Stddev | .0004 | .0008 | .0014 | .004 | .004 | .017 | .0013 | .0038 | .0007 | .007 |
| %RSD | .0667 | .1612 | .2407 | .1771 | .1934 | .2227 | .1288 | .3944 | .1370 | .3955 |
| #1 | .5374 | .4833 | .5691 | 1.989 | 1.892 | 7.514 | .9826 | .9519 | .5003 | 1.825 |
| #2 | .5379 | .4844 | .5672 | 1.984 | 1.887 | 7.490 | .9808 | .9572 | .5012 | 1.815 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4906 | 1.913 | .8989 | .3819 |
| Stddev | .0010 | .006 | .0009 | .0030 |
| %RSD | .2070 | .3267 | .1041 | .7981 |
| #1 | .4913 | 1.917 | .8996 | .3798 |
| #2 | .4899 | 1.909 | .8983 | .3841 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1003.4 | 47411. | 17916. |
| Stddev | 2.0 | 69. | 94. |
| %RSD | .19970 | .14558 | .52328 |
| #1 | 1002.0 | 47362. | 17982. |
| #2 | 1004.8 | 47460. | 17850. |

Zoom In Zoom Out

Sample Name: MP22168A-B1 Acquired: 12/9/2013 14:50:13 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1979 | 2.200 | .5330 | .0011 | .0025 | 1.962 | .4904 | 24.28 | .5041 | .5028 |
| Stddev | .0011 | .002 | .0016 | .0018 | .0002 | .009 | .0001 | .15 | .0003 | .0003 |
| %RSD | .5695 | .0700 | .3085 | 160.6 | 6.690 | .4766 | .0117 | .6079 | .0629 | .0677 |
| #1 | .1971 | 2.199 | .5318 | -.0001 | .0026 | 1.968 | .4903 | 24.18 | .5039 | .5026 |
| #2 | .1987 | 2.201 | .5342 | .0023 | .0023 | 1.955 | .4904 | 24.39 | .5044 | .5030 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5106 | .4772 | 2.079 | 25.07 | 24.83 | .4916 | .0007 | 25.02 | .4757 | .9748 |
| Stddev | .0038 | .0028 | .007 | .08 | .02 | .0007 | .0001 | .06 | .0007 | .0043 |
| %RSD | .7519 | .5868 | .3229 | .3072 | .0907 | .1323 | 17.43 | .2543 | .1571 | .4449 |
| #1 | .5078 | .4752 | 2.084 | 25.12 | 24.82 | .4911 | .0008 | 25.07 | .4751 | .9717 |
| #2 | .5133 | .4791 | 2.074 | 25.01 | 24.85 | .4920 | .0006 | 24.98 | .4762 | .9778 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0001 | .0051 | .5031 | .5273 | .0136 | .0000 | .4893 | .4933 | .5019 |
| Stddev | .0005 | .0027 | .0006 | .0024 | .0044 | .0001 | .0003 | .0017 | .0038 | .0038 |
| %RSD | 50.09 | 2054. | 11.86 | .4819 | .8398 | 1.006 | 1151. | .3493 | .7754 | .7634 |
| #1 | -.0014 | -.0017 | .0055 | .5014 | .5242 | .0137 | .0002 | .4905 | .4906 | .4992 |
| #2 | -.0007 | .0020 | .0046 | .5048 | .5305 | .0135 | -.0002 | .4881 | .4960 | .5046 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5127 | .0148 | .5134 | .0376 |
| Stddev | .0058 | .0010 | .0020 | .0033 |
| %RSD | 1.139 | 6.556 | .3945 | 8.914 |
| #1 | .5086 | .0141 | .5120 | .0399 |
| #2 | .5168 | .0155 | .5149 | .0352 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1087.9 | 51349. | 18255. |
| Stddev | 2.9 | 142. | 147. |
| %RSD | .26957 | .27634 | .80319 |
| #1 | 1089.9 | 51450. | 18358. |
| #2 | 1085.8 | 51249. | 18151. |



Zoom In Zoom Out

Sample Name: MP22168A-MB1 Acquired: 12/9/2013 14:54:58 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0160 | .0007 | .0008 | .0000 | .0006 | .0001 | .0274 | -.0001 | .0004 |
| Stddev | .0001 | .0010 | .0009 | .0006 | .001 | .0000 | .0000 | .0028 | .0000 | .0001 |
| %RSD | 47.11 | 6.400 | 122.6 | 74.36 | 2146. | 3.450 | 11.38 | 10.17 | 54.26 | 16.41 |
| #1 | .0003 | .0167 | .0013 | .0012 | .0003 | .0006 | .0001 | .0255 | .0000 | .0004 |
| #2 | .0002 | .0152 | .0001 | .0004 | -.0003 | .0006 | .0001 | .0294 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0009 | .0100 | .0306 | .0196 | .0002 | .0000 | .0024 | .0005 | .0005 |
| Stddev | .0001 | .0005 | .0015 | .0146 | .0140 | .0000 | .0000 | .0032 | .0002 | .0003 |
| %RSD | 26.99 | 56.80 | 14.91 | 47.66 | 71.26 | 11.84 | 46.42 | 131.0 | 31.89 | 56.18 |
| #1 | .0007 | -.0013 | .0089 | .0409 | .0097 | .0002 | .0000 | .0002 | .0006 | .0003 |
| #2 | .0004 | -.0005 | .0111 | .0203 | .0294 | .0002 | .0000 | .0046 | .0004 | .0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | -.0025 | .0021 | -.0005 | .0004 | .0073 | .0001 | .0001 | .0007 | .0051 |
| Stddev | .0002 | .0001 | .0006 | .0009 | .0007 | .0005 | .0008 | .0000 | .0001 | .0001 |
| %RSD | 21.42 | 5.508 | 26.95 | 191.9 | 158.1 | 7.359 | 674.7 | 12.17 | 12.74 | 1.380 |
| #1 | -.0011 | -.0024 | .0024 | -.0011 | .0009 | .0077 | -.0004 | .0001 | .0007 | .0052 |
| #2 | -.0008 | -.0026 | .0017 | .0002 | .0000 | .0069 | .0007 | .0001 | .0006 | .0051 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0057 | .0020 | -.0004 |
| Stddev | .0003 | .0064 | .0001 | .0002 |
| %RSD | 153.3 | 112.7 | 3.300 | 45.82 |
| #1 | -.0003 | .0102 | .0021 | -.0003 |
| #2 | .0000 | .0011 | .0020 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1091.2 | 51614. | 18227. |
| Stddev | 2.8 | 120. | 62. |
| %RSD | .25834 | .23223 | .34144 |
| #1 | 1093.2 | 51698. | 18271. |
| #2 | 1089.2 | 51529. | 18183. |



Zoom In Zoom Out

Sample Name: MP22168A-S1 Acquired: 12/9/2013 14:59:55 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2028 | 2.076 | .5493 | -.0001 | .0561 | 2.025 | .4955 | 52.97 | .5121 |
| Stddev | .0015 | .007 | .0020 | .0011 | .0002 | .001 | .0008 | .06 | .0002 |
| %RSD | .7421 | .3564 | .3701 | 1042. | .3908 | .0505 | .1633 | .1157 | .0320 |
| #1 | .2017 | 2.071 | .5479 | -.0009 | .0560 | 2.026 | .4950 | 52.93 | .5120 |
| #2 | .2038 | 2.081 | .5507 | .0006 | .0563 | 2.025 | .4961 | 53.01 | .5122 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5133 | .5108 | .4919 | 2.625 | 31.67 | 29.17 | 2.323 | .0002 | 72.32 |
| Stddev | .0006 | .0016 | .0036 | .006 | .03 | .15 | .005 | .0001 | .12 |
| %RSD | .1193 | .3214 | .7329 | .2383 | .0864 | .5157 | .2326 | 30.55 | .1668 |
| #1 | .5128 | .5096 | .4893 | 2.621 | 31.65 | 29.28 | 2.319 | .0002 | 72.23 |
| #2 | .5137 | .5120 | .4944 | 2.629 | 31.69 | 29.07 | 2.327 | .0003 | 72.40 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4856 | .9501 | -.0017 | .0161 | F22.96 | .5142 | .5284 | 6.162 | -.0013 |
| Stddev | .0008 | .0016 | .0007 | .0074 | .03 | .0015 | .0019 | .014 | .0001 |
| %RSD | .1630 | .1683 | 42.35 | 46.13 | .1246 | .3003 | .3685 | .2218 | 3.988 |
| #1 | .4851 | .9490 | -.0012 | .0213 | 22.94 | .5131 | .5270 | 6.152 | -.0013 |
| #2 | .4862 | .9512 | -.0022 | .0108 | 22.98 | .5153 | .5297 | 6.171 | -.0013 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8300 | .4962 | .5021 | .5142 | .0123 | .5351 | -.0273 |
| Stddev | .0015 | .0023 | .0021 | .0038 | .0059 | .0015 | .0004 |
| %RSD | .1810 | .4616 | .4191 | .7352 | 48.04 | .2784 | 1.470 |
| #1 | .8289 | .4946 | .5006 | .5115 | .0081 | .5340 | -.0270 |
| #2 | .8310 | .4978 | .5036 | .5169 | .0165 | .5361 | -.0275 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.9 | 51009. | 18107. |
| Stddev | .9 | 182. | 57. |
| %RSD | .08085 | .35625 | .31474 |
| #1 | 1074.5 | 51138. | 18147. |
| #2 | 1073.3 | 50881. | 18066. |



Zoom In Zoom Out

Sample Name: MP22168A-S2 Acquired: 12/9/2013 15:04:40 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2071 | 2.096 | .5592 | .0016 | .0563 | 2.059 | .5051 | 53.87 | .5207 |
| Stddev | .0007 | .013 | .0048 | .0006 | .0002 | .003 | .0006 | .07 | .0030 |
| %RSD | .3181 | .6207 | .8664 | 38.45 | .3404 | .1575 | .1142 | .1334 | .5784 |
| #1 | .2076 | 2.106 | .5558 | .0021 | .0564 | 2.062 | .5055 | 53.92 | .5186 |
| #2 | .2067 | 2.087 | .5626 | .0012 | .0562 | 2.057 | .5047 | 53.82 | .5228 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .5230 | .5266 | .5042 | 2.666 | 32.25 | 29.78 | 2.376 | .0004 | 73.41 |
| Stddev | .0033 | .0004 | .0000 | .002 | .02 | .01 | .002 | .0002 | .08 |
| %RSD | .6366 | .0704 | .0067 | .0713 | .0771 | .0339 | .0934 | 62.01 | .1081 |
| #1 | .5207 | .5269 | .5042 | 2.667 | 32.24 | 29.77 | 2.377 | .0005 | 73.35 |
| #2 | .5254 | .5264 | .5042 | 2.664 | 32.27 | 29.79 | 2.374 | .0002 | 73.46 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .4933 | .9645 | -.0010 | .0164 | F23.14 | .5237 | .5372 | 6.239 | -.0018 |
| Stddev | .0026 | .0049 | .0005 | .0017 | .12 | .0032 | .0037 | .038 | .0006 |
| %RSD | .5211 | .5050 | 45.39 | 10.60 | .5314 | .6049 | .6870 | .6122 | 31.07 |
| #1 | .4915 | .9610 | -.0013 | .0176 | 23.05 | .5215 | .5346 | 6.212 | -.0014 |
| #2 | .4951 | .9679 | -.0007 | .0152 | 23.22 | .5259 | .5398 | 6.266 | -.0022 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .8466 | .5117 | .5124 | .5265 | .0093 | .5383 | -.0316 |
| Stddev | .0012 | .0004 | .0036 | .0016 | .0014 | .0028 | .0005 |
| %RSD | .1407 | .0843 | .7065 | .3031 | 15.26 | .5112 | 1.594 |
| #1 | .8474 | .5114 | .5098 | .5253 | .0104 | .5364 | -.0312 |
| #2 | .8457 | .5120 | .5150 | .5276 | .0083 | .5403 | -.0319 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.1 | 50663. | 18117. |
| Stddev | 5.8 | 227. | 4. |
| %RSD | .54299 | .44880 | .02166 |
| #1 | 1077.2 | 50502. | 18120. |
| #2 | 1069.0 | 50823. | 18114. |

Zoom In Zoom Out

Sample Name: MC26418-1F Acquired: 12/9/2013 15:09:25 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0029 | .0069 | .0009 | .0521 | .0842 | .0000 | 27.93 | .0002 |
| Stddev | .0002 | .0039 | .0006 | .0007 | .0004 | .0006 | .0000 | .05 | .0001 |
| %RSD | 60.99 | 135.9 | 8.008 | 71.74 | .7248 | .7195 | 128.3 | .1622 | 85.10 |
| #1 | .0004 | -.0001 | .0073 | .0014 | .0518 | .0846 | .0000 | 27.97 | .0002 |
| #2 | .0002 | -.0056 | .0065 | .0005 | .0523 | .0838 | .0000 | 27.90 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0007 | .0024 | .6367 | 5.911 | 3.855 | 1.832 | .0003 | 45.47 |
| Stddev | .0001 | .0004 | .0004 | .0122 | .062 | .055 | .020 | .0001 | .13 |
| %RSD | 5.814 | 59.33 | 14.73 | 1.923 | 1.050 | 1.427 | 1.076 | 27.06 | .2816 |
| #1 | .0026 | .0004 | .0022 | .6454 | 5.955 | 3.894 | 1.818 | .0003 | 45.38 |
| #2 | .0024 | .0010 | .0027 | .6281 | 5.867 | 3.816 | 1.846 | .0004 | 45.56 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0047 | .0004 | -.0010 | .0112 | F22.42 | .0003 | .0003 | 5.962 | -.0004 |
| Stddev | .0002 | .0007 | .0003 | .0047 | .04 | .0005 | .0002 | .016 | .0002 |
| %RSD | 5.108 | 156.8 | 25.73 | 41.97 | .1907 | 182.8 | 90.74 | .2618 | 67.59 |
| #1 | .0046 | .0009 | -.0008 | .0079 | 22.39 | -.0001 | .0004 | 5.951 | -.0005 |
| #2 | .0049 | .0000 | -.0012 | .0145 | 22.45 | .0006 | .0001 | 5.973 | -.0002 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .3248 | .0010 | .0044 | .0004 | .0031 | .0074 | -.0324 |
| Stddev | .0002 | .0001 | .0006 | .0001 | .0048 | .0000 | .0001 |
| %RSD | .0752 | 13.99 | 13.33 | 31.06 | 152.2 | .2052 | .3054 |
| #1 | .3246 | .0009 | .0040 | .0005 | -.0002 | .0074 | -.0323 |
| #2 | .3250 | .0011 | .0048 | .0003 | .0065 | .0074 | -.0325 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1078.0 | 50474. | 18108. |
| Stddev | 2.4 | 493. | 78. |
| %RSD | .22453 | .97583 | .43118 |
| #1 | 1079.7 | 50822. | 18052. |
| #2 | 1076.3 | 50125. | 18163. |



Zoom In Zoom Out

Sample Name: MP22168A-SD1 Acquired: 12/9/2013 15:14:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0219 | .0166 | .0002 | .0509 | .0845 | -.0002 | 28.61 | -.0008 | .0025 |
| Stddev | .0003 | .0189 | .0028 | .0026 | .0008 | .0010 | .0001 | .01 | .0009 | .0010 |
| %RSD | 61.58 | 86.49 | 16.75 | 1536. | 1.660 | 1.212 | 49.61 | .0175 | 109.5 | 40.16 |
| #1 | .0002 | -.0085 | .0186 | -.0016 | .0503 | .0852 | -.0001 | 28.62 | -.0014 | .0032 |
| #2 | .0006 | -.0352 | .0146 | .0020 | .0515 | .0838 | -.0003 | 28.61 | -.0002 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0015 | .6435 | 5.966 | 3.915 | 1.847 | .0003 | 45.94 | .0058 | .0022 |
| Stddev | .0003 | .0000 | .0014 | .099 | .052 | .000 | .0002 | .02 | .0016 | .0013 |
| %RSD | 26.21 | .2278 | .2232 | 1.662 | 1.328 | .0110 | 83.50 | .0462 | 27.00 | 60.24 |
| #1 | .0009 | -.0015 | .6425 | 6.036 | 3.879 | 1.848 | .0001 | 45.93 | .0047 | .0013 |
| #2 | .0013 | -.0016 | .6445 | 5.895 | 3.952 | 1.847 | .0005 | 45.96 | .0069 | .0031 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0036 | 22.23 | -.0001 | .0012 | 6.032 | .0013 | .3314 | .0014 | .0052 |
| Stddev | .0011 | .0164 | .04 | .0020 | .0037 | .059 | .0028 | .0019 | .0003 | .0030 |
| %RSD | 25.12 | 461.4 | .1738 | 1336. | 312.4 | .9795 | 210.1 | .5802 | 23.21 | 58.45 |
| #1 | -.0052 | -.0080 | 22.20 | .0013 | .0038 | 5.990 | -.0006 | .3328 | .0012 | .0031 |
| #2 | -.0036 | .0151 | 22.26 | -.0015 | -.0014 | 6.074 | .0033 | .3301 | .0016 | .0074 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0403 | .0116 | -.0327 |
| Stddev | .0009 | .0088 | .0029 | .0014 |
| %RSD | 487.7 | 21.93 | 24.68 | 4.203 |
| #1 | -.0008 | .0465 | .0136 | -.0317 |
| #2 | .0004 | .0340 | .0095 | -.0337 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.4 | 50921. | 18165. |
| Stddev | 3.5 | 167. | 53. |
| %RSD | .32715 | .32736 | .29143 |
| #1 | 1083.9 | 50804. | 18128. |
| #2 | 1078.9 | 51039. | 18203. |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/9/2013 15:19:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0012 | 5.921 | .0032 | .0507 | .0354 | .0000 | 46.79 |
| Stddev | .0002 | .0035 | .022 | .0013 | .0000 | .0001 | .0000 | .00 |
| %RSD | 203.7 | 301.5 | .3729 | 41.43 | .0270 | .3516 | 53.62 | .0049 |
| #1 | -.0002 | -.0037 | 5.905 | .0041 | .0507 | .0353 | .0001 | 46.79 |
| #2 | .0000 | .0013 | 5.936 | .0022 | .0507 | .0355 | .0000 | 46.79 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | F-.0051 | .0216 | .0003 | -.0008 | 45.00 | 5.070 | 6.026 | 7.595 |
| Stddev | .0002 | .0001 | .0001 | .0003 | .05 | .019 | .007 | .048 |
| %RSD | 4.045 | .4496 | 34.71 | 42.21 | .1114 | .3675 | .1131 | .6314 |
| #1 | -.0050 | .0215 | .0003 | -.0010 | 44.97 | 5.057 | 6.030 | 7.561 |
| #2 | -.0053 | .0217 | .0002 | -.0006 | 45.04 | 5.083 | 6.021 | 7.628 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | 10.70 | .0133 | -.0004 | .0018 | .0509 | 3.514 | -.0005 |
| Stddev | .0003 | .07 | .0000 | .0010 | .0006 | .0007 | .036 | .0003 |
| %RSD | 11.40 | .6612 | .2432 | 223.7 | 31.27 | 1.396 | 1.026 | 48.47 |
| #1 | .0021 | 10.65 | .0133 | .0002 | .0022 | .0504 | 3.489 | -.0004 |
| #2 | .0025 | 10.75 | .0133 | -.0011 | .0014 | .0514 | 3.540 | -.0007 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | 8.176 | .0005 | .3348 | .0006 | .0025 | -.0010 | .0106 |
| Stddev | .0004 | .024 | .0002 | .0014 | .0000 | .0021 | .0001 | .0003 |
| %RSD | 116.2 | .2968 | 33.74 | .4273 | 8.472 | 81.00 | 13.17 | 3.208 |
| #1 | .0001 | 8.159 | .0007 | .3338 | .0006 | .0011 | -.0011 | .0104 |
| #2 | .0006 | 8.193 | .0004 | .3358 | .0005 | .0040 | -.0009 | .0109 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | .0103 | -.0445 |
| Stddev | .0001 | .0001 |
| %RSD | .7670 | .2765 |
| #1 | .0104 | -.0444 |
| #2 | .0103 | -.0446 |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/9/2013 15:19:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.7 | 51069. | 18183. |
| Stddev | 1.7 | 121. | 4. |
| %RSD | .16067 | .23707 | .01963 |
| #1 | 1071.9 | 51154. | 18186. |
| #2 | 1069.5 | 50983. | 18181. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 15:24:08 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2446 | 9.769 | 1.936 | -.0001 | 1.915 | 1.934 | 1.899 | 9.741 | 1.912 | 2.025 |
| Stddev | .0015 | .022 | .002 | .0002 | .004 | .003 | .004 | .009 | .002 | .002 |
| %RSD | .6333 | .2237 | .0764 | 310.9 | .1968 | .1719 | .1992 | .0889 | .0813 | .0856 |
| #1 | .2435 | 9.754 | 1.935 | .0001 | 1.913 | 1.931 | 1.897 | 9.734 | 1.911 | 2.024 |
| #2 | .2457 | 9.785 | 1.937 | -.0002 | 1.918 | 1.936 | 1.902 | 9.747 | 1.914 | 2.027 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.934 | 9.947 | 9.865 | 9.552 | 1.921 | 1.939 | 9.789 | 1.901 | 1.928 |
| Stddev | .005 | .000 | .026 | .006 | .077 | .011 | .002 | .034 | .004 | .002 |
| %RSD | .2473 | .0104 | .2587 | .0581 | .8021 | .5886 | .1075 | .3459 | .1974 | .1201 |
| #1 | 1.936 | 1.934 | 9.929 | 9.869 | 9.606 | 1.913 | 1.937 | 9.765 | 1.898 | 1.926 |
| #2 | 1.943 | 1.934 | 9.965 | 9.861 | 9.498 | 1.929 | 1.940 | 9.813 | 1.904 | 1.929 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0091 | -.0019 | 1.945 | 1.924 | -.0177 | 1.969 | 1.980 | 1.931 | 1.896 |
| Stddev | .0002 | .0002 | .0012 | .006 | .006 | .0010 | .009 | .010 | .005 | .005 |
| %RSD | 19.39 | 2.688 | 62.36 | .3284 | .3286 | 5.411 | .4688 | .4893 | .2724 | .2809 |
| #1 | .0010 | .0089 | -.0011 | 1.941 | 1.919 | -.0170 | 1.962 | 1.973 | 1.927 | 1.892 |
| #2 | .0008 | .0093 | -.0028 | 1.950 | 1.928 | -.0184 | 1.975 | 1.987 | 1.935 | 1.900 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.913 | .0342 | 1.982 | -.0010 |
| Stddev | .009 | .0028 | .002 | .0004 |
| %RSD | .4527 | 8.114 | .1149 | 34.77 |
| #1 | 1.907 | .0323 | 1.980 | -.0008 |
| #2 | 1.919 | .0362 | 1.984 | -.0013 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1079.0 | 50907. | 18294. |
| Stddev | .1 | 253. | 5. |
| %RSD | .00571 | .49766 | .02836 |
| #1 | 1079.0 | 51086. | 18297. |
| #2 | 1078.9 | 50728. | 18290. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 15:29:46 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0064 | .0024 | .0011 | .0013 | .0001 | .0000 | .0000 | .0000 |
| Stddev | .0006 | .0018 | .0009 | .0002 | .0003 | .0001 | .000 | .000 | .000 |
| %RSD | 195.9 | 27.80 | 35.29 | 17.25 | 23.62 | 45.78 | 456.0 | 586.5 | 3753. |
| #1 | -.0007 | -.0076 | .0018 | .0010 | .0011 | .0001 | .0000 | -.0002 | .0000 |
| #2 | .0001 | -.0051 | .0031 | .0012 | .0016 | .0001 | -.0001 | .0001 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0001 | -.0009 | .0014 | .0159 | -.0042 | .0000 | .0009 | .0002 |
| Stddev | .0001 | .0001 | .0001 | .0028 | .0146 | .0032 | .0000 | .0001 | .0016 |
| %RSD | 30.50 | 128.2 | 9.942 | 201.0 | 91.69 | 76.39 | 15.27 | 15.54 | 741.4 |
| #1 | .0004 | .0002 | -.0009 | -.0006 | .0056 | -.0065 | .0000 | .0010 | .0013 |
| #2 | .0002 | .0000 | -.0010 | .0033 | .0262 | -.0019 | .0000 | .0008 | -.0009 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0006 | -.0002 | -.0002 | .0020 | -.0001 | .0004 | .0008 | .0007 |
| Stddev | .0001 | .0008 | .0005 | .0019 | .0016 | .0002 | .0007 | .0004 | .0001 |
| %RSD | 24.61 | 125.8 | 244.1 | 1058. | 78.56 | 131.6 | 185.6 | 46.57 | 18.32 |
| #1 | .0004 | .0011 | -.0006 | -.0015 | .0032 | .0000 | -.0001 | .0005 | .0008 |
| #2 | .0005 | .0001 | .0002 | .0011 | .0009 | -.0002 | .0008 | .0010 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0005 | F.0020 | .0000 | .0042 | -.0003 | -.0001 |
| Stddev | .0000 | .0004 | .0002 | .0000 | .0016 | .0003 | .0000 |
| %RSD | 102.3 | 71.06 | 8.899 | 72.39 | 38.38 | 83.11 | 51.47 |
| #1 | .0000 | .0003 | .0022 | .0001 | .0031 | -.0005 | .0000 |
| #2 | .0000 | .0008 | .0019 | .0000 | .0054 | -.0001 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1084.4 | 51427. | 18099. |
| Stddev | 2.4 | 59. | 77. |
| %RSD | .21982 | .11567 | .42799 |
| #1 | 1086.1 | 51385. | 18044. |
| #2 | 1082.7 | 51469. | 18154. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/9/2013 15:35:57 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0015 | 1.549 | .0006 | .2297 | .0541 | .0000 | 75.26 | -.0016 | -.0004 |
| Stddev | .0004 | .0052 | .005 | .0001 | .0015 | .0000 | .000 | .16 | .0000 | .0001 |
| %RSD | 684.4 | 355.8 | .3401 | 15.19 | .6468 | .0588 | 105.1 | .2162 | 1.728 | 39.60 |
| #1 | .0003 | -.0051 | 1.545 | .0007 | .2286 | .0542 | .0000 | 75.37 | -.0016 | -.0003 |
| #2 | -.0002 | .0022 | 1.552 | .0006 | .2307 | .0541 | .0000 | 75.14 | -.0015 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0007 | 42.55 | 10.26 | 11.75 | 1.475 | .0001 | 28.52 | .0009 | -.0021 |
| Stddev | .0001 | .0006 | .06 | .05 | .09 | .002 | .0000 | .00 | .0000 | .0001 |
| %RSD | 49.91 | 80.75 | .1526 | .5228 | .7843 | .1420 | 11.02 | .0031 | 3.133 | 6.066 |
| #1 | -.0001 | -.0003 | 42.59 | 10.29 | 11.81 | 1.474 | .0001 | 28.52 | .0009 | -.0020 |
| #2 | -.0002 | -.0011 | 42.50 | 10.22 | 11.68 | 1.477 | .0001 | 28.51 | .0010 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0064 | .9075 | -.0003 | -.0007 | 15.90 | .0012 | .8282 | .0007 | .0032 |
| Stddev | .0005 | .0002 | .0062 | .0006 | .0010 | .06 | .0008 | .0004 | .0003 | .0006 |
| %RSD | 196.4 | 2.985 | .6876 | 235.2 | 129.2 | .3649 | 64.20 | .0526 | 40.57 | 18.75 |
| #1 | -.0001 | .0065 | .9031 | -.0007 | -.0001 | 15.86 | .0007 | .8279 | .0005 | .0028 |
| #2 | .0006 | .0062 | .9119 | .0002 | -.0014 | 15.94 | .0018 | .8285 | .0009 | .0037 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0110 | .0067 | -.0872 |
| Stddev | .0002 | .0080 | .0000 | .0003 |
| %RSD | 11490. | 72.17 | .0950 | .3078 |
| #1 | .0002 | .0054 | .0067 | -.0870 |
| #2 | -.0002 | .0167 | .0067 | -.0874 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.1 | 50857. | 18272. |
| Stddev | 3.1 | 38. | 46. |
| %RSD | .28575 | .07506 | .25415 |
| #1 | 1072.2 | 50884. | 18239. |
| #2 | 1067.9 | 50830. | 18304. |



Zoom In Zoom Out

Sample Name: MC26418-12F Acquired: 12/9/2013 15:40:48 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0039 | .0039 | .0004 | .0574 | .0064 | -.0001 | 31.36 | -.0004 | -.0001 |
| Stddev | .0001 | .0060 | .0016 | .0003 | .0008 | .0002 | .0000 | .07 | .0000 | .0000 |
| %RSD | 22.56 | 155.2 | 41.78 | 82.72 | 1.418 | 2.616 | 13.75 | .2306 | 3.559 | 22.25 |
| #1 | .0003 | .0004 | .0050 | .0006 | .0568 | .0063 | -.0001 | 31.31 | -.0004 | -.0002 |
| #2 | .0002 | -.0082 | .0027 | .0002 | .0580 | .0065 | -.0001 | 31.42 | -.0004 | -.0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0033 | 2.472 | 7.474 | 2.964 | .1463 | .0008 | 20.01 | .0021 | .0000 |
| Stddev | .0007 | .0001 | .008 | .005 | .005 | .0004 | .0000 | .10 | .0002 | .000 |
| %RSD | 430.3 | 3.403 | .3127 | .0701 | .1639 | .2953 | 3.395 | .5229 | 11.13 | 664.7 |
| #1 | .0006 | .0034 | 2.477 | 7.478 | 2.967 | .1460 | .0008 | 19.93 | .0023 | .0001 |
| #2 | -.0003 | .0032 | 2.467 | 7.470 | 2.961 | .1466 | .0008 | 20.08 | .0020 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0020 | -.0010 | 3.214 | .0001 | -.0010 | 2.113 | -.0005 | .2343 | .0010 | .0028 |
| Stddev | .0005 | .0032 | .028 | .0002 | .0003 | .006 | .0000 | .0013 | .0001 | .0010 |
| %RSD | 23.33 | 318.1 | .8582 | 336.3 | 26.58 | .2827 | .4371 | .5746 | 10.56 | 34.37 |
| #1 | -.0023 | .0012 | 3.195 | -.0001 | -.0008 | 2.109 | -.0005 | .2334 | .0011 | .0021 |
| #2 | -.0017 | -.0032 | 3.234 | .0002 | -.0012 | 2.117 | -.0005 | .2353 | .0009 | .0035 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0057 | .0140 | -.0116 |
| Stddev | .0004 | .0030 | .0001 | .0000 |
| %RSD | 471.5 | 53.32 | .6478 | .0645 |
| #1 | .0002 | .0078 | .0141 | -.0116 |
| #2 | -.0004 | .0035 | .0140 | -.0116 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1076.7 | 51159. | 18307. |
| Stddev | 3.3 | 50. | 15. |
| %RSD | .30743 | .09855 | .08024 |
| #1 | 1079.0 | 51195. | 18297. |
| #2 | 1074.3 | 51123. | 18317. |

Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/9/2013 15:45:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0064 | .0014 | .0223 | .1589 | .0141 | .0000 | 74.15 | -.0001 |
| Stddev | .0002 | .0090 | .0008 | .0037 | .0012 | .0001 | .000 | .37 | .0000 |
| %RSD | 250.1 | 139.8 | 55.85 | 16.57 | .7295 | 1.028 | 92.13 | .5041 | 61.04 |
| #1 | .0001 | .0001 | .0020 | .0197 | .1580 | .0142 | .0000 | 74.42 | -.0001 |
| #2 | -.0003 | .0128 | .0009 | .0249 | .1597 | .0140 | -.0001 | 73.89 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0091 | .0004 | .0001 | .0487 | 3.045 | 8.499 | F19.82 | .0003 | 22.59 |
| Stddev | .0002 | .0002 | .0001 | .0024 | .022 | .064 | .04 | .0002 | .02 |
| %RSD | 1.777 | 36.24 | 75.93 | 4.858 | .7155 | .7479 | .1973 | 54.98 | .0710 |
| #1 | .0090 | .0005 | .0001 | .0470 | 3.030 | 8.544 | 19.85 | .0002 | 22.61 |
| #2 | .0092 | .0003 | .0002 | .0504 | 3.060 | 8.454 | 19.80 | .0004 | 22.58 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0155 | -.0002 | -.0046 | .1329 | .8658 | -.0001 | .0026 | 7.273 | -.0007 |
| Stddev | .0002 | .0003 | .0007 | .0019 | .0040 | .0005 | .0001 | .016 | .0002 |
| %RSD | 1.604 | 143.9 | 14.96 | 1.412 | .4666 | 352.4 | 5.807 | .2124 | 21.50 |
| #1 | .0157 | -.0004 | -.0041 | .1316 | .8629 | -.0005 | .0027 | 7.262 | -.0006 |
| #2 | .0154 | .0000 | -.0051 | .1342 | .8686 | .0002 | .0024 | 7.284 | -.0008 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .4309 | .0013 | .0055 | -.0022 | .0083 | .0060 | -.0401 |
| Stddev | .0000 | .0000 | .0009 | .0006 | .0093 | .0002 | .0000 |
| %RSD | .0080 | 2.727 | 15.64 | 26.77 | 111.9 | 3.954 | .0016 |
| #1 | .4310 | .0012 | .0049 | -.0018 | .0017 | .0062 | -.0401 |
| #2 | .4309 | .0013 | .0062 | -.0026 | .0149 | .0059 | -.0401 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1062.6 | 51087. | 18193. |
| Stddev | .0 | 67. | 92. |
| %RSD | .00454 | .13097 | .50459 |
| #1 | 1062.6 | 51134. | 18128. |
| #2 | 1062.6 | 51040. | 18258. |



Zoom In Zoom Out

Sample Name: MC26418-14F Acquired: 12/9/2013 15:50:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0039 | .0023 | .0007 | .0010 | .0001 | .0000 | .0094 | -.0002 | .0003 |
| Stddev | .0002 | .0043 | .0004 | .0000 | .0004 | .0000 | .000 | .0003 | .0000 | .0001 |
| %RSD | 842.7 | 110.0 | 15.66 | 7.112 | 42.80 | 29.06 | 12.14 | 3.252 | 12.35 | 40.46 |
| #1 | -.0001 | -.0069 | .0026 | .0007 | .0013 | .0001 | .0000 | .0097 | -.0002 | .0002 |
| #2 | .0001 | -.0009 | .0021 | .0007 | .0007 | .0001 | .0000 | .0092 | -.0002 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0010 | -.0008 | .0083 | -.0138 | .0018 | -.0002 | .0112 | .0003 | .0004 |
| Stddev | .0001 | .0001 | .0004 | .0163 | .0145 | .0001 | .0001 | .0053 | .0001 | .0002 |
| %RSD | 14.13 | 10.66 | 46.39 | 195.3 | 105.0 | 4.716 | 34.69 | 47.47 | 22.73 | 63.00 |
| #1 | .0005 | -.0011 | -.0005 | -.0032 | -.0035 | .0018 | -.0003 | .0149 | .0003 | .0002 |
| #2 | .0004 | -.0009 | -.0010 | .0198 | -.0240 | .0019 | -.0002 | .0074 | .0004 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | -.0018 | .0027 | -.0010 | -.0013 | .0201 | .0003 | .0001 | .0002 | .0037 |
| Stddev | .0009 | .0023 | .0007 | .0004 | .0007 | .0001 | .0003 | .0000 | .0001 | .0004 |
| %RSD | 88.11 | 128.7 | 24.54 | 39.51 | 53.04 | .2869 | 112.1 | 52.56 | 57.24 | 11.35 |
| #1 | -.0004 | -.0002 | .0022 | -.0013 | -.0018 | .0201 | .0001 | .0001 | .0001 | .0040 |
| #2 | -.0017 | -.0035 | .0031 | -.0007 | -.0008 | .0200 | .0005 | .0000 | .0003 | .0034 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0036 | .0069 | -.0004 |
| Stddev | .0004 | .0001 | .0000 | .0003 |
| %RSD | 337.8 | 1.500 | .2258 | 80.31 |
| #1 | .0002 | .0036 | .0069 | -.0006 |
| #2 | -.0004 | .0035 | .0069 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1079.4 | 51474. | 18176. |
| Stddev | 1.1 | 29. | 58. |
| %RSD | .09826 | .05655 | .31945 |
| #1 | 1078.6 | 51494. | 18135. |
| #2 | 1080.1 | 51453. | 18218. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/9/2013 15:55:38 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0047 | .1421 | .0060 | .2702 | .0736 | -.0001 | 108.1 | -.0006 | .0140 |
| Stddev | .0001 | .0013 | .0012 | .0007 | .0016 | .0001 | .0000 | .3 | .0000 | .0002 |
| %RSD | 152.5 | 27.34 | .8158 | 10.91 | .5941 | .1488 | 2.514 | .2370 | 3.082 | 1.394 |
| #1 | -.0002 | .0038 | .1413 | .0064 | .2691 | .0735 | -.0001 | 108.3 | -.0006 | .0138 |
| #2 | .0000 | .0056 | .1430 | .0055 | .2713 | .0736 | -.0001 | 107.9 | -.0006 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0011 | 11.15 | 6.967 | 15.25 | 9.635 | .0015 | 34.37 | .0168 | -.0011 |
| Stddev | .0000 | .0004 | .03 | .025 | .00 | .001 | .0002 | .03 | .0003 | .0000 |
| %RSD | 2.020 | 36.44 | .2348 | .3620 | .0242 | .0066 | 12.06 | .0944 | 1.501 | 2.711 |
| #1 | .0004 | -.0008 | 11.17 | 6.949 | 15.24 | 9.636 | .0016 | 34.40 | .0170 | -.0010 |
| #2 | .0004 | -.0013 | 11.13 | 6.985 | 15.25 | 9.635 | .0014 | 34.35 | .0166 | -.0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0034 | .0665 | 1.621 | -.0006 | .0010 | 11.16 | -.0011 | 1.101 | .0016 | .0029 |
| Stddev | .0003 | .0061 | .013 | .0010 | .0013 | .03 | .0003 | .001 | .0001 | .0003 |
| %RSD | 9.009 | 9.208 | .7899 | 181.0 | 124.0 | .2684 | 25.06 | .1223 | 6.776 | 11.41 |
| #1 | -.0036 | .0622 | 1.612 | -.0013 | .0019 | 11.14 | -.0013 | 1.102 | .0017 | .0032 |
| #2 | -.0032 | .0709 | 1.630 | .0002 | .0001 | 11.18 | -.0009 | 1.100 | .0015 | .0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | .0036 | .0081 | -.0613 |
| Stddev | .0001 | .0010 | .0002 | .0003 |
| %RSD | 5.703 | 28.69 | 2.553 | .5468 |
| #1 | -.0009 | .0043 | .0083 | -.0610 |
| #2 | -.0009 | .0029 | .0080 | -.0615 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.7 | 50881. | 18054. |
| Stddev | 1.9 | 361. | 67. |
| %RSD | .18203 | .70875 | .36913 |
| #1 | 1058.1 | 50626. | 18007. |
| #2 | 1055.3 | 51136. | 18101. |



Zoom In Zoom Out

Sample Name: MC26418-16F Acquired: 12/9/2013 16:00:36 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0002 | .0249 | .0008 | .0279 | .0082 | .0000 | 8.333 | -.0001 | .0055 |
| Stddev | .0004 | .0000 | .0001 | .0008 | .0001 | .0000 | .000 | .021 | .0001 | .0002 |
| %RSD | 830.6 | 17.50 | .5550 | 96.66 | .5098 | .1177 | 65.76 | .2457 | 67.69 | 3.643 |
| #1 | .0003 | .0003 | .0250 | .0014 | .0278 | .0082 | .0000 | 8.348 | -.0001 | .0054 |
| #2 | -.0002 | .0002 | .0248 | .0003 | .0280 | .0082 | -.0001 | 8.319 | -.0002 | .0057 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0006 | 3.410 | 3.425 | .9326 | 1.961 | .0001 | 2.939 | .0069 | -.0004 |
| Stddev | .0000 | .0001 | .009 | .001 | .0022 | .001 | .0000 | .012 | .0001 | .0005 |
| %RSD | 5.834 | 11.77 | .2668 | .0137 | .2345 | .0415 | 30.74 | .4074 | 1.884 | 120.8 |
| #1 | .0005 | -.0007 | 3.417 | 3.424 | .9311 | 1.960 | .0001 | 2.931 | .0070 | -.0001 |
| #2 | .0005 | -.0006 | 3.404 | 3.425 | .9342 | 1.961 | .0002 | 2.948 | .0068 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0110 | 2.342 | -.0006 | .0001 | 5.677 | .0004 | .0802 | .0004 | .0032 |
| Stddev | .0011 | .0016 | .012 | .0002 | .0002 | .011 | .0001 | .0002 | .0002 | .0003 |
| %RSD | 1420. | 14.54 | .4934 | 30.10 | 314.5 | .1976 | 32.69 | .2481 | 52.31 | 10.47 |
| #1 | -.0009 | .0121 | 2.334 | -.0007 | .0002 | 5.669 | .0003 | .0800 | .0005 | .0035 |
| #2 | .0007 | .0098 | 2.350 | -.0005 | -.0001 | 5.685 | .0005 | .0803 | .0002 | .0030 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0126 | .0224 | -.0317 |
| Stddev | .0001 | .0052 | .0002 | .0000 |
| %RSD | 36.12 | 41.05 | 1.027 | .0434 |
| #1 | -.0005 | .0163 | .0223 | -.0317 |
| #2 | -.0003 | .0089 | .0226 | -.0317 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.7 | 51410. | 18322. |
| Stddev | 1.1 | 71. | 3. |
| %RSD | .10441 | .13775 | .01674 |
| #1 | 1082.5 | 51460. | 18324. |
| #2 | 1080.9 | 51360. | 18320. |

Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/9/2013 16:05:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0063 | .4558 | .0020 | .0423 | .0409 | -.0001 | 23.03 | -.0006 | .0079 |
| Stddev | .000 | .0004 | .0026 | .0006 | .0003 | .0001 | .0000 | .00 | .0001 | .0000 |
| %RSD | 881.1 | 6.392 | .5626 | 31.43 | .6467 | .3308 | 19.37 | .0209 | 9.118 | .5515 |
| #1 | -.0001 | -.0066 | .4540 | .0025 | .0425 | .0408 | -.0001 | 23.03 | -.0006 | .0079 |
| #2 | .0001 | -.0061 | .4576 | .0016 | .0421 | .0410 | -.0001 | 23.02 | -.0007 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0008 | 58.32 | 4.877 | 2.625 | 2.397 | -.0006 | 13.91 | .0061 | -.0004 |
| Stddev | .0000 | .0000 | .14 | .028 | .085 | .018 | .0001 | .05 | .0001 | .0000 |
| %RSD | 28.68 | 3.911 | .2452 | .5641 | 3.229 | .7483 | 15.87 | .3285 | 1.633 | 11.18 |
| #1 | -.0001 | -.0008 | 58.42 | 4.857 | 2.565 | 2.384 | -.0007 | 13.94 | .0060 | -.0004 |
| #2 | -.0002 | -.0008 | 58.22 | 4.896 | 2.684 | 2.410 | -.0005 | 13.88 | .0061 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0030 | .0149 | 11.20 | -.0008 | .0009 | 9.381 | .0003 | .0922 | .0007 | .0019 |
| Stddev | .0004 | .0019 | .01 | .0003 | .0010 | .003 | .0003 | .0001 | .0002 | .0009 |
| %RSD | 13.09 | 12.90 | .0675 | 41.32 | 111.0 | .0302 | 105.6 | .1412 | 34.99 | 45.43 |
| #1 | .0033 | .0135 | 11.20 | -.0010 | .0016 | 9.383 | .0005 | .0923 | .0005 | .0026 |
| #2 | .0027 | .0162 | 11.21 | -.0006 | .0002 | 9.379 | .0001 | .0921 | .0009 | .0013 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0121 | .0115 | -.0514 |
| Stddev | .0002 | .0016 | .0000 | .0002 |
| %RSD | 37.39 | 13.07 | .3066 | .3066 |
| #1 | -.0003 | .0132 | .0115 | -.0515 |
| #2 | -.0005 | .0110 | .0115 | -.0513 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1070.1 | 50995. | 18247. |
| Stddev | .0 | 375. | 4. |
| %RSD | .00010 | .73611 | .02463 |
| #1 | 1070.1 | 51260. | 18250. |
| #2 | 1070.1 | 50729. | 18244. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/9/2013 16:10:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0065 | .4652 | .0011 | .0437 | .0420 | -.0001 | 23.61 | -.0007 | .0079 |
| Stddev | .0001 | .0058 | .0022 | .0003 | .0003 | .0004 | .0000 | .05 | .0000 | .0002 |
| %RSD | 15.90 | 89.15 | .4654 | 28.88 | .7965 | .8468 | 8.656 | .2293 | 7.195 | 2.534 |
| #1 | .0005 | -.0024 | .4637 | .0014 | .0434 | .0423 | -.0001 | 23.57 | -.0006 | .0078 |
| #2 | .0004 | -.0105 | .4667 | .0009 | .0439 | .0418 | -.0001 | 23.64 | -.0007 | .0081 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | -.0011 | 59.65 | 4.991 | 2.692 | 2.451 | -.0006 | 14.21 | .0061 | -.0014 |
| Stddev | .0005 | .0001 | .03 | .042 | .006 | .001 | .0001 | .04 | .0001 | .0011 |
| %RSD | 86.67 | 12.22 | .0456 | .8375 | .2225 | .0426 | 18.21 | .3035 | 1.014 | 75.71 |
| #1 | .0002 | -.0010 | 59.63 | 4.961 | 2.696 | 2.452 | -.0006 | 14.24 | .0060 | -.0021 |
| #2 | .0010 | -.0012 | 59.66 | 5.021 | 2.687 | 2.450 | -.0007 | 14.18 | .0061 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0045 | .0125 | 11.37 | -.0006 | .0003 | 9.569 | .0008 | .0945 | .0006 | .0026 |
| Stddev | .0005 | .0002 | .02 | .0005 | .0000 | .013 | .0002 | .0002 | .0000 | .0010 |
| %RSD | 11.09 | 1.928 | .1802 | 86.28 | 6.202 | .1307 | 29.04 | .2430 | 2.014 | 37.45 |
| #1 | .0041 | .0127 | 11.35 | -.0002 | .0003 | 9.560 | .0007 | .0946 | .0006 | .0033 |
| #2 | .0048 | .0123 | 11.38 | -.0009 | .0003 | 9.578 | .0010 | .0943 | .0006 | .0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0114 | .0090 | -.0525 |
| Stddev | .0001 | .0032 | .0007 | .0000 |
| %RSD | 36.61 | 27.76 | 7.531 | .0934 |
| #1 | -.0001 | .0092 | .0095 | -.0526 |
| #2 | -.0003 | .0137 | .0085 | -.0525 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1071.7 | 51068. | 18224. |
| Stddev | 1.1 | 14. | 58. |
| %RSD | .09889 | .02677 | .31622 |
| #1 | 1072.4 | 51058. | 18264. |
| #2 | 1070.9 | 51078. | 18183. |



Zoom In Zoom Out

Sample Name: MC26418-4F Acquired: 12/9/2013 16:15:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0451 | .2548 | .0014 | .0582 | .0782 | .0000 | 39.02 | -.0002 |
| Stddev | .0002 | .0021 | .0014 | .0005 | .0004 | .0006 | .000 | .21 | .0001 |
| %RSD | 71.04 | 4.604 | .5546 | 34.61 | .7064 | .7893 | 120.1 | .5382 | 30.95 |
| #1 | .0004 | .0436 | .2538 | .0011 | .0579 | .0787 | .0000 | 39.17 | -.0002 |
| #2 | .0001 | .0466 | .2558 | .0018 | .0585 | .0778 | .0000 | 38.87 | -.0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .1090 | .0002 | .0002 | 17.85 | 8.413 | 2.451 | 2.201 | .0057 | 22.84 |
| Stddev | .0008 | .0006 | .0001 | .08 | .069 | .007 | .004 | .0001 | .13 |
| %RSD | .6890 | 314.9 | 95.01 | .4388 | .8176 | .2814 | .1624 | 2.109 | .5783 |
| #1 | .1084 | -.0003 | .0001 | 17.90 | 8.461 | 2.446 | 2.199 | .0058 | 22.93 |
| #2 | .1095 | .0007 | .0003 | 17.79 | 8.364 | 2.456 | 2.204 | .0056 | 22.75 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .6966 | -.0007 | -.0009 | .0112 | F37.62 | .0006 | .0011 | 11.68 | .0004 |
| Stddev | .0001 | .0014 | .0001 | .0008 | .05 | .0002 | .0006 | .01 | .0005 |
| %RSD | .0114 | 197.8 | 6.329 | 7.496 | .1260 | 36.20 | 57.37 | .1174 | 125.0 |
| #1 | .6965 | -.0017 | -.0009 | .0106 | 37.59 | .0007 | .0015 | 11.67 | .0008 |
| #2 | .6966 | .0003 | -.0009 | .0118 | 37.65 | .0004 | .0006 | 11.69 | .0000 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .3256 | .0009 | .0038 | -.0003 | .0102 | .0415 | -.0645 |
| Stddev | .0016 | .0004 | .0004 | .0003 | .0025 | .0001 | .0002 |
| %RSD | .4979 | 41.31 | 11.04 | 119.9 | 24.83 | .3338 | .2610 |
| #1 | .3267 | .0006 | .0040 | .0000 | .0120 | .0414 | -.0647 |
| #2 | .3244 | .0011 | .0035 | -.0005 | .0084 | .0416 | -.0644 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.8 | 51238. | 18332. |
| Stddev | 1.4 | 60. | 54. |
| %RSD | .13417 | .11675 | .29440 |
| #1 | 1075.8 | 51280. | 18293. |
| #2 | 1073.8 | 51196. | 18370. |



Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/9/2013 16:20:10 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0017 | 3.449 | .0027 | .0418 | .0317 | .0000 | 24.44 | -.0032 | .0068 |
| Stddev | .0001 | .0017 | .009 | .0002 | .0002 | .0002 | .0000 | .13 | .0000 | .0002 |
| %RSD | 28.17 | 100.7 | .2756 | 7.916 | .5399 | .6628 | 43.54 | .5273 | .8639 | 2.357 |
| #1 | .0003 | -.0030 | 3.442 | .0026 | .0417 | .0318 | .0000 | 24.53 | -.0032 | .0069 |
| #2 | .0002 | -.0005 | 3.456 | .0029 | .0420 | .0315 | .0000 | 24.35 | -.0032 | .0067 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0012 | 84.12 | 4.392 | 2.092 | 6.265 | -.0012 | 4.087 | .0120 | -.0013 |
| Stddev | .0003 | .0004 | .34 | .037 | .037 | .043 | .0000 | .011 | .0002 | .0001 |
| %RSD | 82.59 | 33.16 | .4096 | .8398 | 1.758 | .6894 | 1.031 | .2640 | 1.564 | 6.894 |
| #1 | .0005 | -.0009 | 84.37 | 4.418 | 2.118 | 6.296 | -.0012 | 4.095 | .0119 | -.0012 |
| #2 | .0001 | -.0015 | 83.88 | 4.366 | 2.066 | 6.235 | -.0012 | 4.080 | .0121 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0057 | .0398 | 1.179 | -.0008 | .0002 | 9.111 | .0004 | .1318 | .0003 | .0029 |
| Stddev | .0005 | .0074 | .004 | .0001 | .0002 | .018 | .0005 | .0004 | .0002 | .0015 |
| %RSD | 9.241 | 18.69 | .3383 | 14.55 | 96.22 | .1927 | 124.1 | .2931 | 61.58 | 52.06 |
| #1 | .0053 | .0450 | 1.176 | -.0007 | .0003 | 9.099 | .0001 | .1321 | .0004 | .0039 |
| #2 | .0060 | .0345 | 1.182 | -.0009 | .0001 | 9.124 | .0008 | .1315 | .0001 | .0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0140 | .0092 | -.0499 |
| Stddev | .0001 | .0073 | .0007 | .0004 |
| %RSD | 8.911 | 51.92 | 7.473 | .8244 |
| #1 | -.0006 | .0088 | .0097 | -.0496 |
| #2 | -.0006 | .0191 | .0087 | -.0502 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1069.0 | 51027. | 18178. |
| Stddev | .3 | 239. | 98. |
| %RSD | .02421 | .46853 | .54184 |
| #1 | 1069.1 | 50858. | 18108. |
| #2 | 1068.8 | 51196. | 18248. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 16:25:09 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2457 | 9.805 | 1.946 | .0000 | 1.927 | 1.948 | 1.899 | 9.703 | 1.923 | 2.043 |
| Stddev | .0014 | .004 | .006 | .000 | .003 | .003 | .002 | .019 | .001 | .001 |
| %RSD | .5815 | .0401 | .2928 | 144.2 | .1742 | .1665 | .1019 | .1944 | .0628 | .0652 |
| #1 | .2447 | 9.808 | 1.950 | .0000 | 1.925 | 1.950 | 1.900 | 9.690 | 1.924 | 2.044 |
| #2 | .2467 | 9.803 | 1.942 | -.0001 | 1.929 | 1.945 | 1.897 | 9.717 | 1.922 | 2.042 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.940 | 1.949 | 9.954 | 9.901 | 9.615 | 1.919 | 1.958 | 9.877 | 1.914 | 1.941 |
| Stddev | .010 | .002 | .005 | .001 | .142 | .007 | .002 | .032 | .001 | .006 |
| %RSD | .5197 | .0934 | .0488 | .0115 | 1.482 | .3762 | .0763 | .3242 | .0737 | .3242 |
| #1 | 1.933 | 1.948 | 9.950 | 9.902 | 9.716 | 1.914 | 1.957 | 9.900 | 1.915 | 1.945 |
| #2 | 1.947 | 1.950 | 9.957 | 9.901 | 9.514 | 1.924 | 1.959 | 9.854 | 1.913 | 1.936 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0046 | -.0024 | 1.960 | 1.929 | -.0238 | 1.978 | 1.957 | 1.938 | 1.904 |
| Stddev | .0016 | .0050 | .0012 | .000 | .000 | .0008 | .002 | .006 | .008 | .002 |
| %RSD | 123.1 | 108.5 | 48.19 | .0050 | .0031 | 3.467 | .0931 | .3236 | .4218 | .1285 |
| #1 | .0024 | .0011 | -.0016 | 1.959 | 1.929 | -.0232 | 1.980 | 1.952 | 1.933 | 1.902 |
| #2 | .0002 | .0082 | -.0032 | 1.960 | 1.929 | -.0244 | 1.977 | 1.961 | 1.944 | 1.905 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.911 | .0322 | 2.007 | -.0066 |
| Stddev | .005 | .0002 | .004 | .0001 |
| %RSD | .2514 | .6774 | .1871 | .9180 |
| #1 | 1.907 | .0323 | 2.009 | -.0066 |
| #2 | 1.914 | .0320 | 2.004 | -.0065 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1072.6 | 50915. | 18277. |
| Stddev | 1.0 | 208. | 33. |
| %RSD | .09733 | .40920 | .17829 |
| #1 | 1071.8 | 51062. | 18254. |
| #2 | 1073.3 | 50767. | 18300. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 16:29:58 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0066 | .0019 | .0004 | .0017 | .0001 | .0000 | -.0009 | .0002 | .0001 |
| Stddev | .0002 | .0019 | .0011 | .0001 | .0002 | .0001 | .000 | .0015 | .0001 | .0001 |
| %RSD | 77.19 | 28.96 | 58.76 | 16.16 | 9.953 | 86.70 | 187.1 | 162.7 | 64.90 | 101.7 |
| #1 | .0001 | -.0079 | .0027 | .0005 | .0019 | .0000 | .0000 | -.0020 | .0001 | .0000 |
| #2 | .0003 | -.0052 | .0011 | .0004 | .0016 | .0001 | -.0001 | .0001 | .0003 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0013 | .0024 | .0038 | -.0128 | .0000 | .0013 | -.0045 | .0003 | .0009 |
| Stddev | .0005 | .0001 | .0013 | .0122 | .0196 | .0000 | .0002 | .0029 | .0000 | .0010 |
| %RSD | 191.0 | 8.405 | 54.09 | 324.4 | 153.3 | 69.94 | 18.33 | 62.83 | 10.20 | 114.1 |
| #1 | -.0001 | -.0012 | .0033 | -.0049 | .0011 | .0000 | .0014 | -.0025 | .0003 | .0002 |
| #2 | .0007 | -.0014 | .0015 | .0124 | -.0267 | .0001 | .0011 | -.0066 | .0003 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0009 | .0006 | .0027 | .0001 | .0004 | -.0013 | .0001 | .0000 | .0003 | .0019 |
| Stddev | .0011 | .0003 | .0010 | .0003 | .0004 | .0005 | .0004 | .0000 | .0000 | .0006 |
| %RSD | 130.3 | 59.72 | 38.11 | 305.4 | 97.06 | 38.50 | 620.3 | 189.6 | 15.04 | 31.65 |
| #1 | -.0017 | .0008 | .0019 | .0003 | .0001 | -.0016 | -.0002 | .0001 | .0004 | .0015 |
| #2 | -.0001 | .0003 | .0034 | -.0001 | .0007 | -.0009 | .0004 | .0000 | .0003 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0032 | -.0006 | .0001 |
| Stddev | .0004 | .0042 | .0001 | .0002 |
| %RSD | 134.3 | 133.2 | 10.58 | 192.2 |
| #1 | .0000 | .0061 | -.0006 | .0000 |
| #2 | -.0006 | .0002 | -.0006 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.9 | 51058. | 18080. |
| Stddev | 1.3 | 124. | 23. |
| %RSD | .12369 | .24351 | .12723 |
| #1 | 1073.9 | 50970. | 18064. |
| #2 | 1075.8 | 51146. | 18096. |



Zoom In Zoom Out

Sample Name: MC26418-6F Acquired: 12/9/2013 16:34:55 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | 1.503 | .0068 | .0009 | .0213 | .0551 | .0006 | 27.49 | .0002 |
| Stddev | .0002 | .002 | .0012 | .0012 | .0005 | .0000 | .0001 | .13 | .0001 |
| %RSD | 673.4 | .1106 | 17.95 | 134.2 | 2.200 | .0114 | 11.42 | .4767 | 24.35 |
| #1 | .0002 | 1.502 | .0060 | .0018 | .0217 | .0551 | .0006 | 27.58 | .0003 |
| #2 | -.0001 | 1.504 | .0077 | .0000 | .0210 | .0551 | .0005 | 27.40 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0187 | .0015 | .0002 | 1.428 | 3.974 | 2.838 | .5689 | .0006 | 41.50 |
| Stddev | .0001 | .0001 | .0002 | .017 | .025 | .036 | .0010 | .0001 | .03 |
| %RSD | .5390 | 5.653 | 63.18 | 1.186 | .6284 | 1.258 | .1693 | 24.17 | .0635 |
| #1 | .0186 | .0015 | .0001 | 1.440 | 3.992 | 2.863 | .5683 | .0007 | 41.48 |
| #2 | .0187 | .0016 | .0003 | 1.416 | 3.956 | 2.812 | .5696 | .0005 | 41.52 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2856 | -.0001 | -.0013 | .0050 | F24.57 | .0008 | -.0013 | 3.473 | -.0002 |
| Stddev | .0007 | .0004 | .0008 | .0024 | .09 | .0003 | .0011 | .012 | .0003 |
| %RSD | .2331 | 383.4 | 66.12 | 48.05 | .3547 | 42.16 | 85.26 | .3309 | 154.1 |
| #1 | .2851 | -.0004 | -.0019 | .0033 | 24.64 | .0006 | -.0005 | 3.481 | .0000 |
| #2 | .2861 | .0002 | -.0007 | .0067 | 24.51 | .0010 | -.0020 | 3.465 | -.0004 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .2382 | .0006 | .0043 | -.0001 | .0089 | .0940 | -.0187 |
| Stddev | .0002 | .0003 | .0001 | .0005 | .0033 | .0001 | .0004 |
| %RSD | .0903 | 47.07 | 1.496 | 726.8 | 37.53 | .1130 | 2.227 |
| #1 | .2384 | .0007 | .0043 | .0003 | .0113 | .0939 | -.0190 |
| #2 | .2381 | .0004 | .0042 | -.0004 | .0066 | .0940 | -.0184 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1077.3 | 51204. | 18310. |
| Stddev | 2.7 | 18. | 59. |
| %RSD | .25284 | .03459 | .32185 |
| #1 | 1075.4 | 51192. | 18269. |
| #2 | 1079.2 | 51217. | 18352. |



Zoom In Zoom Out

Sample Name: MC26418-7F Acquired: 12/9/2013 16:39:47 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0034 | .0011 | .0006 | .0009 | .0002 | .0000 | .0092 | -.0002 | .0003 |
| Stddev | .000 | .0062 | .0002 | .0007 | .0002 | .0001 | .000 | .0005 | .0001 | .0001 |
| %RSD | 589.4 | 184.1 | 21.26 | 126.9 | 27.42 | 73.94 | 112.9 | 5.466 | 68.37 | 19.02 |
| #1 | -.0002 | -.0077 | .0010 | .0011 | .0010 | .0001 | -.0001 | .0095 | -.0003 | .0004 |
| #2 | .0001 | .0010 | .0013 | .0001 | .0007 | .0002 | .0000 | .0088 | -.0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0013 | -.0012 | .0003 | -.0011 | .0001 | -.0002 | .0143 | .0006 | .0008 |
| Stddev | .0000 | .0000 | .0002 | .0017 | .0090 | .0001 | .0003 | .0011 | .0002 | .0003 |
| %RSD | 109.8 | 1.662 | 12.97 | 567.5 | 801.6 | 73.15 | 125.1 | 7.737 | 32.64 | 38.71 |
| #1 | .0000 | -.0014 | -.0013 | .0015 | .0052 | .0000 | .0000 | .0151 | .0007 | .0006 |
| #2 | .0001 | -.0013 | -.0011 | -.0009 | -.0075 | .0001 | -.0004 | .0135 | .0004 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0001 | .0057 | -.0005 | .0000 | .0213 | .0008 | .0000 | .0006 | .0037 |
| Stddev | .0012 | .0001 | .0004 | .0003 | .001 | .0011 | .0007 | .0000 | .0001 | .0004 |
| %RSD | 1637. | 204.7 | 6.680 | 55.02 | 1972. | 5.274 | 89.84 | 13.48 | 19.98 | 11.09 |
| #1 | .0009 | .0000 | .0060 | -.0003 | .0004 | .0205 | .0003 | .0000 | .0007 | .0034 |
| #2 | -.0008 | .0001 | .0054 | -.0007 | -.0005 | .0221 | .0013 | .0000 | .0005 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0002 | .0060 | .0067 | -.0004 |
| Stddev | .0002 | .0017 | .0000 | .0000 |
| %RSD | 69.55 | 28.05 | .0501 | 6.665 |
| #1 | .0001 | .0072 | .0067 | -.0004 |
| #2 | .0003 | .0048 | .0067 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.6 | 51316. | 18252. |
| Stddev | 2.0 | 56. | 71. |
| %RSD | .18571 | .10934 | .38702 |
| #1 | 1077.0 | 51356. | 18302. |
| #2 | 1074.2 | 51277. | 18202. |

Zoom In Zoom Out

Sample Name: MC26418-8F Acquired: 12/9/2013 16:44:44 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0029 | .0049 | .0010 | .0136 | .0204 | .0000 | 17.37 | -.0002 | .0048 |
| Stddev | .0001 | .0068 | .0008 | .0009 | .0003 | .0002 | .000 | .01 | .0000 | .0001 |
| %RSD | 106.4 | 236.4 | 15.55 | 90.32 | 2.426 | 1.217 | 42.36 | .0489 | 14.31 | 1.652 |
| #1 | .0002 | -.0019 | .0054 | .0004 | .0133 | .0202 | .0000 | 17.38 | -.0002 | .0048 |
| #2 | .0000 | .0076 | .0044 | .0016 | .0138 | .0206 | .0000 | 17.37 | -.0002 | .0047 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0053 | .0752 | 2.226 | 2.539 | .0234 | .0010 | 40.67 | .1845 | -.0002 |
| Stddev | .0002 | .0002 | .0012 | .037 | .030 | .0001 | .0001 | .11 | .0014 | .0003 |
| %RSD | 17.98 | 3.010 | 1.577 | 1.685 | 1.172 | .3954 | 10.36 | .2708 | .7607 | 133.0 |
| #1 | .0010 | .0054 | .0743 | 2.199 | 2.518 | .0234 | .0011 | 40.60 | .1835 | -.0004 |
| #2 | .0008 | .0052 | .0760 | 2.252 | 2.560 | .0233 | .0009 | 40.75 | .1855 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | -.0027 | 7.563 | .0028 | -.0003 | 2.161 | -.0003 | .1318 | .0006 | .0043 |
| Stddev | .0004 | .0010 | .027 | .0004 | .0003 | .008 | .0000 | .0005 | .0002 | .0006 |
| %RSD | 34.32 | 38.79 | .3520 | 14.75 | 89.66 | .3507 | 7.119 | .4088 | 29.59 | 14.12 |
| #1 | -.0016 | -.0019 | 7.544 | .0031 | -.0005 | 2.155 | -.0003 | .1314 | .0007 | .0039 |
| #2 | -.0010 | -.0034 | 7.581 | .0025 | -.0001 | 2.166 | -.0004 | .1321 | .0005 | .0047 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0015 | .0012 | .0075 | -.0122 |
| Stddev | .0000 | .0079 | .0001 | .0002 |
| %RSD | 2.401 | 663.4 | 1.368 | 2.029 |
| #1 | .0016 | -.0044 | .0074 | -.0120 |
| #2 | .0015 | .0068 | .0075 | -.0124 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.5 | 51454. | 18167. |
| Stddev | 3.2 | 84. | 10. |
| %RSD | .29812 | .16252 | .05393 |
| #1 | 1077.8 | 51395. | 18174. |
| #2 | 1073.2 | 51513. | 18160. |



Zoom In Zoom Out

Sample Name: MC26418-9F Acquired: 12/9/2013 16:49:37 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0072 | 1.026 | .0014 | .1227 | .0912 | .0000 | 43.78 | -.0012 | .0154 |
| Stddev | .0002 | .0029 | .001 | .0004 | .0001 | .0003 | .000 | .02 | .0002 | .0001 |
| %RSD | 30.17 | 40.42 | .0443 | 33.03 | .0653 | .2787 | 22.57 | .0517 | 13.73 | .8841 |
| #1 | .0006 | -.0051 | 1.026 | .0010 | .1226 | .0914 | .0000 | 43.80 | -.0014 | .0155 |
| #2 | .0009 | -.0092 | 1.027 | .0017 | .1227 | .0910 | .0000 | 43.77 | -.0011 | .0153 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0010 | 72.46 | 10.81 | 6.464 | .9383 | .0000 | 18.16 | .0142 | -.0017 |
| Stddev | .0002 | .0001 | .10 | .04 | .043 | .0016 | .0000 | .05 | .0002 | .0011 |
| %RSD | 38.55 | 5.598 | .1410 | .4020 | .6613 | .1702 | 440.7 | .2690 | 1.381 | 68.07 |
| #1 | .0006 | -.0011 | 72.39 | 10.84 | 6.495 | .9394 | .0000 | 18.13 | .0143 | -.0009 |
| #2 | .0003 | -.0010 | 72.54 | 10.77 | 6.434 | .9372 | .0000 | 18.20 | .0140 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0043 | .0010 | 2.178 | .0000 | .0008 | 14.52 | .0003 | .4173 | .0004 | .0021 |
| Stddev | .0000 | .0042 | .009 | .0005 | .0010 | .04 | .0015 | .0007 | .0001 | .0013 |
| %RSD | .9382 | 407.5 | .4146 | 1325. | 121.0 | .2558 | 490.8 | .1666 | 26.02 | 62.66 |
| #1 | .0043 | .0040 | 2.171 | .0004 | .0015 | 14.50 | -.0008 | .4168 | .0004 | .0012 |
| #2 | .0042 | -.0020 | 2.184 | -.0003 | .0001 | 14.55 | .0014 | .4177 | .0003 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0143 | .0135 | -.0800 |
| Stddev | .0003 | .0026 | .0002 | .0005 |
| %RSD | 84.76 | 17.96 | 1.200 | .5817 |
| #1 | -.0001 | .0161 | .0136 | -.0797 |
| #2 | -.0005 | .0125 | .0134 | -.0803 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1064.3 | 51192. | 18199. |
| Stddev | 2.4 | 52. | 32. |
| %RSD | .22822 | .10239 | .17412 |
| #1 | 1066.0 | 51155. | 18222. |
| #2 | 1062.6 | 51229. | 18177. |



Zoom In Zoom Out

Sample Name: MC26484-8F Acquired: 12/9/2013 16:54:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0049 | .0015 | .0011 | .0006 | .0002 | .0000 | .0122 | -.0003 | .0003 |
| Stddev | .0004 | .0005 | .0005 | .0001 | .0000 | .0000 | .000 | .0002 | .0001 | .0000 |
| %RSD | 367.1 | 9.618 | 31.07 | 6.990 | 4.269 | 7.224 | 43.35 | 1.791 | 23.77 | 1.890 |
| #1 | .0004 | -.0052 | .0018 | .0012 | .0005 | .0002 | -.0001 | .0123 | -.0002 | .0003 |
| #2 | -.0002 | -.0046 | .0011 | .0011 | .0006 | .0002 | .0000 | .0120 | -.0003 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0011 | .0044 | -.0007 | -.0046 | .0001 | -.0002 | .0167 | .0005 | .0008 |
| Stddev | .0002 | .0003 | .0017 | .0025 | .0024 | .0000 | .0001 | .0014 | .0000 | .0014 |
| %RSD | 69.35 | 22.70 | 39.31 | 361.2 | 51.60 | 39.51 | 28.20 | 8.484 | 7.853 | 170.0 |
| #1 | .0004 | -.0013 | .0057 | .0011 | -.0029 | .0000 | -.0003 | .0177 | .0005 | .0019 |
| #2 | .0001 | -.0009 | .0032 | -.0025 | -.0063 | .0001 | -.0002 | .0157 | .0004 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0002 | .0040 | -.0012 | .0004 | .0195 | .0007 | .0000 | .0002 | .0035 |
| Stddev | .0003 | .0022 | .0009 | .0002 | .0015 | .0007 | .0002 | .0000 | .0001 | .0006 |
| %RSD | 33.13 | 900.3 | 23.29 | 19.58 | 410.4 | 3.384 | 22.60 | 113.3 | 81.70 | 16.33 |
| #1 | -.0010 | .0018 | .0046 | -.0013 | -.0007 | .0200 | .0008 | .0001 | .0003 | .0039 |
| #2 | -.0006 | -.0013 | .0033 | -.0010 | .0014 | .0191 | .0006 | .0000 | .0001 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0028 | .0118 | -.0010 |
| Stddev | .0003 | .0031 | .0005 | .0001 |
| %RSD | 186.8 | 110.3 | 3.900 | 11.03 |
| #1 | -.0003 | .0050 | .0114 | -.0010 |
| #2 | .0000 | .0006 | .0121 | -.0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1076.3 | 52107. | 18301. |
| Stddev | 1.7 | 77. | 55. |
| %RSD | .15942 | .14873 | .29915 |
| #1 | 1075.1 | 52162. | 18340. |
| #2 | 1077.5 | 52052. | 18262. |



Zoom In Zoom Out

Sample Name: MP22178A-B1 Acquired: 12/9/2013 16:59:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1956 | 2.111 | .5286 | .0006 | .0016 | 1.995 | .4807 | 23.92 | .4954 | .5099 |
| Stddev | .0005 | .009 | .0008 | .0013 | .0002 | .004 | .0016 | .06 | .0011 | .0006 |
| %RSD | .2405 | .4108 | .1543 | 230.8 | 9.462 | .1963 | .3240 | .2542 | .2248 | .1096 |
| #1 | .1953 | 2.117 | .5291 | .0015 | .0017 | 1.998 | .4818 | 23.96 | .4962 | .5103 |
| #2 | .1959 | 2.104 | .5280 | -.0004 | .0015 | 1.992 | .4796 | 23.87 | .4946 | .5095 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5014 | .4855 | 2.061 | 25.18 | 24.58 | .4826 | .0000 | 25.09 | .4745 | .9917 |
| Stddev | .0025 | .0001 | .001 | .08 | .02 | .0020 | .000 | .07 | .0006 | .0013 |
| %RSD | .4916 | .0160 | .0421 | .3108 | .0897 | .4072 | 1555. | .2611 | .1366 | .1324 |
| #1 | .5031 | .4856 | 2.061 | 25.24 | 24.59 | .4839 | -.0001 | 25.14 | .4750 | .9926 |
| #2 | .4996 | .4855 | 2.060 | 25.13 | 24.56 | .4812 | .0001 | 25.05 | .4741 | .9908 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0024 | .0058 | .5025 | .4948 | .0358 | -.0014 | .4959 | .4857 | .4880 |
| Stddev | .0002 | .0022 | .0003 | .0007 | .0015 | .0002 | .0003 | .0011 | .0008 | .0017 |
| %RSD | 177.8 | 93.51 | 5.560 | .1478 | .3073 | .5582 | 18.51 | .2245 | .1573 | .3563 |
| #1 | -.0003 | -.0008 | .0056 | .5020 | .4958 | .0360 | -.0016 | .4967 | .4863 | .4868 |
| #2 | .0000 | -.0039 | .0060 | .5031 | .4937 | .0357 | -.0013 | .4951 | .4852 | .4892 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4991 | .0100 | .5319 | -.0011 |
| Stddev | .0003 | .0003 | .0021 | .0000 |
| %RSD | .0556 | 3.273 | .3860 | .3281 |
| #1 | .4993 | .0097 | .5333 | -.0011 |
| #2 | .4989 | .0102 | .5304 | -.0011 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1057.1 | 50732. | 18075. |
| Stddev | 2.4 | 41. | 14. |
| %RSD | .22905 | .08075 | .07553 |
| #1 | 1055.3 | 50761. | 18065. |
| #2 | 1058.8 | 50703. | 18084. |

Zoom In Zoom Out

Sample Name: MP22178A-MB1 Acquired: 12/9/2013 17:04:14 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0058 | .0004 | .0000 | .0000 | .0002 | -.0001 | .0019 | .0000 | -.0001 |
| Stddev | .000 | .0006 | .0016 | .0003 | .0001 | .0000 | .0000 | .0011 | .0001 | .0001 |
| %RSD | 11.52 | 10.04 | 390.4 | 747.3 | 3017. | 12.28 | 46.77 | 55.81 | 2359. | 109.5 |
| #1 | .0000 | -.0054 | -.0007 | -.0002 | -.0001 | .0002 | -.0001 | .0026 | -.0001 | -.0002 |
| #2 | .0000 | -.0062 | .0015 | .0003 | .0001 | .0002 | .0000 | .0011 | .0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0013 | .0001 | .0149 | -.0142 | .0246 | -.0001 | .0003 | -.0003 | .0002 |
| Stddev | .0002 | .0001 | .0004 | .0250 | .0128 | .0002 | .0001 | .0009 | .0002 | .0006 |
| %RSD | 238.5 | 10.26 | 303.4 | 168.4 | 90.16 | .9218 | 84.30 | 308.1 | 69.16 | 254.5 |
| #1 | .0000 | -.0012 | -.0001 | .0326 | -.0052 | .0248 | .0000 | .0009 | -.0002 | -.0002 |
| #2 | -.0002 | -.0013 | .0004 | -.0028 | -.0233 | .0245 | -.0001 | -.0003 | -.0005 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | -.0002 | .0051 | .0004 | .0006 | .0284 | .0003 | .0000 | .0003 | -.0014 |
| Stddev | .0003 | .0002 | .0006 | .0006 | .0017 | .0008 | .0006 | .0000 | .0003 | .0024 |
| %RSD | 36.69 | 104.2 | 11.81 | 126.5 | 275.7 | 2.759 | 225.8 | 205.9 | 117.2 | 177.0 |
| #1 | -.0010 | .0000 | .0055 | .0008 | -.0006 | .0278 | .0007 | .0001 | .0005 | .0003 |
| #2 | -.0006 | -.0003 | .0046 | .0000 | .0018 | .0289 | -.0002 | .0000 | .0000 | -.0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | .0046 | .0004 | -.0003 |
| Stddev | .0002 | .0003 | .0001 | .0002 |
| %RSD | 102.2 | 5.936 | 16.62 | 72.81 |
| #1 | -.0003 | .0048 | .0003 | -.0001 |
| #2 | -.0001 | .0045 | .0004 | -.0005 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1061.7 | 51036. | 18241. |
| Stddev | 1.7 | 62. | 72. |
| %RSD | .15613 | .12200 | .39335 |
| #1 | 1062.9 | 50992. | 18190. |
| #2 | 1060.5 | 51080. | 18291. |



Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/9/2013 17:09:11 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1991 | 2.115 | 3.102 | .0007 | .0211 | 2.027 | .4796 | 41.94 | .4953 | .5273 |
| Stddev | .0008 | .010 | .008 | .0016 | .0005 | .004 | .0018 | .26 | .0011 | .0012 |
| %RSD | .4069 | .4934 | .2500 | 216.3 | 2.445 | .2079 | .3806 | .6260 | .2122 | .2349 |
| #1 | .1985 | 2.122 | 3.096 | .0019 | .0207 | 2.030 | .4783 | 41.75 | .4946 | .5264 |
| #2 | .1997 | 2.107 | 3.107 | -.0004 | .0214 | 2.024 | .4809 | 42.12 | .4961 | .5282 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5076 | .4958 | 40.38 | 29.13 | 26.29 | 2.953 | .0031 | 82.69 | .4802 | .9893 |
| Stddev | .0002 | .0014 | .11 | .05 | .19 | .007 | .0000 | .06 | .0004 | .0040 |
| %RSD | .0366 | .2819 | .2770 | .1815 | .7333 | .2540 | .9703 | .0712 | .0925 | .4013 |
| #1 | .5075 | .4949 | 40.30 | 29.09 | 26.15 | 2.958 | .0031 | 82.73 | .4799 | .9865 |
| #2 | .5077 | .4968 | 40.46 | 29.16 | 26.42 | 2.947 | .0031 | 82.65 | .4805 | .9921 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0199 | 3.176 | .5040 | .4916 | 8.735 | -.0006 | .7233 | .4909 | .4803 |
| Stddev | .0012 | .0018 | .011 | .0005 | .0038 | .004 | .0003 | .0002 | .0015 | .0036 |
| %RSD | 56.36 | 9.288 | .3296 | .1029 | .7790 | .0489 | 46.77 | .0330 | .3043 | .7540 |
| #1 | .0030 | .0186 | 3.168 | .5036 | .4889 | 8.732 | -.0004 | .7235 | .4898 | .4777 |
| #2 | .0013 | .0212 | 3.183 | .5043 | .4943 | 8.738 | -.0008 | .7232 | .4919 | .4829 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5026 | .0157 | .5363 | -.0486 |
| Stddev | .0001 | .0037 | .0022 | .0003 |
| %RSD | .0214 | 23.91 | .4161 | .6282 |
| #1 | .5025 | .0130 | .5347 | -.0484 |
| #2 | .5027 | .0183 | .5379 | -.0489 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1048.4 | 50400. | 18188. |
| Stddev | .9 | 99. | 103. |
| %RSD | .08443 | .19658 | .56538 |
| #1 | 1049.0 | 50330. | 18261. |
| #2 | 1047.8 | 50470. | 18116. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/9/2013 17:13:56 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1972 | 2.125 | 3.104 | .0005 | .0206 | 2.035 | .4799 | 42.42 | .4955 | .5288 |
| Stddev | .0004 | .002 | .000 | .0005 | .0002 | .003 | .0005 | .03 | .0010 | .0005 |
| %RSD | .2032 | .0729 | .0033 | 108.6 | .9093 | .1336 | .1134 | .0671 | .1919 | .1023 |
| #1 | .1969 | 2.126 | 3.104 | .0001 | .0208 | 2.034 | .4795 | 42.40 | .4961 | .5292 |
| #2 | .1975 | 2.124 | 3.104 | .0009 | .0205 | 2.037 | .4803 | 42.44 | .4948 | .5285 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5139 | .4958 | 40.49 | 29.39 | 26.82 | 2.960 | .0029 | 82.19 | .4832 | .9939 |
| Stddev | .0037 | .0001 | .04 | .02 | .03 | .000 | .0003 | .07 | .0014 | .0033 |
| %RSD | .7141 | .0201 | .1102 | .0736 | .0965 | .0131 | 9.279 | .0792 | .2836 | .3302 |
| #1 | .5113 | .4957 | 40.46 | 29.41 | 26.84 | 2.960 | .0027 | 82.14 | .4822 | .9915 |
| #2 | .5165 | .4958 | 40.53 | 29.38 | 26.80 | 2.960 | .0031 | 82.24 | .4842 | .9962 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0178 | 3.165 | .5049 | .4935 | 8.709 | -.0001 | .7198 | .4979 | .4803 |
| Stddev | .0007 | .0062 | .008 | .0005 | .0026 | .012 | .0004 | .0009 | .0003 | .0010 |
| %RSD | 25.69 | 34.73 | .2460 | .1001 | .5222 | .1316 | 344.2 | .1252 | .0687 | .1981 |
| #1 | .0031 | .0134 | 3.160 | .5053 | .4917 | 8.717 | -.0004 | .7192 | .4976 | .4796 |
| #2 | .0021 | .0221 | 3.171 | .5046 | .4954 | 8.701 | .0002 | .7204 | .4981 | .4810 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5058 | .0220 | .5406 | -.0483 |
| Stddev | .0025 | .0039 | .0020 | .0001 |
| %RSD | .4890 | 17.96 | .3769 | .1245 |
| #1 | .5041 | .0192 | .5392 | -.0484 |
| #2 | .5076 | .0248 | .5421 | -.0483 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1047.3 | 49999. | 18065. |
| Stddev | 2.0 | 14. | 10. |
| %RSD | .18954 | .02781 | .05275 |
| #1 | 1045.9 | 49989. | 18059. |
| #2 | 1048.7 | 50009. | 18072. |



Zoom In Zoom Out

Sample Name: MC26484-4F Acquired: 12/9/2013 17:18:41 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0035 | 2.601 | .0010 | .0195 | .0145 | .0000 | 18.56 | -.0028 | .0156 |
| Stddev | .0001 | .0013 | .008 | .0002 | .0004 | .0002 | .000 | .05 | .0002 | .0001 |
| %RSD | 12.55 | 37.63 | .3119 | 17.13 | 1.810 | 1.122 | 195.8 | .2658 | 6.088 | .5732 |
| #1 | -.0005 | -.0025 | 2.607 | .0009 | .0192 | .0146 | -.0001 | 18.60 | -.0030 | .0157 |
| #2 | -.0004 | -.0044 | 2.595 | .0011 | .0197 | .0144 | .0000 | 18.53 | -.0027 | .0156 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0015 | 39.12 | 3.924 | 1.914 | 2.492 | .0030 | 57.60 | .0062 | -.0007 |
| Stddev | .0000 | .0000 | .06 | .042 | .010 | .004 | .0001 | .05 | .0002 | .0000 |
| %RSD | 9.107 | .6404 | .1507 | 1.060 | .5203 | .1504 | 2.087 | .0842 | 3.727 | 6.080 |
| #1 | .0002 | -.0015 | 39.17 | 3.953 | 1.907 | 2.494 | .0030 | 57.57 | .0064 | -.0008 |
| #2 | .0002 | -.0015 | 39.08 | 3.894 | 1.921 | 2.489 | .0031 | 57.64 | .0061 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0029 | .0152 | 3.161 | .0009 | .0013 | 8.701 | .0006 | .2253 | .0005 | -.0025 |
| Stddev | .0011 | .0005 | .003 | .0012 | .0003 | .034 | .0002 | .0004 | .0006 | .0000 |
| %RSD | 38.61 | 2.980 | .0981 | 138.3 | 23.74 | .3878 | 41.98 | .1573 | 135.0 | 1.095 |
| #1 | .0021 | .0155 | 3.159 | .0017 | .0011 | 8.725 | .0007 | .2251 | .0000 | -.0024 |
| #2 | .0037 | .0148 | 3.163 | .0000 | .0015 | 8.677 | .0004 | .2256 | .0009 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0115 | .0064 | -.0476 |
| Stddev | .0001 | .0022 | .0000 | .0002 |
| %RSD | 14.31 | 19.38 | .4553 | .5189 |
| #1 | -.0007 | .0100 | .0064 | -.0477 |
| #2 | -.0005 | .0131 | .0065 | -.0474 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1052.1 | 50470. | 18134. |
| Stddev | 4.4 | 37. | 94. |
| %RSD | .42055 | .07245 | .51630 |
| #1 | 1049.0 | 50445. | 18068. |
| #2 | 1055.3 | 50496. | 18200. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 17:23:35 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2469 | 9.804 | 1.974 | -.0007 | 1.922 | 1.952 | 1.883 | 9.757 | 1.916 | 2.066 |
| Stddev | .0010 | .009 | .008 | .0008 | .004 | .006 | .004 | .013 | .001 | .004 |
| %RSD | .4008 | .0944 | .3843 | 107.0 | .2132 | .3051 | .1943 | .1333 | .0561 | .1877 |
| #1 | .2462 | 9.811 | 1.969 | -.0002 | 1.920 | 1.957 | 1.886 | 9.766 | 1.915 | 2.063 |
| #2 | .2476 | 9.798 | 1.979 | -.0012 | 1.925 | 1.948 | 1.881 | 9.748 | 1.916 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.949 | 1.968 | 10.12 | 10.02 | 9.750 | 1.913 | 1.977 | 9.848 | 1.920 | 1.958 |
| Stddev | .005 | .002 | .02 | .00 | .084 | .004 | .004 | .042 | .001 | .001 |
| %RSD | .2564 | .1232 | .2061 | .0417 | .8622 | .2254 | .2153 | .4302 | .0691 | .0448 |
| #1 | 1.952 | 1.970 | 10.14 | 10.02 | 9.809 | 1.916 | 1.974 | 9.878 | 1.919 | 1.958 |
| #2 | 1.945 | 1.966 | 10.11 | 10.02 | 9.690 | 1.910 | 1.980 | 9.818 | 1.921 | 1.959 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0097 | -.0051 | 1.970 | 1.945 | -.0238 | 1.982 | 1.980 | 1.947 | 1.896 |
| Stddev | .0001 | .0024 | .0004 | .003 | .015 | .0003 | .009 | .007 | .003 | .014 |
| %RSD | 11.62 | 25.00 | 7.532 | .1740 | .7539 | 1.127 | .4424 | .3497 | .1660 | .7274 |
| #1 | .0012 | .0080 | -.0048 | 1.968 | 1.934 | -.0240 | 1.976 | 1.975 | 1.949 | 1.886 |
| #2 | .0014 | .0114 | -.0054 | 1.973 | 1.955 | -.0237 | 1.989 | 1.985 | 1.945 | 1.905 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.900 | .0267 | 2.079 | -.0080 |
| Stddev | .004 | .0021 | .007 | .0001 |
| %RSD | .2020 | 7.700 | .3513 | .8090 |
| #1 | 1.903 | .0252 | 2.073 | -.0080 |
| #2 | 1.897 | .0281 | 2.084 | -.0081 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1065.5 | 50790. | 18234. |
| Stddev | 1.0 | 115. | 25. |
| %RSD | .09326 | .22566 | .13462 |
| #1 | 1066.2 | 50709. | 18217. |
| #2 | 1064.8 | 50871. | 18252. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 17:28:25 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | -.0052 | .0023 | .0007 | .0017 | .0002 | .0000 | -.0008 | .0002 | .0003 |
| Stddev | .0002 | .0007 | .0017 | .0003 | .0001 | .0000 | .0000 | .0003 | .0001 | .0001 |
| %RSD | 109.4 | 13.72 | 74.27 | 41.42 | 8.288 | 1.474 | 9.357 | 35.25 | 69.46 | 28.85 |
| #1 | -.0004 | -.0057 | .0035 | .0009 | .0018 | .0002 | .0000 | -.0010 | .0001 | .0002 |
| #2 | .0000 | -.0047 | .0011 | .0005 | .0016 | .0002 | .0000 | -.0006 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0014 | .0008 | .0337 | -.0023 | .0001 | .0014 | .0038 | .0004 | .0009 |
| Stddev | .0003 | .0000 | .0013 | .0106 | .0044 | .0000 | .0004 | .0008 | .0002 | .0003 |
| %RSD | 73.12 | 1.698 | 151.5 | 31.30 | 189.5 | 53.57 | 30.40 | 21.63 | 62.26 | 36.46 |
| #1 | .0002 | -.0014 | .0017 | .0263 | -.0054 | .0001 | .0017 | .0032 | .0005 | .0007 |
| #2 | .0006 | -.0014 | -.0001 | .0412 | .0008 | .0000 | .0011 | .0044 | .0002 | .0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0010 | .0016 | .0006 | .0002 | .0006 | -.0011 | .0015 | .0002 | .0005 | .0016 |
| Stddev | .0012 | .0009 | .0002 | .0002 | .0001 | .0004 | .0009 | .0000 | .0002 | .0007 |
| %RSD | 114.9 | 53.07 | 34.55 | 113.3 | 25.90 | 38.28 | 64.02 | 18.93 | 35.59 | 41.63 |
| #1 | -.0002 | .0010 | .0008 | .0000 | .0007 | -.0014 | .0021 | .0002 | .0006 | .0021 |
| #2 | -.0019 | .0023 | .0005 | .0003 | .0005 | -.0008 | .0008 | .0002 | .0004 | .0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0050 | .0000 | .0001 |
| Stddev | .0003 | .0008 | .000 | .0000 |
| %RSD | 208.7 | 15.94 | 735.5 | 52.85 |
| #1 | -.0001 | .0045 | -.0002 | .0001 |
| #2 | .0003 | .0056 | .0002 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1069.2 | 50880. | 18101. |
| Stddev | .2 | . | 176. |
| %RSD | .02270 | .00061 | .97401 |
| #1 | 1069.4 | 50881. | 17977. |
| #2 | 1069.1 | 50880. | 18226. |



Zoom In Zoom Out

Sample Name: MP22178A-SD1 Acquired: 12/9/2013 17:33:23 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0060 | 2.635 | .0054 | .0223 | .0153 | .0000 | 19.24 | -.0025 | .0162 |
| Stddev | .0017 | .0220 | .002 | .0014 | .0009 | .0003 | .000 | .05 | .0007 | .0001 |
| %RSD | 181.5 | 366.1 | .0713 | 26.04 | 3.819 | 1.657 | 21.04 | .2695 | 26.85 | .4514 |
| #1 | -.0003 | .0095 | 2.634 | .0044 | .0217 | .0151 | .0000 | 19.27 | -.0020 | .0162 |
| #2 | .0021 | -.0216 | 2.636 | .0064 | .0229 | .0155 | .0000 | 19.20 | -.0029 | .0161 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0068 | 40.57 | 4.051 | 1.896 | 2.533 | .0048 | 58.52 | .0069 | .0016 |
| Stddev | .0002 | .0006 | .07 | .102 | .060 | .008 | .0003 | .08 | .0004 | .0020 |
| %RSD | 15.23 | 8.678 | .1655 | 2.518 | 3.187 | .3149 | 6.333 | .1348 | 5.487 | 121.9 |
| #1 | .0011 | -.0063 | 40.53 | 4.123 | 1.854 | 2.527 | .0045 | 58.46 | .0066 | .0002 |
| #2 | .0014 | -.0072 | 40.62 | 3.979 | 1.939 | 2.539 | .0050 | 58.57 | .0072 | .0031 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0106 | 3.216 | -.0007 | .0021 | 8.765 | .0032 | .2293 | .0022 | -.0019 |
| Stddev | .0011 | .0206 | .015 | .0029 | .0008 | .008 | .0004 | .0008 | .0005 | .0014 |
| %RSD | 87.13 | 194.2 | .4642 | 424.3 | 36.04 | .0879 | 12.54 | .3357 | 23.13 | 74.26 |
| #1 | .0005 | .0252 | 3.206 | -.0027 | .0026 | 8.759 | .0030 | .2299 | .0018 | -.0009 |
| #2 | .0020 | -.0040 | 3.227 | .0014 | .0016 | 8.770 | .0035 | .2288 | .0026 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0012 | .0581 | .0121 | -.0492 |
| Stddev | .0017 | .0127 | .0016 | .0003 |
| %RSD | 139.5 | 21.85 | 12.82 | .5987 |
| #1 | .0024 | .0491 | .0110 | -.0490 |
| #2 | .0000 | .0671 | .0132 | -.0494 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1068.8 | 51131. | 18049. |
| Stddev | 1.4 | 19. | 16. |
| %RSD | .12773 | .03687 | .09032 |
| #1 | 1069.7 | 51145. | 18060. |
| #2 | 1067.8 | 51118. | 18037. |



Zoom In Zoom Out

Sample Name: MC26351-1F Acquired: 12/9/2013 17:38:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0134 | -.0001 | -.0079 | .3720 | .0158 | -.0001 | 449.7 |
| Stddev | .0001 | .0021 | .0015 | .0005 | .0007 | .0001 | .0000 | .1 |
| %RSD | 18.38 | 15.62 | 1067. | 5.993 | .1976 | .4089 | 22.04 | .0233 |
| #1 | .0004 | -.0148 | .0009 | -.0082 | .3715 | .0158 | -.0001 | 449.8 |
| #2 | .0003 | -.0119 | -.0012 | -.0076 | .3726 | .0159 | -.0001 | 449.6 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0056 | .0001 | .0071 | .1162 | 32.95 | F1083. | 1.557 |
| Stddev | .0002 | .0001 | .0002 | .0004 | .0015 | .08 | 2. | .001 |
| %RSD | 25.68 | 2.208 | 301.2 | 5.901 | 1.292 | .2457 | .1844 | .0904 |
| #1 | -.0007 | .0057 | .0002 | .0074 | .1151 | 32.89 | 1085. | 1.556 |
| #2 | -.0010 | .0055 | -.0001 | .0068 | .1172 | 33.01 | 1082. | 1.558 |

| Elem | Mo2020 | Na5895 | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Avg | .0099 | F1239. | .0272 | -.0041 | -.0204 | .0086 | F1482. | -.0024 |
| Stddev | .0001 | 9. | .0001 | .0002 | .0003 | .0004 | 18. | .0005 |
| %RSD | 1.499 | .7340 | .4954 | 3.899 | 1.294 | 4.237 | 1.227 | 20.91 |
| #1 | .0100 | 1233. | .0273 | -.0043 | -.0202 | .0089 | 1495. | -.0020 |
| #2 | .0098 | 1245. | .0271 | -.0040 | -.0206 | .0084 | 1469. | -.0028 |

| Elem | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | 13.87 | -.0005 | 4.250 | .0032 | F-.0078 | -.0005 | .0213 |
| Stddev | .0000 | .00 | .0002 | .032 | .0002 | .0025 | .0001 | .0032 |
| %RSD | 3.901 | .0050 | 38.91 | .7503 | 4.956 | 31.72 | 16.61 | 15.27 |
| #1 | -.0012 | 13.87 | -.0004 | 4.228 | .0031 | -.0060 | -.0006 | .0236 |
| #2 | -.0011 | 13.87 | -.0007 | 4.273 | .0033 | -.0095 | -.0005 | .0190 |

| Elem | Zn2062 | Zr3391 |
|---|---|---|
| Avg | .0090 | -.0692 |
| Stddev | .0002 | .0001 |
| %RSD | 2.007 | .0730 |
| #1 | .0091 | -.0691 |
| #2 | .0089 | -.0692 |

Zoom In Zoom Out

Sample Name: MC26351-1F Acquired: 12/9/2013 17:38:17 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 922.97 | 46357. | 16586. |
| Stddev | 2.07 | 18. | 25. |
| %RSD | .22424 | .03826 | .14977 |
| #1 | 921.51 | 46345. | 16569. |
| #2 | 924.44 | 46370. | 16604. |



Zoom In Zoom Out

Sample Name: MC26484-1F Acquired: 12/9/2013 17:43:33 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0024 | .0019 | .0060 | .0622 | .0114 | .0000 | 39.57 | .0000 | .0021 |
| Stddev | .0000 | .0022 | .0008 | .0022 | .0009 | .0000 | .000 | .06 | .000 | .0002 |
| %RSD | 66.28 | 91.94 | 41.02 | 36.73 | 1.500 | .1853 | 2.745 | .1564 | 10.19 | 11.51 |
| #1 | .0000 | .0009 | .0014 | .0045 | .0616 | .0114 | .0000 | 39.52 | .0000 | .0019 |
| #2 | -.0001 | .0040 | .0025 | .0076 | .0629 | .0114 | .0000 | 39.61 | .0000 | .0023 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0006 | .2495 | 2.393 | 3.739 | 8.846 | .0011 | 12.30 | .0024 | -.0009 |
| Stddev | .0001 | .0004 | .0029 | .016 | .044 | .011 | .0001 | .01 | .0000 | .0006 |
| %RSD | 20.96 | 60.67 | 1.170 | .6779 | 1.186 | .1258 | 5.308 | .0920 | .4605 | 63.90 |
| #1 | .0005 | -.0003 | .2474 | 2.381 | 3.707 | 8.838 | .0011 | 12.29 | .0024 | -.0013 |
| #2 | .0004 | -.0008 | .2516 | 2.404 | 3.770 | 8.854 | .0012 | 12.30 | .0024 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0015 | .0606 | 1.898 | .0006 | .0012 | 5.793 | -.0001 | .2132 | .0008 | -.0019 |
| Stddev | .0002 | .0014 | .029 | .0003 | .0005 | .091 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 14.40 | 2.237 | 1.537 | 50.77 | 43.89 | 1.573 | 258.8 | .0442 | 8.786 | 4.266 |
| #1 | -.0014 | .0615 | 1.877 | .0008 | .0016 | 5.729 | -.0004 | .2133 | .0009 | -.0020 |
| #2 | -.0017 | .0596 | 1.919 | .0004 | .0008 | 5.858 | .0001 | .2131 | .0008 | -.0019 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0006 | .0078 | .0086 | -.0319 |
| Stddev | .0002 | .0095 | .0007 | .0004 |
| %RSD | 30.49 | 121.4 | 7.911 | 1.332 |
| #1 | -.0004 | .0011 | .0081 | -.0316 |
| #2 | -.0007 | .0145 | .0091 | -.0322 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.6 | 50940. | 18173. |
| Stddev | 14.2 | 1. | 45. |
| %RSD | 1.3243 | .00267 | .24740 |
| #1 | 1085.7 | 50941. | 18205. |
| #2 | 1065.6 | 50939. | 18141. |



Zoom In Zoom Out

Sample Name: MC26484-2F Acquired: 12/9/2013 17:48:34 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0071 | .0019 | -.0002 | .0064 | .0022 | -.0001 | 3.754 | -.0001 | -.0002 |
| Stddev | .0003 | .0026 | .0003 | .0004 | .0001 | .0001 | .0000 | .001 | .0000 | .0001 |
| %RSD | 314.1 | 36.83 | 13.11 | 257.2 | 1.028 | 3.298 | 35.59 | .0252 | 27.74 | 65.08 |
| #1 | -.0003 | -.0090 | .0017 | .0001 | .0064 | .0021 | .0000 | 3.753 | -.0001 | -.0001 |
| #2 | .0001 | -.0053 | .0021 | -.0004 | .0065 | .0022 | -.0001 | 3.755 | -.0002 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | -.0001 | .0001 | .8012 | .4149 | .0074 | .0004 | 30.28 | .0000 | .0007 |
| Stddev | .0002 | .0002 | .0024 | .0334 | .0149 | .0000 | .0001 | .01 | .0001 | .0006 |
| %RSD | 34.13 | 136.2 | 2108. | 4.173 | 3.600 | .1421 | 27.57 | .0322 | 119.4 | 79.57 |
| #1 | .0004 | .0000 | -.0016 | .8249 | .4043 | .0074 | .0003 | 30.28 | .0000 | .0003 |
| #2 | .0006 | -.0002 | .0018 | .7776 | .4255 | .0074 | .0005 | 30.27 | .0001 | .0012 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0013 | .0006 | 3.634 | .0010 | .0009 | 5.585 | .0009 | .0321 | -.0001 | -.0017 |
| Stddev | .0006 | .0010 | .023 | .0004 | .0003 | .025 | .0002 | .0001 | .0002 | .0014 |
| %RSD | 45.21 | 168.8 | .6226 | 38.63 | 35.03 | .4498 | 22.33 | .2054 | 172.5 | 81.89 |
| #1 | -.0009 | .0013 | 3.618 | .0013 | .0012 | 5.568 | .0007 | .0321 | .0000 | -.0007 |
| #2 | -.0017 | -.0001 | 3.650 | .0007 | .0007 | 5.603 | .0010 | .0322 | -.0002 | -.0027 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | .0031 | .0043 | -.0312 |
| Stddev | .000 | .0052 | .0004 | .0001 |
| %RSD | 217.4 | 170.8 | 9.462 | .4383 |
| #1 | .0000 | -.0006 | .0045 | -.0311 |
| #2 | -.0001 | .0068 | .0040 | -.0313 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.6 | 51216. | 18120. |
| Stddev | 4.1 | 1. | 18. |
| %RSD | .38281 | .00145 | .10067 |
| #1 | 1076.5 | 51217. | 18107. |
| #2 | 1070.7 | 51216. | 18133. |



Zoom In Zoom Out

Sample Name: MC26484-3F Acquired: 12/9/2013 17:53:30 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0055 | -.0001 | .0001 | .0063 | .0021 | .0000 | 3.811 | -.0001 | -.0002 |
| Stddev | .0001 | .0049 | .0010 | .0004 | .0004 | .0001 | .000 | .006 | .0001 | .0000 |
| %RSD | 31.32 | 90.16 | 1146. | 425.9 | 7.020 | 3.633 | 36.85 | .1630 | 93.72 | 26.51 |
| #1 | -.0002 | -.0089 | -.0008 | -.0002 | .0060 | .0020 | -.0001 | 3.807 | -.0001 | -.0001 |
| #2 | -.0003 | -.0020 | .0006 | .0004 | .0066 | .0021 | .0000 | 3.816 | .0000 | -.0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0007 | .0010 | .8184 | .4024 | .0076 | .0003 | 30.52 | .0001 | -.0009 |
| Stddev | .0004 | .0001 | .0010 | .0125 | .0064 | .0001 | .0000 | .03 | .0000 | .0005 |
| %RSD | 55.71 | 20.77 | 96.86 | 1.524 | 1.587 | .6852 | 16.89 | .0978 | 47.54 | 49.82 |
| #1 | .0010 | -.0008 | .0003 | .8272 | .4069 | .0077 | .0003 | 30.50 | .0001 | -.0006 |
| #2 | .0004 | -.0006 | .0017 | .8096 | .3979 | .0076 | .0002 | 30.54 | .0001 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0026 | 3.649 | .0008 | .0003 | 5.660 | .0003 | .0322 | .0002 | -.0018 |
| Stddev | .0006 | .0002 | .017 | .0004 | .0006 | .006 | .0001 | .0001 | .0002 | .0002 |
| %RSD | 93.29 | 7.890 | .4665 | 42.98 | 192.1 | .1035 | 28.07 | .2156 | 89.56 | 12.51 |
| #1 | -.0002 | -.0025 | 3.637 | .0006 | .0008 | 5.656 | .0003 | .0321 | .0001 | -.0017 |
| #2 | -.0011 | -.0028 | 3.661 | .0011 | -.0001 | 5.665 | .0004 | .0322 | .0004 | -.0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | .0074 | .0041 | -.0319 |
| Stddev | .0000 | .0001 | .0007 | .0001 |
| %RSD | 22.09 | 1.795 | 16.40 | .3857 |
| #1 | .0001 | .0074 | .0046 | -.0318 |
| #2 | .0001 | .0073 | .0036 | -.0320 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.1 | 51246. | 18158. |
| Stddev | .4 | 90. | 4. |
| %RSD | .03820 | .17650 | .02472 |
| #1 | 1073.8 | 51182. | 18154. |
| #2 | 1074.4 | 51310. | 18161. |

Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/9/2013 17:58:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0054 | .0066 | .0020 | .2639 | .0370 | .0000 | 113.7 | -.0002 | .0018 |
| Stddev | .0006 | .0042 | .0010 | .0002 | .0002 | .0003 | .000 | .2 | .0001 | .0003 |
| %RSD | 214.4 | 76.79 | 14.99 | 10.06 | .0726 | .7802 | 127.4 | .1817 | 47.86 | 17.92 |
| #1 | -.0007 | .0025 | .0073 | .0022 | .2637 | .0368 | .0000 | 113.8 | -.0001 | .0016 |
| #2 | .0002 | .0083 | .0059 | .0019 | .2640 | .0372 | -.0001 | 113.5 | -.0003 | .0020 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | -.0005 | 1.861 | 8.911 | 19.82 | 5.427 | .0053 | 39.25 | .0050 | -.0011 |
| Stddev | .0001 | .0004 | .003 | .055 | .05 | .024 | .0001 | .06 | .0004 | .0006 |
| %RSD | 12.67 | 91.68 | .1664 | .6148 | .2598 | .4458 | 1.603 | .1578 | 7.390 | 55.45 |
| #1 | .0012 | -.0002 | 1.863 | 8.872 | 19.86 | 5.410 | .0054 | 39.21 | .0048 | -.0015 |
| #2 | .0010 | -.0008 | 1.859 | 8.949 | 19.79 | 5.444 | .0053 | 39.30 | .0053 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0051 | .0356 | 4.441 | .0012 | .0022 | 10.65 | -.0002 | .5435 | .0015 | -.0031 |
| Stddev | .0004 | .0003 | .001 | .0001 | .0021 | .00 | .0000 | .0005 | .0001 | .0009 |
| %RSD | 7.510 | .9180 | .0107 | 4.952 | 94.97 | .0114 | 8.713 | .1007 | 5.506 | 29.14 |
| #1 | -.0048 | .0354 | 4.442 | .0012 | .0007 | 10.66 | -.0002 | .5432 | .0015 | -.0038 |
| #2 | -.0053 | .0359 | 4.441 | .0013 | .0036 | 10.65 | -.0002 | .5439 | .0016 | -.0025 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0065 | .0044 | -.0580 |
| Stddev | .0000 | .0010 | .0007 | .0001 |
| %RSD | 1.109 | 15.94 | 15.01 | .2113 |
| #1 | -.0004 | .0058 | .0040 | -.0579 |
| #2 | -.0004 | .0072 | .0049 | -.0581 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1041.1 | 50271. | 18016. |
| Stddev | .0 | 128. | 22. |
| %RSD | .00462 | .25442 | .12469 |
| #1 | 1041.0 | 50361. | 18000. |
| #2 | 1041.1 | 50180. | 18032. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/9/2013 18:03:26 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | -.0082 | 1.358 | .0010 | .0379 | .0391 | -.0001 | 20.66 | -.0013 | .0133 |
| Stddev | .0001 | .0027 | .001 | .0001 | .0006 | .0001 | .0000 | .00 | .0000 | .0003 |
| %RSD | 19.58 | 32.65 | .0886 | 12.05 | 1.467 | .2463 | 42.50 | .0033 | 3.391 | 1.931 |
| #1 | -.0004 | -.0063 | 1.357 | .0011 | .0375 | .0391 | -.0001 | 20.66 | -.0013 | .0131 |
| #2 | -.0005 | -.0101 | 1.359 | .0010 | .0383 | .0392 | .0000 | 20.66 | -.0014 | .0135 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0007 | 29.40 | 5.305 | 2.718 | 2.712 | .0038 | 117.8 | .0062 | -.0013 |
| Stddev | .0001 | .0007 | .06 | .027 | .046 | .006 | .0001 | .5 | .0001 | .0009 |
| %RSD | 37.59 | 109.0 | .1951 | .5118 | 1.707 | .2329 | 1.468 | .3952 | 1.433 | 73.70 |
| #1 | .0005 | -.0012 | 29.44 | 5.325 | 2.751 | 2.707 | .0038 | 118.2 | .0061 | -.0006 |
| #2 | .0003 | -.0002 | 29.36 | 5.286 | 2.685 | 2.716 | .0039 | 117.5 | .0062 | -.0019 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0207 | 3.842 | -.0001 | .0006 | 8.940 | .0005 | .2937 | .0004 | -.0014 |
| Stddev | .0010 | .0027 | .004 | .0005 | .0001 | .010 | .0000 | .0001 | .0000 | .0004 |
| %RSD | 67.85 | 13.15 | .1132 | 452.2 | 24.06 | .1077 | 7.247 | .0420 | 10.30 | 28.25 |
| #1 | .0021 | .0226 | 3.839 | .0003 | .0005 | 8.947 | .0006 | .2937 | .0005 | -.0011 |
| #2 | .0008 | .0188 | 3.845 | -.0005 | .0007 | 8.933 | .0005 | .2936 | .0004 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0003 | .0053 | .0073 | -.0488 |
| Stddev | .0001 | .0024 | .0004 | .0006 |
| %RSD | 47.64 | 45.44 | 5.365 | 1.208 |
| #1 | -.0004 | .0070 | .0070 | -.0492 |
| #2 | -.0002 | .0036 | .0075 | -.0483 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.0 | 50690. | 18046. |
| Stddev | .7 | 136. | 3. |
| %RSD | .06798 | .26761 | .01908 |
| #1 | 1055.5 | 50786. | 18044. |
| #2 | 1056.5 | 50594. | 18048. |



Zoom In Zoom Out

Sample Name: MC26484-7F Acquired: 12/9/2013 18:08:29 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0095 | 1.005 | .0008 | .1434 | .0239 | .0000 | 22.96 | -.0009 | .0112 |
| Stddev | .0001 | .0025 | .009 | .0007 | .0015 | .0000 | .000 | .07 | .0000 | .0000 |
| %RSD | 86.07 | 25.87 | .9359 | 93.61 | 1.050 | .0846 | 161.2 | .3163 | 5.643 | .0791 |
| #1 | -.0002 | -.0112 | .9984 | .0013 | .1424 | .0239 | .0000 | 22.90 | -.0008 | .0112 |
| #2 | .0000 | -.0077 | 1.012 | .0003 | .1445 | .0239 | -.0001 | 23.01 | -.0009 | .0112 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0009 | 34.80 | 8.596 | 4.083 | .8256 | .0145 | 11.59 | .0063 | -.0007 |
| Stddev | .0002 | .0004 | .11 | .034 | .001 | .0019 | .0001 | .03 | .0003 | .0001 |
| %RSD | 111.2 | 43.85 | .3118 | .3962 | .0354 | .2313 | .4372 | .2566 | 5.003 | 7.355 |
| #1 | .0004 | -.0006 | 34.72 | 8.620 | 4.084 | .8269 | .0146 | 11.61 | .0065 | -.0008 |
| #2 | .0000 | -.0012 | 34.88 | 8.572 | 4.082 | .8242 | .0145 | 11.57 | .0060 | -.0007 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0029 | 1.206 | .0010 | .0010 | 11.75 | .0002 | .4873 | .0004 | -.0029 |
| Stddev | .0004 | .0015 | .007 | .0002 | .0004 | .07 | .0002 | .0002 | .0004 | .0000 |
| %RSD | 33.07 | 51.43 | .6186 | 21.45 | 33.59 | .5681 | 87.07 | .0316 | 98.52 | 1.211 |
| #1 | .0010 | .0040 | 1.201 | .0009 | .0013 | 11.70 | .0004 | .4874 | .0006 | -.0028 |
| #2 | .0016 | .0019 | 1.211 | .0012 | .0008 | 11.80 | .0001 | .4872 | .0001 | -.0029 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0073 | .0055 | -.0647 |
| Stddev | .0003 | .0001 | .0001 | .0006 |
| %RSD | 78.07 | 1.537 | 2.387 | .9929 |
| #1 | -.0002 | .0073 | .0056 | -.0643 |
| #2 | -.0006 | .0074 | .0054 | -.0652 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1056.4 | 50697. | 18190. |
| Stddev | 5.2 | 233. | 91. |
| %RSD | .49573 | .45923 | .49773 |
| #1 | 1060.1 | 50532. | 18254. |
| #2 | 1052.7 | 50862. | 18126. |



Zoom In Zoom Out

Sample Name: MC26758-1 Acquired: 12/9/2013 18:13:24 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .2093 | .0063 | .0005 | .0410 | .0317 | -.0001 | 19.26 | .0001 | .0017 |
| Stddev | .0002 | .0004 | .0009 | .0003 | .0002 | .0004 | .0000 | .05 | .0000 | .0001 |
| %RSD | 80.74 | .1706 | 13.46 | 49.66 | .5266 | 1.188 | 10.54 | .2590 | 22.87 | 6.712 |
| #1 | -.0003 | .2091 | .0069 | .0003 | .0409 | .0314 | .0000 | 19.29 | .0001 | .0016 |
| #2 | -.0001 | .2096 | .0057 | .0007 | .0412 | .0320 | -.0001 | 19.22 | .0002 | .0018 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0012 | 9.176 | 4.644 | 5.713 | .6603 | .0006 | 11.74 | .0040 | -.0005 |
| Stddev | .0003 | .0010 | .000 | .088 | .133 | .0005 | .0002 | .02 | .0003 | .0003 |
| %RSD | 27.71 | 78.22 | .0003 | 1.890 | 2.324 | .0687 | 26.04 | .1333 | 7.894 | 71.61 |
| #1 | .0012 | .0019 | 9.176 | 4.582 | 5.619 | .6607 | .0007 | 11.75 | .0043 | -.0007 |
| #2 | .0008 | .0005 | 9.176 | 4.706 | 5.806 | .6600 | .0005 | 11.73 | .0038 | -.0002 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0021 | 4.089 | .0011 | .0010 | 9.821 | .0003 | .1073 | .0014 | -.0034 |
| Stddev | .0010 | .0001 | .017 | .0006 | .0012 | .007 | .0002 | .0001 | .0007 | .0007 |
| %RSD | 755.5 | 3.372 | .4049 | 56.76 | 123.0 | .0726 | 64.00 | .1004 | 53.89 | 21.55 |
| #1 | .0006 | .0021 | 4.077 | .0007 | .0018 | 9.826 | .0005 | .1073 | .0009 | -.0028 |
| #2 | -.0009 | .0022 | 4.101 | .0016 | .0001 | 9.816 | .0002 | .1072 | .0019 | -.0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0049 | .0086 | -.0540 |
| Stddev | .0001 | .0045 | .0001 | .0007 |
| %RSD | 37.31 | 92.07 | .7790 | 1.259 |
| #1 | .0005 | .0017 | .0086 | -.0536 |
| #2 | .0003 | .0080 | .0085 | -.0545 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1055.9 | 50691. | 18154. |
| Stddev | 1.5 | 98. | 38. |
| %RSD | .14070 | .19294 | .20959 |
| #1 | 1054.8 | 50622. | 18127. |
| #2 | 1056.9 | 50760. | 18181. |

Zoom In Zoom Out

Sample Name: MC26758-2 Acquired: 12/9/2013 18:18:19 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0083 | .0035 | -.0001 | .0368 | .0055 | .0000 | 10.87 | .0001 |
| Stddev | .0001 | .0052 | .0004 | .0002 | .0006 | .0000 | .000 | .04 | .0001 |
| %RSD | 234.8 | 62.47 | 10.32 | 147.6 | 1.595 | .3388 | 7.226 | .3439 | 104.1 |
| #1 | .0001 | -.0120 | .0033 | .0000 | .0364 | .0055 | .0000 | 10.90 | .0000 |
| #2 | .0000 | -.0047 | .0038 | -.0003 | .0373 | .0055 | .0000 | 10.85 | .0001 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0011 | -.0008 | .1838 | 2.890 | 3.940 | .0263 | .0012 | 72.37 |
| Stddev | .0001 | .0005 | .0001 | .0028 | .020 | .021 | .0001 | .0001 | .12 |
| %RSD | 99.30 | 47.51 | 9.865 | 1.510 | .7051 | .5419 | .3380 | 8.440 | .1701 |
| #1 | .0000 | .0015 | -.0007 | .1818 | 2.876 | 3.925 | .0264 | .0011 | 72.28 |
| #2 | .0002 | .0007 | -.0008 | .1858 | 2.905 | 3.955 | .0262 | .0012 | 72.46 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | -.0006 | -.0002 | -.0007 | F34.36 | .0007 | .0005 | 5.634 | .0032 |
| Stddev | .0004 | .0009 | .0009 | .0007 | .15 | .0001 | .0002 | .020 | .0008 |
| %RSD | 52.69 | 151.9 | 383.3 | 106.2 | .4348 | 9.418 | 31.81 | .3623 | 23.67 |
| #1 | .0004 | -.0012 | .0004 | -.0002 | 34.25 | .0006 | .0006 | 5.620 | .0026 |
| #2 | .0010 | .0000 | -.0009 | -.0012 | 34.46 | .0007 | .0004 | 5.649 | .0037 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0991 | .0005 | -.0033 | .0001 | .0037 | .0056 | -.0312 |
| Stddev | .0002 | .0003 | .0013 | .0003 | .0030 | .0001 | .0005 |
| %RSD | .2029 | 62.30 | 38.46 | 328.1 | 81.25 | 1.391 | 1.615 |
| #1 | .0989 | .0007 | -.0024 | .0003 | .0058 | .0055 | -.0308 |
| #2 | .0992 | .0003 | -.0041 | -.0001 | .0016 | .0056 | -.0315 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1058.8 | 50747. | 18155. |
| Stddev | 2.8 | 152. | 34. |
| %RSD | .26566 | .29872 | .18544 |
| #1 | 1060.8 | 50639. | 18131. |
| #2 | 1056.8 | 50854. | 18179. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 18:23:22 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2445 | 9.724 | 1.949 | -.0008 | 1.917 | 1.933 | 1.880 | 9.693 | 1.909 | 2.048 |
| Stddev | .0012 | .002 | .001 | .0000 | .007 | .003 | .000 | .018 | .003 | .003 |
| %RSD | .4804 | .0206 | .0631 | 2.376 | .3434 | .1396 | .0205 | .1913 | .1327 | .1552 |
| #1 | .2436 | 9.725 | 1.948 | -.0008 | 1.913 | 1.931 | 1.880 | 9.706 | 1.907 | 2.045 |
| #2 | .2453 | 9.722 | 1.950 | -.0008 | 1.922 | 1.935 | 1.881 | 9.680 | 1.911 | 2.050 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.929 | 1.951 | 9.980 | 9.882 | 9.553 | 1.902 | 1.963 | 9.782 | 1.909 | 1.943 |
| Stddev | .001 | .008 | .003 | .003 | .092 | .003 | .005 | .030 | .001 | .000 |
| %RSD | .0358 | .3871 | .0319 | .0280 | .9687 | .1768 | .2434 | .3084 | .0551 | .0215 |
| #1 | 1.929 | 1.946 | 9.982 | 9.880 | 9.618 | 1.904 | 1.959 | 9.760 | 1.908 | 1.943 |
| #2 | 1.928 | 1.957 | 9.978 | 9.883 | 9.488 | 1.899 | 1.966 | 9.803 | 1.909 | 1.943 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0069 | .0098 | 1.953 | 1.925 | -.0266 | 1.973 | 1.991 | 1.923 | 1.893 |
| Stddev | .0002 | .0042 | .0019 | .000 | .009 | .0004 | .010 | .013 | .002 | .009 |
| %RSD | 15.06 | 60.46 | 19.64 | .0208 | .4666 | 1.345 | .4842 | .6502 | .1040 | .4943 |
| #1 | .0012 | .0099 | .0084 | 1.953 | 1.919 | -.0268 | 1.966 | 2.000 | 1.924 | 1.886 |
| #2 | .0014 | .0040 | .0111 | 1.953 | 1.931 | -.0263 | 1.980 | 1.982 | 1.921 | 1.899 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.891 | .0210 | 2.030 | -.0081 |
| Stddev | .003 | .0005 | .004 | .0001 |
| %RSD | .1689 | 2.152 | .1714 | 1.426 |
| #1 | 1.893 | .0213 | 2.028 | -.0080 |
| #2 | 1.889 | .0206 | 2.033 | -.0082 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1068.8 | 51028. | 18231. |
| Stddev | 2.6 | 10. | 29. |
| %RSD | .24012 | .02032 | .16049 |
| #1 | 1070.6 | 51021. | 18210. |
| #2 | 1067.0 | 51035. | 18252. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 18:28:13 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0012 | .0013 | .0016 | .0017 | .0004 | .0002 | .0023 | .0004 | .0006 |
| Stddev | .0002 | .0038 | .0002 | .0001 | .0005 | .0000 | .0000 | .0016 | .0001 | .0002 |
| %RSD | 69.86 | 314.4 | 17.23 | 6.888 | 30.62 | 5.515 | 11.15 | 69.90 | 33.47 | 34.69 |
| #1 | .0001 | .0015 | .0015 | .0015 | .0021 | .0004 | .0002 | .0012 | .0005 | .0007 |
| #2 | .0003 | -.0039 | .0012 | .0017 | .0013 | .0004 | .0002 | .0035 | .0003 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | -.0007 | .0029 | .0199 | -.0042 | .0004 | .0016 | .0230 | .0005 | .0006 |
| Stddev | .0000 | .0003 | .0004 | .0135 | .0035 | .0001 | .0007 | .0040 | .0001 | .0013 |
| %RSD | 9.521 | 42.09 | 15.40 | 67.65 | 83.13 | 19.00 | 42.76 | 17.27 | 27.07 | 202.5 |
| #1 | .0004 | -.0010 | .0026 | .0294 | -.0017 | .0004 | .0021 | .0202 | .0004 | -.0003 |
| #2 | .0003 | -.0005 | .0032 | .0104 | -.0066 | .0005 | .0011 | .0258 | .0005 | .0016 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0023 | .0119 | .0005 | .0006 | -.0010 | .0009 | .0003 | .0009 | .0005 |
| Stddev | .0008 | .0030 | .0014 | .0004 | .0002 | .0002 | .0002 | .0001 | .0002 | .0015 |
| %RSD | 769.6 | 130.5 | 12.10 | 81.94 | 37.09 | 20.50 | 28.14 | 35.74 | 19.02 | 295.4 |
| #1 | .0005 | -.0002 | .0129 | .0007 | .0004 | -.0008 | .0007 | .0002 | .0008 | .0016 |
| #2 | -.0007 | -.0045 | .0109 | .0002 | .0007 | -.0011 | .0010 | .0004 | .0010 | -.0006 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0099 | .0004 | -.0003 |
| Stddev | .0001 | .0002 | .0000 | .0003 |
| %RSD | 21.99 | 2.228 | 4.127 | 92.67 |
| #1 | .0004 | .0101 | .0004 | -.0006 |
| #2 | .0005 | .0097 | .0004 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.5 | 51421. | 18107. |
| Stddev | .3 | 228. | 68. |
| %RSD | .03113 | .44368 | .37293 |
| #1 | 1073.2 | 51582. | 18155. |
| #2 | 1073.7 | 51260. | 18059. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/9/2013 18:33:12 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .1899 | F.0069 | .0015 | .0979 | .0499 | .0040 | 4.872 | .0041 |
| Stddev | .0002 | .0033 | .0019 | .0002 | .0004 | .0001 | .0000 | .048 | .0002 |
| %RSD | 3.491 | 1.762 | 27.63 | 10.57 | .3618 | .1994 | 1.055 | .9848 | 3.852 |
| #1 | .0050 | .1923 | .0082 | .0016 | .0976 | .0499 | .0040 | 4.906 | .0039 |
| #2 | .0047 | .1875 | .0055 | .0014 | .0981 | .0498 | .0040 | 4.838 | .0042 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0517 | .0102 | .0232 | .1043 | 5.007 | 4.738 | .0147 | .1004 | 4.975 |
| Stddev | .0002 | .0002 | .0008 | .0016 | .013 | .039 | .0001 | .0001 | .010 |
| %RSD | .4552 | 2.236 | 3.366 | 1.548 | .2629 | .8165 | .5921 | .0527 | .2059 |
| #1 | .0515 | .0101 | .0238 | .1031 | 4.998 | 4.765 | .0148 | .1003 | 4.968 |
| #2 | .0519 | .0104 | .0227 | .1054 | 5.016 | 4.710 | .0146 | .1004 | 4.983 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0399 | .0057 | -.0006 | .0010 | .0060 | .0070 | .0104 | .0153 | .0977 |
| Stddev | .0001 | .0002 | .0000 | .0027 | .0014 | .0001 | .0011 | .0005 | .0012 |
| %RSD | .1955 | 4.026 | 5.979 | 262.5 | 22.52 | 1.504 | 11.05 | 3.242 | 1.251 |
| #1 | .0399 | .0059 | -.0006 | -.0009 | .0070 | .0069 | .0096 | .0156 | .0969 |
| #2 | .0400 | .0055 | -.0006 | .0029 | .0051 | .0071 | .0112 | .0149 | .0986 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0500 | .0051 | .0096 | .0052 | .0211 | -.0006 |
| Stddev | .0001 | .0004 | .0002 | .0001 | .0028 | .0002 | .0002 |
| %RSD | .9242 | .8997 | 4.390 | 1.025 | 53.28 | .7584 | 29.90 |
| #1 | .0103 | .0503 | .0053 | .0096 | .0033 | .0210 | -.0007 |
| #2 | .0101 | .0497 | .0050 | .0095 | .0072 | .0212 | -.0004 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1073.0 | 51402. | 18166. |
| Stddev | .4 | 104. | 18. |
| %RSD | .03378 | .20138 | .09829 |
| #1 | 1072.8 | 51475. | 18153. |
| #2 | 1073.3 | 51329. | 18178. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/9/2013 18:38:08 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2445 | 9.799 | 1.950 | -.0006 | 1.919 | 1.946 | 1.891 | 9.733 | 1.916 | 2.038 |
| Stddev | .0005 | .013 | .008 | .0005 | .007 | .001 | .004 | .031 | .005 | .003 |
| %RSD | .2038 | .1329 | .4115 | 80.57 | .3426 | .0335 | .2026 | .3163 | .2447 | .1681 |
| #1 | .2448 | 9.808 | 1.944 | -.0010 | 1.915 | 1.947 | 1.888 | 9.711 | 1.912 | 2.035 |
| #2 | .2441 | 9.789 | 1.955 | -.0003 | 1.924 | 1.946 | 1.894 | 9.754 | 1.919 | 2.040 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.936 | 1.950 | 9.942 | 9.902 | 9.590 | 1.912 | 1.948 | 9.836 | 1.910 | 1.933 |
| Stddev | .012 | .007 | .026 | .008 | .023 | .010 | .005 | .011 | .004 | .000 |
| %RSD | .6313 | .3747 | .2596 | .0838 | .2441 | .5306 | .2569 | .1130 | .2109 | .0161 |
| #1 | 1.945 | 1.945 | 9.923 | 9.908 | 9.606 | 1.919 | 1.945 | 9.844 | 1.907 | 1.933 |
| #2 | 1.928 | 1.955 | 9.960 | 9.896 | 9.573 | 1.904 | 1.952 | 9.829 | 1.913 | 1.933 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0122 | .0007 | 1.958 | 1.930 | -.0326 | 1.969 | 1.968 | 1.938 | 1.892 |
| Stddev | .0007 | .0017 | .0007 | .001 | .010 | .0018 | .000 | .015 | .001 | .004 |
| %RSD | 205.0 | 13.97 | 92.55 | .0280 | .5079 | 5.538 | .0114 | .7535 | .0474 | .1898 |
| #1 | -.0002 | .0110 | .0012 | 1.957 | 1.923 | -.0339 | 1.969 | 1.979 | 1.938 | 1.889 |
| #2 | .0009 | .0134 | .0003 | 1.958 | 1.937 | -.0313 | 1.969 | 1.958 | 1.937 | 1.894 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.908 | .0262 | 2.006 | -.0088 |
| Stddev | .007 | .0046 | .004 | .0005 |
| %RSD | .3715 | 17.42 | .1728 | 6.019 |
| #1 | 1.913 | .0229 | 2.003 | -.0084 |
| #2 | 1.903 | .0294 | 2.008 | -.0091 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1075.2 | 50955. | 18223. |
| Stddev | 2.7 | 161. | 66. |
| %RSD | .25335 | .31569 | .36439 |
| #1 | 1077.1 | 50841. | 18270. |
| #2 | 1073.2 | 51069. | 18176. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/9/2013 18:42:59 Type: Unk
Method: Accutest -SS2 with S(v242) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | -.0039 | .0017 | .0006 | .0020 | .0004 | .0002 | .0001 | F.0004 |
| Stddev | .0003 | .0030 | .0010 | .0008 | .0004 | .0001 | .0000 | .0013 | .0000 |
| %RSD | 135.5 | 78.01 | 60.86 | 125.1 | 22.32 | 14.52 | 11.69 | 1491. | 4.809 |
| #1 | .0000 | -.0017 | .0010 | .0001 | .0023 | .0004 | .0002 | .0010 | .0004 |
| #2 | .0004 | -.0060 | .0025 | .0012 | .0016 | .0004 | .0002 | -.0009 | .0005 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0007 | -.0009 | .0026 | .0032 | -.0132 | .0004 | .0018 | .0179 |
| Stddev | .0002 | .0005 | .0002 | .0004 | .0165 | .0112 | .0000 | .0005 | .0056 |
| %RSD | 28.88 | 68.41 | 19.65 | 16.49 | 509.2 | 85.33 | 3.102 | 27.94 | 31.44 |
| #1 | .0007 | .0004 | -.0010 | .0029 | .0149 | -.0211 | .0003 | .0021 | .0218 |
| #2 | .0005 | .0010 | -.0008 | .0023 | -.0084 | -.0052 | .0004 | .0014 | .0139 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0007 | -.0002 | .0010 | .0067 | .0007 | .0003 | -.0011 | .0011 |
| Stddev | .0001 | .0005 | .0001 | .0023 | .0003 | .0009 | .0008 | .0005 | .0002 |
| %RSD | 15.22 | 70.91 | 46.55 | 235.2 | 4.494 | 132.8 | 315.6 | 41.64 | 20.91 |
| #1 | .0006 | .0003 | -.0001 | .0027 | .0069 | .0014 | -.0003 | -.0008 | .0013 |
| #2 | .0005 | .0010 | -.0002 | -.0007 | .0065 | .0000 | .0008 | -.0015 | .0009 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0004 | .0016 | .0001 | -.0013 | .0002 | -.0003 |
| Stddev | .0000 | .0000 | .0009 | .0003 | .0012 | .0001 | .0006 |
| %RSD | 1.824 | 2.820 | 59.32 | 206.0 | 88.25 | 64.17 | 183.9 |
| #1 | .0004 | .0004 | .0023 | .0004 | -.0021 | .0001 | -.0007 |
| #2 | .0004 | .0004 | .0009 | -.0001 | -.0005 | .0003 | .0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1074.1 | 51343. | 18035. |
| Stddev | .7 | 313. | 59. |
| %RSD | .06507 | .60985 | .32789 |
| #1 | 1074.6 | 51564. | 17994. |
| #2 | 1073.6 | 51121. | 18077. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000091 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000112 | 0.000000 | No |
| | | | Mo | -0.000021 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | 0.000036 | 0.000000 | No |
| | | | Al | -0.000002 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000328 | 0.000000 | No |
| | | | Mo | 0.038903 | 0.000000 | No |
| | | | Ca | 0.000070 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | 0.000009 | 0.000000 | No |
| | | | Al | 0.000011 | 0.000000 | No |
| | | | Mo | 0.000482 | 0.000000 | No |
| | | | Fe | 0.000000 | 0.000000 | No |
| | | | Mn | 0.000032 | 0.000000 | No |
| | | | Ca | 0.000004 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Cr | 0.000241 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.007148 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.012631 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000019 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000310 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000005 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000063 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.002024 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000003 | 0.000000 | No |
| | | | Mn | 0.000067 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000038 | 0.000000 | No |
| | | | V | -0.000094 | 0.000000 | No |
| | | | Mo | 0.000385 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Al | 0.000568 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 3 | Mo | 0.000061 | 0.000000 | No |
| | | | Fe | 0.000012 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 10 | Al | -0.000043 | 0.000000 | No |
| | | | Mn | 0.000035 | 0.000000 | No |
| | | | Mo | -0.001568 | 0.000000 | No |
| | | | Co | -0.000384 | 0.000000 | No |
| | | | Cu | 0.000433 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Fe | 0.000050 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Ni | -0.000009 | 0.000000 | No |
| | | | Si | 0.000230 | 0.000000 | No |
| Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | Co | -0.000515 | 0.000000 | No |
| | | | Cu | 0.000121 | 0.000000 | No |
| | | | Fe | -0.000342 | 0.000000 | No |
| Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | Fe | -0.000027 | 0.000000 | No |
| | | | Cr | 0.006177 | 0.000000 | No |
| | | | Ni | -0.000225 | 0.000000 | No |
| | | | Mn | -0.008486 | 0.000000 | No |
| | | | V | -0.000835 | 0.000000 | No |
| | | | Co | -0.000324 | 0.000000 | No |
| | | | Cu | -0.000222 | 0.000000 | No |
| S 182.034 {485} | ☒ | None | | | | |
| Sb 206.833 {463} | ☒ | 11 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Cr | 0.005518 | 0.000000 | No |
| | | | Mo | -0.002288 | 0.000000 | No |
| | | | Mg | 0.000002 | 0.000000 | No |
| | | | Ni | -0.000567 | 0.000000 | No |
| | | | V | -0.001074 | 0.000000 | No |
| | | | Ca | 0.000002 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Sn | -0.009353 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 7 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000310 | 0.000000 | No |
| | | | Mn | 0.000194 | 0.000000 | No |
| | | | Mo | -0.000104 | 0.000000 | No |
| | | | Ca | -0.000010 | 0.000000 | No |
| | | | Na | 0.000006 | 0.000000 | No |
| | | | Co | -0.000115 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | Ti | 0.012159 | 0.000000 | No |
| | | | Mo | 0.022364 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | None | | | | |
| Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | Mo | 0.000546 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 10 | Mn | 0.001160 | 0.000000 | No |
| | | | Cr | 0.000346 | 0.000000 | No |
| | | | V | -0.027884 | 0.000000 | No |
| | | | Co | 0.001479 | 0.000000 | No |
| | | | Al | -0.000007 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000020 | 0.000000 | No |
| | | | | Ti | -0.001973 | 0.000000 | No |
| | | | | Mo | 0.000185 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Na | 0.000009 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 3 | Ti | 0.000976 | 0.000000 | No |
| | | | | Mo | -0.005792 | 0.000000 | No |
| | | | | Fe | 0.000047 | 0.000000 | No |
| | W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | | Mo | 0.001630 | 0.000000 | No |
| | | | | Co | 0.007596 | 0.000000 | No |
| | | | | Al | 0.000073 | 0.000000 | No |
| | | | | Mn | -0.000017 | 0.000000 | No |
| | Y 224.306 {451}* | ☒ | None | | | | |
| | Y 360.073 { 94}* | ☒ | None | | | | |
| | Y 371.030 { 91}* | ☒ | None | | | | |
| | Zn 206.200 {464} | ☒ | 9 | Fe | 0.000021 | 0.000000 | No |
| | | | | Mn | 0.000018 | 0.000000 | No |
| | | | | Ni | 0.000450 | 0.000000 | No |
| | | | | Cr | -0.000497 | 0.000000 | No |
| | | | | Mo | 0.000270 | 0.000000 | No |
| | | | | Co | 0.000024 | 0.000000 | No |
| | | | | Ti | 0.000277 | 0.000000 | No |
| | | | | Al | 0.000003 | 0.000000 | No |
| | | | | Na | 0.000004 | 0.000000 | No |
| | Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | | Ti | 0.000761 | 0.000000 | No |
| | | | | Fe | 0.000014 | 0.000000 | No |
| | | | | Sn | 0.002851 | 0.000000 | No |
| | | | | V | 0.002032 | 0.000000 | No |

Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/12/2013 17:53:48 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0019 | .0000 | -.0004 | -.0002 | .0014 | .0078 | .0000 | .0032 | .0046 |
| Stddev | .0000 | .000 | .0002 | .0000 | .0002 | .0003 | .000 | .0000 | .0001 |
| %RSD | 1.311 | 6199. | 52.36 | 15.09 | 13.96 | 3.855 | 74.21 | .9882 | 1.998 |
| #1 | -.0019 | -.0001 | -.0005 | -.0001 | .0012 | .0080 | .0000 | .0032 | .0047 |
| #2 | -.0019 | .0000 | -.0003 | -.0002 | .0015 | .0076 | .0000 | .0033 | .0045 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0018 | .0000 | .0029 | .0004 | .0003 | -.0001 | .0004 | .0010 | .0145 |
| Stddev | .0002 | .0000 | .0002 | .0000 | .0001 | .0000 | .0001 | .0002 | .0001 |
| %RSD | 12.17 | 53.03 | 6.604 | 10.30 | 36.70 | 23.43 | 12.55 | 25.24 | .8813 |
| #1 | -.0016 | .0000 | .0030 | .0004 | .0003 | -.0001 | .0005 | .0008 | .0144 |
| #2 | -.0019 | .0000 | .0027 | .0003 | .0002 | -.0001 | .0004 | .0011 | .0146 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.0031 | -.0016 | .0000 | .0000 | .0044 | .0010 | .0021 | .0252 | -.0004 |
| Stddev | .0002 | .0004 | .000 | .0000 | .0002 | .0001 | .0000 | .0004 | .0001 |
| %RSD | 6.001 | 21.52 | 129.6 | 11.98 | 5.099 | 6.495 | 1.516 | 1.504 | 26.04 |
| #1 | -.0029 | -.0019 | .0000 | .0000 | .0046 | .0009 | .0021 | .0250 | -.0003 |
| #2 | -.0032 | -.0014 | .0000 | .0000 | .0042 | .0010 | .0021 | .0255 | -.0005 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .0052 | -.0003 | -.0051 | -.0001 | .0001 | -.0006 | .0154 |
| Stddev | .0000 | .0000 | .0005 | .0001 | .0000 | .0004 | .0000 |
| %RSD | .2577 | 6.062 | 8.938 | 107.9 | 28.53 | 61.16 | .1534 |
| #1 | .0052 | -.0003 | -.0047 | -.0002 | .0001 | -.0003 | .0154 |
| #2 | .0052 | -.0004 | -.0054 | .0000 | .0001 | -.0009 | .0154 |



◀ Zoom In ▶ Zoom Out

Sample Name: Std1 Acquired: 12/12/2013 17:53:48 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1159.8 | 57505. | 18747. |
| Stddev | .4 | 78. | 8. |
| %RSD | .03360 | .13496 | .04384 |
| #1 | 1160.1 | 57451. | 18741. |
| #2 | 1159.5 | 57560. | 18753. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std2 Acquired: 12/12/2013 17:58:44 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | As1890 | B_2089 | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .1437 | .6686 | 3.232 | 16.91 | 12.98 | 11.87 | 8.520 | .5878 | 2.218 | 4.039 |
| Stddev | .0002 | .0010 | .003 | .12 | .04 | .02 | .015 | .0002 | .004 | .003 |
| %RSD | .1721 | .1423 | .0962 | .7017 | .2840 | .1284 | .1768 | .0333 | .1595 | .0655 |
| #1 | .1439 | .6679 | 3.234 | 16.99 | 13.01 | 11.88 | 8.530 | .5880 | 2.221 | 4.041 |
| #2 | .1435 | .6693 | 3.230 | 16.82 | 12.95 | 11.86 | 8.509 | .5877 | 2.216 | 4.038 |

| Elem | Mo2020 | Ni2316 | Pb2203 | Sb2068 | Se1960 | Tl1908 | Zn2062 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 8.542 | 7.683 | 2.953 | 2.287 | 1.135 | 1.178 | 6.886 |
| Stddev | .007 | .004 | .001 | .000 | .002 | .000 | .014 |
| %RSD | .0786 | .0540 | .0260 | .0075 | .1517 | .0223 | .1983 |
| #1 | 8.537 | 7.686 | 2.952 | 2.287 | 1.137 | 1.178 | 6.896 |
| #2 | 8.547 | 7.680 | 2.953 | 2.287 | 1.134 | 1.178 | 6.876 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1151.5 | 57635. | 18696. |
| Stddev | .8 | 27. | 55. |
| %RSD | .06707 | .04682 | .29174 |
| #1 | 1151.0 | 57616. | 18657. |
| #2 | 1152.1 | 57654. | 18734. |



◀ Zoom In ▶ Zoom Out

Sample Name: Std3 Acquired: 12/12/2013 18:03:37 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Al3961 | Ca3179 | Fe2599 | K_7664 | Mg2790 | Na5895 |
|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 1.376 | 1.624 | 1.145 | .7107 | .1002 | 2.938 |
| Stddev | .002 | .009 | .003 | .0017 | .0008 | .003 |
| %RSD | .1404 | .5402 | .2700 | .2323 | .7958 | .0903 |
| #1 | 1.374 | 1.630 | 1.147 | .7095 | .1008 | 2.936 |
| #2 | 1.377 | 1.618 | 1.143 | .7119 | .0997 | 2.940 |

| Int. Std. | Y_3710 |
|---|---|
| Units | Cts/S |
| Avg | 18931. |
| Stddev | 100. |
| %RSD | .52735 |
| #1 | 18861. |
| #2 | 19002. |

Zoom In Zoom Out

Sample Name: Std4 Acquired: 12/12/2013 18:08:31 Type: Cal
Method: Accutest -SS2 with S(v257) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Au2427 | Pd3404 | Pt2659 | S_1820 | Si2124 | Sn1899 | Sr4077 | Ti3349 | V_2924 | W_2397 |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .2454 | .5518 | .0734 | .8316 | 3.093 | 1.740 | 25.91 | 1.166 | .9133 | .0473 |
| Stddev | .0014 | .0031 | .0009 | .0093 | .012 | .006 | .18 | .009 | .0073 | .0001 |
| %RSD | .5717 | .5542 | 1.248 | 1.113 | .3847 | .3661 | .7097 | .7953 | .8003 | .2815 |
| #1 | .2463 | .5540 | .0740 | .8251 | 3.085 | 1.735 | 25.78 | 1.172 | .9185 | .0474 |
| #2 | .2444 | .5497 | .0727 | .8382 | 3.102 | 1.744 | 26.04 | 1.159 | .9082 | .0472 |

| Elem | Zr3391 |
|---|---|
| Units | Cts/S |
| Avg | 2.743 |
| Stddev | .018 |
| %RSD | .6458 |
| #1 | 2.755 |
| #2 | 2.730 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1174.1 | 57499. | 18781. |
| Stddev | 3.3 | 500. | 84. |
| %RSD | .27821 | .86901 | .44941 |
| #1 | 1176.4 | 57146. | 18841. |
| #2 | 1171.8 | 57853. | 18721. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/12/2013 18:13:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F.3583 | F12.10 | F1.797 | 2.151 | F1.775 | F2.351 | F2.248 | F13.66 | F1.749 |
| Stddev | .0052 | .27 | .156 | .037 | .156 | .049 | .047 | .32 | .153 |
| %RSD | 1.442 | 2.200 | 8.702 | 1.720 | 8.758 | 2.079 | 2.098 | 2.322 | 8.763 |
| #1 | .3620 | 12.29 | 1.907 | 2.177 | 1.885 | 2.386 | 2.281 | 13.88 | 1.858 |
| #2 | .3546 | 11.91 | 1.686 | 2.125 | 1.665 | 2.317 | 2.214 | 13.43 | 1.641 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.748 | F2.200 | F2.058 | F13.83 | F11.63 | F13.87 | F2.143 | F1.708 | F11.66 |
| Stddev | .155 | .042 | .042 | .30 | .25 | .44 | .039 | .150 | .23 |
| %RSD | 8.835 | 1.894 | 2.030 | 2.170 | 2.124 | 3.140 | 1.798 | 8.774 | 1.975 |
| #1 | 1.858 | 2.229 | 2.087 | 14.04 | 11.81 | 14.17 | 2.170 | 1.814 | 11.82 |
| #2 | 1.639 | 2.170 | 2.028 | 13.62 | 11.46 | 13.56 | 2.116 | 1.602 | 11.49 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | F1.693 | F1.733 | 2.176 | 2.140 | 1.777 | F1.759 | F1.765 | 1.779 | F1.884 |
| Stddev | .149 | .152 | .040 | .048 | .162 | .156 | .155 | .161 | .165 |
| %RSD | 8.809 | 8.787 | 1.813 | 2.252 | 9.108 | 8.867 | 8.759 | 9.063 | 8.771 |
| #1 | 1.799 | 1.840 | 2.204 | 2.174 | 1.892 | 1.869 | 1.874 | 1.893 | 2.001 |
| #2 | 1.588 | 1.625 | 2.148 | 2.105 | 1.663 | 1.649 | 1.656 | 1.665 | 1.767 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | F2.345 | F2.150 | F1.786 | F2.115 | 2.178 | F1.722 | 2.222 |
| Stddev | .027 | .042 | .152 | .037 | .012 | .150 | .036 |
| %RSD | 1.141 | 1.960 | 8.500 | 1.759 | .5505 | 8.731 | 1.640 |
| #1 | 2.364 | 2.179 | 1.893 | 2.141 | 2.186 | 1.828 | 2.248 |
| #2 | 2.326 | 2.120 | 1.678 | 2.088 | 2.169 | 1.616 | 2.197 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1173.5 | 57228. | 18904. |
| Stddev | .6 | 55. | 18. |
| %RSD | .04699 | .09652 | .09736 |
| #1 | 1173.2 | 57267. | 18917. |
| #2 | 1173.9 | 57189. | 18891. |



Zoom In Zoom Out

Sample Name: ICV Acquired: 12/12/2013 18:20:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4968 | 15.71 | 2.984 | 2.941 | 2.954 | 3.058 | 2.922 | 17.69 | 2.904 | 2.918 |
| Stddev | .0030 | .02 | .009 | .007 | .003 | .002 | .005 | .04 | .002 | .001 |
| %RSD | .6102 | .1000 | .2849 | .2459 | .1038 | .0651 | .1890 | .2403 | .0719 | .0317 |
| #1 | .4947 | 15.72 | 2.990 | 2.936 | 2.956 | 3.059 | 2.926 | 17.72 | 2.902 | 2.917 |
| #2 | .4989 | 15.70 | 2.978 | 2.946 | 2.952 | 3.057 | 2.919 | 17.66 | 2.905 | 2.919 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.060 | 2.885 | 17.96 | 15.14 | 18.06 | 2.981 | 2.821 | 15.18 | 2.823 | 2.875 |
| Stddev | .004 | .008 | .03 | .00 | .04 | .002 | .004 | .01 | .001 | .001 |
| %RSD | .1249 | .2805 | .1741 | .0147 | .2360 | .0699 | .1586 | .0329 | .0407 | .0229 |
| #1 | 3.057 | 2.891 | 17.98 | 15.14 | 18.09 | 2.979 | 2.818 | 15.19 | 2.823 | 2.875 |
| #2 | 3.063 | 2.879 | 17.94 | 15.14 | 18.03 | 2.982 | 2.824 | 15.18 | 2.822 | 2.876 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 3.016 | 2.971 | 2.961 | 2.925 | 2.923 | 2.981 | 3.126 | 3.004 | 2.987 | 2.935 |
| Stddev | .001 | .007 | .007 | .004 | .001 | .003 | .003 | .012 | .000 | .001 |
| %RSD | .0332 | .2540 | .2232 | .1353 | .0231 | .0974 | .0953 | .3865 | .0135 | .0155 |
| #1 | 3.017 | 2.976 | 2.957 | 2.928 | 2.922 | 2.983 | 3.124 | 3.012 | 2.987 | 2.935 |
| #2 | 3.016 | 2.966 | 2.966 | 2.922 | 2.923 | 2.979 | 3.128 | 2.996 | 2.987 | 2.936 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 2.939 | 3.012 | 2.850 | 3.087 |
| Stddev | .003 | .005 | .005 | .001 |
| %RSD | .1140 | .1768 | .1796 | .0367 |
| #1 | 2.941 | 3.008 | 2.847 | 3.086 |
| #2 | 2.936 | 3.016 | 2.854 | 3.087 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1159.8 | 57170. | 19026. |
| Stddev | .6 | 63. | 64. |
| %RSD | .05549 | .10947 | .33415 |
| #1 | 1159.3 | 57214. | 18981. |
| #2 | 1160.2 | 57126. | 19071. |



Zoom In Zoom Out

Sample Name: ICB Acquired: 12/12/2013 18:27:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0016 | .0015 | .0007 | .0024 | .0000 | .0001 | .0015 | .0002 | .0003 |
| Stddev | .0000 | .0044 | .0000 | .0002 | .0006 | .000 | .0000 | .0011 | .0002 | .0001 |
| %RSD | 2.552 | 266.7 | .3248 | 23.85 | 25.88 | 2335. | 36.44 | 72.98 | 81.66 | 46.81 |
| #1 | .0001 | .0015 | .0015 | .0008 | .0028 | .0001 | .0001 | .0023 | .0004 | .0002 |
| #2 | .0001 | -.0047 | .0015 | .0006 | .0020 | -.0001 | .0001 | .0007 | .0001 | .0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0002 | .0015 | .0145 | .0098 | .0002 | .0025 | -.0118 | .0004 | -.0003 |
| Stddev | .0001 | .0000 | .0004 | .0081 | .0245 | .0000 | .0005 | .0019 | .0001 | .0000 |
| %RSD | 31.81 | 10.52 | 28.59 | 56.23 | 250.5 | 17.66 | 18.59 | 16.08 | 19.57 | 9.247 |
| #1 | -.0003 | .0002 | .0018 | .0087 | .0271 | .0002 | .0028 | -.0105 | .0003 | -.0002 |
| #2 | -.0004 | .0002 | .0012 | .0202 | -.0075 | .0002 | .0022 | -.0132 | .0004 | -.0003 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | .0035 | .0002 | .0001 | -.0007 | .0005 | .0010 | .0001 | .0006 | .0005 |
| Stddev | .0006 | .0048 | .0008 | .0001 | .0001 | .0005 | .0002 | .0000 | .0003 | .0006 |
| %RSD | 67.56 | 134.9 | 346.8 | 64.40 | 14.53 | 93.98 | 23.51 | 3.289 | 50.20 | 121.0 |
| #1 | .0005 | .0002 | -.0003 | .0001 | -.0007 | .0009 | .0012 | .0001 | .0008 | .0009 |
| #2 | .0013 | .0069 | .0008 | .0002 | -.0006 | .0002 | .0008 | .0001 | .0004 | .0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | .0138 | .0004 | .0009 |
| Stddev | .0001 | .0034 | .0002 | .0001 |
| %RSD | 9.681 | 24.32 | 46.01 | 6.373 |
| #1 | .0007 | .0114 | .0005 | .0008 |
| #2 | .0006 | .0162 | .0002 | .0009 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.9 | 57829. | 18810. |
| Stddev | 1.0 | 21. | 4. |
| %RSD | .08428 | .03600 | .02332 |
| #1 | 1168.6 | 57814. | 18813. |
| #2 | 1167.2 | 57843. | 18807. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 18:32:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2489 | 10.01 | 1.959 | -.0038 | 1.954 | 1.994 | 1.986 | 10.04 | 1.968 | 2.043 |
| Stddev | .0010 | .01 | .004 | .0004 | .004 | .003 | .001 | .02 | .001 | .002 |
| %RSD | .4057 | .1299 | .1813 | 10.11 | .1898 | .1418 | .0371 | .1737 | .0593 | .1022 |
| #1 | .2496 | 10.01 | 1.961 | -.0035 | 1.951 | 1.996 | 1.985 | 10.03 | 1.967 | 2.041 |
| #2 | .2482 | 9.997 | 1.956 | -.0041 | 1.956 | 1.992 | 1.986 | 10.05 | 1.969 | 2.044 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.004 | 1.954 | 10.14 | 10.01 | 9.931 | 2.000 | 1.963 | 10.05 | 1.947 | 1.952 |
| Stddev | .007 | .001 | .01 | .01 | .028 | .006 | .004 | .02 | .001 | .000 |
| %RSD | .3485 | .0590 | .0532 | .0777 | .2842 | .3230 | .2172 | .2142 | .0732 | .0120 |
| #1 | 2.009 | 1.955 | 10.14 | 10.00 | 9.951 | 2.004 | 1.960 | 10.07 | 1.946 | 1.952 |
| #2 | 1.999 | 1.953 | 10.13 | 10.01 | 9.911 | 1.995 | 1.966 | 10.04 | 1.948 | 1.952 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | .0123 | -.0036 | 1.972 | 1.949 | .0118 | 1.991 | 2.044 | 1.976 | 1.971 |
| Stddev | .0009 | .0013 | .0011 | .003 | .008 | .0016 | .007 | .025 | .006 | .006 |
| %RSD | 301.3 | 10.61 | 31.22 | .1377 | .3997 | 13.36 | .3439 | 1.220 | .3282 | .3278 |
| #1 | .0009 | .0132 | -.0028 | 1.970 | 1.944 | .0107 | 1.986 | 2.027 | 1.981 | 1.966 |
| #2 | -.0003 | .0114 | -.0044 | 1.974 | 1.955 | .0129 | 1.996 | 2.062 | 1.971 | 1.976 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.975 | .0294 | 1.947 | .0101 |
| Stddev | .005 | .0066 | .001 | .0021 |
| %RSD | .2478 | 22.45 | .0291 | 20.95 |
| #1 | 1.979 | .0340 | 1.947 | .0116 |
| #2 | 1.972 | .0247 | 1.948 | .0086 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.8 | 57389. | 18839. |
| Stddev | 1.9 | 187. | 59. |
| %RSD | .16264 | .32600 | .31551 |
| #1 | 1169.1 | 57257. | 18881. |
| #2 | 1166.4 | 57521. | 18797. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 18:43:54 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0008 | .0006 | -.0010 | .0014 | -.0001 | .0000 | .0012 | -.0001 | .0001 |
| Stddev | .000 | .0018 | .0001 | .0002 | .0002 | .0001 | .0000 | .0007 | .0000 | .0001 |
| %RSD | 821.8 | 228.0 | 22.36 | 20.65 | 15.58 | 80.87 | 49.45 | 61.56 | 11.19 | 95.36 |
| #1 | .0002 | -.0005 | .0007 | -.0011 | .0016 | -.0001 | .0000 | .0017 | -.0001 | .0000 |
| #2 | -.0003 | .0020 | .0005 | -.0008 | .0013 | .0000 | .0001 | .0007 | -.0001 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0001 | .0009 | .0131 | .0063 | .0001 | .0009 | -.0148 | .0002 | -.0001 |
| Stddev | .0002 | .0000 | .0004 | .0287 | .0151 | .0001 | .0001 | .0025 | .0001 | .0003 |
| %RSD | 70.07 | 36.50 | 45.45 | 218.2 | 237.9 | 44.60 | 16.84 | 16.63 | 52.68 | 281.0 |
| #1 | .0001 | -.0001 | .0011 | -.0071 | .0170 | .0001 | .0010 | -.0165 | .0003 | -.0003 |
| #2 | .0004 | -.0001 | .0006 | .0334 | -.0043 | .0001 | .0008 | -.0130 | .0001 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0035 | -.0002 | -.0003 | .0005 | -.0007 | .0004 | .0001 | .0000 | .0009 |
| Stddev | .0003 | .0006 | .0010 | .0004 | .0001 | .0001 | .0003 | .0000 | .0001 | .0005 |
| %RSD | 133.7 | 16.18 | 414.1 | 138.0 | 16.86 | 8.289 | 75.92 | 25.84 | 990.6 | 60.57 |
| #1 | .0000 | .0031 | .0005 | -.0005 | .0005 | -.0007 | .0005 | .0000 | .0001 | .0005 |
| #2 | -.0004 | .0039 | -.0009 | .0000 | .0006 | -.0006 | .0002 | .0001 | -.0001 | .0012 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | .0026 | .0001 | .0001 |
| Stddev | .0000 | .0051 | .0001 | .0000 |
| %RSD | 26.86 | 196.7 | 165.3 | 7.240 |
| #1 | -.0001 | .0062 | .0000 | .0001 |
| #2 | -.0002 | -.0010 | .0002 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.0 | 57745. | 18825. |
| Stddev | .3 | 10. | 49. |
| %RSD | .02195 | .01651 | .26087 |
| #1 | 1164.8 | 57738. | 18790. |
| #2 | 1165.1 | 57751. | 18860. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 12/12/2013 18:51:01 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0051 | .2055 | F.0056 | .0001 | .0997 | .0500 | .0041 | 4.952 | .0040 |
| Stddev | .0005 | .0060 | .0001 | .0013 | .0002 | .0001 | .0000 | .009 | .0000 |
| %RSD | 8.936 | 2.904 | 1.377 | 880.3 | .2141 | .1284 | .1955 | .1809 | .2038 |
| #1 | .0054 | .2097 | .0055 | -.0007 | .0996 | .0501 | .0041 | 4.958 | .0040 |
| #2 | .0048 | .2013 | .0056 | .0010 | .0999 | .0500 | .0041 | 4.946 | .0040 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0510 | .0099 | .0235 | .1036 | 4.986 | 4.920 | .0154 | .0995 | 5.028 |
| Stddev | .0004 | .0000 | .0000 | .0007 | .004 | .040 | .0001 | .0003 | .004 |
| %RSD | .8213 | .2015 | .0842 | .7218 | .0783 | .8162 | .6926 | .2893 | .0847 |
| #1 | .0507 | .0099 | .0235 | .1030 | 4.989 | 4.948 | .0155 | .0993 | 5.025 |
| #2 | .0513 | .0098 | .0236 | .1041 | 4.983 | 4.891 | .0153 | .0997 | 5.031 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0399 | .0045 | -.0001 | -.0020 | -.0002 | .0072 | .0087 | .0177 | .0989 |
| Stddev | .0001 | .0004 | .0015 | .0020 | .0007 | .0004 | .0001 | .0001 | .0006 |
| %RSD | .3015 | 8.761 | 1051. | 102.7 | 354.9 | 5.394 | 1.184 | .7929 | .6259 |
| #1 | .0398 | .0048 | -.0012 | -.0034 | -.0007 | .0075 | .0088 | .0176 | .0985 |
| #2 | .0400 | .0042 | .0009 | -.0005 | .0003 | .0069 | .0086 | .0178 | .0994 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0102 | .0502 | .0038 | .0101 | .0033 | .0202 | .0001 |
| Stddev | .0000 | .0000 | .0009 | .0003 | .0030 | .0004 | .0003 |
| %RSD | .2039 | .0100 | 23.79 | 2.756 | 89.45 | 1.828 | 288.8 |
| #1 | .0103 | .0502 | .0044 | .0099 | .0054 | .0204 | .0003 |
| #2 | .0102 | .0502 | .0031 | .0103 | .0012 | .0199 | -.0001 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1169.1 | 57772. | 18760. |
| Stddev | .6 | 71. | 10. |
| %RSD | .04865 | .12302 | .05561 |
| #1 | 1169.5 | 57722. | 18752. |
| #2 | 1168.7 | 57822. | 18767. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/12/2013 18:55:54 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | 528.5 | .0004 | -.0022 | .0071 | -.0003 | .0001 | 450.3 | .0000 | -.0009 |
| Stddev | .0003 | 2.7 | .0012 | .0005 | .0005 | .0000 | .0000 | .9 | .0000 | .0002 |
| %RSD | 108.3 | .5064 | 339.6 | 24.02 | 6.473 | 6.776 | 24.18 | .2048 | 116.7 | 19.01 |
| #1 | -.0005 | 526.6 | .0012 | -.0026 | .0075 | -.0003 | .0001 | 449.7 | .0001 | -.0010 |
| #2 | -.0001 | 530.3 | -.0005 | -.0018 | .0068 | -.0003 | .0001 | 451.0 | .0000 | -.0008 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0014 | 179.2 | -.0544 | 519.3 | .0004 | -.0009 | .0438 | .0002 | .0009 |
| Stddev | .0000 | .0001 | .2 | .0069 | .1 | .0002 | .0001 | .0044 | .0000 | .0001 |
| %RSD | .9583 | 8.493 | .1312 | 12.72 | .0275 | 62.15 | 6.505 | 10.06 | 2.823 | 10.47 |
| #1 | -.0008 | .0013 | 179.4 | -.0593 | 519.4 | .0005 | -.0010 | .0407 | .0002 | .0010 |
| #2 | -.0008 | .0014 | 179.0 | -.0495 | 519.2 | .0002 | -.0009 | .0469 | .0002 | .0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0232 | -.0281 | .0853 | .0015 | -.0018 | 5.660 | -.0002 | -.0084 | .0050 | -.0015 |
| Stddev | .0004 | .0028 | .0018 | .0005 | .0041 | .031 | .0018 | .0000 | .0001 | .0004 |
| %RSD | 1.750 | 9.807 | 2.160 | 31.72 | 233.4 | .5546 | 1007. | .2064 | 1.111 | 26.44 |
| #1 | -.0229 | -.0261 | .0866 | .0019 | .0011 | 5.682 | .0011 | -.0084 | .0049 | -.0012 |
| #2 | -.0234 | -.0300 | .0840 | .0012 | -.0047 | 5.637 | -.0014 | -.0084 | .0050 | -.0017 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | -.0123 | .0011 | -.0241 |
| Stddev | .0000 | .0089 | .0005 | .0001 |
| %RSD | 3.397 | 72.35 | 42.74 | .6140 |
| #1 | -.0001 | -.0060 | .0008 | -.0242 |
| #2 | -.0001 | -.0185 | .0015 | -.0240 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1085.1 | 53577. | 18430. |
| Stddev | 5.0 | 120. | . |
| %RSD | .46075 | .22322 | .00045 |
| #1 | 1081.5 | 53662. | 18430. |
| #2 | 1088.6 | 53493. | 18430. |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/12/2013 19:00:57 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.061 | 522.4 | 2.054 | .4990 | .9615 | .4963 | .4554 | 448.8 | .9782 | .4633 |
| Stddev | .006 | 3.3 | .000 | .0014 | .0003 | .0013 | .0005 | 1.1 | .0013 | .0009 |
| %RSD | .6068 | .6328 | .0063 | .2710 | .0316 | .2548 | .1144 | .2430 | .1358 | .1885 |
| #1 | 1.057 | 524.7 | 2.054 | .4981 | .9618 | .4971 | .4558 | 448.0 | .9772 | .4626 |
| #2 | 1.066 | 520.0 | 2.054 | .5000 | .9613 | .4954 | .4550 | 449.6 | .9791 | .4639 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4841 | .5209 | 179.3 | -.0067 | 516.8 | .4830 | .9450 | .0628 | .8462 | .8923 |
| Stddev | .0008 | .0000 | .3 | .0085 | .1 | .0002 | .0022 | .0039 | .0026 | .0018 |
| %RSD | .1751 | .0024 | .1544 | 126.0 | .0203 | .0390 | .2297 | 6.152 | .3071 | .2035 |
| #1 | .4835 | .5210 | 179.1 | -.0007 | 516.9 | .4829 | .9435 | .0601 | .8444 | .8936 |
| #2 | .4847 | .5209 | 179.5 | -.0127 | 516.7 | .4832 | .9465 | .0655 | .8481 | .8911 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5294 | .4823 | .4880 | 1.988 | 1.899 | 4.466 | .9589 | .9679 | .5038 | 1.835 |
| Stddev | .0017 | .0032 | .0044 | .005 | .003 | .001 | .0000 | .0010 | .0018 | .005 |
| %RSD | .3177 | .6647 | .8975 | .2575 | .1657 | .0308 | .0035 | .1033 | .3514 | .2607 |
| #1 | .5305 | .4846 | .4849 | 1.985 | 1.901 | 4.467 | .9589 | .9686 | .5050 | 1.832 |
| #2 | .5282 | .4801 | .4911 | 1.992 | 1.897 | 4.465 | .9589 | .9672 | .5025 | 1.839 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4980 | 2.070 | .8639 | .3962 |
| Stddev | .0014 | .005 | .0012 | .0033 |
| %RSD | .2875 | .2620 | .1438 | .8300 |
| #1 | .4990 | 2.066 | .8630 | .3939 |
| #2 | .4969 | 2.074 | .8648 | .3986 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1089.4 | 53441. | 18532. |
| Stddev | .2 | 167. | 79. |
| %RSD | .02028 | .31301 | .42723 |
| #1 | 1089.6 | 53559. | 18588. |
| #2 | 1089.3 | 53323. | 18476. |



Zoom In Zoom Out

Sample Name: MP22168A-S1 Acquired: 12/12/2013 19:05:48 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2067 | 2.234 | .5547 | .0040 | .0644 | 2.039 | .5136 | 54.59 | .5140 | .5095 |
| Stddev | .0014 | .064 | .0023 | .0001 | .0033 | .002 | .0038 | .17 | .0036 | .0022 |
| %RSD | .6824 | 2.861 | .4133 | 3.342 | 5.163 | .0982 | .7475 | .3175 | .7051 | .4231 |
| #1 | .2057 | 2.189 | .5563 | .0039 | .0620 | 2.041 | .5164 | 54.71 | .5114 | .5080 |
| #2 | .2077 | 2.279 | .5531 | .0041 | .0667 | 2.038 | .5109 | 54.47 | .5166 | .5111 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5360 | .4860 | 2.770 | 32.03 | 29.76 | 2.435 | .0094 | 72.43 | .4900 | .9569 |
| Stddev | .0001 | .0007 | .005 | .32 | .01 | .001 | .0015 | .07 | .0038 | .0047 |
| %RSD | .0223 | .1484 | .1999 | 1.013 | .0451 | .0264 | 16.17 | .0986 | .7722 | .4923 |
| #1 | .5359 | .4865 | 2.774 | 32.26 | 29.77 | 2.435 | .0105 | 72.48 | .4873 | .9536 |
| #2 | .5360 | .4855 | 2.766 | 31.80 | 29.75 | 2.434 | .0083 | 72.38 | .4927 | .9603 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0175 | 22.42 | .5128 | .5122 | 6.148 | .0029 | .8409 | .5103 | .5243 |
| Stddev | .0057 | .0117 | .11 | .0019 | .0020 | .043 | .0022 | .0015 | .0030 | .0072 |
| %RSD | 925.3 | 66.66 | .5067 | .3664 | .3970 | .6927 | 75.20 | .1799 | .5823 | 1.375 |
| #1 | -.0034 | .0258 | 22.34 | .5115 | .5107 | 6.118 | .0014 | .8419 | .5124 | .5192 |
| #2 | .0046 | .0093 | 22.50 | .5141 | .5136 | 6.179 | .0045 | .8398 | .5082 | .5294 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5375 | .0555 | .5341 | .0880 |
| Stddev | .0067 | .0109 | .0061 | .0053 |
| %RSD | 1.250 | 19.61 | 1.139 | 5.971 |
| #1 | .5327 | .0632 | .5298 | .0917 |
| #2 | .5422 | .0478 | .5384 | .0843 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1187.0 | 57529. | 18945. |
| Stddev | 2.7 | 114. | 10. |
| %RSD | .22628 | .19803 | .05479 |
| #1 | 1188.9 | 57610. | 18938. |
| #2 | 1185.1 | 57449. | 18952. |



Zoom In Zoom Out

Sample Name: MP22168A-S2 Acquired: 12/12/2013 19:10:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2116 | 2.181 | .5658 | -.0015 | .0608 | 2.076 | .5205 | 54.93 | .5252 | .5234 |
| Stddev | .0015 | .009 | .0056 | .0043 | .0020 | .006 | .0031 | .01 | .0020 | .0039 |
| %RSD | .7157 | .4177 | .9935 | 283.3 | 3.268 | .2720 | .5933 | .0206 | .3839 | .7457 |
| #1 | .2127 | 2.174 | .5618 | .0015 | .0593 | 2.072 | .5183 | 54.93 | .5238 | .5206 |
| #2 | .2105 | 2.187 | .5697 | -.0045 | .0622 | 2.080 | .5227 | 54.94 | .5267 | .5261 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5419 | .4968 | 2.714 | 32.52 | 29.72 | 2.466 | .0039 | 73.80 | .5034 | .9751 |
| Stddev | .0013 | .0031 | .019 | .07 | .13 | .003 | .0003 | .15 | .0012 | .0012 |
| %RSD | .2425 | .6181 | .6881 | .2100 | .4437 | .1214 | 8.225 | .2082 | .2399 | .1244 |
| #1 | .5410 | .4989 | 2.701 | 32.57 | 29.81 | 2.468 | .0037 | 73.69 | .5026 | .9742 |
| #2 | .5428 | .4946 | 2.728 | 32.48 | 29.63 | 2.463 | .0042 | 73.91 | .5043 | .9759 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0187 | 22.86 | .5207 | .5294 | 6.255 | .0006 | .8601 | .5213 | .5294 |
| Stddev | .0027 | .0213 | .00 | .0036 | .0039 | .041 | .0000 | .0026 | .0041 | .0031 |
| %RSD | 804.9 | 113.9 | .0011 | .6941 | .7299 | .6617 | .0467 | .2981 | .7795 | .5824 |
| #1 | .0016 | .0036 | 22.86 | .5233 | .5267 | 6.226 | .0006 | .8582 | .5185 | .5316 |
| #2 | -.0022 | .0338 | 22.86 | .5182 | .5321 | 6.284 | .0006 | .8619 | .5242 | .5272 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5438 | .0216 | .5385 | .0042 |
| Stddev | .0016 | .0332 | .0060 | .0003 |
| %RSD | .3031 | 153.3 | 1.120 | 6.202 |
| #1 | .5426 | .0451 | .5342 | .0040 |
| #2 | .5450 | -.0018 | .5427 | .0044 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1182.8 | 57765. | 19042. |
| Stddev | .3 | 23. | 22. |
| %RSD | .02204 | .04063 | .11615 |
| #1 | 1182.6 | 57749. | 19026. |
| #2 | 1183.0 | 57782. | 19058. |



Zoom In Zoom Out

Sample Name: MC26418-1F Acquired: 12/12/2013 19:15:25 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0422 | .0081 | -.0003 | .0540 | .0838 | .0002 | 28.27 | -.0002 | .0019 |
| Stddev | .0003 | .0202 | .0002 | .0004 | .0005 | .0008 | .0001 | .02 | .0002 | .0003 |
| %RSD | 34.59 | 47.99 | 2.486 | 156.1 | .9136 | .9261 | 37.51 | .0872 | 145.9 | 15.75 |
| #1 | -.0006 | .0279 | .0082 | .0000 | .0543 | .0843 | .0002 | 28.25 | .0000 | .0021 |
| #2 | -.0010 | .0565 | .0079 | -.0006 | .0536 | .0832 | .0001 | 28.29 | -.0003 | .0017 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0009 | .6470 | 5.797 | 3.860 | 1.859 | .0011 | 45.65 | .0051 | -.0003 |
| Stddev | .0008 | .0003 | .0058 | .067 | .020 | .002 | .0002 | .08 | .0003 | .0004 |
| %RSD | 225.2 | 34.50 | .8936 | 1.160 | .5249 | .0895 | 19.05 | .1664 | 5.523 | 143.3 |
| #1 | .0002 | .0012 | .6511 | 5.750 | 3.846 | 1.858 | .0013 | 45.70 | .0053 | -.0005 |
| #2 | -.0009 | .0007 | .6429 | 5.845 | 3.874 | 1.860 | .0010 | 45.59 | .0049 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0193 | 22.04 | -.0009 | -.0043 | 5.933 | .0004 | .3282 | .0014 | .0059 |
| Stddev | .0009 | .0105 | .06 | .0028 | .0018 | .016 | .0011 | .0002 | .0006 | .0008 |
| %RSD | 107.9 | 54.15 | .2820 | 325.3 | 41.48 | .2658 | 257.7 | .0690 | 40.85 | 13.14 |
| #1 | -.0002 | .0267 | 21.99 | -.0028 | -.0055 | 5.922 | .0012 | .3283 | .0017 | .0054 |
| #2 | -.0014 | .0119 | 22.08 | .0011 | -.0030 | 5.944 | -.0004 | .3280 | .0010 | .0065 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | -.0162 | .0100 | -.0291 |
| Stddev | .0001 | .0188 | .0004 | .0004 |
| %RSD | 7.042 | 116.0 | 4.410 | 1.300 |
| #1 | .0015 | -.0295 | .0096 | -.0294 |
| #2 | .0013 | -.0029 | .0103 | -.0288 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1175.9 | 57706. | 18935. |
| Stddev | 2.3 | 40. | 61. |
| %RSD | .19385 | .06969 | .32300 |
| #1 | 1177.5 | 57735. | 18978. |
| #2 | 1174.3 | 57678. | 18891. |

Zoom In Zoom Out

Sample Name: MP22168A-SD1 Acquired: 12/12/2013 19:20:18 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 15.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0031 | .1215 | .0298 | .0030 | .0607 | .0846 | .0010 | 29.64 | .0003 | .0049 |
| Stddev | .0026 | .0226 | .0055 | .0168 | .0033 | .0003 | .0007 | .06 | .0014 | .0022 |
| %RSD | 84.36 | 18.59 | 18.51 | 569.6 | 5.427 | .3178 | 68.14 | .2059 | 482.3 | 45.24 |
| #1 | -.0013 | .1374 | .0337 | .0149 | .0584 | .0844 | .0005 | 29.60 | .0012 | .0034 |
| #2 | -.0050 | .1055 | .0259 | -.0090 | .0631 | .0848 | .0015 | 29.69 | -.0007 | .0065 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0038 | .0044 | .7143 | 6.011 | 4.063 | 1.903 | .0031 | 46.92 | .0085 | -.0077 |
| Stddev | .0018 | .0029 | .0137 | .153 | .304 | .012 | .0023 | .10 | .0014 | .0033 |
| %RSD | 45.83 | 66.08 | 1.913 | 2.546 | 7.493 | .6089 | 74.88 | .2075 | 16.71 | 42.99 |
| #1 | .0051 | .0023 | .7047 | 5.903 | 3.848 | 1.911 | .0048 | 46.86 | .0075 | -.0101 |
| #2 | .0026 | .0064 | .7240 | 6.120 | 4.279 | 1.895 | .0015 | 46.99 | .0095 | -.0054 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0014 | .0125 | 22.36 | .0023 | -.0116 | 6.018 | .0025 | .3379 | .0019 | .0249 |
| Stddev | .0129 | .0054 | .13 | .0117 | .0019 | .027 | .0079 | .0027 | .0012 | .0169 |
| %RSD | 900.0 | 43.08 | .5886 | 505.6 | 16.43 | .4512 | 320.7 | .7930 | 62.11 | 67.67 |
| #1 | .0106 | .0087 | 22.26 | .0105 | -.0102 | 5.999 | .0080 | .3360 | .0011 | .0130 |
| #2 | -.0077 | .0163 | 22.45 | -.0059 | -.0129 | 6.037 | -.0031 | .3398 | .0028 | .0369 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0050 | .0390 | .0459 | -.0243 |
| Stddev | .0030 | .0958 | .0044 | .0042 |
| %RSD | 58.98 | 245.4 | 9.520 | 17.14 |
| #1 | .0029 | -.0287 | .0490 | -.0213 |
| #2 | .0071 | .1068 | .0428 | -.0272 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1171.8 | 57946. | 18856. |
| Stddev | 1.0 | 4. | 74. |
| %RSD | .08164 | .00655 | .39342 |
| #1 | 1172.4 | 57948. | 18908. |
| #2 | 1171.1 | 57943. | 18803. |



Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/12/2013 19:25:13 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0032 | .4507 | .0003 | .0445 | .0405 | .0001 | 23.39 | -.0002 | .0070 |
| Stddev | .0001 | .0029 | .0002 | .0005 | .0001 | .0002 | .0001 | .02 | .0005 | .0005 |
| %RSD | 12.30 | 88.78 | .0464 | 163.5 | .1908 | .4641 | 69.37 | .1020 | 237.2 | 7.153 |
| #1 | .0007 | .0012 | .4508 | .0000 | .0445 | .0406 | .0001 | 23.37 | .0002 | .0074 |
| #2 | .0006 | .0053 | .4505 | .0006 | .0444 | .0403 | .0002 | 23.41 | -.0006 | .0067 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0002 | 58.98 | 4.786 | 2.686 | 2.462 | .0003 | 13.99 | .0065 | -.0021 |
| Stddev | .0001 | .0003 | .11 | .016 | .003 | .002 | .0004 | .03 | .0003 | .0035 |
| %RSD | 109.8 | 175.0 | .1806 | .3409 | .1215 | .0699 | 136.3 | .1855 | 4.350 | 166.6 |
| #1 | .0002 | -.0004 | 58.90 | 4.797 | 2.688 | 2.461 | .0006 | 13.97 | .0067 | -.0046 |
| #2 | .0000 | .0000 | 59.05 | 4.774 | 2.683 | 2.464 | .0000 | 14.01 | .0063 | .0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0213 | 11.16 | -.0015 | -.0016 | 9.309 | .0005 | .0942 | .0009 | .0057 |
| Stddev | .0039 | .0104 | .11 | .0012 | .0002 | .000 | .0001 | .0002 | .0011 | .0023 |
| %RSD | 1060. | 48.72 | .9510 | 77.43 | 9.488 | .0003 | 18.10 | .2514 | 114.4 | 40.54 |
| #1 | -.0024 | .0140 | 11.09 | -.0007 | -.0018 | 9.309 | .0006 | .0940 | .0017 | .0073 |
| #2 | .0031 | .0286 | 11.24 | -.0024 | -.0015 | 9.309 | .0004 | .0944 | .0002 | .0041 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0004 | .0204 | .0103 | -.0497 |
| Stddev | .0001 | .0087 | .0014 | .0006 |
| %RSD | 34.15 | 42.81 | 13.42 | 1.280 |
| #1 | -.0005 | .0266 | .0113 | -.0502 |
| #2 | -.0003 | .0142 | .0093 | -.0493 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1167.3 | 57903. | 18923. |
| Stddev | 1.0 | 192. | 42. |
| %RSD | .08223 | .33232 | .22248 |
| #1 | 1166.6 | 58039. | 18953. |
| #2 | 1168.0 | 57767. | 18894. |



Zoom In Zoom Out

Sample Name: MC26418-2F Acquired: 12/12/2013 19:30:06 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0184 | .4563 | -.0018 | .0455 | .0410 | .0000 | 24.42 | -.0003 | .0077 |
| Stddev | .0012 | .0108 | .0016 | .0034 | .0002 | .0007 | .0001 | .02 | .0001 | .0003 |
| %RSD | 273.9 | 58.59 | .3557 | 187.3 | .5431 | 1.773 | 294.8 | .0984 | 46.00 | 4.394 |
| #1 | .0013 | .0108 | .4551 | -.0043 | .0453 | .0405 | .0000 | 24.40 | -.0002 | .0075 |
| #2 | -.0004 | .0260 | .4574 | .0006 | .0456 | .0415 | .0001 | 24.44 | -.0004 | .0079 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0005 | 60.40 | 4.882 | 2.673 | 2.483 | .0006 | 14.32 | .0059 | -.0005 |
| Stddev | .0004 | .0000 | .02 | .064 | .061 | .014 | .0004 | .06 | .0001 | .0038 |
| %RSD | 61.32 | 9.324 | .0401 | 1.302 | 2.288 | .5523 | 64.07 | .3959 | 1.497 | 851.1 |
| #1 | -.0010 | .0005 | 60.38 | 4.926 | 2.716 | 2.473 | .0009 | 14.28 | .0060 | .0023 |
| #2 | -.0004 | .0005 | 60.41 | 4.837 | 2.630 | 2.492 | .0003 | 14.36 | .0059 | -.0032 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0055 | .0475 | 11.36 | -.0030 | -.0026 | 9.479 | -.0004 | .0963 | .0019 | .0069 |
| Stddev | .0049 | .0057 | .07 | .0027 | .0012 | .003 | .0003 | .0003 | .0005 | .0030 |
| %RSD | 88.93 | 11.93 | .6142 | 90.70 | 48.78 | .0274 | 72.75 | .3616 | 28.68 | 42.99 |
| #1 | -.0089 | .0435 | 11.31 | -.0049 | -.0034 | 9.481 | -.0005 | .0966 | .0023 | .0048 |
| #2 | -.0020 | .0515 | 11.41 | -.0011 | -.0017 | 9.477 | -.0002 | .0961 | .0015 | .0090 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0018 | .0449 | .0892 | -.0510 |
| Stddev | .0002 | .0252 | .0002 | .0013 |
| %RSD | 9.741 | 56.08 | .2431 | 2.596 |
| #1 | -.0017 | .0271 | .0890 | -.0520 |
| #2 | -.0019 | .0627 | .0893 | -.0501 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1164.1 | 58174. | 18802. |
| Stddev | .7 | 221. | 2. |
| %RSD | .06047 | .37996 | .00895 |
| #1 | 1163.6 | 58330. | 18803. |
| #2 | 1164.6 | 58018. | 18801. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/12/2013 19:34:59 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0074 | .4638 | .0008 | .0451 | .0419 | .0002 | 24.12 | -.0002 | .0074 |
| Stddev | .0005 | .0103 | .0055 | .0006 | .0019 | .0003 | .0000 | .16 | .0003 | .0001 |
| %RSD | 414.6 | 138.4 | 1.188 | 70.14 | 4.323 | .6383 | 8.353 | .6840 | 114.1 | .6862 |
| #1 | -.0002 | .0147 | .4677 | .0012 | .0437 | .0417 | .0002 | 24.23 | -.0004 | .0074 |
| #2 | .0005 | .0002 | .4599 | .0004 | .0464 | .0421 | .0002 | 24.00 | .0000 | .0075 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0004 | 60.82 | 5.029 | 2.804 | 2.494 | -.0004 | 14.39 | .0061 | -.0022 |
| Stddev | .0012 | .0005 | .27 | .168 | .020 | .006 | .0004 | .01 | .0001 | .0019 |
| %RSD | 539.7 | 115.9 | .4488 | 3.337 | .7264 | .2571 | 104.4 | .0572 | 2.157 | 85.84 |
| #1 | .0011 | .0008 | 61.01 | 4.911 | 2.819 | 2.498 | -.0001 | 14.40 | .0060 | -.0035 |
| #2 | -.0006 | .0001 | 60.63 | 5.148 | 2.790 | 2.489 | -.0007 | 14.39 | .0062 | -.0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0221 | 11.38 | -.0008 | -.0012 | 9.573 | .0003 | .0988 | .0006 | .0050 |
| Stddev | .000 | .0157 | .02 | .0013 | .0038 | .003 | .0004 | .0020 | .0010 | .0016 |
| %RSD | 238.8 | 71.20 | .1729 | 177.8 | 321.1 | .0327 | 128.4 | 2.052 | 168.9 | 31.14 |
| #1 | -.0001 | .0110 | 11.40 | -.0017 | .0015 | 9.571 | .0000 | .0973 | -.0001 | .0061 |
| #2 | .0000 | .0332 | 11.37 | .0002 | -.0039 | 9.575 | .0006 | .1002 | .0013 | .0039 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0009 | .0118 | .0301 | -.0518 |
| Stddev | .0008 | .0226 | .0003 | .0015 |
| %RSD | 84.99 | 192.2 | 1.083 | 2.809 |
| #1 | .0004 | -.0042 | .0299 | -.0507 |
| #2 | .0015 | .0277 | .0303 | -.0528 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.1 | 58280. | 18853. |
| Stddev | .2 | 276. | 161. |
| %RSD | .02129 | .47319 | .85380 |
| #1 | 1161.3 | 58085. | 18740. |
| #2 | 1161.0 | 58475. | 18967. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 19:39:52 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2498 | 10.10 | 1.972 | -.0034 | 1.981 | 2.003 | 1.993 | 10.00 | 1.986 | 2.059 |
| Stddev | .0014 | .00 | .006 | .0005 | .007 | .001 | .004 | .01 | .006 | .008 |
| %RSD | .5603 | .0089 | .3146 | 14.40 | .3415 | .0694 | .1996 | .1148 | .2923 | .3880 |
| #1 | .2508 | 10.10 | 1.976 | -.0031 | 1.986 | 2.004 | 1.996 | 10.01 | 1.990 | 2.064 |
| #2 | .2488 | 10.10 | 1.968 | -.0038 | 1.976 | 2.002 | 1.990 | 9.993 | 1.982 | 2.053 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.982 | 1.970 | 10.19 | 10.07 | 9.961 | 1.988 | 1.971 | 10.16 | 1.958 | 1.966 |
| Stddev | .010 | .006 | .02 | .02 | .058 | .009 | .003 | .00 | .007 | .007 |
| %RSD | .5000 | .3296 | .1509 | .1597 | .5804 | .4801 | .1616 | .0207 | .3786 | .3388 |
| #1 | 1.989 | 1.966 | 10.20 | 10.06 | 10.00 | 1.995 | 1.973 | 10.16 | 1.963 | 1.971 |
| #2 | 1.975 | 1.975 | 10.18 | 10.08 | 9.921 | 1.982 | 1.969 | 10.16 | 1.952 | 1.962 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0125 | -.0051 | 1.986 | 1.964 | -.0109 | 2.017 | 2.060 | 1.968 | 1.981 |
| Stddev | .0017 | .0020 | .0003 | .007 | .000 | .0009 | .000 | .018 | .004 | .004 |
| %RSD | 65510. | 16.04 | 6.626 | .3453 | .0224 | 8.478 | .0086 | .8951 | .2026 | .1917 |
| #1 | .0012 | .0111 | -.0048 | 1.991 | 1.964 | -.0116 | 2.017 | 2.047 | 1.971 | 1.979 |
| #2 | -.0012 | .0139 | -.0053 | 1.981 | 1.965 | -.0102 | 2.017 | 2.073 | 1.965 | 1.984 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.960 | .0211 | 1.955 | .0098 |
| Stddev | .008 | .0006 | .006 | .0022 |
| %RSD | .3935 | 2.622 | .2974 | 22.27 |
| #1 | 1.966 | .0207 | 1.959 | .0114 |
| #2 | 1.955 | .0214 | 1.951 | .0083 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1160.5 | 57824. | 18875. |
| Stddev | 3.9 | 288. | 6. |
| %RSD | .33508 | .49864 | .02980 |
| #1 | 1157.8 | 57620. | 18879. |
| #2 | 1163.3 | 58028. | 18871. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 19:44:41 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0007 | .0009 | -.0005 | .0025 | .0001 | .0002 | .0044 | .0000 | .0001 |
| Stddev | .0002 | .0027 | .0005 | .0010 | .0000 | .0001 | .0000 | .0013 | .0000 | .0000 |
| %RSD | 209.1 | 359.0 | 57.55 | 201.0 | 1.495 | 53.84 | 5.329 | 30.04 | 332.2 | 48.54 |
| #1 | .0000 | .0026 | .0005 | .0002 | .0025 | .0001 | .0002 | .0034 | .0000 | .0001 |
| #2 | .0002 | -.0012 | .0013 | -.0012 | .0025 | .0002 | .0002 | .0053 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0000 | .0023 | .0015 | .0367 | .0003 | .0027 | -.0151 | .0003 | .0002 |
| Stddev | .0003 | .000 | .0017 | .0209 | .0020 | .0000 | .0006 | .0010 | .0001 | .0005 |
| %RSD | 69.50 | 322.2 | 75.08 | 1438. | 5.383 | 4.595 | 23.00 | 6.883 | 35.14 | 211.4 |
| #1 | .0006 | .0000 | .0011 | -.0133 | .0353 | .0002 | .0031 | -.0158 | .0002 | -.0001 |
| #2 | .0002 | .0000 | .0036 | .0162 | .0381 | .0003 | .0022 | -.0143 | .0004 | .0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0046 | -.0002 | .0001 | -.0005 | -.0006 | .0006 | .0002 | .0002 | .0018 |
| Stddev | .0001 | .0001 | .0007 | .0002 | .0001 | .0003 | .0004 | .0000 | .0001 | .0005 |
| %RSD | 21.16 | 1.287 | 373.3 | 220.6 | 27.45 | 51.68 | 66.64 | 2.116 | 50.17 | 28.34 |
| #1 | -.0004 | .0046 | .0003 | -.0001 | -.0006 | -.0004 | .0009 | .0002 | .0003 | .0014 |
| #2 | -.0005 | .0047 | -.0007 | .0002 | -.0004 | -.0008 | .0003 | .0002 | .0001 | .0021 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0002 | .0002 | .0002 |
| Stddev | .0001 | .0008 | .0001 | .0000 |
| %RSD | 47.62 | 402.3 | 65.89 | 29.00 |
| #1 | .0004 | .0004 | .0002 | .0001 |
| #2 | .0002 | -.0008 | .0001 | .0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1163.7 | 57557. | 18737. |
| Stddev | 1.3 | 158. | 118. |
| %RSD | .10839 | .27395 | .63155 |
| #1 | 1162.8 | 57668. | 18821. |
| #2 | 1164.6 | 57445. | 18653. |



Zoom In Zoom Out

Sample Name: MC26418-3F Acquired: 12/12/2013 19:49:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0045 | .4663 | -.0038 | .0493 | .0419 | .0002 | 24.34 | -.0005 | .0081 |
| Stddev | .0009 | .0149 | .0074 | .0063 | .0001 | .0005 | .0002 | .12 | .0003 | .0016 |
| %RSD | 1789. | 326.8 | 1.598 | 165.1 | .2445 | 1.204 | 107.1 | .4779 | 50.34 | 20.13 |
| #1 | .0007 | -.0060 | .4715 | .0006 | .0494 | .0423 | .0003 | 24.42 | -.0007 | .0069 |
| #2 | -.0006 | .0151 | .4610 | -.0082 | .0492 | .0416 | .0000 | 24.26 | -.0003 | .0092 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | -.0011 | 60.53 | 4.974 | 2.782 | 2.527 | .0035 | 14.46 | .0070 | -.0015 |
| Stddev | .0008 | .0001 | .10 | .016 | .047 | .001 | .0006 | .07 | .0003 | .0008 |
| %RSD | 914.1 | 10.70 | .1663 | .3196 | 1.687 | .0364 | 16.30 | .4766 | 4.554 | 50.13 |
| #1 | -.0006 | -.0010 | 60.60 | 4.962 | 2.815 | 2.526 | .0039 | 14.51 | .0072 | -.0020 |
| #2 | .0005 | -.0012 | 60.45 | 4.985 | 2.749 | 2.528 | .0031 | 14.41 | .0067 | -.0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0242 | 11.35 | -.0043 | -.0055 | 9.545 | .0004 | .0967 | -.0008 | .0073 |
| Stddev | .0036 | .0088 | .04 | .0010 | .0002 | .000 | .0024 | .0004 | .0003 | .0031 |
| %RSD | 83.61 | 36.33 | .3328 | 23.23 | 2.859 | .0008 | 553.1 | .4595 | 30.54 | 42.02 |
| #1 | -.0068 | .0180 | 11.33 | -.0050 | -.0056 | 9.545 | -.0013 | .0970 | -.0010 | .0095 |
| #2 | -.0018 | .0305 | 11.38 | -.0036 | -.0053 | 9.545 | .0021 | .0964 | -.0007 | .0052 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0024 | .0112 | .0202 | -.0521 |
| Stddev | .0001 | .0034 | .0009 | .0000 |
| %RSD | 4.654 | 30.04 | 4.353 | .0871 |
| #1 | .0024 | .0136 | .0196 | -.0520 |
| #2 | .0023 | .0088 | .0208 | -.0521 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.1 | 57846. | 18798. |
| Stddev | 1.3 | 103. | 10. |
| %RSD | .11383 | .17848 | .05505 |
| #1 | 1164.2 | 57919. | 18806. |
| #2 | 1166.1 | 57773. | 18791. |



Zoom In Zoom Out

Sample Name: MC26418-4F Acquired: 12/12/2013 19:54:32 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0403 | .2522 | .0014 | .0602 | .0796 | .0002 | 39.83 | -.0002 | .1059 |
| Stddev | .0013 | .0006 | .0019 | .0011 | .0003 | .0007 | .0001 | .02 | .0001 | .0016 |
| %RSD | 801.5 | 1.474 | .7391 | 78.67 | .4219 | .9162 | 50.19 | .0602 | 51.44 | 1.520 |
| #1 | .0011 | .0399 | .2509 | .0006 | .0604 | .0801 | .0001 | 39.85 | -.0003 | .1048 |
| #2 | -.0008 | .0407 | .2535 | .0021 | .0600 | .0791 | .0002 | 39.82 | -.0001 | .1071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0000 | 18.21 | 8.588 | 2.560 | 2.272 | .0068 | 23.04 | .7026 | .0008 |
| Stddev | .0020 | .0003 | .07 | .089 | .060 | .005 | .0003 | .03 | .0025 | .0003 |
| %RSD | 707.1 | 2340. | .4058 | 1.036 | 2.352 | .2413 | 4.956 | .1172 | .3551 | 39.58 |
| #1 | .0011 | -.0002 | 18.26 | 8.651 | 2.603 | 2.276 | .0065 | 23.06 | .7008 | .0006 |
| #2 | -.0017 | .0002 | 18.16 | 8.525 | 2.518 | 2.269 | .0070 | 23.02 | .7043 | .0010 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | .0351 | 36.88 | -.0008 | -.0039 | 11.52 | -.0007 | .3299 | .0011 | .0039 |
| Stddev | .0025 | .0057 | .13 | .0002 | .0025 | .03 | .0011 | .0007 | .0003 | .0015 |
| %RSD | 170.9 | 16.16 | .3427 | 26.67 | 63.93 | .2691 | 153.6 | .2229 | 29.84 | 37.45 |
| #1 | .0003 | .0311 | 36.79 | -.0007 | -.0057 | 11.50 | .0001 | .3305 | .0014 | .0029 |
| #2 | -.0032 | .0392 | 36.97 | -.0010 | -.0021 | 11.54 | -.0015 | .3294 | .0009 | .0050 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | .0069 | .0490 | -.0633 |
| Stddev | .0007 | .0101 | .0009 | .0005 |
| %RSD | 157.0 | 146.2 | 1.875 | .8440 |
| #1 | .0010 | .0141 | .0484 | -.0630 |
| #2 | -.0001 | -.0002 | .0497 | -.0637 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1173.4 | 57714. | 18720. |
| Stddev | 3.6 | 257. | 2. |
| %RSD | .30473 | .44501 | .01308 |
| #1 | 1176.0 | 57532. | 18722. |
| #2 | 1170.9 | 57896. | 18719. |

Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/12/2013 19:59:26 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0116 | 3.392 | .0026 | .0432 | .0324 | .0002 | 25.27 | -.0003 | .0055 |
| Stddev | .001 | .0021 | .022 | .0032 | .0002 | .0005 | .0001 | .60 | .0001 | .0003 |
| %RSD | 1814. | 17.68 | .6586 | 121.9 | .4294 | 1.612 | 42.88 | 2.377 | 43.64 | 6.120 |
| #1 | .0003 | .0102 | 3.377 | .0048 | .0433 | .0320 | .0002 | 24.85 | -.0002 | .0057 |
| #2 | -.0004 | .0131 | 3.408 | .0004 | .0431 | .0327 | .0001 | 25.70 | -.0003 | .0052 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0004 | 86.71 | 4.431 | 2.146 | 6.544 | -.0002 | 4.152 | .0125 | .0010 |
| Stddev | .0011 | .0001 | 2.08 | .060 | .021 | .127 | .0001 | .085 | .0003 | .0022 |
| %RSD | 147.2 | 26.68 | 2.396 | 1.365 | .9848 | 1.946 | 36.35 | 2.034 | 2.780 | 214.8 |
| #1 | -.0016 | .0004 | 85.24 | 4.388 | 2.160 | 6.454 | -.0003 | 4.092 | .0123 | .0026 |
| #2 | .0000 | .0005 | 88.18 | 4.474 | 2.131 | 6.634 | -.0002 | 4.212 | .0128 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0018 | .0518 | 1.150 | -.0009 | -.0036 | 8.939 | .0004 | .1355 | .0002 | .0042 |
| Stddev | .0025 | .0173 | .004 | .0012 | .0017 | .032 | .0020 | .0025 | .0010 | .0028 |
| %RSD | 138.7 | 33.43 | .3388 | 139.1 | 45.56 | .3584 | 526.0 | 1.844 | 416.4 | 67.61 |
| #1 | .0000 | .0641 | 1.147 | -.0017 | -.0048 | 8.917 | .0018 | .1337 | .0010 | .0022 |
| #2 | .0036 | .0396 | 1.153 | .0000 | -.0025 | 8.962 | -.0010 | .1373 | -.0005 | .0062 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0007 | .0072 | .0074 | -.0462 |
| Stddev | .0009 | .0167 | .0000 | .0006 |
| %RSD | 121.8 | 231.4 | .5013 | 1.331 |
| #1 | .0001 | -.0046 | .0074 | -.0466 |
| #2 | .0013 | .0191 | .0073 | -.0457 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1174.9 | 57292. | 18476. |
| Stddev | 4.9 | 722. | 471. |
| %RSD | .42124 | 1.2601 | 2.5486 |
| #1 | 1178.4 | 57802. | 18809. |
| #2 | 1171.4 | 56781. | 18143. |



Zoom In Zoom Out

Sample Name: MC26418-5F Acquired: 12/12/2013 20:04:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0371 | 3.497 | -.0029 | .0476 | .0337 | .0006 | 26.15 | -.0001 | .0046 |
| Stddev | .0062 | .0104 | .002 | .0101 | .0038 | .0004 | .0001 | .63 | .0002 | .0011 |
| %RSD | 552.0 | 27.97 | .0469 | 352.2 | 7.983 | 1.255 | 9.444 | 2.414 | 343.2 | 24.91 |
| #1 | .0033 | .0298 | 3.498 | .0043 | .0449 | .0334 | .0006 | 25.70 | .0001 | .0038 |
| #2 | -.0055 | .0444 | 3.495 | -.0100 | .0503 | .0340 | .0007 | 26.60 | -.0002 | .0054 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0014 | -.0015 | 89.58 | 4.577 | 2.338 | 6.761 | .0013 | 4.127 | .0118 | .0078 |
| Stddev | .0004 | .0029 | 2.00 | .164 | .161 | .011 | .0017 | .088 | .0030 | .0027 |
| %RSD | 26.43 | 192.9 | 2.239 | 3.576 | 6.900 | .1674 | 130.2 | 2.128 | 25.31 | 34.98 |
| #1 | -.0012 | -.0035 | 88.17 | 4.461 | 2.224 | 6.753 | .0025 | 4.065 | .0097 | .0098 |
| #2 | -.0017 | .0005 | 91.00 | 4.692 | 2.452 | 6.769 | .0001 | 4.189 | .0140 | .0059 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0021 | .0906 | 1.175 | -.0063 | -.0082 | 9.229 | .0005 | .1388 | .0039 | .0077 |
| Stddev | .0087 | .0363 | .021 | .0019 | .0035 | .090 | .0007 | .0035 | .0047 | .0003 |
| %RSD | 410.1 | 40.06 | 1.765 | 29.52 | 43.00 | .9745 | 128.7 | 2.524 | 120.4 | 3.679 |
| #1 | -.0040 | .1163 | 1.160 | -.0050 | -.0057 | 9.165 | .0000 | .1363 | .0072 | .0075 |
| #2 | .0083 | .0649 | 1.190 | -.0077 | -.0107 | 9.292 | .0010 | .1412 | .0006 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0085 | .0108 | -.0462 |
| Stddev | .0017 | .0789 | .0003 | .0020 |
| %RSD | 149.2 | 929.8 | 2.401 | 4.337 |
| #1 | -.0023 | -.0643 | .0106 | -.0476 |
| #2 | .0001 | .0473 | .0110 | -.0448 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1178.3 | 57465. | 18867. |
| Stddev | 2.1 | 23. | 28. |
| %RSD | .17661 | .04062 | .14705 |
| #1 | 1179.8 | 57481. | 18847. |
| #2 | 1176.8 | 57448. | 18886. |



Zoom In Zoom Out

Sample Name: MC26418-6F Acquired: 12/12/2013 20:09:14 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | 1.543 | .0040 | -.0041 | .0230 | .0568 | .0008 | 28.73 | -.0003 | .0184 |
| Stddev | .0004 | .020 | .0017 | .0004 | .0013 | .0003 | .0002 | .47 | .0008 | .0000 |
| %RSD | 81.08 | 1.279 | 41.79 | 10.28 | 5.837 | .5057 | 22.09 | 1.627 | 286.8 | .0820 |
| #1 | .0007 | 1.529 | .0052 | -.0044 | .0220 | .0566 | .0007 | 29.06 | -.0009 | .0184 |
| #2 | .0002 | 1.557 | .0028 | -.0038 | .0239 | .0570 | .0009 | 28.40 | .0003 | .0184 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0013 | 1.444 | 4.078 | 2.997 | .6071 | .0012 | 42.50 | .2907 | -.0021 |
| Stddev | .0016 | .0007 | .033 | .074 | .023 | .0051 | .0008 | .14 | .0006 | .0032 |
| %RSD | 131.1 | 56.08 | 2.309 | 1.811 | .7755 | .8364 | 68.59 | .3234 | .1994 | 148.7 |
| #1 | .0024 | -.0018 | 1.468 | 4.130 | 3.014 | .6035 | .0006 | 42.40 | .2911 | -.0044 |
| #2 | .0001 | -.0008 | 1.421 | 4.026 | 2.981 | .6107 | .0018 | 42.60 | .2902 | .0001 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0231 | 24.45 | -.0004 | -.0049 | 3.489 | .0005 | .2461 | .0002 | .0036 |
| Stddev | .0046 | .0235 | .05 | .0008 | .0027 | .007 | .0008 | .0026 | .0004 | .0027 |
| %RSD | 604.9 | 101.7 | .2194 | 189.5 | 54.82 | .1992 | 152.3 | 1.077 | 196.5 | 74.71 |
| #1 | -.0040 | .0398 | 24.41 | -.0010 | -.0067 | 3.484 | .0011 | .2480 | .0005 | .0017 |
| #2 | .0025 | .0065 | 24.48 | .0001 | -.0030 | 3.494 | .0000 | .2442 | -.0001 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0005 | -.0031 | .0933 | -.0176 |
| Stddev | .0002 | .0016 | .0007 | .0006 |
| %RSD | 44.30 | 50.48 | .7004 | 3.386 |
| #1 | .0003 | -.0020 | .0928 | -.0171 |
| #2 | .0007 | -.0042 | .0938 | -.0180 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1178.6 | 57435. | 18935. |
| Stddev | 2.0 | 100. | 125. |
| %RSD | .17100 | .17381 | .66198 |
| #1 | 1180.0 | 57365. | 18846. |
| #2 | 1177.2 | 57506. | 19024. |



Zoom In Zoom Out

Sample Name: MC26418-8F Acquired: 12/12/2013 20:14:09 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0011 | .0224 | .0068 | -.0004 | .0174 | .0210 | .0001 | 18.38 | -.0008 | .0042 |
| Stddev | .0001 | .0034 | .0117 | .0036 | .0010 | .0000 | .0002 | .18 | .0003 | .0008 |
| %RSD | 5.209 | 15.31 | 173.0 | 814.6 | 5.667 | .1081 | 329.8 | 1.002 | 40.63 | 18.78 |
| #1 | .0010 | .0200 | -.0015 | -.0030 | .0181 | .0210 | -.0001 | 18.25 | -.0006 | .0048 |
| #2 | .0011 | .0248 | .0151 | .0021 | .0167 | .0210 | .0002 | 18.51 | -.0010 | .0036 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | .0043 | .0775 | 2.309 | 2.582 | .0251 | .0019 | 41.96 | .1888 | -.0008 |
| Stddev | .0021 | .0011 | .0026 | .036 | .091 | .0002 | .0008 | .04 | .0022 | .0028 |
| %RSD | 161.2 | 26.64 | 3.323 | 1.543 | 3.512 | .9124 | 41.73 | .0934 | 1.147 | 337.8 |
| #1 | .0028 | .0051 | .0757 | 2.334 | 2.517 | .0252 | .0013 | 41.99 | .1873 | -.0028 |
| #2 | -.0002 | .0035 | .0793 | 2.283 | 2.646 | .0249 | .0025 | 41.93 | .1904 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0087 | 7.699 | .0000 | -.0024 | 2.215 | .0023 | .1370 | .0006 | .0042 |
| Stddev | .0008 | .0025 | .068 | .000 | .0001 | .020 | .0027 | .0006 | .0022 | .0018 |
| %RSD | 108.9 | 29.06 | .8856 | 627.3 | 3.302 | .9036 | 119.5 | .4547 | 359.6 | 42.30 |
| #1 | -.0012 | .0069 | 7.651 | .0001 | -.0023 | 2.201 | .0004 | .1365 | -.0010 | .0029 |
| #2 | -.0002 | .0105 | 7.747 | -.0002 | -.0024 | 2.229 | .0042 | .1374 | .0022 | .0055 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | -.0041 | .0097 | -.0119 |
| Stddev | .0015 | .0310 | .0011 | .0009 |
| %RSD | 108.1 | 756.9 | 11.31 | 7.213 |
| #1 | .0003 | -.0260 | .0105 | -.0113 |
| #2 | .0025 | .0178 | .0089 | -.0125 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1172.8 | 57629. | 18724. |
| Stddev | .9 | 99. | 108. |
| %RSD | .07736 | .17214 | .57916 |
| #1 | 1172.2 | 57699. | 18800. |
| #2 | 1173.5 | 57559. | 18647. |

Zoom In Zoom Out

Sample Name: MC26418-9F Acquired: 12/12/2013 20:19:02 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0032 | 1.026 | -.0010 | .1261 | .0922 | .0000 | 45.50 | -.0009 | .0142 |
| Stddev | .0007 | .0133 | .004 | .0019 | .0031 | .0008 | .000 | .00 | .0004 | .0013 |
| %RSD | 78.11 | 412.0 | .3838 | 190.6 | 2.476 | .8314 | 326.2 | .0082 | 40.57 | 9.339 |
| #1 | .0004 | .0062 | 1.023 | -.0023 | .1238 | .0917 | .0000 | 45.50 | -.0011 | .0152 |
| #2 | .0013 | -.0126 | 1.029 | .0003 | .1283 | .0928 | -.0001 | 45.50 | -.0006 | .0133 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0003 | 74.57 | 10.97 | 6.811 | .9880 | .0007 | 18.41 | .0147 | -.0054 |
| Stddev | .0011 | .0010 | .12 | .18 | .063 | .0039 | .0004 | .01 | .0004 | .0004 |
| %RSD | 414.2 | 315.4 | .1641 | 1.654 | .9205 | .3938 | 50.14 | .0528 | 2.688 | 8.084 |
| #1 | .0011 | -.0010 | 74.65 | 10.84 | 6.856 | .9908 | .0010 | 18.42 | .0144 | -.0051 |
| #2 | -.0005 | .0004 | 74.48 | 11.10 | 6.767 | .9853 | .0005 | 18.41 | .0150 | -.0057 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0232 | 2.159 | -.0050 | -.0060 | 14.51 | .0028 | .4248 | .0005 | .0085 |
| Stddev | .0019 | .0126 | .019 | .0017 | .0039 | .00 | .0012 | .0007 | .0007 | .0022 |
| %RSD | 1938. | 54.50 | .8891 | 32.98 | 64.44 | .0068 | 42.24 | .1655 | 143.7 | 26.09 |
| #1 | -.0012 | .0321 | 2.145 | -.0038 | -.0088 | 14.51 | .0036 | .4243 | .0000 | .0069 |
| #2 | .0014 | .0142 | 2.172 | -.0062 | -.0033 | 14.51 | .0019 | .4253 | .0010 | .0100 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0025 | .0598 | -.0791 |
| Stddev | .001 | .0025 | .0000 | .0002 |
| %RSD | 6764. | 99.70 | .0364 | .2658 |
| #1 | .0006 | -.0007 | .0598 | -.0792 |
| #2 | -.0006 | -.0042 | .0598 | -.0789 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1171.2 | 57672. | 18834. |
| Stddev | 1.1 | 141. | 2. |
| %RSD | .09363 | .24434 | .01265 |
| #1 | 1170.4 | 57573. | 18836. |
| #2 | 1172.0 | 57772. | 18833. |



Zoom In Zoom Out

Sample Name: MC26418-10F Acquired: 12/12/2013 20:23:56 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0006 | 6.055 | -.0017 | .0529 | .0365 | .0001 | 48.82 | .0001 | .0209 |
| Stddev | .0013 | .0114 | .007 | .0047 | .0019 | .0007 | .0001 | .27 | .0001 | .0009 |
| %RSD | 2845. | 1858. | .1145 | 272.8 | 3.642 | 1.866 | 158.2 | .5528 | 92.09 | 4.461 |
| #1 | .0010 | -.0075 | 6.060 | -.0050 | .0543 | .0370 | .0002 | 49.01 | .0002 | .0216 |
| #2 | -.0009 | .0087 | 6.050 | .0016 | .0515 | .0361 | .0000 | 48.63 | .0000 | .0203 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0001 | 47.37 | 5.087 | 6.208 | 8.207 | .0026 | 11.12 | .0140 | -.0026 |
| Stddev | .0002 | .0009 | .08 | .050 | .067 | .011 | .0004 | .04 | .0002 | .0036 |
| %RSD | 28.95 | 764.5 | .1775 | .9911 | 1.081 | .1283 | 15.89 | .3375 | 1.267 | 136.6 |
| #1 | -.0005 | -.0007 | 47.31 | 5.123 | 6.255 | 8.199 | .0023 | 11.14 | .0141 | -.0001 |
| #2 | -.0007 | .0005 | 47.42 | 5.051 | 6.160 | 8.214 | .0029 | 11.09 | .0138 | -.0052 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0012 | .0700 | 3.523 | -.0017 | -.0026 | 8.388 | -.0011 | .3537 | .0018 | .0052 |
| Stddev | .0006 | .0021 | .026 | .0036 | .0037 | .003 | .0014 | .0007 | .0004 | .0040 |
| %RSD | 52.68 | 2.934 | .7512 | 210.5 | 144.2 | .0302 | 128.4 | .1872 | 20.13 | 77.24 |
| #1 | -.0016 | .0714 | 3.504 | .0008 | -.0052 | 8.390 | -.0020 | .3541 | .0021 | .0080 |
| #2 | -.0007 | .0685 | 3.542 | -.0042 | .0000 | 8.386 | -.0001 | .3532 | .0016 | .0024 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0005 | .0016 | .0366 | -.0451 |
| Stddev | .0006 | .0048 | .0007 | .0006 |
| %RSD | 107.2 | 292.0 | 1.957 | 1.415 |
| #1 | -.0009 | .0051 | .0371 | -.0446 |
| #2 | -.0001 | -.0018 | .0361 | -.0455 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.1 | 57803. | 18851. |
| Stddev | 1.8 | 117. | 28. |
| %RSD | .15577 | .20322 | .14613 |
| #1 | 1166.3 | 57886. | 18831. |
| #2 | 1163.8 | 57720. | 18870. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/12/2013 20:28:49 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0125 | 1.594 | -.0029 | .2406 | .0559 | -.0001 | 77.58 | .0000 | -.0014 |
| Stddev | .0004 | .0012 | .009 | .0034 | .0006 | .0006 | .0001 | .27 | .0002 | .0002 |
| %RSD | 135.7 | 9.365 | .5761 | 118.0 | .2538 | 1.158 | 102.2 | .3468 | 574.2 | 16.87 |
| #1 | .0006 | -.0117 | 1.587 | -.0053 | .2401 | .0564 | -.0002 | 77.77 | -.0001 | -.0012 |
| #2 | .0000 | -.0134 | 1.600 | -.0005 | .2410 | .0554 | .0000 | 77.39 | .0002 | -.0016 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0008 | 44.46 | 10.41 | 12.21 | 1.544 | .0005 | 29.43 | .0010 | .0029 |
| Stddev | .0000 | .0002 | .03 | .04 | .04 | .001 | .0003 | .03 | .0000 | .0010 |
| %RSD | 5.280 | 28.20 | .0751 | .4131 | .3525 | .0444 | 54.99 | .0878 | 2.792 | 32.51 |
| #1 | .0002 | .0010 | 44.48 | 10.44 | 12.24 | 1.545 | .0003 | 29.41 | .0010 | .0023 |
| #2 | .0002 | .0007 | 44.43 | 10.38 | 12.18 | 1.544 | .0007 | 29.45 | .0010 | .0036 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0024 | .0202 | .9078 | -.0001 | -.0028 | 16.28 | .0005 | .8695 | .0016 | .0044 |
| Stddev | .0005 | .0100 | .0025 | .0019 | .0019 | .05 | .0009 | .0007 | .0002 | .0012 |
| %RSD | 22.35 | 49.53 | .2736 | 2058. | 68.33 | .3270 | 172.2 | .0827 | 14.97 | 27.25 |
| #1 | -.0028 | .0131 | .9060 | -.0014 | -.0042 | 16.25 | .0012 | .8690 | .0014 | .0052 |
| #2 | -.0020 | .0272 | .9095 | .0012 | -.0015 | 16.32 | -.0001 | .8700 | .0017 | .0035 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0100 | .0092 | -.0897 |
| Stddev | .0006 | .0133 | .0010 | .0002 |
| %RSD | 96.87 | 133.6 | 10.67 | .2015 |
| #1 | .0010 | -.0006 | .0099 | -.0895 |
| #2 | .0002 | -.0194 | .0085 | -.0898 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1154.2 | 57902. | 18844. |
| Stddev | 2.8 | 144. | 58. |
| %RSD | .23911 | .24946 | .30539 |
| #1 | 1156.2 | 58004. | 18804. |
| #2 | 1152.3 | 57799. | 18885. |



Zoom In Zoom Out

Sample Name: MC26418-11F Acquired: 12/12/2013 20:33:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0008 | -.0406 | 1.626 | -.0067 | .2454 | .0560 | -.0001 | 78.76 | -.0003 | -.0027 |
| Stddev | .0046 | .0076 | .012 | .0064 | .0000 | .0012 | .0001 | .12 | .0011 | .0003 |
| %RSD | 587.7 | 18.69 | .7499 | 95.15 | .0046 | 2.108 | 183.6 | .1496 | 429.7 | 10.47 |
| #1 | -.0025 | -.0460 | 1.617 | -.0022 | .2454 | .0551 | -.0002 | 78.67 | -.0011 | -.0025 |
| #2 | .0040 | -.0353 | 1.634 | -.0112 | .2455 | .0568 | .0000 | 78.84 | .0005 | -.0029 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | .0008 | 45.77 | 10.67 | 12.36 | 1.582 | .0000 | 29.97 | .0039 | -.0077 |
| Stddev | .0011 | .0013 | .24 | .07 | .27 | .003 | .0010 | .11 | .0002 | .0041 |
| %RSD | 205.8 | 158.4 | .5257 | .6641 | 2.208 | .1861 | 4079. | .3558 | 5.868 | 53.08 |
| #1 | -.0014 | -.0001 | 45.60 | 10.62 | 12.56 | 1.580 | -.0007 | 29.90 | .0041 | -.0106 |
| #2 | .0003 | .0017 | 45.94 | 10.72 | 12.17 | 1.584 | .0008 | 30.05 | .0038 | -.0048 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0044 | .0276 | .9079 | -.0033 | -.0073 | 16.52 | .0010 | .8909 | .0059 | -.0064 |
| Stddev | .0045 | .0082 | .0060 | .0015 | .0004 | .01 | .0058 | .0015 | .0018 | .0010 |
| %RSD | 103.6 | 29.73 | .6580 | 45.81 | 4.949 | .0467 | 571.3 | .1728 | 29.99 | 15.79 |
| #1 | -.0075 | .0334 | .9122 | -.0044 | -.0076 | 16.51 | .0051 | .8898 | .0046 | -.0071 |
| #2 | -.0012 | .0218 | .9037 | -.0022 | -.0071 | 16.52 | -.0031 | .8920 | .0071 | -.0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0021 | -.0045 | .0406 | -.0924 |
| Stddev | .0007 | .0099 | .0001 | .0012 |
| %RSD | 32.82 | 220.0 | .2155 | 1.258 |
| #1 | .0026 | -.0115 | .0405 | -.0933 |
| #2 | .0016 | .0025 | .0406 | -.0916 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1155.8 | 58143. | 18864. |
| Stddev | 1.3 | 55. | 31. |
| %RSD | .11672 | .09403 | .16223 |
| #1 | 1156.7 | 58181. | 18886. |
| #2 | 1154.8 | 58104. | 18843. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 20:38:38 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2492 | 10.14 | 1.985 | -.0026 | 2.015 | 2.003 | 2.013 | 9.993 | 2.000 | 2.096 |
| Stddev | .0015 | .02 | .004 | .0004 | .005 | .001 | .000 | .015 | .002 | .000 |
| %RSD | .6180 | .1520 | .2180 | 17.32 | .2700 | .0235 | .0043 | .1461 | .1116 | .0012 |
| #1 | .2502 | 10.15 | 1.988 | -.0023 | 2.011 | 2.004 | 2.013 | 9.982 | 1.998 | 2.096 |
| #2 | .2481 | 10.13 | 1.982 | -.0029 | 2.019 | 2.003 | 2.013 | 10.00 | 2.001 | 2.096 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.952 | 1.998 | 10.32 | 10.06 | 9.996 | 1.980 | 1.989 | 10.24 | 1.978 | 1.990 |
| Stddev | .007 | .001 | .02 | .02 | .000 | .005 | .003 | .01 | .004 | .009 |
| %RSD | .3389 | .0643 | .2316 | .1666 | .0012 | .2443 | .1236 | .1243 | .1779 | .4494 |
| #1 | 1.948 | 1.998 | 10.33 | 10.08 | 9.996 | 1.976 | 1.987 | 10.25 | 1.976 | 1.983 |
| #2 | 1.957 | 1.997 | 10.30 | 10.05 | 9.996 | 1.983 | 1.991 | 10.23 | 1.981 | 1.996 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0133 | -.0052 | 1.993 | 1.970 | -.0081 | 2.050 | 2.091 | 1.943 | 1.995 |
| Stddev | .0006 | .0042 | .0009 | .004 | .007 | .0014 | .003 | .005 | .005 | .009 |
| %RSD | 244.2 | 31.51 | 17.64 | .1857 | .3389 | 17.81 | .1523 | .2445 | .2505 | .4561 |
| #1 | -.0007 | .0162 | -.0046 | 1.990 | 1.965 | -.0091 | 2.048 | 2.095 | 1.940 | 1.988 |
| #2 | .0002 | .0103 | -.0058 | 1.995 | 1.974 | -.0071 | 2.052 | 2.087 | 1.947 | 2.001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.930 | .0171 | 1.987 | -.0056 |
| Stddev | .002 | .0015 | .000 | .0001 |
| %RSD | .0907 | 8.711 | .0144 | 1.542 |
| #1 | 1.929 | .0182 | 1.988 | -.0055 |
| #2 | 1.931 | .0161 | 1.987 | -.0057 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1152.8 | 58158. | 18883. |
| Stddev | 1.8 | 123. | 11. |
| %RSD | .15975 | .21205 | .05749 |
| #1 | 1154.1 | 58245. | 18891. |
| #2 | 1151.5 | 58071. | 18875. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 20:43:27 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0003 | -.0013 | .0021 | -.0002 | .0022 | .0001 | .0002 | .0016 | .0003 | .0004 |
| Stddev | .0001 | .0017 | .0013 | .0002 | .0000 | .0000 | .0000 | .0005 | .0001 | .0000 |
| %RSD | 29.84 | 128.6 | 64.22 | 81.95 | .2791 | 60.06 | 17.07 | 30.39 | 15.31 | 2.717 |
| #1 | .0002 | -.0025 | .0030 | -.0004 | .0022 | .0000 | .0001 | .0013 | .0003 | .0004 |
| #2 | .0004 | -.0001 | .0011 | -.0001 | .0023 | .0001 | .0002 | .0020 | .0004 | .0004 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0007 | .0017 | .0004 | -.0082 | .0003 | .0026 | -.0125 | .0007 | -.0008 |
| Stddev | .0005 | .0001 | .0003 | .0003 | .0093 | .0000 | .0007 | .0017 | .0002 | .0003 |
| %RSD | 118.8 | 19.19 | 16.12 | 68.48 | 113.1 | 8.945 | 26.60 | 13.86 | 24.38 | 33.81 |
| #1 | .0008 | .0008 | .0015 | .0006 | -.0016 | .0003 | .0031 | -.0112 | .0006 | -.0010 |
| #2 | .0001 | .0006 | .0019 | .0002 | -.0148 | .0003 | .0021 | -.0137 | .0008 | -.0006 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .0004 | .0004 | -.0003 | .0007 | .0004 | .0006 | .0002 | .0004 | .0018 |
| Stddev | .0003 | .0034 | .0001 | .0005 | .0005 | .0003 | .0001 | .0000 | .0003 | .0010 |
| %RSD | 121.5 | 798.9 | 24.66 | 191.6 | 71.84 | 59.53 | 20.54 | 20.18 | 80.95 | 53.41 |
| #1 | .0000 | .0029 | .0003 | -.0006 | .0011 | .0006 | .0007 | .0002 | .0006 | .0025 |
| #2 | -.0004 | -.0020 | .0004 | .0001 | .0004 | .0003 | .0005 | .0002 | .0002 | .0011 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0001 | -.0015 | .0001 | -.0004 |
| Stddev | .0001 | .0059 | .0002 | .0002 |
| %RSD | 193.5 | 399.2 | 202.1 | 50.66 |
| #1 | -.0001 | .0027 | .0000 | -.0005 |
| #2 | .0000 | -.0057 | .0003 | -.0002 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1149.6 | 58199. | 18706. |
| Stddev | 3.2 | 152. | 57. |
| %RSD | .27779 | .26127 | .30542 |
| #1 | 1151.8 | 58091. | 18666. |
| #2 | 1147.3 | 58306. | 18747. |



Zoom In Zoom Out

Sample Name: MC26418-12F Acquired: 12/12/2013 20:48:24 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0111 | .0071 | .0002 | .0641 | .0067 | .0001 | 32.94 | .0000 | -.0001 |
| Stddev | .0000 | .0019 | .0006 | .0007 | .0008 | .0001 | .0001 | .01 | .000 | .0001 |
| %RSD | 4.764 | 16.74 | 8.160 | 368.6 | 1.284 | 1.839 | 101.6 | .0153 | 743.8 | 238.7 |
| #1 | .0009 | .0098 | .0075 | .0006 | .0635 | .0066 | .0002 | 32.94 | .0002 | -.0001 |
| #2 | .0010 | .0125 | .0067 | -.0003 | .0647 | .0068 | .0000 | 32.93 | -.0003 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0056 | 2.565 | 7.688 | 3.095 | .1566 | .0024 | 21.31 | .0027 | -.0007 |
| Stddev | .0002 | .0005 | .007 | .009 | .022 | .0001 | .0001 | .07 | .0002 | .0014 |
| %RSD | 77.74 | 9.465 | .2878 | .1137 | .6988 | .0489 | 3.545 | .3191 | 8.522 | 196.3 |
| #1 | .0001 | .0052 | 2.560 | 7.694 | 3.110 | .1566 | .0024 | 21.36 | .0028 | .0003 |
| #2 | .0004 | .0059 | 2.570 | 7.682 | 3.079 | .1567 | .0023 | 21.26 | .0025 | -.0017 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0013 | 3.412 | -.0022 | -.0011 | 2.267 | -.0003 | .2566 | .0012 | .0034 |
| Stddev | .0010 | .0004 | .009 | .0010 | .0004 | .014 | .0012 | .0010 | .0001 | .0016 |
| %RSD | 43.20 | 29.92 | .2766 | 45.21 | 33.47 | .5981 | 346.2 | .3957 | 6.046 | 47.11 |
| #1 | -.0015 | .0016 | 3.405 | -.0015 | -.0014 | 2.257 | .0005 | .2573 | .0012 | .0045 |
| #2 | -.0029 | .0010 | 3.419 | -.0029 | -.0009 | 2.277 | -.0011 | .2559 | .0011 | .0023 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | -.0006 | .0170 | -.0129 |
| Stddev | .0006 | .0043 | .0003 | .0003 |
| %RSD | 131.4 | 755.5 | 1.798 | 2.368 |
| #1 | .0009 | -.0036 | .0168 | -.0131 |
| #2 | .0000 | .0025 | .0172 | -.0127 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1142.7 | 58004. | 18954. |
| Stddev | 3.6 | 70. | 40. |
| %RSD | .31128 | .12115 | .20849 |
| #1 | 1145.3 | 58054. | 18982. |
| #2 | 1140.2 | 57955. | 18926. |



Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/12/2013 20:53:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | .0036 | .0072 | -.0027 | .1660 | .0142 | .0001 | 74.23 | .0000 | .0084 |
| Stddev | .0002 | .0111 | .0007 | .0031 | .0013 | .0002 | .0000 | .39 | .000 | .0002 |
| %RSD | 14.74 | 309.0 | 9.924 | 115.5 | .7678 | 1.078 | 63.59 | .5274 | 500.2 | 2.622 |
| #1 | .0014 | .0115 | .0077 | -.0005 | .1669 | .0143 | .0000 | 73.95 | -.0002 | .0082 |
| #2 | .0011 | -.0043 | .0066 | -.0048 | .1651 | .0140 | .0001 | 74.51 | .0001 | .0086 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0017 | .0512 | 3.040 | 8.677 | 21.06 | .0010 | 22.87 | .0155 | .0035 |
| Stddev | .0012 | .0003 | .0007 | .008 | .050 | .03 | .0003 | .18 | .0007 | .0022 |
| %RSD | 114.4 | 17.46 | 1.434 | .2668 | .5740 | .1479 | 31.14 | .7982 | 4.385 | 61.17 |
| #1 | .0002 | .0019 | .0517 | 3.034 | 8.642 | 21.04 | .0008 | 22.99 | .0159 | .0050 |
| #2 | .0019 | .0014 | .0507 | 3.046 | 8.712 | 21.08 | .0012 | 22.74 | .0150 | .0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0054 | .1497 | .8703 | -.0007 | -.0028 | 7.377 | -.0001 | .4481 | .0015 | .0039 |
| Stddev | .0015 | .0048 | .0062 | .0008 | .0010 | .076 | .0022 | .0027 | .0001 | .0002 |
| %RSD | 26.95 | 3.174 | .7172 | 115.1 | 35.15 | 1.037 | 1564. | .5975 | 4.023 | 5.167 |
| #1 | -.0065 | .1530 | .8747 | -.0001 | -.0035 | 7.431 | .0014 | .4500 | .0016 | .0041 |
| #2 | -.0044 | .1463 | .8658 | -.0012 | -.0021 | 7.323 | -.0017 | .4462 | .0015 | .0038 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0014 | -.0030 | .0075 | -.0416 |
| Stddev | .0006 | .0033 | .0002 | .0005 |
| %RSD | 46.29 | 110.4 | 2.720 | 1.261 |
| #1 | -.0019 | -.0007 | .0077 | -.0419 |
| #2 | -.0009 | -.0053 | .0074 | -.0412 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1132.6 | 58593. | 18753. |
| Stddev | 10.4 | 82. | 77. |
| %RSD | .92136 | .14078 | .41161 |
| #1 | 1125.2 | 58535. | 18807. |
| #2 | 1140.0 | 58651. | 18698. |

Zoom In Zoom Out

Sample Name: MC26418-13F Acquired: 12/12/2013 20:58:20 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0041 | .0023 | -.0109 | .1755 | .0147 | .0004 | 77.90 | -.0013 | .0077 |
| Stddev | .0023 | .0285 | .0029 | .0092 | .0029 | .0005 | .0000 | .06 | .0002 | .0003 |
| %RSD | 89.63 | 699.7 | 124.1 | 84.42 | 1.654 | 3.455 | 2.011 | .0767 | 14.47 | 3.710 |
| #1 | .0041 | -.0161 | .0044 | -.0044 | .1776 | .0143 | .0003 | 77.94 | -.0012 | .0075 |
| #2 | .0009 | .0243 | .0003 | -.0175 | .1735 | .0150 | .0004 | 77.85 | -.0015 | .0080 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0014 | .0513 | 3.005 | 9.109 | 23.25 | .0026 | 23.60 | .0156 | -.0057 |
| Stddev | .0029 | .0005 | .0002 | .075 | .037 | .02 | .0009 | .09 | .0010 | .0046 |
| %RSD | 374.6 | 32.13 | .3407 | 2.483 | .4102 | .1057 | 35.46 | .3970 | 6.507 | 81.40 |
| #1 | -.0028 | .0018 | .0514 | 2.953 | 9.082 | 23.24 | .0033 | 23.66 | .0164 | -.0089 |
| #2 | .0013 | .0011 | .0512 | 3.058 | 9.135 | 23.27 | .0020 | 23.53 | .0149 | -.0024 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0002 | .1558 | .8906 | .0003 | -.0103 | 7.544 | -.0008 | .4660 | -.0001 | .0009 |
| Stddev | .0015 | .0258 | .0030 | .0058 | .0033 | .021 | .0010 | .0013 | .0014 | .0017 |
| %RSD | 907.0 | 16.58 | .3379 | 1762. | 32.02 | .2845 | 118.7 | .2895 | 1348. | 199.2 |
| #1 | .0009 | .1375 | .8927 | .0044 | -.0126 | 7.560 | -.0001 | .4670 | -.0011 | -.0004 |
| #2 | -.0012 | .1741 | .8884 | -.0038 | -.0080 | 7.529 | -.0015 | .4651 | .0009 | .0021 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | -.0243 | .0148 | -.0419 |
| Stddev | .0023 | .0634 | .0001 | .0024 |
| %RSD | 288.1 | 260.7 | .9185 | 5.755 |
| #1 | .0024 | -.0692 | .0147 | -.0436 |
| #2 | -.0008 | .0205 | .0149 | -.0402 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.1 | 57517. | 18688. |
| Stddev | 4.0 | 86. | 28. |
| %RSD | .34697 | .15020 | .15156 |
| #1 | 1143.2 | 57578. | 18708. |
| #2 | 1148.9 | 57456. | 18668. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/12/2013 21:03:16 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0075 | .1432 | -.0053 | .2760 | .0743 | .0001 | 108.8 | -.0005 | .0130 |
| Stddev | .0010 | .0164 | .0006 | .0060 | .0015 | .0004 | .0001 | .3 | .0002 | .0004 |
| %RSD | 99.42 | 217.8 | .4505 | 113.2 | .5530 | .4843 | 93.37 | .2957 | 32.73 | 2.908 |
| #1 | .0017 | .0041 | .1437 | -.0096 | .2749 | .0741 | .0000 | 109.0 | -.0006 | .0133 |
| #2 | .0003 | -.0191 | .1428 | -.0011 | .2771 | .0746 | .0002 | 108.5 | -.0004 | .0127 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0012 | -.0001 | 11.47 | 6.949 | 15.70 | 10.28 | .0023 | 34.72 | .0172 | .0003 |
| Stddev | .0002 | .0005 | .05 | .091 | .10 | .01 | .0002 | .06 | .0015 | .0002 |
| %RSD | 14.87 | 487.1 | .4208 | 1.310 | .6177 | .0695 | 7.651 | .1663 | 8.790 | 88.76 |
| #1 | .0011 | .0003 | 11.44 | 7.013 | 15.64 | 10.28 | .0025 | 34.76 | .0162 | .0001 |
| #2 | .0013 | -.0005 | 11.50 | 6.885 | 15.77 | 10.29 | .0022 | 34.68 | .0183 | .0004 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0022 | .0691 | 1.602 | .0001 | -.0038 | 11.15 | .0000 | 1.128 | .0025 | .0042 |
| Stddev | .0004 | .0025 | .003 | .0008 | .0034 | .00 | .0008 | .001 | .0005 | .0016 |
| %RSD | 16.24 | 3.649 | .1768 | 1388. | 91.22 | .0129 | 9657. | .0551 | 19.75 | 37.57 |
| #1 | -.0020 | .0709 | 1.600 | -.0005 | -.0062 | 11.15 | -.0006 | 1.129 | .0028 | .0053 |
| #2 | -.0025 | .0673 | 1.604 | .0006 | -.0013 | 11.15 | .0006 | 1.128 | .0021 | .0031 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0002 | -.0072 | .0103 | -.0614 |
| Stddev | .0002 | .0129 | .0001 | .0005 |
| %RSD | 147.4 | 180.4 | 1.123 | .7743 |
| #1 | -.0003 | -.0163 | .0102 | -.0618 |
| #2 | .0000 | .0020 | .0104 | -.0611 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.1 | 57500. | 18729. |
| Stddev | 1.9 | 92. | 16. |
| %RSD | .16505 | .16066 | .08333 |
| #1 | 1144.8 | 57434. | 18718. |
| #2 | 1147.5 | 57565. | 18740. |



Zoom In Zoom Out

Sample Name: MC26418-15F Acquired: 12/12/2013 21:08:12 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0212 | .1653 | -.0089 | .2814 | .0761 | .0005 | 111.8 | -.0022 | .0137 |
| Stddev | .0037 | .0104 | .0047 | .0119 | .0059 | .0000 | .0001 | .3 | .0005 | .0007 |
| %RSD | 1121. | 49.21 | 2.838 | 133.1 | 2.101 | .0491 | 28.90 | .2391 | 21.84 | 4.794 |
| #1 | .0023 | .0286 | .1620 | -.0174 | .2856 | .0760 | .0006 | 112.0 | -.0019 | .0132 |
| #2 | -.0029 | .0138 | .1686 | -.0005 | .2772 | .0761 | .0004 | 111.6 | -.0026 | .0141 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0006 | -.0033 | 11.64 | 7.064 | 15.64 | 10.61 | .0030 | 35.52 | .0160 | .0000 |
| Stddev | .0028 | .0046 | .02 | .025 | .22 | .00 | .0003 | .01 | .0004 | .0036 |
| %RSD | 460.7 | 137.8 | .2109 | .3534 | 1.385 | .0464 | 10.92 | .0339 | 2.465 | 31040. |
| #1 | -.0026 | -.0065 | 11.63 | 7.046 | 15.79 | 10.61 | .0028 | 35.51 | .0157 | .0025 |
| #2 | .0014 | -.0001 | 11.66 | 7.081 | 15.49 | 10.60 | .0033 | 35.53 | .0163 | -.0025 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0043 | .0632 | 1.608 | -.0018 | -.0183 | 11.30 | .0007 | 1.160 | .0019 | .0038 |
| Stddev | .0000 | .0161 | .002 | .0014 | .0012 | .03 | .0031 | .003 | .0013 | .0058 |
| %RSD | .8071 | 25.45 | .0973 | 78.98 | 6.406 | .3048 | 415.3 | .2129 | 67.59 | 152.7 |
| #1 | -.0042 | .0746 | 1.607 | -.0028 | -.0175 | 11.28 | .0029 | 1.161 | .0028 | -.0003 |
| #2 | -.0043 | .0518 | 1.609 | -.0008 | -.0192 | 11.33 | -.0014 | 1.158 | .0010 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0008 | -.0388 | .0118 | -.0624 |
| Stddev | .0026 | .0286 | .0041 | .0005 |
| %RSD | 349.6 | 73.69 | 34.80 | .7543 |
| #1 | .0011 | -.0590 | .0089 | -.0627 |
| #2 | -.0026 | -.0186 | .0148 | -.0620 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.7 | 57532. | 18770. |
| Stddev | 2.0 | 100. | 52. |
| %RSD | .17423 | .17408 | .27868 |
| #1 | 1163.1 | 57461. | 18733. |
| #2 | 1160.3 | 57603. | 18807. |



Zoom In Zoom Out

Sample Name: MP22168A-PS1 Acquired: 12/12/2013 21:13:08 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .2238 | 1.855 | .1883 | -.0013 | 4.489 | 2.258 | .1746 | 67.80 | .1830 |
| Stddev | .0005 | .002 | .0030 | .0009 | .096 | .005 | .0003 | .31 | .0044 |
| %RSD | .2201 | .1289 | 1.579 | 71.16 | 2.133 | .2302 | .1646 | .4630 | 2.416 |
| #1 | .2241 | 1.853 | .1904 | -.0019 | 4.557 | 2.261 | .1744 | 67.58 | .1861 |
| #2 | .2234 | 1.857 | .1862 | -.0006 | 4.422 | 2.254 | .1748 | 68.02 | .1799 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 2.235 | .4317 | 1.059 | 1.456 | 49.96 | 48.56 | 2.221 | 4.323 | 85.79 |
| Stddev | .054 | .0061 | .001 | .008 | .04 | .33 | .011 | .092 | .02 |
| %RSD | 2.429 | 1.403 | .1143 | .5462 | .0762 | .6819 | .4778 | 2.137 | .0204 |
| #1 | 2.273 | .4360 | 1.059 | 1.462 | 49.99 | 48.79 | 2.228 | 4.389 | 85.78 |
| #2 | 2.196 | .4274 | 1.060 | 1.450 | 49.94 | 48.32 | 2.213 | 4.258 | 85.80 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.716 | .2203 | -.0025 | .0166 | F20.09 | .2889 | .4586 | 5.589 | 4.348 |
| Stddev | .042 | .0043 | .0006 | .0026 | .46 | .0073 | .0106 | .121 | .103 |
| %RSD | 2.423 | 1.954 | 23.52 | 15.60 | 2.300 | 2.519 | 2.322 | 2.165 | 2.374 |
| #1 | 1.746 | .2234 | -.0021 | .0147 | 20.42 | .2940 | .4662 | 5.675 | 4.420 |
| #2 | 1.687 | .2173 | -.0029 | .0184 | 19.76 | .2837 | .4511 | 5.504 | 4.275 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .7218 | 2.140 | .2264 | .4344 | .0205 | .8570 | -.0382 |
| Stddev | .0010 | .006 | .0026 | .0021 | .0029 | .0207 | .0002 |
| %RSD | .1401 | .2650 | 1.132 | .4861 | 14.09 | 2.419 | .5767 |
| #1 | .7225 | 2.144 | .2282 | .4359 | .0184 | .8716 | -.0384 |
| #2 | .7211 | 2.136 | .2246 | .4329 | .0225 | .8423 | -.0381 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1114.2 | 56934. | 18658. |
| Stddev | 20.4 | 261. | 132. |
| %RSD | 1.8277 | .45869 | .70885 |
| #1 | 1099.8 | 56750. | 18751. |
| #2 | 1128.6 | 57119. | 18564. |

Zoom In Zoom Out

Sample Name: MP22168A-PS1 Acquired: 12/12/2013 21:17:53 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2213 | 1.888 | .1926 | -.0076 | 4.350 | 2.244 | .1767 | 69.56 | .1766 | 2.219 |
| Stddev | .0010 | .037 | .0065 | .0103 | .004 | .003 | .0006 | .28 | .0008 | .008 |
| %RSD | .4672 | 1.957 | 3.355 | 134.9 | .0890 | .1460 | .3422 | .4025 | .4327 | .3524 |
| #1 | .2206 | 1.914 | .1880 | -.0004 | 4.347 | 2.241 | .1763 | 69.36 | .1761 | 2.214 |
| #2 | .2220 | 1.862 | .1972 | -.0149 | 4.353 | 2.246 | .1771 | 69.76 | .1772 | 2.225 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4365 | 1.040 | 1.493 | 50.88 | 47.72 | 2.274 | 4.353 | 85.22 | 1.714 | .2099 |
| Stddev | .0042 | .004 | .005 | .02 | .72 | .005 | .023 | .18 | .000 | .0002 |
| %RSD | .9569 | .4016 | .3177 | .0440 | 1.509 | .2375 | .5258 | .2170 | .0237 | .0870 |
| #1 | .4335 | 1.043 | 1.496 | 50.86 | 47.21 | 2.270 | 4.369 | 85.09 | 1.714 | .2097 |
| #2 | .4394 | 1.037 | 1.489 | 50.90 | 48.23 | 2.277 | 4.336 | 85.35 | 1.714 | .2100 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0026 | .0287 | 19.10 | .2784 | .4232 | 5.273 | 4.264 | .7300 | 2.194 | .2320 |
| Stddev | .0004 | .0130 | .02 | .0031 | .0102 | .004 | .014 | .0058 | .009 | .0060 |
| %RSD | 13.77 | 45.42 | .0953 | 1.126 | 2.406 | .0714 | .3185 | .7894 | .4113 | 2.574 |
| #1 | .0023 | .0379 | 19.09 | .2761 | .4160 | 5.275 | 4.254 | .7259 | 2.201 | .2277 |
| #2 | .0028 | .0195 | 19.12 | .2806 | .4304 | 5.270 | 4.273 | .7341 | 2.188 | .2362 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4390 | .0320 | .8741 | -.0403 |
| Stddev | .0041 | .0001 | .0106 | .0001 |
| %RSD | .9376 | .2463 | 1.217 | .2484 |
| #1 | .4419 | .0319 | .8666 | -.0404 |
| #2 | .4361 | .0320 | .8816 | -.0402 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1165.6 | 57388. | 18755. |
| Stddev | 1.3 | 32. | 14. |
| %RSD | .11542 | .05534 | .07603 |
| #1 | 1164.6 | 57365. | 18765. |
| #2 | 1166.5 | 57410. | 18745. |



Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/12/2013 21:22:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2017 | 2.145 | 3.118 | -.0051 | .0313 | 2.036 | .5019 | 43.52 | .5061 | .5198 |
| Stddev | .0007 | .021 | .008 | .0047 | .0005 | .006 | .0024 | .10 | .0001 | .0010 |
| %RSD | .3679 | .9876 | .2422 | 92.26 | 1.750 | .2795 | .4870 | .2215 | .0200 | .1963 |
| #1 | .2012 | 2.160 | 3.113 | -.0084 | .0309 | 2.032 | .5002 | 43.45 | .5061 | .5191 |
| #2 | .2022 | 2.130 | 3.123 | -.0018 | .0317 | 2.040 | .5036 | 43.58 | .5060 | .5205 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5223 | .4830 | 41.40 | 29.57 | 26.97 | 3.093 | .0150 | 84.33 | .4870 | .9893 |
| Stddev | .0054 | .0005 | .04 | .09 | .12 | .007 | .0012 | .34 | .0039 | .0026 |
| %RSD | 1.041 | .0981 | .1077 | .3109 | .4453 | .2429 | 7.903 | .3982 | .7965 | .2605 |
| #1 | .5184 | .4826 | 41.37 | 29.50 | 27.05 | 3.098 | .0158 | 84.09 | .4843 | .9911 |
| #2 | .5261 | .4833 | 41.43 | 29.63 | 26.88 | 3.088 | .0141 | 84.56 | .4898 | .9875 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | .0207 | 3.220 | .4997 | .4988 | 8.767 | .0036 | .7345 | .4976 | .5029 |
| Stddev | .0028 | .0123 | .011 | .0037 | .0019 | .008 | .0003 | .0012 | .0003 | .0019 |
| %RSD | 982.2 | 59.46 | .3333 | .7491 | .3895 | .0929 | 7.815 | .1685 | .0580 | .3781 |
| #1 | .0017 | .0120 | 3.213 | .4971 | .4975 | 8.772 | .0034 | .7337 | .4978 | .5042 |
| #2 | -.0023 | .0294 | 3.228 | .5024 | .5002 | 8.761 | .0038 | .7354 | .4974 | .5016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5207 | .0057 | .5118 | -.0496 |
| Stddev | .0054 | .0338 | .0007 | .0010 |
| %RSD | 1.036 | 594.8 | .1393 | 2.099 |
| #1 | .5245 | -.0182 | .5113 | -.0489 |
| #2 | .5169 | .0296 | .5123 | -.0503 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1161.0 | 57336. | 18694. |
| Stddev | .3 | 34. | 44. |
| %RSD | .02773 | .05911 | .23567 |
| #1 | 1160.8 | 57360. | 18725. |
| #2 | 1161.3 | 57312. | 18663. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/12/2013 21:27:34 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .1999 | 2.272 | 3.130 | -.0070 | .0290 | 2.160 | .5307 | 45.99 | .5094 | .5262 |
| Stddev | .0027 | .164 | .007 | .0003 | .0003 | .157 | .0413 | 3.61 | .0003 | .0004 |
| %RSD | 1.376 | 7.216 | .2346 | 4.536 | 1.012 | 7.259 | 7.778 | 7.847 | .0542 | .0758 |
| #1 | .1979 | 2.156 | 3.125 | -.0072 | .0288 | 2.050 | .5015 | 43.44 | .5092 | .5259 |
| #2 | .2018 | 2.388 | 3.136 | -.0068 | .0292 | 2.271 | .5599 | 48.55 | .5096 | .5265 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5245 | .4852 | 43.53 | 31.03 | 28.37 | 3.074 | .0080 | 88.78 | .4909 | 1.011 |
| Stddev | .0009 | .0011 | 3.33 | 2.17 | 2.10 | .001 | .0004 | 6.38 | .0012 | .006 |
| %RSD | .1744 | .2368 | 7.646 | 7.009 | 7.388 | .0418 | 4.533 | 7.185 | .2462 | .5926 |
| #1 | .5252 | .4860 | 41.17 | 29.50 | 26.89 | 3.075 | .0078 | 84.27 | .4900 | 1.007 |
| #2 | .5239 | .4844 | 45.88 | 32.57 | 29.85 | 3.073 | .0083 | 93.29 | .4918 | 1.015 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | .0025 | 3.228 | .5033 | .5053 | 8.785 | .0000 | .7747 | .5006 | .5135 |
| Stddev | .0070 | .0078 | .011 | .0005 | .0124 | .010 | .0007 | .0570 | .0019 | .0026 |
| %RSD | 310.2 | 310.7 | .3480 | .1088 | 2.456 | .1159 | 3917. | 7.359 | .3781 | .5097 |
| #1 | .0072 | .0080 | 3.220 | .5029 | .4965 | 8.778 | .0005 | .7344 | .4992 | .5117 |
| #2 | -.0027 | -.0030 | 3.236 | .5037 | .5141 | 8.792 | -.0005 | .8150 | .5019 | .5154 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5170 | -.0049 | .5171 | -.0503 |
| Stddev | .0006 | .0038 | .0018 | .0003 |
| %RSD | .1092 | 76.92 | .3417 | .5875 |
| #1 | .5166 | -.0076 | .5184 | -.0505 |
| #2 | .5174 | -.0023 | .5159 | -.0501 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1156.5 | 57491. | 18047. |
| Stddev | 1.3 | 58. | 1159. |
| %RSD | .11259 | .10117 | 6.4205 |
| #1 | 1157.4 | 57450. | 18867. |
| #2 | 1155.6 | 57532. | 17228. |



Zoom In Zoom Out

Sample Name: MC26484-4F Acquired: 12/12/2013 21:32:23 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0009 | -.0105 | 2.621 | .0022 | .0245 | .0148 | .0003 | 19.38 | .0010 | .0156 |
| Stddev | .0005 | .0015 | .005 | .0008 | .0006 | .0002 | .0001 | .06 | .0000 | .0002 |
| %RSD | 58.01 | 13.93 | .2043 | 36.10 | 2.643 | 1.333 | 23.98 | .2900 | 4.085 | 1.339 |
| #1 | .0013 | -.0115 | 2.617 | .0016 | .0250 | .0147 | .0004 | 19.42 | .0010 | .0155 |
| #2 | .0005 | -.0095 | 2.625 | .0027 | .0241 | .0150 | .0003 | 19.34 | .0011 | .0157 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0008 | .0000 | 39.94 | 4.112 | 2.049 | 2.591 | .0064 | 59.44 | .0069 | -.0008 |
| Stddev | .0002 | .0005 | .22 | .055 | .057 | .002 | .0002 | .06 | .0008 | .0018 |
| %RSD | 26.53 | 3305. | .5383 | 1.338 | 2.763 | .0816 | 2.638 | .0956 | 12.24 | 226.9 |
| #1 | -.0006 | .0004 | 40.10 | 4.151 | 2.009 | 2.592 | .0063 | 59.48 | .0063 | .0005 |
| #2 | -.0009 | -.0003 | 39.79 | 4.073 | 2.089 | 2.589 | .0065 | 59.40 | .0075 | -.0021 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0017 | .0108 | 3.255 | -.0004 | -.0023 | 8.819 | .0022 | .2334 | .0011 | .0028 |
| Stddev | .0022 | .0001 | .000 | .0012 | .0060 | .032 | .0029 | .0001 | .0013 | .0041 |
| %RSD | 124.4 | 1.276 | .0080 | 343.3 | 261.9 | .3671 | 131.3 | .0631 | 114.5 | 143.6 |
| #1 | -.0002 | .0107 | 3.255 | -.0012 | .0020 | 8.796 | .0002 | .2335 | .0002 | .0000 |
| #2 | -.0033 | .0109 | 3.254 | .0005 | -.0065 | 8.842 | .0042 | .2333 | .0020 | .0057 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0008 | .0190 | .0071 | -.0508 |
| Stddev | .0008 | .0107 | .0012 | .0007 |
| %RSD | 93.56 | 56.13 | 17.61 | 1.291 |
| #1 | .0003 | .0115 | .0080 | -.0504 |
| #2 | .0014 | .0265 | .0062 | -.0513 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1160.1 | 57727. | 18765. |
| Stddev | 2.3 | 65. | 6. |
| %RSD | .19581 | .11301 | .03272 |
| #1 | 1161.7 | 57773. | 18760. |
| #2 | 1158.5 | 57681. | 18769. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 21:37:19 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2497 | 10.13 | 1.991 | -.0035 | 1.994 | 2.009 | 1.991 | 9.947 | 1.980 | 2.064 |
| Stddev | .0028 | .01 | .003 | .0007 | .011 | .001 | .000 | .004 | .007 | .008 |
| %RSD | 1.118 | .1149 | .1345 | 19.57 | .5247 | .0286 | .0116 | .0377 | .3593 | .3892 |
| #1 | .2516 | 10.12 | 1.989 | -.0030 | 1.986 | 2.009 | 1.991 | 9.949 | 1.975 | 2.058 |
| #2 | .2477 | 10.14 | 1.993 | -.0039 | 2.001 | 2.008 | 1.991 | 9.944 | 1.985 | 2.069 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.965 | 1.963 | 10.17 | 10.07 | 9.866 | 1.973 | 1.981 | 10.20 | 1.962 | 1.981 |
| Stddev | .026 | .024 | .00 | .00 | .042 | .025 | .008 | .00 | .005 | .009 |
| %RSD | 1.304 | 1.230 | .0031 | .0178 | .4276 | 1.276 | .4076 | .0111 | .2437 | .4376 |
| #1 | 1.983 | 1.980 | 10.17 | 10.07 | 9.896 | 1.991 | 1.976 | 10.20 | 1.958 | 1.975 |
| #2 | 1.946 | 1.946 | 10.18 | 10.07 | 9.837 | 1.955 | 1.987 | 10.20 | 1.965 | 1.987 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0103 | -.0039 | 1.990 | 1.975 | -.0117 | 2.027 | 2.038 | 1.951 | 1.994 |
| Stddev | .0004 | .0017 | .0006 | .003 | .014 | .0012 | .012 | .012 | .024 | .012 |
| %RSD | 120.7 | 16.83 | 15.79 | .1618 | .7055 | 10.25 | .6024 | .5637 | 1.210 | .6161 |
| #1 | .0007 | .0115 | -.0035 | 1.988 | 1.965 | -.0125 | 2.019 | 2.047 | 1.968 | 1.985 |
| #2 | .0001 | .0090 | -.0044 | 1.992 | 1.985 | -.0108 | 2.036 | 2.030 | 1.935 | 2.003 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.944 | .0113 | 1.951 | -.0090 |
| Stddev | .028 | .0030 | .000 | .0003 |
| %RSD | 1.450 | 26.02 | .0033 | 3.769 |
| #1 | 1.964 | .0093 | 1.950 | -.0087 |
| #2 | 1.924 | .0134 | 1.951 | -.0092 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1154.8 | 58107. | 18977. |
| Stddev | 5.0 | 741. | 1. |
| %RSD | .42929 | 1.2755 | .00412 |
| #1 | 1158.3 | 57583. | 18978. |
| #2 | 1151.3 | 58631. | 18977. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 21:42:08 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0014 | .0016 | -.0005 | .0028 | -.0001 | .0001 | .0024 | .0002 |
| Stddev | .0003 | .0047 | .0008 | .0005 | .0007 | .0000 | .0000 | .0006 | .0000 |
| %RSD | 225.4 | 337.1 | 48.28 | 106.7 | 26.74 | 17.96 | 57.28 | 24.78 | 17.19 |
| #1 | .0001 | .0047 | .0021 | -.0008 | .0033 | -.0001 | .0000 | .0019 | .0002 |
| #2 | -.0004 | -.0019 | .0010 | -.0001 | .0023 | -.0001 | .0001 | .0028 | .0002 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0000 | .0001 | .0022 | .0035 | -.0069 | .0001 | .0029 | -.0132 |
| Stddev | .0000 | .0003 | .0002 | .0003 | .0183 | .0362 | .0000 | .0006 | .0046 |
| %RSD | 16.25 | 606.3 | 120.5 | 12.86 | 519.9 | 520.9 | 9.351 | 19.82 | 34.57 |
| #1 | .0000 | .0002 | .0002 | .0020 | -.0094 | -.0325 | .0001 | .0033 | -.0164 |
| #2 | .0000 | -.0001 | .0000 | .0024 | .0165 | .0186 | .0001 | .0025 | -.0100 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | -.0003 | -.0011 | .0000 | -.0012 | .0005 | -.0005 | .0007 | .0007 |
| Stddev | .0000 | .0003 | .0008 | .0004 | .0014 | .0007 | .0002 | .0001 | .0000 |
| %RSD | 87.33 | 92.71 | 72.03 | 871.5 | 112.4 | 147.5 | 42.93 | 17.40 | 7.268 |
| #1 | .0001 | -.0001 | -.0005 | -.0002 | -.0022 | .0000 | -.0003 | .0007 | .0007 |
| #2 | .0000 | -.0006 | -.0016 | .0003 | -.0003 | .0009 | -.0006 | .0006 | .0006 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0001 | .0005 | F.0020 | .0002 | -.0038 | .0000 | -.0001 |
| Stddev | .0000 | .0001 | .0004 | .0001 | .0027 | .0002 | .0001 |
| %RSD | 9.803 | 24.12 | 17.51 | 34.63 | 70.99 | 452.0 | 108.2 |
| #1 | .0001 | .0004 | .0023 | .0002 | -.0019 | .0002 | -.0001 |
| #2 | .0001 | .0006 | .0018 | .0001 | -.0058 | -.0001 | .0000 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1153.4 | 57732. | 18745. |
| Stddev | 3.8 | 70. | 69. |
| %RSD | .33095 | .12075 | .36871 |
| #1 | 1156.1 | 57782. | 18794. |
| #2 | 1150.7 | 57683. | 18696. |



Zoom In Zoom Out

Sample Name: MP22178A-MB1 Acquired: 12/12/2013 21:47:06 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0005 | .0006 | .0008 | .0004 | .0010 | .0001 | .0001 | .0050 | -.0002 | .0000 |
| Stddev | .0000 | .0036 | .0008 | .0007 | .0002 | .0000 | .0000 | .0008 | .0002 | .000 |
| %RSD | 1.851 | 615.1 | 96.67 | 165.1 | 16.08 | 46.53 | 13.91 | 16.55 | 94.88 | 102.4 |
| #1 | .0005 | -.0020 | .0014 | -.0001 | .0009 | .0000 | .0001 | .0056 | -.0003 | .0000 |
| #2 | .0005 | .0032 | .0003 | .0009 | .0011 | .0001 | .0001 | .0044 | -.0001 | .0000 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0004 | .0037 | .0290 | .0156 | .0002 | .0009 | -.0140 | .0000 | .0007 |
| Stddev | .0002 | .0002 | .0003 | .0030 | .0095 | .0000 | .0002 | .0023 | .0002 | .0006 |
| %RSD | 39.83 | 43.77 | 9.366 | 10.44 | 61.16 | 4.808 | 18.24 | 16.22 | 757.4 | 82.95 |
| #1 | .0008 | .0002 | .0034 | .0269 | .0088 | .0002 | .0010 | -.0156 | .0002 | .0003 |
| #2 | .0004 | .0005 | .0039 | .0312 | .0223 | .0002 | .0008 | -.0124 | -.0001 | .0011 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0006 | .0008 | .0024 | -.0011 | -.0015 | .0112 | .0001 | .0001 | .0005 | .0028 |
| Stddev | .0003 | .0029 | .0007 | .0000 | .0006 | .0002 | .0001 | .0000 | .0000 | .0017 |
| %RSD | 41.84 | 375.0 | 30.74 | .0591 | 37.41 | 1.740 | 171.4 | 38.69 | 7.351 | 61.57 |
| #1 | .0008 | -.0013 | .0019 | -.0011 | -.0019 | .0110 | .0000 | .0001 | .0005 | .0016 |
| #2 | .0004 | .0028 | .0030 | -.0011 | -.0011 | .0113 | .0001 | .0001 | .0004 | .0040 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0005 | .0024 | -.0008 |
| Stddev | .0001 | .0049 | .0004 | .0000 |
| %RSD | 351.3 | 979.4 | 17.82 | 1.064 |
| #1 | -.0001 | -.0040 | .0021 | -.0008 |
| #2 | .0001 | .0030 | .0027 | -.0008 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1147.8 | 57934. | 18772. |
| Stddev | 1.0 | 148. | 91. |
| %RSD | .08713 | .25551 | .48412 |
| #1 | 1148.5 | 57829. | 18836. |
| #2 | 1147.1 | 58038. | 18708. |



Zoom In Zoom Out

Sample Name: MP22178A-SD1 Acquired: 12/12/2013 21:52:05 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0100 | -.0962 | 2.696 | -.0136 | .0482 | .0160 | .0012 | 19.83 | -.0009 | .0169 |
| Stddev | .0111 | .0165 | .036 | .0005 | .0074 | .0010 | .0010 | .02 | .0012 | .0016 |
| %RSD | 111.4 | 17.10 | 1.326 | 3.544 | 15.33 | 5.989 | 79.68 | .1162 | 127.5 | 9.767 |
| #1 | .0021 | -.1079 | 2.722 | -.0132 | .0534 | .0153 | .0005 | 19.85 | -.0001 | .0157 |
| #2 | .0179 | -.0846 | 2.671 | -.0139 | .0430 | .0167 | .0019 | 19.82 | -.0018 | .0180 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0042 | .0024 | 40.98 | 4.930 | 2.300 | 2.669 | .0173 | 61.31 | .0114 | -.0038 |
| Stddev | .0002 | .0021 | .17 | .346 | .391 | .018 | .0028 | .13 | .0005 | .0071 |
| %RSD | 5.179 | 87.69 | .4158 | 7.016 | 17.00 | .6801 | 16.21 | .2172 | 4.087 | 188.6 |
| #1 | -.0043 | .0040 | 41.10 | 5.175 | 2.024 | 2.682 | .0193 | 61.21 | .0117 | -.0088 |
| #2 | -.0040 | .0009 | 40.86 | 4.686 | 2.577 | 2.656 | .0154 | 61.40 | .0111 | .0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0651 | 3.348 | -.0121 | -.0142 | 9.178 | .0017 | .2403 | .0023 | .0139 |
| Stddev | .0031 | .1092 | .031 | .0117 | .0046 | .005 | .0038 | .0021 | .0025 | .0213 |
| %RSD | 124.1 | 167.7 | .9172 | 97.07 | 32.46 | .0587 | 217.2 | .8821 | 112.2 | 152.7 |
| #1 | -.0003 | -.0121 | 3.370 | -.0203 | -.0175 | 9.174 | -.0009 | .2418 | .0041 | -.0011 |
| #2 | -.0047 | .1423 | 3.327 | -.0038 | -.0110 | 9.182 | .0044 | .2388 | .0005 | .0290 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0048 | -.0387 | .0121 | -.0598 |
| Stddev | .0021 | .0461 | .0006 | .0106 |
| %RSD | 43.83 | 119.0 | 5.354 | 17.72 |
| #1 | -.0062 | -.0713 | .0116 | -.0523 |
| #2 | -.0033 | -.0061 | .0125 | -.0673 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1144.8 | 57965. | 18690. |
| Stddev | 1.3 | 142. | 5. |
| %RSD | .11474 | .24414 | .02574 |
| #1 | 1145.7 | 57865. | 18694. |
| #2 | 1143.8 | 58065. | 18687. |

Zoom In Zoom Out

Sample Name: MP22178A-S1 Acquired: 12/12/2013 21:57:01 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2047 | 2.153 | 3.210 | -.0030 | .0296 | 2.071 | .5164 | 44.42 | .5247 | .5463 |
| Stddev | .0013 | .042 | .013 | .0034 | .0015 | .003 | .0015 | .23 | .0024 | .0008 |
| %RSD | .6502 | 1.935 | .4172 | 114.6 | 5.180 | .1277 | .2891 | .5142 | .4639 | .1481 |
| #1 | .2056 | 2.123 | 3.201 | -.0054 | .0285 | 2.073 | .5175 | 44.58 | .5230 | .5457 |
| #2 | .2037 | 2.182 | 3.220 | -.0006 | .0307 | 2.069 | .5154 | 44.26 | .5264 | .5469 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5193 | .4973 | 42.38 | 29.86 | 27.60 | 3.144 | .0069 | 86.26 | .5057 | 1.020 |
| Stddev | .0008 | .0042 | .20 | .03 | .22 | .009 | .0012 | .08 | .0037 | .009 |
| %RSD | .1534 | .8534 | .4610 | .1017 | .8121 | .2879 | 17.65 | .0953 | .7285 | .9241 |
| #1 | .5199 | .4943 | 42.52 | 29.88 | 27.76 | 3.137 | .0078 | 86.20 | .5031 | 1.026 |
| #2 | .5187 | .5003 | 42.24 | 29.84 | 27.44 | 3.150 | .0061 | 86.32 | .5083 | 1.013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0091 | .0493 | 3.352 | .5140 | .4966 | 9.119 | .0005 | .7639 | .5023 | .5254 |
| Stddev | .0068 | .0047 | .019 | .0130 | .0010 | .008 | .0007 | .0005 | .0024 | .0030 |
| %RSD | 74.58 | 9.617 | .5601 | 2.536 | .2006 | .0869 | 129.5 | .0693 | .4789 | .5715 |
| #1 | -.0043 | .0526 | 3.339 | .5048 | .4959 | 9.114 | .0010 | .7643 | .5006 | .5275 |
| #2 | -.0140 | .0459 | 3.365 | .5232 | .4973 | 9.125 | .0000 | .7635 | .5040 | .5233 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5180 | -.0145 | .5344 | -.0543 |
| Stddev | .0007 | .0370 | .0032 | .0022 |
| %RSD | .1375 | 255.9 | .5934 | 3.969 |
| #1 | .5175 | .0117 | .5322 | -.0558 |
| #2 | .5186 | -.0406 | .5367 | -.0528 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1146.3 | 57789. | 18757. |
| Stddev | 2.3 | 124. | 119. |
| %RSD | .20413 | .21477 | .63592 |
| #1 | 1144.6 | 57877. | 18673. |
| #2 | 1147.9 | 57701. | 18841. |



Zoom In Zoom Out

Sample Name: MP22178A-S2 Acquired: 12/12/2013 22:01:53 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2056 | 2.224 | 3.198 | -.0067 | .0292 | 2.083 | .5215 | 44.55 | .5309 | .5475 |
| Stddev | .0033 | .001 | .009 | .0052 | .0007 | .002 | .0059 | .58 | .0038 | .0015 |
| %RSD | 1.583 | .0217 | .2762 | 77.87 | 2.453 | .0926 | 1.126 | 1.292 | .7150 | .2795 |
| #1 | .2033 | 2.224 | 3.192 | -.0030 | .0297 | 2.082 | .5173 | 44.15 | .5283 | .5465 |
| #2 | .2079 | 2.224 | 3.204 | -.0104 | .0287 | 2.084 | .5256 | 44.96 | .5336 | .5486 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5169 | .5011 | 42.81 | 30.20 | 27.54 | 3.125 | .0063 | 86.71 | .5076 | 1.030 |
| Stddev | .0020 | .0043 | .42 | .19 | .42 | .017 | .0012 | .07 | .0033 | .011 |
| %RSD | .3846 | .8578 | .9902 | .6418 | 1.531 | .5360 | 18.39 | .0793 | .6530 | 1.033 |
| #1 | .5155 | .4980 | 42.51 | 30.06 | 27.24 | 3.136 | .0055 | 86.66 | .5053 | 1.023 |
| #2 | .5183 | .5041 | 43.11 | 30.34 | 27.84 | 3.113 | .0071 | 86.76 | .5100 | 1.038 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0042 | 3.337 | .5138 | .5128 | 9.136 | .0055 | .7710 | .4967 | .5175 |
| Stddev | .0082 | .0068 | .009 | .0053 | .0014 | .021 | .0036 | .0001 | .0003 | .0110 |
| %RSD | 1240. | 160.6 | .2778 | 1.036 | .2728 | .2315 | 64.62 | .0144 | .0667 | 2.133 |
| #1 | -.0052 | .0090 | 3.330 | .5100 | .5138 | 9.121 | .0080 | .7710 | .4964 | .5097 |
| #2 | .0065 | -.0006 | 3.343 | .5176 | .5118 | 9.150 | .0030 | .7711 | .4969 | .5253 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .5170 | -.0040 | .5408 | -.0549 |
| Stddev | .0001 | .0231 | .0002 | .0035 |
| %RSD | .0150 | 577.0 | .0317 | 6.460 |
| #1 | .5170 | .0123 | .5407 | -.0524 |
| #2 | .5171 | -.0204 | .5409 | -.0574 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1143.7 | 57749. | 18890. |
| Stddev | 2.5 | 202. | 49. |
| %RSD | .22294 | .34964 | .25907 |
| #1 | 1141.9 | 57606. | 18924. |
| #2 | 1145.5 | 57892. | 18855. |



Zoom In Zoom Out

Sample Name: MC26484-1F Acquired: 12/12/2013 22:06:45 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0047 | -.0007 | -.0022 | .0715 | .0116 | .0003 | 40.59 | .0002 | .0021 |
| Stddev | .0016 | .0192 | .0004 | .0047 | .0019 | .0002 | .0001 | .29 | .0003 | .0022 |
| %RSD | 77.87 | 410.8 | 54.49 | 209.0 | 2.668 | 1.395 | 44.77 | .7065 | 142.7 | 107.6 |
| #1 | .0009 | -.0183 | -.0010 | -.0056 | .0702 | .0115 | .0002 | 40.80 | .0004 | .0036 |
| #2 | .0032 | .0089 | -.0004 | .0011 | .0729 | .0117 | .0004 | 40.39 | .0000 | .0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | .0004 | .2592 | 2.469 | 3.860 | 9.488 | .0030 | 12.78 | .0025 | -.0011 |
| Stddev | .0004 | .0005 | .0047 | .072 | .056 | .012 | .0010 | .07 | .0006 | .0015 |
| %RSD | 15.13 | 123.8 | 1.801 | 2.928 | 1.443 | .1311 | 31.81 | .5193 | 25.64 | 129.6 |
| #1 | .0022 | .0007 | .2625 | 2.520 | 3.820 | 9.497 | .0023 | 12.83 | .0021 | -.0001 |
| #2 | .0028 | .0000 | .2559 | 2.418 | 3.899 | 9.479 | .0037 | 12.73 | .0030 | -.0022 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0058 | .0733 | 1.946 | -.0010 | -.0058 | 6.137 | .0015 | .2278 | .0016 | -.0005 |
| Stddev | .0022 | .0137 | .006 | .0002 | .0016 | .028 | .0001 | .0012 | .0008 | .0019 |
| %RSD | 37.19 | 18.67 | .3019 | 18.50 | 28.17 | .4578 | 5.795 | .5375 | 52.92 | 399.7 |
| #1 | -.0043 | .0830 | 1.942 | -.0009 | -.0070 | 6.117 | .0014 | .2287 | .0010 | .0009 |
| #2 | -.0073 | .0637 | 1.950 | -.0012 | -.0046 | 6.157 | .0016 | .2270 | .0022 | -.0018 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0012 | -.0144 | .0118 | -.0370 |
| Stddev | .0009 | .0208 | .0011 | .0013 |
| %RSD | 71.56 | 144.0 | 9.353 | 3.462 |
| #1 | .0006 | -.0291 | .0110 | -.0361 |
| #2 | .0018 | .0003 | .0126 | -.0379 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1138.7 | 57998. | 18785. |
| Stddev | 2.9 | 148. | 81. |
| %RSD | .25148 | .25574 | .43317 |
| #1 | 1140.8 | 57894. | 18727. |
| #2 | 1136.7 | 58103. | 18842. |



Zoom In Zoom Out

Sample Name: MC26484-2F Acquired: 12/12/2013 22:11:41 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0019 | -.0261 | .0066 | -.0037 | .0096 | .0019 | .0003 | 3.859 | -.0003 | -.0003 |
| Stddev | .0003 | .0287 | .0043 | .0038 | .0025 | .0008 | .0001 | .021 | .0007 | .0003 |
| %RSD | 17.46 | 109.8 | 65.87 | 101.3 | 25.77 | 42.45 | 42.75 | .5569 | 219.7 | 84.36 |
| #1 | .0017 | -.0058 | .0096 | -.0011 | .0078 | .0024 | .0002 | 3.874 | -.0008 | -.0001 |
| #2 | .0022 | -.0464 | .0035 | -.0064 | .0113 | .0013 | .0004 | 3.844 | .0002 | -.0005 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0017 | .0083 | .7975 | .4641 | .0085 | .0023 | 31.10 | .0009 | -.0018 |
| Stddev | .0036 | .0009 | .0128 | .0108 | .0315 | .0000 | .0009 | .01 | .0008 | .0023 |
| %RSD | 242.5 | 51.73 | 153.4 | 1.349 | 6.783 | .3533 | 38.69 | .0324 | 92.84 | 125.8 |
| #1 | .0041 | .0011 | .0173 | .8051 | .4419 | .0085 | .0029 | 31.11 | .0015 | -.0002 |
| #2 | -.0011 | .0023 | -.0007 | .7899 | .4864 | .0085 | .0017 | 31.09 | .0003 | -.0034 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0036 | .0059 | 3.794 | -.0030 | -.0026 | 5.862 | .0020 | .0335 | -.0026 | -.0017 |
| Stddev | .0007 | .0088 | .023 | .0020 | .0057 | .029 | .0031 | .0006 | .0025 | .0028 |
| %RSD | 18.14 | 150.0 | .6173 | 65.94 | 219.3 | .5031 | 152.8 | 1.716 | 96.43 | 161.2 |
| #1 | -.0040 | -.0004 | 3.778 | -.0044 | -.0066 | 5.841 | .0042 | .0339 | -.0008 | -.0037 |
| #2 | -.0031 | .0122 | 3.811 | -.0016 | .0014 | 5.882 | -.0002 | .0331 | -.0043 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0010 | -.0187 | .0087 | -.0352 |
| Stddev | .0019 | .0047 | .0003 | .0006 |
| %RSD | 195.9 | 25.09 | 2.886 | 1.626 |
| #1 | -.0004 | -.0220 | .0085 | -.0356 |
| #2 | .0023 | -.0154 | .0088 | -.0348 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1136.4 | 57826. | 18666. |
| Stddev | .4 | 114. | 7. |
| %RSD | .03593 | .19767 | .03742 |
| #1 | 1136.7 | 57907. | 18671. |
| #2 | 1136.1 | 57745. | 18662. |

Zoom In Zoom Out

Sample Name: MC26484-3F Acquired: 12/12/2013 22:16:38 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0022 | .0072 | -.0004 | -.0020 | .0110 | .0017 | .0002 | 3.920 | -.0006 | .0001 |
| Stddev | .0018 | .0247 | .0005 | .0006 | .0012 | .0001 | .0000 | .001 | .0002 | .0015 |
| %RSD | 81.27 | 342.8 | 115.5 | 29.68 | 11.35 | 7.164 | 15.10 | .0123 | 28.30 | 1397. |
| #1 | .0009 | .0247 | -.0001 | -.0024 | .0101 | .0018 | .0002 | 3.921 | -.0007 | .0011 |
| #2 | .0034 | -.0103 | -.0008 | -.0016 | .0119 | .0016 | .0003 | 3.920 | -.0004 | -.0009 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0007 | .0012 | .0025 | .8258 | .4912 | .0085 | .0022 | 31.67 | .0000 | -.0011 |
| Stddev | .0015 | .0000 | .0072 | .0303 | .1104 | .0007 | .0012 | .04 | .0000 | .0015 |
| %RSD | 226.6 | 1.123 | 286.7 | 3.671 | 22.48 | 8.207 | 54.63 | .1355 | 107.3 | 140.1 |
| #1 | .0017 | .0012 | -.0026 | .8043 | .4131 | .0080 | .0030 | 31.64 | .0001 | -.0021 |
| #2 | -.0004 | .0012 | .0076 | .8472 | .5693 | .0090 | .0013 | 31.70 | .0000 | .0000 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0021 | -.0019 | 3.849 | -.0024 | -.0018 | 5.998 | .0018 | .0336 | .0002 | -.0039 |
| Stddev | .0018 | .0075 | .023 | .0034 | .0003 | .026 | .0019 | .0000 | .0003 | .0058 |
| %RSD | 86.19 | 402.6 | .6001 | 142.3 | 18.66 | .4364 | 108.0 | .0917 | 112.6 | 148.2 |
| #1 | -.0008 | .0034 | 3.832 | .0000 | -.0016 | 5.979 | .0004 | .0336 | .0004 | -.0080 |
| #2 | -.0033 | -.0071 | 3.865 | -.0048 | -.0020 | 6.016 | .0031 | .0337 | .0000 | .0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0009 | -.0180 | .0142 | -.0366 |
| Stddev | .0013 | .0005 | .0004 | .0007 |
| %RSD | 141.4 | 2.954 | 2.537 | 1.817 |
| #1 | .0000 | -.0183 | .0139 | -.0361 |
| #2 | -.0018 | -.0176 | .0144 | -.0370 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.8 | 57780. | 18745. |
| Stddev | 2.5 | 3. | 39. |
| %RSD | .22274 | .00528 | .20769 |
| #1 | 1130.1 | 57782. | 18717. |
| #2 | 1133.6 | 57778. | 18772. |



Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/12/2013 22:21:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0020 | -.0113 | .0140 | -.0028 | .2812 | .0371 | .0000 | 115.4 | -.0009 | .0008 |
| Stddev | .0028 | .0278 | .0001 | .0048 | .0004 | .0001 | .0000 | .0 | .0009 | .0003 |
| %RSD | 140.7 | 245.1 | .7424 | 171.8 | .1433 | .2535 | 90.85 | .0152 | 99.34 | 41.47 |
| #1 | .0040 | -.0310 | .0139 | .0006 | .2814 | .0372 | .0000 | 115.4 | -.0016 | .0011 |
| #2 | .0000 | .0083 | .0140 | -.0062 | .2809 | .0370 | .0000 | 115.4 | -.0003 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0011 | .0019 | 1.907 | 8.880 | 20.42 | 5.716 | .0063 | 40.00 | .0056 | -.0031 |
| Stddev | .0015 | .0010 | .007 | .059 | .01 | .008 | .0007 | .05 | .0006 | .0026 |
| %RSD | 136.8 | 50.97 | .3613 | .6645 | .0593 | .1364 | 11.47 | .1335 | 10.11 | 83.38 |
| #1 | -.0021 | .0026 | 1.912 | 8.921 | 20.43 | 5.711 | .0058 | 40.04 | .0060 | -.0049 |
| #2 | .0000 | .0012 | 1.902 | 8.838 | 20.41 | 5.722 | .0068 | 39.96 | .0052 | -.0013 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0045 | .0428 | 4.595 | -.0009 | -.0073 | 10.88 | -.0029 | .5717 | .0032 | -.0001 |
| Stddev | .0039 | .0006 | .005 | .0020 | .0031 | .00 | .0029 | .0009 | .0018 | .0002 |
| %RSD | 87.80 | 1.427 | .1081 | 228.6 | 41.86 | .0378 | 101.0 | .1533 | 55.56 | 194.8 |
| #1 | -.0017 | .0432 | 4.599 | -.0023 | -.0095 | 10.88 | -.0008 | .5723 | .0019 | -.0002 |
| #2 | -.0072 | .0423 | 4.592 | .0005 | -.0051 | 10.88 | -.0049 | .5711 | .0044 | .0000 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0097 | .0100 | -.0605 |
| Stddev | .0012 | .0024 | .0007 | .0001 |
| %RSD | 115.0 | 24.80 | 6.922 | .2064 |
| #1 | -.0002 | -.0114 | .0105 | -.0606 |
| #2 | -.0019 | -.0080 | .0095 | -.0604 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.1 | 57594. | 18762. |
| Stddev | .6 | 112. | 15. |
| %RSD | .05190 | .19377 | .07839 |
| #1 | 1130.6 | 57673. | 18773. |
| #2 | 1131.5 | 57515. | 18752. |



Zoom In Zoom Out

Sample Name: MC26484-5F Acquired: 12/12/2013 22:26:30 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | -.0123 | .0114 | -.0088 | .2842 | .0374 | .0000 | 115.8 | -.0017 | .0001 |
| Stddev | .0033 | .0277 | .0012 | .0051 | .0041 | .0001 | .000 | .0 | .0011 | .0006 |
| %RSD | 341.7 | 224.2 | 10.47 | 58.39 | 1.434 | .2648 | 3084. | .0374 | 62.43 | 440.0 |
| #1 | .0033 | .0072 | .0122 | -.0051 | .2870 | .0373 | .0001 | 115.8 | -.0025 | .0005 |
| #2 | -.0014 | -.0319 | .0105 | -.0124 | .2813 | .0375 | -.0001 | 115.8 | -.0010 | -.0003 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0059 | 1.941 | 8.876 | 20.21 | 5.772 | .0085 | 40.25 | .0073 | -.0058 |
| Stddev | .0046 | .0000 | .003 | .035 | .21 | .009 | .0000 | .00 | .0046 | .0011 |
| %RSD | 19110. | .0032 | .1756 | .3948 | 1.052 | .1482 | .0019 | .0033 | 63.00 | 19.70 |
| #1 | .0033 | .0059 | 1.938 | 8.852 | 20.06 | 5.766 | .0085 | 40.25 | .0105 | -.0066 |
| #2 | -.0032 | .0059 | 1.943 | 8.901 | 20.36 | 5.778 | .0085 | 40.25 | .0040 | -.0050 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0064 | .0435 | 4.630 | -.0039 | -.0164 | 11.00 | .0019 | .5831 | .0030 | .0009 |
| Stddev | .0054 | .0212 | .064 | .0014 | .0062 | .10 | .0008 | .0013 | .0020 | .0100 |
| %RSD | 84.49 | 48.61 | 1.372 | 35.20 | 38.03 | .9355 | 39.88 | .2305 | 65.10 | 1156. |
| #1 | -.0026 | .0585 | 4.585 | -.0030 | -.0208 | 10.93 | .0024 | .5822 | .0044 | -.0062 |
| #2 | -.0102 | .0286 | 4.675 | -.0049 | -.0120 | 11.08 | .0014 | .5841 | .0016 | .0079 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0006 | -.0176 | .0090 | -.0646 |
| Stddev | .0032 | .0118 | .0011 | .0009 |
| %RSD | 537.7 | 66.82 | 12.03 | 1.373 |
| #1 | -.0017 | -.0093 | .0082 | -.0653 |
| #2 | .0029 | -.0259 | .0097 | -.0640 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1133.0 | 57742. | 18843. |
| Stddev | 6.2 | 44. | 32. |
| %RSD | .55120 | .07644 | .16958 |
| #1 | 1137.4 | 57773. | 18820. |
| #2 | 1128.5 | 57711. | 18865. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/12/2013 22:31:26 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0010 | .0048 | 1.381 | -.0029 | .0408 | .0389 | .0000 | 20.88 | .0004 | .0135 |
| Stddev | .0002 | .0021 | .001 | .0008 | .0002 | .0001 | .0000 | .13 | .0000 | .0007 |
| %RSD | 19.37 | 43.21 | .0379 | 26.50 | .5965 | .3258 | 102.8 | .6076 | 9.020 | 5.220 |
| #1 | .0012 | .0063 | 1.381 | -.0024 | .0406 | .0390 | .0000 | 20.97 | .0004 | .0130 |
| #2 | .0009 | .0033 | 1.382 | -.0035 | .0410 | .0388 | .0001 | 20.79 | .0004 | .0140 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0010 | 29.97 | 5.160 | 2.695 | 2.780 | .0046 | 123.1 | .0063 | .0016 |
| Stddev | .0001 | .0003 | .17 | .070 | .074 | .003 | .0001 | .4 | .0003 | .0010 |
| %RSD | 58.77 | 29.01 | .5737 | 1.358 | 2.759 | .1199 | 1.915 | .2916 | 4.452 | 65.17 |
| #1 | .0001 | .0008 | 30.09 | 5.210 | 2.748 | 2.782 | .0045 | 123.4 | .0065 | .0023 |
| #2 | .0003 | .0013 | 29.85 | 5.111 | 2.642 | 2.777 | .0046 | 122.8 | .0061 | .0009 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0004 | .0242 | 4.024 | .0003 | -.0006 | 9.264 | -.0006 | .3089 | .0005 | -.0008 |
| Stddev | .0005 | .0028 | .000 | .0003 | .0006 | .002 | .0002 | .0006 | .0006 | .0011 |
| %RSD | 112.7 | 11.78 | .0077 | 101.4 | 95.22 | .0199 | 24.63 | .1836 | 123.7 | 132.3 |
| #1 | -.0008 | .0262 | 4.024 | .0001 | -.0002 | 9.262 | -.0008 | .3093 | .0010 | -.0016 |
| #2 | -.0001 | .0222 | 4.024 | .0006 | -.0011 | 9.265 | -.0005 | .3085 | .0001 | -.0001 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0000 | -.0029 | .0162 | -.0521 |
| Stddev | .0001 | .0032 | .0003 | .0007 |
| %RSD | 280.7 | 109.9 | 1.691 | 1.278 |
| #1 | .0001 | -.0051 | .0160 | -.0516 |
| #2 | .0000 | -.0006 | .0164 | -.0526 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1120.1 | 57573. | 18686. |
| Stddev | .9 | 76. | 142. |
| %RSD | .08210 | .13199 | .75892 |
| #1 | 1120.7 | 57519. | 18586. |
| #2 | 1119.4 | 57626. | 18786. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 22:36:22 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2431 | 9.848 | 1.949 | -.0039 | 1.991 | 1.964 | 1.963 | 9.636 | 1.976 | 2.069 |
| Stddev | .0012 | .011 | .007 | .0006 | .009 | .004 | .003 | .029 | .007 | .003 |
| %RSD | .4866 | .1107 | .3481 | 15.65 | .4374 | .1847 | .1511 | .3006 | .3455 | .1364 |
| #1 | .2423 | 9.856 | 1.945 | -.0044 | 1.985 | 1.966 | 1.965 | 9.657 | 1.971 | 2.067 |
| #2 | .2439 | 9.840 | 1.954 | -.0035 | 1.997 | 1.961 | 1.961 | 9.616 | 1.981 | 2.071 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.911 | 1.955 | 9.918 | 9.782 | 9.704 | 1.938 | 1.953 | 10.01 | 1.945 | 1.955 |
| Stddev | .001 | .001 | .005 | .015 | .074 | .002 | .004 | .02 | .005 | .005 |
| %RSD | .0275 | .0407 | .0534 | .1570 | .7639 | .0802 | .2025 | .2336 | .2469 | .2766 |
| #1 | 1.910 | 1.954 | 9.922 | 9.792 | 9.756 | 1.940 | 1.950 | 10.03 | 1.942 | 1.951 |
| #2 | 1.911 | 1.955 | 9.914 | 9.771 | 9.651 | 1.937 | 1.956 | 9.994 | 1.949 | 1.959 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0095 | -.0057 | 1.965 | 1.947 | .0160 | 2.011 | 2.038 | 1.900 | 1.967 |
| Stddev | .0003 | .0035 | .0002 | .004 | .009 | .0010 | .013 | .016 | .000 | .007 |
| %RSD | 43.67 | 36.69 | 3.285 | .2274 | .4347 | 6.329 | .6201 | .7818 | .0162 | .3778 |
| #1 | -.0005 | .0119 | -.0056 | 1.962 | 1.941 | .0153 | 2.002 | 2.049 | 1.901 | 1.961 |
| #2 | -.0009 | .0070 | -.0058 | 1.968 | 1.953 | .0167 | 2.020 | 2.027 | 1.900 | 1.972 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.877 | .0173 | 1.948 | -.0092 |
| Stddev | .002 | .0011 | .006 | .0001 |
| %RSD | .0841 | 6.535 | .3182 | .8185 |
| #1 | 1.876 | .0165 | 1.944 | -.0091 |
| #2 | 1.878 | .0181 | 1.952 | -.0092 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1131.1 | 57771. | 18864. |
| Stddev | 3.3 | 9. | 78. |
| %RSD | .29322 | .01498 | .41380 |
| #1 | 1133.4 | 57777. | 18809. |
| #2 | 1128.7 | 57765. | 18919. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 12/12/2013 22:41:13 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0001 | -.0003 | .0014 | -.0005 | .0024 | .0000 | .0000 | .0019 | .0001 | .0003 |
| Stddev | .0003 | .0017 | .0014 | .0002 | .0001 | .0001 | .0000 | .0010 | .0001 | .0002 |
| %RSD | 207.7 | 585.1 | 100.6 | 41.53 | 2.224 | 432.5 | 133.9 | 52.21 | 48.99 | 60.32 |
| #1 | -.0001 | -.0015 | .0023 | -.0003 | .0023 | .0000 | .0000 | .0026 | .0001 | .0004 |
| #2 | .0003 | .0009 | .0004 | -.0006 | .0024 | .0001 | .0001 | .0012 | .0002 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0002 | .0005 | .0007 | .0250 | -.0065 | .0002 | .0024 | -.0178 | .0004 | -.0004 |
| Stddev | .0003 | .0002 | .0015 | .0143 | .0073 | .0000 | .0006 | .0052 | .0000 | .0002 |
| %RSD | 136.5 | 31.86 | 205.7 | 57.30 | 112.8 | 21.40 | 23.02 | 29.02 | 13.17 | 50.34 |
| #1 | .0000 | .0004 | -.0003 | .0149 | -.0117 | .0002 | .0028 | -.0215 | .0003 | -.0002 |
| #2 | .0004 | .0006 | .0017 | .0352 | -.0013 | .0001 | .0020 | -.0142 | .0004 | -.0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0003 | -.0014 | .0005 | .0000 | -.0002 | .0004 | .0011 | .0001 | .0001 | .0009 |
| Stddev | .0001 | .0016 | .0004 | .001 | .0004 | .0001 | .0004 | .0000 | .0003 | .0015 |
| %RSD | 32.33 | 110.5 | 77.94 | 1186. | 204.7 | 12.44 | 34.63 | 11.12 | 334.3 | 177.3 |
| #1 | -.0003 | -.0003 | .0002 | .0004 | -.0004 | .0005 | .0013 | .0001 | .0003 | .0019 |
| #2 | -.0004 | -.0026 | .0007 | -.0005 | .0001 | .0004 | .0008 | .0001 | -.0001 | -.0002 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0004 | .0002 | .0000 | -.0006 |
| Stddev | .0002 | .0005 | .0001 | .0000 |
| %RSD | 41.89 | 250.0 | 610.5 | 3.120 |
| #1 | .0003 | .0006 | .0001 | -.0007 |
| #2 | .0005 | -.0002 | -.0001 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1125.4 | 57977. | 18799. |
| Stddev | 7.6 | 47. | 125. |
| %RSD | .67613 | .08188 | .66230 |
| #1 | 1130.8 | 58011. | 18887. |
| #2 | 1120.0 | 57943. | 18711. |



Zoom In Zoom Out

Sample Name: MC26484-6F Acquired: 12/12/2013 22:46:12 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0058 | .0028 | 1.414 | -.0007 | .0536 | .0394 | -.0003 | 21.50 | .0012 | .0147 |
| Stddev | .0032 | .0376 | .007 | .0116 | .0005 | .0007 | .0001 | .04 | .0001 | .0004 |
| %RSD | 55.30 | 1352. | .5205 | 1707. | .9171 | 1.879 | 30.52 | .1723 | 8.881 | 2.693 |
| #1 | .0081 | .0294 | 1.419 | -.0089 | .0540 | .0399 | -.0002 | 21.47 | .0011 | .0144 |
| #2 | .0036 | -.0238 | 1.408 | .0075 | .0533 | .0389 | -.0003 | 21.52 | .0013 | .0150 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0053 | 30.86 | 5.264 | 2.996 | 2.863 | .0118 | 126.0 | .0059 | -.0099 |
| Stddev | .0002 | .0001 | .07 | .081 | .137 | .005 | .0037 | .2 | .0009 | .0106 |
| %RSD | 28.51 | 1.530 | .2299 | 1.546 | 4.571 | .1899 | 31.23 | .1680 | 15.70 | 106.7 |
| #1 | -.0008 | .0052 | 30.81 | 5.207 | 2.899 | 2.859 | .0145 | 126.1 | .0053 | -.0174 |
| #2 | -.0005 | .0054 | 30.91 | 5.322 | 3.093 | 2.867 | .0092 | 125.8 | .0066 | -.0024 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0025 | .0256 | 4.134 | -.0082 | -.0022 | 9.551 | .0069 | .3205 | -.0007 | .0029 |
| Stddev | .0051 | .0129 | .021 | .0066 | .0006 | .085 | .0012 | .0002 | .0027 | .0013 |
| %RSD | 202.9 | 50.51 | .5193 | 79.87 | 28.78 | .8851 | 16.68 | .0728 | 376.6 | 44.08 |
| #1 | -.0061 | .0347 | 4.119 | -.0129 | -.0018 | 9.492 | .0061 | .3207 | -.0026 | .0038 |
| #2 | .0011 | .0164 | 4.149 | -.0036 | -.0027 | 9.611 | .0077 | .3203 | .0012 | .0020 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0025 | .0206 | .0295 | -.0561 |
| Stddev | .0024 | .0356 | .0010 | .0001 |
| %RSD | 92.79 | 172.4 | 3.221 | .1418 |
| #1 | -.0009 | -.0045 | .0288 | -.0561 |
| #2 | -.0042 | .0458 | .0302 | -.0562 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1122.4 | 57686. | 18653. |
| Stddev | 1.5 | 152. | 7. |
| %RSD | .13488 | .26399 | .03807 |
| #1 | 1123.5 | 57794. | 18659. |
| #2 | 1121.3 | 57578. | 18648. |



Zoom In Zoom Out

Sample Name: MC26484-7F Acquired: 12/12/2013 22:51:10 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0013 | -.0035 | 1.019 | -.0023 | .1558 | .0242 | .0001 | 23.18 | .0001 | .0112 |
| Stddev | .0005 | .0013 | .001 | .0006 | .0001 | .0000 | .0000 | .01 | .0002 | .0002 |
| %RSD | 40.15 | 37.88 | .1373 | 27.17 | .0809 | .1686 | 35.29 | .0219 | 305.4 | 2.081 |
| #1 | .0017 | -.0044 | 1.020 | -.0027 | .1559 | .0242 | .0001 | 23.19 | -.0001 | .0110 |
| #2 | .0009 | -.0025 | 1.018 | -.0018 | .1557 | .0241 | .0000 | 23.18 | .0002 | .0114 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0011 | 35.41 | 8.469 | 4.201 | .8387 | .0157 | 11.86 | .0065 | -.0006 |
| Stddev | .0003 | .0002 | .01 | .010 | .025 | .0030 | .0001 | .01 | .0001 | .0002 |
| %RSD | 1270. | 18.20 | .0410 | .1197 | .5895 | .3568 | .7384 | .1230 | 1.854 | 40.14 |
| #1 | -.0002 | .0009 | 35.42 | 8.462 | 4.184 | .8408 | .0158 | 11.87 | .0064 | -.0004 |
| #2 | .0002 | .0012 | 35.40 | 8.477 | 4.219 | .8366 | .0156 | 11.85 | .0066 | -.0008 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | .0052 | 1.261 | -.0015 | -.0004 | 12.21 | .0015 | .5144 | .0005 | -.0025 |
| Stddev | .0007 | .0023 | .004 | .0002 | .0034 | .03 | .0007 | .0011 | .0002 | .0023 |
| %RSD | 458.7 | 45.46 | .3243 | 13.98 | 921.9 | .2699 | 46.23 | .2137 | 33.57 | 92.93 |
| #1 | -.0006 | .0068 | 1.258 | -.0013 | .0020 | 12.19 | .0010 | .5152 | .0004 | -.0041 |
| #2 | .0003 | .0035 | 1.264 | -.0016 | -.0028 | 12.24 | .0020 | .5136 | .0006 | -.0008 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0003 | -.0075 | .0108 | -.0693 |
| Stddev | .0007 | .0043 | .0003 | .0010 |
| %RSD | 214.8 | 56.96 | 2.550 | 1.435 |
| #1 | .0008 | -.0045 | .0110 | -.0686 |
| #2 | -.0002 | -.0105 | .0106 | -.0700 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1112.7 | 57871. | 18719. |
| Stddev | 3.0 | 285. | 3. |
| %RSD | .27286 | .49208 | .01791 |
| #1 | 1114.8 | 57669. | 18717. |
| #2 | 1110.5 | 58072. | 18722. |

Zoom In Zoom Out

Sample Name: MP22178A-PS1 Acquired: 12/12/2013 22:56:05 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2187 | 1.840 | 2.478 | -.0020 | 4.479 | 2.191 | .1775 | 58.54 | .1854 | 2.318 |
| Stddev | .0004 | .005 | .006 | .0005 | .007 | .002 | .0001 | .01 | .0000 | .000 |
| %RSD | .1671 | .2481 | .2538 | 24.12 | .1539 | .1019 | .0451 | .0235 | .0232 | .0169 |
| #1 | .2184 | 1.837 | 2.473 | -.0016 | 4.474 | 2.193 | .1776 | 58.55 | .1854 | 2.318 |
| #2 | .2189 | 1.844 | 2.482 | -.0023 | 4.484 | 2.190 | .1775 | 58.53 | .1855 | 2.319 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4187 | 1.088 | 34.52 | 47.30 | 45.67 | 2.824 | 4.350 | 97.32 | 1.737 | .2173 |
| Stddev | .0016 | .003 | .00 | .02 | .01 | .001 | .005 | .12 | .000 | .0005 |
| %RSD | .3831 | .2409 | .0054 | .0359 | .0148 | .0274 | .1146 | .1274 | .0199 | .2220 |
| #1 | .4199 | 1.086 | 34.52 | 47.28 | 45.67 | 2.825 | 4.347 | 97.41 | 1.737 | .2170 |
| #2 | .4176 | 1.090 | 34.52 | 47.31 | 45.68 | 2.824 | 4.354 | 97.23 | 1.737 | .2177 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0030 | .0229 | 2.955 | .2852 | .4369 | 8.243 | 4.411 | .6580 | 2.098 | .2179 |
| Stddev | .0001 | .0062 | .002 | .0001 | .0025 | .019 | .003 | .0021 | .001 | .0007 |
| %RSD | 3.477 | 27.12 | .0728 | .0186 | .5653 | .2355 | .0753 | .3152 | .0662 | .3175 |
| #1 | -.0031 | .0185 | 2.956 | .2852 | .4352 | 8.230 | 4.409 | .6595 | 2.097 | .2174 |
| #2 | -.0029 | .0273 | 2.953 | .2851 | .4386 | 8.257 | 4.414 | .6566 | 2.099 | .2184 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4203 | .0223 | .8755 | -.0553 |
| Stddev | .0022 | .0008 | .0012 | .0000 |
| %RSD | .5137 | 3.432 | .1335 | .0745 |
| #1 | .4219 | .0228 | .8763 | -.0552 |
| #2 | .4188 | .0217 | .8746 | -.0553 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1081.7 | 57015. | 18635. |
| Stddev | .9 | 108. | 25. |
| %RSD | .08401 | .18946 | .13237 |
| #1 | 1082.4 | 57091. | 18652. |
| #2 | 1081.1 | 56938. | 18617. |



Zoom In Zoom Out

Sample Name: MP22178A-PS1 Acquired: 12/12/2013 23:00:50 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2204 | 1.811 | 2.514 | -.0043 | 4.573 | 2.173 | .1809 | 60.50 | .1871 | 2.370 |
| Stddev | .0009 | .028 | .016 | .0002 | .035 | .008 | .0015 | .11 | .0012 | .016 |
| %RSD | .3999 | 1.527 | .6391 | 4.475 | .7734 | .3711 | .8406 | .1865 | .6569 | .6663 |
| #1 | .2197 | 1.791 | 2.503 | -.0045 | 4.548 | 2.178 | .1820 | 60.42 | .1862 | 2.359 |
| #2 | .2210 | 1.830 | 2.526 | -.0042 | 4.598 | 2.167 | .1799 | 60.58 | .1879 | 2.381 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4177 | 1.075 | 36.10 | 48.53 | 45.83 | 2.883 | 4.441 | 98.15 | 1.784 | .2193 |
| Stddev | .0025 | .008 | .09 | .24 | .16 | .000 | .001 | .22 | .013 | .0027 |
| %RSD | .6091 | .7541 | .2524 | .4877 | .3385 | .0088 | .0322 | .2196 | .7507 | 1.229 |
| #1 | .4159 | 1.070 | 36.17 | 48.69 | 45.72 | 2.883 | 4.442 | 98.30 | 1.774 | .2174 |
| #2 | .4195 | 1.081 | 36.04 | 48.36 | 45.94 | 2.883 | 4.440 | 98.00 | 1.793 | .2212 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0061 | .0078 | 2.984 | .2831 | .4451 | 8.125 | 4.470 | .6786 | 2.122 | .2191 |
| Stddev | .0111 | .0251 | .024 | .0036 | .0064 | .065 | .024 | .0050 | .009 | .0021 |
| %RSD | 183.0 | 321.8 | .8089 | 1.265 | 1.429 | .8045 | .5374 | .7407 | .4461 | .9567 |
| #1 | -.0140 | -.0099 | 2.967 | .2806 | .4496 | 8.079 | 4.453 | .6822 | 2.115 | .2176 |
| #2 | .0018 | .0255 | 3.001 | .2856 | .4406 | 8.171 | 4.487 | .6750 | 2.128 | .2206 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4148 | -.0106 | .9295 | -.0669 |
| Stddev | .0013 | .0071 | .0017 | .0013 |
| %RSD | .3068 | 67.23 | .1827 | 2.017 |
| #1 | .4157 | -.0056 | .9283 | -.0660 |
| #2 | .4139 | -.0157 | .9307 | -.0679 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1115.5 | 58212. | 18802. |
| Stddev | 3.2 | 134. | 190. |
| %RSD | .29092 | .22981 | 1.0116 |
| #1 | 1117.8 | 58307. | 18937. |
| #2 | 1113.2 | 58117. | 18668. |



Zoom In Zoom Out

Sample Name: MC26013-1F Acquired: 12/12/2013 23:05:43 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0015 | .0081 | .0542 | -.0031 | .5790 | .0152 | .0003 | 109.7 | -.0005 |
| Stddev | .0010 | .0011 | .0004 | .0017 | .0026 | .0001 | .0001 | .9 | .0008 |
| %RSD | 67.12 | 13.05 | .7292 | 55.56 | .4489 | .8775 | 29.67 | .8263 | 145.6 |
| #1 | .0021 | .0088 | .0539 | -.0019 | .5772 | .0151 | .0003 | 110.3 | -.0011 |
| #2 | .0008 | .0073 | .0544 | -.0043 | .5808 | .0152 | .0004 | 109.0 | .0000 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0021 | .0013 | .0045 | .7236 | 11.18 | 35.80 | .4769 | .0195 | 183.5 |
| Stddev | .0000 | .0004 | .0010 | .0104 | .07 | .48 | .0016 | .0003 | .4 |
| %RSD | .0128 | 29.49 | 22.43 | 1.439 | .6219 | 1.331 | .3267 | 1.685 | .2170 |
| #1 | -.0021 | .0015 | .0052 | .7162 | 11.23 | 36.14 | .4758 | .0193 | 183.2 |
| #2 | -.0021 | .0010 | .0037 | .7309 | 11.13 | 35.47 | .4780 | .0198 | 183.8 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0023 | -.0005 | -.0020 | .0152 | F102.2 | -.0015 | -.0013 | 14.82 | .0019 |
| Stddev | .0006 | .0015 | .0034 | .0030 | .4 | .0009 | .0020 | .08 | .0004 |
| %RSD | 26.99 | 284.2 | 175.0 | 19.86 | .4169 | 63.99 | 151.5 | .5102 | 22.26 |
| #1 | .0027 | -.0016 | .0005 | .0131 | 101.9 | -.0008 | .0001 | 14.76 | .0022 |
| #2 | .0019 | .0005 | -.0044 | .0173 | 102.5 | -.0021 | -.0027 | 14.87 | .0016 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | 1.188 | .0035 | -.0035 | .0016 | .0103 | .0127 | -.0850 |
| Stddev | .002 | .0008 | .0022 | .0011 | .0057 | .0016 | .0012 |
| %RSD | .1343 | 21.80 | 61.95 | 70.37 | 55.39 | 12.57 | 1.393 |
| #1 | 1.187 | .0040 | -.0051 | .0023 | .0063 | .0138 | -.0842 |
| #2 | 1.189 | .0029 | -.0020 | .0008 | .0144 | .0115 | -.0859 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1102.0 | 57764. | 18759. |
| Stddev | 3.5 | 53. | 129. |
| %RSD | .32093 | .09222 | .68685 |
| #1 | 1104.5 | 57726. | 18668. |
| #2 | 1099.5 | 57801. | 18850. |



Zoom In Zoom Out

Sample Name: MC26054-4F Acquired: 12/12/2013 23:10:39 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0025 | -.0122 | .0158 | .0080 | .0949 | .0705 | .0003 | 99.24 | -.0001 | -.0011 |
| Stddev | .0052 | .0131 | .0013 | .0029 | .0013 | .0003 | .0002 | 2.40 | .0011 | .0024 |
| %RSD | 206.5 | 107.4 | 8.114 | 35.73 | 1.406 | .3711 | 53.51 | 2.416 | 872.8 | 221.6 |
| #1 | -.0012 | -.0215 | .0167 | .0060 | .0939 | .0707 | .0005 | 100.9 | -.0009 | -.0027 |
| #2 | .0062 | -.0029 | .0148 | .0100 | .0958 | .0703 | .0002 | 97.54 | .0006 | .0006 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0049 | .0097 | .0305 | 2.773 | 46.50 | .0041 | .0109 | 13.69 | .0019 | -.0082 |
| Stddev | .0015 | .0022 | .0006 | .055 | 1.01 | .0005 | .0000 | .30 | .0008 | .0107 |
| %RSD | 30.32 | 22.37 | 2.038 | 1.993 | 2.168 | 12.58 | .3500 | 2.197 | 41.24 | 131.2 |
| #1 | .0060 | .0112 | .0309 | 2.734 | 47.21 | .0045 | .0108 | 13.90 | .0024 | -.0006 |
| #2 | .0039 | .0082 | .0301 | 2.812 | 45.79 | .0038 | .0109 | 13.47 | .0013 | -.0158 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0061 | .0474 | 57.59 | -.0085 | -.0091 | 8.081 | .0030 | .3722 | .0017 | -.0089 |
| Stddev | .0053 | .0085 | .10 | .0044 | .0094 | .019 | .0055 | .0073 | .0022 | .0100 |
| %RSD | 86.02 | 17.98 | .1807 | 51.34 | 103.0 | .2400 | 184.5 | 1.964 | 127.1 | 113.1 |
| #1 | .0024 | .0414 | 57.67 | -.0116 | -.0025 | 8.067 | -.0009 | .3774 | .0002 | -.0018 |
| #2 | .0098 | .0534 | 57.52 | -.0054 | -.0157 | 8.095 | .0069 | .3670 | .0032 | -.0160 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0014 | .0027 | .0154 | -.0522 |
| Stddev | .0027 | .0508 | .0028 | .0050 |
| %RSD | 195.0 | 1881. | 18.12 | 9.563 |
| #1 | .0033 | .0386 | .0174 | -.0487 |
| #2 | -.0005 | -.0332 | .0135 | -.0558 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1102.8 | 58152. | 18694. |
| Stddev | .5 | 992. | 399. |
| %RSD | .04901 | 1.7053 | 2.1344 |
| #1 | 1102.4 | 57451. | 18412. |
| #2 | 1103.2 | 58854. | 18976. |

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/12/2013 23:15:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0052 | .2078 | F.0053 | -.0009 | .1064 | .0503 | .0042 | 4.861 | .0042 |
| Stddev | .0001 | .0006 | .0007 | .0006 | .0006 | .0002 | .0000 | .001 | .0001 |
| %RSD | 2.373 | .2894 | 12.41 | 72.97 | .5185 | .4513 | .8912 | .0136 | 2.534 |
| #1 | .0051 | .2082 | .0057 | -.0013 | .1068 | .0504 | .0042 | 4.862 | .0041 |
| #2 | .0053 | .2074 | .0048 | -.0004 | .1060 | .0501 | .0042 | 4.861 | .0043 |

| Elem | Co2286 | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0546 | .0099 | .0257 | .1044 | 4.990 | 4.923 | .0152 | .1031 | 5.171 |
| Stddev | .0004 | .0006 | .0000 | .0004 | .053 | .012 | .0002 | .0010 | .005 |
| %RSD | .6520 | 6.251 | .0129 | .3763 | 1.067 | .2494 | 1.346 | .9872 | .0969 |
| #1 | .0549 | .0104 | .0257 | .1046 | 5.028 | 4.914 | .0150 | .1023 | 5.175 |
| #2 | .0544 | .0095 | .0257 | .1041 | 4.953 | 4.932 | .0153 | .1038 | 5.168 |

| Elem | Ni2316 | Pb2203 | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 |
|---|---|---|---|---|---|---|---|---|---|
| Avg | .0416 | .0044 | .0001 | .0021 | .0026 | .0050 | .0108 | .0207 | .1035 |
| Stddev | .0001 | .0003 | .0005 | .0027 | .0009 | .0008 | .0000 | .0004 | .0009 |
| %RSD | .2563 | 6.990 | 396.1 | 130.2 | 36.04 | 16.52 | .3615 | 1.877 | .8917 |
| #1 | .0415 | .0046 | -.0002 | .0040 | .0033 | .0045 | .0107 | .0204 | .1028 |
| #2 | .0417 | .0041 | .0005 | .0002 | .0020 | .0056 | .0108 | .0210 | .1041 |

| Elem | Sr4077 | Ti3349 | Tl1908 | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Avg | .0110 | .0488 | F.0034 | .0098 | -.0006 | .0212 | -.0009 |
| Stddev | .0000 | .0003 | .0001 | .0001 | .0011 | .0002 | .0001 |
| %RSD | .2128 | .5346 | 3.948 | .5726 | 172.0 | 1.059 | 8.252 |
| #1 | .0110 | .0486 | .0035 | .0098 | -.0014 | .0210 | -.0009 |
| #2 | .0110 | .0490 | .0033 | .0098 | .0001 | .0213 | -.0010 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1103.4 | 57972. | 18700. |
| Stddev | 1.2 | 102. | 21. |
| %RSD | .11033 | .17674 | .11481 |
| #1 | 1102.5 | 58045. | 18685. |
| #2 | 1104.2 | 57900. | 18716. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/12/2013 23:20:33 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0001 | 536.8 | .0012 | -.0025 | .0058 | -.0004 | .0001 | 439.2 | .0001 | .0000 |
| Stddev | .0002 | .9 | .0017 | .0003 | .0008 | .0000 | .0000 | 3.1 | .0001 | .0002 |
| %RSD | 260.6 | .1643 | 139.4 | 11.27 | 13.22 | 12.48 | 33.80 | .7113 | 128.4 | 509.4 |
| #1 | .0001 | 536.2 | .0000 | -.0027 | .0053 | -.0004 | .0001 | 437.0 | .0001 | -.0001 |
| #2 | -.0002 | 537.4 | .0024 | -.0023 | .0063 | -.0004 | .0001 | 441.4 | .0000 | .0002 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0007 | .0020 | 181.9 | -.0400 | 524.4 | .0001 | -.0011 | .0393 | -.0008 | .0005 |
| Stddev | .0002 | .0002 | .9 | .0096 | 2.8 | .0000 | .0002 | .0020 | .0001 | .0021 |
| %RSD | 23.51 | 10.40 | .5049 | 23.87 | .5368 | 9.560 | 19.22 | 5.111 | 7.051 | 392.6 |
| #1 | -.0006 | .0018 | 181.3 | -.0333 | 522.4 | .0002 | -.0012 | .0407 | -.0007 | -.0009 |
| #2 | -.0008 | .0021 | 182.6 | -.0468 | 526.4 | .0001 | -.0009 | .0379 | -.0008 | .0020 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0281 | -.0269 | .0937 | .0004 | .0000 | 3.124 | .0007 | -.0076 | .0055 | -.0013 |
| Stddev | .0007 | .0021 | .0002 | .0006 | .001 | .005 | .0018 | .0001 | .0004 | .0020 |
| %RSD | 2.552 | 7.876 | .2105 | 139.2 | 1608. | .1611 | 267.9 | 1.203 | 6.723 | 155.1 |
| #1 | -.0286 | -.0284 | .0936 | .0009 | .0004 | 3.120 | -.0006 | -.0075 | .0057 | .0001 |
| #2 | -.0276 | -.0254 | .0939 | .0000 | -.0005 | 3.128 | .0019 | -.0077 | .0052 | -.0028 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | -.0011 | -.0267 | .0007 | -.0109 |
| Stddev | .0001 | .0025 | .0001 | .0001 |
| %RSD | 7.993 | 9.542 | 14.67 | .4938 |
| #1 | -.0012 | -.0249 | .0008 | -.0108 |
| #2 | -.0010 | -.0285 | .0007 | -.0109 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1019.8 | 53791. | 18400. |
| Stddev | 2.4 | 54. | 115. |
| %RSD | .23784 | .10099 | .62334 |
| #1 | 1021.5 | 53753. | 18481. |
| #2 | 1018.1 | 53830. | 18319. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/12/2013 23:25:36 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.029 | 537.1 | 2.115 | .4862 | 1.035 | .4969 | .4693 | 439.2 | 1.038 | .4996 |
| Stddev | .002 | .6 | .003 | .0006 | .003 | .0003 | .0006 | .9 | .004 | .0019 |
| %RSD | .2145 | .1174 | .1550 | .1318 | .2518 | .0683 | .1268 | .2063 | .3713 | .3766 |
| #1 | 1.031 | 537.6 | 2.118 | .4867 | 1.037 | .4966 | .4697 | 439.8 | 1.040 | .5009 |
| #2 | 1.028 | 536.7 | 2.113 | .4858 | 1.033 | .4971 | .4689 | 438.5 | 1.035 | .4983 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .4586 | .5425 | 182.3 | -.0243 | 523.6 | .4723 | .9702 | .0618 | .8853 | .9216 |
| Stddev | .0039 | .0005 | .3 | .0000 | 1.5 | .0001 | .0024 | .0042 | .0033 | .0036 |
| %RSD | .8435 | .0866 | .1600 | .0186 | .2864 | .0242 | .2500 | 6.713 | .3684 | .3859 |
| #1 | .4614 | .5422 | 182.5 | -.0243 | 524.6 | .4724 | .9719 | .0589 | .8876 | .9241 |
| #2 | .4559 | .5428 | 182.1 | -.0243 | 522.5 | .4722 | .9685 | .0648 | .8830 | .9191 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .5297 | .4710 | .5253 | 2.063 | 1.966 | 4.749 | 1.020 | 1.037 | .4854 | 1.876 |
| Stddev | .0036 | .0041 | .0056 | .010 | .010 | .016 | .005 | .001 | .0001 | .012 |
| %RSD | .6732 | .8644 | 1.075 | .4754 | .5149 | .3363 | .4629 | .0835 | .0129 | .6580 |
| #1 | .5272 | .4681 | .5293 | 2.070 | 1.973 | 4.760 | 1.023 | 1.036 | .4854 | 1.884 |
| #2 | .5322 | .4738 | .5213 | 2.056 | 1.959 | 4.738 | 1.017 | 1.037 | .4855 | 1.867 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .4676 | 2.099 | .9159 | .3772 |
| Stddev | .0009 | .005 | .0039 | .0041 |
| %RSD | .2020 | .2341 | .4276 | 1.090 |
| #1 | .4682 | 2.096 | .9187 | .3743 |
| #2 | .4669 | 2.103 | .9131 | .3801 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1019.4 | 54122. | 18348. |
| Stddev | 2.6 | 170. | 27. |
| %RSD | .25882 | .31397 | .14515 |
| #1 | 1017.5 | 54001. | 18329. |
| #2 | 1021.3 | 54242. | 18367. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 12/12/2013 23:30:28 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .2393 | 9.898 | 1.968 | -.0037 | 2.043 | 1.959 | 1.984 | 9.586 | 2.021 | 2.119 |
| Stddev | .0002 | .004 | .000 | .0002 | .001 | .001 | .000 | .025 | .004 | .008 |
| %RSD | .0855 | .0383 | .0031 | 4.860 | .0548 | .0471 | .0130 | .2613 | .1842 | .3725 |
| #1 | .2392 | 9.901 | 1.968 | -.0039 | 2.044 | 1.960 | 1.984 | 9.603 | 2.024 | 2.124 |
| #2 | .2395 | 9.895 | 1.968 | -.0036 | 2.042 | 1.958 | 1.985 | 9.568 | 2.019 | 2.113 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | 1.877 | 1.982 | 10.03 | 9.737 | 9.775 | 1.932 | 1.969 | 10.08 | 1.978 | 1.973 |
| Stddev | .006 | .002 | .02 | .004 | .032 | .004 | .003 | .01 | .006 | .005 |
| %RSD | .3484 | .0799 | .1870 | .0362 | .3238 | .1973 | .1286 | .1284 | .3160 | .2665 |
| #1 | 1.882 | 1.981 | 10.04 | 9.740 | 9.753 | 1.935 | 1.971 | 10.07 | 1.982 | 1.977 |
| #2 | 1.872 | 1.983 | 10.01 | 9.735 | 9.798 | 1.929 | 1.967 | 10.09 | 1.973 | 1.970 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | .0115 | -.0047 | 1.996 | 1.969 | .0185 | 2.044 | 2.093 | 1.880 | 1.970 |
| Stddev | .0007 | .0008 | .0028 | .002 | .002 | .0004 | .003 | .018 | .001 | .003 |
| %RSD | 144.9 | 7.249 | 59.00 | .1218 | .0824 | 2.093 | .1314 | .8496 | .0435 | .1307 |
| #1 | .0000 | .0109 | -.0067 | 1.998 | 1.968 | .0182 | 2.046 | 2.080 | 1.880 | 1.972 |
| #2 | -.0010 | .0121 | -.0028 | 1.994 | 1.970 | .0188 | 2.042 | 2.106 | 1.879 | 1.968 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | 1.841 | .0277 | 1.990 | .0157 |
| Stddev | .003 | .0014 | .011 | .0040 |
| %RSD | .1838 | 5.031 | .5650 | 25.81 |
| #1 | 1.844 | .0267 | 1.997 | .0185 |
| #2 | 1.839 | .0287 | 1.982 | .0128 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.9 | 57986. | 18772. |
| Stddev | 1.3 | 183. | 39. |
| %RSD | .11658 | .31508 | .20788 |
| #1 | 1104.0 | 57857. | 18744. |
| #2 | 1105.8 | 58116. | 18799. |

Zoom In
Zoom Out

Sample Name: CCB Acquired: 12/12/2013 23:35:18 Type: Unk
Method: Accutest -SS2 with S(v257) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3961 | As1890 | Au2427 | B_2089 | Ba4554 | Be3130 | Ca3179 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0004 | .0023 | .0021 | .0001 | .0030 | .0000 | .0001 | .0086 | .0001 | .0002 |
| Stddev | .0000 | .0007 | .0011 | .0005 | .0004 | .0000 | .0000 | .0018 | .0001 | .0001 |
| %RSD | .5759 | 31.30 | 52.84 | 412.7 | 13.38 | 1287. | 12.74 | 21.00 | 85.42 | 67.27 |
| #1 | .0004 | .0028 | .0029 | .0005 | .0032 | .0000 | .0001 | .0099 | .0002 | .0002 |
| #2 | .0003 | .0018 | .0013 | -.0002 | .0027 | .0000 | .0001 | .0073 | .0000 | .0001 |

| Elem | Cr2677 | Cu3247 | Fe2599 | K_7664 | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | Pb2203 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | .0000 | .0009 | .0015 | .0000 | .0214 | .0000 | .0027 | -.0161 | -.0001 | .0001 |
| Stddev | .0003 | .0002 | .0010 | .028 | .0142 | .0000 | .0003 | .0044 | .0000 | .0005 |
| %RSD | 34660. | 23.93 | 64.45 | 1424000. | 66.16 | 2.423 | 9.663 | 27.45 | 11.05 | 349.7 |
| #1 | -.0002 | .0010 | .0008 | -.0195 | .0315 | .0000 | .0028 | -.0130 | -.0001 | -.0002 |
| #2 | .0002 | .0007 | .0022 | .0195 | .0114 | .0000 | .0025 | -.0192 | -.0001 | .0005 |

| Elem | Pd3404 | Pt2659 | S_1820 | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3349 | Tl1908 |
|---|---|---|---|---|---|---|---|---|---|---|
| Avg | -.0005 | -.0013 | -.0012 | -.0003 | .0010 | -.0008 | .0004 | .0001 | .0002 | .0018 |
| Stddev | .0006 | .0007 | .0021 | .0003 | .0008 | .0004 | .0004 | .0000 | .0003 | .0003 |
| %RSD | 110.7 | 56.21 | 174.0 | 121.3 | 84.10 | 49.64 | 104.6 | 17.06 | 138.4 | 15.72 |
| #1 | -.0010 | -.0018 | -.0027 | -.0005 | .0004 | -.0011 | .0006 | .0001 | .0005 | .0020 |
| #2 | -.0001 | -.0008 | .0003 | .0000 | .0016 | -.0005 | .0001 | .0001 | .0000 | .0016 |

| Elem | V_2924 | W_2397 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Avg | .0001 | -.0006 | -.0003 | -.0007 |
| Stddev | .0004 | .0017 | .0000 | .0001 |
| %RSD | 301.7 | 263.6 | 13.43 | 9.517 |
| #1 | -.0002 | .0006 | -.0003 | -.0007 |
| #2 | .0004 | -.0018 | -.0004 | -.0006 |

| Int. Std. | Y_2243 | Y_3600 | Y_3710 |
|---|---|---|---|
| Avg | 1104.2 | 57816. | 18617. |
| Stddev | 6.1 | 110. | 18. |
| %RSD | .54984 | .18978 | .09702 |
| #1 | 1108.5 | 57894. | 18630. |
| #2 | 1099.9 | 57739. | 18605. |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ag 328.068 {103} | ☒ | 8 | V | 0.000091 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Mn | 0.000112 | 0.000000 | No |
| | | | Mo | -0.000021 | 0.000000 | No |
| | | | Cu | 0.000004 | 0.000000 | No |
| | | | Ti | 0.000036 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Zr | 0.005523 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 3 | Mn | -0.000328 | 0.000000 | No |
| | | | Mo | 0.035809 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| As 189.042 {479} | ☒ | 10 | V | 0.000087 | 0.000000 | No |
| | | | Al | 0.000006 | 0.000000 | No |
| | | | Mo | 0.000887 | 0.000000 | No |
| | | | Fe | -0.000000 | 0.000000 | No |
| | | | Mn | -0.000022 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mg | 0.000003 | 0.000000 | No |
| | | | Cr | 0.000408 | 0.000000 | No |
| | | | Na | 0.000000 | 0.000000 | No |
| | | | Co | -0.000743 | 0.000000 | No |
| Au 242.795 {139} | ☒ | 3 | Fe | 0.000056 | 0.000000 | No |
| | | | Mn | 0.007148 | 0.000000 | No |
| | | | Co | -0.000671 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.030489 | 0.000000 | No |
| Ba 455.403 { 74} | ☒ | 1 | Al | 0.000009 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 3 | V | 0.000368 | 0.000000 | No |
| | | | Mo | -0.000013 | 0.000000 | No |
| | | | Ti | -0.000310 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | None | | | | |
| Cd 228.802 {448} | ☒ | 4 | Ni | 0.000020 | 0.000000 | No |
| | | | V | 0.000020 | 0.000000 | No |
| | | | Fe | 0.000007 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 4 | Fe | 0.000055 | 0.000000 | No |
| | | | Mo | -0.000093 | 0.000000 | No |
| | | | Ti | 0.001625 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 2 | Al | 0.000003 | 0.000000 | No |
| | | | Mn | 0.000067 | 0.000000 | No |
| Cu 324.754 {104} | ☒ | 4 | Fe | -0.000067 | 0.000000 | No |
| | | | V | 0.000089 | 0.000000 | No |
| | | | Mo | 0.000183 | 0.000000 | No |
| | | | Co | -0.000699 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 4 | Al | 0.000157 | 0.000000 | No |
| | | | Mo | -0.000600 | 0.000000 | No |
| | | | Co | -0.000015 | 0.000000 | No |
| | | | Cr | 0.000162 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 2 | Fe | -0.000328 | 0.000000 | No |
| | | | Mo | -0.002000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 2 | Mn | -0.002210 | 0.000000 | No |
| | | | Mo | -0.017077 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 3 | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000002 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 1 | V | 0.000578 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 2 | Mo | 0.002860 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Al | 0.000568 | 0.000000 | No |
| | Ni 231.604 {446} | ☒ | 3 | Mo | 0.000061 | 0.000000 | No |
| | | | | Fe | 0.000004 | 0.000000 | No |
| | | | | Ca | -0.000007 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 10 | Al | -0.000043 | 0.000000 | No |
| | | | | Mn | 0.000002 | 0.000000 | No |
| | | | | Mo | -0.001748 | 0.000000 | No |
| | | | | Co | -0.000167 | 0.000000 | No |
| | | | | Cu | 0.000227 | 0.000000 | No |
| | | | | Ca | -0.000007 | 0.000000 | No |
| | | | | Fe | 0.000040 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000023 | 0.000000 | No |
| | | | | Si | 0.000038 | 0.000000 | No |
| | Pd 340.458 { 99} | ☒ | 4 | Mo | -0.000183 | 0.000000 | No |
| | | | | Co | -0.000515 | 0.000000 | No |
| | | | | Cu | 0.000121 | 0.000000 | No |
| | | | | Fe | -0.000342 | 0.000000 | No |
| | Pt 265.945 {127} | ☒ | 8 | Al | 0.000061 | 0.000000 | No |
| | | | | Fe | -0.000027 | 0.000000 | No |
| | | | | Cr | 0.006177 | 0.000000 | No |
| | | | | Ni | -0.000225 | 0.000000 | No |
| | | | | Mn | -0.008486 | 0.000000 | No |
| | | | | V | -0.000835 | 0.000000 | No |
| | | | | Co | -0.000324 | 0.000000 | No |
| | | | | Cu | -0.000222 | 0.000000 | No |
| | S 182.034 {485} | ☒ | None | | | | |
| | Sb 206.833 {463} | ☒ | 11 | Al | -0.000005 | 0.000000 | No |
| | | | | Fe | 0.000006 | 0.000000 | No |
| | | | | Cr | 0.007492 | 0.000000 | No |
| | | | | Mo | -0.000278 | 0.000000 | No |
| | | | | Mg | 0.000002 | 0.000000 | No |
| | | | | Ni | -0.000175 | 0.000000 | No |
| | | | | V | -0.001624 | 0.000000 | No |
| | | | | Ca | 0.000002 | 0.000000 | No |
| | | | | Ti | -0.000232 | 0.000000 | No |
| | | | | Cu | -0.000089 | 0.000000 | No |
| | | | | Sn | -0.009353 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 7 | Al | -0.000008 | 0.000000 | No |
| | | | | Fe | -0.000318 | 0.000000 | No |
| | | | | Mn | 0.000384 | 0.000000 | No |
| | | | | Mo | 0.000125 | 0.000000 | No |
| | | | | Ca | -0.000004 | 0.000000 | No |
| | | | | Na | 0.000006 | 0.000000 | No |
| | | | | Co | -0.000535 | 0.000000 | No |
| | Si 212.412 {459} | ☒ | 3 | V | 0.030413 | 0.000000 | No |
| | | | | Ti | 0.012159 | 0.000000 | No |
| | | | | Mo | 0.022364 | 0.000000 | No |
| | Sn 189.989 {478} | ☒ | None | | | | |
| | Sr 407.771 { 83} | ☒ | 1 | Ca | 0.000021 | 0.000000 | No |
| | Ti 334.904 {101} | ☒ | 2 | Cr | 0.000180 | 0.000000 | No |
| | | | | Mo | 0.000546 | 0.000000 | No |
| | Tl 190.856 {477} | ☒ | 10 | Mn | 0.000551 | 0.000000 | No |
| | | | | Cr | 0.000195 | 0.000000 | No |
| | | | | V | -0.030487 | 0.000000 | No |
| | | | | Co | 0.001214 | 0.000000 | No |
| | | | | Al | -0.000007 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Fe | 0.000003 | 0.000000 | No |
| | | | Ti | -0.002286 | 0.000000 | No |
| | | | Mo | -0.000116 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Na | 0.000009 | 0.000000 | No |
| V 292.402 {115} | ☒ | 3 | Ti | 0.000270 | 0.000000 | No |
| | | | Mo | -0.005896 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| W 239.709 {141} | ☒ | 5 | Fe | -0.000141 | 0.000000 | No |
| | | | Mo | 0.001630 | 0.000000 | No |
| | | | Co | 0.007596 | 0.000000 | No |
| | | | Al | 0.000073 | 0.000000 | No |
| | | | Mn | -0.000017 | 0.000000 | No |
| Y 224.306 {451}* | ☒ | None | | | | |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Zn 206.200 {464} | ☒ | 9 | Fe | 0.000005 | 0.000000 | No |
| | | | Mn | 0.000018 | 0.000000 | No |
| | | | Ni | 0.000450 | 0.000000 | No |
| | | | Cr | -0.000497 | 0.000000 | No |
| | | | Mo | 0.000270 | 0.000000 | No |
| | | | Co | 0.000024 | 0.000000 | No |
| | | | Ti | 0.000277 | 0.000000 | No |
| | | | Al | 0.000003 | 0.000000 | No |
| | | | Na | 0.000004 | 0.000000 | No |
| Zr 339.198 { 99} | ☒ | 5 | Si | 0.005567 | 0.000000 | No |
| | | | Ti | 0.000761 | 0.000000 | No |
| | | | Fe | 0.000014 | 0.000000 | No |
| | | | Sn | 0.002851 | 0.000000 | No |
| | | | V | 0.002032 | 0.000000 | No |

ACCUTEST

| Date: | 12/02/13 |
|---|---|
| Time | 13:35 |

| | |
|---|---|
| Name: | EM/MA |
| MP Batch ID: | MP22168 |
| QC Sample ID: | MC26418-1F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-38563-METALS |
| Conc HNO3 | VENDOR-14192 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | 1308077 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38403-METALS |
| 0.5 | RGT-38404-METALS |
| 0.5 | RGT-38405-METALS |
| 0.5 | RGT-38440-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 95 | Factor | -1 | Corrected Temp C | 94 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 1 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP22168-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP22168-B1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 13 | MP22168-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-10F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-11F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-12F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-13F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-14F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-15F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-16F | 50 | 50 | | | | 3 | 5 | | |
| 13 | MC26418-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-3F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-6F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26418-7F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-8F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26418-9F | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26484-8F | 50 | 50 | | | | 3 | 5 | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
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| | | | | | | | | | | |

**Protected Worksheet** MMP003-02 QC Review SarahA Date: 12/04/13

**(Format edits must be done by dept. Manager)**

ACCUTEST

| Date: | 12/03/13 |
|---|---|
| Time | 13:30 |

| | |
|---|---|
| Name: | SA/KR |
| MP Batch ID: | MP22178 |
| QC Sample ID: | MC26484-4F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-38300-METALS |
| Conc HNO3 | VENDOR-14192 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MM01LKK0 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38580-METALS |
| 0.5 | RGT-38568-METALS |
| 0.5 | RGT-38581-METALS |
| 0.5 | RGT-38582-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | -1 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 1 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP22178-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP22178-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-3F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC26484-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-7F | 50 | 50 | | | | 3 | 5 | | |
| 8 | MC26758-1 | 50 | 50 | | | | 3 | 5 | | |
| 8 | MC26758-2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26351-1F | 50 | 50 | | | | 3 | 5 | | |

Protected Worksheet MMP003-02 QC Review PuiY Date: 12/04/13

(Format edits must be done by dept. Manager)

7.5.2

7

Prep QC: MP22178

ACCUTEST

| Date: | 12/03/13 |
|---|---|
| Time | 13:30 |

| Name: | SA/KR |
|---|---|
| MP Batch ID: | MP22178 |
| QC Sample ID: | MC26484-4F |

| Reagent Lot # | |
|---|---|
| 1:1 HNO3 | |
| 1:1 HCL | RGT-38300-METALS |
| Conc HNO3 | VENDOR-14192 |
| H2O2 | |
| LCS | |
| Filter Paper Lot # | |
| Digetion Tube Lot # | MM01LKK0 |

| | |
|---|---|
| Aqueous EPA 200.7/ 200.8 | ○ |
| Aqueous SW846 3010A | ◉ |
| Soil- SW846 3050B | ○ |

WW

| ML Used | Spike Lot# |
|---|---|
| 0.5 | RGT-38580-METALS |
| 0.5 | RGT-38568-METALS |
| 0.5 | RGT-38581-METALS |
| 0.5 | RGT-38582-METALS |
| Spike ID | MPICP |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dig Block ID: | 4 | Therm ID | GN017 | Temp. C | 96 | Factor | -1 | Corrected Temp C | 95 |
| Dig Block ID: | | Therm ID | | Temp. C | | Factor | | Corrected Temp C | |
| Balance ID: | N/A | Repipetor ID | 1 | | | | | | |

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

| Bot# | Sample # | Initial ML | Final (ML) | | | 1:1 HNO3 (ML) | Conc. HNO3 (ML) | 1:1 HCL (ML) | H2O2 (ML) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | MP22178-MB1 | 50 | 50 | | | | 3 | 5 | | |
| | MP22178-B1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-S1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-SD1 | 50 | 50 | | | | 3 | 5 | | |
| 14 | MP22178-S2 | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-1F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-2F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-3F | 50 | 50 | | | | 3 | 5 | | |
| 14 | MC26484-4F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-5F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-6F | 50 | 50 | | | | 3 | 5 | | |
| 5 | MC26484-7F | 50 | 50 | | | | 3 | 5 | | |
| 8 | MC26758-1 | 50 | 50 | | | | 3 | 5 | | |
| 8 | MC26758-2 | 50 | 50 | | | | 3 | 5 | | |
| 1 | MC26351-1F | 50 | 50 | | | | 3 | 5 | | |
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**Protected Worksheet** MMP003-02 QC Review PuiY Date: 12/04/13

**(Format edits must be done by dept. Manager)**

7.5.3

7

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries



Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45308 | 5.0 | 1.1 | mg/l | 250 | 265 | 106.0 | 80-120% |
| Alkalinity, Total as CaCO3 | GN45341 | 5.0 | 1.1 | mg/l | 250 | 263 | 105.2 | 80-120% |
| Chloride | GN45295 | 1.0 | 0.0 | mg/l | 10 | 10.0 | 100.0 | 80-120% |
| Dissolved Organic Carbon | GN45354 | 1.0 | 0.49 | mg/l | 10 | 11.0 | 110.0 | 80-120% |
| Nitrogen, Ammonia | GP16945/GN45281 | 0.10 | 0.0 | mg/l | 0.5 | 0.50 | 100.0 | 80-120% |
| Nitrogen, Nitrate + Nitrite | GP16952/GN45311 | 0.10 | 0.0 | mg/l | 2 | 2.10 | 105.0 | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | 0.10 | 0.0 | mg/l | 2 | 2.16 | 108.0 | 90-110% |
| Nitrogen, Nitrite | GP16920/GN45218 | 0.010 | 0.0 | mg/l | 0.02 | 0.020 | 100.0 | 80-120% |
| Sulfide | GN45262 | 2.0 | 0.0 | mg/l | 13.4 | 13.0 | 97.0 | 80-120% |
| Sulfide | GN45263 | 2.0 | 0.0 | mg/l | 13.4 | 12.0 | 89.6 | 80-120% |

Associated Samples:
Batch GN45262: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-6, MC26484-7
Batch GN45263: MC26484-5
Batch GN45295: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GN45308: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-7
Batch GN45341: MC26484-6
Batch GN45354: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F
Batch GP16920: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16945: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16952: MC26484-7
Batch GP16954: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45308 | MC26484-4 | mg/l | 33.0 | 33.0 | 0.0 | 0-20% |
| Alkalinity, Total as CaCO3 | GN45341 | MC26484-6 | mg/l | 44.9 | 46.0 | 2.4 | 0-20% |
| Chloride | GN45295 | MC26484-4 | mg/l | 145 | 145 | 0.0 | 0-20% |
| Dissolved Organic Carbon | GN45354 | MC26484-4F | mg/l | 1.5 | 1.3 | 14.3 | 0-20% |
| Nitrogen, Ammonia | GP16945/GN45281 | MC26484-4 | mg/l | 2.8 | 2.8 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16952/GN45311 | MC26484-7 | mg/l | 0.15 | 0.15 | 0.0 | 0-20% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | MC26484-4 | mg/l | 0.24 | 0.24 | 0.0 | 0-20% |
| Nitrogen, Nitrite | GP16920/GN45218 | MC26484-4 | mg/l | 0.0017 U | 0.0030 | 0.0 | 0-20% |
| Sulfide | GN45262 | MC26484-4 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |
| Sulfide | GN45263 | MC26484-5 | mg/l | 0.49 U | 0.0 | 0.0 | 0-20% |

Associated Samples:
Batch GN45262: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-6, MC26484-7
Batch GN45263: MC26484-5
Batch GN45295: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GN45308: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-7
Batch GN45341: MC26484-6
Batch GN45354: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F
Batch GP16920: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16945: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16952: MC26484-7
Batch GP16954: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total as CaCO3 | GN45308 | MC26484-4 | mg/l | 33.0 | 250 | 286 | 101.2 | 75-125% |
| Alkalinity, Total as CaCO3 | GN45341 | MC26484-6 | mg/l | 44.9 | 250 | 303 | 103.2 | 75-125% |
| Chloride | GN45295 | MC26484-4 | mg/l | 145 | 100 | 245 | 100.0 | 75-125% |
| Dissolved Organic Carbon | GN45354 | MC26484-4F | mg/l | 1.5 | 10 | 11.6 | 101.0 | 75-125% |
| Nitrogen, Ammonia | GP16945/GN45281 | MC26484-4 | mg/l | 2.8 | 1.0 | 3.7 | 90.0 | 75-125% |
| Nitrogen, Nitrate + Nitrite | GP16952/GN45311 | MC26484-7 | mg/l | 0.15 | 2 | 1.7 | 77.5(a) | 90-110% |
| Nitrogen, Nitrate + Nitrite | GP16954/GN45311 | MC26484-4 | mg/l | 0.24 | 2 | 2.4 | 108.0 | 90-110% |
| Nitrogen, Nitrite | GP16920/GN45218 | MC26484-4 | mg/l | 0.0017 U | 0.02 | 0.023 | 100.0 | 75-125% |
| Sulfide | GN45262 | MC26484-4 | mg/l | 0.49 U | 10.3 | 10.0 | 97.1 | 75-125% |
| Sulfide | GN45263 | MC26484-5 | mg/l | 0.49 U | 13.4 | 12.0 | 89.6 | 75-125% |

Associated Samples:
Batch GN45262: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-6, MC26484-7
Batch GN45263: MC26484-5
Batch GN45295: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GN45308: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-7
Batch GN45341: MC26484-6
Batch GN45354: MC26484-1F, MC26484-2F, MC26484-3F, MC26484-4F, MC26484-5F, MC26484-6F, MC26484-7F
Batch GP16920: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16945: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
Batch GP16952: MC26484-7
Batch GP16954: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:45 | GN45311-STD1 | 1 | | STDA5.0 |
| 12:46 | GN45311-STD2 | 1 | | STDB2.0 |
| 12:47 | GN45311-STD3 | 1 | | STDC1.0 |
| 12:49 | GN45311-STD4 | 1 | | STDD0.80 |
| 12:50 | GN45311-STD5 | 1 | | STDE0.50 |
| 12:51 | GN45311-STD6 | 1 | | STDF0.30 |
| 12:52 | GN45311-STD7 | 1 | | STDG0.10 |
| 12:54 | GN45311-STD8 | 1 | | STDH0.0 |
| 12:56 | GN45311-ICV1 | 1 | | |
| 12:58 | GN45311-ICB1 | 1 | | |
| 12:59 | GN45311-CCV1 | 1 | | |
| 13:00 | GN45311-CCB1 | 1 | | |
| 13:01 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:03 | GP16952-MB1 | 1 | | |
| 13:04 | GP16952-B1 | 1 | | |
| 13:05 | GP16952-S1 | 1 | | |
| 13:06 | GP16952-D1 | 1 | | |
| 13:08 | MC26484-7 | 1 | | |
| 13:09 | ZZZZZZ | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:12 | ZZZZZZ | 1 | | |
| 13:14 | GN45311-CCV2 | 1 | | |
| 13:15 | GN45311-CCB2 | 1 | | |
| 13:16 | GN45311-ICV2 | 1 | | |
| 13:17 | GN45311-ICB2 | 1 | | |
| 13:19 | GN45311-CCV3 | 1 | | |
| 13:20 | GN45311-CCB3 | 1 | | |
| 13:21 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:22 | GP16953-MB1 | 1 | | |
| 13:24 | GP16953-B1 | 1 | | |
| 13:25 | GP16953-S1 | 1 | | |
| 13:26 | GP16953-D1 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:27 | MC26418-1 | 1 | | (sample used for QC only; not part of login MC26484) |
| 13:29 | ZZZZZZ | 1 | | DNR, SEE RERUN. |
| 13:30 | ZZZZZZ | 1 | | DNR, SEE RERUN. |
| 13:31 | ZZZZZZ | 1 | | |
| 13:32 | ZZZZZZ | 1 | | |
| 13:34 | GN45311-CCV4 | 1 | | |
| 13:35 | GN45311-CCB4 | 1 | | |
| 13:36 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:39 | ZZZZZZ | 1 | | |
| 13:40 | ZZZZZZ | 1 | | |
| 13:41 | ZZZZZZ | 1 | | |
| 13:42 | GN45311-CCV5 | 1 | | |
| 13:43 | GN45311-CCB5 | 1 | | |
| 13:45 | GN45311-ICV3 | 1 | | |
| 13:46 | GN45311-ICB3 | 1 | | |
| 13:47 | GN45311-CCV6 | 1 | | |
| 13:48 | GN45311-CCB6 | 1 | | |
| 13:50 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 13:51 | GP16954-MB1 | 1 | | |
| 13:52 | GP16954-B1 | 1 | | |
| 13:53 | GP16954-S1 | 1 | | |
| 13:55 | GP16954-D1 | 1 | | |
| 13:56 | MC26484-4 | 1 | | |
| 13:57 | MC26484-1 | 1 | | |
| 13:58 | MC26484-2 | 1 | | |
| 14:00 | MC26484-3 | 1 | | |
| 14:01 | MC26484-5 | 1 | | |
| 14:02 | GN45311-CCV7 | 1 | | |
| 14:03 | GN45311-CCB7 | 1 | | |
| 14:05 | MC26484-6 | 1 | | |
| 14:06 | ZZZZZZ | 1 | | |
| 14:07 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Analyst: MC Run ID: GN45311
Parameters: Nitrogen, Nitrate + Nitrite

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:08 | ZZZZZZ | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:11 | GN45311-CCV8 | 1 | | |
| 14:12 | GN45311-CCB8 | 1 | | |
| 14:13 | GN45311-ICV4 | 1 | | |
| 14:15 | GN45311-ICB4 | 1 | | |
| 14:16 | GN45311-CCV9 | 1 | | |
| 14:17 | GN45311-CCB9 | 1 | | |
| 14:18 | ZZZZZZ | 1 | | COLUMN EFFICIENCY STD. |
| 14:19 | GP16955-MB1 | 1 | | |
| 14:21 | GP16955-B1 | 1 | | |
| 14:22 | GP16955-S1 | 1 | | |
| 14:23 | GP16955-D1 | 1 | | |
| 14:24 | MC26426-1 | 1 | | (sample used for QC only; not part of login MC26484) |
| 14:26 | GN45311-CCV10 | 1 | | |
| 14:27 | GN45311-CCB10 | 1 | | |
| 14:43 | GN45311-CCV11 | 1 | | |
| 14:45 | GN45311-CCB11 | 1 | | |
| 14:46 | ZZZZZZ | 1 | | |
| 14:47 | ZZZZZZ | 1 | | |
| 14:48 | GN45311-CCV12 | 1 | | |
| 14:50 | GN45311-CCB12 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Run ID: GN45311 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45311-ICV1 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV1 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB1 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV2 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV2 | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN45311-ICB2 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV3 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV4 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB4 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV5 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB5 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV3 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB3 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV6 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB6 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV7 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB7 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV8 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB8 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV4 | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB4 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV9 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB9 | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV10 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB10 | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN45311-CCV11 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB11 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV12 | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB12 | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC120413W2.TXT  Date Analyzed: 12/04/13  Methods: SM21 5310 B
Analyst: MA  Run ID: GN45354
Parameters: Dissolved Organic Carbon

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:04 | GN45354-ICV1 | 1 | | |
| 16:17 | GN45354-CCV1 | 1 | | |
| 16:30 | GN45354-CCB1 | 1 | | |
| 16:43 | ZZZZZZ | 1 | | Sparger check STD |
| 17:13 | GN45354-MB1 | 1 | | |
| 17:26 | GN45354-B1 | 1 | | |
| 17:39 | GN45354-S1 | 1 | | |
| 17:52 | GN45354-D1 | 1 | | |
| 18:05 | MC26484-4F | 1 | | |
| 18:18 | MC26484-1F | 1 | | |
| 18:31 | MC26484-2F | 1 | | |
| 18:44 | MC26484-3F | 1 | | |
| 18:57 | MC26484-5F | 1 | | |
| 19:10 | GN45354-CCV2 | 1 | | |
| 19:23 | GN45354-CCB2 | 1 | | |
| 19:36 | MC26484-6F | 1 | | |
| 19:49 | MC26484-7F | 1 | | |
| 20:02 | GN45354-CCV3 | 1 | | |
| 20:15 | GN45354-CCB3 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26484
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: TOC120413W2.TXT  Date Analyzed: 12/04/13  Methods: SM21 5310 B
Run ID: GN45354  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45354-ICV1 | Dissolved Organic Carbon | 27.5 | 1.0 | 0.23 | 30 | 91.7 | 90-110 |
| GN45354-CCV1 | Dissolved Organic Carbon | 18.5 | 1.0 | 0.23 | 20 | 92.5 | 90-110 |
| GN45354-CCB1 | Dissolved Organic Carbon | 0.59 | 1.0 | 0.23 | | | |
| GN45354-CCV2 | Dissolved Organic Carbon | 20.9 | 1.0 | 0.23 | 20 | 104.5 | 90-110 |
| GN45354-CCB2 | Dissolved Organic Carbon | 0.55 | 1.0 | 0.23 | | | |
| GN45354-CCV3 | Dissolved Organic Carbon | 20.9 | 1.0 | 0.23 | 20 | 104.5 | 90-110 |
| GN45354-CCB3 | Dissolved Organic Carbon | 0.54 | 1.0 | 0.23 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

ACCUTEST

**Protected Worksheet** MGN 106-02
(Format edits must be done by Dept.Manager)

Test: Nitrogen, Nitrite
Product: NO2
Method: SM 21TH 4500 NO2 B (Aqueous) ◉ Units: mg/l as N
SM 21TH 4500 NO2 B M (Solids) ○ mg/kg as I

Analyst: CRYSTALL
GN Batch ID: GN45218
GP Batch ID: GP16920
Date: 11/22/2013
Instrument ID: spectronic 543nm

Original Calibration Information — Calibration Date: 11/22/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.01 | 0.02 | 0.05 | 0.10 | 0.20 | 0.40 | | | | |
| Absorbance: | 0.000 | 0.029 | 0.062 | 0.159 | 0.325 | 0.644 | 1.302 | | | | |
| Actual Value: | 0.001 | 0.010 | 0.020 | 0.050 | 0.101 | 0.199 | 0.401 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-31984-NO2 | Reagent | |
| CCV | GNSTD-31984-NO2-5 | Reagent | |
| ICV | GNSTD-31985-NO2-2 | Reagent | |
| Reagent | RGT-38278-NO2 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99999
Slope = 0.30702
Intercept = 0.00086

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC26484-4 | Orig: | <0.010 | Dup: | <0.010 | | RPD: | 0% | |
| MS Sample ID: | MC26484-4 | Orig: | <0.010 | Spike Amt: | 0.02 | MS Res: | 0.23 | % Rec: | 115% |
| MB Prep Date: | 11/22/13 | | | RL: | 0.01 | <RL ?: | Y | | |
| SB Prep Date: | 11/22/13 | Res: | 0.020 | Spike Amt: | 0.02 | % Rec: | 100% | | |
| SB Prep Date: | 11/22/13 | Res: | | Spike Amt: | 0.02 | % Rec: | | | |
| ICV: | SEE ABOVE | Control Limit: | 10% +/- | Known: | 0.1 | Res: | 0.101 | % Rec: | 101% |
| CCV (1) Res: | 0.2050 | Known: | 0.20 | % Rec: | 103% | CCV (2) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% |
| CCV (3) Res: | 0.2 | Known: | 0.20 | % Rec: | 100% | CCV (4) Res: | | Known: | 0.20 | % Rec: | |
| CCV (5) Res: | | Known: | 0.20 | % Rec: | | CCV (6) Res: | | Known: | 0.20 | % Rec: | |

| Time Analyzed | Sample ID | pH | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:38 | CCV | N/A | | 50 | 50 | 1 | 0.665 | 0.000 | 0.205 | 0.2050 | 0.010 |
| 10:57 | CCB | N/A | | 50 | 50 | 1 | 0.004 | 0.000 | 0.002 | 0.0021 | 0.010 |
| 10:57 | ICV | N/A | | 50 | 50 | 1 | 0.325 | 0.000 | 0.101 | 0.1006 | 0.010 |
| 10:57 | GP16920-MB1 | N/A | | 50 | 50 | 1 | -0.005 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 10:57 | GP16920-B1 | N/A | | 50 | 50 | 1 | 0.063 | 0.000 | 0.020 | 0.0202 | 0.010 |
| 10:57 | GP16920-S1 | 6 | 1 | 50 | 50 | 1 | 0.073 | 0.000 | 0.023 | 0.0233 | 0.010 |
| 10:57 | GP16920-D1 | 6 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.003 | 0.0030 | 0.010 |
| 10:57 | MC26484-4 | 6 | 1 | 50 | 50 | 1 | 0.007 | 0.000 | 0.003 | 0.0030 | 0.010 |
| 10:57 | MC26484-1 | 7 | 1 | 50 | 50 | 1 | -0.005 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 10:57 | MC26484-2 | 6 | 1 | 50 | 50 | 1 | 0.003 | 0.000 | 0.002 | 0.0018 | 0.010 |
| 10:57 | MC26484-3 | 6 | 1 | 50 | 50 | 1 | -0.004 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 10:57 | MC26484-5 | 7 | 1 | 50 | 50 | 1 | 0.006 | 0.000 | 0.003 | 0.0027 | 0.010 |
| 10:57 | CCV | N/A | | 50 | 50 | 1 | 0.646 | 0.000 | 0.199 | 0.1992 | 0.010 |
| 11:00 | CCB | N/A | | 50 | 50 | 1 | -0.004 | 0.000 | 0.001 | 0.0009 | 0.010 |
| 11:00 | MC26484-6 | 6 | 1 | 50 | 50 | 1 | 0.014 | 0.000 | 0.005 | 0.0052 | 0.010 |
| 11:00 | MC26484-7 | 6 | 1 | 50 | 50 | 1 | 0.010 | 0.000 | 0.004 | 0.0039 | 0.010 |
| 11:00 | CCV | N/A | | 50 | 50 | 1 | 0.650 | 0.000 | 0.200 | 0.2004 | 0.010 |
| | CCB | N/A | | 50 | 50 | 1 | -0.001 | 0.000 | 0.001 | 0.0009 | 0.010 |

CCV 11-22-13

Analyst: Crystal Woodall Date: 11-22-13 QC Reviewer: Date: 11/22/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN45262
Date: 11/25/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-14189 |
| Iodine | 0.025 | RGT-38484-SREAC |
| HCl | 6N | RGT-38486-S |
| External QC- ICV: | | GNSTD-32011-S-1 |
| Starch lot# | | VENDOR-14065 |
| Spike Lot# | | GNSTD-32010-S-1 |

Iodine Standardization

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC26484-4 | Original: | <2 | MS: | 10 | Spk Amt | 10.3 | %REC 97% |
| Dup Sample ID: | MC26484-4 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | |
| Method Blank Date | 11/25/2013 | Result: | <2 | RL: | 2 | <MDL? | y | |
| Spk Blk Date: | 11/25/13 | Result: | 13 | SPK AMT. | 13.4 | %Rec | 97.0% | |
| External QC (ICV): | GNSTD-32011-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 13.2 | %REC 99% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN45262-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN45262-B1 | 20 | 200 | 5 | 18.5 | 13.50 | 13.0 | 13.0 | 2 |
| 9 | GN45262-S1 | 20 | 260 | 18.5 | 32 | 13.50 | 10.0 | 10.0 | 2 |
| 8 | GN45262-D1 | 5 | 250 | 32 | 37 | 5.00 | 0.0 | <2 | 2 |
| 7 | MC26484-4 | 5 | 260 | 37 | 42 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-1 | 5 | 260 | 42 | 47 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-2 | 5 | 240 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-3 | 5 | 255 | 5 | 10 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-6 | 5 | 260 | 10 | 15 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-7 | 5 | 245 | 15 | 20 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-12 | 5 | 260 | 20 | 25 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-13 | 5 | 250 | 25 | 30 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-15 | 5 | 270 | 30 | 35 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26418-16 | 5 | 260 | 35 | 40 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.4 | 13.40 | 13.2 | 13.2 | 2 |

BIJ 11-25-13

Analyst: BIJ Date: 11-25-13 QC Reviewer: Date: 11/26/13

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN45263
Date: 11/25/13

Analyst: BIJANF

| Reagents | Normality | Reagent LOT# |
|---|---|---|
| Sod. Thiosulfate : | 0.025 | VENDOR-14189 |
| Iodine | 0.025 | RGT-38484-SREAC |
| HCl | 6N | RGT-38486-S |
| External QC- ICV: | | GNSTD-32011-S-1 |
| Starch lot# | | VENDOR-14065 |
| Spike Lot# | | GNSTD-32010-S-1 |

**Iodine Standardization**

| | Ml Iodine | Start Titrant | End Titrant | Total ML | Ave. Ml of Titrant |
|---|---|---|---|---|---|
| STD#1 | 5 | 0 | 5 | 5 | 5 |
| STD#2 | 5 | 5 | 10 | 5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MS Sample ID: | MC26484-5 | Original: | <2 | MS: | 12 | Spk Amt | 13.4 | %REC 90% |
| Dup Sample ID: | MC26484-5 | Original: | <2 | Duplicate: | <2 | RPD: | 0.0% | |
| Method Blank Date | 11/25/2013 | Result: | <2 | RL: | 2 | <MDL? | y | |
| Spk Blk Date: | 11/25/13 | Result: | 12 | SPK AMT. | 13.4 | %Rec | 89.6% | |
| External QC (ICV): | GNSTD-32011-S-1 | Cont.Limit | 90-110 | Known | 13.40 | Res | 12.4 | %REC 93% |

| Bottle # | Sample ID | Iodine (ML) | (VOL) (ML) | Initial Reading for titrant (ML) | Final Reading for titrant (ML) | Titrant Total (ML) | Result (mg/l) | Final Result (mg/l) | RL |
|---|---|---|---|---|---|---|---|---|---|
| | GN45263-MB1 | 5 | 200 | 0 | 5 | 5.00 | 0.0 | <2 | 2 |
| | GN45263-B1 | 20 | 200 | 5 | 19 | 14.00 | 12.0 | 12.0 | 2 |
| 2 | GN45263-S1 | 20 | 200 | 19 | 33 | 14.00 | 12.0 | 12.0 | 2 |
| 2 | GN45263-D1 | 5 | 200 | 33 | 38 | 5.00 | 0.0 | <2 | 2 |
| 3 | MC26484-5 | 5 | 250 | 38 | 43 | 5.00 | 0.0 | <2 | 2 |
| | ICVCONF | 20 | 200 | 0 | 13.8 | 13.80 | 12.4 | 12.4 | 2 |

BI 11-25-13

Analyst: _____ Date: 11-25-13

QC Reviewer: _____ Date: 11/26/13

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN45281
GP Batch ID: GP16945
Date: 11/26/2013
Instrument ID: spectronic 425nm

Original Calibration Information — Calibration Date: 11/26/2013

| | Blank | Std 1 | Std 2 | Std 3 | Std 4 | Std 5 | Std 6 | Std 7 | Std 8 | Std 9 | Std 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Known: | 0.00 | 0.10 | 0.30 | 0.50 | 0.80 | 1.00 | 2.00 | | | | |
| Absorbance: | 0.000 | 0.056 | 0.189 | 0.320 | 0.480 | 0.628 | 1.320 | | | | |
| Actual Value: | 0.023 | 0.108 | 0.309 | 0.508 | 0.751 | 0.976 | 2.026 | | | | |

**Reagents & Standards Log**

| | | | |
|---|---|---|---|
| Calib STD | GNSTD-32029-AMN | Reagent | |
| CCV | GNSTD-32029-AMN-6 | Reagent | |
| ICV | RGT-38334-AMN | Reagent | |
| Reagent | VENDOR-13847 | Reagent | |
| Reagent | | Reagent | |

Correlation Coeff. = 0.99923
Slope = 1.51761
Intercept = 0.02254

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dup Sample ID: | MC26484-4 | Orig: | 2.8 | | Dup: | 2.8 | | RPD: | 0% | |
| MS Sample ID: | MC26484-4 | Orig: | 2.8 | | Spike Amt: | 1 | MS Res: | 3.7 | % Rec: | 90% |
| MB Prep Date: | 11/26/13 | Res: | <0.1 | RL: | 0.1 | <RL ?: | y | | | |
| SB Prep Date: | 11/26/13 | Res: | 0.5 | Spike Amt: | 0.5 | % Rec: | 100% | | | |
| SB Prep Date: | | Res: | | Spike Amt: | | % Rec: | | | | |
| ICV: | See above | Control Limit: | 90-110 | Known: | 18.5 | Res: | 18.467 | % Rec: | 100% | |
| CCV (1) Res: | 0.979 | Known: | 1.00 | % Rec: | 98% | CCV (2) Res: | 0.990 | Known: | 1.00 | % Rec: 99% |
| CCV (3) Res: | 1.000 | Known: | 1.00 | % Rec: | 100% | CCV (4) Res: | | Known: | 1.00 | % Rec: |
| CCV (5) Res: | | Known: | 1.00 | % Rec: | | CCV (6) Res: | | Known: | 1.00 | % Rec: |

| Time Analyzed | Sample ID | Bottle # | Initial Wt (g) or Vol (ml) | Final Vol (ml) | Dilution | Sample Abs | Background Abs. | Result From Curve (mg/L) | Final Result | DL | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16:00 | CCV | | 50 | 50 | 1 | 0.630 | 0.000 | 0.979 | 0.979 | 0.100 | mg/l |
| 16:10 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |
| 16:10 | ICV | | 50 | 50 | 10 | 1.202 | 0.000 | 1.847 | 18.467 | 1.000 | mg/l |
| 16:10 | GP16945-MB1 | | 50 | 50 | 1 | 0.002 | 0.000 | 0.026 | 0.026 | 0.100 | mg/l |
| 16:10 | GP16945-B1 | | 50 | 50 | 1 | 0.312 | 0.000 | 0.496 | 0.496 | 0.100 | mg/l |
| 16:10 | GP16945-S1 | | 50 | 50 | 2 | 1.201 | 0.000 | 1.845 | 3.690 | 0.200 | mg/l |
| 16:10 | GP16945-D1 | | 50 | 50 | 2 | 0.909 | 0.000 | 1.402 | 2.804 | 0.200 | mg/l |
| 16:10 | MC26484-4 | | 50 | 50 | 2 | 0.905 | 0.000 | 1.396 | 2.792 | 0.200 | mg/l |
| 16:10 | MC26484-1 | | 50 | 50 | 1 | 0.077 | 0.000 | 0.139 | 0.139 | 0.100 | mg/l |
| 16:10 | MC26484-2 | | 50 | 50 | 1 | 0.037 | 0.000 | 0.079 | 0.079 | 0.100 | mg/l |
| 16:10 | MC26484-3 | | 50 | 50 | 1 | 0.039 | 0.000 | 0.082 | 0.082 | 0.100 | mg/l |
| 16:10 | MC26484-5 | | 50 | 50 | 1 | 0.048 | 0.000 | 0.095 | 0.095 | 0.100 | mg/l |
| 16:10 | CCV | | 50 | 50 | 1 | 0.637 | 0.000 | 0.989 | 0.989 | 0.100 | mg/l |
| 16:20 | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |
| 16:20 | MC26484-6 | | 50 | 50 | 2 | 0.776 | 0.000 | 1.200 | 2.400 | 0.200 | mg/l |
| 16:20 | MC26484-7 | | 50 | 50 | 5 | 0.655 | 0.000 | 1.017 | 5.083 | 0.500 | mg/l |
| 16:20 | MC26284-1 | | 50 | 50 | 1 | 0.300 | 0.000 | 0.478 | 0.478 | 0.100 | mg/l |
| 16:20 | MC26457-1 | | 50 | 50 | 800 | 1.183 | 0.000 | 1.818 | 1454.298 | 80.000 | mg/l |
| 16:20 | CCV | | 50 | 50 | 1 | 0.642 | 0.000 | 0.997 | 0.997 | 0.100 | mg/l |
| | CCB | | 50 | 50 | 1 | 0.000 | 0.000 | 0.023 | 0.023 | 0.100 | mg/l |

11-26-13 BI

Analyst: [signature] Date: 11-26-13 QC Reviewer: [signature] Date: 11/27/13

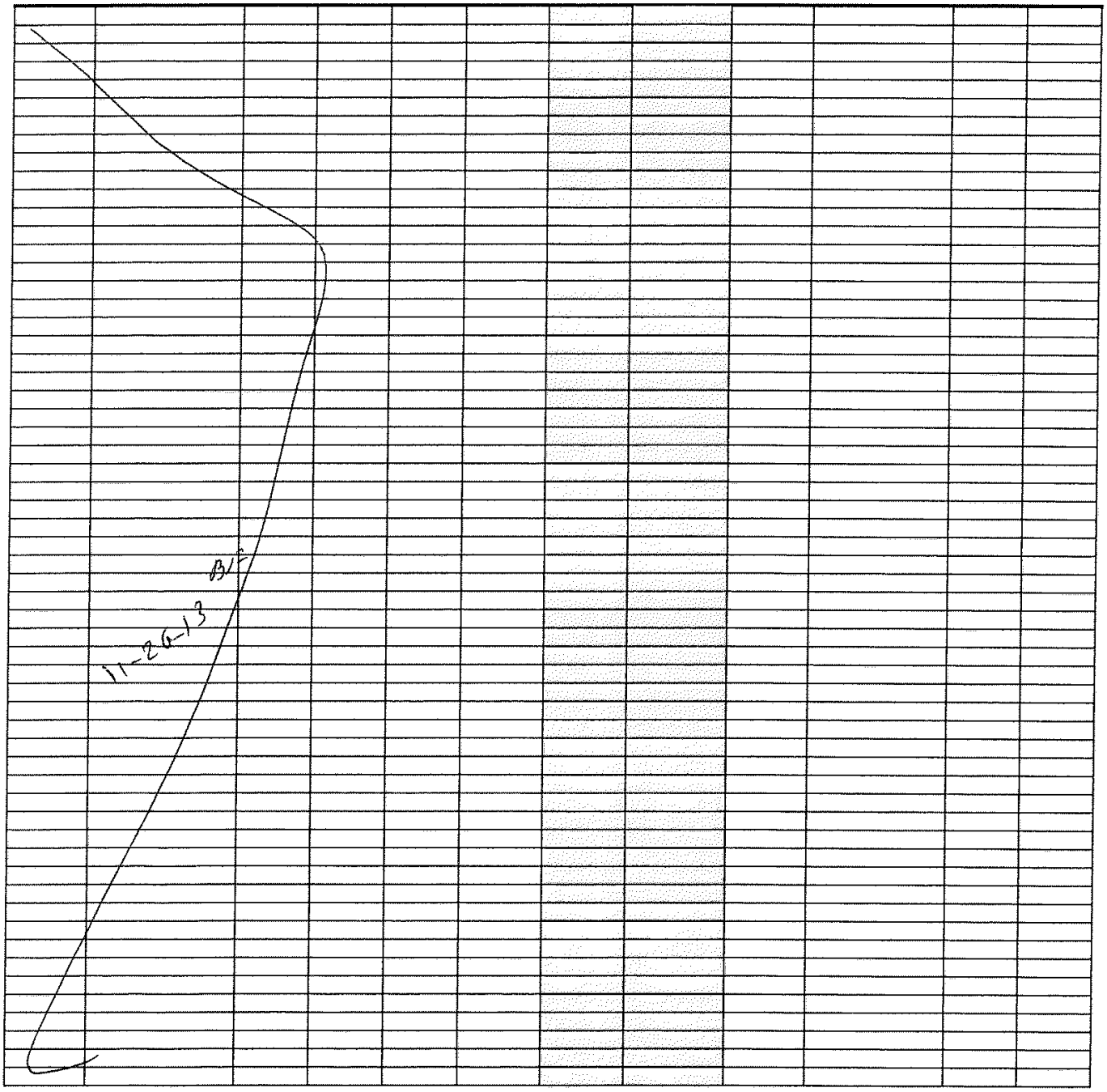
9.4 9

ACCUTEST

Protected Worksheet MGN 100-C
(Format edits must be done by Dept. Manager)

Test: Nitrogen, Ammonia
Product: AMN
Method: SM 18TH 4500 NH3-C (Aqueous) ◉ Units: mg/l as N
SM 18TH 4500 NH3-C MOD (Solids) ○ mg/kg as N

Analyst: BIJANF
GN Batch ID: GN45281
GP Batch ID: GP16945
Date: 11/26/2013
Instrument ID: spectronic 425nm




Comments: MC26457-1( 400X @PREP. & 2X @ BENCH )

Analyst: _____ Date: 11-26-13 QC Reviewer: _____ Date: 11,27,13

ACCUTEST. Distillation/Digestion

Protected Worksheet MGN124-01
(Format edits must be done by Dept. manager)

| Analyst: | BIJANF | Date | 11/26/13 | Batch ID | GP16945 | Matrix | Aqueous |
|---|---|---|---|---|---|---|---|
| QC Sample | MC26484-4 | Balance ID | N/A | pH Meter ID | 520A ORION | Block ID | N/A |

**Analysis Type**

| | | | | | |
|---|---|---|---|---|---|
| AMN ( Macro-manual) SM18 4500 NH3B | ◉ | AMN (Micro-Lachat) SM21th 4500 NH3B | ○ | TKN EPA 351.2/Mod | ○ | TPO4 EPA365.4/Mod | ○ |
| Nitrate EPA353.2/Mod | ○ | Nitrite (Manual) SM21 4500NO2B | ○ | Nitrite EPA 353.2/Mod | ○ | | ○ |

| Sample ID | Bot # | ID | Intrf Chk (CI) | Init. pH | Adj. pH | SMPL Amt ML | DIST/Dig Vol ML | Start Time | End Time | Comments/ Spike |
|---|---|---|---|---|---|---|---|---|---|---|
| GP16945-MB1 | | N/A | N/D | <2 | 9.87 | 100 | 100 | 11:40 | 12:00 | |
| GP16945-B1 | | N/A | N/D | <2 | 9.86 | 100 | 100 | 11:40 | 12:00 | 5.0 ML OF SPIKE |
| GP16945-S1 | 10 | N/A | N/D | <2 | 9.57 | 100 | 100 | 11:40 | 12:00 | 5.0 ML OF SPIKE |
| GP16945-D1 | 11 | N/A | N/D | <2 | 9.55 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-4 | 12 | N/A | N/D | <2 | 9.99 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-1 | 4 | N/A | N/D | <2 | 9.86 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-2 | 4 | N/A | N/D | <2 | 9.88 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-3 | 4 | N/A | N/D | <2 | 9.76 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-5 | 4 | N/A | N/D | <2 | 9.76 | 100 | 100 | 12:30 | 12:50 | |
| MC26484-6 | 4 | N/A | N/D | <2 | 9.84 | 100 | 100 | 13:20 | 13:40 | |
| MC26484-7 | 4 | N/A | N/D | <2 | 9.88 | 100 | 100 | 13:20 | 13:40 | |
| MC26284-1 | 3 | N/A | N/D | <2 | 9.67 | 100 | 100 | 13:20 | 13:40 | |
| MC26457-1 | 3 | N/A | N/D | <2 | 9.66 | 0.5 | 100 | 13:20 | 13:40 | ( 1:400 DILUTION ) |
| ICV | | N/A | N/D | <2 | 9.88 | 10 | 100 | 13:20 | 13:40 | ( 1:10 DILUTION ) |
| RB | | N/A | N/D | <2 | 9.86 | 100 | 100 | 10:30 | 10:50 | |
| CAL.STD 0.1 | | N/A | N/D | <2 | 9.57 | 100 | 100 | 10:30 | 10:50 | 1.0 ML OF GNSTD-32029-AMN-1 |
| CAL.STD 0.3 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 10:30 | 10:50 | 3.0 ML OF GNSTD-32029-AMN-1 |
| CAL.STD 0.5 | | N/A | N/D | <2 | 9.67 | 100 | 100 | 10:30 | 10:50 | 5.0 ML OF GNSTD-32029-AMN-1 |
| CAL.STD 0.8 | | N/A | N/D | <2 | 9.64 | 100 | 100 | 10:30 | 10:50 | 8.0 ML OF GNSTD-32029-AMN-1 |
| CAL.STD 10.0 | | N/A | N/D | <2 | 9.85 | 100 | 100 | 10:30 | 10:50 | 10.0 ML OF GNSTD-32029-AMN-1 |
| CAL.STD 20.0 | | N/A | N/D | <2 | 9.88 | 100 | 100 | 11:40 | 12:00 | 20.0 ML OF GNSTD-32029-AMN-1 |
| CCV | | N/A | N/D | <2 | 9.91 | 100 | 100 | 11:40 | 12:00 | 10.0 ML OF GNSTD-32029-AMN-1 |
| CCB | | N/A | N/D | <2 | 9.95 | 100 | 100 | 11:40 | 12:00 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

11-26-13

**Reagent Lot #**

| | | | |
|---|---|---|---|
| 1 N NaOH | RGT-38463-TCLP | Spike Solution | GNSTD-32028-AMN-1 |
| Boric Acid | RGT-38522-AMN | ICV Solution | RGT-38334-AMN |
| Borate Buffer | RGT-37482-AMN | Sodium Thiosulfate | N/A |
| Na2S2O3.5H2O | N/A | 0.10 N NAOH | N/A |
| H2SO4 | N/A | N/A | |

Comment:

QC Review _____ Date 11/27/13

ACCUTEST LABORATORIES

# Chloride



| | |
|---|---|
| **GN Batch ID:** | **GN45295** |
| **Analyst:** | MIRANDAC |
| **Analysis Date:** | 11/27/2013 |
| **Method:** | SM 4500 CL-C |
| **Units:** | mg/L |

**QC Summary:**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Method blank ID: | GN45295-MB1 | Date: | 11/27/2013 | Res: | <1.0 | RL: | 1.0 | < RL: | Y | Units: | MG/L |
| Spike blank ID: | GN45295-B1 | Date: | 11/27/2013 | Res: | 10 | Spike: | 10 | % Rec: | 100% | | |
| Duplicate ID: | MC26484-4 | Smpl Res:: | 145 | Dup Res: | 145 | % RPD: | 0% | | | | |
| MS ID: | MC26484-4 | Smpl Res: | 145 | MS Res: | 245 | Spike: | 100 | % Rec: | 100% | | |
| External: | GNSTD-31299-CHL-1 | Result: | 5 | Known: | 5 | % Rec: | 100% | | | | |
| ml of Blank (A): | 0.05 | Mercuric Nitrate Normality: | 0.0141 | | | | | | | | |

| Bottle # | Sample ID | pH after addition Indicator | Titration Volume (ml) | Dilution | Total Vol Initial ml of Titrant | Final ml of Titrant ( D ) | Titrant Used in ml ( D - C ) = B | ( B - A ) | Calculated Result | Final Result | Reporting Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45295-MB1 | 2.53 | 50.0 | 1 | 0.0 | 0.0500 | 0.0500 | 0.000 | 0.0 | 0 | 1 |
| | GN45295-B1 | 2.48 | 50.0 | 1 | 0.0 | 1.0500 | 1.0500 | 1.000 | 10.0 | 10 | 1 |
| 1 | GN45295-S1 | 2.45 | 50.0 | 10 | 0.0 | 2.5000 | 2.5000 | 2.450 | 24.5 | 244.9 | 10 |
| 1 | GN45295-D1 | 2.45 | 50.0 | 10 | 0.0 | 1.5000 | 1.5000 | 1.450 | 14.5 | 145 | 10 |
| 1 | MC26484-4 | 2.46 | 50.0 | 10 | 0.0 | 1.5000 | 1.5000 | 1.450 | 14.5 | 145 | 10 |
| 1 | MC26484-1 | 2.57 | 50.0 | 1 | 0.0 | 0.8500 | 0.8500 | 0.800 | 8.0 | 8 | 1 |
| 1 | MC26484-2 | 2.52 | 50.0 | 1 | 0.0 | 3.2500 | 3.2500 | 3.200 | 32.0 | 31.99 | 1 |
| 1 | MC26484-3 | 2.53 | 50.0 | 1 | 0.0 | 3.3500 | 3.3500 | 3.300 | 33.0 | 32.99 | 1 |
| 1 | MC26484-5 | 2.43 | 50.0 | 1 | 0.0 | 4.2000 | 4.2000 | 4.150 | 41.5 | 41.49 | 1 |
| 1 | MC26484-6 | 2.47 | 50.0 | 10 | 0.0 | 2.3000 | 2.3000 | 2.250 | 22.5 | 224.9 | 10 |
| 1 | MC26484-7 | 2.56 | 50.0 | 1 | 0.0 | 0.8500 | 0.8500 | 0.800 | 8.0 | 8 | 1 |
| | ICV | 2.47 | 50.0 | 1 | 0.0 | 0.5500 | 0.5500 | 0.500 | 5.0 | 5 | 1 |

# Chloride

| | Reagent Name | Lot # | | Reagent Name | Lot # |
|---|---|---|---|---|---|
| #1 | Mercuric Nitrate | VENDOR-13659 | #4 | | |
| #2 | Acidic Indicator | RGT-38203-CHL | #5 | | |
| #3 | Spike | GNSTD-31867-CHL-1 | #6 | | |

**Comments:** Note 1: pH meter ID: Orion 520A, Note 2: pH buffer 2.0 VENDOR-14074, Result 2.00.

**Approved By:** mehdia **Date:** 11/27/2013 3:26:11 PM

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN45308** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 11/27/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC26484-4 Original: 33 MS: 286 Spk Amt: 250 % Rec: 101%

Dup Sample ID: MC26484-4 Original: 33 Duplicate: 33 % RPD: 0%

MB Date: 11/27/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 265 Spike Amt: 250 % Rec: 106

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 53.9 % REC: 107.8

Sulfuric Normality: 0.022 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45308-MB1 | 100 | 5.72 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN45308-B1 | 100 | 8.95 | 5.0 | 29.1 | 24.1 | | | 265.1 | 265.1 | 5 |
| 1 | GN45308-S1 | 100 | 7.41 | 0.0 | 26.0 | 26.0 | | | 286.0 | 286 | 5 |
| 1 | GN45308-D1 | 100 | 5.90 | 26.0 | 29.0 | 3.0 | | | 33.0 | 33 | 5 |
| 1 | MC26484-4 | 100 | 5.91 | 29.0 | 32.0 | 3.0 | | | 33.0 | 33 | 5 |
| 1 | MC26418-12 | 100 | 6.80 | 0.0 | 8.4 | 8.4 | | | 92.4 | 92.4 | 5 |
| 1 | MC26418-13 | 100 | 6.52 | 8.4 | 31.7 | 23.3 | | | 256.3 | 256.3 | 5 |
| 1 | MC26418-15 | 100 | 6.58 | 31.7 | 67.2 | 35.5 | | | 390.5 | 390.5 | 5 |
| 1 | MC26418-16 | 100 | 6.25 | 17.2 | 22.1 | 4.9 | | | 53.9 | 53.9 | 5 |
| 1 | MC26484-1 | 100 | 6.77 | 22.1 | 36.7 | 14.6 | | | 160.6 | 160.6 | 5 |
| 1 | MC26484-2 | 100 | 6.15 | 36.7 | 39.0 | 2.3 | | | 25.3 | 25.3 | 5 |
| 1 | MC26484-3 | 100 | 6.19 | 39.0 | 41.4 | 2.4 | | | 26.4 | 26.4 | 5 |
| 1 | MC26484-5 | 100 | 6.79 | 0.0 | 38.6 | 38.6 | | | 424.6 | 424.6 | 5 |
| 1 | MC26484-7 | 100 | 6.29 | 0.0 | 10.5 | 10.5 | | | 115.5 | 115.5 | 5 |
| | ICV | 100 | 8.62 | 0.1 | 5.0 | 4.9 | | | 53.9 | 53.9 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | ALK = $\frac{A \times N \times 50000}{\text{Sample Vol}}$ | ALK = $\frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 11/30/2013 7:36:59 PM

ACCUTEST LABORATORIES MC26484



ACCUTEST

**Protected Worksheet** MGN117-02

(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MIRANDAC | **Test/Analysis** | NO32 EPA 353.2 |
| **Date** | 11/27/13 | **Analysis Batch ID** | GN45311 |
| **Instrument ID** | LACHAT | **Prep Batch ID** | GP16952, GP16953, GP16954, GP16955 |
| **File ID** | 112713W1.NO3 | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 32052-NO3 | **Ammonium Hydroxide** | VENDOR- | 12241 |
| **ICV** | GNSTD- | 32053-NO3-2 | **Column EFF STD** | GNSTD- | 32054-NO3-2 |
| **CCV** | GNSTD- | 32052-NO3-4 | | | |
| **Buffer** | RGT- | 37722-NO3 | | | |
| **Color Reagent** | RGT- | 38539-NO3 | | | |

**Standardization**

| **Reagent/Stock Std:** | NA ◉ | Cyanide ○ | |
|---|---|---|---|
| - | - | - | - |
| - | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GP16952-S1 | 4 | 7.3 | MC26418-2 | 1 | 6.0 | GP16954-D1 | 10 | 8.1 | MC26418-16 | 4 | 8.0 |
| **GP16952-D1** | 4 | 7.3 | MC26418-3 | 1 | 6.0 | MC26484-4 | 10 | 8.1 | GP16955-S1 | 2 | 8.5 |
| **MC26484-7** | 4 | 7.3 | MC26418-4 | 4 | 7.4 | MC26484-1 | 1 | 8.7 | GP16955-D1 | 2 | 8.5 |
| **MC26669-1** | 2 | 6.9 | MC26418-5 | 4 | 8.2 | MC26484-2 | 4 | 8.8 | MC26426-1 | 2 | 8.5 |
| **MC26669-3** | 2 | 7.0 | MC26418-6 | 4 | 8.9 | MC26484-3 | 4 | 7.6 | | | |
| **MC26669-6** | 2 | 6.5 | MC26418-8 | 4 | 7.0 | MC26484-5 | 4 | 8.8 | | | |
| **MC26669-8** | 2 | 6.8 | MC26418-9 | 4 | 7.7 | MC26484-6 | 4 | 8.3 | | | |
| **GP16953-S1** | 11 | 8.2 | MC26418-10 | 4 | 8.4 | MC26418-12 | 4 | 8.5 | | | |
| **GP16953-D1** | 11 | 8.2 | MC26418-11 | 4 | 8.2 | MC26418-13 | 4 | 8.1 | | | |
| **MC26418-1** | 11 | 8.2 | GP16954-S1 | 10 | 8.1 | MC26418-15 | 4 | 8.5 | | | |

**QC Review** **Date:** 12/2/13

Author: chemistry

Date : 11/27/2013

Original Run Filename: OM_11-27-2013_12-44-28PM.OMN Created: 11/27/2013 12:44:28 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_11-27-2013_12-44-28PM.OMN Last Modified: 11/27/2013 2:29:09 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF | |
|---|---|---|---|---|
| StdA5.0 | 1 | 5.00 | | |
| StdB2.0 | 1 | 2.00 | | |
| StdC1.0 | 1 | 1.00 | | |
| StdD0.80 | 1 | 0.800 | | |
| StdE0.50 | 1 | 0.500 | | |
| StdF0.30 | 1 | 0.300 | | |
| StdG0.10 | 1 | 0.100 | | |
| StdH0.0 | 1 | 0.00 | | |
| ICV | 1 | 3.07 | | |
| Calibration: | | Table/Fig. : 1 | | |
| ICB | 1 | 0.0239 | | |
| CCV | 1 | 2.06 | | |
| CCB | 1 | 0.0251 | | |
| COLEFFCONF | 1 | 2.10 | | |
| GP16952-MB1 | 1 | 0.0261 | | |
| GP16952-B1 | 1 | 2.10 | | |
| GP16952-S1 | 1 | 1.66 | | |
| GP16952-D1 | 1 | 0.152 | | |
| MC26484-7 | 1 | 0.153 | | |
| MC26669-1 | 1 | 0.348 | | |
| MC26669-3 | 1 | 0.682 | | |
| MC26669-6 | 1 | 0.174 | | |
| MC26669-8 | 1 | 0.359 | | |
| CCV | 1 | 2.11 | | |
| CCB | 1 | 0.0252 | | |
| ICV | 1 | 3.16 | | |
| ICB | 1 | 0.0234 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0230 | | |
| COLEFFCONF | 1 | 2.16 | | |
| GP16953-MB1 | 1 | 0.0289 | | |
| GP16953-B1 | 1 | 2.17 | | |
| GP16953-S1 | 1 | 2.46 | | |
| GP16953-D1 | 1 | 0.241 | | |
| MC26418-1 | 1 | 0.244 | | |
| MC26418-2 | 1 | 0.137 | | DNR. See rerun |
| MC26418-3 | 1 | 0.325 | | DNR. See rerun. |
| MC26418-4 | 1 | 1.12 | | |
| MC26418-5 | 1 | 0.410 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0265 | | |
| MC26418-6 | 1 | 0.0533 | | |
| MC26418-8 | 1 | 0.0638 | | |
| MC26418-9 | 1 | 0.218 | | |
| MC26418-10 | 1 | 0.278 | | |
| MC26418-11 | 1 | 0.253 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0238 | | |
| ICV | 1 | 3.14 | | |
| ICB | 1 | 0.0250 | | |
| CCV | 1 | 2.09 | | |
| CCB | 1 | 0.0244 | | |
| COLEFFCONF | 1 | 2.17 | | |
| GP16954-MB1 | 1 | 0.0231 | | |
| GP16954-B1 | 1 | 2.16 | | |
| GP16954-S1 | 1 | 2.36 | | |
| GP16954-D1 | 1 | 0.243 | | |
| MC26484-4 | 1 | 0.243 | | |
| MC26484-1 | 1 | 0.0370 | | |
| MC26484-2 | 1 | 0.455 | | |



12/2/13

9.7

9

Author: chemistry

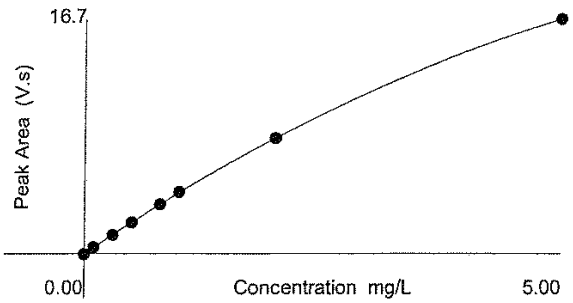
Date : 11/27/2013

| | | | |
|---|---|---|---|
| MC26484-3 | 1 | 0.453 | |
| MC26484-5 | 1 | 0.0385 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0224 | |
| MC26484-6 | 1 | 0.268 | |
| MC26418-12 | 1 | 0.338 | |
| MC26418-13 | 1 | 0.0595 | |
| MC26418-15 | 1 | 0.0363 | |
| MC26418-16 | 1 | 0.137 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0259 | |
| ICV | 1 | 3.11 | |
| ICB | 1 | 0.0271 | |
| CCV | 1 | 2.08 | |
| CCB | 1 | 0.0273 | |
| COLEFFCONF | 1 | 2.22 | |
| GP16955-MB1 | 1 | 0.0243 | |
| GP16955-B1 | 1 | 2.13 | |
| GP16955-S1 | 1 | 2.14 | |
| GP16955-D1 | 1 | 0.0298 | |
| MC26426-1 | 1 | 0.0347 | |
| CCV | 1 | 2.07 | |
| CCB | 1 | 0.0275 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 16.7 | 1.24 | 0.0 | -4.3e-3 | 4.99 | 11/27/2013 | 12:45:23 PM |
| 2 | 2.00 | 1 | 8.22 | 0.694 | 0.0 | 0.1 | 2.03 | 11/27/2013 | 12:46:39 PM |
| 3 | 1.00 | 1 | 4.39 | 0.379 | 0.0 | -0.7 | 0.991 | 11/27/2013 | 12:47:54 PM |
| 4 | 0.800 | 1 | 3.51 | 0.304 | 0.0 | 0.2 | 0.779 | 11/27/2013 | 12:49:10 PM |
| 5 | 0.500 | 1 | 2.21 | 0.192 | 0.0 | 0.6 | 0.482 | 11/27/2013 | 12:50:25 PM |
| 6 | 0.300 | 1 | 1.31 | 0.114 | 0.0 | 1.2 | 0.291 | 11/27/2013 | 12:51:41 PM |
| 7 | 0.100 | 1 | 0.442 | 0.0381 | 0.0 | -6.1 | 0.114 | 11/27/2013 | 12:52:56 PM |
| 8 | 0.00 | 1 | -0.0579 | -3.53e-3 | | | 0.0174 | 11/27/2013 | 12:54:12 PM |

Figure : 1 (NO3)




Area = - 0.262 * Conc^2 + 4.66 * Conc - 0.0472
Conc = 6.28e-3 * Area^2 + 0.192 * Area + 0.0285
Correlation Coefficient (r) = 0.99999

Weighting : None

12,2,13

Author: chemistry

Date : 11/27/2013

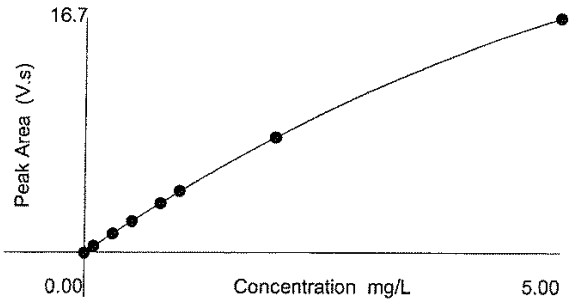
Original Run Filename: OM_11-27-2013_02-42-55PM.OMN Created: 11/27/2013 2:42:55 PM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_11-27-2013_02-42-55PM.OMN Last Modified: 11/27/2013 2:51:49 PM
Current Run Author's Signature: [chemistry]
Description: Default New Run

| Sample | Rep. | Channel 1 NO3 (mg/L) | MDF |
|---|---|---|---|
| CCV | 1 | 2.13 | |
| CCB | 1 | -6.52e-3 | |
| Calibration: | | Table/Fig. : 1 | |
| MC26418-2 | 1 | 0.0906 | |
| MC26418-3 | 1 | 0.112 | |
| CCV | 1 | 2.09 | |
| CCB | 1 | 0.0262 | |

Table : 1 (NO3)

| | Known Conc. (mg/L) | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc (mg/L) | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 1 | 16.7 | 1.24 | 0.0 | -4.3e-3 | 4.99 | 11/27/2013 | 12:45:23 PM |
| 2 | 2.00 | 1 | 8.22 | 0.694 | 0.0 | 0.1 | 2.03 | 11/27/2013 | 12:46:39 PM |
| 3 | 1.00 | 1 | 4.39 | 0.379 | 0.0 | -0.7 | 0.991 | 11/27/2013 | 12:47:54 PM |
| 4 | 0.800 | 1 | 3.51 | 0.304 | 0.0 | 0.2 | 0.779 | 11/27/2013 | 12:49:10 PM |
| 5 | 0.500 | 1 | 2.21 | 0.192 | 0.0 | 0.6 | 0.482 | 11/27/2013 | 12:50:25 PM |
| 6 | 0.300 | 1 | 1.31 | 0.114 | 0.0 | 1.2 | 0.291 | 11/27/2013 | 12:51:41 PM |
| 7 | 0.100 | 1 | 0.442 | 0.0381 | 0.0 | -6.1 | 0.114 | 11/27/2013 | 12:52:56 PM |
| 8 | 0.00 | 1 | -0.0579 | -3.53e-3 | | | 0.0174 | 11/27/2013 | 12:54:12 PM |

Figure : 1 (NO3)




Area = - 0.262 * Conc^2 + 4.66 * Conc - 0.0472
Conc = 6.28e-3 * Area^2 + 0.192 * Area + 0.0285
Correlation Coefficient (r) = 0.99999

Weighting : None

12/2/13

Instrument QC Summary
Inorganics Analyses

Preliminary Analytical QC Report
Nov 27 2013, 03:41 pm

File ID: 112713W1.NO3 Date Analyzed: 11/27/13 Methods: EPA 353.2
Run ID: GN45311 Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN45311-ICV1(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB1(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV1(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB1(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV2(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB2(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV2(a) | Nitrogen, Nitrate + Nitrite | 3.2 | 0.10 | 0.027 | 3 | 106.7 | 90-110 |
| GN45311-ICB2(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV3(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB3(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV4(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB4(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV5(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB5(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV3(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB3(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV6(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB6(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV7(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB7(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV8(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB8(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-ICV4(a) | Nitrogen, Nitrate + Nitrite | 3.1 | 0.10 | 0.027 | 3 | 103.3 | 90-110 |
| GN45311-ICB4(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV9(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB9(a) | Nitrogen, Nitrate + Nitrite | 0.027 | 0.10 | 0.027 | | | |
| GN45311-CCV10(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB10(a) | Nitrogen, Nitrate + Nitrite | 0.028 | 0.10 | 0.027 | | | |
| GN45311-CCV11(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB11(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |
| GN45311-CCV12(a) | Nitrogen, Nitrate + Nitrite | 2.1 | 0.10 | 0.027 | 2 | 105.0 | 90-110 |
| GN45311-CCB12(a) | Nitrogen, Nitrate + Nitrite | 0.027 U | 0.10 | 0.027 | | | |

(!) Outside of QC limits
(a) **** RESULTS NOT YET APPROVED BY LABORATORY; DO NOT REPORT ***

12/2/13

# Alkalinity



| | |
|---|---|
| **GN Batch ID:** | **GN45341** |
| **Analyst:** | CRYSTALL |
| **Analysis Date:** | 12/2/2013 |
| **Method:** | SM21 2320B |
| **Units:** | mg/L |

**QC Summary:**

MS Sample ID: MC26484-6 Original: 44.9 MS: 303 Spk Amt: 250 % Rec: 103%

Dup Sample ID: MC26484-6 Original: 44.9 Duplicate: 46 % RPD: 2%

MB Date: 12/2/2013 Result: <5 RL: 5 < RL?: Y

Spike blank: 263 Spike Amt: 250 % Rec: 105.2

External QC (ICV) GNSTD-30096-ALK Cont. Limit: 90%-110% Known 50.0 Res: 54.2 % REC: 108.4

Sulfuric Normality: 0.0219 pH Meter ID: 520A ORION

| Bottle # | Sample ID | Sample Volume ( ml ) | Initial pH | Initial Reading for Titrant in ml ( D ) | Final pH 4.5 reading for titrant in ml ( E ) | Total vol of Titrant to pH 4.5 in ml ( E - D = A ) | Volume used from 4.5 to 4.2 in mls ( F ) | Total vol of Titrant to pH 4.2 in ml ( F + A = C ) | Result (mg/L) | Final Result (mg/L) | RL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GN45341-MB1 | 100 | 5.10 | 0.0 | 0.1 | 0.1 | | | 1.1 | <5 | 5 |
| | GN45341-B1 | 100 | 8.90 | 5.0 | 29.1 | 24.1 | | | 263.3 | 263.3475 | 5 |
| 1 | GN45341-S1 | 100 | 7.59 | 0.0 | 27.7 | 27.7 | | | 303.3 | 303.315 | 5 |
| 1 | GN45341-D1 | 100 | 5.99 | 27.7 | 31.9 | 4.2 | | | 46.0 | 45.99 | 5 |
| 1 | MC26484-6 | 100 | 6.00 | 31.9 | 36.0 | 4.1 | | | 44.9 | 44.895 | 5 |
| 2 | MC26669-1 | 100 | 6.53 | 36.0 | 42.2 | 6.2 | | | 67.9 | 67.89 | 5 |
| 2 | MC26669-3 | 100 | 7.14 | 0.0 | 20.9 | 20.9 | | | 228.9 | 228.855 | 5 |
| 2 | MC26669-6 | 100 | 6.52 | 20.9 | 39.5 | 18.6 | | | 203.7 | 203.67 | 5 |
| 2 | MC26669-8 | 100 | 6.63 | 39.5 | 55.0 | 15.5 | | | 169.7 | 169.725 | 5 |
| | ICV | 100 | 8.61 | 0.1 | 5.0 | 5.0 | | | 54.2 | 54.2025 | 5 |

# Alkalinity

| | Reagent Lot # | pH Calib Verification ( +/- 1 5% ) | Calculation for samples > 20 mg/l | Calculation for samples < 20 mg/l |
|---|---|---|---|---|
| #1 | | | $ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$ | $ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$ |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |

**Comments:**

**Approved By:** mehdia **Date:** 12/2/2013 5:18:38 PM

ACCUTEST

**Protected Worksheet** MGN117-02
(Format edits must be done by Dept. manager)

| | | | |
|---|---|---|---|
| **Analyst** | MEHDIA | **Test/Analysis** | DOC SM21 5310-B |
| **Date** | 12/3/13 | **Analysis Batch ID** | GN45354 |
| **Instrument ID** | TOC/shimadzu | **Prep Batch ID** | |
| **File ID** | TOC120313W2.TXT | | |

**Reagents**

| | | | | | |
|---|---|---|---|---|---|
| **Calib STD** | GNSTD- | 32100-TOC | **2 M HCL** | RGT- | 38394-TOC |
| **ICV** | GNSTD- | 32101-TOC-1 | | | |
| **CCV** | GNSTD- | 32102-TOC-1 | | | |
| **Sparger check STD** | GNSTD- | 32103-TOC-1 | | | |
| **1:1 Phosphoric Acid** | RGT- | 36266-TOC | | | |

**Standardization**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Reagent/Stock Std:** | | NA | ◉ | Cyanide | ○ | | | | | | |
| - | | - | | - | | - | | | | | |
| | - | | | | | | | | | | |

| Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH | Sample ID | Bot# | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GN45354-S1 | 18, 19 | < 2 | | | | | | | | | |
| **GN45354-D1** | 17 | < 2 | | | | | | | | | |
| **MC26484-4F** | 16 | < 2 | | | | | | | | | |
| **MC26484-1F** | 6 | < 2 | | | | | | | | | |
| **MC26484-2F** | 6 | < 2 | | | | | | | | | |
| **MC26484-3F** | 6 | < 2 | | | | | | | | | |
| **MC26484-5F** | 6 | < 2 | | | | | | | | | |
| **MC26418-6F** | 6 | < 2 | | | | | | | | | |
| **MC26418-7F** | 6 | < 2 | | | | | | | | | |
| | | | | | | | | | | | |

**COMMENTS**

**QC Review** **Date:** 12/5/13

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

**Instr.Information**

| | |
|---|---|
| Instrument Options | TOC/ASI/ |
| Catalyst | Regular Sensitivity |

**Cal. Curve**

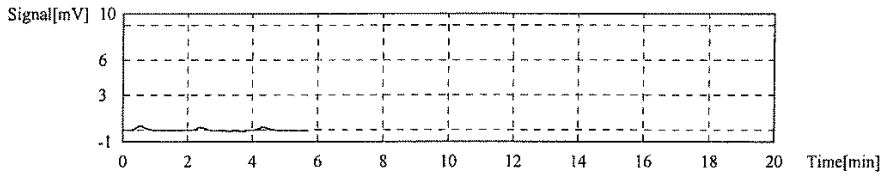
| | |
|---|---|
| Sample Name: | STD |
| Sample ID: | |
| Cal. Curve: | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal |
| Status | Completed |

| Type | Acid |
|---|---|
| Standard | NPOC |

Conc: 0.000mg/L

| No | Area | Inj Vol | Acid Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 0.6587 | 50uL | 1.000 | ******* | E | 12/4/2013 8:18:04 AM |
| 2 | 0.4201 | 50uL | 1.000 | ******* | | 12/4/2013 8:20:12 AM |
| 3 | 0.4929 | 50uL | 1.000 | ******* | | 12/4/2013 8:22:21 AM |

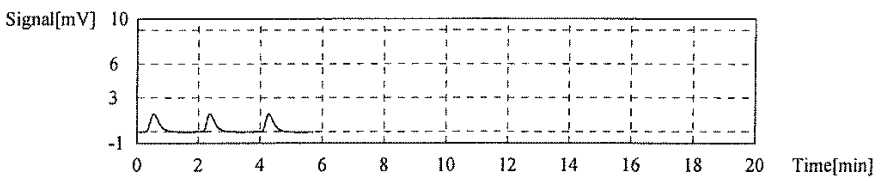
| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 0.4565 |




Conc: 1.000mg/L

| No | Area | Inj Vol | Acid Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 3.281 | 50uL | 1.000 | ******* | E | 12/4/2013 8:31:06 AM |
| 2 | 2.843 | 50uL | 1.000 | ******* | | 12/4/2013 8:33:15 AM |
| 3 | 3.056 | 50uL | 1.000 | ******* | | 12/4/2013 8:35:25 AM |

| | |
|---|---|
| Acid Add. | 1.500% |
| Sparge Gas Flow | 100ml |
| Sp. Time | 90.00sec |
| Mean Area | 2.950 |



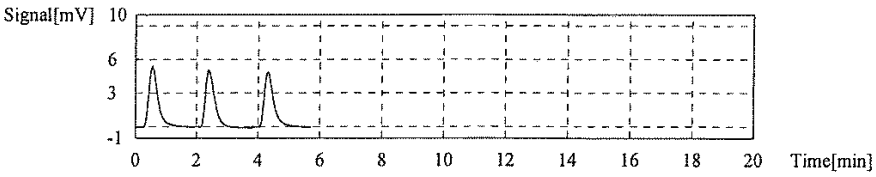

Conc: 5.000mg/L

| No | Area | Inj Vol | Acid Dil | Rem | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 11.23 | 50uL | 8.000 | ******* | E | 12/4/2013 8:44:52 AM |
| 2 | 10.50 | 50uL | 8.000 | ******* | | 12/4/2013 8:47:00 AM |
| 3 | 10.52 | 50uL | 8.000 | ******* | | 12/4/2013 8:49:10 AM |

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

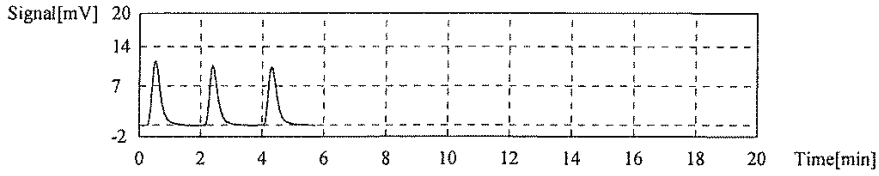
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 10.51




Conc: 10.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 22.84 | 50uL | 4.000 | ******* | E | 12/4/2013 8:56:41 AM |
| 2 | 20.84 | 50uL | 4.000 | ******* | | 12/4/2013 8:58:50 AM |
| 3 | 21.17 | 50uL | 4.000 | ******* | | 12/4/2013 9:00:59 AM |

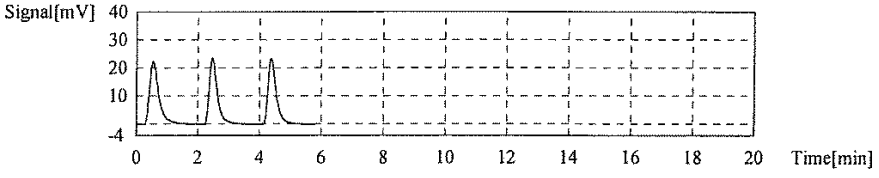
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 21.01




Conc: 20.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 47.13 | 50uL | 2.000 | ******* | E | 12/4/2013 9:08:35 AM |
| 2 | 43.43 | 50uL | 2.000 | ******* | | 12/4/2013 9:10:40 AM |
| 3 | 43.59 | 50uL | 2.000 | ******* | | 12/4/2013 9:12:45 AM |

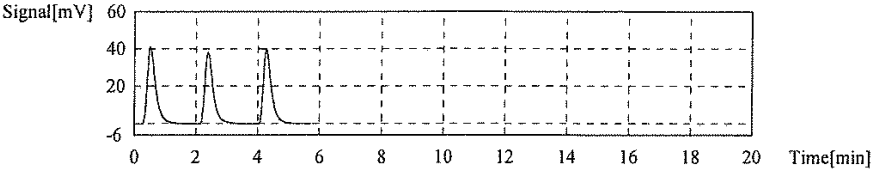
Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 43.51




Conc: 30.00mg/L

| No. | Area | Inj. Vol | Aut. Dil. | Rem. | Ex. | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 79.12 | 50uL | 1.000 | ******* | E | 12/4/2013 9:21:46 AM |
| 2 | 73.27 | 50uL | 1.000 | ******* | | 12/4/2013 9:23:51 AM |
| 3 | 73.20 | 50uL | 1.000 | ******* | | 12/4/2013 9:26:01 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 73.24



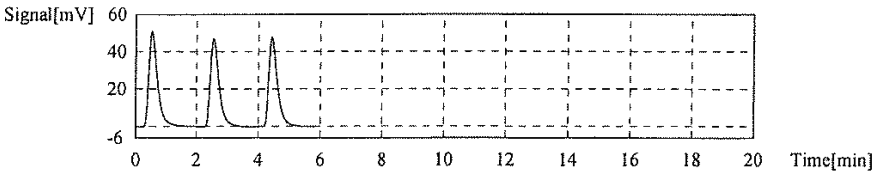

Conc: 40.00mg/L

# TOC-Control L Report

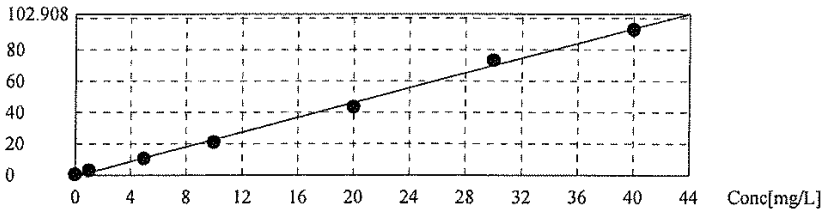
Wetchem
TOC120413W2.tlx

| No | Area | Inj Vol | Acid Dil | Name | Ex | Date / Time |
|---|---|---|---|---|---|---|
| 1 | 101.4 | 50uL | 1.000 | ******* | E | 12/4/2013 9:34:55 AM |
| 2 | 93.70 | 50uL | 1.000 | ******* | | 12/4/2013 9:37:04 AM |
| 3 | 92.41 | 50uL | 1.000 | ******* | | 12/4/2013 9:39:14 AM |

Acid Add. 1.500%
Sparge Gas Flow 100ml
Sp. Time 90.00sec
Mean Area 93.06




Slope: 2.357
Intercept -0.7344
r^2 0.9967
r 0.9984
Zero Shift No




**Sample**

Sample Name: ICV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

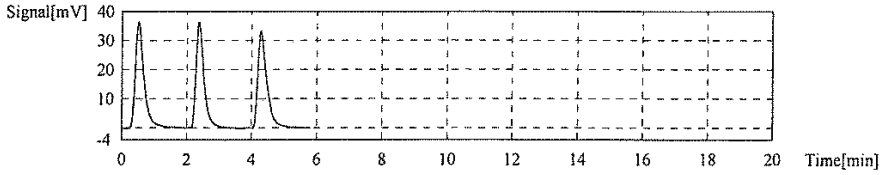
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:27.50mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Acid Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 68.14 | 29.22mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:01:57 PM |
| 2 | 63.65 | 27.31mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:04:02 PM |
| 3 | 64.51 | 27.68mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:06:16 PM |

Mean Area 64.08
Mean Conc. 27.50mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

Sample Name: CCV
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

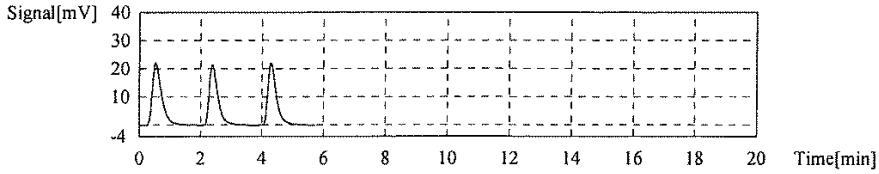
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:18.47mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 46.66 | 20.11mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:15:02 PM |
| 2 | 42.54 | 18.36mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:17:07 PM |
| 3 | 43.07 | 18.58mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:19:12 PM |

Mean Area 42.81
Mean Conc. 18.47mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin:
Status: TOC AQ UP TO 40 PPM.met
Chk. Result: Completed

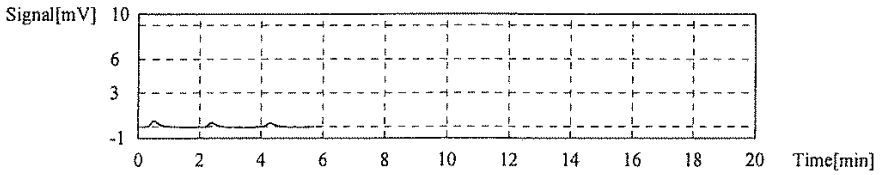
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5944mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.9373 | 0.7092mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:27:58 PM |
| 2 | 0.6968 | 0.6072mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:30:07 PM |
| 3 | 0.6366 | 0.5816mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:32:12 PM |

Mean Area 0.6667
Mean Conc. 0.5944mg/L



# TOC-Control L Report

Wetchem
TOC120413W2.tlx

**Sample**

Sample Name: SPARGERCHKCONF
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

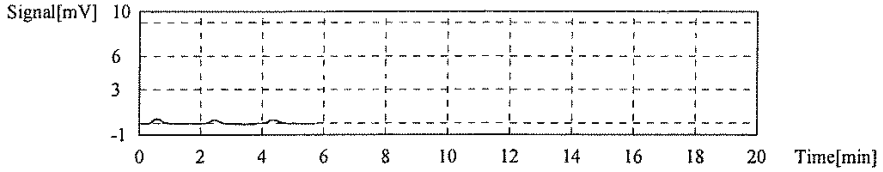
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.6004mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8374 | 0.6668mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:40:59 PM |
| 2 | 0.6506 | 0.5876mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:43:04 PM |
| 3 | 0.7112 | 0.6133mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 4:45:13 PM |

Mean Area 0.6809
Mean Conc. 0.6004mg/L




**Sample**

Sample Name: GN45354-MB1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

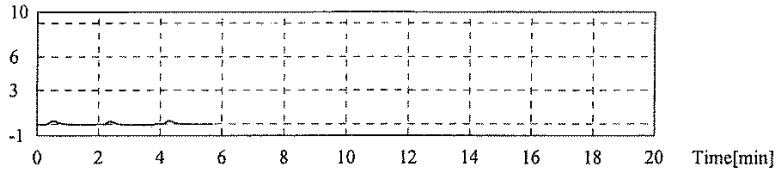
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.4901mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.5804 | 0.5578mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:11:37 PM |
| 2 | 0.4041 | 0.4830mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:13:45 PM |
| 3 | 0.4377 | 0.4972mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:15:54 PM |

Mean Area 0.4209
Mean Conc. 0.4901mg/L



# TOC-Control L Report

Wetchem
TOC120413W2.tlx

**Sample**

Sample Name: GN45354-B1
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

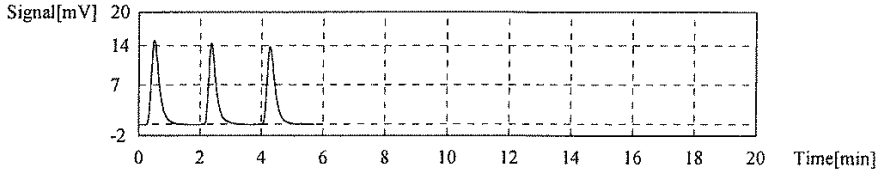
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:11.03mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 27.88 | 12.14mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:24:38 PM |
| 2 | 25.17 | 10.99mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:26:47 PM |
| 3 | 25.36 | 11.07mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:28:52 PM |

Mean Area 25.27
Mean Conc. 11.03mg/L




**Sample**

Sample Name: GN45354-S1
Sample ID: MC26484-4F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

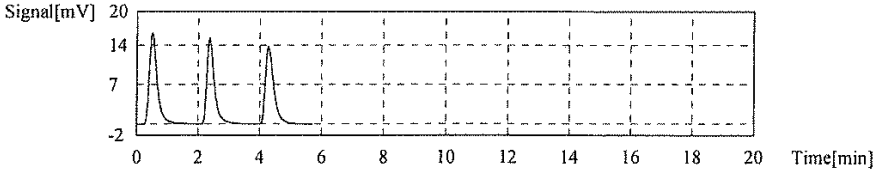
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:11.57mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 29.17 | 12.69mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:37:36 PM |
| 2 | 26.80 | 11.68mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:39:41 PM |
| 3 | 26.29 | 11.46mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:41:46 PM |

Mean Area 26.55
Mean Conc. 11.57mg/L



# TOC-Control L Report

Wetchem
TOC120413W2.tlx

**Sample**

Sample Name: GN45354-D1
Sample ID: MC26484-4F
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

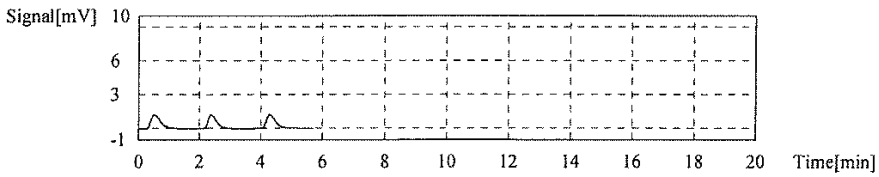
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.331mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 2.778 | 1.490mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:50:30 PM |
| 2 | 2.379 | 1.321mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:52:39 PM |
| 3 | 2.426 | 1.341mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 5:54:44 PM |

Mean Area 2.402
Mean Conc. 1.331mg/L




**Sample**

Sample Name: MC26484-4F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.456mg/L |

1. Det

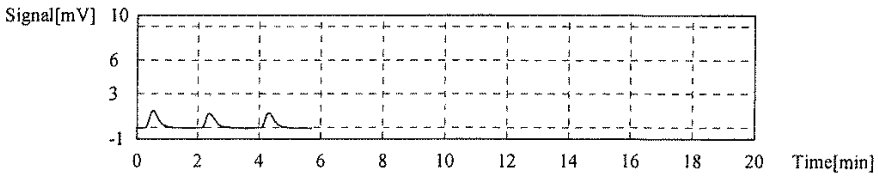
Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Aut. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.064 | 1.611mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:03:28 PM |
| 2 | 2.699 | 1.457mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:05:37 PM |
| 3 | 2.698 | 1.456mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:07:47 PM |

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

Mean Area 2.699
Mean Conc. 1.456mg/L




**Sample**

Sample Name: MC26484-1F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

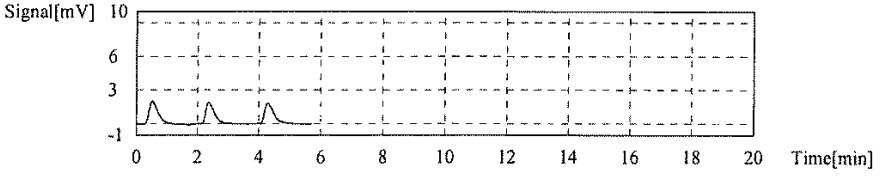
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.930mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol. | Add. Dil. | Ex. | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 4.212 | 2.098mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:16:32 PM |
| 2 | 3.725 | 1.892mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:18:41 PM |
| 3 | 3.905 | 1.968mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:20:46 PM |

Mean Area 3.815
Mean Conc. 1.930mg/L




**Sample**

Sample Name: MC26484-2F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.8164mg/L |

1. Det

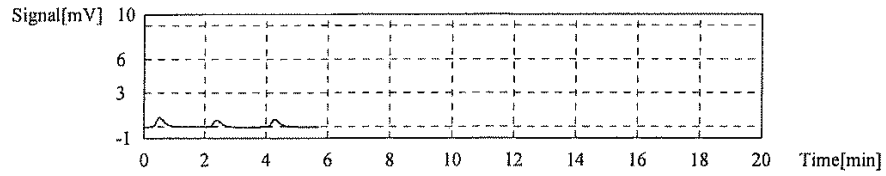
Anal.: NPOC

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

| No. | Area | Conc. | Inj Vol | Aut. Dil. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.569 | 0.9772mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:29:33 PM |
| 2 | 1.166 | 0.8062mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:31:38 PM |
| 3 | 1.214 | 0.8266mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:33:47 PM |

Mean Area 1.190
Mean Conc. 0.8164mg/L




**Sample**

Sample Name: MC26484-3F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

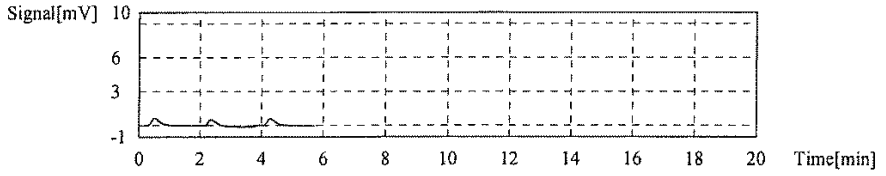
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.7522mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj Vol | Aut. Dil. | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 1.329 | 0.8754mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:42:32 PM |
| 2 | 0.9882 | 0.7308mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:44:40 PM |
| 3 | 1.089 | 0.7735mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:46:49 PM |

Mean Area 1.039
Mean Conc. 0.7522mg/L




**Sample**

Sample Name: MC26484-5F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:4.514mg/L |

1. Det

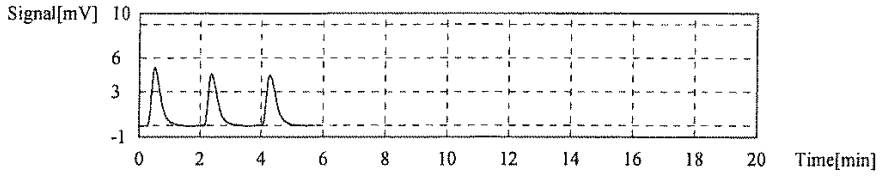
# TOC-Control L Report

Wetchem
TOC120413W2.tlx

Anal.: NPOC

| No | Area | Conc. | Inj Vol | Aut. Di. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 10.76 | 4.876mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:55:34 PM |
| 2 | 9.802 | 4.470mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:57:43 PM |
| 3 | 10.01 | 4.558mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 6:59:53 PM |

Mean Area 9.906
Mean Conc. 4.514mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

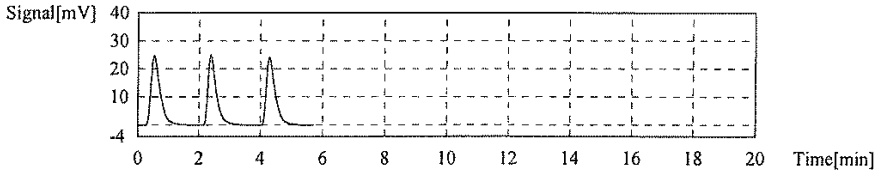
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.86mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc. | Inj Vol | Aut. Di. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 51.61 | 22.21mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:08:40 PM |
| 2 | 48.51 | 20.89mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:10:45 PM |
| 3 | 48.34 | 20.82mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:12:50 PM |

Mean Area 48.43
Mean Conc. 20.86mg/L




**Sample**

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5504mg/L |

# TOC-Control L Report

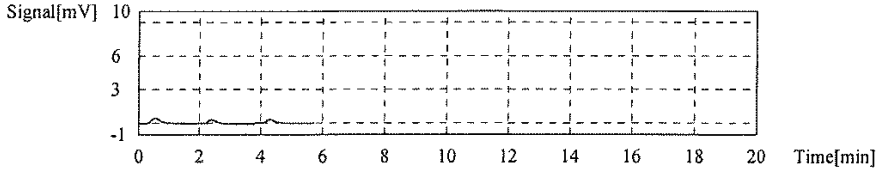
Wetchem
TOC120413W2.tlx

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Acid Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8730 | 0.6819mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:21:36 PM |
| 2 | 0.5616 | 0.5498mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:23:45 PM |
| 3 | 0.5644 | 0.5510mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:25:54 PM |

Mean Area 0.5630
Mean Conc. 0.5504mg/L




**Sample**

Sample Name: MC26484-6F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

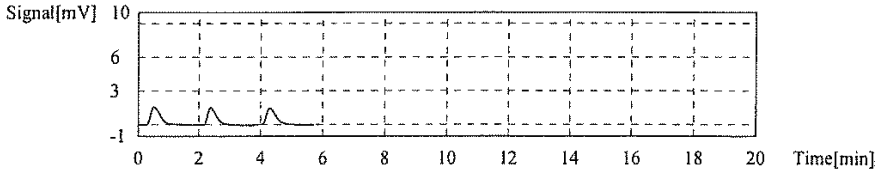
| Type | Anal. | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:1.646mg/L |

1. Det

Anal.: NPOC

| No. | Area | Conc. | Inj. Vol | Acid Dil. | Ex | Cal. Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 3.491 | 1.793mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:34:41 PM |
| 2 | 3.100 | 1.627mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:36:46 PM |
| 3 | 3.191 | 1.665mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:38:51 PM |

Mean Area 3.146
Mean Conc. 1.646mg/L




**Sample**

Sample Name: MC26484-7F
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

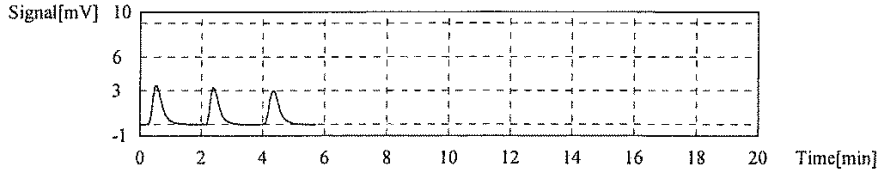
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:3.247mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 7.482 | 3.486mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:47:39 PM |
| 2 | 6.878 | 3.229mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:49:46 PM |
| 3 | 6.963 | 3.265mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 7:51:55 PM |

Mean Area 6.921
Mean Conc. 3.247mg/L




**Sample**

Sample Name: CCV
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

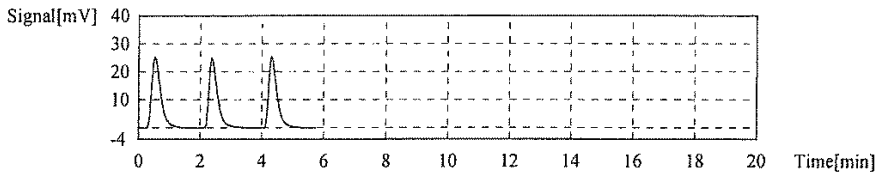
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:20.88mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj Vol | Aut Di | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 52.14 | 22.43mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:00:43 PM |
| 2 | 48.79 | 21.01mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:02:50 PM |
| 3 | 48.19 | 20.76mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:04:55 PM |

Mean Area 48.49
Mean Conc. 20.88mg/L




**Sample**

# TOC-Control L Report

Wetchem
TOC120413W2.tlx

Sample Name: CCB
Sample ID:
Origin: TOC AQ UP TO 40 PPM.met
Status Completed
Chk. Result

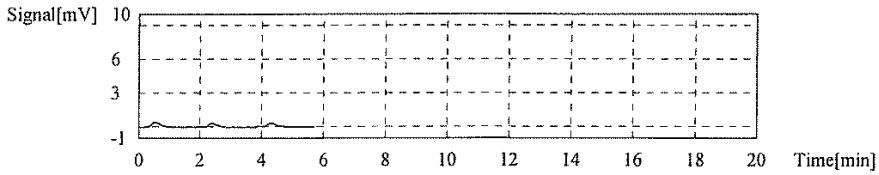
| Type | Anal | Manual Dilution | Result |
|---|---|---|---|
| Unknown | NPOC | 1.000 | NPOC:0.5409mg/L |

1. Det

Anal.: NPOC

| No | Area | Conc | Inj. Vol | Auto Dil | Ex | Cal Curve | Date / Time |
|---|---|---|---|---|---|---|---|
| 1 | 0.8408 | 0.6682mg/L | 50uL | 1.000 | E | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:13:41 PM |
| 2 | 0.5439 | 0.5423mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:15:48 PM |
| 3 | 0.5374 | 0.5395mg/L | 50uL | 1.000 | | TOC AQ UP TO 40 PPM.2013_12_04_08_10_00.cal | 12/4/2013 8:17:56 PM |

Mean Area 0.5407
Mean Conc. 0.5409mg/L



New England ACCUTEST LABORATORIES

## Misc. Forms

### Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

# CHAIN OF CUSTODY

ACCUTEST

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

GW

Bt # 3844 5814 5332

| | |
|---|---|
| Accutest Job #: | MC26484 |
| Accutest Quote #: | Page 1 of 1 |
| AMS P.O. #: | |
| Project No.: | |

| Client Information | | | Subcontract Laboratory Information | | | Analytical Information | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name: Accutest New England | | | Name: Accutest - New Jersey | | | | | | | | | |
| Address: 50 D'Angelo Drive | | | Address: 2235 Route 130 | | | | | | | | | |
| City: Marlborough | State: MA | Zip: 01752 | City: Dayton | State: NJ | Zip: 08810 | | | | | | | |
| Send Report to: Any questions contact: Frank D'Agostino | | | Contact: Sample Management | | | | | | | | | |
| Phone/Fax #: (508)481-6200 / (508)481-7753 | | | Phone: (732) 329-0200 | | | | | | | | | |

| Field ID / Point of Collection | Collection Date | Collection Time | Matrix | # of bottles | Preservation: HCL | NaOH | HNO3 | H2So4 | None | SO4 by 300 | MS/MSD | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC26484 -1 | 11/21/13 | 8:50 AM | GW | 1 | | | | | X | X | | | | | B6 MA |
| MC26484 -2 | 11/21/13 | 9:00 AM | GW | 1 | | | | | X | X | | | | | |
| MC26484 -3 | 11/21/13 | 00:00 | GW | 1 | | | | | X | X | X | | | | |
| MC26484 -4,-4D, -4S | 11/21/13 | 9:36 AM | GW | 1 | | | | | X | X | | | | | |
| MC26484 -5 | 11/21/13 | 10:40 AM | GW | 1 | | | | | X | X | | | | | |
| MC26484 -6 | 11/21/13 | 11:22 AM | GW | 1 | | | | | X | X | | | | | |
| MC26484 -7 | 11/21/13 | 11:45 AM | GW | 1 | | | | | X | X | | | | | |

Data Deliverable Information

Comments / Remarks: STD - ~~Due 12/5/13~~ B7 TX

- [x] STD
- [ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [x] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | | | | |
|---|---|---|---|---|
| Relinquished by: 1 | 11/26/13 | Received By: 1 Fedex | Date & Time: 1 | Seal #: Headspace: Yes ☐ No ☐ NA ☐ |
| Relinquished by: 2 Fedex | 11/27/13 9:45 | Received By: 2 MC | Date & Time: 2 11/27/13 9:45 | Preserved where applicable: ☐ On Ice ☑ |
| Relinquished by: 3 | Date & Time: | Received By: 3 | Date & Time: 3 | Temperature °C 3.0 3.0 GC |

JK

2b/w

2

10.1 10

## MC26484: Chain of Custody
## Page 1 of 2
## Accutest New Jersey

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC26484 **Client:** **Project:**

**Date / Time Received:** 11/27/2013 **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Initial/Adjusted):** #1: (3/3); 0

| Cooler Security | Y | N | | Y | N |
|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | ☐ | 3. COC Present: | ☑ | ☐ |
| 2. Custody Seals Intact: | ☑ | ☐ | 4. Smpl Dates/Time OK | ☑ | ☐ |

| Cooler Temperature | Y | N |
|---|---|---|
| 1. Temp criteria achieved: | ☑ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

| Quality Control Preservatio | Y | N | N/A |
|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☑ |

| Sample Integrity - Documentation | Y | N |
|---|---|---|
| 1. Sample labels present on bottles: | ☑ | ☐ |
| 2. Container labeling complete: | ☑ | ☐ |
| 3. Sample container label / COC agree: | ☑ | ☐ |

| Sample Integrity - Condition | Y | N |
|---|---|---|
| 1. Sample recvd within HT: | ☑ | ☐ |
| 2. All containers accounted for: | ☑ | ☐ |
| 3. Condition of sample: | Intact | |

| Sample Integrity - Instructions | Y | N | N/A |
|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☑ |

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com



**MC26484: Chain of Custody**
**Page 2 of 2**

# Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

**Job No:** MC26484

SCMAW: Shepley's Hill (SHL), Devens, MA
Project No: AC001.02I.03

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| MC26484-1 Collected: 21-NOV-13 08:50 By: JGEF SHM-13-02-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-1 | EPA 300/SW846 9056A | 04-DEC-13 00:30 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-2 Collected: 21-NOV-13 09:00 By: JGEF SHM-13-01-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-2 | EPA 300/SW846 9056A | 04-DEC-13 01:42 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-3 Collected: 21-NOV-13 00:00 By: JGEF DUPLICATE-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-3 | EPA 300/SW846 9056A | 04-DEC-13 02:06 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-4 Collected: 21-NOV-13 09:36 By: JGEF SHM-13-06-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-4 | EPA 300/SW846 9056A | 03-DEC-13 23:42 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-5 Collected: 21-NOV-13 10:40 By: JGEF SHM-13-05-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-5 | EPA 300/SW846 9056A | 04-DEC-13 02:30 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-6 Collected: 21-NOV-13 11:22 By: JGEF SHM-13-07-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-6 | EPA 300/SW846 9056A | 04-DEC-13 02:54 | NP | 03-DEC-13 | NP | SO4 |
| MC26484-7 Collected: 21-NOV-13 11:45 By: JGEF SHM-13-08-112113 | | | | Received: 21-NOV-13 | By: | |
| MC26484-7 | EPA 300/SW846 9056A | 04-DEC-13 03:18 | NP | 03-DEC-13 | NP | SO4 |

# Accutest Internal Chain of Custody



**Job Number:** MC26484
**Account:** ALNE Accutest Labs of New England, Inc.
**Project:** SCMAW: Shepley's Hill (SHL), Devens, MA
**Received:** 11/21/13

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| MC26484-1.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-1.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-1.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-1.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-2.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-2.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-2.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-2.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-3.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-3.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-3.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-3.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-4.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-4.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-4.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-4.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-5.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-5.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-5.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-5.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-6.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-6.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-6.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-6.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |
| MC26484-7.1 | Secured Storage | Bernadette Vassilatos | 12/03/13 08:29 | Retrieve from Storage |
| MC26484-7.1 | Bernadette Vassilatos | Secured Staging Area | 12/03/13 08:30 | Return to Storage |
| MC26484-7.1 | Secured Staging Area | Nirali Patel | 12/03/13 08:33 | Retrieve from Storage |
| MC26484-7.1 | Nirali Patel | Secured Storage | 12/03/13 15:06 | Return to Storage |

New England ACCUTEST LABORATORIES

General Chemistry

# QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP76423/GN95972 | 10 | 0.0 | mg/l | 80 | 80.4 | 100.5 | 90-110% |

Associated Samples:
Batch GP76423: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Sulfate | GP76423/GN95972 | MC26484-4 | mg/l | 11.4 | 11.3 | 0.9 | 0-20% |

Associated Samples:
Batch GP76423: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Sulfate | GP76423/GN95972 | MC26484-4 | mg/l | 11.4 | 80 | 90.5 | 98.9 | 80-120% |
| Sulfate | GP76423/GN95972 | MC26484-1 | mg/l | 5.7 | 80 | 84.0 | 97.9 | 80-120% |

Associated Samples:
Batch GP76423: MC26484-1, MC26484-2, MC26484-3, MC26484-4, MC26484-5, MC26484-6, MC26484-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120301.TXT  Date Analyzed: 12/03/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95972
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:16 | GN95972-STD1 | 1 | | Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044. |
| 09:39 | GN95972-STD2 | 1 | | STDB |
| 10:03 | GN95972-STD3 | 1 | | STDC |
| 10:51 | GN95972-STD4 | 1 | | STDD |
| 11:39 | GN95972-STD5 | 1 | | STDE |
| 12:03 | GN95972-STD6 | 1 | | STDF |
| 12:27 | GN95972-STD7 | 1 | | STDG |
| 10:09 | GN95972-ICV1 | 1 | | |
| 10:32 | GN95972-CCV1 | 1 | | |
| 10:56 | GN95972-CCB1 | 1 | | |
| 11:20 | GP76294-MB4 | 1 | | |
| 11:20 | GP76421-MB1 | 1 | | Sample shown for QC tracking purposes only. |
| 11:20 | GP76386-MB2 | 1 | | Sample shown for QC tracking purposes only. |
| 11:44 | GP76294-B4 | 1 | | |
| 11:44 | GP76421-B1 | 1 | | Sample shown for QC tracking purposes only. |
| 11:44 | GP76386-B2 | 1 | | Sample shown for QC tracking purposes only. |
| 12:08 | ZZZZZZ | 15 | | |
| 12:32 | ZZZZZZ | 1 | | |
| 12:56 | ZZZZZZ | 1 | | |
| 13:20 | ZZZZZZ | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 14:08 | GP76421-S1 | 1 | | Report so4. chl over-range. rerun at 1:4 dilution. |
| 14:32 | GP76421-D1 | 1 | | Report so4. chl over-range. rerun at 1:3 dilution. |
| 14:56 | JB53823-1 | 1 | | (sample used for QC only; not part of login MC26484) |
| 15:20 | GN95972-CCV2 | 1 | | |
| 15:44 | GN95972-CCB2 | 1 | | |
| 16:08 | ZZZZZZ | 1 | | |
| 16:32 | ZZZZZZ | 1 | | |
| 16:56 | ZZZZZZ | 1 | | |
| 17:19 | ZZZZZZ | 1 | | |
| 17:43 | ZZZZZZ | 1 | | |
| 18:07 | ZZZZZZ | 1 | | |
| 18:31 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120301.TXT  Date Analyzed: 12/03/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95972
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:55 | ZZZZZZ | 1 | | |
| 19:19 | ZZZZZZ | 1 | | |
| 19:43 | ZZZZZZ | 1 | | |
| 20:07 | GN95972-CCV3 | 1 | | |
| 20:31 | GN95972-CCB3 | 1 | | |
| 20:55 | ZZZZZZ | 1 | | |
| 21:19 | ZZZZZZ | 1 | | |
| 21:43 | ZZZZZZ | 1 | | |
| 22:07 | GP76423-MB1 | 1 | | |
| 22:30 | GP76423-B1 | 1 | | |
| 22:54 | GP76423-S1 | 1 | | |
| 23:18 | GP76423-D1 | 1 | | |
| 23:42 | MC26484-4 | 1 | | |
| 00:06 | GP76423-S2 | 1 | | |
| 00:30 | MC26484-1 | 1 | | |
| 00:54 | GN95972-CCV4 | 1 | | |
| 01:18 | GN95972-CCB4 | 1 | | |
| 01:42 | MC26484-2 | 1 | | |
| 02:06 | MC26484-3 | 1 | | |
| 02:30 | MC26484-5 | 1 | | |
| 02:54 | MC26484-6 | 1 | | |
| 03:18 | MC26484-7 | 1 | | |
| 03:42 | ZZZZZZ | 1 | | |
| 04:05 | ZZZZZZ | 1 | | |
| 04:29 | ZZZZZZ | 1 | | |
| 04:53 | ZZZZZZ | 1 | | |
| 05:17 | ZZZZZZ | 1 | | |
| 05:41 | GN95972-CCV5 | 1 | | |
| 06:05 | GN95972-CCB5 | 1 | | |
| 06:29 | ZZZZZZ | 1 | | |
| 06:53 | ZZZZZZ | 1 | | |
| 07:17 | ZZZZZZ | 1 | | |
| 07:41 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120301.TXT  Date Analyzed: 12/03/13  Methods: EPA 300/SW846 9056A
Analyst: NP  Run ID: GN95972
Parameters: Sulfate

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 08:05 | ZZZZZZ | 1 | | |
| 08:29 | ZZZZZZ | 1 | | |
| 08:53 | ZZZZZZ | 1 | | |
| 09:17 | ZZZZZZ | 1 | | |
| 09:40 | GN95972-CCV6 | 1 | | |
| 10:04 | GN95972-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC26484
Account: ALNE - Accutest Labs of New England, Inc.
Project: SCMAW: Shepley's Hill (SHL), Devens, MA

File ID: 213120301.TXT  Date Analyzed: 12/03/13  Methods: EPA 300/SW846 9056A
Run ID: GN95972  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN95972-ICV1 | Sulfate | 111 | 10 | 0.094 | 110.12 | 100.8 | 90-110 |
| GN95972-CCV1 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN95972-CCB1 | Sulfate | 0.54 | 10 | 0.094 | | | |
| GN95972-CCV2 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN95972-CCB2 | Sulfate | 0.41 | 10 | 0.094 | | | |
| GN95972-CCV3 | Sulfate | 200 | 10 | 0.094 | 200 | 100.0 | 90-110 |
| GN95972-CCB3 | Sulfate | 0.094 U | 10 | 0.094 | | | |
| GN95972-CCV4 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN95972-CCB4 | Sulfate | 0.11 | 10 | 0.094 | | | |
| GN95972-CCV5 | Sulfate | 202 | 10 | 0.094 | 200 | 101.0 | 90-110 |
| GN95972-CCB5 | Sulfate | 0.18 | 10 | 0.094 | | | |
| GN95972-CCV6 | Sulfate | 203 | 10 | 0.094 | 200 | 101.5 | 90-110 |
| GN95972-CCB6 | Sulfate | 0.50 | 10 | 0.094 | | | |

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

(Accutest New Jersey)

Sequence: 213120301
Operator: Chemistry
GN95972

Printed: 12/3/2013 2:22:02 PM

Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\December
Timebase: ACCUTEST_SYS#2
#Samples: 70
Created: 12/3/2013 8:58:26 AM by Chemistry
Last Update: 12/3/2013 9:30:10 AM by Chemistry

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | BLANKCONF | Unknown | 1 | 20.0 | 1.0000 | Finished | 12/3/2013 9:45:30 AM | |
| 2 | STDA | Standard | 1 | 20.0 | 1.0000 | Finished | 11/22/2013 9:16:16 AM | |
| 3 | STDB | Standard | 2 | 20.0 | 1.0000 | Finished | 11/22/2013 9:39:45 AM | |
| 4 | STDC | Standard | 3 | 20.0 | 1.0000 | Finished | 11/22/2013 10:03:41 AM | |
| 5 | STDD | Standard | 5 | 20.0 | 1.0000 | Finished | 11/22/2013 10:51:33 AM | |
| 6 | STDE | Standard | 7 | 20.0 | 1.0000 | Finished | 11/22/2013 11:39:25 AM | |
| 7 | STDF | Standard | 8 | 20.0 | 1.0000 | Finished | 11/22/2013 12:03:20 PM | |
| 8 | STDG | Standard | 9 | 20.0 | 1.0000 | Finished | 11/22/2013 12:27:16 PM | |
| 9 | ICV | Unknown | 2 | 20.0 | 1.0000 | Finished | 12/3/2013 10:09:02 AM | |
| 10 | CCV | Unknown | 3 | 20.0 | 1.0000 | Finished | 12/3/2013 10:32:57 AM | |
| 11 | CCB | Unknown | 4 | 20.0 | 1.0000 | Finished | 12/3/2013 10:56:53 AM | |
| 12 | MB | Unknown | 5 | 20.0 | 1.0000 | Finished | 12/3/2013 11:20:48 AM | |
| 13 | BSP | Unknown | 6 | 20.0 | 1.0000 | Finished | 12/3/2013 11:44:44 AM | |
| 14 | JB53668-1F | Unknown | 7 | 20.0 | 15.0000 | Finished | 12/3/2013 12:08:39 PM | |
| 15 | JB53668-2F | Unknown | 8 | 20.0 | 1.0000 | Finished | 12/3/2013 12:32:36 PM | |
| 16 | JB53798-4 | Unknown | 9 | 20.0 | 1.0000 | Finished | 12/3/2013 12:56:31 PM | |
| 17 | JB53798-5 | Unknown | 10 | 20.0 | 1.0000 | Finished | 12/3/2013 1:20:27 PM | |
| 18 | JB53798-8 | Unknown | 11 | 20.0 | 1.0000 | Finished | 12/3/2013 1:44:23 PM | |
| [redacted] | JB53823-1MS | Unknown | 12 | 20.0 | 1.0000 | Running | 12/3/2013 2:08:19 PM | |
| 20 | JB53823-1DUP | Unknown | 13 | 20.0 | 1.0000 | Single | | |
| 21 | JB53823-1 | Unknown | 14 | 20.0 | 1.0000 | Single | | |
| 22 | CCV | Unknown | 15 | 20.0 | 1.0000 | Single | | |
| 23 | CCB | Unknown | 16 | 20.0 | 1.0000 | Single | | |
| 24 | JB53823-3 | Unknown | 17 | 20.0 | 1.0000 | Single | | |
| 25 | JB53823-4 | Unknown | 18 | 20.0 | 1.0000 | Single | | |
| 26 | JB53873-2 | Unknown | 19 | 20.0 | 1.0000 | Single | | |
| 27 | JB53873-6 | Unknown | 20 | 20.0 | 1.0000 | Single | | |
| 28 | JB53833-1 | Unknown | 21 | 20.0 | 1.0000 | Single | | |
| 29 | JB53833-2 | Unknown | 22 | 20.0 | 1.0000 | Single | | |
| 30 | JB53833-3 | Unknown | 23 | 20.0 | 1.0000 | Single | | |
| 31 | JB53833-5 | Unknown | 24 | 20.0 | 1.0000 | Single | | |
| 32 | JB53879-1 | Unknown | 25 | 20.0 | 1.0000 | Single | | |
| 33 | JB53879-2 | Unknown | 26 | 20.0 | 1.0000 | Single | | |
| 34 | CCV | Unknown | 27 | 20.0 | 1.0000 | Single | | |
| 35 | CCB | Unknown | 28 | 20.0 | 1.0000 | Single | | |
| 36 | JB53879-3 | Unknown | 29 | 20.0 | 1.0000 | Single | | |
| 37 | JB53879-4 | Unknown | 30 | 20.0 | 1.0000 | Single | | |
| 38 | JB53879-7 | Unknown | 31 | 20.0 | 1.0000 | Single | | |
| 39 | MB | Unknown | 32 | 20.0 | 1.0000 | Single | | |
| 40 | BSP | Unknown | 33 | 20.0 | 1.0000 | Single | | |
| 41 | MC26484-4MS | Unknown | 34 | 20.0 | 1.0000 | Single | | |
| 42 | MC26484-4DUP | Unknown | 35 | 20.0 | 1.0000 | Single | | |

GP76294 CW AP (4)
GP76421 CHL,SO4 AP (1)
GP76386 SO4 AP (2)
BOTTLE #S

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

Sequence: 213120301
Operator: Chemistry

GN95972



Title:
Datasource: NJCHMIC2_local
Location: accutest_perchlorate_system_2\system 2 my sequences\anions-2013\December
Timebase: ACCUTEST_SYS#2
#Samples: 70

Created: 12/3/2013 8:58:26 AM by Chemistry
Last Update: 12/3/2013 9:30:10 AM by Chemistry

GP76423 504 A9 (1)

| No. | Name | Type | Pos. | Inj. Vol. | Dil. Factor | Status | Inj. Date/Time | Comment |
|---|---|---|---|---|---|---|---|---|
| 43 | MC26484-4 | Unknown | 36 | 20.0 | 1.0000 | Single | | |
| 44 | MC26484-1MS | Unknown | 37 | 20.0 | 1.0000 | Single | | |
| 45 | MC26484-1 | Unknown | 38 | 20.0 | 1.0000 | Single | | |
| 46 | CCV | Unknown | 39 | 20.0 | 1.0000 | Single | | |
| 47 | CCB | Unknown | 40 | 20.0 | 1.0000 | Single | | |
| 48 | MC26484-2 | Unknown | 41 | 20.0 | 1.0000 | Single | | |
| 49 | MC26484-3 | Unknown | 42 | 20.0 | 1.0000 | Single | | |
| 50 | MC26484-5 | Unknown | 43 | 20.0 | 1.0000 | Single | | |
| 51 | MC26484-6 | Unknown | 44 | 20.0 | 1.0000 | Single | | |
| 52 | MC26484-7 | Unknown | 45 | 20.0 | 1.0000 | Single | | |
| 53 | JB53879-8 | Unknown | 46 | 20.0 | 1.0000 | Single | | |
| 54 | JB53879-9 | Unknown | 47 | 20.0 | 1.0000 | Single | | |
| 55 | JB53879-10 | Unknown | 48 | 20.0 | 1.0000 | Single | | |
| 56 | JB53879-11 | Unknown | 49 | 20.0 | 1.0000 | Single | | |
| 57 | JB53887-1 | Unknown | 50 | 20.0 | 1.0000 | Single | | |
| 58 | CCV | Unknown | 1 | 20.0 | 1.0000 | Single | | |
| 59 | CCB | Unknown | 2 | 20.0 | 1.0000 | Single | | |
| 60 | JB54122-1 | Unknown | 3 | 20.0 | 1.0000 | Single | | |
| 61 | JB54122-2 | Unknown | 4 | 20.0 | 1.0000 | Single | | |
| 62 | JB54122-3 | Unknown | 5 | 20.0 | 1.0000 | Single | | |
| 63 | JB54122-4 | Unknown | 6 | 20.0 | 1.0000 | Single | | |
| 64 | JB54122-5 | Unknown | 7 | 20.0 | 1.0000 | Single | | |
| 65 | JB54122-6 | Unknown | 8 | 20.0 | 1.0000 | Single | | |
| 66 | JB54122-7 | Unknown | 9 | 20.0 | 1.0000 | Single | | |
| 67 | JB54122-8 | Unknown | 10 | 20.0 | 1.0000 | Single | | |
| 68 | CCV | Unknown | 11 | 20.0 | 1.0000 | Single | | |
| 69 | CCB | Unknown | 12 | 20.0 | 1.0000 | Single | | |
| 70 | STDBY | Unknown | 13 | 20.0 | 1.0000 | Single | | |

Chromeleon © Dionex Corporation, Version 6.80 SR9a Build 2680 (163077)

ACCUTEST

Analyst NP Product IC2 Autopipette # 37

Date 12/3/13 Batch ID GN95972 Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| BSP | ✓ | ✓ mL | 50 mL | 0.50 mL GN13-218-72 |
| JB53668-1F | 1:15 | 2 mL | 30 mL | Aliquot for both these samples were filtered through 0.45 um syringe filters lot # LSS 130115020 XP: N/A |
| ↓ -2F | ✓ | ✓ mL | ✓ mL | |
| JB53823-1MS | ✓ | ✓ mL | 50 mL | 0.50 mL GN13-218-72 |
| MC26484-4MS | ✓ | ✓ mL | mL | ↓ |
| MC26484-1MS | ✓ | ✓ mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |
| | | mL | mL | |

Diluent = DI H2O

QC Reviewer:_____ Date:_____

Form: GN165-01
Rev. Date: 2/25/03

12.1 12

ACCUTEST.

# Reagent Information Log - IONC - Water /Soil

**GN Batch ID#:** GN95972

Curve Ran on : 11/22/13

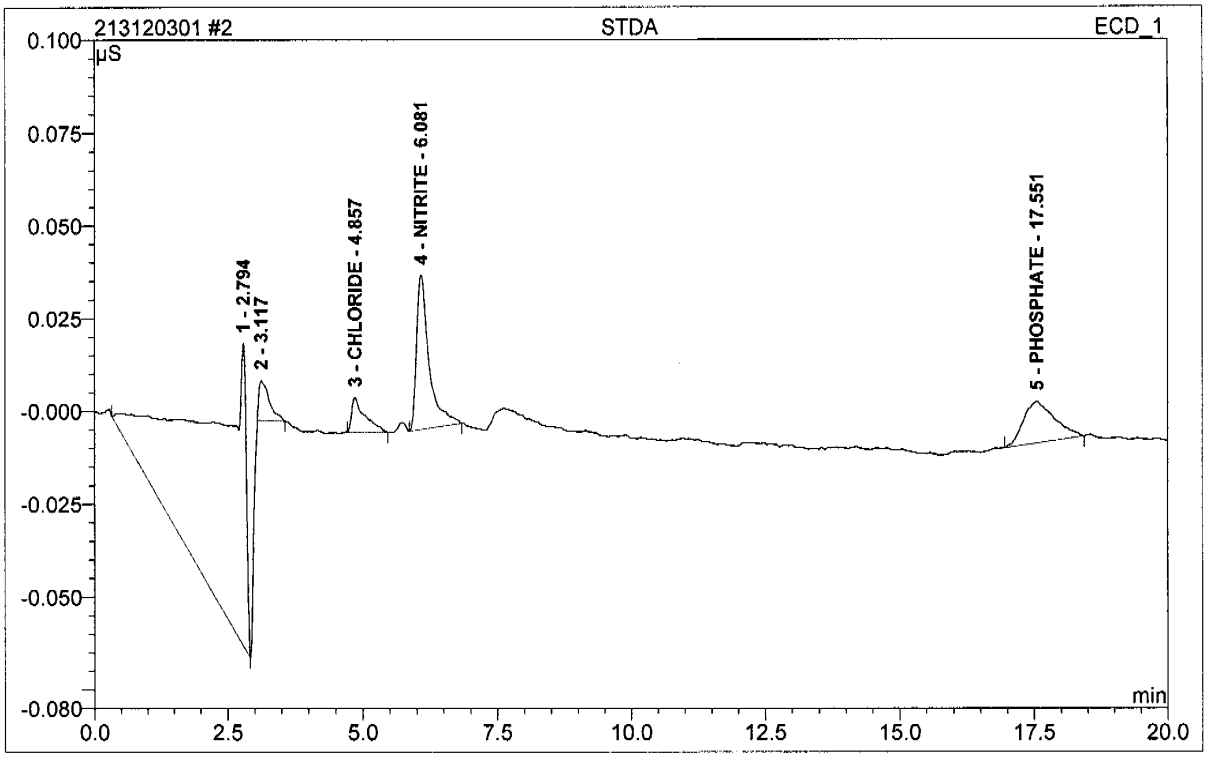
| Reagent | Reagent # or Manufacturer/Lot | Exp. Date |
|---|---|---|
| Standard Intermediate (for Calibration Curve) | GN12-212-218 | 11/28/2013 |
| Standard Intermediate (for Calibration Curve) | GN12-212-220 | 11/28/2013 |
| ICV | GN13-231-39 | 12/26/2013 |
| Eluent | 130791729016 | 7/2015 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-227 | 12/4/2013 |
| Standard Intermediate (for Working std/Spikes) | GN12-212-229 | 12/4/2013 |
| CCV | GN13-220-109 | 12/4/2013 |
| Spiking Solution Intermediate | GN13-218-70 | 12/26/2013 |
| Spiking Solution Intermediate | GN13-218-71 | 12/26/2013 |
| Spiking Solution | GN13-218-72 | 12/4/2013 |
| Filter lot numbers | LAB SALES # 130821006 | NA |

**Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error**

Form : GN087A-76
Rev. Date: 4/7/09

## 2 STDA

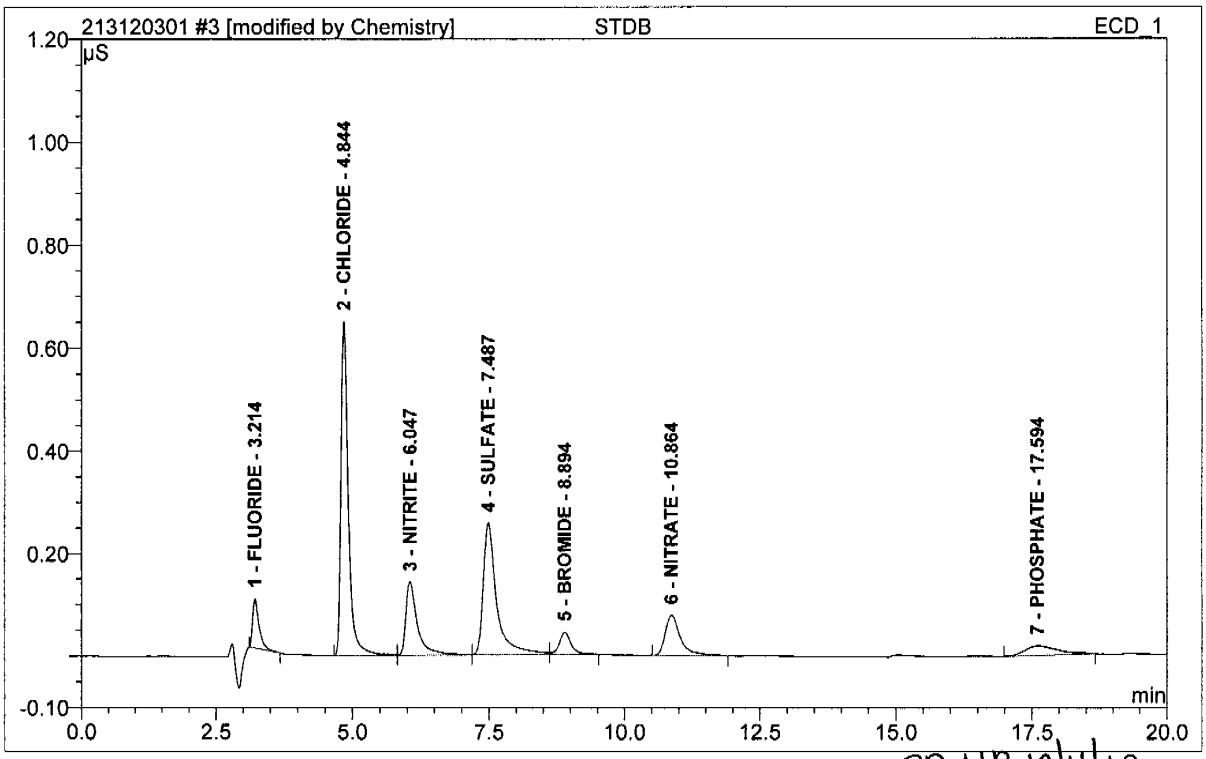
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDA** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:16** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.081 | 0.080 | 76.96 | n.a. | BMB |
| 2 | 3.12 | n.a. | 0.011 | 0.002 | 2.31 | n.a. | BMB |
| 3 | 4.86 | CHLORIDE | 0.009 | 0.003 | 2.53 | 0.013 | BMB |
| 4 | 6.08 | NITRITE | 0.042 | 0.011 | 10.99 | 0.023 | BMB |
| 5 | 17.55 | PHOSPHATE | 0.011 | 0.007 | 7.22 | 0.042 | BMB |
| **Total:** | | | 0.154 | 0.103 | 100.00 | 0.078 | |

# 3 STDB

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

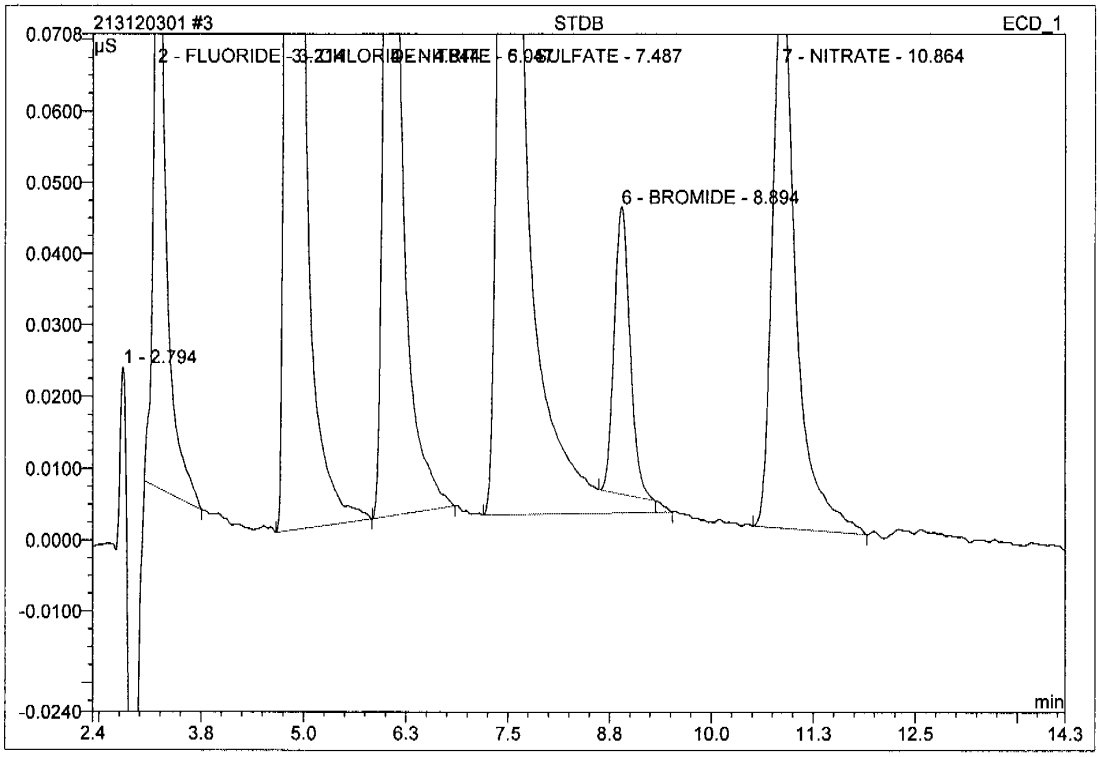



SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.095 | 0.013 | 4.72 | 0.039 | BMB* |
| 2 | 4.84 | CHLORIDE | 0.651 | 0.102 | 37.27 | 0.512 | BM * |
| 3 | 6.05 | NITRITE | 0.143 | 0.035 | 12.93 | 0.071 | M * |
| 4 | 7.49 | SULFATE | 0.258 | 0.074 | 26.85 | 0.505 | M * |
| 5 | 8.89 | BROMIDE | 0.043 | 0.011 | 4.05 | 0.109 | MB* |
| 6 | 10.86 | NITRATE | 0.078 | 0.026 | 9.34 | 0.053 | BMB |
| 7 | 17.59 | PHOSPHATE | 0.019 | 0.013 | 4.85 | 0.075 | BMB |
| **Total:** | | | 1.287 | 0.274 | 100.00 | 1.363 | |

## 3 STDB

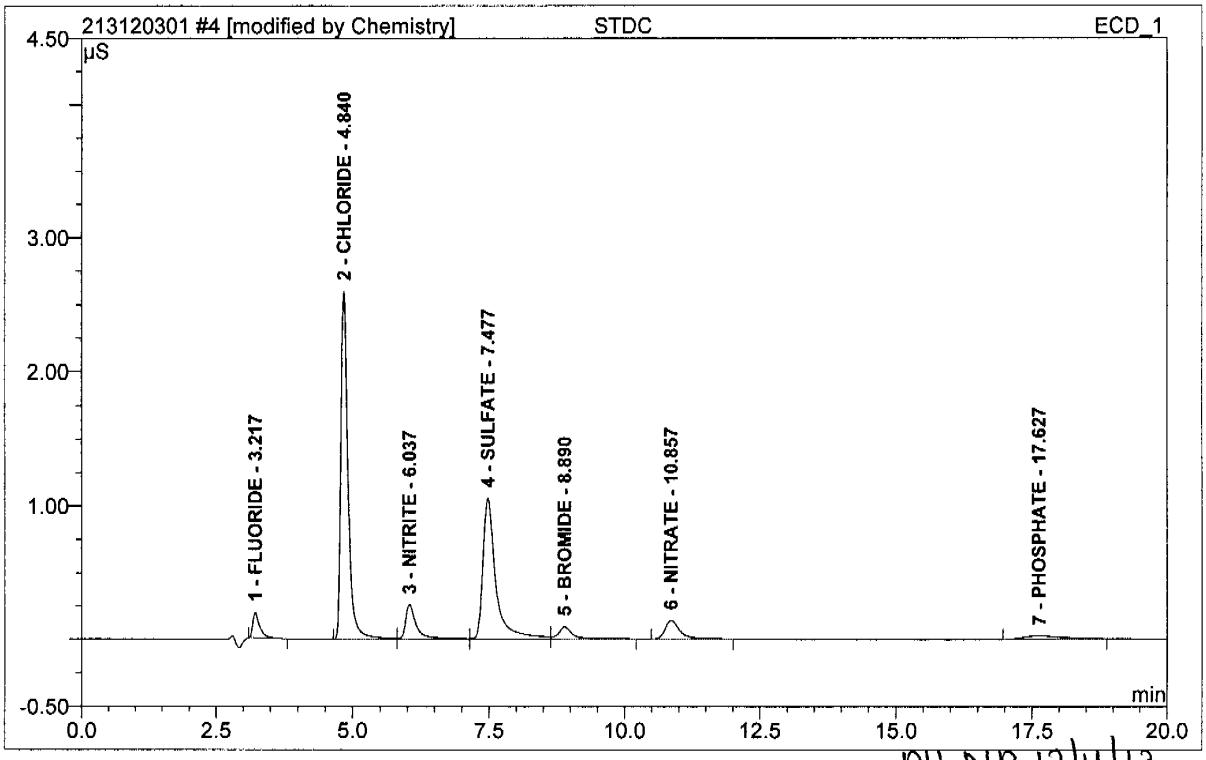
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 9:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.083 | 0.078 | 22.13 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.104 | 0.017 | 4.75 | 0.050 | BMB |
| 3 | 4.84 | CHLORIDE | 0.650 | 0.101 | 28.86 | 0.508 | BMB |
| 4 | 6.05 | NITRITE | 0.142 | 0.033 | 9.40 | 0.066 | BMB |
| 5 | 7.49 | SULFATE | 0.257 | 0.075 | 21.21 | 0.512 | BMB |
| 6 | 8.89 | BROMIDE | 0.040 | 0.009 | 2.58 | 0.089 | Rd |
| 7 | 10.86 | NITRATE | 0.078 | 0.026 | 7.28 | 0.053 | BMB |
| 8 | 17.59 | PHOSPHATE | 0.019 | 0.013 | 3.78 | 0.075 | BMB |
| **Total:** | | | 1.373 | 0.351 | 100.00 | 1.352 | |

# 4 STDC

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

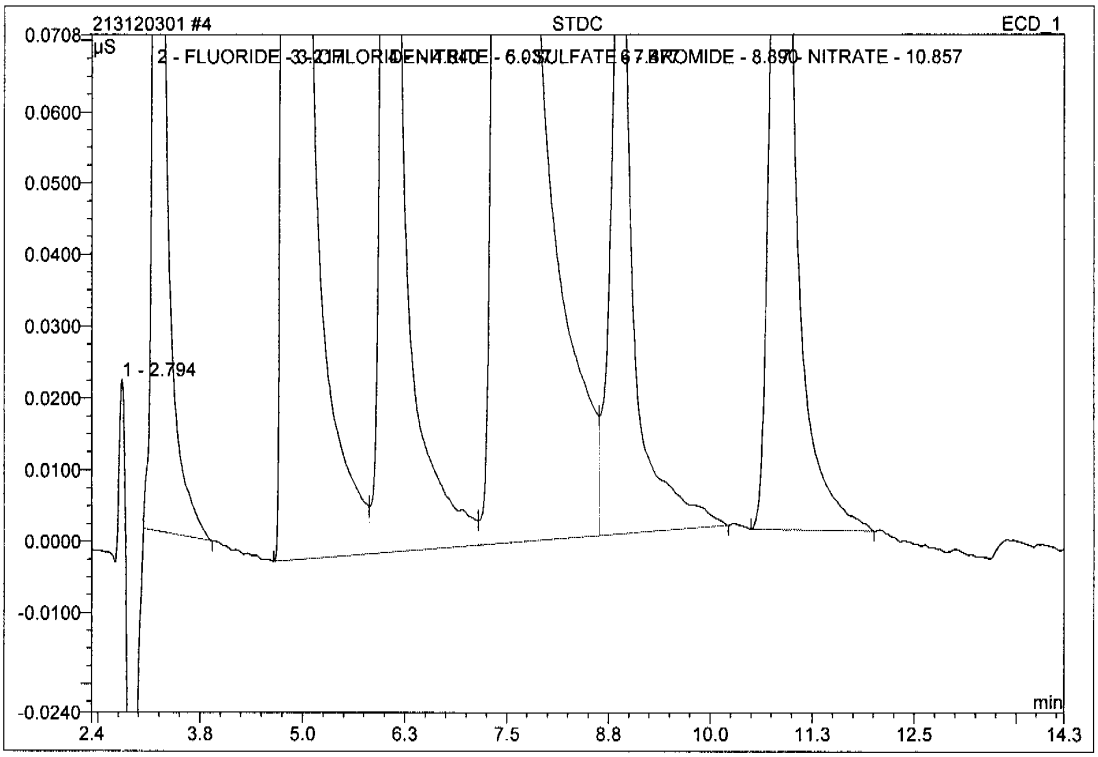



PII NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.22 | FLUORIDE | 0.194 | 0.028 | 3.16 | 0.083 | BMB* |
| 2 | 4.84 | CHLORIDE | 2.602 | 0.400 | 45.39 | 2.002 | BM |
| 3 | 6.04 | NITRITE | 0.260 | 0.062 | 7.03 | 0.123 | M |
| 4 | 7.48 | SULFATE | 1.062 | 0.295 | 33.47 | 2.023 | M |
| 5 | 8.89 | BROMIDE | 0.093 | 0.030 | 3.37 | 0.291 | MB |
| 6 | 10.86 | NITRATE | 0.140 | 0.045 | 5.14 | 0.094 | BMB |
| 7 | 17.63 | PHOSPHATE | 0.027 | 0.022 | 2.45 | 0.121 | BMB |
| **Total:** | | | 4.378 | 0.880 | 100.00 | 4.737 | |

# 4 STDC

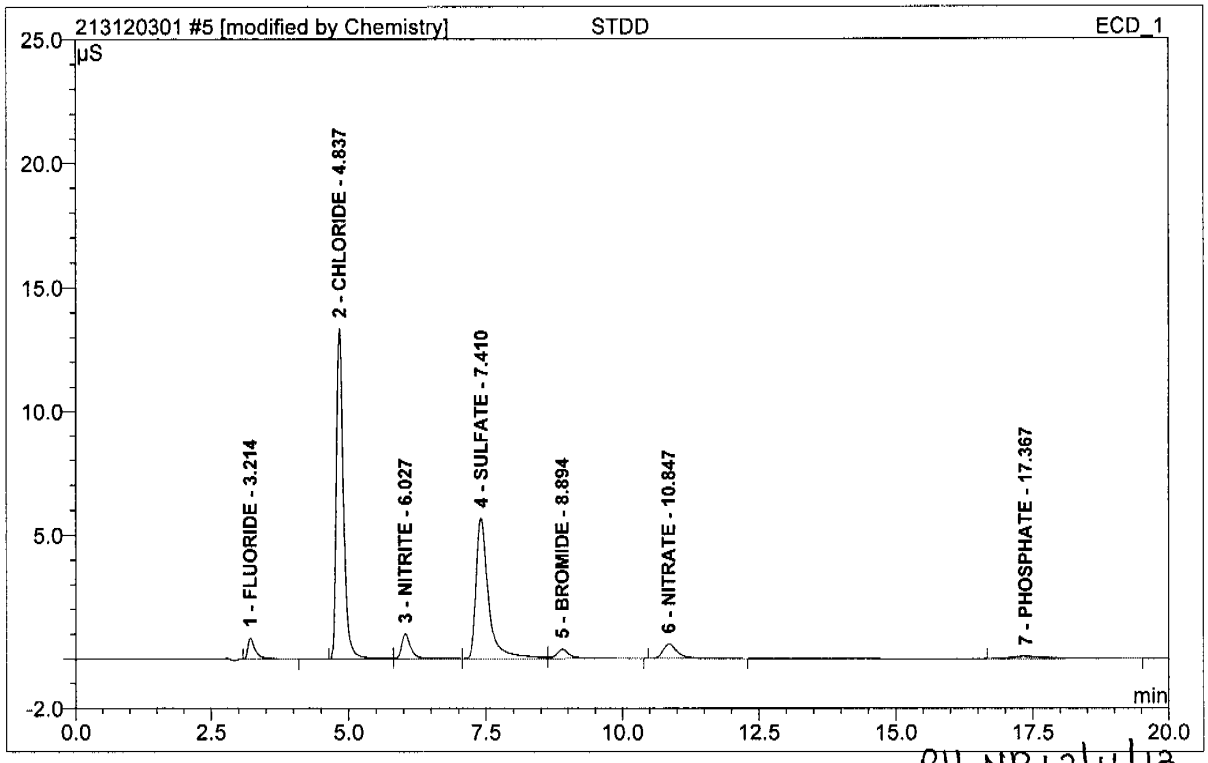
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDC** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.084 | 0.079 | 8.19 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.201 | 0.032 | 3.27 | 0.094 | BMB |
| 3 | 4.84 | CHLORIDE | 2.602 | 0.400 | 41.49 | 2.002 | BM |
| 4 | 6.04 | NITRITE | 0.260 | 0.062 | 6.43 | 0.123 | M |
| 5 | 7.48 | SULFATE | 1.062 | 0.295 | 30.60 | 2.023 | M |
| 6 | 8.89 | BROMIDE | 0.093 | 0.030 | 3.08 | 0.291 | MB |
| 7 | 10.86 | NITRATE | 0.140 | 0.045 | 4.70 | 0.094 | BMB |
| 8 | 17.63 | PHOSPHATE | 0.027 | 0.022 | 2.24 | 0.121 | BMB |
| **Total:** | | | 4.469 | 0.963 | 100.00 | 4.748 | |

# 5 STDD

| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

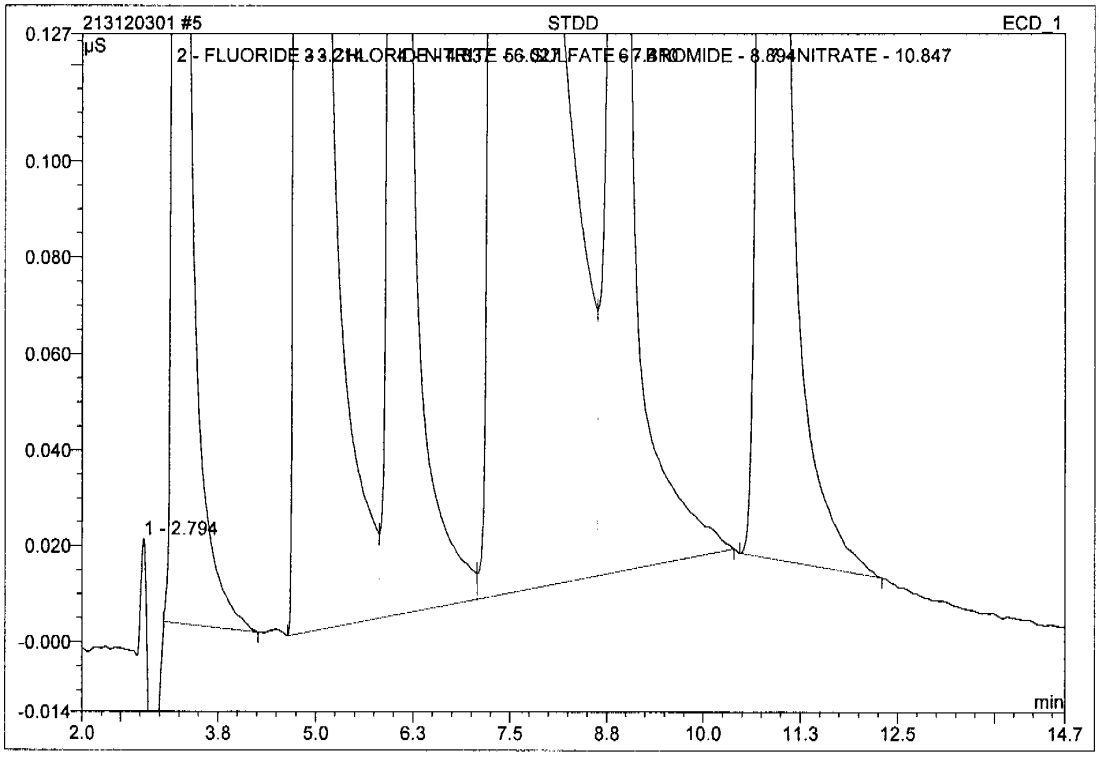



PII NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 0.842 | 0.128 | 3.03 | 0.381 | BMB* |
| 2 | 4.84 | CHLORIDE | 13.339 | 1.990 | 47.30 | 9.972 | BM |
| 3 | 6.03 | NITRITE | 1.008 | 0.203 | 4.82 | 0.404 | M |
| 4 | 7.41 | SULFATE | 5.664 | 1.508 | 35.85 | 10.357 | M |
| 5 | 8.89 | BROMIDE | 0.376 | 0.113 | 2.69 | 1.112 | MB |
| 6 | 10.85 | NITRATE | 0.581 | 0.185 | 4.39 | 0.383 | BMB |
| 7 | 17.37 | PHOSPHATE | 0.095 | 0.081 | 1.92 | 0.455 | BMB |
| **Total:** | | | 21.905 | 4.208 | 100.00 | 23.062 | |

# 5 STDD

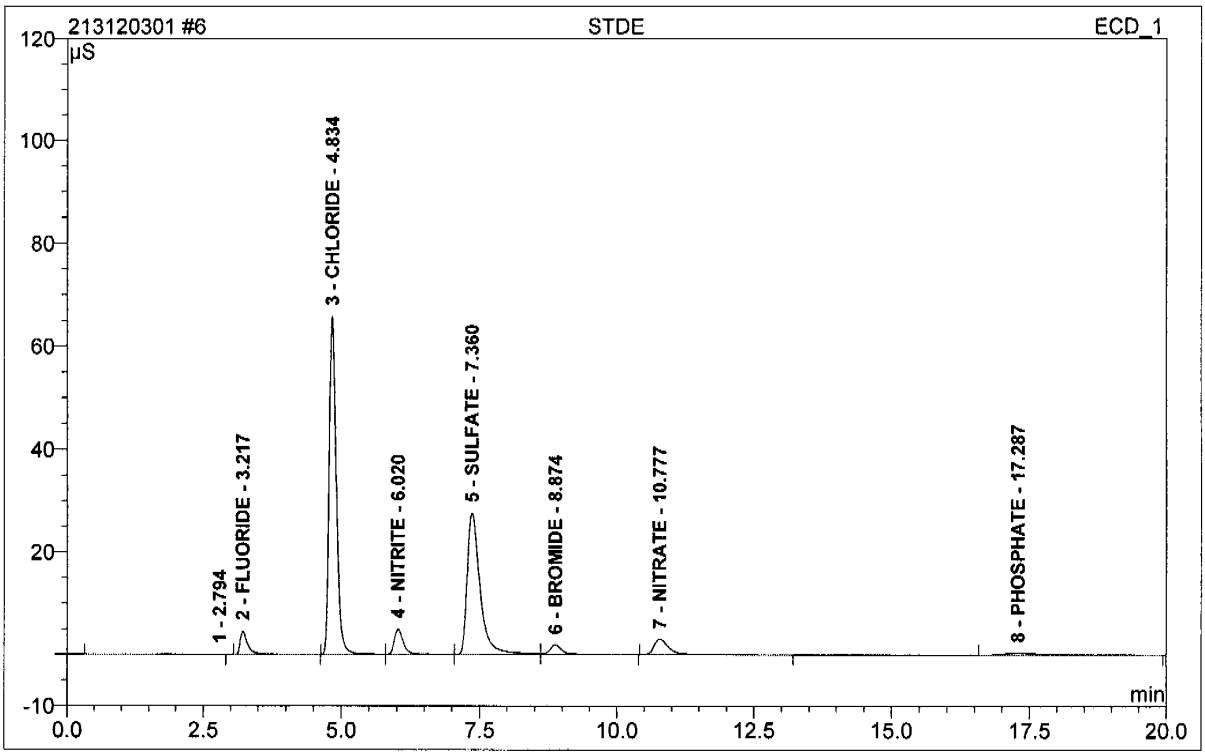
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDD** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 10:51** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.080 | 0.077 | 1.80 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.849 | 0.132 | 3.09 | 0.395 | BMB |
| 3 | 4.84 | CHLORIDE | 13.339 | 1.990 | 46.40 | 9.972 | BM |
| 4 | 6.03 | NITRITE | 1.008 | 0.203 | 4.73 | 0.404 | M |
| 5 | 7.41 | SULFATE | 5.664 | 1.508 | 35.16 | 10.357 | M |
| 6 | 8.89 | BROMIDE | 0.376 | 0.113 | 2.64 | 1.112 | MB |
| 7 | 10.85 | NITRATE | 0.581 | 0.185 | 4.30 | 0.383 | BMB |
| 8 | 17.37 | PHOSPHATE | 0.095 | 0.081 | 1.89 | 0.455 | BMB |
| **Total:** | | | 21.992 | 4.290 | 100.00 | 23.076 | |

# 6 STDE

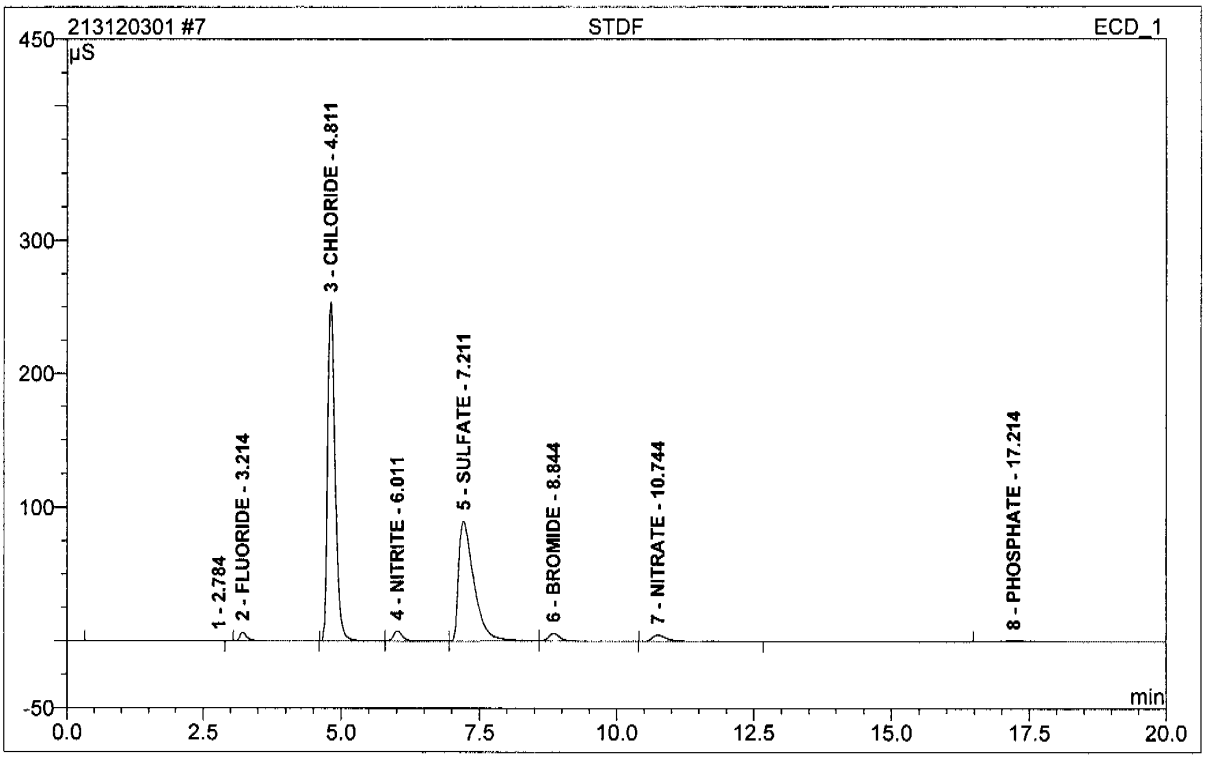
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDE** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 11:39** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.074 | 0.070 | 0.33 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 4.577 | 0.720 | 3.42 | 2.149 | BMB |
| 3 | 4.83 | CHLORIDE | 65.800 | 9.904 | 46.97 | 49.617 | BM |
| 4 | 6.02 | NITRITE | 5.031 | 0.980 | 4.65 | 1.952 | M |
| 5 | 7.36 | SULFATE | 27.623 | 7.560 | 35.85 | 51.910 | M |
| 6 | 8.87 | BROMIDE | 1.926 | 0.524 | 2.49 | 5.138 | MB |
| 7 | 10.78 | NITRATE | 3.052 | 0.971 | 4.61 | 2.014 | BMB |
| 8 | 17.29 | PHOSPHATE | 0.429 | 0.356 | 1.69 | 2.002 | BMB |
| **Total:** | | | 108.513 | 21.085 | 100.00 | 114.782 | |

# 7 STDF

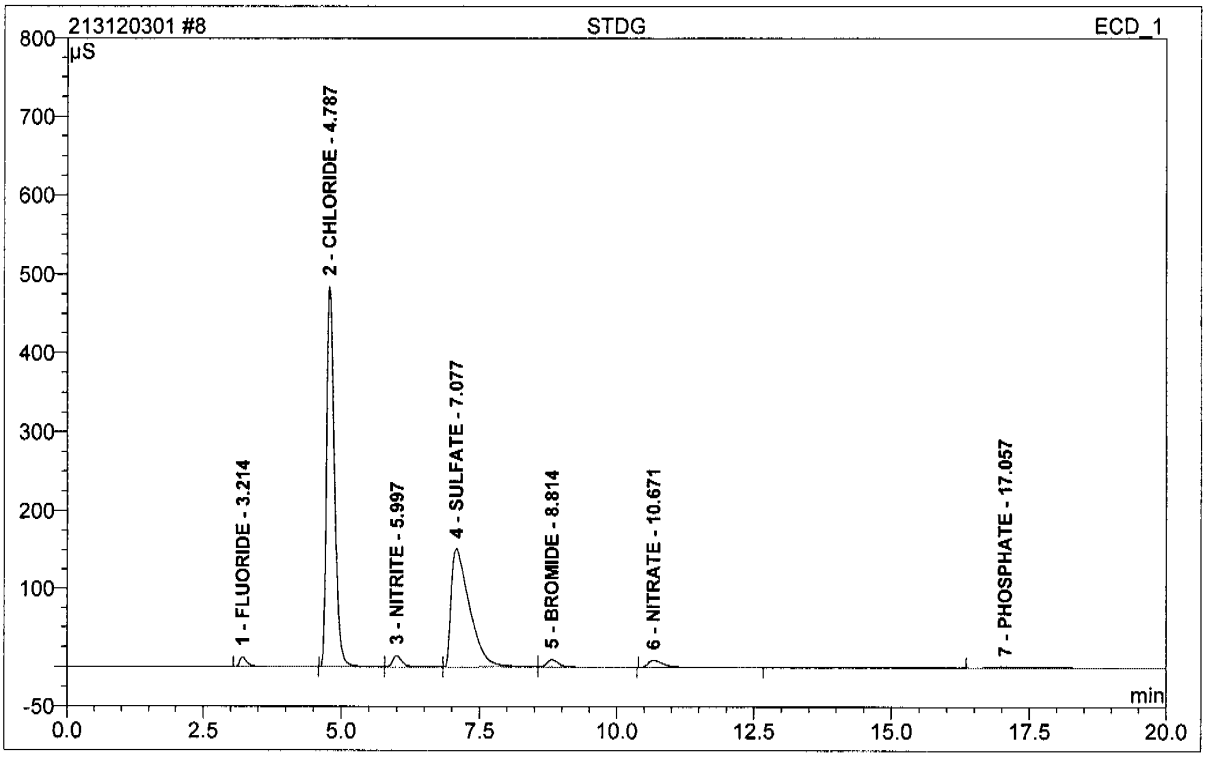
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDF** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 12:03** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



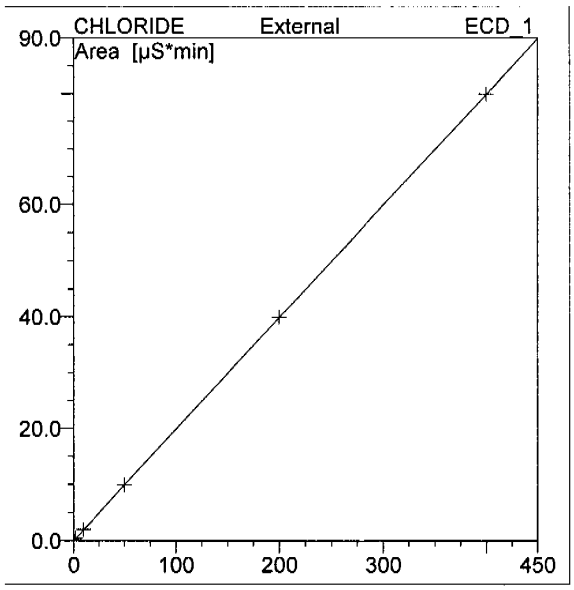

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.050 | 0.049 | 0.07 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 6.550 | 0.997 | 1.33 | 2.975 | BMB |
| 3 | 4.81 | CHLORIDE | 253.324 | 39.920 | 53.21 | 199.998 | BM |
| 4 | 6.01 | NITRITE | 7.598 | 1.532 | 2.04 | 3.052 | M |
| 5 | 7.21 | SULFATE | 89.875 | 29.026 | 38.69 | 199.304 | M |
| 6 | 8.84 | BROMIDE | 5.768 | 1.532 | 2.04 | 15.024 | MB |
| 7 | 10.74 | NITRATE | 4.566 | 1.433 | 1.91 | 2.973 | BMB |
| 8 | 17.21 | PHOSPHATE | 0.647 | 0.538 | 0.72 | 3.019 | BMB |
| **Total:** | | | 368.377 | 75.026 | 100.00 | 426.345 | |

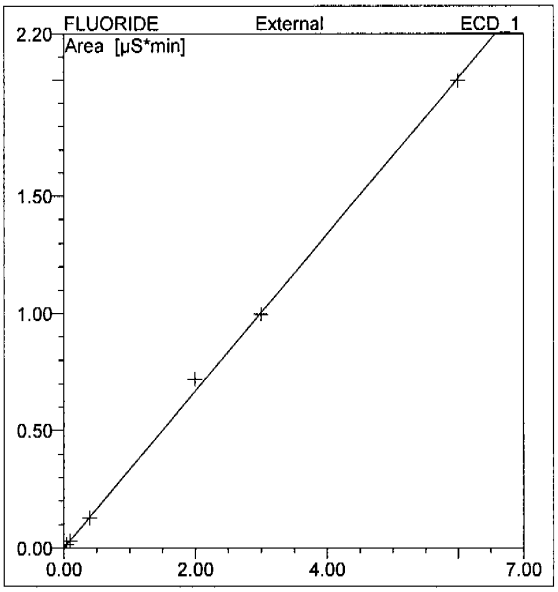
# 8 STDG

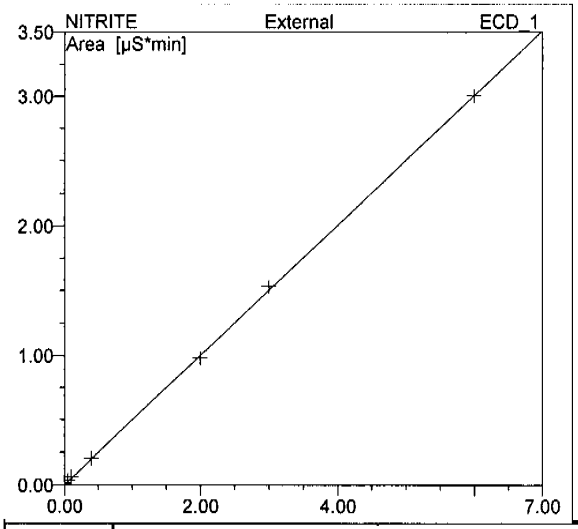
| | | | |
|---|---|---|---|
| *Sample Name:* | **STDG** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **standard** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **11/22/2013 12:27** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

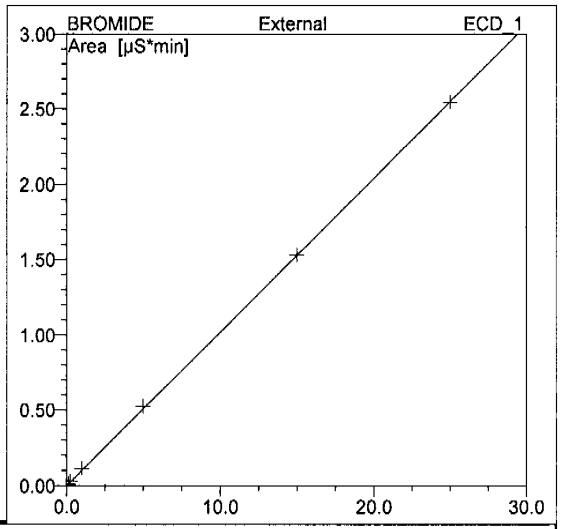



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | 12.695 | 1.999 | 1.34 | 5.964 | BMB |
| 2 | 4.79 | CHLORIDE | 484.710 | 79.851 | 53.37 | 400.050 | BM |
| 3 | 6.00 | NITRITE | 14.448 | 3.005 | 2.01 | 5.989 | M |
| 4 | 7.08 | SULFATE | 152.091 | 58.269 | 38.94 | 400.100 | M |
| 5 | 8.81 | BROMIDE | 9.560 | 2.545 | 1.70 | 24.953 | MB |
| 6 | 10.67 | NITRATE | 8.900 | 2.897 | 1.94 | 6.010 | BMB |
| 7 | 17.06 | PHOSPHATE | 1.332 | 1.066 | 0.71 | 5.986 | BMB |
| **Total:** | | | 683.735 | 149.631 | 100.00 | 849.052 | |

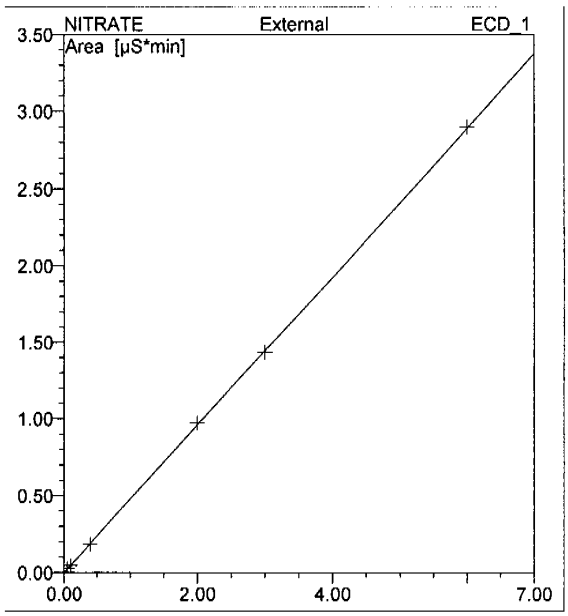


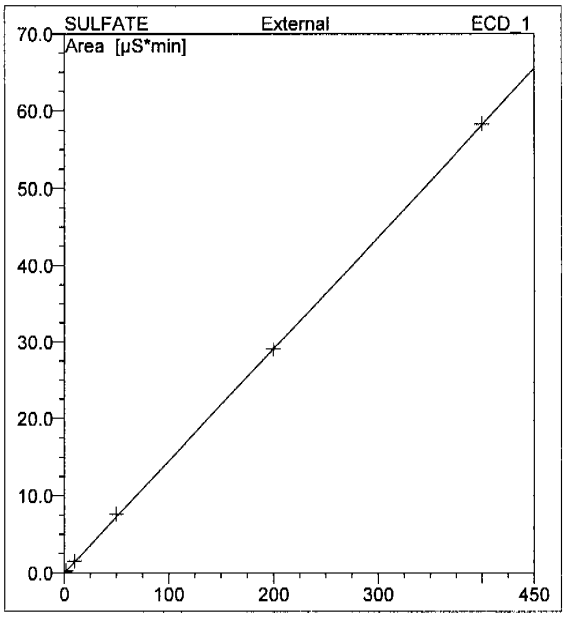



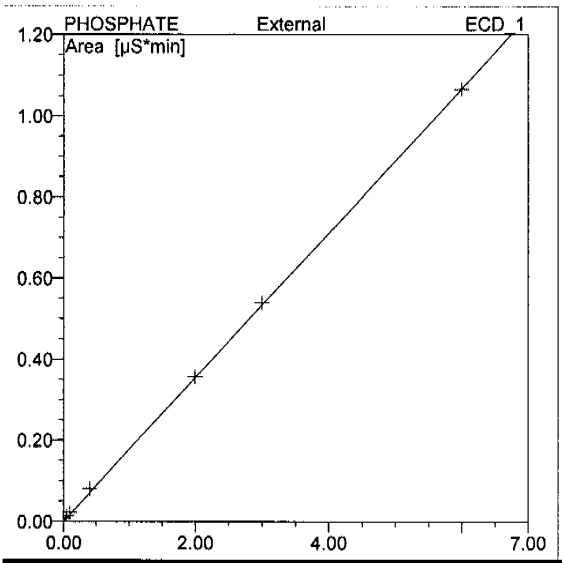




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9544 | 0.0000 | 0.3351 | 0.0000 |
| 2 | 4.79 | CHLORIDE | Lin | 7 | 100.0000 | 0.0000 | 0.1996 | 0.0000 |
| 3 | 6.00 | NITRITE | Lin | 7 | 99.9905 | 0.0000 | 0.5018 | 0.0000 |
| 4 | 7.08 | SULFATE | Lin | 6 | 99.9986 | 0.0000 | 0.1456 | 0.0000 |
| 5 | 8.81 | BROMIDE | Lin | 6 | 99.9982 | 0.0000 | 0.1020 | 0.0000 |
| 6 | 10.67 | NITRATE | Lin | 6 | 99.9978 | 0.0000 | 0.4821 | 0.0000 |
| 7 | 17.06 | PHOSPHATE | Lin | 7 | 99.9980 | 0.0000 | 0.1780 | 0.0000 |
| Average: | | | | | 99.9911 | 0.0000 | 0.2777 | 0.0000 |



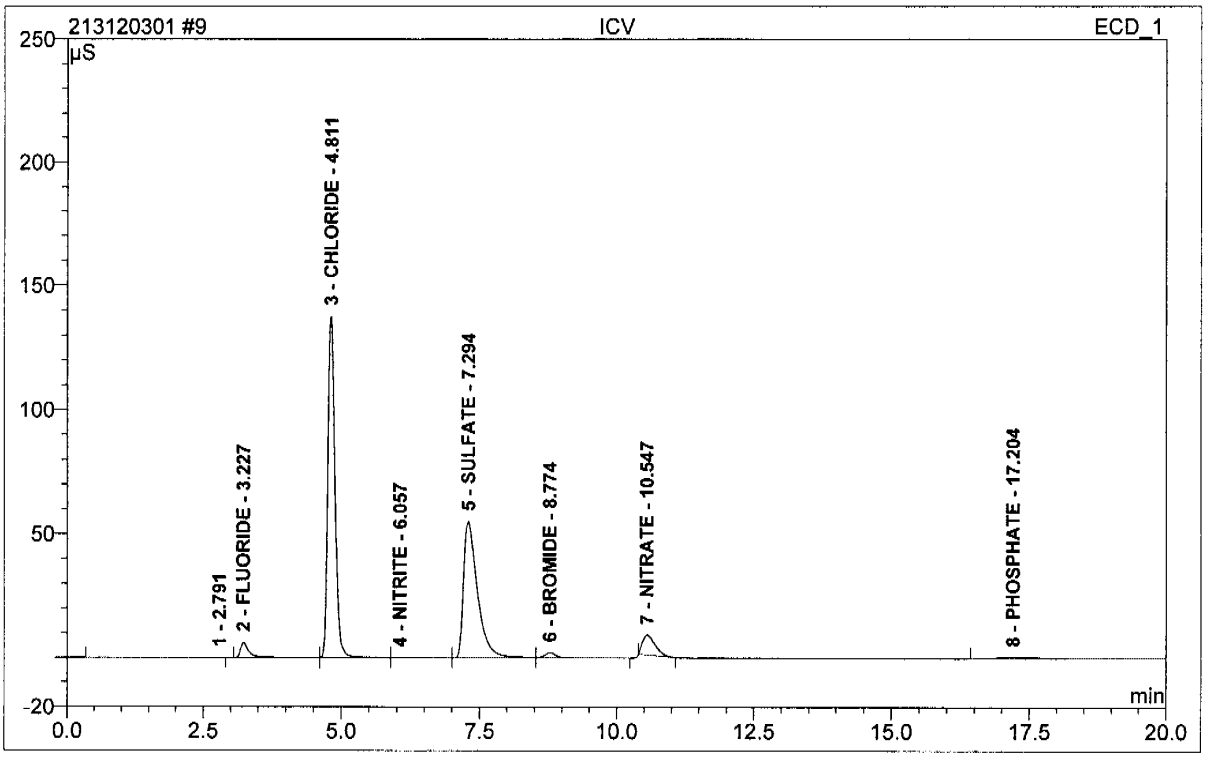




| No. | Ret.Time min | Peak Name | Cal.Type | Points | Corr.Coeff. % | Offset | Slope | Curve |
|---|---|---|---|---|---|---|---|---|
| 1 | 3.21 | FLUORIDE | Lin | 6 | 99.9544 | 0.0000 | 0.3351 | 0.0000 |
| 2 | 4.79 | CHLORIDE | Lin | 7 | 100.0000 | 0.0000 | 0.1996 | 0.0000 |
| 3 | 6.00 | NITRITE | Lin | 7 | 99.9905 | 0.0000 | 0.5018 | 0.0000 |
| 4 | 7.08 | SULFATE | Lin | 6 | 99.9986 | 0.0000 | 0.1456 | 0.0000 |
| 5 | 8.81 | BROMIDE | Lin | 6 | 99.9982 | 0.0000 | 0.1020 | 0.0000 |
| 6 | 10.67 | NITRATE | Lin | 6 | 99.9978 | 0.0000 | 0.4821 | 0.0000 |
| 7 | 17.06 | PHOSPHATE | Lin | 7 | 99.9980 | 0.0000 | 0.1780 | 0.0000 |
| Average: | | | | | 99.9911 | 0.0000 | 0.2777 | 0.0000 |

# 9 ICV

| | | | |
|---|---|---|---|
| *Sample Name:* | **ICV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 10:09** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



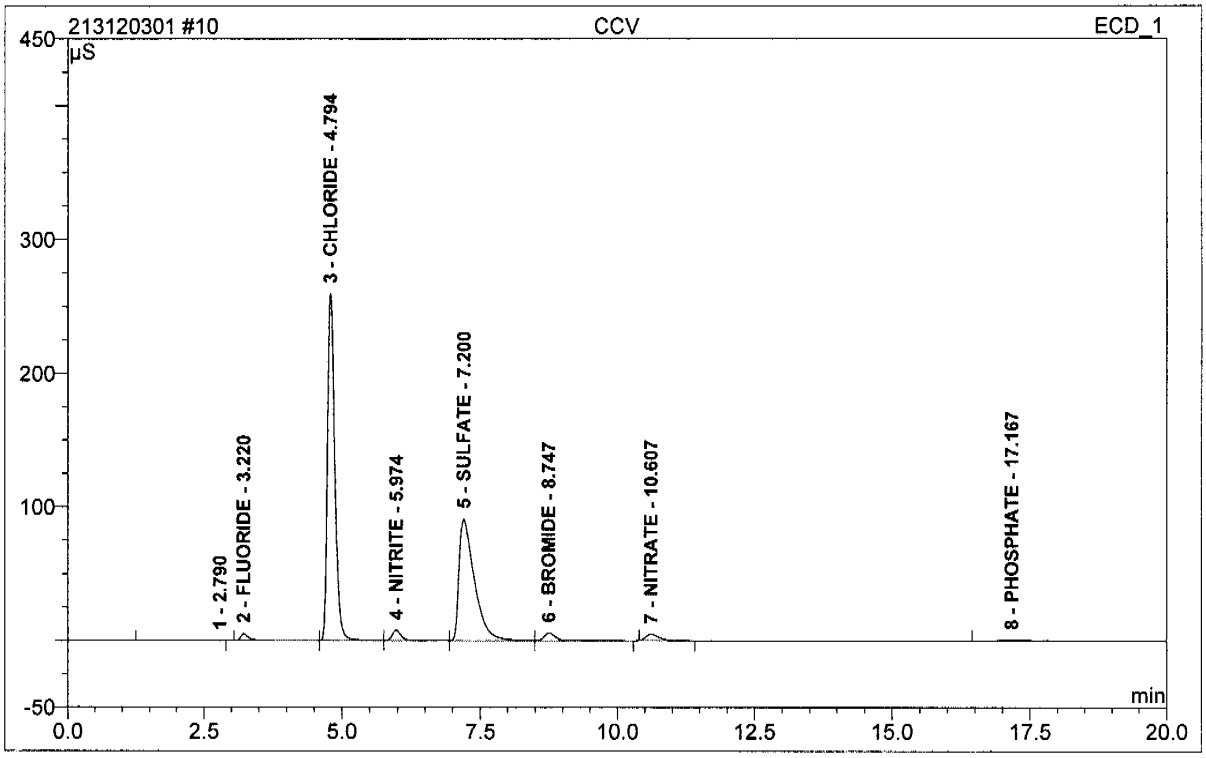

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.051 | 0.045 | 0.11 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 6.130 | 1.130 | 2.74 | 3.372 | BM |
| 3 | 4.81 | CHLORIDE | 137.605 | 20.558 | 49.79 | 102.936 102.993 | M |
| 4 | 6.06 | NITRITE | 0.139 | 0.088 | 0.21 | 0.175 | M |
| 5 | 7.29 | SULFATE | 55.000 | 16.219 | 39.28 | 110.12 111.364 | M |
| 6 | 8.77 | BROMIDE | 2.216 | 0.575 | 1.39 | 5.640 | MB |
| 7 | 10.55 | NITRATE | 8.063 | 2.152 | 5.21 | 4.464 | BMB |
| 8 | 17.20 | PHOSPHATE | 0.528 | 0.519 | 1.26 | 2.913 | BMB |
| **Total:** | | | 209.732 | 41.285 | 100.00 | 230.923 | |

100.06

101.13

## 10 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 10:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.044 | 0.024 | 0.03 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 5.114 | 0.901 | 1.20 | 2.689 | BM |
| 3 | 4.79 | CHLORIDE | 259.406 | 39.856 | 53.01 | 199.678 | M |
| 4 | 5.97 | NITRITE | 7.951 | 1.562 | 2.08 | 3.112 | M |
| 5 | 7.20 | SULFATE | 90.638 | 29.505 | 39.24 | 202.594 | M |
| 6 | 8.75 | BROMIDE | 5.929 | 1.476 | 1.96 | 14.472 | MB |
| 7 | 10.61 | NITRATE | 4.836 | 1.354 | 1.80 | 2.810 | BMB |
| 8 | 17.17 | PHOSPHATE | 0.533 | 0.511 | 0.68 | 2.868 | BMB |
| **Total:** | | | 374.451 | 75.189 | 100.00 | 428.222 | |

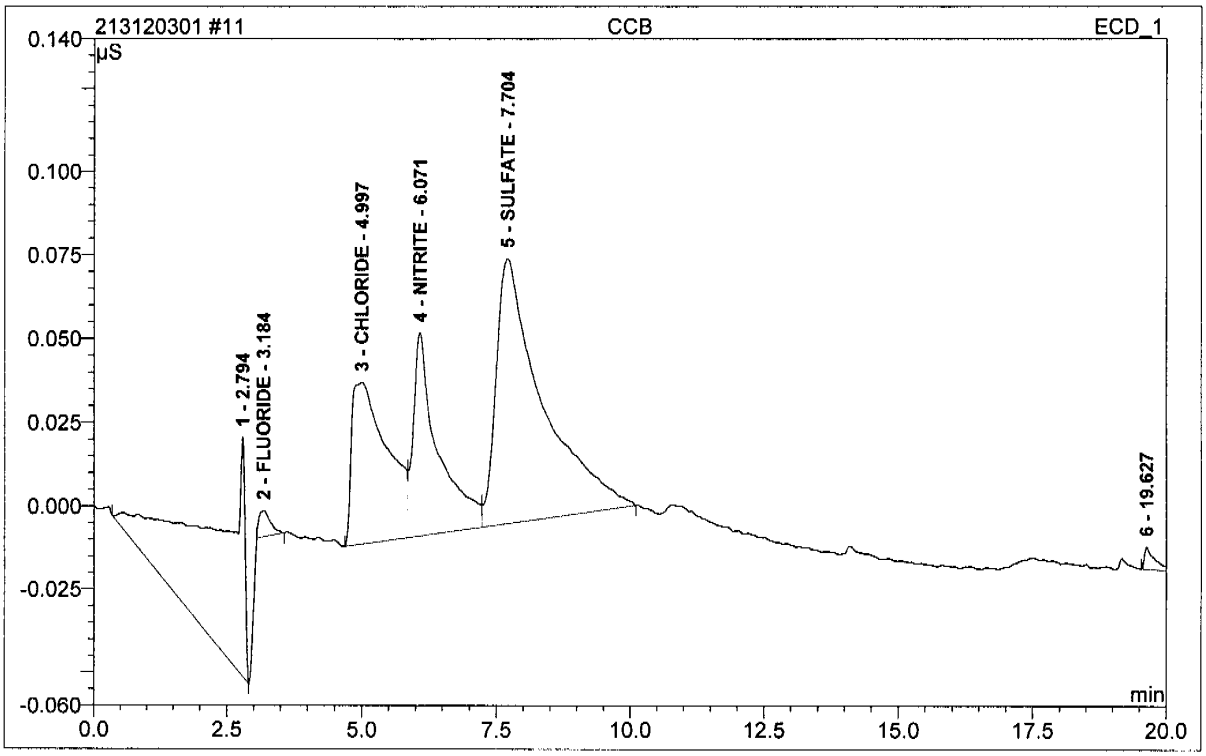
200 199.678 ✓ 99.84

200 202.594 ✓ 101.3

12.1 12

## 11 CCB

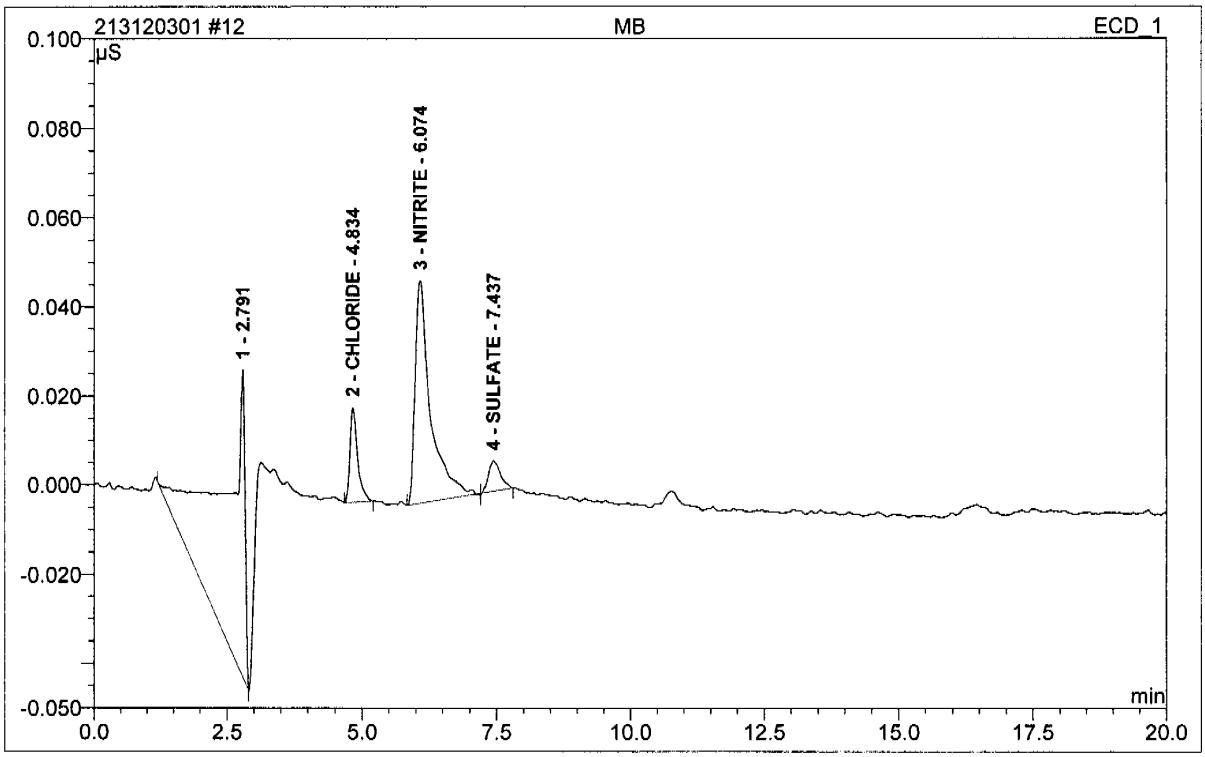
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 10:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.072 | 0.058 | 27.86 | n.a. | BMB |
| 2 | 3.18 | FLUORIDE | 0.008 | 0.002 | 0.91 | 0.006 | BMB |
| 3 | 5.00 | CHLORIDE | 0.048 | 0.037 | 17.50 | 0.184 ✓ | BM |
| 4 | 6.07 | NITRITE | 0.061 | 0.032 | 15.46 | 0.064 | M |
| 5 | 7.70 | SULFATE | 0.079 | 0.078 | 37.49 | 0.539 ✓ | MB |
| 6 | 19.63 | n.a. | 0.007 | 0.002 | 0.78 | n.a. | BMB |
| **Total:** | | | 0.274 | 0.209 | 100.00 | 0.793 | |

## 12 MB

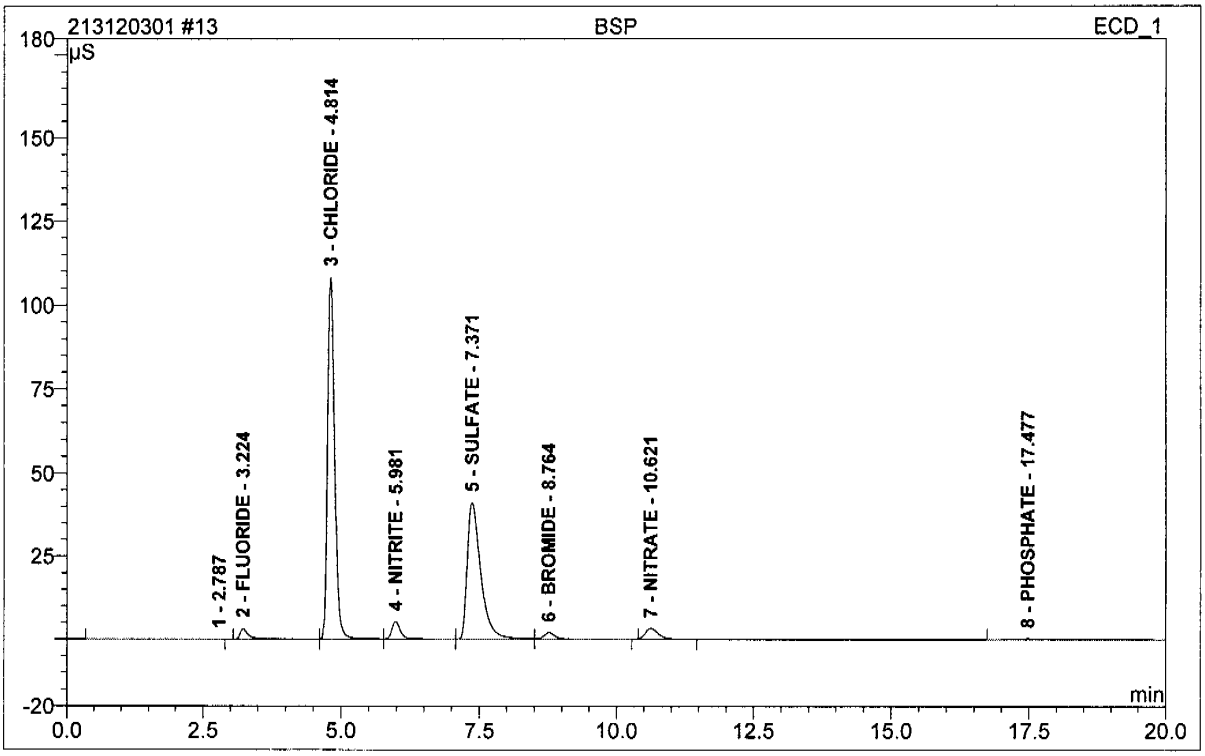
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 11:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.069 | 0.036 | 62.07 | n.a. | BMB |
| 2 | 4.83 | CHLORIDE | 0.021 | 0.003 | 6.01 | 0.017 | BMB |
| 3 | 6.07 | NITRITE | 0.050 | 0.017 | 28.91 | 0.033 | BM |
| 4 | 7.44 | SULFATE | 0.007 | 0.002 | 3.01 | 0.012 | MB |
| **Total:** | | | 0.147 | 0.058 | 100.00 | 0.062 | |

# 13 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 11:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



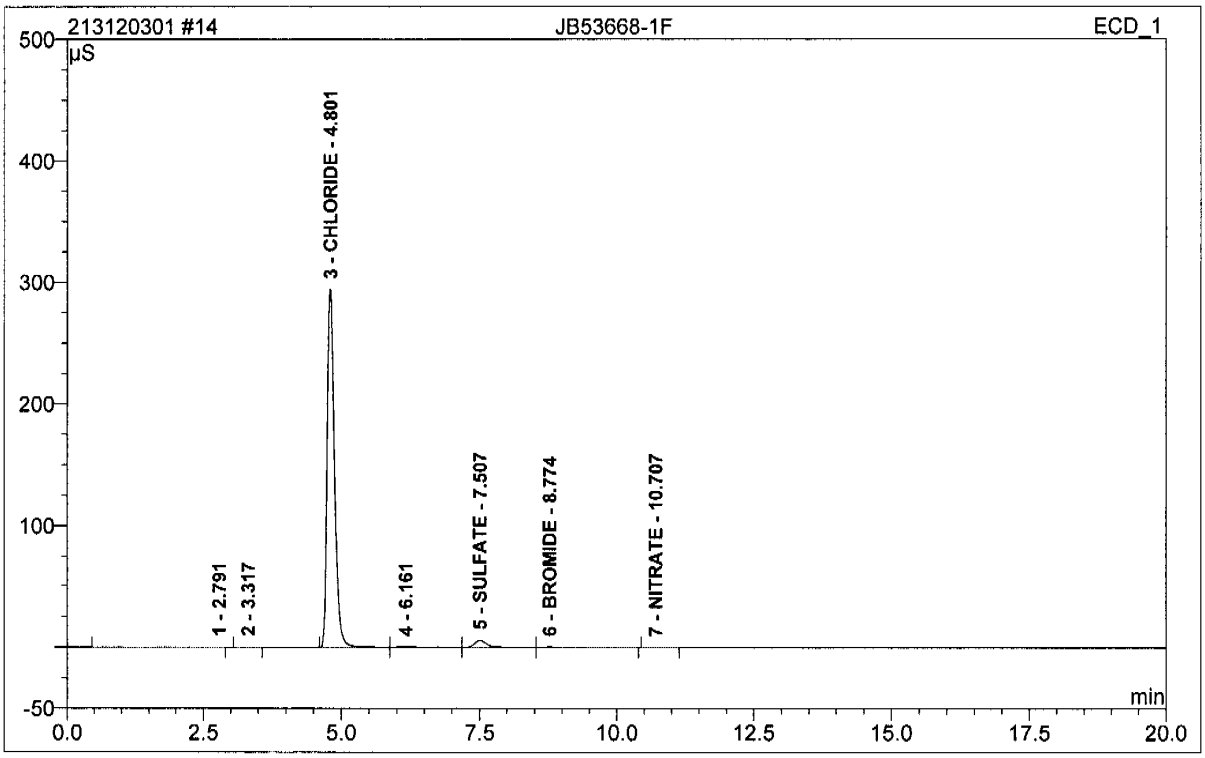

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.059 | 0.049 | 0.16 | | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.143 | 0.574 | 1.84 | | 1.714 | BM |
| 3 | 4.81 | CHLORIDE | 108.217 | 16.025 | 51.46 | 80 | 80.285 | M |
| 4 | 5.98 | NITRITE | 5.322 | 1.019 | 3.27 | | 2.031 | M |
| 5 | 7.37 | SULFATE | 41.245 | 11.766 | 37.78 | 80 | 80.789 | M |
| 6 | 8.76 | BROMIDE | 2.029 | 0.528 | 1.70 | | 5.182 | MB |
| 7 | 10.62 | NITRATE | 3.219 | 0.890 | 2.86 | | 1.846 | BMB |
| 8 | 17.48 | PHOSPHATE | 0.287 | 0.290 | 0.93 | | 1.628 | BMB |
| **Total:** | | | 163.522 | 31.141 | 100.00 | | 173.474 | |

100.36

100.99

## 14 JB53668-1F

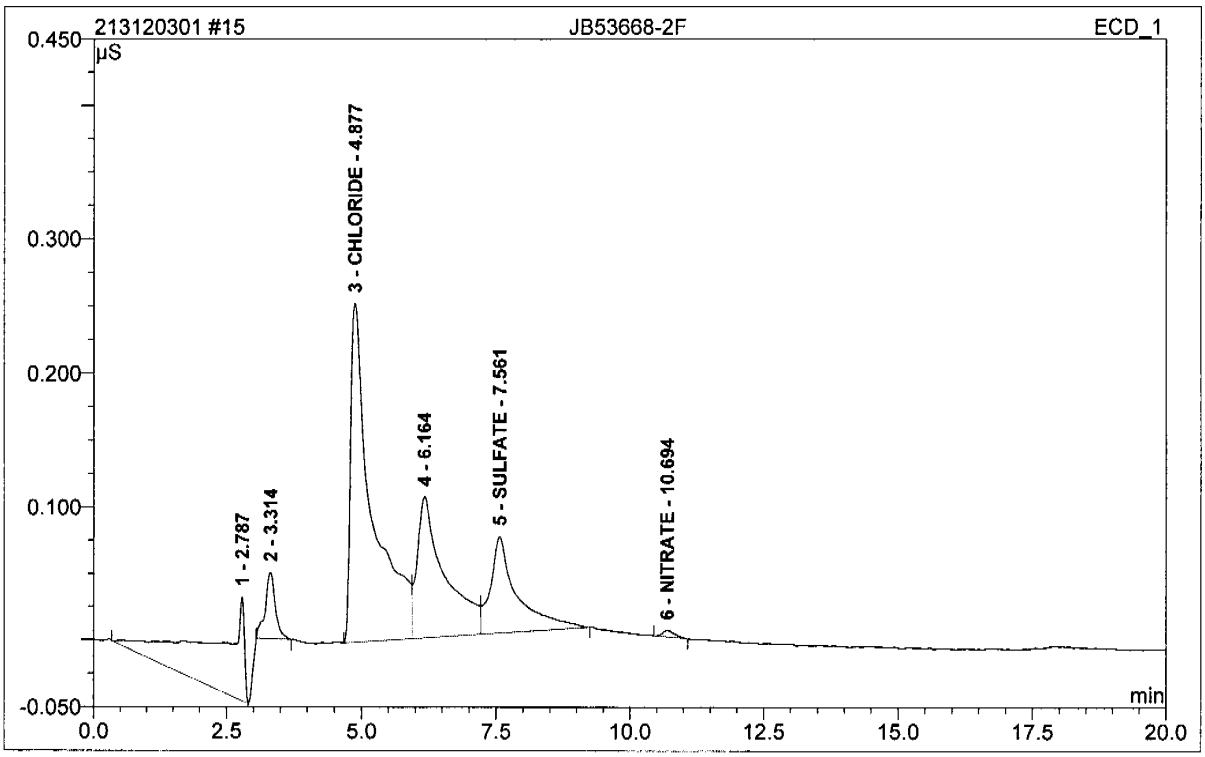
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53668-1F** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **15.0000** |
| *Recording Time:* | **12/3/2013 12:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.063 | 0.047 | 0.10 | n.a. | BMB |
| 2 | 3.32 | n.a. | 0.084 | 0.017 | 0.04 | n.a. | BMB |
| 3 | 4.80 | CHLORIDE | 294.112 | 45.378 | 95.55 | 3410.166 | BM |
| 4 | 6.16 | n.a. | 0.419 | 0.343 | 0.72 | n.a. | M |
| 5 | 7.51 | SULFATE | 5.632 | 1.574 | 3.31 | 162.122 | M |
| 6 | 8.77 | BROMIDE | 0.370 | 0.131 | 0.28 | 19.278 | MB |
| 7 | 10.71 | NITRATE | 0.007 | 0.002 | 0.00 | 0.059 | BMB |
| **Total:** | | | 300.687 | 47.493 | 100.00 | 3591.625 | |

## 15 JB53668-2F

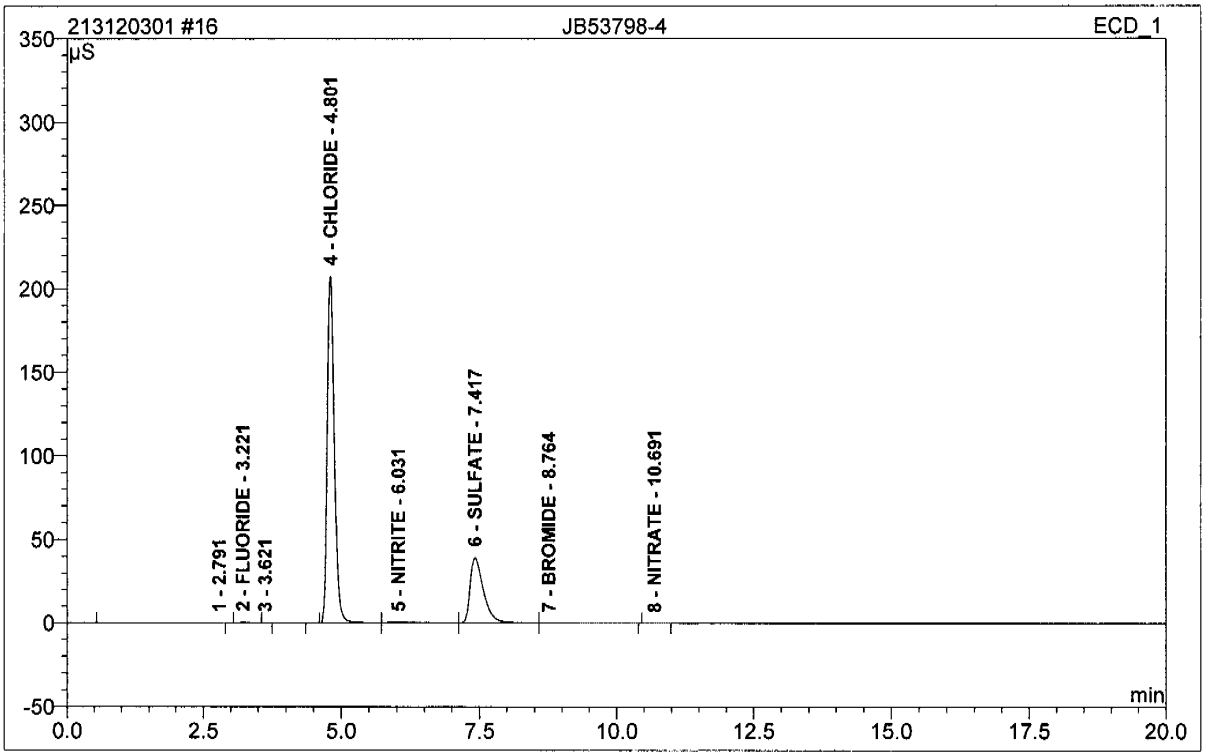
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53668-2F** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 12:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.078 | 0.058 | 19.66 | n.a. | BMB |
| 2 | 3.31 | n.a. | 0.050 | 0.011 | 3.73 | n.a. | BMB |
| 3 | 4.88 | CHLORIDE | 0.254 | 0.118 | 40.21 | 0.590 | BM |
| 4 | 6.16 | n.a. | 0.106 | 0.064 | 21.68 | n.a. | M |
| 5 | 7.56 | SULFATE | 0.073 | 0.042 | 14.28 | 0.287 | MB |
| 6 | 10.69 | NITRATE | 0.005 | 0.001 | 0.44 | 0.003 | BMB |
| **Total:** | | | 0.566 | 0.293 | 100.00 | 0.881 | |

## 16 JB53798-4

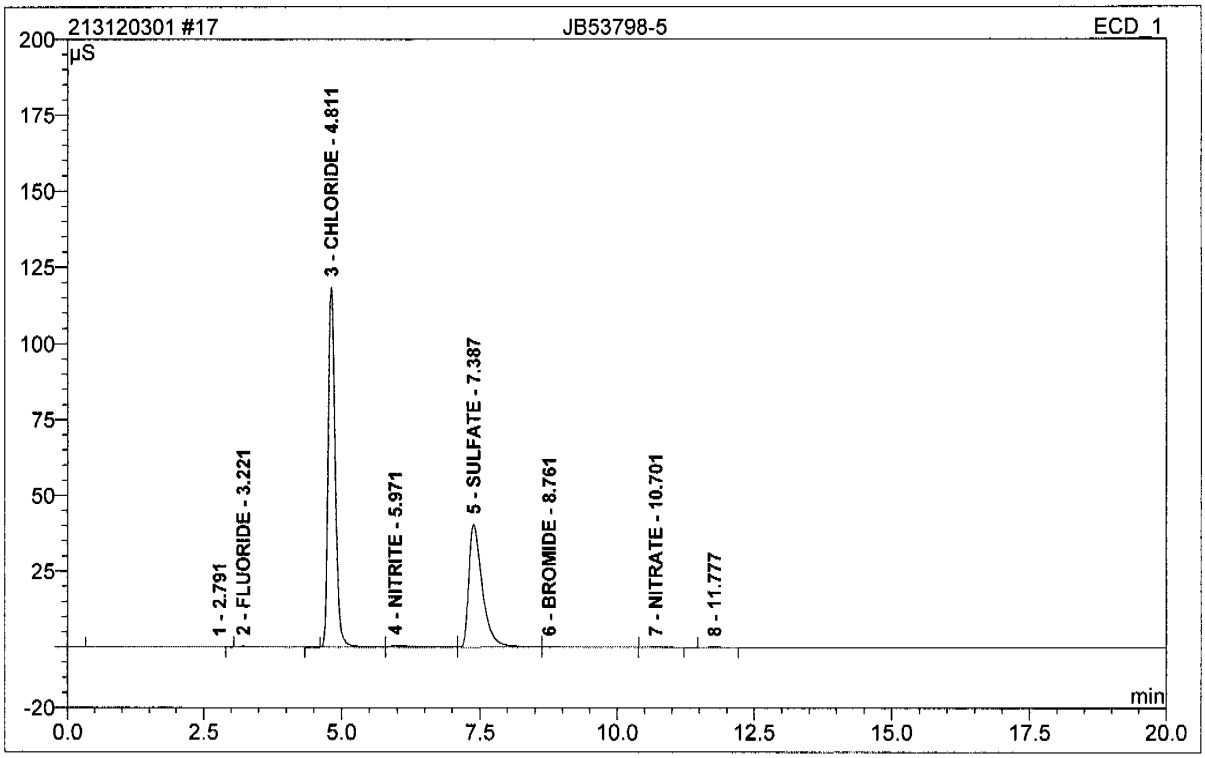
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53798-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 12:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.053 | 0.037 | 0.09 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.419 | 0.096 | 0.22 | 0.286 | BMB |
| 3 | 3.62 | n.a. | 0.010 | 0.001 | 0.00 | n.a. | Rd |
| 4 | 4.80 | CHLORIDE | 207.630 | 30.904 | 72.32 | 154.829 | BM |
| 5 | 6.03 | NITRITE | 0.504 | 0.465 | 1.09 | 0.926 | M |
| 6 | 7.42 | SULFATE | 39.451 | 11.106 | 25.99 | 76.257 | M |
| 7 | 8.76 | BROMIDE | 0.234 | 0.125 | 0.29 | 1.223 | MB |
| 8 | 10.69 | NITRATE | 0.007 | 0.002 | 0.00 | 0.003 | BMB |
| **Total:** | | | 248.309 | 42.734 | 100.00 | 233.524 | |

## 17 JB53798-5

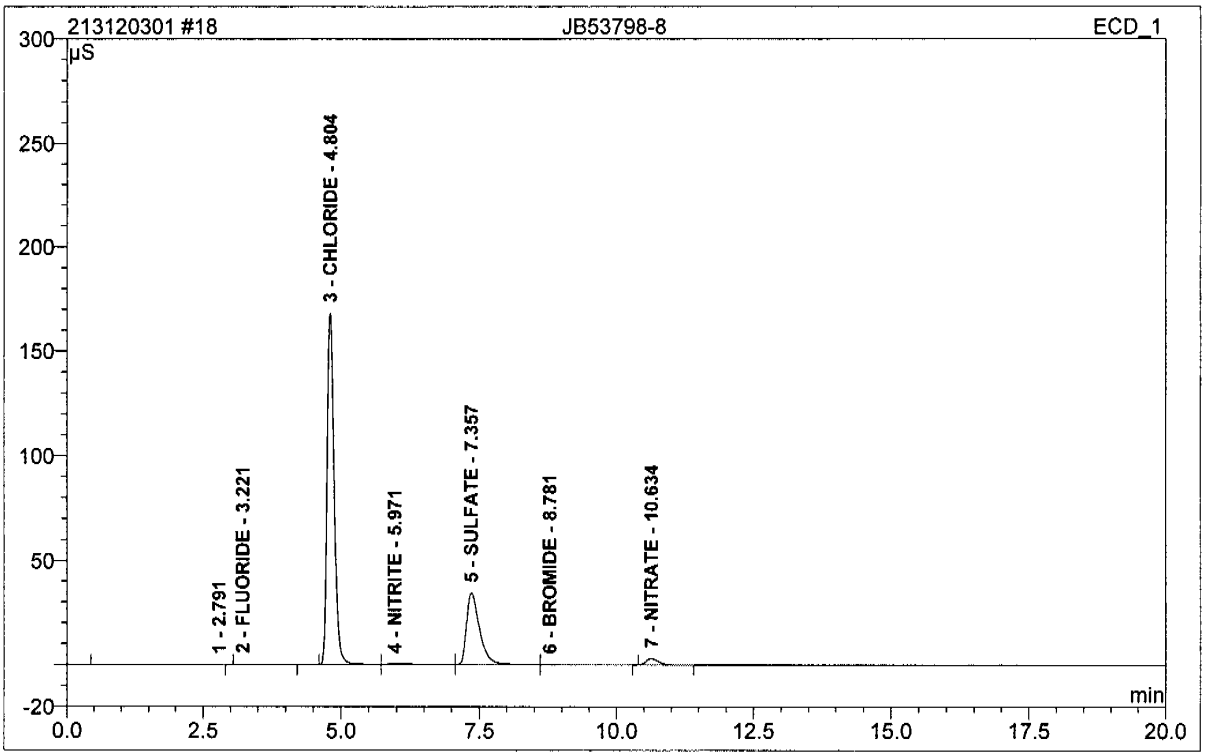
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53798-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 13:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.067 | 0.050 | 0.17 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.267 | 0.052 | 0.18 | 0.156 | BMB |
| 3 | 4.81 | CHLORIDE | 118.420 | 17.392 | 59.01 | 87.132 | BM |
| 4 | 5.97 | NITRITE | 0.619 | 0.356 | 1.21 | 0.709 | M |
| 5 | 7.39 | SULFATE | 40.299 | 11.479 | 38.94 | 78.817 | M |
| 6 | 8.76 | BROMIDE | 0.176 | 0.102 | 0.35 | 1.001 | MB |
| 7 | 10.70 | NITRATE | 0.143 | 0.037 | 0.13 | 0.077 | BMB |
| 8 | 11.78 | n.a. | 0.024 | 0.007 | 0.02 | n.a. | BMB |
| **Total:** | | | 160.014 | 29.475 | 100.00 | 167.893 | |

## 18 JB53798-8

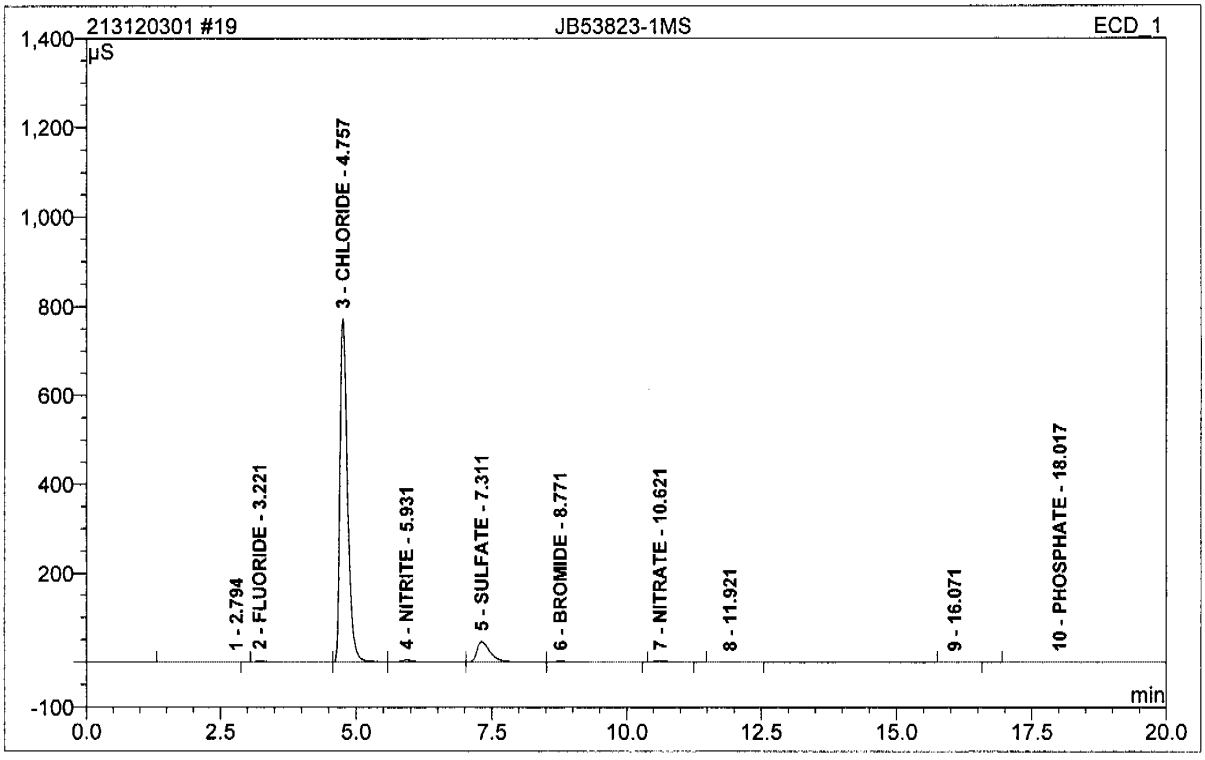
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53798-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 13:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.063 | 0.046 | 0.13 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.212 | 0.042 | 0.12 | 0.125 | BMB |
| 3 | 4.80 | CHLORIDE | 168.190 | 24.898 | 69.38 | 124.736 | BM |
| 4 | 5.97 | NITRITE | 0.566 | 0.436 | 1.22 | 0.869 | M |
| 5 | 7.36 | SULFATE | 34.387 | 9.560 | 26.64 | 65.640 | M |
| 6 | 8.78 | BROMIDE | 0.180 | 0.097 | 0.27 | 0.947 | MB |
| 7 | 10.63 | NITRATE | 3.046 | 0.809 | 2.26 | 1.679 | BMB |
| **Total:** | | | 206.643 | 35.887 | 100.00 | 193.996 | |

## 19 JB53823-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 14:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.018 | 0.009 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.512 | 0.668 | 0.47 | 1.994 | BM |
| 3 | 4.76 | CHLORIDE | 772.147 | 124.240 | 87.71 | 622.440 | M |
| 4 | 5.93 | NITRITE | 4.763 | 1.724 | 1.22 | 3.436 | M |
| 5 | 7.31 | SULFATE | 45.792 | 13.099 | 9.25 | 89.941 | M |
| 6 | 8.77 | BROMIDE | 2.206 | 0.604 | 0.43 | 5.919 | MB |
| 7 | 10.62 | NITRATE | 3.582 | 0.947 | 0.67 | 1.964 | BMB |
| 8 | 11.92 | n.a. | 0.310 | 0.104 | 0.07 | n.a. | BMB |
| 9 | 16.07 | n.a. | 0.004 | 0.002 | 0.00 | n.a. | BMB |
| 10 | 18.02 | PHOSPHATE | 0.139 | 0.254 | 0.18 | 1.425 | BMB |
| **Total:** | | | 832.473 | 141.651 | 100.00 | 727.120 | |

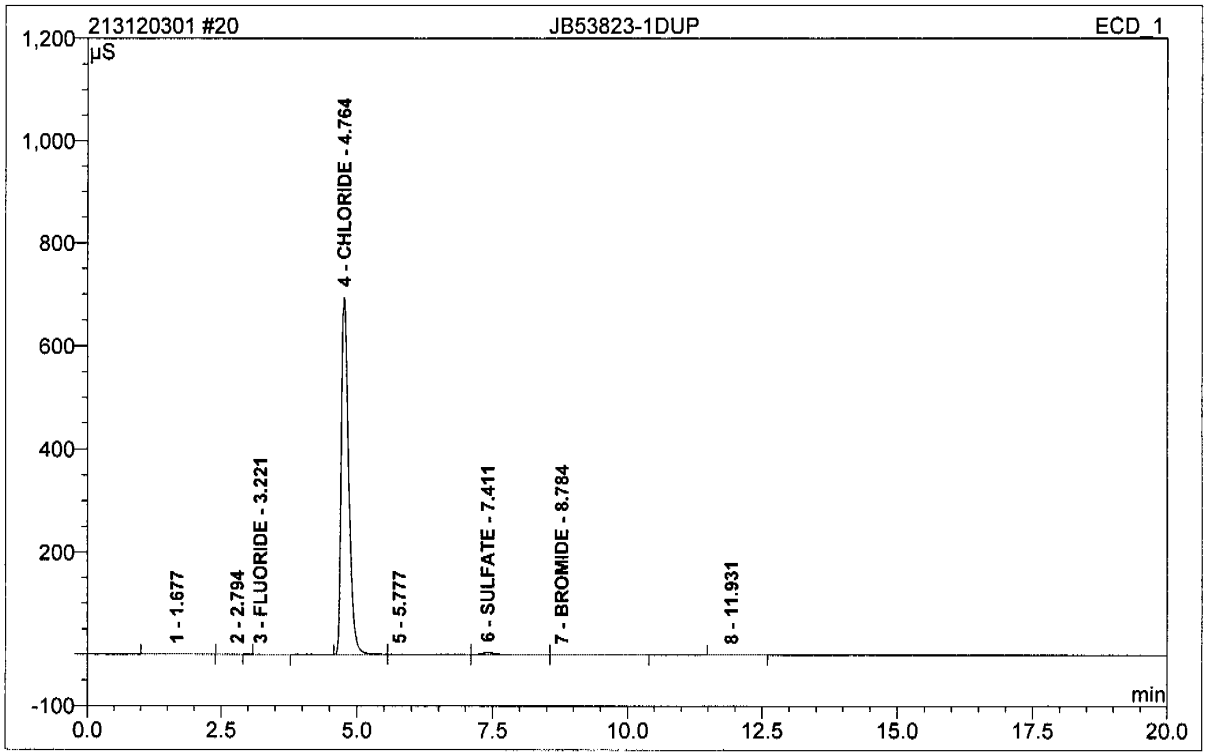
Report SO4. CHL over-range. Rerun at 1:4 dilution.

anions/Integration

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Version 6.80 SR9a Build 2680 (163077)

## 20 JB53823-1DUP

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 14:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.68 | n.a. | 0.010 | 0.007 | 0.01 | n.a. | BMB |
| 2 | 2.79 | n.a. | 0.029 | 0.005 | 0.00 | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 0.334 | 0.062 | 0.05 | 0.186 | BMB |
| 4 | 4.76 | CHLORIDE | 694.565 | 110.779 | 97.65 | 554.998 | BM |
| 5 | 5.78 | n.a. | 0.906 | 0.973 | 0.86 | n.a. | M |
| 6 | 7.41 | SULFATE | 4.225 | 1.364 | 1.20 | 9.365 ✓ | M |
| 7 | 8.78 | BROMIDE | 0.281 | 0.148 | 0.13 | 1.448 | MB |
| 8 | 11.93 | n.a. | 0.320 | 0.107 | 0.09 | n.a. | BMB |
| **Total:** | | | 700.670 | 113.445 | 100.00 | 565.997 | |

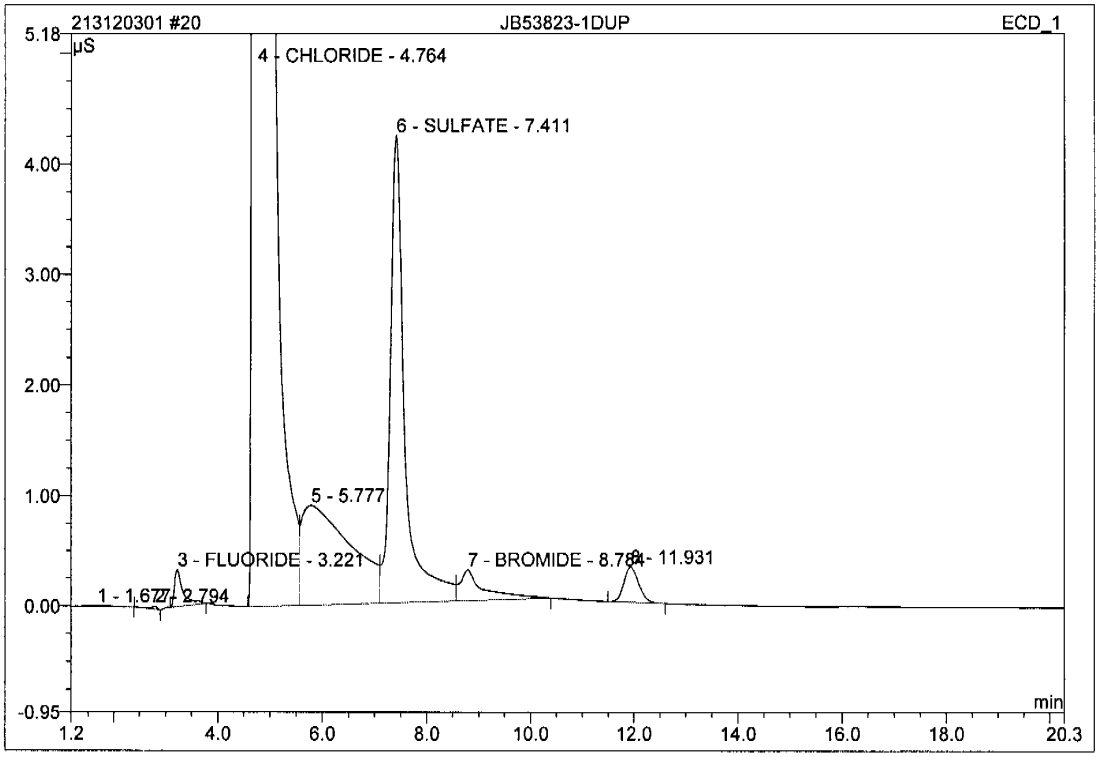
Report SO4. CHL over-range. Rerun at 1:3 dilution.



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Version 6.80 SR9a Build 2680 (163077)

## 20 JB53823-1DUP

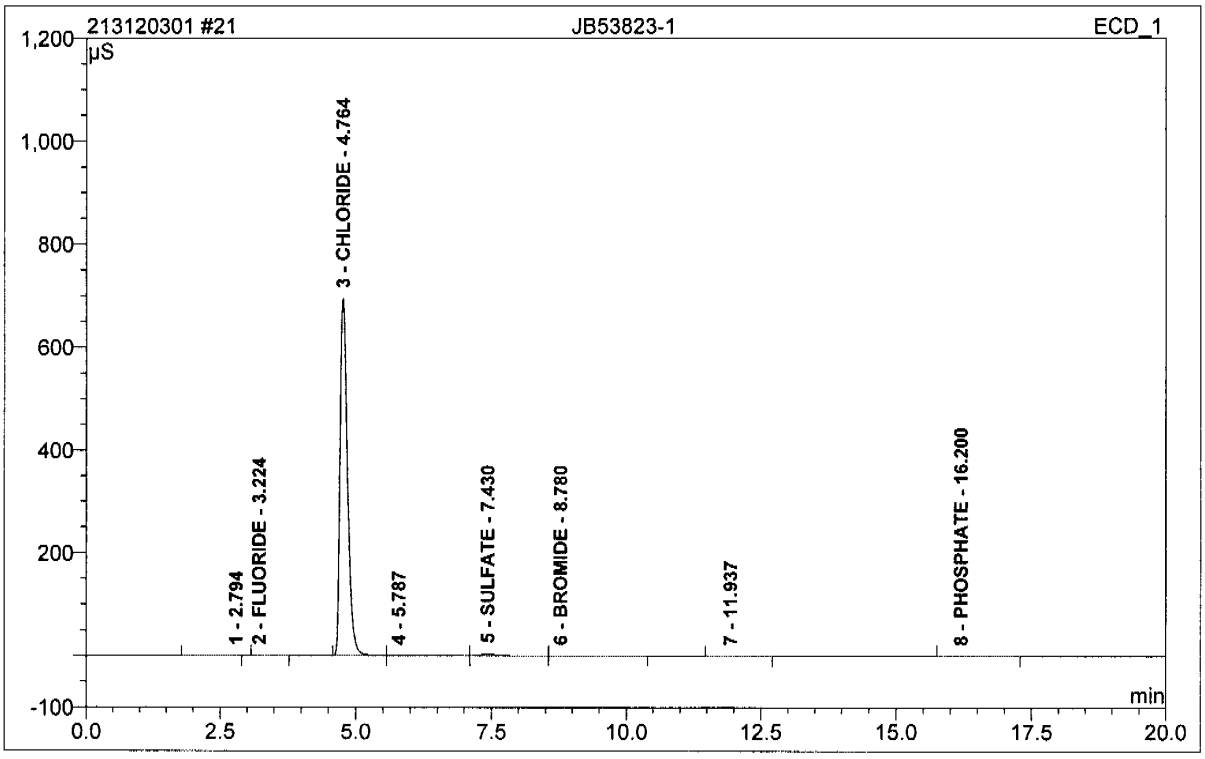
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-1DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **13** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 14:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 1.68 | n.a. | 0.010 | 0.007 | 0.01 | n.a. | BMB |
| 2 | 2.79 | n.a. | 0.029 | 0.005 | 0.00 | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 0.334 | 0.062 | 0.05 | 0.186 | BMB |
| 4 | 4.76 | CHLORIDE | 694.565 | 110.779 | 97.65 | 554.998 | BM |
| 5 | 5.78 | n.a. | 0.906 | 0.973 | 0.86 | n.a. | M |
| 6 | 7.41 | SULFATE | 4.225 | 1.364 | 1.20 | 9.365 | M |
| 7 | 8.78 | BROMIDE | 0.281 | 0.148 | 0.13 | 1.448 | MB |
| 8 | 11.93 | n.a. | 0.320 | 0.107 | 0.09 | n.a. | BMB |
| **Total:** | | | 700.670 | 113.445 | 100.00 | 565.997 | |

## 21 JB53823-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 14:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.030 | 0.009 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.336 | 0.069 | 0.06 | 0.204 | BMB |
| 3 | 4.76 | CHLORIDE | 694.764 | 111.013 | 97.71 | 556.172 | BM |
| 4 | 5.79 | n.a. | 0.863 | 0.934 | 0.82 | n.a. | M |
| 5 | 7.43 | SULFATE | 4.155 | 1.339 | 1.18 | 9.194 ✓ | M |
| 6 | 8.78 | BROMIDE | 0.271 | 0.140 | 0.12 | 1.373 | MB |
| 7 | 11.94 | n.a. | 0.319 | 0.107 | 0.09 | n.a. | BMB |
| 8 | 16.20 | PHOSPHATE | 0.006 | 0.005 | 0.00 | 0.031 | BMB |
| **Total:** | | | 700.745 | 113.616 | 100.00 | 566.974 | |

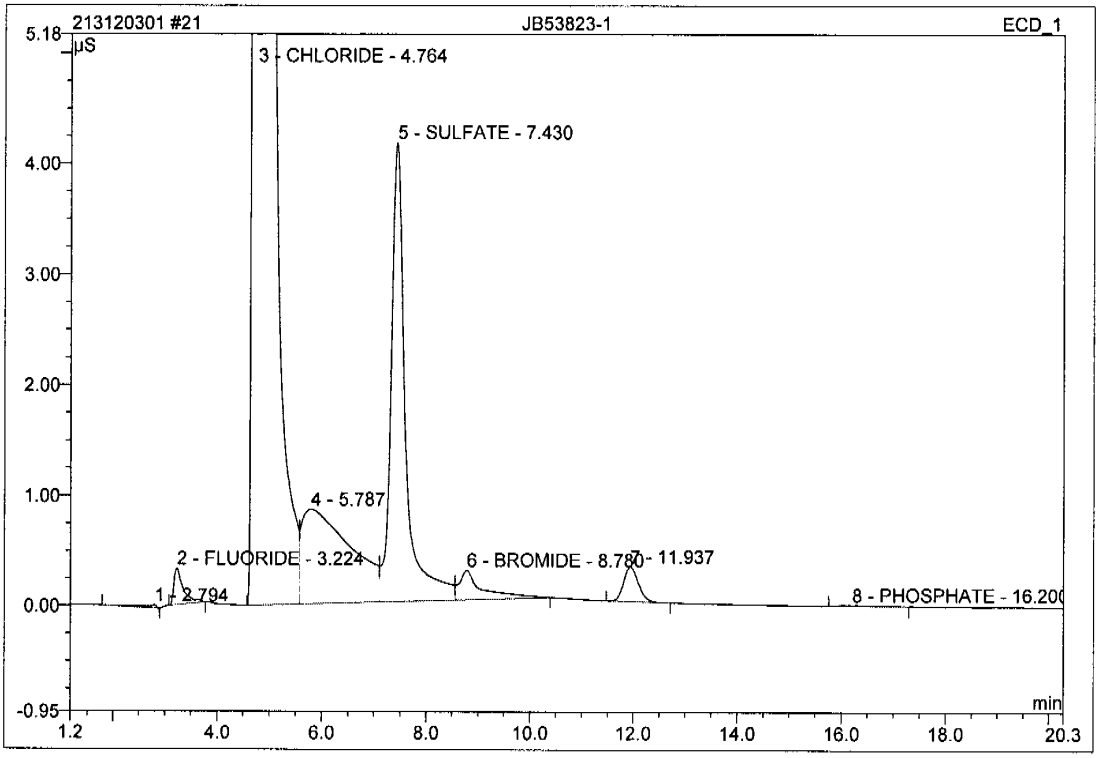
Report SO4. CHL over-range. Rerun at 1:3 dilution.



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Version 6.80 SR9a Build 2680 (163077)

## 21 JB53823-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **14** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 14:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



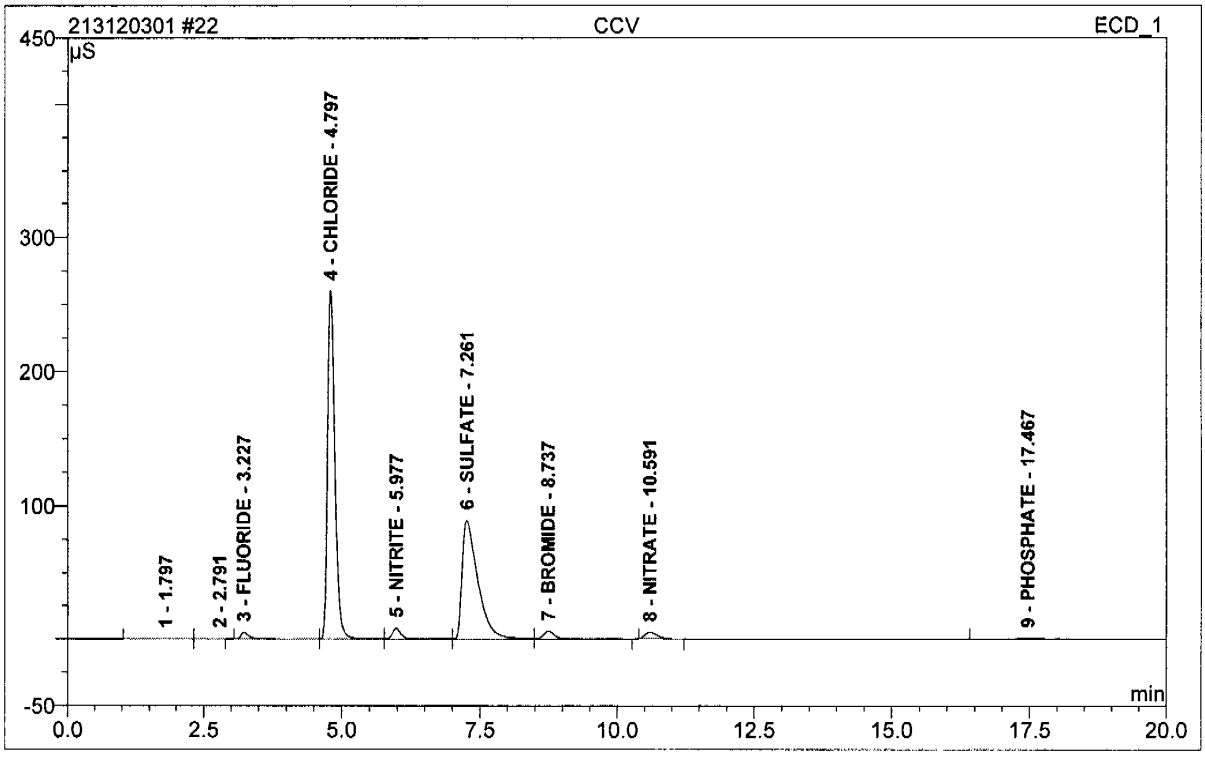

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.030 | 0.009 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.336 | 0.069 | 0.06 | 0.204 | BMB |
| 3 | 4.76 | CHLORIDE | 694.764 | 111.013 | 97.71 | 556.172 | BM |
| 4 | 5.79 | n.a. | 0.863 | 0.934 | 0.82 | n.a. | M |
| 5 | 7.43 | SULFATE | 4.155 | 1.339 | 1.18 | 9.194 | M |
| 6 | 8.78 | BROMIDE | 0.271 | 0.140 | 0.12 | 1.373 | MB |
| 7 | 11.94 | n.a. | 0.319 | 0.107 | 0.09 | n.a. | BMB |
| 8 | 16.20 | PHOSPHATE | 0.006 | 0.005 | 0.00 | 0.031 | BMB |
| **Total:** | | | 700.745 | 113.616 | 100.00 | 566.974 | |

DEFAULT/Integration

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## 22 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **15** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 15:20** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.80 | n.a. | 0.009 | 0.006 | 0.01 | | n.a. | BMb |
| 2 | 2.79 | n.a. | 0.044 | 0.009 | 0.01 | | n.a. | bMB |
| 3 | 3.23 | FLUORIDE | 4.962 | 0.893 | 1.19 | | 2.664 | BM |
| 4 | 4.80 | CHLORIDE | 260.204 | 39.932 | 53.11 | 200 | 200.056 ✓ | M |
| 5 | 5.98 | NITRITE | 8.004 | 1.605 | 2.13 | | 3.198 | M |
| 6 | 7.26 | SULFATE | 89.324 | 29.477 | 39.20 | 200 | 202.404 ✓ | M |
| 7 | 8.74 | BROMIDE | 5.956 | 1.491 | 1.98 | | 14.624 | MB |
| 8 | 10.59 | NITRATE | 4.828 | 1.313 | 1.75 | | 2.724 | BMB |
| 9 | 17.47 | PHOSPHATE | 0.435 | 0.464 | 0.62 | | 2.605 | BMB |
| **Total:** | | | 373.767 | 75.190 | 100.00 | | 428.276 | |

100.03

101.20

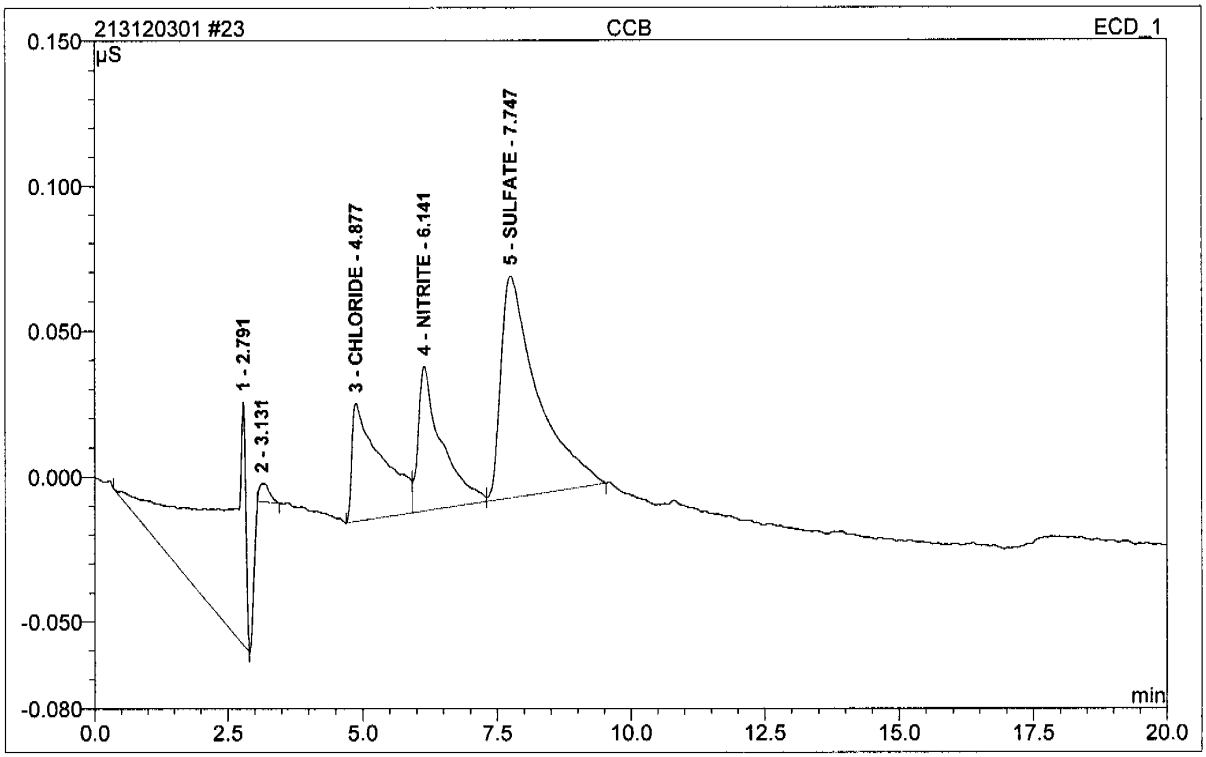


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12.1 12

## 23 CCB

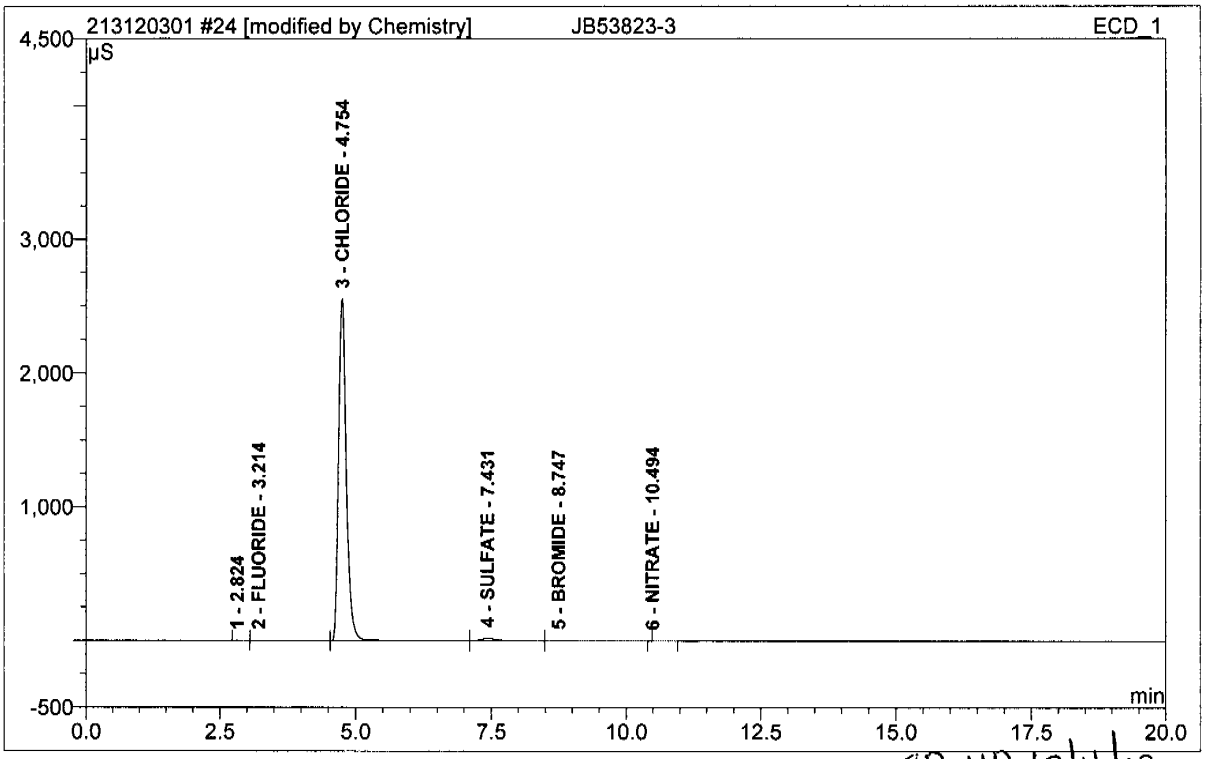
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **16** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 15:44** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.084 | 0.058 | 34.06 | n.a. | BMB |
| 2 | 3.13 | n.a. | 0.006 | 0.001 | 0.81 | n.a. | BMB |
| 3 | 4.88 | CHLORIDE | 0.041 | 0.026 | 15.11 | 0.129 | BM |
| 4 | 6.14 | NITRITE | 0.050 | 0.025 | 14.82 | 0.050 | M |
| 5 | 7.75 | SULFATE | 0.076 | 0.060 | 35.20 | 0.412 | MB |
| **Total:** | | | 0.256 | 0.170 | 100.00 | 0.591 | |

## 24 JB53823-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 16:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



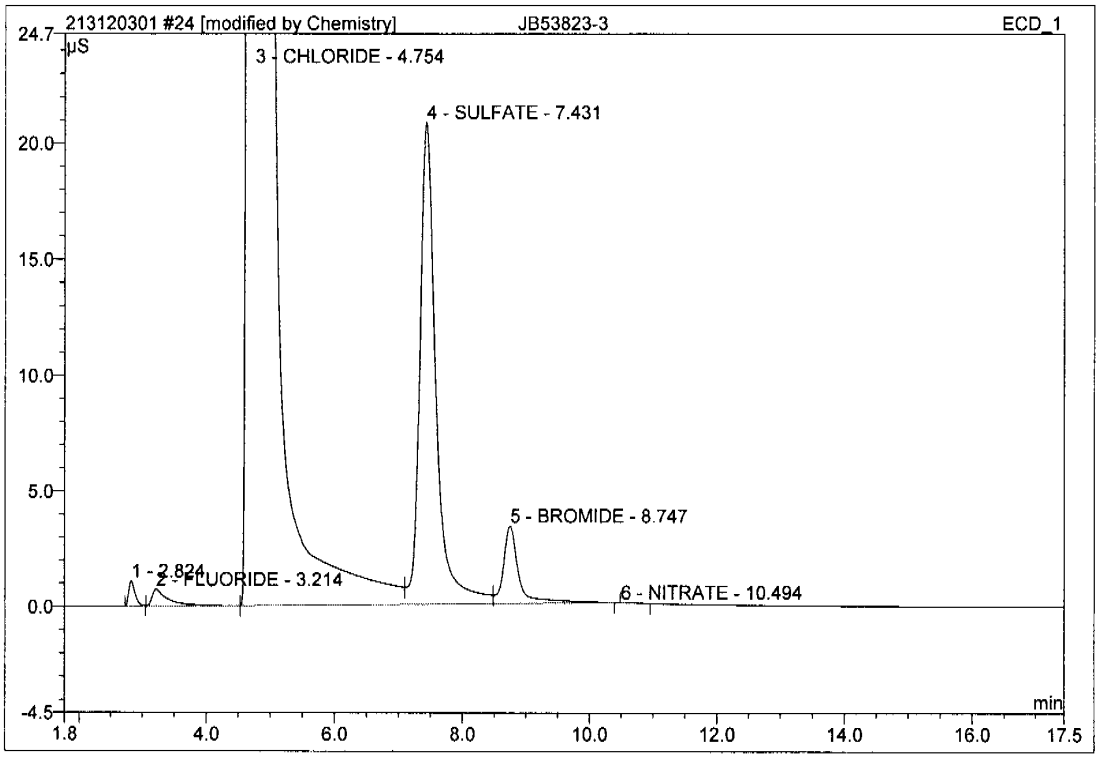

SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.82 | n.a. | 1.099 | 0.122 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.709 | 0.205 | 0.05 | 0.613 | BMb |
| 3 | 4.75 | CHLORIDE | 2550.823 | 421.493 | 98.28 | 2111.666 | bM |
| 4 | 7.43 | SULFATE | 20.788 | 6.116 | 1.43 | 41.993 ✓ | M * |
| 5 | 8.75 | BROMIDE | 3.364 | 0.948 | 0.22 | 9.299 | MB* |
| 6 | 10.49 | NITRATE | 0.000 | 0.003 | 0.00 | 0.005 | BMB |
| **Total:** | | | 2576.783 | 428.887 | 100.00 | 2163.576 | |

Report SO4. CHL overrange. Rerun at 1:10 dilution.

## 24 JB53823-3

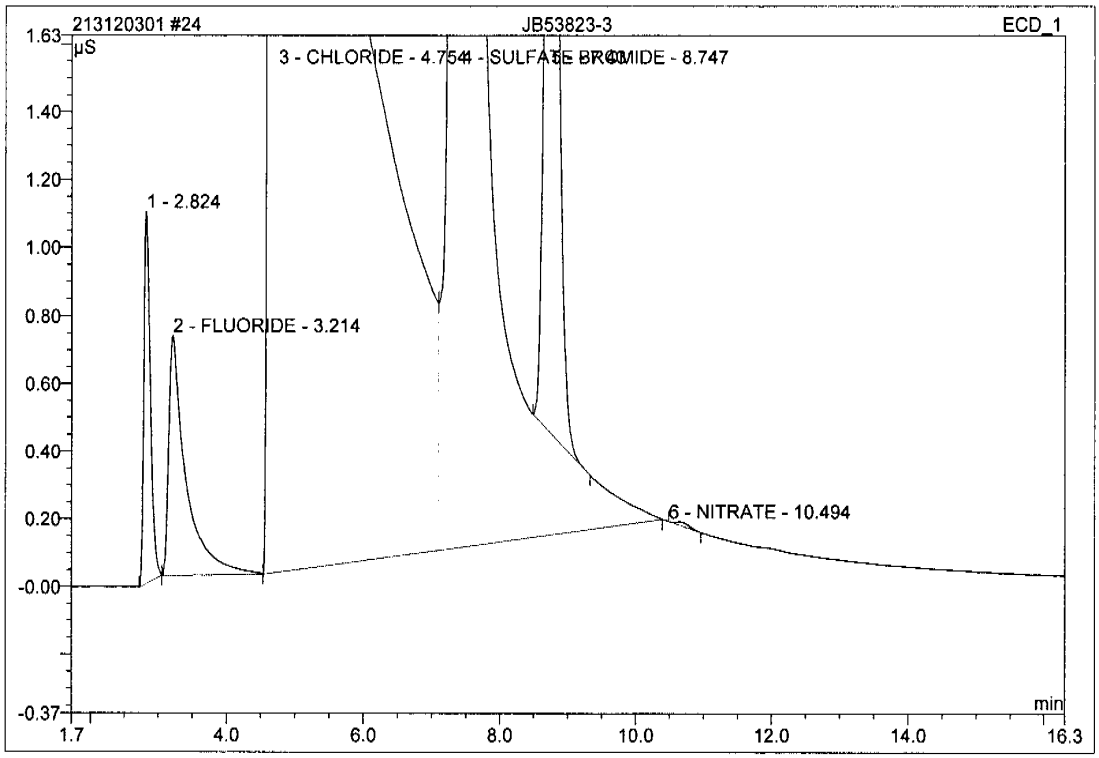
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 16:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.82 | n.a. | 1.099 | 0.122 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.709 | 0.205 | 0.05 | 0.613 | BMb |
| 3 | 4.75 | CHLORIDE | 2550.823 | 421.493 | 98.28 | 2111.666 | bM |
| 4 | 7.43 | SULFATE | 20.788 | 6.116 | 1.43 | 41.993 | M * |
| 5 | 8.75 | BROMIDE | 3.364 | 0.948 | 0.22 | 9.299 | MB* |
| 6 | 10.49 | NITRATE | 0.000 | 0.003 | 0.00 | 0.005 | BMB |
| **Total:** | | | 2576.783 | 428.887 | 100.00 | 2163.576 | |

## 24 JB53823-3

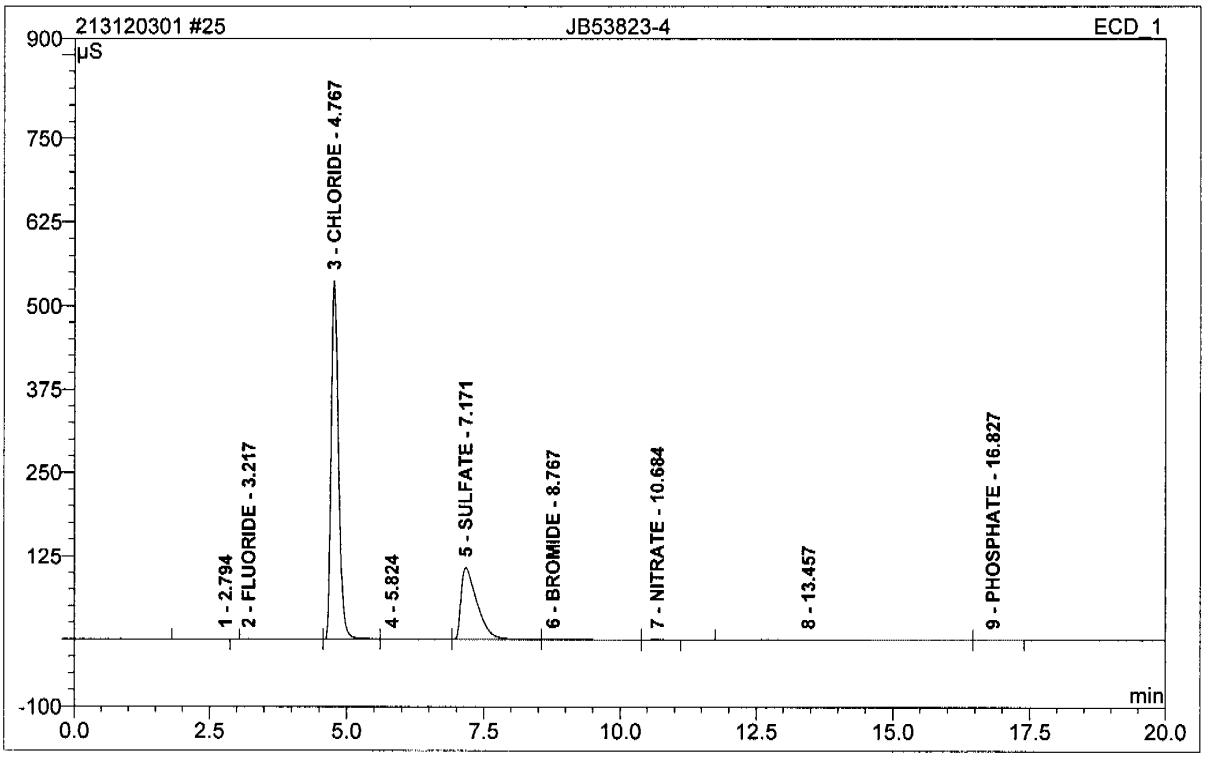
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **17** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 16:08** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.82 | n.a. | 1.099 | 0.122 | 0.03 | n.a. | BMB |
| 2 | 3.21 | FLUORIDE | 0.709 | 0.205 | 0.05 | 0.613 | BMb |
| 3 | 4.75 | CHLORIDE | 2550.823 | 421.493 | 98.28 | 2111.666 | bM |
| 4 | 7.43 | SULFATE | 20.788 | 6.411 | 1.49 | 44.020 | MB |
| 5 | 8.75 | BROMIDE | 3.063 | 0.653 | 0.15 | 6.404 | Rd |
| 6 | 10.49 | NITRATE | 0.000 | 0.003 | 0.00 | 0.005 | BMB |
| **Total:** | | | 2576.481 | 428.887 | 100.00 | 2162.708 | |

## 25 JB53823-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53823-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **18** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 16:32** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.020 | 0.006 | 0.01 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.380 | 0.089 | 0.07 | 0.267 | BMB |
| 3 | 4.77 | CHLORIDE | 537.967 | 84.246 | 68.70 | 422.070 | BM |
| 4 | 5.82 | n.a. | 0.923 | 0.905 | 0.74 | n.a. | M |
| 5 | 7.17 | SULFATE | 108.058 | 36.565 | 29.82 | 251.068 ✓ | M |
| 6 | 8.77 | BROMIDE | 0.717 | 0.311 | 0.25 | 3.048 | Mb |
| 7 | 10.68 | NITRATE | 0.179 | 0.045 | 0.04 | 0.094 | bMB |
| 8 | 13.46 | n.a. | 0.187 | 0.453 | 0.37 | n.a. | BM |
| 9 | 16.83 | PHOSPHATE | 0.019 | 0.012 | 0.01 | 0.065 | MB |
| **Total:** | | | 648.451 | 122.632 | 100.00 | 676.612 | |

Report SO4 - CHL over-range. Rerun at 1:2 dilution.

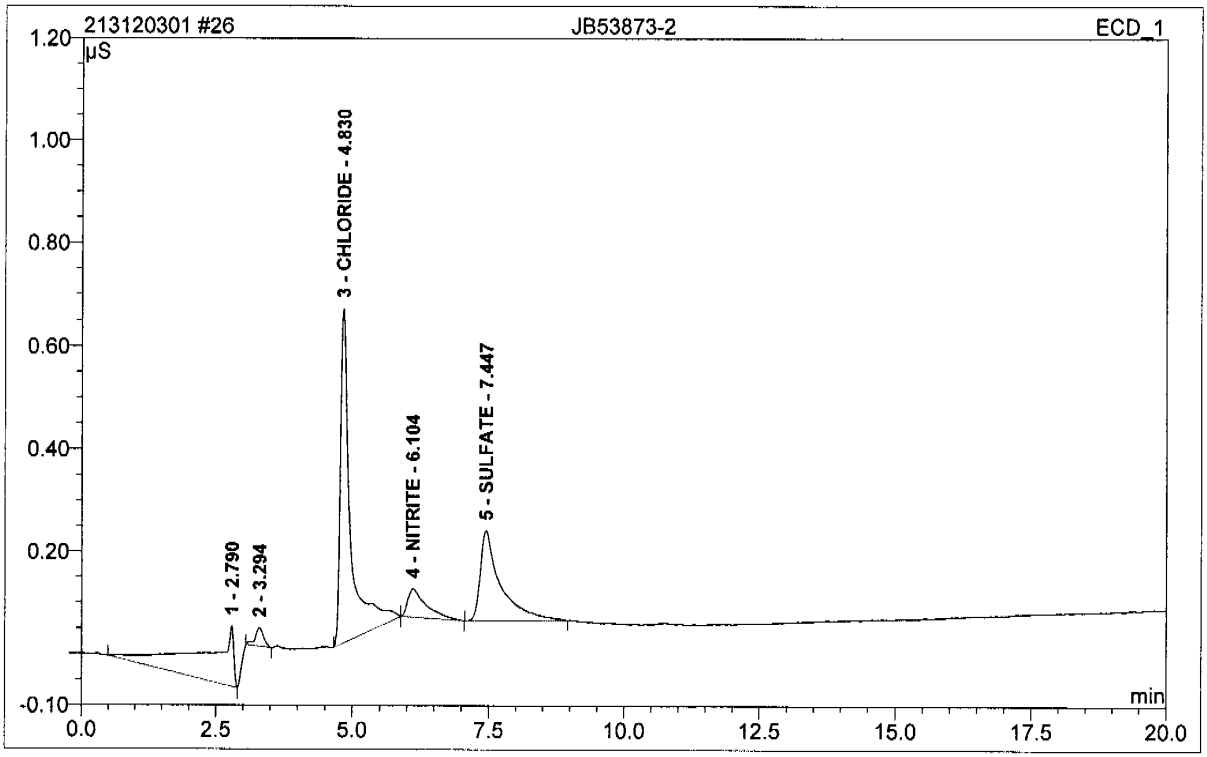
anions/Integration

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## 26 JB53873-2

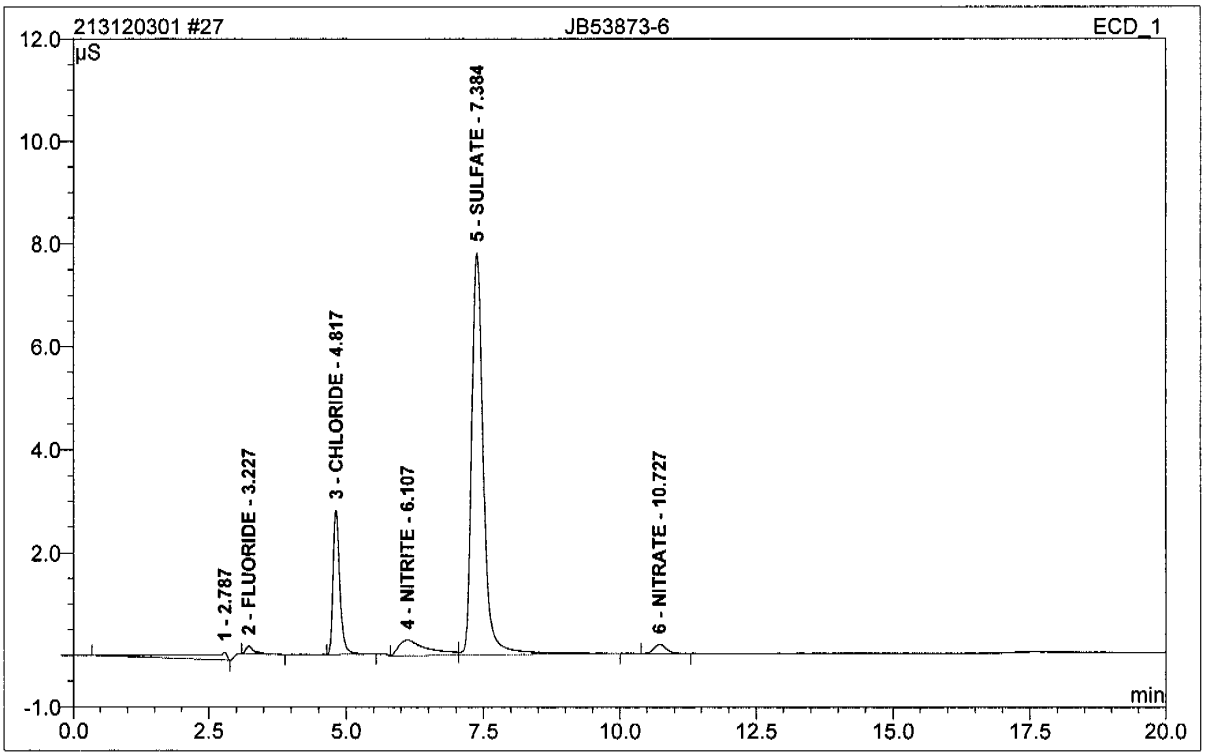
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53873-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **19** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 16:56** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.118 | 0.083 | 25.32 | n.a. | BMB |
| 2 | 3.29 | n.a. | 0.035 | 0.006 | 1.96 | n.a. | BMB |
| 3 | 4.83 | CHLORIDE | 0.651 | 0.141 | 43.00 | 0.706 | BMB |
| 4 | 6.10 | NITRITE | 0.055 | 0.021 | 6.56 | 0.043 | bMB |
| 5 | 7.45 | SULFATE | 0.176 | 0.076 | 23.17 | 0.521 | BMB |
| **Total:** | | | 1.036 | 0.328 | 100.00 | 1.270 | |

## 27 JB53873-6

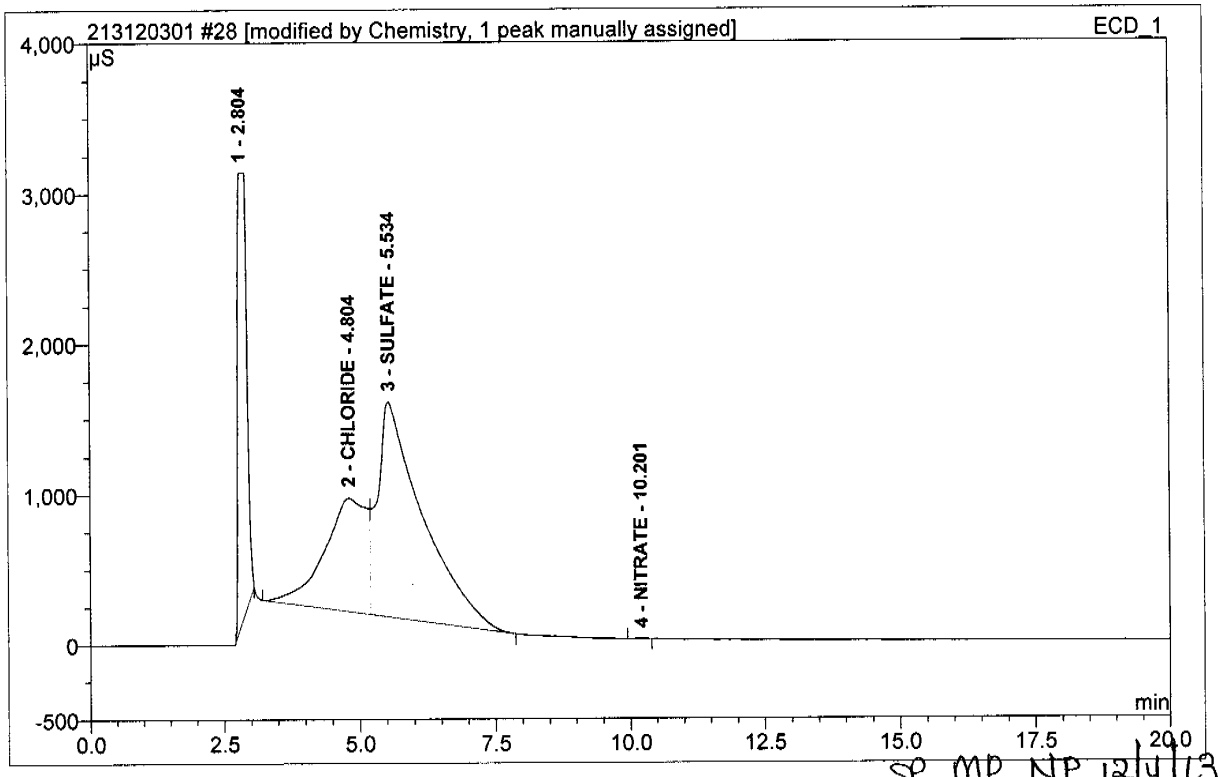
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53873-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **20** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 17:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.157 | 0.130 | 4.75 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.151 | 0.026 | 0.94 | 0.076 | BMB |
| 3 | 4.82 | CHLORIDE | 2.810 | 0.401 | 14.66 | 2.009 ✓ | BMB |
| 4 | 6.11 | NITRITE | 0.302 | 0.182 | 6.64 | 0.362 | BM |
| 5 | 7.38 | SULFATE | 7.811 | 1.949 | 71.28 | 13.386 ✓ | MB |
| 6 | 10.73 | NITRATE | 0.177 | 0.047 | 1.73 | 0.098 | BMB |
| **Total:** | | | 11.408 | 2.735 | 100.00 | 15.932 | |

## 28 JB53833-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 17:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




SP MP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 3032.869 | 576.850 | 21.86 | n.a. | BMB |
| 2 | 4.80 | CHLORIDE | 755.891 | 685.359 | 25.97 | 3433.625 | BM * |
| 3 | 5.53 | SULFATE | 1425.577 | 1376.204 | 52.15 | 9449.633 | MB*^ |
| 4 | 10.20 | NITRATE | 1.362 | 0.342 | 0.01 | 0.710 | BMB |
| **Total:** | | | 5215.699 | 2638.755 | 100.00 | 12883.967 | |

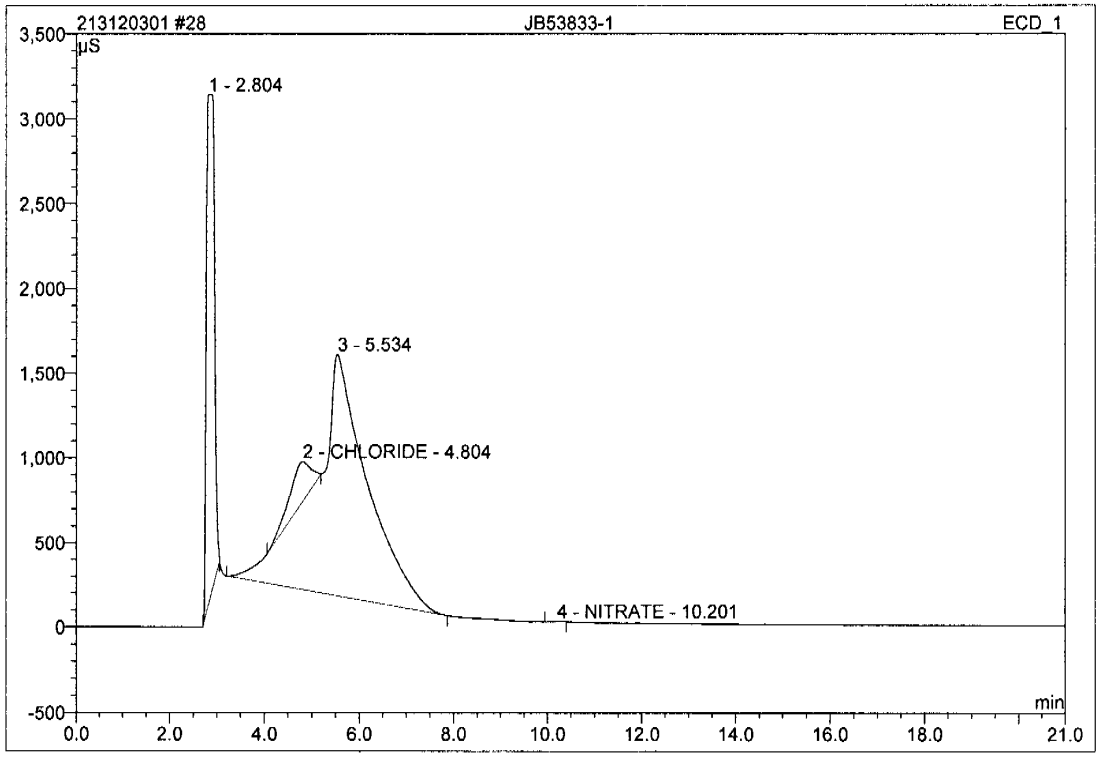
SO4 over-range. Rerun at 1:100 dilution.



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## 28 JB53833-1

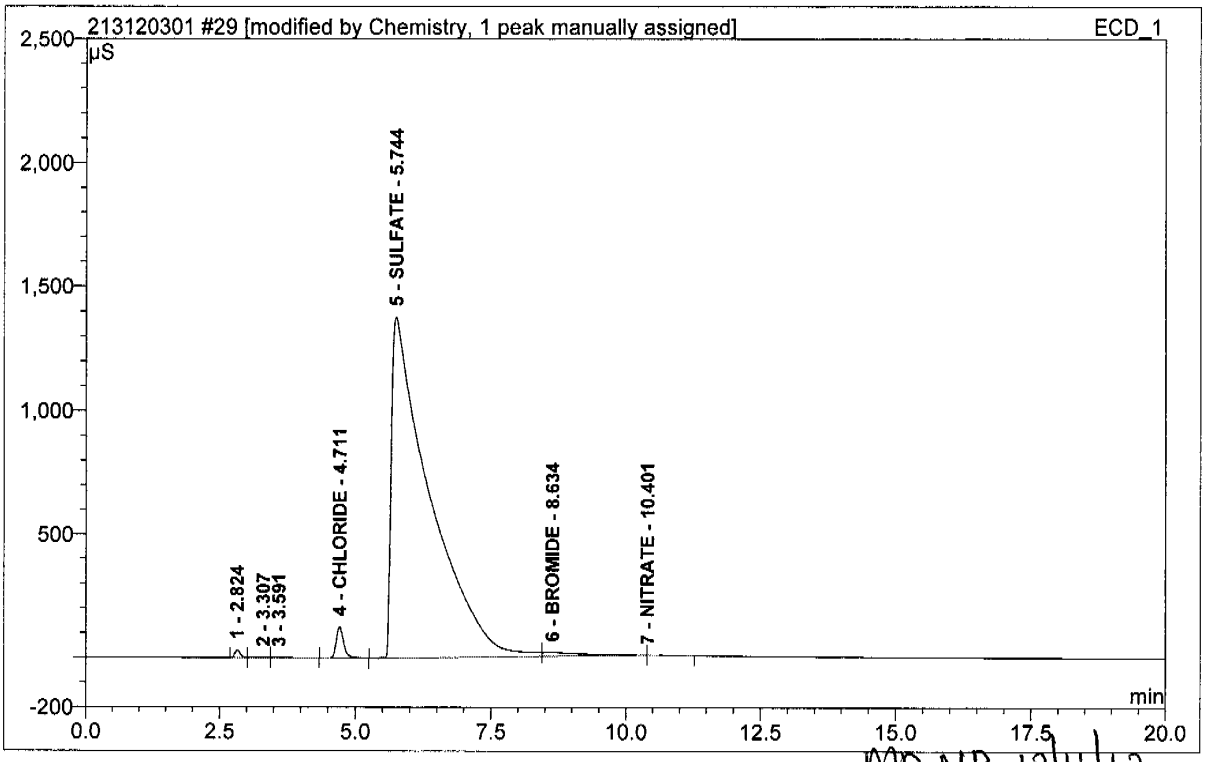
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **21** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 17:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.80 | n.a. | 3032.869 | 576.850 | 21.86 | n.a. | BMB |
| 2 | 4.80 | CHLORIDE | 234.999 | 129.622 | 4.91 | 649.402 | Ru |
| 3 | 5.53 | n.a. | 1425.577 | 1931.941 | 73.21 | n.a. | BMB |
| 4 | 10.20 | NITRATE | 1.362 | 0.342 | 0.01 | 0.710 | BMB |
| **Total:** | | | 4694.807 | 2638.756 | 100.00 | 650.111 | |

## 29 JB53833-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 18:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



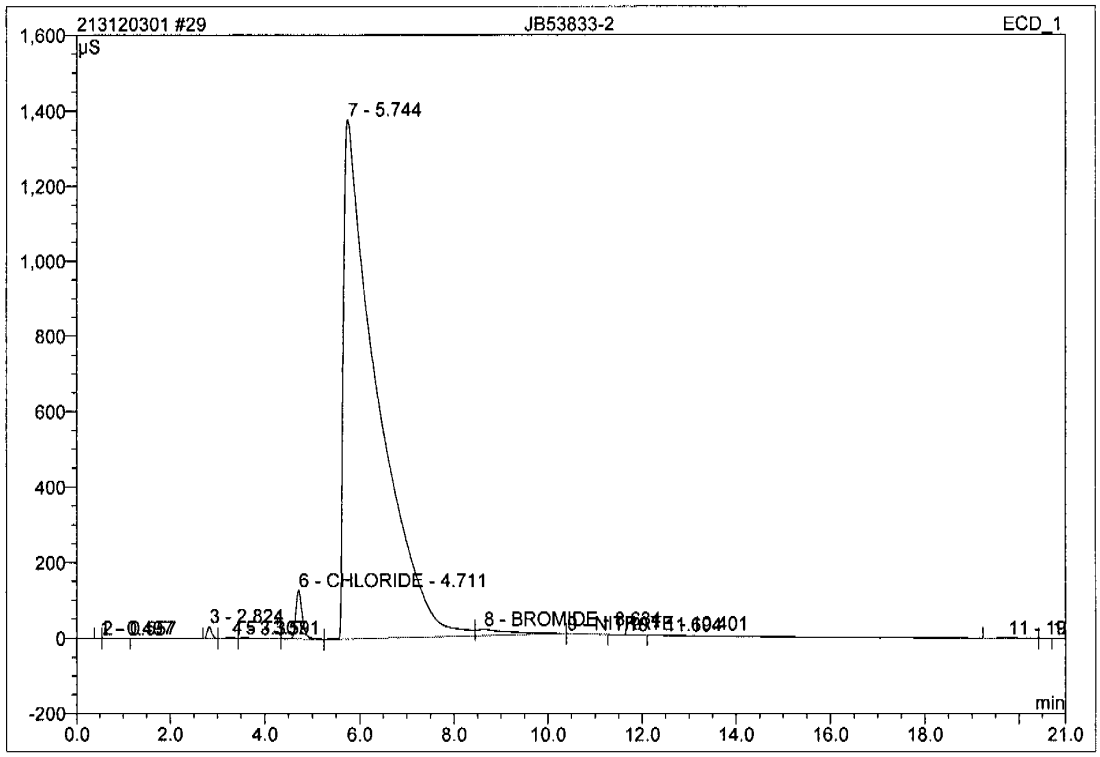

MP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.82 | n.a. | 32.041 | 3.437 | 0.29 | n.a. | BM |
| 2 | 3.31 | n.a. | 1.635 | 0.539 | 0.05 | n.a. | M |
| 3 | 3.59 | n.a. | 2.036 | 0.598 | 0.05 | n.a. | MB |
| 4 | 4.71 | CHLORIDE | 128.325 | 20.361 | 1.75 | 102.010 | BMB |
| 5 | 5.74 | SULFATE | 1379.613 | 1126.691 | 96.64 | 7736.367 | BM ^ |
| 6 | 8.63 | BROMIDE | 16.962 | 14.073 | 1.21 | 137.995 | Mb |
| 7 | 10.40 | NITRATE | 0.009 | 0.153 | 0.01 | 0.318 | bMB |
| **Total:** | | | 1560.622 | 1165.853 | 100.00 | 7976.689 | |

Sat over-range - Rerun at 1:50 dilution.

## 29 JB53833-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **22** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 18:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.50 | n.a. | 0.117 | 0.012 | 0.00 | n.a. | BM |
| 2 | 0.56 | n.a. | 0.125 | 0.043 | 0.00 | n.a. | MB |
| 3 | 2.82 | n.a. | 32.041 | 3.437 | 0.29 | n.a. | BM |
| 4 | 3.31 | n.a. | 1.635 | 0.539 | 0.05 | n.a. | M |
| 5 | 3.59 | n.a. | 2.036 | 0.598 | 0.05 | n.a. | MB |
| 6 | 4.71 | CHLORIDE | 128.325 | 20.361 | 1.75 | 102.010 | BMB |
| 7 | 5.74 | n.a. | 1379.613 | 1126.691 | 96.60 | n.a. | BM |
| 8 | 8.63 | BROMIDE | 16.962 | 14.073 | 1.21 | 137.995 | Mb |
| 9 | 10.40 | NITRATE | 0.009 | 0.153 | 0.01 | 0.318 | bMB |
| 10 | 11.69 | n.a. | 0.070 | 0.046 | 0.00 | n.a. | BMB |
| 11 | 19.77 | n.a. | 0.795 | 0.382 | 0.03 | n.a. | BM |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12 | 20.71 | n.a. | 0.000 | 0.009 | 0.00 | n.a. | MB |
| **Total:** | | | 1561.730 | 1166.345 | 100.00 | 240.322 | |

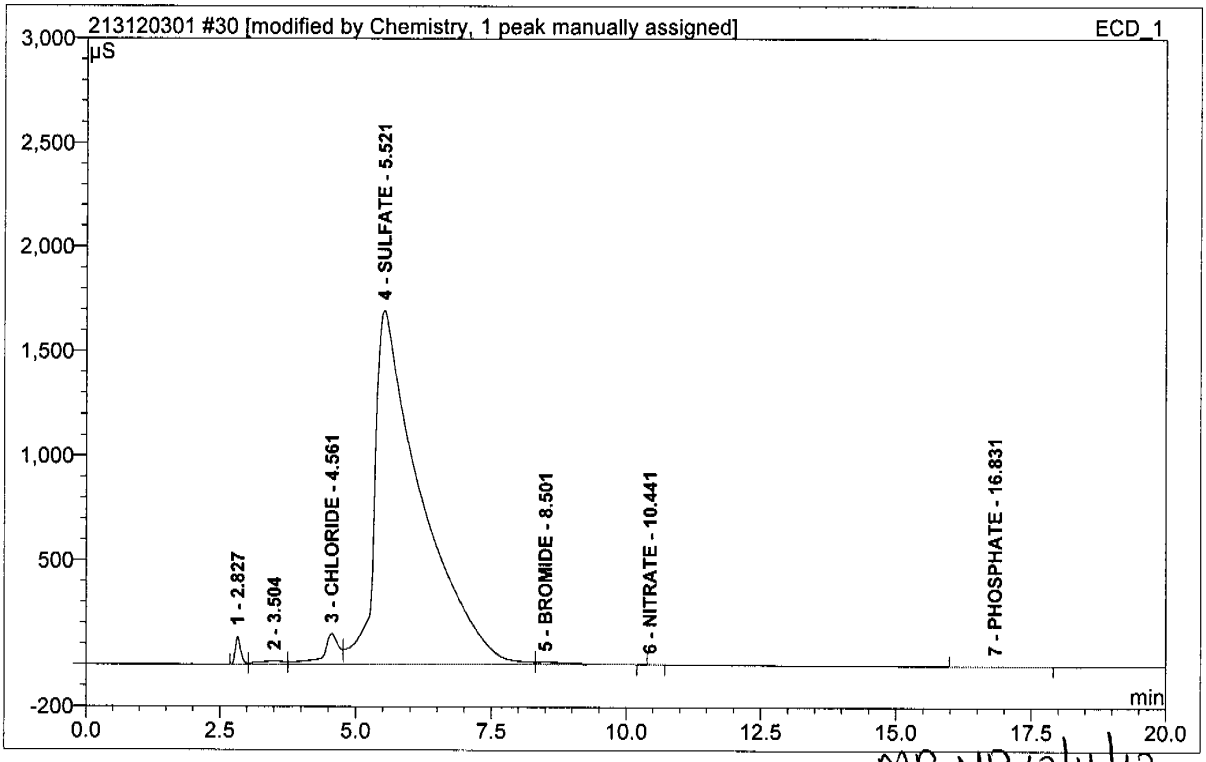




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## 30 JB53833-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 18:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.83 | n.a. | 135.479 | 15.278 | 0.86 | n.a. | BM |
| 2 | 3.50 | n.a. | 17.354 | 9.508 | 0.54 | n.a. | M |
| 3 | 4.56 | CHLORIDE | 148.701 | 49.671 | 2.80 | 248.851 | M |
| 4 | 5.52 | SULFATE | 1694.094 | 1690.384 | 95.23 | 11606.931 | M ^ |
| 5 | 8.50 | BROMIDE | 12.367 | 9.550 | 0.54 | 93.644 | MB |
| 6 | 10.44 | NITRATE | 0.250 | 0.057 | 0.00 | 0.118 | BMB |
| 7 | 16.83 | PHOSPHATE | 0.608 | 0.527 | 0.03 | 2.960 | BMB |
| **Total:** | | | 2008.853 | 1774.974 | 100.00 | 11952.504 | |

SO4 over-range. Rerun at 1:100 dilution.

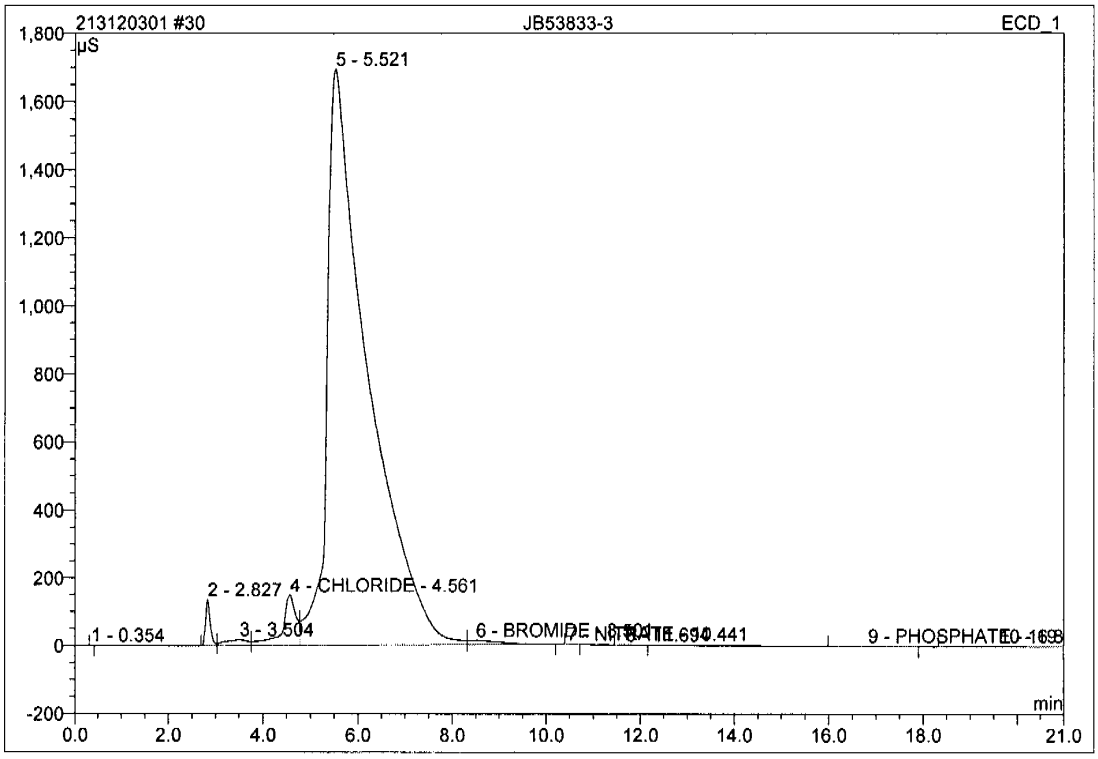
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

12.1 12

## 30 JB53833-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **23** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 18:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



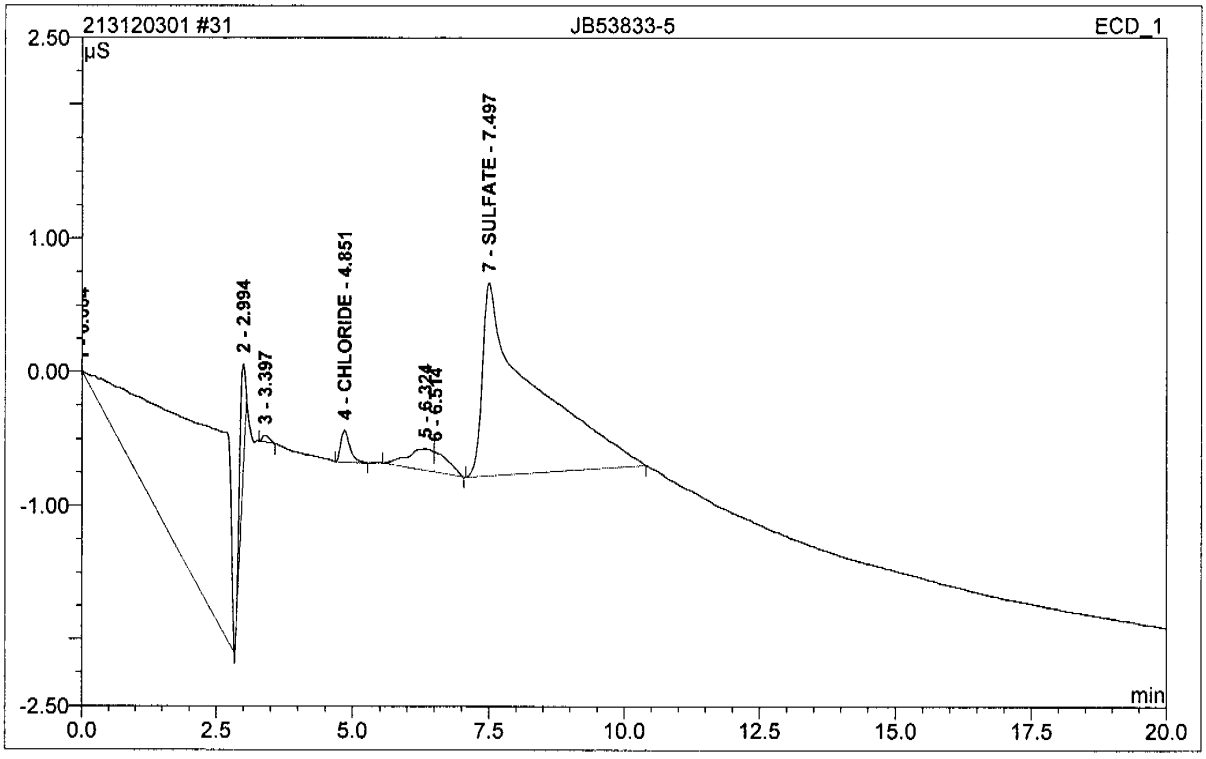

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.35 | n.a. | 0.022 | 0.001 | 0.00 | n.a. | BMB |
| 2 | 2.83 | n.a. | 135.479 | 15.278 | 0.86 | n.a. | BM |
| 3 | 3.50 | n.a. | 17.354 | 9.508 | 0.54 | n.a. | M |
| 4 | 4.56 | CHLORIDE | 148.701 | 49.671 | 2.80 | 248.851 | M |
| 5 | 5.52 | n.a. | 1694.094 | 1690.384 | 95.14 | n.a. | M |
| 6 | 8.50 | BROMIDE | 12.367 | 9.550 | 0.54 | 93.644 | MB |
| 7 | 10.44 | NITRATE | 0.250 | 0.057 | 0.00 | 0.118 | BMB |
| 8 | 11.69 | n.a. | 0.581 | 0.200 | 0.01 | n.a. | BMB |
| 9 | 16.83 | PHOSPHATE | 0.608 | 0.527 | 0.03 | 2.960 | BMB |
| 10 | 19.61 | n.a. | 1.181 | 1.581 | 0.09 | n.a. | BMB |
| **Total:** | | | 2010.637 | 1776.757 | 100.00 | 345.572 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

## 31 JB53833-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53833-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **24** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 18:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.00 | n.a. | 0.002 | 2.181 | 53.57 | n.a. | BMB |
| 2 | 2.99 | n.a. | 0.883 | 0.111 | 2.71 | n.a. | BMB |
| 3 | 3.40 | n.a. | 0.050 | 0.008 | 0.19 | n.a. | BMB |
| 4 | 4.85 | CHLORIDE | 0.238 | 0.046 | 1.12 | 0.229 | BMB |
| 5 | 6.32 | n.a. | 0.162 | 0.088 | 2.15 | n.a. | BM |
| 6 | 6.51 | n.a. | 0.150 | 0.047 | 1.15 | n.a. | MB |
| 7 | 7.50 | SULFATE | 1.446 | 1.592 | 39.10 | 10.929 | BMB |
| **Total:** | | | 2.931 | 4.071 | 100.00 | 11.158 | |

SO4 FB > DL. Rerun for conf. possible carry over.

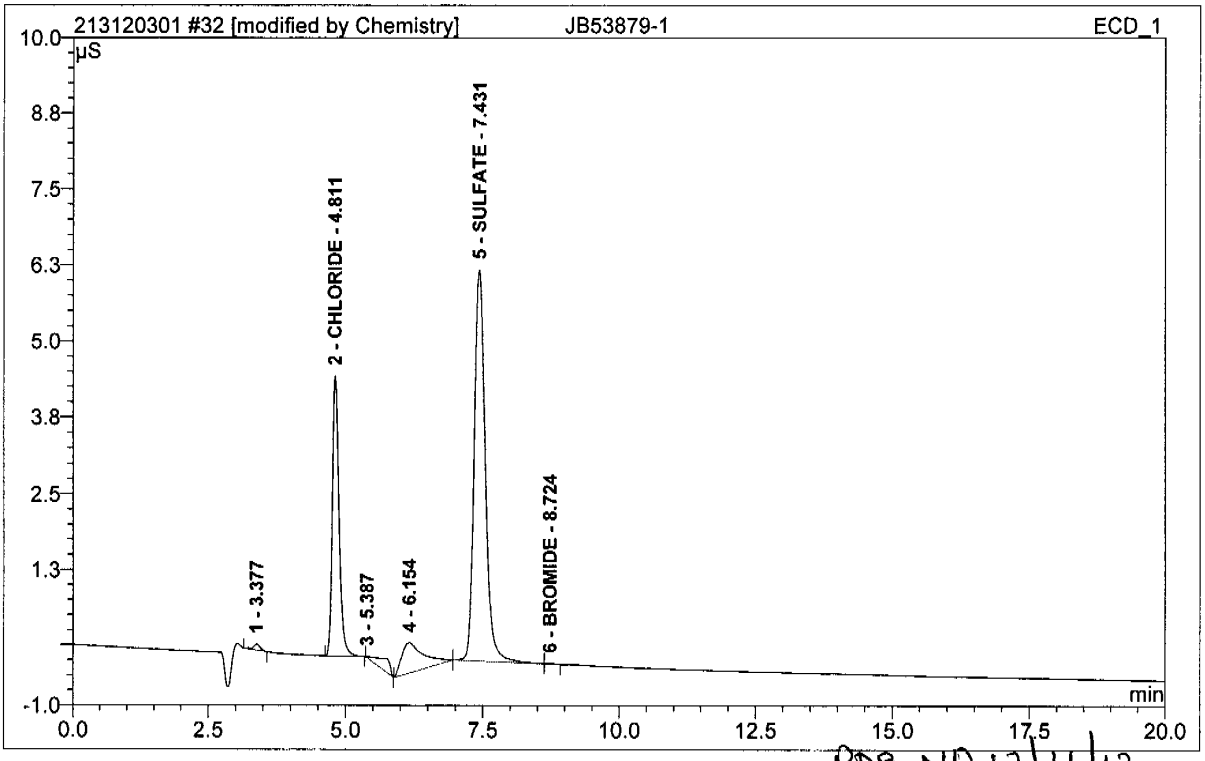
anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

12.1 12

## 32 JB53879-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 19:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



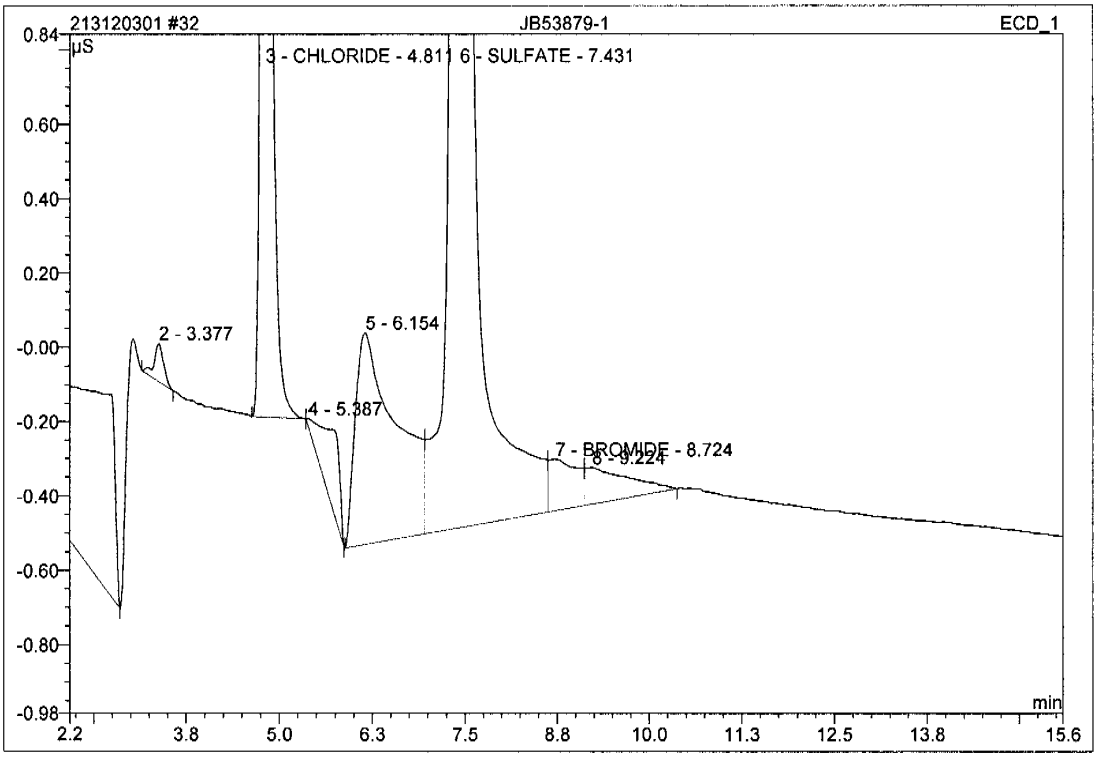

PDB NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.38 | n.a. | 0.101 | 0.015 | 0.62 | n.a. | BMB |
| 2 | 4.81 | CHLORIDE | 4.611 | 0.651 | 26.28 | 3.263 | BMB |
| 3 | 5.39 | n.a. | 0.016 | 0.060 | 2.42 | n.a. | BMB |
| 4 | 6.15 | n.a. | 0.506 | 0.230 | 9.29 | n.a. | BMb* |
| 5 | 7.43 | SULFATE | 6.437 | 1.519 | 61.30 | 10.432 | bM * |
| 6 | 8.72 | BROMIDE | 0.012 | 0.003 | 0.10 | 0.025 | MB* |
| **Total:** | | | 11.683 | 2.479 | 100.00 | 13.720 | |

soy rerun for conf. Possible carry over.

## 32 JB53879-1

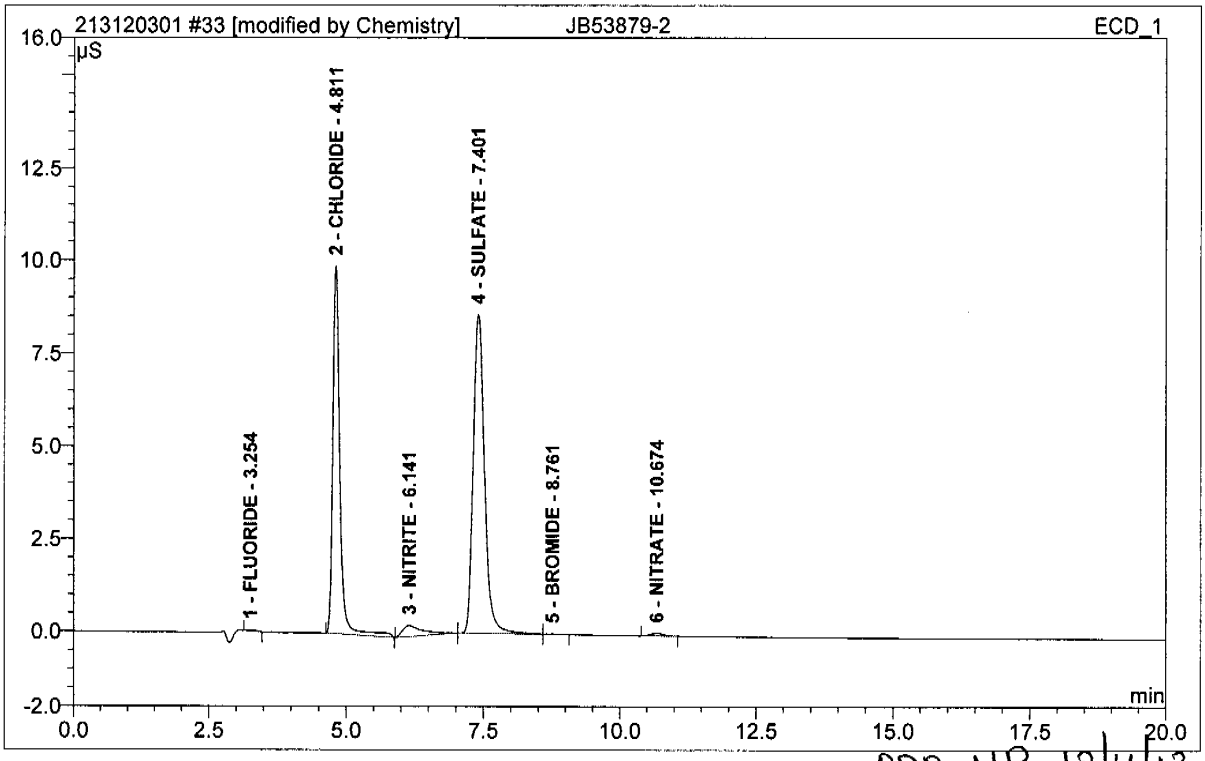
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **25** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 19:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.38 | n.a. | 0.021 | 0.693 | 18.49 | n.a. | BMB |
| 2 | 3.38 | n.a. | 0.101 | 0.015 | 0.41 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 4.611 | 0.651 | 17.38 | 3.263 | BMB |
| 4 | 5.39 | n.a. | 0.016 | 0.060 | 1.60 | n.a. | BMB |
| 5 | 6.15 | n.a. | 0.569 | 0.366 | 9.78 | n.a. | BM |
| 6 | 7.43 | SULFATE | 6.656 | 1.841 | 49.10 | 12.639 | M |
| 7 | 8.72 | BROMIDE | 0.136 | 0.059 | 1.56 | 0.574 | M |
| 8 | 9.22 | n.a. | 0.097 | 0.063 | 1.69 | n.a. | MB |
| **Total:** | | | 12.207 | 3.749 | 100.00 | 16.476 | |

## 33 JB53879-2

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 19:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

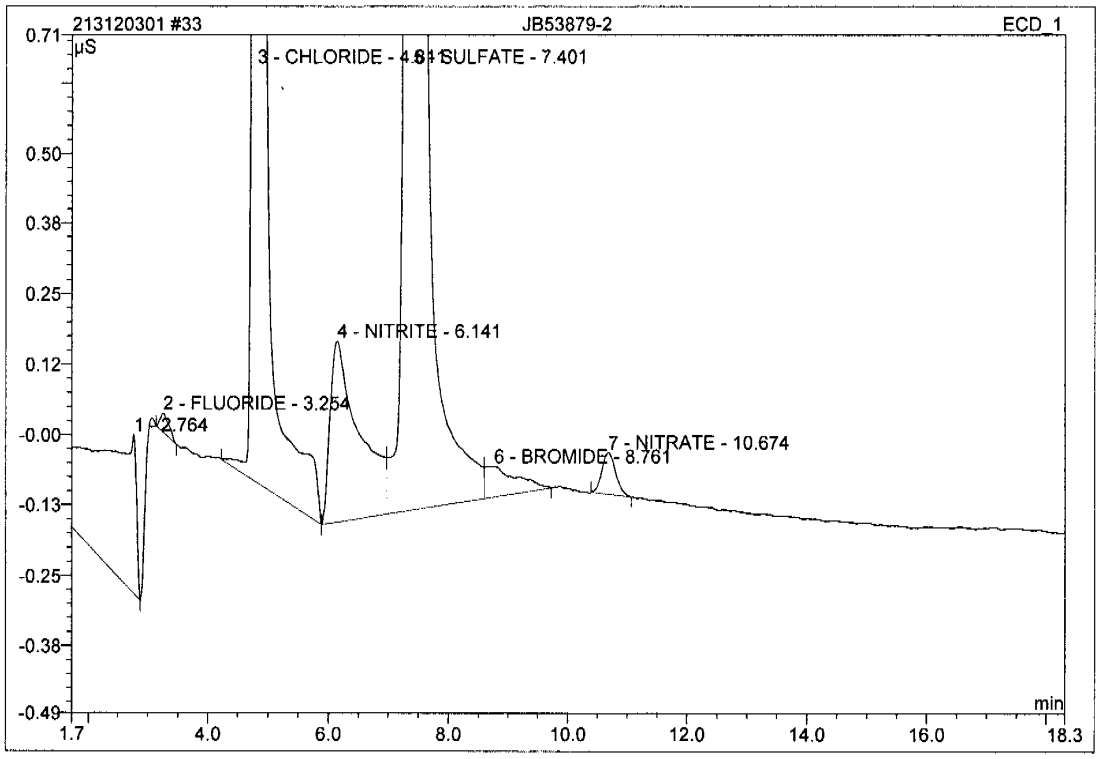



PDB NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.25 | FLUORIDE | 0.034 | 0.006 | 0.16 | 0.017 | BMB |
| 2 | 4.81 | CHLORIDE | 9.904 | 1.469 | 39.83 | 7.361 | BMB* |
| 3 | 6.14 | NITRITE | 0.300 | 0.129 | 3.50 | 0.257 | BMb* |
| 4 | 7.40 | SULFATE | 8.586 | 2.061 | 55.87 | 14.152 ✓ | bM * |
| 5 | 8.76 | BROMIDE | 0.014 | 0.004 | 0.11 | 0.039 | MB* |
| 6 | 10.67 | NITRATE | 0.074 | 0.020 | 0.54 | 0.041 | BMB |
| **Total:** | | | 18.913 | 3.689 | 100.00 | 21.868 | |

## 33 JB53879-2

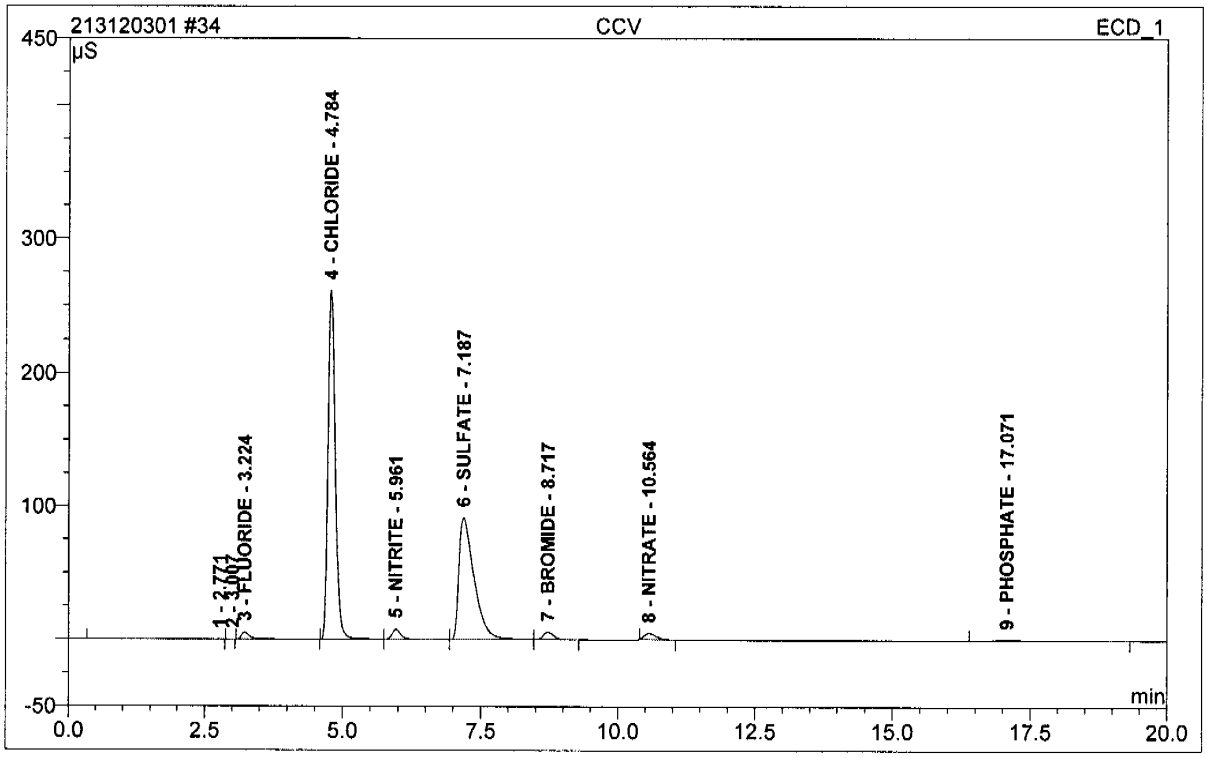
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **26** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 19:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.76 | n.a. | 0.282 | 0.316 | 7.48 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.034 | 0.006 | 0.14 | 0.017 | BMB |
| 3 | 4.81 | CHLORIDE | 9.926 | 1.491 | 35.27 | 7.468 | BMB |
| 4 | 6.14 | NITRITE | 0.322 | 0.180 | 4.25 | 0.358 | BM |
| 5 | 7.40 | SULFATE | 8.674 | 2.182 | 51.62 | 14.981 | M |
| 6 | 8.76 | BROMIDE | 0.055 | 0.033 | 0.78 | 0.324 | MB |
| 7 | 10.67 | NITRATE | 0.074 | 0.020 | 0.47 | 0.041 | BMB |
| **Total:** | | | 19.366 | 4.227 | 100.00 | 23.189 | |

## 34 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **27** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 20:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



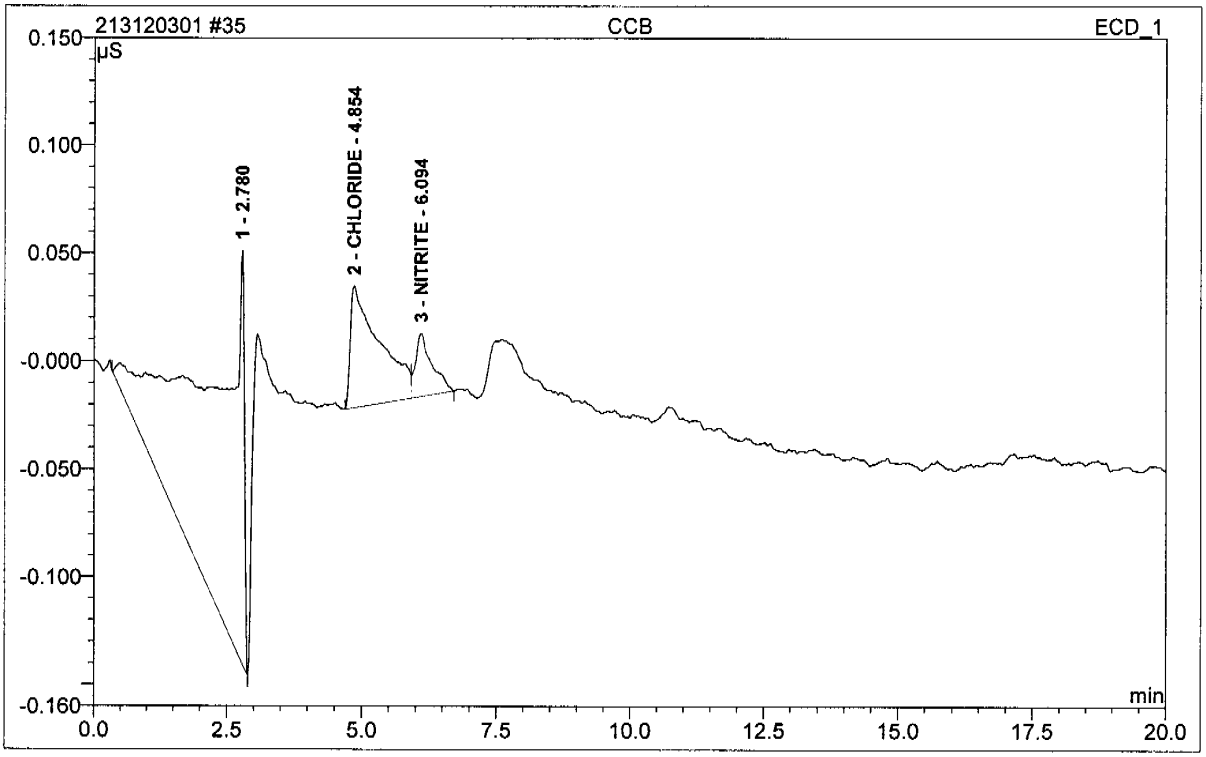

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.77 | n.a. | 0.161 | 0.171 | 0.23 | | n.a. | BMB |
| 2 | 3.01 | n.a. | 0.046 | 0.006 | 0.01 | | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 5.375 | 0.940 | 1.27 | | 2.806 | BMB |
| 4 | 4.78 | CHLORIDE | 261.194 | 39.831 | 53.62 | 200 | 199.552 | BM |
| 5 | 5.96 | NITRITE | 7.744 | 1.455 | 1.96 | | 2.899 | MB |
| 6 | 7.19 | SULFATE | 91.481 | 29.064 | 39.12 | 200 | 199.566 | BMb |
| 7 | 8.72 | BROMIDE | 5.621 | 1.238 | 1.67 | | 12.139 | bMB |
| 8 | 10.56 | NITRATE | 4.481 | 1.151 | 1.55 | | 2.388 | BMB |
| 9 | 17.07 | PHOSPHATE | 0.543 | 0.430 | 0.58 | | 2.417 | BMB |
| **Total:** | | | 376.647 | 74.287 | 100.00 | | 421.768 | |

99.78

99.78

## 35 CCB

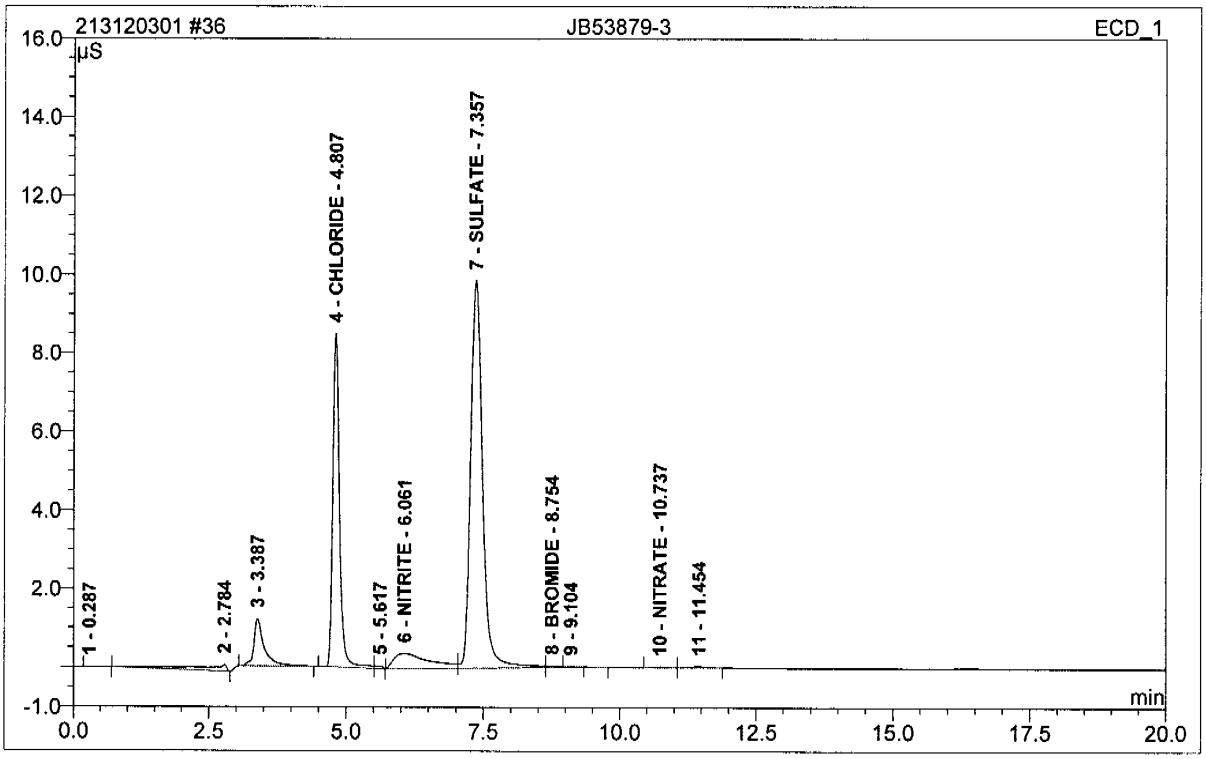
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **28** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 20:31** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.191 | 0.167 | 78.74 | n.a. | BMB |
| 2 | 4.85 | CHLORIDE | 0.056 | 0.035 | 16.37 | 0.174 | BM |
| 3 | 6.09 | NITRITE | 0.029 | 0.010 | 4.89 | 0.021 | MB |
| **Total:** | | | 0.277 | 0.212 | 100.00 | 0.195 | |

## 36 JB53879-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **29** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 20:55** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

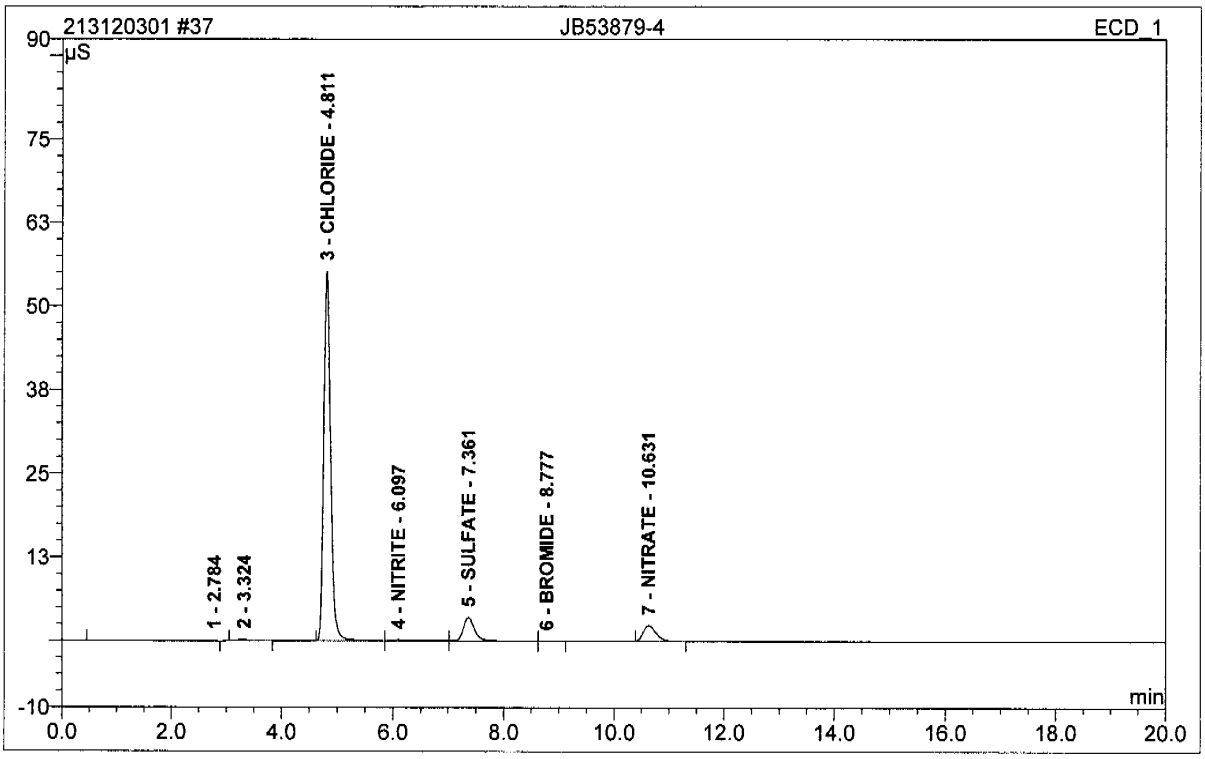



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.29 | n.a. | 0.005 | 0.001 | 0.03 | n.a. | BMB |
| 2 | 2.78 | n.a. | 0.163 | 0.116 | 2.64 | n.a. | BMB |
| 3 | 3.39 | n.a. | 1.194 | 0.259 | 5.86 | n.a. | BMB |
| 4 | 4.81 | CHLORIDE | 8.504 | 1.204 | 27.26 | 6.031 | BM |
| 5 | 5.62 | n.a. | 0.071 | 0.011 | 0.25 | n.a. | MB |
| 6 | 6.06 | NITRITE | 0.381 | 0.289 | 6.54 | 0.575 | BM |
| 7 | 7.36 | SULFATE | 9.878 | 2.495 | 56.51 | 17.135 | M |
| 8 | 8.75 | BROMIDE | 0.045 | 0.024 | 0.54 | 0.236 | MB |
| 9 | 9.10 | n.a. | 0.005 | 0.001 | 0.02 | n.a. | Rd |
| 10 | 10.74 | NITRATE | 0.017 | 0.005 | 0.11 | 0.010 | BMB |
| 11 | 11.45 | n.a. | 0.027 | 0.011 | 0.24 | n.a. | BMB |

| | | | | | |
|---|---|---|---|---|---|
| **Total:** | | 20.291 | 4.416 | 100.00 | 23.987 |

## 37 JB53879-4

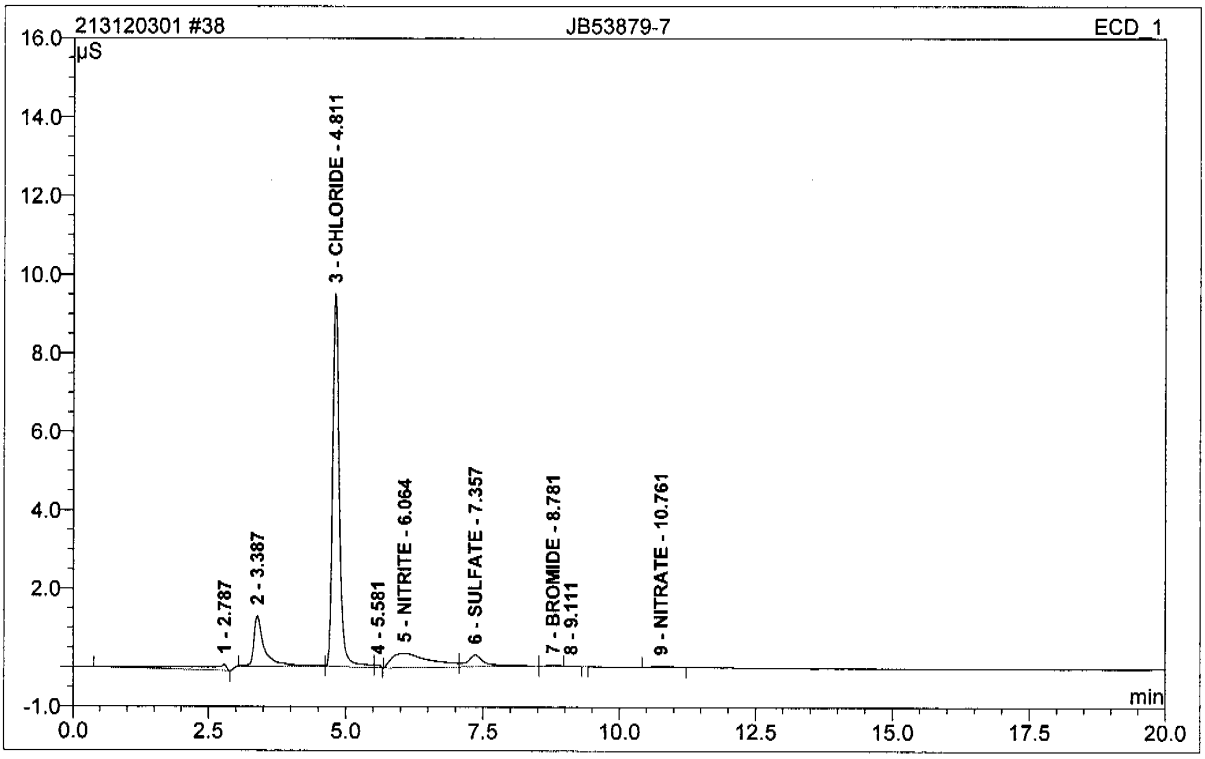
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **30** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 21:19** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.164 | 0.124 | 1.28 | n.a. | BMB |
| 2 | 3.32 | n.a. | 0.135 | 0.033 | 0.34 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 55.188 | 7.926 | 81.90 | 39.708 | BM |
| 4 | 6.10 | NITRITE | 0.205 | 0.106 | 1.09 | 0.211 | M |
| 5 | 7.36 | SULFATE | 3.514 | 0.853 | 8.82 | 5.860 | M |
| 6 | 8.78 | BROMIDE | 0.026 | 0.007 | 0.07 | 0.065 | MB |
| 7 | 10.63 | NITRATE | 2.351 | 0.630 | 6.51 | 1.306 | BMB |
| **Total:** | | | 61.583 | 9.678 | 100.00 | 47.150 | |

## 38 JB53879-7

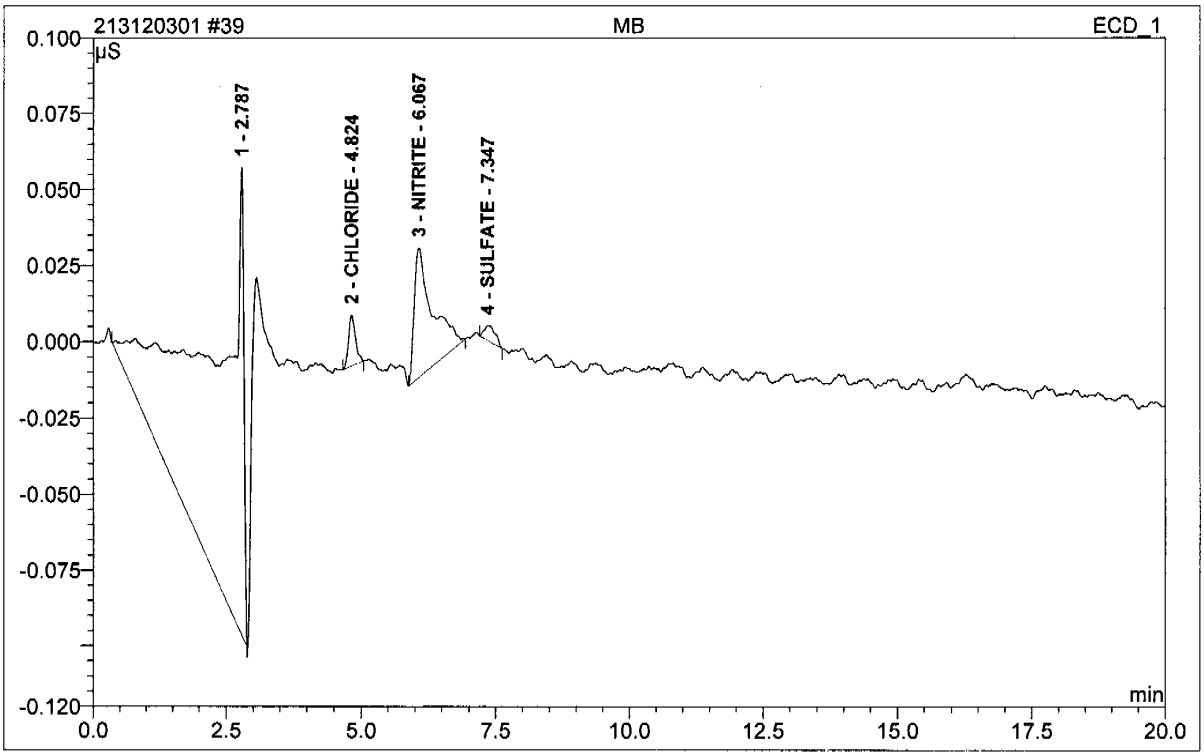
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **31** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 21:43** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.160 | 0.124 | 5.67 | n.a. | BMB |
| 2 | 3.39 | n.a. | 1.273 | 0.277 | 12.67 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 9.494 | 1.342 | 61.28 | 6.721 | bM |
| 4 | 5.58 | n.a. | 0.070 | 0.009 | 0.41 | n.a. | MB |
| 5 | 6.06 | NITRITE | 0.370 | 0.297 | 13.59 | 0.593 | BM |
| 6 | 7.36 | SULFATE | 0.305 | 0.117 | 5.32 | 0.800 | MB |
| 7 | 8.78 | BROMIDE | 0.038 | 0.010 | 0.47 | 0.102 | bMB |
| 8 | 9.11 | n.a. | 0.006 | 0.001 | 0.05 | n.a. | Rd |
| 9 | 10.76 | NITRATE | 0.032 | 0.012 | 0.53 | 0.024 | BMB |
| **Total:** | | | 11.748 | 2.189 | 100.00 | 8.240 | |

## 39 MB

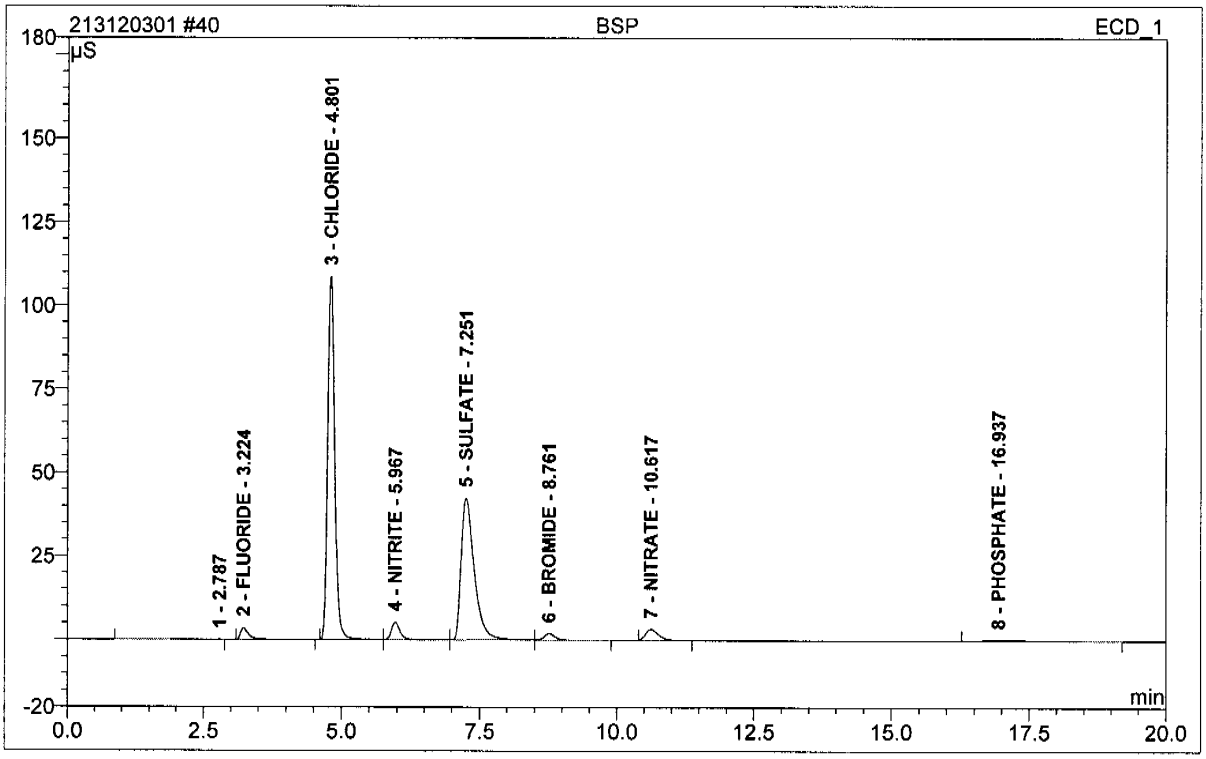
| | | | |
|---|---|---|---|
| *Sample Name:* | **MB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **32** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 22:07** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.154 | 0.120 | 85.51 | n.a. | BMB |
| 2 | 4.82 | CHLORIDE | 0.017 | 0.002 | 1.75 | 0.012 | BMB |
| 3 | 6.07 | NITRITE | 0.042 | 0.017 | 11.86 | 0.033 | BMB |
| 4 | 7.35 | SULFATE | 0.005 | 0.001 | 0.88 | 0.008 | BMB |
| **Total:** | | | 0.218 | 0.140 | 100.00 | 0.054 | |

# 40 BSP

| | | | |
|---|---|---|---|
| *Sample Name:* | **BSP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **33** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 22:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.131 | 0.081 | 0.26 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.480 | 0.605 | 1.95 | 1.804 | BMB |
| 3 | 4.80 | CHLORIDE | 108.802 | 15.989 | 51.56 | 80.104 | BM |
| 4 | 5.97 | NITRITE | 5.234 | 0.990 | 3.19 | 1.972 | M |
| 5 | 7.25 | SULFATE | 42.466 | 11.703 | 37.74 | 80.359 | M |
| 6 | 8.76 | BROMIDE | 1.954 | 0.469 | 1.51 | 4.601 | MB |
| 7 | 10.62 | NITRATE | 3.225 | 0.885 | 2.85 | 1.837 | BMB |
| 8 | 16.94 | PHOSPHATE | 0.368 | 0.290 | 0.94 | 1.630 | BMB |
| **Total:** | | | 165.660 | 31.012 | 100.00 | 172.307 | |

80

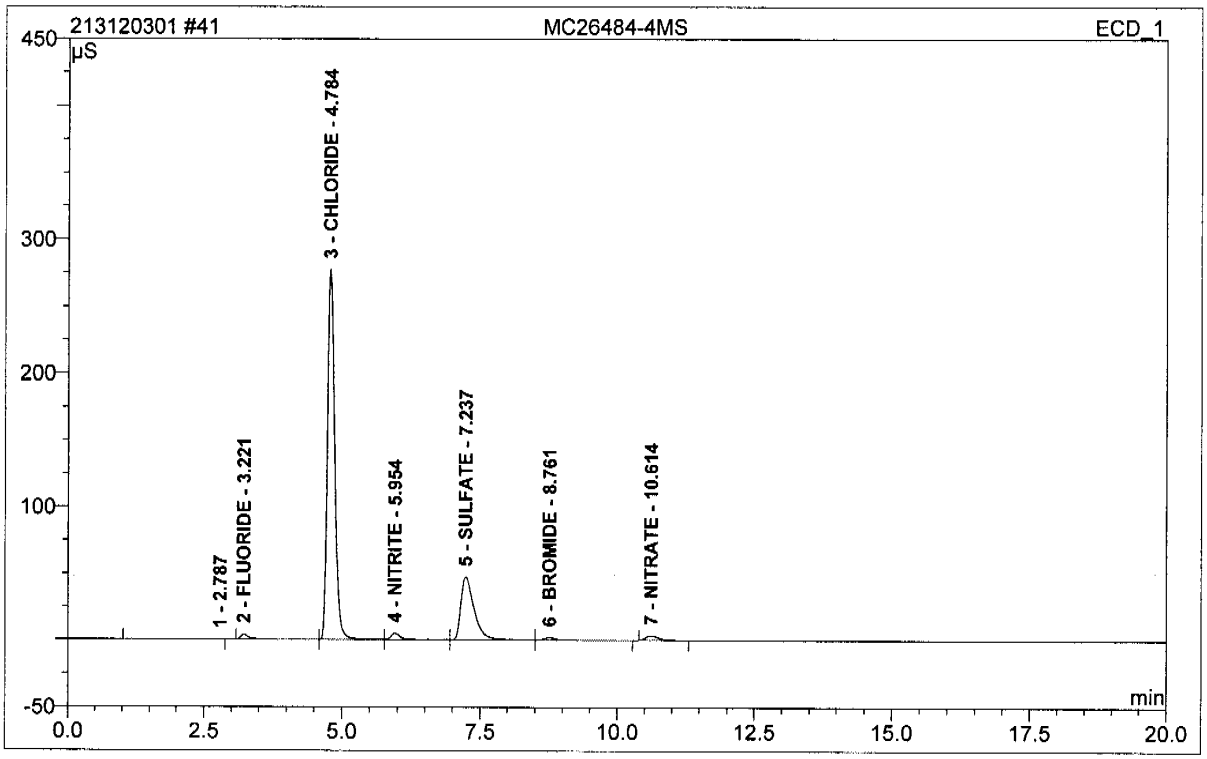
100.45

12.1

12

# 41 MC26484-4MS

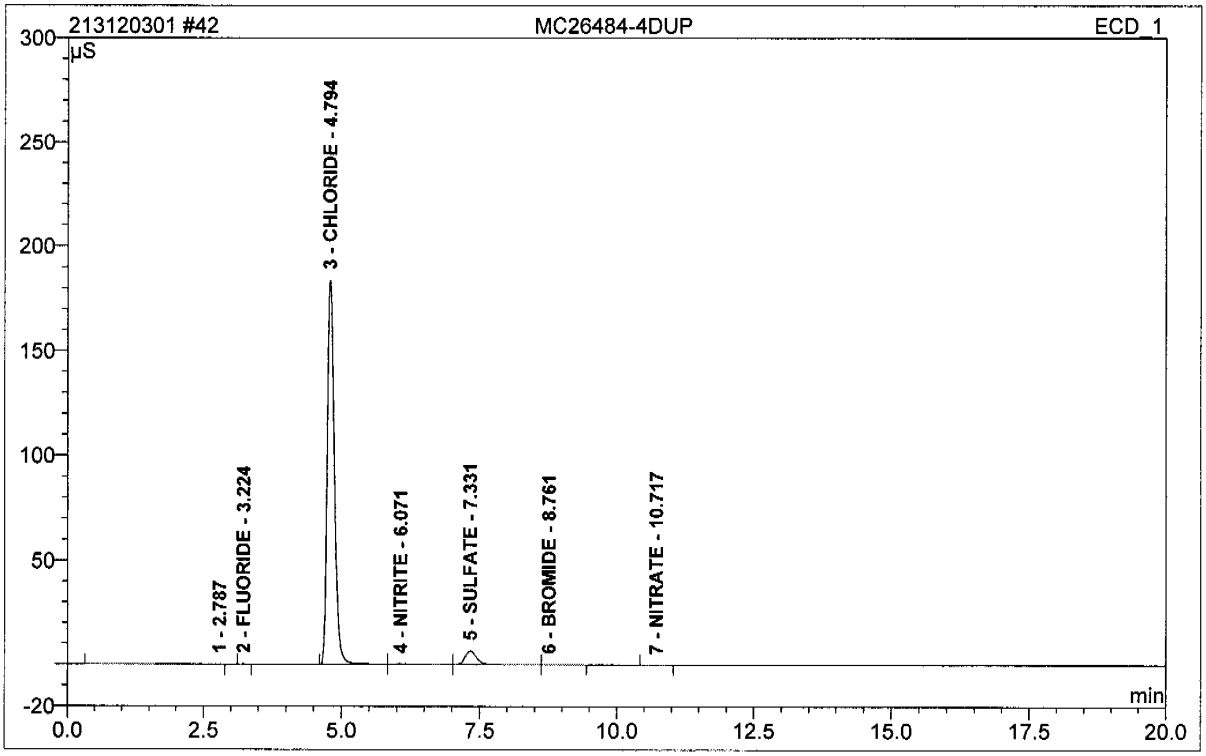
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-4MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **34** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 22:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.119 | 0.070 | 0.12 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.725 | 0.634 | 1.08 | 1.893 | BM |
| 3 | 4.78 | CHLORIDE | 277.551 | 42.274 | 72.10 | 211.794 | M |
| 4 | 5.95 | NITRITE | 4.756 | 1.062 | 1.81 | 2.116 | M |
| 5 | 7.24 | SULFATE | 47.690 | 13.186 | 22.49 | 90.540 | M |
| 6 | 8.76 | BROMIDE | 1.933 | 0.492 | 0.84 | 4.823 | MB |
| 7 | 10.61 | NITRATE | 3.425 | 0.916 | 1.56 | 1.901 | BMB |
| **Total:** | | | 339.199 | 58.635 | 100.00 | 313.067 | |

## 42 MC26484-4DUP

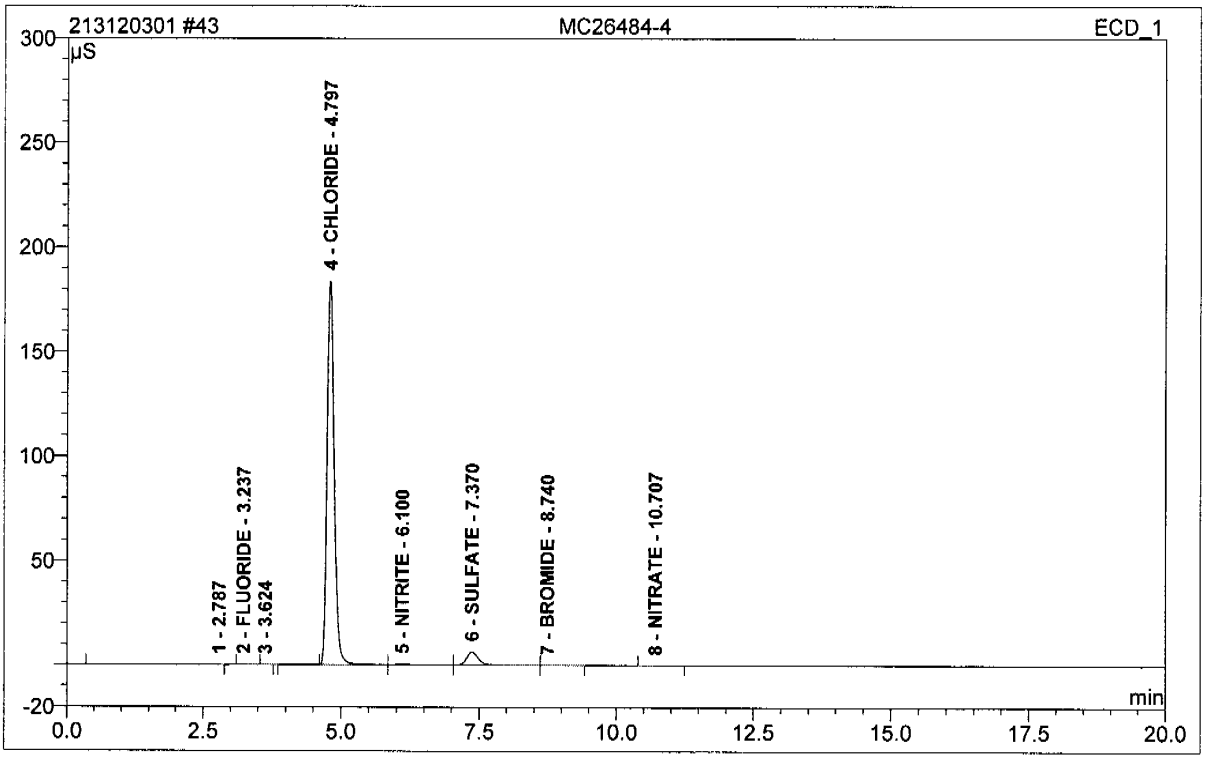
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-4DUP** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **35** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 23:18** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.135 | 0.105 | 0.36 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 0.127 | 0.014 | 0.05 | 0.043 | BMB |
| 3 | 4.79 | CHLORIDE | 183.779 | 27.546 | 93.25 | 138.005 | BM |
| 4 | 6.07 | NITRITE | 0.313 | 0.201 | 0.68 | 0.400 | M |
| 5 | 7.33 | SULFATE | 6.521 | 1.652 | 5.59 | 11.341 | M |
| 6 | 8.76 | BROMIDE | 0.035 | 0.014 | 0.05 | 0.142 | MB |
| 7 | 10.72 | NITRATE | 0.030 | 0.007 | 0.03 | 0.016 | BMB |
| **Total:** | | | 190.941 | 29.540 | 100.00 | 149.946 | |

## 43 MC26484-4

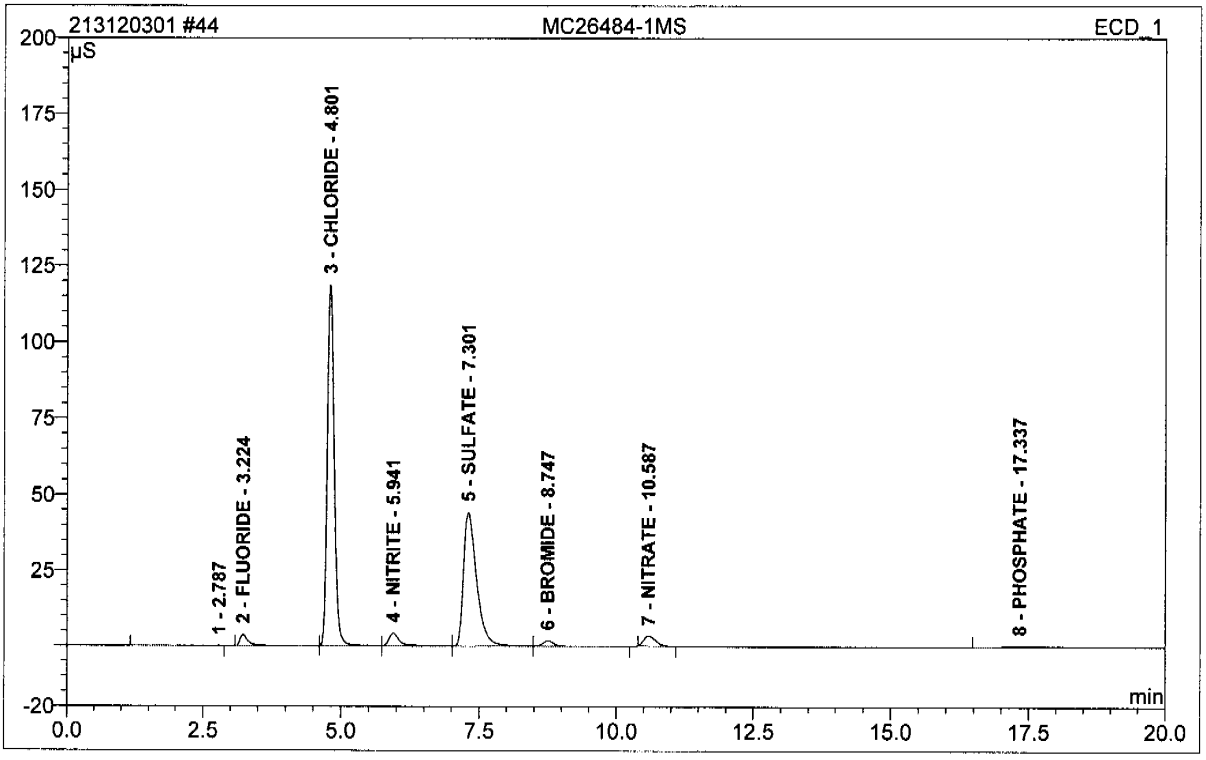
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **36** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/3/2013 23:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.135 | 0.103 | 0.35 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.152 | 0.033 | 0.11 | 0.098 | BMB |
| 3 | 3.62 | n.a. | 0.019 | 0.002 | 0.01 | n.a. | Rd |
| 4 | 4.80 | CHLORIDE | 184.032 | 27.520 | 93.12 | 137.872 | BM |
| 5 | 6.10 | NITRITE | 0.330 | 0.219 | 0.74 | 0.437 | M |
| 6 | 7.37 | SULFATE | 6.476 | 1.653 | 5.59 | 11.352 | M |
| 7 | 8.74 | BROMIDE | 0.034 | 0.014 | 0.05 | 0.137 | MB |
| 8 | 10.71 | NITRATE | 0.033 | 0.009 | 0.03 | 0.020 | BMB |
| **Total:** | | | 191.211 | 29.553 | 100.00 | 149.915 | |

# 44 MC26484-1MS

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-1MS** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **37** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 0:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



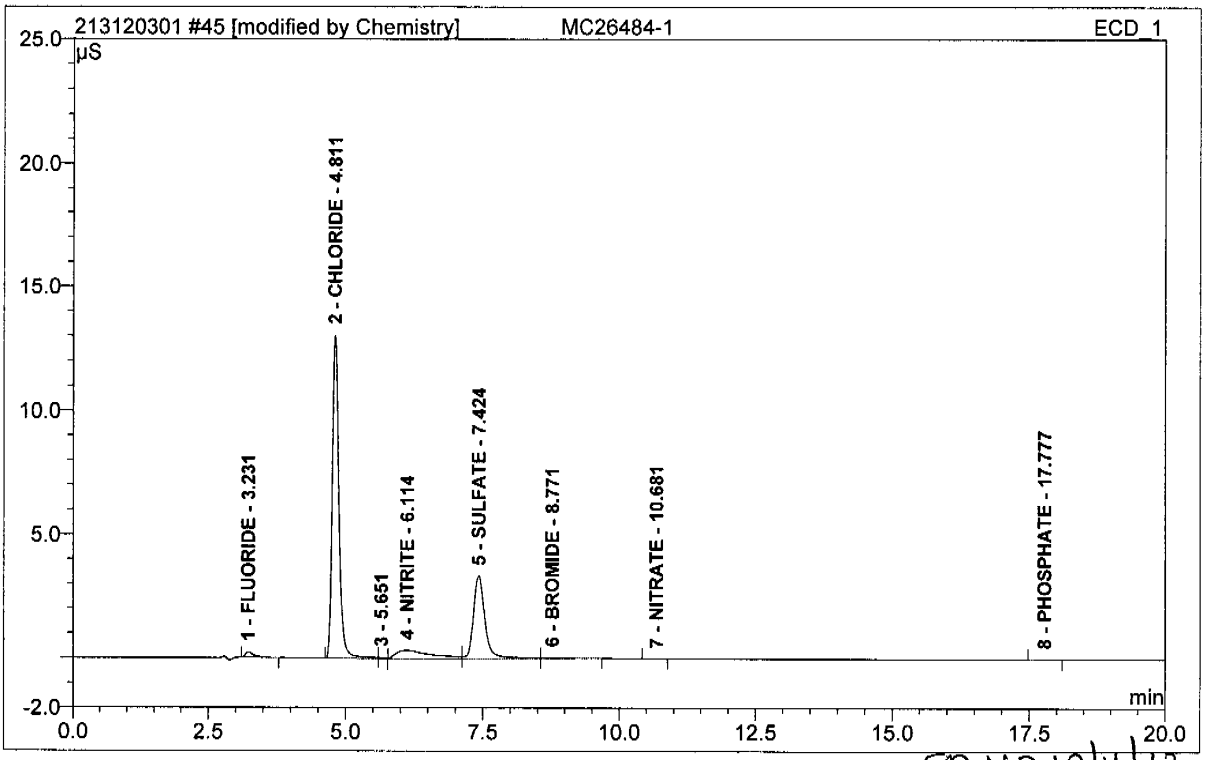

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.118 | 0.062 | 0.19 | n.a. | BMB |
| 2 | 3.22 | FLUORIDE | 3.758 | 0.643 | 1.95 | 1.918 | BMB |
| 3 | 4.80 | CHLORIDE | 118.775 | 17.257 | 52.34 | 86.457 | BM |
| 4 | 5.94 | NITRITE | 4.340 | 1.048 | 3.18 | 2.088 | M |
| 5 | 7.30 | SULFATE | 44.255 | 12.235 | 37.11 | 84.011 | M |
| 6 | 8.75 | BROMIDE | 1.926 | 0.472 | 1.43 | 4.628 | MB |
| 7 | 10.59 | NITRATE | 3.365 | 0.861 | 2.61 | 1.786 | BMB |
| 8 | 17.34 | PHOSPHATE | 0.366 | 0.393 | 1.19 | 2.208 | BMB |
| **Total:** | | | 176.902 | 32.971 | 100.00 | 183.097 | |

anions/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR9a Build 2680 (163077)

## 45 MC26484-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 0:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

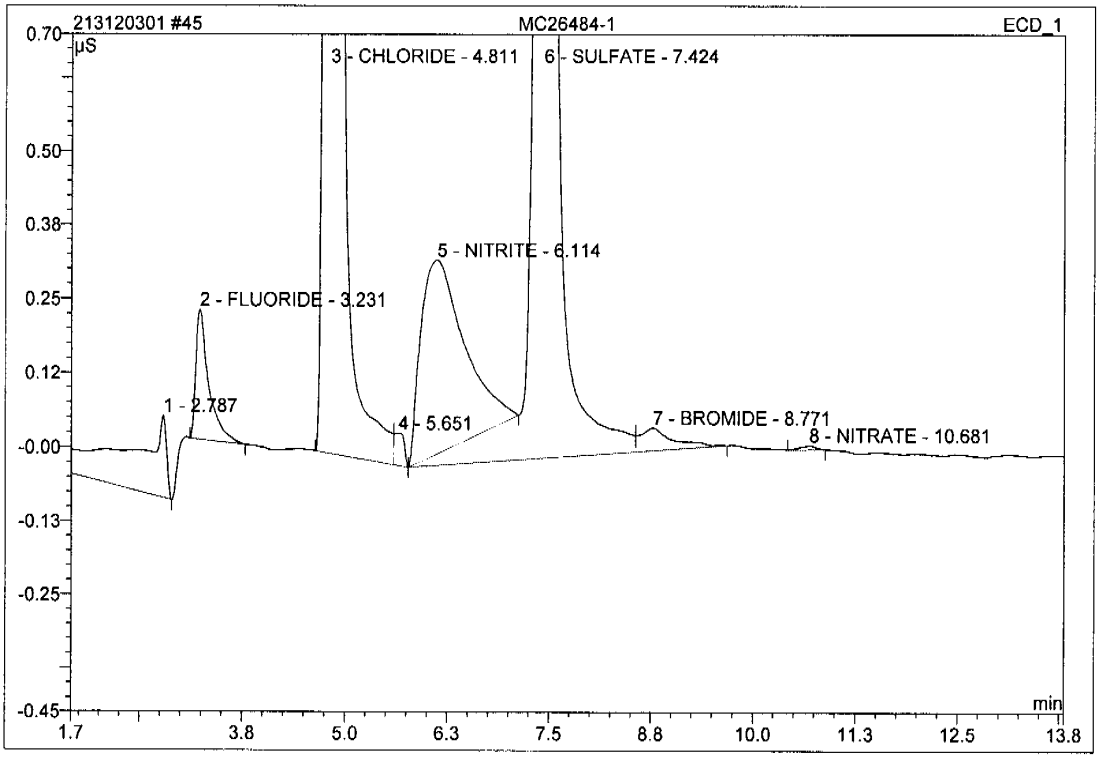



SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.219 | 0.040 | 1.33 | 0.118 | BMB |
| 2 | 4.81 | CHLORIDE | 13.036 | 1.823 | 61.45 | 9.135 | BM |
| 3 | 5.65 | n.a. | 0.054 | 0.007 | 0.24 | n.a. | MB |
| 4 | 6.11 | NITRITE | 0.345 | 0.251 | 8.47 | 0.501 | BM * |
| 5 | 7.42 | SULFATE | 3.347 | 0.825 | 27.81 | 5.667 ✓ | M * |
| 6 | 8.77 | BROMIDE | 0.038 | 0.017 | 0.59 | 0.171 | MB |
| 7 | 10.68 | NITRATE | 0.007 | 0.001 | 0.05 | 0.003 | BMB |
| 8 | 17.78 | PHOSPHATE | 0.005 | 0.001 | 0.05 | 0.008 | BMB |
| **Total:** | | | 17.050 | 2.967 | 100.00 | 15.604 | |

# 45 MC26484-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **38** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 0:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



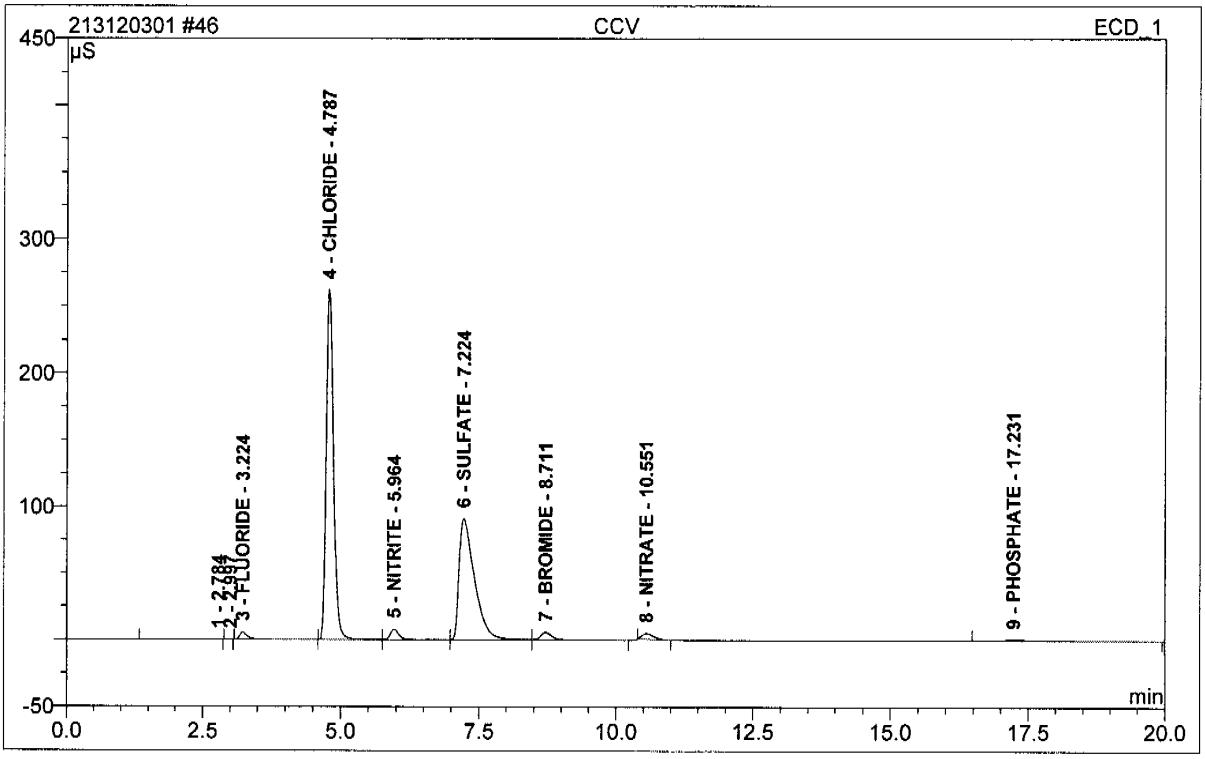

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.137 | 0.100 | 3.25 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.219 | 0.040 | 1.29 | 0.118 | BMB |
| 3 | 4.81 | CHLORIDE | 13.036 | 1.823 | 59.45 | 9.135 | BM |
| 4 | 5.65 | n.a. | 0.054 | 0.007 | 0.23 | n.a. | MB |
| 5 | 6.11 | NITRITE | 0.326 | 0.201 | 6.55 | 0.400 | Ru |
| 6 | 7.42 | SULFATE | 3.347 | 0.876 | 28.56 | 6.014 | BM |
| 7 | 8.77 | BROMIDE | 0.038 | 0.017 | 0.57 | 0.171 | MB |
| 8 | 10.68 | NITRATE | 0.007 | 0.001 | 0.05 | 0.003 | BMB |
| 9 | 17.78 | PHOSPHATE | 0.005 | 0.001 | 0.05 | 0.008 | BMB |
| **Total:** | | | 17.169 | 3.067 | 100.00 | 15.851 | |

DEFAULT/Integration

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR9a Build 2680 (163077)

# 46 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **39** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 0:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.099 | 0.048 | 0.06 | | n.a. | BMB |
| 2 | 3.00 | n.a. | 0.027 | 0.003 | 0.00 | | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 5.497 | 0.944 | 1.26 | | 2.817 | BMB |
| 4 | 4.79 | CHLORIDE | 262.229 | 39.965 | 53.29 | 200 | 200.221 ✓ | BM |
| 5 | 5.96 | NITRITE | 7.878 | 1.536 | 2.05 | | 3.061 | M |
| 6 | 7.22 | SULFATE | 91.358 | 29.454 | 39.27 | 200 | 202.244 ✓ | M |
| 7 | 8.71 | BROMIDE | 5.910 | 1.439 | 1.92 | | 14.111 | MB |
| 8 | 10.55 | NITRATE | 4.373 | 1.084 | 1.45 | | 2.249 | BMB |
| 9 | 17.23 | PHOSPHATE | 0.656 | 0.527 | 0.70 | | 2.957 | BMB |
| **Total:** | | | 378.025 | 74.999 | 100.00 | | 427.661 | |

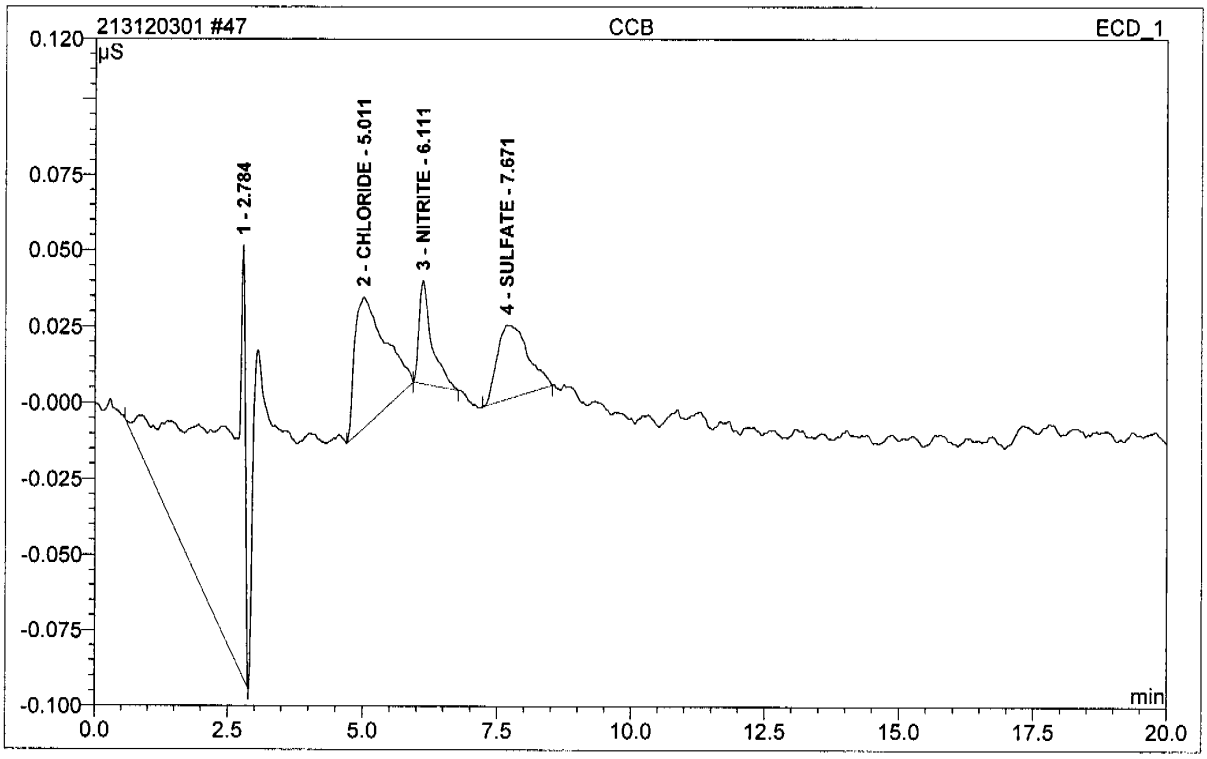
100.11

101.12

12.1 12

## 47 CCB

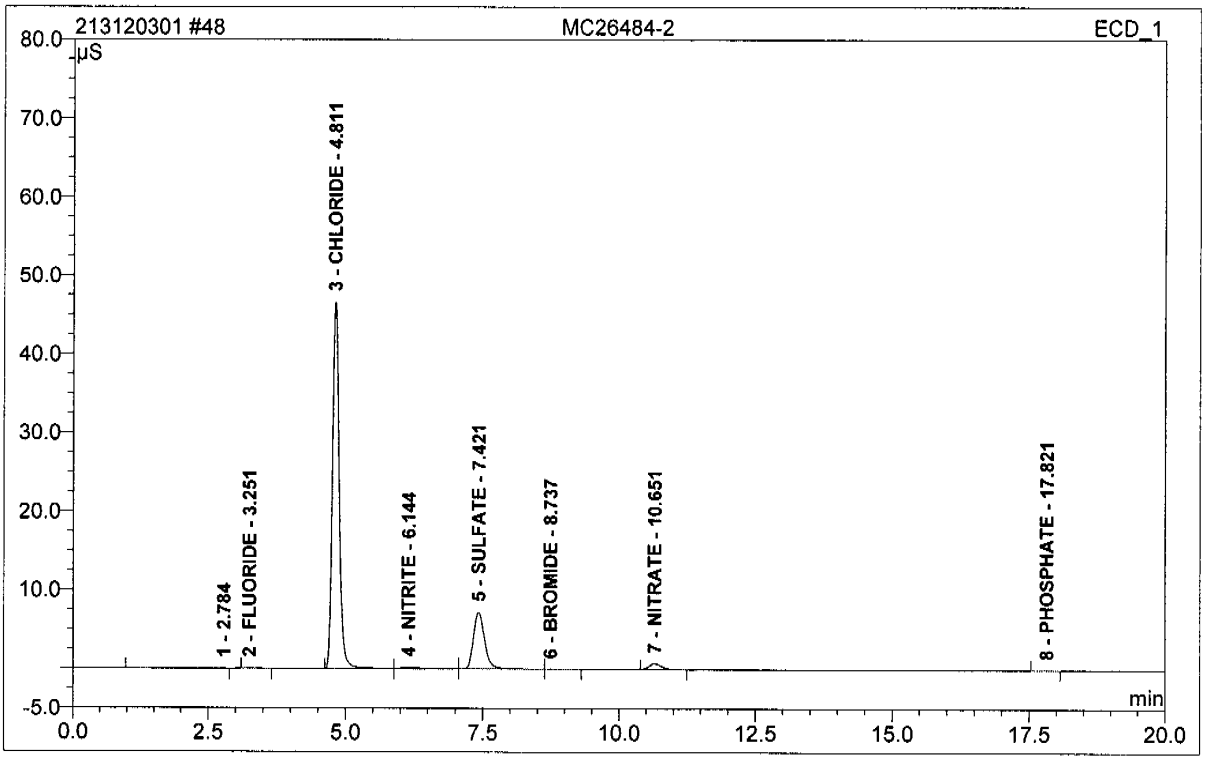
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **40** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 1:18** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.142 | 0.098 | 65.00 | n.a. | BMB |
| 2 | 5.01 | CHLORIDE | 0.043 | 0.027 | 18.13 | 0.137 | BMB |
| 3 | 6.11 | NITRITE | 0.034 | 0.009 | 6.22 | 0.019 | bMB |
| 4 | 7.67 | SULFATE | 0.024 | 0.016 | 10.65 | 0.110 | BMB |
| **Total:** | | | 0.243 | 0.150 | 100.00 | 0.265 | |

# 48 MC26484-2

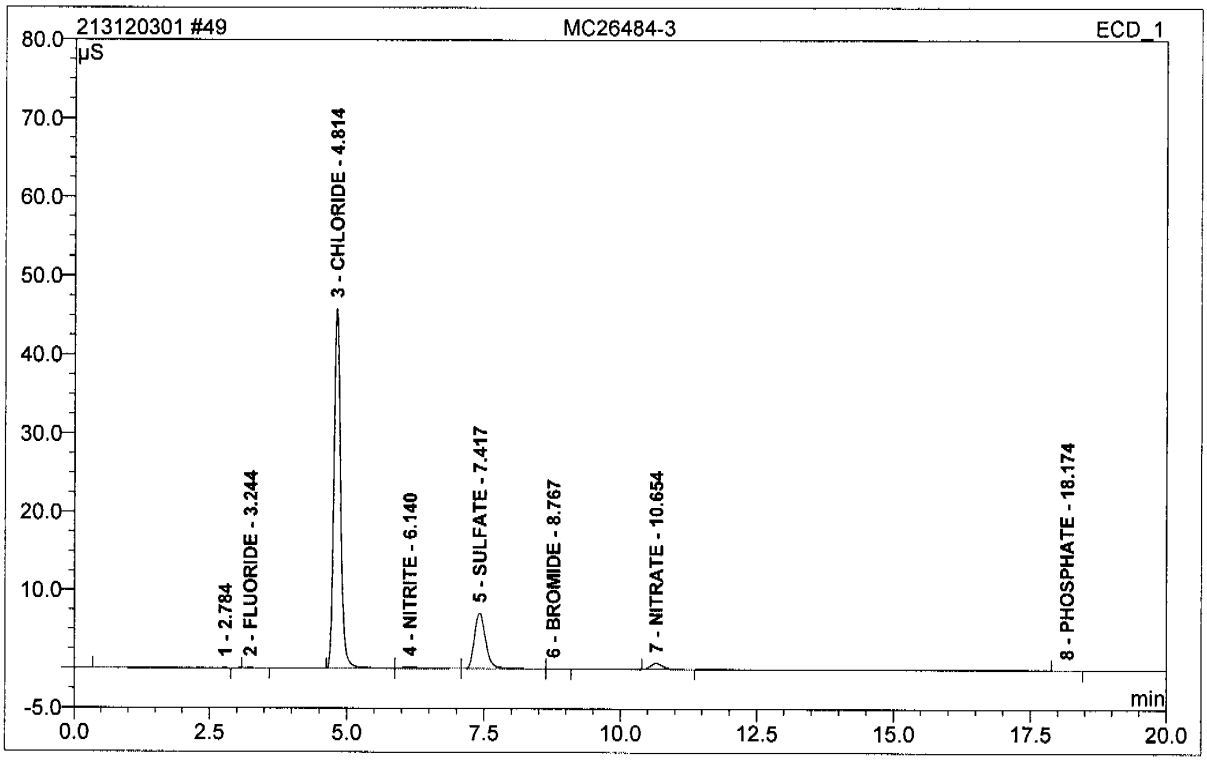
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **41** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 1:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.137 | 0.081 | 0.93 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.060 | 0.011 | 0.13 | 0.034 | BMB |
| 3 | 4.81 | CHLORIDE | 46.606 | 6.654 | 75.68 | 33.336 | BM |
| 4 | 6.14 | NITRITE | 0.224 | 0.108 | 1.23 | 0.216 | M |
| 5 | 7.42 | SULFATE | 7.181 | 1.734 | 19.73 | 11.908 | M |
| 6 | 8.74 | BROMIDE | 0.018 | 0.006 | 0.07 | 0.058 | MB |
| 7 | 10.65 | NITRATE | 0.744 | 0.196 | 2.23 | 0.406 | BMB |
| 8 | 17.82 | PHOSPHATE | 0.004 | 0.001 | 0.01 | 0.006 | BMB |
| **Total:** | | | 54.975 | 8.792 | 100.00 | 45.964 | |

# 49 MC26484-3

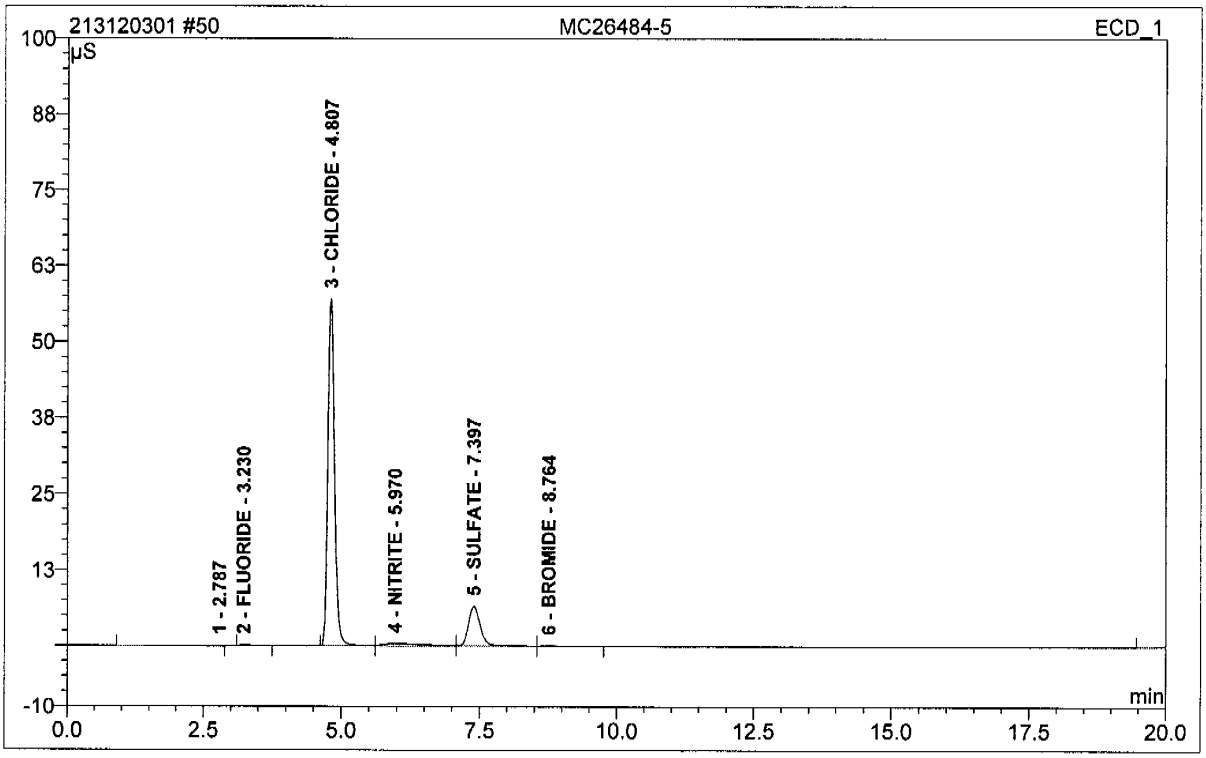
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **42** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 2:06** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.137 | 0.110 | 1.27 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.052 | 0.009 | 0.10 | 0.027 | BMB |
| 3 | 4.81 | CHLORIDE | 45.860 | 6.521 | 75.35 | 32.672 | BM |
| 4 | 6.14 | NITRITE | 0.222 | 0.108 | 1.24 | 0.214 | M |
| 5 | 7.42 | SULFATE | 7.060 | 1.704 | 19.69 | 11.701 | M |
| 6 | 8.77 | BROMIDE | 0.016 | 0.005 | 0.05 | 0.046 | MB |
| 7 | 10.65 | NITRATE | 0.747 | 0.197 | 2.27 | 0.408 | BMB |
| 8 | 18.17 | PHOSPHATE | 0.005 | 0.001 | 0.02 | 0.008 | BMB |
| **Total:** | | | 54.099 | 8.655 | 100.00 | 45.076 | |

## 50 MC26484-5

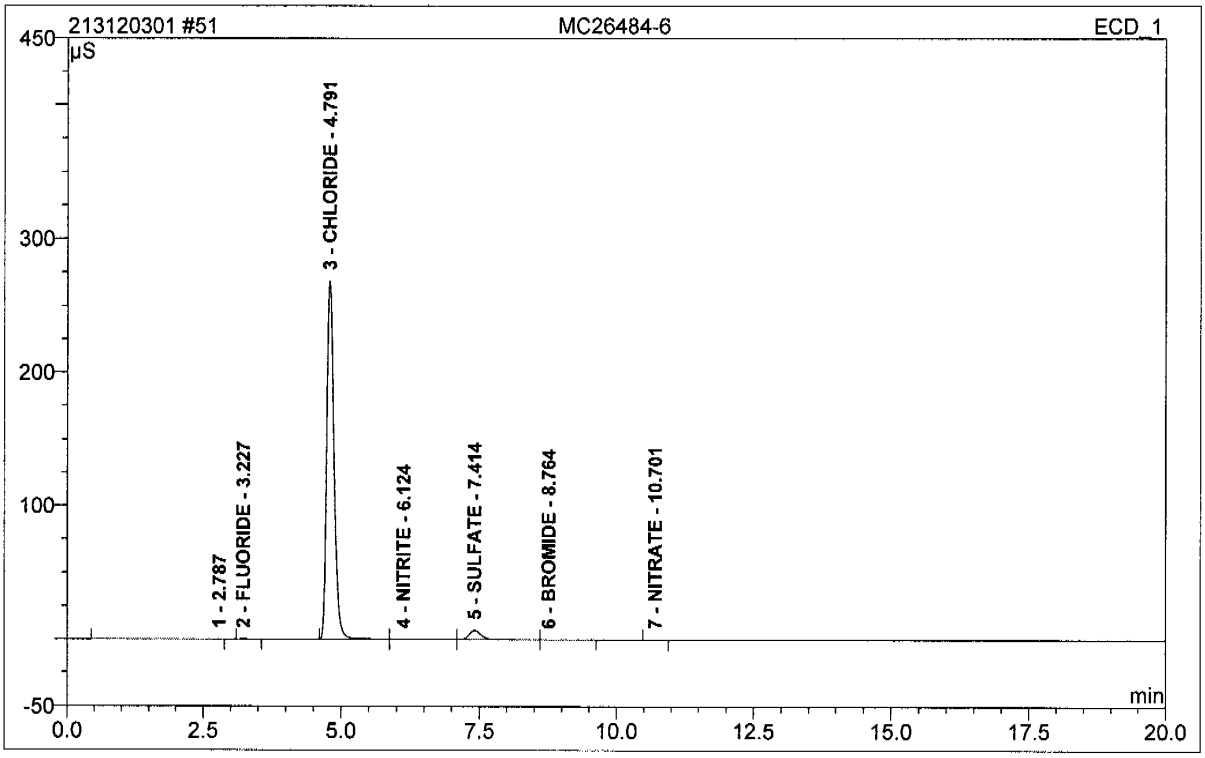
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **43** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 2:30** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.119 | 0.073 | 0.72 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.167 | 0.032 | 0.31 | 0.095 | BMB |
| 3 | 4.81 | CHLORIDE | 57.046 | 7.974 | 78.33 | 39.952 | BM |
| 4 | 5.97 | NITRITE | 0.418 | 0.383 | 3.76 | 0.763 | M |
| 5 | 7.40 | SULFATE | 6.504 | 1.659 | 16.30 | 11.393 | M |
| 6 | 8.76 | BROMIDE | 0.103 | 0.037 | 0.36 | 0.364 | MB |
| 7 | 20.04 | n.a. | 0.041 | 0.022 | 0.21 | n.a. | BMB |
| **Total:** | | | 64.397 | 10.181 | 100.00 | 52.565 | |

## 51 MC26484-6

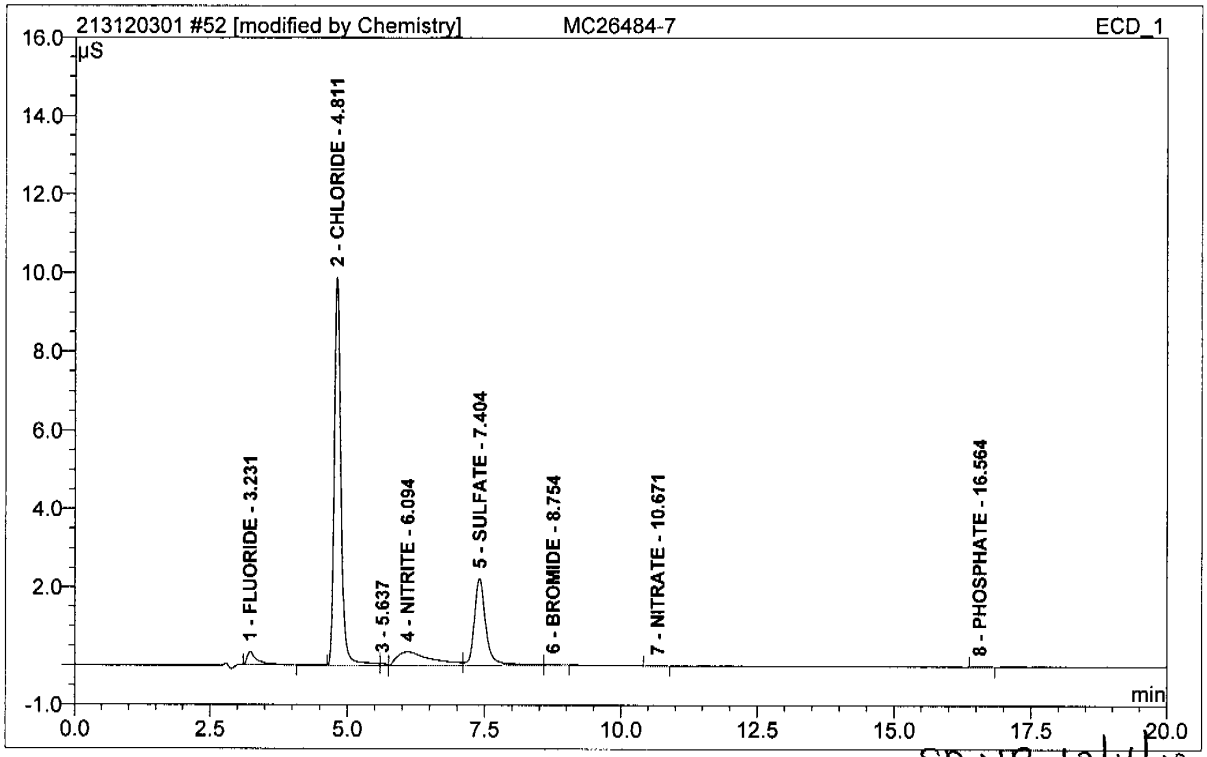
| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **44** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 2:54** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.120 | 0.090 | 0.21 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.162 | 0.026 | 0.06 | 0.077 | BMB |
| 3 | 4.79 | CHLORIDE | 268.409 | 40.995 | 95.02 | 205.383 | BM |
| 4 | 6.12 | NITRITE | 0.353 | 0.246 | 0.57 | 0.490 | M |
| 5 | 7.41 | SULFATE | 6.800 | 1.766 | 4.09 | 12.123 | M |
| 6 | 8.76 | BROMIDE | 0.048 | 0.021 | 0.05 | 0.203 | MB |
| 7 | 10.70 | NITRATE | 0.007 | 0.002 | 0.00 | 0.004 | BMB |
| **Total:** | | | 275.899 | 43.145 | 100.00 | 218.281 | |

## 52 MC26484-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 3:18** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

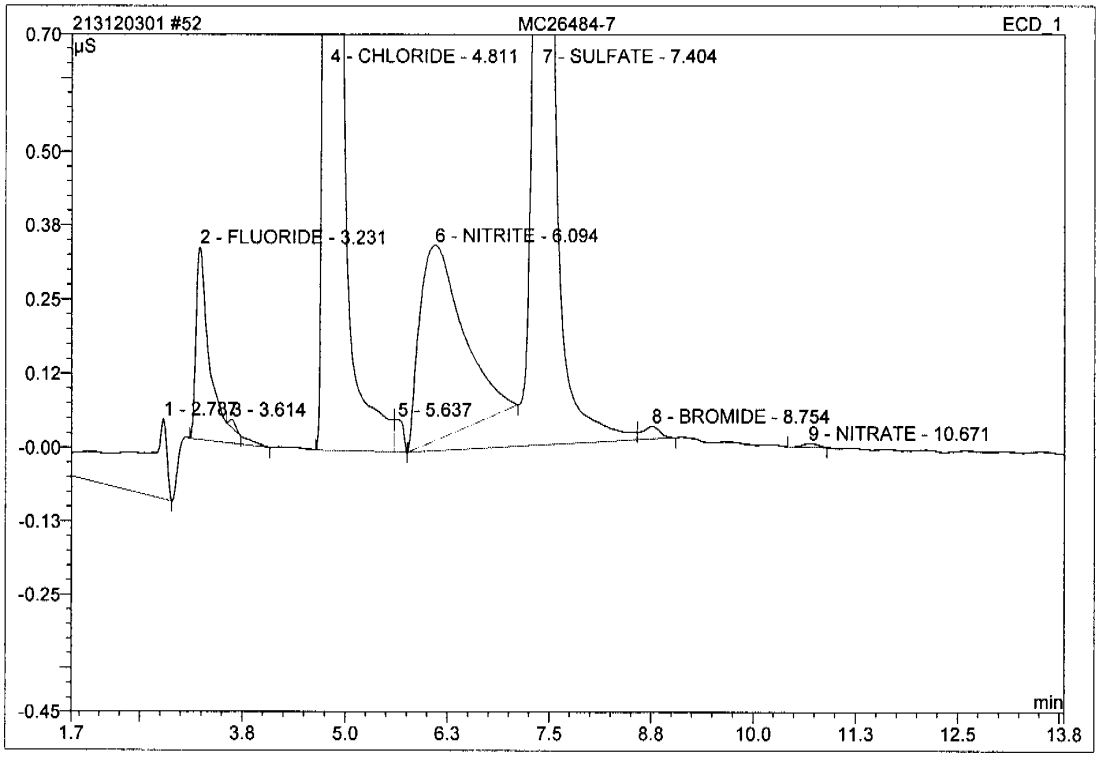



SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.23 | FLUORIDE | 0.324 | 0.066 | 2.93 | 0.198 | BMB* |
| 2 | 4.81 | CHLORIDE | 9.892 | 1.395 | 61.53 | 6.987 | BM |
| 3 | 5.64 | n.a. | 0.054 | 0.006 | 0.28 | n.a. | MB |
| 4 | 6.09 | NITRITE | 0.346 | 0.249 | 10.97 | 0.495 | BM * |
| 5 | 7.40 | SULFATE | 2.215 | 0.543 | 23.95 | 3.727 ✓ | M * |
| 6 | 8.75 | BROMIDE | 0.021 | 0.005 | 0.23 | 0.051 | MB |
| 7 | 10.67 | NITRATE | 0.006 | 0.001 | 0.06 | 0.003 | BMB |
| 8 | 16.56 | PHOSPHATE | 0.005 | 0.001 | 0.05 | 0.006 | BMB |
| **Total:** | | | 12.864 | 2.267 | 100.00 | 11.468 | |

# 52 MC26484-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **MC26484-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **45** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 3:18** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



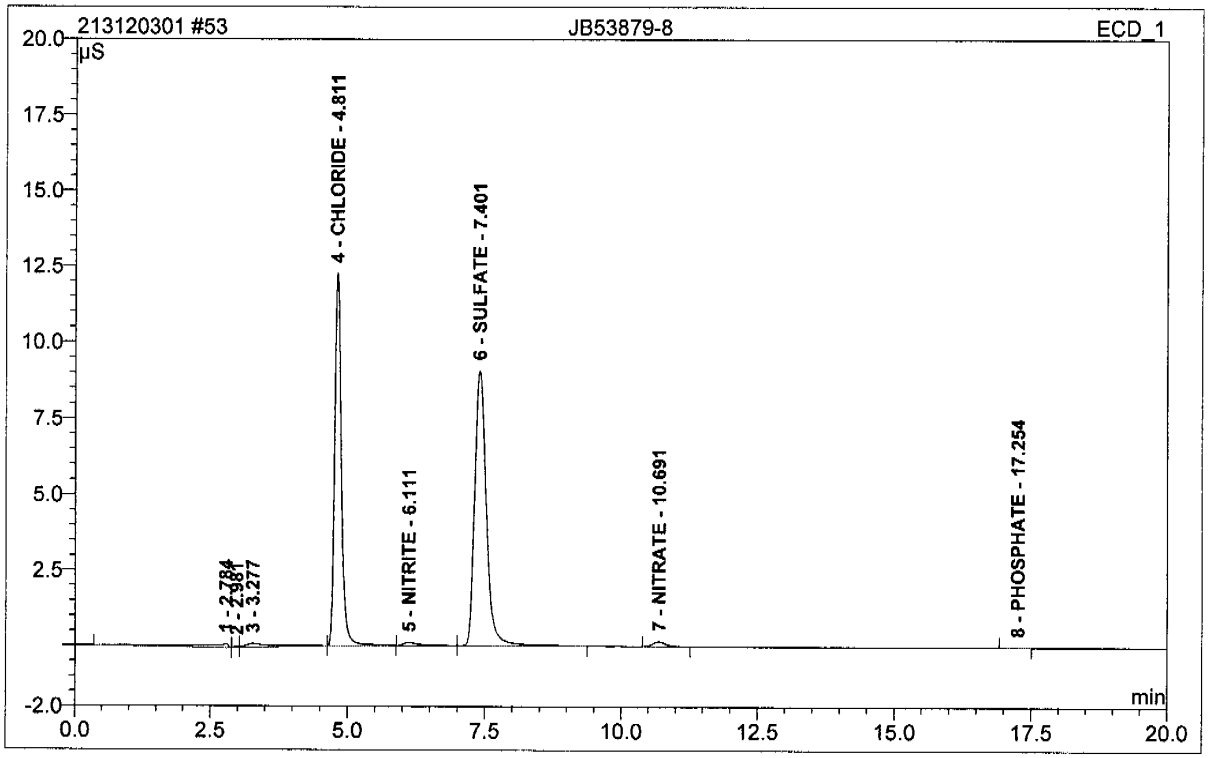

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.136 | 0.101 | 4.26 | n.a. | BMB |
| 2 | 3.23 | FLUORIDE | 0.324 | 0.065 | 2.76 | 0.195 | BMB |
| 3 | 3.61 | n.a. | 0.012 | 0.001 | 0.05 | n.a. | Rd |
| 4 | 4.81 | CHLORIDE | 9.892 | 1.395 | 58.91 | 6.987 | BM |
| 5 | 5.64 | n.a. | 0.054 | 0.006 | 0.27 | n.a. | MB |
| 6 | 6.09 | NITRITE | 0.329 | 0.201 | 8.51 | 0.401 | Ru |
| 7 | 7.40 | SULFATE | 2.215 | 0.590 | 24.93 | 4.052 | BM |
| 8 | 8.75 | BROMIDE | 0.021 | 0.005 | 0.22 | 0.051 | MB |
| 9 | 10.67 | NITRATE | 0.006 | 0.001 | 0.06 | 0.003 | BMB |
| 10 | 16.56 | PHOSPHATE | 0.005 | 0.001 | 0.05 | 0.006 | BMB |
| **Total:** | | | 12.994 | 2.367 | 100.00 | 11.695 | |

DEFAULT/Integration

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## 53 JB53879-8

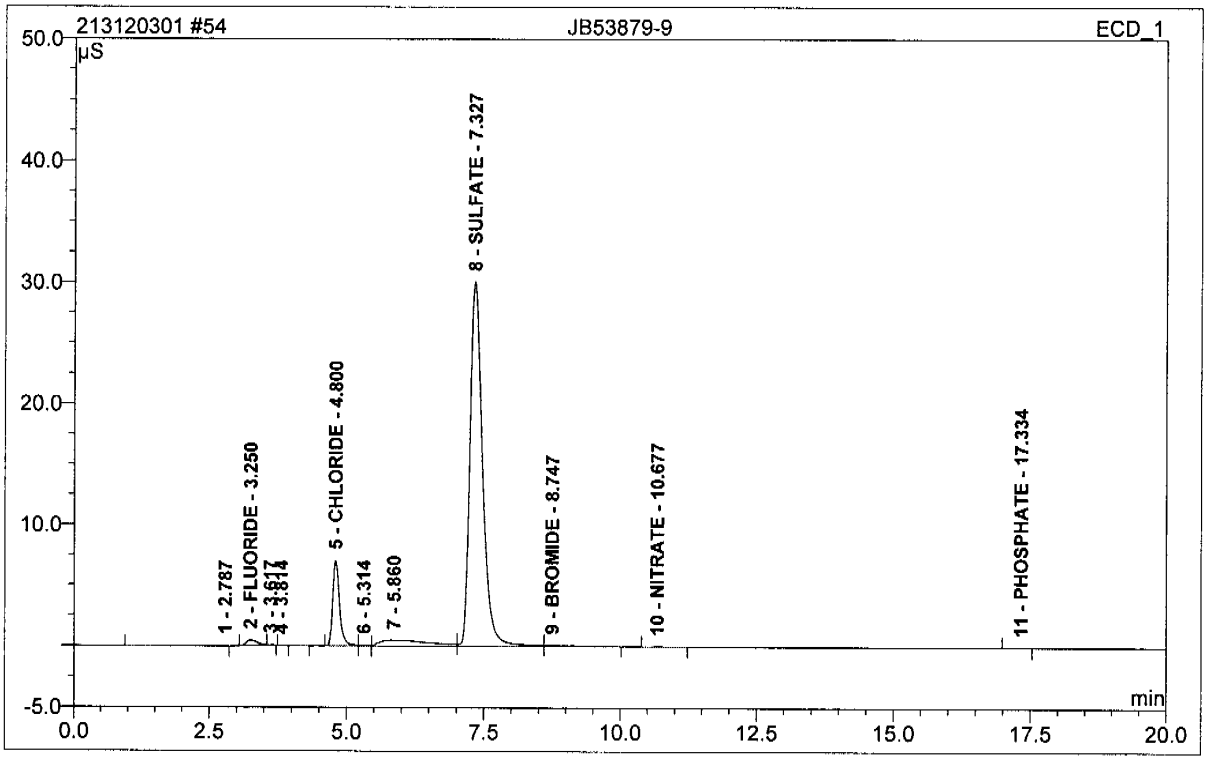
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **46** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 3:42** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.141 | 0.107 | 2.52 | n.a. | BMB |
| 2 | 2.98 | n.a. | 0.052 | 0.005 | 0.12 | n.a. | BM |
| 3 | 3.28 | n.a. | 0.130 | 0.076 | 1.79 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 12.260 | 1.738 | 40.78 | 8.707 | BMB |
| 5 | 6.11 | NITRITE | 0.105 | 0.038 | 0.90 | 0.076 | BM |
| 6 | 7.40 | SULFATE | 9.056 | 2.251 | 52.80 | 15.454 | MB |
| 7 | 10.69 | NITRATE | 0.165 | 0.045 | 1.06 | 0.094 | BMB |
| 8 | 17.25 | PHOSPHATE | 0.004 | 0.001 | 0.03 | 0.007 | BMB |
| **Total:** | | | 21.914 | 4.262 | 100.00 | 24.339 | |

## 54 JB53879-9

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-9** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **47** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 4:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

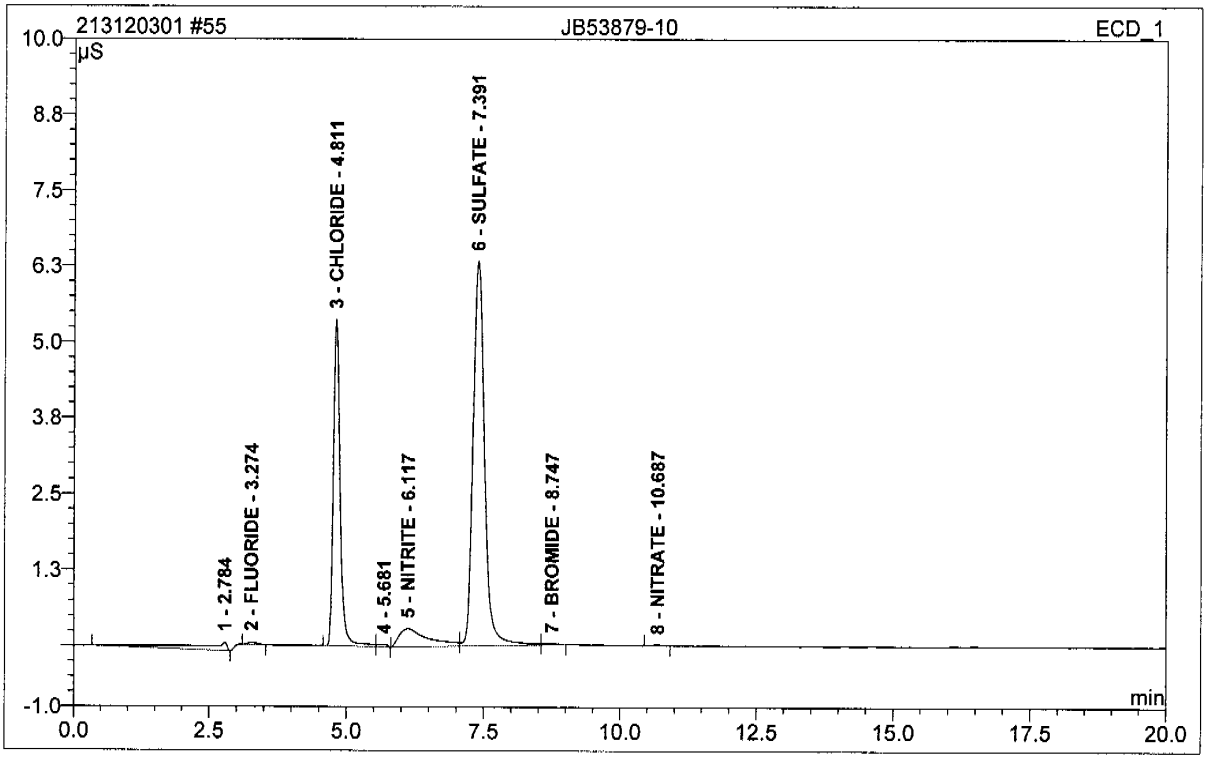



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.062 | 0.037 | 0.38 | n.a. | BMB |
| 2 | 3.25 | FLUORIDE | 0.451 | 0.131 | 1.35 | 0.390 | BMB |
| 3 | 3.62 | n.a. | 0.013 | 0.001 | 0.01 | n.a. | Rd |
| 4 | 3.81 | n.a. | 0.013 | 0.001 | 0.01 | n.a. | Rd |
| 5 | 4.80 | CHLORIDE | 7.042 | 1.000 | 10.29 | 5.008 | BM |
| 6 | 5.31 | n.a. | 0.081 | 0.015 | 0.16 | n.a. | MB |
| 7 | 5.86 | n.a. | 0.466 | 0.481 | 4.95 | n.a. | BM |
| 8 | 7.33 | SULFATE | 30.028 | 7.989 | 82.26 | 54.856 | M |
| 9 | 8.75 | BROMIDE | 0.088 | 0.049 | 0.51 | 0.481 | MB |
| 10 | 10.68 | NITRATE | 0.018 | 0.006 | 0.06 | 0.012 | BMB |
| 11 | 17.33 | PHOSPHATE | 0.004 | 0.001 | 0.01 | 0.007 | BMB |

| | | | | | |
|---|---|---|---|---|---|
| **Total:** | | 38.266 | 9.712 | 100.00 | 60.754 |

## 55 JB53879-10

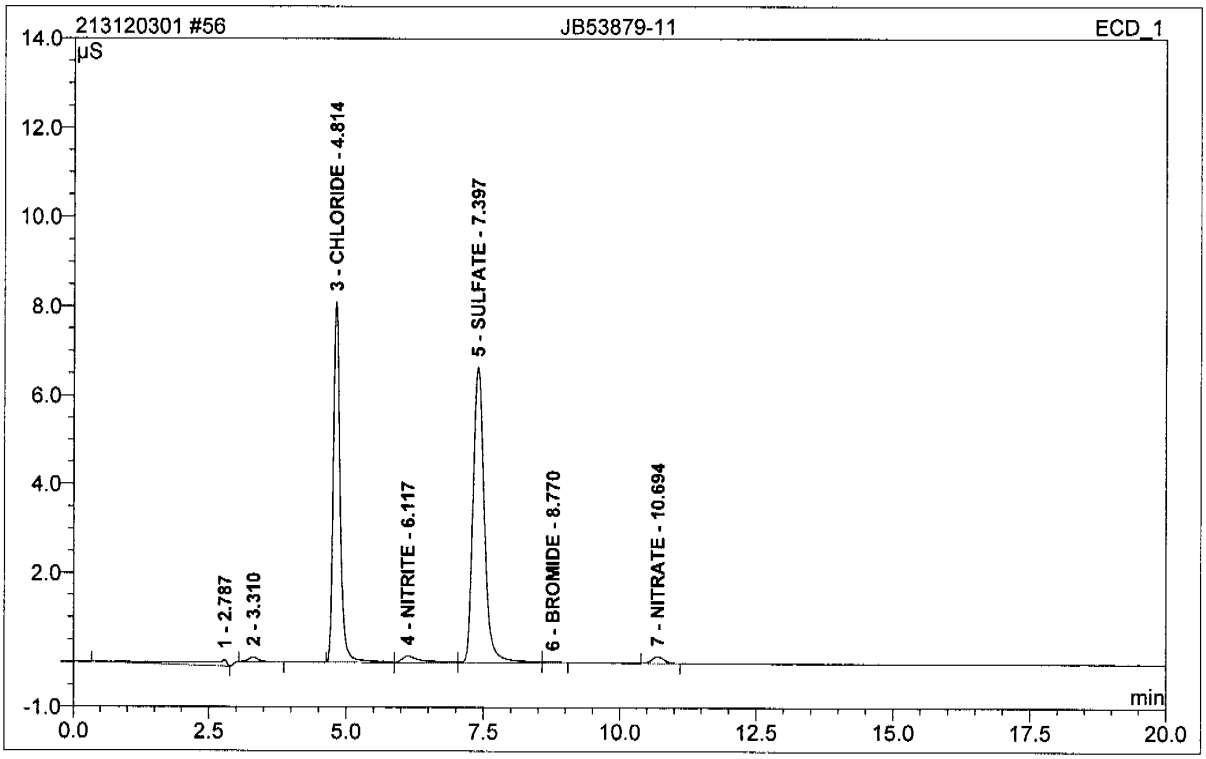
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-10** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **48** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 4:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.137 | 0.109 | 4.18 | n.a. | BMB |
| 2 | 3.27 | FLUORIDE | 0.043 | 0.008 | 0.29 | 0.023 | BMB |
| 3 | 4.81 | CHLORIDE | 5.367 | 0.768 | 29.29 | 3.845 | BM |
| 4 | 5.68 | n.a. | 0.042 | 0.009 | 0.33 | n.a. | MB |
| 5 | 6.12 | NITRITE | 0.300 | 0.185 | 7.07 | 0.369 | BM |
| 6 | 7.39 | SULFATE | 6.319 | 1.533 | 58.51 | 10.525 | M |
| 7 | 8.75 | BROMIDE | 0.018 | 0.006 | 0.22 | 0.057 | MB |
| 8 | 10.69 | NITRATE | 0.013 | 0.003 | 0.11 | 0.006 | BMB |
| **Total:** | | | 12.239 | 2.620 | 100.00 | 14.825 | |

## 56 JB53879-11

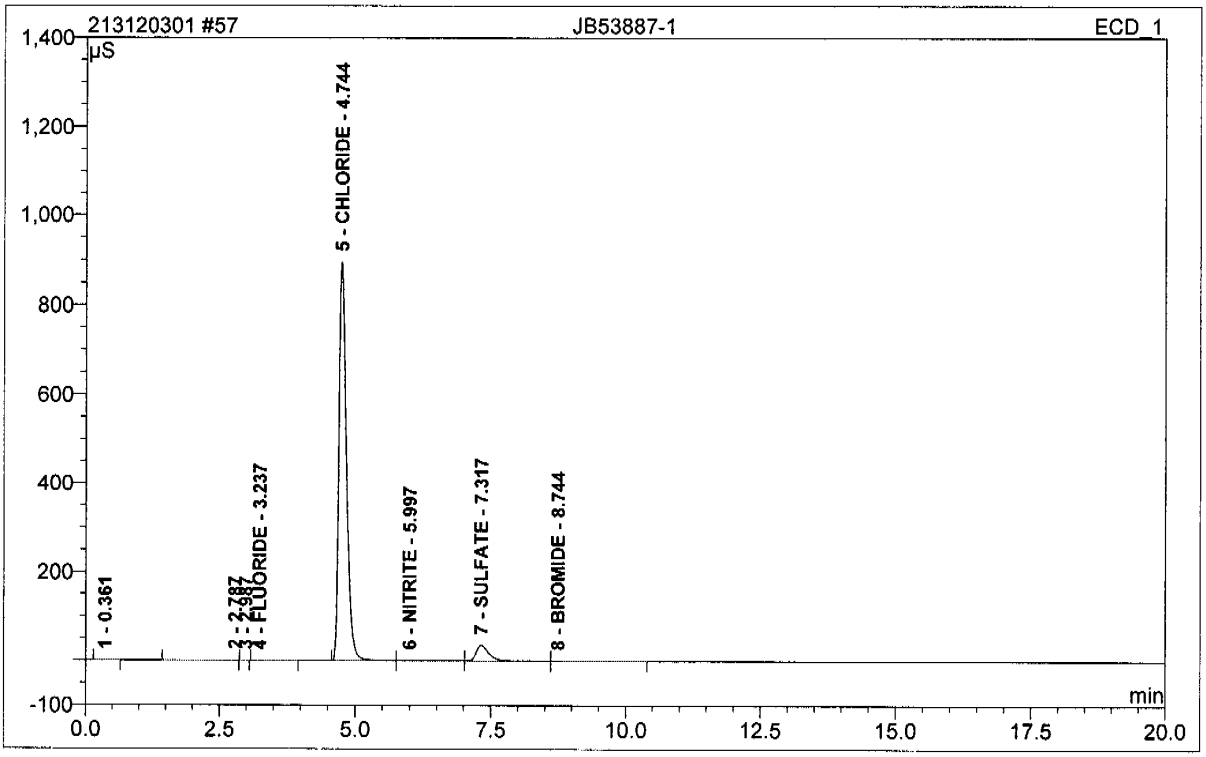
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53879-11** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **49** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 4:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.140 | 0.110 | 3.68 | n.a. | BMB |
| 2 | 3.31 | n.a. | 0.107 | 0.025 | 0.83 | n.a. | BMB |
| 3 | 4.81 | CHLORIDE | 8.107 | 1.170 | 38.94 | 5.860 | BMB |
| 4 | 6.12 | NITRITE | 0.150 | 0.060 | 2.00 | 0.120 | BM |
| 5 | 7.40 | SULFATE | 6.637 | 1.594 | 53.04 | 10.942 | M |
| 6 | 8.77 | BROMIDE | 0.025 | 0.006 | 0.21 | 0.061 | MB |
| 7 | 10.69 | NITRATE | 0.149 | 0.039 | 1.30 | 0.081 | BMB |
| **Total:** | | | 15.315 | 3.004 | 100.00 | 17.064 | |

## 57 JB53887-1

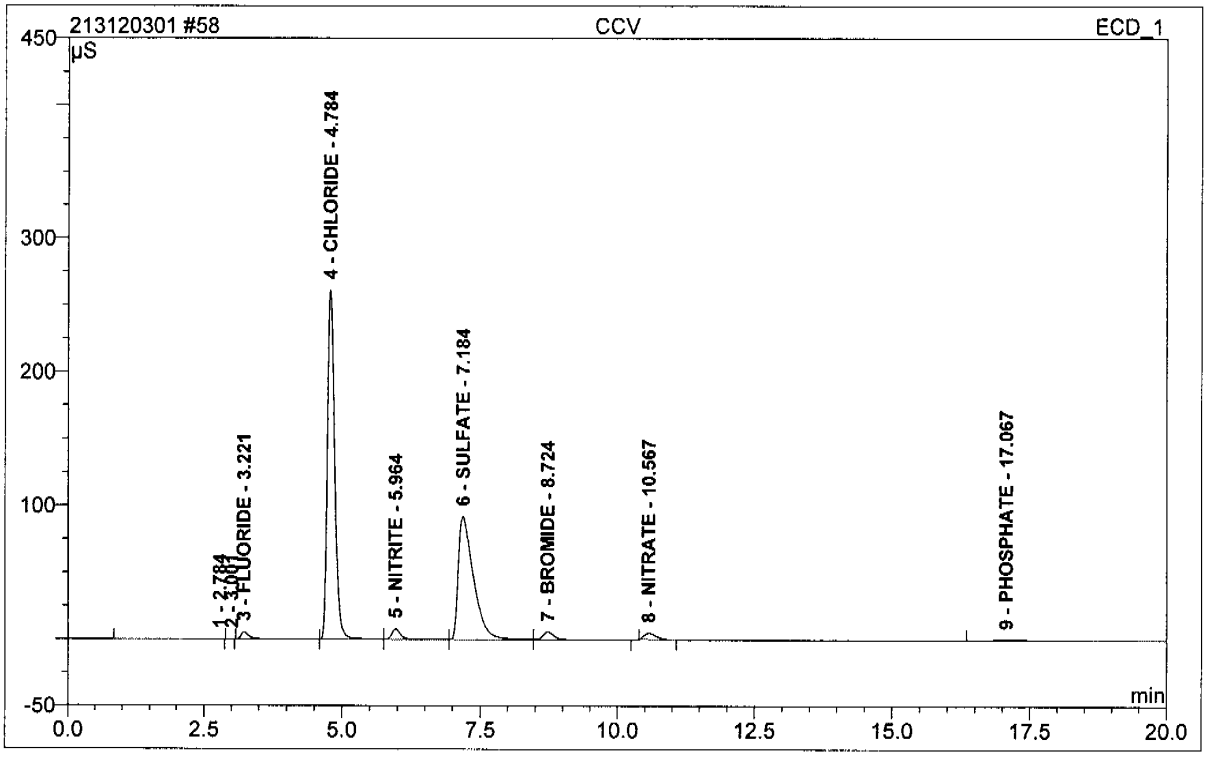
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB53887-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **50** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 5:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.36 | n.a. | 0.010 | 0.002 | 0.00 | n.a. | BMB |
| 2 | 2.79 | n.a. | 0.066 | 0.029 | 0.02 | n.a. | BMB |
| 3 | 2.99 | n.a. | 0.023 | 0.003 | 0.00 | n.a. | BMB |
| 4 | 3.24 | FLUORIDE | 0.071 | 0.017 | 0.01 | 0.050 | BMB |
| 5 | 4.74 | CHLORIDE | 895.290 | 144.149 | 93.22 | 722.181 | BM |
| 6 | 6.00 | NITRITE | 0.718 | 0.645 | 0.42 | 1.285 | M |
| 7 | 7.32 | SULFATE | 35.168 | 9.672 | 6.25 | 66.414 | M |
| 8 | 8.74 | BROMIDE | 0.188 | 0.122 | 0.08 | 1.198 | MB |
| **Total:** | | | 931.535 | 154.639 | 100.00 | 791.128 | |

## 58 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **1** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 5:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | | Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.096 | 0.064 | 0.09 | | n.a. | BMB |
| 2 | 3.00 | n.a. | 0.028 | 0.003 | 0.00 | | n.a. | BMB |
| 3 | 3.22 | FLUORIDE | 5.479 | 0.945 | 1.26 | | 2.820 | BMB |
| 4 | 4.78 | CHLORIDE | 260.955 | 39.998 | 53.20 | 200 | 200.391 ✓ | BM |
| 5 | 5.96 | NITRITE | 7.920 | 1.598 | 2.13 | | 3.184 | M |
| 6 | 7.18 | SULFATE | 91.858 | 29.432 | 39.15 | 200 | 202.096 ✓ | M |
| 7 | 8.72 | BROMIDE | 5.894 | 1.438 | 1.91 | | 14.099 | MB |
| 8 | 10.57 | NITRATE | 4.604 | 1.193 | 1.59 | | 2.474 | BMB |
| 9 | 17.07 | PHOSPHATE | 0.596 | 0.507 | 0.67 | | 2.845 | BMB |
| **Total:** | | | 377.430 | 75.178 | 100.00 | | 427.908 | |

100.2

101.05

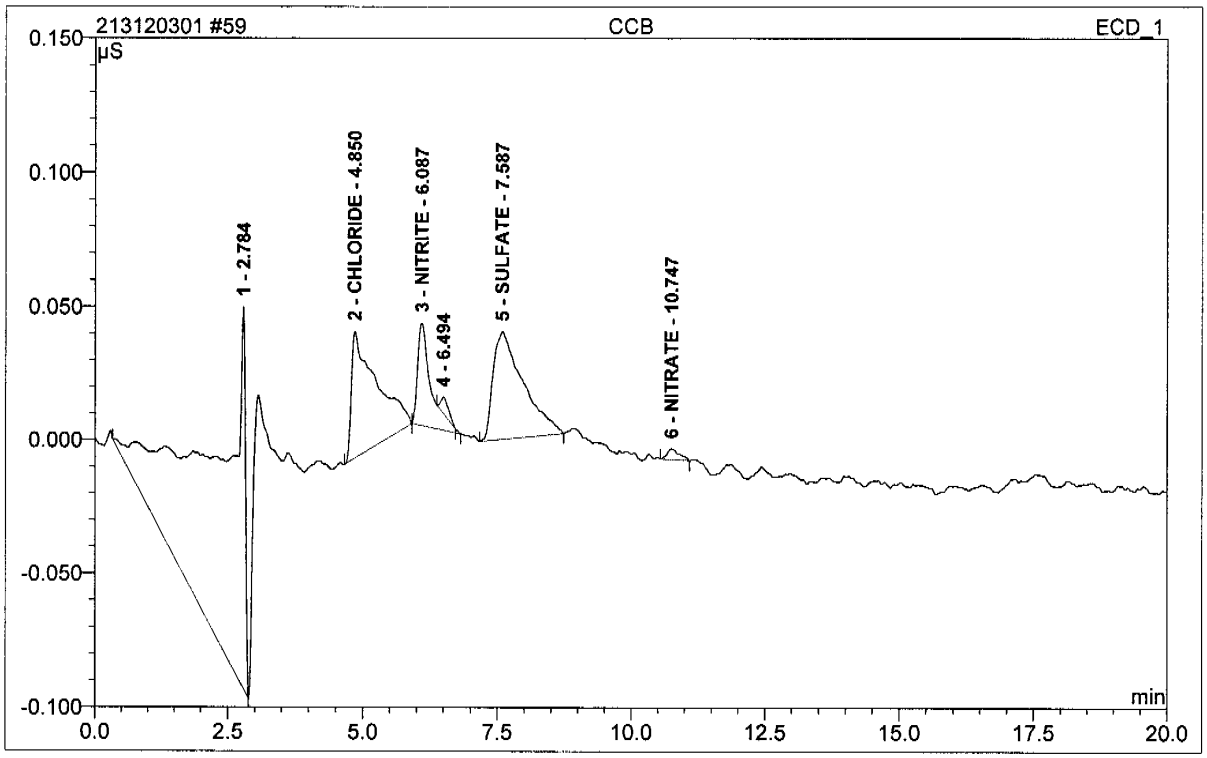


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12.1 12

## 59 CCB

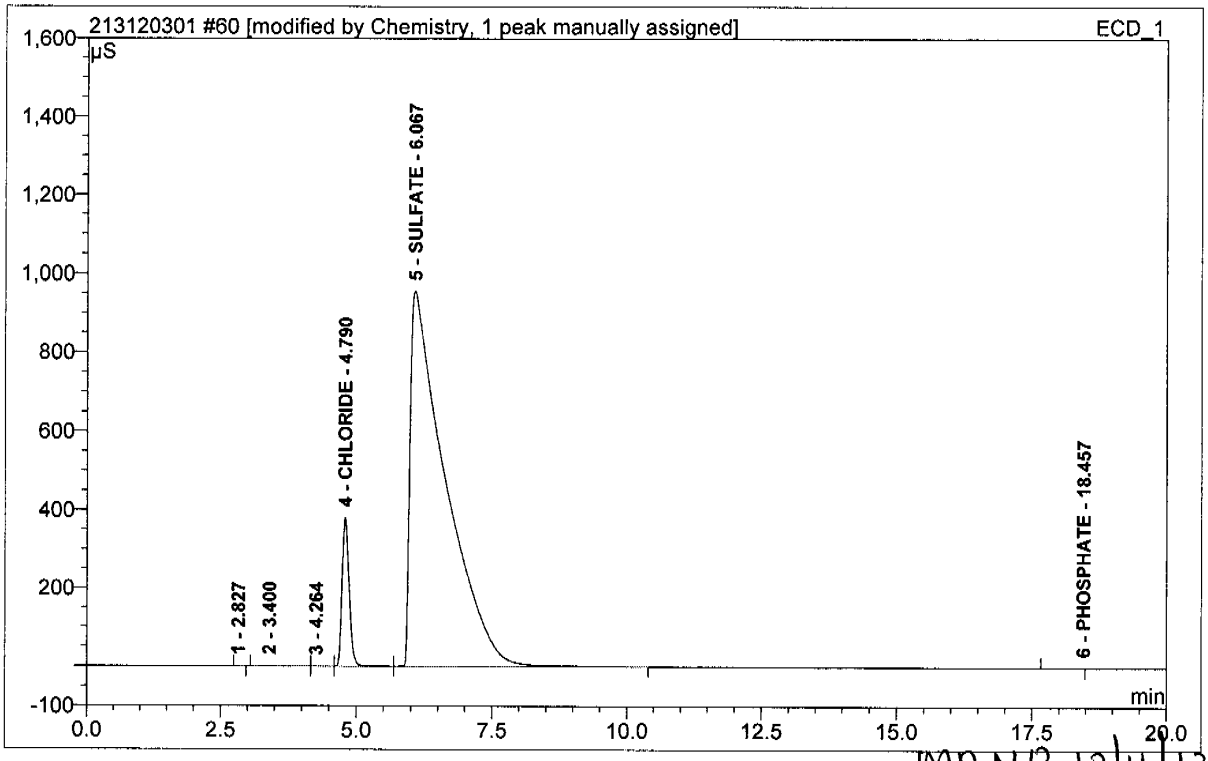
| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **2** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 6:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.78 | n.a. | 0.142 | 0.111 | 63.10 | n.a. | BMB |
| 2 | 4.85 | CHLORIDE | 0.048 | 0.025 | 14.32 | 0.126 | BMB |
| 3 | 6.09 | NITRITE | 0.039 | 0.011 | 6.37 | 0.022 | bMB |
| 4 | 6.49 | n.a. | 0.006 | 0.001 | 0.60 | n.a. | Rd |
| 5 | 7.59 | SULFATE | 0.041 | 0.026 | 15.01 | 0.181 | BMB |
| 6 | 10.75 | NITRATE | 0.004 | 0.001 | 0.60 | 0.002 | BMB |
| **Total:** | | | 0.279 | 0.176 | 100.00 | 0.332 | |

## 60 JB54122-1

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 6:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



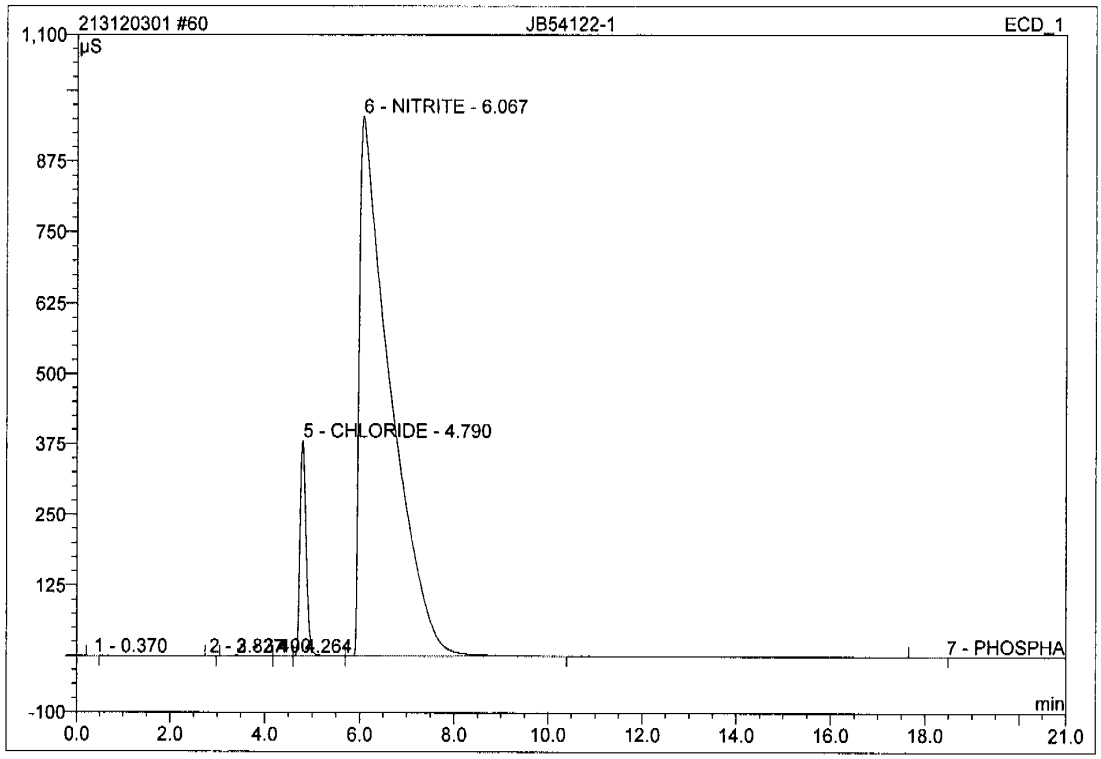

MP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.83 | n.a. | 0.370 | 0.036 | 0.00 | n.a. | BMB |
| 2 | 3.40 | n.a. | 0.711 | 0.215 | 0.03 | n.a. | BM |
| 3 | 4.26 | n.a. | 0.030 | 0.007 | 0.00 | n.a. | MB |
| 4 | 4.79 | CHLORIDE | 380.675 | 57.124 | 7.34 | 286.190 | BMB |
| 5 | 6.07 | SULFATE | 955.217 | 720.742 | 92.63 | 4948.934 | BMB^ |
| 6 | 18.46 | PHOSPHATE | 0.001 | 0.001 | 0.00 | 0.008 | BMB |
| **Total:** | | | 1337.004 | 778.126 | 100.00 | 5235.133 | |

SO4 over-range. Rerun at 1:30 dilution.

## 60 JB54122-1

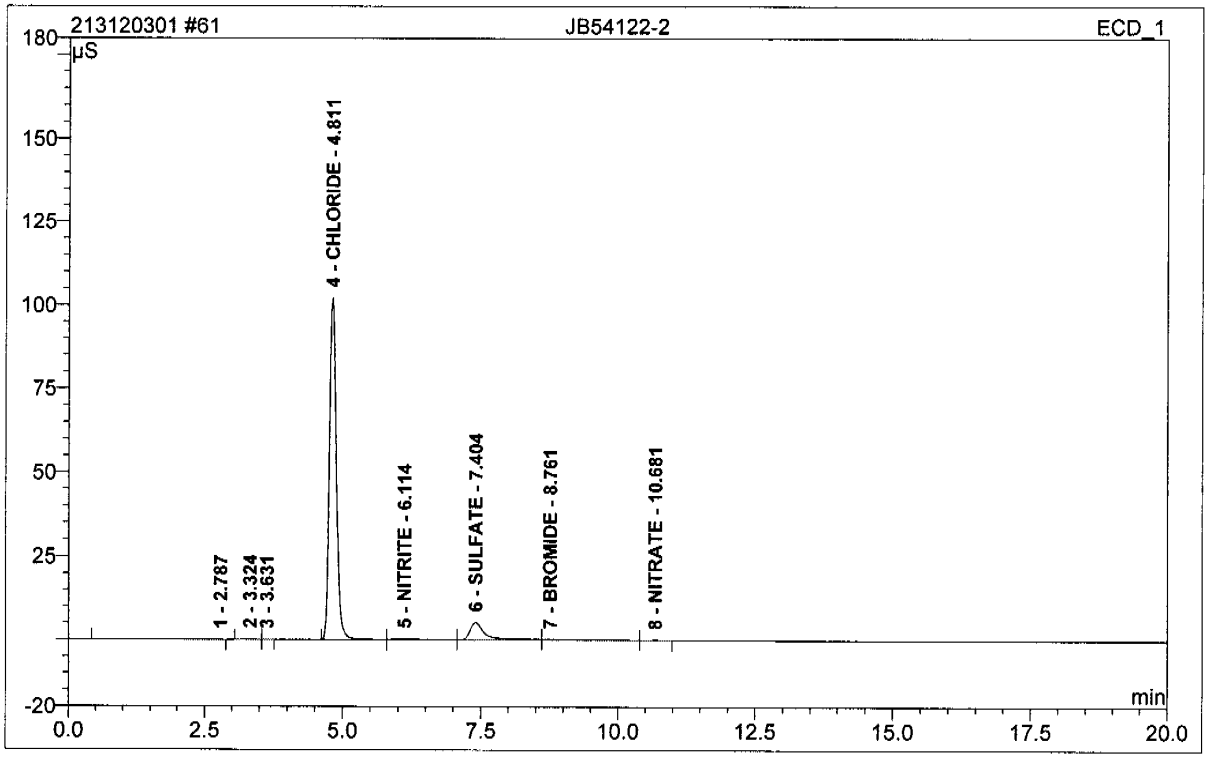
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-1** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **3** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 6:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.37 | n.a. | 0.013 | 0.001 | 0.00 | n.a. | BMB |
| 2 | 2.83 | n.a. | 0.370 | 0.036 | 0.00 | n.a. | BMB |
| 3 | 3.40 | n.a. | 0.711 | 0.215 | 0.03 | n.a. | BM |
| 4 | 4.26 | n.a. | 0.030 | 0.007 | 0.00 | n.a. | MB |
| 5 | 4.79 | CHLORIDE | 380.675 | 57.124 | 7.34 | 286.190 | BMB |
| 6 | 6.07 | NITRITE | 955.217 | 720.742 | 92.63 | 1436.237 | BMB |
| 7 | 18.46 | PHOSPHATE | 0.001 | 0.001 | 0.00 | 0.008 | BMB |
| **Total:** | | | 1337.017 | 778.127 | 100.00 | 1722.436 | |

## 61 JB54122-2

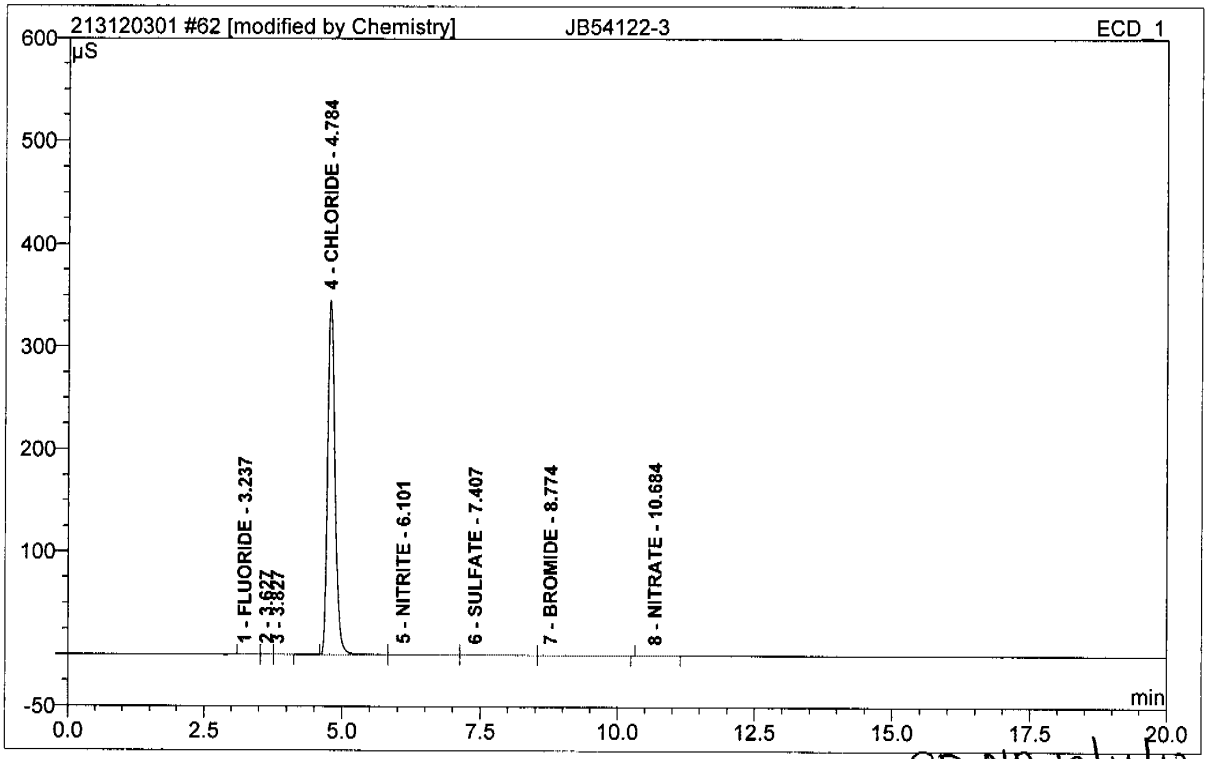
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-2** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **4** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 6:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.135 | 0.115 | 0.67 | n.a. | BMB |
| 2 | 3.32 | n.a. | 0.090 | 0.022 | 0.13 | n.a. | BM |
| 3 | 3.63 | n.a. | 0.029 | 0.003 | 0.02 | n.a. | MB |
| 4 | 4.81 | CHLORIDE | 102.174 | 14.856 | 86.80 | 74.426 | BM |
| 5 | 6.11 | NITRITE | 0.315 | 0.201 | 1.17 | 0.400 | M |
| 6 | 7.40 | SULFATE | 5.259 | 1.739 | 10.16 | 11.943 | M |
| 7 | 8.76 | BROMIDE | 0.242 | 0.173 | 1.01 | 1.693 | Mb |
| 8 | 10.68 | NITRATE | 0.026 | 0.006 | 0.04 | 0.013 | bMB |
| **Total:** | | | 108.270 | 17.115 | 100.00 | 88.475 | |

## 62 JB54122-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 7:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

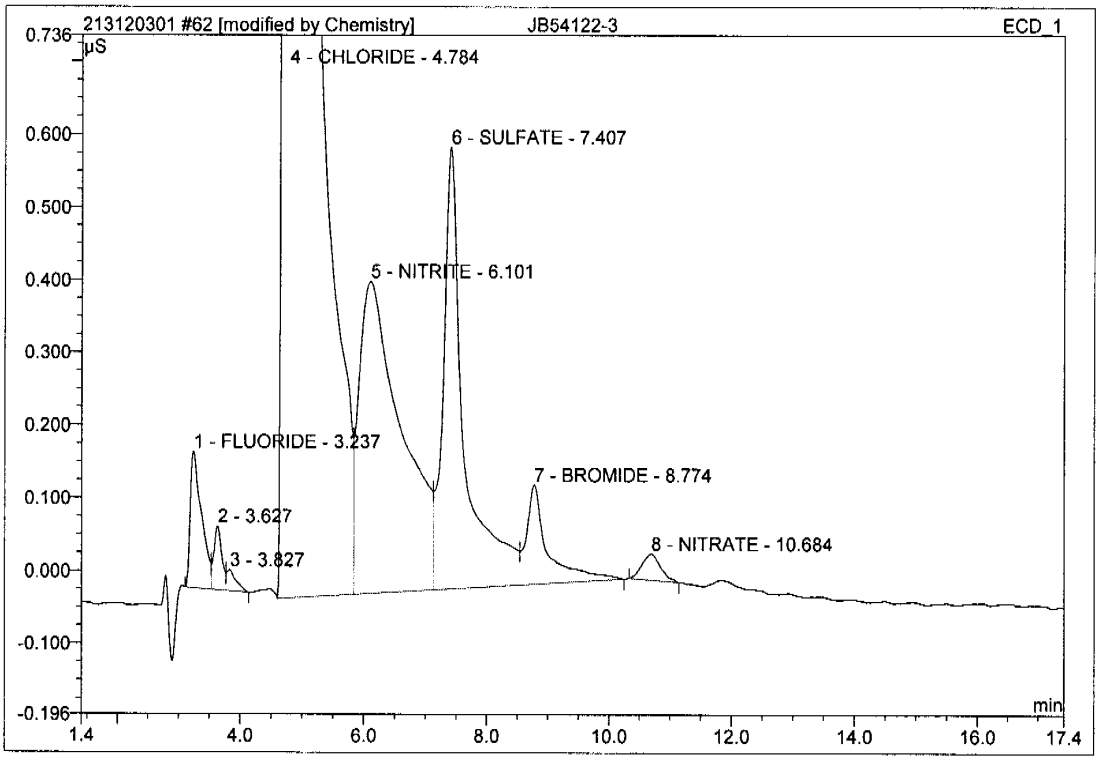



SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.188 | 0.040 | 0.07 | 0.120 | BM |
| 2 | 3.63 | n.a. | 0.088 | 0.013 | 0.02 | n.a. | M * |
| 3 | 3.83 | n.a. | 0.029 | 0.005 | 0.01 | n.a. | MB* |
| 4 | 4.78 | CHLORIDE | 345.808 | 53.500 | 98.68 | 268.033 | BM |
| 5 | 6.10 | NITRITE | 0.429 | 0.344 | 0.63 | 0.685 | M |
| 6 | 7.41 | SULFATE | 0.607 | 0.242 | 0.45 | 1.662 ✓ | M * |
| 7 | 8.77 | BROMIDE | 0.136 | 0.056 | 0.10 | 0.551 | MB* |
| 8 | 10.68 | NITRATE | 0.036 | 0.013 | 0.02 | 0.027 | BMB* |
| **Total:** | | | 347.322 | 54.214 | 100.00 | 271.078 | |

## 62 JB54122-3

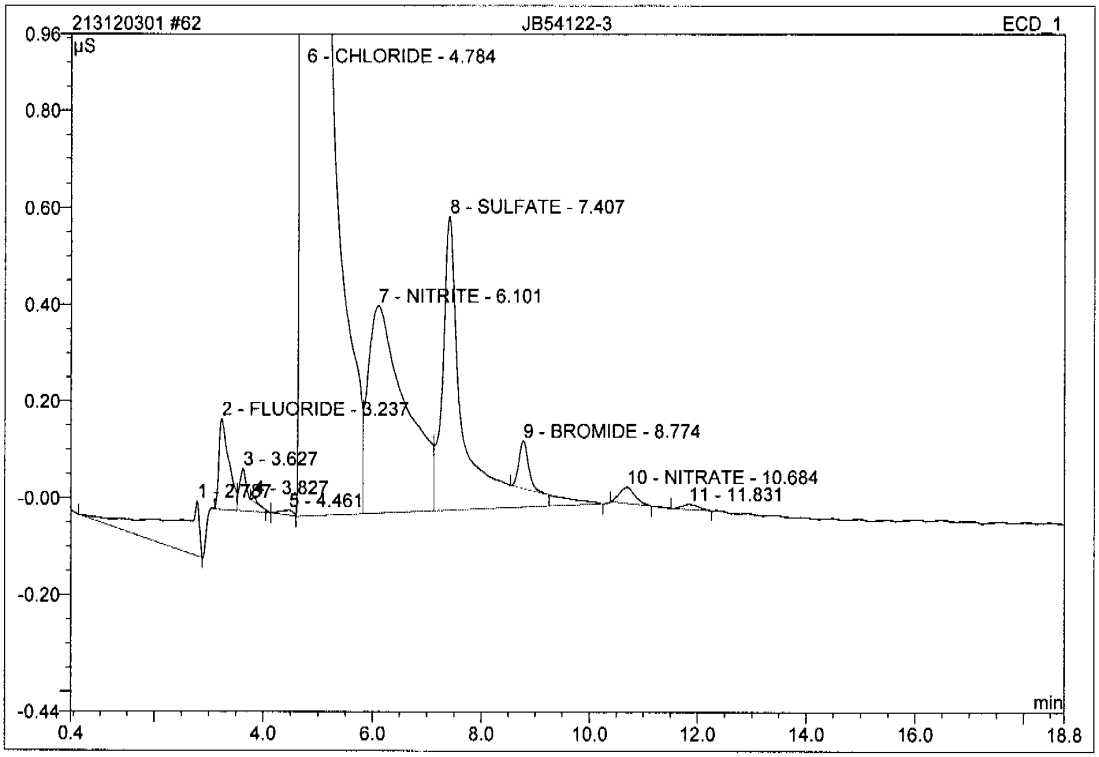
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 7:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.188 | 0.040 | 0.07 | 0.120 | BM |
| 2 | 3.63 | n.a. | 0.088 | 0.013 | 0.02 | n.a. | M * |
| 3 | 3.83 | n.a. | 0.029 | 0.005 | 0.01 | n.a. | MB* |
| 4 | 4.78 | CHLORIDE | 345.808 | 53.500 | 98.68 | 268.033 | BM |
| 5 | 6.10 | NITRITE | 0.429 | 0.344 | 0.63 | 0.685 | M |
| 6 | 7.41 | SULFATE | 0.607 | 0.242 | 0.45 | 1.662 | M * |
| 7 | 8.77 | BROMIDE | 0.136 | 0.056 | 0.10 | 0.551 | MB* |
| 8 | 10.68 | NITRATE | 0.036 | 0.013 | 0.02 | 0.027 | BMB* |
| **Total:** | | | 347.322 | 54.214 | 100.00 | 271.078 | |

## 62 JB54122-3

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-3** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **5** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 7:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.114 | 0.080 | 0.15 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.188 | 0.040 | 0.07 | 0.120 | BM |
| 3 | 3.63 | n.a. | 0.088 | 0.017 | 0.03 | n.a. | MB |
| 4 | 3.83 | n.a. | 0.009 | 0.001 | 0.00 | n.a. | Rd |
| 5 | 4.46 | n.a. | 0.010 | 0.003 | 0.00 | n.a. | BMB |
| 6 | 4.78 | CHLORIDE | 345.808 | 53.500 | 98.53 | 268.033 | BM |
| 7 | 6.10 | NITRITE | 0.429 | 0.344 | 0.63 | 0.685 | M |
| 8 | 7.41 | SULFATE | 0.607 | 0.278 | 0.51 | 1.906 | MB |
| 9 | 8.77 | BROMIDE | 0.097 | 0.021 | 0.04 | 0.202 | Rd |
| 10 | 10.68 | NITRATE | 0.033 | 0.011 | 0.02 | 0.023 | BMB |
| 11 | 11.83 | n.a. | 0.011 | 0.004 | 0.01 | n.a. | BMB |

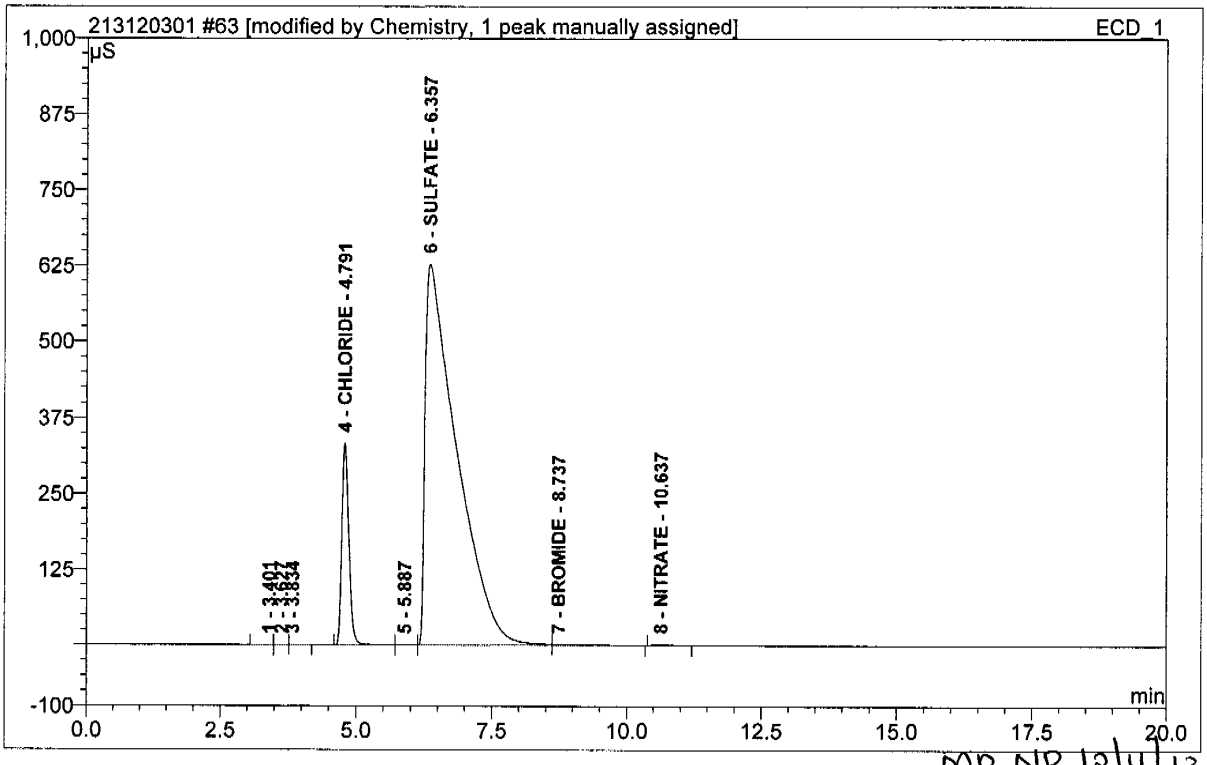
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| | | | | | |
|---|---|---|---|---|---|
| **Total:** | | 347.395 | 54.298 | 100.00 | 270.970 |

## 63 JB54122-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 7:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




MP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.40 | n.a. | 0.102 | 0.027 | 0.01 | n.a. | BM |
| 2 | 3.63 | n.a. | 0.096 | 0.022 | 0.00 | n.a. | M |
| 3 | 3.83 | n.a. | 0.057 | 0.010 | 0.00 | n.a. | MB |
| 4 | 4.79 | CHLORIDE | 334.453 | 49.905 | 10.48 | 250.024 | BM |
| 5 | 5.89 | n.a. | 0.420 | 0.129 | 0.03 | n.a. | M |
| 6 | 6.36 | SULFATE | 628.334 | 424.496 | 89.18 | 2914.783 | M ^ |
| 7 | 8.74 | BROMIDE | 1.669 | 0.952 | 0.20 | 9.337 | MB |
| 8 | 10.64 | NITRATE | 1.662 | 0.442 | 0.09 | 0.918 | BMB |
| **Total:** | | | 966.794 | 475.984 | 100.00 | 3175.062 | |

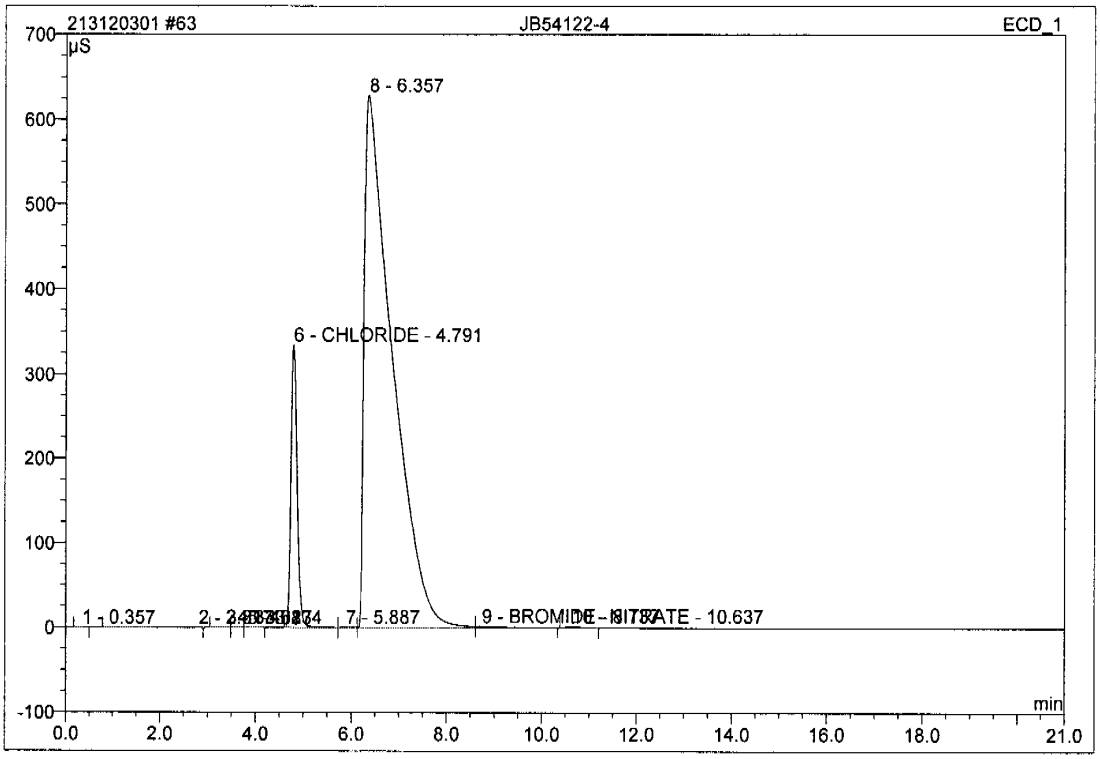
Soy over-range. Rerun at 1:15 dilution.

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# 63 JB54122-4

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-4** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **6** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 7:41** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



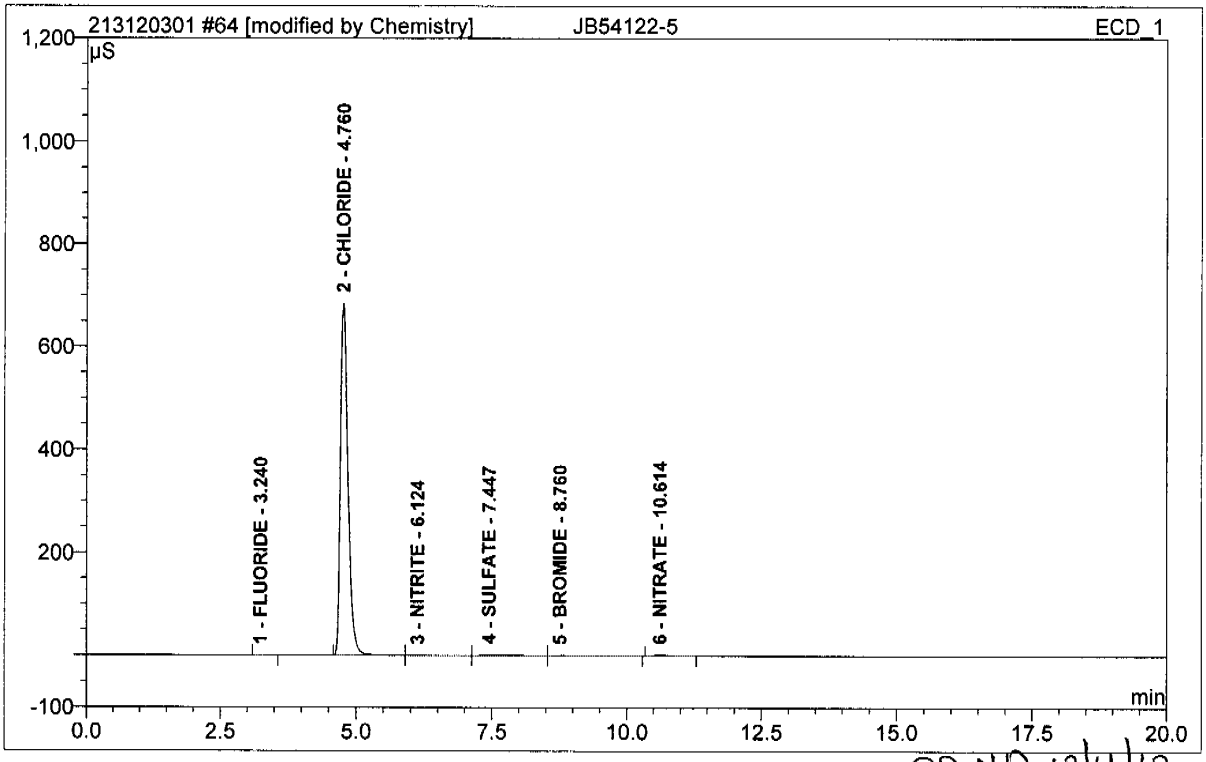

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 0.36 | n.a. | 0.011 | 0.001 | 0.00 | n.a. | BMB |
| 2 | 2.82 | n.a. | 0.101 | 0.068 | 0.01 | n.a. | BMB |
| 3 | 3.40 | n.a. | 0.102 | 0.027 | 0.01 | n.a. | BM |
| 4 | 3.63 | n.a. | 0.096 | 0.022 | 0.00 | n.a. | M |
| 5 | 3.83 | n.a. | 0.057 | 0.010 | 0.00 | n.a. | MB |
| 6 | 4.79 | CHLORIDE | 334.453 | 49.905 | 10.48 | 250.024 | BM |
| 7 | 5.89 | n.a. | 0.420 | 0.129 | 0.03 | n.a. | M |
| 8 | 6.36 | n.a. | 628.334 | 424.496 | 89.17 | n.a. | M |
| 9 | 8.74 | BROMIDE | 1.669 | 0.952 | 0.20 | 9.337 | MB |
| 10 | 10.64 | NITRATE | 1.662 | 0.442 | 0.09 | 0.918 | BMB |
| **Total:** | | | 966.906 | 476.054 | 100.00 | 260.279 | |

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## 64 JB54122-5

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

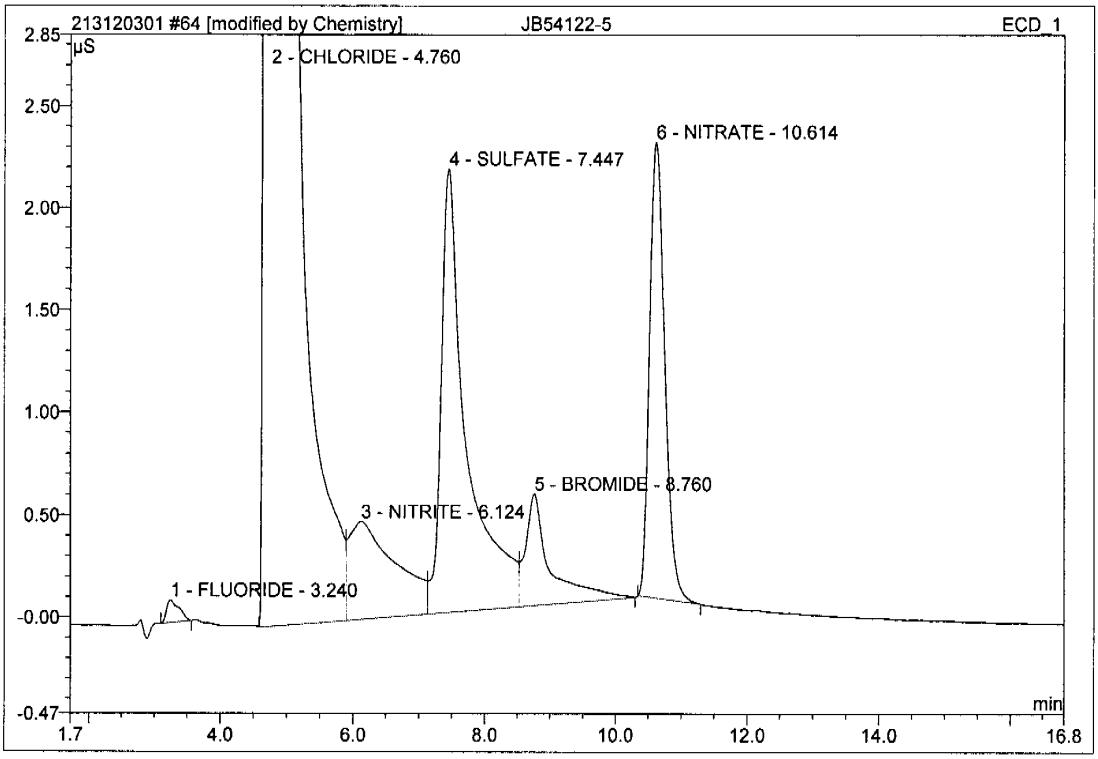



SP NP 12/4/13

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.111 | 0.024 | 0.02 | 0.072 | BMB |
| 2 | 4.76 | CHLORIDE | 684.360 | 110.834 | 98.03 | 555.276 | BM |
| 3 | 6.12 | NITRITE | 0.479 | 0.389 | 0.34 | 0.775 | M |
| 4 | 7.45 | SULFATE | 2.166 | 0.973 | 0.86 | 6.679 ✓ | M * |
| 5 | 8.76 | BROMIDE | 0.545 | 0.240 | 0.21 | 2.352 | MB* |
| 6 | 10.61 | NITRATE | 2.225 | 0.598 | 0.53 | 1.240 | BMB* |
| **Total:** | | | 689.886 | 113.058 | 100.00 | 566.394 | |

## 64 JB54122-5

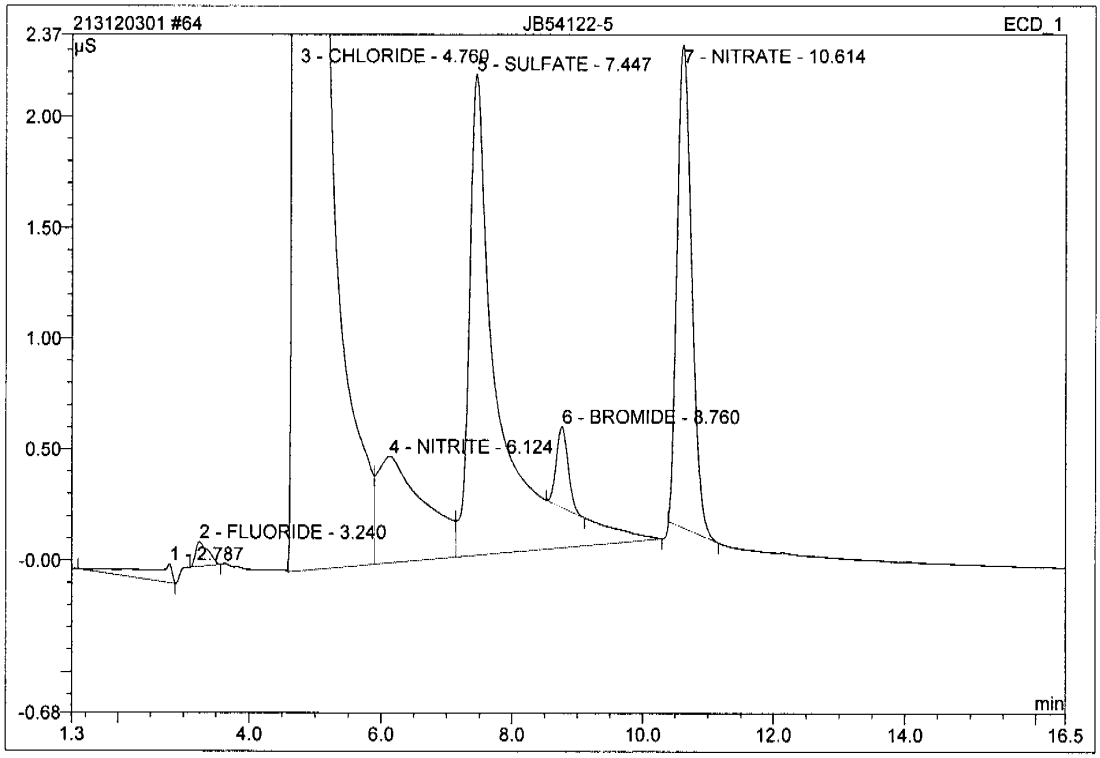
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 3.24 | FLUORIDE | 0.111 | 0.024 | 0.02 | 0.072 | BMB |
| 2 | 4.76 | CHLORIDE | 684.360 | 110.834 | 98.03 | 555.276 | BM |
| 3 | 6.12 | NITRITE | 0.479 | 0.389 | 0.34 | 0.775 | M |
| 4 | 7.45 | SULFATE | 2.166 | 0.973 | 0.86 | 6.679 | M * |
| 5 | 8.76 | BROMIDE | 0.545 | 0.240 | 0.21 | 2.352 | MB* |
| 6 | 10.61 | NITRATE | 2.225 | 0.598 | 0.53 | 1.240 | BMB* |
| **Total:** | | | 689.886 | 113.058 | 100.00 | 566.394 | |

## 64 JB54122-5

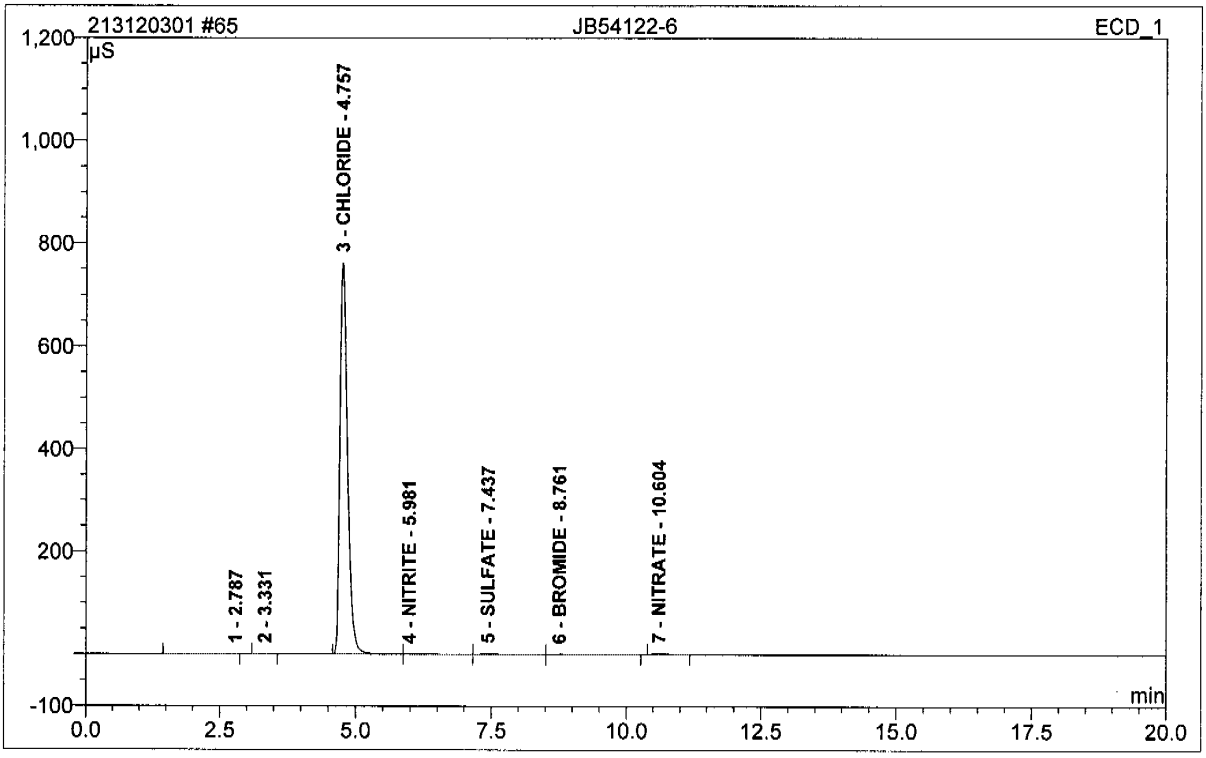
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-5** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **7** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:05** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.085 | 0.045 | 0.04 | n.a. | BMB |
| 2 | 3.24 | FLUORIDE | 0.111 | 0.024 | 0.02 | 0.072 | BMB |
| 3 | 4.76 | CHLORIDE | 684.360 | 110.834 | 98.02 | 555.276 | BM |
| 4 | 6.12 | NITRITE | 0.479 | 0.389 | 0.34 | 0.775 | M |
| 5 | 7.45 | SULFATE | 2.166 | 1.137 | 1.01 | 7.808 | MB |
| 6 | 8.76 | BROMIDE | 0.362 | 0.075 | 0.07 | 0.740 | Rd |
| 7 | 10.61 | NITRATE | 2.170 | 0.564 | 0.50 | 1.170 | BMB |
| **Total:** | | | 689.733 | 113.069 | 100.00 | 565.841 | |

## 65 JB54122-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



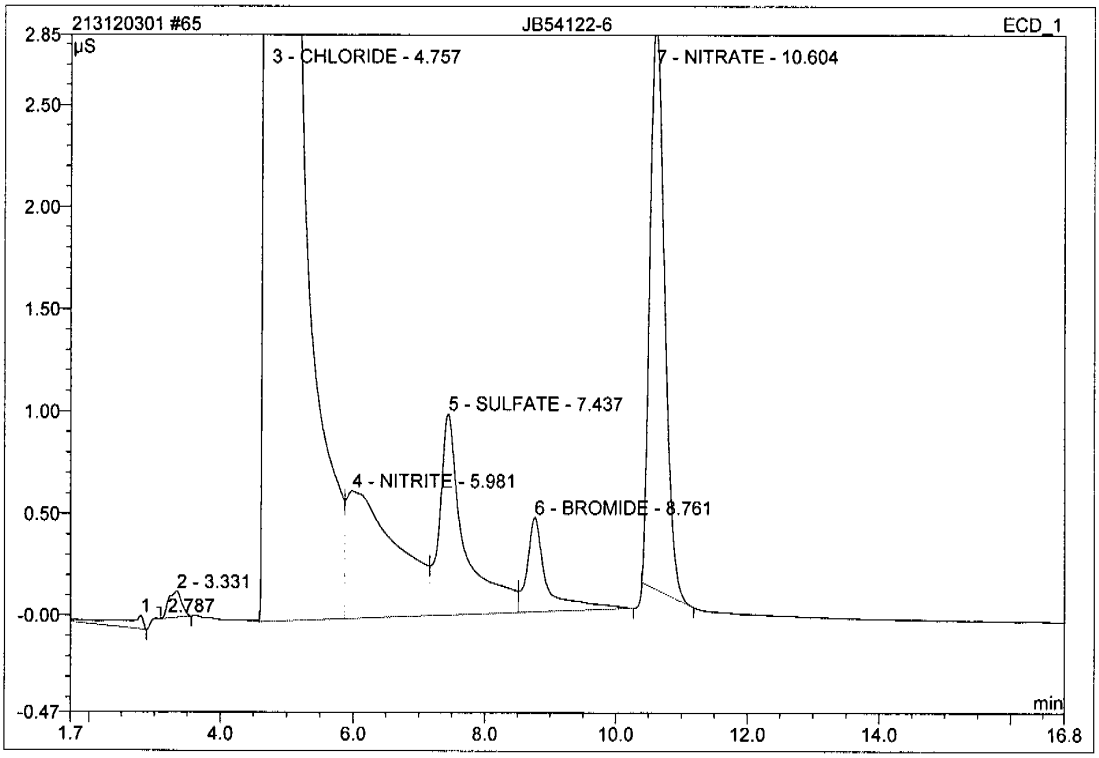

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.066 | 0.031 | 0.02 | n.a. | BMB |
| 2 | 3.33 | n.a. | 0.130 | 0.030 | 0.02 | n.a. | BMB |
| 3 | 4.76 | CHLORIDE | 761.292 | 124.253 | 98.47 | 622.504 | BM |
| 4 | 5.98 | NITRITE | 0.627 | 0.551 | 0.44 | 1.097 | M |
| 5 | 7.44 | SULFATE | 0.986 | 0.442 | 0.35 | 3.032 | M |
| 6 | 8.76 | BROMIDE | 0.463 | 0.164 | 0.13 | 1.607 | MB |
| 7 | 10.60 | NITRATE | 2.771 | 0.719 | 0.57 | 1.491 | BMB |
| **Total:** | | | 766.336 | 126.189 | 100.00 | 629.730 | |

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## 65 JB54122-6

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-6** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **8** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:29** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



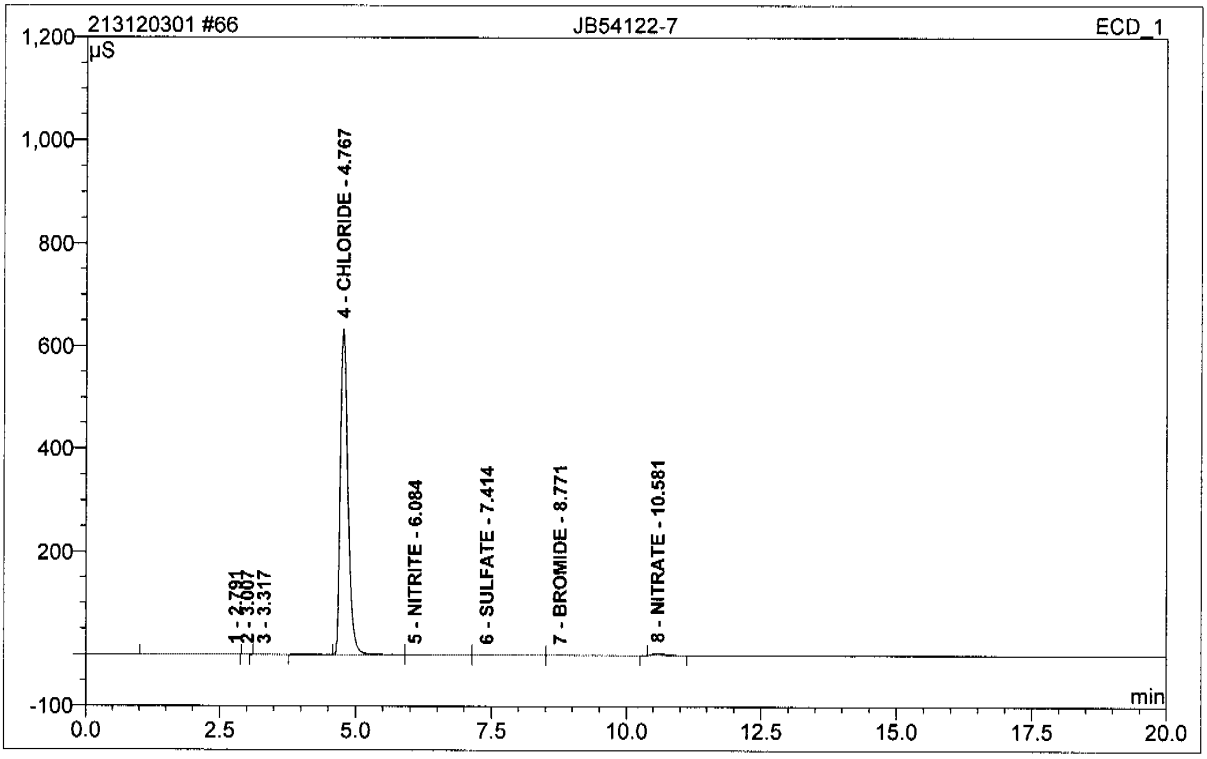

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.066 | 0.031 | 0.02 | n.a. | BMB |
| 2 | 3.33 | n.a. | 0.130 | 0.030 | 0.02 | n.a. | BMB |
| 3 | 4.76 | CHLORIDE | 761.292 | 124.253 | 98.47 | 622.504 | BM |
| 4 | 5.98 | NITRITE | 0.627 | 0.551 | 0.44 | 1.097 | M |
| 5 | 7.44 | SULFATE | 0.986 | 0.442 | 0.35 | 3.032 | M |
| 6 | 8.76 | BROMIDE | 0.463 | 0.164 | 0.13 | 1.607 | MB |
| 7 | 10.60 | NITRATE | 2.771 | 0.719 | 0.57 | 1.491 | BMB |
| **Total:** | | | 766.336 | 126.189 | 100.00 | 629.730 | |

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Version 6.80 SR9a Build 2680 (163077)

# 66 JB54122-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



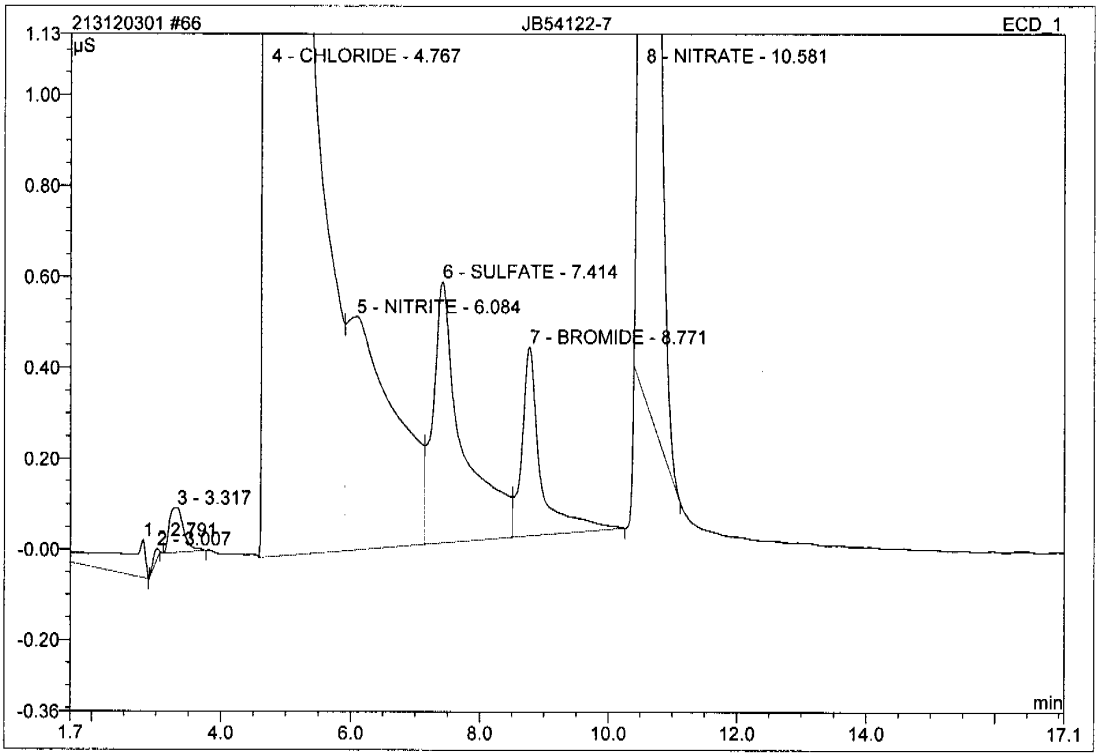

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.084 | 0.053 | 0.05 | n.a. | BMB |
| 2 | 3.01 | n.a. | 0.026 | 0.003 | 0.00 | n.a. | BMB |
| 3 | 3.32 | n.a. | 0.099 | 0.025 | 0.02 | n.a. | BMB |
| 4 | 4.77 | CHLORIDE | 634.108 | 103.356 | 97.95 | 517.808 | BM |
| 5 | 6.08 | NITRITE | 0.513 | 0.442 | 0.42 | 0.880 | M |
| 6 | 7.41 | SULFATE | 0.574 | 0.306 | 0.29 | 2.103 | M |
| 7 | 8.77 | BROMIDE | 0.415 | 0.142 | 0.13 | 1.395 | MB |
| 8 | 10.58 | NITRATE | 4.560 | 1.196 | 1.13 | 2.481 | BMB |
| **Total:** | | | 640.379 | 105.523 | 100.00 | 524.667 | |



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Version 6.80 SR9a Build 2680 (163077)

## 66 JB54122-7

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-7** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **9** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 8:53** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |

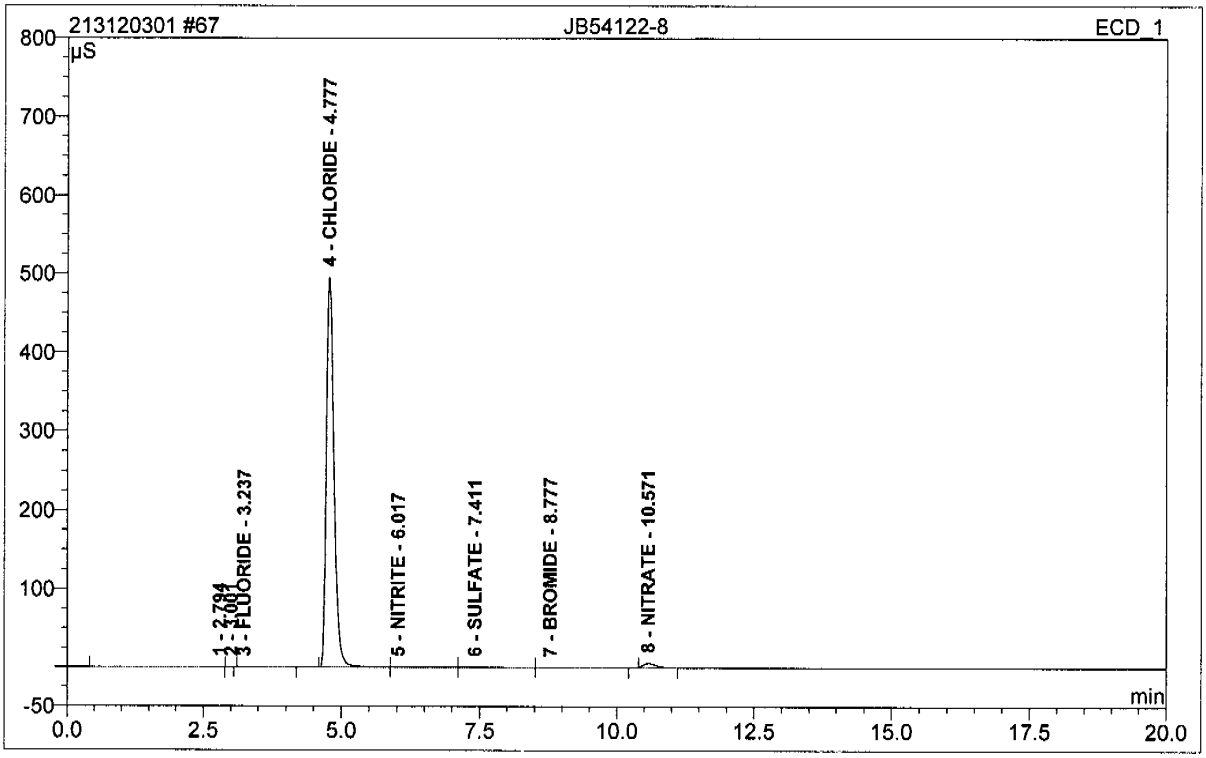



| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.084 | 0.053 | 0.05 | n.a. | BMB |
| 2 | 3.01 | n.a. | 0.026 | 0.003 | 0.00 | n.a. | BMB |
| 3 | 3.32 | n.a. | 0.099 | 0.025 | 0.02 | n.a. | BMB |
| 4 | 4.77 | CHLORIDE | 634.108 | 103.356 | 97.95 | 517.808 | BM |
| 5 | 6.08 | NITRITE | 0.513 | 0.442 | 0.42 | 0.880 | M |
| 6 | 7.41 | SULFATE | 0.574 | 0.306 | 0.29 | 2.103 | M |
| 7 | 8.77 | BROMIDE | 0.415 | 0.142 | 0.13 | 1.395 | MB |
| 8 | 10.58 | NITRATE | 4.560 | 1.196 | 1.13 | 2.481 | BMB |
| **Total:** | | | 640.379 | 105.523 | 100.00 | 524.667 | |

DEFAULT/Integration

## 67 JB54122-8

| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 9:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |



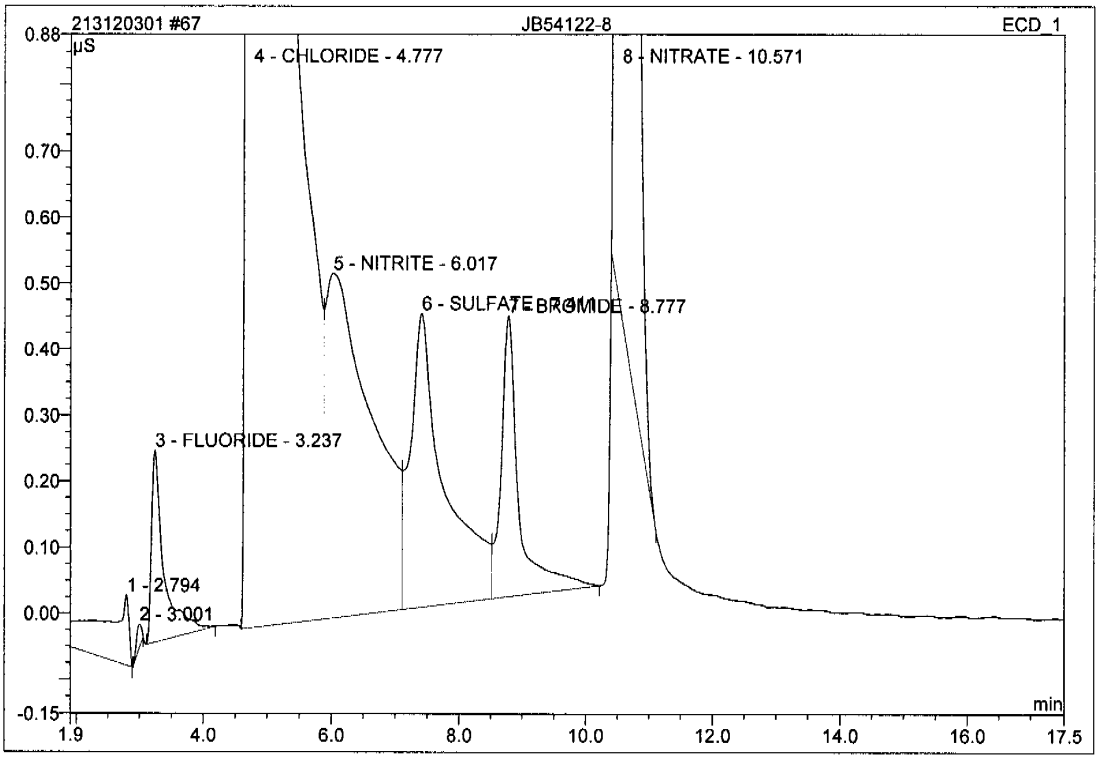

| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.107 | 0.081 | 0.10 | n.a. | BMB |
| 2 | 3.00 | n.a. | 0.037 | 0.003 | 0.00 | n.a. | BMB |
| 3 | 3.24 | FLUORIDE | 0.291 | 0.066 | 0.08 | 0.196 | BMB |
| 4 | 4.78 | CHLORIDE | 495.239 | 79.288 | 97.00 | 397.230 | BM |
| 5 | 6.02 | NITRITE | 0.522 | 0.437 | 0.53 | 0.871 | M |
| 6 | 7.41 | SULFATE | 0.445 | 0.277 | 0.34 | 1.905 | M |
| 7 | 8.78 | BROMIDE | 0.425 | 0.139 | 0.17 | 1.363 | MB |
| 8 | 10.57 | NITRATE | 5.504 | 1.445 | 1.77 | 2.998 | BMB |
| **Total:** | | | 502.571 | 81.736 | 100.00 | 404.563 | |



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## 67 JB54122-8

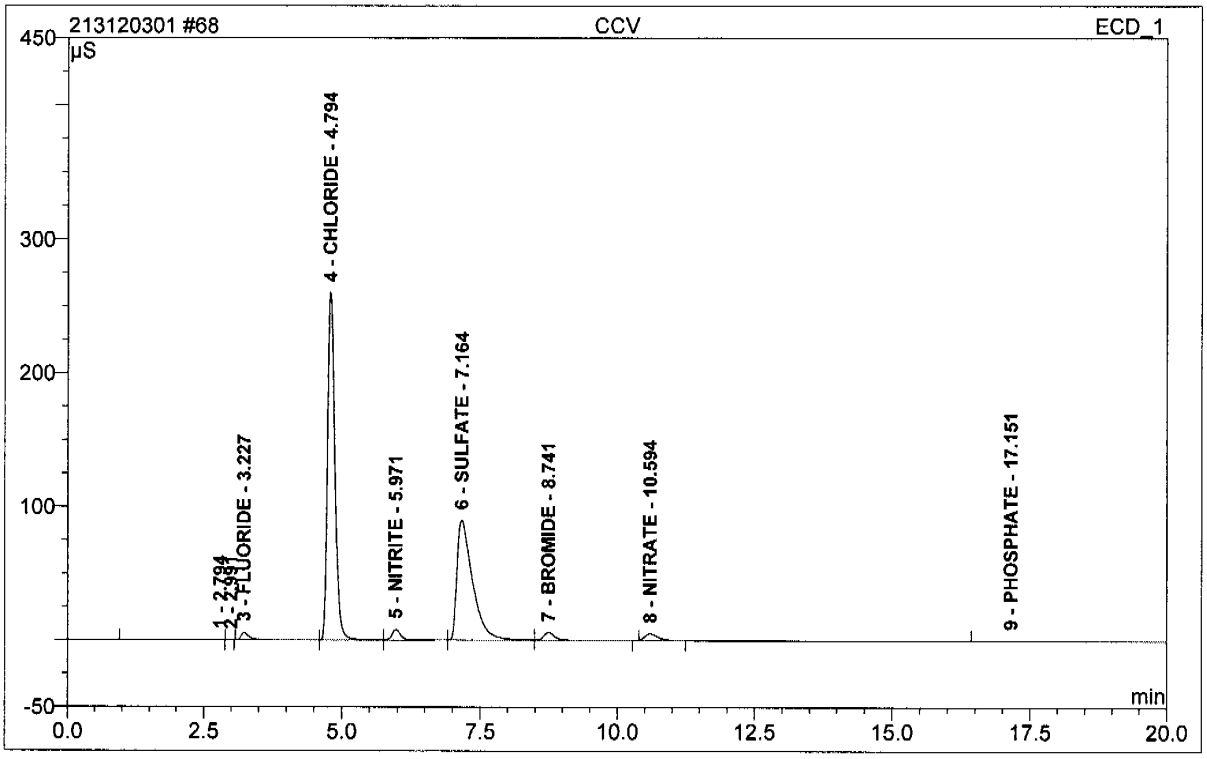
| | | | |
|---|---|---|---|
| *Sample Name:* | **JB54122-8** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **10** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 9:17** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.107 | 0.081 | 0.10 | n.a. | BMB |
| 2 | 3.00 | n.a. | 0.037 | 0.003 | 0.00 | n.a. | BMB |
| 3 | 3.24 | FLUORIDE | 0.291 | 0.066 | 0.08 | 0.196 | BMB |
| 4 | 4.78 | CHLORIDE | 495.239 | 79.288 | 97.00 | 397.230 | BM |
| 5 | 6.02 | NITRITE | 0.522 | 0.437 | 0.53 | 0.871 | M |
| 6 | 7.41 | SULFATE | 0.445 | 0.277 | 0.34 | 1.905 | M |
| 7 | 8.78 | BROMIDE | 0.425 | 0.139 | 0.17 | 1.363 | MB |
| 8 | 10.57 | NITRATE | 5.504 | 1.445 | 1.77 | 2.998 | BMB |
| **Total:** | | | 502.571 | 81.736 | 100.00 | 404.563 | |

# 68 CCV

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCV** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **11** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 9:40** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | | Amount | | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.088 | 0.057 | 0.08 | | n.a. | | BMB |
| 2 | 2.99 | n.a. | 0.028 | 0.003 | 0.00 | | n.a. | | BMB |
| 3 | 3.23 | FLUORIDE | 5.539 | 0.982 | 1.30 | | 2.930 | | BM |
| 4 | 4.79 | CHLORIDE | 260.252 | 40.066 | 53.17 | 200 | 200.731 | ✓ | M |
| 5 | 5.97 | NITRITE | 7.883 | 1.577 | 2.09 | | 3.143 | | M |
| 6 | 7.16 | SULFATE | 89.876 | 29.542 | 39.20 | 200 | 202.849 | ✓ | M |
| 7 | 8.74 | BROMIDE | 5.941 | 1.488 | 1.98 | | 14.594 | | MB |
| 8 | 10.59 | NITRATE | 4.798 | 1.314 | 1.74 | | 2.725 | | BMB |
| 9 | 17.15 | PHOSPHATE | 0.271 | 0.326 | 0.43 | | 1.832 | | BMB |
| **Total:** | | | 374.676 | 75.355 | 100.00 | | 428.804 | | |

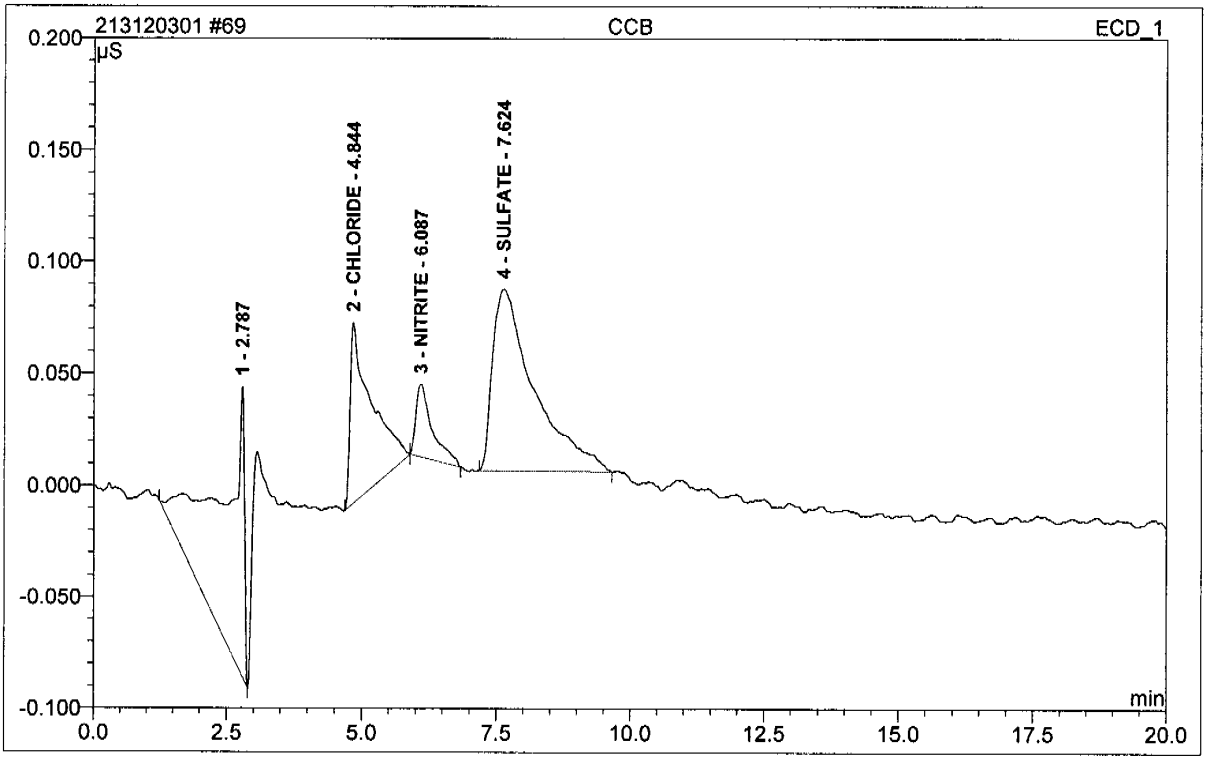
100.37

101.42

12.1 12

## 69 CCB

| | | | |
|---|---|---|---|
| *Sample Name:* | **CCB** | *Injection Volume:* | **20.0** |
| *Vial Number:* | **12** | *Channel:* | **ECD_1** |
| *Sample Type:* | **unknown** | *Wavelength:* | **n.a.** |
| *Control Program:* | **Anions2_ASDV** | *Bandwidth:* | **n.a.** |
| *Quantif. Method:* | **ANIONS2** | *Dilution Factor:* | **1.0000** |
| *Recording Time:* | **12/4/2013 10:04** | *Sample Weight:* | **1.0000** |
| *Run Time (min):* | **21.00** | *Sample Amount:* | **1.0000** |




| No. | Ret.Time min | Peak Name | Height µS | Area µS*min | Rel.Area % | Amount | Type |
|---|---|---|---|---|---|---|---|
| 1 | 2.79 | n.a. | 0.130 | 0.070 | 36.80 | n.a. | BMB |
| 2 | 4.84 | CHLORIDE | 0.081 | 0.036 | 19.03 | 0.181 | BMB |
| 3 | 6.09 | NITRITE | 0.032 | 0.011 | 6.02 | 0.023 | bMB |
| 4 | 7.62 | SULFATE | 0.081 | 0.073 | 38.15 | 0.498 | BMB |
| **Total:** | | | 0.323 | 0.190 | 100.00 | 0.702 | |

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L1324976 |
| Client: | Sovereign Consulting<br>16 Chestnut Street<br>Suite 520<br>Foxborough, MA 02035 |
| ATTN: | Jonathan Chaffee |
| Phone: | (508) 339-3200 |
| Project Name: | SHEPLEY'S HILL ATP |
| Project Number: | AC001.02E |
| Report Date: | 12/17/13 |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|---|---|---|---|
| L1324976-01 | EFFLUENT | DEVENS, MA | 12/09/13 11:15 |
| L1324976-02 | EW-01 | DEVENS, MA | 12/09/13 11:07 |
| L1324976-03 | EW-04 | DEVENS, MA | 12/09/13 11:09 |

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1324976

**Project Number:** AC001.02E **Report Date:** 12/17/13

## MADEP MCP Response Action Analytical Report Certification

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

| **An affirmative response to questions A through F is required for "Presumptive Certainty" status** | | |
|---|---|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | YES |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | YES |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | YES |
| D | Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?" | YES |
| E a. | VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). | N/A |
| E b. | APH and TO-15 Methods only: Was the complete analyte list reported for each method? | N/A |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | YES |

| **A response to questions G, H and I is required for "Presumptive Certainty" status** | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | YES |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | YES |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | NO |

**For any questions answered "No", please refer to the case narrative section on the following page(s).**

**Please note that sample matrix information is located in the Sample Results section of this report.**

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

## Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** SHEPLEY'S HILL ATP **Lab Number:** L1324976
**Project Number:** AC001.02E **Report Date:** 12/17/13

**Case Narrative (continued)**

Report Submission

Testing performed for the reported analyses followed the guidelines established under the DoD QSM 4.2, where applicable.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Note: When manual integrations are performed, they are assigned one of the following codes, and can be found on the raw data provided within the data deliverable package.

Manual Integration Codes

M1 Split or tailing peak, auto integration stopped early resulting in false low area count.

M2 Peak not found by automatic integration algorithm.

M3 Misidentification of the peak (i.e. 1,4-dichlorobenzene identified as 1,3-dichlorobenzene), or misidentification from 2 partially resolved peaks not being split.

M4 Poor automated baseline construction.

M5 Manual integration over a retention time range required, i.e. for hydrocarbon range methods.

M6 Misassignment of peak valley by automated integration (poor split of 2 peaks).

M7 A qualifier ion was manually integrated (only for GC/MS data).

M8 Integration of individual analyte eluting on top of an unresolved complex.

M9 Other: Explain on chromatogram.

MCP Related Narratives

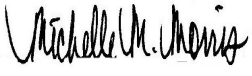
Total Metals

WG657800 and WG657801: MS/MSD was not performed with this batch.

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/17/13

# METALS

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1324976
**Project Number:** AC001.02E
**Report Date:** 12/17/13

## SAMPLE RESULTS

Lab ID: L1324976-01
Client ID: EFFLUENT
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 12/09/13 11:15
Date Received: 12/09/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 0.0207 | | mg/l | 0.0005 | 0.0005 | 1 | 12/10/13 16:03 | 12/11/13 16:29 | EPA 3005A | 97,6020A | KL |
| Barium, Total | 0.023 | | mg/l | 0.010 | 0.003 | 1 | 12/10/13 16:03 | 12/11/13 20:06 | EPA 3005A | 97,6010C | TT |
| Magnesium, Total | 5.8 | | mg/l | 0.10 | 0.01 | 1 | 12/10/13 16:03 | 12/11/13 20:06 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 0.908 | | mg/l | 0.010 | 0.002 | 1 | 12/10/13 16:03 | 12/11/13 20:06 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1324976
**Report Date:** 12/17/13

## SAMPLE RESULTS

Lab ID: L1324976-02
Client ID: EW-01
Sample Location: DEVENS, MA
Matrix: Water
Date Collected: 12/09/13 11:07
Date Received: 12/09/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 2.126 | | mg/l | 0.0100 | 0.0100 | 20 | 12/10/13 16:03 | 12/11/13 17:59 | EPA 3005A | 97,6020A | KL |
| Iron, Total | 78 | | mg/l | 0.05 | 0.02 | 1 | 12/10/13 16:03 | 12/11/13 20:34 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 2.33 | | mg/l | 0.010 | 0.002 | 1 | 12/10/13 16:03 | 12/11/13 20:34 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Lab Number:** L1324976
**Project Number:** AC001.02E
**Report Date:** 12/17/13

## SAMPLE RESULTS

Lab ID: L1324976-03
Client ID: EW-04
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 12/09/13 11:09
Date Received: 12/09/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MCP Total Metals - Westborough Lab** | | | | | | | | | | | |
| Arsenic, Total | 3.820 | | mg/l | 0.0100 | 0.0100 | 20 | 12/10/13 16:03 | 12/11/13 17:36 | EPA 3005A | 97,6020A | KL |
| Iron, Total | 42 | | mg/l | 0.05 | 0.02 | 1 | 12/10/13 16:03 | 12/11/13 20:38 | EPA 3005A | 97,6010C | TT |
| Manganese, Total | 2.19 | | mg/l | 0.010 | 0.002 | 1 | 12/10/13 16:03 | 12/11/13 20:38 | EPA 3005A | 97,6010C | TT |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1324976
**Report Date:** 12/17/13

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG657800-1 | | | | | | | | | | |
| Barium, Total | ND | | mg/l | 0.010 | 0.003 | 1 | 12/10/13 16:03 | 12/11/13 19:55 | 97,6010C | TT |
| Iron, Total | ND | | mg/l | 0.05 | 0.02 | 1 | 12/10/13 16:03 | 12/11/13 19:55 | 97,6010C | TT |
| Magnesium, Total | 0.06 | J | mg/l | 0.10 | 0.01 | 1 | 12/10/13 16:03 | 12/11/13 19:55 | 97,6010C | TT |
| Manganese, Total | ND | | mg/l | 0.010 | 0.002 | 1 | 12/10/13 16:03 | 12/11/13 19:55 | 97,6010C | TT |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG657801-1 | | | | | | | | | | |
| Arsenic, Total | ND | | mg/l | 0.0005 | 0.0005 | 1 | 12/10/13 16:03 | 12/11/13 16:07 | 97,6020A | KL |

**Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1324976

**Report Date:** 12/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG657800-2 WG657800-3 | | | | | | | | |
| Barium, Total | 104 | | 101 | | 80-120 | 3 | | 20 |
| Iron, Total | 110 | | 100 | | 80-120 | 10 | | 20 |
| Magnesium, Total | 110 | | 100 | | 80-120 | 10 | | 20 |
| Manganese, Total | 104 | | 101 | | 80-120 | 3 | | 20 |
| MCP Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG657801-2 WG657801-3 | | | | | | | | |
| Arsenic, Total | 107 | | 103 | | 80-120 | 4 | | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

## SAMPLE RESULTS

Lab ID: L1324976-01
Client ID: EFFLUENT
Sample Location: DEVENS, MA
Matrix: Water

Date Collected: 12/09/13 11:15
Date Received: 12/09/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Chloride | 39. | | mg/l | 1.0 | 0.20 | 1 | - | 12/11/13 10:46 | 30,4500CL-E | LA |
| Nitrogen, Nitrate | 0.054 | J | mg/l | 0.10 | 0.015 | 1 | - | 12/11/13 03:07 | 44,353.2 | DB |
| **Anions by Ion Chromatography - Westborough Lab** | | | | | | | | | | |
| Sulfate | 4.30 | | mg/l | 1.00 | 0.229 | 1 | - | 12/10/13 18:49 | 44,300.0 | AU |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E
**Lab Number:** L1324976
**Report Date:** 12/17/13

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG657903-1 | | | | | | | | | | |
| Nitrogen, Nitrate | ND | | mg/l | 0.10 | 0.015 | 1 | - | 12/11/13 02:56 | 44,353.2 | DB |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG657984-1 | | | | | | | | | | |
| Chloride | 0.27 | J | mg/l | 1.0 | 0.20 | 1 | - | 12/11/13 10:44 | 30,4500CL-E | LA |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG658278-1 | | | | | | | | | | |
| Sulfate | ND | | mg/l | 1.00 | 0.229 | 1 | - | 12/10/13 17:25 | 44,300.0 | AU |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP

**Project Number:** AC001.02E

**Lab Number:** L1324976

**Report Date:** 12/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG657903-2 | | | | | | | | |
| Nitrogen, Nitrate | 102 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG657984-2 | | | | | | | | |
| Chloride | 97 | | - | | 90-110 | - | | |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG658278-2 | | | | | | | | |
| Sulfate | 105 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG657903-4 QC Sample: L1325077-07 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Nitrate | 0.12 | 4 | 3.8 | 92 | | - | - | | 83-113 | - | | 6 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG657984-4 QC Sample: L1324976-01 Client ID: EFFLUENT | | | | | | | | | | | | |
| Chloride | 39. | 20 | 55 | 80 | | - | - | | 58-140 | - | | 7 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG658278-3 QC Sample: L1325009-03 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | ND | 8 | 9.38 | 117 | | - | - | | 60-140 | - | | 20 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG657903-3 QC Sample: L1325077-07 Client ID: DUP Sample | | | | | | |
| Nitrogen, Nitrate | 0.12 | 0.13 | mg/l | 3 | | 6 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG657984-3 QC Sample: L1324976-01 Client ID: EFFLUENT | | | | | | |
| Chloride | 39. | 39 | mg/l | 0 | | 7 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG658278-4 QC Sample: L1325009-03 Client ID: DUP Sample | | | | | | |
| Sulfate | ND | 0.400J | mg/l | NC | | 20 |

**Project Name:** SHEPLEY'S HILL ATP
**Project Number:** AC001.02E

**Lab Number:** L1324976
**Report Date:** 12/17/13

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

**Cooler Information Custody Seal**

| Cooler | |
|---|---|
| A | Absent |

**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---|---|---|---|---|---|---|---|
| L1324976-01A | Plastic 250ml HNO3 preserved | A | <2 | 4.1 | Y | Absent | MCP-MN-6010T-10(180),MCP-MG-6010T-10(180),MCP-AS-6020T-10(180),MCP-BA-6010T-10(180) |
| L1324976-01B | Plastic 250ml unpreserved | A | 7 | 4.1 | Y | Absent | SO4-300(28),CL-4500(28),NO3-353(2) |
| L1324976-02A | Plastic 250ml HNO3 preserved | A | <2 | 4.1 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |
| L1324976-03A | Plastic 250ml HNO3 preserved | A | <2 | 4.1 | Y | Absent | MCP-FE-6010T-10(180),MCP-MN-6010T-10(180),MCP-AS-6020T-10(180) |

*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1324976 |
| **Project Number:** | AC001.02E | **Report Date:** | 12/17/13 |

## GLOSSARY

### *Acronyms*

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### *Footnotes*

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### *Terms*

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### *Data Qualifiers*

**A** - Spectra identified as "Aldol Condensation Product".

**B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

**C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

**D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

**E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

**H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

**I** - The lower value for the two columns has been reported due to obvious interference.

*Report Format:* DU Report with 'J' Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1324976 |
| **Project Number:** | AC001.02E | **Report Date:** | 12/17/13 |

***Data Qualifiers***

**M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

**P** - The RPD between the results for the two columns exceeds the method-specified criteria.

**Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

*Report Format:* DU Report with 'J' Qualifiers

| | | | |
|---|---|---|---|
| **Project Name:** | SHEPLEY'S HILL ATP | **Lab Number:** | L1324976 |
| **Project Number:** | AC001.02E | **Report Date:** | 12/17/13 |

## REFERENCES


30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.


The analyses performed on the sample(s) within this report are in accordance with the minimum established guidelines set forth in the Department of Defense Quality Systems Manual, Version 4.2, issued October 25, 2010.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

# Certification Information

Last revised December 11, 2013

**The following analytes are not included in our NELAP Scope of Accreditation:**

**Westborough Facility**
**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
**EPA 8260C:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
**EPA 8330A/B:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
**EPA 625:** 4-Chloroaniline, 4-Methylphenol.
**SM4500**: Soil: Total Phosphorus, TKN, NO2, NO3.
**EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

**Mansfield Facility**
**EPA 8270D:** Biphenyl.
**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:**

***Drinking Water***
**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
**EPA 300.0**: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
**EPA 332**: Perchlorate.
**Microbiology**: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

***Non-Potable Water***
**EPA 200.8**: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
**EPA 200.7**: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH**, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
**EPA 624**: Volatile Halocarbons & Aromatics,
**EPA 608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
**EPA 625**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
**Microbiology**: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/9/13 | ALPHA Job #: L1324976

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

## Project Information

Project Name: Shepley's Hill ATP

Project Location: Devens, MA

Project #: AC001.02E

Project Manager: Jonathan Chaffee

ALPHA Quote #:

## Client Information

Client: Sovereign Consulting

Address: 16 Chestnut Street

Foxborough, MA

Phone: (508) 339-3200

Fax: (508) 339-3248

Email: jchaffee@sovcon.com

☐ These samples have been Previously analyzed by Alpha

## Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 12/16/13 Time:

## Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

## Billing Information

☒ Same as Client info PO #:

## Regulatory Requirements/Report Limits

| State/Fed Program | Criteria |
|---|---|
| N/A | N/A |

Other Project Specific Requirements/Comments/Detection Limits:

Conduct all analyses in accordance with project specific QAPP

As Detection Limit must meet 3 ppb

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Total As -6020 | Total Ba, Mn, Mg -6010 | Cl - SM4500C | Nitrate -353.2 | Sulfate - 300.0 | Total Fe and Mn -6010 | | | | | | | Sample Specific Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24976-01 | Effluent | 12/9/13 | 1115 | E | JAO | ☒ | ☒ | ☒ | ☒ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| 02 | EW-01 | ↓ | 1107 | I | JAO | ☒ | ☐ | ☐ | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| 03 | EW-04 | ↓ | 1109 | I | JAO | ☒ | ☐ | ☐ | ☐ | ☐ | ☒ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | | |
| Container Type | | | | | | P | P | P | P | P | P | - | - | - | - | - | - | | |
| Preservative | | | | | | C | C | A | A | A | C | - | - | - | - | - | - | | |

SAMPLE HANDLING
*Filtration*
☐ Done
☒ Not Needed
☐ Lab to do
*Preservation*
☐ Lab to do
*(Please specify below)*

Sampler Jason A. Overgaard

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 12/9/13 1415 | [signature] | 12/9/13 1415 |
| | | | |

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)